BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) for a Certificate of Public Convenience and Necessity for the Coolwater-Lugo Transmission Project	)))))	A.13-08-XXX

PROPONENT'S ENVIRONMENTAL ASSESSMENT

COOLWATER-LUGO TRANSMISSION PROJECT

Volume 5 of 7

This PEA is being filed separately from the application and is being submitted as an archival DVD and CD ROM

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Appendix C

Air Emissions Calculations

Controlled Alternative Project Segment 9 Emissions

Table 1
Controlled Annual Construction Emissions with Alternative Transmission Segment 9

Controlled Annual Construction Emissions with Alternative Transmission Segment 9[a]

Source	VOC (tons/year)	CO (tons/year)	NOX (tons/year)	SOX (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)	CO2e (tons/year)
Off-Road Equipment Exhaust (Unmitigated)	13.60	54.57	106.01	0.21	4.12	3.79	20,553.20
Percentage Reduction from APM	0%	0%	20%	0%	45%	45%	0%
Reduction from APM[b]	0.00	0.00	21.20	0.00	1.85	1.70	0.00
Off-Road Equipment Exhaust (Mitigated)	**13.60**	**54.57**	**84.81**	**0.21**	**2.26**	**2.08**	**20,553.20**
Other Sources (Unmitigated)	5.96	26.20	42.07	9.02	1,998.38	439.14	11,940.94
Emissions Reduction from APM-2[c]	0.00	0.00	0.00	0.00	1,590.20	390.29	0.00
Other Sources (Mitigated)	**5.96**	**26.20**	**42.07**	**9.02**	**408.18**	**48.85**	**11,940.94**
Total Emissions (Mitigated)	**19.56**	**80.77**	**126.88**	**9.23**	**410.44**	**50.93**	**32,494.15**

[a] Maximum annual emissions are during months 1 through 12

[b] Percentage reductions that would be achieved by using equipment with engines that meet Tier 3 emission standards instead of Tier 2 emission standards.
Percentages from TABLE II - OFF-ROAD ENGINE EMISSION RATES & COMPARISON OF UNCONTROLLED TO TIERED RATES AND TIERED TO TIERED RATES,
Downloaded from http://www.aqmd.gov/ceqa/handbook/mitigation/offroad/MM_offroad.html

[c] Emission reductions from watering to maintain a soil moisture content of 10 percent during soil handling, grading, bulldozing and scraping and limiting speeds on unpaved roads to 15 mph

Table 2
Operational Emissions with Alternative Transmission Segment 9

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Emergency Generator Testing	0.40	4.34	7.61	0.01	0.25	0.25	706.90
SF_6 Leakage	--	--	--	--	--	--	1,229.70
Motor Vehicle Exhaust	0.02	0.13	0.40	0.00	0.05	0.02	267.79
Motor Vehicle Fugitive PM	--	--	--	--	44.54	4.59	
Total	**0.42**	**4.47**	**8.01**	**0.01**	**44.84**	**4.85**	**2,204.39**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Emergency Generator Testing	0.01	0.11	0.20	0.00	0.01	0.01	18.38
SF_6 Leakage	--	--	--	--	--	--	224.42
Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.25
Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	--
Total	**0.01**	**0.11**	**0.20**	**0.00**	**0.05**	**0.01**	**244.05**

Emergency Generator Testing Emissions

			Emission Factors (g/bhp-hr)[a]					Emission Factors (g/gal)		
Horsepower	Hours/Day	Fuel Use (gal/hr)	CO	VOC[b]	NOx[b]	PM10[c]	PM2.5[c]	CO_2[d]	CH_4[e]	N_2O[e]
757	1	31.3	2.6	0.24	4.56	0.15	0.15	10,210	0.41	0.083

[a] Emission factors assumed the same as emission limits for emergency CI engine in Title 17, CCR, Section 93115.6 Table 2

[b] For NMHC+NOx limit, emissions assumed to be 5 percent ROC and 95 percent NOx, from Table D-25 of 2011 Carl Moyer Program Guidelines - http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm

[c] PM10 and PM2.5 assumed to be same as PM emission standards.

[d] From Table C-1 of Title 40, Code of Federal Regulations, Subpart 98 for No. 2 distillate fuel oil.

[e] From Table C-2 of Title 40, Code of Federal Regulations, Subpart 98 for No. 2 distillate fuel oil.

	Emission Rates (lb/hr)								
Load Factor	CO[a]	VOC[a]	NOx[a]	SOx[b]	PM10[a]	PM2.5[a]	CO_2[c]	CH_4[c]	N_2O[c]
1	4.34	0.40	7.61	0.007	0.25	0.25	704.53	0.03	0.01

Diesel Fuel Density = 6.943 lb/gal

Diesel Fuel Sulfur = 15 ppmw

[a] Emission Rate [lb/hr] = Emission Factor [g/bhp-hr] x Engine Horsepower [hp] x Load Factor [unitless] / 453.6 [g/lb]

[b] Emission Rate [lb/hr] = Fuel Use [gal/hr] x Fuel Density [lb/gal] x Fuel Sulfur [ppmw] x 10^{-6} x 2 [lb SO_2/lb S]

[c] Emission Rate [lb/hr] = Emission Factor [g/gal] x Fuel Use [gal/hr] / 453.6 [g/lb]

Table 2
Operational Emissions with Alternative Transmission Segment 9

Daily Emissions (lb/day)[a]									
CO	VOC	NOx	SOx	PM10	PM2.5	CO_2	CH_4	N_2O	CO_2e[b]
4.34	0.40	7.61	0.01	0.25	0.25	704.53	0.03	0.01	706.90

[a] Daily Emissions [lb/day] = Hourly Emissions [lb/hr-unit] x Operating Time [hr/day]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Op.	Annual Emissions (tons)[a]									
(hr/year)	CO	VOC	NOx	SOx	PM10	PM2.5	CO_2	CH_4	N_2O	CO_2e
52	0.11	0.01	0.20	0.00	0.01	0.01	18.32	0.00	0.00	18.38

[a] Annual Emissions [tons] = Hourly Emissions [lb/hr] x Operating Time [hr/year]

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
1-Ton Crew Cab, 4x4, Substation	1	48	N/A	60
1-Ton Crew Cab, 4x4, Transmission	1	2	N/A	133.4
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	1	N/A	71
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	1	N/A	89

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
1-Ton Crew Cab, 4x4, Substation	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Transmission	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Gale-Pisgah	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
1-Ton Crew Cab, 4x4, Substation	0.00	0.02	0.07	0.00	0.01	0.00	44.93	0.00	0.00	45.46
1-Ton Crew Cab, 4x4, Transmission	0.01	0.05	0.15	0.00	0.02	0.01	99.90	0.00	0.00	101.08
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	0.00	0.03	0.08	0.00	0.01	0.00	53.17	0.00	0.00	53.80
1-Ton Crew Cab, 4x4, Gale-Pisgah	0.01	0.03	0.10	0.00	0.01	0.00	66.65	0.00	0.00	67.44
Total	**0.02**	**0.13**	**0.40**	**0.00**	**0.05**	**0.02**	**264.64**	**0.00**	**0.01**	**267.79**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 2
Operational Emissions with Alternative Transmission Segment 9

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
1-Ton Crew Cab, 4x4, Substation	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.00	0.00	1.09
1-Ton Crew Cab, 4x4, Transmission	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.10
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
1-Ton Crew Cab, 4x4, Gale-Pisgah	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.24**	**0.00**	**0.00**	**1.25**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
1-Ton Crew Cab, 4x4, Substation	1	Unpaved	0	48	0.564	0.056	0.00	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Substation	1	Paved	60	48	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Transmission	1	Unpaved	73.4	2	0.564	0.056	41.36	4.14	0.04	0.00
1-Ton Crew Cab, 4x4, Transmission	1	Paved	60	2	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	Unpaved	4	1	0.564	0.056	2.25	0.23	0.00	0.00
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	Paved	67	1	0.003	0.001	0.22	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	Unpaved	0	1	0.564	0.056	0.00	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	Paved	89	1	0.003	0.001	0.30	0.07	0.00	0.00
Total							**44.54**	**4.59**	**0.05**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

SF_6 Leakage Greenhouse Gas Emissions

Item	Value	Units
Total SF_6	3,756	pounds
SF_6 Leakage Rate	0.5	%/year
SF_6 Emissions	18.78	pounds
SF_6 Global Warming Potential[a]	23,900	
CO_2e Emissions[b]	**1,230**	**lbs/day**
CO_2e Emissions[b]	**224**	**tpy**

[c] From Table A-1 of Title 40, Code of Federal Regulations, Subpart 98

[b] CO_2e emissions [tpy] = SF_6 emissions [lb] x
Global warming potential [lb CO_2e/lb SF_6] / 2000 [lb/ton]

Table 3
Controlled Annual Construction Emissions with Alternative Transmission Segment 9

Controlled Annual Construction Emissions with Alternative Transmission Segment 9 on BLM Land[a]

Source	VOC (tons/year)	CO (tons/year)	NOX (tons/year)	SOX (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)	CO2e (tons/year)
Off-Road Equipment Exhaust (Unmitigated)	3.70	15.05	28.78	0.06	1.12	1.03	5,659.88
Percentage Reduction from APM	0%	0%	20%	0%	45%	45%	0%
Reduction from APM[b]	0.00	0.00	5.76	0.00	0.50	0.46	0.00
Off-Road Equipment Exhaust (Mitigated)	**3.70**	**15.05**	**23.02**	**0.06**	**0.61**	**0.57**	**5,659.88**
Other Sources (Unmitigated)	1.93	7.22	10.50	3.14	528.74	107.63	3,121.11
Emissions Reduction from APM-2[c]	0.00	0.00	0.00	0.00	397.79	92.65	0.00
Other Sources (Mitigated)	**1.93**	**7.22**	**10.50**	**3.14**	**130.95**	**14.98**	**3,121.11**
Total Emissions (Mitigated)	**5.63**	**22.27**	**33.53**	**3.20**	**131.56**	**15.54**	**8,780.99**

[a] Maximum annual emissions are during months 1 through 12

[b] Percentage reductions that would be achieved by using equipment with engines that meet Tier 3 emission standards instead of Tier 2 emission standards.
Percentages from TABLE II - OFF-ROAD ENGINE EMISSION RATES & COMPARISON OF UNCONTROLLED TO TIERED RATES AND TIERED TO TIERED RATES,
Downloaded from http://www.aqmd.gov/ceqa/handbook/mitigation/offroad/MM_offroad.html

[c] Emission reductions from watering to maintain a soil moisture content of 10 percent during soil handling, grading, bulldozing and scraping and limiting speeds on unpavedroads to 15 mph

Table 4
Controlled Annual Construction Emissions with Alternative Transmission Segment 9

Controlled Annual Construction Emissions with Alternative Transmission Segment 9 on DOD Land[a]

Source	VOC (tons/year)	CO (tons/year)	NOX (tons/year)	SOX (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)	CO2e (tons/year)
Off-Road Equipment Exhaust (Unmitigated)	0.48	1.93	3.70	0.01	0.14	0.13	726.67
Percentage Reduction from APM	0%	0%	20%	0%	45%	45%	0%
Reduction from APM[b]	0.00	0.00	0.74	0.00	0.06	0.06	0.00
Off-Road Equipment Exhaust (Mitigated)	**0.48**	**1.93**	**2.96**	**0.01**	**0.08**	**0.07**	**726.67**
Other Sources (Unmitigated)	0.25	0.93	1.35	0.40	68.17	13.88	401.70
Emissions Reduction from APM-2[c]	0.00	0.00	0.00	0.00	51.29	11.95	0.00
Other Sources (Mitigated)	**0.25**	**0.93**	**1.35**	**0.40**	**16.88**	**1.93**	**401.70**
Total Emissions (Mitigated)	**0.72**	**2.86**	**4.31**	**0.41**	**16.96**	**2.00**	**1,128.37**

[a] Maximum annual emissions are during months 1 through 12

[b] Percentage reductions that would be achieved by using equipment with engines that meet Tier 3 emission standards instead of Tier 2 emission standards.
Percentages from TABLE II - OFF-ROAD ENGINE EMISSION RATES & COMPARISON OF UNCONTROLLED TO TIERED RATES AND TIERED TO TIERED RATES,
Downloaded from http://www.aqmd.gov/ceqa/handbook/mitigation/offroad/MM_offroad.html

[c] Emission reductions from watering to maintain a soil moisture content of 10 percent during soil handling, grading, bulldozing and scraping and limiting speeds on unpavedroads to 15 mph

Table 5
Operational Emissions with Alternative Transmission Segment 9 on BLM Land

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Motor Vehicle Exhaust	0.00	0.01	0.04	0.00	0.00	0.00	23.76
Motor Vehicle Fugitive PM	--	--	--	--	14.45	1.45	
Total	**0.00**	**0.01**	**0.04**	**0.00**	**14.46**	**1.45**	**23.76**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	--
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.02**

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	1	N/A	6
1-Ton Crew Cab, 4x4, Transmission	1	2	N/A	26

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
1-Ton Crew Cab, 4x4, Gale-Pisgah	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Transmission	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
1-Ton Crew Cab, 4x4, Gale-Pisgah	0.00	0.00	0.01	0.00	0.00	0.00	4.30	0.00	0.00	4.35
1-Ton Crew Cab, 4x4, Transmission	0.00	0.01	0.03	0.00	0.00	0.00	19.18	0.00	0.00	19.41
Total	**0.00**	**0.01**	**0.04**	**0.00**	**0.00**	**0.00**	**23.48**	**0.00**	**0.00**	**23.76**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 5
Operational Emissions with Alternative Transmission Segment 9 on BLM Land

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
1-Ton Crew Cab, 4x4, Gale-Pisgah	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Transmission	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	Paved	6	1	0.003	0.001	0.02	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Transmission	1	Unpaved	26	2	0.564	0.056	14.44	1.44	0.01	0.00
Total							**14.45**	**1.45**	**0.01**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 6
Operational Emissions with Alternative Transmission Segment 9 on DOD Land

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.50
Motor Vehicle Fugitive PM	--	--	--	--	1.86	0.19	
Total	**0.00**	**0.00**	**0.00**	**0.00**	**1.86**	**0.19**	**2.50**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	--
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
1-Ton Crew Cab, 4x4, Transmission	1	2	N/A	3

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
1-Ton Crew Cab, 4x4, Transmission	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
1-Ton Crew Cab, 4x4, Transmission	0.00	0.00	0.00	0.00	0.00	0.00	2.47	0.00	0.00	2.50
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.47**	**0.00**	**0.00**	**2.50**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 6
Operational Emissions with Alternative Transmission Segment 9 on DOD Land

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
1-Ton Crew Cab, 4x4, Transmission	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**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
1-Ton Crew Cab, 4x4, Transmission	1	Unpaved	3	2	0.564	0.056	1.86	0.19	0.00	0.00
Total							**1.86**	**0.19**	**0.00**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out										
Survey	0.00	0.00	0.00	0.00	0.03	0.00	0.68	1.00	0.00	0.00
Grading	0.96	4.03	10.57	0.02	14.57	3.66	1,936.17	1.00	0.00	0.00
Perimeter Wall	0.06	0.43	0.52	0.00	0.53	0.08	203.77	1.00	0.00	0.00
Water Well	0.02	0.16	0.14	0.00	0.25	0.03	70.96	1.00	0.00	0.00
Civil	0.12	0.80	4.18	0.01	10.84	1.27	908.53	1.00	0.00	0.00
Electrical	0.01	0.05	0.06	0.00	0.04	0.01	10.26	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.09	0.01	7.43	1.00	0.00	0.00
MEER	0.01	0.11	0.04	0.00	0.18	0.03	18.75	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.05	0.01	3.32	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.05	0.01	5.75	1.00	0.00	0.00
Asphalting	0.10	0.51	1.92	0.00	3.57	0.44	374.47	1.00	0.00	0.00
Substation Construction - Full Build Out										
Survey	0.00	0.11	0.01	0.00	0.17	0.03	15.57	0.00	1.00	0.00
Civil	0.78	4.41	6.27	0.02	4.74	0.77	1,594.62	0.00	1.00	0.00
Electrical	0.19	1.41	1.36	0.00	0.70	0.18	246.08	0.00	0.67	0.67
Wiring	0.00	0.07	0.01	0.00	0.12	0.02	9.91	0.00	0.67	0.67
Control Room	0.01	0.14	0.06	0.00	0.20	0.03	24.75	0.00	0.67	0.67
Maintenance	0.00	0.06	0.01	0.00	0.12	0.02	8.29	0.00	0.67	0.67
Asphalting	0.10	0.41	1.11	0.00	1.01	0.14	188.30	0.00	0.00	1.00
Transformer Assembly	0.09	0.63	0.68	0.00	0.34	0.08	135.09	0.00	0.67	0.67
Testing	0.01	0.39	0.04	0.00	0.37	0.07	55.34	0.00	0.67	0.67
Distribution for Station Light & Power										
Overhead Construction	0.00	0.03	0.04	0.00	0.02	0.00	13.31	1.00	0.00	0.00
Underground Civil Construction	0.01	0.03	0.05	0.00	0.02	0.00	11.87	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.02	0.00	7.70	1.00	0.00	0.00
Modifications to Coolwater Switchyard										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	1.00	0.00	0.00
Civil	0.11	0.65	0.78	0.00	0.10	0.05	184.00	1.00	0.00	0.00
Electrical	0.06	0.34	0.50	0.00	0.08	0.04	84.18	1.00	0.00	0.00
Wiring	0.00	0.02	0.00	0.00	0.01	0.00	2.49	1.00	0.00	0.00
MEER	0.01	0.06	0.04	0.00	0.03	0.01	12.10	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	1.00	0.00	0.00

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Modifications to Lugo Substation										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	1.00	0.00	0.00
Civil	0.20	1.17	1.37	0.00	0.19	0.09	342.12	1.00	0.00	0.00
Electrical	0.09	0.52	0.71	0.00	0.13	0.06	124.34	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.04	0.01	7.40	1.00	0.00	0.00
Control Room	0.01	0.07	0.05	0.00	0.03	0.01	14.83	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	1.00	0.00	0.00
Transformer Assembly	0.08	0.48	0.60	0.00	0.10	0.04	103.59	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	1.00	0.00	0.00
Transmission and Subtransmission Construction										
Survey	0.01	0.16	0.02	0.00	2.12	0.22	22.91	1.00	0.00	0.00
Construction and Materials Yards	3.60	16.40	31.77	0.07	5.19	1.93	6,520.20	0.40	0.40	0.40
Right-of-Way Clearing	0.66	3.07	5.07	0.01	11.84	2.73	1,071.40	1.00	0.00	0.00
Roads and Landing Work	1.49	5.78	11.61	0.02	24.04	4.97	2,309.00	1.00	0.00	0.00
Retaining Wall Installation	2.40	12.20	20.96	0.05	100.29	10.80	4,676.57	1.00	0.00	0.00
Wet Crossing Installation	1.30	6.64	11.68	0.03	57.23	6.18	2,355.94	1.00	0.00	0.00
Guard Structure Installation	0.12	0.59	0.97	0.00	4.17	0.45	245.02	0.40	0.40	0.40
Remove Existing Conductor & GW	0.25	1.22	2.59	0.01	9.88	1.08	563.41	0.40	0.40	0.40
LST Removal	0.27	1.09	1.97	0.00	3.09	0.40	358.39	0.40	0.40	0.40
LST Foundation Removal	0.03	0.14	0.21	0.00	0.36	0.05	48.29	0.40	0.40	0.40
Install LST Foundations	1.96	9.20	18.76	0.44	142.22	14.87	5,059.69	0.40	0.40	0.40
LST Steel Haul	0.94	2.16	6.23	2.01	13.14	1.51	1,586.92	0.40	0.40	0.40
LST Steel Assembly	6.35	26.75	45.17	6.63	49.18	6.99	9,366.20	0.40	0.40	0.40
LST Erection	8.48	19.87	40.95	10.92	62.00	7.70	9,027.25	0.40	0.40	0.40
Install TSP Foundations	1.08	5.18	9.93	0.03	68.26	7.18	2,585.63	0.40	0.40	0.40
TSP Haul	0.05	0.22	0.42	0.00	3.55	0.37	83.32	0.40	0.40	0.40
TSP Assembly	0.11	0.55	0.81	0.00	4.70	0.51	153.21	0.40	0.40	0.40
TSP Erection	0.10	0.54	0.78	0.00	3.38	0.38	145.70	0.40	0.40	0.40
Install Conductor	5.49	19.58	24.30	2.55	64.41	7.78	6,508.79	0.40	0.40	0.40
Guard Structure Removal	0.07	0.34	0.56	0.00	2.86	0.31	101.26	0.40	0.40	0.40

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
115 kV Pole Removal	0.01	0.04	0.08	0.00	0.30	0.03	15.66	0.40	0.40	0.40
Install TSP Riser Foundations	0.08	0.42	0.82	0.00	7.46	0.78	212.83	0.40	0.40	0.40
TSP Riser Haul	0.00	0.02	0.04	0.00	0.36	0.04	8.33	0.40	0.40	0.40
TSP Riser Assembly	0.05	0.27	0.41	0.00	2.35	0.26	76.61	0.40	0.40	0.40
TSP Riser Erection	0.05	0.27	0.39	0.00	1.69	0.19	72.85	0.40	0.40	0.40
Vault Installation	0.06	0.32	0.51	0.00	4.48	0.47	106.76	0.40	0.40	0.40
Duct Bank Installation	0.02	0.20	0.25	0.00	4.46	0.46	55.07	0.40	0.40	0.40
Install Underground Cable	0.09	0.43	0.98	0.00	4.78	0.51	216.58	0.40	0.40	0.40
Restoration	0.20	1.33	1.33	0.00	6.00	1.17	223.00	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)										
Install Cable	0.03	0.14	0.33	0.00	0.21	0.03	66.73	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.08	0.01	12.27	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)										
Install Cable	0.01	0.06	0.14	0.00	0.09	0.01	27.80	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.05	0.01	6.56	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)										
Install Cable	0.02	0.10	0.23	0.00	0.08	0.02	46.14	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.04	0.00	0.04	0.01	10.26	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall										
Install Cable	0.03	0.14	0.29	0.00	0.09	0.02	60.35	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.04	0.01	13.10	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation										
Install Cable	0.02	0.09	0.18	0.00	0.06	0.01	37.72	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.03	0.01	11.63	0.00	0.00	1.00

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Apple Valley to Desert View Substation										
Install 5 Foot Crossarm	0.00	0.02	0.03	0.00	0.04	0.00	6.39	1.00	0.00	0.00
Install Down Guys	0.00	0.02	0.02	0.00	0.03	0.00	4.93	1.00	0.00	0.00
Install Cable	0.03	0.14	0.32	0.00	0.20	0.03	64.46	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.02	0.00	0.72	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.02	0.03	0.00	0.05	0.01	8.16	1.00	0.00	0.00
Restoration	0.00	0.01	0.00	0.00	0.03	0.00	1.29	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable										
Install 5 Foot Crossarm	0.02	0.09	0.19	0.00	0.02	0.01	39.90	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.09	0.17	0.00	0.02	0.01	41.02	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.01	0.00	3.93	1.00	0.00	0.00
Install Cable	0.01	0.08	0.17	0.00	0.02	0.01	36.10	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.02	0.00	0.00	0.02	0.00	3.53	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.06	0.09	0.00	0.02	0.01	22.55	1.00	0.00	0.00
Restoration	0.00	0.02	0.01	0.00	0.01	0.00	3.69	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower										
All	0.01	0.08	0.09	0.00	0.02	0.01	27.81	1.00	0.00	0.00
Totals by 12-Month Period										
Months 1-12	19.56	80.77	148.08	9.23	412.30	52.64	32,494.15			
Months 13-24	12.82	49.53	84.18	9.09	195.06	23.56	19,328.02			
Months 19-30	12.23	45.91	80.01	9.08	191.67	22.99	18,121.06			
12-Month Maximum	**19.56**	**80.77**	**148.08**	**9.23**	**412.30**	**52.64**	**32,494.15**			
Total GHG Emissions (metric tons)							**55,412.50**			

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Grading	0.85	3.12	6.80	0.01	0.26	0.24	1,092.04	1.00	0.00	0.00
Perimeter Wall	0.06	0.33	0.36	0.00	0.01	0.01	160.94	1.00	0.00	0.00
Water Well	0.02	0.11	0.12	0.00	0.00	0.00	62.74	1.00	0.00	0.00
Civil	0.02	0.07	0.10	0.00	0.01	0.00	24.90	1.00	0.00	0.00
Electrical	0.01	0.03	0.06	0.00	0.00	0.00	7.78	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Asphalting	0.07	0.26	0.61	0.00	0.02	0.02	87.66	1.00	0.00	0.00
Substation Construction - Full Build Out										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Civil	0.73	3.64	5.07	0.01	0.24	0.22	1,267.98	0.00	1.00	0.00
Electrical	0.18	0.94	1.31	0.00	0.08	0.08	180.29	0.00	0.67	0.67
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.00	0.67	0.67
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Asphalting	0.09	0.32	0.76	0.00	0.03	0.03	109.57	0.00	0.00	1.00
Transformer Assembly	0.08	0.36	0.65	0.00	0.03	0.03	98.12	0.00	0.67	0.67
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Distribution for Station Light & Power										
Overhead Construction	0.00	0.02	0.04	0.00	0.00	0.00	12.68	1.00	0.00	0.00
Underground Civil Construction	0.01	0.02	0.04	0.00	0.00	0.00	10.39	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.00	0.00	7.27	1.00	0.00	0.00

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Modifications to Coolwater Switchyard										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Civil	0.11	0.57	0.73	0.00	0.04	0.04	163.64	1.00	0.00	0.00
Electrical	0.06	0.26	0.49	0.00	0.02	0.02	72.67	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Modifications to Lugo Substation										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Civil	0.19	1.01	1.27	0.00	0.07	0.06	304.10	1.00	0.00	0.00
Electrical	0.09	0.38	0.70	0.00	0.03	0.03	103.81	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Transformer Assembly	0.08	0.37	0.59	0.00	0.03	0.03	88.72	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Transmission and Subtransmission Construction										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Construction and Materials Yards	3.31	10.95	25.97	0.05	0.92	0.84	4,736.74	0.40	0.40	0.40
Right-of-Way Clearing	0.63	2.25	4.84	0.01	0.18	0.16	926.78	1.00	0.00	0.00
Roads and Landing Work	1.46	5.08	11.25	0.02	0.41	0.37	2,154.97	1.00	0.00	0.00
Retaining Wall Installation	2.25	10.13	17.26	0.04	0.65	0.60	3,707.32	1.00	0.00	0.00
Wet Crossing Installation	1.20	5.23	9.26	0.02	0.36	0.33	1,712.79	1.00	0.00	0.00
Guard Structure Installation	0.11	0.49	0.88	0.00	0.03	0.03	214.70	0.40	0.40	0.40
Remove Existing Conductor & GW	0.23	0.94	2.36	0.00	0.07	0.07	480.91	0.40	0.40	0.40
LST Removal	0.26	0.96	1.91	0.00	0.09	0.08	328.47	0.40	0.40	0.40
LST Foundation Removal	0.03	0.10	0.19	0.00	0.01	0.01	41.63	0.40	0.40	0.40
Install LST Foundations	1.64	6.67	11.91	0.03	0.39	0.36	3,379.33	0.40	0.40	0.40
LST Steel Haul	0.27	0.86	2.21	0.00	0.07	0.07	424.37	0.40	0.40	0.40
LST Steel Assembly	4.18	18.83	31.51	0.05	1.51	1.39	5,066.09	0.40	0.40	0.40
LST Erection	1.98	7.15	15.57	0.03	0.69	0.63	2,455.09	0.40	0.40	0.40
Install TSP Foundations	0.98	3.86	7.29	0.02	0.24	0.22	1,911.12	0.40	0.40	0.40

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
TSP Haul	0.04	0.14	0.34	0.00	0.01	0.01	58.12	0.40	0.40	0.40
TSP Assembly	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.40	0.40	0.40
TSP Erection	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.40	0.40	0.40
Install Conductor	2.23	8.36	19.92	0.04	0.67	0.62	3,894.68	0.40	0.40	0.40
Guard Structure Removal	0.06	0.26	0.52	0.00	0.02	0.02	85.27	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.03	0.08	0.00	0.00	0.00	13.63	0.40	0.40	0.40
Install TSP Riser Foundations	0.07	0.26	0.49	0.00	0.02	0.02	129.98	0.40	0.40	0.40
TSP Riser Haul	0.00	0.01	0.03	0.00	0.00	0.00	5.81	0.40	0.40	0.40
TSP Riser Assembly	0.05	0.19	0.37	0.00	0.02	0.02	58.35	0.40	0.40	0.40
TSP Riser Erection	0.05	0.19	0.37	0.00	0.02	0.02	58.35	0.40	0.40	0.40
Vault Installation	0.05	0.24	0.38	0.00	0.02	0.01	71.40	0.40	0.40	0.40
Duct Bank Installation	0.02	0.13	0.13	0.00	0.01	0.01	21.33	0.40	0.40	0.40
Install Underground Cable	0.08	0.35	0.86	0.00	0.03	0.02	183.72	0.40	0.40	0.40
Restoration	0.19	1.09	1.24	0.00	0.09	0.08	174.35	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)										
Install Cable	0.03	0.12	0.32	0.00	0.01	0.01	61.79	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)										
Install Cable	0.01	0.05	0.13	0.00	0.00	0.00	25.75	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.01	0.02	0.00	0.00	0.00	4.85	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)										
Install Cable	0.02	0.08	0.22	0.00	0.01	0.01	42.91	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.00	0.00	7.62	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall										
Install Cable	0.02	0.10	0.28	0.00	0.01	0.01	54.93	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation										
Install Cable	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.00	0.00	0.00	1.00

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Apple Valley to Desert View Substation										
Install 5 Foot Crossarm	0.00	0.01	0.03	0.00	0.00	0.00	5.15	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.00	0.00	3.43	1.00	0.00	0.00
Install Cable	0.03	0.11	0.31	0.00	0.01	0.01	60.08	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.01	0.03	0.00	0.00	0.00	6.23	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable										
Install 5 Foot Crossarm	0.02	0.07	0.18	0.00	0.01	0.00	34.33	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.07	0.16	0.00	0.00	0.00	36.98	1.00	0.00	0.00
Install Down Guys	0.00	0.00	0.01	0.00	0.00	0.00	2.57	1.00	0.00	0.00
Install Cable	0.01	0.06	0.16	0.00	0.00	0.00	30.90	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.04	0.08	0.00	0.00	0.00	17.32	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower										
All	0.01	0.05	0.09	0.00	0.00	0.00	23.46	1.00	0.00	0.00
Totals by 12-Month Period										
Months 1-12	13.60	54.57	106.01	0.21	4.12	3.79	20,553.20			
Months 13-24	7.38	29.94	57.15	0.11	2.34	2.16	11,117.80			
Months 19-30	6.82	26.99	53.80	0.10	2.16	1.99	10,148.47			
12-Month Maximum	**13.60**	**54.57**	**106.01**	**0.21**	**4.12**	**3.79**	**20,553.20**			
Total GHG Emissions (metric tons)							**33,468.66**			

Table 9
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out											
Survey	0.00	0.00	0.00	0.00	0.03	0.00	0.68	0.000	1.00	0.00	0.00
Grading	0.96	4.03	10.57	0.02	14.57	3.66	1,936.17	0.000	1.00	0.00	0.00
Perimeter Wall	0.06	0.43	0.52	0.00	0.53	0.08	203.77	0.000	1.00	0.00	0.00
Water Well	0.02	0.16	0.14	0.00	0.25	0.03	70.96	0.000	1.00	0.00	0.00
Civil	0.12	0.80	4.18	0.01	10.84	1.27	908.53	0.000	1.00	0.00	0.00
Electrical	0.01	0.05	0.06	0.00	0.04	0.01	10.26	0.000	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.09	0.01	7.43	0.000	1.00	0.00	0.00
MEER	0.01	0.11	0.04	0.00	0.18	0.03	18.75	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.05	0.01	3.32	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.05	0.01	5.75	0.000	1.00	0.00	0.00
Asphalting	0.10	0.51	1.92	0.00	3.57	0.44	374.47	0.000	1.00	0.00	0.00
Substation Construction - Full Build Out											
Survey	0.00	0.11	0.01	0.00	0.17	0.03	15.57	0.000	0.00	1.00	0.00
Civil	0.78	4.41	6.27	0.02	4.74	0.77	1,594.62	0.000	0.00	1.00	0.00
Electrical	0.19	1.41	1.36	0.00	0.70	0.18	246.08	0.000	0.00	0.67	0.67
Wiring	0.00	0.07	0.01	0.00	0.12	0.02	9.91	0.000	0.00	0.67	0.67
Control Room	0.01	0.14	0.06	0.00	0.20	0.03	24.75	0.000	0.00	0.67	0.67
Maintenance	0.00	0.06	0.01	0.00	0.12	0.02	8.29	0.000	0.00	0.67	0.67
Asphalting	0.10	0.41	1.11	0.00	1.01	0.14	188.30	0.000	0.00	0.00	1.00
Transformer Assembly	0.09	0.63	0.68	0.00	0.34	0.08	135.09	0.000	0.00	0.67	0.67
Testing	0.01	0.39	0.04	0.00	0.37	0.07	55.34	0.000	0.00	0.67	0.67
Distribution for Station Light & Power											
Overhead Construction	0.00	0.03	0.04	0.00	0.02	0.00	13.31	0.000	1.00	0.00	0.00
Underground Civil Construction	0.01	0.03	0.05	0.00	0.02	0.00	11.87	0.000	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.02	0.00	7.70	0.000	1.00	0.00	0.00
Modifications to Coolwater Switchyard											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.000	1.00	0.00	0.00
Civil	0.11	0.65	0.78	0.00	0.10	0.05	184.00	0.000	1.00	0.00	0.00
Electrical	0.06	0.34	0.50	0.00	0.08	0.04	84.18	0.000	1.00	0.00	0.00
Wiring	0.00	0.02	0.00	0.00	0.01	0.00	2.49	0.000	1.00	0.00	0.00
MEER	0.01	0.06	0.04	0.00	0.03	0.01	12.10	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	0.000	1.00	0.00	0.00

Table 9
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Modifications to Lugo Substation											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.000	1.00	0.00	0.00
Civil	0.20	1.17	1.37	0.00	0.19	0.09	342.12	0.000	1.00	0.00	0.00
Electrical	0.09	0.52	0.71	0.00	0.13	0.06	124.34	0.000	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.04	0.01	7.40	0.000	1.00	0.00	0.00
Control Room	0.01	0.07	0.05	0.00	0.03	0.01	14.83	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	0.000	1.00	0.00	0.00
Transformer Assembly	0.08	0.48	0.60	0.00	0.10	0.04	103.59	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	0.000	1.00	0.00	0.00
Transmission and Subtransmission Construction											
Survey	0.01	0.16	0.02	0.00	2.12	0.22	22.91	0.349	1.00	0.00	0.00
Construction and Materials Yards	3.60	16.40	31.77	0.07	5.19	1.93	6,520.20	0.000	0.40	0.40	0.40
Right-of-Way Clearing	0.66	3.07	5.07	0.01	11.84	2.73	1,071.40	0.349	1.00	0.00	0.00
Roads and Landing Work	1.49	5.78	11.61	0.02	24.04	4.97	2,309.00	0.349	1.00	0.00	0.00
Retaining Wall Installation	2.40	12.20	20.96	0.05	100.29	10.80	4,676.57	0.349	1.00	0.00	0.00
Wet Crossing Installation	1.30	6.64	11.68	0.03	57.23	6.18	2,355.94	0.349	1.00	0.00	0.00
Guard Structure Installation	0.12	0.59	0.97	0.00	4.17	0.45	245.02	0.349	0.40	0.40	0.40
Remove Existing Conductor & GW	0.25	1.22	2.59	0.01	9.88	1.08	563.41	0.349	0.40	0.40	0.40
LST Removal	0.27	1.09	1.97	0.00	3.09	0.40	358.39	0.349	0.40	0.40	0.40
LST Foundation Removal	0.03	0.14	0.21	0.00	0.36	0.05	48.29	0.349	0.40	0.40	0.40
Install LST Foundations	1.96	9.20	18.76	0.44	142.22	14.87	5,059.69	0.349	0.40	0.40	0.40
LST Steel Haul	0.94	2.16	6.23	2.01	13.14	1.51	1,586.92	0.349	0.40	0.40	0.40
LST Steel Assembly	6.35	26.75	45.17	6.63	49.18	6.99	9,366.20	0.349	0.40	0.40	0.40
LST Erection	8.48	19.87	40.95	10.92	62.00	7.70	9,027.25	0.349	0.40	0.40	0.40
Install TSP Foundations	1.08	5.18	9.93	0.03	68.26	7.18	2,585.63	0.349	0.40	0.40	0.40
TSP Haul	0.05	0.22	0.42	0.00	3.55	0.37	83.32	0.349	0.40	0.40	0.40
TSP Assembly	0.11	0.55	0.81	0.00	4.70	0.51	153.21	0.349	0.40	0.40	0.40

Table 9
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
TSP Erection	0.10	0.54	0.78	0.00	3.38	0.38	145.70	0.349	0.40	0.40	0.40
Install Conductor	5.49	19.58	24.30	2.55	64.41	7.78	6,508.79	0.349	0.40	0.40	0.40
Guard Structure Removal	0.07	0.34	0.56	0.00	2.86	0.31	101.26	0.349	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.04	0.08	0.00	0.30	0.03	15.66	0.349	0.40	0.40	0.40
Install TSP Riser Foundations	0.08	0.42	0.82	0.00	7.46	0.78	212.83	0.349	0.40	0.40	0.40
TSP Riser Haul	0.00	0.02	0.04	0.00	0.36	0.04	8.33	0.349	0.40	0.40	0.40
TSP Riser Assembly	0.05	0.27	0.41	0.00	2.35	0.26	76.61	0.349	0.40	0.40	0.40
TSP Riser Erection	0.05	0.27	0.39	0.00	1.69	0.19	72.85	0.349	0.40	0.40	0.40
Vault Installation	0.06	0.32	0.51	0.00	4.48	0.47	106.76	0.349	0.40	0.40	0.40
Duct Bank Installation	0.02	0.20	0.25	0.00	4.46	0.46	55.07	0.349	0.40	0.40	0.40
Install Underground Cable	0.09	0.43	0.98	0.00	4.78	0.51	216.58	0.349	0.40	0.40	0.40
Restoration	0.20	1.33	1.33	0.00	6.00	1.17	223.00	0.349	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)											
Install Cable	0.03	0.14	0.33	0.00	0.21	0.03	66.73	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.08	0.01	12.27	0.000	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)											
Install Cable	0.01	0.06	0.14	0.00	0.09	0.01	27.80	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.05	0.01	6.56	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)											
Install Cable	0.02	0.10	0.23	0.00	0.08	0.02	46.14	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.04	0.00	0.04	0.01	10.26	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall											
Install Cable	0.03	0.14	0.29	0.00	0.09	0.02	60.35	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.04	0.01	13.10	0.000	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation											
Install Cable	0.02	0.09	0.18	0.00	0.06	0.01	37.72	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.03	0.01	11.63	0.000	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation											
Install 5 Foot Crossarm	0.00	0.02	0.03	0.00	0.04	0.00	6.39	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.02	0.02	0.00	0.03	0.00	4.93	0.000	1.00	0.00	0.00
Install Cable	0.03	0.14	0.32	0.00	0.20	0.03	64.46	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.02	0.00	0.72	0.000	1.00	0.00	0.00

Table 9
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Underground Conduit from Pole to Pole	0.00	0.02	0.03	0.00	0.05	0.01	8.16	0.000	1.00	0.00	0.00
Restoration	0.00	0.01	0.00	0.00	0.03	0.00	1.29	0.000	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable											
Install 5 Foot Crossarm	0.02	0.09	0.19	0.00	0.02	0.01	39.90	0.198	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.09	0.17	0.00	0.02	0.01	41.02	0.198	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.01	0.00	3.93	0.198	1.00	0.00	0.00
Install Cable	0.01	0.08	0.17	0.00	0.02	0.01	36.10	0.198	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.02	0.00	0.00	0.02	0.00	3.53	0.198	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.06	0.09	0.00	0.02	0.01	22.55	0.198	1.00	0.00	0.00
Restoration	0.00	0.02	0.01	0.00	0.01	0.00	3.69	0.198	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower											
All	0.01	0.08	0.09	0.00	0.02	0.01	27.81	0.000	1.00	0.00	0.00
Totals by 12-Month Period											
Months 1-12	5.63	22.27	39.28	3.20	132.06	16.01	8,780.99				
Months 13-24	3.62	12.79	22.25	3.16	65.21	7.58	5,161.19				
Months 19-30	3.62	12.79	22.25	3.16	65.21	7.58	5,161.19				
12-Month Maximum	**5.63**	**22.27**	**39.28**	**3.20**	**132.06**	**16.01**	**8,780.99**				
Total GHG Emissions (metric tons)							**55,412.50**				

Table 10
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Grading	0.85	3.12	6.80	0.01	0.26	0.24	1,092.04	0.000	1.00	0.00	0.00
Perimeter Wall	0.06	0.33	0.36	0.00	0.01	0.01	160.94	0.000	1.00	0.00	0.00
Water Well	0.02	0.11	0.12	0.00	0.00	0.00	62.74	0.000	1.00	0.00	0.00
Civil	0.02	0.07	0.10	0.00	0.01	0.00	24.90	0.000	1.00	0.00	0.00
Electrical	0.01	0.03	0.06	0.00	0.00	0.00	7.78	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Asphalting	0.07	0.26	0.61	0.00	0.02	0.02	87.66	0.000	1.00	0.00	0.00
Substation Construction - Full Build Out											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	1.00	0.00
Civil	0.73	3.64	5.07	0.01	0.24	0.22	1,267.98	0.000	0.00	1.00	0.00
Electrical	0.18	0.94	1.31	0.00	0.08	0.08	180.29	0.000	0.00	0.67	0.67
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.000	0.00	0.67	0.67
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Asphalting	0.09	0.32	0.76	0.00	0.03	0.03	109.57	0.000	0.00	0.00	1.00
Transformer Assembly	0.08	0.36	0.65	0.00	0.03	0.03	98.12	0.000	0.00	0.67	0.67
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Distribution for Station Light & Power											
Overhead Construction	0.00	0.02	0.04	0.00	0.00	0.00	12.68	0.000	1.00	0.00	0.00
Underground Civil Construction	0.01	0.02	0.04	0.00	0.00	0.00	10.39	0.000	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.00	0.00	7.27	0.000	1.00	0.00	0.00
Modifications to Coolwater Switchyard											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Civil	0.11	0.57	0.73	0.00	0.04	0.04	163.64	0.000	1.00	0.00	0.00
Electrical	0.06	0.26	0.49	0.00	0.02	0.02	72.67	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00

Table 10
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Modifications to Lugo Substation											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Civil	0.19	1.01	1.27	0.00	0.07	0.06	304.10	0.000	1.00	0.00	0.00
Electrical	0.09	0.38	0.70	0.00	0.03	0.03	103.81	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Transformer Assembly	0.08	0.37	0.59	0.00	0.03	0.03	88.72	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Transmission and Subtransmission Construction											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.349	1.00	0.00	0.00
Construction and Materials Yards	3.31	10.95	25.97	0.05	0.92	0.84	4,736.74	0.000	0.40	0.40	0.40
Right-of-Way Clearing	0.63	2.25	4.84	0.01	0.18	0.16	926.78	0.349	1.00	0.00	0.00
Roads and Landing Work	1.46	5.08	11.25	0.02	0.41	0.37	2,154.97	0.349	1.00	0.00	0.00
Retaining Wall Installation	2.25	10.13	17.26	0.04	0.65	0.60	3,707.32	0.349	1.00	0.00	0.00
Wet Crossing Installation	1.20	5.23	9.26	0.02	0.36	0.33	1,712.79	0.349	1.00	0.00	0.00
Guard Structure Installation	0.11	0.49	0.88	0.00	0.03	0.03	214.70	0.349	0.40	0.40	0.40
Remove Existing Conductor & GW	0.23	0.94	2.36	0.00	0.07	0.07	480.91	0.349	0.40	0.40	0.40
LST Removal	0.26	0.96	1.91	0.00	0.09	0.08	328.47	0.349	0.40	0.40	0.40
LST Foundation Removal	0.03	0.10	0.19	0.00	0.01	0.01	41.63	0.349	0.40	0.40	0.40
Install LST Foundations	1.64	6.67	11.91	0.03	0.39	0.36	3,379.33	0.349	0.40	0.40	0.40
LST Steel Haul	0.27	0.86	2.21	0.00	0.07	0.07	424.37	0.349	0.40	0.40	0.40
LST Steel Assembly	4.18	18.83	31.51	0.05	1.51	1.39	5,066.09	0.349	0.40	0.40	0.40
LST Erection	1.98	7.15	15.57	0.03	0.69	0.63	2,455.09	0.349	0.40	0.40	0.40
Install TSP Foundations	0.98	3.86	7.29	0.02	0.24	0.22	1,911.12	0.349	0.40	0.40	0.40
TSP Haul	0.04	0.14	0.34	0.00	0.01	0.01	58.12	0.349	0.40	0.40	0.40
TSP Assembly	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.349	0.40	0.40	0.40
TSP Erection	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.349	0.40	0.40	0.40
Install Conductor	2.23	8.36	19.92	0.04	0.67	0.62	3,894.68	0.349	0.40	0.40	0.40
Guard Structure Removal	0.06	0.26	0.52	0.00	0.02	0.02	85.27	0.349	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.03	0.08	0.00	0.00	0.00	13.63	0.349	0.40	0.40	0.40
Install TSP Riser Foundations	0.07	0.26	0.49	0.00	0.02	0.02	129.98	0.349	0.40	0.40	0.40

Table 10
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
TSP Riser Haul	0.00	0.01	0.03	0.00	0.00	0.00	5.81	0.349	0.40	0.40	0.40
TSP Riser Assembly	0.05	0.19	0.37	0.00	0.02	0.02	58.35	0.349	0.40	0.40	0.40
TSP Riser Erection	0.05	0.19	0.37	0.00	0.02	0.02	58.35	0.349	0.40	0.40	0.40
Vault Installation	0.05	0.24	0.38	0.00	0.02	0.01	71.40	0.349	0.40	0.40	0.40
Duct Bank Installation	0.02	0.13	0.13	0.00	0.01	0.01	21.33	0.349	0.40	0.40	0.40
Install Underground Cable	0.08	0.35	0.86	0.00	0.03	0.02	183.72	0.349	0.40	0.40	0.40
Restoration	0.19	1.09	1.24	0.00	0.09	0.08	174.35	0.349	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)											
Install Cable	0.03	0.12	0.32	0.00	0.01	0.01	61.79	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.000	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)											
Install Cable	0.01	0.05	0.13	0.00	0.00	0.00	25.75	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.01	0.02	0.00	0.00	0.00	4.85	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)											
Install Cable	0.02	0.08	0.22	0.00	0.01	0.01	42.91	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.00	0.00	7.62	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall											
Install Cable	0.02	0.10	0.28	0.00	0.01	0.01	54.93	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.000	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation											
Install Cable	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.00	0.000	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation											
Install 5 Foot Crossarm	0.00	0.01	0.03	0.00	0.00	0.00	5.15	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.00	0.00	3.43	0.000	1.00	0.00	0.00
Install Cable	0.03	0.11	0.31	0.00	0.01	0.01	60.08	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.01	0.03	0.00	0.00	0.00	6.23	0.000	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00

Table 10
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable											
Install 5 Foot Crossarm	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.198	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.07	0.16	0.00	0.00	0.00	36.98	0.198	1.00	0.00	0.00
Install Down Guys	0.00	0.00	0.01	0.00	0.00	0.00	2.57	0.198	1.00	0.00	0.00
Install Cable	0.01	0.06	0.16	0.00	0.00	0.00	30.90	0.198	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.198	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.04	0.08	0.00	0.00	0.00	17.32	0.198	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.198	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower											
All	0.01	0.05	0.09	0.00	0.00	0.00	23.46	0.000	1.00	0.00	0.00
Totals by 12-Month Period											
Months 1-12	3.70	15.05	28.78	0.06	1.12	1.03	5,659.88				
Months 13-24	1.79	7.34	14.08	0.03	0.58	0.53	2,709.33				
Months 19-30	1.79	7.34	14.08	0.03	0.58	0.53	2,709.33				
12-Month Maximum	**3.70**	**15.05**	**28.78**	**0.06**	**1.12**	**1.03**	**5,659.88**				
Total GHG Emissions (metric tons)							**33,468.66**				

Table 11
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity on DOD Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on DOD Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out											
Survey	0.00	0.00	0.00	0.00	0.03	0.00	0.68	0.000	1.00	0.00	0.00
Grading	0.96	4.03	10.57	0.02	14.57	3.66	1,936.17	0.000	1.00	0.00	0.00
Perimeter Wall	0.06	0.43	0.52	0.00	0.53	0.08	203.77	0.000	1.00	0.00	0.00
Water Well	0.02	0.16	0.14	0.00	0.25	0.03	70.96	0.000	1.00	0.00	0.00
Civil	0.12	0.80	4.18	0.01	10.84	1.27	908.53	0.000	1.00	0.00	0.00
Electrical	0.01	0.05	0.06	0.00	0.04	0.01	10.26	0.000	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.09	0.01	7.43	0.000	1.00	0.00	0.00
MEER	0.01	0.11	0.04	0.00	0.18	0.03	18.75	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.05	0.01	3.32	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.05	0.01	5.75	0.000	1.00	0.00	0.00
Asphalting	0.10	0.51	1.92	0.00	3.57	0.44	374.47	0.000	1.00	0.00	0.00
Substation Construction - Full Build Out											
Survey	0.00	0.11	0.01	0.00	0.17	0.03	15.57	0.000	0.00	1.00	0.00
Civil	0.78	4.41	6.27	0.02	4.74	0.77	1,594.62	0.000	0.00	1.00	0.00
Electrical	0.19	1.41	1.36	0.00	0.70	0.18	246.08	0.000	0.00	0.67	0.67
Wiring	0.00	0.07	0.01	0.00	0.12	0.02	9.91	0.000	0.00	0.67	0.67
Control Room	0.01	0.14	0.06	0.00	0.20	0.03	24.75	0.000	0.00	0.67	0.67
Maintenance	0.00	0.06	0.01	0.00	0.12	0.02	8.29	0.000	0.00	0.67	0.67
Asphalting	0.10	0.41	1.11	0.00	1.01	0.14	188.30	0.000	0.00	0.00	1.00
Transformer Assembly	0.09	0.63	0.68	0.00	0.34	0.08	135.09	0.000	0.00	0.67	0.67
Testing	0.01	0.39	0.04	0.00	0.37	0.07	55.34	0.000	0.00	0.67	0.67
Distribution for Station Light & Power											
Overhead Construction	0.00	0.03	0.04	0.00	0.02	0.00	13.31	0.000	1.00	0.00	0.00
Underground Civil Construction	0.01	0.03	0.05	0.00	0.02	0.00	11.87	0.000	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.02	0.00	7.70	0.000	1.00	0.00	0.00
Modifications to Coolwater Switchyard											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.000	1.00	0.00	0.00
Civil	0.11	0.65	0.78	0.00	0.10	0.05	184.00	0.000	1.00	0.00	0.00
Electrical	0.06	0.34	0.50	0.00	0.08	0.04	84.18	0.000	1.00	0.00	0.00
Wiring	0.00	0.02	0.00	0.00	0.01	0.00	2.49	0.000	1.00	0.00	0.00
MEER	0.01	0.06	0.04	0.00	0.03	0.01	12.10	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	0.000	1.00	0.00	0.00

Table 11
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity on DOD Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on DOD Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Modifications to Lugo Substation											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.000	1.00	0.00	0.00
Civil	0.20	1.17	1.37	0.00	0.19	0.09	342.12	0.000	1.00	0.00	0.00
Electrical	0.09	0.52	0.71	0.00	0.13	0.06	124.34	0.000	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.04	0.01	7.40	0.000	1.00	0.00	0.00
Control Room	0.01	0.07	0.05	0.00	0.03	0.01	14.83	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	0.000	1.00	0.00	0.00
Transformer Assembly	0.08	0.48	0.60	0.00	0.10	0.04	103.59	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	0.000	1.00	0.00	0.00
Transmission and Subtransmission Construction											
Survey	0.01	0.16	0.02	0.00	2.12	0.22	22.91	0.045	1.00	0.00	0.00
Construction and Materials Yards	3.60	16.40	31.77	0.07	5.19	1.93	6,520.20	0.000	0.40	0.40	0.40
Right-of-Way Clearing	0.66	3.07	5.07	0.01	11.84	2.73	1,071.40	0.045	1.00	0.00	0.00
Roads and Landing Work	1.49	5.78	11.61	0.02	24.04	4.97	2,309.00	0.045	1.00	0.00	0.00
Retaining Wall Installation	2.40	12.20	20.96	0.05	100.29	10.80	4,676.57	0.045	1.00	0.00	0.00
Wet Crossing Installation	1.30	6.64	11.68	0.03	57.23	6.18	2,355.94	0.045	1.00	0.00	0.00
Guard Structure Installation	0.12	0.59	0.97	0.00	4.17	0.45	245.02	0.045	0.40	0.40	0.40
Remove Existing Conductor & GW	0.25	1.22	2.59	0.01	9.88	1.08	563.41	0.045	0.40	0.40	0.40
LST Removal	0.27	1.09	1.97	0.00	3.09	0.40	358.39	0.045	0.40	0.40	0.40
LST Foundation Removal	0.03	0.14	0.21	0.00	0.36	0.05	48.29	0.045	0.40	0.40	0.40
Install LST Foundations	1.96	9.20	18.76	0.44	142.22	14.87	5,059.69	0.045	0.40	0.40	0.40
LST Steel Haul	0.94	2.16	6.23	2.01	13.14	1.51	1,586.92	0.045	0.40	0.40	0.40
LST Steel Assembly	6.35	26.75	45.17	6.63	49.18	6.99	9,366.20	0.045	0.40	0.40	0.40
LST Erection	8.48	19.87	40.95	10.92	62.00	7.70	9,027.25	0.045	0.40	0.40	0.40
Install TSP Foundations	1.08	5.18	9.93	0.03	68.26	7.18	2,585.63	0.045	0.40	0.40	0.40
TSP Haul	0.05	0.22	0.42	0.00	3.55	0.37	83.32	0.045	0.40	0.40	0.40
TSP Assembly	0.11	0.55	0.81	0.00	4.70	0.51	153.21	0.045	0.40	0.40	0.40
TSP Erection	0.10	0.54	0.78	0.00	3.38	0.38	145.70	0.045	0.40	0.40	0.40
Install Conductor	5.49	19.58	24.30	2.55	64.41	7.78	6,508.79	0.045	0.40	0.40	0.40
Guard Structure Removal	0.07	0.34	0.56	0.00	2.86	0.31	101.26	0.045	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.04	0.08	0.00	0.30	0.03	15.66	0.045	0.40	0.40	0.40
Install TSP Riser Foundations	0.08	0.42	0.82	0.00	7.46	0.78	212.83	0.045	0.40	0.40	0.40

Table 11
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity on DOD Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on DOD Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
TSP Riser Haul	0.00	0.02	0.04	0.00	0.36	0.04	8.33	0.045	0.40	0.40	0.40
TSP Riser Assembly	0.05	0.27	0.41	0.00	2.35	0.26	76.61	0.045	0.40	0.40	0.40
TSP Riser Erection	0.05	0.27	0.39	0.00	1.69	0.19	72.85	0.045	0.40	0.40	0.40
Vault Installation	0.06	0.32	0.51	0.00	4.48	0.47	106.76	0.045	0.40	0.40	0.40
Duct Bank Installation	0.02	0.20	0.25	0.00	4.46	0.46	55.07	0.045	0.40	0.40	0.40
Install Underground Cable	0.09	0.43	0.98	0.00	4.78	0.51	216.58	0.045	0.40	0.40	0.40
Restoration	0.20	1.33	1.33	0.00	6.00	1.17	223.00	0.045	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)											
Install Cable	0.03	0.14	0.33	0.00	0.21	0.03	66.73	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.08	0.01	12.27	0.000	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)											
Install Cable	0.01	0.06	0.14	0.00	0.09	0.01	27.80	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.05	0.01	6.56	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)											
Install Cable	0.02	0.10	0.23	0.00	0.08	0.02	46.14	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.04	0.00	0.04	0.01	10.26	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall											
Install Cable	0.03	0.14	0.29	0.00	0.09	0.02	60.35	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.04	0.01	13.10	0.000	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation											
Install Cable	0.02	0.09	0.18	0.00	0.06	0.01	37.72	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.03	0.01	11.63	0.000	0.00	0.00	1.00

Table 11
Total Construction Emissions Summary with Alternative Transmission Segment 9 - Controlled Fugitive PM

Total Emissions by Construction Activity on DOD Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on DOD Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Apple Valley to Desert View Substation											
Install 5 Foot Crossarm	0.00	0.02	0.03	0.00	0.04	0.00	6.39	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.02	0.02	0.00	0.03	0.00	4.93	0.000	1.00	0.00	0.00
Install Cable	0.03	0.14	0.32	0.00	0.20	0.03	64.46	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.02	0.00	0.72	0.000	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.02	0.03	0.00	0.05	0.01	8.16	0.000	1.00	0.00	0.00
Restoration	0.00	0.01	0.00	0.00	0.03	0.00	1.29	0.000	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable											
Install 5 Foot Crossarm	0.02	0.09	0.19	0.00	0.02	0.01	39.90	0.000	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.09	0.17	0.00	0.02	0.01	41.02	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.01	0.00	3.93	0.000	1.00	0.00	0.00
Install Cable	0.01	0.08	0.17	0.00	0.02	0.01	36.10	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.02	0.00	0.00	0.02	0.00	3.53	0.000	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.06	0.09	0.00	0.02	0.01	22.55	0.000	1.00	0.00	0.00
Restoration	0.00	0.02	0.01	0.00	0.01	0.00	3.69	0.000	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower											
All	0.01	0.08	0.09	0.00	0.02	0.01	27.81	0.000	1.00	0.00	0.00
Totals by 12-Month Period											
Months 1-12	0.72	2.86	5.05	0.41	17.03	2.06	1,128.37				
Months 13-24	0.47	1.65	2.87	0.41	8.41	0.98	665.48				
Months 19-30	0.47	1.65	2.87	0.41	8.41	0.98	665.48				
12-Month Maximum	**0.72**	**2.86**	**5.05**	**0.41**	**17.03**	**2.06**	**1,128.37**				
Total GHG Emissions (metric tons)							**55,412.50**				

Table 12
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on DOD Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on DOD Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Grading	0.85	3.12	6.80	0.01	0.26	0.24	1,092.04	0.000	1.00	0.00	0.00
Perimeter Wall	0.06	0.33	0.36	0.00	0.01	0.01	160.94	0.000	1.00	0.00	0.00
Water Well	0.02	0.11	0.12	0.00	0.00	0.00	62.74	0.000	1.00	0.00	0.00
Civil	0.02	0.07	0.10	0.00	0.01	0.00	24.90	0.000	1.00	0.00	0.00
Electrical	0.01	0.03	0.06	0.00	0.00	0.00	7.78	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Asphalting	0.07	0.26	0.61	0.00	0.02	0.02	87.66	0.000	1.00	0.00	0.00
Substation Construction - Full Build Out											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	1.00	0.00
Civil	0.73	3.64	5.07	0.01	0.24	0.22	1,267.98	0.000	0.00	1.00	0.00
Electrical	0.18	0.94	1.31	0.00	0.08	0.08	180.29	0.000	0.00	0.67	0.67
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.000	0.00	0.67	0.67
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Asphalting	0.09	0.32	0.76	0.00	0.03	0.03	109.57	0.000	0.00	0.00	1.00
Transformer Assembly	0.08	0.36	0.65	0.00	0.03	0.03	98.12	0.000	0.00	0.67	0.67
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Distribution for Station Light & Power											
Overhead Construction	0.00	0.02	0.04	0.00	0.00	0.00	12.68	0.000	1.00	0.00	0.00
Underground Civil Construction	0.01	0.02	0.04	0.00	0.00	0.00	10.39	0.000	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.00	0.00	7.27	0.000	1.00	0.00	0.00
Modifications to Coolwater Switchyard											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Civil	0.11	0.57	0.73	0.00	0.04	0.04	163.64	0.000	1.00	0.00	0.00
Electrical	0.06	0.26	0.49	0.00	0.02	0.02	72.67	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00

Table 12
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on DOD Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on DOD Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Modifications to Lugo Substation											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Civil	0.19	1.01	1.27	0.00	0.07	0.06	304.10	0.000	1.00	0.00	0.00
Electrical	0.09	0.38	0.70	0.00	0.03	0.03	103.81	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Transformer Assembly	0.08	0.37	0.59	0.00	0.03	0.03	88.72	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Transmission and Subtransmission Construction											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.045	1.00	0.00	0.00
Construction and Materials Yards	3.31	10.95	25.97	0.05	0.92	0.84	4,736.74	0.000	0.40	0.40	0.40
Right-of-Way Clearing	0.63	2.25	4.84	0.01	0.18	0.16	926.78	0.045	1.00	0.00	0.00
Roads and Landing Work	1.46	5.08	11.25	0.02	0.41	0.37	2,154.97	0.045	1.00	0.00	0.00
Retaining Wall Installation	2.25	10.13	17.26	0.04	0.65	0.60	3,707.32	0.045	1.00	0.00	0.00
Wet Crossing Installation	1.20	5.23	9.26	0.02	0.36	0.33	1,712.79	0.045	1.00	0.00	0.00
Guard Structure Installation	0.11	0.49	0.88	0.00	0.03	0.03	214.70	0.045	0.40	0.40	0.40
Remove Existing Conductor & GW	0.23	0.94	2.36	0.00	0.07	0.07	480.91	0.045	0.40	0.40	0.40
LST Removal	0.26	0.96	1.91	0.00	0.09	0.08	328.47	0.045	0.40	0.40	0.40
LST Foundation Removal	0.03	0.10	0.19	0.00	0.01	0.01	41.63	0.045	0.40	0.40	0.40
Install LST Foundations	1.64	6.67	11.91	0.03	0.39	0.36	3,379.33	0.045	0.40	0.40	0.40
LST Steel Haul	0.27	0.86	2.21	0.00	0.07	0.07	424.37	0.045	0.40	0.40	0.40
LST Steel Assembly	4.18	18.83	31.51	0.05	1.51	1.39	5,066.09	0.045	0.40	0.40	0.40
LST Erection	1.98	7.15	15.57	0.03	0.69	0.63	2,455.09	0.045	0.40	0.40	0.40
Install TSP Foundations	0.98	3.86	7.29	0.02	0.24	0.22	1,911.12	0.045	0.40	0.40	0.40
TSP Haul	0.04	0.14	0.34	0.00	0.01	0.01	58.12	0.045	0.40	0.40	0.40
TSP Assembly	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.045	0.40	0.40	0.40
TSP Erection	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.045	0.40	0.40	0.40
Install Conductor	2.23	8.36	19.92	0.04	0.67	0.62	3,894.68	0.045	0.40	0.40	0.40
Guard Structure Removal	0.06	0.26	0.52	0.00	0.02	0.02	85.27	0.045	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.03	0.08	0.00	0.00	0.00	13.63	0.045	0.40	0.40	0.40
Install TSP Riser Foundations	0.07	0.26	0.49	0.00	0.02	0.02	129.98	0.045	0.40	0.40	0.40

Table 12
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on DOD Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on DOD Land	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
TSP Riser Haul	0.00	0.01	0.03	0.00	0.00	0.00	5.81	0.045	0.40	0.40	0.40
TSP Riser Assembly	0.05	0.19	0.37	0.00	0.02	0.02	58.35	0.045	0.40	0.40	0.40
TSP Riser Erection	0.05	0.19	0.37	0.00	0.02	0.02	58.35	0.045	0.40	0.40	0.40
Vault Installation	0.05	0.24	0.38	0.00	0.02	0.01	71.40	0.045	0.40	0.40	0.40
Duct Bank Installation	0.02	0.13	0.13	0.00	0.01	0.01	21.33	0.045	0.40	0.40	0.40
Install Underground Cable	0.08	0.35	0.86	0.00	0.03	0.02	183.72	0.045	0.40	0.40	0.40
Restoration	0.19	1.09	1.24	0.00	0.09	0.08	174.35	0.045	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)											
Install Cable	0.03	0.12	0.32	0.00	0.01	0.01	61.79	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.000	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)											
Install Cable	0.01	0.05	0.13	0.00	0.00	0.00	25.75	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.01	0.02	0.00	0.00	0.00	4.85	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)											
Install Cable	0.02	0.08	0.22	0.00	0.01	0.01	42.91	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.00	0.00	7.62	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall											
Install Cable	0.02	0.10	0.28	0.00	0.01	0.01	54.93	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.000	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation											
Install Cable	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.00	0.000	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation											
Install 5 Foot Crossarm	0.00	0.01	0.03	0.00	0.00	0.00	5.15	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.00	0.00	3.43	0.000	1.00	0.00	0.00
Install Cable	0.03	0.11	0.31	0.00	0.01	0.01	60.08	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.01	0.03	0.00	0.00	0.00	6.23	0.000	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00

Table 12
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 9 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on DOD Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on DOD Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable											
Install 5 Foot Crossarm	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.000	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.07	0.16	0.00	0.00	0.00	36.98	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.00	0.01	0.00	0.00	0.00	2.57	0.000	1.00	0.00	0.00
Install Cable	0.01	0.06	0.16	0.00	0.00	0.00	30.90	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.04	0.08	0.00	0.00	0.00	17.32	0.000	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower											
All	0.01	0.05	0.09	0.00	0.00	0.00	23.46	0.000	1.00	0.00	0.00
Totals by 12-Month Period											
Months 1-12	0.48	1.93	3.70	0.01	0.14	0.13	726.67				
Months 13-24	0.23	0.95	1.82	0.00	0.07	0.07	349.34				
Months 19-30	0.23	0.95	1.82	0.00	0.07	0.07	349.34				
12-Month Maximum	**0.48**	**1.93**	**3.70**	**0.01**	**0.14**	**0.13**	**726.67**				
Total GHG Emissions (metric tons)							**33,468.66**				

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Grading

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	14.21	52.08	113.36	0.18	4.36	4.01	18,200.6
Onsite Motor Vehicle Exhaust	0.02	0.15	0.86	0.00	0.03	0.01	173.6
Onsite Motor Vehicle Fugitive PM	--	--	--	--	20.07	2.01	
Earthwork Fugitive PM	--	--	--	--	107.65	40.91	
Onsite Total	**14.24**	**52.23**	**114.22**	**0.18**	**132.10**	**46.94**	**18374.2**
Offsite Motor Vehicle Exhaust	1.72	14.94	61.96	0.14	2.11	1.12	13,895.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	119.29	14.08	
Offsite Total	**1.72**	**14.94**	**61.96**	**0.14**	**121.40**	**15.20**	**13895.2**
Total	**15.96**	**67.17**	**176.18**	**0.32**	**253.50**	**62.14**	**32269.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.85	3.12	6.80	0.01	0.26	0.24	1,092.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.05	0.00	0.00	0.00	10.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.20	0.12	
Earthwork Fugitive PM	--	--	--	--	6.46	2.45	
Onsite Total	**0.85**	**3.13**	**6.85**	**0.01**	**7.93**	**2.82**	**1102.5**
Offsite Motor Vehicle Exhaust	0.10	0.90	3.72	0.01	0.13	0.07	833.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.52	0.78	
Offsite Total	**0.10**	**0.90**	**3.72**	**0.01**	**6.65**	**0.85**	**833.7**
Total	**0.96**	**4.03**	**10.57**	**0.02**	**14.57**	**3.66**	**1936.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
980 Loader	400	2	120	8
Grader/Blade	400	2	120	8
Compactor	100	1	120	5
Earth Mover	400	4	120	8

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Grading

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
980 Loader	400	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Grader/Blade	400	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders
Compactor	100	0.079	0.397	0.511	0.001	0.042	0.038	58.936	0.007	0.002	Rollers
Earth Mover	400	0.273	1.010	2.216	0.003	0.085	0.078	321.140	0.025	0.008	Scrapers

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
980 Loader	2.55	8.94	20.10	0.04	0.72	0.66	3788.73	0.23	0.10	3,824.1
Grader/Blade	2.52	8.83	19.80	0.04	0.71	0.66	3668.45	0.23	0.10	3,702.8
Compactor	0.40	1.98	2.55	0.00	0.21	0.19	294.68	0.04	0.01	297.8
Earth Mover	8.75	32.32	70.91	0.10	2.72	2.50	10276.48	0.79	0.27	10,376.0
Total	**14.21**	**52.08**	**113.36**	**0.18**	**4.36**	**4.01**	**18028.34**	**1.28**	**0.47**	**18200.64**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
980 Loader	0.15	0.54	1.21	0.00	0.04	0.04	227.32	0.01	0.01	229.4
Grader/Blade	0.15	0.53	1.19	0.00	0.04	0.04	220.11	0.01	0.01	222.2
Compactor	0.02	0.12	0.15	0.00	0.01	0.01	17.68	0.00	0.00	17.9
Earth Mover	0.52	1.94	4.25	0.01	0.16	0.15	616.59	0.05	0.02	622.6
Total	**0.85**	**3.12**	**6.80**	**0.01**	**0.26**	**0.24**	**1081.70**	**0.08**	**0.03**	**1092.04**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Grading

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	4	120	N/A	4
Survey Truck	1	120	N/A	4
Soils Test Crew Truck	1	120	N/A	4
Dump Truck	60	120	N/A	0.5
Offsite				
Water Truck	4	120	N/A	28
Dump Truck	60	120	N/A	60
Worker Commute	15	120	N/A	58

[a] Dump trucks based on exporting 100,000 CY over 120 days and 14 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Survey Truck	LHDT	2.79E-04	1.93E-03	1.24E-02	1.10E-05	2.61E-04	5.48E-05	1.12E+00	1.29E-05	3.80E-05
Soils Test Crew Truck	LHDT	2.79E-04	1.93E-03	1.24E-02	1.10E-05	2.61E-04	5.48E-05	1.12E+00	1.29E-05	3.80E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Grading

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.05	0.26	0.00	0.01	0.00	56.64	0.00	0.00	57.25
Survey Truck	0.00	0.01	0.05	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Soils Test Crew Truck	0.00	0.01	0.05	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Dump Truck	0.01	0.09	0.50	0.00	0.02	0.01	106.21	0.00	0.00	107.34
Onsite Total	**0.02**	**0.15**	**0.86**	**0.00**	**0.03**	**0.01**	**171.77**	**0.00**	**0.01**	**173.61**
Offsite										
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Dump Truck	1.52	10.25	59.62	0.13	1.95	1.08	12744.91	0.07	0.43	12881.09
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**1.72**	**14.94**	**61.96**	**0.14**	**2.11**	**1.12**	**13747.86**	**0.11**	**0.47**	**13895.19**
Total	**1.75**	**15.09**	**62.82**	**0.14**	**2.13**	**1.14**	**13919.63**	**0.11**	**0.47**	**14068.80**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.40	0.00	0.00	3.43
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Soils Test Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Dump Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Onsite Total	**0.00**	**0.01**	**0.05**	**0.00**	**0.00**	**0.00**	**10.31**	**0.00**	**0.00**	**10.42**
Offsite										
Water Truck	0.00	0.02	0.11	0.00	0.00	0.00	23.79	0.00	0.00	24.04
Dump Truck	0.09	0.62	3.58	0.01	0.12	0.07	764.69	0.00	0.03	772.87
Worker Commute	0.01	0.26	0.03	0.00	0.01	0.00	36.39	0.00	0.00	36.80
Offsite Total	**0.10**	**0.90**	**3.72**	**0.01**	**0.13**	**0.07**	**824.87**	**0.01**	**0.03**	**833.71**
Total	**0.10**	**0.91**	**3.77**	**0.01**	**0.13**	**0.07**	**835.18**	**0.01**	**0.03**	**844.13**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Grading

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	4	Unpaved	4	120	0.977	0.098	15.64	1.56	0.94	0.09
Survey Truck	1	Unpaved	4	120	0.474	0.047	1.89	0.19	0.11	0.01
Soils Test Crew Truck	1	Unpaved	4	120	0.634	0.063	2.54	0.25	0.15	0.02
Onsite Total							**20.07**	**2.01**	**1.20**	**0.12**
Offsite										
Water Truck	4	Unpaved	1.5	120	0.977	0.098	5.86	0.59	0.35	0.04
Water Truck	4	Paved	16.5	120	0.003	0.001	0.22	0.05	0.01	0.00
Dump Truck	60	Unpaved	1.5	120	0.977	0.098	87.97	8.80	5.28	0.53
Dump Truck	60	Paved	58.5	120	0.003	0.001	11.69	2.87	0.70	0.17
Worker Commute	15	Paved	58	120	0.003	0.001	2.90	0.71	0.17	0.04
Worker Commute	15	Unpaved	1.5	120	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**119.29**	**14.08**	**6.52**	**0.78**
Total							**139.36**	**16.09**	**7.72**	**0.90**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	24325	2918950	1.00E-03	1.52E-04	24.39	3.69	1.46	0.22
Bulldozing, Scraping and Grading	hr	48	5760	1.735	0.775	83.26	37.21	5.00	2.23
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**107.65**	**40.91**	**6.46**	**2.45**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 2,918,950 CY over 120 days

Table 14
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.89	10.96	11.92	0.05	0.41	0.38	5,364.6
Onsite Motor Vehicle Exhaust	0.00	0.08	0.09	0.00	0.00	0.00	27.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	7.14	0.71	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**1.89**	**11.04**	**12.01**	**0.05**	**7.58**	**1.10**	**5391.8**
Offsite Motor Vehicle Exhaust	0.21	3.19	5.22	0.01	0.21	0.09	1,400.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	15.53	1.92	
Offsite Total	**0.21**	**3.19**	**5.22**	**0.01**	**15.75**	**2.01**	**1400.6**
Total	**2.10**	**14.23**	**17.24**	**0.07**	**23.32**	**3.11**	**6792.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.33	0.36	0.00	0.01	0.01	160.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.21	0.02	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.33**	**0.36**	**0.00**	**0.23**	**0.03**	**161.8**
Offsite Motor Vehicle Exhaust	0.01	0.10	0.16	0.00	0.01	0.00	42.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.30	0.04	
Offsite Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.30**	**0.04**	**42.0**
Total	**0.06**	**0.43**	**0.52**	**0.00**	**0.53**	**0.08**	**203.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	2	60	8
Bobcat	75	1	60	8

Table 14
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.65	8.81	9.99	0.05	0.30	0.27	4976.47	0.15	0.13	5,019.6
Bobcat	0.24	2.15	1.93	0.00	0.11	0.10	341.79	0.02	0.01	345.0
Total	**1.89**	**10.96**	**11.92**	**0.05**	**0.41**	**0.38**	**5318.25**	**0.17**	**0.14**	**5364.58**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.05	0.26	0.30	0.00	0.01	0.01	149.29	0.00	0.00	150.6
Bobcat	0.01	0.06	0.06	0.00	0.00	0.00	10.25	0.00	0.00	10.4
Total	**0.06**	**0.33**	**0.36**	**0.00**	**0.01**	**0.01**	**159.55**	**0.01**	**0.00**	**160.94**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Concrete Truck	3	60	N/A	1
Flatbed Truck	2	60	N/A	1
Crew Truck	1	60	N/A	4
Foreman Truck	1	60	N/A	4
Offsite				
Concrete Truck	3	60	N/A	60
Flatbed Truck	2	60	N/A	60
Worker Commute	8	60	N/A	58

Table 14
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Foreman Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Concrete Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Flatbed Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Crew Truck	0.00	0.03	0.00	0.00	0.00	0.00	4.62	0.00	0.00	4.68
Foreman Truck	0.00	0.03	0.00	0.00	0.00	0.00	4.62	0.00	0.00	4.68
Onsite Total	**0.00**	**0.08**	**0.09**	**0.00**	**0.00**	**0.00**	**26.94**	**0.00**	**0.00**	**27.26**
Offsite										
Concrete Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Flatbed Truck	0.05	0.34	1.99	0.00	0.07	0.04	424.83	0.00	0.01	429.37
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.21**	**3.19**	**5.22**	**0.01**	**0.21**	**0.09**	**1385.51**	**0.03**	**0.05**	**1400.55**
Total	**0.21**	**3.26**	**5.31**	**0.01**	**0.21**	**0.09**	**1412.45**	**0.03**	**0.05**	**1427.81**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 14
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.32
Flatbed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.81**	**0.00**	**0.00**	**0.82**
Offsite										
Concrete Truck	0.00	0.02	0.09	0.00	0.00	0.00	19.12	0.00	0.00	19.32
Flatbed Truck	0.00	0.01	0.06	0.00	0.00	0.00	12.74	0.00	0.00	12.88
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.01**	**0.00**	**41.57**	**0.00**	**0.00**	**42.02**
Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.01**	**0.00**	**42.37**	**0.00**	**0.00**	**42.83**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Concrete Truck	3	Unpaved	1	60	0.977	0.098	2.93	0.29	0.09	0.01
Flatbed Truck	2	Unpaved	1	60	0.977	0.098	1.95	0.20	0.06	0.01
Crew Truck	1	Unpaved	4	60	0.564	0.056	2.25	0.23	0.07	0.01
Onsite Total							**7.14**	**0.71**	**0.21**	**0.02**
Offsite										
Concrete Truck	3	Unpaved	1.5	60	0.977	0.098	4.40	0.44	0.13	0.01
Concrete Truck	3	Paved	58.5	60	0.003	0.001	0.58	0.14	0.02	0.00
Flatbed Truck	2	Unpaved	1.5	60	0.977	0.098	2.93	0.29	0.09	0.01
Flatbed Truck	2	Paved	58.5	60	0.003	0.001	0.39	0.10	0.01	0.00
Worker Commute	8	Paved	58	60	0.003	0.001	1.54	0.38	0.05	0.01
Worker Commute	8	Unpaved	1.5	60	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**15.53**	**1.92**	**0.30**	**0.04**
Total							**22.68**	**2.63**	**0.51**	**0.06**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 14
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	27	810	1.00E-03	1.52E-04	0.03	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.03**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 810 CY over 30 days

Table 15
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Water Well

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.03	5.51	6.25	0.03	0.19	0.17	3,137.2
Onsite Motor Vehicle Exhaust	0.00	0.07	0.03	0.00	0.00	0.00	19.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	9.28	0.93	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.04**	**5.57**	**6.28**	**0.03**	**9.46**	**1.10**	**3156.2**
Offsite Motor Vehicle Exhaust	0.09	2.38	0.55	0.00	0.06	0.01	391.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.75	1.11	
Offsite Total	**0.09**	**2.38**	**0.55**	**0.00**	**8.81**	**1.12**	**391.5**
Total	**1.12**	**7.96**	**6.83**	**0.04**	**18.27**	**2.21**	**3547.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.11	0.12	0.00	0.00	0.00	62.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.19	0.02	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.11**	**0.13**	**0.00**	**0.19**	**0.02**	**63.1**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.06**	**0.01**	**7.8**
Total	**0.02**	**0.16**	**0.14**	**0.00**	**0.25**	**0.03**	**71.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Drill Rig	350	1	40	10

Table 15
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Water Well

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Drill Rig	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Drill Rig	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2
Total	**1.03**	**5.51**	**6.25**	**0.03**	**0.19**	**0.17**	**3110.29**	**0.09**	**0.08**	**3137.23**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Drill Rig	0.02	0.11	0.12	0.00	0.00	0.00	62.21	0.00	0.00	62.7
Total	**0.02**	**0.11**	**0.12**	**0.00**	**0.00**	**0.00**	**62.21**	**0.00**	**0.00**	**62.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	1	40	N/A	1
Tool Truck	2	40	N/A	4
Crew Truck	2	40	N/A	4
Offsite				
Water Truck	1	40	N/A	18
Worker Commute	8	40	N/A	58

Table 15
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Water Well

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.01	0.00	0.00	0.00	5.99	0.00	0.00	6.06
Crew Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.07**	**0.03**	**0.00**	**0.00**	**0.00**	**18.77**	**0.00**	**0.00**	**19.01**
Offsite										
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.38**	**0.55**	**0.00**	**0.06**	**0.01**	**387.16**	**0.02**	**0.01**	**391.53**
Total	**0.09**	**2.45**	**0.59**	**0.00**	**0.06**	**0.01**	**405.93**	**0.02**	**0.01**	**410.54**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.12
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.19
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.38**	**0.00**	**0.00**	**0.38**
Offsite										
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.27	0.00	0.00	1.29
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.74**	**0.00**	**0.00**	**7.83**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**8.12**	**0.00**	**0.00**	**8.21**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 15
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Water Well

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	1	Unpaved	1	40	0.977	0.098	0.98	0.10	0.02	0.00
Tool Truck	2	Unpaved	4	40	0.474	0.047	3.79	0.38	0.08	0.01
Crew Truck	2	Unpaved	4	40	0.564	0.056	4.51	0.45	0.09	0.01
Onsite Total							**9.28**	**0.93**	**0.19**	**0.02**
Offsite										
Water Truck	1	Unpaved	1.5	40	0.977	0.098	1.47	0.15	0.03	0.00
Water Truck	1	Paved	16.5	40	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	8	Paved	58	40	0.003	0.001	1.54	0.38	0.03	0.01
Worker Commute	8	Unpaved	1.5	40	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**8.75**	**1.11**	**0.06**	**0.01**
Total							**18.03**	**2.04**	**0.25**	**0.03**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 16
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.53	7.36	10.49	0.03	0.53	0.49	2,489.6
Onsite Motor Vehicle Exhaust	0.17	1.17	6.73	0.01	0.22	0.12	1,455.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	397.77	39.78	
Earthwork Fugitive PM	--	--	--	--	0.23	0.03	
Onsite Total	**1.71**	**8.53**	**17.22**	**0.04**	**398.76**	**40.42**	**3944.6**
Offsite Motor Vehicle Exhaust	10.32	71.24	401.03	0.85	13.19	7.29	86,909.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	678.09	79.46	
Offsite Total	**10.32**	**71.24**	**401.03**	**0.85**	**691.28**	**86.75**	**86909.5**
Total	**12.03**	**79.77**	**418.25**	**0.89**	**1090.03**	**127.17**	**90854.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.10	0.00	0.01	0.00	24.9
Onsite Motor Vehicle Exhaust	0.00	0.01	0.07	0.00	0.00	0.00	14.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.97	0.40	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.09**	**0.17**	**0.00**	**3.98**	**0.40**	**39.4**
Offsite Motor Vehicle Exhaust	0.10	0.71	4.01	0.01	0.13	0.07	869.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.72	0.79	
Offsite Total	**0.10**	**0.71**	**4.01**	**0.01**	**6.86**	**0.86**	**869.1**
Total	**0.12**	**0.80**	**4.18**	**0.01**	**10.84**	**1.27**	**908.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	20	4
Skip Loader	350	1	20	3
Forklift	100	1	20	4
Trencher	75	1	20	4
Bobcat	75	1	20	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 110

Construction Equipment Daily Exhaust Emissions

Table 16
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	0.41	2.20	2.50	0.01	0.07	0.07	1244.12	0.04	0.03	1,254.9
Skip Loader	0.48	1.68	3.77	0.01	0.13	0.12	710.39	0.04	0.02	717.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.09	0.81	0.72	0.00	0.04	0.04	128.17	0.01	0.00	129.4
Total	**1.53**	**7.36**	**10.49**	**0.03**	**0.53**	**0.49**	**2466.81**	**0.14**	**0.06**	**2489.60**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.00	0.02	0.02	0.00	0.00	0.00	12.44	0.00	0.00	12.5
Skip Loader	0.00	0.02	0.04	0.00	0.00	0.00	7.10	0.00	0.00	7.2
Forklift	0.00	0.01	0.01	0.00	0.00	0.00	1.25	0.00	0.00	1.3
Trencher	0.00	0.02	0.03	0.00	0.00	0.00	2.59	0.00	0.00	2.6
Bobcat	0.00	0.01	0.01	0.00	0.00	0.00	1.28	0.00	0.00	1.3
Total	**0.02**	**0.07**	**0.10**	**0.00**	**0.01**	**0.00**	**24.67**	**0.00**	**0.00**	**24.90**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	20	N/A	1
Concrete Truck	127	20	N/A	1
Water Truck	2	20	N/A	1
Tool Truck	1	20	N/A	1
Gravel Delivery Truck	276	20	N/A	1
Inspection Services	1	5	N/A	1
Offsite				
Water Truck	1	20	N/A	18
Gravel Delivery Truck	276	20	N/A	60
Concrete Truck	127	20	N/A	60
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,300 CY over 20 days and 10 CY/truck

Gravel delivery truck based on 40,250 CY over 20 days and 7.3 CY/truck

Table 16
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Gravel Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Gravel Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Concrete Truck	0.05	0.36	2.10	0.00	0.07	0.04	449.61	0.00	0.02	454.42
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Tool Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Gravel Delivery Truck	0.12	0.79	4.57	0.01	0.15	0.08	977.11	0.01	0.03	987.55
Inspection Services	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.17**	**1.17**	**6.73**	**0.01**	**0.22**	**0.12**	**1439.65**	**0.01**	**0.05**	**1455.04**
Offsite										
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Gravel Delivery Truck	7.01	47.16	274.27	0.58	8.99	4.99	58626.60	0.33	2.00	59253.00
Concrete Truck	3.22	21.70	126.21	0.27	4.14	2.30	26976.73	0.15	0.92	27264.97
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**10.32**	**71.24**	**401.03**	**0.85**	**13.19**	**7.29**	**85990.49**	**0.50**	**2.93**	**86909.50**
Total	**10.49**	**72.41**	**407.76**	**0.87**	**13.41**	**7.41**	**87430.14**	**0.50**	**2.98**	**88364.55**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 16
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Concrete Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.50	0.00	0.00	4.54
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Gravel Delivery Truck	0.00	0.01	0.05	0.00	0.00	0.00	9.77	0.00	0.00	9.88
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.01**	**0.07**	**0.00**	**0.00**	**0.00**	**14.39**	**0.00**	**0.00**	**14.54**
Offsite										
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Gravel Delivery Truck	0.07	0.47	2.74	0.01	0.09	0.05	586.27	0.00	0.02	592.53
Concrete Truck	0.03	0.22	1.26	0.00	0.04	0.02	269.77	0.00	0.01	272.65
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.10**	**0.71**	**4.01**	**0.01**	**0.13**	**0.07**	**859.90**	**0.00**	**0.03**	**869.10**
Total	**0.10**	**0.72**	**4.08**	**0.01**	**0.13**	**0.07**	**874.29**	**0.01**	**0.03**	**883.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Unpaved	1	20	0.977	0.098	0.98	0.10	0.01	0.00
Concrete Truck	127	Unpaved	1	20	0.977	0.098	124.13	12.41	1.24	0.12
Water Truck	2	Unpaved	1	20	0.977	0.098	1.95	0.20	0.02	0.00
Tool Truck	1	Unpaved	1	20	0.474	0.047	0.47	0.05	0.00	0.00
Gravel Delivery Truck	276	Unpaved	1	20	0.977	0.098	269.76	26.98	2.70	0.27
Inspection Services	1	Unpaved	1	5	0.474	0.047	0.47	0.05	0.00	0.00
Onsite Total							**397.77**	**39.78**	**3.97**	**0.40**

Table 16
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Offsite										
Water Truck	1	Unpaved	1.5	20	0.977	0.098	1.47	0.15	0.01	0.00
Water Truck	1	Paved	16.5	20	0.003	0.001	0.05	0.01	0.00	0.00
Gravel Delivery Truck	276	Unpaved	1.5	20	0.977	0.098	404.65	40.46	4.05	0.40
Gravel Delivery Truck	276	Paved	58.5	20	0.003	0.001	53.76	13.20	0.54	0.13
Concrete Truck	127	Unpaved	1.5	20	0.977	0.098	186.20	18.62	1.86	0.19
Concrete Truck	127	Paved	58.5	20	0.003	0.001	24.74	6.07	0.25	0.06
Worker Commute	8	Paved	58	20	0.003	0.001	1.54	0.38	0.02	0.00
Worker Commute	8	Unpaved	1.5	20	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**678.09**	**79.46**	**6.72**	**0.79**
Total							**1075.87**	**119.24**	**10.70**	**1.19**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	230	4600	1.00E-03	1.52E-04	0.23	0.03	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.23**	**0.03**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 4,600 CY over 20 days

Table 17
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.65	6.81	13.06	0.02	0.62	0.57	1,960.9
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	4.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.14	0.31	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.65**	**6.82**	**13.07**	**0.02**	**3.76**	**0.88**	**1965.1**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.23	0.95	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**7.28**	**0.95**	**327.1**
Total	**1.73**	**9.15**	**13.32**	**0.03**	**11.04**	**1.83**	**2292.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.03	0.06	0.00	0.00	0.00	7.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.02**	**0.00**	**7.8**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**
Total	**0.01**	**0.05**	**0.06**	**0.00**	**0.04**	**0.01**	**10.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	15	4
Manlift	75	2	15	4
14 Ton Crane	250	1	2	3
150 Ton Crane	300	1	2	4
5 Ton Crane	250	1	15	3
Forklift	100	1	15	3

Table 17
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.17	0.94	1.21	0.00	0.09	0.08	152.15	0.01	0.00	153.7
Manlift	0.33	1.88	2.42	0.00	0.18	0.16	304.30	0.03	0.01	307.4
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.65**	**6.81**	**13.06**	**0.02**	**0.62**	**0.57**	**1942.15**	**0.15**	**0.05**	**1960.95**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.00	0.01	0.01	0.00	0.00	0.00	1.14	0.00	0.00	1.2
Manlift	0.00	0.01	0.02	0.00	0.00	0.00	2.28	0.00	0.00	2.3
14 Ton Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.3
150 Ton Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.7
5 Ton Crane	0.00	0.01	0.02	0.00	0.00	0.00	2.52	0.00	0.00	2.5
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.7
Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.00**	**0.00**	**7.70**	**0.00**	**0.00**	**7.78**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 17
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	15	N/A	1
Crew Truck	2	15	N/A	1
Inspection Services	1	5	N/A	1
Offsite				
Worker Commute	8	15	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Inspection Services	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.15**	**0.00**	**0.00**	**4.20**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.26**	**0.00**	**0.05**	**0.00**	**327.58**	**0.02**	**0.01**	**331.33**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 17
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.03**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.43	0.00	0.00	2.45
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.43**	**0.00**	**0.00**	**2.45**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.45**	**0.00**	**0.00**	**2.48**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Unpaved	1	15	0.770	0.077	1.54	0.15	0.01	0.00
Crew Truck	2	Unpaved	1	15	0.564	0.056	1.13	0.11	0.01	0.00
Inspection Services	1	Unpaved	1	5	0.474	0.047	0.47	0.05	0.00	0.00
Onsite Total							**3.14**	**0.31**	**0.02**	**0.00**
Offsite										
Worker Commute	8	Paved	58	15	0.003	0.001	1.54	0.38	0.01	0.00
Worker Commute	8	Unpaved	1.5	15	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**7.23**	**0.95**	**0.01**	**0.00**
Total							**10.37**	**1.26**	**0.03**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 17
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 18
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.75	0.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**1.75**	**0.17**	**2.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.42	0.71	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**5.46**	**0.71**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**7.21**	**0.89**	**247.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.09**	**0.01**	**7.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 18
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Wiring

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	1
Pick-up Truck	1	60	N/A	1
Offsite				
Worker Commute	6	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Pick-up Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.31**	**0.00**	**0.00**	**2.34**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**244.88**	**0.01**	**0.01**	**247.69**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 18
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Wiring

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**0.07**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.28**	**0.00**	**0.00**	**7.36**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.35**	**0.00**	**0.00**	**7.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Unpaved	1	60	0.977	0.098	0.98	0.10	0.03	0.00
Pick-up Truck	1	Unpaved	1	60	0.770	0.077	0.77	0.08	0.02	0.00
Onsite Total							**1.75**	**0.17**	**0.05**	**0.01**
Offsite										
Worker Commute	6	Paved	58	60	0.003	0.001	1.16	0.28	0.03	0.01
Worker Commute	6	Unpaved	1.5	60	0.474	0.047	4.26	0.43	0.00	0.00
Offsite Total							**5.42**	**0.71**	**0.03**	**0.01**
Total							**7.17**	**0.89**	**0.09**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 19
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
MEER

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	5.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.93	0.29	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.67**	**6.45**	**0.01**	**3.17**	**0.51**	**1095.3**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.23	0.95	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**7.28**	**0.95**	**327.1**
Total	**0.88**	**5.00**	**6.70**	**0.01**	**10.44**	**1.46**	**1422.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.12	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.12**	**0.01**	**5.7**
Offsite Motor Vehicle Exhaust	0.00	0.09	0.01	0.00	0.00	0.00	13.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.02	
Offsite Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.06**	**0.02**	**13.1**
Total	**0.01**	**0.11**	**0.04**	**0.00**	**0.18**	**0.03**	**18.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 19
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
MEER

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.00	0.01	0.03	0.00	0.00	0.00	5.40	0.00	0.00	5.4
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.40**	**0.00**	**0.00**	**5.45**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	1
Stake Truck	1	80	N/A	1
Wiring Truck	1	80	N/A	1
Offsite				
Worker Commute	8	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**5.44**	**0.00**	**0.00**	**5.51**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.27**	**0.00**	**0.05**	**0.00**	**328.88**	**0.02**	**0.01**	**332.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Table 19
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
MEER

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.00**	**0.00**	**0.22**
Offsite										
Worker Commute	0.00	0.09	0.01	0.00	0.00	0.00	12.94	0.00	0.00	13.09
Offsite Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.00**	**0.00**	**12.94**	**0.00**	**0.00**	**13.09**
Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.00**	**0.00**	**13.16**	**0.00**	**0.00**	**13.31**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Stake Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Wiring Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Onsite Total							**2.93**	**0.29**	**0.12**	**0.01**
Offsite										
Worker Commute	8	Paved	58	80	0.003	0.001	1.54	0.38	0.06	0.02
Worker Commute	8	Unpaved	1.5	80	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**7.23**	**0.95**	**0.06**	**0.02**
Total							**10.16**	**1.24**	**0.18**	**0.03**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 19
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
MEER

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 20
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.69	0.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**1.69**	**0.17**	**2.3**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.61	0.47	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**3.64**	**0.47**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.33**	**0.64**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.05**	**0.01**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 20
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Maintenance

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	1
Crew Truck	2	40	N/A	1
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.25**	**0.00**	**0.00**	**2.27**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 20
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Maintenance

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.05**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.28**	**0.00**	**0.00**	**3.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Unpaved	1	40	0.564	0.056	0.56	0.06	0.01	0.00
Crew Truck	2	Unpaved	1	40	0.564	0.056	1.13	0.11	0.02	0.00
Onsite Total							**1.69**	**0.17**	**0.03**	**0.00**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Worker Commute	4	Unpaved	1.5	40	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**3.61**	**0.47**	**0.02**	**0.00**
Total							**5.31**	**0.64**	**0.05**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 21
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.56	0.06	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.56**	**0.06**	**0.8**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.61	0.47	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**3.64**	**0.47**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**4.20**	**0.53**	**164.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.05**	**0.01**	**5.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 21
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Testing

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	1
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.00**	**0.00**	**0.76**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.47**	**0.01**	**0.01**	**164.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 21
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Testing

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.03**
Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.69**	**0.00**	**0.00**	**5.75**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Unpaved	1	70	0.564	0.056	0.56	0.06	0.02	0.00
Onsite Total							**0.56**	**0.06**	**0.02**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Worker Commute	4	Unpaved	1.5	70	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**3.61**	**0.47**	**0.03**	**0.01**
Total							**4.18**	**0.53**	**0.05**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 22
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	4.56	17.14	40.49	0.07	1.52	1.40	5,844.0
Onsite Motor Vehicle Exhaust	0.04	0.26	1.49	0.00	0.05	0.03	323.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	88.12	8.81	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Asphaltic Paving VOC	0.7	--	--	--	--	--	--
Onsite Total	**5.35**	**17.41**	**41.98**	**0.07**	**89.69**	**10.24**	**6167.16**
Offsite Motor Vehicle Exhaust	2.27	16.61	86.65	0.19	2.87	1.57	18,922.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	149.92	17.63	
Offsite Total	**2.27**	**16.61**	**86.65**	**0.19**	**152.79**	**19.20**	**18922.9**
Total	**7.62**	**34.02**	**128.63**	**0.25**	**242.48**	**29.44**	**25090.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.07	0.26	0.61	0.00	0.02	0.02	87.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	3.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.32	0.13	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.07**	**0.26**	**0.62**	**0.00**	**1.35**	**0.15**	**90.6**
Offsite Motor Vehicle Exhaust	0.03	0.25	1.30	0.00	0.04	0.02	283.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.18	0.26	
Offsite Total	**0.03**	**0.25**	**1.30**	**0.00**	**2.23**	**0.28**	**283.8**
Total	**0.10**	**0.51**	**1.92**	**0.00**	**3.57**	**0.44**	**374.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Paving Roller	200	2	30	8
Asphalt Paver	250	1	30	8
Tractor	150	1	30	8
Asphalt Curb Machine	250	1	30	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Paving Roller	200	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Asphalt Paver	250	0.176	0.537	1.546	0.002	0.059	0.054	194.197	0.016	0.005	Pavers
Tractor	150	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Asphalt Curb Machine	250	0.108	0.330	0.969	0.001	0.036	0.033	122.182	0.010	0.003	Paving Equipment

a From Table 110

Table 22
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Paving Roller	1.67	5.54	15.91	0.03	0.53	0.49	2447.24	0.15	0.06	2,470.1
Asphalt Paver	1.41	4.29	12.37	0.02	0.47	0.43	1553.58	0.13	0.04	1,568.8
Tractor	0.63	4.68	4.45	0.01	0.23	0.22	810.37	0.06	0.02	818.1
Asphalt Curb Machine	0.86	2.64	7.75	0.01	0.29	0.26	977.45	0.08	0.03	987.0
Total	**4.56**	**17.14**	**40.49**	**0.07**	**1.52**	**1.40**	**5788.64**	**0.41**	**0.15**	**5843.96**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Paving Roller	0.02	0.08	0.24	0.00	0.01	0.01	36.71	0.00	0.00	37.1
Asphalt Paver	0.02	0.06	0.19	0.00	0.01	0.01	23.30	0.00	0.00	23.5
Tractor	0.01	0.07	0.07	0.00	0.00	0.00	12.16	0.00	0.00	12.3
Asphalt Curb Machine	0.01	0.04	0.12	0.00	0.00	0.00	14.66	0.00	0.00	14.8
Total	**0.07**	**0.26**	**0.61**	**0.00**	**0.02**	**0.02**	**86.83**	**0.01**	**0.00**	**87.66**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Stake Truck	1	30	N/A	1
Dump Truck	1	30	N/A	1
Crew Truck	2	30	N/A	1
Asphalt Delivery Truck	35	30	N/A	1
Aggregate Base Delivery Truck	52	30	N/A	1
Offsite				
Asphalt Delivery Truck	35	30	N/A	60
Aggregate Base Delivery Truck	52	30	N/A	60
Worker Commute	6	30	N/A	58

[a] Asphalt delivery trucks based on 7,500 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 11,400 CY over 30 days and 7.3 CY/truck

Table 22
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Crew Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Asphalt Delivery Truck	0.01	0.10	0.58	0.00	0.02	0.01	123.91	0.00	0.00	125.23
Aggregate Base Delivery Truck	0.02	0.15	0.86	0.00	0.03	0.02	184.09	0.00	0.01	186.06
Onsite Total	**0.04**	**0.26**	**1.49**	**0.00**	**0.05**	**0.03**	**319.78**	**0.00**	**0.01**	**323.20**
Offsite										
Asphalt Delivery Truck	0.89	5.98	34.78	0.07	1.14	0.63	7434.53	0.04	0.25	7513.97
Aggregate Base Delivery Truck	1.32	8.88	51.67	0.11	1.69	0.94	11045.59	0.06	0.38	11163.61
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**2.27**	**16.61**	**86.65**	**0.19**	**2.87**	**1.57**	**18722.70**	**0.12**	**0.64**	**18922.92**
Total	**2.31**	**16.88**	**88.14**	**0.19**	**2.92**	**1.60**	**19042.48**	**0.12**	**0.65**	**19246.12**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 22
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Aggregate Base Delivery Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.76	0.00	0.00	2.79
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.94**	**0.00**	**0.00**	**2.97**
Offsite										
Asphalt Delivery Truck	0.01	0.09	0.52	0.00	0.02	0.01	111.52	0.00	0.00	112.71
Aggregate Base Delivery Truck	0.02	0.13	0.78	0.00	0.03	0.01	165.68	0.00	0.01	167.45
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	3.64	0.00	0.00	3.68
Offsite Total	**0.03**	**0.25**	**1.30**	**0.00**	**0.04**	**0.02**	**280.84**	**0.00**	**0.01**	**283.84**
Total	**0.03**	**0.25**	**1.31**	**0.00**	**0.04**	**0.02**	**283.78**	**0.00**	**0.01**	**286.81**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Stake Truck	1	Unpaved	1	30	0.977	0.098	0.98	0.10	0.01	0.00
Dump Truck	1	Unpaved	1	30	0.977	0.098	0.98	0.10	0.01	0.00
Crew Truck	2	Unpaved	1	30	0.564	0.056	1.13	0.11	0.02	0.00
Asphalt Delivery Truck	35	Unpaved	1	30	0.977	0.098	34.21	3.42	0.51	0.05
Aggregate Base Delivery Truck	52	Unpaved	1	30	0.977	0.098	50.83	5.08	0.76	0.08
Onsite Total							**88.12**	**8.81**	**1.32**	**0.13**
Offsite										
Asphalt Delivery Truck	35	Unpaved	1.5	30	0.977	0.098	51.31	5.13	0.77	0.08
Asphalt Delivery Truck	35	Paved	58.5	30	0.003	0.001	6.82	1.67	0.10	0.03
Aggregate Base Delivery Truck	52	Unpaved	1.5	30	0.977	0.098	76.24	7.62	1.14	0.11
Aggregate Base Delivery Truck	52	Paved	58.5	30	0.003	0.001	10.13	2.49	0.15	0.04
Worker Commute	6	Paved	58	30	0.003	0.001	1.16	0.28	0.02	0.00
Worker Commute	6	Unpaved	1.5	30	0.474	0.047	4.26	0.43	0.00	0.00
Offsite Total							**149.92**	**17.63**	**2.18**	**0.26**
Total							**238.04**	**26.44**	**3.51**	**0.39**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 22
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Asphaltic Paving VOC Emissions

Area Paved (acre/day)[a]	Emission Factor (lb/acre)[b]	VOC (lb/day)[c]
0.29	2.62	0.7

[a] Based on 372,400 sq. ft. of area paved in 30 days

[b] From CalEEMod User's Guide

[c] Emissions [lb/day] = Emission factor [lb/acre] x Area paved [acre/day]

Table 23
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	9.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.79	0.38	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**3.79**	**0.38**	**9.4**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.81	0.24	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**1.82**	**0.24**	**81.8**
Total	**0.02**	**0.65**	**0.07**	**0.00**	**5.61**	**0.62**	**91.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Table 23
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Survey

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	4
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 23
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Survey

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**9.24**	**0.00**	**0.00**	**9.37**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.65**	**0.07**	**0.00**	**0.01**	**0.00**	**90.09**	**0.01**	**0.00**	**91.15**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**0.07**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.68**	**0.00**	**0.00**	**0.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Unpaved	4	15	0.474	0.047	3.79	0.38	0.03	0.00
Onsite Total							**3.79**	**0.38**	**0.03**	**0.00**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Worker Commute	2	Unpaved	1.5	15	0.474	0.047	1.42	0.14	0.00	0.00
Offsite Total							**1.81**	**0.24**	**0.00**	**0.00**
Total							**5.60**	**0.62**	**0.03**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 23
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Survey

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 24
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.65	27.99	38.98	0.10	1.86	1.71	9,753.7
Onsite Motor Vehicle Exhaust	0.01	0.07	0.24	0.00	0.01	0.00	54.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	15.58	1.56	
Earthwork Fugitive PM	--	--	--	--	0.15	0.02	
Onsite Total	**5.66**	**28.06**	**39.21**	**0.10**	**17.59**	**3.29**	**9808.4**
Offsite Motor Vehicle Exhaust	0.37	5.84	9.02	0.03	0.37	0.16	2,459.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	29.89	3.65	
Offsite Total	**0.37**	**5.84**	**9.02**	**0.03**	**30.26**	**3.81**	**2459.7**
Total	**6.03**	**33.90**	**48.23**	**0.12**	**47.85**	**7.10**	**12268.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.73	3.64	5.07	0.01	0.24	0.22	1,268.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	6.9
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.93	0.19	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.74**	**3.65**	**5.10**	**0.01**	**2.19**	**0.42**	**1274.9**
Offsite Motor Vehicle Exhaust	0.05	0.76	1.17	0.00	0.05	0.02	319.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.50	0.34	
Offsite Total	**0.05**	**0.76**	**1.17**	**0.00**	**2.55**	**0.36**	**319.8**
Total	**0.78**	**4.41**	**6.27**	**0.02**	**4.74**	**0.77**	**1594.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	4	260	4
Excavator	85	2	260	3
Skip Loader	350	4	260	3
Forklift	100	3	260	4
Trencher	75	2	260	4
Bobcat	75	4	260	3

Table 24
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.65	8.81	9.99	0.05	0.30	0.27	4976.47	0.15	0.13	5,019.6
Excavator	0.50	3.04	3.17	0.01	0.24	0.22	441.34	0.05	0.01	445.9
Skip Loader	1.91	6.71	15.07	0.03	0.54	0.50	2841.55	0.17	0.07	2,868.0
Forklift	0.37	2.55	2.53	0.00	0.18	0.16	374.36	0.03	0.01	378.1
Trencher	0.86	3.65	5.32	0.01	0.44	0.41	518.70	0.08	0.01	524.6
Bobcat	0.35	3.23	2.89	0.01	0.17	0.15	512.68	0.03	0.01	517.5
Total	**5.65**	**27.99**	**38.98**	**0.10**	**1.86**	**1.71**	**9665.09**	**0.51**	**0.25**	**9753.66**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.21	1.15	1.30	0.01	0.04	0.04	646.94	0.02	0.02	652.5
Excavator	0.06	0.40	0.41	0.00	0.03	0.03	57.37	0.01	0.00	58.0
Skip Loader	0.25	0.87	1.96	0.00	0.07	0.06	369.40	0.02	0.01	372.8
Forklift	0.05	0.33	0.33	0.00	0.02	0.02	48.67	0.00	0.00	49.2
Trencher	0.11	0.47	0.69	0.00	0.06	0.05	67.43	0.01	0.00	68.2
Bobcat	0.05	0.42	0.38	0.00	0.02	0.02	66.65	0.00	0.00	67.3
Total	**0.73**	**3.64**	**5.07**	**0.01**	**0.24**	**0.22**	**1256.46**	**0.07**	**0.03**	**1267.98**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 24
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	4	260	N/A	1
Concrete Truck	8	260	N/A	1
Water Truck	2	260	N/A	1
Tool Truck	2	260	N/A	1
Inspection Services	2	60	N/A	1
Offsite				
Water Truck	2	260	N/A	18
Concrete Truck	8	260	N/A	60
Worker Commute	15	260	N/A	58

[a] Concrete trucks based on 20,000 CY over 260 days and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 24
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.01	0.07	0.00	0.00	0.00	14.16	0.00	0.00	14.31
Concrete Truck	0.00	0.02	0.13	0.00	0.00	0.00	28.32	0.00	0.00	28.62
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Tool Truck	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Inspection Services	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Onsite Total	**0.01**	**0.07**	**0.24**	**0.00**	**0.01**	**0.00**	**54.18**	**0.00**	**0.00**	**54.78**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.20	1.37	7.95	0.02	0.26	0.14	1699.32	0.01	0.06	1717.48
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.37**	**5.84**	**9.02**	**0.03**	**0.37**	**0.16**	**2433.21**	**0.05**	**0.08**	**2459.65**
Total	**0.38**	**5.91**	**9.26**	**0.03**	**0.38**	**0.16**	**2487.39**	**0.05**	**0.08**	**2514.43**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.84	0.00	0.00	1.86
Concrete Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.68	0.00	0.00	3.72
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.00	0.93
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.30
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.81**	**0.00**	**0.00**	**6.89**
Offsite										
Water Truck	0.00	0.01	0.08	0.00	0.00	0.00	16.57	0.00	0.00	16.75
Concrete Truck	0.03	0.18	1.03	0.00	0.03	0.02	220.91	0.00	0.01	223.27
Worker Commute	0.02	0.57	0.06	0.00	0.01	0.00	78.84	0.00	0.00	79.74
Offsite Total	**0.05**	**0.76**	**1.17**	**0.00**	**0.05**	**0.02**	**316.32**	**0.01**	**0.01**	**319.75**
Total	**0.05**	**0.77**	**1.20**	**0.00**	**0.05**	**0.02**	**323.13**	**0.01**	**0.01**	**326.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 24
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	4	Unpaved	1	260	0.977	0.098	3.91	0.39	0.51	0.05
Concrete Truck	8	Unpaved	1	260	0.977	0.098	7.82	0.78	1.02	0.10
Water Truck	2	Unpaved	1	260	0.977	0.098	1.95	0.20	0.25	0.03
Tool Truck	2	Unpaved	1	260	0.474	0.047	0.95	0.09	0.12	0.01
Inspection Services	2	Unpaved	1	60	0.474	0.047	0.95	0.09	0.03	0.00
Onsite Total							**15.58**	**1.56**	**1.93**	**0.19**
Offsite										
Water Truck	2	Unpaved	1.5	260	0.977	0.098	2.93	0.29	0.38	0.04
Water Truck	2	Paved	16.5	260	0.003	0.001	0.11	0.03	0.01	0.00
Concrete Truck	8	Unpaved	1.5	260	0.977	0.098	11.73	1.17	1.52	0.15
Concrete Truck	8	Paved	58.5	260	0.003	0.001	1.56	0.38	0.20	0.05
Worker Commute	15	Paved	58	260	0.003	0.001	2.90	0.71	0.38	0.09
Worker Commute	15	Unpaved	1.5	260	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**29.89**	**3.65**	**2.50**	**0.34**
Total							**45.46**	**5.21**	**4.43**	**0.53**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	146	29150	1.00E-03	1.52E-04	0.15	0.02	0.01	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.15**	**0.02**	**0.01**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 29,150 CY over 200 days

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.86	12.87	22.36	0.04	1.15	1.05	3,271.3
Onsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.61	0.36	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.86**	**12.89**	**22.36**	**0.04**	**4.76**	**1.42**	**3276.6**
Offsite Motor Vehicle Exhaust	0.16	4.66	0.51	0.01	0.10	0.00	654.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.46	1.90	
Offsite Total	**0.16**	**4.66**	**0.51**	**0.01**	**14.56**	**1.90**	**654.3**
Total	**3.03**	**17.55**	**22.87**	**0.04**	**19.32**	**3.31**	**3930.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.18	0.94	1.31	0.00	0.08	0.08	180.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.30	0.03	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.18**	**0.94**	**1.31**	**0.00**	**0.38**	**0.10**	**180.7**
Offsite Motor Vehicle Exhaust	0.02	0.47	0.05	0.00	0.01	0.00	65.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.31	0.08	
Offsite Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.32**	**0.08**	**65.4**
Total	**0.19**	**1.41**	**1.36**	**0.00**	**0.70**	**0.18**	**246.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	2	200	4
Manlift	75	4	200	4
14 Ton Crane	250	2	20	4
150 Ton Crane	300	1	20	4
5 Ton Crane	250	1	200	3
Forklift	100	4	200	3

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.33	1.88	2.42	0.00	0.18	0.16	304.30	0.03	0.01	307.4
Manlift	0.66	3.77	4.84	0.01	0.35	0.32	608.60	0.06	0.02	614.8
14 Ton Crane	0.70	2.11	6.02	0.01	0.21	0.19	896.47	0.06	0.02	905.0
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.37	2.55	2.53	0.00	0.18	0.16	374.36	0.03	0.01	378.1
Total	**2.86**	**12.87**	**22.36**	**0.04**	**1.15**	**1.05**	**3239.66**	**0.26**	**0.08**	**3271.27**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.03	0.19	0.24	0.00	0.02	0.02	30.43	0.00	0.00	30.7
Manlift	0.07	0.38	0.48	0.00	0.04	0.03	60.86	0.01	0.00	61.5
14 Ton Crane	0.01	0.02	0.06	0.00	0.00	0.00	8.96	0.00	0.00	9.1
150 Ton Crane	0.01	0.02	0.04	0.00	0.00	0.00	7.20	0.00	0.00	7.3
5 Ton Crane	0.03	0.08	0.23	0.00	0.01	0.01	33.62	0.00	0.00	33.9
Forklift	0.04	0.26	0.25	0.00	0.02	0.02	37.44	0.00	0.00	37.8
Total	**0.18**	**0.94**	**1.31**	**0.00**	**0.08**	**0.08**	**178.51**	**0.02**	**0.00**	**180.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	200	N/A	1
Crew Truck	2	200	N/A	1
Inspection Services	2	60	N/A	1
Offsite				
Worker Commute	16	200	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Inspection Services	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Onsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.30**	**0.00**	**0.00**	**5.37**
Offsite										
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25
Offsite Total	**0.16**	**4.66**	**0.51**	**0.01**	**0.10**	**0.00**	**646.87**	**0.04**	**0.02**	**654.25**
Total	**0.16**	**4.68**	**0.51**	**0.01**	**0.10**	**0.00**	**652.17**	**0.04**	**0.02**	**659.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.37**
Offsite										
Worker Commute	0.02	0.47	0.05	0.00	0.01	0.00	64.69	0.00	0.00	65.43
Offsite Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.01**	**0.00**	**64.69**	**0.00**	**0.00**	**65.43**
Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.01**	**0.00**	**65.06**	**0.00**	**0.00**	**65.80**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Unpaved	1	200	0.770	0.077	1.54	0.15	0.15	0.02
Crew Truck	2	Unpaved	1	200	0.564	0.056	1.13	0.11	0.11	0.01
Inspection Services	2	Unpaved	1	60	0.474	0.047	0.95	0.09	0.03	0.00
Onsite Total							**3.61**	**0.36**	**0.30**	**0.03**
Offsite										
Worker Commute	16	Paved	58	200	0.003	0.001	3.09	0.76	0.31	0.08
Worker Commute	16	Unpaved	1.5	200	0.474	0.047	11.37	1.14	0.00	0.00
Offsite Total							**14.46**	**1.90**	**0.31**	**0.08**
Total							**18.07**	**2.26**	**0.60**	**0.11**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 26
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.75	0.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**1.75**	**0.17**	**2.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.42	0.71	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**5.46**	**0.71**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**7.21**	**0.89**	**247.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.01	0.00	0.00	0.00	9.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.05**	**0.01**	**9.8**
Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.12**	**0.02**	**9.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 26
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Wiring

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	80	N/A	1
Pick-up Truck	1	80	N/A	1
Offsite				
Worker Commute	6	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Pick-up Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.31**	**0.00**	**0.00**	**2.34**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**244.88**	**0.01**	**0.01**	**247.69**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 26
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Wiring

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.00**	**0.00**	**0.09**
Offsite										
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**9.70**	**0.00**	**0.00**	**9.81**
Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**9.80**	**0.00**	**0.00**	**9.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Pick-up Truck	1	Unpaved	1	80	0.770	0.077	0.77	0.08	0.03	0.00
Onsite Total							**1.75**	**0.17**	**0.07**	**0.01**
Offsite										
Worker Commute	6	Paved	58	80	0.003	0.001	1.16	0.28	0.05	0.01
Worker Commute	6	Unpaved	1.5	80	0.474	0.047	4.26	0.43	0.00	0.00
Offsite Total							**5.42**	**0.71**	**0.05**	**0.01**
Total							**7.17**	**0.89**	**0.12**	**0.02**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 27
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Control Room

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	5.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.93	0.29	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.67**	**6.45**	**0.01**	**3.17**	**0.51**	**1095.3**
Offsite Motor Vehicle Exhaust	0.10	2.91	0.32	0.00	0.06	0.00	408.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.04	1.18	
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**9.10**	**1.19**	**408.9**
Total	**0.90**	**5.58**	**6.76**	**0.02**	**12.26**	**1.69**	**1504.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.05	0.00	0.00	0.00	8.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.12	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.12**	**0.01**	**8.4**
Offsite Motor Vehicle Exhaust	0.00	0.12	0.01	0.00	0.00	0.00	16.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.02	
Offsite Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.08**	**0.02**	**16.4**
Total	**0.01**	**0.14**	**0.06**	**0.00**	**0.20**	**0.03**	**24.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	15	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 27
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Control Room

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.01	0.02	0.05	0.00	0.00	0.00	8.10	0.00	0.00	8.2
Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.10**	**0.00**	**0.00**	**8.17**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	1
Stake Truck	1	80	N/A	1
Wiring Truck	1	80	N/A	1
Offsite				
Worker Commute	10	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**5.44**	**0.00**	**0.00**	**5.51**
Offsite										
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**0.06**	**0.00**	**404.29**	**0.02**	**0.01**	**408.91**
Total	**0.10**	**2.92**	**0.34**	**0.00**	**0.06**	**0.00**	**409.74**	**0.02**	**0.01**	**414.41**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Table 27
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Control Room

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.00**	**0.00**	**0.22**
Offsite										
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.17	0.00	0.00	16.36
Offsite Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.00**	**0.00**	**16.17**	**0.00**	**0.00**	**16.36**
Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.00**	**0.00**	**16.39**	**0.00**	**0.00**	**16.58**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Stake Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Wiring Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Onsite Total							**2.93**	**0.29**	**0.12**	**0.01**
Offsite										
Worker Commute	10	Paved	58	80	0.003	0.001	1.93	0.47	0.08	0.02
Worker Commute	10	Unpaved	1.5	80	0.474	0.047	7.11	0.71	0.00	0.00
Offsite Total							**9.04**	**1.18**	**0.08**	**0.02**
Total							**11.97**	**1.48**	**0.19**	**0.03**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 27
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Control Room

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 28
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.69	0.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**1.69**	**0.17**	**2.3**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.61	0.47	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**3.64**	**0.47**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.33**	**0.64**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	8.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.01	
Offsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.04**	**0.01**	**8.2**
Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.12**	**0.02**	**8.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 28
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Maintenance

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	100	N/A	1
Crew Truck	2	100	N/A	1
Offsite				
Worker Commute	4	100	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.25**	**0.00**	**0.00**	**2.27**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 28
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Maintenance

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.08
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.06	0.01	0.00	0.00	0.00	8.09	0.00	0.00	8.18
Offsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**8.09**	**0.00**	**0.00**	**8.18**
Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**8.20**	**0.00**	**0.00**	**8.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Unpaved	1	100	0.564	0.056	0.56	0.06	0.03	0.00
Crew Truck	2	Unpaved	1	100	0.564	0.056	1.13	0.11	0.06	0.01
Onsite Total							**1.69**	**0.17**	**0.08**	**0.01**
Offsite										
Worker Commute	4	Paved	58	100	0.003	0.001	0.77	0.19	0.04	0.01
Worker Commute	4	Unpaved	1.5	100	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**3.61**	**0.47**	**0.04**	**0.01**
Total							**5.31**	**0.64**	**0.12**	**0.02**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 29
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.70	21.43	50.61	0.08	1.90	1.75	7,304.9
Onsite Motor Vehicle Exhaust	0.01	0.08	0.43	0.00	0.01	0.01	94.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	25.56	2.56	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Asphaltic Paving VOC	0.3	--	--	--	--	--	--
Onsite Total	**6.05**	**21.51**	**51.05**	**0.08**	**27.48**	**4.32**	**7399.15**
Offsite Motor Vehicle Exhaust	0.64	5.68	23.05	0.05	0.79	0.42	5,183.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	43.62	5.18	
Offsite Total	**0.64**	**5.68**	**23.05**	**0.05**	**44.41**	**5.60**	**5183.1**
Total	**6.70**	**27.19**	**74.09**	**0.13**	**71.89**	**9.92**	**12582.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.09	0.32	0.76	0.00	0.03	0.03	109.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.38	0.04	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.09**	**0.32**	**0.76**	**0.00**	**0.41**	**0.06**	**110.6**
Offsite Motor Vehicle Exhaust	0.01	0.09	0.35	0.00	0.01	0.01	77.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.59	0.07	
Offsite Total	**0.01**	**0.09**	**0.35**	**0.00**	**0.60**	**0.08**	**77.7**
Total	**0.10**	**0.41**	**1.11**	**0.00**	**1.01**	**0.14**	**188.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Paving Roller	200	2	30	10
Asphalt Paver	250	1	30	10
Tractor	150	1	30	10
Asphalt Curb Machine	250	1	30	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Paving Roller	200	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Asphalt Paver	250	0.176	0.537	1.546	0.002	0.059	0.054	194.197	0.016	0.005	Pavers
Tractor	150	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Asphalt Curb Machine	250	0.108	0.330	0.969	0.001	0.036	0.033	122.182	0.010	0.003	Paving Equipment

a From Table 110

Table 29
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Paving Roller	2.08	6.92	19.89	0.03	0.67	0.61	3059.05	0.19	0.08	3,087.6
Asphalt Paver	1.76	5.37	15.46	0.02	0.59	0.54	1941.97	0.16	0.05	1,961.0
Tractor	0.79	5.84	5.57	0.01	0.29	0.27	1012.96	0.07	0.03	1,022.7
Asphalt Curb Machine	1.08	3.30	9.69	0.01	0.36	0.33	1221.82	0.10	0.03	1,233.7
Total	**5.70**	**21.43**	**50.61**	**0.08**	**1.90**	**1.75**	**7235.80**	**0.51**	**0.19**	**7304.95**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Paving Roller	0.03	0.10	0.30	0.00	0.01	0.01	45.89	0.00	0.00	46.3
Asphalt Paver	0.03	0.08	0.23	0.00	0.01	0.01	29.13	0.00	0.00	29.4
Tractor	0.01	0.09	0.08	0.00	0.00	0.00	15.19	0.00	0.00	15.3
Asphalt Curb Machine	0.02	0.05	0.15	0.00	0.01	0.00	18.33	0.00	0.00	18.5
Total	**0.09**	**0.32**	**0.76**	**0.00**	**0.03**	**0.03**	**108.54**	**0.01**	**0.00**	**109.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Stake Truck	1	30	N/A	1
Dump Truck	1	30	N/A	1
Crew Truck	2	30	N/A	1
Asphalt Delivery Truck	8	30	N/A	1
Aggregate Base Delivery Truck	15	30	N/A	1
Offsite				
Asphalt Delivery Truck	8	30	N/A	60
Aggregate Base Delivery Truck	15	30	N/A	60
Worker Commute	6	30	N/A	58

[a] Asphalt delivery trucks based on 1,710 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 3,250 CY over 30 days and 7.3 CY/truck

Table 29
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Crew Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Asphalt Delivery Truck	0.00	0.02	0.13	0.00	0.00	0.00	28.32	0.00	0.00	28.62
Aggregate Base Delivery Truck	0.01	0.04	0.25	0.00	0.01	0.00	53.10	0.00	0.00	53.67
Onsite Total	**0.01**	**0.08**	**0.43**	**0.00**	**0.01**	**0.01**	**93.20**	**0.00**	**0.00**	**94.20**
Offsite										
Asphalt Delivery Truck	0.20	1.37	7.95	0.02	0.26	0.14	1699.32	0.01	0.06	1717.48
Aggregate Base Delivery Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.64**	**5.68**	**23.05**	**0.05**	**0.79**	**0.42**	**5128.13**	**0.04**	**0.17**	**5183.09**
Total	**0.66**	**5.76**	**23.48**	**0.05**	**0.80**	**0.43**	**5221.33**	**0.04**	**0.18**	**5277.30**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 29
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Aggregate Base Delivery Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.81
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.97**	**0.00**	**0.00**	**0.98**
Offsite										
Asphalt Delivery Truck	0.00	0.02	0.12	0.00	0.00	0.00	25.49	0.00	0.00	25.76
Aggregate Base Delivery Truck	0.01	0.04	0.22	0.00	0.01	0.00	47.79	0.00	0.00	48.30
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	3.64	0.00	0.00	3.68
Offsite Total	**0.01**	**0.09**	**0.35**	**0.00**	**0.01**	**0.01**	**76.92**	**0.00**	**0.00**	**77.75**
Total	**0.01**	**0.09**	**0.35**	**0.00**	**0.01**	**0.01**	**77.90**	**0.00**	**0.00**	**78.73**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Stake Truck	1	Unpaved	1	30	0.977	0.098	0.98	0.10	0.01	0.00
Dump Truck	1	Unpaved	1	30	0.977	0.098	0.98	0.10	0.01	0.00
Crew Truck	2	Unpaved	1	30	0.564	0.056	1.13	0.11	0.02	0.00
Asphalt Delivery Truck	8	Unpaved	1	30	0.977	0.098	7.82	0.78	0.12	0.01
Aggregate Base Delivery Truck	15	Unpaved	1	30	0.977	0.098	14.66	1.47	0.22	0.02
Onsite Total							**25.56**	**2.56**	**0.38**	**0.04**
Offsite										
Asphalt Delivery Truck	8	Unpaved	1.5	30	0.977	0.098	11.73	1.17	0.18	0.02
Asphalt Delivery Truck	8	Paved	58.5	30	0.003	0.001	1.56	0.38	0.02	0.01
Aggregate Base Delivery Truck	15	Unpaved	1.5	30	0.977	0.098	21.99	2.20	0.33	0.03
Aggregate Base Delivery Truck	15	Paved	58.5	30	0.003	0.001	2.92	0.72	0.04	0.01
Worker Commute	6	Paved	58	30	0.003	0.001	1.16	0.28	0.02	0.00
Worker Commute	6	Unpaved	1.5	30	0.474	0.047	4.26	0.43	0.00	0.00
Offsite Total							**43.62**	**5.18**	**0.59**	**0.07**
Total							**69.19**	**7.74**	**0.97**	**0.11**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 29
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Asphaltic Paving VOC Emissions

Area Paved (acre/day)[a]	Emission Factor (lb/acre)[b]	VOC (lb/day)[c]
0.13	2.62	0.3

[a] Based on 169,000 sq. ft. of area paved in 30 days

[b] From CalEEMod User's Guide

[c] Emissions [lb/day] = Emission factor [lb/acre] x Area paved [acre/day]

Table 30
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Transformer Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.90	7.62	15.41	0.03	0.65	0.60	2,314.2
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.7
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.10	0.21	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.90**	**7.63**	**15.42**	**0.03**	**2.76**	**0.81**	**2316.9**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.56	1.78	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**13.65**	**1.78**	**613.4**
Total	**2.05**	**12.00**	**15.89**	**0.03**	**16.40**	**2.59**	**2930.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.08	0.36	0.65	0.00	0.03	0.03	98.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.13	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.08**	**0.36**	**0.65**	**0.00**	**0.16**	**0.04**	**98.3**
Offsite Motor Vehicle Exhaust	0.01	0.26	0.03	0.00	0.01	0.00	36.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.17	0.04	
Offsite Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.18**	**0.04**	**36.8**
Total	**0.09**	**0.63**	**0.68**	**0.00**	**0.34**	**0.08**	**135.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Forklift	100	2	120	8
50 Ton Crane	200	2	75	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
50 Ton Crane	200	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes

a From Table 110

Table 30
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Transformer Assembly

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Forklift	0.50	3.41	3.38	0.01	0.24	0.22	499.15	0.05	0.01	504.2
50 Ton Crane	1.40	4.21	12.04	0.02	0.41	0.38	1792.93	0.13	0.05	1,810.0
Total	**1.90**	**7.62**	**15.41**	**0.03**	**0.65**	**0.60**	**2292.08**	**0.17**	**0.06**	**2314.18**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Forklift	0.03	0.20	0.20	0.00	0.01	0.01	29.95	0.00	0.00	30.2
50 Ton Crane	0.05	0.16	0.45	0.00	0.02	0.01	67.23	0.00	0.00	67.9
Total	**0.08**	**0.36**	**0.65**	**0.00**	**0.03**	**0.03**	**97.18**	**0.01**	**0.00**	**98.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	120	N/A	1
Crew Truck	2	120	N/A	1
Offsite				
Worker Commute	15	120	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 30
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Transformer Assembly

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.65**	**0.00**	**0.00**	**2.69**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.38**	**0.48**	**0.01**	**0.09**	**0.00**	**609.09**	**0.04**	**0.02**	**616.05**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.16**	**0.00**	**0.00**	**0.16**
Offsite										
Worker Commute	0.01	0.26	0.03	0.00	0.01	0.00	36.39	0.00	0.00	36.80
Offsite Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.01**	**0.00**	**36.39**	**0.00**	**0.00**	**36.80**
Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.01**	**0.00**	**36.55**	**0.00**	**0.00**	**36.96**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	120	0.977	0.098	0.98	0.10	0.06	0.01
Crew Truck	2	Unpaved	1	120	0.564	0.056	1.13	0.11	0.07	0.01
Onsite Total							**2.10**	**0.21**	**0.13**	**0.01**
Offsite										
Worker Commute	15	Paved	58	120	0.003	0.001	2.90	0.71	0.17	0.04
Worker Commute	15	Unpaved	1.5	120	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**13.56**	**1.78**	**0.17**	**0.04**
Total							**15.66**	**1.99**	**0.30**	**0.06**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 30
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Transformer Assembly

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 31
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.13	0.11	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**1.13**	**0.11**	**1.5**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.56	1.78	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**13.65**	**1.78**	**613.4**
Total	**0.15**	**4.37**	**0.48**	**0.01**	**14.77**	**1.89**	**614.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.01	0.39	0.04	0.00	0.01	0.00	55.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.26	0.06	
Offsite Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.27**	**0.06**	**55.2**
Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.37**	**0.07**	**55.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 31
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Testing

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	2	180	N/A	1
Offsite				
Worker Commute	15	180	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.50**	**0.00**	**0.00**	**1.52**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**607.94**	**0.04**	**0.02**	**614.88**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 31
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Testing

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.14
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.13**	**0.00**	**0.00**	**0.14**
Offsite										
Worker Commute	0.01	0.39	0.04	0.00	0.01	0.00	54.58	0.00	0.00	55.20
Offsite Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.01**	**0.00**	**54.58**	**0.00**	**0.00**	**55.20**
Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.01**	**0.00**	**54.71**	**0.00**	**0.00**	**55.34**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	2	Unpaved	1	180	0.564	0.056	1.13	0.11	0.10	0.01
Onsite Total							**1.13**	**0.11**	**0.10**	**0.01**
Offsite										
Worker Commute	15	Paved	58	180	0.003	0.001	2.90	0.71	0.26	0.06
Worker Commute	15	Unpaved	1.5	180	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**13.56**	**1.78**	**0.26**	**0.06**
Total							**14.68**	**1.89**	**0.36**	**0.07**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 32
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	9.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.79	0.38	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**3.79**	**0.38**	**9.4**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.56	1.78	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**13.65**	**1.78**	**613.4**
Total	**0.15**	**4.43**	**0.49**	**0.01**	**17.44**	**2.16**	**622.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.09	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.01**	**0.2**
Offsite Motor Vehicle Exhaust	0.00	0.11	0.01	0.00	0.00	0.00	15.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.02	
Offsite Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.07**	**0.02**	**15.3**
Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.17**	**0.03**	**15.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Table 32
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Survey

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	50	N/A	4
Offsite				
Worker Commute	15	50	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 32
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Survey

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**9.24**	**0.00**	**0.00**	**9.37**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.43**	**0.49**	**0.01**	**0.09**	**0.00**	**615.68**	**0.04**	**0.02**	**622.73**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.23
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.23**	**0.00**	**0.00**	**0.23**
Offsite										
Worker Commute	0.00	0.11	0.01	0.00	0.00	0.00	15.16	0.00	0.00	15.33
Offsite Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.00**	**0.00**	**15.16**	**0.00**	**0.00**	**15.33**
Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.00**	**0.00**	**15.39**	**0.00**	**0.00**	**15.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Unpaved	4	50	0.474	0.047	3.79	0.38	0.09	0.01
Onsite Total							**3.79**	**0.38**	**0.09**	**0.01**
Offsite										
Worker Commute	15	Paved	58	50	0.003	0.001	2.90	0.71	0.07	0.02
Worker Commute	15	Unpaved	1.5	50	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**13.56**	**1.78**	**0.07**	**0.02**
Total							**17.35**	**2.16**	**0.17**	**0.03**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 32
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Survey

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 33
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.63	19.06	24.20	0.06	1.34	1.23	5,454.6
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.63**	**19.07**	**24.23**	**0.06**	**1.35**	**1.24**	**5462.9**
Offsite Motor Vehicle Exhaust	0.12	2.60	1.84	0.01	0.10	0.03	670.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.86	0.46	
Offsite Total	**0.12**	**2.60**	**1.84**	**0.01**	**1.96**	**0.49**	**670.6**
Total	**3.75**	**21.67**	**26.08**	**0.06**	**3.31**	**1.72**	**6133.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.11	0.57	0.73	0.00	0.04	0.04	163.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.11**	**0.57**	**0.73**	**0.00**	**0.04**	**0.04**	**163.9**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.06	0.00	0.00	0.00	20.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.01	
Offsite Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.06**	**0.01**	**20.1**
Total	**0.11**	**0.65**	**0.78**	**0.00**	**0.10**	**0.05**	**184.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	60	8
Excavator	85	2	60	8
Skip Loader	350	1	60	5
Forklift	100	1	60	4
Trencher	75	1	60	4
Bobcat	75	1	60	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 110

Table 33
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Excavator	1.33	8.10	8.46	0.01	0.63	0.58	1176.91	0.12	0.03	1,189.0
Skip Loader	0.80	2.79	6.28	0.01	0.22	0.21	1183.98	0.07	0.03	1,195.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.12	1.08	0.96	0.00	0.06	0.05	170.89	0.01	0.00	172.5
Total	**3.63**	**19.06**	**24.20**	**0.06**	**1.34**	**1.23**	**5404.15**	**0.33**	**0.14**	**5454.62**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.02	0.13	0.15	0.00	0.00	0.00	74.65	0.00	0.00	75.3
Excavator	0.04	0.24	0.25	0.00	0.02	0.02	35.31	0.00	0.00	35.7
Skip Loader	0.02	0.08	0.19	0.00	0.01	0.01	35.52	0.00	0.00	35.9
Forklift	0.00	0.03	0.03	0.00	0.00	0.00	3.74	0.00	0.00	3.8
Trencher	0.01	0.05	0.08	0.00	0.01	0.01	7.78	0.00	0.00	7.9
Bobcat	0.00	0.03	0.03	0.00	0.00	0.00	5.13	0.00	0.00	5.2
Total	**0.11**	**0.57**	**0.73**	**0.00**	**0.04**	**0.04**	**162.12**	**0.01**	**0.00**	**163.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	60	N/A	0.5
Concrete Truck	1	60	N/A	0.5
Water Truck	2	60	N/A	0.5
Tool Truck	1	60	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Water Truck	2	60	N/A	18
Concrete Truck	1	60	N/A	60
Worker Commute	8	60	N/A	58

[a] Concrete trucks based on 20,000 CY over 200 days and 10 CY/truck

Table 33
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.24**	**0.00**	**0.00**	**8.33**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.12**	**2.60**	**1.84**	**0.01**	**0.10**	**0.03**	**663.30**	**0.02**	**0.02**	**670.62**
Total	**0.12**	**2.62**	**1.88**	**0.01**	**0.10**	**0.03**	**671.53**	**0.02**	**0.02**	**678.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 33
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.24**	**0.00**	**0.00**	**0.24**
Offsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.82	0.00	0.00	3.86
Concrete Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.00**	**0.00**	**19.90**	**0.00**	**0.00**	**20.12**
Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.00**	**0.00**	**20.13**	**0.00**	**0.00**	**20.36**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	2	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Tool Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Water Truck	2	Paved	17.5	60	0.003	0.001	0.12	0.03	0.00	0.00
Concrete Truck	1	Paved	59.5	60	0.003	0.001	0.20	0.05	0.01	0.00
Worker Commute	8	Paved	58	60	0.003	0.001	1.54	0.38	0.05	0.01
Offsite Total							**1.86**	**0.46**	**0.06**	**0.01**
Total							**1.87**	**0.46**	**0.06**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 33
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 34
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.77	7.52	13.97	0.02	0.68	0.63	2,076.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.77**	**7.53**	**13.97**	**0.02**	**0.69**	**0.63**	**2078.3**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.54	0.38	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**1.59**	**0.38**	**327.1**
Total	**1.85**	**9.86**	**14.23**	**0.03**	**2.29**	**1.01**	**2405.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.26	0.49	0.00	0.02	0.02	72.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.26**	**0.49**	**0.00**	**0.02**	**0.02**	**72.7**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.01	0.00	0.00	0.00	11.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.06**	**0.01**	**11.4**
Total	**0.06**	**0.34**	**0.50**	**0.00**	**0.08**	**0.04**	**84.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	70	5
Manlift	75	2	70	5
14 Ton Crane	250	1	70	3
150 Ton Crane	300	1	70	4
5 Ton Crane	250	1	70	3
Forklift	100	1	70	3

Table 34
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.21	1.18	1.51	0.00	0.11	0.10	190.19	0.02	0.00	192.1
Manlift	0.42	2.35	3.03	0.00	0.22	0.20	380.38	0.04	0.01	384.3
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.77**	**7.52**	**13.97**	**0.02**	**0.68**	**0.63**	**2056.26**	**0.16**	**0.05**	**2076.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.01	0.04	0.05	0.00	0.00	0.00	6.66	0.00	0.00	6.7
Manlift	0.01	0.08	0.11	0.00	0.01	0.01	13.31	0.00	0.00	13.4
14 Ton Crane	0.01	0.03	0.08	0.00	0.00	0.00	11.77	0.00	0.00	11.9
150 Ton Crane	0.02	0.06	0.15	0.00	0.01	0.00	25.19	0.00	0.00	25.4
5 Ton Crane	0.01	0.03	0.08	0.00	0.00	0.00	11.77	0.00	0.00	11.9
Forklift	0.00	0.02	0.02	0.00	0.00	0.00	3.28	0.00	0.00	3.3
Total	**0.06**	**0.26**	**0.49**	**0.00**	**0.02**	**0.02**	**71.97**	**0.01**	**0.00**	**72.67**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 34
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	70	N/A	0.5
Crew Truck	2	70	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Worker Commute	8	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**	**0.00**	**0.00**	**2.10**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.26**	**0.00**	**0.05**	**0.00**	**325.51**	**0.02**	**0.01**	**329.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 34
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.06**
Offsite										
Worker Commute	0.00	0.08	0.01	0.00	0.00	0.00	11.32	0.00	0.00	11.45
Offsite Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**11.32**	**0.00**	**0.00**	**11.45**
Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**11.38**	**0.00**	**0.00**	**11.51**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	8	Paved	58	70	0.003	0.001	1.54	0.38	0.05	0.01
Offsite Total							**1.54**	**0.38**	**0.05**	**0.01**
Total							**1.55**	**0.38**	**0.05**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 34
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 35
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 35
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Wiring

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	0.5
Pick-up Truck	1	60	N/A	0.5
Offsite				
Worker Commute	2	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 35
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Wiring

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.04**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.43	0.00	0.00	2.45
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.43**	**0.00**	**0.00**	**2.45**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.46**	**0.00**	**0.00**	**2.49**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Pick-up Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	60	0.003	0.001	0.39	0.09	0.01	0.00
Offsite Total							**0.39**	**0.09**	**0.01**	**0.00**
Total							**0.39**	**0.10**	**0.01**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 36
Modifications to Coolwater Switchyard - Controlled Fugitive PM
MEER

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.66**	**6.44**	**0.01**	**0.24**	**0.21**	**1092.6**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.84**	**3.83**	**6.56**	**0.01**	**1.03**	**0.41**	**1256.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.6**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	6.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.03**	**0.01**	**6.5**
Total	**0.01**	**0.06**	**0.04**	**0.00**	**0.03**	**0.01**	**12.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 36
Modifications to Coolwater Switchyard - Controlled Fugitive PM
MEER

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.00	0.01	0.03	0.00	0.00	0.00	5.40	0.00	0.00	5.4
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.40**	**0.00**	**0.00**	**5.45**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	0.5
Stake Truck	1	80	N/A	0.5
Wiring Truck	1	80	N/A	0.5
Offsite				
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.72**	**0.00**	**0.00**	**2.75**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.14**	**0.00**	**0.02**	**0.00**	**164.44**	**0.01**	**0.01**	**166.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Table 36
Modifications to Coolwater Switchyard - Controlled Fugitive PM
MEER

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.47**	**0.00**	**0.00**	**6.54**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Stake Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Wiring Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.78**	**0.19**	**0.03**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 36
Modifications to Coolwater Switchyard - Controlled Fugitive PM
MEER

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 37
Modifications to Coolwater Switchyard - Controlled Fugitive PM Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**1.1**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**164.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 37
Modifications to Coolwater Switchyard - Controlled Fugitive PM Maintenance

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	0.5
Crew Truck	2	40	N/A	0.5
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.12**	**0.00**	**0.00**	**1.14**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.84**	**0.01**	**0.01**	**164.70**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 37
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Maintenance

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.26**	**0.00**	**0.00**	**3.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.77**	**0.19**	**0.02**	**0.00**
Total							**0.78**	**0.19**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 38
Modifications to Coolwater Switchyard - Controlled Fugitive PM Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.4**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 38
Modifications to Coolwater Switchyard - Controlled Fugitive PM Testing

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	0.5
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.38**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.09**	**0.01**	**0.01**	**163.94**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 38
Modifications to Coolwater Switchyard - Controlled Fugitive PM Testing

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**
Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.67**	**0.00**	**0.00**	**5.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.77**	**0.19**	**0.03**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 39
Modifications to Coolwater Switchyard - Controlled Fugitive PM Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Table 39
Modifications to Coolwater Switchyard - Controlled Fugitive PM Survey

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	0.5
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 39
Modifications to Coolwater Switchyard - Controlled Fugitive PM Survey

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.00**	**0.00**	**0.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Offsite Total							**0.39**	**0.09**	**0.00**	**0.00**
Total							**0.39**	**0.10**	**0.00**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 39
Modifications to Coolwater Switchyard - Controlled Fugitive PM Survey

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 40
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.83	20.16	25.45	0.06	1.38	1.27	6,082.1
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.83**	**20.17**	**25.48**	**0.06**	**1.39**	**1.27**	**6090.4**
Offsite Motor Vehicle Exhaust	0.14	3.19	1.91	0.01	0.11	0.03	752.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.25	0.55	
Offsite Total	**0.14**	**3.19**	**1.91**	**0.01**	**2.36**	**0.58**	**752.4**
Total	**3.98**	**23.36**	**27.39**	**0.07**	**3.75**	**1.85**	**6842.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.19	1.01	1.27	0.00	0.07	0.06	304.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.19**	**1.01**	**1.27**	**0.00**	**0.07**	**0.06**	**304.5**
Offsite Motor Vehicle Exhaust	0.01	0.16	0.10	0.00	0.01	0.00	37.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.11	0.03	
Offsite Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.12**	**0.03**	**37.6**
Total	**0.20**	**1.17**	**1.37**	**0.00**	**0.19**	**0.09**	**342.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	100	10
Excavator	85	2	100	8
Skip Loader	350	1	100	5
Forklift	100	1	100	4
Trencher	75	1	100	4
Bobcat	75	1	100	4

Table 40
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2
Excavator	1.33	8.10	8.46	0.01	0.63	0.58	1176.91	0.12	0.03	1,189.0
Skip Loader	0.80	2.79	6.28	0.01	0.22	0.21	1183.98	0.07	0.03	1,195.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.12	1.08	0.96	0.00	0.06	0.05	170.89	0.01	0.00	172.5
Total	**3.83**	**20.16**	**25.45**	**0.06**	**1.38**	**1.27**	**6026.21**	**0.35**	**0.16**	**6082.06**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.05	0.28	0.31	0.00	0.01	0.01	155.51	0.00	0.00	156.9
Excavator	0.07	0.41	0.42	0.00	0.03	0.03	58.85	0.01	0.00	59.4
Skip Loader	0.04	0.14	0.31	0.00	0.01	0.01	59.20	0.00	0.00	59.8
Forklift	0.01	0.04	0.04	0.00	0.00	0.00	6.24	0.00	0.00	6.3
Trencher	0.02	0.09	0.13	0.00	0.01	0.01	12.97	0.00	0.00	13.1
Bobcat	0.01	0.05	0.05	0.00	0.00	0.00	8.54	0.00	0.00	8.6
Total	**0.19**	**1.01**	**1.27**	**0.00**	**0.07**	**0.06**	**301.31**	**0.02**	**0.01**	**304.10**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 40
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	100	N/A	0.5
Concrete Truck	1	100	N/A	0.5
Water Truck	2	100	N/A	0.5
Tool Truck	1	100	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Water Truck	2	100	N/A	18
Concrete Truck	1	100	N/A	60
Worker Commute	10	100	N/A	58

[a] Concrete trucks based on 20,000 CY over 200 days and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 40
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.24**	**0.00**	**0.00**	**8.33**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.14**	**3.19**	**1.91**	**0.01**	**0.11**	**0.03**	**744.16**	**0.03**	**0.02**	**752.40**
Total	**0.14**	**3.20**	**1.94**	**0.01**	**0.11**	**0.03**	**752.39**	**0.03**	**0.03**	**760.73**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.39**	**0.00**	**0.00**	**0.39**
Offsite										
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Concrete Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.01	0.15	0.02	0.00	0.00	0.00	20.21	0.00	0.00	20.45
Offsite Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.01**	**0.00**	**37.21**	**0.00**	**0.00**	**37.62**
Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.01**	**0.00**	**37.60**	**0.00**	**0.00**	**38.01**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 40
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Tool Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Water Truck	2	Paved	17.5	100	0.003	0.001	0.12	0.03	0.01	0.00
Concrete Truck	1	Paved	59.5	100	0.003	0.001	0.20	0.05	0.01	0.00
Worker Commute	10	Paved	58	100	0.003	0.001	1.93	0.47	0.10	0.02
Offsite Total							**2.25**	**0.55**	**0.11**	**0.03**
Total							**2.26**	**0.55**	**0.11**	**0.03**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.77	7.52	13.97	0.02	0.68	0.63	2,076.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.77**	**7.53**	**13.97**	**0.02**	**0.69**	**0.63**	**2078.3**
Offsite Motor Vehicle Exhaust	0.10	2.91	0.32	0.00	0.06	0.00	408.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.93	0.47	
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**1.99**	**0.48**	**408.9**
Total	**1.87**	**10.44**	**14.29**	**0.03**	**2.68**	**1.11**	**2487.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.09	0.38	0.70	0.00	0.03	0.03	103.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.09**	**0.38**	**0.70**	**0.00**	**0.03**	**0.03**	**103.9**
Offsite Motor Vehicle Exhaust	0.01	0.15	0.02	0.00	0.00	0.00	20.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.02	
Offsite Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.10**	**0.02**	**20.4**
Total	**0.09**	**0.52**	**0.71**	**0.00**	**0.13**	**0.06**	**124.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	100	5
Manlift	75	2	100	5
14 Ton Crane	250	1	100	3
150 Ton Crane	300	1	100	4
5 Ton Crane	250	1	100	3
Forklift	100	1	100	3

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.21	1.18	1.51	0.00	0.11	0.10	190.19	0.02	0.00	192.1
Manlift	0.42	2.35	3.03	0.00	0.22	0.20	380.38	0.04	0.01	384.3
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.77**	**7.52**	**13.97**	**0.02**	**0.68**	**0.63**	**2056.26**	**0.16**	**0.05**	**2076.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.01	0.06	0.08	0.00	0.01	0.01	9.51	0.00	0.00	9.6
Manlift	0.02	0.12	0.15	0.00	0.01	0.01	19.02	0.00	0.00	19.2
14 Ton Crane	0.01	0.04	0.11	0.00	0.00	0.00	16.81	0.00	0.00	17.0
150 Ton Crane	0.03	0.09	0.21	0.00	0.01	0.01	35.99	0.00	0.00	36.3
5 Ton Crane	0.01	0.04	0.11	0.00	0.00	0.00	16.81	0.00	0.00	17.0
Forklift	0.00	0.03	0.03	0.00	0.00	0.00	4.68	0.00	0.00	4.7
Total	**0.09**	**0.38**	**0.70**	**0.00**	**0.03**	**0.03**	**102.81**	**0.01**	**0.00**	**103.81**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	100	N/A	0.5
Crew Truck	2	100	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Worker Commute	10	100	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**	**0.00**	**0.00**	**2.10**
Offsite										
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**0.06**	**0.00**	**404.29**	**0.02**	**0.01**	**408.91**
Total	**0.10**	**2.92**	**0.32**	**0.00**	**0.06**	**0.00**	**406.37**	**0.02**	**0.01**	**411.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**	**0.00**	**0.08**
Offsite										
Worker Commute	0.01	0.15	0.02	0.00	0.00	0.00	20.21	0.00	0.00	20.45
Offsite Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.00**	**0.00**	**20.21**	**0.00**	**0.00**	**20.45**
Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.00**	**0.00**	**20.30**	**0.00**	**0.00**	**20.53**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	10	Paved	58	100	0.003	0.001	1.93	0.47	0.10	0.02
Offsite Total							**1.93**	**0.47**	**0.10**	**0.02**
Total							**1.94**	**0.48**	**0.10**	**0.02**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 42
Modifications to Lugo Substation - Controlled Fugitive PM
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.16	0.28	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**1.19**	**0.29**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**1.20**	**0.29**	**246.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Table 42
Modifications to Lugo Substation - Controlled Fugitive PM
Wiring

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	0.5
Pick-up Truck	1	60	N/A	0.5
Offsite				
Worker Commute	6	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 42
Modifications to Lugo Substation - Controlled Fugitive PM
Wiring

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**243.73**	**0.01**	**0.01**	**246.52**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.04**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.28**	**0.00**	**0.00**	**7.36**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.31**	**0.00**	**0.00**	**7.40**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Pick-up Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	6	Paved	58	60	0.003	0.001	1.16	0.28	0.03	0.01
Offsite Total							**1.16**	**0.28**	**0.03**	**0.01**
Total							**1.16**	**0.29**	**0.03**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 42
Modifications to Lugo Substation - Controlled Fugitive PM
Wiring

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 43
Modifications to Lugo Substation - Controlled Fugitive PM
Control Room

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.66**	**6.44**	**0.01**	**0.24**	**0.21**	**1092.6**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.84**	**3.83**	**6.56**	**0.01**	**1.03**	**0.41**	**1256.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.05	0.00	0.00	0.00	8.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.3**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	6.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.03**	**0.01**	**6.5**
Total	**0.01**	**0.07**	**0.05**	**0.00**	**0.03**	**0.01**	**14.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	15	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Table 43
Modifications to Lugo Substation - Controlled Fugitive PM
Control Room

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.01	0.02	0.05	0.00	0.00	0.00	8.10	0.00	0.00	8.2
Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.10**	**0.00**	**0.00**	**8.17**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	0.5
Stake Truck	1	80	N/A	0.5
Wiring Truck	1	80	N/A	0.5
Offsite				
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 43
Modifications to Lugo Substation - Controlled Fugitive PM
Control Room

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.72**	**0.00**	**0.00**	**2.75**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.14**	**0.00**	**0.02**	**0.00**	**164.44**	**0.01**	**0.01**	**166.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.47**	**0.00**	**0.00**	**6.54**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 43
Modifications to Lugo Substation - Controlled Fugitive PM
Control Room

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Stake Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Wiring Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.78**	**0.19**	**0.03**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 44
Modifications to Lugo Substation - Controlled Fugitive PM
Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**1.1**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**164.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 44
Modifications to Lugo Substation - Controlled Fugitive PM
Maintenance

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	0.5
Crew Truck	2	40	N/A	0.5
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.12**	**0.00**	**0.00**	**1.14**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.84**	**0.01**	**0.01**	**164.70**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 44
Modifications to Lugo Substation - Controlled Fugitive PM
Maintenance

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.26**	**0.00**	**0.00**	**3.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.77**	**0.19**	**0.02**	**0.00**
Total							**0.78**	**0.19**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 45
Modifications to Lugo Substation - Controlled Fugitive PM
Transformer Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.67	7.42	13.25	0.02	0.61	0.56	1,987.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	2.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.67**	**7.42**	**13.26**	**0.02**	**0.61**	**0.56**	**1990.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.16	0.28	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**1.19**	**0.29**	**245.3**
Total	**1.74**	**9.17**	**13.45**	**0.03**	**1.81**	**0.85**	**2235.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.08	0.37	0.59	0.00	0.03	0.03	88.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.08**	**0.37**	**0.59**	**0.00**	**0.03**	**0.03**	**88.9**
Offsite Motor Vehicle Exhaust	0.00	0.10	0.01	0.00	0.00	0.00	14.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.02	
Offsite Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.07**	**0.02**	**14.7**
Total	**0.08**	**0.48**	**0.60**	**0.00**	**0.10**	**0.04**	**103.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Forklift	100	2	120	10
50 Ton Crane	200	2	75	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
50 Ton Crane	200	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes

a From Table 110

Table 45
Modifications to Lugo Substation - Controlled Fugitive PM
Transformer Assembly

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Forklift	0.62	4.26	4.22	0.01	0.30	0.27	623.94	0.06	0.02	630.2
50 Ton Crane	1.05	3.16	9.03	0.02	0.31	0.29	1344.70	0.09	0.03	1,357.5
Total	**1.67**	**7.42**	**13.25**	**0.02**	**0.61**	**0.56**	**1968.64**	**0.15**	**0.05**	**1987.71**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Forklift	0.04	0.26	0.25	0.00	0.02	0.02	37.44	0.00	0.00	37.8
50 Ton Crane	0.04	0.12	0.34	0.00	0.01	0.01	50.43	0.00	0.00	50.9
Total	**0.08**	**0.37**	**0.59**	**0.00**	**0.03**	**0.03**	**87.86**	**0.01**	**0.00**	**88.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	120	N/A	0.5
Crew Truck	2	120	N/A	0.5
Offsite				
Worker Commute	6	120	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 45
Modifications to Lugo Substation - Controlled Fugitive PM
Transformer Assembly

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.52**	**0.00**	**0.00**	**2.55**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.75**	**0.20**	**0.00**	**0.04**	**0.00**	**245.09**	**0.01**	**0.01**	**247.89**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.05
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.15**	**0.00**	**0.00**	**0.15**
Offsite										
Worker Commute	0.00	0.10	0.01	0.00	0.00	0.00	14.55	0.00	0.00	14.72
Offsite Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.00**	**0.00**	**14.55**	**0.00**	**0.00**	**14.72**
Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.00**	**0.00**	**14.71**	**0.00**	**0.00**	**14.87**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 45
Modifications to Lugo Substation - Controlled Fugitive PM
Transformer Assembly

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	120	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	120	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	6	Paved	58	120	0.003	0.001	1.16	0.28	0.07	0.02
Offsite Total							**1.16**	**0.28**	**0.07**	**0.02**
Total							**1.16**	**0.29**	**0.07**	**0.02**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 46
Modifications to Lugo Substation - Controlled Fugitive PM
Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.4**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 46
Modifications to Lugo Substation - Controlled Fugitive PM Testing

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	0.5
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.38**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.09**	**0.01**	**0.01**	**163.94**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 46
Modifications to Lugo Substation - Controlled Fugitive PM Testing

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**
Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.67**	**0.00**	**0.00**	**5.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.77**	**0.19**	**0.03**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 47
Modifications to Lugo Substation - Controlled Fugitive PM Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Table 47
Modifications to Lugo Substation - Controlled Fugitive PM
Survey

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	0.5
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 47
Modifications to Lugo Substation - Controlled Fugitive PM Survey

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.00**	**0.00**	**0.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Offsite Total							**0.39**	**0.09**	**0.00**	**0.00**
Total							**0.39**	**0.10**	**0.00**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 47
Modifications to Lugo Substation - Controlled Fugitive PM Survey

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.23	6.42	0.76	0.01	0.12	0.00	916.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	84.50	8.94	
Offsite Total	**0.23**	**6.42**	**0.76**	**0.01**	**84.62**	**8.94**	**916.5**
Total	**0.23**	**6.42**	**0.76**	**0.01**	**84.62**	**8.94**	**916.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.01	0.16	0.02	0.00	0.00	0.00	22.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.11	0.22	
Offsite Total	**0.01**	**0.16**	**0.02**	**0.00**	**2.12**	**0.22**	**22.9**
Total	**0.01**	**0.16**	**0.02**	**0.00**	**2.12**	**0.22**	**22.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Survey

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	8	50	N/A	28
Worker Commute	16	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Gas	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Survey

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25
Offsite Total	**0.23**	**6.42**	**0.76**	**0.01**	**0.12**	**0.00**	**905.48**	**0.06**	**0.03**	**916.49**
Total	**0.23**	**6.42**	**0.76**	**0.01**	**0.12**	**0.00**	**905.48**	**0.06**	**0.03**	**916.49**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.04	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.56
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.17	0.00	0.00	16.36
Offsite Total	**0.01**	**0.16**	**0.02**	**0.00**	**0.00**	**0.00**	**22.64**	**0.00**	**0.00**	**22.91**
Total	**0.01**	**0.16**	**0.02**	**0.00**	**0.00**	**0.00**	**22.64**	**0.00**	**0.00**	**22.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Survey

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	8	Unpaved	18	50	0.564	0.056	81.15	8.11	2.03	0.20
1-Ton Truck, 4x4	8	Paved	10	50	0.003	0.001	0.27	0.07	0.01	0.00
Worker Commute	16	Paved	58	50	0.003	0.001	3.09	0.76	0.08	0.02
Offsite Total							**84.50**	**8.94**	**2.11**	**0.22**
Total							**84.50**	**8.94**	**2.11**	**0.22**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Construction and Materials Yards

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.91	3.00	7.11	0.01	0.25	0.23	1,297.0
Onsite Motor Vehicle Exhaust	0.04	0.33	1.46	0.00	0.05	0.03	324.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.32	0.08	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.95**	**3.33**	**8.57**	**0.02**	**0.62**	**0.34**	**1621.8**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total/Yard	**0.99**	**4.49**	**8.70**	**0.02**	**1.42**	**0.53**	**1785.4**
Total for 8 Yards	**7.89**	**35.93**	**69.59**	**0.15**	**11.37**	**4.22**	**14283.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.41	1.37	3.25	0.01	0.11	0.11	592.1
Onsite Motor Vehicle Exhaust	0.02	0.15	0.67	0.00	0.02	0.01	148.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.15	0.04	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.43**	**1.52**	**3.91**	**0.01**	**0.29**	**0.15**	**740.4**
Offsite Motor Vehicle Exhaust	0.02	0.53	0.06	0.00	0.01	0.00	74.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.35	0.09	
Offsite Total	**0.02**	**0.53**	**0.06**	**0.00**	**0.36**	**0.09**	**74.7**
Total/Yard	**0.45**	**2.05**	**3.97**	**0.01**	**0.65**	**0.24**	**815.0**
Total for 8 Yards	**3.60**	**16.40**	**31.77**	**0.07**	**5.19**	**1.93**	**6520.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
R/T Forklfit	200	1	913	5
Boom/Crane Truck	350	1	913	5

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
R/T Forklfit	200	0.049	0.157	0.351	0.001	0.012	0.011	77.053	0.004	0.002	Forklifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Construction and Materials Yards

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
R/T Forklfit	0.24	0.78	1.76	0.00	0.06	0.05	385.26	0.02	0.01	388.8
Boom/Crane Truck	0.66	2.21	5.36	0.01	0.19	0.18	899.70	0.06	0.02	908.2
Total	**0.91**	**3.00**	**7.11**	**0.01**	**0.25**	**0.23**	**1284.96**	**0.08**	**0.03**	**1297.03**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
R/T Forklfit	0.11	0.36	0.80	0.00	0.03	0.02	175.87	0.01	0.00	177.5
Boom/Crane Truck	0.30	1.01	2.44	0.00	0.09	0.08	410.71	0.03	0.01	414.6
Total	**0.41**	**1.37**	**3.25**	**0.01**	**0.11**	**0.11**	**586.58**	**0.04**	**0.02**	**592.09**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.[a]
Onsite				
1-Ton Truck, 4x4	1	913	4	10
Boom/Crane Truck	1	913	5	12.5
Water Truck	2	913	10	25
Jet A Fuel Truck	1	913	4	10
Truck, Semi Tractor	1	913	6	15
Offsite				
Worker Commute	4	913	N/A	58

[a] Onsite travel based on 25% use at 10 mph average speed

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Construction and Materials Yards

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Jet A Fuel Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Truck, Semi Tractor	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
1-Ton Truck, 4x4	0.00	0.08	0.01	0.00	0.00	0.00	11.55	0.00	0.00	11.71
Boom/Crane Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.25	0.00	0.00	44.73
Water Truck	0.02	0.14	0.83	0.00	0.03	0.02	177.01	0.00	0.01	178.90
Jet A Fuel Truck	0.00	0.03	0.17	0.00	0.01	0.00	35.40	0.00	0.00	35.78
Truck, Semi Tractor	0.01	0.04	0.25	0.00	0.01	0.00	53.10	0.00	0.00	53.67
Onsite Total	**0.04**	**0.33**	**1.46**	**0.00**	**0.05**	**0.03**	**321.32**	**0.00**	**0.01**	**324.79**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.08**	**1.49**	**1.59**	**0.01**	**0.07**	**0.03**	**483.03**	**0.01**	**0.02**	**488.35**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Construction and Materials Yards

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
1-Ton Truck, 4x4	0.00	0.04	0.01	0.00	0.00	0.00	5.27	0.00	0.00	5.34
Boom/Crane Truck	0.00	0.02	0.09	0.00	0.00	0.00	20.20	0.00	0.00	20.42
Water Truck	0.01	0.06	0.38	0.00	0.01	0.01	80.81	0.00	0.00	81.67
Jet A Fuel Truck	0.00	0.01	0.08	0.00	0.00	0.00	16.16	0.00	0.00	16.33
Truck, Semi Tractor	0.00	0.02	0.11	0.00	0.00	0.00	24.24	0.00	0.00	24.50
Onsite Total	**0.02**	**0.15**	**0.67**	**0.00**	**0.02**	**0.01**	**146.68**	**0.00**	**0.01**	**148.27**
Offsite										
Worker Commute	0.02	0.53	0.06	0.00	0.01	0.00	73.82	0.00	0.00	74.67
Offsite Total	**0.02**	**0.53**	**0.06**	**0.00**	**0.01**	**0.00**	**73.82**	**0.00**	**0.00**	**74.67**
Total	**0.04**	**0.68**	**0.72**	**0.00**	**0.03**	**0.01**	**220.51**	**0.01**	**0.01**	**222.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
1-Ton Truck, 4x4	1	Paved	10	913	0.003	0.001	0.03	0.01	0.02	0.00
Boom/Crane Truck	1	Paved	12.5	913	0.003	0.001	0.04	0.01	0.02	0.00
Water Truck	2	Paved	25	913	0.003	0.001	0.17	0.04	0.08	0.02
Jet A Fuel Truck	1	Paved	10	913	0.003	0.001	0.03	0.01	0.02	0.00
Truck, Semi Tractor	1	Paved	15	913	0.003	0.001	0.05	0.01	0.02	0.01
Onsite Total							**0.32**	**0.08**	**0.15**	**0.04**
Offsite										
Worker Commute	4	Paved	58	913	0.003	0.001	0.77	0.19	0.35	0.09
Offsite Total							**0.77**	**0.19**	**0.35**	**0.09**
Total							**1.10**	**0.27**	**0.50**	**0.12**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Construction and Materials Yards

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Right-of-Way Clearing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	12.06	42.79	92.13	0.18	3.38	3.11	17,652.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	72.85	32.56	
Onsite Total	**12.06**	**42.79**	**92.13**	**0.18**	**76.23**	**35.67**	**17652.9**
Offsite Motor Vehicle Exhaust	0.60	15.71	4.52	0.03	0.40	0.06	2,754.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	148.88	16.34	
Offsite Total	**0.60**	**15.71**	**4.52**	**0.03**	**149.28**	**16.40**	**2754.7**
Total	**12.66**	**58.50**	**96.64**	**0.21**	**225.51**	**52.07**	**20407.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.63	2.25	4.84	0.01	0.18	0.16	926.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	3.82	1.71	
Onsite Total	**0.63**	**2.25**	**4.84**	**0.01**	**4.00**	**1.87**	**926.8**
Offsite Motor Vehicle Exhaust	0.03	0.82	0.24	0.00	0.02	0.00	144.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.82	0.86	
Offsite Total	**0.03**	**0.82**	**0.24**	**0.00**	**7.84**	**0.86**	**144.6**
Total	**0.66**	**3.07**	**5.07**	**0.01**	**11.84**	**2.73**	**1071.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	350	3	105	7
Track Type Dozer	350	3	105	7
Road Grader	350	3	105	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Track Type Dozer	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Road Grader	350	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders

a From Table 110

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Right-of-Way Clearing

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	4.16	14.61	29.56	0.08	1.04	0.96	7235.42	0.38	0.19	7,301.5
Track Type Dozer	4.58	16.59	36.58	0.05	1.40	1.29	5438.93	0.41	0.14	5,491.5
Road Grader	3.31	11.59	25.99	0.05	0.94	0.86	4814.84	0.30	0.13	4,859.9
Total	**12.06**	**42.79**	**92.13**	**0.18**	**3.38**	**3.11**	**17489.19**	**1.09**	**0.45**	**17652.89**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.22	0.77	1.55	0.00	0.05	0.05	379.86	0.02	0.01	383.3
Track Type Dozer	0.24	0.87	1.92	0.00	0.07	0.07	285.54	0.02	0.01	288.3
Road Grader	0.17	0.61	1.36	0.00	0.05	0.05	252.78	0.02	0.01	255.1
Total	**0.63**	**2.25**	**4.84**	**0.01**	**0.18**	**0.16**	**918.18**	**0.06**	**0.02**	**926.78**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	3	105	N/A	28
Water Truck	6	105	N/A	28
Lowboy Truck/Trailer	3	105	N/A	1
Worker Commute	50	105	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	HHDT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Right-of-Way Clearing

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34
Water Truck	0.07	0.48	2.78	0.01	0.09	0.05	594.76	0.00	0.02	601.12
Lowboy Truck/Trailer	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.51	14.57	1.59	0.02	0.30	0.01	2021.47	0.12	0.07	2044.54
Offsite Total	**0.60**	**15.71**	**4.52**	**0.03**	**0.40**	**0.06**	**2723.83**	**0.13**	**0.09**	**2754.73**
Total	**0.60**	**15.71**	**4.52**	**0.03**	**0.40**	**0.06**	**2723.83**	**0.13**	**0.09**	**2754.73**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.03	0.01	0.00	0.00	0.00	5.09	0.00	0.00	5.16
Water Truck	0.00	0.03	0.15	0.00	0.00	0.00	31.23	0.00	0.00	31.56
Lowboy Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.56
Worker Commute	0.03	0.76	0.08	0.00	0.02	0.00	106.13	0.01	0.00	107.34
Offsite Total	**0.03**	**0.82**	**0.24**	**0.00**	**0.02**	**0.00**	**143.00**	**0.01**	**0.00**	**144.62**
Total	**0.03**	**0.82**	**0.24**	**0.00**	**0.02**	**0.00**	**143.00**	**0.01**	**0.00**	**144.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Right-of-Way Clearing

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	3	Unpaved	18	105	0.564	0.056	30.43	3.04	1.60	0.16
1-Ton Truck, 4x4	3	Paved	10	105	0.003	0.001	0.10	0.02	0.01	0.00
Water Truck	6	Unpaved	18	105	0.977	0.098	105.56	10.56	5.54	0.55
Water Truck	6	Paved	10	105	0.003	0.001	0.20	0.05	0.01	0.00
Lowboy Truck/Trailer	3	Unpaved	1	105	0.977	0.098	2.93	0.29	0.15	0.02
Worker Commute	50	Paved	58	105	0.003	0.001	9.66	2.37	0.51	0.12
Offsite Total							**148.88**	**16.34**	**7.82**	**0.86**
Total							**148.88**	**16.34**	**7.82**	**0.86**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr	42	4410	1.735	0.775	72.85	32.56	3.82	1.71
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**72.85**	**32.56**	**3.82**	**1.71**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Roads and Landing Work

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	21.08	73.13	161.45	0.32	5.84	5.37	31,372.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	85.47	37.55	
Onsite Total	**21.08**	**73.13**	**161.45**	**0.32**	**91.31**	**42.92**	**31372.7**
Offsite Motor Vehicle Exhaust	0.40	9.40	4.79	0.02	0.29	0.08	2,059.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	230.97	23.85	
Offsite Total	**0.40**	**9.40**	**4.79**	**0.02**	**231.26**	**23.92**	**2059.4**
Total	**21.48**	**82.53**	**166.25**	**0.35**	**322.57**	**66.84**	**33432.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.46	5.08	11.25	0.02	0.41	0.37	2,155.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	6.41	2.82	
Onsite Total	**1.46**	**5.08**	**11.25**	**0.02**	**6.82**	**3.19**	**2155.0**
Offsite Motor Vehicle Exhaust	0.03	0.70	0.36	0.00	0.02	0.01	154.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	17.21	1.78	
Offsite Total	**0.03**	**0.70**	**0.36**	**0.00**	**17.23**	**1.78**	**154.0**
Total	**1.49**	**5.78**	**11.61**	**0.02**	**24.04**	**4.97**	**2309.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	350	4	150	7
Track Type Dozer	350	4	150	7
Road Grader	350	4	150	5
Drum Type Compactor	250	4	150	5
Excavator	300	4	90	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Track Type Dozer	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Road Grader	350	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders
Drum Type Compactor	250	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Excavator	300	0.149	0.485	1.022	0.002	0.037	0.034	233.525	0.013	0.006	Excavators

a From Table 110

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Roads and Landing Work

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	5.55	19.48	39.41	0.11	1.39	1.28	9647.23	0.50	0.25	9,735.4
Track Type Dozer	6.11	22.11	48.77	0.07	1.87	1.72	7251.90	0.55	0.19	7,322.0
Road Grader	3.15	11.04	24.76	0.05	0.89	0.82	4585.56	0.28	0.12	4,628.5
Drum Type Compactor	2.08	6.92	19.89	0.03	0.67	0.61	3059.05	0.19	0.08	3,087.6
Excavator	4.18	13.57	28.63	0.06	1.02	0.94	6538.71	0.38	0.17	6,599.3
Total	**21.08**	**73.13**	**161.45**	**0.32**	**5.84**	**5.37**	**31082.46**	**1.90**	**0.81**	**31372.69**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.42	1.46	2.96	0.01	0.10	0.10	723.54	0.04	0.02	730.2
Track Type Dozer	0.46	1.66	3.66	0.01	0.14	0.13	543.89	0.04	0.01	549.1
Road Grader	0.24	0.83	1.86	0.00	0.07	0.06	343.92	0.02	0.01	347.1
Drum Type Compactor	0.16	0.52	1.49	0.00	0.05	0.05	229.43	0.01	0.01	231.6
Excavator	0.19	0.61	1.29	0.00	0.05	0.04	294.24	0.02	0.01	297.0
Total	**1.46**	**5.08**	**11.25**	**0.02**	**0.41**	**0.37**	**2135.02**	**0.13**	**0.06**	**2154.97**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	8	150	N/A	28
Water Truck	8	150	N/A	28
Lowboy Truck/Trailer	4	90	N/A	1
Worker Commute	24	150	N/A	58

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Roads and Landing Work

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	HHDT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Water Truck	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Lowboy Truck/Trailer	0.00	0.01	0.07	0.00	0.00	0.00	14.16	0.00	0.00	14.31
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.40**	**9.40**	**4.79**	**0.02**	**0.29**	**0.08**	**2036.09**	**0.08**	**0.07**	**2059.42**
Total	**0.40**	**9.40**	**4.79**	**0.02**	**0.29**	**0.08**	**2036.09**	**0.08**	**0.07**	**2059.42**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.13	0.02	0.00	0.00	0.00	19.40	0.00	0.00	19.67
Water Truck	0.01	0.05	0.28	0.00	0.01	0.01	59.48	0.00	0.00	60.11
Lowboy Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.02	0.52	0.06	0.00	0.01	0.00	72.77	0.00	0.00	73.60
Offsite Total	**0.03**	**0.70**	**0.36**	**0.00**	**0.02**	**0.01**	**152.28**	**0.01**	**0.01**	**154.03**
Total	**0.03**	**0.70**	**0.36**	**0.00**	**0.02**	**0.01**	**152.28**	**0.01**	**0.01**	**154.03**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Roads and Landing Work

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	8	Unpaved	18	150	0.564	0.056	81.15	8.11	6.09	0.61
1-Ton Truck, 4x4	8	Paved	10	150	0.003	0.001	0.27	0.07	0.02	0.00
Water Truck	8	Unpaved	18	150	0.977	0.098	140.75	14.07	10.56	1.06
Water Truck	8	Paved	10	150	0.003	0.001	0.27	0.07	0.02	0.00
Lowboy Truck/Trailer	4	Unpaved	1	90	0.977	0.098	3.91	0.39	0.18	0.02
Worker Commute	24	Paved	58	150	0.003	0.001	4.63	1.14	0.35	0.09
Offsite Total							**230.97**	**23.85**	**17.21**	**1.78**
Total							**230.97**	**23.85**	**17.21**	**1.78**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	2207	331056	1.00E-03	1.52E-04	2.21	0.34	0.17	0.03
Bulldozing, Scraping and Grading	hr	48	7200	1.735	0.775	83.26	37.21	6.24	2.79
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**85.47**	**37.55**	**6.41**	**2.82**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating or backfilling and grading 18 ft. wide x 62.7 miles long x 1.5 ft. deep = 331,056 CY over 150 days

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Retaining Wall Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	6.07	27.28	46.47	0.11	1.75	1.61	9,979.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**6.07**	**27.28**	**46.47**	**0.11**	**1.75**	**1.61**	**9979.3**
Offsite Motor Vehicle Exhaust	0.46	6.12	13.17	0.03	0.49	0.23	3,304.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	325.31	33.11	
Offsite Total	**0.46**	**6.12**	**13.17**	**0.03**	**325.80**	**33.34**	**3304.2**
Total	**6.53**	**33.40**	**59.63**	**0.14**	**327.56**	**34.96**	**13283.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	2.25	10.13	17.26	0.04	0.65	0.60	3,707.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.25**	**10.13**	**17.26**	**0.04**	**0.65**	**0.60**	**3707.3**
Offsite Motor Vehicle Exhaust	0.14	2.07	3.70	0.01	0.14	0.07	969.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	99.49	10.14	
Offsite Total	**0.14**	**2.07**	**3.70**	**0.01**	**99.64**	**10.20**	**969.3**
Total	**2.40**	**12.20**	**20.96**	**0.05**	**100.29**	**10.80**	**4676.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom Truck	350	2	743	8
Tracked Drill Rig	250	2	743	8
Rubber Tire Backhoe	125	2	743	8
Wheel Loader	250	2	743	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Tracked Drill Rig	250	0.063	0.342	0.388	0.002	0.011	0.010	187.933	0.006	0.005	Bore/Drill Rigs
Rubber Tire Backhoe	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Wheel Loader	250	0.106	0.335	0.888	0.002	0.030	0.028	148.843	0.010	0.004	Rubber Tired Loaders

a From Table 110

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Retaining Wall Installation

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom Truck	2.12	7.08	17.14	0.03	0.62	0.57	2879.03	0.19	0.07	2,906.2
Tracked Drill Rig	1.00	5.48	6.21	0.03	0.18	0.17	3006.93	0.09	0.08	3,033.0
Rubber Tire Backhoe	1.26	9.35	8.91	0.02	0.47	0.43	1620.73	0.11	0.04	1,636.2
Wheel Loader	1.69	5.37	14.21	0.03	0.48	0.44	2381.49	0.15	0.06	2,403.9
Total	**6.07**	**27.28**	**46.47**	**0.11**	**1.75**	**1.61**	**9888.18**	**0.55**	**0.26**	**9979.34**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom Truck	0.79	2.63	6.37	0.01	0.23	0.21	1069.56	0.07	0.03	1,079.7
Tracked Drill Rig	0.37	2.03	2.31	0.01	0.07	0.06	1117.07	0.03	0.03	1,126.8
Rubber Tire Backhoe	0.47	3.47	3.31	0.01	0.17	0.16	602.10	0.04	0.02	607.9
Wheel Loader	0.63	1.99	5.28	0.01	0.18	0.17	884.72	0.06	0.02	893.0
Total	**2.25**	**10.13**	**17.26**	**0.04**	**0.65**	**0.60**	**3673.46**	**0.20**	**0.10**	**3707.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	743	N/A	28
Boom Truck	2	743	N/A	28
Dump Truck	4	743	N/A	60
Water Truck	2	743	N/A	28
Concrete Redi-Mix Truck	6	342	N/A	60
Lowboy Truck/Trailer	2	743	N/A	28
Worker Commute	12	743	N/A	58

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Retaining Wall Installation

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	HHDT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Redi-Mix Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Boom Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.10	0.68	3.97	0.01	0.13	0.07	849.66	0.00	0.03	858.74
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Redi-Mix Truck	0.15	1.03	5.96	0.01	0.20	0.11	1274.49	0.01	0.04	1288.11
Lowboy Truck/Trailer	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.46**	**6.12**	**13.17**	**0.03**	**0.49**	**0.23**	**3268.72**	**0.05**	**0.11**	**3304.22**
Total	**0.46**	**6.12**	**13.17**	**0.03**	**0.49**	**0.23**	**3268.72**	**0.05**	**0.11**	**3304.22**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Retaining Wall Installation

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.01	0.16	0.02	0.00	0.00	0.00	24.02	0.00	0.00	24.36
Boom Truck	0.01	0.06	0.34	0.00	0.01	0.01	73.65	0.00	0.00	74.44
Dump Truck	0.04	0.25	1.48	0.00	0.05	0.03	315.65	0.00	0.01	319.02
Water Truck	0.01	0.06	0.34	0.00	0.01	0.01	73.65	0.00	0.00	74.44
Concrete Redi-Mix Truck	0.03	0.18	1.02	0.00	0.03	0.02	217.94	0.00	0.01	220.27
Lowboy Truck/Trailer	0.01	0.06	0.34	0.00	0.01	0.01	73.65	0.00	0.00	74.44
Worker Commute	0.05	1.30	0.14	0.00	0.03	0.00	180.23	0.01	0.01	182.29
Offsite Total	**0.14**	**2.07**	**3.70**	**0.01**	**0.14**	**0.07**	**958.79**	**0.02**	**0.03**	**969.25**
Total	**0.14**	**2.07**	**3.70**	**0.01**	**0.14**	**0.07**	**958.79**	**0.02**	**0.03**	**969.25**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	743	0.564	0.056	20.29	2.03	7.54	0.75
1-Ton Truck, 4x4	2	Paved	10	743	0.003	0.001	0.07	0.02	0.02	0.01
Boom Truck	2	Unpaved	18	743	0.977	0.098	35.19	3.52	13.07	1.31
Boom Truck	2	Paved	10	743	0.003	0.001	0.07	0.02	0.02	0.01
Dump Truck	4	Unpaved	18	743	0.977	0.098	70.37	7.04	26.14	2.61
Dump Truck	4	Paved	42	743	0.003	0.001	0.56	0.14	0.21	0.05
Water Truck	2	Unpaved	18	743	0.977	0.098	35.19	3.52	13.07	1.31
Water Truck	2	Paved	10	743	0.003	0.001	0.07	0.02		
Concrete Redi-Mix Truck	6	Unpaved	18	342	0.977	0.098	105.56	10.56	18.05	1.81
Concrete Redi-Mix Truck	6	Paved	42	342	0.003	0.001	0.84	0.21	0.14	0.04
Lowboy Truck/Trailer	2	Unpaved	28	743	0.977	0.098	54.73	5.47	20.33	2.03
Lowboy Truck/Trailer	2	Paved	10	743	0.003	0.001	0.07	0.02	0.02	0.01
Worker Commute	12	Paved	58	743	0.003	0.001	2.32	0.57	0.86	0.21
Offsite Total							**325.31**	**33.11**	**99.49**	**10.14**
Total							**325.31**	**33.11**	**99.49**	**10.14**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Retaining Wall Installation

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Wet Crossing Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	13.89	60.40	107.04	0.22	4.11	3.78	19,801.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**13.89**	**60.40**	**107.04**	**0.22**	**4.11**	**3.78**	**19801.1**
Offsite Motor Vehicle Exhaust	1.32	17.89	36.71	0.09	1.39	0.65	9,311.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	811.53	82.86	
Offsite Total	**1.32**	**17.89**	**36.71**	**0.09**	**812.92**	**83.51**	**9311.5**
Total	**15.21**	**78.29**	**143.76**	**0.32**	**817.03**	**87.30**	**29112.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.20	5.23	9.26	0.02	0.36	0.33	1,712.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.20**	**5.23**	**9.26**	**0.02**	**0.36**	**0.33**	**1712.8**
Offsite Motor Vehicle Exhaust	0.09	1.42	2.42	0.01	0.10	0.04	643.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	56.77	5.81	
Offsite Total	**0.09**	**1.42**	**2.42**	**0.01**	**56.87**	**5.85**	**643.1**
Total	**1.30**	**6.64**	**11.68**	**0.03**	**57.23**	**6.18**	**2355.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Tracked Excavator	250	6	173	8
Rubber Tire Backhoe	125	6	173	8
Wheel Loader	250	6	173	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Tracked Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators
Rubber Tire Backhoe	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Wheel Loader	250	0.106	0.335	0.888	0.002	0.030	0.028	148.843	0.010	0.004	Rubber Tired Loaders

a From Table 110

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Wet Crossing Installation

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Tracked Excavator	5.05	16.25	37.68	0.09	1.26	1.16	7609.93	0.46	0.20	7,680.8
Rubber Tire Backhoe	3.78	28.05	26.72	0.05	1.40	1.29	4862.20	0.34	0.13	4,908.7
Wheel Loader	5.07	16.10	42.64	0.08	1.45	1.33	7144.46	0.46	0.19	7,211.6
Total	**13.89**	**60.40**	**107.04**	**0.22**	**4.11**	**3.78**	**19616.60**	**1.25**	**0.51**	**19801.09**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Tracked Excavator	0.44	1.41	3.26	0.01	0.11	0.10	658.26	0.04	0.02	664.4
Rubber Tire Backhoe	0.33	2.43	2.31	0.00	0.12	0.11	420.58	0.03	0.01	424.6
Wheel Loader	0.44	1.39	3.69	0.01	0.13	0.12	618.00	0.04	0.02	623.8
Total	**1.20**	**5.23**	**9.26**	**0.02**	**0.36**	**0.33**	**1696.84**	**0.11**	**0.04**	**1712.79**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	6	173	N/A	28
Dump Truck	12	173	N/A	60
Water Truck	6	173	N/A	28
Concrete Redi-Mix Truck	18	89	N/A	60
Lowboy Truck/Trailer	6	173	N/A	28
Worker Commute	36	173	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	HHDT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Redi-Mix Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Wet Crossing Installation

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
Dump Truck	0.30	2.05	11.92	0.03	0.39	0.22	2548.98	0.01	0.09	2576.22
Water Truck	0.07	0.48	2.78	0.01	0.09	0.05	594.76	0.00	0.02	601.12
Concrete Redi-Mix Truck	0.46	3.08	17.89	0.04	0.59	0.33	3823.47	0.02	0.13	3864.33
Lowboy Truck/Trailer	0.07	0.48	2.78	0.01	0.09	0.05	594.76	0.00	0.02	601.12
Worker Commute	0.37	10.49	1.14	0.02	0.22	0.01	1455.46	0.09	0.05	1472.07
Offsite Total	**1.32**	**17.89**	**36.71**	**0.09**	**1.39**	**0.65**	**9211.39**	**0.14**	**0.31**	**9311.53**
Total	**1.32**	**17.89**	**36.71**	**0.09**	**1.39**	**0.65**	**9211.39**	**0.14**	**0.31**	**9311.53**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.11	0.02	0.00	0.00	0.00	16.78	0.00	0.00	17.01
Dump Truck	0.03	0.18	1.03	0.00	0.03	0.02	220.49	0.00	0.01	222.84
Water Truck	0.01	0.04	0.24	0.00	0.01	0.00	51.45	0.00	0.00	52.00
Concrete Redi-Mix Truck	0.02	0.14	0.80	0.00	0.03	0.01	170.14	0.00	0.01	171.96
Lowboy Truck/Trailer	0.01	0.04	0.24	0.00	0.01	0.00	51.45	0.00	0.00	52.00
Worker Commute	0.03	0.91	0.10	0.00	0.02	0.00	125.90	0.01	0.00	127.33
Offsite Total	**0.09**	**1.42**	**2.42**	**0.01**	**0.10**	**0.04**	**636.20**	**0.01**	**0.02**	**643.15**
Total	**0.09**	**1.42**	**2.42**	**0.01**	**0.10**	**0.04**	**636.20**	**0.01**	**0.02**	**643.15**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Wet Crossing Installation

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	173	0.564	0.056	60.86	6.09	5.26	0.53
1-Ton Truck, 4x4	6	Paved	10	173	0.003	0.001	0.20	0.05	0.02	0.00
Dump Truck	12	Unpaved	18	173	0.977	0.098	211.12	21.11	18.26	1.83
Dump Truck	12	Paved	42	173	0.003	0.001	1.68	0.41	0.15	0.04
Water Truck	6	Unpaved	18	173	0.977	0.098	105.56	10.56	9.13	0.91
Water Truck	6	Paved	10	173	0.003	0.001	0.20	0.05		
Concrete Redi-Mix Truck	18	Unpaved	18	89	0.977	0.098	316.68	31.67	14.09	1.41
Concrete Redi-Mix Truck	18	Paved	42	89	0.003	0.001	2.52	0.62	0.11	0.03
Lowboy Truck/Trailer	6	Unpaved	18	173	0.977	0.098	105.56	10.56	9.13	0.91
Lowboy Truck/Trailer	6	Paved	10	173	0.003	0.001	0.20	0.05	0.02	0.00
Worker Commute	36	Paved	58	173	0.003	0.001	6.95	1.71	0.60	0.15
Offsite Total							**811.53**	**82.86**	**56.77**	**5.81**
Total							**811.53**	**82.86**	**56.77**	**5.81**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Guard Structure Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	11.20	48.80	87.62	0.21	3.43	3.16	21,470.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**11.20**	**48.80**	**87.62**	**0.21**	**3.43**	**3.16**	**21470.2**
Offsite Motor Vehicle Exhaust	0.52	10.15	9.03	0.03	0.44	0.16	3,031.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	413.48	42.16	
Offsite Total	**0.52**	**10.15**	**9.03**	**0.03**	**413.92**	**42.32**	**3031.7**
Total	**11.72**	**58.95**	**96.65**	**0.24**	**417.35**	**45.47**	**24501.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.11	0.49	0.88	0.00	0.03	0.03	214.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.11**	**0.49**	**0.88**	**0.00**	**0.03**	**0.03**	**214.7**
Offsite Motor Vehicle Exhaust	0.01	0.10	0.09	0.00	0.00	0.00	30.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.13	0.42	
Offsite Total	**0.01**	**0.10**	**0.09**	**0.00**	**4.14**	**0.42**	**30.3**
Total	**0.12**	**0.59**	**0.97**	**0.00**	**4.17**	**0.45**	**245.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	4	20	7
Manlift/Bucket Truck	350	4	20	5
Boom/Crane Truck	500	4	20	8
Auger Truck	500	4	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 110

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Guard Structure Installation

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.76	8.82	11.22	0.02	0.94	0.87	1313.43	0.16	0.03	1,327.4
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1
Boom/Crane Truck	4.24	14.17	34.27	0.06	1.24	1.14	5758.07	0.38	0.15	5,812.5
Auger Truck	3.30	17.62	19.99	0.10	0.60	0.55	9952.93	0.30	0.26	10,039.1
Total	**11.20**	**48.80**	**87.62**	**0.21**	**3.43**	**3.16**	**21277.72**	**1.01**	**0.55**	**21470.16**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.02	0.09	0.11	0.00	0.01	0.01	13.13	0.00	0.00	13.3
Manlift/Bucket Truck	0.02	0.08	0.22	0.00	0.01	0.01	42.53	0.00	0.00	42.9
Boom/Crane Truck	0.04	0.14	0.34	0.00	0.01	0.01	57.58	0.00	0.00	58.1
Auger Truck	0.03	0.18	0.20	0.00	0.01	0.01	99.53	0.00	0.00	100.4
Total	**0.11**	**0.49**	**0.88**	**0.00**	**0.03**	**0.03**	**212.78**	**0.01**	**0.01**	**214.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	20	N/A	28
1-Ton Truck, 4x4	4	20	N/A	28
Manlift/Bucket Truck	4	20	N/A	28
Boom/Crane Truck	4	20	N/A	28
Water Truck	1	20	N/A	28
Auger Truck	4	20	N/A	28
Extendable Flat Bed Pole Truck	4	20	N/A	28
Worker Commute	24	20	N/A	58

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Guard Structure Installation

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	HHDT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Extendable Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.01	0.04	0.13	0.00	0.02	0.01	83.87	0.00	0.00	84.87
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Auger Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Extendable Flat Bed Pole Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.52**	**10.15**	**9.03**	**0.03**	**0.44**	**0.16**	**2997.95**	**0.08**	**0.10**	**3031.65**
Total	**0.52**	**10.15**	**9.03**	**0.03**	**0.44**	**0.16**	**2997.95**	**0.08**	**0.10**	**3031.65**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Guard Structure Installation

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.59	0.00	0.00	2.62
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.85
Manlift/Bucket Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Auger Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Extendable Flat Bed Pole Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.01**	**0.10**	**0.09**	**0.00**	**0.00**	**0.00**	**29.98**	**0.00**	**0.00**	**30.32**
Total	**0.01**	**0.10**	**0.09**	**0.00**	**0.00**	**0.00**	**29.98**	**0.00**	**0.00**	**30.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	20	0.474	0.047	68.22	6.82	0.68	0.07
3/4-Ton Truck, 4x4	8	Paved	10	20	0.003	0.001	0.27	0.07	0.00	0.00
1-Ton Truck, 4x4	4	Unpaved	18	20	0.564	0.056	40.57	4.06	0.41	0.04
1-Ton Truck, 4x4	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	20	0.977	0.098	70.37	7.04	0.70	0.07
Manlift/Bucket Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	4	Unpaved	18	20	0.977	0.098	70.37	7.04	0.70	0.07
Boom/Crane Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Guard Structure Installation

Water Truck	1	Unpaved	18	20	0.977	0.098	17.59	1.76	0.18	0.02
Water Truck	1	Paved	10	20	0.003	0.001	0.03	0.01	0.00	0.00
Auger Truck	4	Unpaved	18	20	0.977	0.098	70.37	7.04	0.70	0.07
Auger Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Extendable Flat Bed Pole Truck	4	Unpaved	18	20	0.977	0.098	70.37	7.04	0.70	0.07
Extendable Flat Bed Pole Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Worker Commute	24	Paved	58	20	0.003	0.001	4.63	1.14	0.05	0.01
Offsite Total							**413.48**	**42.16**	**4.13**	**0.42**
Total							**413.48**	**42.16**	**4.13**	**0.42**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Remove Existing Conductor & GW

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	17.16	68.78	170.35	0.34	5.38	4.95	35,167.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**17.16**	**68.78**	**170.35**	**0.34**	**5.38**	**4.95**	**35167.6**
Offsite Motor Vehicle Exhaust	0.95	18.83	16.07	0.06	0.84	0.28	5,550.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	661.73	67.95	
Offsite Total	**0.95**	**18.83**	**16.07**	**0.06**	**662.57**	**68.23**	**5550.1**
Total	**18.11**	**87.62**	**186.42**	**0.40**	**667.95**	**73.18**	**40717.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.23	0.94	2.36	0.00	0.07	0.07	480.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.23**	**0.94**	**2.36**	**0.00**	**0.07**	**0.07**	**480.9**
Offsite Motor Vehicle Exhaust	0.01	0.28	0.24	0.00	0.01	0.00	82.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.79	1.01	
Offsite Total	**0.01**	**0.28**	**0.24**	**0.00**	**9.81**	**1.01**	**82.5**
Total	**0.25**	**1.22**	**2.59**	**0.01**	**9.88**	**1.08**	**563.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	350	9	30	10
Sleeving Truck	300	3	30	5
Boom/Crane Truck	350	3	30	5
Bull Wheel Puller	500	3	21	5
Hydraulic Rewind Puller	300	3	21	5
Excavator	250	1	15	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Sleeving Truck	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Bull Wheel Puller	500	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Hydraulic Rewind Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators

a From Table 110

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Remove Existing Conductor & GW

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	8.54	36.87	99.62	0.19	2.96	2.72	19139.85	0.77	0.50	19,309.9
Sleeving Truck	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Boom/Crane Truck	1.99	6.64	16.07	0.03	0.58	0.53	2699.09	0.18	0.07	2,724.6
Bull Wheel Puller	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Hydraulic Rewind Puller	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Excavator	1.05	3.39	7.85	0.02	0.26	0.24	1585.40	0.09	0.04	1,600.2
Total	**17.16**	**68.78**	**170.35**	**0.34**	**5.38**	**4.95**	**34854.80**	**1.55**	**0.90**	**35167.61**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.13	0.55	1.49	0.00	0.04	0.04	287.10	0.01	0.01	289.6
Sleeving Truck	0.03	0.11	0.23	0.00	0.01	0.01	57.15	0.00	0.00	57.7
Boom/Crane Truck	0.03	0.10	0.24	0.00	0.01	0.01	40.49	0.00	0.00	40.9
Bull Wheel Puller	0.02	0.08	0.16	0.00	0.01	0.01	40.01	0.00	0.00	40.4
Hydraulic Rewind Puller	0.02	0.08	0.16	0.00	0.01	0.01	40.01	0.00	0.00	40.4
Excavator	0.01	0.03	0.06	0.00	0.00	0.00	11.89	0.00	0.00	12.0
Total	**0.23**	**0.94**	**2.36**	**0.00**	**0.07**	**0.07**	**476.64**	**0.02**	**0.01**	**480.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	12	30	N/A	28
Manlift/Bucket Truck	9	30	N/A	28
Sleeving Truck	3	30	N/A	28
Boom/Crane Truck	3	30	N/A	28
Truck, Semi Tractor	3	30	N/A	28
Dump Truck	1	15	N/A	28
Water Truck	2	30	N/A	28
Lowboy Truck/Trailer	9	30	N/A	28
Worker Commute	56	30	N/A	58

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Remove Existing Conductor & GW

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Sleeving Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Truck, Semi Tractor	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.02	0.12	0.38	0.00	0.05	0.02	251.61	0.00	0.01	254.60
Manlift/Bucket Truck	0.11	0.72	4.17	0.01	0.14	0.08	892.14	0.00	0.03	901.68
Sleeving Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Truck, Semi Tractor	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Lowboy Truck/Trailer	0.11	0.72	4.17	0.01	0.14	0.08	892.14	0.00	0.03	901.68
Worker Commute	0.57	16.32	1.78	0.03	0.33	0.01	2264.04	0.14	0.07	2289.88
Offsite Total	**0.95**	**18.83**	**16.07**	**0.06**	**0.84**	**0.28**	**5489.47**	**0.16**	**0.18**	**5550.07**
Total	**0.95**	**18.83**	**16.07**	**0.06**	**0.84**	**0.28**	**5489.47**	**0.16**	**0.18**	**5550.07**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Remove Existing Conductor & GW

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	3.77	0.00	0.00	3.82
Manlift/Bucket Truck	0.00	0.01	0.06	0.00	0.00	0.00	13.38	0.00	0.00	13.53
Sleeving Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Truck, Semi Tractor	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.97	0.00	0.00	3.01
Lowboy Truck/Trailer	0.00	0.01	0.06	0.00	0.00	0.00	13.38	0.00	0.00	13.53
Worker Commute	0.01	0.24	0.03	0.00	0.01	0.00	33.96	0.00	0.00	34.35
Offsite Total	**0.01**	**0.28**	**0.24**	**0.00**	**0.01**	**0.00**	**81.60**	**0.00**	**0.00**	**82.50**
Total	**0.01**	**0.28**	**0.24**	**0.00**	**0.01**	**0.00**	**81.60**	**0.00**	**0.00**	**82.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	12	Unpaved	18	30	0.564	0.056	121.72	12.17	1.83	0.18
1-Ton Truck, 4x4	12	Paved	10	30	0.003	0.001	0.40	0.10	0.01	0.00
Manlift/Bucket Truck	9	Unpaved	18	30	0.977	0.098	158.34	15.83	2.38	0.24
Manlift/Bucket Truck	9	Paved	10	30	0.003	0.001	0.30	0.07	0.00	0.00
Sleeving Truck	3	Unpaved	18	30	0.977	0.098	52.78	5.28	0.79	0.08
Sleeving Truck	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	30	0.977	0.098	52.78	5.28	0.79	0.08
Boom/Crane Truck	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Truck, Semi Tractor	3	Unpaved	18	30	0.977	0.098	52.78	5.28	0.79	0.08
Truck, Semi Tractor	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Remove Existing Conductor & GW

Dump Truck	1	Unpaved	18	15	0.977	0.098	17.59	1.76	0.13	0.01
Dump Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	2	Unpaved	18	30	0.977	0.098	35.19	3.52	0.53	0.05
Water Truck	2	Paved	10	30	0.003	0.001	0.07	0.02	0.00	0.00
Lowboy Truck/Trailer	9	Unpaved	18	30	0.977	0.098	158.34	15.83	2.38	0.24
Lowboy Truck/Trailer	9	Paved	10	30	0.003	0.001	0.30	0.07	0.00	0.00
Worker Commute	56	Paved	58	30	0.003	0.001	10.81	2.65	0.16	0.04
Offsite Total							**661.73**	**67.95**	**9.79**	**1.01**
Total							**661.73**	**67.95**	**9.79**	**1.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	14.83	55.02	108.94	0.19	5.05	4.65	18,769.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**14.83**	**55.02**	**108.94**	**0.19**	**5.05**	**4.65**	**18769.6**
Offsite Motor Vehicle Exhaust	0.33	7.53	3.73	0.02	0.26	0.06	1,709.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	171.45	17.88	
Offsite Total	**0.33**	**7.53**	**3.73**	**0.02**	**171.71**	**17.94**	**1709.8**
Total	**15.16**	**62.55**	**112.68**	**0.21**	**176.77**	**22.59**	**20479.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.26	0.96	1.91	0.00	0.09	0.08	328.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.26**	**0.96**	**1.91**	**0.00**	**0.09**	**0.08**	**328.5**
Offsite Motor Vehicle Exhaust	0.01	0.13	0.07	0.00	0.00	0.00	29.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.00	0.31	
Offsite Total	**0.01**	**0.13**	**0.07**	**0.00**	**3.01**	**0.31**	**29.9**
Total	**0.27**	**1.09**	**1.97**	**0.00**	**3.09**	**0.40**	**358.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	6	35	10
Excavator	300	4	35	7
R/T Crane (M)	215	3	35	5
R/T Crane (L)	300	6	35	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Excavator	300	0.149	0.485	1.022	0.002	0.037	0.034	233.525	0.013	0.006	Excavators
R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
R/T Crane (L)	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Removal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	3.78	18.90	24.05	0.03	2.02	1.85	2814.48	0.34	0.07	2,844.5
Excavator	4.18	13.57	28.63	0.06	1.02	0.94	6538.71	0.38	0.17	6,599.3
R/T Crane (M)	1.31	3.95	11.29	0.02	0.39	0.36	1680.87	0.12	0.04	1,696.9
R/T Crane (L)	5.56	18.60	44.98	0.07	1.62	1.49	7557.46	0.50	0.20	7,628.9
Total	**14.83**	**55.02**	**108.94**	**0.19**	**5.05**	**4.65**	**18591.53**	**1.34**	**0.48**	**18769.56**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.07	0.33	0.42	0.00	0.04	0.03	49.25	0.01	0.00	49.8
Excavator	0.07	0.24	0.50	0.00	0.02	0.02	114.43	0.01	0.00	115.5
R/T Crane (M)	0.02	0.07	0.20	0.00	0.01	0.01	29.42	0.00	0.00	29.7
R/T Crane (L)	0.10	0.33	0.79	0.00	0.03	0.03	132.26	0.01	0.00	133.5
Total	**0.26**	**0.96**	**1.91**	**0.00**	**0.09**	**0.08**	**325.35**	**0.02**	**0.01**	**328.47**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	6	35	N/A	28
Water Truck	2	35	N/A	28
Dump Truck	1	35	N/A	28
Flat Bed Truck/Trailer	3	35	N/A	28
Worker Commute	24	35	N/A	58

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Removal

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.33**	**7.53**	**3.73**	**0.02**	**0.26**	**0.06**	**1690.87**	**0.06**	**0.06**	**1709.80**
Total	**0.33**	**7.53**	**3.73**	**0.02**	**0.26**	**0.06**	**1690.87**	**0.06**	**0.06**	**1709.80**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Removal

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	2.23
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.47	0.00	0.00	3.51
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.73	0.00	0.00	1.75
Flat Bed Truck/Trailer	0.00	0.00	0.02	0.00	0.00	0.00	5.20	0.00	0.00	5.26
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.98	0.00	0.00	17.17
Offsite Total	**0.01**	**0.13**	**0.07**	**0.00**	**0.00**	**0.00**	**29.59**	**0.00**	**0.00**	**29.92**
Total	**0.01**	**0.13**	**0.07**	**0.00**	**0.00**	**0.00**	**29.59**	**0.00**	**0.00**	**29.92**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	35	0.564	0.056	60.86	6.09	1.07	0.11
1-Ton Truck, 4x4	6	Paved	10	35	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	2	Unpaved	18	35	0.977	0.098	35.19	3.52	0.62	0.06
Water Truck	2	Paved	10	35	0.003	0.001	0.07	0.02	0.00	0.00
Dump Truck	1	Unpaved	18	35	0.977	0.098	17.59	1.76	0.31	0.03
Dump Truck	1	Paved	10	35	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	35	0.977	0.098	52.78	5.28	0.92	0.09
Flat Bed Truck/Trailer	3	Paved	10	35	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	24	Paved	58	35	0.003	0.001	4.63	1.14	0.08	0.02
Offsite Total							**171.45**	**17.88**	**3.00**	**0.31**
Total							**171.45**	**17.88**	**3.00**	**0.31**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Removal

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Foundation Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.67	13.49	25.93	0.06	1.09	1.01	5,551.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.67**	**13.49**	**25.93**	**0.06**	**1.09**	**1.01**	**5551.2**
Offsite Motor Vehicle Exhaust	0.19	5.04	1.47	0.01	0.13	0.02	887.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	46.90	5.15	
Offsite Total	**0.19**	**5.04**	**1.47**	**0.01**	**47.03**	**5.18**	**887.4**
Total	**3.86**	**18.53**	**27.40**	**0.07**	**48.13**	**6.18**	**6438.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.10	0.19	0.00	0.01	0.01	41.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.10**	**0.19**	**0.00**	**0.01**	**0.01**	**41.6**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.01	0.00	0.00	0.00	6.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.35	0.04	
Offsite Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.35**	**0.04**	**6.7**
Total	**0.03**	**0.14**	**0.21**	**0.00**	**0.36**	**0.05**	**48.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	15	10
Backhoe/Front Loader	350	1	15	10
Excavator	250	1	15	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators

a From Table 110

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Foundation Removal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.63	3.15	4.01	0.01	0.34	0.31	469.08	0.06	0.01	474.1
Backhoe/Front Loader	1.98	6.96	14.07	0.04	0.50	0.46	3445.44	0.18	0.09	3,476.9
Excavator	1.05	3.39	7.85	0.02	0.26	0.24	1585.40	0.09	0.04	1,600.2
Total	**3.67**	**13.49**	**25.93**	**0.06**	**1.09**	**1.01**	**5499.92**	**0.33**	**0.14**	**5551.16**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.00	0.02	0.03	0.00	0.00	0.00	3.52	0.00	0.00	3.6
Backhoe/Front Loader	0.01	0.05	0.11	0.00	0.00	0.00	25.84	0.00	0.00	26.1
Excavator	0.01	0.03	0.06	0.00	0.00	0.00	11.89	0.00	0.00	12.0
Total	**0.03**	**0.10**	**0.19**	**0.00**	**0.01**	**0.01**	**41.25**	**0.00**	**0.00**	**41.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	1	15	N/A	28
Water Truck	1	15	N/A	28
Dump Truck	1	15	N/A	28
Worker Commute	16	15	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Foundation Removal

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.22	0.03	0.00	0.00	0.00	32.33	0.00	0.00	32.78
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25
Offsite Total	**0.19**	**5.04**	**1.47**	**0.01**	**0.13**	**0.02**	**877.45**	**0.04**	**0.03**	**887.41**
Total	**0.19**	**5.04**	**1.47**	**0.01**	**0.13**	**0.02**	**877.45**	**0.04**	**0.03**	**887.41**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.25
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.91
Offsite Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.66**
Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.66**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Foundation Removal

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	1	Unpaved	18	15	0.474	0.047	8.53	0.85	0.06	0.01
3/4-Ton Truck, 4x4	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	15	0.977	0.098	17.59	1.76	0.13	0.01
Water Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Dump Truck	1	Unpaved	18	15	0.977	0.098	17.59	1.76	0.13	0.01
Dump Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	16	Paved	58	15	0.003	0.001	3.09	0.76	0.02	0.01
Offsite Total							**46.90**	**5.15**	**0.35**	**0.04**
Total							**46.90**	**5.15**	**0.35**	**0.04**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install LST Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	19.83	58.02	138.40	26.53	4.27	4.04	38,552.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.34	0.05	
Onsite Total	**19.83**	**58.02**	**138.40**	**26.53**	**4.61**	**4.09**	**38552.9**
Offsite Motor Vehicle Exhaust	1.45	17.32	44.21	0.11	1.60	0.79	10,710.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1029.35	104.55	
Offsite Total	**1.45**	**17.32**	**44.21**	**0.11**	**1030.95**	**105.34**	**10710.2**
Total	**21.28**	**75.33**	**182.61**	**26.64**	**1035.56**	**109.43**	**49263.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.76	6.82	12.68	0.43	0.42	0.38	3,587.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.05	0.01	
Onsite Total	**1.76**	**6.82**	**12.68**	**0.43**	**0.46**	**0.39**	**3587.0**
Offsite Motor Vehicle Exhaust	0.20	2.38	6.08	0.01	0.22	0.11	1,472.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	141.54	14.38	
Offsite Total	**0.20**	**2.38**	**6.08**	**0.01**	**141.76**	**14.48**	**1472.7**
Total	**1.96**	**9.20**	**18.76**	**0.44**	**142.22**	**14.87**	**5059.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	4	275	7
Backhoe/Front Loader	200	4	275	10
Auger Truck	500	4	275	10
Kaman K-MAX	1500	1	30	7

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install LST Foundations

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Kaman K-MAX	1500	1.129	1.353	7.403	3.755	0.201	0.201	1978.170	0.055	0.063	See note b

a From Table 110

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions

Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A

CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]

CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf

CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions

Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	3.71	12.40	29.99	0.05	1.08	1.00	5038.31	0.33	0.13	5,085.9
Backhoe/Front Loader	4.09	14.12	31.61	0.08	1.04	0.96	6863.31	0.37	0.18	6,926.3
Auger Truck	4.13	22.02	24.98	0.12	0.74	0.68	12441.16	0.37	0.32	12,548.9
Kaman K-MAX	7.90	9.47	51.82	26.28	1.40	1.40	13847.19	0.38	0.44	13,991.7
Total	**19.83**	**58.02**	**138.40**	**26.53**	**4.27**	**4.04**	**38189.97**	**1.46**	**1.07**	**38552.88**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.51	1.70	4.12	0.01	0.15	0.14	692.77	0.05	0.02	699.3
Backhoe/Front Loader	0.56	1.94	4.35	0.01	0.14	0.13	943.71	0.05	0.02	952.4
Auger Truck	0.57	3.03	3.44	0.02	0.10	0.09	1710.66	0.05	0.04	1,725.5
Kaman K-MAX	0.12	0.14	0.78	0.39	0.02	0.02	207.71	0.01	0.01	209.9
Total	**1.76**	**6.82**	**12.68**	**0.43**	**0.42**	**0.38**	**3554.84**	**0.15**	**0.09**	**3587.03**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install LST Foundations

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	275	N/A	28
Boom/Crane Truck	4	275	N/A	28
Auger Truck	4	275	N/A	28
Water Truck	4	275	N/A	28
Dump Truck	8	275	N/A	28
Concrete Mixer Truck	34	275	N/A	60
Worker Commute	28	275	N/A	58

[a] Concrete truck based on 92,782 CY concrete (see Earthwork Fugitive PM below) over 275 days and 10 CY/truck load

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install LST Foundations

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Auger Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Dump Truck	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Concrete Mixer Truck	0.86	5.81	33.79	0.07	1.11	0.61	7222.12	0.04	0.25	7299.28
Worker Commute	0.28	8.16	0.89	0.01	0.17	0.01	1132.02	0.07	0.04	1144.94
Offsite Total	**1.45**	**17.32**	**44.21**	**0.11**	**1.60**	**0.79**	**10595.29**	**0.14**	**0.36**	**10710.19**
Total	**1.45**	**17.32**	**44.21**	**0.11**	**1.60**	**0.79**	**10595.29**	**0.14**	**0.36**	**10710.19**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.24	0.04	0.00	0.00	0.00	35.56	0.00	0.00	36.06
Boom/Crane Truck	0.01	0.04	0.26	0.00	0.01	0.00	54.52	0.00	0.00	55.10
Auger Truck	0.01	0.04	0.26	0.00	0.01	0.00	54.52	0.00	0.00	55.10
Water Truck	0.01	0.04	0.26	0.00	0.01	0.00	54.52	0.00	0.00	55.10
Dump Truck	0.01	0.09	0.51	0.00	0.02	0.01	109.04	0.00	0.00	110.20
Concrete Mixer Truck	0.12	0.80	4.65	0.01	0.15	0.08	993.04	0.01	0.03	1003.65
Worker Commute	0.04	1.12	0.12	0.00	0.02	0.00	155.65	0.01	0.01	157.43
Offsite Total	**0.20**	**2.38**	**6.08**	**0.01**	**0.22**	**0.11**	**1456.85**	**0.02**	**0.05**	**1472.65**
Total	**0.20**	**2.38**	**6.08**	**0.01**	**0.22**	**0.11**	**1456.85**	**0.02**	**0.05**	**1472.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install LST Foundations

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	275	0.474	0.047	68.22	6.82	9.38	0.94
3/4-Ton Truck, 4x4	8	Paved	10	275	0.003	0.001	0.27	0.07	0.04	0.01
Boom/Crane Truck	4	Unpaved	18	275	0.977	0.098	70.37	7.04	9.68	0.97
Boom/Crane Truck	4	Paved	10	275	0.003	0.001	0.13	0.03	0.02	0.00
Auger Truck	4	Unpaved	18	275	0.977	0.098	70.37	7.04	9.68	0.97
Auger Truck	4	Paved	10	275	0.003	0.001	0.13	0.03	0.02	0.00
Water Truck	4	Unpaved	18	275	0.977	0.098	70.37	7.04	9.68	0.97
Water Truck	4	Paved	10	275	0.003	0.001	0.13	0.03	0.02	0.00
Dump Truck	8	Unpaved	18	275	0.977	0.098	140.75	14.07	19.35	1.94
Dump Truck	8	Paved	10	275	0.003	0.001	0.27	0.07	0.04	0.01
Concrete Mixer Truck	34	Unpaved	18	275	0.977	0.098	598.17	59.82	82.25	8.22
Concrete Mixer Truck	34	Paved	42	275	0.003	0.001	4.75	1.17	0.65	0.16
Worker Commute	28	Paved	58	275	0.003	0.001	5.41	1.33	0.74	0.18
Offsite Total							**1029.35**	**104.55**	**141.54**	**14.38**
Total							**1029.35**	**104.55**	**141.54**	**14.38**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	338	92782	1.00E-03	1.52E-04	0.34	0.05	0.05	0.01
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.34**	**0.05**	**0.05**	**0.01**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on 443 LSTs, 4 foundations/LST, 6 ft. diameter x 50 ft. deep each over 275 days

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Steel Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	39.67	62.12	248.50	100.37	7.11	6.96	64,385.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**39.67**	**62.12**	**248.50**	**100.37**	**7.11**	**6.96**	**64385.9**
Offsite Motor Vehicle Exhaust	0.57	13.63	6.17	0.03	0.39	0.09	2,834.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	345.27	35.55	
Offsite Total	**0.57**	**13.63**	**6.17**	**0.03**	**345.66**	**35.65**	**2834.9**
Total	**40.24**	**75.76**	**254.66**	**100.40**	**352.77**	**42.60**	**67220.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.92	1.64	6.00	2.01	0.18	0.17	1,480.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.92**	**1.64**	**6.00**	**2.01**	**0.18**	**0.17**	**1480.6**
Offsite Motor Vehicle Exhaust	0.02	0.51	0.23	0.00	0.01	0.00	106.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	12.95	1.33	
Offsite Total	**0.02**	**0.51**	**0.23**	**0.00**	**12.96**	**1.34**	**106.3**
Total	**0.94**	**2.16**	**6.23**	**2.01**	**13.14**	**1.51**	**1586.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
R/T Forklift	200	8	75	8
Bell 212	1800	2	40	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
R/T Forklift	200	0.111	0.359	0.919	0.002	0.030	0.028	170.643	0.010	0.004	Rough Terrain Forklifts
Bell 212	1800	2.328	2.797	13.547	7.160	0.370	0.370	3772.296	0.104	0.120	See note b

a From Table 110

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Fuel use = 541.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A

CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]

CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Steel Haul

http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 541.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
R/T Forklift	7.08	22.97	58.84	0.12	1.93	1.78	10921.16	0.64	0.28	11,022.5
Bell 212	32.59	39.16	189.66	100.24	5.18	5.18	52812.15	1.46	1.68	53,363.4
Total	**39.67**	**62.12**	**248.50**	**100.37**	**7.11**	**6.96**	**63733.30**	**2.10**	**1.96**	**64385.86**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
R/T Forklift	0.27	0.86	2.21	0.00	0.07	0.07	409.54	0.02	0.01	413.3
Bell 212	0.65	0.78	3.79	2.00	0.10	0.10	1056.24	0.03	0.03	1,067.3
Total	**0.92**	**1.64**	**6.00**	**2.01**	**0.18**	**0.17**	**1465.79**	**0.05**	**0.04**	**1480.61**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	16	75	N/A	28
Water Truck	2	75	N/A	28
Flat Bed Truck/Trailer	8	75	N/A	28
Worker Commute	32	75	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Steel Haul

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.13	3.51	0.51	0.01	0.05	0.00	517.22	0.03	0.02	524.48
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Flat Bed Truck/Trailer	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Worker Commute	0.33	9.32	1.02	0.02	0.19	0.01	1293.74	0.08	0.04	1308.51
Offsite Total	**0.57**	**13.63**	**6.17**	**0.03**	**0.39**	**0.09**	**2802.23**	**0.12**	**0.10**	**2834.85**
Total	**0.57**	**13.63**	**6.17**	**0.03**	**0.39**	**0.09**	**2802.23**	**0.12**	**0.10**	**2834.85**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.13	0.02	0.00	0.00	0.00	19.40	0.00	0.00	19.67
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.43	0.00	0.00	7.51
Flat Bed Truck/Trailer	0.00	0.02	0.14	0.00	0.00	0.00	29.74	0.00	0.00	30.06
Worker Commute	0.01	0.35	0.04	0.00	0.01	0.00	48.52	0.00	0.00	49.07
Offsite Total	**0.02**	**0.51**	**0.23**	**0.00**	**0.01**	**0.00**	**105.08**	**0.00**	**0.00**	**106.31**
Total	**0.02**	**0.51**	**0.23**	**0.00**	**0.01**	**0.00**	**105.08**	**0.00**	**0.00**	**106.31**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	16	Unpaved	18	75	0.564	0.056	162.29	16.23	6.09	0.61
1-Ton Truck, 4x4	16	Paved	10	75	0.003	0.001	0.53	0.13	0.02	0.00
Water Truck	2	Unpaved	18	75	0.977	0.098	35.19	3.52	1.32	0.13

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Steel Haul

Water Truck	2	Paved	10	75	0.003	0.001	0.07	0.02	0.00	0.00
Flat Bed Truck/Trailer	8	Unpaved	18	75	0.977	0.098	140.75	14.07	5.28	0.53
Flat Bed Truck/Trailer	8	Paved	10	75	0.003	0.001	0.27	0.07	0.01	0.00
Worker Commute	32	Paved	58	75	0.003	0.001	6.18	1.52	0.23	0.06
Offsite Total							**345.27**	**35.55**	**12.95**	**1.33**
Total							**345.27**	**35.55**	**12.95**	**1.33**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Steel Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	19.74	62.88	141.20	26.43	5.69	5.35	28,261.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**19.74**	**62.88**	**141.20**	**26.43**	**5.69**	**5.35**	**28261.1**
Offsite Motor Vehicle Exhaust	0.56	15.75	2.00	0.03	0.35	0.02	2,378.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	133.87	14.85	
Offsite Total	**0.56**	**15.75**	**2.00**	**0.03**	**134.22**	**14.88**	**2378.2**
Total	**20.31**	**78.63**	**143.20**	**26.46**	**139.91**	**20.23**	**30639.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	6.15	21.19	44.46	6.62	1.86	1.74	8,527.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**6.15**	**21.19**	**44.46**	**6.62**	**1.86**	**1.74**	**8527.9**
Offsite Motor Vehicle Exhaust	0.20	5.55	0.70	0.01	0.12	0.01	838.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	47.19	5.24	
Offsite Total	**0.20**	**5.55**	**0.70**	**0.01**	**47.31**	**5.24**	**838.3**
Total	**6.35**	**26.75**	**45.17**	**6.63**	**49.18**	**6.99**	**9366.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	5	705	7
R/T Forklift	125	4	705	7
R/T Crane (L)	300	5	705	10
Kaman K-MAX	1500	1	500	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Forklift	125	0.108	0.723	0.779	0.001	0.042	0.039	124.788	0.010	0.003	Rough Terrain Forklifts
R/T Crane (L)	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Kaman K-MAX	1500	1.129	1.353	7.403	3.755	0.201	0.201	1978.170	0.055	0.063	See note b

a From Table 110

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Steel Assembly

Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	2.20	11.03	14.03	0.02	1.18	1.08	1641.78	0.20	0.04	1,659.3
R/T Forklift	3.02	20.24	21.80	0.04	1.18	1.09	3494.05	0.27	0.09	3,528.1
R/T Crane (L)	6.62	22.14	53.55	0.09	1.93	1.78	8996.98	0.60	0.23	9,082.0
Kaman K-MAX	7.90	9.47	51.82	26.28	1.40	1.40	13847.19	0.38	0.44	13,991.7
Total	**19.74**	**62.88**	**141.20**	**26.43**	**5.69**	**5.35**	**27980.00**	**1.45**	**0.81**	**28261.11**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.78	3.89	4.94	0.01	0.41	0.38	578.73	0.07	0.02	584.9
R/T Forklift	1.06	7.14	7.68	0.01	0.42	0.38	1231.65	0.10	0.03	1,243.6
R/T Crane (L)	2.33	7.80	18.88	0.03	0.68	0.63	3171.43	0.21	0.08	3,201.4
Kaman K-MAX	1.98	2.37	12.95	6.57	0.35	0.35	3461.80	0.10	0.11	3,497.9
Total	**6.15**	**21.19**	**44.46**	**6.62**	**1.86**	**1.74**	**8443.61**	**0.47**	**0.24**	**8527.89**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	5	705	N/A	28
1-Ton Truck, 4x4	8	705	N/A	28
Worker Commute	50	705	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Steel Assembly

Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.04	1.10	0.16	0.00	0.01	0.00	161.63	0.01	0.01	163.90
1-Ton Truck, 4x4	0.01	0.08	0.25	0.00	0.03	0.01	167.74	0.00	0.01	169.74
Worker Commute	0.51	14.57	1.59	0.02	0.30	0.01	2021.47	0.12	0.07	2044.54
Offsite Total	**0.56**	**15.75**	**2.00**	**0.03**	**0.35**	**0.02**	**2350.84**	**0.13**	**0.08**	**2378.18**
Total	**0.56**	**15.75**	**2.00**	**0.03**	**0.35**	**0.02**	**2350.84**	**0.13**	**0.08**	**2378.18**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.39	0.06	0.00	0.01	0.00	56.97	0.00	0.00	57.78
1-Ton Truck, 4x4	0.01	0.03	0.09	0.00	0.01	0.00	59.13	0.00	0.00	59.83
Worker Commute	0.18	5.14	0.56	0.01	0.11	0.00	712.57	0.04	0.02	720.70
Offsite Total	**0.20**	**5.55**	**0.70**	**0.01**	**0.12**	**0.01**	**828.67**	**0.05**	**0.03**	**838.31**
Total	**0.20**	**5.55**	**0.70**	**0.01**	**0.12**	**0.01**	**828.67**	**0.05**	**0.03**	**838.31**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Steel Assembly

Offsite										
3/4-Ton Truck, 4x4	5	Unpaved	18	705	0.474	0.047	42.64	4.26	15.03	1.50
3/4-Ton Truck, 4x4	5	Paved	10	705	0.003	0.001	0.17	0.04	0.06	0.01
1-Ton Truck, 4x4	8	Unpaved	18	705	0.564	0.056	81.15	8.11	28.60	2.86
1-Ton Truck, 4x4	8	Paved	10	705	0.003	0.001	0.27	0.07	0.09	0.02
Worker Commute	50	Paved	58	705	0.003	0.001	9.66	2.37	3.40	0.84
Offsite Total							**133.87**	**14.85**	**47.19**	**5.24**
Total							**133.87**	**14.85**	**47.19**	**5.24**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	70.00	104.00	750.85	238.25	17.21	16.99	136,353.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**70.00**	**104.00**	**750.85**	**238.25**	**17.21**	**16.99**	**136353.4**
Offsite Motor Vehicle Exhaust	0.75	19.72	4.73	0.04	0.49	0.07	3,386.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	249.62	26.75	
Offsite Total	**0.75**	**19.72**	**4.73**	**0.04**	**250.11**	**26.82**	**3386.4**
Total	**70.75**	**123.72**	**755.58**	**238.29**	**267.32**	**43.81**	**139739.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	8.29	14.95	39.81	10.91	1.23	1.18	8,190.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**8.29**	**14.95**	**39.81**	**10.91**	**1.23**	**1.18**	**8190.7**
Offsite Motor Vehicle Exhaust	0.19	4.92	1.14	0.01	0.12	0.02	836.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	60.64	6.51	
Offsite Total	**0.19**	**4.92**	**1.14**	**0.01**	**60.76**	**6.53**	**836.6**
Total	**8.48**	**19.87**	**40.95**	**10.92**	**62.00**	**7.70**	**9027.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	60	4	500	7
R/T Crane (M)	215	4	500	7
R/T Crane (L)	275	4	500	7
Hughes 500 E Helicopter	420	3	300	7
Sikorsky S64	9000	2	60	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	60	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
R/T Crane (L)	275	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Hughes 500 E Helicopter	420	1.765	2.199	1.421	1.485	0.044	0.044	782.418	0.022	0.025	See note b
Sikorsky S64	9000	1.786	2.088	47.051	14.783	0.966	0.966	7788.012	0.216	0.248	See note c

a From Table 110

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Erection

PM2.5 emissions assumed equal to PM10
SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]
Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

[c] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10
SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]
Fuel use = 1,118 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 1,118 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.76	8.82	11.22	0.02	0.94	0.87	1313.43	0.16	0.03	1,327.4
R/T Crane (M)	2.45	7.37	21.07	0.04	0.73	0.67	3137.63	0.22	0.08	3,167.5
R/T Crane (L)	3.71	12.40	29.99	0.05	1.08	1.00	5038.31	0.33	0.13	5,085.9
Hughes 500 E Helicopter	37.08	46.18	29.85	31.19	0.93	0.93	16430.79	0.46	0.52	16,602.3
Sikorsky S64	25.01	29.24	658.72	206.96	13.53	13.53	109032.17	3.02	3.47	110,170.2
Total	**70.00**	**104.00**	**750.85**	**238.25**	**17.21**	**16.99**	**134952.32**	**4.19**	**4.24**	**136353.44**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.44	2.21	2.81	0.00	0.24	0.22	328.36	0.04	0.01	331.9
R/T Crane (M)	0.61	1.84	5.27	0.01	0.18	0.17	784.41	0.06	0.02	791.9
R/T Crane (L)	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5
Hughes 500 E Helicopter	5.56	6.93	4.48	4.68	0.14	0.14	2464.62	0.07	0.08	2,490.3
Sikorsky S64	0.75	0.88	19.76	6.21	0.41	0.41	3270.97	0.09	0.10	3,305.1
Total	**8.29**	**14.95**	**39.81**	**10.91**	**1.23**	**1.18**	**8107.92**	**0.34**	**0.24**	**8190.68**

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Erection

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	500	N/A	28
1-Ton Truck, 4x4	8	500	N/A	28
Jet A Fuel Truck	1	300	N/A	28
Water Truck	4	500	N/A	28
Worker Commute	60	500	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Jet A Fuel Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.01	0.08	0.25	0.00	0.03	0.01	167.74	0.00	0.01	169.74
Jet A Fuel Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Worker Commute	0.61	17.48	1.91	0.03	0.36	0.01	2425.76	0.15	0.08	2453.45
Offsite Total	**0.75**	**19.72**	**4.73**	**0.04**	**0.49**	**0.07**	**3347.75**	**0.17**	**0.11**	**3386.36**
Total	**0.75**	**19.72**	**4.73**	**0.04**	**0.49**	**0.07**	**3347.75**	**0.17**	**0.11**	**3386.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Erection

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Jet A Fuel Truck	0.00	0.01	0.07	0.00	0.00	0.00	14.87	0.00	0.00	15.03
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.19**	**4.92**	**1.14**	**0.01**	**0.12**	**0.02**	**827.02**	**0.04**	**0.03**	**836.57**
Total	**0.19**	**4.92**	**1.14**	**0.01**	**0.12**	**0.02**	**827.02**	**0.04**	**0.03**	**836.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	500	0.474	0.047	68.22	6.82	17.05	1.71
3/4-Ton Truck, 4x4	8	Paved	10	500	0.003	0.001	0.27	0.07	0.07	0.02
1-Ton Truck, 4x4	8	Unpaved	18	500	0.564	0.056	81.15	8.11	20.29	2.03
1-Ton Truck, 4x4	8	Paved	10	500	0.003	0.001	0.27	0.07	0.07	0.02
Jet A Fuel Truck	1	Unpaved	18	300	0.977	0.098	17.59	1.76	2.64	0.26
Jet A Fuel Truck	1	Paved	10	300	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	4	Unpaved	18	500	0.977	0.098	70.37	7.04	17.59	1.76
Water Truck	4	Paved	10	500	0.003	0.001	0.13	0.03	0.03	0.01
Worker Commute	60	Paved	58	500	0.003	0.001	11.59	2.84	2.90	0.71
Offsite Total							**249.62**	**26.75**	**60.64**	**6.51**
Total							**249.62**	**26.75**	**60.64**	**6.51**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
LST Erection

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install TSP Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.96	24.27	43.29	0.12	1.43	1.32	12,280.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.15	0.02	
Onsite Total	**5.96**	**24.27**	**43.29**	**0.12**	**1.58**	**1.34**	**12280.6**
Offsite Motor Vehicle Exhaust	0.65	8.01	19.19	0.05	0.70	0.34	4,709.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	460.69	46.78	
Offsite Total	**0.65**	**8.01**	**19.19**	**0.05**	**461.39**	**47.12**	**4709.1**
Total	**6.61**	**32.29**	**62.48**	**0.17**	**462.97**	**48.46**	**16989.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.98	3.86	7.29	0.02	0.24	0.22	1,911.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.98**	**3.86**	**7.29**	**0.02**	**0.25**	**0.23**	**1911.1**
Offsite Motor Vehicle Exhaust	0.10	1.33	2.64	0.01	0.10	0.05	674.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	67.91	6.90	
Offsite Total	**0.10**	**1.33**	**2.64**	**0.01**	**68.01**	**6.95**	**674.5**
Total	**1.08**	**5.18**	**9.93**	**0.03**	**68.26**	**7.18**	**2585.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	2	370	7
Backhoe/Front Loader	200	2	370	10
Auger Truck	500	2	255	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.85	6.20	14.99	0.02	0.54	0.50	2519.15	0.17	0.07	2,543.0
Backhoe/Front Loader	2.05	7.06	15.80	0.04	0.52	0.48	3431.66	0.18	0.09	3,463.1
Auger Truck	2.06	11.01	12.49	0.06	0.37	0.34	6220.58	0.19	0.16	6,274.5

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install TSP Foundations

Total	**5.96**	**24.27**	**43.29**	**0.12**	**1.43**	**1.32**	**12171.39**	**0.54**	**0.32**	**12280.57**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.34	1.15	2.77	0.00	0.10	0.09	466.04	0.03	0.01	470.4
Backhoe/Front Loader	0.38	1.31	2.92	0.01	0.10	0.09	634.86	0.03	0.02	640.7
Auger Truck	0.26	1.40	1.59	0.01	0.05	0.04	793.12	0.02	0.02	800.0
Total	**0.98**	**3.86**	**7.29**	**0.02**	**0.24**	**0.22**	**1894.02**	**0.09**	**0.05**	**1911.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	370	N/A	28
Boom/Crane Truck	2	370	N/A	28
Auger Truck	2	255	N/A	28
Water Truck	2	370	N/A	28
Dump Truck	2	370	N/A	28
Concrete Mixer Truck	15	255	N/A	60
Worker Commute	12	370	N/A	58

[a] Concrete mixer trucks based on 148 CY/TSP, 1 TSP/day and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install TSP Foundations

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
Boom/Crane Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Auger Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Mixer Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.65**	**8.01**	**19.19**	**0.05**	**0.70**	**0.34**	**4658.35**	**0.06**	**0.16**	**4709.13**
Total	**0.65**	**8.01**	**19.19**	**0.05**	**0.70**	**0.34**	**4658.35**	**0.06**	**0.16**	**4709.13**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.24	0.04	0.00	0.00	0.00	35.88	0.00	0.00	36.39
Boom/Crane Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Auger Truck	0.00	0.02	0.12	0.00	0.00	0.00	25.28	0.00	0.00	25.55
Water Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Dump Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Concrete Mixer Truck	0.05	0.33	1.90	0.00	0.06	0.03	406.24	0.00	0.01	410.58
Worker Commute	0.02	0.65	0.07	0.00	0.01	0.00	89.75	0.01	0.00	90.78
Offsite Total	**0.10**	**1.33**	**2.64**	**0.01**	**0.10**	**0.05**	**667.19**	**0.01**	**0.02**	**674.50**
Total	**0.10**	**1.33**	**2.64**	**0.01**	**0.10**	**0.05**	**667.19**	**0.01**	**0.02**	**674.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	370	0.474	0.047	51.16	5.12	9.47	0.95

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install TSP Foundations

3/4-Ton Truck, 4x4	6	Paved	10	370	0.003	0.001	0.20	0.05	0.04	0.01
Boom/Crane Truck	2	Unpaved	18	370	0.977	0.098	35.19	3.52	6.51	0.65
Boom/Crane Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Auger Truck	2	Unpaved	18	255	0.977	0.098	35.19	3.52	4.49	0.45
Auger Truck	2	Paved	10	255	0.003	0.001	0.07	0.02	0.01	0.00
Water Truck	2	Unpaved	18	370	0.977	0.098	35.19	3.52	6.51	0.65
Water Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Dump Truck	2	Unpaved	18	370	0.977	0.098	35.19	3.52	6.51	0.65
Dump Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Concrete Mixer Truck	15	Unpaved	18	255	0.977	0.098	263.90	26.39	33.65	3.36
Concrete Mixer Truck	15	Paved	42	255	0.003	0.001	2.10	0.51	0.27	0.07
Worker Commute	12	Paved	58	370	0.003	0.001	2.32	0.57	0.43	0.11
Offsite Total							**460.69**	**46.78**	**67.91**	**6.90**
Total							**460.69**	**46.78**	**67.91**	**6.90**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	148	12831	1.00E-03	1.52E-04	0.15	0.02	0.01	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.15**	**0.02**	**0.01**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 TSP, 13 ft. diameter x 30 ft. deep; total based on 87 TSPs

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.06	3.54	8.57	0.01	0.31	0.28	1,453.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1453.1**
Offsite Motor Vehicle Exhaust	0.10	1.92	2.05	0.01	0.09	0.03	629.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	88.40	8.98	
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**88.49**	**9.02**	**629.9**
Total	**1.16**	**5.47**	**10.61**	**0.02**	**88.80**	**9.30**	**2083.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.04	0.14	0.34	0.00	0.01	0.01	58.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.04**	**0.14**	**0.34**	**0.00**	**0.01**	**0.01**	**58.1**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.08	0.00	0.00	0.00	25.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.54	0.36	
Offsite Total	**0.00**	**0.08**	**0.08**	**0.00**	**3.54**	**0.36**	**25.2**
Total	**0.05**	**0.22**	**0.42**	**0.00**	**3.55**	**0.37**	**83.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	80	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1439.52**	**0.10**	**0.04**	**1453.12**

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM TSP Haul

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.04	0.14	0.34	0.00	0.01	0.01	57.58	0.00	0.00	58.1
Total	**0.04**	**0.14**	**0.34**	**0.00**	**0.01**	**0.01**	**57.58**	**0.00**	**0.00**	**58.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	2	80	N/A	28
Boom/Crane Truck	1	80	N/A	28
Water Truck	1	80	N/A	28
Flat Bed Pole Truck	2	80	N/A	28
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Haul

Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**
Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.59	0.00	0.00	2.62
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Flat Bed Pole Truck	0.00	0.01	0.04	0.00	0.00	0.00	7.93	0.00	0.00	8.01
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.08**	**0.08**	**0.00**	**0.00**	**0.00**	**24.92**	**0.00**	**0.00**	**25.19**
Total	**0.00**	**0.08**	**0.08**	**0.00**	**0.00**	**0.00**	**24.92**	**0.00**	**0.00**	**25.19**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	2	Unpaved	18	80	0.474	0.047	17.05	1.71	0.68	0.07
3/4-Ton Truck, 4x4	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	80	0.977	0.098	17.59	1.76	0.70	0.07
Boom/Crane Truck	1	Paved	10	80	0.003	0.001	0.03	0.01	0.00	0.00

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Haul

Water Truck	1	Unpaved	18	80	0.977	0.098	17.59	1.76	0.70	0.07
Water Truck	1	Paved	10	80	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	2	Unpaved	18	80	0.977	0.098	35.19	3.52	1.41	0.14
Flat Bed Pole Truck	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**88.40**	**8.98**	**3.54**	**0.36**
Total							**88.40**	**8.98**	**3.54**	**0.36**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.29	6.94	2.81	0.02	0.21	0.05	1,460.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	186.41	19.22	
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**186.62**	**19.27**	**1460.8**
Total	**4.20**	**21.91**	**32.51**	**0.06**	**188.03**	**20.57**	**6128.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.10	0.37	0.74	0.00	0.04	0.03	116.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**116.7**
Offsite Motor Vehicle Exhaust	0.01	0.17	0.07	0.00	0.01	0.00	36.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.66	0.48	
Offsite Total	**0.01**	**0.17**	**0.07**	**0.00**	**4.67**	**0.48**	**36.5**
Total	**0.11**	**0.55**	**0.81**	**0.00**	**4.70**	**0.51**	**153.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	50	6
Boom/Crane Truck	350	3	50	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
Boom/Crane Truck	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4
Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Assembly

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.03	0.14	0.18	0.00	0.02	0.01	21.11	0.00	0.00	21.3
Boom/Crane Truck	0.07	0.23	0.56	0.00	0.02	0.02	94.47	0.01	0.00	95.4
Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**115.58**	**0.01**	**0.00**	**116.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	50	N/A	28
1-Ton Truck, 4x4	6	50	N/A	28
Boom/Crane Truck	3	50	N/A	28
Water Truck	1	50	N/A	28
Worker Commute	18	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Assembly

3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**
Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.92
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	3.15	0.00	0.00	3.18
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.43	0.00	0.00	7.51
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.48	0.00	0.00	2.50
Worker Commute	0.00	0.13	0.01	0.00	0.00	0.00	18.19	0.00	0.00	18.40
Offsite Total	**0.01**	**0.17**	**0.07**	**0.00**	**0.01**	**0.00**	**36.10**	**0.00**	**0.00**	**36.52**
Total	**0.01**	**0.17**	**0.07**	**0.00**	**0.01**	**0.00**	**36.10**	**0.00**	**0.00**	**36.52**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	50	0.474	0.047	51.16	5.12	1.28	0.13
3/4-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	50	0.564	0.056	60.86	6.09	1.52	0.15
1-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	50	0.977	0.098	52.78	5.28	1.32	0.13
Boom/Crane Truck	3	Paved	10	50	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Unpaved	18	50	0.977	0.098	17.59	1.76	0.44	0.04
Water Truck	1	Paved	10	50	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	18	Paved	58	50	0.003	0.001	3.48	0.85	0.09	0.02

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Assembly

Offsite Total							**186.41**	**19.22**	**4.66**	**0.48**
Total							**186.41**	**19.22**	**4.66**	**0.48**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.25	6.70	1.42	0.01	0.17	0.02	1,160.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	133.53	13.92	
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**133.69**	**13.94**	**1160.2**
Total	**4.17**	**21.67**	**31.12**	**0.06**	**135.11**	**15.25**	**5828.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.10	0.37	0.74	0.00	0.04	0.03	116.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**116.7**
Offsite Motor Vehicle Exhaust	0.01	0.17	0.04	0.00	0.00	0.00	29.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.34	0.35	
Offsite Total	**0.01**	**0.17**	**0.04**	**0.00**	**3.34**	**0.35**	**29.0**
Total	**0.10**	**0.54**	**0.78**	**0.00**	**3.38**	**0.38**	**145.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	50	6
R/T Crane (L)	350	3	50	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (L)	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
R/T Crane (L)	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4
Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Erection

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.03	0.14	0.18	0.00	0.02	0.01	21.11	0.00	0.00	21.3
R/T Crane (L)	0.07	0.23	0.56	0.00	0.02	0.02	94.47	0.01	0.00	95.4
Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**115.58**	**0.01**	**0.00**	**116.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	50	N/A	28
1-Ton Truck, 4x4	6	50	N/A	28
Water Truck	1	50	N/A	28
Worker Commute	18	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Erection

Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**
Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.92
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	3.15	0.00	0.00	3.18
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.48	0.00	0.00	2.50
Worker Commute	0.00	0.13	0.01	0.00	0.00	0.00	18.19	0.00	0.00	18.40
Offsite Total	**0.01**	**0.17**	**0.04**	**0.00**	**0.00**	**0.00**	**28.67**	**0.00**	**0.00**	**29.01**
Total	**0.01**	**0.17**	**0.04**	**0.00**	**0.00**	**0.00**	**28.67**	**0.00**	**0.00**	**29.01**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	50	0.474	0.047	51.16	5.12	1.28	0.13
3/4-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	50	0.564	0.056	60.86	6.09	1.52	0.15
1-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	50	0.977	0.098	17.59	1.76	0.44	0.04
Water Truck	1	Paved	10	50	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	18	Paved	58	50	0.003	0.001	3.48	0.85	0.09	0.02
Offsite Total							**133.53**	**13.92**	**3.34**	**0.35**
Total							**133.53**	**13.92**	**3.34**	**0.35**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Erection

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Conductor

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	46.32	116.44	206.41	21.16	7.11	6.59	48,424.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**46.32**	**116.44**	**206.41**	**21.16**	**7.11**	**6.59**	**48424.3**
Offsite Motor Vehicle Exhaust	1.93	50.27	14.00	0.10	1.31	0.20	8,860.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	476.59	52.44	
Offsite Total	**1.93**	**50.27**	**14.00**	**0.10**	**477.90**	**52.65**	**8860.8**
Total	**48.26**	**166.71**	**220.41**	**21.27**	**485.01**	**59.24**	**57285.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	5.20	12.06	22.31	2.53	0.75	0.69	5,209.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**5.20**	**12.06**	**22.31**	**2.53**	**0.75**	**0.69**	**5209.1**
Offsite Motor Vehicle Exhaust	0.29	7.52	1.99	0.01	0.19	0.03	1,299.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	63.47	7.06	
Offsite Total	**0.29**	**7.52**	**1.99**	**0.01**	**63.66**	**7.09**	**1299.7**
Total	**5.49**	**19.58**	**24.30**	**2.55**	**64.41**	**7.78**	**6508.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	350	3	300	10
Boom/Crane Truck	350	3	300	10
R/T Crane (M)	215	3	300	10
Sock Line Puller	300	2	80	10
Bull Wheel Puller	350	2	160	10
Static Truck/Tensioner	350	2	300	10
Spacing Cart	10	4	80	10
Backhoe/Front Loader	125	2	60	8
D8 Cat	350	1	60	8
Sag Cat w/ 2 Winches	350	1	60	10
Hughes 500 E Helicopter	420	2	240	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Conductor

Sock Line Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Bull Wheel Puller	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Static Truck/Tensioner	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Spacing Cart	10	0.012	0.062	0.074	0.000	0.003	0.003	10.098	0.001	0.000	Other Construction Equipment
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
D8 Cat	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Sag Cat w/ 2 Winches	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Hughes 500 E Helicopter	420	1.765	2.199	1.421	1.485	0.044	0.044	782.418	0.022	0.025	See note b

a From Table 110

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A

CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]

CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf

CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	2.85	12.29	33.21	0.06	0.99	0.91	6379.95	0.26	0.17	6,436.6
Boom/Crane Truck	3.97	13.28	32.13	0.05	1.16	1.07	5398.19	0.36	0.14	5,449.2
R/T Crane (M)	2.62	7.89	22.57	0.04	0.78	0.71	3361.74	0.24	0.09	3,393.8
Sock Line Puller	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Bull Wheel Puller	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Static Truck/Tensioner	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Spacing Cart	0.47	2.47	2.94	0.01	0.12	0.11	403.93	0.04	0.01	408.1
Backhoe/Front Loader	1.26	9.35	8.91	0.02	0.47	0.43	1620.73	0.11	0.04	1,636.2
D8 Cat	1.74	6.32	13.93	0.02	0.53	0.49	2071.97	0.16	0.05	2,092.0
Sag Cat w/ 2 Winches	1.24	4.86	10.40	0.02	0.35	0.32	2540.10	0.11	0.07	2,562.9
Hughes 500 E Helicopter	24.72	30.78	19.90	20.79	0.62	0.62	10953.86	0.30	0.35	11,068.2
Total	**46.32**	**116.44**	**206.41**	**21.16**	**7.11**	**6.59**	**47971.08**	**2.25**	**1.31**	**48424.31**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.43	1.84	4.98	0.01	0.15	0.14	956.99	0.04	0.02	965.5
Boom/Crane Truck	0.60	1.99	4.82	0.01	0.17	0.16	809.73	0.05	0.02	817.4
R/T Crane (M)	0.39	1.18	3.39	0.01	0.12	0.11	504.26	0.04	0.01	509.1

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Conductor

Sock Line Puller	0.10	0.39	0.83	0.00	0.03	0.03	203.21	0.01	0.01	205.0
Bull Wheel Puller	0.20	0.78	1.66	0.00	0.06	0.05	406.42	0.02	0.01	410.1
Static Truck/Tensioner	0.37	1.46	3.12	0.01	0.10	0.10	762.03	0.03	0.02	768.9
Spacing Cart	0.02	0.10	0.12	0.00	0.00	0.00	16.16	0.00	0.00	16.3
Backhoe/Front Loader	0.04	0.28	0.27	0.00	0.01	0.01	48.62	0.00	0.00	49.1
D8 Cat	0.05	0.19	0.42	0.00	0.02	0.01	62.16	0.00	0.00	62.8
Sag Cat w/ 2 Winches	0.04	0.15	0.31	0.00	0.01	0.01	76.20	0.00	0.00	76.9
Hughes 500 E Helicopter	2.97	3.69	2.39	2.50	0.07	0.07	1314.46	0.04	0.04	1,328.2
Total	**5.20**	**12.06**	**22.31**	**2.53**	**0.75**	**0.69**	**5160.24**	**0.24**	**0.14**	**5209.14**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	3	300	N/A	28
1-Ton Truck, 4x4	6	300	N/A	28
Manlift/Bucket Truck	3	300	N/A	28
Boom/Crane Truck	3	300	N/A	28
Dump Truck	2	300	N/A	28
Wire Truck/Trailer	3	206	N/A	28
Static Truck/Tensioner	2	300	N/A	28
Splicing Rig	2	80	N/A	28
Splicing Lab	2	80	N/A	28
Lowboy Truck/Trailer	3	300	N/A	28
Fuel, Helicopter Support Truck	2	240	N/A	28
Worker Commute	165	300	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Wire Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Static Truck/Tensioner	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Splicing Rig	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Conductor

Fuel, Helicopter Support Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Manlift/Bucket Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Wire Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Static Truck/Tensioner	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Splicing Rig	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Splicing Lab	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Lowboy Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Fuel, Helicopter Support Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	1.68	48.07	5.24	0.08	0.99	0.04	6670.84	0.41	0.22	6746.98
Offsite Total	**1.93**	**50.27**	**14.00**	**0.10**	**1.31**	**0.20**	**8761.78**	**0.42**	**0.29**	**8860.84**
Total	**1.93**	**50.27**	**14.00**	**0.10**	**1.31**	**0.20**	**8761.78**	**0.42**	**0.29**	**8860.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.10	0.01	0.00	0.00	0.00	14.55	0.00	0.00	14.75
1-Ton Truck, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	18.87	0.00	0.00	19.10
Manlift/Bucket Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08
Boom/Crane Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08
Dump Truck	0.00	0.02	0.14	0.00	0.00	0.00	29.74	0.00	0.00	30.06
Wire Truck/Trailer	0.00	0.02	0.14	0.00	0.00	0.00	30.63	0.00	0.00	30.96
Static Truck/Tensioner	0.00	0.02	0.14	0.00	0.00	0.00	29.74	0.00	0.00	30.06
Splicing Rig	0.00	0.00	0.00	0.00	0.00	0.00	1.68	0.00	0.00	1.70
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	1.68	0.00	0.00	1.70
Lowboy Truck/Trailer	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08
Fuel, Helicopter Support Truck	0.00	0.02	0.11	0.00	0.00	0.00	23.79	0.00	0.00	24.04
Worker Commute	0.25	7.21	0.79	0.01	0.15	0.01	1000.63	0.06	0.03	1012.05

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Conductor

Offsite Total	**0.29**	**7.52**	**1.99**	**0.01**	**0.19**	**0.03**	**1285.12**	**0.06**	**0.04**	**1299.65**
Total	**0.29**	**7.52**	**1.99**	**0.01**	**0.19**	**0.03**	**1285.12**	**0.06**	**0.04**	**1299.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	3	Unpaved	18	300	0.474	0.047	25.58	2.56	3.84	0.38
3/4-Ton Truck, 4x4	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
1-Ton Truck, 4x4	6	Unpaved	18	300	0.564	0.056	60.86	6.09	9.13	0.91
1-Ton Truck, 4x4	6	Paved	10	300	0.003	0.001	0.20	0.05	0.03	0.01
Manlift/Bucket Truck	3	Unpaved	18	300	0.977	0.098	52.78	5.28	7.92	0.79
Manlift/Bucket Truck	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Boom/Crane Truck	3	Unpaved	18	300	0.977	0.098	52.78	5.28	7.92	0.79
Boom/Crane Truck	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Dump Truck	2	Unpaved	18	300	0.977	0.098	35.19	3.52	5.28	0.53
Dump Truck	2	Paved	10	300	0.003	0.001	0.07	0.02	0.01	0.00
Wire Truck/Trailer	3	Unpaved	18	206	0.977	0.098	52.78	5.28	5.44	0.54
Wire Truck/Trailer	3	Paved	10	206	0.003	0.001	0.10	0.02	0.01	0.00
Static Truck/Tensioner	2	Unpaved	18	300	0.977	0.098	35.19	3.52	5.28	0.53
Static Truck/Tensioner	2	Paved	10	300	0.003	0.001	0.07	0.02	0.01	0.00
Splicing Rig	2	Unpaved	18	80	0.564	0.056	20.29	2.03	0.81	0.08
Splicing Rig	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Splicing Lab	2	Unpaved	18	80	0.564	0.056	20.29	2.03	0.81	0.08
Splicing Lab	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Lowboy Truck/Trailer	3	Unpaved	18	300	0.977	0.098	52.78	5.28	7.92	0.79
Lowboy Truck/Trailer	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Fuel, Helicopter Support Truck	2	Unpaved	18	240	0.977	0.098	35.19	3.52	4.22	0.42
Fuel, Helicopter Support Truck	2	Paved	10	240	0.003	0.001	0.07	0.02	0.01	0.00
Worker Commute	165	Paved	58	300	0.003	0.001	31.87	7.82	4.78	1.17
Offsite Total							**476.59**	**52.44**	**63.47**	**7.06**
Total							**476.59**	**52.44**	**63.47**	**7.06**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Conductor

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Guard Structure Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	10.72	43.55	87.42	0.14	4.09	3.76	14,211.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**10.72**	**43.55**	**87.42**	**0.14**	**4.09**	**3.76**	**14211.6**
Offsite Motor Vehicle Exhaust	0.53	12.43	6.03	0.03	0.36	0.09	2,665.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	471.81	48.02	
Offsite Total	**0.53**	**12.43**	**6.03**	**0.03**	**472.18**	**48.11**	**2665.6**
Total	**11.25**	**55.97**	**93.46**	**0.17**	**476.26**	**51.87**	**16877.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.26	0.52	0.00	0.02	0.02	85.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.26**	**0.52**	**0.00**	**0.02**	**0.02**	**85.3**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.04	0.00	0.00	0.00	16.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.83	0.29	
Offsite Total	**0.00**	**0.07**	**0.04**	**0.00**	**2.83**	**0.29**	**16.0**
Total	**0.07**	**0.34**	**0.56**	**0.00**	**2.86**	**0.31**	**101.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	8	12	7
Manlift/Bucket Truck	350	4	12	5
Boom/Crane Truck	500	4	12	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	3.53	17.64	22.44	0.03	1.88	1.73	2626.85	0.32	0.07	2,654.9
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1
Boom/Crane Truck	5.29	17.71	42.84	0.07	1.55	1.42	7197.58	0.48	0.19	7,265.6

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Guard Structure Removal

Total	**10.72**	**43.55**	**87.42**	**0.14**	**4.09**	**3.76**	**14077.73**	**0.97**	**0.37**	**14211.58**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.02	0.11	0.13	0.00	0.01	0.01	15.76	0.00	0.00	15.9
Manlift/Bucket Truck	0.01	0.05	0.13	0.00	0.00	0.00	25.52	0.00	0.00	25.7
Boom/Crane Truck	0.03	0.11	0.26	0.00	0.01	0.01	43.19	0.00	0.00	43.6
Total	**0.06**	**0.26**	**0.52**	**0.00**	**0.02**	**0.02**	**84.47**	**0.01**	**0.00**	**85.27**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	12	N/A	28
1-Ton Truck, 4x4	8	12	N/A	28
Water Truck	2	12	N/A	28
Manlift/Bucket Truck	4	12	N/A	28
Boom/Crane Truck	4	12	N/A	28
Extendable Flat Bed Pole Truck	8	12	N/A	28
Worker Commute	24	12	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Guard Structure Removal

None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Extendable Flat Bed Pole Truck	0.04	1.13	0.12	0.00	0.02	0.00	156.14	0.01	0.01	157.92
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.53**	**12.43**	**6.03**	**0.03**	**0.36**	**0.09**	**2634.93**	**0.11**	**0.09**	**2665.65**
Total	**0.53**	**12.43**	**6.03**	**0.03**	**0.36**	**0.09**	**2634.93**	**0.11**	**0.09**	**2665.65**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.55	0.00	0.00	1.57
1-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.55	0.00	0.00	1.57
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.19	0.00	0.00	1.20
Manlift/Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Boom/Crane Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Extendable Flat Bed Pole Truck	0.00	0.01	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.95
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**15.81**	**0.00**	**0.00**	**15.99**
Total	**0.00**	**0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**15.81**	**0.00**	**0.00**	**15.99**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	12	0.474	0.047	68.22	6.82	0.41	0.04
3/4-Ton Truck, 4x4	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00
1-Ton Truck, 4x4	8	Unpaved	18	12	0.564	0.056	81.15	8.11	0.49	0.05
1-Ton Truck, 4x4	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Guard Structure Removal

Water Truck	2	Unpaved	18	12	0.977	0.098	35.19	3.52	0.21	0.02
Water Truck	2	Paved	10	12	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	12	0.977	0.098	70.37	7.04	0.42	0.04
Manlift/Bucket Truck	4	Paved	10	12	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	4	Unpaved	18	12	0.977	0.098	70.37	7.04	0.42	0.04
Boom/Crane Truck	4	Paved	10	12	0.003	0.001	0.13	0.03	0.00	0.00
Extendable Flat Bed Pole Truck	8	Unpaved	18	12	0.977	0.098	140.75	14.07	0.84	0.08
Extendable Flat Bed Pole Truck	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00
Worker Commute	24	Paved	58	12	0.003	0.001	4.63	1.14	0.03	0.01
Offsite Total							**471.81**	**48.02**	**2.83**	**0.29**
Total							**471.81**	**48.02**	**2.83**	**0.29**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
115 kV Pole Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.13	8.39	19.43	0.03	0.74	0.68	3,406.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.13**	**8.39**	**19.43**	**0.03**	**0.74**	**0.68**	**3406.6**
Offsite Motor Vehicle Exhaust	0.09	2.07	1.20	0.01	0.08	0.02	507.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	74.39	7.63	
Offsite Total	**0.09**	**2.07**	**1.20**	**0.01**	**74.47**	**7.65**	**507.9**
Total	**2.23**	**10.46**	**20.62**	**0.04**	**75.21**	**8.33**	**3914.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.03	0.08	0.00	0.00	0.00	13.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.03**	**0.08**	**0.00**	**0.00**	**0.00**	**13.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.30	0.03	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.30**	**0.03**	**2.0**
Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.30**	**0.03**	**15.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	8	5
Manlift/Bucket Truck	250	1	8	8
Boom/Crane Truck	350	1	8	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	250	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.31	1.58	2.00	0.00	0.17	0.15	234.54	0.03	0.01	237.0
Manlift/Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4
Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
115 kV Pole Removal

Total	**2.13**	**8.39**	**19.43**	**0.03**	**0.74**	**0.68**	**3375.38**	**0.19**	**0.09**	**3406.60**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.00	0.01	0.01	0.00	0.00	0.00	0.94	0.00	0.00	0.9
Manlift/Bucket Truck	0.00	0.01	0.04	0.00	0.00	0.00	6.81	0.00	0.00	6.9
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.76	0.00	0.00	5.8
Total	**0.01**	**0.03**	**0.08**	**0.00**	**0.00**	**0.00**	**13.50**	**0.00**	**0.00**	**13.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	8	N/A	28
Manlift/Bucket Truck	1	8	N/A	28
Boom/Crane Truck	1	8	N/A	28
Flat Bed Pole Truck	1	8	N/A	28
Worker Commute	6	8	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
115 kV Pole Removal

Manlift/Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.00	0.14	0.02	0.00	0.00	0.00	19.52	0.00	0.00	19.74
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.09**	**2.07**	**1.20**	**0.01**	**0.08**	**0.02**	**502.28**	**0.02**	**0.02**	**507.89**
Total	**0.09**	**2.07**	**1.20**	**0.01**	**0.08**	**0.02**	**502.28**	**0.02**	**0.02**	**507.89**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
Manlift/Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Flat Bed Pole Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.01**	**0.00**	**0.00**	**2.03**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.01**	**0.00**	**0.00**	**2.03**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	8	0.564	0.056	20.29	2.03	0.08	0.01
1-Ton Truck, 4x4	2	Paved	10	8	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	1	Unpaved	18	8	0.977	0.098	17.59	1.76	0.07	0.01
Manlift/Bucket Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	8	0.977	0.098	17.59	1.76	0.07	0.01
Boom/Crane Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	1	Unpaved	18	8	0.977	0.098	17.59	1.76	0.07	0.01
Flat Bed Pole Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	6	Paved	58	8	0.003	0.001	1.16	0.28	0.00	0.00
Offsite Total							**74.39**	**7.63**	**0.30**	**0.03**
Total							**74.39**	**7.63**	**0.30**	**0.03**

a From Table 111

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
115 kV Pole Removal

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install TSP Riser Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.98	12.14	21.65	0.06	0.72	0.66	6,140.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.15	0.02	
Onsite Total	**2.98**	**12.14**	**21.65**	**0.06**	**0.86**	**0.68**	**6140.3**
Offsite Motor Vehicle Exhaust	0.59	7.12	17.70	0.04	0.65	0.32	4,310.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	382.13	38.89	
Offsite Total	**0.59**	**7.12**	**17.70**	**0.04**	**382.77**	**39.21**	**4310.2**
Total	**3.57**	**19.25**	**39.35**	**0.11**	**383.64**	**39.89**	**10450.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.07	0.26	0.49	0.00	0.02	0.02	130.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.07**	**0.26**	**0.49**	**0.00**	**0.02**	**0.02**	**130.0**
Offsite Motor Vehicle Exhaust	0.01	0.16	0.33	0.00	0.01	0.01	82.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.43	0.76	
Offsite Total	**0.01**	**0.16**	**0.33**	**0.00**	**7.44**	**0.76**	**82.9**
Total	**0.08**	**0.42**	**0.82**	**0.00**	**7.46**	**0.78**	**212.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	50	7
Backhoe/Front Loader	200	1	50	10
Auger Truck	500	1	35	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5
Backhoe/Front Loader	1.02	3.53	7.90	0.02	0.26	0.24	1715.83	0.09	0.04	1,731.6
Auger Truck	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install TSP Riser Foundations

Total	**2.98**	**12.14**	**21.65**	**0.06**	**0.72**	**0.66**	**6085.70**	**0.27**	**0.16**	**6140.29**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.02	0.08	0.19	0.00	0.01	0.01	31.49	0.00	0.00	31.8
Backhoe/Front Loader	0.03	0.09	0.20	0.00	0.01	0.01	42.90	0.00	0.00	43.3
Auger Truck	0.02	0.10	0.11	0.00	0.00	0.00	54.43	0.00	0.00	54.9
Total	**0.07**	**0.26**	**0.49**	**0.00**	**0.02**	**0.02**	**128.82**	**0.01**	**0.00**	**129.98**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	3	50	N/A	28
Boom/Crane Truck	1	50	N/A	28
Auger Truck	1	35	N/A	28
Water Truck	1	50	N/A	28
Dump Truck	2	50	N/A	28
Concrete Mixer Truck	15	35	N/A	60
Worker Commute	12	50	N/A	58

[a] Concrete mixer trucks based 1 TSP/day, on 148 CY/TSP and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install TSP Riser Foundations

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Auger Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Mixer Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.59**	**7.12**	**17.70**	**0.04**	**0.65**	**0.32**	**4263.99**	**0.06**	**0.15**	**4310.23**
Total	**0.59**	**7.12**	**17.70**	**0.04**	**0.65**	**0.32**	**4263.99**	**0.06**	**0.15**	**4310.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.42	0.00	0.00	2.46
Boom/Crane Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.48	0.00	0.00	2.50
Auger Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.73	0.00	0.00	1.75
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.48	0.00	0.00	2.50
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.96	0.00	0.00	5.01
Concrete Mixer Truck	0.01	0.04	0.26	0.00	0.01	0.00	55.76	0.00	0.00	56.35
Worker Commute	0.00	0.09	0.01	0.00	0.00	0.00	12.13	0.00	0.00	12.27
Offsite Total	**0.01**	**0.16**	**0.33**	**0.00**	**0.01**	**0.01**	**81.96**	**0.00**	**0.00**	**82.85**
Total	**0.01**	**0.16**	**0.33**	**0.00**	**0.01**	**0.01**	**81.96**	**0.00**	**0.00**	**82.85**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	3	Unpaved	18	50	0.474	0.047	25.58	2.56	0.64	0.06

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install TSP Riser Foundations

3/4-Ton Truck, 4x4	3	Paved	10	50	0.003	0.001	0.10	0.02	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	50	0.977	0.098	17.59	1.76	0.44	0.04
Boom/Crane Truck	1	Paved	10	50	0.003	0.001	0.03	0.01	0.00	0.00
Auger Truck	1	Unpaved	18	35	0.977	0.098	17.59	1.76	0.31	0.03
Auger Truck	1	Paved	10	35	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	50	0.977	0.098	17.59	1.76	0.44	0.04
Water Truck	1	Paved	10	50	0.003	0.001	0.03	0.01	0.00	0.00
Dump Truck	2	Unpaved	18	50	0.977	0.098	35.19	3.52	0.88	0.09
Dump Truck	2	Paved	10	50	0.003	0.001	0.07	0.02	0.00	0.00
Concrete Mixer Truck	15	Unpaved	18	35	0.977	0.098	263.90	26.39	4.62	0.46
Concrete Mixer Truck	15	Paved	42	35	0.003	0.001	2.10	0.51	0.04	0.01
Worker Commute	12	Paved	58	50	0.003	0.001	2.32	0.57	0.06	0.01
Offsite Total							**382.13**	**38.89**	**7.43**	**0.76**
Total							**382.13**	**38.89**	**7.43**	**0.76**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	148	1770	1.00E-03	1.52E-04	0.15	0.02	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.15**	**0.02**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 TSP, 13 ft. diameter x 30 ft. deep; total based on 12 TSPs

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.06	3.54	8.57	0.01	0.31	0.28	1,453.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1453.1**
Offsite Motor Vehicle Exhaust	0.10	1.92	2.05	0.01	0.09	0.03	629.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	88.40	8.98	
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**88.49**	**9.02**	**629.9**
Total	**1.16**	**5.47**	**10.61**	**0.02**	**88.80**	**9.30**	**2083.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.8**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.35	0.04	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.35**	**0.04**	**2.5**
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.36**	**0.04**	**8.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	8	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1439.52**	**0.10**	**0.04**	**1453.12**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Haul

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.76	0.00	0.00	5.8
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.76**	**0.00**	**0.00**	**5.81**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	2	8	N/A	28
Water Truck	1	8	N/A	28
Boom/Crane Truck	1	8	N/A	28
Flat Bed Pole Truck	2	8	N/A	28
Worker Commute	4	8	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**
Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Haul

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.26
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Flat Bed Pole Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.80
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.65
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.49**	**0.00**	**0.00**	**2.52**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.49**	**0.00**	**0.00**	**2.52**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	2	Unpaved	18	8	0.474	0.047	17.05	1.71	0.07	0.01
3/4-Ton Truck, 4x4	2	Paved	10	8	0.003	0.001	0.07	0.02	0.00	0.00
Water Truck	1	Unpaved	18	8	0.977	0.098	17.59	1.76	0.07	0.01
Water Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	8	0.977	0.098	17.59	1.76	0.07	0.01
Boom/Crane Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	2	Unpaved	18	8	0.977	0.098	35.19	3.52	0.14	0.01
Flat Bed Pole Truck	2	Paved	10	8	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	8	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**88.40**	**8.98**	**0.35**	**0.04**
Total							**88.40**	**8.98**	**0.35**	**0.04**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM TSP Riser Haul

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.29	6.94	2.81	0.02	0.21	0.05	1,460.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	186.41	19.22	
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**186.62**	**19.27**	**1460.8**
Total	**4.20**	**21.91**	**32.51**	**0.06**	**188.03**	**20.57**	**6128.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.05	0.19	0.37	0.00	0.02	0.02	58.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.05**	**0.19**	**0.37**	**0.00**	**0.02**	**0.02**	**58.3**
Offsite Motor Vehicle Exhaust	0.00	0.09	0.04	0.00	0.00	0.00	18.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.33	0.24	
Offsite Total	**0.00**	**0.09**	**0.04**	**0.00**	**2.33**	**0.24**	**18.3**
Total	**0.05**	**0.27**	**0.41**	**0.00**	**2.35**	**0.26**	**76.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	25	6
Boom/Crane Truck	350	3	25	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
Boom/Crane Truck	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4
Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Assembly

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.01	0.07	0.09	0.00	0.01	0.01	10.55	0.00	0.00	10.7
Boom/Crane Truck	0.03	0.12	0.28	0.00	0.01	0.01	47.23	0.00	0.00	47.7
Total	**0.05**	**0.19**	**0.37**	**0.00**	**0.02**	**0.02**	**57.79**	**0.00**	**0.00**	**58.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	25	N/A	28
1-Ton Truck, 4x4	6	25	N/A	28
Water Truck	1	25	N/A	28
Boom/Crane Truck	3	25	N/A	28
Worker Commute	18	25	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Assembly

3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**
Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.42	0.00	0.00	2.46
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.57	0.00	0.00	1.59
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.24	0.00	0.00	1.25
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.72	0.00	0.00	3.76
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.10	0.00	0.00	9.20
Offsite Total	**0.00**	**0.09**	**0.04**	**0.00**	**0.00**	**0.00**	**18.05**	**0.00**	**0.00**	**18.26**
Total	**0.00**	**0.09**	**0.04**	**0.00**	**0.00**	**0.00**	**18.05**	**0.00**	**0.00**	**18.26**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	25	0.474	0.047	51.16	5.12	0.64	0.06
3/4-Ton Truck, 4x4	6	Paved	10	25	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	25	0.564	0.056	60.86	6.09	0.76	0.08
1-Ton Truck, 4x4	6	Paved	10	25	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	25	0.977	0.098	17.59	1.76	0.22	0.02
Water Truck	1	Paved	10	25	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	25	0.977	0.098	52.78	5.28	0.66	0.07
Boom/Crane Truck	3	Paved	10	25	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	18	Paved	58	25	0.003	0.001	3.48	0.85	0.04	0.01

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Assembly

Offsite Total							**186.41**	**19.22**	**2.33**	**0.24**
Total							**186.41**	**19.22**	**2.33**	**0.24**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.25	6.70	1.42	0.01	0.17	0.02	1,160.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	133.53	13.92	
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**133.69**	**13.94**	**1160.2**
Total	**4.17**	**21.67**	**31.12**	**0.06**	**135.11**	**15.25**	**5828.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.05	0.19	0.37	0.00	0.02	0.02	58.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.05**	**0.19**	**0.37**	**0.00**	**0.02**	**0.02**	**58.3**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.02	0.00	0.00	0.00	14.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.67	0.17	
Offsite Total	**0.00**	**0.08**	**0.02**	**0.00**	**1.67**	**0.17**	**14.5**
Total	**0.05**	**0.27**	**0.39**	**0.00**	**1.69**	**0.19**	**72.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	25	6
R/T Crane (L)	350	3	25	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (L)	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
R/T Crane (L)	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4
Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Erection

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.01	0.07	0.09	0.00	0.01	0.01	10.55	0.00	0.00	10.7
R/T Crane (L)	0.03	0.12	0.28	0.00	0.01	0.01	47.23	0.00	0.00	47.7
Total	**0.05**	**0.19**	**0.37**	**0.00**	**0.02**	**0.02**	**57.79**	**0.00**	**0.00**	**58.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	25	N/A	28
1-Ton Truck, 4x4	6	25	N/A	28
Water Truck	1	25	N/A	28
Worker Commute	18	25	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Erection

Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**
Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.42	0.00	0.00	2.46
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.57	0.00	0.00	1.59
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.24	0.00	0.00	1.25
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.10	0.00	0.00	9.20
Offsite Total	**0.00**	**0.08**	**0.02**	**0.00**	**0.00**	**0.00**	**14.33**	**0.00**	**0.00**	**14.50**
Total	**0.00**	**0.08**	**0.02**	**0.00**	**0.00**	**0.00**	**14.33**	**0.00**	**0.00**	**14.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	25	0.474	0.047	51.16	5.12	0.64	0.06
3/4-Ton Truck, 4x4	6	Paved	10	25	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	25	0.564	0.056	60.86	6.09	0.76	0.08
1-Ton Truck, 4x4	6	Paved	10	25	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	25	0.977	0.098	17.59	1.76	0.22	0.02
Water Truck	1	Paved	10	25	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	18	Paved	58	25	0.003	0.001	3.48	0.85	0.04	0.01
Offsite Total							**133.53**	**13.92**	**1.67**	**0.17**
Total							**133.53**	**13.92**	**1.67**	**0.17**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
TSP Riser Erection

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 73
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Vault Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.29	10.15	17.45	0.03	0.69	0.63	3,209.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.10	0.02	
Onsite Total	**2.29**	**10.15**	**17.45**	**0.03**	**0.79**	**0.65**	**3209.7**
Offsite Motor Vehicle Exhaust	0.24	3.42	6.54	0.02	0.26	0.12	1,714.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	198.48	20.18	
Offsite Total	**0.24**	**3.42**	**6.54**	**0.02**	**198.74**	**20.30**	**1714.9**
Total	**2.54**	**13.57**	**23.99**	**0.05**	**199.53**	**20.94**	**4924.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.05	0.24	0.38	0.00	0.02	0.01	71.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.05**	**0.24**	**0.38**	**0.00**	**0.02**	**0.01**	**71.4**
Offsite Motor Vehicle Exhaust	0.01	0.08	0.13	0.00	0.01	0.00	35.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.45	0.45	
Offsite Total	**0.01**	**0.08**	**0.13**	**0.00**	**4.46**	**0.46**	**35.4**
Total	**0.06**	**0.32**	**0.51**	**0.00**	**4.48**	**0.47**	**106.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	125	1	54	8
Excavator	250	1	54	7
Crane (L)	500	1	30	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators
Crane (L)	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.63	4.68	4.45	0.01	0.23	0.22	810.37	0.06	0.02	818.1
Excavator	0.74	2.37	5.50	0.01	0.18	0.17	1109.78	0.07	0.03	1,120.1
Crane (L)	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5

Table 73
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Vault Installation

Total	**2.29**	**10.15**	**17.45**	**0.03**	**0.69**	**0.63**	**3179.73**	**0.21**	**0.08**	**3209.71**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.02	0.13	0.12	0.00	0.01	0.01	21.88	0.00	0.00	22.1
Excavator	0.02	0.06	0.15	0.00	0.00	0.00	29.96	0.00	0.00	30.2
Crane (L)	0.01	0.05	0.11	0.00	0.00	0.00	18.89	0.00	0.00	19.1
Total	**0.05**	**0.24**	**0.38**	**0.00**	**0.02**	**0.01**	**70.74**	**0.00**	**0.00**	**71.40**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	54	N/A	28
Dump Truck	2	54	N/A	28
Water Truck	1	54	N/A	28
Concrete Mixer Truck	3	20	N/A	60
Lowboy Truck/Trailer	1	54	N/A	28
Flat Bed Truck/Trailer	3	54	N/A	28
Worker Commute	8	54	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]

Table 73
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Vault Installation

Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Concrete Mixer Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Lowboy Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.24**	**3.42**	**6.54**	**0.02**	**0.26**	**0.12**	**1696.51**	**0.03**	**0.06**	**1714.92**
Total	**0.24**	**3.42**	**6.54**	**0.02**	**0.26**	**0.12**	**1696.51**	**0.03**	**0.06**	**1714.92**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.00	0.00	1.15
Dump Truck	0.00	0.00	0.03	0.00	0.00	0.00	5.35	0.00	0.00	5.41
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.68	0.00	0.00	2.71
Concrete Mixer Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Lowboy Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	2.68	0.00	0.00	2.71
Flat Bed Truck/Trailer	0.00	0.01	0.04	0.00	0.00	0.00	8.03	0.00	0.00	8.12
Worker Commute	0.00	0.06	0.01	0.00	0.00	0.00	8.73	0.00	0.00	8.83
Offsite Total	**0.01**	**0.08**	**0.13**	**0.00**	**0.01**	**0.00**	**34.97**	**0.00**	**0.00**	**35.35**
Total	**0.01**	**0.08**	**0.13**	**0.00**	**0.01**	**0.00**	**34.97**	**0.00**	**0.00**	**35.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	54	0.564	0.056	20.29	2.03	0.55	0.05
1-Ton Truck, 4x4	2	Paved	10	54	0.003	0.001	0.07	0.02	0.00	0.00
Dump Truck	2	Unpaved	18	54	0.977	0.098	35.19	3.52	0.95	0.10

Table 73
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Vault Installation

Dump Truck	2	Paved	10	54	0.003	0.001	0.07	0.02	0.00	0.00
Water Truck	1	Unpaved	18	54	0.977	0.098	17.59	1.76	0.48	0.05
Water Truck	1	Paved	10	54	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Mixer Truck	3	Unpaved	18	20	0.977	0.098	52.78	5.28	0.53	0.05
Concrete Mixer Truck	3	Paved	42	20	0.003	0.001	0.42	0.10	0.00	0.00
Lowboy Truck/Trailer	1	Unpaved	18	54	0.977	0.098	17.59	1.76	0.48	0.05
Lowboy Truck/Trailer	1	Paved	10	54	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	54	0.977	0.098	52.78	5.28	1.43	0.14
Flat Bed Truck/Trailer	3	Paved	10	54	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	54	0.003	0.001	1.54	0.38	0.04	0.01
Offsite Total							**198.48**	**20.18**	**4.45**	**0.45**
Total							**198.48**	**20.18**	**4.45**	**0.45**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	99	1773	1.00E-03	1.52E-04	0.10	0.02	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.10**	**0.02**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 vault/day, 11 ft.-2 in. x 21 ft.-4 in. x 11 ft.-2 in.; total based on 18 vaults

Table 74
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Duct Bank Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.87	5.67	5.90	0.01	0.37	0.34	952.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.06	0.01	
Onsite Total	**0.87**	**5.67**	**5.90**	**0.01**	**0.43**	**0.35**	**952.9**
Offsite Motor Vehicle Exhaust	0.27	3.58	7.47	0.02	0.29	0.13	1,915.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	233.74	23.71	
Offsite Total	**0.27**	**3.58**	**7.47**	**0.02**	**234.03**	**23.85**	**1915.3**
Total	**1.13**	**9.25**	**13.37**	**0.03**	**234.46**	**24.20**	**2868.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.13	0.13	0.00	0.01	0.01	21.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.13**	**0.13**	**0.00**	**0.01**	**0.01**	**21.3**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.12	0.00	0.01	0.00	33.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.45	0.45	
Offsite Total	**0.00**	**0.08**	**0.12**	**0.00**	**4.45**	**0.45**	**33.7**
Total	**0.02**	**0.20**	**0.25**	**0.00**	**4.46**	**0.46**	**55.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	35	5
Backhoe/Front Loader	125	1	48	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.31	1.58	2.00	0.00	0.17	0.15	234.54	0.03	0.01	237.0
Backhoe/Front Loader	0.55	4.09	3.90	0.01	0.20	0.19	709.07	0.05	0.02	715.9
Total	**0.87**	**5.67**	**5.90**	**0.01**	**0.37**	**0.34**	**943.61**	**0.08**	**0.02**	**952.90**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 74
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Duct Bank Installation

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.01	0.03	0.04	0.00	0.00	0.00	4.10	0.00	0.00	4.1
Backhoe/Front Loader	0.01	0.10	0.09	0.00	0.00	0.00	17.02	0.00	0.00	17.2
Total	**0.02**	**0.13**	**0.13**	**0.00**	**0.01**	**0.01**	**21.12**	**0.00**	**0.00**	**21.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	48	N/A	28
Dump Truck	3	40	N/A	28
Water Truck	1	48	N/A	28
Concrete Mixer Truck	3	15	N/A	60
Lowboy Truck/Trailer	1	48	N/A	28
Flat Bed Truck/Trailer	3	48	N/A	28
Pipe Truck/Trailer	1	40	N/A	28
Worker Commute	8	48	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Pipe Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 74
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Duct Bank Installation

Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Dump Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Concrete Mixer Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Lowboy Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Pipe Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.27**	**3.58**	**7.47**	**0.02**	**0.29**	**0.13**	**1894.76**	**0.03**	**0.06**	**1915.29**
Total	**0.27**	**3.58**	**7.47**	**0.02**	**0.29**	**0.13**	**1894.76**	**0.03**	**0.06**	**1915.29**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	1.02
Dump Truck	0.00	0.00	0.03	0.00	0.00	0.00	5.95	0.00	0.00	6.01
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Concrete Mixer Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.78	0.00	0.00	4.83
Lowboy Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Flat Bed Truck/Trailer	0.00	0.01	0.03	0.00	0.00	0.00	7.14	0.00	0.00	7.21
Pipe Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.98	0.00	0.00	2.00
Worker Commute	0.00	0.06	0.01	0.00	0.00	0.00	7.76	0.00	0.00	7.85
Offsite Total	**0.00**	**0.08**	**0.12**	**0.00**	**0.01**	**0.00**	**33.37**	**0.00**	**0.00**	**33.74**
Total	**0.00**	**0.08**	**0.12**	**0.00**	**0.01**	**0.00**	**33.37**	**0.00**	**0.00**	**33.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	48	0.564	0.056	20.29	2.03	0.49	0.05
1-Ton Truck, 4x4	2	Paved	10	48	0.003	0.001	0.07	0.02	0.00	0.00
Dump Truck	3	Unpaved	18	40	0.977	0.098	52.78	5.28	1.06	0.11

Table 74
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Duct Bank Installation

Dump Truck	3	Paved	10	40	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Unpaved	18	48	0.977	0.098	17.59	1.76	0.42	0.04
Water Truck	1	Paved	10	48	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Mixer Truck	3	Unpaved	18	15	0.977	0.098	52.78	5.28	0.40	0.04
Concrete Mixer Truck	3	Paved	42	15	0.003	0.001	0.42	0.10	0.00	0.00
Lowboy Truck/Trailer	1	Unpaved	18	48	0.977	0.098	17.59	1.76	0.42	0.04
Lowboy Truck/Trailer	1	Paved	10	48	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	48	0.977	0.098	52.78	5.28	1.27	0.13
Flat Bed Truck/Trailer	3	Paved	10	48	0.003	0.001	0.10	0.02	0.00	0.00
Pipe Truck/Trailer	1	Unpaved	18	40	0.977	0.098	17.59	1.76	0.35	0.04
Pipe Truck/Trailer	1	Paved	10	40	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	8	Paved	58	48	0.003	0.001	1.54	0.38	0.04	0.01
Offsite Total							**233.74**	**23.71**	**4.45**	**0.45**
Total							**233.74**	**23.71**	**4.45**	**0.45**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	62	2963	1.00E-03	1.52E-04	0.06	0.01	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.06**	**0.01**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on 24 in. x 60 in. x 8,000 ft. over 48 days

Table 75
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Underground Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	4.07	16.16	40.04	0.08	1.28	1.18	8,125.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**4.07**	**16.16**	**40.04**	**0.08**	**1.28**	**1.18**	**8125.4**
Offsite Motor Vehicle Exhaust	0.22	3.23	5.42	0.02	0.22	0.10	1,471.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	215.79	21.87	
Offsite Total	**0.22**	**3.23**	**5.42**	**0.02**	**216.01**	**21.96**	**1471.6**
Total	**4.28**	**19.38**	**45.46**	**0.09**	**217.29**	**23.14**	**9597.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.08	0.35	0.86	0.00	0.03	0.02	183.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.08**	**0.35**	**0.86**	**0.00**	**0.03**	**0.02**	**183.7**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.12	0.00	0.00	0.00	32.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.75	0.48	
Offsite Total	**0.00**	**0.08**	**0.12**	**0.00**	**4.75**	**0.48**	**32.9**
Total	**0.09**	**0.43**	**0.98**	**0.00**	**4.78**	**0.51**	**216.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	250	4	48	5
Boom/Crane Truck	350	1	15	7
Puller	350	2	48	5

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	250	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Puller	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1
Boom/Crane Truck	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5
Puller	1.24	4.86	10.40	0.02	0.35	0.32	2540.10	0.11	0.07	2,562.9

Table 75
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Underground Cable

Total	**4.07**	**16.16**	**40.04**	**0.08**	**1.28**	**1.18**	**8052.98**	**0.37**	**0.21**	**8125.45**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.05	0.20	0.53	0.00	0.02	0.01	102.08	0.00	0.00	103.0
Boom/Crane Truck	0.01	0.04	0.08	0.00	0.00	0.00	19.05	0.00	0.00	19.2
Puller	0.03	0.12	0.25	0.00	0.01	0.01	60.96	0.00	0.00	61.5
Total	**0.08**	**0.35**	**0.86**	**0.00**	**0.03**	**0.02**	**182.09**	**0.01**	**0.00**	**183.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	48	N/A	28
Manlift/Bucket Truck	4	48	N/A	28
Boom/Crane Truck	1	15	N/A	28
Water Truck	1	48	N/A	28
Pipe Truck/Trailer	1	40	N/A	28
Wire Truck/Trailer	1	40	N/A	28
Flat Bed Truck/Trailer	3	48	N/A	28
Worker Commute	8	48	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Pipe Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Wire Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Table 75
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Underground Cable

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Pipe Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Wire Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.22**	**3.23**	**5.42**	**0.02**	**0.22**	**0.10**	**1455.77**	**0.03**	**0.05**	**1471.61**
Total	**0.22**	**3.23**	**5.42**	**0.02**	**0.22**	**0.10**	**1455.77**	**0.03**	**0.05**	**1471.61**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	1.02
Manlift/Bucket Truck	0.00	0.01	0.04	0.00	0.00	0.00	9.52	0.00	0.00	9.62
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Pipe Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.98	0.00	0.00	2.00
Wire Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.98	0.00	0.00	2.00
Flat Bed Truck/Trailer	0.00	0.01	0.03	0.00	0.00	0.00	7.14	0.00	0.00	7.21
Worker Commute	0.00	0.06	0.01	0.00	0.00	0.00	7.76	0.00	0.00	7.85
Offsite Total	**0.00**	**0.08**	**0.12**	**0.00**	**0.00**	**0.00**	**32.51**	**0.00**	**0.00**	**32.86**
Total	**0.00**	**0.08**	**0.12**	**0.00**	**0.00**	**0.00**	**32.51**	**0.00**	**0.00**	**32.86**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**

Table 75
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM
Install Underground Cable

Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	48	0.564	0.056	20.29	2.03	0.49	0.05
1-Ton Truck, 4x4	2	Paved	10	48	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	48	0.977	0.098	70.37	7.04	1.69	0.17
Manlift/Bucket Truck	4	Paved	10	48	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	15	0.977	0.098	17.59	1.76	0.13	0.01
Boom/Crane Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	48	0.977	0.098	17.59	1.76	0.42	0.04
Water Truck	1	Paved	10	48	0.003	0.001	0.03	0.01	0.00	0.00
Pipe Truck/Trailer	1	Unpaved	18	40	0.977	0.098	17.59	1.76	0.35	0.04
Pipe Truck/Trailer	1	Paved	10	40	0.003	0.001	0.03	0.01	0.00	0.00
Wire Truck/Trailer	1	Unpaved	18	40	0.977	0.098	17.59	1.76	0.35	0.04
Wire Truck/Trailer	1	Paved	10	40	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	48	0.977	0.098	52.78	5.28	1.27	0.13
Flat Bed Truck/Trailer	3	Paved	10	48	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	48	0.003	0.001	1.54	0.38	0.04	0.01
Offsite Total							**215.79**	**21.87**	**4.75**	**0.48**
Total							**215.79**	**21.87**	**4.75**	**0.48**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 76
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.94	28.86	44.31	0.08	2.24	2.06	7,043.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	36.43	16.28	
Onsite Total	**5.94**	**28.86**	**44.31**	**0.08**	**38.66**	**18.34**	**7043.6**
Offsite Motor Vehicle Exhaust	0.26	6.43	2.30	0.01	0.20	0.04	1,297.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	120.93	12.73	
Offsite Total	**0.26**	**6.43**	**2.30**	**0.01**	**121.13**	**12.77**	**1297.3**
Total	**6.20**	**35.29**	**46.60**	**0.09**	**159.79**	**31.10**	**8340.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.19	1.09	1.24	0.00	0.09	0.08	174.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.37	0.61	
Onsite Total	**0.19**	**1.09**	**1.24**	**0.00**	**1.45**	**0.69**	**174.3**
Offsite Motor Vehicle Exhaust	0.01	0.24	0.09	0.00	0.01	0.00	48.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.53	0.48	
Offsite Total	**0.01**	**0.24**	**0.09**	**0.00**	**4.54**	**0.48**	**48.6**
Total	**0.20**	**1.33**	**1.33**	**0.00**	**6.00**	**1.17**	**223.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	125	3	75	7
Motor Grader	250	3	75	7
Drum Type Compactor	100	3	75	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Motor Grader	250	0.125	0.393	1.043	0.002	0.036	0.033	171.959	0.011	0.004	Graders
Drum Type Compactor	100	0.079	0.397	0.511	0.001	0.042	0.038	58.936	0.007	0.002	Rollers

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	1.65	12.27	11.69	0.02	0.61	0.56	2127.21	0.15	0.06	2,147.6
Motor Grader	2.62	8.26	21.90	0.04	0.75	0.69	3611.13	0.24	0.09	3,645.2
Drum Type Compactor	1.67	8.33	10.72	0.01	0.87	0.80	1237.65	0.15	0.03	1,250.9

Table 76
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Restoration

Total	**5.94**	**28.86**	**44.31**	**0.08**	**2.24**	**2.06**	**6976.00**	**0.54**	**0.18**	**7043.63**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.06	0.46	0.44	0.00	0.02	0.02	79.77	0.01	0.00	80.5
Motor Grader	0.06	0.31	0.40	0.00	0.03	0.03	46.41	0.01	0.00	46.9
Drum Type Compactor	0.06	0.31	0.40	0.00	0.03	0.03	46.41	0.01	0.00	46.9
Total	**0.19**	**1.09**	**1.24**	**0.00**	**0.09**	**0.08**	**172.59**	**0.02**	**0.00**	**174.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	6	75	N/A	28
Water Truck	3	75	N/A	28
Lowboy Truck/Trailer	3	75	N/A	1
Worker Commute	21	75	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56

Table 76
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Restoration

Lowboy Truck/Trailer	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.21	6.12	0.67	0.01	0.13	0.00	849.02	0.05	0.03	858.71
Offsite Total	**0.26**	**6.43**	**2.30**	**0.01**	**0.20**	**0.04**	**1282.83**	**0.05**	**0.04**	**1297.30**
Total	**0.26**	**6.43**	**2.30**	**0.01**	**0.20**	**0.04**	**1282.83**	**0.05**	**0.04**	**1297.30**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	4.72	0.00	0.00	4.77
Water Truck	0.00	0.01	0.05	0.00	0.00	0.00	11.15	0.00	0.00	11.27
Lowboy Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Worker Commute	0.01	0.23	0.03	0.00	0.00	0.00	31.84	0.00	0.00	32.20
Offsite Total	**0.01**	**0.24**	**0.09**	**0.00**	**0.01**	**0.00**	**48.11**	**0.00**	**0.00**	**48.65**
Total	**0.01**	**0.24**	**0.09**	**0.00**	**0.01**	**0.00**	**48.11**	**0.00**	**0.00**	**48.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	75	0.564	0.056	60.86	6.09	2.28	0.23
1-Ton Truck, 4x4	6	Paved	10	75	0.003	0.001	0.20	0.05	0.01	0.00
Water Truck	3	Unpaved	18	75	0.977	0.098	52.78	5.28	1.98	0.20
Water Truck	3	Paved	10	75	0.003	0.001	0.10	0.02	0.00	0.00
Lowboy Truck/Trailer	3	Unpaved	1	75	0.977	0.098	2.93	0.29	0.11	0.01
Lowboy Truck/Trailer	3	Paved	0	75	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	21	Paved	58	75	0.003	0.001	4.06	1.00	0.15	0.04
Offsite Total							**120.93**	**12.73**	**4.53**	**0.48**
Total							**120.93**	**12.73**	**4.53**	**0.48**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 76
Alternative Transmission and Subtransmission Construction Emissions with Segment 9 - Controlled Fugitive PM Restoration

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr	21	1575	1.735	0.775	36.43	16.28	1.37	0.61
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**36.43**	**16.28**	**1.37**	**0.61**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 77
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.25	0.61	0.00	0.04	0.01	274.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.95	1.22	
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**10.99**	**1.23**	**274.4**
Total	**1.57**	**7.80**	**18.32**	**0.04**	**11.51**	**1.72**	**3707.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.12	0.32	0.00	0.01	0.01	61.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.12**	**0.32**	**0.00**	**0.01**	**0.01**	**61.8**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	4.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.20	0.02	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.20**	**0.02**	**4.9**
Total	**0.03**	**0.14**	**0.33**	**0.00**	**0.21**	**0.03**	**66.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	36	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

Table 77
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.03	0.12	0.32	0.00	0.01	0.01	61.25	0.00	0.00	61.8
Total	**0.03**	**0.12**	**0.32**	**0.00**	**0.01**	**0.01**	**61.25**	**0.00**	**0.00**	**61.79**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	36	N/A	14
Bucket Truck	2	36	N/A	14
Worker Commute	4	36	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 77
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**
Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.19
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.91	0.00	0.00	2.94
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.88**	**0.00**	**0.00**	**4.94**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.88**	**0.00**	**0.00**	**4.94**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	36	0.564	0.056	2.25	0.23	0.04	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	36	0.977	0.098	7.82	0.78	0.14	0.01
Bucket Truck	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	36	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**10.95**	**1.22**	**0.20**	**0.02**
Total							**10.95**	**1.22**	**0.20**	**0.02**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 77
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 78
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.18	0.16	0.00	0.03	0.00	184.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.35	0.66	
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**5.38**	**0.66**	**184.8**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**5.38**	**0.66**	**184.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 78
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	14
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	20.97	0.00	0.00	21.22
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56

Table 78
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	2	0.564	0.056	4.51	0.45	0.00	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**5.35**	**0.66**	**0.01**	**0.00**
Total							**5.35**	**0.66**	**0.01**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 78
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 79
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.24**	**0.20**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.42	0.01	0.07	0.02	490.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.22	1.50	
Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**13.29**	**1.53**	**490.4**
Total	**0.90**	**4.50**	**7.74**	**0.02**	**13.53**	**1.72**	**1875.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.08**	**0.01**	**2.6**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.08**	**0.01**	**12.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	14	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 79
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	9.61	0.00	0.00	9.7
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.61**	**0.00**	**0.00**	**9.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	14	N/A	14
1-Ton Crew Cab Flatbed, 4x4	1	14	N/A	14
Water Truck	1	14	N/A	14
Concrete Truck	1	6	N/A	60
Worker Commute	5	14	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Water Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 79
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**
Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.35
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.42	0.00	0.00	1.43
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	14	0.474	0.047	1.89	0.19	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	14	0.564	0.056	2.25	0.23	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	4	14	0.977	0.098	3.91	0.39	0.03	0.00
Water Truck	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	4	6	0.977	0.098	3.91	0.39	0.01	0.00
Concrete Truck	1	Paved	56	6	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	14	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**13.22**	**1.50**	**0.08**	**0.01**
Total							**13.22**	**1.50**	**0.08**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 79
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	28	311	1.00E-03	1.52E-04	0.03	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.03**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 2,800 ft. long x 1 ft. wide x 3 ft. deep over 11 days

Table 80
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.25	0.61	0.00	0.04	0.01	274.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.95	1.22	
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**10.99**	**1.23**	**274.4**
Total	**1.57**	**7.80**	**18.32**	**0.04**	**11.51**	**1.72**	**3707.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.05	0.13	0.00	0.00	0.00	25.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.05**	**0.13**	**0.00**	**0.00**	**0.00**	**25.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.08**	**0.01**	**2.1**
Total	**0.01**	**0.06**	**0.14**	**0.00**	**0.09**	**0.01**	**27.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	15	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

Table 80
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.01	0.05	0.13	0.00	0.00	0.00	25.52	0.00	0.00	25.7
Total	**0.01**	**0.05**	**0.13**	**0.00**	**0.00**	**0.00**	**25.52**	**0.00**	**0.00**	**25.75**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	15	N/A	14
Bucket Truck	2	15	N/A	14
Worker Commute	4	15	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 80
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**
Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.21	0.00	0.00	1.23
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.03**	**0.00**	**0.00**	**2.06**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.03**	**0.00**	**0.00**	**2.06**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	15	0.564	0.056	2.25	0.23	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	15	0.977	0.098	7.82	0.78	0.06	0.01
Bucket Truck	2	Paved	10	15	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	15	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**10.95**	**1.22**	**0.08**	**0.01**
Total							**10.95**	**1.22**	**0.08**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 80
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 81
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.18	0.16	0.00	0.03	0.00	184.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.35	0.66	
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**5.38**	**0.66**	**184.8**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**5.38**	**0.66**	**184.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 81
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	14
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	20.97	0.00	0.00	21.22
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56

Table 81
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	2	0.564	0.056	4.51	0.45	0.00	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**5.35**	**0.66**	**0.01**	**0.00**
Total							**5.35**	**0.66**	**0.01**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 81
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 82
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.22**	**0.19**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.42	0.01	0.07	0.02	490.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.22	1.50	
Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**13.29**	**1.53**	**490.4**
Total	**0.90**	**4.50**	**7.74**	**0.02**	**13.52**	**1.72**	**1875.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	4.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**4.8**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.05**	**0.01**	**1.7**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.05**	**0.01**	**6.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	7	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 82
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.01	0.02	0.00	0.00	0.00	4.80	0.00	0.00	4.8
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**4.80**	**0.00**	**0.00**	**4.85**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	7	N/A	14
1-Ton Crew Cab Flatbed, 4x4	1	7	N/A	14
Water Truck	1	7	N/A	14
Concrete Truck	1	7	N/A	60
Worker Commute	5	7	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Water Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 82
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**
Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.72
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.70**	**0.00**	**0.00**	**1.72**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.70**	**0.00**	**0.00**	**1.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	7	0.474	0.047	1.89	0.19	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	7	0.564	0.056	2.25	0.23	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	4	7	0.977	0.098	3.91	0.39	0.01	0.00
Water Truck	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	4	7	0.977	0.098	3.91	0.39	0.01	0.00
Concrete Truck	1	Paved	56	7	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	7	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**13.22**	**1.50**	**0.05**	**0.01**
Total							**13.22**	**1.50**	**0.05**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 82
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	16	111	1.00E-03	1.52E-04	0.02	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.02**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,000 ft. long x 1 ft. wide x 3 ft. deep over 7 days

Table 83
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.24	0.54	0.00	0.04	0.01	258.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.91	0.72	
Offsite Total	**0.05**	**1.24**	**0.54**	**0.00**	**5.95**	**0.73**	**258.5**
Total	**1.57**	**7.79**	**18.25**	**0.04**	**6.47**	**1.21**	**3691.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.08	0.22	0.00	0.01	0.01	42.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.08**	**0.22**	**0.00**	**0.01**	**0.01**	**42.9**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	3.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.01	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.07**	**0.01**	**3.2**
Total	**0.02**	**0.10**	**0.23**	**0.00**	**0.08**	**0.02**	**46.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	25	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

Table 83
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.08	0.22	0.00	0.01	0.01	42.53	0.00	0.00	42.9
Total	**0.02**	**0.08**	**0.22**	**0.00**	**0.01**	**0.01**	**42.53**	**0.00**	**0.00**	**42.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	25	N/A	12
Bucket Truck	2	25	N/A	12
Worker Commute	4	25	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 83
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
Bucket Truck	0.01	0.07	0.40	0.00	0.01	0.01	84.97	0.00	0.00	85.87
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.24**	**0.54**	**0.00**	**0.04**	**0.01**	**255.67**	**0.01**	**0.01**	**258.53**
Total	**0.05**	**1.24**	**0.54**	**0.00**	**0.04**	**0.01**	**255.67**	**0.01**	**0.01**	**258.53**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.00	0.00	1.07
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	2.02	0.00	0.00	2.04
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.20**	**0.00**	**0.00**	**3.23**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.20**	**0.00**	**0.00**	**3.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	2	25	0.564	0.056	1.13	0.11	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	25	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	2	25	0.977	0.098	3.91	0.39	0.05	0.00
Bucket Truck	2	Paved	10	25	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	25	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**5.91**	**0.72**	**0.07**	**0.01**
Total							**5.91**	**0.72**	**0.07**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 83
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 84
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.15	0.00	0.03	0.00	181.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.09	0.43	
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**3.12**	**0.43**	**181.7**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**3.12**	**0.43**	**181.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 84
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	12
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	17.97	0.00	0.00	18.19
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56

Table 84
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**179.69**	**0.01**	**0.01**	**181.75**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**179.69**	**0.01**	**0.01**	**181.75**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	2	2	0.564	0.056	2.25	0.23	0.00	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**3.09**	**0.43**	**0.00**	**0.00**
Total							**3.09**	**0.43**	**0.00**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 84
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 85
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.23**	**0.20**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.67	1.38	0.01	0.07	0.02	480.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.24	0.91	
Offsite Total	**0.08**	**1.67**	**1.38**	**0.01**	**7.32**	**0.93**	**480.3**
Total	**0.90**	**4.49**	**7.70**	**0.02**	**7.55**	**1.13**	**1865.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.02	0.03	0.00	0.00	0.00	7.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.00**	**0.00**	**7.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.00	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.04**	**0.01**	**2.6**
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.04**	**0.01**	**10.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	11	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 85
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.02	0.03	0.00	0.00	0.00	7.55	0.00	0.00	7.6
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.00**	**0.00**	**7.55**	**0.00**	**0.00**	**7.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	11	N/A	12
1-Ton Crew Cab Flatbed, 4x4	1	11	N/A	12
Water Truck	1	11	N/A	12
Concrete Truck	1	11	N/A	60
Worker Commute	5	11	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
Water Truck	0.01	0.03	0.20	0.00	0.01	0.00	42.48	0.00	0.00	42.94
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 85
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.67**	**1.38**	**0.01**	**0.07**	**0.02**	**475.02**	**0.01**	**0.02**	**480.26**
Total	**0.08**	**1.67**	**1.38**	**0.01**	**0.07**	**0.02**	**475.02**	**0.01**	**0.02**	**480.26**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.24
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.17	0.00	0.00	1.18
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.11	0.00	0.00	1.12
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.61**	**0.00**	**0.00**	**2.64**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.61**	**0.00**	**0.00**	**2.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	2	11	0.474	0.047	0.95	0.09	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	2	11	0.564	0.056	1.13	0.11	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	2	11	0.977	0.098	1.95	0.20	0.01	0.00
Water Truck	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	2	11	0.977	0.098	1.95	0.20	0.01	0.00
Concrete Truck	1	Paved	58	11	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	11	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**7.24**	**0.91**	**0.04**	**0.00**
Total							**7.24**	**0.91**	**0.04**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 85
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	25	278	1.00E-03	1.52E-04	0.03	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.03**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 2,500 ft. long x 1 ft. wide x 3 ft. deep over 11 days

Table 86
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.08	2.34	0.31	0.00	0.05	0.00	339.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.97	1.32	
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**11.02**	**1.32**	**339.0**
Total	**1.60**	**8.89**	**18.02**	**0.04**	**11.54**	**1.80**	**3771.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.10	0.28	0.00	0.01	0.01	54.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.10**	**0.28**	**0.00**	**0.01**	**0.01**	**54.9**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.09**	**0.01**	**5.4**
Total	**0.03**	**0.14**	**0.29**	**0.00**	**0.09**	**0.02**	**60.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	32	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

Table 86
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.10	0.28	0.00	0.01	0.01	54.44	0.00	0.00	54.9
Total	**0.02**	**0.10**	**0.28**	**0.00**	**0.01**	**0.01**	**54.44**	**0.00**	**0.00**	**54.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	32	N/A	1.5
Bucket Truck	2	32	N/A	1.5
Worker Commute	8	32	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 86
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**
Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.17	0.00	0.00	5.23
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.36**	**0.00**	**0.00**	**5.42**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.36**	**0.00**	**0.00**	**5.42**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	32	0.564	0.056	0.85	0.08	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	32	0.003	0.001	0.00	0.00	0.00	0.00
Bucket Truck	2	Unpaved	1.5	32	0.977	0.098	2.93	0.29	0.05	0.00
Bucket Truck	2	Paved	0	32	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	8	Paved	56.5	32	0.003	0.001	1.51	0.37	0.02	0.01
Worker Commute	8	Unpaved	1.5	32	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**10.97**	**1.32**	**0.08**	**0.01**
Total							**10.97**	**1.32**	**0.08**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 86
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 87
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	165.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.29	0.64	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.31**	**0.64**	**165.8**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.31**	**0.64**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 87
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	4	N/A	1.5
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00	2.27
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56

Table 87
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	1.5	4	0.564	0.056	1.69	0.17	0.00	0.00
Splicing Lab	2	Paved	0	4	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	4	Paved	56.5	4	0.003	0.001	0.75	0.18	0.00	0.00
Worker Commute	4	Unpaved	1.5	4	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**5.29**	**0.64**	**0.00**	**0.00**
Total							**5.29**	**0.64**	**0.00**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 87
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 88
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.23**	**0.19**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.45	0.01	0.07	0.02	485.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.23	1.10	
Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**9.30**	**1.12**	**485.8**
Total	**0.90**	**4.50**	**7.78**	**0.02**	**9.54**	**1.32**	**1871.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	3.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.04**	**0.01**	**3.4**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.04**	**0.01**	**13.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	14	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 88
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	9.61	0.00	0.00	9.7
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.61**	**0.00**	**0.00**	**9.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	14	N/A	1.5
1-Ton Crew Cab Flatbed, 4x4	1	14	N/A	1.5
Water Truck	1	14	N/A	18
Concrete Truck	1	14	N/A	60
Worker Commute	5	14	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 88
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**
Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.45
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.42	0.00	0.00	1.43
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**3.36**	**0.00**	**0.00**	**3.40**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**3.36**	**0.00**	**0.00**	**3.40**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	1.5	14	0.474	0.047	0.71	0.07	0.00	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	0	14	0.003	0.001	0.00	0.00	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	14	0.564	0.056	0.85	0.08	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	14	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	1	Unpaved	1.5	14	0.977	0.098	1.47	0.15	0.01	0.00
Water Truck	1	Paved	16.5	14	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	14	0.977	0.098	1.47	0.15	0.01	0.00
Concrete Truck	1	Paved	58.5	14	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	14	0.003	0.001	0.94	0.23	0.01	0.00
Worker Commute	5	Unpaved	1.5	14	0.474	0.047	3.55	0.36	0.00	0.00
Offsite Total							**9.23**	**1.10**	**0.04**	**0.01**
Total							**9.23**	**1.10**	**0.04**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 88
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	24	333	1.00E-03	1.52E-04	0.02	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.02**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 3,000 ft. long x 1 ft. wide x 3 ft. deep over 14 days

Table 89
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.08	2.34	0.31	0.00	0.05	0.00	339.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.97	1.32	
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**11.02**	**1.32**	**339.0**
Total	**1.60**	**8.89**	**18.02**	**0.04**	**11.54**	**1.80**	**3771.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.18	0.00	0.01	0.00	34.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.3**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.05**	**0.01**	**3.4**
Total	**0.02**	**0.09**	**0.18**	**0.00**	**0.06**	**0.01**	**37.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

Table 89
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Install Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.07	0.18	0.00	0.01	0.00	34.03	0.00	0.00	34.3
Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.03**	**0.00**	**0.00**	**34.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	20	N/A	1.5
Bucket Truck	2	20	N/A	1.5
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 89
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Install Cable

1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**
Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.35**	**0.00**	**0.00**	**3.39**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.35**	**0.00**	**0.00**	**3.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	20	0.564	0.056	0.85	0.08	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	20	0.003	0.001	0.00	0.00	0.00	0.00
Bucket Truck	2	Unpaved	1.5	20	0.977	0.098	2.93	0.29	0.03	0.00
Bucket Truck	2	Paved	0	20	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	8	Paved	56.5	20	0.003	0.001	1.51	0.37	0.02	0.00
Worker Commute	8	Unpaved	1.5	20	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**10.97**	**1.32**	**0.05**	**0.01**
Total							**10.97**	**1.32**	**0.05**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 89
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Install Cable

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 90
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	165.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.29	0.64	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.31**	**0.64**	**165.8**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.31**	**0.64**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/day)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 90
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	4	N/A	1.5
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00	2.27
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56

Table 90
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	1.5	4	0.564	0.056	1.69	0.17	0.00	0.00
Splicing Lab	2	Paved	0	4	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	4	Paved	56.5	4	0.003	0.001	0.75	0.18	0.00	0.00
Worker Commute	4	Unpaved	1.5	4	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**5.29**	**0.64**	**0.00**	**0.00**
Total							**5.29**	**0.64**	**0.00**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 90
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 91
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.24**	**0.20**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.45	0.01	0.07	0.02	485.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.23	1.10	
Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**9.30**	**1.12**	**485.8**
Total	**0.90**	**4.50**	**7.78**	**0.02**	**9.54**	**1.32**	**1871.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.03**	**0.00**	**2.6**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.03**	**0.01**	**11.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	13	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 91
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	8.92	0.00	0.00	9.0
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**8.92**	**0.00**	**0.00**	**9.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	13	N/A	1.5
1-Ton Crew Cab Flatbed, 4x4	1	13	N/A	1.5
Water Truck	1	13	N/A	18
Concrete Truck	1	8	N/A	60
Worker Commute	5	13	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 91
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**
Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.42
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.00	0.86
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.31	0.00	0.00	1.33
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.59**	**0.00**	**0.00**	**2.62**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.59**	**0.00**	**0.00**	**2.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	1.5	13	0.474	0.047	0.71	0.07	0.00	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	0	13	0.003	0.001	0.00	0.00	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	13	0.564	0.056	0.85	0.08	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	13	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	1	Unpaved	1.5	13	0.977	0.098	1.47	0.15	0.01	0.00
Water Truck	1	Paved	16.5	13	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	8	0.977	0.098	1.47	0.15	0.01	0.00
Concrete Truck	1	Paved	58.5	8	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	13	0.003	0.001	0.94	0.23	0.01	0.00
Worker Commute	5	Unpaved	1.5	13	0.474	0.047	3.55	0.36	0.00	0.00
Offsite Total							**9.23**	**1.10**	**0.03**	**0.00**
Total							**9.23**	**1.10**	**0.03**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 91
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	30	389	1.00E-03	1.52E-04	0.03	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.03**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 3,500 ft. long x 1 ft. wide x 3 ft. deep over 13 days

Table 92
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.76	3.28	8.86	0.02	0.26	0.24	1,716.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.76**	**3.28**	**8.86**	**0.02**	**0.26**	**0.24**	**1716.4**
Offsite Motor Vehicle Exhaust	0.09	2.40	0.63	0.00	0.06	0.01	414.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	26.74	2.89	
Offsite Total	**0.09**	**2.40**	**0.63**	**0.00**	**26.80**	**2.90**	**414.2**
Total	**0.85**	**5.67**	**9.49**	**0.02**	**27.07**	**3.14**	**2130.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.1**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**1.2**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.04**	**0.00**	**6.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	6	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4
Total	**0.76**	**3.28**	**8.86**	**0.02**	**0.26**	**0.24**	**1701.32**	**0.07**	**0.04**	**1716.44**

Table 92
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.10	0.00	0.00	5.1
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.10**	**0.00**	**0.00**	**5.15**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	11
Bucket Truck	2	6	N/A	11
Worker Commute	8	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 92
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.01	0.06	0.36	0.00	0.01	0.01	77.89	0.00	0.00	78.72
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.40**	**0.63**	**0.00**	**0.06**	**0.01**	**409.56**	**0.02**	**0.01**	**414.18**
Total	**0.09**	**2.40**	**0.63**	**0.00**	**0.06**	**0.01**	**409.56**	**0.02**	**0.01**	**414.18**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.24
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.23**	**0.00**	**0.00**	**1.24**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.23**	**0.00**	**0.00**	**1.24**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	6	0.564	0.056	2.25	0.23	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	6	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	6	0.977	0.098	7.82	0.78	0.02	0.00
Bucket Truck	2	Paved	7	6	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	8	Paved	54	6	0.003	0.001	1.44	0.35	0.00	0.00
Worker Commute	8	Unpaved	4	6	0.474	0.047	15.16	1.52	0.00	0.00
Offsite Total							**26.74**	**2.89**	**0.03**	**0.00**
Total							**26.74**	**2.89**	**0.03**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 92
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 93
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Down Guys

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.38	1.64	4.43	0.01	0.13	0.12	858.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**858.2**
Offsite Motor Vehicle Exhaust	0.09	2.37	0.45	0.00	0.06	0.01	374.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	22.81	2.50	
Offsite Total	**0.09**	**2.37**	**0.45**	**0.00**	**22.86**	**2.50**	**374.8**
Total	**0.47**	**4.00**	**4.88**	**0.01**	**23.00**	**2.62**	**1233.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	3.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**3.4**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**1.5**
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.03**	**0.00**	**4.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	8	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.38	1.64	4.43	0.01	0.13	0.12	850.66	0.03	0.02	858.2
Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**850.66**	**0.03**	**0.02**	**858.22**

Table 93
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Down Guys

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.02	0.00	0.00	0.00	3.40	0.00	0.00	3.4
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**3.40**	**0.00**	**0.00**	**3.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	8	N/A	11
Bucket Truck	1	8	N/A	11
Worker Commute	8	8	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 93
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Down Guys

1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.00	0.03	0.18	0.00	0.01	0.00	38.94	0.00	0.00	39.36
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.37**	**0.45**	**0.00**	**0.06**	**0.01**	**370.61**	**0.02**	**0.01**	**374.82**
Total	**0.09**	**2.37**	**0.45**	**0.00**	**0.06**	**0.01**	**370.61**	**0.02**	**0.01**	**374.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.16
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.29	0.00	0.00	1.31
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.48**	**0.00**	**0.00**	**1.50**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.48**	**0.00**	**0.00**	**1.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	8	0.564	0.056	2.25	0.23	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	8	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	1	Unpaved	4	8	0.977	0.098	3.91	0.39	0.02	0.00
Bucket Truck	1	Paved	7	8	0.003	0.001	0.02	0.01	0.00	0.00
Worker Commute	8	Paved	54	8	0.003	0.001	1.44	0.35	0.01	0.00
Worker Commute	8	Unpaved	4	8	0.474	0.047	15.16	1.52	0.00	0.00
Offsite Total							**22.81**	**2.50**	**0.03**	**0.00**
Total							**22.81**	**2.50**	**0.03**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 93
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Down Guys

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 94
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.23	0.50	0.00	0.04	0.01	250.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	18.44	1.96	
Offsite Total	**0.05**	**1.23**	**0.50**	**0.00**	**18.48**	**1.97**	**250.6**
Total	**1.57**	**7.79**	**18.21**	**0.04**	**19.01**	**2.45**	**3683.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.11	0.31	0.00	0.01	0.01	60.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.11**	**0.31**	**0.00**	**0.01**	**0.01**	**60.1**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	4.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.19	0.02	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.19**	**0.02**	**4.4**
Total	**0.03**	**0.14**	**0.32**	**0.00**	**0.20**	**0.03**	**64.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	35	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

Table 94
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.03	0.11	0.31	0.00	0.01	0.01	59.55	0.00	0.00	60.1
Total	**0.03**	**0.11**	**0.31**	**0.00**	**0.01**	**0.01**	**59.55**	**0.00**	**0.00**	**60.08**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	35	N/A	11
Bucket Truck	2	35	N/A	11
Worker Commute	4	35	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 94
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Cable

1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.01	0.06	0.36	0.00	0.01	0.01	77.89	0.00	0.00	78.72
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.23**	**0.50**	**0.00**	**0.04**	**0.01**	**247.84**	**0.01**	**0.01**	**250.62**
Total	**0.05**	**1.23**	**0.50**	**0.00**	**0.04**	**0.01**	**247.84**	**0.01**	**0.01**	**250.62**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.15
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.36	0.00	0.00	1.38
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.83	0.00	0.00	2.86
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.34**	**0.00**	**0.00**	**4.39**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.34**	**0.00**	**0.00**	**4.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	35	0.564	0.056	2.25	0.23	0.04	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	35	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	35	0.977	0.098	7.82	0.78	0.14	0.01
Bucket Truck	2	Paved	7	35	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	4	Paved	54	35	0.003	0.001	0.72	0.18	0.01	0.00
Worker Commute	4	Unpaved	4	35	0.474	0.047	7.58	0.76	0.00	0.00
Offsite Total							**18.44**	**1.96**	**0.19**	**0.02**
Total							**18.44**	**1.96**	**0.19**	**0.02**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 94
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Cable

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 95
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.15	0.00	0.03	0.00	180.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	12.85	1.40	
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**12.88**	**1.40**	**180.2**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**12.88**	**1.40**	**180.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.7**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 95
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	8	N/A	11
Worker Commute	4	8	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.02	0.00	0.00	0.00	16.47	0.00	0.00	16.67
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56

Table 95
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**178.19**	**0.01**	**0.01**	**180.23**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**178.19**	**0.01**	**0.01**	**180.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.65
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.71**	**0.00**	**0.00**	**0.72**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.71**	**0.00**	**0.00**	**0.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	8	0.564	0.056	4.51	0.45	0.02	0.00
Splicing Lab	2	Paved	7	8	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	4	Paved	54	8	0.003	0.001	0.72	0.18	0.00	0.00
Worker Commute	4	Unpaved	4	8	0.474	0.047	7.58	0.76	0.00	0.00
Offsite Total							**12.85**	**1.40**	**0.02**	**0.00**
Total							**12.85**	**1.40**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 95
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 96
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.23**	**0.19**	**1385.3**
Offsite Motor Vehicle Exhaust	0.09	1.69	1.48	0.01	0.08	0.03	500.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.31	1.61	
Offsite Total	**0.09**	**1.69**	**1.48**	**0.01**	**14.38**	**1.64**	**500.2**
Total	**0.90**	**4.51**	**7.80**	**0.02**	**14.61**	**1.83**	**1885.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	6.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.2**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	1.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.05**	**0.01**	**1.9**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.05**	**0.01**	**8.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 96
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.01	0.03	0.00	0.00	0.00	6.18	0.00	0.00	6.2
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.18**	**0.00**	**0.00**	**6.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	9	N/A	11
1-Ton Crew Cab Flatbed, 4x4	1	9	N/A	11
Water Truck	1	9	N/A	18
Concrete Truck	1	6	N/A	60
Worker Commute	5	9	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 96
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Offsite Total	**0.09**	**1.69**	**1.48**	**0.01**	**0.08**	**0.03**	**494.76**	**0.01**	**0.02**	**500.21**
Total	**0.09**	**1.69**	**1.48**	**0.01**	**0.08**	**0.03**	**494.76**	**0.01**	**0.02**	**500.21**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.29
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.92
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**1.91**	**0.00**	**0.00**	**1.93**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**1.91**	**0.00**	**0.00**	**1.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	9	0.474	0.047	1.89	0.19	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	7	9	0.003	0.001	0.02	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	9	0.564	0.056	2.25	0.23	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	9	0.003	0.001	0.02	0.01	0.00	0.00
Water Truck	1	Unpaved	4	9	0.977	0.098	3.91	0.39	0.02	0.00
Water Truck	1	Paved	14	9	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	6	0.977	0.098	1.47	0.15	0.00	0.00
Concrete Truck	1	Paved	58.5	6	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	9	0.003	0.001	0.94	0.23	0.00	0.00
Worker Commute	5	Unpaved	1.5	9	0.474	0.047	3.55	0.36	0.00	0.00
Offsite Total							**14.31**	**1.61**	**0.05**	**0.01**
Total							**14.31**	**1.61**	**0.05**	**0.01**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 96
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	20	178	1.00E-03	1.52E-04	0.02	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.02**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,600 ft. long x 1 ft. wide x 3 ft. deep over 9 days

Table 97
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.08	2.10	0.55	0.00	0.05	0.01	367.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.80	1.69	
Offsite Total	**0.08**	**2.10**	**0.55**	**0.00**	**14.86**	**1.69**	**367.3**
Total	**0.08**	**2.10**	**0.55**	**0.00**	**14.86**	**1.69**	**367.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**1.3**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**1.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 97
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Restoration

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	2	7	N/A	11
Water Truck	1	7	N/A	18
Worker Commute	7	7	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 97
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Restoration

1-Ton Crew Cab, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	16.47	0.00	0.00	16.67
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Worker Commute	0.07	2.04	0.22	0.00	0.04	0.00	283.01	0.02	0.01	286.24
Offsite Total	**0.08**	**2.10**	**0.55**	**0.00**	**0.05**	**0.01**	**363.20**	**0.02**	**0.01**	**367.31**
Total	**0.08**	**2.10**	**0.55**	**0.00**	**0.05**	**0.01**	**363.20**	**0.02**	**0.01**	**367.31**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.23
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.27**	**0.00**	**0.00**	**1.29**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.27**	**0.00**	**0.00**	**1.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	2	Unpaved	4	7	0.564	0.056	4.51	0.45	0.02	0.00
1-Ton Crew Cab, 4x4	2	Paved	7	7	0.003	0.001	0.05	0.01	0.00	0.00
Water Truck	1	Unpaved	4	7	0.977	0.098	3.91	0.39	0.01	0.00
Water Truck	1	Paved	14	7	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	7	Paved	56.5	7	0.003	0.001	1.32	0.32	0.00	0.00
Worker Commute	7	Unpaved	1.5	7	0.474	0.047	4.97	0.50	0.00	0.00
Offsite Total							**14.80**	**1.69**	**0.03**	**0.00**
Total							**14.80**	**1.69**	**0.03**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 97
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Restoration

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 98
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.11	2.51	1.25	0.01	0.08	0.02	556.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.83	0.45	
Offsite Total	**0.11**	**2.51**	**1.25**	**0.01**	**1.92**	**0.47**	**556.6**
Total	**1.63**	**9.06**	**18.96**	**0.04**	**2.44**	**0.96**	**3989.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.18	0.00	0.01	0.00	34.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.3**
Offsite Motor Vehicle Exhaust	0.00	0.03	0.01	0.00	0.00	0.00	5.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.02**	**0.00**	**5.6**
Total	**0.02**	**0.09**	**0.19**	**0.00**	**0.02**	**0.01**	**39.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

Table 98
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.07	0.18	0.00	0.01	0.00	34.03	0.00	0.00	34.3
Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.03**	**0.00**	**0.00**	**34.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	20	N/A	29
Bucket Truck	2	20	N/A	29
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 98
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.11**	**2.51**	**1.25**	**0.01**	**0.08**	**0.02**	**550.49**	**0.02**	**0.02**	**556.63**
Total	**0.11**	**2.51**	**1.25**	**0.01**	**0.08**	**0.02**	**550.49**	**0.02**	**0.02**	**556.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.22
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.05	0.00	0.00	2.08
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.50**	**0.00**	**0.00**	**5.57**
Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.50**	**0.00**	**0.00**	**5.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	20	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	2	Paved	29	20	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	8	Paved	58	20	0.003	0.001	1.54	0.38	0.02	0.00
Offsite Total							**1.83**	**0.45**	**0.02**	**0.00**
Total							**1.83**	**0.45**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 98
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 99
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.40	14.50	31.28	0.07	0.98	0.91	7,395.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.40**	**14.50**	**31.28**	**0.07**	**0.98**	**0.91**	**7395.8**
Offsite Motor Vehicle Exhaust	0.14	2.69	2.27	0.01	0.12	0.04	808.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.22	0.55	
Offsite Total	**0.14**	**2.69**	**2.27**	**0.01**	**2.34**	**0.59**	**808.1**
Total	**3.54**	**17.19**	**33.55**	**0.08**	**3.33**	**1.49**	**8203.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.16	0.00	0.00	0.00	37.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.16**	**0.00**	**0.00**	**0.00**	**37.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	4.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**4.0**
Total	**0.02**	**0.09**	**0.17**	**0.00**	**0.02**	**0.01**	**41.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30-Ton Crane	300	1	10	8
Bucket Truck	300	2	10	8
60' Digger Derrick	300	1	10	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30-Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
60' Digger Derrick	300	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 110

Construction Equipment Daily Exhaust Emissions

Table 99
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30-Ton Crane	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
60' Digger Derrick	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Total	**3.40**	**14.50**	**31.28**	**0.07**	**0.98**	**0.91**	**7330.39**	**0.31**	**0.19**	**7395.78**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30-Ton Crane	0.01	0.02	0.04	0.00	0.00	0.00	7.20	0.00	0.00	7.3
Bucket Truck	0.01	0.03	0.09	0.00	0.00	0.00	17.01	0.00	0.00	17.2
60' Digger Derrick	0.00	0.02	0.02	0.00	0.00	0.00	12.44	0.00	0.00	12.5
Total	**0.02**	**0.07**	**0.16**	**0.00**	**0.00**	**0.00**	**36.65**	**0.00**	**0.00**	**36.98**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	2	10	N/A	29
1-Ton Crew Cab Flatbed, 4x4	1	10	N/A	29
Bucket Truck	2	10	N/A	29
Flat Bed Truck w/Derrick	1	10	N/A	29
40-Foot Flat Bed Truck/Trailer	1	10	N/A	29
Worker Commute	8	10	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 99
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
40-Foot Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Flat Bed Truck w/Derrick	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
40-Foot Flat Bed Truck/Trailer	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.14**	**2.69**	**2.27**	**0.01**	**0.12**	**0.04**	**799.25**	**0.02**	**0.03**	**808.11**
Total	**0.14**	**2.69**	**2.27**	**0.01**	**0.12**	**0.04**	**799.25**	**0.02**	**0.03**	**808.11**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.22
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	1.04
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.52
40-Foot Flat Bed Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.52
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.62	0.00	0.00	1.64
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.00**	**0.00**	**0.00**	**4.04**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.00**	**0.00**	**0.00**	**4.04**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 99
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	29	10	0.003	0.001	0.19	0.05	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	2	Paved	29	10	0.003	0.001	0.19	0.05	0.00	0.00
Flat Bed Truck w/Derrick	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
40-Foot Flat Bed Truck/Trailer	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	10	0.003	0.001	1.54	0.38	0.01	0.00
Offsite Total							**2.22**	**0.55**	**0.01**	**0.00**
Total							**2.22**	**0.55**	**0.01**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 100
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.38	1.64	4.43	0.01	0.13	0.12	858.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**858.2**
Offsite Motor Vehicle Exhaust	0.10	2.42	0.77	0.01	0.07	0.01	452.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.74	0.43	
Offsite Total	**0.10**	**2.42**	**0.77**	**0.01**	**1.81**	**0.44**	**452.9**
Total	**0.47**	**4.06**	**5.19**	**0.01**	**1.94**	**0.56**	**1311.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	2.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**1.4**
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**3.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	6	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.38	1.64	4.43	0.01	0.13	0.12	850.66	0.03	0.02	858.2
Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**850.66**	**0.03**	**0.02**	**858.22**

Table 100
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Down Guys

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.55	0.00	0.00	2.6
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	29
Bucket Truck	1	6	N/A	29
Worker Commute	8	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 100
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Down Guys

1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.10**	**2.42**	**0.77**	**0.01**	**0.07**	**0.01**	**447.82**	**0.02**	**0.01**	**452.87**
Total	**0.10**	**2.42**	**0.77**	**0.01**	**0.07**	**0.01**	**447.82**	**0.02**	**0.01**	**452.87**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.31
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.34**	**0.00**	**0.00**	**1.36**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.34**	**0.00**	**0.00**	**1.36**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	6	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	1	Paved	29	6	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	6	0.003	0.001	1.54	0.38	0.00	0.00
Offsite Total							**1.74**	**0.43**	**0.01**	**0.00**
Total							**1.74**	**0.43**	**0.01**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 100
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 101
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.11	2.52	1.28	0.01	0.09	0.02	578.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.93	0.47	
Offsite Total	**0.11**	**2.52**	**1.28**	**0.01**	**2.02**	**0.50**	**578.6**
Total	**1.63**	**9.07**	**18.99**	**0.04**	**2.55**	**0.98**	**4011.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.06	0.16	0.00	0.00	0.00	30.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.06**	**0.16**	**0.00**	**0.00**	**0.00**	**30.9**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.02**	**0.00**	**5.2**
Total	**0.01**	**0.08**	**0.17**	**0.00**	**0.02**	**0.01**	**36.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	18	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

Table 101
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.01	0.06	0.16	0.00	0.00	0.00	30.62	0.00	0.00	30.9
Total	**0.01**	**0.06**	**0.16**	**0.00**	**0.00**	**0.00**	**30.62**	**0.00**	**0.00**	**30.90**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	2	18	N/A	29
Bucket Truck	2	18	N/A	29
Worker Commute	8	18	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 101
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Cable

3/4-Ton Pick-up Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.11**	**2.52**	**1.28**	**0.01**	**0.09**	**0.02**	**572.20**	**0.02**	**0.02**	**578.60**
Total	**0.11**	**2.52**	**1.28**	**0.01**	**0.09**	**0.02**	**572.20**	**0.02**	**0.02**	**578.60**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.40
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.85	0.00	0.00	1.87
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.91	0.00	0.00	2.94
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.15**	**0.00**	**0.00**	**5.21**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.15**	**0.00**	**0.00**	**5.21**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	29	18	0.003	0.001	0.19	0.05	0.00	0.00
Bucket Truck	2	Paved	29	18	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	8	Paved	58	18	0.003	0.001	1.54	0.38	0.01	0.00
Offsite Total							**1.93**	**0.47**	**0.02**	**0.00**
Total							**1.93**	**0.47**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 101
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 102
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.19	0.19	0.00	0.03	0.00	207.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.97	0.24	
Offsite Total	**0.04**	**1.19**	**0.19**	**0.00**	**1.00**	**0.24**	**207.5**
Total	**0.04**	**1.19**	**0.19**	**0.00**	**1.00**	**0.24**	**207.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.5**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 102
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	34	N/A	29
Worker Commute	4	34	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56

Table 102
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Offsite Total	**0.04**	**1.19**	**0.19**	**0.00**	**0.03**	**0.00**	**205.15**	**0.01**	**0.01**	**207.51**
Total	**0.04**	**1.19**	**0.19**	**0.00**	**0.03**	**0.00**	**205.15**	**0.01**	**0.01**	**207.51**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.75	0.00	0.00	2.78
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.49**	**0.00**	**0.00**	**3.53**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.49**	**0.00**	**0.00**	**3.53**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Paved	29	34	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	4	Paved	58	34	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**0.97**	**0.24**	**0.02**	**0.00**
Total							**0.97**	**0.24**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 102
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 103
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.23**	**0.19**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.64	1.18	0.00	0.07	0.02	455.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.35	0.33	
Offsite Total	**0.08**	**1.64**	**1.18**	**0.00**	**1.42**	**0.35**	**455.9**
Total	**0.90**	**4.47**	**7.51**	**0.02**	**1.65**	**0.55**	**1841.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.04	0.08	0.00	0.00	0.00	17.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.00**	**0.00**	**17.3**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.02**	**0.00**	**5.2**
Total	**0.01**	**0.06**	**0.09**	**0.00**	**0.02**	**0.01**	**22.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	25	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 103
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.04	0.08	0.00	0.00	0.00	17.16	0.00	0.00	17.3
Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.00**	**0.00**	**17.16**	**0.00**	**0.00**	**17.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	25	N/A	29
1-Ton Crew Cab Flatbed, 4x4	1	25	N/A	29
Water Truck	1	25	N/A	29
Concrete Truck	1	16	N/A	29
Worker Commute	5	25	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Water Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Concrete Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 103
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Offsite Total	**0.08**	**1.64**	**1.18**	**0.00**	**0.07**	**0.02**	**450.91**	**0.01**	**0.02**	**455.93**
Total	**0.08**	**1.64**	**1.18**	**0.00**	**0.07**	**0.02**	**450.91**	**0.01**	**0.02**	**455.93**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.28	0.00	0.00	1.30
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.83
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.53	0.00	0.00	2.56
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.17**	**0.00**	**0.00**	**5.23**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.17**	**0.00**	**0.00**	**5.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
Concrete Truck	1	Paved	29	16	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	5	Paved	58	25	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**1.35**	**0.33**	**0.02**	**0.00**
Total							**1.35**	**0.33**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 103
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	20	178	1.00E-03	1.52E-04	0.02	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.02**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,600 ft. long x 1 ft. wide x 3 ft. deep over 9 days

Table 104
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.09	2.14	0.77	0.00	0.07	0.01	433.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.64	0.40	
Offsite Total	**0.09**	**2.14**	**0.77**	**0.00**	**1.71**	**0.42**	**433.9**
Total	**0.09**	**2.14**	**0.77**	**0.00**	**1.71**	**0.42**	**433.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	3.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**3.7**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**3.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 104
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Restoration

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	2	17	N/A	29
Water Truck	1	17	N/A	29
Worker Commute	7	17	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 104
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Restoration

1-Ton Crew Cab, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
Water Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.07	2.04	0.22	0.00	0.04	0.00	283.01	0.02	0.01	286.24
Offsite Total	**0.09**	**2.14**	**0.77**	**0.00**	**0.07**	**0.01**	**429.11**	**0.02**	**0.01**	**433.95**
Total	**0.09**	**2.14**	**0.77**	**0.00**	**0.07**	**0.01**	**429.11**	**0.02**	**0.01**	**433.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.37
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.88
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.41	0.00	0.00	2.43
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.65**	**0.00**	**0.00**	**3.69**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.65**	**0.00**	**0.00**	**3.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	2	Paved	29	17	0.003	0.001	0.19	0.05	0.00	0.00
Water Truck	1	Paved	29	17	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	7	Paved	58	17	0.003	0.001	1.35	0.33	0.01	0.00
Offsite Total							**1.64**	**0.40**	**0.01**	**0.00**
Total							**1.64**	**0.40**	**0.01**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 104
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Restoration

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 105
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Construct Coolwater Microwave Tower

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.79	14.31	27.06	0.08	0.94	0.86	7,144.5
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.79**	**14.32**	**27.10**	**0.08**	**0.95**	**0.87**	**7152.8**
Offsite Motor Vehicle Exhaust	0.07	1.34	1.12	0.00	0.06	0.02	378.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.97	0.24	
Offsite Total	**0.07**	**1.34**	**1.12**	**0.00**	**1.03**	**0.26**	**378.2**
Total	**3.86**	**15.65**	**28.22**	**0.08**	**1.98**	**1.12**	**7531.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.05	0.09	0.00	0.00	0.00	23.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.05**	**0.09**	**0.00**	**0.00**	**0.00**	**23.5**
Offsite Motor Vehicle Exhaust	0.00	0.03	0.00	0.00	0.00	0.00	4.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.02**	**0.00**	**4.3**
Total	**0.01**	**0.08**	**0.09**	**0.00**	**0.02**	**0.01**	**27.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Crane	300	1	8	6
Drill Rig	350	1	7	6
Concrete Pump	350	1	2	6
Forklift	300	1	10	4
Backhoe/Front Loader	300	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Drill Rig	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Concrete Pump	350	0.157	0.667	1.801	0.003	0.054	0.050	344.895	0.014	0.009	Pumps
Forklift	300	0.069	0.215	0.451	0.001	0.016	0.015	110.880	0.006	0.003	Forklifts
Backhoe/Front Loader	300	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Table 105
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Construct Coolwater Microwave Tower

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Drill Rig	0.62	3.30	3.75	0.02	0.11	0.10	1866.17	0.06	0.05	1,882.3
Concrete Pump	1.19	4.17	8.44	0.02	0.30	0.27	2067.26	0.11	0.05	2,086.1
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Backhoe/Front Loader	1.19	4.17	8.44	0.02	0.30	0.27	2067.26	0.11	0.05	2,086.1
Total	**3.79**	**14.31**	**27.06**	**0.08**	**0.94**	**0.86**	**7080.34**	**0.34**	**0.18**	**7144.48**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Crane	0.00	0.01	0.03	0.00	0.00	0.00	4.32	0.00	0.00	4.4
Drill Rig	0.00	0.01	0.01	0.00	0.00	0.00	6.53	0.00	0.00	6.6
Concrete Pump	0.00	0.00	0.01	0.00	0.00	0.00	2.07	0.00	0.00	2.1
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	10.34	0.00	0.00	10.4
Total	**0.01**	**0.05**	**0.09**	**0.00**	**0.00**	**0.00**	**23.25**	**0.00**	**0.00**	**23.46**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
3/4-Ton Pick-up Truck, 4x4	2	40	N/A	0.5
Flatbed Truck	2	7	N/A	0.5
Dump Truck	1	7	N/A	0.5
2 Ton Truck	1	15	N/A	0.5
Concrete Truck	1	2	N/A	0.5
Offsite				
Concrete Truck	1	2	N/A	60
Worker Commute	4	50	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
2 Ton Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 105
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Construct Coolwater Microwave Tower

Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Flatbed Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
2 Ton Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.20**	**0.00**	**0.00**	**8.29**
Offsite										
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.07**	**1.34**	**1.12**	**0.00**	**0.06**	**0.02**	**374.13**	**0.01**	**0.01**	**378.25**
Total	**0.07**	**1.34**	**1.16**	**0.00**	**0.06**	**0.02**	**382.34**	**0.01**	**0.01**	**386.54**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Flatbed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
2 Ton Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.04**
Offsite										
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	4.04	0.00	0.00	4.09
Offsite Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**4.26**	**0.00**	**0.00**	**4.30**
Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**4.29**	**0.00**	**0.00**	**4.34**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]

Table 105
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Construct Coolwater Microwave Tower

Onsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Flatbed Truck	2	Paved	0.5	7	0.003	0.001	0.00	0.00	0.00	0.00
Dump Truck	1	Paved	0.5	7	0.003	0.001	0.00	0.00	0.00	0.00
2 Ton Truck	1	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	2	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Concrete Truck	1	Paved	60	2	0.003	0.001	0.20	0.05	0.00	0.00
Worker Commute	4	Paved	58	50	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.97**	**0.24**	**0.02**	**0.00**
Total							**0.98**	**0.24**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 106
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Overhead Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.58	7.68	13.85	0.04	0.41	0.38	4,226.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.58**	**7.68**	**13.85**	**0.04**	**0.41**	**0.38**	**4226.2**
Offsite Motor Vehicle Exhaust	0.05	1.46	0.19	0.00	0.03	0.00	211.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.83	0.82	
Offsite Total	**0.05**	**1.46**	**0.19**	**0.00**	**6.86**	**0.83**	**211.0**
Total	**1.64**	**9.14**	**14.04**	**0.04**	**7.27**	**1.20**	**4437.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.02	0.04	0.00	0.00	0.00	12.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**12.7**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.6**
Total	**0.00**	**0.03**	**0.04**	**0.00**	**0.02**	**0.00**	**13.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	6	8
60 ' Digger Derrick	350	1	6	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
60 ' Digger Derrick	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4
60 ' Digger Derrick	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Total	**1.58**	**7.68**	**13.85**	**0.04**	**0.41**	**0.38**	**4189.55**	**0.14**	**0.11**	**4226.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 106
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Overhead Construction

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.10	0.00	0.00	5.1
60 ' Digger Derrick	0.00	0.01	0.01	0.00	0.00	0.00	7.46	0.00	0.00	7.5
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**12.57**	**0.00**	**0.00**	**12.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	1.5
Flat Bed Truck w/Derrick	1	6	N/A	1.5
Worker Commute	5	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Flat Bed Truck w/Derrick	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45
Offsite Total	**0.05**	**1.46**	**0.19**	**0.00**	**0.03**	**0.00**	**208.58**	**0.01**	**0.01**	**210.96**
Total	**0.05**	**1.46**	**0.19**	**0.00**	**0.03**	**0.00**	**208.58**	**0.01**	**0.01**	**210.96**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 106
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Overhead Construction

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.63**	**0.00**	**0.00**	**0.63**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.63**	**0.00**	**0.00**	**0.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	6	0.564	0.056	0.85	0.08	0.00	0.00
Flat Bed Truck w/Derrick	1	Unpaved	1.5	6	0.977	0.098	1.47	0.15	0.00	0.00
Worker Commute	5	Unpaved	1.5	6	0.474	0.047	3.55	0.36	0.01	0.00
Worker Commute	5	Paved	58	6	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**6.83**	**0.82**	**0.02**	**0.00**
Total							**6.83**	**0.82**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

Table 106
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Overhead Construction

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 107
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Civil Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.58	9.46	19.58	0.05	0.68	0.62	4,831.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.58**	**9.46**	**19.58**	**0.05**	**0.68**	**0.62**	**4831.8**
Offsite Motor Vehicle Exhaust	0.10	1.80	2.15	0.01	0.10	0.04	635.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.69	1.07	
Offsite Total	**0.10**	**1.80**	**2.15**	**0.01**	**8.78**	**1.10**	**635.0**
Total	**2.68**	**11.26**	**21.73**	**0.06**	**9.46**	**1.73**	**5466.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	10.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**10.4**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.02**	**0.00**	**1.5**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.02**	**0.00**	**11.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	300	1	6	8
Hydraulic Rewind Puller	300	1	2	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	300	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Hydraulic Rewind Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	1.59	5.57	11.26	0.03	0.40	0.36	2756.35	0.14	0.07	2,781.5
Hydraulic Rewind Puller	0.99	3.89	8.32	0.02	0.28	0.26	2032.08	0.09	0.05	2,050.3
Total	**2.58**	**9.46**	**19.58**	**0.05**	**0.68**	**0.62**	**4788.43**	**0.23**	**0.12**	**4831.83**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 107
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Civil Construction

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.02	0.03	0.00	0.00	0.00	8.27	0.00	0.00	8.3
Hydraulic Rewind Puller	0.00	0.00	0.01	0.00	0.00	0.00	2.03	0.00	0.00	2.1
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**10.30**	**0.00**	**0.00**	**10.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	1	6	N/A	1.5
Concrete Truck	1	6	N/A	60
Structure Delivery Truck	1	2	N/A	60
Worker Commute	5	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Structure Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Structure Delivery Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 107
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Civil Construction

Offsite Total	**0.10**	**1.80**	**2.15**	**0.01**	**0.10**	**0.04**	**628.10**	**0.01**	**0.02**	**634.96**
Total	**0.10**	**1.80**	**2.15**	**0.01**	**0.10**	**0.04**	**628.10**	**0.01**	**0.02**	**634.96**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Structure Delivery Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**0.00**	**0.00**	**1.48**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**0.00**	**0.00**	**1.48**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	1	Unpaved	1.5	6	0.564	0.056	0.85	0.08	0.00	0.00
Concrete Truck	1	Unpaved	1.5	6	0.977	0.098	1.47	0.15	0.00	0.00
Concrete Truck	1	Paved	58.5	6	0.003	0.001	0.19	0.05	0.00	0.00
Structure Delivery Truck	1	Unpaved	1.5	2	0.977	0.098	1.47	0.15	0.00	0.00
Structure Delivery Truck	1	Paved	58.5	2	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Unpaved	1.5	6	0.474	0.047	3.55	0.36	0.01	0.00
Worker Commute	5	Paved	58	6	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**8.69**	**1.07**	**0.02**	**0.00**
Total							**8.69**	**1.07**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 107
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Civil Construction

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 108
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Electrical Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.12	7.08	17.14	0.03	0.62	0.57	2,906.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.12**	**7.08**	**17.14**	**0.03**	**0.62**	**0.57**	**2906.2**
Offsite Motor Vehicle Exhaust	0.05	1.47	0.21	0.00	0.03	0.00	216.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.30	0.97	
Offsite Total	**0.05**	**1.47**	**0.21**	**0.00**	**8.33**	**0.97**	**216.3**
Total	**2.17**	**8.55**	**17.35**	**0.03**	**8.95**	**1.54**	**3122.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	7.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**7.3**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.4**
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.02**	**0.00**	**7.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	4	8
Flat Bed Truck w/Derrick	350	1	6	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Flat Bed Truck w/Derrick	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 110

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]

Table 108
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Electrical Construction

Bucket Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Flat Bed Truck w/Derrick	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**2.12**	**7.08**	**17.14**	**0.03**	**0.62**	**0.57**	**2879.03**	**0.19**	**0.07**	**2906.24**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.02	0.00	0.00	0.00	2.88	0.00	0.00	2.9
Flat Bed Truck w/Derrick	0.00	0.01	0.03	0.00	0.00	0.00	4.32	0.00	0.00	4.4
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**7.20**	**0.00**	**0.00**	**7.27**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	1	4	N/A	1.5
Bucket Truck	1	4	N/A	1.5
Flat Bed Truck w/Derrick	1	4	N/A	1.5
Worker Commute	5	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 112 or Table 113

Motor Vehicle Daily Exhaust Emissions

Table 108
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Electrical Construction

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Flat Bed Truck w/Derrick	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45
Offsite Total	**0.05**	**1.47**	**0.21**	**0.00**	**0.03**	**0.00**	**213.89**	**0.01**	**0.01**	**216.32**
Total	**0.05**	**1.47**	**0.21**	**0.00**	**0.03**	**0.00**	**213.89**	**0.01**	**0.01**	**216.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.41
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.43**	**0.00**	**0.00**	**0.43**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.43**	**0.00**	**0.00**	**0.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	1	Unpaved	1.5	4	0.564	0.056	0.85	0.08	0.00	0.00
Bucket Truck	1	Unpaved	1.5	4	0.977	0.098	1.47	0.15	0.00	0.00

Table 108
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Electrical Construction

Flat Bed Truck w/Derrick	1	Unpaved	1.5	4	0.977	0.098	1.47	0.15	0.00	0.00
Worker Commute	5	Unpaved	1.5	4	0.474	0.047	3.55	0.36	0.01	0.00
Worker Commute	5	Paved	58	4	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**8.30**	**0.97**	**0.02**	**0.00**
Total							**8.30**	**0.97**	**0.02**	**0.00**

a From Table 111

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 114

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 109

Motor Vehicle Travel Distances

Estimate of Unpaved Travel Distance for Transmission Line Segments

73.4	Total Mileage of Transmission Line
4	Number of Major Segments
18	Average Length of Major Segments
9	One-Way Distance to Middle of Segment

Estimate of One-Way Paved Travel from Staging Yard to Transmission Line Unpaved Travel Segment

5	Estimate of One-Way Paved Travel from Staging Yard to Transmission Line Unpaved Travel Segment

Estimate of Paved Travel Distance for workers

29.5	Distance from Hesperia to North Side Road and Rt. 247
28	Distance from Barstow to North Side Road and Rt. 247
29	Average Distance for worker travel (one way)

Estimate of On-Site Travel Distance for Substation Construction

4	10 lengthwise passes (approx 2000 ft each)

Table 110

MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)[a]

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
Aerial Lifts	15	0.0101	0.0528	0.0630	0.0001	0.0025	0.0023	8.6	0.0009	0.0002	0.39
	25	0.0150	0.0479	0.0887	0.0001	0.0043	0.0040	11.0	0.0014	0.0003	0.50
	50	0.0433	0.1594	0.1635	0.0003	0.0117	0.0107	19.6	0.0039	0.0005	0.90
	120	0.0416	0.2355	0.3027	0.0004	0.0220	0.0202	38.0	0.0037	0.0010	1.74
	500	0.0949	0.4096	1.1069	0.0021	0.0329	0.0303	212.7	0.0086	0.0055	9.62
	750	0.1769	0.7405	2.0785	0.0039	0.0608	0.0559	384.4	0.0160	0.0100	17.39
Air Compressors	15	0.0104	0.0461	0.0643	0.0001	0.0037	0.0034	7.2	0.0009	0.0002	0.33
	25	0.0219	0.0665	0.1225	0.0002	0.0066	0.0060	14.4	0.0020	0.0004	0.66
	50	0.0674	0.2287	0.1980	0.0003	0.0166	0.0153	22.3	0.0061	0.0006	1.03
	120	0.0630	0.3150	0.4008	0.0006	0.0336	0.0309	46.9	0.0057	0.0012	2.15
	175	0.0829	0.5003	0.6409	0.0010	0.0347	0.0320	88.4	0.0075	0.0023	4.03
	250	0.0839	0.2740	0.8339	0.0015	0.0256	0.0236	131.1	0.0076	0.0034	5.94
	500	0.1387	0.4733	1.2758	0.0023	0.0421	0.0387	231.5	0.0125	0.0060	10.48
	750	0.2164	0.7314	2.0513	0.0036	0.0667	0.0613	357.8	0.0195	0.0093	16.20
	1000	0.3318	1.1180	4.1931	0.0049	0.1138	0.1047	485.9	0.0299	0.0126	22.02
Bore/Drill Rigs	15	0.0120	0.0631	0.0753	0.0002	0.0029	0.0027	10.3	0.0011	0.0003	0.47
	25	0.0193	0.0658	0.1218	0.0002	0.0046	0.0042	16.0	0.0017	0.0004	0.73
	50	0.0220	0.2221	0.2104	0.0004	0.0058	0.0053	31.0	0.0020	0.0008	1.42
	120	0.0349	0.4666	0.3305	0.0009	0.0125	0.0115	77.1	0.0031	0.0020	3.51
	175	0.0565	0.7533	0.4371	0.0016	0.0156	0.0143	140.9	0.0051	0.0037	6.41
	250	0.0627	0.3422	0.3883	0.0021	0.0113	0.0104	187.9	0.0057	0.0049	8.50
	500	0.1032	0.5506	0.6246	0.0031	0.0186	0.0171	311.0	0.0093	0.0081	14.06
	750	0.2042	1.0879	1.2417	0.0062	0.0369	0.0339	614.5	0.0184	0.0159	27.78
	1000	0.3269	1.6468	4.6436	0.0093	0.1010	0.0929	927.4	0.0295	0.0240	41.94
Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0019	0.0017	6.3	0.0007	0.0002	0.29
	25	0.0243	0.0771	0.1431	0.0002	0.0070	0.0065	17.5	0.0022	0.0005	0.80
Concrete/Industrial Saws	25	0.0199	0.0678	0.1255	0.0002	0.0047	0.0043	16.5	0.0018	0.0004	0.75
	50	0.0702	0.2670	0.2559	0.0004	0.0186	0.0171	30.2	0.0063	0.0008	1.39
	120	0.0807	0.4720	0.5776	0.0009	0.0435	0.0400	74.1	0.0073	0.0019	3.38
	175	0.1224	0.8659	1.0439	0.0018	0.0524	0.0482	160.1	0.0110	0.0042	7.29
Cranes	50	0.0777	0.2653	0.2157	0.0003	0.0184	0.0170	23.2	0.0070	0.0006	1.08
	120	0.0743	0.3530	0.4471	0.0006	0.0377	0.0347	50.1	0.0067	0.0013	2.29
	175	0.0861	0.4779	0.6091	0.0009	0.0345	0.0318	80.3	0.0078	0.0021	3.66
	250	0.0875	0.2631	0.7524	0.0013	0.0259	0.0238	112.1	0.0079	0.0029	5.08
	500	0.1324	0.4428	1.0711	0.0018	0.0387	0.0356	179.9	0.0119	0.0047	8.16
	750	0.2240	0.7451	1.8538	0.0030	0.0661	0.0608	302.8	0.0202	0.0079	13.73
	9999	0.8238	2.7044	8.7440	0.0098	0.2551	0.2347	969.7	0.0743	0.0252	44.01
Crawler Tractors	50	0.0943	0.3011	0.2384	0.0003	0.0214	0.0197	24.9	0.0085	0.0007	1.16
	120	0.1072	0.4734	0.6371	0.0008	0.0532	0.0489	65.8	0.0097	0.0017	3.01

Table 110

MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)[a]

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	175	0.1425	0.7354	1.0083	0.0014	0.0566	0.0521	121.1	0.0129	0.0032	5.53
	250	0.1494	0.4449	1.2413	0.0019	0.0468	0.0430	166.0	0.0135	0.0043	7.53
	500	0.2181	0.7898	1.7418	0.0025	0.0668	0.0615	259.0	0.0197	0.0067	11.76
	750	0.3925	1.4158	3.1882	0.0047	0.1211	0.1114	464.3	0.0354	0.0121	21.08
	1000	0.5965	2.2357	6.3162	0.0066	0.1927	0.1773	657.5	0.0538	0.0171	29.87
Crushing/Proc. Equipment	50	0.1232	0.4488	0.3873	0.0006	0.0309	0.0284	44.0	0.0111	0.0012	2.03
	120	0.1052	0.5588	0.6766	0.0010	0.0554	0.0510	83.1	0.0095	0.0022	3.80
	175	0.1510	0.9530	1.1412	0.0019	0.0619	0.0570	167.1	0.0136	0.0044	7.62
	250	0.1551	0.5067	1.4525	0.0027	0.0453	0.0417	244.3	0.0140	0.0063	11.07
	500	0.2238	0.7534	1.9232	0.0037	0.0647	0.0595	373.3	0.0202	0.0097	16.90
	750	0.3515	1.1810	3.1224	0.0059	0.1027	0.0945	588.3	0.0317	0.0153	26.64
	9999	0.9136	2.9321	10.8003	0.0131	0.2933	0.2699	1306.6	0.0824	0.0339	59.21
Dumpers/Tenders	25	0.0093	0.0314	0.0587	0.0001	0.0024	0.0022	7.6	0.0008	0.0002	0.35
Excavators	25	0.0198	0.0676	0.1252	0.0002	0.0047	0.0043	16.4	0.0018	0.0004	0.75
	50	0.0580	0.2619	0.2164	0.0003	0.0147	0.0135	25.0	0.0052	0.0007	1.15
	120	0.0832	0.5065	0.5286	0.0009	0.0394	0.0363	73.6	0.0075	0.0019	3.36
	175	0.0971	0.6642	0.6554	0.0013	0.0354	0.0326	112.1	0.0088	0.0029	5.11
	250	0.1053	0.3386	0.7851	0.0018	0.0262	0.0241	158.5	0.0095	0.0041	7.18
	500	0.1494	0.4846	1.0223	0.0023	0.0366	0.0336	233.5	0.0135	0.0061	10.58
	750	0.2488	0.8033	1.7451	0.0039	0.0616	0.0567	387.1	0.0225	0.0100	17.53
Forklifts	50	0.0284	0.1484	0.1270	0.0002	0.0079	0.0073	14.7	0.0026	0.0004	0.68
	120	0.0312	0.2129	0.2110	0.0004	0.0148	0.0137	31.2	0.0028	0.0008	1.43
	175	0.0452	0.3313	0.3042	0.0006	0.0165	0.0152	56.0	0.0041	0.0015	2.55
	250	0.0489	0.1569	0.3511	0.0009	0.0116	0.0107	77.1	0.0044	0.0020	3.49
	500	0.0687	0.2146	0.4506	0.0011	0.0163	0.0150	110.9	0.0062	0.0029	5.02
Generator Sets	15	0.0130	0.0651	0.0900	0.0002	0.0048	0.0044	10.2	0.0012	0.0003	0.47
	25	0.0241	0.0811	0.1495	0.0002	0.0077	0.0070	17.6	0.0022	0.0005	0.80
	50	0.0637	0.2398	0.2530	0.0004	0.0175	0.0161	30.6	0.0057	0.0008	1.41
	120	0.0822	0.4767	0.6120	0.0009	0.0434	0.0399	77.9	0.0074	0.0020	3.56
	175	0.1013	0.7331	0.9458	0.0016	0.0434	0.0399	141.9	0.0091	0.0037	6.46
	250	0.1006	0.4058	1.2378	0.0024	0.0342	0.0314	212.3	0.0091	0.0055	9.61
	500	0.1438	0.6410	1.7347	0.0033	0.0507	0.0467	336.6	0.0130	0.0087	15.23
	750	0.2402	1.0347	2.9072	0.0055	0.0837	0.0770	543.3	0.0217	0.0141	24.58
	9999	0.6073	2.2406	8.4553	0.0105	0.2116	0.1947	1047.7	0.0548	0.0272	47.44
Graders	50	0.0815	0.2999	0.2473	0.0004	0.0196	0.0180	27.5	0.0074	0.0007	1.28
	120	0.1001	0.5191	0.6212	0.0009	0.0498	0.0459	74.9	0.0090	0.0020	3.43
	175	0.1213	0.7303	0.8612	0.0014	0.0475	0.0437	123.8	0.0109	0.0032	5.65
	250	0.1249	0.3933	1.0428	0.0019	0.0358	0.0329	172.0	0.0113	0.0045	7.79
	500	0.1577	0.5520	1.2378	0.0023	0.0445	0.0410	229.3	0.0142	0.0060	10.39

Table 110

MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)[a]

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	750	0.3354	1.1685	2.6888	0.0049	0.0956	0.0880	485.3	0.0303	0.0126	22.00
Off-Highway Tractors	120	0.1804	0.6982	1.0539	0.0011	0.0891	0.0820	93.7	0.0163	0.0025	4.30
	175	0.1780	0.8159	1.2809	0.0015	0.0722	0.0664	130.3	0.0161	0.0034	5.96
	250	0.1414	0.4152	1.1789	0.0015	0.0482	0.0443	130.3	0.0128	0.0034	5.92
	750	0.5700	2.3652	4.7352	0.0057	0.1902	0.1750	567.6	0.0514	0.0148	25.83
	1000	0.8608	3.7053	8.7994	0.0082	0.2874	0.2644	813.6	0.0777	0.0212	37.05
Off-Highway Trucks	175	0.1162	0.7545	0.7637	0.0014	0.0417	0.0383	125.0	0.0105	0.0033	5.70
	250	0.1178	0.3648	0.8666	0.0019	0.0290	0.0267	166.4	0.0106	0.0043	7.54
	500	0.1854	0.5791	1.2508	0.0027	0.0448	0.0412	272.1	0.0167	0.0071	12.33
	750	0.3021	0.9393	2.0910	0.0044	0.0738	0.0679	441.3	0.0273	0.0115	19.99
	1000	0.4570	1.4115	4.8811	0.0063	0.1357	0.1248	624.2	0.0412	0.0162	28.29
Other Construction Equipment	15	0.0118	0.0617	0.0736	0.0002	0.0029	0.0026	10.1	0.0011	0.0003	0.46
	25	0.0159	0.0544	0.1007	0.0002	0.0038	0.0035	13.2	0.0014	0.0003	0.60
	50	0.0529	0.2444	0.2272	0.0004	0.0143	0.0131	28.0	0.0048	0.0007	1.29
	120	0.0745	0.5165	0.5488	0.0009	0.0383	0.0353	80.8	0.0067	0.0021	3.69
	175	0.0727	0.5856	0.5848	0.0012	0.0290	0.0267	106.4	0.0066	0.0028	4.85
	500	0.1242	0.4864	1.0402	0.0025	0.0350	0.0322	254.0	0.0112	0.0066	11.49
Other General Industrial Equipmen	15	0.0066	0.0390	0.0466	0.0001	0.0018	0.0017	6.4	0.0006	0.0002	0.29
	25	0.0185	0.0631	0.1169	0.0002	0.0044	0.0040	15.3	0.0017	0.0004	0.70
	50	0.0704	0.2449	0.1999	0.0003	0.0171	0.0158	21.7	0.0064	0.0006	1.01
	120	0.0900	0.4340	0.5404	0.0007	0.0463	0.0426	62.0	0.0081	0.0016	2.84
	175	0.0995	0.5662	0.7079	0.0011	0.0398	0.0366	95.8	0.0090	0.0025	4.37
	250	0.0987	0.2944	0.8771	0.0015	0.0278	0.0256	135.5	0.0089	0.0035	6.14
	500	0.1824	0.5588	1.4858	0.0026	0.0507	0.0466	265.2	0.0165	0.0069	12.01
	750	0.3031	0.9210	2.5481	0.0044	0.0855	0.0787	437.1	0.0273	0.0113	19.80
	1000	0.4268	1.3208	4.9252	0.0056	0.1383	0.1272	559.1	0.0385	0.0145	25.35
Other Material Handling Equipment	50	0.0977	0.3384	0.2779	0.0004	0.0238	0.0219	30.3	0.0088	0.0008	1.41
	120	0.0874	0.4225	0.5278	0.0007	0.0452	0.0416	60.6	0.0079	0.0016	2.78
	175	0.1253	0.7172	0.8995	0.0014	0.0504	0.0464	122.0	0.0113	0.0032	5.57
	250	0.1042	0.3135	0.9371	0.0016	0.0296	0.0273	144.9	0.0094	0.0038	6.57
	500	0.1300	0.4021	1.0713	0.0019	0.0365	0.0336	191.5	0.0117	0.0050	8.67
	9999	0.5858	1.7445	6.5141	0.0073	0.1824	0.1678	740.7	0.0529	0.0192	33.58
Pavers	25	0.0230	0.0774	0.1446	0.0002	0.0061	0.0056	18.6	0.0021	0.0005	0.85
	50	0.1116	0.3335	0.2691	0.0004	0.0252	0.0232	28.0	0.0101	0.0007	1.30
	120	0.1162	0.4925	0.7022	0.0008	0.0590	0.0543	69.1	0.0105	0.0018	3.17
	175	0.1522	0.7671	1.1259	0.0014	0.0626	0.0576	128.2	0.0137	0.0034	5.85
	250	0.1757	0.5365	1.5465	0.0022	0.0586	0.0539	194.2	0.0159	0.0051	8.81
	500	0.1954	0.7641	1.6700	0.0023	0.0640	0.0589	233.0	0.0176	0.0061	10.58
Paving Equipment	25	0.0152	0.0519	0.0962	0.0002	0.0036	0.0034	12.6	0.0014	0.0003	0.57

Table 110

MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)[a]

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	50	0.0951	0.2826	0.2295	0.0003	0.0215	0.0198	23.9	0.0086	0.0006	1.11
	120	0.0911	0.3858	0.5516	0.0006	0.0467	0.0429	54.5	0.0082	0.0014	2.50
	175	0.1187	0.5999	0.8845	0.0011	0.0491	0.0452	100.9	0.0107	0.0026	4.61
	250	0.1076	0.3300	0.9691	0.0014	0.0360	0.0331	122.2	0.0097	0.0032	5.54
Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	0.0011	4.3	0.0005	0.0001	0.20
Pressure Washers	15	0.0062	0.0312	0.0431	0.0001	0.0023	0.0021	4.9	0.0006	0.0001	0.22
	25	0.0098	0.0329	0.0606	0.0001	0.0031	0.0029	7.1	0.0009	0.0002	0.33
	50	0.0224	0.0945	0.1138	0.0002	0.0069	0.0063	14.3	0.0020	0.0004	0.65
	120	0.0219	0.1404	0.1803	0.0003	0.0114	0.0105	24.1	0.0020	0.0006	1.10
Pumps	15	0.0106	0.0474	0.0661	0.0001	0.0038	0.0035	7.4	0.0010	0.0002	0.34
	25	0.0296	0.0896	0.1653	0.0002	0.0089	0.0081	19.5	0.0027	0.0005	0.89
	50	0.0773	0.2830	0.2871	0.0004	0.0207	0.0190	34.3	0.0070	0.0009	1.58
	120	0.0859	0.4842	0.6215	0.0009	0.0456	0.0419	77.9	0.0078	0.0020	3.56
	175	0.1051	0.7345	0.9483	0.0016	0.0450	0.0414	140.0	0.0095	0.0037	6.38
	250	0.1008	0.3910	1.1926	0.0023	0.0337	0.0310	201.2	0.0091	0.0052	9.10
	500	0.1567	0.6671	1.8006	0.0034	0.0540	0.0497	344.9	0.0141	0.0089	15.61
	750	0.2666	1.1029	3.0910	0.0057	0.0913	0.0840	570.2	0.0241	0.0148	25.80
	9999	0.8122	2.9422	11.0546	0.0136	0.2800	0.2576	1353.6	0.0733	0.0351	61.31
Rollers	15	0.0074	0.0386	0.0460	0.0001	0.0018	0.0017	6.3	0.0007	0.0002	0.29
	25	0.0161	0.0549	0.1016	0.0002	0.0038	0.0035	13.3	0.0015	0.0003	0.61
	50	0.0797	0.2677	0.2321	0.0003	0.0191	0.0176	26.0	0.0072	0.0007	1.20
	120	0.0794	0.3967	0.5105	0.0007	0.0415	0.0382	58.9	0.0072	0.0015	2.70
	175	0.1031	0.6146	0.7957	0.0012	0.0431	0.0396	108.0	0.0093	0.0028	4.93
	250	0.1041	0.3461	0.9947	0.0017	0.0333	0.0306	153.0	0.0094	0.0040	6.93
	500	0.1390	0.5316	1.2651	0.0021	0.0442	0.0406	218.9	0.0125	0.0057	9.92
Rough Terrain Forklifts	50	0.0838	0.3456	0.2951	0.0004	0.0216	0.0199	33.8	0.0076	0.0009	1.56
	120	0.0728	0.4227	0.4736	0.0007	0.0368	0.0339	62.4	0.0066	0.0016	2.85
	175	0.1079	0.7230	0.7786	0.0014	0.0422	0.0388	124.8	0.0097	0.0033	5.69
	250	0.1106	0.3588	0.9194	0.0019	0.0302	0.0278	170.6	0.0100	0.0044	7.73
	500	0.1588	0.5200	1.2074	0.0025	0.0427	0.0393	256.3	0.0143	0.0067	11.61
Rubber Tired Dozers	175	0.1849	0.8272	1.3057	0.0015	0.0739	0.0680	129.4	0.0167	0.0034	5.92
	250	0.2097	0.6062	1.7064	0.0021	0.0706	0.0650	183.3	0.0189	0.0048	8.34
	500	0.2792	1.1673	2.2363	0.0026	0.0915	0.0841	264.6	0.0252	0.0069	12.05
	750	0.4216	1.7575	3.4223	0.0040	0.1388	0.1277	398.4	0.0380	0.0104	18.14
	1000	0.6577	2.8383	6.5313	0.0059	0.2168	0.1995	591.4	0.0593	0.0154	26.95
Rubber Tired Loaders	25	0.0204	0.0696	0.1289	0.0002	0.0048	0.0044	16.9	0.0018	0.0004	0.77
	50	0.0900	0.3346	0.2780	0.0004	0.0218	0.0200	31.1	0.0081	0.0008	1.44
	120	0.0771	0.4059	0.4822	0.0007	0.0386	0.0355	58.9	0.0070	0.0015	2.69
	175	0.1021	0.6236	0.7285	0.0012	0.0402	0.0369	106.2	0.0092	0.0028	4.85

Table 110
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)[a]

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	250	0.1055	0.3354	0.8884	0.0017	0.0302	0.0278	148.8	0.0095	0.0039	6.75
	500	0.1591	0.5590	1.2560	0.0023	0.0449	0.0413	236.8	0.0144	0.0062	10.73
	750	0.3276	1.1451	2.6434	0.0049	0.0933	0.0859	485.1	0.0296	0.0126	21.98
	1000	0.4390	1.5579	4.9818	0.0060	0.1421	0.1307	593.3	0.0396	0.0154	26.91
Scrapers	120	0.1563	0.6768	0.9284	0.0011	0.0780	0.0718	93.8	0.0141	0.0025	4.30
	175	0.1768	0.8992	1.2602	0.0017	0.0708	0.0652	147.9	0.0160	0.0039	6.76
	250	0.1909	0.5685	1.6065	0.0024	0.0606	0.0558	209.3	0.0172	0.0054	9.50
	500	0.2734	1.0101	2.2158	0.0032	0.0850	0.0782	321.1	0.0247	0.0084	14.58
	750	0.4742	1.7450	3.9092	0.0056	0.1485	0.1366	554.8	0.0428	0.0144	25.19
Signal Boards	15	0.0072	0.0376	0.0449	0.0001	0.0018	0.0016	6.2	0.0006	0.0002	0.28
	50	0.0831	0.3131	0.3029	0.0005	0.0219	0.0201	36.2	0.0075	0.0010	1.67
	120	0.0871	0.5067	0.6223	0.0009	0.0466	0.0428	80.1	0.0079	0.0021	3.66
	175	0.1167	0.8280	1.0071	0.0017	0.0497	0.0457	154.4	0.0105	0.0040	7.03
	250	0.1317	0.4994	1.4456	0.0029	0.0424	0.0390	255.1	0.0119	0.0066	11.54
Skid Steer Loaders	25	0.0183	0.0593	0.1106	0.0002	0.0053	0.0049	13.8	0.0017	0.0004	0.63
	50	0.0323	0.2087	0.1951	0.0003	0.0094	0.0087	25.5	0.0029	0.0007	1.17
	120	0.0295	0.2693	0.2409	0.0005	0.0138	0.0127	42.7	0.0027	0.0011	1.95
Surfacing Equipment	50	0.0375	0.1299	0.1218	0.0002	0.0093	0.0085	14.1	0.0034	0.0004	0.65
	120	0.0778	0.4119	0.5357	0.0007	0.0402	0.0370	63.7	0.0070	0.0017	2.91
	175	0.0733	0.4690	0.6121	0.0010	0.0307	0.0283	85.7	0.0066	0.0022	3.91
	250	0.0832	0.3010	0.8495	0.0015	0.0280	0.0257	134.7	0.0075	0.0035	6.10
	500	0.1259	0.5481	1.2540	0.0022	0.0425	0.0391	221.0	0.0114	0.0057	10.01
	750	0.2001	0.8599	2.0162	0.0035	0.0675	0.0621	346.7	0.0181	0.0090	15.71
Sweepers/Scrubbers	15	0.0124	0.0728	0.0869	0.0002	0.0034	0.0031	11.9	0.0011	0.0003	0.54
	25	0.0236	0.0807	0.1494	0.0002	0.0056	0.0051	19.6	0.0021	0.0005	0.89
	50	0.0664	0.3077	0.2709	0.0004	0.0182	0.0167	31.5	0.0060	0.0008	1.45
	120	0.0774	0.5009	0.5315	0.0009	0.0391	0.0360	75.0	0.0070	0.0020	3.43
	175	0.1096	0.7990	0.7988	0.0016	0.0427	0.0393	138.9	0.0099	0.0036	6.33
	250	0.0972	0.3248	0.7925	0.0018	0.0255	0.0235	161.9	0.0088	0.0042	7.33
Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1215	0.0002	0.0048	0.0044	15.8	0.0017	0.0004	0.72
	50	0.0622	0.2946	0.2534	0.0004	0.0162	0.0149	30.3	0.0056	0.0008	1.40
	120	0.0524	0.3456	0.3522	0.0006	0.0253	0.0233	51.7	0.0047	0.0014	2.36
	175	0.0787	0.5844	0.5566	0.0011	0.0292	0.0269	101.3	0.0071	0.0026	4.62
	250	0.1024	0.3530	0.7902	0.0019	0.0260	0.0239	171.6	0.0092	0.0045	7.77
	500	0.1983	0.6958	1.4074	0.0039	0.0496	0.0456	344.5	0.0179	0.0089	15.60
	750	0.2988	1.0436	2.1713	0.0058	0.0755	0.0695	516.8	0.0270	0.0134	23.40
Trenchers	15	0.0098	0.0516	0.0616	0.0001	0.0024	0.0022	8.5	0.0009	0.0002	0.39
	25	0.0397	0.1354	0.2507	0.0004	0.0094	0.0086	32.9	0.0036	0.0009	1.50
	50	0.1303	0.3809	0.3138	0.0004	0.0293	0.0269	32.9	0.0118	0.0009	1.53

Table 110

MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)[a]

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	120	0.1078	0.4558	0.6645	0.0008	0.0550	0.0506	64.8	0.0097	0.0017	2.97
	175	0.1676	0.8488	1.2792	0.0016	0.0699	0.0643	143.8	0.0151	0.0038	6.56
	250	0.1989	0.6255	1.8028	0.0025	0.0690	0.0635	222.7	0.0179	0.0058	10.11
	500	0.2558	1.0674	2.2733	0.0031	0.0873	0.0803	311.0	0.0231	0.0081	14.13
	750	0.4845	2.0123	4.3689	0.0059	0.1663	0.1530	586.4	0.0437	0.0153	26.63
Welders	15	0.0089	0.0396	0.0552	0.0001	0.0032	0.0030	6.2	0.0008	0.0002	0.28
	25	0.0171	0.0519	0.0957	0.0001	0.0051	0.0047	11.3	0.0015	0.0003	0.51
	50	0.0725	0.2489	0.2260	0.0003	0.0182	0.0167	25.9	0.0065	0.0007	1.20
	120	0.0498	0.2581	0.3303	0.0005	0.0267	0.0245	39.5	0.0045	0.0010	1.80
	175	0.0857	0.5408	0.6972	0.0011	0.0364	0.0335	98.1	0.0077	0.0026	4.47
	250	0.0701	0.2427	0.7413	0.0013	0.0222	0.0205	119.0	0.0063	0.0031	5.39
	500	0.0912	0.3360	0.9083	0.0016	0.0291	0.0268	167.4	0.0082	0.0043	7.58

[a] ROG, CO, NOx, SOx, PM, CO2 and CH4 emission factors calculated by dividing total daily emissions in MDAB by total hours of operation in MDAB by equipment type and horsepower range calculated with CARB OFFROAD 2007 model.

Hourly fuel use calculated by dividing total daily fuel use in MDAB by total hours of operation in MDAB by equipment type and horsepower range.

Diesel PM10 emission factor = PM emission factor

Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5

and PM 2.5 Significance Thresholds, SCAQMD, October 2006,

http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

N2O emission factors calculated by multiplying hourly fuel use by 0.26 g/gallon from Table 13.7 from 2013 Climate Registry Default Emission Factors downloaded from http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf

Table 111

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
1-Ton Crew Cab Flatbed, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab Flatbed, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4, Gale-Pisgah	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Gale-Pisgah	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4, Substation	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Substation	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4, Transmission	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Transmission	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Truck, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
2 Ton Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
2 Ton Truck	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
3/4-Ton Pick-up Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
3/4-Ton Pick-up Truck, 4x4	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
3/4-Ton Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
3/4-Ton Truck, 4x4	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
40-Foot Flat Bed Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
40-Foot Flat Bed Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Aggregate Base Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Aggregate Base Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Asphalt Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Asphalt Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Auger Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Auger Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Boom Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04

Table 111

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Boom Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Boom/Crane Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Boom/Crane Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Bucket Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Bucket Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Carry-all Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Carry-all Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Concrete Mixer Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Mixer Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Concrete Redi-Mix Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Redi-Mix Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Concrete Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Crew Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Crew Truck	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
Dump Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Dump Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Extendable Flat Bed Pole Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Extendable Flat Bed Pole Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Flat Bed Pole Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Pole Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Flat Bed Truck w/Derrick	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Truck w/Derrick	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Flat Bed Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Flatbed Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flatbed Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Foreman Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Foreman Truck	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02

Table 111

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Fuel, Helicopter Support Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Fuel, Helicopter Support Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Gravel Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Gravel Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Inspection Services	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Inspection Services	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
Jet A Fuel Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Jet A Fuel Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Lowboy Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Lowboy Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Manlift/Bucket Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Manlift/Bucket Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Pick-up Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Pick-up Truck	Unpaved	8	10	1.79E+00	1.79E-01	57%	7.70E-01	7.70E-02
Pipe Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Pipe Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Sleeving Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Sleeving Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Soils Test Crew Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Soils Test Crew Truck	Unpaved	8	6.5	1.47E+00	1.47E-01	57%	6.34E-01	6.34E-02
Splicing Lab	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Splicing Lab	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
Splicing Rig	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Splicing Rig	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
Stake Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Stake Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Static Truck/Tensioner	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Static Truck/Tensioner	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Structure Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04

Table 111

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Structure Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Survey Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Survey Truck	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
Tool Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Tool Truck	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
Truck, Semi Tractor	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Truck, Semi Tractor	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Water Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Water Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Wire Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Wire Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Wiring Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Wiring Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Worker Commute	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Worker Commute	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02

[a] Paved road silt loading from MDAQMD Mineral Guidance for paved low traffic road.

Unpaved road silt content from MDAQMD Mineral Guidance for unpaved industrial haul road.

[b] Average paved on-road vehicle weight in San Bernardino County from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

Unpaved worker commuting weight on access road assumed to be same as paved road weight

Unpaved weight for other trucks is based on upper limit of 33,000 lbs for medium heavy-duty trucks. Heavy heavy duty trucks are also in this range, as they range from 30,001 lbs to 60,000.

[c] Equations:

$EF(paved) = k_p (sL)^{0.91} (W)^{1.02}$ Ref: AP-42, Section 13.2.1, "Paved Roads," January 2011

$EF (unpaved) = k_u (s/12)^a (W/3)^b$ Ref: AP-42, Section 13.2.2, "Unpaved Roads," November 2006

Constants:

k_p =	0.0022	(Particle size multiplier for PM10)
	0.00054	(Particle size multiplier for PM2.5)
k_u =	1.5	(Particle size multiplier for PM)

Table 111

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
	0.15		(Particle size multiplier for PM2.5)					
a =	0.9		for PM10					
	0.9		for PM2.5					
b =	0.45		for PM10					
	0.45		for PM2.5					

[d] Control efficiency from limiting speeds on unpaved roads to 15 mph, from Table XI-A, Mitigation Measure Examples, Fugitive Dust from Construction & Demolition, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html

[e] Controlled emission factor [lb/mi] = Uncontrolled emission factor [lb/mi] x (1 - Control efficiency [%] / 100)

Table 112
Commuter Vehicle And Pick-up Truck Emission Factors

EMFAC 2011
2016 Estimated Annual Emissions
EMFAC 2011 Vehicle Categories
San Bernardino COUNTY
Mojave Desert AIR BASIN
Mojave Desert AQMD
All Model Years

Comm. Vehicles Gas (pounds/mile)	
CO	**0.00502350**
NOx	**0.00054760**
ROG	**0.00017532**
SOx	**0.00000845**
PM10	**0.00010306**
PM2.5	**0.00000402**
CO2	**0.69705741**
CH4	**0.00004259**
N2O	**0.00002278**

MDV Diesel (pounds/mile)	
CO	**0.00036597**
NOx	**0.00112028**
ROG	**0.00006639**
SOx	**0.00000827**
PM10	**0.00014987**
PM2.5	**0.00004711**
CO2	**0.74885278**
CH4	**0.00000308**
N2O	**0.00002848**

MDV Gas (pounds/mile)	
CO	**0.00784027**
NOx	**0.00114357**
ROG	**0.00028277**
SOx	**0.00001317**
PM10	**0.00010343**
PM2.5	**0.00000438**
CO2	**1.15450592**
CH4	**0.00007002**
N2O	**0.00004757**

MDV Combo (pounds/mile)	
CO	**0.00410312**
NOx	**0.00113192**
ROG	**0.00017458**
SOx	**0.00001072**
PM10	**0.00012665**
PM2.5	**0.00002575**
CO2	**0.95167935**
CH4	**0.00003655**
N2O	**0.00003803**

Note: Commuter vehicles are based on emissions from gaoline LDV, LDT1, and LDT2

Methane and N2O calculated as prescribed by ARB:
http://www.arb.ca.gov/msei/emfac2011-faq.htm#emfac2011_web_db_qstn07

- **How do I calculate Methane (CH4) and Nitrous Oxide (N2O) emissions?**
  - Methane (CH4) calculation method
    - Run EMFAC2011-LDV to calculate CH4 for those vehicle categories;
    - Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.
  - Nitrous Oxide (N2O) calculation method
    - Use 4.16% of NOx to calculate N2O for all gasoline vehicles, the same assumption as for the emissions inventory for the Advanced Clean Cars rule;
    - Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Table 113
Light Heavy-Duty and Heavy Heavy-Duty Vehicle Emission Factors

EMFAC 2011
2016 Estimated Annual Emissions
EMFAC 2011 Vehicle Categories
San Bernardino COUNTY
Mojave Desert AIR BASIN
Mojave Desert AQMD
All Model Years

LHDT Diesel (pounds/mile)	
CO	**0.00192798**
NOx	**0.01237034**
ROG	**0.00027862**
SOx	**0.00001103**
PM10	**0.00026112**
PM2.5	**0.00005485**
CO2	**1.11519022**
CH4	**0.00001294**
N2O	**0.00003802**

HHDT Diesel (pounds/mile)	
CO	**0.00284760**
NOx	**0.01656235**
ROG	**0.00042317**
SOx	**0.00003500**
PM10	**0.00054297**
PM2.5	**0.00030129**
CO2	**3.54025345**
CH4	**0.00001966**
N2O	**0.00012069**

Note: HHDT is based on the emissions from the T7 Tractor.

Methane and N2O calculated as prescribed by ARB:
http://www.arb.ca.gov/msei/emfac2011-faq.htm#emfac2011_web_db_qstn07

- **How do I calculate Methane (CH4) and Nitrous Oxide (N2O) emissions?**
  - Methane (CH4) calculation method
    - Run EMFAC2011-LDV to calculate CH4 for those vehicle categories;
    - Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.
  - Nitrous Oxide (N2O) calculation method
    - Use 4.16% of NOx to calculate N2O for all gasoline vehicles, the same assumption as for the emissions inventory for the Advanced Clean Cars rule;
    - Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Table 114
Controlled Fugitive Dust Emission Factors
Soil Dropping During Excavation

Emission Factor [lb/cu. yd] = 0.0032 x (mean wind speed [mi/hr] / 5)$^{1.3}$ / (moisture [%] / 2)$^{1.4}$ x (number drops per ton) x (density [ton/cu. yd]) x k
Reference: AP-42, Equation (1), Section 13.2.4, November 2006

Parameter	Value	Basis
Mean Wind Speed	7.7	Conservative default from Wind Erosion from Unpaved Areas and Roads, MDAQMD Mineral Guidance.
Moisture	10	Assumed moisture level achieved by watering
Number Drops	4	Assumption
Soil Density	1.215	Table 2.46, Handbook of Solid Waste Management

PM10 Emission Factor	1.00E-03	lb/cu. yd	(k = 0.35)
PM2.5 Emission Factor	1.52E-04	lb/cu. yd	(k = 0.053)

Emissions [pounds per day] = Controlled emission factor [pounds per cubic yard] x Volume soil handled [cubic yards per day]

Storage Pile Wind Erosion

Emission Factor [lb/day-acre] = k x 1.7 x (silt content [%] / 1.5) x (365 / 235) x (percentage of time unobstructed wind exceeds 12 mph / 15)
Reference: MDAQMD Emission Inventory Guidance, Mineral Handling and Processing Industries, April 2000

Parameter	Value	Basis
Silt Content	30	Conservative default from Bulldozing, Scraping and Grading, MDAQMD Mineral Guidance.
Pct. time wind > 12 mph	100	Worst-case assumption

PM10 Emission Factor (Uncontrolled)	176.0	lb/day-acre	(k = 0.5)
PM2.5 Emission Factor (Uncontrolled)	70.4	lb/day-acre	(k = 0.2)
Reduction from Watering Twice/Day	90%		Control efficiency from watering storage pile by hand at a rate of 1.4 gallons/hour-yard^2, Table XI-B, Mitigation Measure Examples, Fugitive Dust from Materials Handling, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html
Controlled PM10 Emission Factor	17.6	lb/day-acre	
Controlled PM2.5 Emission Factor	7.0	lb/day-acre	

Emissions [pounds per day] = Controlled emission factor [pounds per acre-day] x Storage pile surface area [acres]

Bulldozing, Scraping and Grading

PM10 Emission Factor [lb/hr] = 0.75 x (silt content [%])$^{1.5}$ / (moisture)$^{1.4}$
PM2.5 Emission Factor [lb/hr] = 0.60 x (silt content [%])$^{1.2}$ / (moisture)$^{1.3}$
Reference: AP-42, Table 11.9-1, July 1998

Parameter	Value	Basis
Silt Content	15	Default value from MDAQMD Rule 403.2 (F)
Moisture	10	Assumed moisture level achieved by watering

PM10 Emission Factor	1.7	lb/hr
PM2.5 Emission Factor	0.8	lb/hr

Emissions [pounds per day] = Controlled emission factor [pounds per hour] x Bulldozing, scraping or grading time [hours/day]

Uncontrolled Alternative Project Segment 10 Emissions

Table 1
Annual Construction Emissions Summary with Alternative Transmission Segment 10

Maximum Annual Construction Emissions by Component

Component	VOC (tons/year)	CO (tons/year)	NOX (tons/year)	SOX (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)	CO2e (tons/year)
Substation	1.29	6.20	17.44	0.03	479.75	130.27	3,540.09
Distribution for Station Light & Power	0.02	0.07	0.13	0.00	0.13	0.02	32.88
Modifications to Existing Substations	0.57	3.50	4.08	0.01	0.81	0.33	894.34
Transmission and Subtransmission Lines	17.40	69.62	123.62	9.02	1,485.46	308.54	27,375.94
Telecommunications System	0.15	0.82	1.52	0.00	1.59	0.22	343.83
Total	**19.42**	**80.22**	**146.79**	**9.07**	**1,967.74**	**439.39**	**32,187.08**

[a] Maximum annual emissions are during months 1 through 12

Table 2
Operational Emissions with Alternative Transmission Segment 10

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Emergency Generator Testing	0.40	4.34	7.61	0.01	0.25	0.25	706.9
SF_6 Leakage	--	--	--	--	--	--	1,229.7
Motor Vehicle Exhaust	0.02	0.13	0.39	0.00	0.05	0.02	267.0
Motor Vehicle Fugitive PM	--	--	--	--	101.04	10.24	
Total	**0.42**	**4.47**	**8.00**	**0.01**	**101.35**	**10.50**	**2,203.63**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Emergency Generator Testing	0.01	0.11	0.20	0.00	0.01	0.01	18.38
SF_6 Leakage	--	--	--	--	--	--	224.42
Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.25
Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.01	--
Total	**0.01**	**0.11**	**0.20**	**0.00**	**0.11**	**0.02**	**244.05**

Emergency Generator Testing Emissions

Horsepower	Hours/Day	Fuel Use (gal/hr)	Emission Factors (g/bhp-hr)[a]					Emission Factors (g/gal)		
			CO	VOC[b]	NOx[b]	PM10[c]	PM2.5[c]	CO_2[d]	CH_4[e]	N_2O[e]
757	1	31.3	2.6	0.24	4.56	0.15	0.15	10,210	0.41	0.083

[a] Emission factors assumed the same as emission limits for emergency CI engine in Title 17, CCR, Section 93115.6 Table 2

[b] For NMHC+NOx limit, emissions assumed to be 5 percent ROC
and 95 percent NOx, from Table D-25 of 2011 Carl Moyer Program Guidelines - http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm

[c] PM10 and PM2.5 assumed to be same as PM emission standards.

[d] From Table C-1 of Title 40, Code of Federal Regulations, Subpart 98 for No. 2 distillate fuel oil.

[e] From Table C-2 of Title 40, Code of Federal Regulations, Subpart 98 for No. 2 distillate fuel oil.

Load Factor	Emission Rates (lb/hr)								
	CO[a]	VOC[a]	NOx[a]	SOx[b]	PM10[a]	PM2.5[a]	CO_2[c]	CH_4[c]	N_2O[c]
1	4.34	0.40	7.61	0.007	0.25	0.25	704.53	0.03	0.01

Diesel Fuel Density = 6.943 lb/gal
Diesel Fuel Sulfur = 15 ppmw

[a] Emission Rate [lb/hr] = Emission Factor [g/bhp-hr] x Engine Horsepower [hp] x Load Factor [unitless] / 453.6 [g/lb]

[b] Emission Rate [lb/hr] = Fuel Use [gal/hr] x Fuel Density [lb/gal] x Fuel Sulfur [ppmw] x 10^{-6} x 2 [lb SO_2/lb S]

[c] Emission Rate [lb/hr] = Emission Factor [g/gal] x Fuel Use [gal/hr] / 453.6 [g/lb]

Daily Emissions (lb/day)[a]									
CO	VOC	NOx	SOx	PM10	PM2.5	CO_2	CH_4	N_2O	CO_2e[b]
4.34	0.40	7.61	0.01	0.25	0.25	704.53	0.03	0.01	706.90

Table 2
Operational Emissions with Alternative Transmission Segment 10

[a] Daily Emissions [lb/day] = Hourly Emissions [lb/hr-unit] x Operating Time [hr/day]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Annual Op. (hr/year)	Annual Emissions (tons)[a]									
	CO	VOC	NOx	SOx	PM10	PM2.5	CO_2	CH_4	N_2O	CO_2e
52	0.11	0.01	0.20	0.00	0.01	0.01	18.32	0.00	0.00	18.38

[a] Annual Emissions [tons] = Hourly Emissions [lb/hr] x Operating Time [hr/year]

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
1-Ton Crew Cab, 4x4, Substation	1	48	N/A	60
1-Ton Crew Cab, 4x4, Transmission	1	2	N/A	132.4
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	1	N/A	71
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	1	N/A	89

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
1-Ton Crew Cab, 4x4, Substation	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Transmission	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Gale-Pisgah	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
1-Ton Crew Cab, 4x4, Substation	0.00	0.02	0.07	0.00	0.01	0.00	44.93	0.00	0.00	45.46
1-Ton Crew Cab, 4x4, Transmission	0.01	0.05	0.15	0.00	0.02	0.01	99.15	0.00	0.00	100.33
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	0.00	0.03	0.08	0.00	0.01	0.00	53.17	0.00	0.00	53.80
1-Ton Crew Cab, 4x4, Gale-Pisgah	0.01	0.03	0.10	0.00	0.01	0.00	66.65	0.00	0.00	67.44
Total	**0.02**	**0.13**	**0.39**	**0.00**	**0.05**	**0.02**	**263.90**	**0.00**	**0.01**	**267.03**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
1-Ton Crew Cab, 4x4, Substation	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.00	0.00	1.09
1-Ton Crew Cab, 4x4, Transmission	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.10
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03

Table 2
Operational Emissions with Alternative Transmission Segment 10

1-Ton Crew Cab, 4x4, Gale-Pisgah	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.24**	**0.00**	**0.00**	**1.25**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
1-Ton Crew Cab, 4x4, Substation	1	Unpaved	0	48	1.311	0.131	0.00	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Substation	1	Paved	60	48	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Transmission	1	Unpaved	72.4	2	1.311	0.131	94.88	9.49	0.09	0.01
1-Ton Crew Cab, 4x4, Transmission	1	Paved	60	2	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	Unpaved	4	1	1.311	0.131	5.24	0.52	0.00	0.00
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	Paved	67	1	0.003	0.001	0.22	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	Unpaved	0	1	1.311	0.131	0.00	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	Paved	89	1	0.003	0.001	0.30	0.07	0.00	0.00
Total							**101.04**	**10.24**	**0.10**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

SF_6 Leakage Greenhouse Gas Emissions

Item	Value	Units
Total SF_6	3,756	pounds
SF_6 Leakage Rate	0.5	%/year
SF_6 Emissions	18.78	pounds
SF_6 Global Warming Potential[a]	23,900	
CO_2e Emissions[b]	**1,230**	**lbs/day**
CO_2e Emissions[b]	**224**	**tpy**

[c] From Table A-1 of Title 40, Code of Federal Regulations, Subpart 98

[b] CO_2e emissions [tpy] = SF_6 emissions [lb] x
Global warming potential [lb CO_2e/lb SF_6] / 2000 [lb/ton]

Table 3
Annual Construction Emissions Summary with Alternative Transmission Segment 10

Maximum Annual Construction Emissions by Component on BLM Land

Component	VOC (tons/year)	CO (tons/year)	NOX (tons/year)	SOX (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)	CO2e (tons/year)
Substation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Distribution for Station Light & Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Modifications to Existing Substations	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission and Subtransmission Lines	6.15	24.28	42.70	3.46	571.10	118.49	9,535.63
Telecommunications System	0.01	0.07	0.13	0.00	0.03	0.01	29.84
Total	**6.16**	**24.35**	**42.83**	**3.46**	**571.13**	**118.50**	**9,565.47**

[a] Maximum annual emissions are during months 1 through 12

Table 4
Operational Emissions with Alternative Transmission Segment 10 on BLM Land

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	18.7
Motor Vehicle Fugitive PM	--	--	--	--	32.26	3.23	
Total	**0.00**	**0.01**	**0.03**	**0.00**	**32.26**	**3.23**	**18.65**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	--
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.02**

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
1-Ton Crew Cab, 4x4, Transmission	1	2	N/A	25

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
1-Ton Crew Cab, 4x4, Transmission	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
1-Ton Crew Cab, 4x4, Transmission	0.00	0.01	0.03	0.00	0.00	0.00	18.43	0.00	0.00	18.65
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**18.43**	**0.00**	**0.00**	**18.65**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
1-Ton Crew Cab, 4x4, Transmission	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 4
Operational Emissions with Alternative Transmission Segment 10 on BLM Land

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
1-Ton Crew Cab, 4x4, Transmission	1	Unpaved	25	2	1.311	0.131	32.26	3.23	0.03	0.00
Total							**32.26**	**3.23**	**0.03**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 5
Total Construction Emissions Summary with Alternative Transmission Segment 10

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out										
Survey	0.00	0.00	0.00	0.00	0.07	0.01	0.68	1.00	0.00	0.00
Grading	0.96	4.03	10.57	0.02	445.31	126.50	1,936.17	1.00	0.00	0.00
Perimeter Wall	0.06	0.43	0.52	0.00	1.13	0.14	203.77	1.00	0.00	0.00
Water Well	0.02	0.16	0.14	0.00	0.54	0.06	70.96	1.00	0.00	0.00
Civil	0.12	0.80	4.18	0.01	24.11	2.60	908.53	1.00	0.00	0.00
Electrical	0.01	0.05	0.06	0.00	0.06	0.01	10.26	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.16	0.02	7.43	1.00	0.00	0.00
MEER	0.01	0.11	0.04	0.00	0.34	0.04	18.75	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.09	0.01	3.32	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.07	0.01	5.75	1.00	0.00	0.00
Asphalting	0.10	0.51	1.92	0.00	7.86	0.86	374.47	1.00	0.00	0.00
Substation Construction - Full Build Out										
Survey	0.00	0.11	0.01	0.00	0.30	0.04	15.57	0.00	1.00	0.00
Civil	0.78	4.41	6.27	0.02	10.77	1.43	1,594.62	0.00	1.00	0.00
Electrical	0.19	1.41	1.36	0.00	1.09	0.22	246.08	0.00	0.67	0.67
Wiring	0.00	0.07	0.01	0.00	0.21	0.03	9.91	0.00	0.67	0.67
Control Room	0.01	0.14	0.06	0.00	0.35	0.05	24.75	0.00	0.67	0.67
Maintenance	0.00	0.06	0.01	0.00	0.24	0.03	8.29	0.00	0.67	0.67
Asphalting	0.10	0.41	1.11	0.00	2.19	0.26	188.30	0.00	0.00	1.00
Transformer Assembly	0.09	0.63	0.68	0.00	0.50	0.10	135.09	0.00	0.67	0.67
Testing	0.01	0.39	0.04	0.00	0.50	0.09	55.34	0.00	0.67	0.67
Distribution for Station Light & Power										
Overhead Construction	0.00	0.03	0.04	0.00	0.05	0.01	13.31	1.00	0.00	0.00
Underground Civil Construction	0.01	0.03	0.05	0.00	0.05	0.01	11.87	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.04	0.01	7.70	1.00	0.00	0.00
Modifications to Coolwater Switchyard										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	1.00	0.00	0.00
Civil	0.11	0.65	0.78	0.00	0.10	0.05	184.00	1.00	0.00	0.00
Electrical	0.06	0.34	0.50	0.00	0.08	0.04	84.18	1.00	0.00	0.00
Wiring	0.00	0.02	0.00	0.00	0.01	0.00	2.49	1.00	0.00	0.00
MEER	0.01	0.06	0.04	0.00	0.03	0.01	12.10	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	1.00	0.00	0.00

Table 5
Total Construction Emissions Summary with Alternative Transmission Segment 10

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	1.00	0.00	0.00
Modifications to Lugo Substation										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	1.00	0.00	0.00
Civil	0.20	1.17	1.37	0.00	0.19	0.09	342.12	1.00	0.00	0.00
Electrical	0.09	0.52	0.71	0.00	0.13	0.06	124.34	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.04	0.01	7.40	1.00	0.00	0.00
Control Room	0.01	0.07	0.05	0.00	0.03	0.01	14.83	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	1.00	0.00	0.00
Transformer Assembly	0.08	0.48	0.60	0.00	0.10	0.04	103.59	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	1.00	0.00	0.00
Transmission and Subtransmission Construction										
Survey	0.01	0.16	0.02	0.00	4.80	0.49	22.91	1.00	0.00	0.00
Construction and Materials Yards	3.60	16.40	31.77	0.07	5.19	1.93	6,520.20	0.40	0.40	0.40
Right-of-Way Clearing	0.67	3.07	5.09	0.01	273.37	86.19	1,074.78	1.00	0.00	0.00
Roads and Landing Work	1.49	5.79	11.64	0.02	469.09	143.60	2,315.44	1.00	0.00	0.00
Retaining Wall Installation	2.39	12.16	20.69	0.05	190.83	19.85	4,617.97	1.00	0.00	0.00
Wet Crossing Installation	1.53	7.91	13.59	0.03	158.20	16.36	2,745.75	1.00	0.00	0.00
Guard Structure Installation	0.12	0.59	0.97	0.00	9.59	1.00	245.04	0.40	0.40	0.40
Remove Existing Conductor & GW	0.25	1.22	2.59	0.01	22.62	2.35	563.41	0.40	0.40	0.40
LST Removal	0.27	1.09	1.97	0.00	6.95	0.78	358.39	0.40	0.40	0.40
LST Foundation Removal	0.03	0.14	0.21	0.00	0.80	0.09	48.29	0.40	0.40	0.40
Install LST Foundations	1.79	8.35	17.00	0.44	295.56	30.29	4,591.96	0.40	0.40	0.40
LST Steel Haul	0.77	1.82	5.15	1.61	25.95	2.76	1,304.18	0.40	0.40	0.40
LST Steel Assembly	6.01	24.84	42.65	6.63	98.69	11.80	8,908.39	0.40	0.40	0.40
LST Erection	8.30	18.91	39.61	10.92	127.78	14.20	8,769.91	0.40	0.40	0.40
Install TSP Foundations	1.08	5.18	9.93	0.03	157.66	16.14	2,585.63	0.40	0.40	0.40
TSP Haul	0.05	0.22	0.42	0.00	8.19	0.84	83.32	0.40	0.40	0.40
TSP Assembly	0.11	0.55	0.81	0.00	10.75	1.12	153.21	0.40	0.40	0.40
TSP Erection	0.10	0.54	0.78	0.00	7.67	0.81	145.70	0.40	0.40	0.40
Install Conductor	5.49	19.58	24.30	2.55	142.03	15.55	6,508.79	0.40	0.40	0.40
Guard Structure Removal	0.07	0.34	0.56	0.00	6.56	0.68	101.26	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.04	0.08	0.00	0.69	0.07	15.66	0.40	0.40	0.40
Install TSP Riser Foundations	0.07	0.37	0.72	0.00	15.00	1.53	186.70	0.40	0.40	0.40

Table 5
Total Construction Emissions Summary with Alternative Transmission Segment 10

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
TSP Riser Haul	0.00	0.02	0.04	0.00	0.72	0.07	7.29	0.40	0.40	0.40
TSP Riser Assembly	0.04	0.22	0.33	0.00	4.30	0.45	61.29	0.40	0.40	0.40
TSP Riser Erection	0.04	0.22	0.31	0.00	3.07	0.32	58.28	0.40	0.40	0.40
Vault Installation	0.04	0.21	0.34	0.00	6.95	0.71	71.39	0.40	0.40	0.40
Duct Bank Installation	0.02	0.15	0.19	0.00	7.84	0.80	41.99	0.40	0.40	0.40
Install Underground Cable	0.07	0.33	0.75	0.00	8.33	0.86	167.43	0.40	0.40	0.40
Restoration	0.20	1.33	1.38	0.00	105.33	31.57	233.87	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)										
Install Cable	0.03	0.14	0.33	0.00	0.45	0.05	66.73	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.18	0.02	12.27	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)										
Install Cable	0.01	0.06	0.14	0.00	0.19	0.02	27.80	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.11	0.01	6.56	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)										
Install Cable	0.02	0.10	0.23	0.00	0.16	0.02	46.14	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.04	0.00	0.09	0.01	10.26	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall										
Install Cable	0.03	0.14	0.29	0.00	0.17	0.03	60.35	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.33	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.09	0.01	13.10	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation										
Install Cable	0.02	0.09	0.18	0.00	0.11	0.02	37.72	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.33	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.08	0.01	11.63	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation										
Install 5 Foot Crossarm	0.00	0.02	0.03	0.00	0.08	0.01	6.39	1.00	0.00	0.00
Install Down Guys	0.00	0.02	0.02	0.00	0.06	0.01	4.93	1.00	0.00	0.00
Install Cable	0.03	0.14	0.32	0.00	0.43	0.05	64.46	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.05	0.00	0.72	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.02	0.03	0.00	0.11	0.01	8.16	1.00	0.00	0.00

Table 5
Total Construction Emissions Summary with Alternative Transmission Segment 10

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Restoration	0.00	0.01	0.00	0.00	0.07	0.01	1.29	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable										
Install 5 Foot Crossarm	0.02	0.09	0.19	0.00	0.02	0.01	39.90	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.09	0.17	0.00	0.02	0.01	41.02	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.01	0.00	3.93	1.00	0.00	0.00
Install Cable	0.01	0.08	0.17	0.00	0.02	0.01	36.10	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.02	0.00	0.00	0.02	0.00	3.53	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.06	0.09	0.00	0.03	0.01	22.55	1.00	0.00	0.00
Restoration	0.00	0.02	0.01	0.00	0.01	0.00	3.69	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower										
All	0.01	0.08	0.09	0.00	0.02	0.01	27.81	1.00	0.00	0.00
Totals by 12-Month Period										
Months 1-12	19.42	80.22	146.79	9.07	1,967.74	439.39	32,187.08			
Months 13-24	12.45	47.75	81.25	8.93	472.74	65.02	18,687.19			
Months 19-30	11.86	44.14	77.09	8.91	464.91	63.96	17,480.23			
12-Month Maximum	**19.42**	**80.22**	**146.79**	**9.07**	**1,967.74**	**439.39**	**32,187.08**			
Total GHG Emissions (metric tons)							**54,261.84**			

Table 6
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Grading	0.85	3.12	6.80	0.01	0.26	0.24	1,092.04	1.00	0.00	0.00
Perimeter Wall	0.06	0.33	0.36	0.00	0.01	0.01	160.94	1.00	0.00	0.00
Water Well	0.02	0.11	0.12	0.00	0.00	0.00	62.74	1.00	0.00	0.00
Civil	0.02	0.07	0.10	0.00	0.01	0.00	24.90	1.00	0.00	0.00
Electrical	0.01	0.03	0.06	0.00	0.00	0.00	7.78	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Asphalting	0.07	0.26	0.61	0.00	0.02	0.02	87.66	1.00	0.00	0.00
Substation Construction - Full Build Out										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Civil	0.73	3.64	5.07	0.01	0.24	0.22	1,267.98	0.00	1.00	0.00
Electrical	0.18	0.94	1.31	0.00	0.08	0.08	180.29	0.00	0.67	0.67
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.00	0.67	0.67
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Asphalting	0.09	0.32	0.76	0.00	0.03	0.03	109.57	0.00	0.00	1.00
Transformer Assembly	0.08	0.36	0.65	0.00	0.03	0.03	98.12	0.00	0.67	0.67
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Distribution for Station Light & Power										
Overhead Construction	0.00	0.02	0.04	0.00	0.00	0.00	12.68	1.00	0.00	0.00
Underground Civil Construction	0.01	0.02	0.04	0.00	0.00	0.00	10.39	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.00	0.00	7.27	1.00	0.00	0.00
Modifications to Coolwater Switchyard										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Civil	0.11	0.57	0.73	0.00	0.04	0.04	163.64	1.00	0.00	0.00
Electrical	0.06	0.26	0.49	0.00	0.02	0.02	72.67	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00

Table 6
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Modifications to Lugo Substation										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Civil	0.19	1.01	1.27	0.00	0.07	0.06	304.10	1.00	0.00	0.00
Electrical	0.09	0.38	0.70	0.00	0.03	0.03	103.81	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Transformer Assembly	0.08	0.37	0.59	0.00	0.03	0.03	88.72	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Transmission and Subtransmission Construction										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Construction and Materials Yards	3.31	10.95	25.97	0.05	0.92	0.84	4,736.74	0.40	0.40	0.40
Right-of-Way Clearing	0.63	2.25	4.84	0.01	0.18	0.16	926.78	1.00	0.00	0.00
Roads and Landing Work	1.46	5.08	11.25	0.02	0.41	0.37	2,154.97	1.00	0.00	0.00
Retaining Wall Installation	2.25	10.13	17.26	0.04	0.65	0.60	3,707.32	1.00	0.00	0.00
Wet Crossing Installation	1.42	6.19	10.97	0.02	0.42	0.39	2,029.61	1.00	0.00	0.00
Guard Structure Installation	0.11	0.49	0.88	0.00	0.03	0.03	214.70	0.40	0.40	0.40
Remove Existing Conductor & GW	0.23	0.94	2.36	0.00	0.07	0.07	480.91	0.40	0.40	0.40
LST Removal	0.26	0.96	1.91	0.00	0.09	0.08	328.47	0.40	0.40	0.40
LST Foundation Removal	0.03	0.10	0.19	0.00	0.01	0.01	41.63	0.40	0.40	0.40
Install LST Foundations	1.49	6.07	10.82	0.03	0.36	0.33	3,072.31	0.40	0.40	0.40
LST Steel Haul	0.23	0.75	1.91	0.00	0.06	0.06	367.05	0.40	0.40	0.40
LST Steel Assembly	3.85	17.36	29.05	0.05	1.39	1.28	4,673.69	0.40	0.40	0.40
LST Erection	1.82	6.58	14.32	0.02	0.63	0.58	2,263.48	0.40	0.40	0.40
Install TSP Foundations	0.98	3.86	7.29	0.02	0.24	0.22	1,911.12	0.40	0.40	0.40
TSP Haul	0.04	0.14	0.34	0.00	0.01	0.01	58.12	0.40	0.40	0.40
TSP Assembly	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.40	0.40	0.40
TSP Erection	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.40	0.40	0.40
Install Conductor	2.23	8.36	19.92	0.04	0.67	0.62	3,894.68	0.40	0.40	0.40
Guard Structure Removal	0.06	0.26	0.52	0.00	0.02	0.02	85.27	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.03	0.08	0.00	0.00	0.00	13.63	0.40	0.40	0.40
Install TSP Riser Foundations	0.06	0.23	0.44	0.00	0.01	0.01	114.63	0.40	0.40	0.40

Table 6
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
TSP Riser Haul	0.00	0.01	0.03	0.00	0.00	0.00	5.09	0.40	0.40	0.40
TSP Riser Assembly	0.04	0.15	0.30	0.00	0.01	0.01	46.68	0.40	0.40	0.40
TSP Riser Erection	0.04	0.15	0.30	0.00	0.01	0.01	46.68	0.40	0.40	0.40
Vault Installation	0.03	0.16	0.25	0.00	0.01	0.01	47.60	0.40	0.40	0.40
Duct Bank Installation	0.01	0.10	0.10	0.00	0.01	0.01	16.44	0.40	0.40	0.40
Install Underground Cable	0.07	0.27	0.66	0.00	0.02	0.02	142.59	0.40	0.40	0.40
Restoration	0.19	1.09	1.24	0.00	0.09	0.08	174.35	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)										
Install Cable	0.03	0.12	0.32	0.00	0.01	0.01	61.79	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)										
Install Cable	0.01	0.05	0.13	0.00	0.00	0.00	25.75	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.01	0.02	0.00	0.00	0.00	4.85	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)										
Install Cable	0.02	0.08	0.22	0.00	0.01	0.01	42.91	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.00	0.00	7.62	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall										
Install Cable	0.02	0.10	0.28	0.00	0.01	0.01	54.93	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation										
Install Cable	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.00	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation										
Install 5 Foot Crossarm	0.00	0.01	0.03	0.00	0.00	0.00	5.15	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.00	0.00	3.43	1.00	0.00	0.00
Install Cable	0.03	0.11	0.31	0.00	0.01	0.01	60.08	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.01	0.03	0.00	0.00	0.00	6.23	1.00	0.00	0.00

Table 6
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable										
Install 5 Foot Crossarm	0.02	0.07	0.18	0.00	0.01	0.00	34.33	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.07	0.16	0.00	0.00	0.00	36.98	1.00	0.00	0.00
Install Down Guys	0.00	0.00	0.01	0.00	0.00	0.00	2.57	1.00	0.00	0.00
Install Cable	0.01	0.06	0.16	0.00	0.00	0.00	30.90	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.04	0.08	0.00	0.00	0.00	17.32	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower										
All	0.01	0.05	0.09	0.00	0.00	0.00	23.46	1.00	0.00	0.00
Totals by 12-Month Period										
Months 1-12	13.53	54.31	105.46	0.21	4.09	3.76	20,446.99			
Months 13-24	7.08	28.72	54.90	0.11	2.25	2.07	10,694.76			
Months 19-30	6.52	25.76	51.55	0.10	2.06	1.90	9,725.44			
12-Month Maximum	**13.53**	**54.31**	**105.46**	**0.21**	**4.09**	**3.76**	**20,446.99**			
Total GHG Emissions (metric tons)							**32,796.63**			

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 10

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out											
Survey	0.00	0.00	0.00	0.00	0.07	0.01	0.68	0.000	1.00	0.00	0.00
Grading	0.96	4.03	10.57	0.02	445.31	126.50	1,936.17	0.000	1.00	0.00	0.00
Perimeter Wall	0.06	0.43	0.52	0.00	1.13	0.14	203.77	0.000	1.00	0.00	0.00
Water Well	0.02	0.16	0.14	0.00	0.54	0.06	70.96	0.000	1.00	0.00	0.00
Civil	0.12	0.80	4.18	0.01	24.11	2.60	908.53	0.000	1.00	0.00	0.00
Electrical	0.01	0.05	0.06	0.00	0.06	0.01	10.26	0.000	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.16	0.02	7.43	0.000	1.00	0.00	0.00
MEER	0.01	0.11	0.04	0.00	0.34	0.04	18.75	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.09	0.01	3.32	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.07	0.01	5.75	0.000	1.00	0.00	0.00
Asphalting	0.10	0.51	1.92	0.00	7.86	0.86	374.47	0.000	1.00	0.00	0.00
Substation Construction - Full Build Out											
Survey	0.00	0.11	0.01	0.00	0.30	0.04	15.57	0.000	0.00	1.00	0.00
Civil	0.78	4.41	6.27	0.02	10.77	1.43	1,594.62	0.000	0.00	1.00	0.00
Electrical	0.19	1.41	1.36	0.00	1.09	0.22	246.08	0.000	0.00	0.67	0.67
Wiring	0.00	0.07	0.01	0.00	0.21	0.03	9.91	0.000	0.00	0.67	0.67
Control Room	0.01	0.14	0.06	0.00	0.35	0.05	24.75	0.000	0.00	0.67	0.67
Maintenance	0.00	0.06	0.01	0.00	0.24	0.03	8.29	0.000	0.00	0.67	0.67
Asphalting	0.10	0.41	1.11	0.00	2.19	0.26	188.30	0.000	0.00	0.00	1.00
Transformer Assembly	0.09	0.63	0.68	0.00	0.50	0.10	135.09	0.000	0.00	0.67	0.67
Testing	0.01	0.39	0.04	0.00	0.50	0.09	55.34	0.000	0.00	0.67	0.67
Distribution for Station Light & Power											
Overhead Construction	0.00	0.03	0.04	0.00	0.05	0.01	13.31	0.000	1.00	0.00	0.00
Underground Civil Construction	0.01	0.03	0.05	0.00	0.05	0.01	11.87	0.000	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.04	0.01	7.70	0.000	1.00	0.00	0.00
Modifications to Coolwater Switchyard											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.000	1.00	0.00	0.00
Civil	0.11	0.65	0.78	0.00	0.10	0.05	184.00	0.000	1.00	0.00	0.00
Electrical	0.06	0.34	0.50	0.00	0.08	0.04	84.18	0.000	1.00	0.00	0.00
Wiring	0.00	0.02	0.00	0.00	0.01	0.00	2.49	0.000	1.00	0.00	0.00
MEER	0.01	0.06	0.04	0.00	0.03	0.01	12.10	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	0.000	1.00	0.00	0.00
Modifications to Lugo Substation											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.000	1.00	0.00	0.00

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 10

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
Civil	0.20	1.17	1.37	0.00	0.19	0.09	342.12	0.000	1.00	0.00	0.00
Electrical	0.09	0.52	0.71	0.00	0.13	0.06	124.34	0.000	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.04	0.01	7.40	0.000	1.00	0.00	0.00
Control Room	0.01	0.07	0.05	0.00	0.03	0.01	14.83	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	0.000	1.00	0.00	0.00
Transformer Assembly	0.08	0.48	0.60	0.00	0.10	0.04	103.59	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	0.000	1.00	0.00	0.00
Transmission and Subtransmission Construction											
Survey	0.01	0.16	0.02	0.00	4.80	0.49	22.91	0.385	1.00	0.00	0.00
Construction and Materials Yards	3.60	16.40	31.77	0.07	5.19	1.93	6,520.20	0.000	0.40	0.40	0.40
Right-of-Way Clearing	0.67	3.07	5.09	0.01	273.37	86.19	1,074.78	0.385	1.00	0.00	0.00
Roads and Landing Work	1.49	5.79	11.64	0.02	469.09	143.60	2,315.44	0.385	1.00	0.00	0.00
Retaining Wall Installation	2.39	12.16	20.69	0.05	190.83	19.85	4,617.97	0.385	1.00	0.00	0.00
Wet Crossing Installation	1.53	7.91	13.59	0.03	158.20	16.36	2,745.75	0.385	1.00	0.00	0.00
Guard Structure Installation	0.12	0.59	0.97	0.00	9.59	1.00	245.04	0.385	0.40	0.40	0.40
Remove Existing Conductor & GW	0.25	1.22	2.59	0.01	22.62	2.35	563.41	0.385	0.40	0.40	0.40
LST Removal	0.27	1.09	1.97	0.00	6.95	0.78	358.39	0.385	0.40	0.40	0.40
LST Foundation Removal	0.03	0.14	0.21	0.00	0.80	0.09	48.29	0.385	0.40	0.40	0.40
Install LST Foundations	1.79	8.35	17.00	0.44	295.56	30.29	4,591.96	0.385	0.40	0.40	0.40
LST Steel Haul	0.77	1.82	5.15	1.61	25.95	2.76	1,304.18	0.385	0.40	0.40	0.40
LST Steel Assembly	6.01	24.84	42.65	6.63	98.69	11.80	8,908.39	0.385	0.40	0.40	0.40
LST Erection	8.30	18.91	39.61	10.92	127.78	14.20	8,769.91	0.385	0.40	0.40	0.40
Install TSP Foundations	1.08	5.18	9.93	0.03	157.66	16.14	2,585.63	0.385	0.40	0.40	0.40
TSP Haul	0.05	0.22	0.42	0.00	8.19	0.84	83.32	0.385	0.40	0.40	0.40
TSP Assembly	0.11	0.55	0.81	0.00	10.75	1.12	153.21	0.385	0.40	0.40	0.40
TSP Erection	0.10	0.54	0.78	0.00	7.67	0.81	145.70	0.385	0.40	0.40	0.40
Install Conductor	5.49	19.58	24.30	2.55	142.03	15.55	6,508.79	0.385	0.40	0.40	0.40
Guard Structure Removal	0.07	0.34	0.56	0.00	6.56	0.68	101.26	0.385	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.04	0.08	0.00	0.69	0.07	15.66	0.385	0.40	0.40	0.40
Install TSP Riser Foundations	0.07	0.37	0.72	0.00	15.00	1.53	186.70	0.385	0.40	0.40	0.40
TSP Riser Haul	0.00	0.02	0.04	0.00	0.72	0.07	7.29	0.385	0.40	0.40	0.40
TSP Riser Assembly	0.04	0.22	0.33	0.00	4.30	0.45	61.29	0.385	0.40	0.40	0.40
TSP Riser Erection	0.04	0.22	0.31	0.00	3.07	0.32	58.28	0.385	0.40	0.40	0.40
Vault Installation	0.04	0.21	0.34	0.00	6.95	0.71	71.39	0.385	0.40	0.40	0.40
Duct Bank Installation	0.02	0.15	0.19	0.00	7.84	0.80	41.99	0.385	0.40	0.40	0.40
Install Underground Cable	0.07	0.33	0.75	0.00	8.33	0.86	167.43	0.385	0.40	0.40	0.40

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 10

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
Restoration	0.20	1.33	1.38	0.00	105.33	31.57	233.87	0.385	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)											
Install Cable	0.03	0.14	0.33	0.00	0.45	0.05	66.73	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.18	0.02	12.27	0.000	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)											
Install Cable	0.01	0.06	0.14	0.00	0.19	0.02	27.80	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.11	0.01	6.56	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)											
Install Cable	0.02	0.10	0.23	0.00	0.16	0.02	46.14	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.04	0.00	0.09	0.01	10.26	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall											
Install Cable	0.03	0.14	0.29	0.00	0.17	0.03	60.35	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.33	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.09	0.01	13.10	0.000	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation											
Install Cable	0.02	0.09	0.18	0.00	0.11	0.02	37.72	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.33	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.08	0.01	11.63	0.000	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation											
Install 5 Foot Crossarm	0.00	0.02	0.03	0.00	0.08	0.01	6.39	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.02	0.02	0.00	0.06	0.01	4.93	0.000	1.00	0.00	0.00
Install Cable	0.03	0.14	0.32	0.00	0.43	0.05	64.46	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.05	0.00	0.72	0.000	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.02	0.03	0.00	0.11	0.01	8.16	0.000	1.00	0.00	0.00
Restoration	0.00	0.01	0.00	0.00	0.07	0.01	1.29	0.000	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable											
Install 5 Foot Crossarm	0.02	0.09	0.19	0.00	0.02	0.01	39.90	0.198	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.09	0.17	0.00	0.02	0.01	41.02	0.198	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.01	0.00	3.93	0.198	1.00	0.00	0.00
Install Cable	0.01	0.08	0.17	0.00	0.02	0.01	36.10	0.198	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.02	0.00	0.00	0.02	0.00	3.53	0.198	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.06	0.09	0.00	0.03	0.01	22.55	0.198	1.00	0.00	0.00
Restoration	0.00	0.02	0.01	0.00	0.01	0.00	3.69	0.198	1.00	0.00	0.00

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 10

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Coolwater Microwave Tower											
All	0.01	0.08	0.09	0.00	0.02	0.01	27.81	0.000	1.00	0.00	0.00
Totals by 12-Month Period											
Months 1-12	6.16	24.35	42.83	3.46	571.13	118.50	9,565.47				
Months 13-24	3.86	13.42	23.41	3.42	176.20	24.04	5,446.86				
Months 19-30	3.86	13.42	23.41	3.42	176.20	24.04	5,446.86				
12-Month Maximum	**6.16**	**24.35**	**42.83**	**3.46**	**571.13**	**118.50**	**9,565.47**				
Total GHG Emissions (metric tons)							**54,261.84**				

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Grading	0.85	3.12	6.80	0.01	0.26	0.24	1,092.04	0.000	1.00	0.00	0.00
Perimeter Wall	0.06	0.33	0.36	0.00	0.01	0.01	160.94	0.000	1.00	0.00	0.00
Water Well	0.02	0.11	0.12	0.00	0.00	0.00	62.74	0.000	1.00	0.00	0.00
Civil	0.02	0.07	0.10	0.00	0.01	0.00	24.90	0.000	1.00	0.00	0.00
Electrical	0.01	0.03	0.06	0.00	0.00	0.00	7.78	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Asphalting	0.07	0.26	0.61	0.00	0.02	0.02	87.66	0.000	1.00	0.00	0.00
Substation Construction - Full Build Out											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	1.00	0.00
Civil	0.73	3.64	5.07	0.01	0.24	0.22	1,267.98	0.000	0.00	1.00	0.00
Electrical	0.18	0.94	1.31	0.00	0.08	0.08	180.29	0.000	0.00	0.67	0.67
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.000	0.00	0.67	0.67
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Asphalting	0.09	0.32	0.76	0.00	0.03	0.03	109.57	0.000	0.00	0.00	1.00
Transformer Assembly	0.08	0.36	0.65	0.00	0.03	0.03	98.12	0.000	0.00	0.67	0.67
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Distribution for Station Light & Power											
Overhead Construction	0.00	0.02	0.04	0.00	0.00	0.00	12.68	0.000	1.00	0.00	0.00
Underground Civil Construction	0.01	0.02	0.04	0.00	0.00	0.00	10.39	0.000	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.00	0.00	7.27	0.000	1.00	0.00	0.00
Modifications to Coolwater Switchyard											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Civil	0.11	0.57	0.73	0.00	0.04	0.04	163.64	0.000	1.00	0.00	0.00
Electrical	0.06	0.26	0.49	0.00	0.02	0.02	72.67	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Modifications to Lugo Substation											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Civil	0.19	1.01	1.27	0.00	0.07	0.06	304.10	0.000	1.00	0.00	0.00
Electrical	0.09	0.38	0.70	0.00	0.03	0.03	103.81	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Transformer Assembly	0.08	0.37	0.59	0.00	0.03	0.03	88.72	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Transmission and Subtransmission Construction											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.385	1.00	0.00	0.00
Construction and Materials Yards	3.31	10.95	25.97	0.05	0.92	0.84	4,736.74	0.000	0.40	0.40	0.40
Right-of-Way Clearing	0.63	2.25	4.84	0.01	0.18	0.16	926.78	0.385	1.00	0.00	0.00
Roads and Landing Work	1.46	5.08	11.25	0.02	0.41	0.37	2,154.97	0.385	1.00	0.00	0.00
Retaining Wall Installation	2.25	10.13	17.26	0.04	0.65	0.60	3,707.32	0.385	1.00	0.00	0.00
Wet Crossing Installation	1.42	6.19	10.97	0.02	0.42	0.39	2,029.61	0.385	1.00	0.00	0.00
Guard Structure Installation	0.11	0.49	0.88	0.00	0.03	0.03	214.70	0.385	0.40	0.40	0.40
Remove Existing Conductor & GW	0.23	0.94	2.36	0.00	0.07	0.07	480.91	0.385	0.40	0.40	0.40
LST Removal	0.26	0.96	1.91	0.00	0.09	0.08	328.47	0.385	0.40	0.40	0.40
LST Foundation Removal	0.03	0.10	0.19	0.00	0.01	0.01	41.63	0.385	0.40	0.40	0.40
Install LST Foundations	1.49	6.07	10.82	0.03	0.36	0.33	3,072.31	0.385	0.40	0.40	0.40
LST Steel Haul	0.23	0.75	1.91	0.00	0.06	0.06	367.05	0.385	0.40	0.40	0.40
LST Steel Assembly	3.85	17.36	29.05	0.05	1.39	1.28	4,673.69	0.385	0.40	0.40	0.40
LST Erection	1.82	6.58	14.32	0.02	0.63	0.58	2,263.48	0.385	0.40	0.40	0.40
Install TSP Foundations	0.98	3.86	7.29	0.02	0.24	0.22	1,911.12	0.385	0.40	0.40	0.40
TSP Haul	0.04	0.14	0.34	0.00	0.01	0.01	58.12	0.385	0.40	0.40	0.40
TSP Assembly	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.385	0.40	0.40	0.40
TSP Erection	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.385	0.40	0.40	0.40
Install Conductor	2.23	8.36	19.92	0.04	0.67	0.62	3,894.68	0.385	0.40	0.40	0.40
Guard Structure Removal	0.06	0.26	0.52	0.00	0.02	0.02	85.27	0.385	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.03	0.08	0.00	0.00	0.00	13.63	0.385	0.40	0.40	0.40
Install TSP Riser Foundations	0.06	0.23	0.44	0.00	0.01	0.01	114.63	0.385	0.40	0.40	0.40
TSP Riser Haul	0.00	0.01	0.03	0.00	0.00	0.00	5.09	0.385	0.40	0.40	0.40
TSP Riser Assembly	0.04	0.15	0.30	0.00	0.01	0.01	46.68	0.385	0.40	0.40	0.40
TSP Riser Erection	0.04	0.15	0.30	0.00	0.01	0.01	46.68	0.385	0.40	0.40	0.40
Vault Installation	0.03	0.16	0.25	0.00	0.01	0.01	47.60	0.385	0.40	0.40	0.40
Duct Bank Installation	0.01	0.10	0.10	0.00	0.01	0.01	16.44	0.385	0.40	0.40	0.40
Install Underground Cable	0.07	0.27	0.66	0.00	0.02	0.02	142.59	0.385	0.40	0.40	0.40

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Restoration	0.19	1.09	1.24	0.00	0.09	0.08	174.35	0.385	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)											
Install Cable	0.03	0.12	0.32	0.00	0.01	0.01	61.79	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.000	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)											
Install Cable	0.01	0.05	0.13	0.00	0.00	0.00	25.75	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.01	0.02	0.00	0.00	0.00	4.85	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)											
Install Cable	0.02	0.08	0.22	0.00	0.01	0.01	42.91	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.00	0.00	7.62	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall											
Install Cable	0.02	0.10	0.28	0.00	0.01	0.01	54.93	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.000	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation											
Install Cable	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.00	0.000	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation											
Install 5 Foot Crossarm	0.00	0.01	0.03	0.00	0.00	0.00	5.15	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.00	0.00	3.43	0.000	1.00	0.00	0.00
Install Cable	0.03	0.11	0.31	0.00	0.01	0.01	60.08	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.01	0.03	0.00	0.00	0.00	6.23	0.000	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable											
Install 5 Foot Crossarm	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.198	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.07	0.16	0.00	0.00	0.00	36.98	0.198	1.00	0.00	0.00
Install Down Guys	0.00	0.00	0.01	0.00	0.00	0.00	2.57	0.198	1.00	0.00	0.00
Install Cable	0.01	0.06	0.16	0.00	0.00	0.00	30.90	0.198	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.198	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.04	0.08	0.00	0.00	0.00	17.32	0.198	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.198	1.00	0.00	0.00

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Coolwater Microwave Tower											
All	0.01	0.05	0.09	0.00	0.00	0.00	23.46	0.000	1.00	0.00	0.00
Totals by 12-Month Period											
Months 1-12	4.05	16.50	31.53	0.06	1.22	1.12	6,200.32				
Months 13-24	1.87	7.63	14.67	0.03	0.60	0.55	2,825.93				
Months 19-30	1.87	7.63	14.67	0.03	0.60	0.55	2,825.93				
12-Month Maximum	**4.05**	**16.50**	**31.53**	**0.06**	**1.22**	**1.12**	**6,200.32**				
Total GHG Emissions (metric tons)							**32,796.63**				

Table 9
Alternative Substation Construction Emissions - Initial Build Out
Grading

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	14.21	52.08	113.36	0.18	4.36	4.01	18,200.6
Onsite Motor Vehicle Exhaust	0.02	0.15	0.86	0.00	0.03	0.01	173.6
Onsite Motor Vehicle Fugitive PM	--	--	--	--	46.67	4.67	
Earthwork Fugitive PM	--	--	--	--	7135.74	2073.05	
Onsite Total	**14.24**	**52.23**	**114.22**	**0.18**	**7186.80**	**2081.75**	**18374.2**
Offsite Motor Vehicle Exhaust	1.72	14.94	61.96	0.14	2.11	1.12	13,895.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	257.80	27.93	
Offsite Total	**1.72**	**14.94**	**61.96**	**0.14**	**259.91**	**29.06**	**13895.2**
Total	**15.96**	**67.17**	**176.18**	**0.32**	**7446.71**	**2110.80**	**32269.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.85	3.12	6.80	0.01	0.26	0.24	1,092.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.05	0.00	0.00	0.00	10.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.80	0.28	
Earthwork Fugitive PM	--	--	--	--	428.14	124.38	
Onsite Total	**0.85**	**3.13**	**6.85**	**0.01**	**431.21**	**124.90**	**1102.5**
Offsite Motor Vehicle Exhaust	0.10	0.90	3.72	0.01	0.13	0.07	833.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.98	1.53	
Offsite Total	**0.10**	**0.90**	**3.72**	**0.01**	**14.11**	**1.59**	**833.7**
Total	**0.96**	**4.03**	**10.57**	**0.02**	**445.31**	**126.50**	**1936.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
980 Loader	400	2	120	8
Grader/Blade	400	2	120	8
Compactor	100	1	120	5
Earth Mover	400	4	120	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
980 Loader	400	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Grader/Blade	400	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders
Compactor	100	0.079	0.397	0.511	0.001	0.042	0.038	58.936	0.007	0.002	Rollers
Earth Mover	400	0.273	1.010	2.216	0.003	0.085	0.078	321.140	0.025	0.008	Scrapers

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 9
Alternative Substation Construction Emissions - Initial Build Out
Grading

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
980 Loader	2.55	8.94	20.10	0.04	0.72	0.66	3788.73	0.23	0.10	3,824.1
Grader/Blade	2.52	8.83	19.80	0.04	0.71	0.66	3668.45	0.23	0.10	3,702.8
Compactor	0.40	1.98	2.55	0.00	0.21	0.19	294.68	0.04	0.01	297.8
Earth Mover	8.75	32.32	70.91	0.10	2.72	2.50	10276.48	0.79	0.27	10,376.0
Total	**14.21**	**52.08**	**113.36**	**0.18**	**4.36**	**4.01**	**18028.34**	**1.28**	**0.47**	**18200.64**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
980 Loader	0.15	0.54	1.21	0.00	0.04	0.04	227.32	0.01	0.01	229.4
Grader/Blade	0.15	0.53	1.19	0.00	0.04	0.04	220.11	0.01	0.01	222.2
Compactor	0.02	0.12	0.15	0.00	0.01	0.01	17.68	0.00	0.00	17.9
Earth Mover	0.52	1.94	4.25	0.01	0.16	0.15	616.59	0.05	0.02	622.6
Total	**0.85**	**3.12**	**6.80**	**0.01**	**0.26**	**0.24**	**1081.70**	**0.08**	**0.03**	**1092.04**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	4	120	N/A	4
Survey Truck	1	120	N/A	4
Soils Test Crew Truck	1	120	N/A	4
Dump Truck	60	120	N/A	0.5
Offsite				
Water Truck	4	120	N/A	28
Dump Truck	60	120	N/A	60
Worker Commute	15	120	N/A	58

[a] Dump trucks based on exporting 100,000 CY over 120 days and 14 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Survey Truck	LHDT	2.79E-04	1.93E-03	1.24E-02	1.10E-05	2.61E-04	5.48E-05	1.12E+00	1.29E-05	3.80E-05
Soils Test Crew Truck	LHDT	2.79E-04	1.93E-03	1.24E-02	1.10E-05	2.61E-04	5.48E-05	1.12E+00	1.29E-05	3.80E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										

Table 9
Alternative Substation Construction Emissions - Initial Build Out
Grading

Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.05	0.26	0.00	0.01	0.00	56.64	0.00	0.00	57.25
Survey Truck	0.00	0.01	0.05	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Soils Test Crew Truck	0.00	0.01	0.05	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Dump Truck	0.01	0.09	0.50	0.00	0.02	0.01	106.21	0.00	0.00	107.34
Onsite Total	**0.02**	**0.15**	**0.86**	**0.00**	**0.03**	**0.01**	**171.77**	**0.00**	**0.01**	**173.61**
Offsite										
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Dump Truck	1.52	10.25	59.62	0.13	1.95	1.08	12744.91	0.07	0.43	12881.09
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**1.72**	**14.94**	**61.96**	**0.14**	**2.11**	**1.12**	**13747.86**	**0.11**	**0.47**	**13895.19**
Total	**1.75**	**15.09**	**62.82**	**0.14**	**2.13**	**1.14**	**13919.63**	**0.11**	**0.47**	**14068.80**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.40	0.00	0.00	3.43
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Soils Test Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Dump Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Onsite Total	**0.00**	**0.01**	**0.05**	**0.00**	**0.00**	**0.00**	**10.31**	**0.00**	**0.00**	**10.42**
Offsite										
Water Truck	0.00	0.02	0.11	0.00	0.00	0.00	23.79	0.00	0.00	24.04
Dump Truck	0.09	0.62	3.58	0.01	0.12	0.07	764.69	0.00	0.03	772.87
Worker Commute	0.01	0.26	0.03	0.00	0.01	0.00	36.39	0.00	0.00	36.80
Offsite Total	**0.10**	**0.90**	**3.72**	**0.01**	**0.13**	**0.07**	**824.87**	**0.01**	**0.03**	**833.71**
Total	**0.10**	**0.91**	**3.77**	**0.01**	**0.13**	**0.07**	**835.18**	**0.01**	**0.03**	**844.13**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 9
Alternative Substation Construction Emissions - Initial Build Out
Grading

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	4	Unpaved	4	120	2.273	0.227	36.37	3.64	2.18	0.22
Survey Truck	1	Unpaved	4	120	1.102	0.110	4.41	0.44	0.26	0.03
Soils Test Crew Truck	1	Unpaved	4	120	1.475	0.147	5.90	0.59	0.35	0.04
Onsite Total							**46.67**	**4.67**	**2.80**	**0.28**
Offsite										
Water Truck	4	Unpaved	1.5	120	2.273	0.227	13.64	1.36	0.82	0.08
Water Truck	4	Paved	16.5	120	0.003	0.001	0.22	0.05	0.01	0.00
Dump Truck	60	Unpaved	1.5	120	2.273	0.227	204.57	20.46	12.27	1.23
Dump Truck	60	Paved	58.5	120	0.003	0.001	11.69	2.87	0.70	0.17
Worker Commute	15	Paved	58	120	0.003	0.001	2.90	0.71	0.17	0.04
Worker Commute	15	Unpaved	1.5	120	1.102	0.110	24.79	2.48	0.00	0.00
Offsite Total							**257.80**	**27.93**	**13.98**	**1.53**
Total							**304.48**	**32.60**	**16.78**	**1.81**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	24325	2918950	6.65E-02	1.01E-02	1616.47	244.78	96.99	14.69
Bulldozing, Scraping and Grading	hr	48	5760	114.985	38.089	5519.27	1828.27	331.16	109.70
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**7135.74**	**2073.05**	**428.14**	**124.38**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 2,918,950 CY over 120 days

Table 10
Alternative Substation Construction Emissions - Initial Build Out
Perimeter Wall

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.89	10.96	11.92	0.05	0.41	0.38	5,364.6
Onsite Motor Vehicle Exhaust	0.00	0.08	0.09	0.00	0.00	0.00	27.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	16.61	1.66	
Earthwork Fugitive PM	--	--	--	--	1.79	0.27	
Onsite Total	**1.89**	**11.04**	**12.01**	**0.05**	**18.81**	**2.31**	**5391.8**
Offsite Motor Vehicle Exhaust	0.21	3.19	5.22	0.01	0.21	0.09	1,400.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	32.79	3.65	
Offsite Total	**0.21**	**3.19**	**5.22**	**0.01**	**33.00**	**3.74**	**1400.6**
Total	**2.10**	**14.23**	**17.24**	**0.07**	**51.81**	**6.05**	**6792.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.33	0.36	0.00	0.01	0.01	160.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.50	0.05	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**0.06**	**0.33**	**0.36**	**0.00**	**0.54**	**0.07**	**161.8**
Offsite Motor Vehicle Exhaust	0.01	0.10	0.16	0.00	0.01	0.00	42.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.59	0.07	
Offsite Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.59**	**0.07**	**42.0**
Total	**0.06**	**0.43**	**0.52**	**0.00**	**1.13**	**0.14**	**203.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	2	60	8
Bobcat	75	1	60	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.65	8.81	9.99	0.05	0.30	0.27	4976.47	0.15	0.13	5,019.6
Bobcat	0.24	2.15	1.93	0.00	0.11	0.10	341.79	0.02	0.01	345.0
Total	**1.89**	**10.96**	**11.92**	**0.05**	**0.41**	**0.38**	**5318.25**	**0.17**	**0.14**	**5364.58**

Table 10
Alternative Substation Construction Emissions - Initial Build Out
Perimeter Wall

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.05	0.26	0.30	0.00	0.01	0.01	149.29	0.00	0.00	150.6
Bobcat	0.01	0.06	0.06	0.00	0.00	0.00	10.25	0.00	0.00	10.4
Total	**0.06**	**0.33**	**0.36**	**0.00**	**0.01**	**0.01**	**159.55**	**0.01**	**0.00**	**160.94**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Concrete Truck	3	60	N/A	1
Flatbed Truck	2	60	N/A	1
Crew Truck	1	60	N/A	4
Foreman Truck	1	60	N/A	4
Offsite				
Concrete Truck	3	60	N/A	60
Flatbed Truck	2	60	N/A	60
Worker Commute	8	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Foreman Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Concrete Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73

Table 10
Alternative Substation Construction Emissions - Initial Build Out
Perimeter Wall

Flatbed Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Crew Truck	0.00	0.03	0.00	0.00	0.00	0.00	4.62	0.00	0.00	4.68
Foreman Truck	0.00	0.03	0.00	0.00	0.00	0.00	4.62	0.00	0.00	4.68
Onsite Total	**0.00**	**0.08**	**0.09**	**0.00**	**0.00**	**0.00**	**26.94**	**0.00**	**0.00**	**27.26**
Offsite										
Concrete Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Flatbed Truck	0.05	0.34	1.99	0.00	0.07	0.04	424.83	0.00	0.01	429.37
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.21**	**3.19**	**5.22**	**0.01**	**0.21**	**0.09**	**1385.51**	**0.03**	**0.05**	**1400.55**
Total	**0.21**	**3.26**	**5.31**	**0.01**	**0.21**	**0.09**	**1412.45**	**0.03**	**0.05**	**1427.81**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.32
Flatbed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.81**	**0.00**	**0.00**	**0.82**
Offsite										
Concrete Truck	0.00	0.02	0.09	0.00	0.00	0.00	19.12	0.00	0.00	19.32
Flatbed Truck	0.00	0.01	0.06	0.00	0.00	0.00	12.74	0.00	0.00	12.88
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.01**	**0.00**	**41.57**	**0.00**	**0.00**	**42.02**
Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.01**	**0.00**	**42.37**	**0.00**	**0.00**	**42.83**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Concrete Truck	3	Unpaved	1	60	2.273	0.227	6.82	0.68	0.20	0.02
Flatbed Truck	2	Unpaved	1	60	2.273	0.227	4.55	0.45	0.14	0.01
Crew Truck	1	Unpaved	4	60	1.311	0.131	5.24	0.52	0.16	0.02
Onsite Total							**16.61**	**1.66**	**0.50**	**0.05**
Offsite										
Concrete Truck	3	Unpaved	1.5	60	2.273	0.227	10.23	1.02	0.31	0.03
Concrete Truck	3	Paved	58.5	60	0.003	0.001	0.58	0.14	0.02	0.00
Flatbed Truck	2	Unpaved	1.5	60	2.273	0.227	6.82	0.68	0.20	0.02
Flatbed Truck	2	Paved	58.5	60	0.003	0.001	0.39	0.10	0.01	0.00

Table 10
Alternative Substation Construction Emissions - Initial Build Out
Perimeter Wall

Worker Commute	8	Paved	58	60	0.003	0.001	1.54	0.38	0.05	0.01
Worker Commute	8	Unpaved	1.5	60	1.102	0.110	13.22	1.32	0.00	0.00
Offsite Total							**32.79**	**3.65**	**0.59**	**0.07**
Total							**49.39**	**5.31**	**1.09**	**0.12**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	27	810	6.65E-02	1.01E-02	1.79	0.27	0.03	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**1.79**	**0.27**	**0.03**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 810 CY over 30 days

Table 11
Alternative Substation Construction Emissions - Initial Build Out
Water Well

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.03	5.51	6.25	0.03	0.19	0.17	3,137.2
Onsite Motor Vehicle Exhaust	0.00	0.07	0.03	0.00	0.00	0.00	19.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	21.57	2.16	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.04**	**5.57**	**6.28**	**0.03**	**21.76**	**2.33**	**3156.2**
Offsite Motor Vehicle Exhaust	0.09	2.38	0.55	0.00	0.06	0.01	391.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	18.23	2.06	
Offsite Total	**0.09**	**2.38**	**0.55**	**0.00**	**18.29**	**2.06**	**391.5**
Total	**1.12**	**7.96**	**6.83**	**0.04**	**40.05**	**4.39**	**3547.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.11	0.12	0.00	0.00	0.00	62.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.43	0.04	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.11**	**0.13**	**0.00**	**0.44**	**0.05**	**63.1**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.10**	**0.01**	**7.8**
Total	**0.02**	**0.16**	**0.14**	**0.00**	**0.54**	**0.06**	**71.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Drill Rig	350	1	40	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Drill Rig	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Drill Rig	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2

Table 11
Alternative Substation Construction Emissions - Initial Build Out
Water Well

Total	**1.03**	**5.51**	**6.25**	**0.03**	**0.19**	**0.17**	**3110.29**	**0.09**	**0.08**	**3137.23**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Drill Rig	0.02	0.11	0.12	0.00	0.00	0.00	62.21	0.00	0.00	62.7
Total	**0.02**	**0.11**	**0.12**	**0.00**	**0.00**	**0.00**	**62.21**	**0.00**	**0.00**	**62.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	1	40	N/A	1
Tool Truck	2	40	N/A	4
Crew Truck	2	40	N/A	4
Offsite				
Water Truck	1	40	N/A	18
Worker Commute	8	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.01	0.00	0.00	0.00	5.99	0.00	0.00	6.06

Table 11
Alternative Substation Construction Emissions - Initial Build Out
Water Well

Crew Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.07**	**0.03**	**0.00**	**0.00**	**0.00**	**18.77**	**0.00**	**0.00**	**19.01**
Offsite										
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.38**	**0.55**	**0.00**	**0.06**	**0.01**	**387.16**	**0.02**	**0.01**	**391.53**
Total	**0.09**	**2.45**	**0.59**	**0.00**	**0.06**	**0.01**	**405.93**	**0.02**	**0.01**	**410.54**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.12
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.19
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.38**	**0.00**	**0.00**	**0.38**
Offsite										
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.27	0.00	0.00	1.29
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.74**	**0.00**	**0.00**	**7.83**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**8.12**	**0.00**	**0.00**	**8.21**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	1	Unpaved	1	40	2.273	0.227	2.27	0.23	0.05	0.00
Tool Truck	2	Unpaved	4	40	1.102	0.110	8.81	0.88	0.18	0.02
Crew Truck	2	Unpaved	4	40	1.311	0.131	10.48	1.05	0.21	0.02
Onsite Total							**21.57**	**2.16**	**0.43**	**0.04**
Offsite										
Water Truck	1	Unpaved	1.5	40	2.273	0.227	3.41	0.34	0.07	0.01
Water Truck	1	Paved	16.5	40	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	8	Paved	58	40	0.003	0.001	1.54	0.38	0.03	0.01
Worker Commute	8	Unpaved	1.5	40	1.102	0.110	13.22	1.32	0.00	0.00
Offsite Total							**18.23**	**2.06**	**0.10**	**0.01**

Table 11
Alternative Substation Construction Emissions - Initial Build Out
Water Well

Total							**39.80**	**4.21**	**0.53**	**0.06**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 12
Alternative Substation Construction Emissions - Initial Build Out
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.53	7.36	10.49	0.03	0.53	0.49	2,489.6
Onsite Motor Vehicle Exhaust	0.17	1.17	6.73	0.01	0.22	0.12	1,455.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	925.06	92.51	
Earthwork Fugitive PM	--	--	--	--	15.28	2.31	
Onsite Total	**1.71**	**8.53**	**17.22**	**0.04**	**941.09**	**95.43**	**3944.6**
Offsite Motor Vehicle Exhaust	10.32	71.24	401.03	0.85	13.19	7.29	86,909.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1470.78	158.73	
Offsite Total	**10.32**	**71.24**	**401.03**	**0.85**	**1483.97**	**166.02**	**86909.5**
Total	**12.03**	**79.77**	**418.25**	**0.89**	**2425.06**	**261.45**	**90854.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.10	0.00	0.01	0.00	24.9
Onsite Motor Vehicle Exhaust	0.00	0.01	0.07	0.00	0.00	0.00	14.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	9.24	0.92	
Earthwork Fugitive PM	--	--	--	--	0.15	0.02	
Onsite Total	**0.02**	**0.09**	**0.17**	**0.00**	**9.40**	**0.95**	**39.4**
Offsite Motor Vehicle Exhaust	0.10	0.71	4.01	0.01	0.13	0.07	869.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.58	1.57	
Offsite Total	**0.10**	**0.71**	**4.01**	**0.01**	**14.71**	**1.65**	**869.1**
Total	**0.12**	**0.80**	**4.18**	**0.01**	**24.11**	**2.60**	**908.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	20	4
Skip Loader	350	1	20	3
Forklift	100	1	20	4
Trencher	75	1	20	4
Bobcat	75	1	20	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 106

Table 12
Alternative Substation Construction Emissions - Initial Build Out
Civil

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	0.41	2.20	2.50	0.01	0.07	0.07	1244.12	0.04	0.03	1,254.9
Skip Loader	0.48	1.68	3.77	0.01	0.13	0.12	710.39	0.04	0.02	717.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.09	0.81	0.72	0.00	0.04	0.04	128.17	0.01	0.00	129.4
Total	**1.53**	**7.36**	**10.49**	**0.03**	**0.53**	**0.49**	**2466.81**	**0.14**	**0.06**	**2489.60**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.00	0.02	0.02	0.00	0.00	0.00	12.44	0.00	0.00	12.5
Skip Loader	0.00	0.02	0.04	0.00	0.00	0.00	7.10	0.00	0.00	7.2
Forklift	0.00	0.01	0.01	0.00	0.00	0.00	1.25	0.00	0.00	1.3
Trencher	0.00	0.02	0.03	0.00	0.00	0.00	2.59	0.00	0.00	2.6
Bobcat	0.00	0.01	0.01	0.00	0.00	0.00	1.28	0.00	0.00	1.3
Total	**0.02**	**0.07**	**0.10**	**0.00**	**0.01**	**0.00**	**24.67**	**0.00**	**0.00**	**24.90**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	20	N/A	1
Concrete Truck	127	20	N/A	1
Water Truck	2	20	N/A	1
Tool Truck	1	20	N/A	1
Gravel Delivery Truck	276	20	N/A	1
Inspection Services	1	5	N/A	1
Offsite				
Water Truck	1	20	N/A	18
Gravel Delivery Truck	276	20	N/A	60
Concrete Truck	127	20	N/A	60
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,300 CY over 20 days and 10 CY/truck

Gravel delivery truck based on 40,250 CU over 20 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Table 12
Alternative Substation Construction Emissions - Initial Build Out
Civil

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Gravel Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Gravel Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Concrete Truck	0.05	0.36	2.10	0.00	0.07	0.04	449.61	0.00	0.02	454.42
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Tool Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Gravel Delivery Truck	0.12	0.79	4.57	0.01	0.15	0.08	977.11	0.01	0.03	987.55
Inspection Services	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.17**	**1.17**	**6.73**	**0.01**	**0.22**	**0.12**	**1439.65**	**0.01**	**0.05**	**1455.04**
Offsite										
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Gravel Delivery Truck	7.01	47.16	274.27	0.58	8.99	4.99	58626.60	0.33	2.00	59253.00
Concrete Truck	3.22	21.70	126.21	0.27	4.14	2.30	26976.73	0.15	0.92	27264.97
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**10.32**	**71.24**	**401.03**	**0.85**	**13.19**	**7.29**	**85990.49**	**0.50**	**2.93**	**86909.50**
Total	**10.49**	**72.41**	**407.76**	**0.87**	**13.41**	**7.41**	**87430.14**	**0.50**	**2.98**	**88364.55**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Concrete Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.50	0.00	0.00	4.54
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Gravel Delivery Truck	0.00	0.01	0.05	0.00	0.00	0.00	9.77	0.00	0.00	9.88

Table 12
Alternative Substation Construction Emissions - Initial Build Out
Civil

Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.01**	**0.07**	**0.00**	**0.00**	**0.00**	**14.39**	**0.00**	**0.00**	**14.54**
Offsite										
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Gravel Delivery Truck	0.07	0.47	2.74	0.01	0.09	0.05	586.27	0.00	0.02	592.53
Concrete Truck	0.03	0.22	1.26	0.00	0.04	0.02	269.77	0.00	0.01	272.65
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.10**	**0.71**	**4.01**	**0.01**	**0.13**	**0.07**	**859.90**	**0.00**	**0.03**	**869.10**
Total	**0.10**	**0.72**	**4.08**	**0.01**	**0.13**	**0.07**	**874.29**	**0.01**	**0.03**	**883.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Unpaved	1	20	2.273	0.227	2.27	0.23	0.02	0.00
Concrete Truck	127	Unpaved	1	20	2.273	0.227	288.68	28.87	2.89	0.29
Water Truck	2	Unpaved	1	20	2.273	0.227	4.55	0.45	0.05	0.00
Tool Truck	1	Unpaved	1	20	1.102	0.110	1.10	0.11	0.01	0.00
Gravel Delivery Truck	276	Unpaved	1	20	2.273	0.227	627.36	62.74	6.27	0.63
Inspection Services	1	Unpaved	1	5	1.102	0.110	1.10	0.11	0.00	0.00
Onsite Total							**925.06**	**92.51**	**9.24**	**0.92**
Offsite										
Water Truck	1	Unpaved	1.5	20	2.273	0.227	3.41	0.34	0.03	0.00
Water Truck	1	Paved	16.5	20	0.003	0.001	0.05	0.01	0.00	0.00
Gravel Delivery Truck	276	Unpaved	1.5	20	2.273	0.227	941.04	94.10	9.41	0.94
Gravel Delivery Truck	276	Paved	58.5	20	0.003	0.001	53.76	13.20	0.54	0.13
Concrete Truck	127	Unpaved	1.5	20	2.273	0.227	433.01	43.30	4.33	0.43
Concrete Truck	127	Paved	58.5	20	0.003	0.001	24.74	6.07	0.25	0.06
Worker Commute	8	Paved	58	20	0.003	0.001	1.54	0.38	0.02	0.00
Worker Commute	8	Unpaved	1.5	20	1.102	0.110	13.22	1.32	0.00	0.00
Offsite Total							**1470.78**	**158.73**	**14.58**	**1.57**
Total							**2395.84**	**251.23**	**23.82**	**2.50**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	230	4600	6.65E-02	1.01E-02	15.28	2.31	0.15	0.02
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00

Table 12
Alternative Substation Construction Emissions - Initial Build Out
Civil

Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**15.28**	**2.31**	**0.15**	**0.02**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 4,600 CY over 20 days

Table 13
Alternative Substation Construction Emissions - Initial Build Out
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.65	6.81	13.06	0.02	0.62	0.57	1,960.9
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	4.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	7.30	0.73	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.65**	**6.82**	**13.07**	**0.02**	**7.92**	**1.30**	**1965.1**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.77	1.70	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**14.81**	**1.70**	**327.1**
Total	**1.73**	**9.15**	**13.32**	**0.03**	**22.74**	**3.00**	**2292.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.03	0.06	0.00	0.00	0.00	7.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.05**	**0.01**	**7.8**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**
Total	**0.01**	**0.05**	**0.06**	**0.00**	**0.06**	**0.01**	**10.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	15	4
Manlift	75	2	15	4
14 Ton Crane	250	1	2	3
150 Ton Crane	300	1	2	4
5 Ton Crane	250	1	15	3
Forklift	100	1	15	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

Table 13
Alternative Substation Construction Emissions - Initial Build Out
Electrical

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.17	0.94	1.21	0.00	0.09	0.08	152.15	0.01	0.00	153.7
Manlift	0.33	1.88	2.42	0.00	0.18	0.16	304.30	0.03	0.01	307.4
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.65**	**6.81**	**13.06**	**0.02**	**0.62**	**0.57**	**1942.15**	**0.15**	**0.05**	**1960.95**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.00	0.01	0.01	0.00	0.00	0.00	1.14	0.00	0.00	1.2
Manlift	0.00	0.01	0.02	0.00	0.00	0.00	2.28	0.00	0.00	2.3
14 Ton Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.3
150 Ton Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.7
5 Ton Crane	0.00	0.01	0.02	0.00	0.00	0.00	2.52	0.00	0.00	2.5
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.7
Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.00**	**0.00**	**7.70**	**0.00**	**0.00**	**7.78**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	15	N/A	1
Crew Truck	2	15	N/A	1
Inspection Services	1	5	N/A	1
Offsite				
Worker Commute	8	15	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 13
Alternative Substation Construction Emissions - Initial Build Out
Electrical

Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Inspection Services	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.15**	**0.00**	**0.00**	**4.20**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.26**	**0.00**	**0.05**	**0.00**	**327.58**	**0.02**	**0.01**	**331.33**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.03**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.43	0.00	0.00	2.45
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.43**	**0.00**	**0.00**	**2.45**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.45**	**0.00**	**0.00**	**2.48**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Unpaved	1	15	1.790	0.179	3.58	0.36	0.03	0.00
Crew Truck	2	Unpaved	1	15	1.311	0.131	2.62	0.26	0.02	0.00
Inspection Services	1	Unpaved	1	5	1.102	0.110	1.10	0.11	0.00	0.00
Onsite Total							**7.30**	**0.73**	**0.05**	**0.00**
Offsite										

Table 13
Alternative Substation Construction Emissions - Initial Build Out
Electrical

Worker Commute	8	Paved	58	15	0.003	0.001	1.54	0.38	0.01	0.00
Worker Commute	8	Unpaved	1.5	15	1.102	0.110	13.22	1.32	0.00	0.00
Offsite Total							**14.77**	**1.70**	**0.01**	**0.00**
Total							**22.07**	**2.43**	**0.06**	**0.01**

a From Table 107
[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]
[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110
[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]
[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 14
Alternative Substation Construction Emissions - Initial Build Out
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	4.06	0.41	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**4.06**	**0.41**	**2.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	11.07	1.28	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**11.11**	**1.28**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**15.17**	**1.68**	**247.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.12	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.12**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.16**	**0.02**	**7.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 14
Alternative Substation Construction Emissions - Initial Build Out
Wiring

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	1
Pick-up Truck	1	60	N/A	1
Offsite				
Worker Commute	6	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Pick-up Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.31**	**0.00**	**0.00**	**2.34**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**244.88**	**0.01**	**0.01**	**247.69**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 14
Alternative Substation Construction Emissions - Initial Build Out
Wiring

Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**0.07**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.28**	**0.00**	**0.00**	**7.36**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.35**	**0.00**	**0.00**	**7.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Unpaved	1	60	2.273	0.227	2.27	0.23	0.07	0.01
Pick-up Truck	1	Unpaved	1	60	1.790	0.179	1.79	0.18	0.05	0.01
Onsite Total							**4.06**	**0.41**	**0.12**	**0.01**
Offsite										
Worker Commute	6	Paved	58	60	0.003	0.001	1.16	0.28	0.03	0.01
Worker Commute	6	Unpaved	1.5	60	1.102	0.110	9.92	0.99	0.00	0.00
Offsite Total							**11.07**	**1.28**	**0.03**	**0.01**
Total							**15.14**	**1.68**	**0.16**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 15
Alternative Substation Construction Emissions - Initial Build Out
MEER

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	5.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	6.82	0.68	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.67**	**6.45**	**0.01**	**7.05**	**0.90**	**1095.3**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.77	1.70	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**14.81**	**1.70**	**327.1**
Total	**0.88**	**5.00**	**6.70**	**0.01**	**21.87**	**2.60**	**1422.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.27	0.03	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.27**	**0.03**	**5.7**
Offsite Motor Vehicle Exhaust	0.00	0.09	0.01	0.00	0.00	0.00	13.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.02	
Offsite Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.06**	**0.02**	**13.1**
Total	**0.01**	**0.11**	**0.04**	**0.00**	**0.34**	**0.04**	**18.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 15
Alternative Substation Construction Emissions - Initial Build Out
MEER

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.00	0.01	0.03	0.00	0.00	0.00	5.40	0.00	0.00	5.4
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.40**	**0.00**	**0.00**	**5.45**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	1
Stake Truck	1	80	N/A	1
Wiring Truck	1	80	N/A	1
Offsite				
Worker Commute	8	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**5.44**	**0.00**	**0.00**	**5.51**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.27**	**0.00**	**0.05**	**0.00**	**328.88**	**0.02**	**0.01**	**332.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Table 15
Alternative Substation Construction Emissions - Initial Build Out
MEER

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.00**	**0.00**	**0.22**
Offsite										
Worker Commute	0.00	0.09	0.01	0.00	0.00	0.00	12.94	0.00	0.00	13.09
Offsite Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.00**	**0.00**	**12.94**	**0.00**	**0.00**	**13.09**
Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.00**	**0.00**	**13.16**	**0.00**	**0.00**	**13.31**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	80	2.273	0.227	2.27	0.23	0.09	0.01
Stake Truck	1	Unpaved	1	80	2.273	0.227	2.27	0.23	0.09	0.01
Wiring Truck	1	Unpaved	1	80	2.273	0.227	2.27	0.23	0.09	0.01
Onsite Total							**6.82**	**0.68**	**0.27**	**0.03**
Offsite										
Worker Commute	8	Paved	58	80	0.003	0.001	1.54	0.38	0.06	0.02
Worker Commute	8	Unpaved	1.5	80	1.102	0.110	13.22	1.32	0.00	0.00
Offsite Total							**14.77**	**1.70**	**0.06**	**0.02**
Total							**21.58**	**2.38**	**0.33**	**0.04**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 16
Alternative Substation Construction Emissions - Initial Build Out
Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.93	0.39	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**3.93**	**0.39**	**2.3**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.38	0.85	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**7.41**	**0.85**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**11.34**	**1.24**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.01**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.09**	**0.01**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 16
Alternative Substation Construction Emissions - Initial Build Out
Maintenance

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	1
Crew Truck	2	40	N/A	1
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.25**	**0.00**	**0.00**	**2.27**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										

Table 16
Alternative Substation Construction Emissions - Initial Build Out
Maintenance

Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.05**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.28**	**0.00**	**0.00**	**3.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Unpaved	1	40	1.311	0.131	1.31	0.13	0.03	0.00
Crew Truck	2	Unpaved	1	40	1.311	0.131	2.62	0.26	0.05	0.01
Onsite Total							**3.93**	**0.39**	**0.08**	**0.01**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Worker Commute	4	Unpaved	1.5	40	1.102	0.110	6.61	0.66	0.00	0.00
Offsite Total							**7.38**	**0.85**	**0.02**	**0.00**
Total							**11.31**	**1.24**	**0.09**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 17
Alternative Substation Construction Emissions - Initial Build Out Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.31	0.13	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**1.31**	**0.13**	**0.8**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.38	0.85	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**7.41**	**0.85**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**8.72**	**0.98**	**164.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.07**	**0.01**	**5.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 17
Alternative Substation Construction Emissions - Initial Build Out
Testing

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	1
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.00**	**0.00**	**0.76**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.47**	**0.01**	**0.01**	**164.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.03**

Table 17
Alternative Substation Construction Emissions - Initial Build Out Testing

Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.69**	**0.00**	**0.00**	**5.75**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Unpaved	1	70	1.311	0.131	1.31	0.13	0.05	0.00
Onsite Total							**1.31**	**0.13**	**0.05**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Worker Commute	4	Unpaved	1.5	70	1.102	0.110	6.61	0.66	0.00	0.00
Offsite Total							**7.38**	**0.85**	**0.03**	**0.01**
Total							**8.69**	**0.98**	**0.07**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 18
Alternative Substation Construction Emissions - Initial Build Out
Asphalting

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	4.56	17.14	40.49	0.07	1.52	1.40	5,844.0
Onsite Motor Vehicle Exhaust	0.04	0.26	1.49	0.00	0.05	0.03	323.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	204.92	20.49	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Asphaltic Paving VOC	0.7	--	--	--	--	--	--
Onsite Total	**5.35**	**17.41**	**41.98**	**0.07**	**206.49**	**21.92**	**6167.16**
Offsite Motor Vehicle Exhaust	2.27	16.61	86.65	0.19	2.87	1.57	18,922.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	324.65	35.10	
Offsite Total	**2.27**	**16.61**	**86.65**	**0.19**	**327.52**	**36.67**	**18922.9**
Total	**7.62**	**34.02**	**128.63**	**0.25**	**534.02**	**58.59**	**25090.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.07	0.26	0.61	0.00	0.02	0.02	87.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	3.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.07	0.31	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.07**	**0.26**	**0.62**	**0.00**	**3.10**	**0.33**	**90.6**
Offsite Motor Vehicle Exhaust	0.03	0.25	1.30	0.00	0.04	0.02	283.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.72	0.51	
Offsite Total	**0.03**	**0.25**	**1.30**	**0.00**	**4.76**	**0.54**	**283.8**
Total	**0.10**	**0.51**	**1.92**	**0.00**	**7.86**	**0.86**	**374.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Paving Roller	200	2	30	8
Asphalt Paver	250	1	30	8
Tractor	150	1	30	8
Asphalt Curb Machine	250	1	30	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Paving Roller	200	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Asphalt Paver	250	0.176	0.537	1.546	0.002	0.059	0.054	194.197	0.016	0.005	Pavers
Tractor	150	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Asphalt Curb Machine	250	0.108	0.330	0.969	0.001	0.036	0.033	122.182	0.010	0.003	Paving Equipment

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 18
Alternative Substation Construction Emissions - Initial Build Out
Asphalting

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Paving Roller	1.67	5.54	15.91	0.03	0.53	0.49	2447.24	0.15	0.06	2,470.1
Asphalt Paver	1.41	4.29	12.37	0.02	0.47	0.43	1553.58	0.13	0.04	1,568.8
Tractor	0.63	4.68	4.45	0.01	0.23	0.22	810.37	0.06	0.02	818.1
Asphalt Curb Machine	0.86	2.64	7.75	0.01	0.29	0.26	977.45	0.08	0.03	987.0
Total	**4.56**	**17.14**	**40.49**	**0.07**	**1.52**	**1.40**	**5788.64**	**0.41**	**0.15**	**5843.96**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Paving Roller	0.02	0.08	0.24	0.00	0.01	0.01	36.71	0.00	0.00	37.1
Asphalt Paver	0.02	0.06	0.19	0.00	0.01	0.01	23.30	0.00	0.00	23.5
Tractor	0.01	0.07	0.07	0.00	0.00	0.00	12.16	0.00	0.00	12.3
Asphalt Curb Machine	0.01	0.04	0.12	0.00	0.00	0.00	14.66	0.00	0.00	14.8
Total	**0.07**	**0.26**	**0.61**	**0.00**	**0.02**	**0.02**	**86.83**	**0.01**	**0.00**	**87.66**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Stake Truck	1	30	N/A	1
Dump Truck	1	30	N/A	1
Crew Truck	2	30	N/A	1
Asphalt Delivery Truck	35	30	N/A	1
Aggregate Base Delivery Truck	52	30	N/A	1
Offsite				
Asphalt Delivery Truck	35	30	N/A	60
Aggregate Base Delivery Truck	52	30	N/A	60
Worker Commute	6	30	N/A	58

[a] Asphalt delivery trucks based on 7,500 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 11,400 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 18
Alternative Substation Construction Emissions - Initial Build Out
Asphalting

Offsite										
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Crew Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Asphalt Delivery Truck	0.01	0.10	0.58	0.00	0.02	0.01	123.91	0.00	0.00	125.23
Aggregate Base Delivery Truck	0.02	0.15	0.86	0.00	0.03	0.02	184.09	0.00	0.01	186.06
Onsite Total	**0.04**	**0.26**	**1.49**	**0.00**	**0.05**	**0.03**	**319.78**	**0.00**	**0.01**	**323.20**
Offsite										
Asphalt Delivery Truck	0.89	5.98	34.78	0.07	1.14	0.63	7434.53	0.04	0.25	7513.97
Aggregate Base Delivery Truck	1.32	8.88	51.67	0.11	1.69	0.94	11045.59	0.06	0.38	11163.61
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**2.27**	**16.61**	**86.65**	**0.19**	**2.87**	**1.57**	**18722.70**	**0.12**	**0.64**	**18922.92**
Total	**2.31**	**16.88**	**88.14**	**0.19**	**2.92**	**1.60**	**19042.48**	**0.12**	**0.65**	**19246.12**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Aggregate Base Delivery Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.76	0.00	0.00	2.79
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.94**	**0.00**	**0.00**	**2.97**
Offsite										
Asphalt Delivery Truck	0.01	0.09	0.52	0.00	0.02	0.01	111.52	0.00	0.00	112.71
Aggregate Base Delivery Truck	0.02	0.13	0.78	0.00	0.03	0.01	165.68	0.00	0.01	167.45
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	3.64	0.00	0.00	3.68
Offsite Total	**0.03**	**0.25**	**1.30**	**0.00**	**0.04**	**0.02**	**280.84**	**0.00**	**0.01**	**283.84**
Total	**0.03**	**0.25**	**1.31**	**0.00**	**0.04**	**0.02**	**283.78**	**0.00**	**0.01**	**286.81**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 18
Alternative Substation Construction Emissions - Initial Build Out
Asphalting

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Stake Truck	1	Unpaved	1	30	2.273	0.227	2.27	0.23	0.03	0.00
Dump Truck	1	Unpaved	1	30	2.273	0.227	2.27	0.23	0.03	0.00
Crew Truck	2	Unpaved	1	30	1.311	0.131	2.62	0.26	0.04	0.00
Asphalt Delivery Truck	35	Unpaved	1	30	2.273	0.227	79.56	7.96	1.19	0.12
Aggregate Base Delivery Truck	52	Unpaved	1	30	2.273	0.227	118.20	11.82	1.77	0.18
Onsite Total							**204.92**	**20.49**	**3.07**	**0.31**
Offsite										
Asphalt Delivery Truck	35	Unpaved	1.5	30	2.273	0.227	119.33	11.93	1.79	0.18
Asphalt Delivery Truck	35	Paved	58.5	30	0.003	0.001	6.82	1.67	0.10	0.03
Aggregate Base Delivery Truck	52	Unpaved	1.5	30	2.273	0.227	177.30	17.73	2.66	0.27
Aggregate Base Delivery Truck	52	Paved	58.5	30	0.003	0.001	10.13	2.49	0.15	0.04
Worker Commute	6	Paved	58	30	0.003	0.001	1.16	0.28	0.02	0.00
Worker Commute	6	Unpaved	1.5	30	1.102	0.110	9.92	0.99	0.00	0.00
Offsite Total							**324.65**	**35.10**	**4.72**	**0.51**
Total							**529.57**	**55.59**	**7.79**	**0.82**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Asphaltic Paving VOC Emissions

Area Paved (acre/day)[a]	Emission Factor (lb/acre)[b]	VOC (lb/day)[c]
0.29	2.62	0.7

[a] Based on 372,400 sq. ft. of area paved in 30 days

[b] From CalEEMod User's Guide

[c] Emissions [lb/day] = Emission factor [lb/acre] x Area paved [acre/day]

Table 19
Alternative Substation Construction Emissions - Initial Build Out
Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	9.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	8.81	0.88	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**8.81**	**0.88**	**9.4**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.69	0.43	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**3.70**	**0.43**	**81.8**
Total	**0.02**	**0.65**	**0.07**	**0.00**	**12.52**	**1.31**	**91.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.01**	**0.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 19
Alternative Substation Construction Emissions - Initial Build Out
Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	4
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**9.24**	**0.00**	**0.00**	**9.37**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.65**	**0.07**	**0.00**	**0.01**	**0.00**	**90.09**	**0.01**	**0.00**	**91.15**

Table 19
Alternative Substation Construction Emissions - Initial Build Out
Survey

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**0.07**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.68**	**0.00**	**0.00**	**0.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Unpaved	4	15	1.102	0.110	8.81	0.88	0.07	0.01
Onsite Total							**8.81**	**0.88**	**0.07**	**0.01**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Worker Commute	2	Unpaved	1.5	15	1.102	0.110	3.31	0.33	0.00	0.00
Offsite Total							**3.69**	**0.43**	**0.00**	**0.00**
Total							**12.51**	**1.31**	**0.07**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

Table 19
Alternative Substation Construction Emissions - Initial Build Out Survey

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 20
Alternative Substation Construction Emissions - Full Build Out
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.65	27.99	38.98	0.10	1.86	1.71	9,753.7
Onsite Motor Vehicle Exhaust	0.01	0.07	0.24	0.00	0.01	0.00	54.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	36.23	3.62	
Earthwork Fugitive PM	--	--	--	--	9.70	1.47	
Onsite Total	**5.66**	**28.06**	**39.21**	**0.10**	**47.80**	**6.81**	**9808.4**
Offsite Motor Vehicle Exhaust	0.37	5.84	9.02	0.03	0.37	0.16	2,459.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	63.45	7.01	
Offsite Total	**0.37**	**5.84**	**9.02**	**0.03**	**63.82**	**7.17**	**2459.7**
Total	**6.03**	**33.90**	**48.23**	**0.12**	**111.62**	**13.97**	**12268.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.73	3.64	5.07	0.01	0.24	0.22	1,268.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	6.9
Onsite Motor Vehicle Fugitive PM	--	--	--	--	4.49	0.45	
Earthwork Fugitive PM	--	--	--	--	0.97	0.15	
Onsite Total	**0.74**	**3.65**	**5.10**	**0.01**	**5.70**	**0.82**	**1274.9**
Offsite Motor Vehicle Exhaust	0.05	0.76	1.17	0.00	0.05	0.02	319.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.03	0.59	
Offsite Total	**0.05**	**0.76**	**1.17**	**0.00**	**5.07**	**0.61**	**319.8**
Total	**0.78**	**4.41**	**6.27**	**0.02**	**10.77**	**1.43**	**1594.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	4	260	4
Excavator	85	2	260	3
Skip Loader	350	4	260	3
Forklift	100	3	260	4
Trencher	75	2	260	4
Bobcat	75	4	260	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

Table 20
Alternative Substation Construction Emissions - Full Build Out
Civil

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.65	8.81	9.99	0.05	0.30	0.27	4976.47	0.15	0.13	5,019.6
Excavator	0.50	3.04	3.17	0.01	0.24	0.22	441.34	0.05	0.01	445.9
Skip Loader	1.91	6.71	15.07	0.03	0.54	0.50	2841.55	0.17	0.07	2,868.0
Forklift	0.37	2.55	2.53	0.00	0.18	0.16	374.36	0.03	0.01	378.1
Trencher	0.86	3.65	5.32	0.01	0.44	0.41	518.70	0.08	0.01	524.6
Bobcat	0.35	3.23	2.89	0.01	0.17	0.15	512.68	0.03	0.01	517.5
Total	**5.65**	**27.99**	**38.98**	**0.10**	**1.86**	**1.71**	**9665.09**	**0.51**	**0.25**	**9753.66**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.21	1.15	1.30	0.01	0.04	0.04	646.94	0.02	0.02	652.5
Excavator	0.06	0.40	0.41	0.00	0.03	0.03	57.37	0.01	0.00	58.0
Skip Loader	0.25	0.87	1.96	0.00	0.07	0.06	369.40	0.02	0.01	372.8
Forklift	0.05	0.33	0.33	0.00	0.02	0.02	48.67	0.00	0.00	49.2
Trencher	0.11	0.47	0.69	0.00	0.06	0.05	67.43	0.01	0.00	68.2
Bobcat	0.05	0.42	0.38	0.00	0.02	0.02	66.65	0.00	0.00	67.3
Total	**0.73**	**3.64**	**5.07**	**0.01**	**0.24**	**0.22**	**1256.46**	**0.07**	**0.03**	**1267.98**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	4	260	N/A	1
Concrete Truck	8	260	N/A	1
Water Truck	2	260	N/A	1
Tool Truck	2	260	N/A	1
Inspection Services	2	60	N/A	1
Offsite				
Water Truck	2	260	N/A	18
Concrete Truck	8	260	N/A	60
Worker Commute	15	260	N/A	58

[a] Concrete trucks based on 20,000 CY over 260 days and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Table 20
Alternative Substation Construction Emissions - Full Build Out
Civil

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.01	0.07	0.00	0.00	0.00	14.16	0.00	0.00	14.31
Concrete Truck	0.00	0.02	0.13	0.00	0.00	0.00	28.32	0.00	0.00	28.62
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Tool Truck	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Inspection Services	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Onsite Total	**0.01**	**0.07**	**0.24**	**0.00**	**0.01**	**0.00**	**54.18**	**0.00**	**0.00**	**54.78**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.20	1.37	7.95	0.02	0.26	0.14	1699.32	0.01	0.06	1717.48
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.37**	**5.84**	**9.02**	**0.03**	**0.37**	**0.16**	**2433.21**	**0.05**	**0.08**	**2459.65**
Total	**0.38**	**5.91**	**9.26**	**0.03**	**0.38**	**0.16**	**2487.39**	**0.05**	**0.08**	**2514.43**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.84	0.00	0.00	1.86
Concrete Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.68	0.00	0.00	3.72
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.00	0.93
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.30
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.81**	**0.00**	**0.00**	**6.89**
Offsite										
Water Truck	0.00	0.01	0.08	0.00	0.00	0.00	16.57	0.00	0.00	16.75

Table 20
Alternative Substation Construction Emissions - Full Build Out
Civil

Concrete Truck	0.03	0.18	1.03	0.00	0.03	0.02	220.91	0.00	0.01	223.27
Worker Commute	0.02	0.57	0.06	0.00	0.01	0.00	78.84	0.00	0.00	79.74
Offsite Total	**0.05**	**0.76**	**1.17**	**0.00**	**0.05**	**0.02**	**316.32**	**0.01**	**0.01**	**319.75**
Total	**0.05**	**0.77**	**1.20**	**0.00**	**0.05**	**0.02**	**323.13**	**0.01**	**0.01**	**326.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	4	Unpaved	1	260	2.273	0.227	9.09	0.91	1.18	0.12
Concrete Truck	8	Unpaved	1	260	2.273	0.227	18.18	1.82	2.36	0.24
Water Truck	2	Unpaved	1	260	2.273	0.227	4.55	0.45	0.59	0.06
Tool Truck	2	Unpaved	1	260	1.102	0.110	2.20	0.22	0.29	0.03
Inspection Services	2	Unpaved	1	60	1.102	0.110	2.20	0.22	0.07	0.01
Onsite Total							**36.23**	**3.62**	**4.49**	**0.45**
Offsite										
Water Truck	2	Unpaved	1.5	260	2.273	0.227	6.82	0.68	0.89	0.09
Water Truck	2	Paved	16.5	260	0.003	0.001	0.11	0.03	0.01	0.00
Concrete Truck	8	Unpaved	1.5	260	2.273	0.227	27.28	2.73	3.55	0.35
Concrete Truck	8	Paved	58.5	260	0.003	0.001	1.56	0.38	0.20	0.05
Worker Commute	15	Paved	58	260	0.003	0.001	2.90	0.71	0.38	0.09
Worker Commute	15	Unpaved	1.5	260	1.102	0.110	24.79	2.48	0.00	0.00
Offsite Total							**63.45**	**7.01**	**5.03**	**0.59**
Total							**99.68**	**10.63**	**9.52**	**1.04**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	146	29150	6.65E-02	1.01E-02	9.70	1.47	0.97	0.15
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**9.70**	**1.47**	**0.97**	**0.15**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 29,150 CY over 200 days

Table 21
Alternative Substation Construction Emissions - Full Build Out
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.86	12.87	22.36	0.04	1.15	1.05	3,271.3
Onsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	8.40	0.84	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.86**	**12.89**	**22.36**	**0.04**	**9.55**	**1.89**	**3276.6**
Offsite Motor Vehicle Exhaust	0.16	4.66	0.51	0.01	0.10	0.00	654.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	29.53	3.40	
Offsite Total	**0.16**	**4.66**	**0.51**	**0.01**	**29.63**	**3.41**	**654.3**
Total	**3.03**	**17.55**	**22.87**	**0.04**	**39.18**	**5.30**	**3930.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.18	0.94	1.31	0.00	0.08	0.08	180.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.69	0.07	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.18**	**0.94**	**1.31**	**0.00**	**0.77**	**0.14**	**180.7**
Offsite Motor Vehicle Exhaust	0.02	0.47	0.05	0.00	0.01	0.00	65.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.31	0.08	
Offsite Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.32**	**0.08**	**65.4**
Total	**0.19**	**1.41**	**1.36**	**0.00**	**1.09**	**0.22**	**246.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	2	200	4
Manlift	75	4	200	4
14 Ton Crane	250	2	20	4
150 Ton Crane	300	1	20	4
5 Ton Crane	250	1	200	3
Forklift	100	4	200	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

Table 21
Alternative Substation Construction Emissions - Full Build Out
Electrical

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.33	1.88	2.42	0.00	0.18	0.16	304.30	0.03	0.01	307.4
Manlift	0.66	3.77	4.84	0.01	0.35	0.32	608.60	0.06	0.02	614.8
14 Ton Crane	0.70	2.11	6.02	0.01	0.21	0.19	896.47	0.06	0.02	905.0
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.37	2.55	2.53	0.00	0.18	0.16	374.36	0.03	0.01	378.1
Total	**2.86**	**12.87**	**22.36**	**0.04**	**1.15**	**1.05**	**3239.66**	**0.26**	**0.08**	**3271.27**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.03	0.19	0.24	0.00	0.02	0.02	30.43	0.00	0.00	30.7
Manlift	0.07	0.38	0.48	0.00	0.04	0.03	60.86	0.01	0.00	61.5
14 Ton Crane	0.01	0.02	0.06	0.00	0.00	0.00	8.96	0.00	0.00	9.1
150 Ton Crane	0.01	0.02	0.04	0.00	0.00	0.00	7.20	0.00	0.00	7.3
5 Ton Crane	0.03	0.08	0.23	0.00	0.01	0.01	33.62	0.00	0.00	33.9
Forklift	0.04	0.26	0.25	0.00	0.02	0.02	37.44	0.00	0.00	37.8
Total	**0.18**	**0.94**	**1.31**	**0.00**	**0.08**	**0.08**	**178.51**	**0.02**	**0.00**	**180.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	200	N/A	1
Crew Truck	2	200	N/A	1
Inspection Services	2	60	N/A	1
Offsite				
Worker Commute	16	200	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 21
Alternative Substation Construction Emissions - Full Build Out
Electrical

Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Inspection Services	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Onsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.30**	**0.00**	**0.00**	**5.37**
Offsite										
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25
Offsite Total	**0.16**	**4.66**	**0.51**	**0.01**	**0.10**	**0.00**	**646.87**	**0.04**	**0.02**	**654.25**
Total	**0.16**	**4.68**	**0.51**	**0.01**	**0.10**	**0.00**	**652.17**	**0.04**	**0.02**	**659.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.37**
Offsite										
Worker Commute	0.02	0.47	0.05	0.00	0.01	0.00	64.69	0.00	0.00	65.43
Offsite Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.01**	**0.00**	**64.69**	**0.00**	**0.00**	**65.43**
Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.01**	**0.00**	**65.06**	**0.00**	**0.00**	**65.80**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Unpaved	1	200	1.790	0.179	3.58	0.36	0.36	0.04
Crew Truck	2	Unpaved	1	200	1.311	0.131	2.62	0.26	0.26	0.03
Inspection Services	2	Unpaved	1	60	1.102	0.110	2.20	0.22	0.07	0.01
Onsite Total							**8.40**	**0.84**	**0.69**	**0.07**
Offsite										

Table 21
Alternative Substation Construction Emissions - Full Build Out
Electrical

Worker Commute	16	Paved	58	200	0.003	0.001	3.09	0.76	0.31	0.08
Worker Commute	16	Unpaved	1.5	200	1.102	0.110	26.44	2.64	0.00	0.00
Offsite Total							**29.53**	**3.40**	**0.31**	**0.08**
Total							**37.94**	**4.24**	**1.00**	**0.14**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 22
Alternative Substation Construction Emissions - Full Build Out
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	4.06	0.41	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**4.06**	**0.41**	**2.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	11.07	1.28	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**11.11**	**1.28**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**15.17**	**1.68**	**247.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.16	0.02	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.16**	**0.02**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.01	0.00	0.00	0.00	9.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.05**	**0.01**	**9.8**
Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.21**	**0.03**	**9.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 22
Alternative Substation Construction Emissions - Full Build Out
Wiring

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	80	N/A	1
Pick-up Truck	1	80	N/A	1
Offsite				
Worker Commute	6	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Pick-up Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.31**	**0.00**	**0.00**	**2.34**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**244.88**	**0.01**	**0.01**	**247.69**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 22
Alternative Substation Construction Emissions - Full Build Out
Wiring

Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.00**	**0.00**	**0.09**
Offsite										
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**9.70**	**0.00**	**0.00**	**9.81**
Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**9.80**	**0.00**	**0.00**	**9.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Unpaved	1	80	2.273	0.227	2.27	0.23	0.09	0.01
Pick-up Truck	1	Unpaved	1	80	1.790	0.179	1.79	0.18	0.07	0.01
Onsite Total							**4.06**	**0.41**	**0.16**	**0.02**
Offsite										
Worker Commute	6	Paved	58	80	0.003	0.001	1.16	0.28	0.05	0.01
Worker Commute	6	Unpaved	1.5	80	1.102	0.110	9.92	0.99	0.00	0.00
Offsite Total							**11.07**	**1.28**	**0.05**	**0.01**
Total							**15.14**	**1.68**	**0.21**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 23
Alternative Substation Construction Emissions - Full Build Out
Control Room

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	5.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	6.82	0.68	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.67**	**6.45**	**0.01**	**7.05**	**0.90**	**1095.3**
Offsite Motor Vehicle Exhaust	0.10	2.91	0.32	0.00	0.06	0.00	408.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	18.46	2.13	
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**18.52**	**2.13**	**408.9**
Total	**0.90**	**5.58**	**6.76**	**0.02**	**25.57**	**3.02**	**1504.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.05	0.00	0.00	0.00	8.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.27	0.03	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.27**	**0.03**	**8.4**
Offsite Motor Vehicle Exhaust	0.00	0.12	0.01	0.00	0.00	0.00	16.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.02	
Offsite Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.08**	**0.02**	**16.4**
Total	**0.01**	**0.14**	**0.06**	**0.00**	**0.35**	**0.05**	**24.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	15	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 23
Alternative Substation Construction Emissions - Full Build Out
Control Room

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.01	0.02	0.05	0.00	0.00	0.00	8.10	0.00	0.00	8.2
Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.10**	**0.00**	**0.00**	**8.17**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	1
Stake Truck	1	80	N/A	1
Wiring Truck	1	80	N/A	1
Offsite				
Worker Commute	10	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**5.44**	**0.00**	**0.00**	**5.51**
Offsite										
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**0.06**	**0.00**	**404.29**	**0.02**	**0.01**	**408.91**
Total	**0.10**	**2.92**	**0.34**	**0.00**	**0.06**	**0.00**	**409.74**	**0.02**	**0.01**	**414.41**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 23
Alternative Substation Construction Emissions - Full Build Out
Control Room

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.00**	**0.00**	**0.22**
Offsite										
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.17	0.00	0.00	16.36
Offsite Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.00**	**0.00**	**16.17**	**0.00**	**0.00**	**16.36**
Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.00**	**0.00**	**16.39**	**0.00**	**0.00**	**16.58**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	80	2.273	0.227	2.27	0.23	0.09	0.01
Stake Truck	1	Unpaved	1	80	2.273	0.227	2.27	0.23	0.09	0.01
Wiring Truck	1	Unpaved	1	80	2.273	0.227	2.27	0.23	0.09	0.01
Onsite Total							**6.82**	**0.68**	**0.27**	**0.03**
Offsite										
Worker Commute	10	Paved	58	80	0.003	0.001	1.93	0.47	0.08	0.02
Worker Commute	10	Unpaved	1.5	80	1.102	0.110	16.53	1.65	0.00	0.00
Offsite Total							**18.46**	**2.13**	**0.08**	**0.02**
Total							**25.28**	**2.81**	**0.35**	**0.05**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 24
Alternative Substation Construction Emissions - Full Build Out
Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.93	0.39	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**3.93**	**0.39**	**2.3**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.38	0.85	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**7.41**	**0.85**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**11.34**	**1.24**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.20	0.02	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.20**	**0.02**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	8.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.01	
Offsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.04**	**0.01**	**8.2**
Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.24**	**0.03**	**8.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 24
Alternative Substation Construction Emissions - Full Build Out
Maintenance

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	100	N/A	1
Crew Truck	2	100	N/A	1
Offsite				
Worker Commute	4	100	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.25**	**0.00**	**0.00**	**2.27**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 24
Alternative Substation Construction Emissions - Full Build Out
Maintenance

Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.08
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.06	0.01	0.00	0.00	0.00	8.09	0.00	0.00	8.18
Offsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**8.09**	**0.00**	**0.00**	**8.18**
Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**8.20**	**0.00**	**0.00**	**8.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Unpaved	1	100	1.311	0.131	1.31	0.13	0.07	0.01
Crew Truck	2	Unpaved	1	100	1.311	0.131	2.62	0.26	0.13	0.01
Onsite Total							**3.93**	**0.39**	**0.20**	**0.02**
Offsite										
Worker Commute	4	Paved	58	100	0.003	0.001	0.77	0.19	0.04	0.01
Worker Commute	4	Unpaved	1.5	100	1.102	0.110	6.61	0.66	0.00	0.00
Offsite Total							**7.38**	**0.85**	**0.04**	**0.01**
Total							**11.31**	**1.24**	**0.24**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 25
Alternative Substation Construction Emissions - Full Build Out
Asphalting

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.70	21.43	50.61	0.08	1.90	1.75	7,304.9
Onsite Motor Vehicle Exhaust	0.01	0.08	0.43	0.00	0.01	0.01	94.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	59.45	5.94	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Asphaltic Paving VOC	0.3	--	--	--	--	--	--
Onsite Total	**6.05**	**21.51**	**51.05**	**0.08**	**61.37**	**7.70**	**7399.15**
Offsite Motor Vehicle Exhaust	0.64	5.68	23.05	0.05	0.79	0.42	5,183.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	93.97	10.22	
Offsite Total	**0.64**	**5.68**	**23.05**	**0.05**	**94.76**	**10.63**	**5183.1**
Total	**6.70**	**27.19**	**74.09**	**0.13**	**156.12**	**18.34**	**12582.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.09	0.32	0.76	0.00	0.03	0.03	109.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.89	0.09	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.09**	**0.32**	**0.76**	**0.00**	**0.92**	**0.12**	**110.6**
Offsite Motor Vehicle Exhaust	0.01	0.09	0.35	0.00	0.01	0.01	77.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.26	0.14	
Offsite Total	**0.01**	**0.09**	**0.35**	**0.00**	**1.27**	**0.14**	**77.7**
Total	**0.10**	**0.41**	**1.11**	**0.00**	**2.19**	**0.26**	**188.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Paving Roller	200	2	30	10
Asphalt Paver	250	1	30	10
Tractor	150	1	30	10
Asphalt Curb Machine	250	1	30	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Paving Roller	200	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Asphalt Paver	250	0.176	0.537	1.546	0.002	0.059	0.054	194.197	0.016	0.005	Pavers
Tractor	150	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Asphalt Curb Machine	250	0.108	0.330	0.969	0.001	0.036	0.033	122.182	0.010	0.003	Paving Equipment

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 25
Alternative Substation Construction Emissions - Full Build Out
Asphalting

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Paving Roller	2.08	6.92	19.89	0.03	0.67	0.61	3059.05	0.19	0.08	3,087.6
Asphalt Paver	1.76	5.37	15.46	0.02	0.59	0.54	1941.97	0.16	0.05	1,961.0
Tractor	0.79	5.84	5.57	0.01	0.29	0.27	1012.96	0.07	0.03	1,022.7
Asphalt Curb Machine	1.08	3.30	9.69	0.01	0.36	0.33	1221.82	0.10	0.03	1,233.7
Total	**5.70**	**21.43**	**50.61**	**0.08**	**1.90**	**1.75**	**7235.80**	**0.51**	**0.19**	**7304.95**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Paving Roller	0.03	0.10	0.30	0.00	0.01	0.01	45.89	0.00	0.00	46.3
Asphalt Paver	0.03	0.08	0.23	0.00	0.01	0.01	29.13	0.00	0.00	29.4
Tractor	0.01	0.09	0.08	0.00	0.00	0.00	15.19	0.00	0.00	15.3
Asphalt Curb Machine	0.02	0.05	0.15	0.00	0.01	0.00	18.33	0.00	0.00	18.5
Total	**0.09**	**0.32**	**0.76**	**0.00**	**0.03**	**0.03**	**108.54**	**0.01**	**0.00**	**109.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Stake Truck	1	30	N/A	1
Dump Truck	1	30	N/A	1
Crew Truck	2	30	N/A	1
Asphalt Delivery Truck	8	30	N/A	1
Aggregate Base Delivery Truck	15	30	N/A	1
Offsite				
Asphalt Delivery Truck	8	30	N/A	60
Aggregate Base Delivery Truck	15	30	N/A	60
Worker Commute	6	30	N/A	58

[a] Asphalt delivery trucks based on 1,710 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 3,250 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 25
Alternative Substation Construction Emissions - Full Build Out
Asphalting

Offsite										
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Crew Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Asphalt Delivery Truck	0.00	0.02	0.13	0.00	0.00	0.00	28.32	0.00	0.00	28.62
Aggregate Base Delivery Truck	0.01	0.04	0.25	0.00	0.01	0.00	53.10	0.00	0.00	53.67
Onsite Total	**0.01**	**0.08**	**0.43**	**0.00**	**0.01**	**0.01**	**93.20**	**0.00**	**0.00**	**94.20**
Offsite										
Asphalt Delivery Truck	0.20	1.37	7.95	0.02	0.26	0.14	1699.32	0.01	0.06	1717.48
Aggregate Base Delivery Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.64**	**5.68**	**23.05**	**0.05**	**0.79**	**0.42**	**5128.13**	**0.04**	**0.17**	**5183.09**
Total	**0.66**	**5.76**	**23.48**	**0.05**	**0.80**	**0.43**	**5221.33**	**0.04**	**0.18**	**5277.30**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Aggregate Base Delivery Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.81
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.97**	**0.00**	**0.00**	**0.98**
Offsite										
Asphalt Delivery Truck	0.00	0.02	0.12	0.00	0.00	0.00	25.49	0.00	0.00	25.76
Aggregate Base Delivery Truck	0.01	0.04	0.22	0.00	0.01	0.00	47.79	0.00	0.00	48.30
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	3.64	0.00	0.00	3.68
Offsite Total	**0.01**	**0.09**	**0.35**	**0.00**	**0.01**	**0.01**	**76.92**	**0.00**	**0.00**	**77.75**
Total	**0.01**	**0.09**	**0.35**	**0.00**	**0.01**	**0.01**	**77.90**	**0.00**	**0.00**	**78.73**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 25
Alternative Substation Construction Emissions - Full Build Out
Asphalting

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Stake Truck	1	Unpaved	1	30	2.273	0.227	2.27	0.23	0.03	0.00
Dump Truck	1	Unpaved	1	30	2.273	0.227	2.27	0.23	0.03	0.00
Crew Truck	2	Unpaved	1	30	1.311	0.131	2.62	0.26	0.04	0.00
Asphalt Delivery Truck	8	Unpaved	1	30	2.273	0.227	18.18	1.82	0.27	0.03
Aggregate Base Delivery Truck	15	Unpaved	1	30	2.273	0.227	34.10	3.41	0.51	0.05
Onsite Total							**59.45**	**5.94**	**0.89**	**0.09**
Offsite										
Asphalt Delivery Truck	8	Unpaved	1.5	30	2.273	0.227	27.28	2.73	0.41	0.04
Asphalt Delivery Truck	8	Paved	58.5	30	0.003	0.001	1.56	0.38	0.02	0.01
Aggregate Base Delivery Truck	15	Unpaved	1.5	30	2.273	0.227	51.14	5.11	0.77	0.08
Aggregate Base Delivery Truck	15	Paved	58.5	30	0.003	0.001	2.92	0.72	0.04	0.01
Worker Commute	6	Paved	58	30	0.003	0.001	1.16	0.28	0.02	0.00
Worker Commute	6	Unpaved	1.5	30	1.102	0.110	9.92	0.99	0.00	0.00
Offsite Total							**93.97**	**10.22**	**1.26**	**0.14**
Total							**153.42**	**16.16**	**2.15**	**0.23**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Asphaltic Paving VOC Emissions

Area Paved (acre/day)[a]	Emission Factor (lb/acre)[b]	VOC (lb/day)[c]
0.13	2.62	0.3

[a] Based on 169,000 sq. ft. of area paved in 30 days

[b] From CalEEMod User's Guide

[c] Emissions [lb/day] = Emission factor [lb/acre] x Area paved [acre/day]

Table 26
Alternative Substation Construction Emissions - Full Build Out
Transformer Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.90	7.62	15.41	0.03	0.65	0.60	2,314.2
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.7
Onsite Motor Vehicle Fugitive PM	--	--	--	--	4.89	0.49	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.90**	**7.63**	**15.42**	**0.03**	**5.55**	**1.09**	**2316.9**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	27.69	3.19	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**27.78**	**3.19**	**613.4**
Total	**2.05**	**12.00**	**15.89**	**0.03**	**33.32**	**4.28**	**2930.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.08	0.36	0.65	0.00	0.03	0.03	98.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.29	0.03	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.08**	**0.36**	**0.65**	**0.00**	**0.32**	**0.06**	**98.3**
Offsite Motor Vehicle Exhaust	0.01	0.26	0.03	0.00	0.01	0.00	36.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.17	0.04	
Offsite Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.18**	**0.04**	**36.8**
Total	**0.09**	**0.63**	**0.68**	**0.00**	**0.50**	**0.10**	**135.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Forklift	100	2	120	8
50 Ton Crane	200	2	75	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
50 Ton Crane	200	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Forklift	0.50	3.41	3.38	0.01	0.24	0.22	499.15	0.05	0.01	504.2
50 Ton Crane	1.40	4.21	12.04	0.02	0.41	0.38	1792.93	0.13	0.05	1,810.0
Total	**1.90**	**7.62**	**15.41**	**0.03**	**0.65**	**0.60**	**2292.08**	**0.17**	**0.06**	**2314.18**

Table 26
Alternative Substation Construction Emissions - Full Build Out
Transformer Assembly

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Forklift	0.03	0.20	0.20	0.00	0.01	0.01	29.95	0.00	0.00	30.2
50 Ton Crane	0.05	0.16	0.45	0.00	0.02	0.01	67.23	0.00	0.00	67.9
Total	**0.08**	**0.36**	**0.65**	**0.00**	**0.03**	**0.03**	**97.18**	**0.01**	**0.00**	**98.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	120	N/A	1
Crew Truck	2	120	N/A	1
Offsite				
Worker Commute	15	120	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.65**	**0.00**	**0.00**	**2.69**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.38**	**0.48**	**0.01**	**0.09**	**0.00**	**609.09**	**0.04**	**0.02**	**616.05**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 26
Alternative Substation Construction Emissions - Full Build Out
Transformer Assembly

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.16**	**0.00**	**0.00**	**0.16**
Offsite										
Worker Commute	0.01	0.26	0.03	0.00	0.01	0.00	36.39	0.00	0.00	36.80
Offsite Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.01**	**0.00**	**36.39**	**0.00**	**0.00**	**36.80**
Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.01**	**0.00**	**36.55**	**0.00**	**0.00**	**36.96**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	120	2.273	0.227	2.27	0.23	0.14	0.01
Crew Truck	2	Unpaved	1	120	1.311	0.131	2.62	0.26	0.16	0.02
Onsite Total							**4.89**	**0.49**	**0.29**	**0.03**
Offsite										
Worker Commute	15	Paved	58	120	0.003	0.001	2.90	0.71	0.17	0.04
Worker Commute	15	Unpaved	1.5	120	1.102	0.110	24.79	2.48	0.00	0.00
Offsite Total							**27.69**	**3.19**	**0.17**	**0.04**
Total							**32.58**	**3.68**	**0.47**	**0.07**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 27
Alternative Substation Construction Emissions - Full Build Out
Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.62	0.26	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**2.62**	**0.26**	**1.5**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	27.69	3.19	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**27.78**	**3.19**	**613.4**
Total	**0.15**	**4.37**	**0.48**	**0.01**	**30.40**	**3.46**	**614.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.24	0.02	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.24**	**0.02**	**0.1**
Offsite Motor Vehicle Exhaust	0.01	0.39	0.04	0.00	0.01	0.00	55.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.26	0.06	
Offsite Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.27**	**0.06**	**55.2**
Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.50**	**0.09**	**55.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 27
Alternative Substation Construction Emissions - Full Build Out
Testing

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	2	180	N/A	1
Offsite				
Worker Commute	15	180	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.50**	**0.00**	**0.00**	**1.52**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**607.94**	**0.04**	**0.02**	**614.88**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.14
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.13**	**0.00**	**0.00**	**0.14**

Table 27
Alternative Substation Construction Emissions - Full Build Out
Testing

Offsite										
Worker Commute	0.01	0.39	0.04	0.00	0.01	0.00	54.58	0.00	0.00	55.20
Offsite Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.01**	**0.00**	**54.58**	**0.00**	**0.00**	**55.20**
Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.01**	**0.00**	**54.71**	**0.00**	**0.00**	**55.34**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	2	Unpaved	1	180	1.311	0.131	2.62	0.26	0.24	0.02
Onsite Total							**2.62**	**0.26**	**0.24**	**0.02**
Offsite										
Worker Commute	15	Paved	58	180	0.003	0.001	2.90	0.71	0.26	0.06
Worker Commute	15	Unpaved	1.5	180	1.102	0.110	24.79	2.48	0.00	0.00
Offsite Total							**27.69**	**3.19**	**0.26**	**0.06**
Total							**30.31**	**3.45**	**0.50**	**0.09**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 28
Alternative Substation Construction Emissions - Full Build Out
Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	9.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	8.81	0.88	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**8.81**	**0.88**	**9.4**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	27.69	3.19	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**27.78**	**3.19**	**613.4**
Total	**0.15**	**4.43**	**0.49**	**0.01**	**36.59**	**4.07**	**622.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.22	0.02	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.02**	**0.2**
Offsite Motor Vehicle Exhaust	0.00	0.11	0.01	0.00	0.00	0.00	15.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.02	
Offsite Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.07**	**0.02**	**15.3**
Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.30**	**0.04**	**15.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 28
Alternative Substation Construction Emissions - Full Build Out
Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	50	N/A	4
Offsite				
Worker Commute	15	50	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**9.24**	**0.00**	**0.00**	**9.37**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.43**	**0.49**	**0.01**	**0.09**	**0.00**	**615.68**	**0.04**	**0.02**	**622.73**

Table 28
Alternative Substation Construction Emissions - Full Build Out
Survey

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.23
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.23**	**0.00**	**0.00**	**0.23**
Offsite										
Worker Commute	0.00	0.11	0.01	0.00	0.00	0.00	15.16	0.00	0.00	15.33
Offsite Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.00**	**0.00**	**15.16**	**0.00**	**0.00**	**15.33**
Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.00**	**0.00**	**15.39**	**0.00**	**0.00**	**15.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Unpaved	4	50	1.102	0.110	8.81	0.88	0.22	0.02
Onsite Total							**8.81**	**0.88**	**0.22**	**0.02**
Offsite										
Worker Commute	15	Paved	58	50	0.003	0.001	2.90	0.71	0.07	0.02
Worker Commute	15	Unpaved	1.5	50	1.102	0.110	24.79	2.48	0.00	0.00
Offsite Total							**27.69**	**3.19**	**0.07**	**0.02**
Total							**36.50**	**4.07**	**0.29**	**0.04**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

Table 28
Alternative Substation Construction Emissions - Full Build Out Survey

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 29
Modifications to Coolwater Switchyard
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.63	19.06	24.20	0.06	1.34	1.23	5,454.6
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.63**	**19.07**	**24.23**	**0.06**	**1.35**	**1.24**	**5462.9**
Offsite Motor Vehicle Exhaust	0.12	2.60	1.84	0.01	0.10	0.03	670.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.86	0.46	
Offsite Total	**0.12**	**2.60**	**1.84**	**0.01**	**1.96**	**0.49**	**670.6**
Total	**3.75**	**21.67**	**26.08**	**0.06**	**3.31**	**1.72**	**6133.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.11	0.57	0.73	0.00	0.04	0.04	163.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.11**	**0.57**	**0.73**	**0.00**	**0.04**	**0.04**	**163.9**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.06	0.00	0.00	0.00	20.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.01	
Offsite Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.06**	**0.01**	**20.1**
Total	**0.11**	**0.65**	**0.78**	**0.00**	**0.10**	**0.05**	**184.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	60	8
Excavator	85	2	60	8
Skip Loader	350	1	60	5
Forklift	100	1	60	4
Trencher	75	1	60	4
Bobcat	75	1	60	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 106

Table 29
Modifications to Coolwater Switchyard
Civil

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Excavator	1.33	8.10	8.46	0.01	0.63	0.58	1176.91	0.12	0.03	1,189.0
Skip Loader	0.80	2.79	6.28	0.01	0.22	0.21	1183.98	0.07	0.03	1,195.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.12	1.08	0.96	0.00	0.06	0.05	170.89	0.01	0.00	172.5
Total	**3.63**	**19.06**	**24.20**	**0.06**	**1.34**	**1.23**	**5404.15**	**0.33**	**0.14**	**5454.62**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.02	0.13	0.15	0.00	0.00	0.00	74.65	0.00	0.00	75.3
Excavator	0.04	0.24	0.25	0.00	0.02	0.02	35.31	0.00	0.00	35.7
Skip Loader	0.02	0.08	0.19	0.00	0.01	0.01	35.52	0.00	0.00	35.9
Forklift	0.00	0.03	0.03	0.00	0.00	0.00	3.74	0.00	0.00	3.8
Trencher	0.01	0.05	0.08	0.00	0.01	0.01	7.78	0.00	0.00	7.9
Bobcat	0.00	0.03	0.03	0.00	0.00	0.00	5.13	0.00	0.00	5.2
Total	**0.11**	**0.57**	**0.73**	**0.00**	**0.04**	**0.04**	**162.12**	**0.01**	**0.00**	**163.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	60	N/A	0.5
Concrete Truck	1	60	N/A	0.5
Water Truck	2	60	N/A	0.5
Tool Truck	1	60	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Water Truck	2	60	N/A	18
Concrete Truck	1	60	N/A	60
Worker Commute	8	60	N/A	58

[a] Concrete trucks based on 20,000 CY over 200 days and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										

Table 29
Modifications to Coolwater Switchyard
Civil

Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.24**	**0.00**	**0.00**	**8.33**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.12**	**2.60**	**1.84**	**0.01**	**0.10**	**0.03**	**663.30**	**0.02**	**0.02**	**670.62**
Total	**0.12**	**2.62**	**1.88**	**0.01**	**0.10**	**0.03**	**671.53**	**0.02**	**0.02**	**678.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.24**	**0.00**	**0.00**	**0.24**
Offsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.82	0.00	0.00	3.86
Concrete Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.00**	**0.00**	**19.90**	**0.00**	**0.00**	**20.12**
Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.00**	**0.00**	**20.13**	**0.00**	**0.00**	**20.36**

Table 29
Modifications to Coolwater Switchyard
Civil

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	2	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Tool Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Water Truck	2	Paved	17.5	60	0.003	0.001	0.12	0.03	0.00	0.00
Concrete Truck	1	Paved	59.5	60	0.003	0.001	0.20	0.05	0.01	0.00
Worker Commute	8	Paved	58	60	0.003	0.001	1.54	0.38	0.05	0.01
Offsite Total							**1.86**	**0.46**	**0.06**	**0.01**
Total							**1.87**	**0.46**	**0.06**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 30
Modifications to Coolwater Switchyard
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.77	7.52	13.97	0.02	0.68	0.63	2,076.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.77**	**7.53**	**13.97**	**0.02**	**0.69**	**0.63**	**2078.3**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.54	0.38	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**1.59**	**0.38**	**327.1**
Total	**1.85**	**9.86**	**14.23**	**0.03**	**2.29**	**1.01**	**2405.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.26	0.49	0.00	0.02	0.02	72.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.26**	**0.49**	**0.00**	**0.02**	**0.02**	**72.7**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.01	0.00	0.00	0.00	11.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.06**	**0.01**	**11.4**
Total	**0.06**	**0.34**	**0.50**	**0.00**	**0.08**	**0.04**	**84.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	70	5
Manlift	75	2	70	5
14 Ton Crane	250	1	70	3
150 Ton Crane	300	1	70	4
5 Ton Crane	250	1	70	3
Forklift	100	1	70	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

Table 30
Modifications to Coolwater Switchyard Electrical

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.21	1.18	1.51	0.00	0.11	0.10	190.19	0.02	0.00	192.1
Manlift	0.42	2.35	3.03	0.00	0.22	0.20	380.38	0.04	0.01	384.3
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.77**	**7.52**	**13.97**	**0.02**	**0.68**	**0.63**	**2056.26**	**0.16**	**0.05**	**2076.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.01	0.04	0.05	0.00	0.00	0.00	6.66	0.00	0.00	6.7
Manlift	0.01	0.08	0.11	0.00	0.01	0.01	13.31	0.00	0.00	13.4
14 Ton Crane	0.01	0.03	0.08	0.00	0.00	0.00	11.77	0.00	0.00	11.9
150 Ton Crane	0.02	0.06	0.15	0.00	0.01	0.00	25.19	0.00	0.00	25.4
5 Ton Crane	0.01	0.03	0.08	0.00	0.00	0.00	11.77	0.00	0.00	11.9
Forklift	0.00	0.02	0.02	0.00	0.00	0.00	3.28	0.00	0.00	3.3
Total	**0.06**	**0.26**	**0.49**	**0.00**	**0.02**	**0.02**	**71.97**	**0.01**	**0.00**	**72.67**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	70	N/A	0.5
Crew Truck	2	70	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Worker Commute	8	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 30
Modifications to Coolwater Switchyard
Electrical

Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**	**0.00**	**0.00**	**2.10**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.26**	**0.00**	**0.05**	**0.00**	**325.51**	**0.02**	**0.01**	**329.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.06**
Offsite										
Worker Commute	0.00	0.08	0.01	0.00	0.00	0.00	11.32	0.00	0.00	11.45
Offsite Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**11.32**	**0.00**	**0.00**	**11.45**
Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**11.38**	**0.00**	**0.00**	**11.51**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**

Table 30
Modifications to Coolwater Switchyard
Electrical

Offsite										
Worker Commute	8	Paved	58	70	0.003	0.001	1.54	0.38	0.05	0.01
Offsite Total							**1.54**	**0.38**	**0.05**	**0.01**
Total							**1.55**	**0.38**	**0.05**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 31
Modifications to Coolwater Switchyard Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 31
Modifications to Coolwater Switchyard Wiring

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	0.5
Pick-up Truck	1	60	N/A	0.5
Offsite				
Worker Commute	2	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 31
Modifications to Coolwater Switchyard Wiring

Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.04**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.43	0.00	0.00	2.45
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.43**	**0.00**	**0.00**	**2.45**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.46**	**0.00**	**0.00**	**2.49**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Pick-up Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	60	0.003	0.001	0.39	0.09	0.01	0.00
Offsite Total							**0.39**	**0.09**	**0.01**	**0.00**
Total							**0.39**	**0.10**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 32
Modifications to Coolwater Switchyard
MEER

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.66**	**6.44**	**0.01**	**0.24**	**0.21**	**1092.6**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.84**	**3.83**	**6.56**	**0.01**	**1.03**	**0.41**	**1256.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.6**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	6.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.03**	**0.01**	**6.5**
Total	**0.01**	**0.06**	**0.04**	**0.00**	**0.03**	**0.01**	**12.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 32
Modifications to Coolwater Switchyard
MEER

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.00	0.01	0.03	0.00	0.00	0.00	5.40	0.00	0.00	5.4
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.40**	**0.00**	**0.00**	**5.45**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	0.5
Stake Truck	1	80	N/A	0.5
Wiring Truck	1	80	N/A	0.5
Offsite				
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.72**	**0.00**	**0.00**	**2.75**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.14**	**0.00**	**0.02**	**0.00**	**164.44**	**0.01**	**0.01**	**166.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 32
Modifications to Coolwater Switchyard
MEER

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.47**	**0.00**	**0.00**	**6.54**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Stake Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Wiring Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.78**	**0.19**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 33
Modifications to Coolwater Switchyard Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**1.1**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**164.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 33
Modifications to Coolwater Switchyard Maintenance

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	0.5
Crew Truck	2	40	N/A	0.5
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.12**	**0.00**	**0.00**	**1.14**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.84**	**0.01**	**0.01**	**164.70**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 33
Modifications to Coolwater Switchyard Maintenance

Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.26**	**0.00**	**0.00**	**3.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.77**	**0.19**	**0.02**	**0.00**
Total							**0.78**	**0.19**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 34
Modifications to Coolwater Switchyard Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.4**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 34
Modifications to Coolwater Switchyard Testing

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	0.5
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.38**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.09**	**0.01**	**0.01**	**163.94**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**

Table 34
Modifications to Coolwater Switchyard Testing

Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.67**	**0.00**	**0.00**	**5.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.77**	**0.19**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 35
Modifications to Coolwater Switchyard Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 35
Modifications to Coolwater Switchyard
Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	0.5
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

Table 35
Modifications to Coolwater Switchyard Survey

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.00**	**0.00**	**0.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Offsite Total							**0.39**	**0.09**	**0.00**	**0.00**
Total							**0.39**	**0.10**	**0.00**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

Table 35
Modifications to Coolwater Switchyard
Survey

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 36
Modifications to Lugo Substation
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.83	20.16	25.45	0.06	1.38	1.27	6,082.1
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.83**	**20.17**	**25.48**	**0.06**	**1.39**	**1.27**	**6090.4**
Offsite Motor Vehicle Exhaust	0.14	3.19	1.91	0.01	0.11	0.03	752.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.25	0.55	
Offsite Total	**0.14**	**3.19**	**1.91**	**0.01**	**2.36**	**0.58**	**752.4**
Total	**3.98**	**23.36**	**27.39**	**0.07**	**3.75**	**1.85**	**6842.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.19	1.01	1.27	0.00	0.07	0.06	304.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.19**	**1.01**	**1.27**	**0.00**	**0.07**	**0.06**	**304.5**
Offsite Motor Vehicle Exhaust	0.01	0.16	0.10	0.00	0.01	0.00	37.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.11	0.03	
Offsite Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.12**	**0.03**	**37.6**
Total	**0.20**	**1.17**	**1.37**	**0.00**	**0.19**	**0.09**	**342.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	100	10
Excavator	85	2	100	8
Skip Loader	350	1	100	5
Forklift	100	1	100	4
Trencher	75	1	100	4
Bobcat	75	1	100	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

Table 36
Modifications to Lugo Substation
Civil

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2
Excavator	1.33	8.10	8.46	0.01	0.63	0.58	1176.91	0.12	0.03	1,189.0
Skip Loader	0.80	2.79	6.28	0.01	0.22	0.21	1183.98	0.07	0.03	1,195.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.12	1.08	0.96	0.00	0.06	0.05	170.89	0.01	0.00	172.5
Total	**3.83**	**20.16**	**25.45**	**0.06**	**1.38**	**1.27**	**6026.21**	**0.35**	**0.16**	**6082.06**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.05	0.28	0.31	0.00	0.01	0.01	155.51	0.00	0.00	156.9
Excavator	0.07	0.41	0.42	0.00	0.03	0.03	58.85	0.01	0.00	59.4
Skip Loader	0.04	0.14	0.31	0.00	0.01	0.01	59.20	0.00	0.00	59.8
Forklift	0.01	0.04	0.04	0.00	0.00	0.00	6.24	0.00	0.00	6.3
Trencher	0.02	0.09	0.13	0.00	0.01	0.01	12.97	0.00	0.00	13.1
Bobcat	0.01	0.05	0.05	0.00	0.00	0.00	8.54	0.00	0.00	8.6
Total	**0.19**	**1.01**	**1.27**	**0.00**	**0.07**	**0.06**	**301.31**	**0.02**	**0.01**	**304.10**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	100	N/A	0.5
Concrete Truck	1	100	N/A	0.5
Water Truck	2	100	N/A	0.5
Tool Truck	1	100	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Water Truck	2	100	N/A	18
Concrete Truck	1	100	N/A	60
Worker Commute	10	100	N/A	58

[a] Concrete trucks based on 20,000 CY over 200 days and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Table 36
Modifications to Lugo Substation
Civil

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.24**	**0.00**	**0.00**	**8.33**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.14**	**3.19**	**1.91**	**0.01**	**0.11**	**0.03**	**744.16**	**0.03**	**0.02**	**752.40**
Total	**0.14**	**3.20**	**1.94**	**0.01**	**0.11**	**0.03**	**752.39**	**0.03**	**0.03**	**760.73**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.39**	**0.00**	**0.00**	**0.39**
Offsite										
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44

Table 36
Modifications to Lugo Substation
Civil

Concrete Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.01	0.15	0.02	0.00	0.00	0.00	20.21	0.00	0.00	20.45
Offsite Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.01**	**0.00**	**37.21**	**0.00**	**0.00**	**37.62**
Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.01**	**0.00**	**37.60**	**0.00**	**0.00**	**38.01**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Tool Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Water Truck	2	Paved	17.5	100	0.003	0.001	0.12	0.03	0.01	0.00
Concrete Truck	1	Paved	59.5	100	0.003	0.001	0.20	0.05	0.01	0.00
Worker Commute	10	Paved	58	100	0.003	0.001	1.93	0.47	0.10	0.02
Offsite Total							**2.25**	**0.55**	**0.11**	**0.03**
Total							**2.26**	**0.55**	**0.11**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 37
Modifications to Lugo Substation
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.77	7.52	13.97	0.02	0.68	0.63	2,076.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.77**	**7.53**	**13.97**	**0.02**	**0.69**	**0.63**	**2078.3**
Offsite Motor Vehicle Exhaust	0.10	2.91	0.32	0.00	0.06	0.00	408.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.93	0.47	
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**1.99**	**0.48**	**408.9**
Total	**1.87**	**10.44**	**14.29**	**0.03**	**2.68**	**1.11**	**2487.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.09	0.38	0.70	0.00	0.03	0.03	103.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.09**	**0.38**	**0.70**	**0.00**	**0.03**	**0.03**	**103.9**
Offsite Motor Vehicle Exhaust	0.01	0.15	0.02	0.00	0.00	0.00	20.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.02	
Offsite Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.10**	**0.02**	**20.4**
Total	**0.09**	**0.52**	**0.71**	**0.00**	**0.13**	**0.06**	**124.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	100	5
Manlift	75	2	100	5
14 Ton Crane	250	1	100	3
150 Ton Crane	300	1	100	4
5 Ton Crane	250	1	100	3
Forklift	100	1	100	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

Table 37
Modifications to Lugo Substation
Electrical

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.21	1.18	1.51	0.00	0.11	0.10	190.19	0.02	0.00	192.1
Manlift	0.42	2.35	3.03	0.00	0.22	0.20	380.38	0.04	0.01	384.3
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.77**	**7.52**	**13.97**	**0.02**	**0.68**	**0.63**	**2056.26**	**0.16**	**0.05**	**2076.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.01	0.06	0.08	0.00	0.01	0.01	9.51	0.00	0.00	9.6
Manlift	0.02	0.12	0.15	0.00	0.01	0.01	19.02	0.00	0.00	19.2
14 Ton Crane	0.01	0.04	0.11	0.00	0.00	0.00	16.81	0.00	0.00	17.0
150 Ton Crane	0.03	0.09	0.21	0.00	0.01	0.01	35.99	0.00	0.00	36.3
5 Ton Crane	0.01	0.04	0.11	0.00	0.00	0.00	16.81	0.00	0.00	17.0
Forklift	0.00	0.03	0.03	0.00	0.00	0.00	4.68	0.00	0.00	4.7
Total	**0.09**	**0.38**	**0.70**	**0.00**	**0.03**	**0.03**	**102.81**	**0.01**	**0.00**	**103.81**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	100	N/A	0.5
Crew Truck	2	100	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Worker Commute	10	100	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 37
Modifications to Lugo Substation
Electrical

Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**	**0.00**	**0.00**	**2.10**
Offsite										
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**0.06**	**0.00**	**404.29**	**0.02**	**0.01**	**408.91**
Total	**0.10**	**2.92**	**0.32**	**0.00**	**0.06**	**0.00**	**406.37**	**0.02**	**0.01**	**411.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**	**0.00**	**0.08**
Offsite										
Worker Commute	0.01	0.15	0.02	0.00	0.00	0.00	20.21	0.00	0.00	20.45
Offsite Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.00**	**0.00**	**20.21**	**0.00**	**0.00**	**20.45**
Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.00**	**0.00**	**20.30**	**0.00**	**0.00**	**20.53**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**

Table 37
Modifications to Lugo Substation
Electrical

Offsite										
Worker Commute	10	Paved	58	100	0.003	0.001	1.93	0.47	0.10	0.02
Offsite Total							**1.93**	**0.47**	**0.10**	**0.02**
Total							**1.94**	**0.48**	**0.10**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 38
Modifications to Lugo Substation Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.16	0.28	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**1.19**	**0.29**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**1.20**	**0.29**	**246.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 38
Modifications to Lugo Substation
Wiring

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	0.5
Pick-up Truck	1	60	N/A	0.5
Offsite				
Worker Commute	6	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**243.73**	**0.01**	**0.01**	**246.52**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 38
Modifications to Lugo Substation Wiring

Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.04**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.28**	**0.00**	**0.00**	**7.36**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.31**	**0.00**	**0.00**	**7.40**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Pick-up Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	6	Paved	58	60	0.003	0.001	1.16	0.28	0.03	0.01
Offsite Total							**1.16**	**0.28**	**0.03**	**0.01**
Total							**1.16**	**0.29**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 39
Modifications to Lugo Substation
Control Room

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.66**	**6.44**	**0.01**	**0.24**	**0.21**	**1092.6**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.84**	**3.83**	**6.56**	**0.01**	**1.03**	**0.41**	**1256.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.05	0.00	0.00	0.00	8.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.3**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	6.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.03**	**0.01**	**6.5**
Total	**0.01**	**0.07**	**0.05**	**0.00**	**0.03**	**0.01**	**14.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	15	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 39
Modifications to Lugo Substation
Control Room

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.01	0.02	0.05	0.00	0.00	0.00	8.10	0.00	0.00	8.2
Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.10**	**0.00**	**0.00**	**8.17**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	0.5
Stake Truck	1	80	N/A	0.5
Wiring Truck	1	80	N/A	0.5
Offsite				
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.72**	**0.00**	**0.00**	**2.75**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.14**	**0.00**	**0.02**	**0.00**	**164.44**	**0.01**	**0.01**	**166.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 39
Modifications to Lugo Substation
Control Room

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.47**	**0.00**	**0.00**	**6.54**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Stake Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Wiring Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.78**	**0.19**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 40
Modifications to Lugo Substation
Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**1.1**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**164.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 40
Modifications to Lugo Substation
Maintenance

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	0.5
Crew Truck	2	40	N/A	0.5
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.12**	**0.00**	**0.00**	**1.14**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.84**	**0.01**	**0.01**	**164.70**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 40
Modifications to Lugo Substation
Maintenance

Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.26**	**0.00**	**0.00**	**3.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.77**	**0.19**	**0.02**	**0.00**
Total							**0.78**	**0.19**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 41
Modifications to Lugo Substation
Transformer Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.67	7.42	13.25	0.02	0.61	0.56	1,987.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	2.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.67**	**7.42**	**13.26**	**0.02**	**0.61**	**0.56**	**1990.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.16	0.28	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**1.19**	**0.29**	**245.3**
Total	**1.74**	**9.17**	**13.45**	**0.03**	**1.81**	**0.85**	**2235.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.08	0.37	0.59	0.00	0.03	0.03	88.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.08**	**0.37**	**0.59**	**0.00**	**0.03**	**0.03**	**88.9**
Offsite Motor Vehicle Exhaust	0.00	0.10	0.01	0.00	0.00	0.00	14.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.02	
Offsite Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.07**	**0.02**	**14.7**
Total	**0.08**	**0.48**	**0.60**	**0.00**	**0.10**	**0.04**	**103.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Forklift	100	2	120	10
50 Ton Crane	200	2	75	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
50 Ton Crane	200	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 41
Modifications to Lugo Substation
Transformer Assembly

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Forklift	0.62	4.26	4.22	0.01	0.30	0.27	623.94	0.06	0.02	630.2
50 Ton Crane	1.05	3.16	9.03	0.02	0.31	0.29	1344.70	0.09	0.03	1,357.5
Total	**1.67**	**7.42**	**13.25**	**0.02**	**0.61**	**0.56**	**1968.64**	**0.15**	**0.05**	**1987.71**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Forklift	0.04	0.26	0.25	0.00	0.02	0.02	37.44	0.00	0.00	37.8
50 Ton Crane	0.04	0.12	0.34	0.00	0.01	0.01	50.43	0.00	0.00	50.9
Total	**0.08**	**0.37**	**0.59**	**0.00**	**0.03**	**0.03**	**87.86**	**0.01**	**0.00**	**88.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	120	N/A	0.5
Crew Truck	2	120	N/A	0.5
Offsite				
Worker Commute	6	120	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										

Table 41
Modifications to Lugo Substation
Transformer Assembly

Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.52**	**0.00**	**0.00**	**2.55**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.75**	**0.20**	**0.00**	**0.04**	**0.00**	**245.09**	**0.01**	**0.01**	**247.89**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.05
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.15**	**0.00**	**0.00**	**0.15**
Offsite										
Worker Commute	0.00	0.10	0.01	0.00	0.00	0.00	14.55	0.00	0.00	14.72
Offsite Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.00**	**0.00**	**14.55**	**0.00**	**0.00**	**14.72**
Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.00**	**0.00**	**14.71**	**0.00**	**0.00**	**14.87**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	120	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	120	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	6	Paved	58	120	0.003	0.001	1.16	0.28	0.07	0.02
Offsite Total							**1.16**	**0.28**	**0.07**	**0.02**
Total							**1.16**	**0.29**	**0.07**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 41
Modifications to Lugo Substation
Transformer Assembly

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 42
Modifications to Lugo Substation
Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.4**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 42
Modifications to Lugo Substation
Testing

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	0.5
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.38**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.09**	**0.01**	**0.01**	**163.94**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**

Table 42
Modifications to Lugo Substation
Testing

Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.67**	**0.00**	**0.00**	**5.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.77**	**0.19**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 43
Modifications to Lugo Substation
Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 43
Modifications to Lugo Substation
Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	0.5
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

Table 43
Modifications to Lugo Substation
Survey

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.00**	**0.00**	**0.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Offsite Total							**0.39**	**0.09**	**0.00**	**0.00**
Total							**0.39**	**0.10**	**0.00**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

Table 43
Modifications to Lugo Substation
Survey

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 44
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.23	6.42	0.76	0.01	0.12	0.00	916.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	192.07	19.70	
Offsite Total	**0.23**	**6.42**	**0.76**	**0.01**	**192.19**	**19.70**	**916.5**
Total	**0.23**	**6.42**	**0.76**	**0.01**	**192.19**	**19.70**	**916.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.01	0.16	0.02	0.00	0.00	0.00	22.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.80	0.49	
Offsite Total	**0.01**	**0.16**	**0.02**	**0.00**	**4.80**	**0.49**	**22.9**
Total	**0.01**	**0.16**	**0.02**	**0.00**	**4.80**	**0.49**	**22.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 44
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	8	50	N/A	28
Worker Commute	16	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25

Table 44
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Survey

Offsite Total	**0.23**	**6.42**	**0.76**	**0.01**	**0.12**	**0.00**	**905.48**	**0.06**	**0.03**	**916.49**
Total	**0.23**	**6.42**	**0.76**	**0.01**	**0.12**	**0.00**	**905.48**	**0.06**	**0.03**	**916.49**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.04	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.56
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.17	0.00	0.00	16.36
Offsite Total	**0.01**	**0.16**	**0.02**	**0.00**	**0.00**	**0.00**	**22.64**	**0.00**	**0.00**	**22.91**
Total	**0.01**	**0.16**	**0.02**	**0.00**	**0.00**	**0.00**	**22.64**	**0.00**	**0.00**	**22.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	8	Unpaved	18	50	1.311	0.131	188.71	18.87	4.72	0.47
1-Ton Truck, 4x4	8	Paved	10	50	0.003	0.001	0.27	0.07	0.01	0.00
Worker Commute	16	Paved	58	50	0.003	0.001	3.09	0.76	0.08	0.02
Offsite Total							**192.07**	**19.70**	**4.80**	**0.49**
Total							**192.07**	**19.70**	**4.80**	**0.49**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 44
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Survey

Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 45
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Construction and Materials Yards

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.91	3.00	7.11	0.01	0.25	0.23	1,297.0
Onsite Motor Vehicle Exhaust	0.04	0.33	1.46	0.00	0.05	0.03	324.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.32	0.08	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.95**	**3.33**	**8.57**	**0.02**	**0.62**	**0.34**	**1621.8**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total/Yard	**0.99**	**4.49**	**8.70**	**0.02**	**1.42**	**0.53**	**1785.4**
Total for 8 Yards	**7.89**	**35.93**	**69.59**	**0.15**	**11.37**	**4.22**	**14283.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.41	1.37	3.25	0.01	0.11	0.11	592.1
Onsite Motor Vehicle Exhaust	0.02	0.15	0.67	0.00	0.02	0.01	148.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.15	0.04	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.43**	**1.52**	**3.91**	**0.01**	**0.29**	**0.15**	**740.4**
Offsite Motor Vehicle Exhaust	0.02	0.53	0.06	0.00	0.01	0.00	74.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.35	0.09	
Offsite Total	**0.02**	**0.53**	**0.06**	**0.00**	**0.36**	**0.09**	**74.7**
Total/Yard	**0.45**	**2.05**	**3.97**	**0.01**	**0.65**	**0.24**	**815.0**
Total for 8 Yards	**3.60**	**16.40**	**31.77**	**0.07**	**5.19**	**1.93**	**6520.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
R/T Forklfit	200	1	913	5
Boom/Crane Truck	350	1	913	5

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
R/T Forklfit	200	0.049	0.157	0.351	0.001	0.012	0.011	77.053	0.004	0.002	Forklifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 45
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Construction and Materials Yards

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
R/T Forklfit	0.24	0.78	1.76	0.00	0.06	0.05	385.26	0.02	0.01	388.8
Boom/Crane Truck	0.66	2.21	5.36	0.01	0.19	0.18	899.70	0.06	0.02	908.2
Total	**0.91**	**3.00**	**7.11**	**0.01**	**0.25**	**0.23**	**1284.96**	**0.08**	**0.03**	**1297.03**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
R/T Forklfit	0.11	0.36	0.80	0.00	0.03	0.02	175.87	0.01	0.00	177.5
Boom/Crane Truck	0.30	1.01	2.44	0.00	0.09	0.08	410.71	0.03	0.01	414.6
Total	**0.41**	**1.37**	**3.25**	**0.01**	**0.11**	**0.11**	**586.58**	**0.04**	**0.02**	**592.09**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.[a]
Onsite				
1-Ton Truck, 4x4	1	913	4	10
Boom/Crane Truck	1	913	5	12.5
Water Truck	2	913	10	25
Jet A Fuel Truck	1	913	4	10
Truck, Semi Tractor	1	913	6	15
Offsite				
Worker Commute	4	913	N/A	58

[a] Onsite travel based on 25% use at 10 mph average speed

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Jet A Fuel Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Truck, Semi Tractor	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										

Table 45
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Construction and Materials Yards

Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
1-Ton Truck, 4x4	0.00	0.08	0.01	0.00	0.00	0.00	11.55	0.00	0.00	11.71
Boom/Crane Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.25	0.00	0.00	44.73
Water Truck	0.02	0.14	0.83	0.00	0.03	0.02	177.01	0.00	0.01	178.90
Jet A Fuel Truck	0.00	0.03	0.17	0.00	0.01	0.00	35.40	0.00	0.00	35.78
Truck, Semi Tractor	0.01	0.04	0.25	0.00	0.01	0.00	53.10	0.00	0.00	53.67
Onsite Total	**0.04**	**0.33**	**1.46**	**0.00**	**0.05**	**0.03**	**321.32**	**0.00**	**0.01**	**324.79**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.08**	**1.49**	**1.59**	**0.01**	**0.07**	**0.03**	**483.03**	**0.01**	**0.02**	**488.35**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
1-Ton Truck, 4x4	0.00	0.04	0.01	0.00	0.00	0.00	5.27	0.00	0.00	5.34
Boom/Crane Truck	0.00	0.02	0.09	0.00	0.00	0.00	20.20	0.00	0.00	20.42
Water Truck	0.01	0.06	0.38	0.00	0.01	0.01	80.81	0.00	0.00	81.67
Jet A Fuel Truck	0.00	0.01	0.08	0.00	0.00	0.00	16.16	0.00	0.00	16.33
Truck, Semi Tractor	0.00	0.02	0.11	0.00	0.00	0.00	24.24	0.00	0.00	24.50
Onsite Total	**0.02**	**0.15**	**0.67**	**0.00**	**0.02**	**0.01**	**146.68**	**0.00**	**0.01**	**148.27**
Offsite										
Worker Commute	0.02	0.53	0.06	0.00	0.01	0.00	73.82	0.00	0.00	74.67
Offsite Total	**0.02**	**0.53**	**0.06**	**0.00**	**0.01**	**0.00**	**73.82**	**0.00**	**0.00**	**74.67**
Total	**0.04**	**0.68**	**0.72**	**0.00**	**0.03**	**0.01**	**220.51**	**0.01**	**0.01**	**222.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]

Table 45
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Construction and Materials Yards

Onsite										
1-Ton Truck, 4x4	1	Paved	10	913	0.003	0.001	0.03	0.01	0.02	0.00
Boom/Crane Truck	1	Paved	12.5	913	0.003	0.001	0.04	0.01	0.02	0.00
Water Truck	2	Paved	25	913	0.003	0.001	0.17	0.04	0.08	0.02
Jet A Fuel Truck	1	Paved	10	913	0.003	0.001	0.03	0.01	0.02	0.00
Truck, Semi Tractor	1	Paved	15	913	0.003	0.001	0.05	0.01	0.02	0.01
Onsite Total							**0.32**	**0.08**	**0.15**	**0.04**
Offsite										
Worker Commute	4	Paved	58	913	0.003	0.001	0.77	0.19	0.35	0.09
Offsite Total							**0.77**	**0.19**	**0.35**	**0.09**
Total							**1.10**	**0.27**	**0.50**	**0.12**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 46
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Right-of-Way Clearing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	12.06	42.79	92.13	0.18	3.38	3.11	17,652.9
Onsite Motor Vehicle Exhaust	0.01	0.05	0.30	0.00	0.01	0.01	64.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	40.91	4.09	
Earthwork Fugitive PM	--	--	--	--	4829.36	1599.74	
Onsite Total	**12.06**	**42.84**	**92.43**	**0.18**	**4873.66**	**1606.94**	**17717.3**
Offsite Motor Vehicle Exhaust	0.60	15.71	4.52	0.03	0.40	0.06	2,754.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	333.03	34.75	
Offsite Total	**0.60**	**15.71**	**4.52**	**0.03**	**333.43**	**34.81**	**2754.7**
Total	**12.67**	**58.55**	**96.94**	**0.21**	**5207.09**	**1641.76**	**20472.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.63	2.25	4.84	0.01	0.18	0.16	926.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.02	0.00	0.00	0.00	3.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.15	0.21	
Earthwork Fugitive PM	--	--	--	--	253.54	83.99	
Onsite Total	**0.63**	**2.25**	**4.85**	**0.01**	**255.87**	**84.36**	**930.2**
Offsite Motor Vehicle Exhaust	0.03	0.82	0.24	0.00	0.02	0.00	144.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	17.48	1.82	
Offsite Total	**0.03**	**0.82**	**0.24**	**0.00**	**17.51**	**1.83**	**144.6**
Total	**0.67**	**3.07**	**5.09**	**0.01**	**273.37**	**86.19**	**1074.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	350	3	105	7
Track Type Dozer	350	3	105	7
Road Grader	350	3	105	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Track Type Dozer	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Road Grader	350	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	4.16	14.61	29.56	0.08	1.04	0.96	7235.42	0.38	0.19	7,301.5
Track Type Dozer	4.58	16.59	36.58	0.05	1.40	1.29	5438.93	0.41	0.14	5,491.5

Table 46
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Right-of-Way Clearing

Road Grader	3.31	11.59	25.99	0.05	0.94	0.86	4814.84	0.30	0.13	4,859.9
Total	**12.06**	**42.79**	**92.13**	**0.18**	**3.38**	**3.11**	**17489.19**	**1.09**	**0.45**	**17652.89**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.22	0.77	1.55	0.00	0.05	0.05	379.86	0.02	0.01	383.3
Track Type Dozer	0.24	0.87	1.92	0.00	0.07	0.07	285.54	0.02	0.01	288.3
Road Grader	0.17	0.61	1.36	0.00	0.05	0.05	252.78	0.02	0.01	255.1
Total	**0.63**	**2.25**	**4.84**	**0.01**	**0.18**	**0.16**	**918.18**	**0.06**	**0.02**	**926.78**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	6	105	N/A	3
Offsite				
1-Ton Truck, 4x4	3	105	N/A	28
Water Truck	6	105	N/A	28
Lowboy Truck/Trailer	3	105	N/A	1
Worker Commute	50	105	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Onsite Total	**0.01**	**0.05**	**0.30**	**0.00**	**0.01**	**0.01**	**63.72**	**0.00**	**0.00**	**64.41**
Offsite										
1-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34

Table 46
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Right-of-Way Clearing

Water Truck	0.07	0.48	2.78	0.01	0.09	0.05	594.76	0.00	0.02	601.12
Lowboy Truck/Trailer	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.51	14.57	1.59	0.02	0.30	0.01	2021.47	0.12	0.07	2044.54
Offsite Total	**0.60**	**15.71**	**4.52**	**0.03**	**0.40**	**0.06**	**2723.83**	**0.13**	**0.09**	**2754.73**
Total	**0.61**	**15.76**	**4.81**	**0.03**	**0.41**	**0.07**	**2787.55**	**0.13**	**0.09**	**2819.14**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.35	0.00	0.00	3.38
Onsite Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**3.35**	**0.00**	**0.00**	**3.38**
Offsite										
1-Ton Truck, 4x4	0.00	0.03	0.01	0.00	0.00	0.00	5.09	0.00	0.00	5.16
Water Truck	0.00	0.03	0.15	0.00	0.00	0.00	31.23	0.00	0.00	31.56
Lowboy Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.56
Worker Commute	0.03	0.76	0.08	0.00	0.02	0.00	106.13	0.01	0.00	107.34
Offsite Total	**0.03**	**0.82**	**0.24**	**0.00**	**0.02**	**0.00**	**143.00**	**0.01**	**0.00**	**144.62**
Total	**0.03**	**0.83**	**0.25**	**0.00**	**0.02**	**0.00**	**146.35**	**0.01**	**0.00**	**148.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	6	Unpaved	3	105	2.273	0.227	40.91	4.09	2.15	0.21
Onsite Total							**40.91**	**4.09**	**2.15**	**0.21**
Offsite										
1-Ton Truck, 4x4	3	Unpaved	18	105	1.311	0.131	70.77	7.08	3.72	0.37
1-Ton Truck, 4x4	3	Paved	10	105	0.003	0.001	0.10	0.02	0.01	0.00
Water Truck	6	Unpaved	18	105	2.273	0.227	245.49	24.55	12.89	1.29
Water Truck	6	Paved	10	105	0.003	0.001	0.20	0.05	0.01	0.00
Lowboy Truck/Trailer	3	Unpaved	1	105	2.273	0.227	6.82	0.68	0.36	0.04
Worker Commute	50	Paved	58	105	0.003	0.001	9.66	2.37	0.51	0.12
Offsite Total							**333.03**	**34.75**	**17.48**	**1.82**
Total							**373.95**	**38.84**	**19.63**	**2.04**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 46
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Right-of-Way Clearing

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr	42	4410	114.985	38.089	4829.36	1599.74	253.54	83.99
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**4829.36**	**1599.74**	**253.54**	**83.99**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 47
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Roads and Landing Work

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	21.08	73.13	161.45	0.32	5.84	5.37	31,372.7
Onsite Motor Vehicle Exhaust	0.01	0.07	0.40	0.00	0.01	0.01	85.9
Onsite Motor Vehicle Fugitive PM	--	--	--	--	54.55	5.46	
Earthwork Fugitive PM	--	--	--	--	5667.59	1850.73	
Onsite Total	**21.09**	**73.20**	**161.85**	**0.32**	**5728.00**	**1861.57**	**31458.6**
Offsite Motor Vehicle Exhaust	0.40	9.40	4.79	0.02	0.29	0.08	2,059.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	530.29	53.78	
Offsite Total	**0.40**	**9.40**	**4.79**	**0.02**	**530.58**	**53.86**	**2059.4**
Total	**21.49**	**82.59**	**166.64**	**0.35**	**6258.58**	**1915.42**	**33518.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.46	5.08	11.25	0.02	0.41	0.37	2,155.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	6.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	4.09	0.41	
Earthwork Fugitive PM	--	--	--	--	425.07	138.80	
Onsite Total	**1.46**	**5.08**	**11.28**	**0.02**	**429.57**	**139.59**	**2161.4**
Offsite Motor Vehicle Exhaust	0.03	0.70	0.36	0.00	0.02	0.01	154.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	39.50	4.01	
Offsite Total	**0.03**	**0.70**	**0.36**	**0.00**	**39.52**	**4.01**	**154.0**
Total	**1.49**	**5.79**	**11.64**	**0.02**	**469.09**	**143.60**	**2315.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	350	4	150	7
Track Type Dozer	350	4	150	7
Road Grader	350	4	150	5
Drum Type Compactor	250	4	150	5
Excavator	300	4	90	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Track Type Dozer	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Road Grader	350	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders
Drum Type Compactor	250	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Excavator	300	0.149	0.485	1.022	0.002	0.037	0.034	233.525	0.013	0.006	Excavators

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 47
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Roads and Landing Work

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	5.55	19.48	39.41	0.11	1.39	1.28	9647.23	0.50	0.25	9,735.4
Track Type Dozer	6.11	22.11	48.77	0.07	1.87	1.72	7251.90	0.55	0.19	7,322.0
Road Grader	3.15	11.04	24.76	0.05	0.89	0.82	4585.56	0.28	0.12	4,628.5
Drum Type Compactor	2.08	6.92	19.89	0.03	0.67	0.61	3059.05	0.19	0.08	3,087.6
Excavator	4.18	13.57	28.63	0.06	1.02	0.94	6538.71	0.38	0.17	6,599.3
Total	**21.08**	**73.13**	**161.45**	**0.32**	**5.84**	**5.37**	**31082.46**	**1.90**	**0.81**	**31372.69**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.42	1.46	2.96	0.01	0.10	0.10	723.54	0.04	0.02	730.2
Track Type Dozer	0.46	1.66	3.66	0.01	0.14	0.13	543.89	0.04	0.01	549.1
Road Grader	0.24	0.83	1.86	0.00	0.07	0.06	343.92	0.02	0.01	347.1
Drum Type Compactor	0.16	0.52	1.49	0.00	0.05	0.05	229.43	0.01	0.01	231.6
Excavator	0.19	0.61	1.29	0.00	0.05	0.04	294.24	0.02	0.01	297.0
Total	**1.46**	**5.08**	**11.25**	**0.02**	**0.41**	**0.37**	**2135.02**	**0.13**	**0.06**	**2154.97**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	8	150	N/A	3
Offsite				
1-Ton Truck, 4x4	8	150	N/A	28
Water Truck	8	150	N/A	28
Lowboy Truck/Trailer	4	90	N/A	1
Worker Commute	24	150	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Table 47
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Roads and Landing Work

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.07	0.40	0.00	0.01	0.01	84.97	0.00	0.00	85.87
Onsite Total	**0.01**	**0.07**	**0.40**	**0.00**	**0.01**	**0.01**	**84.97**	**0.00**	**0.00**	**85.87**
Offsite										
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Water Truck	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Lowboy Truck/Trailer	0.00	0.01	0.07	0.00	0.00	0.00	14.16	0.00	0.00	14.31
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.40**	**9.40**	**4.79**	**0.02**	**0.29**	**0.08**	**2036.09**	**0.08**	**0.07**	**2059.42**
Total	**0.41**	**9.47**	**5.19**	**0.02**	**0.30**	**0.08**	**2121.06**	**0.08**	**0.07**	**2145.30**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.37**	**0.00**	**0.00**	**6.44**
Offsite										
1-Ton Truck, 4x4	0.00	0.13	0.02	0.00	0.00	0.00	19.40	0.00	0.00	19.67
Water Truck	0.01	0.05	0.28	0.00	0.01	0.01	59.48	0.00	0.00	60.11
Lowboy Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.02	0.52	0.06	0.00	0.01	0.00	72.77	0.00	0.00	73.60
Offsite Total	**0.03**	**0.70**	**0.36**	**0.00**	**0.02**	**0.01**	**152.28**	**0.01**	**0.01**	**154.03**
Total	**0.03**	**0.71**	**0.39**	**0.00**	**0.02**	**0.01**	**158.65**	**0.01**	**0.01**	**160.47**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	8	Unpaved	3	150	2.273	0.227	54.55	5.46	4.09	0.41
Onsite Total							**54.55**	**5.46**	**4.09**	**0.41**
Offsite										
1-Ton Truck, 4x4	8	Unpaved	18	150	1.311	0.131	188.71	18.87	14.15	1.42
1-Ton Truck, 4x4	8	Paved	10	150	0.003	0.001	0.27	0.07	0.02	0.00
Water Truck	8	Unpaved	18	150	2.273	0.227	327.32	32.73	24.55	2.45
Water Truck	8	Paved	10	150	0.003	0.001	0.27	0.07	0.02	0.00
Lowboy Truck/Trailer	4	Unpaved	1	90	2.273	0.227	9.09	0.91	0.41	0.04
Worker Commute	24	Paved	58	150	0.003	0.001	4.63	1.14	0.35	0.09
Offsite Total							**530.29**	**53.78**	**39.50**	**4.01**

Table 47
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Roads and Landing Work

Total							**584.84**	**59.24**	**43.59**	**4.42**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	2232	334752	6.65E-02	1.01E-02	148.32	22.46	11.12	1.68
Bulldozing, Scraping and Grading	hr	48	7200	114.985	38.089	5519.27	1828.27	413.95	137.12
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**5667.59**	**1850.73**	**425.07**	**138.80**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating or backfilling and grading 18 ft. wide x 63.4 miles long x 1.5 ft. deep = 331,056 CY over 150 days

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Retaining Wall Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	6.07	27.28	46.47	0.11	1.75	1.61	9,979.3
Onsite Motor Vehicle Exhaust	0.00	0.01	0.07	0.00	0.00	0.00	14.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	9.09	0.91	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**6.07**	**27.29**	**46.54**	**0.11**	**10.85**	**2.52**	**9993.6**
Offsite Motor Vehicle Exhaust	0.46	6.12	13.17	0.03	0.49	0.23	3,304.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	705.80	71.16	
Offsite Total	**0.46**	**6.12**	**13.17**	**0.03**	**706.29**	**71.39**	**3304.2**
Total	**6.53**	**33.41**	**59.70**	**0.14**	**717.14**	**73.91**	**13297.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	2.25	10.13	17.26	0.04	0.65	0.60	3,707.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.02	0.00	0.00	0.00	5.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.38	0.34	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.26**	**10.14**	**17.29**	**0.04**	**4.03**	**0.94**	**3712.6**
Offsite Motor Vehicle Exhaust	0.13	2.02	3.40	0.01	0.13	0.06	905.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	186.66	18.85	
Offsite Total	**0.13**	**2.02**	**3.40**	**0.01**	**186.80**	**18.91**	**905.3**
Total	**2.39**	**12.16**	**20.69**	**0.05**	**190.83**	**19.85**	**4618.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom Truck	350	2	743	8
Tracked Drill Rig	250	2	743	8
Rubber Tire Backhoe	125	2	743	8
Wheel Loader	250	2	743	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Tracked Drill Rig	250	0.063	0.342	0.388	0.002	0.011	0.010	187.933	0.006	0.005	Bore/Drill Rigs
Rubber Tire Backhoe	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Wheel Loader	250	0.106	0.335	0.888	0.002	0.030	0.028	148.843	0.010	0.004	Rubber Tired Loaders

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Retaining Wall Installation

Boom Truck	2.12	7.08	17.14	0.03	0.62	0.57	2879.03	0.19	0.07	2,906.2
Tracked Drill Rig	1.00	5.48	6.21	0.03	0.18	0.17	3006.93	0.09	0.08	3,033.0
Rubber Tire Backhoe	1.26	9.35	8.91	0.02	0.47	0.43	1620.73	0.11	0.04	1,636.2
Wheel Loader	1.69	5.37	14.21	0.03	0.48	0.44	2381.49	0.15	0.06	2,403.9
Total	**6.07**	**27.28**	**46.47**	**0.11**	**1.75**	**1.61**	**9888.18**	**0.55**	**0.26**	**9979.34**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom Truck	0.79	2.63	6.37	0.01	0.23	0.21	1069.56	0.07	0.03	1,079.7
Tracked Drill Rig	0.37	2.03	2.31	0.01	0.07	0.06	1117.07	0.03	0.03	1,126.8
Rubber Tire Backhoe	0.47	3.47	3.31	0.01	0.17	0.16	602.10	0.04	0.02	607.9
Wheel Loader	0.63	1.99	5.28	0.01	0.18	0.17	884.72	0.06	0.02	893.0
Total	**2.25**	**10.13**	**17.26**	**0.04**	**0.65**	**0.60**	**3673.46**	**0.20**	**0.10**	**3707.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	2	743	N/A	2
Offsite				
1-Ton Truck, 4x4	2	743	N/A	28
Boom Truck	2	743	N/A	28
Dump Truck	4	743	N/A	60
Water Truck	2	743	N/A	28
Concrete Redi-Mix Truck	6	342	N/A	60
Lowboy Truck/Trailer	2	105	N/A	28
Worker Commute	12	743	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Redi-Mix Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Retaining Wall Installation

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.00	0.01	0.07	0.00	0.00	0.00	14.16	0.00	0.00	14.31
Onsite Total	**0.00**	**0.01**	**0.07**	**0.00**	**0.00**	**0.00**	**14.16**	**0.00**	**0.00**	**14.31**
Offsite										
1-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Boom Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.10	0.68	3.97	0.01	0.13	0.07	849.66	0.00	0.03	858.74
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Redi-Mix Truck	0.15	1.03	5.96	0.01	0.20	0.11	1274.49	0.01	0.04	1288.11
Lowboy Truck/Trailer	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.46**	**6.12**	**13.17**	**0.03**	**0.49**	**0.23**	**3268.72**	**0.05**	**0.11**	**3304.22**
Total	**0.46**	**6.13**	**13.23**	**0.03**	**0.50**	**0.24**	**3282.88**	**0.05**	**0.11**	**3318.53**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	5.26	0.00	0.00	5.32
Onsite Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**5.26**	**0.00**	**0.00**	**5.32**
Offsite										
1-Ton Truck, 4x4	0.01	0.16	0.02	0.00	0.00	0.00	24.02	0.00	0.00	24.36
Boom Truck	0.01	0.06	0.34	0.00	0.01	0.01	73.65	0.00	0.00	74.44
Dump Truck	0.04	0.25	1.48	0.00	0.05	0.03	315.65	0.00	0.01	319.02
Water Truck	0.01	0.06	0.34	0.00	0.01	0.01	73.65	0.00	0.00	74.44
Concrete Redi-Mix Truck	0.03	0.18	1.02	0.00	0.03	0.02	217.94	0.00	0.01	220.27
Lowboy Truck/Trailer	0.00	0.01	0.05	0.00	0.00	0.00	10.41	0.00	0.00	10.52
Worker Commute	0.05	1.30	0.14	0.00	0.03	0.00	180.23	0.01	0.01	182.29
Offsite Total	**0.13**	**2.02**	**3.40**	**0.01**	**0.13**	**0.06**	**895.55**	**0.02**	**0.03**	**905.33**
Total	**0.13**	**2.02**	**3.42**	**0.01**	**0.14**	**0.06**	**900.81**	**0.02**	**0.03**	**910.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	2	Unpaved	2	743	2.273	0.227	9.09	0.91	3.38	0.34

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Retaining Wall Installation

Onsite Total							**9.09**	**0.91**	**3.38**	**0.34**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	743	1.311	0.131	47.18	4.72	17.53	1.75
1-Ton Truck, 4x4	2	Paved	10	743	0.003	0.001	0.07	0.02	0.02	0.01
Boom Truck	2	Unpaved	18	743	2.273	0.227	81.83	8.18	30.40	3.04
Boom Truck	2	Paved	10	743	0.003	0.001	0.07	0.02	0.02	0.01
Dump Truck	4	Unpaved	18	743	2.273	0.227	163.66	16.37	60.80	6.08
Dump Truck	4	Paved	42	743	0.003	0.001	0.56	0.14	0.21	0.05
Water Truck	2	Unpaved	18	743	2.273	0.227	81.83	8.18	30.40	3.04
Water Truck	2	Paved	10	743	0.003	0.001	0.07	0.02		
Concrete Redi-Mix Truck	6	Unpaved	18	342	2.273	0.227	245.49	24.55	41.98	4.20
Concrete Redi-Mix Truck	6	Paved	42	342	0.003	0.001	0.84	0.21	0.14	0.04
Lowboy Truck/Trailer	2	Unpaved	18	105	2.273	0.227	81.83	8.18	4.30	0.43
Lowboy Truck/Trailer	2	Paved	10	105	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	12	Paved	58	743	0.003	0.001	2.32	0.57	0.86	0.21
Offsite Total							**705.80**	**71.16**	**186.66**	**18.85**
Total							**714.89**	**72.07**	**190.04**	**19.19**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Wet Crossing Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	13.89	60.40	107.04	0.22	4.11	3.78	19,801.1
Onsite Motor Vehicle Exhaust	0.01	0.03	0.20	0.00	0.01	0.00	42.9
Onsite Motor Vehicle Fugitive PM	--	--	--	--	27.28	2.73	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**13.90**	**60.44**	**107.24**	**0.22**	**31.40**	**6.51**	**19844.0**
Offsite Motor Vehicle Exhaust	1.28	18.25	34.02	0.09	1.32	0.60	8,828.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1871.70	188.88	
Offsite Total	**1.28**	**18.25**	**34.02**	**0.09**	**1873.02**	**189.48**	**8828.9**
Total	**15.18**	**78.69**	**141.26**	**0.31**	**1904.41**	**196.00**	**28672.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.42	6.19	10.97	0.02	0.42	0.39	2,029.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.02	0.00	0.00	0.00	4.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.80	0.28	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.42**	**6.19**	**10.99**	**0.02**	**3.22**	**0.67**	**2034.0**
Offsite Motor Vehicle Exhaust	0.11	1.72	2.59	0.01	0.11	0.05	711.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	154.88	15.64	
Offsite Total	**0.11**	**1.72**	**2.59**	**0.01**	**154.99**	**15.69**	**711.7**
Total	**1.53**	**7.91**	**13.59**	**0.03**	**158.20**	**16.36**	**2745.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Tracked Excavator	250	6	205	8
Rubber Tire Backhoe	125	6	205	8
Wheel Loader	250	6	205	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Tracked Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators
Rubber Tire Backhoe	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Wheel Loader	250	0.106	0.335	0.888	0.002	0.030	0.028	148.843	0.010	0.004	Rubber Tired Loaders

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Tracked Excavator	5.05	16.25	37.68	0.09	1.26	1.16	7609.93	0.46	0.20	7,680.8
Rubber Tire Backhoe	3.78	28.05	26.72	0.05	1.40	1.29	4862.20	0.34	0.13	4,908.7

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Wet Crossing Installation

Wheel Loader	5.07	16.10	42.64	0.08	1.45	1.33	7144.46	0.46	0.19	7,211.6
Total	**13.89**	**60.40**	**107.04**	**0.22**	**4.11**	**3.78**	**19616.60**	**1.25**	**0.51**	**19801.09**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Tracked Excavator	0.52	1.67	3.86	0.01	0.13	0.12	780.02	0.05	0.02	787.3
Rubber Tire Backhoe	0.39	2.88	2.74	0.01	0.14	0.13	498.38	0.03	0.01	503.1
Wheel Loader	0.52	1.65	4.37	0.01	0.15	0.14	732.31	0.05	0.02	739.2
Total	**1.42**	**6.19**	**10.97**	**0.02**	**0.42**	**0.39**	**2010.70**	**0.13**	**0.05**	**2029.61**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	6	205	N/A	2
Offsite				
1-Ton Truck, 4x4	6	205	N/A	28
Dump Truck	12	205	N/A	60
Water Truck	6	205	N/A	28
Concrete Redi-Mix Truck	18	105	N/A	60
Lowboy Truck/Trailer	6	205	N/A	28
Worker Commute	36	205	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Redi-Mix Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.03	0.20	0.00	0.01	0.00	42.48	0.00	0.00	42.94

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Wet Crossing Installation

Onsite Total	**0.01**	**0.03**	**0.20**	**0.00**	**0.01**	**0.00**	**42.48**	**0.00**	**0.00**	**42.94**
Offsite										
1-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
Dump Truck	0.30	2.05	11.92	0.03	0.39	0.22	2548.98	0.01	0.09	2576.22
Water Truck	0.07	0.48	2.78	0.01	0.09	0.05	594.76	0.00	0.02	601.12
Concrete Redi-Mix Truck	0.46	3.08	17.89	0.04	0.59	0.33	3823.47	0.02	0.13	3864.33
Lowboy Truck/Trailer	0.03	0.84	0.09	0.00	0.02	0.00	117.11	0.01	0.00	118.44
Worker Commute	0.37	10.49	1.14	0.02	0.22	0.01	1455.46	0.09	0.05	1472.07
Offsite Total	**1.28**	**18.25**	**34.02**	**0.09**	**1.32**	**0.60**	**8733.74**	**0.15**	**0.30**	**8828.85**
Total	**1.28**	**18.29**	**34.22**	**0.09**	**1.32**	**0.61**	**8776.22**	**0.15**	**0.30**	**8871.79**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.35	0.00	0.00	4.40
Onsite Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**4.35**	**0.00**	**0.00**	**4.40**
Offsite										
1-Ton Truck, 4x4	0.00	0.14	0.02	0.00	0.00	0.00	19.88	0.00	0.00	20.16
Dump Truck	0.03	0.21	1.22	0.00	0.04	0.02	261.27	0.00	0.01	264.06
Water Truck	0.01	0.05	0.29	0.00	0.01	0.01	60.96	0.00	0.00	61.61
Concrete Redi-Mix Truck	0.02	0.16	0.94	0.00	0.03	0.02	200.73	0.00	0.01	202.88
Lowboy Truck/Trailer	0.00	0.09	0.01	0.00	0.00	0.00	12.00	0.00	0.00	12.14
Worker Commute	0.04	1.08	0.12	0.00	0.02	0.00	149.18	0.01	0.00	150.89
Offsite Total	**0.11**	**1.72**	**2.59**	**0.01**	**0.11**	**0.05**	**704.03**	**0.01**	**0.02**	**711.74**
Total	**0.11**	**1.72**	**2.61**	**0.01**	**0.11**	**0.05**	**708.39**	**0.01**	**0.02**	**716.14**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	6	Unpaved	2	205	2.273	0.227	27.28	2.73	2.80	0.28
Onsite Total							**27.28**	**2.73**	**2.80**	**0.28**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	205	1.311	0.131	141.54	14.15	14.51	1.45
1-Ton Truck, 4x4	6	Paved	10	205	0.003	0.001	0.20	0.05	0.02	0.01
Dump Truck	12	Unpaved	18	205	2.273	0.227	490.98	49.10	50.33	5.03
Dump Truck	12	Paved	42	205	0.003	0.001	1.68	0.41	0.17	0.04
Water Truck	6	Unpaved	18	205	2.273	0.227	245.49	24.55	25.16	2.52
Water Truck	6	Paved	10	205	0.003	0.001	0.20	0.05		
Concrete Redi-Mix Truck	18	Unpaved	18	105	2.273	0.227	736.46	73.65	38.66	3.87

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Wet Crossing Installation

Concrete Redi-Mix Truck	18	Paved	42	105	0.003	0.001	2.52	0.62	0.13	0.03
Lowboy Truck/Trailer	6	Unpaved	18	205	2.273	0.227	245.49	24.55	25.16	2.52
Lowboy Truck/Trailer	6	Paved	10	205	0.003	0.001	0.20	0.05	0.02	0.01
Worker Commute	36	Paved	58	205	0.003	0.001	6.95	1.71	0.71	0.17
Offsite Total							**1871.70**	**188.88**	**154.88**	**15.64**
Total							**1898.98**	**191.61**	**157.68**	**15.92**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	11.20	48.80	87.62	0.21	3.43	3.16	21,470.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	1.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.14	0.11	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**11.20**	**48.80**	**87.63**	**0.21**	**4.57**	**3.27**	**21471.9**
Offsite Motor Vehicle Exhaust	0.52	10.15	9.03	0.03	0.44	0.16	3,031.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	954.15	96.23	
Offsite Total	**0.52**	**10.15**	**9.03**	**0.03**	**954.60**	**96.39**	**3031.7**
Total	**11.72**	**58.95**	**96.66**	**0.24**	**959.16**	**99.66**	**24503.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.11	0.49	0.88	0.00	0.03	0.03	214.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.11**	**0.49**	**0.88**	**0.00**	**0.05**	**0.03**	**214.7**
Offsite Motor Vehicle Exhaust	0.01	0.10	0.09	0.00	0.00	0.00	30.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.54	0.96	
Offsite Total	**0.01**	**0.10**	**0.09**	**0.00**	**9.55**	**0.96**	**30.3**
Total	**0.12**	**0.59**	**0.97**	**0.00**	**9.59**	**1.00**	**245.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	4	20	7
Manlift/Bucket Truck	350	4	20	5
Boom/Crane Truck	500	4	20	8
Auger Truck	500	4	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Installation

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.76	8.82	11.22	0.02	0.94	0.87	1313.43	0.16	0.03	1,327.4
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1
Boom/Crane Truck	4.24	14.17	34.27	0.06	1.24	1.14	5758.07	0.38	0.15	5,812.5
Auger Truck	3.30	17.62	19.99	0.10	0.60	0.55	9952.93	0.30	0.26	10,039.1
Total	**11.20**	**48.80**	**87.62**	**0.21**	**3.43**	**3.16**	**21277.72**	**1.01**	**0.55**	**21470.16**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.02	0.09	0.11	0.00	0.01	0.01	13.13	0.00	0.00	13.3
Manlift/Bucket Truck	0.02	0.08	0.22	0.00	0.01	0.01	42.53	0.00	0.00	42.9
Boom/Crane Truck	0.04	0.14	0.34	0.00	0.01	0.01	57.58	0.00	0.00	58.1
Auger Truck	0.03	0.18	0.20	0.00	0.01	0.01	99.53	0.00	0.00	100.4
Total	**0.11**	**0.49**	**0.88**	**0.00**	**0.03**	**0.03**	**212.78**	**0.01**	**0.01**	**214.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	1	20	N/A	0.5
Offsite				
3/4-Ton Truck, 4x4	8	20	N/A	28
1-Ton Truck, 4x4	4	20	N/A	28
Manlift/Bucket Truck	4	20	N/A	28
Boom/Crane Truck	4	20	N/A	28
Water Truck	1	20	N/A	28
Auger Truck	4	20	N/A	28
Extendable Flat Bed Pole Truck	4	20	N/A	28
Worker Commute	24	20	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Installation

1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Extendable Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**1.77**	**0.00**	**0.00**	**1.79**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.01	0.04	0.13	0.00	0.02	0.01	83.87	0.00	0.00	84.87
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Auger Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Extendable Flat Bed Pole Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.52**	**10.15**	**9.03**	**0.03**	**0.44**	**0.16**	**2997.95**	**0.08**	**0.10**	**3031.65**
Total	**0.52**	**10.15**	**9.04**	**0.03**	**0.44**	**0.16**	**2999.72**	**0.08**	**0.10**	**3033.44**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.59	0.00	0.00	2.62
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.85
Manlift/Bucket Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Auger Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Extendable Flat Bed Pole Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.01**	**0.10**	**0.09**	**0.00**	**0.00**	**0.00**	**29.98**	**0.00**	**0.00**	**30.32**

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Installation

Total	**0.01**	**0.10**	**0.09**	**0.00**	**0.00**	**0.00**	**30.00**	**0.00**	**0.00**	**30.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	1	Unpaved	0.5	20	2.273	0.227	1.14	0.11	0.01	0.00
Onsite Total							**1.14**	**0.11**	**0.01**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	20	1.102	0.110	158.65	15.86	1.59	0.16
3/4-Ton Truck, 4x4	8	Paved	10	20	0.003	0.001	0.27	0.07	0.00	0.00
1-Ton Truck, 4x4	4	Unpaved	18	20	1.311	0.131	94.36	9.44	0.94	0.09
1-Ton Truck, 4x4	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	20	2.273	0.227	163.66	16.37	1.64	0.16
Manlift/Bucket Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	4	Unpaved	18	20	2.273	0.227	163.66	16.37	1.64	0.16
Boom/Crane Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Water Truck	1	Unpaved	18	20	2.273	0.227	40.91	4.09	0.41	0.04
Water Truck	1	Paved	10	20	0.003	0.001	0.03	0.01	0.00	0.00
Auger Truck	4	Unpaved	18	20	2.273	0.227	163.66	16.37	1.64	0.16
Auger Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Extendable Flat Bed Pole Truck	4	Unpaved	18	20	2.273	0.227	163.66	16.37	1.64	0.16
Extendable Flat Bed Pole Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Worker Commute	24	Paved	58	20	0.003	0.001	4.63	1.14	0.05	0.01
Offsite Total							**954.15**	**96.23**	**9.54**	**0.96**
Total							**955.29**	**96.34**	**9.55**	**0.96**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Installation

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Remove Existing Conductor & GW

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	17.16	68.78	170.35	0.34	5.38	4.95	35,167.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**17.16**	**68.78**	**170.35**	**0.34**	**5.38**	**4.95**	**35167.6**
Offsite Motor Vehicle Exhaust	0.95	18.83	16.07	0.06	0.84	0.28	5,550.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1522.72	154.05	
Offsite Total	**0.95**	**18.83**	**16.07**	**0.06**	**1523.57**	**154.33**	**5550.1**
Total	**18.11**	**87.62**	**186.42**	**0.40**	**1528.94**	**159.28**	**40717.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.23	0.94	2.36	0.00	0.07	0.07	480.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.23**	**0.94**	**2.36**	**0.00**	**0.07**	**0.07**	**480.9**
Offsite Motor Vehicle Exhaust	0.01	0.28	0.24	0.00	0.01	0.00	82.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	22.53	2.28	
Offsite Total	**0.01**	**0.28**	**0.24**	**0.00**	**22.55**	**2.28**	**82.5**
Total	**0.25**	**1.22**	**2.59**	**0.01**	**22.62**	**2.35**	**563.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	350	9	30	10
Sleeving Truck	300	3	30	5
Boom/Crane Truck	350	3	30	5
Bull Wheel Puller	500	3	21	5
Hydraulic Rewind Puller	300	3	21	5
Excavator	250	1	15	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Sleeving Truck	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Bull Wheel Puller	500	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Hydraulic Rewind Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators

a From Table 106

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Remove Existing Conductor & GW

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	8.54	36.87	99.62	0.19	2.96	2.72	19139.85	0.77	0.50	19,309.9
Sleeving Truck	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Boom/Crane Truck	1.99	6.64	16.07	0.03	0.58	0.53	2699.09	0.18	0.07	2,724.6
Bull Wheel Puller	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Hydraulic Rewind Puller	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Excavator	1.05	3.39	7.85	0.02	0.26	0.24	1585.40	0.09	0.04	1,600.2
Total	**17.16**	**68.78**	**170.35**	**0.34**	**5.38**	**4.95**	**34854.80**	**1.55**	**0.90**	**35167.61**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.13	0.55	1.49	0.00	0.04	0.04	287.10	0.01	0.01	289.6
Sleeving Truck	0.03	0.11	0.23	0.00	0.01	0.01	57.15	0.00	0.00	57.7
Boom/Crane Truck	0.03	0.10	0.24	0.00	0.01	0.01	40.49	0.00	0.00	40.9
Bull Wheel Puller	0.02	0.08	0.16	0.00	0.01	0.01	40.01	0.00	0.00	40.4
Hydraulic Rewind Puller	0.02	0.08	0.16	0.00	0.01	0.01	40.01	0.00	0.00	40.4
Excavator	0.01	0.03	0.06	0.00	0.00	0.00	11.89	0.00	0.00	12.0
Total	**0.23**	**0.94**	**2.36**	**0.00**	**0.07**	**0.07**	**476.64**	**0.02**	**0.01**	**480.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	12	30	N/A	28
Manlift/Bucket Truck	9	30	N/A	28
Sleeving Truck	3	30	N/A	28
Boom/Crane Truck	3	30	N/A	28
Truck, Semi Tractor	3	30	N/A	28
Dump Truck	1	15	N/A	28
Water Truck	2	30	N/A	28
Lowboy Truck/Trailer	9	30	N/A	28
Worker Commute	56	30	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Remove Existing Conductor & GW

Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Sleeving Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Truck, Semi Tractor	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.02	0.12	0.38	0.00	0.05	0.02	251.61	0.00	0.01	254.60
Manlift/Bucket Truck	0.11	0.72	4.17	0.01	0.14	0.08	892.14	0.00	0.03	901.68
Sleeving Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Truck, Semi Tractor	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Lowboy Truck/Trailer	0.11	0.72	4.17	0.01	0.14	0.08	892.14	0.00	0.03	901.68
Worker Commute	0.57	16.32	1.78	0.03	0.33	0.01	2264.04	0.14	0.07	2289.88
Offsite Total	**0.95**	**18.83**	**16.07**	**0.06**	**0.84**	**0.28**	**5489.47**	**0.16**	**0.18**	**5550.07**
Total	**0.95**	**18.83**	**16.07**	**0.06**	**0.84**	**0.28**	**5489.47**	**0.16**	**0.18**	**5550.07**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	3.77	0.00	0.00	3.82
Manlift/Bucket Truck	0.00	0.01	0.06	0.00	0.00	0.00	13.38	0.00	0.00	13.53
Sleeving Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Truck, Semi Tractor	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Remove Existing Conductor & GW

Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.97	0.00	0.00	3.01
Lowboy Truck/Trailer	0.00	0.01	0.06	0.00	0.00	0.00	13.38	0.00	0.00	13.53
Worker Commute	0.01	0.24	0.03	0.00	0.01	0.00	33.96	0.00	0.00	34.35
Offsite Total	**0.01**	**0.28**	**0.24**	**0.00**	**0.01**	**0.00**	**81.60**	**0.00**	**0.00**	**82.50**
Total	**0.01**	**0.28**	**0.24**	**0.00**	**0.01**	**0.00**	**81.60**	**0.00**	**0.00**	**82.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	12	Unpaved	18	30	1.311	0.131	283.07	28.31	4.25	0.42
1-Ton Truck, 4x4	12	Paved	10	30	0.003	0.001	0.40	0.10	0.01	0.00
Manlift/Bucket Truck	9	Unpaved	18	30	2.273	0.227	368.23	36.82	5.52	0.55
Manlift/Bucket Truck	9	Paved	10	30	0.003	0.001	0.30	0.07	0.00	0.00
Sleeving Truck	3	Unpaved	18	30	2.273	0.227	122.74	12.27	1.84	0.18
Sleeving Truck	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	30	2.273	0.227	122.74	12.27	1.84	0.18
Boom/Crane Truck	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Truck, Semi Tractor	3	Unpaved	18	30	2.273	0.227	122.74	12.27	1.84	0.18
Truck, Semi Tractor	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Dump Truck	1	Unpaved	18	15	2.273	0.227	40.91	4.09	0.31	0.03
Dump Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	2	Unpaved	18	30	2.273	0.227	81.83	8.18	1.23	0.12
Water Truck	2	Paved	10	30	0.003	0.001	0.07	0.02	0.00	0.00
Lowboy Truck/Trailer	9	Unpaved	18	30	2.273	0.227	368.23	36.82	5.52	0.55
Lowboy Truck/Trailer	9	Paved	10	30	0.003	0.001	0.30	0.07	0.00	0.00
Worker Commute	56	Paved	58	30	0.003	0.001	10.81	2.65	0.16	0.04
Offsite Total							**1522.72**	**154.05**	**22.53**	**2.28**
Total							**1522.72**	**154.05**	**22.53**	**2.28**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Remove Existing Conductor & GW

Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	14.83	55.02	108.94	0.19	5.05	4.65	18,769.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**14.83**	**55.02**	**108.94**	**0.19**	**5.05**	**4.65**	**18769.6**
Offsite Motor Vehicle Exhaust	0.33	7.53	3.73	0.02	0.26	0.06	1,709.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	392.06	39.94	
Offsite Total	**0.33**	**7.53**	**3.73**	**0.02**	**392.32**	**40.00**	**1709.8**
Total	**15.16**	**62.55**	**112.68**	**0.21**	**397.37**	**44.65**	**20479.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.26	0.96	1.91	0.00	0.09	0.08	328.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.26**	**0.96**	**1.91**	**0.00**	**0.09**	**0.08**	**328.5**
Offsite Motor Vehicle Exhaust	0.01	0.13	0.07	0.00	0.00	0.00	29.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.86	0.70	
Offsite Total	**0.01**	**0.13**	**0.07**	**0.00**	**6.87**	**0.70**	**29.9**
Total	**0.27**	**1.09**	**1.97**	**0.00**	**6.95**	**0.78**	**358.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	6	35	10
Excavator	300	4	35	7
R/T Crane (M)	215	3	35	5
R/T Crane (L)	300	6	35	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Excavator	300	0.149	0.485	1.022	0.002	0.037	0.034	233.525	0.013	0.006	Excavators
R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
R/T Crane (L)	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Removal

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	3.78	18.90	24.05	0.03	2.02	1.85	2814.48	0.34	0.07	2,844.5
Excavator	4.18	13.57	28.63	0.06	1.02	0.94	6538.71	0.38	0.17	6,599.3
R/T Crane (M)	1.31	3.95	11.29	0.02	0.39	0.36	1680.87	0.12	0.04	1,696.9
R/T Crane (L)	5.56	18.60	44.98	0.07	1.62	1.49	7557.46	0.50	0.20	7,628.9
Total	**14.83**	**55.02**	**108.94**	**0.19**	**5.05**	**4.65**	**18591.53**	**1.34**	**0.48**	**18769.56**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.07	0.33	0.42	0.00	0.04	0.03	49.25	0.01	0.00	49.8
Excavator	0.07	0.24	0.50	0.00	0.02	0.02	114.43	0.01	0.00	115.5
R/T Crane (M)	0.02	0.07	0.20	0.00	0.01	0.01	29.42	0.00	0.00	29.7
R/T Crane (L)	0.10	0.33	0.79	0.00	0.03	0.03	132.26	0.01	0.00	133.5
Total	**0.26**	**0.96**	**1.91**	**0.00**	**0.09**	**0.08**	**325.35**	**0.02**	**0.01**	**328.47**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	6	35	N/A	28
Water Truck	2	35	N/A	28
Dump Truck	1	35	N/A	28
Flat Bed Truck/Trailer	3	35	N/A	28
Worker Commute	24	35	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Removal

Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.33**	**7.53**	**3.73**	**0.02**	**0.26**	**0.06**	**1690.87**	**0.06**	**0.06**	**1709.80**
Total	**0.33**	**7.53**	**3.73**	**0.02**	**0.26**	**0.06**	**1690.87**	**0.06**	**0.06**	**1709.80**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	2.23
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.47	0.00	0.00	3.51
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.73	0.00	0.00	1.75
Flat Bed Truck/Trailer	0.00	0.00	0.02	0.00	0.00	0.00	5.20	0.00	0.00	5.26
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.98	0.00	0.00	17.17
Offsite Total	**0.01**	**0.13**	**0.07**	**0.00**	**0.00**	**0.00**	**29.59**	**0.00**	**0.00**	**29.92**
Total	**0.01**	**0.13**	**0.07**	**0.00**	**0.00**	**0.00**	**29.59**	**0.00**	**0.00**	**29.92**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Removal

Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	35	1.311	0.131	141.54	14.15	2.48	0.25
1-Ton Truck, 4x4	6	Paved	10	35	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	2	Unpaved	18	35	2.273	0.227	81.83	8.18	1.43	0.14
Water Truck	2	Paved	10	35	0.003	0.001	0.07	0.02	0.00	0.00
Dump Truck	1	Unpaved	18	35	2.273	0.227	40.91	4.09	0.72	0.07
Dump Truck	1	Paved	10	35	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	35	2.273	0.227	122.74	12.27	2.15	0.21
Flat Bed Truck/Trailer	3	Paved	10	35	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	24	Paved	58	35	0.003	0.001	4.63	1.14	0.08	0.02
Offsite Total							**392.06**	**39.94**	**6.86**	**0.70**
Total							**392.06**	**39.94**	**6.86**	**0.70**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Foundation Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.67	13.49	25.93	0.06	1.09	1.01	5,551.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.67**	**13.49**	**25.93**	**0.06**	**1.09**	**1.01**	**5551.2**
Offsite Motor Vehicle Exhaust	0.19	5.04	1.47	0.01	0.13	0.02	887.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	104.85	10.95	
Offsite Total	**0.19**	**5.04**	**1.47**	**0.01**	**104.98**	**10.97**	**887.4**
Total	**3.86**	**18.53**	**27.40**	**0.07**	**106.07**	**11.98**	**6438.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.10	0.19	0.00	0.01	0.01	41.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.10**	**0.19**	**0.00**	**0.01**	**0.01**	**41.6**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.01	0.00	0.00	0.00	6.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.79	0.08	
Offsite Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.79**	**0.08**	**6.7**
Total	**0.03**	**0.14**	**0.21**	**0.00**	**0.80**	**0.09**	**48.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	15	10
Backhoe/Front Loader	350	1	15	10
Excavator	250	1	15	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.63	3.15	4.01	0.01	0.34	0.31	469.08	0.06	0.01	474.1
Backhoe/Front Loader	1.98	6.96	14.07	0.04	0.50	0.46	3445.44	0.18	0.09	3,476.9

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Foundation Removal

Excavator	1.05	3.39	7.85	0.02	0.26	0.24	1585.40	0.09	0.04	1,600.2
Total	**3.67**	**13.49**	**25.93**	**0.06**	**1.09**	**1.01**	**5499.92**	**0.33**	**0.14**	**5551.16**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.00	0.02	0.03	0.00	0.00	0.00	3.52	0.00	0.00	3.6
Backhoe/Front Loader	0.01	0.05	0.11	0.00	0.00	0.00	25.84	0.00	0.00	26.1
Excavator	0.01	0.03	0.06	0.00	0.00	0.00	11.89	0.00	0.00	12.0
Total	**0.03**	**0.10**	**0.19**	**0.00**	**0.01**	**0.01**	**41.25**	**0.00**	**0.00**	**41.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	1	15	N/A	28
Water Truck	1	15	N/A	28
Dump Truck	1	15	N/A	28
Worker Commute	16	15	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.22	0.03	0.00	0.00	0.00	32.33	0.00	0.00	32.78

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Foundation Removal

Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25
Offsite Total	**0.19**	**5.04**	**1.47**	**0.01**	**0.13**	**0.02**	**877.45**	**0.04**	**0.03**	**887.41**
Total	**0.19**	**5.04**	**1.47**	**0.01**	**0.13**	**0.02**	**877.45**	**0.04**	**0.03**	**887.41**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.25
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.91
Offsite Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.66**
Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.66**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	1	Unpaved	18	15	1.102	0.110	19.83	1.98	0.15	0.01
3/4-Ton Truck, 4x4	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	15	2.273	0.227	40.91	4.09	0.31	0.03
Water Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Dump Truck	1	Unpaved	18	15	2.273	0.227	40.91	4.09	0.31	0.03
Dump Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	16	Paved	58	15	0.003	0.001	3.09	0.76	0.02	0.01
Offsite Total							**104.85**	**10.95**	**0.79**	**0.08**
Total							**104.85**	**10.95**	**0.79**	**0.08**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Foundation Removal

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install LST Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	19.83	58.02	138.40	26.53	4.27	4.04	38,552.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	21.80	3.30	
Onsite Total	**19.83**	**58.02**	**138.40**	**26.53**	**26.07**	**7.34**	**38552.9**
Offsite Motor Vehicle Exhaust	1.42	17.15	43.21	0.11	1.57	0.77	10,495.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2338.08	235.40	
Offsite Total	**1.42**	**17.15**	**43.21**	**0.11**	**2339.65**	**236.17**	**10495.5**
Total	**21.25**	**75.16**	**181.62**	**26.64**	**2365.72**	**243.52**	**49048.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.61	6.21	11.60	0.43	0.38	0.35	3,280.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	2.73	0.41	
Onsite Total	**1.61**	**6.21**	**11.60**	**0.43**	**3.11**	**0.76**	**3280.0**
Offsite Motor Vehicle Exhaust	0.18	2.14	5.40	0.01	0.20	0.10	1,311.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	292.26	29.43	
Offsite Total	**0.18**	**2.14**	**5.40**	**0.01**	**292.46**	**29.52**	**1311.9**
Total	**1.79**	**8.35**	**17.00**	**0.44**	**295.56**	**30.29**	**4592.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	4	250	7
Backhoe/Front Loader	200	4	250	10
Auger Truck	500	4	250	10
Kaman K-MAX	1500	1	30	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Kaman K-MAX	1500	1.129	1.353	7.403	3.755	0.201	0.201	1978.170	0.055	0.063	See note b

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install LST Foundations

Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Action Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Action Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Action Registry Default Emission Factors
Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	3.71	12.40	29.99	0.05	1.08	1.00	5038.31	0.33	0.13	5,085.9
Backhoe/Front Loader	4.09	14.12	31.61	0.08	1.04	0.96	6863.31	0.37	0.18	6,926.3
Auger Truck	4.13	22.02	24.98	0.12	0.74	0.68	12441.16	0.37	0.32	12,548.9
Kaman K-MAX	7.90	9.47	51.82	26.28	1.40	1.40	13847.19	0.38	0.44	13,991.7
Total	**19.83**	**58.02**	**138.40**	**26.53**	**4.27**	**4.04**	**38189.97**	**1.46**	**1.07**	**38552.88**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.46	1.55	3.75	0.01	0.14	0.12	629.79	0.04	0.02	635.7
Backhoe/Front Loader	0.51	1.77	3.95	0.01	0.13	0.12	857.91	0.05	0.02	865.8
Auger Truck	0.52	2.75	3.12	0.02	0.09	0.09	1555.15	0.05	0.04	1,568.6
Kaman K-MAX	0.12	0.14	0.78	0.39	0.02	0.02	207.71	0.01	0.01	209.9
Total	**1.61**	**6.21**	**11.60**	**0.43**	**0.38**	**0.35**	**3250.56**	**0.14**	**0.09**	**3280.02**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	250	N/A	28
Boom/Crane Truck	4	250	N/A	28
Auger Truck	4	250	N/A	28
Water Truck	4	250	N/A	28
Dump Truck	8	250	N/A	28
Concrete Mixer Truck	33	250	N/A	60
Worker Commute	28	250	N/A	58

[a] Concrete truck based on 82,100 CY concrete (see Earthwork Fugitive PM below) over 250 days and 10 CY/truck load

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install LST Foundations

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Auger Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Dump Truck	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Concrete Mixer Truck	0.84	5.64	32.79	0.07	1.08	0.60	7009.70	0.04	0.24	7084.60
Worker Commute	0.28	8.16	0.89	0.01	0.17	0.01	1132.02	0.07	0.04	1144.94
Offsite Total	**1.42**	**17.15**	**43.21**	**0.11**	**1.57**	**0.77**	**10382.87**	**0.13**	**0.35**	**10495.51**
Total	**1.42**	**17.15**	**43.21**	**0.11**	**1.57**	**0.77**	**10382.87**	**0.13**	**0.35**	**10495.51**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.22	0.03	0.00	0.00	0.00	32.33	0.00	0.00	32.78
Boom/Crane Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Auger Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Water Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Concrete Mixer Truck	0.10	0.70	4.10	0.01	0.13	0.07	876.21	0.00	0.03	885.57
Worker Commute	0.04	1.02	0.11	0.00	0.02	0.00	141.50	0.01	0.00	143.12
Offsite Total	**0.18**	**2.14**	**5.40**	**0.01**	**0.20**	**0.10**	**1297.86**	**0.02**	**0.04**	**1311.94**

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install LST Foundations

Total	**0.18**	**2.14**	**5.40**	**0.01**	**0.20**	**0.10**	**1297.86**	**0.02**	**0.04**	**1311.94**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	250	1.102	0.110	158.65	15.86	19.83	1.98
3/4-Ton Truck, 4x4	8	Paved	10	250	0.003	0.001	0.27	0.07	0.03	0.01
Boom/Crane Truck	4	Unpaved	18	250	2.273	0.227	163.66	16.37	20.46	2.05
Boom/Crane Truck	4	Paved	10	250	0.003	0.001	0.13	0.03	0.02	0.00
Auger Truck	4	Unpaved	18	250	2.273	0.227	163.66	16.37	20.46	2.05
Auger Truck	4	Paved	10	250	0.003	0.001	0.13	0.03	0.02	0.00
Water Truck	4	Unpaved	18	250	2.273	0.227	163.66	16.37	20.46	2.05
Water Truck	4	Paved	10	250	0.003	0.001	0.13	0.03	0.02	0.00
Dump Truck	8	Unpaved	18	250	2.273	0.227	327.32	32.73	40.91	4.09
Dump Truck	8	Paved	10	250	0.003	0.001	0.27	0.07	0.03	0.01
Concrete Mixer Truck	33	Unpaved	18	250	2.273	0.227	1350.18	135.02	168.77	16.88
Concrete Mixer Truck	33	Paved	42	250	0.003	0.001	4.61	1.13	0.58	0.14
Worker Commute	28	Paved	58	250	0.003	0.001	5.41	1.33	0.68	0.17
Offsite Total							**2338.08**	**235.40**	**292.26**	**29.43**
Total							**2338.08**	**235.40**	**292.26**	**29.43**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	328	82100	6.65E-02	1.01E-02	21.80	3.30	2.73	0.41
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**21.80**	**3.30**	**2.73**	**0.41**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on 392 LSTs, 4 foundations/LST, 6 ft. diameter x 50 ft. deep each over 250 days

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Steel Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	39.67	62.12	248.50	100.37	7.11	6.96	64,385.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**39.67**	**62.12**	**248.50**	**100.37**	**7.11**	**6.96**	**64385.9**
Offsite Motor Vehicle Exhaust	0.57	13.63	6.17	0.03	0.39	0.09	2,834.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	793.62	80.39	
Offsite Total	**0.57**	**13.63**	**6.17**	**0.03**	**794.01**	**80.48**	**2834.9**
Total	**40.24**	**75.76**	**254.66**	**100.40**	**801.12**	**87.44**	**67220.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.75	1.37	4.95	1.61	0.15	0.14	1,212.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.75**	**1.37**	**4.95**	**1.61**	**0.15**	**0.14**	**1212.0**
Offsite Motor Vehicle Exhaust	0.02	0.44	0.20	0.00	0.01	0.00	92.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	25.79	2.61	
Offsite Total	**0.02**	**0.44**	**0.20**	**0.00**	**25.81**	**2.62**	**92.1**
Total	**0.77**	**1.82**	**5.15**	**1.61**	**25.95**	**2.76**	**1304.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
R/T Forklift	200	8	65	8
Bell 212	1800	2	32	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
R/T Forklift	200	0.111	0.359	0.919	0.002	0.030	0.028	170.643	0.010	0.004	Rough Terrain Forklifts
Bell 212	1800	2.328	2.797	13.547	7.160	0.370	0.370	3772.296	0.104	0.120	See note b

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Fuel use = 541.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A

CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Steel Haul

CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 541.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
R/T Forklift	7.08	22.97	58.84	0.12	1.93	1.78	10921.16	0.64	0.28	11,022.5
Bell 212	32.59	39.16	189.66	100.24	5.18	5.18	52812.15	1.46	1.68	53,363.4
Total	**39.67**	**62.12**	**248.50**	**100.37**	**7.11**	**6.96**	**63733.30**	**2.10**	**1.96**	**64385.86**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
R/T Forklift	0.23	0.75	1.91	0.00	0.06	0.06	354.94	0.02	0.01	358.2
Bell 212	0.52	0.63	3.03	1.60	0.08	0.08	844.99	0.02	0.03	853.8
Total	**0.75**	**1.37**	**4.95**	**1.61**	**0.15**	**0.14**	**1199.93**	**0.04**	**0.04**	**1212.04**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	16	65	N/A	28
Water Truck	2	65	N/A	28
Flat Bed Truck/Trailer	8	65	N/A	28
Worker Commute	32	65	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Steel Haul

Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.13	3.51	0.51	0.01	0.05	0.00	517.22	0.03	0.02	524.48
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Flat Bed Truck/Trailer	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Worker Commute	0.33	9.32	1.02	0.02	0.19	0.01	1293.74	0.08	0.04	1308.51
Offsite Total	**0.57**	**13.63**	**6.17**	**0.03**	**0.39**	**0.09**	**2802.23**	**0.12**	**0.10**	**2834.85**
Total	**0.57**	**13.63**	**6.17**	**0.03**	**0.39**	**0.09**	**2802.23**	**0.12**	**0.10**	**2834.85**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.11	0.02	0.00	0.00	0.00	16.81	0.00	0.00	17.05
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.44	0.00	0.00	6.51
Flat Bed Truck/Trailer	0.00	0.02	0.12	0.00	0.00	0.00	25.77	0.00	0.00	26.05
Worker Commute	0.01	0.30	0.03	0.00	0.01	0.00	42.05	0.00	0.00	42.53
Offsite Total	**0.02**	**0.44**	**0.20**	**0.00**	**0.01**	**0.00**	**91.07**	**0.00**	**0.00**	**92.13**
Total	**0.02**	**0.44**	**0.20**	**0.00**	**0.01**	**0.00**	**91.07**	**0.00**	**0.00**	**92.13**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Steel Haul

1-Ton Truck, 4x4	16	Unpaved	18	65	1.311	0.131	377.43	37.74	12.27	1.23
1-Ton Truck, 4x4	16	Paved	10	65	0.003	0.001	0.53	0.13	0.02	0.00
Water Truck	2	Unpaved	18	65	2.273	0.227	81.83	8.18	2.66	0.27
Water Truck	2	Paved	10	65	0.003	0.001	0.07	0.02	0.00	0.00
Flat Bed Truck/Trailer	8	Unpaved	18	65	2.273	0.227	327.32	32.73	10.64	1.06
Flat Bed Truck/Trailer	8	Paved	10	65	0.003	0.001	0.27	0.07	0.01	0.00
Worker Commute	32	Paved	58	65	0.003	0.001	6.18	1.52	0.20	0.05
Offsite Total							**793.62**	**80.39**	**25.79**	**2.61**
Total							**793.62**	**80.39**	**25.79**	**2.61**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Steel Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	19.74	62.88	141.20	26.43	5.69	5.35	28,261.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**19.74**	**62.88**	**141.20**	**26.43**	**5.69**	**5.35**	**28261.1**
Offsite Motor Vehicle Exhaust	0.56	15.75	2.00	0.03	0.35	0.02	2,378.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	297.96	31.26	
Offsite Total	**0.56**	**15.75**	**2.00**	**0.03**	**298.30**	**31.29**	**2378.2**
Total	**20.31**	**78.63**	**143.20**	**26.46**	**304.00**	**36.64**	**30639.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	5.82	19.73	42.00	6.62	1.75	1.63	8,135.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**5.82**	**19.73**	**42.00**	**6.62**	**1.75**	**1.63**	**8135.5**
Offsite Motor Vehicle Exhaust	0.18	5.12	0.65	0.01	0.11	0.01	772.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	96.84	10.16	
Offsite Total	**0.18**	**5.12**	**0.65**	**0.01**	**96.95**	**10.17**	**772.9**
Total	**6.01**	**24.84**	**42.65**	**6.63**	**98.69**	**11.80**	**8908.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	5	650	7
R/T Forklift	125	4	650	7
R/T Crane (L)	300	5	650	10
Kaman K-MAX	1500	1	500	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Forklift	125	0.108	0.723	0.779	0.001	0.042	0.039	124.788	0.010	0.003	Rough Terrain Forklifts
R/T Crane (L)	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Kaman K-MAX	1500	1.129	1.353	7.403	3.755	0.201	0.201	1978.170	0.055	0.063	See note b

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en
PM2.5 emissions assumed equal to PM10

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Steel Assembly

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions

Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A

CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]

CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf

CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions

Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	2.20	11.03	14.03	0.02	1.18	1.08	1641.78	0.20	0.04	1,659.3
R/T Forklift	3.02	20.24	21.80	0.04	1.18	1.09	3494.05	0.27	0.09	3,528.1
R/T Crane (L)	6.62	22.14	53.55	0.09	1.93	1.78	8996.98	0.60	0.23	9,082.0
Kaman K-MAX	7.90	9.47	51.82	26.28	1.40	1.40	13847.19	0.38	0.44	13,991.7
Total	**19.74**	**62.88**	**141.20**	**26.43**	**5.69**	**5.35**	**27980.00**	**1.45**	**0.81**	**28261.11**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.72	3.58	4.56	0.01	0.38	0.35	533.58	0.06	0.01	539.3
R/T Forklift	0.98	6.58	7.09	0.01	0.38	0.35	1135.57	0.09	0.03	1,146.6
R/T Crane (L)	2.15	7.20	17.40	0.03	0.63	0.58	2924.02	0.19	0.08	2,951.6
Kaman K-MAX	1.98	2.37	12.95	6.57	0.35	0.35	3461.80	0.10	0.11	3,497.9
Total	**5.82**	**19.73**	**42.00**	**6.62**	**1.75**	**1.63**	**8054.96**	**0.44**	**0.23**	**8135.48**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	5	650	N/A	28
1-Ton Truck, 4x4	8	650	N/A	28
Worker Commute	50	650	N/A	58

Motor Vehicle Exhaust Emission Factors

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Steel Assembly

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.04	1.10	0.16	0.00	0.01	0.00	161.63	0.01	0.01	163.90
1-Ton Truck, 4x4	0.01	0.08	0.25	0.00	0.03	0.01	167.74	0.00	0.01	169.74
Worker Commute	0.51	14.57	1.59	0.02	0.30	0.01	2021.47	0.12	0.07	2044.54
Offsite Total	**0.56**	**15.75**	**2.00**	**0.03**	**0.35**	**0.02**	**2350.84**	**0.13**	**0.08**	**2378.18**
Total	**0.56**	**15.75**	**2.00**	**0.03**	**0.35**	**0.02**	**2350.84**	**0.13**	**0.08**	**2378.18**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.36	0.05	0.00	0.00	0.00	52.53	0.00	0.00	53.27
1-Ton Truck, 4x4	0.00	0.03	0.08	0.00	0.01	0.00	54.52	0.00	0.00	55.16
Worker Commute	0.17	4.73	0.52	0.01	0.10	0.00	656.98	0.04	0.02	664.48
Offsite Total	**0.18**	**5.12**	**0.65**	**0.01**	**0.11**	**0.01**	**764.02**	**0.04**	**0.03**	**772.91**
Total	**0.18**	**5.12**	**0.65**	**0.01**	**0.11**	**0.01**	**764.02**	**0.04**	**0.03**	**772.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Steel Assembly

Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	5	Unpaved	18	650	1.102	0.110	99.15	9.92	32.23	3.22
3/4-Ton Truck, 4x4	5	Paved	10	650	0.003	0.001	0.17	0.04	0.05	0.01
1-Ton Truck, 4x4	8	Unpaved	18	650	1.311	0.131	188.71	18.87	61.33	6.13
1-Ton Truck, 4x4	8	Paved	10	650	0.003	0.001	0.27	0.07	0.09	0.02
Worker Commute	50	Paved	58	650	0.003	0.001	9.66	2.37	3.14	0.77
Offsite Total							**297.96**	**31.26**	**96.84**	**10.16**
Total							**297.96**	**31.26**	**96.84**	**10.16**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	70.00	104.00	750.85	238.25	17.21	16.99	136,353.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**70.00**	**104.00**	**750.85**	**238.25**	**17.21**	**16.99**	**136353.4**
Offsite Motor Vehicle Exhaust	0.75	19.72	4.73	0.04	0.49	0.07	3,386.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	564.22	58.21	
Offsite Total	**0.75**	**19.72**	**4.73**	**0.04**	**564.71**	**58.28**	**3386.4**
Total	**70.75**	**123.72**	**755.58**	**238.29**	**581.92**	**75.27**	**139739.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	8.13	14.38	38.56	10.91	1.18	1.13	7,999.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**8.13**	**14.38**	**38.56**	**10.91**	**1.18**	**1.13**	**7999.1**
Offsite Motor Vehicle Exhaust	0.17	4.53	1.05	0.01	0.11	0.01	770.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	126.49	13.06	
Offsite Total	**0.17**	**4.53**	**1.05**	**0.01**	**126.61**	**13.08**	**770.8**
Total	**8.30**	**18.91**	**39.61**	**10.92**	**127.78**	**14.20**	**8769.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	60	4	460	7
R/T Crane (M)	215	4	460	7
R/T Crane (L)	275	4	460	7
Hughes 500 E Helicopter	420	3	300	7
Sikorsky S64	9000	2	60	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	60	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
R/T Crane (L)	275	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Hughes 500 E Helicopter	420	1.765	2.199	1.421	1.485	0.044	0.044	782.418	0.022	0.025	See note b
Sikorsky S64	9000	1.786	2.088	47.051	14.783	0.966	0.966	7788.012	0.216	0.248	See note c

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Erection

Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en
PM2.5 emissions assumed equal to PM10
SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]
Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

[c] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of
Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en
PM2.5 emissions assumed equal to PM10
SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]
Fuel use = 1,118 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Action Registry Default Emission Factors
Fuel use = 1,118 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.76	8.82	11.22	0.02	0.94	0.87	1313.43	0.16	0.03	1,327.4
R/T Crane (M)	2.45	7.37	21.07	0.04	0.73	0.67	3137.63	0.22	0.08	3,167.5
R/T Crane (L)	3.71	12.40	29.99	0.05	1.08	1.00	5038.31	0.33	0.13	5,085.9
Hughes 500 E Helicopter	37.08	46.18	29.85	31.19	0.93	0.93	16430.79	0.46	0.52	16,602.3
Sikorsky S64	25.01	29.24	658.72	206.96	13.53	13.53	109032.17	3.02	3.47	110,170.2
Total	**70.00**	**104.00**	**750.85**	**238.25**	**17.21**	**16.99**	**134952.32**	**4.19**	**4.24**	**136353.44**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.41	2.03	2.58	0.00	0.22	0.20	302.09	0.04	0.01	305.3
R/T Crane (M)	0.56	1.69	4.85	0.01	0.17	0.15	721.65	0.05	0.02	728.5
R/T Crane (L)	0.85	2.85	6.90	0.01	0.25	0.23	1158.81	0.08	0.03	1,169.8
Hughes 500 E Helicopter	5.56	6.93	4.48	4.68	0.14	0.14	2464.62	0.07	0.08	2,490.3
Sikorsky S64	0.75	0.88	19.76	6.21	0.41	0.41	3270.97	0.09	0.10	3,305.1
Total	**8.13**	**14.38**	**38.56**	**10.91**	**1.18**	**1.13**	**7918.14**	**0.32**	**0.24**	**7999.06**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Erection

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	460	N/A	28
1-Ton Truck, 4x4	8	460	N/A	28
Jet A Fuel Truck	1	300	N/A	28
Water Truck	4	460	N/A	28
Worker Commute	60	460	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Jet A Fuel Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.01	0.08	0.25	0.00	0.03	0.01	167.74	0.00	0.01	169.74
Jet A Fuel Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Worker Commute	0.61	17.48	1.91	0.03	0.36	0.01	2425.76	0.15	0.08	2453.45
Offsite Total	**0.75**	**19.72**	**4.73**	**0.04**	**0.49**	**0.07**	**3347.75**	**0.17**	**0.11**	**3386.36**
Total	**0.75**	**19.72**	**4.73**	**0.04**	**0.49**	**0.07**	**3347.75**	**0.17**	**0.11**	**3386.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 LST Erection

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.40	0.06	0.00	0.01	0.00	59.48	0.00	0.00	60.32
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	38.58	0.00	0.00	39.04
Jet A Fuel Truck	0.00	0.01	0.07	0.00	0.00	0.00	14.87	0.00	0.00	15.03
Water Truck	0.01	0.07	0.43	0.00	0.01	0.01	91.20	0.00	0.00	92.17
Worker Commute	0.14	4.02	0.44	0.01	0.08	0.00	557.92	0.03	0.02	564.29
Offsite Total	**0.17**	**4.53**	**1.05**	**0.01**	**0.11**	**0.01**	**762.05**	**0.04**	**0.03**	**770.85**
Total	**0.17**	**4.53**	**1.05**	**0.01**	**0.11**	**0.01**	**762.05**	**0.04**	**0.03**	**770.85**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	460	1.102	0.110	158.65	15.86	36.49	3.65
3/4-Ton Truck, 4x4	8	Paved	10	460	0.003	0.001	0.27	0.07	0.06	0.02
1-Ton Truck, 4x4	8	Unpaved	18	460	1.311	0.131	188.71	18.87	43.40	4.34
1-Ton Truck, 4x4	8	Paved	10	460	0.003	0.001	0.27	0.07	0.06	0.02
Jet A Fuel Truck	1	Unpaved	18	300	2.273	0.227	40.91	4.09	6.14	0.61
Jet A Fuel Truck	1	Paved	10	300	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	4	Unpaved	18	460	2.273	0.227	163.66	16.37	37.64	3.76
Water Truck	4	Paved	10	460	0.003	0.001	0.13	0.03	0.03	0.01
Worker Commute	60	Paved	58	460	0.003	0.001	11.59	2.84	2.67	0.65
Offsite Total							**564.22**	**58.21**	**126.49**	**13.06**
Total							**564.22**	**58.21**	**126.49**	**13.06**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
LST Erection

Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install TSP Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.96	24.27	43.29	0.12	1.43	1.32	12,280.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	9.84	1.49	
Onsite Total	**5.96**	**24.27**	**43.29**	**0.12**	**11.27**	**2.81**	**12280.6**
Offsite Motor Vehicle Exhaust	0.65	8.01	19.19	0.05	0.70	0.34	4,709.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1064.90	107.20	
Offsite Total	**0.65**	**8.01**	**19.19**	**0.05**	**1065.60**	**107.54**	**4709.1**
Total	**6.61**	**32.29**	**62.48**	**0.17**	**1076.87**	**110.35**	**16989.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.98	3.86	7.29	0.02	0.24	0.22	1,911.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.43	0.06	
Onsite Total	**0.98**	**3.86**	**7.29**	**0.02**	**0.67**	**0.29**	**1911.1**
Offsite Motor Vehicle Exhaust	0.10	1.33	2.64	0.01	0.10	0.05	674.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	156.89	15.80	
Offsite Total	**0.10**	**1.33**	**2.64**	**0.01**	**156.99**	**15.85**	**674.5**
Total	**1.08**	**5.18**	**9.93**	**0.03**	**157.66**	**16.14**	**2585.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	2	370	7
Backhoe/Front Loader	200	2	370	10
Auger Truck	500	2	255	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.85	6.20	14.99	0.02	0.54	0.50	2519.15	0.17	0.07	2,543.0
Backhoe/Front Loader	2.05	7.06	15.80	0.04	0.52	0.48	3431.66	0.18	0.09	3,463.1

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install TSP Foundations

Auger Truck	2.06	11.01	12.49	0.06	0.37	0.34	6220.58	0.19	0.16	6,274.5
Total	**5.96**	**24.27**	**43.29**	**0.12**	**1.43**	**1.32**	**12171.39**	**0.54**	**0.32**	**12280.57**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.34	1.15	2.77	0.00	0.10	0.09	466.04	0.03	0.01	470.4
Backhoe/Front Loader	0.38	1.31	2.92	0.01	0.10	0.09	634.86	0.03	0.02	640.7
Auger Truck	0.26	1.40	1.59	0.01	0.05	0.04	793.12	0.02	0.02	800.0
Total	**0.98**	**3.86**	**7.29**	**0.02**	**0.24**	**0.22**	**1894.02**	**0.09**	**0.05**	**1911.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	370	N/A	28
Boom/Crane Truck	2	370	N/A	28
Auger Truck	2	255	N/A	28
Water Truck	2	370	N/A	28
Dump Truck	2	370	N/A	28
Concrete Mixer Truck	15	255	N/A	60
Worker Commute	12	370	N/A	58

[a] Concrete mixer trucks based on 148 CY/TSP, 1 TSP/day and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install TSP Foundations

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
Boom/Crane Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Auger Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Mixer Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.65**	**8.01**	**19.19**	**0.05**	**0.70**	**0.34**	**4658.35**	**0.06**	**0.16**	**4709.13**
Total	**0.65**	**8.01**	**19.19**	**0.05**	**0.70**	**0.34**	**4658.35**	**0.06**	**0.16**	**4709.13**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.24	0.04	0.00	0.00	0.00	35.88	0.00	0.00	36.39
Boom/Crane Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Auger Truck	0.00	0.02	0.12	0.00	0.00	0.00	25.28	0.00	0.00	25.55
Water Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Dump Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Concrete Mixer Truck	0.05	0.33	1.90	0.00	0.06	0.03	406.24	0.00	0.01	410.58
Worker Commute	0.02	0.65	0.07	0.00	0.01	0.00	89.75	0.01	0.00	90.78
Offsite Total	**0.10**	**1.33**	**2.64**	**0.01**	**0.10**	**0.05**	**667.19**	**0.01**	**0.02**	**674.50**
Total	**0.10**	**1.33**	**2.64**	**0.01**	**0.10**	**0.05**	**667.19**	**0.01**	**0.02**	**674.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	370	1.102	0.110	118.99	11.90	22.01	2.20

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install TSP Foundations

3/4-Ton Truck, 4x4	6	Paved	10	370	0.003	0.001	0.20	0.05	0.04	0.01
Boom/Crane Truck	2	Unpaved	18	370	2.273	0.227	81.83	8.18	15.14	1.51
Boom/Crane Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Auger Truck	2	Unpaved	18	255	2.273	0.227	81.83	8.18	10.43	1.04
Auger Truck	2	Paved	10	255	0.003	0.001	0.07	0.02	0.01	0.00
Water Truck	2	Unpaved	18	370	2.273	0.227	81.83	8.18	15.14	1.51
Water Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Dump Truck	2	Unpaved	18	370	2.273	0.227	81.83	8.18	15.14	1.51
Dump Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Concrete Mixer Truck	15	Unpaved	18	255	2.273	0.227	613.72	61.37	78.25	7.82
Concrete Mixer Truck	15	Paved	42	255	0.003	0.001	2.10	0.51	0.27	0.07
Worker Commute	12	Paved	58	370	0.003	0.001	2.32	0.57	0.43	0.11
Offsite Total							**1064.90**	**107.20**	**156.89**	**15.80**
Total							**1064.90**	**107.20**	**156.89**	**15.80**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	148	12831	6.65E-02	1.01E-02	9.84	1.49	0.43	0.06
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**9.84**	**1.49**	**0.43**	**0.06**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 TSP, 13 ft. diameter x 30 ft. deep; total based on 87 TSPs

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.06	3.54	8.57	0.01	0.31	0.28	1,453.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1453.1**
Offsite Motor Vehicle Exhaust	0.10	1.92	2.05	0.01	0.09	0.03	629.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	204.29	20.57	
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**204.38**	**20.61**	**629.9**
Total	**1.16**	**5.47**	**10.61**	**0.02**	**204.69**	**20.89**	**2083.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.04	0.14	0.34	0.00	0.01	0.01	58.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.04**	**0.14**	**0.34**	**0.00**	**0.01**	**0.01**	**58.1**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.08	0.00	0.00	0.00	25.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.17	0.82	
Offsite Total	**0.00**	**0.08**	**0.08**	**0.00**	**8.18**	**0.82**	**25.2**
Total	**0.05**	**0.22**	**0.42**	**0.00**	**8.19**	**0.84**	**83.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	80	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Haul

Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1439.52**	**0.10**	**0.04**	**1453.12**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.04	0.14	0.34	0.00	0.01	0.01	57.58	0.00	0.00	58.1
Total	**0.04**	**0.14**	**0.34**	**0.00**	**0.01**	**0.01**	**57.58**	**0.00**	**0.00**	**58.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	2	80	N/A	28
Boom/Crane Truck	1	80	N/A	28
Water Truck	1	80	N/A	28
Flat Bed Pole Truck	2	80	N/A	28
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Haul

None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**
Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.59	0.00	0.00	2.62
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Flat Bed Pole Truck	0.00	0.01	0.04	0.00	0.00	0.00	7.93	0.00	0.00	8.01
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.08**	**0.08**	**0.00**	**0.00**	**0.00**	**24.92**	**0.00**	**0.00**	**25.19**
Total	**0.00**	**0.08**	**0.08**	**0.00**	**0.00**	**0.00**	**24.92**	**0.00**	**0.00**	**25.19**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	2	Unpaved	18	80	1.102	0.110	39.66	3.97	1.59	0.16
3/4-Ton Truck, 4x4	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	80	2.273	0.227	40.91	4.09	1.64	0.16

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Haul

Boom/Crane Truck	1	Paved	10	80	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	80	2.273	0.227	40.91	4.09	1.64	0.16
Water Truck	1	Paved	10	80	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	2	Unpaved	18	80	2.273	0.227	81.83	8.18	3.27	0.33
Flat Bed Pole Truck	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**204.29**	**20.57**	**8.17**	**0.82**
Total							**204.29**	**20.57**	**8.17**	**0.82**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.29	6.94	2.81	0.02	0.21	0.05	1,460.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	428.19	43.40	
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**428.40**	**43.45**	**1460.8**
Total	**4.20**	**21.91**	**32.51**	**0.06**	**429.82**	**44.75**	**6128.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.10	0.37	0.74	0.00	0.04	0.03	116.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**116.7**
Offsite Motor Vehicle Exhaust	0.01	0.17	0.07	0.00	0.01	0.00	36.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.70	1.09	
Offsite Total	**0.01**	**0.17**	**0.07**	**0.00**	**10.71**	**1.09**	**36.5**
Total	**0.11**	**0.55**	**0.81**	**0.00**	**10.75**	**1.12**	**153.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	50	6
Boom/Crane Truck	350	3	50	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
Boom/Crane Truck	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Assembly

Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.03	0.14	0.18	0.00	0.02	0.01	21.11	0.00	0.00	21.3
Boom/Crane Truck	0.07	0.23	0.56	0.00	0.02	0.02	94.47	0.01	0.00	95.4
Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**115.58**	**0.01**	**0.00**	**116.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	50	N/A	28
1-Ton Truck, 4x4	6	50	N/A	28
Boom/Crane Truck	3	50	N/A	28
Water Truck	1	50	N/A	28
Worker Commute	18	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Assembly

Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**
Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.92
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	3.15	0.00	0.00	3.18
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.43	0.00	0.00	7.51
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.48	0.00	0.00	2.50
Worker Commute	0.00	0.13	0.01	0.00	0.00	0.00	18.19	0.00	0.00	18.40
Offsite Total	**0.01**	**0.17**	**0.07**	**0.00**	**0.01**	**0.00**	**36.10**	**0.00**	**0.00**	**36.52**
Total	**0.01**	**0.17**	**0.07**	**0.00**	**0.01**	**0.00**	**36.10**	**0.00**	**0.00**	**36.52**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	50	1.102	0.110	118.99	11.90	2.97	0.30
3/4-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	50	1.311	0.131	141.54	14.15	3.54	0.35
1-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	50	2.273	0.227	122.74	12.27	3.07	0.31
Boom/Crane Truck	3	Paved	10	50	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Unpaved	18	50	2.273	0.227	40.91	4.09	1.02	0.10
Water Truck	1	Paved	10	50	0.003	0.001	0.03	0.01	0.00	0.00

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Assembly

Worker Commute	18	Paved	58	50	0.003	0.001	3.48	0.85	0.09	0.02
Offsite Total							**428.19**	**43.40**	**10.70**	**1.09**
Total							**428.19**	**43.40**	**10.70**	**1.09**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.25	6.70	1.42	0.01	0.17	0.02	1,160.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	305.34	31.10	
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**305.51**	**31.12**	**1160.2**
Total	**4.17**	**21.67**	**31.12**	**0.06**	**306.93**	**32.43**	**5828.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.10	0.37	0.74	0.00	0.04	0.03	116.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**116.7**
Offsite Motor Vehicle Exhaust	0.01	0.17	0.04	0.00	0.00	0.00	29.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.63	0.78	
Offsite Total	**0.01**	**0.17**	**0.04**	**0.00**	**7.64**	**0.78**	**29.0**
Total	**0.10**	**0.54**	**0.78**	**0.00**	**7.67**	**0.81**	**145.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	50	6
R/T Crane (L)	350	3	50	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (L)	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
R/T Crane (L)	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Erection

Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.03	0.14	0.18	0.00	0.02	0.01	21.11	0.00	0.00	21.3
R/T Crane (L)	0.07	0.23	0.56	0.00	0.02	0.02	94.47	0.01	0.00	95.4
Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**115.58**	**0.01**	**0.00**	**116.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	50	N/A	28
1-Ton Truck, 4x4	6	50	N/A	28
Water Truck	1	50	N/A	28
Worker Commute	18	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Erection

3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**
Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.92
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	3.15	0.00	0.00	3.18
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.48	0.00	0.00	2.50
Worker Commute	0.00	0.13	0.01	0.00	0.00	0.00	18.19	0.00	0.00	18.40
Offsite Total	**0.01**	**0.17**	**0.04**	**0.00**	**0.00**	**0.00**	**28.67**	**0.00**	**0.00**	**29.01**
Total	**0.01**	**0.17**	**0.04**	**0.00**	**0.00**	**0.00**	**28.67**	**0.00**	**0.00**	**29.01**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	50	1.102	0.110	118.99	11.90	2.97	0.30
3/4-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	50	1.311	0.131	141.54	14.15	3.54	0.35
1-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	50	2.273	0.227	40.91	4.09	1.02	0.10
Water Truck	1	Paved	10	50	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	18	Paved	58	50	0.003	0.001	3.48	0.85	0.09	0.02
Offsite Total							**305.34**	**31.10**	**7.63**	**0.78**
Total							**305.34**	**31.10**	**7.63**	**0.78**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Erection

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install Conductor

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	46.32	116.44	206.41	21.16	7.11	6.59	48,424.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**46.32**	**116.44**	**206.41**	**21.16**	**7.11**	**6.59**	**48424.3**
Offsite Motor Vehicle Exhaust	1.93	50.27	14.00	0.10	1.31	0.20	8,860.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1064.75	111.26	
Offsite Total	**1.93**	**50.27**	**14.00**	**0.10**	**1066.06**	**111.46**	**8860.8**
Total	**48.26**	**166.71**	**220.41**	**21.27**	**1073.17**	**118.06**	**57285.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	5.20	12.06	22.31	2.53	0.75	0.69	5,209.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**5.20**	**12.06**	**22.31**	**2.53**	**0.75**	**0.69**	**5209.1**
Offsite Motor Vehicle Exhaust	0.29	7.52	1.99	0.01	0.19	0.03	1,299.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	141.09	14.82	
Offsite Total	**0.29**	**7.52**	**1.99**	**0.01**	**141.28**	**14.85**	**1299.7**
Total	**5.49**	**19.58**	**24.30**	**2.55**	**142.03**	**15.55**	**6508.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	350	3	300	10
Boom/Crane Truck	350	3	300	10
R/T Crane (M)	215	3	300	10
Sock Line Puller	300	2	80	10
Bull Wheel Puller	350	2	160	10
Static Truck/Tensioner	350	2	300	10
Spacing Cart	10	4	80	10
Backhoe/Front Loader	125	2	60	8
D8 Cat	350	1	60	8
Sag Cat w/ 2 Winches	350	1	60	10
Hughes 500 E Helicopter	420	2	240	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install Conductor

R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Sock Line Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Bull Wheel Puller	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Static Truck/Tensioner	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Spacing Cart	10	0.012	0.062	0.074	0.000	0.003	0.003	10.098	0.001	0.000	Other Construction Equipment
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
D8 Cat	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Sag Cat w/ 2 Winches	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Hughes 500 E Helicopter	420	1.765	2.199	1.421	1.485	0.044	0.044	782.418	0.022	0.025	See note b

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A

CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]

CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf

CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	2.85	12.29	33.21	0.06	0.99	0.91	6379.95	0.26	0.17	6,436.6
Boom/Crane Truck	3.97	13.28	32.13	0.05	1.16	1.07	5398.19	0.36	0.14	5,449.2
R/T Crane (M)	2.62	7.89	22.57	0.04	0.78	0.71	3361.74	0.24	0.09	3,393.8
Sock Line Puller	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Bull Wheel Puller	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Static Truck/Tensioner	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Spacing Cart	0.47	2.47	2.94	0.01	0.12	0.11	403.93	0.04	0.01	408.1
Backhoe/Front Loader	1.26	9.35	8.91	0.02	0.47	0.43	1620.73	0.11	0.04	1,636.2
D8 Cat	1.74	6.32	13.93	0.02	0.53	0.49	2071.97	0.16	0.05	2,092.0
Sag Cat w/ 2 Winches	1.24	4.86	10.40	0.02	0.35	0.32	2540.10	0.11	0.07	2,562.9
Hughes 500 E Helicopter	24.72	30.78	19.90	20.79	0.62	0.62	10953.86	0.30	0.35	11,068.2
Total	**46.32**	**116.44**	**206.41**	**21.16**	**7.11**	**6.59**	**47971.08**	**2.25**	**1.31**	**48424.31**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.43	1.84	4.98	0.01	0.15	0.14	956.99	0.04	0.02	965.5
Boom/Crane Truck	0.60	1.99	4.82	0.01	0.17	0.16	809.73	0.05	0.02	817.4

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install Conductor

R/T Crane (M)	0.39	1.18	3.39	0.01	0.12	0.11	504.26	0.04	0.01	509.1
Sock Line Puller	0.10	0.39	0.83	0.00	0.03	0.03	203.21	0.01	0.01	205.0
Bull Wheel Puller	0.20	0.78	1.66	0.00	0.06	0.05	406.42	0.02	0.01	410.1
Static Truck/Tensioner	0.37	1.46	3.12	0.01	0.10	0.10	762.03	0.03	0.02	768.9
Spacing Cart	0.02	0.10	0.12	0.00	0.00	0.00	16.16	0.00	0.00	16.3
Backhoe/Front Loader	0.04	0.28	0.27	0.00	0.01	0.01	48.62	0.00	0.00	49.1
D8 Cat	0.05	0.19	0.42	0.00	0.02	0.01	62.16	0.00	0.00	62.8
Sag Cat w/ 2 Winches	0.04	0.15	0.31	0.00	0.01	0.01	76.20	0.00	0.00	76.9
Hughes 500 E Helicopter	2.97	3.69	2.39	2.50	0.07	0.07	1314.46	0.04	0.04	1,328.2
Total	**5.20**	**12.06**	**22.31**	**2.53**	**0.75**	**0.69**	**5160.24**	**0.24**	**0.14**	**5209.14**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	3	300	N/A	28
1-Ton Truck, 4x4	6	300	N/A	28
Manlift/Bucket Truck	3	300	N/A	28
Boom/Crane Truck	3	300	N/A	28
Dump Truck	2	300	N/A	28
Wire Truck/Trailer	3	206	N/A	28
Static Truck/Tensioner	2	300	N/A	28
Splicing Rig	2	80	N/A	28
Splicing Lab	2	80	N/A	28
Lowboy Truck/Trailer	3	300	N/A	28
Fuel, Helicopter Support Truck	2	240	N/A	28
Worker Commute	165	300	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Wire Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Static Truck/Tensioner	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Splicing Rig	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install Conductor

Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Fuel, Helicopter Support Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Manlift/Bucket Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Wire Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Static Truck/Tensioner	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Splicing Rig	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Splicing Lab	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Lowboy Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Fuel, Helicopter Support Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	1.68	48.07	5.24	0.08	0.99	0.04	6670.84	0.41	0.22	6746.98
Offsite Total	**1.93**	**50.27**	**14.00**	**0.10**	**1.31**	**0.20**	**8761.78**	**0.42**	**0.29**	**8860.84**
Total	**1.93**	**50.27**	**14.00**	**0.10**	**1.31**	**0.20**	**8761.78**	**0.42**	**0.29**	**8860.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.10	0.01	0.00	0.00	0.00	14.55	0.00	0.00	14.75
1-Ton Truck, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	18.87	0.00	0.00	19.10
Manlift/Bucket Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08
Boom/Crane Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08
Dump Truck	0.00	0.02	0.14	0.00	0.00	0.00	29.74	0.00	0.00	30.06
Wire Truck/Trailer	0.00	0.02	0.14	0.00	0.00	0.00	30.63	0.00	0.00	30.96
Static Truck/Tensioner	0.00	0.02	0.14	0.00	0.00	0.00	29.74	0.00	0.00	30.06
Splicing Rig	0.00	0.00	0.00	0.00	0.00	0.00	1.68	0.00	0.00	1.70
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	1.68	0.00	0.00	1.70
Lowboy Truck/Trailer	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install Conductor

Fuel, Helicopter Support Truck	0.00	0.02	0.11	0.00	0.00	0.00	23.79	0.00	0.00	24.04
Worker Commute	0.25	7.21	0.79	0.01	0.15	0.01	1000.63	0.06	0.03	1012.05
Offsite Total	**0.29**	**7.52**	**1.99**	**0.01**	**0.19**	**0.03**	**1285.12**	**0.06**	**0.04**	**1299.65**
Total	**0.29**	**7.52**	**1.99**	**0.01**	**0.19**	**0.03**	**1285.12**	**0.06**	**0.04**	**1299.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	3	Unpaved	18	300	1.102	0.110	59.49	5.95	8.92	0.89
3/4-Ton Truck, 4x4	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
1-Ton Truck, 4x4	6	Unpaved	18	300	1.311	0.131	141.54	14.15	21.23	2.12
1-Ton Truck, 4x4	6	Paved	10	300	0.003	0.001	0.20	0.05	0.03	0.01
Manlift/Bucket Truck	3	Unpaved	18	300	2.273	0.227	122.74	12.27	18.41	1.84
Manlift/Bucket Truck	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Boom/Crane Truck	3	Unpaved	18	300	2.273	0.227	122.74	12.27	18.41	1.84
Boom/Crane Truck	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Dump Truck	2	Unpaved	18	300	2.273	0.227	81.83	8.18	12.27	1.23
Dump Truck	2	Paved	10	300	0.003	0.001	0.07	0.02	0.01	0.00
Wire Truck/Trailer	3	Unpaved	18	206	2.273	0.227	122.74	12.27	12.64	1.26
Wire Truck/Trailer	3	Paved	10	206	0.003	0.001	0.10	0.02	0.01	0.00
Static Truck/Tensioner	2	Unpaved	18	300	2.273	0.227	81.83	8.18	12.27	1.23
Static Truck/Tensioner	2	Paved	10	300	0.003	0.001	0.07	0.02	0.01	0.00
Splicing Rig	2	Unpaved	18	80	1.311	0.131	47.18	4.72	1.89	0.19
Splicing Rig	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Splicing Lab	2	Unpaved	18	80	1.311	0.131	47.18	4.72	1.89	0.19
Splicing Lab	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Lowboy Truck/Trailer	3	Unpaved	18	300	2.273	0.227	122.74	12.27	18.41	1.84
Lowboy Truck/Trailer	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Fuel, Helicopter Support Truck	2	Unpaved	18	240	2.273	0.227	81.83	8.18	9.82	0.98
Fuel, Helicopter Support Truck	2	Paved	10	240	0.003	0.001	0.07	0.02	0.01	0.00
Worker Commute	165	Paved	58	300	0.003	0.001	31.87	7.82	4.78	1.17
Offsite Total							**1064.75**	**111.26**	**141.09**	**14.82**
Total							**1064.75**	**111.26**	**141.09**	**14.82**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install Conductor

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	10.72	43.55	87.42	0.14	4.09	3.76	14,211.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**10.72**	**43.55**	**87.42**	**0.14**	**4.09**	**3.76**	**14211.6**
Offsite Motor Vehicle Exhaust	0.53	12.43	6.03	0.03	0.36	0.09	2,665.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1089.59	109.80	
Offsite Total	**0.53**	**12.43**	**6.03**	**0.03**	**1089.96**	**109.89**	**2665.6**
Total	**11.25**	**55.97**	**93.46**	**0.17**	**1094.04**	**113.65**	**16877.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.26	0.52	0.00	0.02	0.02	85.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.26**	**0.52**	**0.00**	**0.02**	**0.02**	**85.3**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.04	0.00	0.00	0.00	16.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.54	0.66	
Offsite Total	**0.00**	**0.07**	**0.04**	**0.00**	**6.54**	**0.66**	**16.0**
Total	**0.07**	**0.34**	**0.56**	**0.00**	**6.56**	**0.68**	**101.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	8	12	7
Manlift/Bucket Truck	350	4	12	5
Boom/Crane Truck	500	4	12	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	3.53	17.64	22.44	0.03	1.88	1.73	2626.85	0.32	0.07	2,654.9
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Removal

Boom/Crane Truck	5.29	17.71	42.84	0.07	1.55	1.42	7197.58	0.48	0.19	7,265.6
Total	**10.72**	**43.55**	**87.42**	**0.14**	**4.09**	**3.76**	**14077.73**	**0.97**	**0.37**	**14211.58**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.02	0.11	0.13	0.00	0.01	0.01	15.76	0.00	0.00	15.9
Manlift/Bucket Truck	0.01	0.05	0.13	0.00	0.00	0.00	25.52	0.00	0.00	25.7
Boom/Crane Truck	0.03	0.11	0.26	0.00	0.01	0.01	43.19	0.00	0.00	43.6
Total	**0.06**	**0.26**	**0.52**	**0.00**	**0.02**	**0.02**	**84.47**	**0.01**	**0.00**	**85.27**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	12	N/A	28
1-Ton Truck, 4x4	8	12	N/A	28
Water Truck	2	12	N/A	28
Manlift/Bucket Truck	4	12	N/A	28
Boom/Crane Truck	4	12	N/A	28
Extendable Flat Bed Pole Truck	8	12	N/A	28
Worker Commute	24	12	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Removal

Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Extendable Flat Bed Pole Truck	0.04	1.13	0.12	0.00	0.02	0.00	156.14	0.01	0.01	157.92
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.53**	**12.43**	**6.03**	**0.03**	**0.36**	**0.09**	**2634.93**	**0.11**	**0.09**	**2665.65**
Total	**0.53**	**12.43**	**6.03**	**0.03**	**0.36**	**0.09**	**2634.93**	**0.11**	**0.09**	**2665.65**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.55	0.00	0.00	1.57
1-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.55	0.00	0.00	1.57
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.19	0.00	0.00	1.20
Manlift/Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Boom/Crane Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Extendable Flat Bed Pole Truck	0.00	0.01	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.95
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**15.81**	**0.00**	**0.00**	**15.99**
Total	**0.00**	**0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**15.81**	**0.00**	**0.00**	**15.99**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	12	1.102	0.110	158.65	15.86	0.95	0.10
3/4-Ton Truck, 4x4	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00
1-Ton Truck, 4x4	8	Unpaved	18	12	1.311	0.131	188.71	18.87	1.13	0.11

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Guard Structure Removal

1-Ton Truck, 4x4	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00
Water Truck	2	Unpaved	18	12	2.273	0.227	81.83	8.18	0.49	0.05
Water Truck	2	Paved	10	12	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	12	2.273	0.227	163.66	16.37	0.98	0.10
Manlift/Bucket Truck	4	Paved	10	12	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	4	Unpaved	18	12	2.273	0.227	163.66	16.37	0.98	0.10
Boom/Crane Truck	4	Paved	10	12	0.003	0.001	0.13	0.03	0.00	0.00
Extendable Flat Bed Pole Truck	8	Unpaved	18	12	2.273	0.227	327.32	32.73	1.96	0.20
Extendable Flat Bed Pole Truck	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00
Worker Commute	24	Paved	58	12	0.003	0.001	4.63	1.14	0.03	0.01
Offsite Total							**1089.59**	**109.80**	**6.54**	**0.66**
Total							**1089.59**	**109.80**	**6.54**	**0.66**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
115 kV Pole Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.13	8.39	19.43	0.03	0.74	0.68	3,406.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.13**	**8.39**	**19.43**	**0.03**	**0.74**	**0.68**	**3406.6**
Offsite Motor Vehicle Exhaust	0.09	2.07	1.20	0.01	0.08	0.02	507.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	171.25	17.32	
Offsite Total	**0.09**	**2.07**	**1.20**	**0.01**	**171.33**	**17.34**	**507.9**
Total	**2.23**	**10.46**	**20.62**	**0.04**	**172.07**	**18.02**	**3914.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.03	0.08	0.00	0.00	0.00	13.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.03**	**0.08**	**0.00**	**0.00**	**0.00**	**13.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.68	0.07	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.69**	**0.07**	**2.0**
Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.69**	**0.07**	**15.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	8	5
Manlift/Bucket Truck	250	1	8	8
Boom/Crane Truck	350	1	8	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	250	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.31	1.58	2.00	0.00	0.17	0.15	234.54	0.03	0.01	237.0
Manlift/Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
115 kV Pole Removal

Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**2.13**	**8.39**	**19.43**	**0.03**	**0.74**	**0.68**	**3375.38**	**0.19**	**0.09**	**3406.60**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.00	0.01	0.01	0.00	0.00	0.00	0.94	0.00	0.00	0.9
Manlift/Bucket Truck	0.00	0.01	0.04	0.00	0.00	0.00	6.81	0.00	0.00	6.9
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.76	0.00	0.00	5.8
Total	**0.01**	**0.03**	**0.08**	**0.00**	**0.00**	**0.00**	**13.50**	**0.00**	**0.00**	**13.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	8	N/A	28
Manlift/Bucket Truck	1	8	N/A	28
Boom/Crane Truck	1	8	N/A	28
Flat Bed Pole Truck	1	8	N/A	28
Worker Commute	6	8	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
115 kV Pole Removal

1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Manlift/Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.00	0.14	0.02	0.00	0.00	0.00	19.52	0.00	0.00	19.74
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.09**	**2.07**	**1.20**	**0.01**	**0.08**	**0.02**	**502.28**	**0.02**	**0.02**	**507.89**
Total	**0.09**	**2.07**	**1.20**	**0.01**	**0.08**	**0.02**	**502.28**	**0.02**	**0.02**	**507.89**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
Manlift/Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Flat Bed Pole Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.01**	**0.00**	**0.00**	**2.03**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.01**	**0.00**	**0.00**	**2.03**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	8	1.311	0.131	47.18	4.72	0.19	0.02
1-Ton Truck, 4x4	2	Paved	10	8	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	1	Unpaved	18	8	2.273	0.227	40.91	4.09	0.16	0.02
Manlift/Bucket Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	8	2.273	0.227	40.91	4.09	0.16	0.02
Boom/Crane Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	1	Unpaved	18	8	2.273	0.227	40.91	4.09	0.16	0.02
Flat Bed Pole Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	6	Paved	58	8	0.003	0.001	1.16	0.28	0.00	0.00
Offsite Total							**171.25**	**17.32**	**0.68**	**0.07**
Total							**171.25**	**17.32**	**0.68**	**0.07**

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
115 kV Pole Removal

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install TSP Riser Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.98	12.14	21.65	0.06	0.72	0.66	6,140.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	9.84	1.49	
Onsite Total	**2.98**	**12.14**	**21.65**	**0.06**	**10.55**	**2.15**	**6140.3**
Offsite Motor Vehicle Exhaust	0.59	7.12	17.70	0.04	0.65	0.32	4,310.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	882.47	88.93	
Offsite Total	**0.59**	**7.12**	**17.70**	**0.04**	**883.11**	**89.24**	**4310.2**
Total	**3.57**	**19.25**	**39.35**	**0.11**	**893.66**	**91.39**	**10450.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.23	0.44	0.00	0.01	0.01	114.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.05	0.01	
Onsite Total	**0.06**	**0.23**	**0.44**	**0.00**	**0.06**	**0.02**	**114.6**
Offsite Motor Vehicle Exhaust	0.01	0.14	0.28	0.00	0.01	0.01	72.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.93	1.51	
Offsite Total	**0.01**	**0.14**	**0.28**	**0.00**	**14.94**	**1.51**	**72.1**
Total	**0.07**	**0.37**	**0.72**	**0.00**	**15.00**	**1.53**	**186.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	45	7
Backhoe/Front Loader	200	1	45	10
Auger Truck	500	1	30	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install TSP Riser Foundations

Backhoe/Front Loader	1.02	3.53	7.90	0.02	0.26	0.24	1715.83	0.09	0.04	1,731.6
Auger Truck	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2
Total	**2.98**	**12.14**	**21.65**	**0.06**	**0.72**	**0.66**	**6085.70**	**0.27**	**0.16**	**6140.29**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.02	0.07	0.17	0.00	0.01	0.01	28.34	0.00	0.00	28.6
Backhoe/Front Loader	0.02	0.08	0.18	0.00	0.01	0.01	38.61	0.00	0.00	39.0
Auger Truck	0.02	0.08	0.09	0.00	0.00	0.00	46.65	0.00	0.00	47.1
Total	**0.06**	**0.23**	**0.44**	**0.00**	**0.01**	**0.01**	**113.60**	**0.01**	**0.00**	**114.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	3	45	N/A	28
Boom/Crane Truck	1	45	N/A	28
Auger Truck	1	30	N/A	28
Water Truck	1	45	N/A	28
Dump Truck	2	45	N/A	28
Concrete Mixer Truck	15	30	N/A	60
Worker Commute	12	45	N/A	58

[a] Concrete mixer trucks based 1 TSP/day, on 148 CY/TSP and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install TSP Riser Foundations

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Auger Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Mixer Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.59**	**7.12**	**17.70**	**0.04**	**0.65**	**0.32**	**4263.99**	**0.06**	**0.15**	**4310.23**
Total	**0.59**	**7.12**	**17.70**	**0.04**	**0.65**	**0.32**	**4263.99**	**0.06**	**0.15**	**4310.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	2.18	0.00	0.00	2.21
Boom/Crane Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.23	0.00	0.00	2.25
Auger Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.23	0.00	0.00	2.25
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Concrete Mixer Truck	0.01	0.04	0.22	0.00	0.01	0.00	47.79	0.00	0.00	48.30
Worker Commute	0.00	0.08	0.01	0.00	0.00	0.00	10.92	0.00	0.00	11.04
Offsite Total	**0.01**	**0.14**	**0.28**	**0.00**	**0.01**	**0.01**	**71.30**	**0.00**	**0.00**	**72.08**
Total	**0.01**	**0.14**	**0.28**	**0.00**	**0.01**	**0.01**	**71.30**	**0.00**	**0.00**	**72.08**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install TSP Riser Foundations

Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	3	Unpaved	18	45	1.102	0.110	59.49	5.95	1.34	0.13
3/4-Ton Truck, 4x4	3	Paved	10	45	0.003	0.001	0.10	0.02	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	45	2.273	0.227	40.91	4.09	0.92	0.09
Boom/Crane Truck	1	Paved	10	45	0.003	0.001	0.03	0.01	0.00	0.00
Auger Truck	1	Unpaved	18	30	2.273	0.227	40.91	4.09	0.61	0.06
Auger Truck	1	Paved	10	30	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	45	2.273	0.227	40.91	4.09	0.92	0.09
Water Truck	1	Paved	10	45	0.003	0.001	0.03	0.01	0.00	0.00
Dump Truck	2	Unpaved	18	45	2.273	0.227	81.83	8.18	1.84	0.18
Dump Truck	2	Paved	10	45	0.003	0.001	0.07	0.02	0.00	0.00
Concrete Mixer Truck	15	Unpaved	18	30	2.273	0.227	613.72	61.37	9.21	0.92
Concrete Mixer Truck	15	Paved	42	30	0.003	0.001	2.10	0.51	0.03	0.01
Worker Commute	12	Paved	58	45	0.003	0.001	2.32	0.57	0.05	0.01
Offsite Total							**882.47**	**88.93**	**14.93**	**1.51**
Total							**882.47**	**88.93**	**14.93**	**1.51**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	148	1475	6.65E-02	1.01E-02	9.84	1.49	0.05	0.01
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**9.84**	**1.49**	**0.05**	**0.01**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 TSP, 13 ft. diameter x 30 ft. deep; total based on 10 TSPs

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.06	3.54	8.57	0.01	0.31	0.28	1,453.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1453.1**
Offsite Motor Vehicle Exhaust	0.10	1.92	2.05	0.01	0.09	0.03	629.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	204.29	20.57	
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**204.38**	**20.61**	**629.9**
Total	**1.16**	**5.47**	**10.61**	**0.02**	**204.69**	**20.89**	**2083.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.1**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.72	0.07	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.72**	**0.07**	**2.2**
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.72**	**0.07**	**7.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	7	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1439.52**	**0.10**	**0.04**	**1453.12**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Haul

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.04	0.00	0.00	5.1
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.04**	**0.00**	**0.00**	**5.09**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	2	7	N/A	28
Water Truck	1	7	N/A	28
Boom/Crane Truck	1	7	N/A	28
Flat Bed Pole Truck	2	7	N/A	28
Worker Commute	4	7	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Haul

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**
Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.23
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.35
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.35
Flat Bed Pole Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.00	0.70
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.57
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.18**	**0.00**	**0.00**	**2.20**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.18**	**0.00**	**0.00**	**2.20**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	2	Unpaved	18	7	1.102	0.110	39.66	3.97	0.14	0.01
3/4-Ton Truck, 4x4	2	Paved	10	7	0.003	0.001	0.07	0.02	0.00	0.00
Water Truck	1	Unpaved	18	7	2.273	0.227	40.91	4.09	0.14	0.01
Water Truck	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	7	2.273	0.227	40.91	4.09	0.14	0.01
Boom/Crane Truck	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	2	Unpaved	18	7	2.273	0.227	81.83	8.18	0.29	0.03
Flat Bed Pole Truck	2	Paved	10	7	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	7	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**204.29**	**20.57**	**0.72**	**0.07**
Total							**204.29**	**20.57**	**0.72**	**0.07**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Haul

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.29	6.94	2.81	0.02	0.21	0.05	1,460.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	428.19	43.40	
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**428.40**	**43.45**	**1460.8**
Total	**4.20**	**21.91**	**32.51**	**0.06**	**429.82**	**44.75**	**6128.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.04	0.15	0.30	0.00	0.01	0.01	46.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.04**	**0.15**	**0.30**	**0.00**	**0.01**	**0.01**	**46.7**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.03	0.00	0.00	0.00	14.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.28	0.43	
Offsite Total	**0.00**	**0.07**	**0.03**	**0.00**	**4.28**	**0.43**	**14.6**
Total	**0.04**	**0.22**	**0.33**	**0.00**	**4.30**	**0.45**	**61.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	20	6
Boom/Crane Truck	350	3	20	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Assembly

Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
Boom/Crane Truck	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4
Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.01	0.06	0.07	0.00	0.01	0.01	8.44	0.00	0.00	8.5
Boom/Crane Truck	0.03	0.09	0.22	0.00	0.01	0.01	37.79	0.00	0.00	38.1
Total	**0.04**	**0.15**	**0.30**	**0.00**	**0.01**	**0.01**	**46.23**	**0.00**	**0.00**	**46.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	20	N/A	28
1-Ton Truck, 4x4	6	20	N/A	28
Water Truck	1	20	N/A	28
Boom/Crane Truck	3	20	N/A	28
Worker Commute	18	20	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Assembly

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**
Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.94	0.00	0.00	1.97
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.26	0.00	0.00	1.27
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Boom/Crane Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.97	0.00	0.00	3.01
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.07**	**0.03**	**0.00**	**0.00**	**0.00**	**14.44**	**0.00**	**0.00**	**14.61**
Total	**0.00**	**0.07**	**0.03**	**0.00**	**0.00**	**0.00**	**14.44**	**0.00**	**0.00**	**14.61**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	20	1.102	0.110	118.99	11.90	1.19	0.12

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Assembly

3/4-Ton Truck, 4x4	6	Paved	10	20	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	20	1.311	0.131	141.54	14.15	1.42	0.14
1-Ton Truck, 4x4	6	Paved	10	20	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	20	2.273	0.227	40.91	4.09	0.41	0.04
Water Truck	1	Paved	10	20	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	20	2.273	0.227	122.74	12.27	1.23	0.12
Boom/Crane Truck	3	Paved	10	20	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	18	Paved	58	20	0.003	0.001	3.48	0.85	0.03	0.01
Offsite Total							**428.19**	**43.40**	**4.28**	**0.43**
Total							**428.19**	**43.40**	**4.28**	**0.43**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.25	6.70	1.42	0.01	0.17	0.02	1,160.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	305.34	31.10	
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**305.51**	**31.12**	**1160.2**
Total	**4.17**	**21.67**	**31.12**	**0.06**	**306.93**	**32.43**	**5828.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.04	0.15	0.30	0.00	0.01	0.01	46.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.04**	**0.15**	**0.30**	**0.00**	**0.01**	**0.01**	**46.7**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.01	0.00	0.00	0.00	11.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.05	0.31	
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**3.06**	**0.31**	**11.6**
Total	**0.04**	**0.22**	**0.31**	**0.00**	**3.07**	**0.32**	**58.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	20	6
R/T Crane (L)	350	3	20	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (L)	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Erection

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
R/T Crane (L)	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4
Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.01	0.06	0.07	0.00	0.01	0.01	8.44	0.00	0.00	8.5
R/T Crane (L)	0.03	0.09	0.22	0.00	0.01	0.01	37.79	0.00	0.00	38.1
Total	**0.04**	**0.15**	**0.30**	**0.00**	**0.01**	**0.01**	**46.23**	**0.00**	**0.00**	**46.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	20	N/A	28
1-Ton Truck, 4x4	6	20	N/A	28
Water Truck	1	20	N/A	28
Worker Commute	18	20	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Erection

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**
Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.94	0.00	0.00	1.97
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.26	0.00	0.00	1.27
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**11.47**	**0.00**	**0.00**	**11.60**
Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**11.47**	**0.00**	**0.00**	**11.60**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	20	1.102	0.110	118.99	11.90	1.19	0.12
3/4-Ton Truck, 4x4	6	Paved	10	20	0.003	0.001	0.20	0.05	0.00	0.00

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
TSP Riser Erection

1-Ton Truck, 4x4	6	Unpaved	18	20	1.311	0.131	141.54	14.15	1.42	0.14
1-Ton Truck, 4x4	6	Paved	10	20	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	20	2.273	0.227	40.91	4.09	0.41	0.04
Water Truck	1	Paved	10	20	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	18	Paved	58	20	0.003	0.001	3.48	0.85	0.03	0.01
Offsite Total							**305.34**	**31.10**	**3.05**	**0.31**
Total							**305.34**	**31.10**	**3.05**	**0.31**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Vault Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.29	10.15	17.45	0.03	0.69	0.63	3,209.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	6.58	1.00	
Onsite Total	**2.29**	**10.15**	**17.45**	**0.03**	**7.27**	**1.63**	**3209.7**
Offsite Motor Vehicle Exhaust	0.24	3.42	6.54	0.02	0.26	0.12	1,714.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	458.59	46.19	
Offsite Total	**0.24**	**3.42**	**6.54**	**0.02**	**458.85**	**46.31**	**1714.9**
Total	**2.54**	**13.57**	**23.99**	**0.05**	**466.12**	**47.94**	**4924.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.16	0.25	0.00	0.01	0.01	47.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.04	0.01	
Onsite Total	**0.03**	**0.16**	**0.25**	**0.00**	**0.05**	**0.02**	**47.6**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.09	0.00	0.00	0.00	23.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.90	0.70	
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**6.90**	**0.70**	**23.8**
Total	**0.04**	**0.21**	**0.34**	**0.00**	**6.95**	**0.71**	**71.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	125	1	36	8
Excavator	250	1	36	7
Crane (L)	500	1	20	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators
Crane (L)	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.63	4.68	4.45	0.01	0.23	0.22	810.37	0.06	0.02	818.1

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Vault Installation

Excavator	0.74	2.37	5.50	0.01	0.18	0.17	1109.78	0.07	0.03	1,120.1
Crane (L)	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5
Total	**2.29**	**10.15**	**17.45**	**0.03**	**0.69**	**0.63**	**3179.73**	**0.21**	**0.08**	**3209.71**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.08	0.08	0.00	0.00	0.00	14.59	0.00	0.00	14.7
Excavator	0.01	0.04	0.10	0.00	0.00	0.00	19.98	0.00	0.00	20.2
Crane (L)	0.01	0.03	0.07	0.00	0.00	0.00	12.60	0.00	0.00	12.7
Total	**0.03**	**0.16**	**0.25**	**0.00**	**0.01**	**0.01**	**47.16**	**0.00**	**0.00**	**47.60**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	36	N/A	28
Dump Truck	2	36	N/A	28
Water Truck	1	36	N/A	28
Concrete Mixer Truck	3	14	N/A	60
Lowboy Truck/Trailer	1	36	N/A	28
Flat Bed Truck/Trailer	3	36	N/A	28
Worker Commute	8	36	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Vault Installation

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Concrete Mixer Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Lowboy Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.24**	**3.42**	**6.54**	**0.02**	**0.26**	**0.12**	**1696.51**	**0.03**	**0.06**	**1714.92**
Total	**0.24**	**3.42**	**6.54**	**0.02**	**0.26**	**0.12**	**1696.51**	**0.03**	**0.06**	**1714.92**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.57	0.00	0.00	3.61
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Concrete Mixer Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Lowboy Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Flat Bed Truck/Trailer	0.00	0.00	0.03	0.00	0.00	0.00	5.35	0.00	0.00	5.41
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**23.53**	**0.00**	**0.00**	**23.78**
Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**23.53**	**0.00**	**0.00**	**23.78**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Vault Installation

Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	36	1.311	0.131	47.18	4.72	0.85	0.08
1-Ton Truck, 4x4	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Dump Truck	2	Unpaved	18	36	2.273	0.227	81.83	8.18	1.47	0.15
Dump Truck	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Water Truck	1	Unpaved	18	36	2.273	0.227	40.91	4.09	0.74	0.07
Water Truck	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Mixer Truck	3	Unpaved	18	14	2.273	0.227	122.74	12.27	0.86	0.09
Concrete Mixer Truck	3	Paved	42	14	0.003	0.001	0.42	0.10	0.00	0.00
Lowboy Truck/Trailer	1	Unpaved	18	36	2.273	0.227	40.91	4.09	0.74	0.07
Lowboy Truck/Trailer	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	36	2.273	0.227	122.74	12.27	2.21	0.22
Flat Bed Truck/Trailer	3	Paved	10	36	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	36	0.003	0.001	1.54	0.38	0.03	0.01
Offsite Total							**458.59**	**46.19**	**6.90**	**0.70**
Total							**458.59**	**46.19**	**6.90**	**0.70**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	99	1182	6.65E-02	1.01E-02	6.58	1.00	0.04	0.01
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**6.58**	**1.00**	**0.04**	**0.01**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 vault/day, 11 ft.-2 in. x 21 ft.-4 in. x 11 ft.-2 in.; total based on 12 vaults

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Duct Bank Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.87	5.67	5.90	0.01	0.37	0.34	952.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	4.12	0.62	
Onsite Total	**0.87**	**5.67**	**5.90**	**0.01**	**4.49**	**0.97**	**952.9**
Offsite Motor Vehicle Exhaust	0.27	3.58	7.47	0.02	0.29	0.13	1,915.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	540.49	54.39	
Offsite Total	**0.27**	**3.58**	**7.47**	**0.02**	**540.78**	**54.52**	**1915.3**
Total	**1.13**	**9.25**	**13.37**	**0.03**	**545.27**	**55.49**	**2868.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.10	0.10	0.00	0.01	0.01	16.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.07	0.01	
Onsite Total	**0.01**	**0.10**	**0.10**	**0.00**	**0.08**	**0.02**	**16.4**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.09	0.00	0.00	0.00	25.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.76	0.78	
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**7.76**	**0.78**	**25.5**
Total	**0.02**	**0.15**	**0.19**	**0.00**	**7.84**	**0.80**	**42.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	30	5
Backhoe/Front Loader	125	1	36	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.31	1.58	2.00	0.00	0.17	0.15	234.54	0.03	0.01	237.0
Backhoe/Front Loader	0.55	4.09	3.90	0.01	0.20	0.19	709.07	0.05	0.02	715.9
Total	**0.87**	**5.67**	**5.90**	**0.01**	**0.37**	**0.34**	**943.61**	**0.08**	**0.02**	**952.90**

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Duct Bank Installation

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.00	0.02	0.03	0.00	0.00	0.00	3.52	0.00	0.00	3.6
Backhoe/Front Loader	0.01	0.07	0.07	0.00	0.00	0.00	12.76	0.00	0.00	12.9
Total	**0.01**	**0.10**	**0.10**	**0.00**	**0.01**	**0.01**	**16.28**	**0.00**	**0.00**	**16.44**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	36	N/A	28
Dump Truck	3	30	N/A	28
Water Truck	1	36	N/A	28
Concrete Mixer Truck	3	12	N/A	60
Lowboy Truck/Trailer	1	36	N/A	28
Flat Bed Truck/Trailer	3	36	N/A	28
Pipe Truck/Trailer	1	30	N/A	28
Worker Commute	8	36	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Pipe Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Duct Bank Installation

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Dump Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Concrete Mixer Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Lowboy Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Pipe Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.27**	**3.58**	**7.47**	**0.02**	**0.29**	**0.13**	**1894.76**	**0.03**	**0.06**	**1915.29**
Total	**0.27**	**3.58**	**7.47**	**0.02**	**0.29**	**0.13**	**1894.76**	**0.03**	**0.06**	**1915.29**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Concrete Mixer Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.82	0.00	0.00	3.86
Lowboy Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Flat Bed Truck/Trailer	0.00	0.00	0.03	0.00	0.00	0.00	5.35	0.00	0.00	5.41
Pipe Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**25.27**	**0.00**	**0.00**	**25.54**
Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**25.27**	**0.00**	**0.00**	**25.54**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Duct Bank Installation

Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	36	1.311	0.131	47.18	4.72	0.85	0.08
1-Ton Truck, 4x4	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Dump Truck	3	Unpaved	18	30	2.273	0.227	122.74	12.27	1.84	0.18
Dump Truck	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Unpaved	18	36	2.273	0.227	40.91	4.09	0.74	0.07
Water Truck	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Mixer Truck	3	Unpaved	18	12	2.273	0.227	122.74	12.27	0.74	0.07
Concrete Mixer Truck	3	Paved	42	12	0.003	0.001	0.42	0.10	0.00	0.00
Lowboy Truck/Trailer	1	Unpaved	18	36	2.273	0.227	40.91	4.09	0.74	0.07
Lowboy Truck/Trailer	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	36	2.273	0.227	122.74	12.27	2.21	0.22
Flat Bed Truck/Trailer	3	Paved	10	36	0.003	0.001	0.10	0.02	0.00	0.00
Pipe Truck/Trailer	1	Unpaved	18	30	2.273	0.227	40.91	4.09	0.61	0.06
Pipe Truck/Trailer	1	Paved	10	30	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	8	Paved	58	36	0.003	0.001	1.54	0.38	0.03	0.01
Offsite Total							**540.49**	**54.39**	**7.76**	**0.78**
Total							**540.49**	**54.39**	**7.76**	**0.78**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	62	2222	6.65E-02	1.01E-02	4.12	0.62	0.07	0.01
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**4.12**	**0.62**	**0.07**	**0.01**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on 24 in. x 60 in. x 6,000 ft. over 36 days

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install Underground Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	4.07	16.16	40.04	0.08	1.28	1.18	8,125.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**4.07**	**16.16**	**40.04**	**0.08**	**1.28**	**1.18**	**8125.4**
Offsite Motor Vehicle Exhaust	0.22	3.23	5.42	0.02	0.22	0.10	1,471.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	499.22	50.21	
Offsite Total	**0.22**	**3.23**	**5.42**	**0.02**	**499.44**	**50.31**	**1471.6**
Total	**4.28**	**19.38**	**45.46**	**0.09**	**500.72**	**51.48**	**9597.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.07	0.27	0.66	0.00	0.02	0.02	142.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.07**	**0.27**	**0.66**	**0.00**	**0.02**	**0.02**	**142.6**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.09	0.00	0.00	0.00	24.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.31	0.84	
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**8.31**	**0.84**	**24.8**
Total	**0.07**	**0.33**	**0.75**	**0.00**	**8.33**	**0.86**	**167.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	250	4	36	5
Boom/Crane Truck	350	1	15	7
Puller	350	2	36	5

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	250	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Puller	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1
Boom/Crane Truck	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install Underground Cable

Puller	1.24	4.86	10.40	0.02	0.35	0.32	2540.10	0.11	0.07	2,562.9
Total	**4.07**	**16.16**	**40.04**	**0.08**	**1.28**	**1.18**	**8052.98**	**0.37**	**0.21**	**8125.45**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.03	0.15	0.40	0.00	0.01	0.01	76.56	0.00	0.00	77.2
Boom/Crane Truck	0.01	0.04	0.08	0.00	0.00	0.00	19.05	0.00	0.00	19.2
Puller	0.02	0.09	0.19	0.00	0.01	0.01	45.72	0.00	0.00	46.1
Total	**0.07**	**0.27**	**0.66**	**0.00**	**0.02**	**0.02**	**141.33**	**0.01**	**0.00**	**142.59**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	36	N/A	28
Manlift/Bucket Truck	4	36	N/A	28
Boom/Crane Truck	1	15	N/A	28
Water Truck	1	36	N/A	28
Pipe Truck/Trailer	1	30	N/A	28
Wire Truck/Trailer	1	30	N/A	28
Flat Bed Truck/Trailer	3	36	N/A	28
Worker Commute	8	36	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Pipe Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Wire Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Install Underground Cable

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Pipe Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Wire Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.22**	**3.23**	**5.42**	**0.02**	**0.22**	**0.10**	**1455.77**	**0.03**	**0.05**	**1471.61**
Total	**0.22**	**3.23**	**5.42**	**0.02**	**0.22**	**0.10**	**1455.77**	**0.03**	**0.05**	**1471.61**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Manlift/Bucket Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.14	0.00	0.00	7.21
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Pipe Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Wire Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Flat Bed Truck/Trailer	0.00	0.00	0.03	0.00	0.00	0.00	5.35	0.00	0.00	5.41
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**24.57**	**0.00**	**0.00**	**24.84**
Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**24.57**	**0.00**	**0.00**	**24.84**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 10
Install Underground Cable

Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	36	1.311	0.131	47.18	4.72	0.85	0.08
1-Ton Truck, 4x4	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	36	2.273	0.227	163.66	16.37	2.95	0.29
Manlift/Bucket Truck	4	Paved	10	36	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	15	2.273	0.227	40.91	4.09	0.31	0.03
Boom/Crane Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	36	2.273	0.227	40.91	4.09	0.74	0.07
Water Truck	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Pipe Truck/Trailer	1	Unpaved	18	30	2.273	0.227	40.91	4.09	0.61	0.06
Pipe Truck/Trailer	1	Paved	10	30	0.003	0.001	0.03	0.01	0.00	0.00
Wire Truck/Trailer	1	Unpaved	18	30	2.273	0.227	40.91	4.09	0.61	0.06
Wire Truck/Trailer	1	Paved	10	30	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	36	2.273	0.227	122.74	12.27	2.21	0.22
Flat Bed Truck/Trailer	3	Paved	10	36	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	36	0.003	0.001	1.54	0.38	0.03	0.01
Offsite Total							**499.22**	**50.21**	**8.31**	**0.84**
Total							**499.22**	**50.21**	**8.31**	**0.84**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.94	28.86	44.31	0.08	2.24	2.06	7,043.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	2414.68	799.87	
Onsite Total	**5.94**	**28.86**	**44.31**	**0.08**	**2416.92**	**801.93**	**7043.6**
Offsite Motor Vehicle Exhaust	0.30	6.66	3.64	0.02	0.24	0.06	1,587.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	391.48	39.80	
Offsite Total	**0.30**	**6.66**	**3.64**	**0.02**	**391.72**	**39.86**	**1587.1**
Total	**6.24**	**35.52**	**47.95**	**0.10**	**2808.64**	**841.79**	**8630.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.19	1.09	1.24	0.00	0.09	0.08	174.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	90.55	30.00	
Onsite Total	**0.19**	**1.09**	**1.24**	**0.00**	**90.64**	**30.08**	**174.3**
Offsite Motor Vehicle Exhaust	0.01	0.25	0.14	0.00	0.01	0.00	59.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.68	1.49	
Offsite Total	**0.01**	**0.25**	**0.14**	**0.00**	**14.69**	**1.49**	**59.5**
Total	**0.20**	**1.33**	**1.38**	**0.00**	**105.33**	**31.57**	**233.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	125	3	75	7
Motor Grader	250	3	75	7
Drum Type Compactor	100	3	75	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Motor Grader	250	0.125	0.393	1.043	0.002	0.036	0.033	171.959	0.011	0.004	Graders
Drum Type Compactor	100	0.079	0.397	0.511	0.001	0.042	0.038	58.936	0.007	0.002	Rollers

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	1.65	12.27	11.69	0.02	0.61	0.56	2127.21	0.15	0.06	2,147.6

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Restoration

Motor Grader	2.62	8.26	21.90	0.04	0.75	0.69	3611.13	0.24	0.09	3,645.2
Drum Type Compactor	1.67	8.33	10.72	0.01	0.87	0.80	1237.65	0.15	0.03	1,250.9
Total	**5.94**	**28.86**	**44.31**	**0.08**	**2.24**	**2.06**	**6976.00**	**0.54**	**0.18**	**7043.63**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.06	0.46	0.44	0.00	0.02	0.02	79.77	0.01	0.00	80.5
Motor Grader	0.06	0.31	0.40	0.00	0.03	0.03	46.41	0.01	0.00	46.9
Drum Type Compactor	0.06	0.31	0.40	0.00	0.03	0.03	46.41	0.01	0.00	46.9
Total	**0.19**	**1.09**	**1.24**	**0.00**	**0.09**	**0.08**	**172.59**	**0.02**	**0.00**	**174.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	6	75	N/A	28
Water Truck	3	75	N/A	28
Lowboy Truck/Trailer	3	75	N/A	28
Worker Commute	21	75	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Restoration

Offsite										
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Lowboy Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.21	6.12	0.67	0.01	0.13	0.00	849.02	0.05	0.03	858.71
Offsite Total	**0.30**	**6.66**	**3.64**	**0.02**	**0.24**	**0.06**	**1569.59**	**0.06**	**0.05**	**1587.13**
Total	**0.30**	**6.66**	**3.64**	**0.02**	**0.24**	**0.06**	**1569.59**	**0.06**	**0.05**	**1587.13**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	4.72	0.00	0.00	4.77
Water Truck	0.00	0.01	0.05	0.00	0.00	0.00	11.15	0.00	0.00	11.27
Lowboy Truck/Trailer	0.00	0.01	0.05	0.00	0.00	0.00	11.15	0.00	0.00	11.27
Worker Commute	0.01	0.23	0.03	0.00	0.00	0.00	31.84	0.00	0.00	32.20
Offsite Total	**0.01**	**0.25**	**0.14**	**0.00**	**0.01**	**0.00**	**58.86**	**0.00**	**0.00**	**59.52**
Total	**0.01**	**0.25**	**0.14**	**0.00**	**0.01**	**0.00**	**58.86**	**0.00**	**0.00**	**59.52**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	75	1.311	0.131	141.54	14.15	5.31	0.53
1-Ton Truck, 4x4	6	Paved	10	75	0.003	0.001	0.20	0.05	0.01	0.00
Water Truck	3	Unpaved	18	75	2.273	0.227	122.74	12.27	4.60	0.46
Water Truck	3	Paved	10	75	0.003	0.001	0.10	0.02	0.00	0.00
Lowboy Truck/Trailer	3	Unpaved	18	75	2.273	0.227	122.74	12.27	4.60	0.46
Lowboy Truck/Trailer	3	Paved	10	75	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	21	Paved	58	75	0.003	0.001	4.06	1.00	0.15	0.04
Offsite Total							**391.48**	**39.80**	**14.68**	**1.49**
Total							**391.48**	**39.80**	**14.68**	**1.49**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 Restoration

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr	21	1575	114.985	38.089	2414.68	799.87	90.55	30.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**2414.68**	**799.87**	**90.55**	**30.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 73
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.25	0.61	0.00	0.04	0.01	274.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	24.30	2.56	
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**24.34**	**2.57**	**274.4**
Total	**1.57**	**7.80**	**18.32**	**0.04**	**24.87**	**3.05**	**3707.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.12	0.32	0.00	0.01	0.01	61.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.12**	**0.32**	**0.00**	**0.01**	**0.01**	**61.8**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	4.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.44	0.05	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.44**	**0.05**	**4.9**
Total	**0.03**	**0.14**	**0.33**	**0.00**	**0.45**	**0.05**	**66.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	36	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]

Table 73
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.03	0.12	0.32	0.00	0.01	0.01	61.25	0.00	0.00	61.8
Total	**0.03**	**0.12**	**0.32**	**0.00**	**0.01**	**0.01**	**61.25**	**0.00**	**0.00**	**61.79**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	36	N/A	14
Bucket Truck	2	36	N/A	14
Worker Commute	4	36	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										

Table 73
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**
Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.19
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.91	0.00	0.00	2.94
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.88**	**0.00**	**0.00**	**4.94**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.88**	**0.00**	**0.00**	**4.94**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	36	1.311	0.131	5.24	0.52	0.09	0.01
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	36	2.273	0.227	18.18	1.82	0.33	0.03
Bucket Truck	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	36	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**24.30**	**2.56**	**0.44**	**0.05**

Table 73
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

Total							**24.30**	**2.56**	**0.44**	**0.05**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 74
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.18	0.16	0.00	0.03	0.00	184.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	11.32	1.25	
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**11.35**	**1.26**	**184.8**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**11.35**	**1.26**	**184.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 74
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	14
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	20.97	0.00	0.00	21.22

Table 74
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	2	1.311	0.131	10.48	1.05	0.01	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**11.32**	**1.25**	**0.01**	**0.00**
Total							**11.32**	**1.25**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 74
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 75
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.86	0.28	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**2.07**	**0.47**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.42	0.01	0.07	0.02	490.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	29.09	3.09	
Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**29.16**	**3.12**	**490.4**
Total	**0.90**	**4.50**	**7.74**	**0.02**	**31.23**	**3.59**	**1875.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.01**	**0.00**	**9.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.17	0.02	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.17**	**0.02**	**2.6**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.18**	**0.02**	**12.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	14	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 75
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	9.61	0.00	0.00	9.7
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.61**	**0.00**	**0.00**	**9.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	14	N/A	14
1-Ton Crew Cab Flatbed, 4x4	1	14	N/A	14
Water Truck	1	14	N/A	14
Concrete Truck	1	6	N/A	60
Worker Commute	5	14	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Water Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 75
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**
Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.35
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.42	0.00	0.00	1.43
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	14	1.102	0.110	4.41	0.44	0.03	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	14	1.311	0.131	5.24	0.52	0.04	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	4	14	2.273	0.227	9.09	0.91	0.06	0.01
Water Truck	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	4	6	2.273	0.227	9.09	0.91	0.03	0.00
Concrete Truck	1	Paved	56	6	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	14	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**29.09**	**3.09**	**0.17**	**0.02**
Total							**29.09**	**3.09**	**0.17**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 75
Alternative Telecommunications Construction Emissions
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	28	311	6.65E-02	1.01E-02	1.86	0.28	0.01	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**1.86**	**0.28**	**0.01**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 2,800 ft. long x 1 ft. wide x 3 ft. deep over 11 days

Table 76
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.25	0.61	0.00	0.04	0.01	274.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	24.30	2.56	
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**24.34**	**2.57**	**274.4**
Total	**1.57**	**7.80**	**18.32**	**0.04**	**24.87**	**3.05**	**3707.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.05	0.13	0.00	0.00	0.00	25.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.05**	**0.13**	**0.00**	**0.00**	**0.00**	**25.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.18	0.02	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.18**	**0.02**	**2.1**
Total	**0.01**	**0.06**	**0.14**	**0.00**	**0.19**	**0.02**	**27.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	15	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 76
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.01	0.05	0.13	0.00	0.00	0.00	25.52	0.00	0.00	25.7
Total	**0.01**	**0.05**	**0.13**	**0.00**	**0.00**	**0.00**	**25.52**	**0.00**	**0.00**	**25.75**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	15	N/A	14
Bucket Truck	2	15	N/A	14
Worker Commute	4	15	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 76
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**
Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.21	0.00	0.00	1.23
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.03**	**0.00**	**0.00**	**2.06**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.03**	**0.00**	**0.00**	**2.06**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	15	1.311	0.131	5.24	0.52	0.04	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	15	2.273	0.227	18.18	1.82	0.14	0.01
Bucket Truck	2	Paved	10	15	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	15	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**24.30**	**2.56**	**0.18**	**0.02**
Total							**24.30**	**2.56**	**0.18**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 76
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 77
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.18	0.16	0.00	0.03	0.00	184.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	11.32	1.25	
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**11.35**	**1.26**	**184.8**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**11.35**	**1.26**	**184.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 77
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	14
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	20.97	0.00	0.00	21.22

Table 77
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	2	1.311	0.131	10.48	1.05	0.01	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**11.32**	**1.25**	**0.01**	**0.00**
Total							**11.32**	**1.25**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 77
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 78
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.06	0.16	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**1.27**	**0.35**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.42	0.01	0.07	0.02	490.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	29.09	3.09	
Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**29.16**	**3.12**	**490.4**
Total	**0.90**	**4.50**	**7.74**	**0.02**	**30.43**	**3.47**	**1875.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	4.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**4.8**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.10**	**0.01**	**1.7**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.11**	**0.01**	**6.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	7	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 78
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.01	0.02	0.00	0.00	0.00	4.80	0.00	0.00	4.8
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**4.80**	**0.00**	**0.00**	**4.85**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	7	N/A	14
1-Ton Crew Cab Flatbed, 4x4	1	7	N/A	14
Water Truck	1	7	N/A	14
Concrete Truck	1	7	N/A	60
Worker Commute	5	7	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Water Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 78
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**
Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.72
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.70**	**0.00**	**0.00**	**1.72**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.70**	**0.00**	**0.00**	**1.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	7	1.102	0.110	4.41	0.44	0.02	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	7	1.311	0.131	5.24	0.52	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	4	7	2.273	0.227	9.09	0.91	0.03	0.00
Water Truck	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	4	7	2.273	0.227	9.09	0.91	0.03	0.00
Concrete Truck	1	Paved	56	7	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	7	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**29.09**	**3.09**	**0.10**	**0.01**
Total							**29.09**	**3.09**	**0.10**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 78
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	16	111	6.65E-02	1.01E-02	1.06	0.16	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**1.06**	**0.16**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,000 ft. long x 1 ft. wide x 3 ft. deep over 7 days

Table 79
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.24	0.54	0.00	0.04	0.01	258.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	12.59	1.39	
Offsite Total	**0.05**	**1.24**	**0.54**	**0.00**	**12.62**	**1.39**	**258.5**
Total	**1.57**	**7.79**	**18.25**	**0.04**	**13.15**	**1.88**	**3691.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.08	0.22	0.00	0.01	0.01	42.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.08**	**0.22**	**0.00**	**0.01**	**0.01**	**42.9**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	3.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.16	0.02	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.16**	**0.02**	**3.2**
Total	**0.02**	**0.10**	**0.23**	**0.00**	**0.16**	**0.02**	**46.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	25	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 79
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.08	0.22	0.00	0.01	0.01	42.53	0.00	0.00	42.9
Total	**0.02**	**0.08**	**0.22**	**0.00**	**0.01**	**0.01**	**42.53**	**0.00**	**0.00**	**42.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	25	N/A	12
Bucket Truck	2	25	N/A	12
Worker Commute	4	25	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 79
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
Bucket Truck	0.01	0.07	0.40	0.00	0.01	0.01	84.97	0.00	0.00	85.87
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.24**	**0.54**	**0.00**	**0.04**	**0.01**	**255.67**	**0.01**	**0.01**	**258.53**
Total	**0.05**	**1.24**	**0.54**	**0.00**	**0.04**	**0.01**	**255.67**	**0.01**	**0.01**	**258.53**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.00	0.00	1.07
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	2.02	0.00	0.00	2.04
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.20**	**0.00**	**0.00**	**3.23**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.20**	**0.00**	**0.00**	**3.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	2	25	1.311	0.131	2.62	0.26	0.03	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	25	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	2	25	2.273	0.227	9.09	0.91	0.11	0.01
Bucket Truck	2	Paved	10	25	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	25	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**12.59**	**1.39**	**0.16**	**0.02**
Total							**12.59**	**1.39**	**0.16**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 79
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 80
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.15	0.00	0.03	0.00	181.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.08	0.73	
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**6.11**	**0.73**	**181.7**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**6.11**	**0.73**	**181.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 80
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	12
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	17.97	0.00	0.00	18.19

Table 80
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**179.69**	**0.01**	**0.01**	**181.75**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**179.69**	**0.01**	**0.01**	**181.75**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	2	2	1.311	0.131	5.24	0.52	0.01	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**6.08**	**0.73**	**0.01**	**0.00**
Total							**6.08**	**0.73**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 80
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 81
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.66	0.25	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**1.87**	**0.44**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.67	1.38	0.01	0.07	0.02	480.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	15.18	1.70	
Offsite Total	**0.08**	**1.67**	**1.38**	**0.01**	**15.25**	**1.72**	**480.3**
Total	**0.90**	**4.49**	**7.70**	**0.02**	**17.12**	**2.17**	**1865.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.02	0.03	0.00	0.00	0.00	7.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.01**	**0.00**	**7.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.08**	**0.01**	**2.6**
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.09**	**0.01**	**10.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	11	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 81
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.02	0.03	0.00	0.00	0.00	7.55	0.00	0.00	7.6
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.00**	**0.00**	**7.55**	**0.00**	**0.00**	**7.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	11	N/A	12
1-Ton Crew Cab Flatbed, 4x4	1	11	N/A	12
Water Truck	1	11	N/A	12
Concrete Truck	1	11	N/A	60
Worker Commute	5	11	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
Water Truck	0.01	0.03	0.20	0.00	0.01	0.00	42.48	0.00	0.00	42.94
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 81
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.67**	**1.38**	**0.01**	**0.07**	**0.02**	**475.02**	**0.01**	**0.02**	**480.26**
Total	**0.08**	**1.67**	**1.38**	**0.01**	**0.07**	**0.02**	**475.02**	**0.01**	**0.02**	**480.26**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.24
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.17	0.00	0.00	1.18
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.11	0.00	0.00	1.12
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.61**	**0.00**	**0.00**	**2.64**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.61**	**0.00**	**0.00**	**2.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	2	11	1.102	0.110	2.20	0.22	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	2	11	1.311	0.131	2.62	0.26	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	2	11	2.273	0.227	4.55	0.45	0.03	0.00
Water Truck	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	2	11	2.273	0.227	4.55	0.45	0.03	0.00
Concrete Truck	1	Paved	58	11	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	11	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**15.18**	**1.70**	**0.08**	**0.01**
Total							**15.18**	**1.70**	**0.08**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 81
Alternative Telecommunications Construction Emissions
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	25	278	6.65E-02	1.01E-02	1.66	0.25	0.01	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**1.66**	**0.25**	**0.01**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 2,500 ft. long x 1 ft. wide x 3 ft. deep over 11 days

Table 82
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.08	2.34	0.31	0.00	0.05	0.00	339.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	23.51	2.57	
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**23.56**	**2.57**	**339.0**
Total	**1.60**	**8.89**	**18.02**	**0.04**	**24.09**	**3.06**	**3771.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.10	0.28	0.00	0.01	0.01	54.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.10**	**0.28**	**0.00**	**0.01**	**0.01**	**54.9**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.16	0.02	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.17**	**0.02**	**5.4**
Total	**0.03**	**0.14**	**0.29**	**0.00**	**0.17**	**0.03**	**60.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	32	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 82
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.10	0.28	0.00	0.01	0.01	54.44	0.00	0.00	54.9
Total	**0.02**	**0.10**	**0.28**	**0.00**	**0.01**	**0.01**	**54.44**	**0.00**	**0.00**	**54.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	32	N/A	1.5
Bucket Truck	2	32	N/A	1.5
Worker Commute	8	32	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 82
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**
Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.17	0.00	0.00	5.23
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.36**	**0.00**	**0.00**	**5.42**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.36**	**0.00**	**0.00**	**5.42**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	32	1.311	0.131	1.97	0.20	0.03	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	32	0.003	0.001	0.00	0.00	0.00	0.00
Bucket Truck	2	Unpaved	1.5	32	2.273	0.227	6.82	0.68	0.11	0.01
Bucket Truck	2	Paved	0	32	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	8	Paved	56.5	32	0.003	0.001	1.51	0.37	0.02	0.01
Worker Commute	8	Unpaved	1.5	32	1.102	0.110	13.22	1.32	0.00	0.00
Offsite Total							**23.51**	**2.57**	**0.16**	**0.02**
Total							**23.51**	**2.57**	**0.16**	**0.02**

a From Table 107

Table 82
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 83
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	165.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	11.29	1.24	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**11.32**	**1.24**	**165.8**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**11.32**	**1.24**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 83
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	4	N/A	1.5
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00	2.27

Table 83
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	1.5	4	1.311	0.131	3.93	0.39	0.01	0.00
Splicing Lab	2	Paved	0	4	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	4	Paved	56.5	4	0.003	0.001	0.75	0.18	0.00	0.00
Worker Commute	4	Unpaved	1.5	4	1.102	0.110	6.61	0.66	0.00	0.00
Offsite Total							**11.29**	**1.24**	**0.01**	**0.00**
Total							**11.29**	**1.24**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 83
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 84
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.59	0.24	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**1.80**	**0.43**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.45	0.01	0.07	0.02	485.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	19.89	2.16	
Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**19.96**	**2.19**	**485.8**
Total	**0.90**	**4.50**	**7.78**	**0.02**	**21.77**	**2.62**	**1871.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.01**	**0.00**	**9.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	3.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.08**	**0.01**	**3.4**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.09**	**0.01**	**13.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	14	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 84
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	9.61	0.00	0.00	9.7
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.61**	**0.00**	**0.00**	**9.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	14	N/A	1.5
1-Ton Crew Cab Flatbed, 4x4	1	14	N/A	1.5
Water Truck	1	14	N/A	18
Concrete Truck	1	14	N/A	60
Worker Commute	5	14	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 84
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**
Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.45
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.42	0.00	0.00	1.43
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**3.36**	**0.00**	**0.00**	**3.40**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**3.36**	**0.00**	**0.00**	**3.40**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	1.5	14	1.102	0.110	1.65	0.17	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	0	14	0.003	0.001	0.00	0.00	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	14	1.311	0.131	1.97	0.20	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	14	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	1	Unpaved	1.5	14	2.273	0.227	3.41	0.34	0.02	0.00
Water Truck	1	Paved	16.5	14	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	14	2.273	0.227	3.41	0.34	0.02	0.00
Concrete Truck	1	Paved	58.5	14	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	14	0.003	0.001	0.94	0.23	0.01	0.00
Worker Commute	5	Unpaved	1.5	14	1.102	0.110	8.26	0.83	0.00	0.00
Offsite Total							**19.89**	**2.16**	**0.08**	**0.01**
Total							**19.89**	**2.16**	**0.08**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 84
Alternative Telecommunications Construction Emissions
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	24	333	6.65E-02	1.01E-02	1.59	0.24	0.01	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**1.59**	**0.24**	**0.01**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 3,000 ft. long x 1 ft. wide x 3 ft. deep over 14 days

Table 85
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.08	2.34	0.31	0.00	0.05	0.00	339.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	23.51	2.57	
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**23.56**	**2.57**	**339.0**
Total	**1.60**	**8.89**	**18.02**	**0.04**	**24.09**	**3.06**	**3771.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.18	0.00	0.01	0.00	34.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.3**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.01	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.10**	**0.01**	**3.4**
Total	**0.02**	**0.09**	**0.18**	**0.00**	**0.11**	**0.02**	**37.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 85
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.07	0.18	0.00	0.01	0.00	34.03	0.00	0.00	34.3
Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.03**	**0.00**	**0.00**	**34.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	20	N/A	1.5
Bucket Truck	2	20	N/A	1.5
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 85
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**
Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.35**	**0.00**	**0.00**	**3.39**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.35**	**0.00**	**0.00**	**3.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	20	1.311	0.131	1.97	0.20	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	20	0.003	0.001	0.00	0.00	0.00	0.00
Bucket Truck	2	Unpaved	1.5	20	2.273	0.227	6.82	0.68	0.07	0.01
Bucket Truck	2	Paved	0	20	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	8	Paved	56.5	20	0.003	0.001	1.51	0.37	0.02	0.00
Worker Commute	8	Unpaved	1.5	20	1.102	0.110	13.22	1.32	0.00	0.00
Offsite Total							**23.51**	**2.57**	**0.10**	**0.01**
Total							**23.51**	**2.57**	**0.10**	**0.01**

a From Table 107

Table 85
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Install Cable

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 86
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	165.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	11.29	1.24	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**11.32**	**1.24**	**165.8**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**11.32**	**1.24**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 86
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	4	N/A	1.5
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00	2.27

Table 86
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	1.5	4	1.311	0.131	3.93	0.39	0.01	0.00
Splicing Lab	2	Paved	0	4	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	4	Paved	56.5	4	0.003	0.001	0.75	0.18	0.00	0.00
Worker Commute	4	Unpaved	1.5	4	1.102	0.110	6.61	0.66	0.00	0.00
Offsite Total							**11.29**	**1.24**	**0.01**	**0.00**
Total							**11.29**	**1.24**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 86
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 87
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.99	0.30	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**2.20**	**0.49**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.45	0.01	0.07	0.02	485.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	19.89	2.16	
Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**19.96**	**2.19**	**485.8**
Total	**0.90**	**4.50**	**7.78**	**0.02**	**22.16**	**2.68**	**1871.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.01**	**0.00**	**9.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.07**	**0.01**	**2.6**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.08**	**0.01**	**11.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	13	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 87
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	8.92	0.00	0.00	9.0
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**8.92**	**0.00**	**0.00**	**9.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	13	N/A	1.5
1-Ton Crew Cab Flatbed, 4x4	1	13	N/A	1.5
Water Truck	1	13	N/A	18
Concrete Truck	1	8	N/A	60
Worker Commute	5	13	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 87
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**
Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.42
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.00	0.86
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.31	0.00	0.00	1.33
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.59**	**0.00**	**0.00**	**2.62**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.59**	**0.00**	**0.00**	**2.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	1.5	13	1.102	0.110	1.65	0.17	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	0	13	0.003	0.001	0.00	0.00	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	13	1.311	0.131	1.97	0.20	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	13	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	1	Unpaved	1.5	13	2.273	0.227	3.41	0.34	0.02	0.00
Water Truck	1	Paved	16.5	13	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	8	2.273	0.227	3.41	0.34	0.01	0.00
Concrete Truck	1	Paved	58.5	8	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	13	0.003	0.001	0.94	0.23	0.01	0.00
Worker Commute	5	Unpaved	1.5	13	1.102	0.110	8.26	0.83	0.00	0.00
Offsite Total							**19.89**	**2.16**	**0.07**	**0.01**
Total							**19.89**	**2.16**	**0.07**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 87
Alternative Telecommunications Construction Emissions
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	30	389	6.65E-02	1.01E-02	1.99	0.30	0.01	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**1.99**	**0.30**	**0.01**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 3,500 ft. long x 1 ft. wide x 3 ft. deep over 13 days

Table 88
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.76	3.28	8.86	0.02	0.26	0.24	1,716.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.76**	**3.28**	**8.86**	**0.02**	**0.26**	**0.24**	**1716.4**
Offsite Motor Vehicle Exhaust	0.09	2.40	0.63	0.00	0.06	0.01	414.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	60.19	6.24	
Offsite Total	**0.09**	**2.40**	**0.63**	**0.00**	**60.25**	**6.25**	**414.2**
Total	**0.85**	**5.67**	**9.49**	**0.02**	**60.51**	**6.49**	**2130.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.1**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.07**	**0.01**	**1.2**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.08**	**0.01**	**6.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	6	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4

Table 88
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

Total	**0.76**	**3.28**	**8.86**	**0.02**	**0.26**	**0.24**	**1701.32**	**0.07**	**0.04**	**1716.44**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.10	0.00	0.00	5.1
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.10**	**0.00**	**0.00**	**5.15**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	11
Bucket Truck	2	6	N/A	11
Worker Commute	8	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 88
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.01	0.06	0.36	0.00	0.01	0.01	77.89	0.00	0.00	78.72
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.40**	**0.63**	**0.00**	**0.06**	**0.01**	**409.56**	**0.02**	**0.01**	**414.18**
Total	**0.09**	**2.40**	**0.63**	**0.00**	**0.06**	**0.01**	**409.56**	**0.02**	**0.01**	**414.18**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.24
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.23**	**0.00**	**0.00**	**1.24**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.23**	**0.00**	**0.00**	**1.24**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	6	1.311	0.131	5.24	0.52	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	6	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	6	2.273	0.227	18.18	1.82	0.05	0.01
Bucket Truck	2	Paved	7	6	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	8	Paved	54	6	0.003	0.001	1.44	0.35	0.00	0.00
Worker Commute	8	Unpaved	4	6	1.102	0.110	35.25	3.53	0.00	0.00
Offsite Total							**60.19**	**6.24**	**0.07**	**0.01**
Total							**60.19**	**6.24**	**0.07**	**0.01**

a From Table 107

Table 88
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 89
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install Down Guys

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.38	1.64	4.43	0.01	0.13	0.12	858.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**858.2**
Offsite Motor Vehicle Exhaust	0.09	2.37	0.45	0.00	0.06	0.01	374.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	51.07	5.32	
Offsite Total	**0.09**	**2.37**	**0.45**	**0.00**	**51.13**	**5.33**	**374.8**
Total	**0.47**	**4.00**	**4.88**	**0.01**	**51.26**	**5.45**	**1233.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	3.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**3.4**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.06**	**0.01**	**1.5**
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.06**	**0.01**	**4.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	8	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.38	1.64	4.43	0.01	0.13	0.12	850.66	0.03	0.02	858.2

Table 89
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install Down Guys

Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**850.66**	**0.03**	**0.02**	**858.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.02	0.00	0.00	0.00	3.40	0.00	0.00	3.4
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**3.40**	**0.00**	**0.00**	**3.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	8	N/A	11
Bucket Truck	1	8	N/A	11
Worker Commute	8	8	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 89
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install Down Guys

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.00	0.03	0.18	0.00	0.01	0.00	38.94	0.00	0.00	39.36
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.37**	**0.45**	**0.00**	**0.06**	**0.01**	**370.61**	**0.02**	**0.01**	**374.82**
Total	**0.09**	**2.37**	**0.45**	**0.00**	**0.06**	**0.01**	**370.61**	**0.02**	**0.01**	**374.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.16
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.29	0.00	0.00	1.31
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.48**	**0.00**	**0.00**	**1.50**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.48**	**0.00**	**0.00**	**1.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	8	1.311	0.131	5.24	0.52	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	8	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	1	Unpaved	4	8	2.273	0.227	9.09	0.91	0.04	0.00
Bucket Truck	1	Paved	7	8	0.003	0.001	0.02	0.01	0.00	0.00
Worker Commute	8	Paved	54	8	0.003	0.001	1.44	0.35	0.01	0.00
Worker Commute	8	Unpaved	4	8	1.102	0.110	35.25	3.53	0.00	0.00
Offsite Total							**51.07**	**5.32**	**0.06**	**0.01**
Total							**51.07**	**5.32**	**0.06**	**0.01**

a From Table 107

Table 89
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install Down Guys

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 90
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.23	0.50	0.00	0.04	0.01	250.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	41.84	4.30	
Offsite Total	**0.05**	**1.23**	**0.50**	**0.00**	**41.88**	**4.31**	**250.6**
Total	**1.57**	**7.79**	**18.21**	**0.04**	**42.41**	**4.79**	**3683.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.11	0.31	0.00	0.01	0.01	60.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.11**	**0.31**	**0.00**	**0.01**	**0.01**	**60.1**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	4.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.42	0.04	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.42**	**0.04**	**4.4**
Total	**0.03**	**0.14**	**0.32**	**0.00**	**0.43**	**0.05**	**64.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	35	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 90
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.03	0.11	0.31	0.00	0.01	0.01	59.55	0.00	0.00	60.1
Total	**0.03**	**0.11**	**0.31**	**0.00**	**0.01**	**0.01**	**59.55**	**0.00**	**0.00**	**60.08**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	35	N/A	11
Bucket Truck	2	35	N/A	11
Worker Commute	4	35	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 90
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.01	0.06	0.36	0.00	0.01	0.01	77.89	0.00	0.00	78.72
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.23**	**0.50**	**0.00**	**0.04**	**0.01**	**247.84**	**0.01**	**0.01**	**250.62**
Total	**0.05**	**1.23**	**0.50**	**0.00**	**0.04**	**0.01**	**247.84**	**0.01**	**0.01**	**250.62**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.15
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.36	0.00	0.00	1.38
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.83	0.00	0.00	2.86
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.34**	**0.00**	**0.00**	**4.39**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.34**	**0.00**	**0.00**	**4.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	35	1.311	0.131	5.24	0.52	0.09	0.01
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	35	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	35	2.273	0.227	18.18	1.82	0.32	0.03
Bucket Truck	2	Paved	7	35	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	4	Paved	54	35	0.003	0.001	0.72	0.18	0.01	0.00
Worker Commute	4	Unpaved	4	35	1.102	0.110	17.63	1.76	0.00	0.00
Offsite Total							**41.84**	**4.30**	**0.42**	**0.04**
Total							**41.84**	**4.30**	**0.42**	**0.04**

a From Table 107

Table 90
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Install Cable

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 91
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.15	0.00	0.03	0.00	180.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	28.88	3.00	
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**28.90**	**3.00**	**180.2**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**28.90**	**3.00**	**180.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**	**0.00**	**0.7**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**	**0.00**	**0.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 91
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	8	N/A	11
Worker Commute	4	8	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.02	0.00	0.00	0.00	16.47	0.00	0.00	16.67

Table 91
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**178.19**	**0.01**	**0.01**	**180.23**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**178.19**	**0.01**	**0.01**	**180.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.65
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.71**	**0.00**	**0.00**	**0.72**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.71**	**0.00**	**0.00**	**0.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	8	1.311	0.131	10.48	1.05	0.04	0.00
Splicing Lab	2	Paved	7	8	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	4	Paved	54	8	0.003	0.001	0.72	0.18	0.00	0.00
Worker Commute	4	Unpaved	4	8	1.102	0.110	17.63	1.76	0.00	0.00
Offsite Total							**28.88**	**3.00**	**0.04**	**0.00**
Total							**28.88**	**3.00**	**0.04**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 91
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 92
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.33	0.20	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**1.54**	**0.39**	**1385.3**
Offsite Motor Vehicle Exhaust	0.09	1.69	1.48	0.01	0.08	0.03	500.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	31.64	3.34	
Offsite Total	**0.09**	**1.69**	**1.48**	**0.01**	**31.72**	**3.37**	**500.2**
Total	**0.90**	**4.51**	**7.80**	**0.02**	**33.25**	**3.76**	**1885.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	6.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.01**	**0.00**	**6.2**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	1.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.10**	**0.01**	**1.9**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.11**	**0.01**	**8.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 92
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.01	0.03	0.00	0.00	0.00	6.18	0.00	0.00	6.2
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.18**	**0.00**	**0.00**	**6.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	9	N/A	11
1-Ton Crew Cab Flatbed, 4x4	1	9	N/A	11
Water Truck	1	9	N/A	18
Concrete Truck	1	6	N/A	60
Worker Commute	5	9	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 92
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Offsite Total	**0.09**	**1.69**	**1.48**	**0.01**	**0.08**	**0.03**	**494.76**	**0.01**	**0.02**	**500.21**
Total	**0.09**	**1.69**	**1.48**	**0.01**	**0.08**	**0.03**	**494.76**	**0.01**	**0.02**	**500.21**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.29
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.92
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**1.91**	**0.00**	**0.00**	**1.93**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**1.91**	**0.00**	**0.00**	**1.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	9	1.102	0.110	4.41	0.44	0.02	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	7	9	0.003	0.001	0.02	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	9	1.311	0.131	5.24	0.52	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	9	0.003	0.001	0.02	0.01	0.00	0.00
Water Truck	1	Unpaved	4	9	2.273	0.227	9.09	0.91	0.04	0.00
Water Truck	1	Paved	14	9	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	6	2.273	0.227	3.41	0.34	0.01	0.00
Concrete Truck	1	Paved	58.5	6	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	9	0.003	0.001	0.94	0.23	0.00	0.00
Worker Commute	5	Unpaved	1.5	9	1.102	0.110	8.26	0.83	0.00	0.00
Offsite Total							**31.64**	**3.34**	**0.10**	**0.01**
Total							**31.64**	**3.34**	**0.10**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 92
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	20	178	6.65E-02	1.01E-02	1.33	0.20	0.01	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**1.33**	**0.20**	**0.01**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,600 ft. long x 1 ft. wide x 3 ft. deep over 9 days

Table 93
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.08	2.10	0.55	0.00	0.05	0.01	367.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	32.55	3.46	
Offsite Total	**0.08**	**2.10**	**0.55**	**0.00**	**32.61**	**3.47**	**367.3**
Total	**0.08**	**2.10**	**0.55**	**0.00**	**32.61**	**3.47**	**367.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.07**	**0.01**	**1.3**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.07**	**0.01**	**1.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 93
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Restoration

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	2	7	N/A	11
Water Truck	1	7	N/A	18
Worker Commute	7	7	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 93
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Restoration

Offsite										
1-Ton Crew Cab, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	16.47	0.00	0.00	16.67
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Worker Commute	0.07	2.04	0.22	0.00	0.04	0.00	283.01	0.02	0.01	286.24
Offsite Total	**0.08**	**2.10**	**0.55**	**0.00**	**0.05**	**0.01**	**363.20**	**0.02**	**0.01**	**367.31**
Total	**0.08**	**2.10**	**0.55**	**0.00**	**0.05**	**0.01**	**363.20**	**0.02**	**0.01**	**367.31**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.23
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.27**	**0.00**	**0.00**	**1.29**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.27**	**0.00**	**0.00**	**1.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	2	Unpaved	4	7	1.311	0.131	10.48	1.05	0.04	0.00
1-Ton Crew Cab, 4x4	2	Paved	7	7	0.003	0.001	0.05	0.01	0.00	0.00
Water Truck	1	Unpaved	4	7	2.273	0.227	9.09	0.91	0.03	0.00
Water Truck	1	Paved	14	7	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	7	Paved	56.5	7	0.003	0.001	1.32	0.32	0.00	0.00
Worker Commute	7	Unpaved	1.5	7	1.102	0.110	11.57	1.16	0.00	0.00
Offsite Total							**32.55**	**3.46**	**0.07**	**0.01**
Total							**32.55**	**3.46**	**0.07**	**0.01**

a From Table 107

Table 93
Alternative Telecommunications Construction Emissions
Apple Valley to Desert View Substation - Restoration

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 94
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.11	2.51	1.25	0.01	0.08	0.02	556.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.83	0.45	
Offsite Total	**0.11**	**2.51**	**1.25**	**0.01**	**1.92**	**0.47**	**556.6**
Total	**1.63**	**9.06**	**18.96**	**0.04**	**2.44**	**0.96**	**3989.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.18	0.00	0.01	0.00	34.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.3**
Offsite Motor Vehicle Exhaust	0.00	0.03	0.01	0.00	0.00	0.00	5.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.02**	**0.00**	**5.6**
Total	**0.02**	**0.09**	**0.19**	**0.00**	**0.02**	**0.01**	**39.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 94
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.07	0.18	0.00	0.01	0.00	34.03	0.00	0.00	34.3
Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.03**	**0.00**	**0.00**	**34.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	20	N/A	29
Bucket Truck	2	20	N/A	29
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 94
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.11**	**2.51**	**1.25**	**0.01**	**0.08**	**0.02**	**550.49**	**0.02**	**0.02**	**556.63**
Total	**0.11**	**2.51**	**1.25**	**0.01**	**0.08**	**0.02**	**550.49**	**0.02**	**0.02**	**556.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.22
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.05	0.00	0.00	2.08
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.50**	**0.00**	**0.00**	**5.57**
Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.50**	**0.00**	**0.00**	**5.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	20	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	2	Paved	29	20	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	8	Paved	58	20	0.003	0.001	1.54	0.38	0.02	0.00
Offsite Total							**1.83**	**0.45**	**0.02**	**0.00**
Total							**1.83**	**0.45**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 94
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 95
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.40	14.50	31.28	0.07	0.98	0.91	7,395.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.40**	**14.50**	**31.28**	**0.07**	**0.98**	**0.91**	**7395.8**
Offsite Motor Vehicle Exhaust	0.14	2.69	2.27	0.01	0.12	0.04	808.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.22	0.55	
Offsite Total	**0.14**	**2.69**	**2.27**	**0.01**	**2.34**	**0.59**	**808.1**
Total	**3.54**	**17.19**	**33.55**	**0.08**	**3.33**	**1.49**	**8203.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.16	0.00	0.00	0.00	37.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.16**	**0.00**	**0.00**	**0.00**	**37.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	4.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**4.0**
Total	**0.02**	**0.09**	**0.17**	**0.00**	**0.02**	**0.01**	**41.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30-Ton Crane	300	1	10	8
Bucket Truck	300	2	10	8
60' Digger Derrick	300	1	10	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30-Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
60' Digger Derrick	300	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Table 95
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30-Ton Crane	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
60' Digger Derrick	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Total	**3.40**	**14.50**	**31.28**	**0.07**	**0.98**	**0.91**	**7330.39**	**0.31**	**0.19**	**7395.78**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30-Ton Crane	0.01	0.02	0.04	0.00	0.00	0.00	7.20	0.00	0.00	7.3
Bucket Truck	0.01	0.03	0.09	0.00	0.00	0.00	17.01	0.00	0.00	17.2
60' Digger Derrick	0.00	0.02	0.02	0.00	0.00	0.00	12.44	0.00	0.00	12.5
Total	**0.02**	**0.07**	**0.16**	**0.00**	**0.00**	**0.00**	**36.65**	**0.00**	**0.00**	**36.98**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	2	10	N/A	29
1-Ton Crew Cab Flatbed, 4x4	1	10	N/A	29
Bucket Truck	2	10	N/A	29
Flat Bed Truck w/Derrick	1	10	N/A	29
40-Foot Flat Bed Truck/Trailer	1	10	N/A	29
Worker Commute	8	10	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										

Table 95
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
40-Foot Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Flat Bed Truck w/Derrick	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
40-Foot Flat Bed Truck/Trailer	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.14**	**2.69**	**2.27**	**0.01**	**0.12**	**0.04**	**799.25**	**0.02**	**0.03**	**808.11**
Total	**0.14**	**2.69**	**2.27**	**0.01**	**0.12**	**0.04**	**799.25**	**0.02**	**0.03**	**808.11**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.22
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	1.04
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.52
40-Foot Flat Bed Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.52
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.62	0.00	0.00	1.64
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.00**	**0.00**	**0.00**	**4.04**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.00**	**0.00**	**0.00**	**4.04**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 95
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	29	10	0.003	0.001	0.19	0.05	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	2	Paved	29	10	0.003	0.001	0.19	0.05	0.00	0.00
Flat Bed Truck w/Derrick	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
40-Foot Flat Bed Truck/Trailer	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	10	0.003	0.001	1.54	0.38	0.01	0.00
Offsite Total							**2.22**	**0.55**	**0.01**	**0.00**
Total							**2.22**	**0.55**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 96
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.38	1.64	4.43	0.01	0.13	0.12	858.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**858.2**
Offsite Motor Vehicle Exhaust	0.10	2.42	0.77	0.01	0.07	0.01	452.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.74	0.43	
Offsite Total	**0.10**	**2.42**	**0.77**	**0.01**	**1.81**	**0.44**	**452.9**
Total	**0.47**	**4.06**	**5.19**	**0.01**	**1.94**	**0.56**	**1311.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	2.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**1.4**
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**3.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	6	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.38	1.64	4.43	0.01	0.13	0.12	850.66	0.03	0.02	858.2

Table 96
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**850.66**	**0.03**	**0.02**	**858.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.55	0.00	0.00	2.6
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	29
Bucket Truck	1	6	N/A	29
Worker Commute	8	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 96
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.10**	**2.42**	**0.77**	**0.01**	**0.07**	**0.01**	**447.82**	**0.02**	**0.01**	**452.87**
Total	**0.10**	**2.42**	**0.77**	**0.01**	**0.07**	**0.01**	**447.82**	**0.02**	**0.01**	**452.87**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.31
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.34**	**0.00**	**0.00**	**1.36**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.34**	**0.00**	**0.00**	**1.36**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	6	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	1	Paved	29	6	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	6	0.003	0.001	1.54	0.38	0.00	0.00
Offsite Total							**1.74**	**0.43**	**0.01**	**0.00**
Total							**1.74**	**0.43**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 96
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 97
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.11	2.52	1.28	0.01	0.09	0.02	578.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.93	0.47	
Offsite Total	**0.11**	**2.52**	**1.28**	**0.01**	**2.02**	**0.50**	**578.6**
Total	**1.63**	**9.07**	**18.99**	**0.04**	**2.55**	**0.98**	**4011.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.06	0.16	0.00	0.00	0.00	30.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.06**	**0.16**	**0.00**	**0.00**	**0.00**	**30.9**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.02**	**0.00**	**5.2**
Total	**0.01**	**0.08**	**0.17**	**0.00**	**0.02**	**0.01**	**36.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	18	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 97
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.01	0.06	0.16	0.00	0.00	0.00	30.62	0.00	0.00	30.9
Total	**0.01**	**0.06**	**0.16**	**0.00**	**0.00**	**0.00**	**30.62**	**0.00**	**0.00**	**30.90**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	2	18	N/A	29
Bucket Truck	2	18	N/A	29
Worker Commute	8	18	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 97
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install Cable

Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.11**	**2.52**	**1.28**	**0.01**	**0.09**	**0.02**	**572.20**	**0.02**	**0.02**	**578.60**
Total	**0.11**	**2.52**	**1.28**	**0.01**	**0.09**	**0.02**	**572.20**	**0.02**	**0.02**	**578.60**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.40
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.85	0.00	0.00	1.87
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.91	0.00	0.00	2.94
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.15**	**0.00**	**0.00**	**5.21**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.15**	**0.00**	**0.00**	**5.21**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	29	18	0.003	0.001	0.19	0.05	0.00	0.00
Bucket Truck	2	Paved	29	18	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	8	Paved	58	18	0.003	0.001	1.54	0.38	0.01	0.00
Offsite Total							**1.93**	**0.47**	**0.02**	**0.00**
Total							**1.93**	**0.47**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 97
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Install Cable

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 98
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.19	0.19	0.00	0.03	0.00	207.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.97	0.24	
Offsite Total	**0.04**	**1.19**	**0.19**	**0.00**	**1.00**	**0.24**	**207.5**
Total	**0.04**	**1.19**	**0.19**	**0.00**	**1.00**	**0.24**	**207.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.5**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 98
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	34	N/A	29
Worker Commute	4	34	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95

Table 98
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.19**	**0.19**	**0.00**	**0.03**	**0.00**	**205.15**	**0.01**	**0.01**	**207.51**
Total	**0.04**	**1.19**	**0.19**	**0.00**	**0.03**	**0.00**	**205.15**	**0.01**	**0.01**	**207.51**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.75	0.00	0.00	2.78
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.49**	**0.00**	**0.00**	**3.53**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.49**	**0.00**	**0.00**	**3.53**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Paved	29	34	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	4	Paved	58	34	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**0.97**	**0.24**	**0.02**	**0.00**
Total							**0.97**	**0.24**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 98
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 99
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.33	0.20	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**1.54**	**0.39**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.64	1.18	0.00	0.07	0.02	455.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.35	0.33	
Offsite Total	**0.08**	**1.64**	**1.18**	**0.00**	**1.42**	**0.35**	**455.9**
Total	**0.90**	**4.47**	**7.51**	**0.02**	**2.96**	**0.75**	**1841.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.04	0.08	0.00	0.00	0.00	17.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.01**	**0.00**	**17.3**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.02**	**0.00**	**5.2**
Total	**0.01**	**0.06**	**0.09**	**0.00**	**0.03**	**0.01**	**22.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	25	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 99
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.04	0.08	0.00	0.00	0.00	17.16	0.00	0.00	17.3
Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.00**	**0.00**	**17.16**	**0.00**	**0.00**	**17.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	25	N/A	29
1-Ton Crew Cab Flatbed, 4x4	1	25	N/A	29
Water Truck	1	25	N/A	29
Concrete Truck	1	16	N/A	29
Worker Commute	5	25	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Water Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Concrete Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 99
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Offsite Total	**0.08**	**1.64**	**1.18**	**0.00**	**0.07**	**0.02**	**450.91**	**0.01**	**0.02**	**455.93**
Total	**0.08**	**1.64**	**1.18**	**0.00**	**0.07**	**0.02**	**450.91**	**0.01**	**0.02**	**455.93**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.28	0.00	0.00	1.30
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.83
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.53	0.00	0.00	2.56
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.17**	**0.00**	**0.00**	**5.23**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.17**	**0.00**	**0.00**	**5.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
Concrete Truck	1	Paved	29	16	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	5	Paved	58	25	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**1.35**	**0.33**	**0.02**	**0.00**
Total							**1.35**	**0.33**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 99
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Soil Handling[d]	CY	20	178	6.65E-02	1.01E-02	1.33	0.20	0.01	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**1.33**	**0.20**	**0.01**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,600 ft. long x 1 ft. wide x 3 ft. deep over 9 days

Table 100
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.09	2.14	0.77	0.00	0.07	0.01	433.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.64	0.40	
Offsite Total	**0.09**	**2.14**	**0.77**	**0.00**	**1.71**	**0.42**	**433.9**
Total	**0.09**	**2.14**	**0.77**	**0.00**	**1.71**	**0.42**	**433.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	3.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**3.7**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**3.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 100
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Restoration

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	2	17	N/A	29
Water Truck	1	17	N/A	29
Worker Commute	7	17	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 100
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Restoration

Offsite										
1-Ton Crew Cab, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
Water Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.07	2.04	0.22	0.00	0.04	0.00	283.01	0.02	0.01	286.24
Offsite Total	**0.09**	**2.14**	**0.77**	**0.00**	**0.07**	**0.01**	**429.11**	**0.02**	**0.01**	**433.95**
Total	**0.09**	**2.14**	**0.77**	**0.00**	**0.07**	**0.01**	**429.11**	**0.02**	**0.01**	**433.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.37
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.88
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.41	0.00	0.00	2.43
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.65**	**0.00**	**0.00**	**3.69**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.65**	**0.00**	**0.00**	**3.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	2	Paved	29	17	0.003	0.001	0.19	0.05	0.00	0.00
Water Truck	1	Paved	29	17	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	7	Paved	58	17	0.003	0.001	1.35	0.33	0.01	0.00
Offsite Total							**1.64**	**0.40**	**0.01**	**0.00**
Total							**1.64**	**0.40**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 100
Alternative Telecommunications Construction Emissions
Gale to Pisgah Fiber Optic Cable - Restoration

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 101
Alternative Telecommunications Construction Emissions
Construct Coolwater Microwave Tower

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.79	14.31	27.06	0.08	0.94	0.86	7,144.5
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.79**	**14.32**	**27.10**	**0.08**	**0.95**	**0.87**	**7152.8**
Offsite Motor Vehicle Exhaust	0.07	1.34	1.12	0.00	0.06	0.02	378.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.97	0.24	
Offsite Total	**0.07**	**1.34**	**1.12**	**0.00**	**1.03**	**0.26**	**378.2**
Total	**3.86**	**15.65**	**28.22**	**0.08**	**1.98**	**1.12**	**7531.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.05	0.09	0.00	0.00	0.00	23.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.05**	**0.09**	**0.00**	**0.00**	**0.00**	**23.5**
Offsite Motor Vehicle Exhaust	0.00	0.03	0.00	0.00	0.00	0.00	4.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.02**	**0.00**	**4.3**
Total	**0.01**	**0.08**	**0.09**	**0.00**	**0.02**	**0.01**	**27.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Crane	300	1	8	6
Drill Rig	350	1	7	6
Concrete Pump	350	1	2	6
Forklift	300	1	10	4
Backhoe/Front Loader	300	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Drill Rig	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Concrete Pump	350	0.157	0.667	1.801	0.003	0.054	0.050	344.895	0.014	0.009	Pumps
Forklift	300	0.069	0.215	0.451	0.001	0.016	0.015	110.880	0.006	0.003	Forklifts
Backhoe/Front Loader	300	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 101
Alternative Telecommunications Construction Emissions
Construct Coolwater Microwave Tower

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Drill Rig	0.62	3.30	3.75	0.02	0.11	0.10	1866.17	0.06	0.05	1,882.3
Concrete Pump	1.19	4.17	8.44	0.02	0.30	0.27	2067.26	0.11	0.05	2,086.1
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Backhoe/Front Loader	1.19	4.17	8.44	0.02	0.30	0.27	2067.26	0.11	0.05	2,086.1
Total	**3.79**	**14.31**	**27.06**	**0.08**	**0.94**	**0.86**	**7080.34**	**0.34**	**0.18**	**7144.48**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Crane	0.00	0.01	0.03	0.00	0.00	0.00	4.32	0.00	0.00	4.4
Drill Rig	0.00	0.01	0.01	0.00	0.00	0.00	6.53	0.00	0.00	6.6
Concrete Pump	0.00	0.00	0.01	0.00	0.00	0.00	2.07	0.00	0.00	2.1
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	10.34	0.00	0.00	10.4
Total	**0.01**	**0.05**	**0.09**	**0.00**	**0.00**	**0.00**	**23.25**	**0.00**	**0.00**	**23.46**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
3/4-Ton Pick-up Truck, 4x4	2	40	N/A	0.5
Flatbed Truck	2	7	N/A	0.5
Dump Truck	1	7	N/A	0.5
2 Ton Truck	1	15	N/A	0.5
Concrete Truck	1	2	N/A	0.5
Offsite				
Concrete Truck	1	2	N/A	60
Worker Commute	4	50	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
2 Ton Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 101
Alternative Telecommunications Construction Emissions
Construct Coolwater Microwave Tower

Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Flatbed Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
2 Ton Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.20**	**0.00**	**0.00**	**8.29**
Offsite										
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.07**	**1.34**	**1.12**	**0.00**	**0.06**	**0.02**	**374.13**	**0.01**	**0.01**	**378.25**
Total	**0.07**	**1.34**	**1.16**	**0.00**	**0.06**	**0.02**	**382.34**	**0.01**	**0.01**	**386.54**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Flatbed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
2 Ton Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.04**
Offsite										
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	4.04	0.00	0.00	4.09
Offsite Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**4.26**	**0.00**	**0.00**	**4.30**
Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**4.29**	**0.00**	**0.00**	**4.34**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]

Table 101
Alternative Telecommunications Construction Emissions
Construct Coolwater Microwave Tower

Onsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Flatbed Truck	2	Paved	0.5	7	0.003	0.001	0.00	0.00	0.00	0.00
Dump Truck	1	Paved	0.5	7	0.003	0.001	0.00	0.00	0.00	0.00
2 Ton Truck	1	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	2	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Concrete Truck	1	Paved	60	2	0.003	0.001	0.20	0.05	0.00	0.00
Worker Commute	4	Paved	58	50	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.97**	**0.24**	**0.02**	**0.00**
Total							**0.98**	**0.24**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 102
Distribution for Station Light & Power Construction Emissions
Overhead Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.58	7.68	13.85	0.04	0.41	0.38	4,226.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.58**	**7.68**	**13.85**	**0.04**	**0.41**	**0.38**	**4226.2**
Offsite Motor Vehicle Exhaust	0.05	1.46	0.19	0.00	0.03	0.00	211.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.60	1.60	
Offsite Total	**0.05**	**1.46**	**0.19**	**0.00**	**14.63**	**1.60**	**211.0**
Total	**1.64**	**9.14**	**14.04**	**0.04**	**15.05**	**1.98**	**4437.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.02	0.04	0.00	0.00	0.00	12.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**12.7**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.6**
Total	**0.00**	**0.03**	**0.04**	**0.00**	**0.05**	**0.01**	**13.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	6	8
60 ' Digger Derrick	350	1	6	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
60 ' Digger Derrick	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4
60 ' Digger Derrick	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Total	**1.58**	**7.68**	**13.85**	**0.04**	**0.41**	**0.38**	**4189.55**	**0.14**	**0.11**	**4226.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Table 102
Distribution for Station Light & Power Construction Emissions
Overhead Construction

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.10	0.00	0.00	5.1
60 ' Digger Derrick	0.00	0.01	0.01	0.00	0.00	0.00	7.46	0.00	0.00	7.5
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**12.57**	**0.00**	**0.00**	**12.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	1.5
Flat Bed Truck w/Derrick	1	6	N/A	1.5
Worker Commute	5	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Flat Bed Truck w/Derrick	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45
Offsite Total	**0.05**	**1.46**	**0.19**	**0.00**	**0.03**	**0.00**	**208.58**	**0.01**	**0.01**	**210.96**
Total	**0.05**	**1.46**	**0.19**	**0.00**	**0.03**	**0.00**	**208.58**	**0.01**	**0.01**	**210.96**

Table 102
Distribution for Station Light & Power Construction Emissions
Overhead Construction

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.63**	**0.00**	**0.00**	**0.63**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.63**	**0.00**	**0.00**	**0.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	6	1.311	0.131	1.97	0.20	0.01	0.00
Flat Bed Truck w/Derrick	1	Unpaved	1.5	6	2.273	0.227	3.41	0.34	0.01	0.00
Worker Commute	5	Unpaved	1.5	6	1.102	0.110	8.26	0.83	0.02	0.00
Worker Commute	5	Paved	58	6	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**14.60**	**1.60**	**0.04**	**0.00**
Total							**14.60**	**1.60**	**0.04**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

Table 102
Distribution for Station Light & Power Construction Emissions
Overhead Construction

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]
[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 103
Distribution for Station Light & Power Construction Emissions
Underground Civil Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.58	9.46	19.58	0.05	0.68	0.62	4,831.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.58**	**9.46**	**19.58**	**0.05**	**0.68**	**0.62**	**4831.8**
Offsite Motor Vehicle Exhaust	0.10	1.80	2.15	0.01	0.10	0.04	635.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	18.40	2.04	
Offsite Total	**0.10**	**1.80**	**2.15**	**0.01**	**18.50**	**2.07**	**635.0**
Total	**2.68**	**11.26**	**21.73**	**0.06**	**19.17**	**2.70**	**5466.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	10.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**10.4**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.05**	**0.01**	**1.5**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.05**	**0.01**	**11.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	300	1	6	8
Hydraulic Rewind Puller	300	1	2	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	300	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Hydraulic Rewind Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	1.59	5.57	11.26	0.03	0.40	0.36	2756.35	0.14	0.07	2,781.5
Hydraulic Rewind Puller	0.99	3.89	8.32	0.02	0.28	0.26	2032.08	0.09	0.05	2,050.3
Total	**2.58**	**9.46**	**19.58**	**0.05**	**0.68**	**0.62**	**4788.43**	**0.23**	**0.12**	**4831.83**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Table 103
Distribution for Station Light & Power Construction Emissions
Underground Civil Construction

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.02	0.03	0.00	0.00	0.00	8.27	0.00	0.00	8.3
Hydraulic Rewind Puller	0.00	0.00	0.01	0.00	0.00	0.00	2.03	0.00	0.00	2.1
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**10.30**	**0.00**	**0.00**	**10.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	1	6	N/A	1.5
Concrete Truck	1	6	N/A	60
Structure Delivery Truck	1	2	N/A	60
Worker Commute	5	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Structure Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Structure Delivery Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68

Table 103
Distribution for Station Light & Power Construction Emissions
Underground Civil Construction

Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45
Offsite Total	**0.10**	**1.80**	**2.15**	**0.01**	**0.10**	**0.04**	**628.10**	**0.01**	**0.02**	**634.96**
Total	**0.10**	**1.80**	**2.15**	**0.01**	**0.10**	**0.04**	**628.10**	**0.01**	**0.02**	**634.96**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Structure Delivery Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**0.00**	**0.00**	**1.48**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**0.00**	**0.00**	**1.48**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	1	Unpaved	1.5	6	1.311	0.131	1.97	0.20	0.01	0.00
Concrete Truck	1	Unpaved	1.5	6	2.273	0.227	3.41	0.34	0.01	0.00
Concrete Truck	1	Paved	58.5	6	0.003	0.001	0.19	0.05	0.00	0.00
Structure Delivery Truck	1	Unpaved	1.5	2	2.273	0.227	3.41	0.34	0.00	0.00
Structure Delivery Truck	1	Paved	58.5	2	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Unpaved	1.5	6	1.102	0.110	8.26	0.83	0.02	0.00
Worker Commute	5	Paved	58	6	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**18.40**	**2.04**	**0.05**	**0.01**
Total							**18.40**	**2.04**	**0.05**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 103
Distribution for Station Light & Power Construction Emissions
Underground Civil Construction

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 104
Distribution for Station Light & Power Construction Emissions
Underground Electrical Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.12	7.08	17.14	0.03	0.62	0.57	2,906.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.12**	**7.08**	**17.14**	**0.03**	**0.62**	**0.57**	**2906.2**
Offsite Motor Vehicle Exhaust	0.05	1.47	0.21	0.00	0.03	0.00	216.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	18.01	1.94	
Offsite Total	**0.05**	**1.47**	**0.21**	**0.00**	**18.05**	**1.94**	**216.3**
Total	**2.17**	**8.55**	**17.35**	**0.03**	**18.66**	**2.51**	**3122.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	7.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**7.3**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.4**
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.04**	**0.01**	**7.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	4	8
Flat Bed Truck w/Derrick	350	1	6	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Flat Bed Truck w/Derrick	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 104
Distribution for Station Light & Power Construction Emissions
Underground Electrical Construction

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Flat Bed Truck w/Derrick	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**2.12**	**7.08**	**17.14**	**0.03**	**0.62**	**0.57**	**2879.03**	**0.19**	**0.07**	**2906.24**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.02	0.00	0.00	0.00	2.88	0.00	0.00	2.9
Flat Bed Truck w/Derrick	0.00	0.01	0.03	0.00	0.00	0.00	4.32	0.00	0.00	4.4
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**7.20**	**0.00**	**0.00**	**7.27**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	1	4	N/A	1.5
Bucket Truck	1	4	N/A	1.5
Flat Bed Truck w/Derrick	1	4	N/A	1.5
Worker Commute	5	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Table 104
Distribution for Station Light & Power Construction Emissions
Underground Electrical Construction

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Flat Bed Truck w/Derrick	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45
Offsite Total	**0.05**	**1.47**	**0.21**	**0.00**	**0.03**	**0.00**	**213.89**	**0.01**	**0.01**	**216.32**
Total	**0.05**	**1.47**	**0.21**	**0.00**	**0.03**	**0.00**	**213.89**	**0.01**	**0.01**	**216.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.41
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.43**	**0.00**	**0.00**	**0.43**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.43**	**0.00**	**0.00**	**0.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 104
Distribution for Station Light & Power Construction Emissions
Underground Electrical Construction

1-Ton Crew Cab, 4x4	1	Unpaved	1.5	4	1.311	0.131	1.97	0.20	0.00	0.00
Bucket Truck	1	Unpaved	1.5	4	2.273	0.227	3.41	0.34	0.01	0.00
Flat Bed Truck w/Derrick	1	Unpaved	1.5	4	2.273	0.227	3.41	0.34	0.01	0.00
Worker Commute	5	Unpaved	1.5	4	1.102	0.110	8.26	0.83	0.02	0.00
Worker Commute	5	Paved	58	4	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**18.01**	**1.94**	**0.04**	**0.00**
Total							**18.01**	**1.94**	**0.04**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			6.65E-02	1.01E-02	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			114.985	38.089	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 105

Motor Vehicle Travel Distances

Estimate of Unpaved Travel Distance for Transmission Line Segments

72.4	Total Mileage of Transmission Line
4	Number of Major Segments
18	Average Length of Major Segments
9	One-Way Distance to Middle of Segment

Estimate of One-Way Paved Travel from Staging Yard to Transmission Line Unpaved Travel Segment

5	Estimate of One-Way Paved Travel from Staging Yard to Transmission Line Unpaved Travel Segment

Estimate of Paved Travel Distance for workers

29.5	Distance from Hesperia to North Side Road and Rt. 247
28	Distance from Barstow to North Side Road and Rt. 247
29	Average Distance for worker travel (one way)

Estimate of On-Site Travel Distance for Substation Construction

4	10 lengthwise passes (approx 2000 ft each)

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
Aerial Lifts	15	0.0101	0.0528	0.0630	0.0001	0.0025	0.0023	8.6	0.0009	0.0002	0.39
	25	0.0150	0.0479	0.0887	0.0001	0.0043	0.0040	11.0	0.0014	0.0003	0.50
	50	0.0433	0.1594	0.1635	0.0003	0.0117	0.0107	19.6	0.0039	0.0005	0.90
	120	0.0416	0.2355	0.3027	0.0004	0.0220	0.0202	38.0	0.0037	0.0010	1.74
	500	0.0949	0.4096	1.1069	0.0021	0.0329	0.0303	212.7	0.0086	0.0055	9.62
	750	0.1769	0.7405	2.0785	0.0039	0.0608	0.0559	384.4	0.0160	0.0100	17.39
Air Compressors	15	0.0104	0.0461	0.0643	0.0001	0.0037	0.0034	7.2	0.0009	0.0002	0.33
	25	0.0219	0.0665	0.1225	0.0002	0.0066	0.0060	14.4	0.0020	0.0004	0.66
	50	0.0674	0.2287	0.1980	0.0003	0.0166	0.0153	22.3	0.0061	0.0006	1.03
	120	0.0630	0.3150	0.4008	0.0006	0.0336	0.0309	46.9	0.0057	0.0012	2.15
	175	0.0829	0.5003	0.6409	0.0010	0.0347	0.0320	88.4	0.0075	0.0023	4.03
	250	0.0839	0.2740	0.8339	0.0015	0.0256	0.0236	131.1	0.0076	0.0034	5.94
	500	0.1387	0.4733	1.2758	0.0023	0.0421	0.0387	231.5	0.0125	0.0060	10.48
	750	0.2164	0.7314	2.0513	0.0036	0.0667	0.0613	357.8	0.0195	0.0093	16.20
	1000	0.3318	1.1180	4.1931	0.0049	0.1138	0.1047	485.9	0.0299	0.0126	22.02
Bore/Drill Rigs	15	0.0120	0.0631	0.0753	0.0002	0.0029	0.0027	10.3	0.0011	0.0003	0.47
	25	0.0193	0.0658	0.1218	0.0002	0.0046	0.0042	16.0	0.0017	0.0004	0.73
	50	0.0220	0.2221	0.2104	0.0004	0.0058	0.0053	31.0	0.0020	0.0008	1.42
	120	0.0349	0.4666	0.3305	0.0009	0.0125	0.0115	77.1	0.0031	0.0020	3.51
	175	0.0565	0.7533	0.4371	0.0016	0.0156	0.0143	140.9	0.0051	0.0037	6.41
	250	0.0627	0.3422	0.3883	0.0021	0.0113	0.0104	187.9	0.0057	0.0049	8.50
	500	0.1032	0.5506	0.6246	0.0031	0.0186	0.0171	311.0	0.0093	0.0081	14.06
	750	0.2042	1.0879	1.2417	0.0062	0.0369	0.0339	614.5	0.0184	0.0159	27.78
	1000	0.3269	1.6468	4.6436	0.0093	0.1010	0.0929	927.4	0.0295	0.0240	41.94
Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0019	0.0017	6.3	0.0007	0.0002	0.29
	25	0.0243	0.0771	0.1431	0.0002	0.0070	0.0065	17.5	0.0022	0.0005	0.80
Concrete/Industrial Saws	25	0.0199	0.0678	0.1255	0.0002	0.0047	0.0043	16.5	0.0018	0.0004	0.75
	50	0.0702	0.2670	0.2559	0.0004	0.0186	0.0171	30.2	0.0063	0.0008	1.39
	120	0.0807	0.4720	0.5776	0.0009	0.0435	0.0400	74.1	0.0073	0.0019	3.38
	175	0.1224	0.8659	1.0439	0.0018	0.0524	0.0482	160.1	0.0110	0.0042	7.29
Cranes	50	0.0777	0.2653	0.2157	0.0003	0.0184	0.0170	23.2	0.0070	0.0006	1.08
	120	0.0743	0.3530	0.4471	0.0006	0.0377	0.0347	50.1	0.0067	0.0013	2.29
	175	0.0861	0.4779	0.6091	0.0009	0.0345	0.0318	80.3	0.0078	0.0021	3.66
	250	0.0875	0.2631	0.7524	0.0013	0.0259	0.0238	112.1	0.0079	0.0029	5.08
	500	0.1324	0.4428	1.0711	0.0018	0.0387	0.0356	179.9	0.0119	0.0047	8.16
	750	0.2240	0.7451	1.8538	0.0030	0.0661	0.0608	302.8	0.0202	0.0079	13.73
	9999	0.8238	2.7044	8.7440	0.0098	0.2551	0.2347	969.7	0.0743	0.0252	44.01
Crawler Tractors	50	0.0943	0.3011	0.2384	0.0003	0.0214	0.0197	24.9	0.0085	0.0007	1.16
	120	0.1072	0.4734	0.6371	0.0008	0.0532	0.0489	65.8	0.0097	0.0017	3.01
	175	0.1425	0.7354	1.0083	0.0014	0.0566	0.0521	121.1	0.0129	0.0032	5.53
	250	0.1494	0.4449	1.2413	0.0019	0.0468	0.0430	166.0	0.0135	0.0043	7.53
	500	0.2181	0.7898	1.7418	0.0025	0.0668	0.0615	259.0	0.0197	0.0067	11.76
	750	0.3925	1.4158	3.1882	0.0047	0.1211	0.1114	464.3	0.0354	0.0121	21.08
	1000	0.5965	2.2357	6.3162	0.0066	0.1927	0.1773	657.5	0.0538	0.0171	29.87
Crushing/Proc. Equipment	50	0.1232	0.4488	0.3873	0.0006	0.0309	0.0284	44.0	0.0111	0.0012	2.03

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	120	0.1052	0.5588	0.6766	0.0010	0.0554	0.0510	83.1	0.0095	0.0022	3.80
	175	0.1510	0.9530	1.1412	0.0019	0.0619	0.0570	167.1	0.0136	0.0044	7.62
	250	0.1551	0.5067	1.4525	0.0027	0.0453	0.0417	244.3	0.0140	0.0063	11.07
	500	0.2238	0.7534	1.9232	0.0037	0.0647	0.0595	373.3	0.0202	0.0097	16.90
	750	0.3515	1.1810	3.1224	0.0059	0.1027	0.0945	588.3	0.0317	0.0153	26.64
	9999	0.9136	2.9321	10.8003	0.0131	0.2933	0.2699	1306.6	0.0824	0.0339	59.21
Dumpers/Tenders	25	0.0093	0.0314	0.0587	0.0001	0.0024	0.0022	7.6	0.0008	0.0002	0.35
Excavators	25	0.0198	0.0676	0.1252	0.0002	0.0047	0.0043	16.4	0.0018	0.0004	0.75
	50	0.0580	0.2619	0.2164	0.0003	0.0147	0.0135	25.0	0.0052	0.0007	1.15
	120	0.0832	0.5065	0.5286	0.0009	0.0394	0.0363	73.6	0.0075	0.0019	3.36
	175	0.0971	0.6642	0.6554	0.0013	0.0354	0.0326	112.1	0.0088	0.0029	5.11
	250	0.1053	0.3386	0.7851	0.0018	0.0262	0.0241	158.5	0.0095	0.0041	7.18
	500	0.1494	0.4846	1.0223	0.0023	0.0366	0.0336	233.5	0.0135	0.0061	10.58
	750	0.2488	0.8033	1.7451	0.0039	0.0616	0.0567	387.1	0.0225	0.0100	17.53
Forklifts	50	0.0284	0.1484	0.1270	0.0002	0.0079	0.0073	14.7	0.0026	0.0004	0.68
	120	0.0312	0.2129	0.2110	0.0004	0.0148	0.0137	31.2	0.0028	0.0008	1.43
	175	0.0452	0.3313	0.3042	0.0006	0.0165	0.0152	56.0	0.0041	0.0015	2.55
	250	0.0489	0.1569	0.3511	0.0009	0.0116	0.0107	77.1	0.0044	0.0020	3.49
	500	0.0687	0.2146	0.4506	0.0011	0.0163	0.0150	110.9	0.0062	0.0029	5.02
Generator Sets	15	0.0130	0.0651	0.0900	0.0002	0.0048	0.0044	10.2	0.0012	0.0003	0.47
	25	0.0241	0.0811	0.1495	0.0002	0.0077	0.0070	17.6	0.0022	0.0005	0.80
	50	0.0637	0.2398	0.2530	0.0004	0.0175	0.0161	30.6	0.0057	0.0008	1.41
	120	0.0822	0.4767	0.6120	0.0009	0.0434	0.0399	77.9	0.0074	0.0020	3.56
	175	0.1013	0.7331	0.9458	0.0016	0.0434	0.0399	141.9	0.0091	0.0037	6.46
	250	0.1006	0.4058	1.2378	0.0024	0.0342	0.0314	212.3	0.0091	0.0055	9.61
	500	0.1438	0.6410	1.7347	0.0033	0.0507	0.0467	336.6	0.0130	0.0087	15.23
	750	0.2402	1.0347	2.9072	0.0055	0.0837	0.0770	543.3	0.0217	0.0141	24.58
	9999	0.6073	2.2406	8.4553	0.0105	0.2116	0.1947	1047.7	0.0548	0.0272	47.44
Graders	50	0.0815	0.2999	0.2473	0.0004	0.0196	0.0180	27.5	0.0074	0.0007	1.28
	120	0.1001	0.5191	0.6212	0.0009	0.0498	0.0459	74.9	0.0090	0.0020	3.43
	175	0.1213	0.7303	0.8612	0.0014	0.0475	0.0437	123.8	0.0109	0.0032	5.65
	250	0.1249	0.3933	1.0428	0.0019	0.0358	0.0329	172.0	0.0113	0.0045	7.79
	500	0.1577	0.5520	1.2378	0.0023	0.0445	0.0410	229.3	0.0142	0.0060	10.39
	750	0.3354	1.1685	2.6888	0.0049	0.0956	0.0880	485.3	0.0303	0.0126	22.00
Off-Highway Tractors	120	0.1804	0.6982	1.0539	0.0011	0.0891	0.0820	93.7	0.0163	0.0025	4.30
	175	0.1780	0.8159	1.2809	0.0015	0.0722	0.0664	130.3	0.0161	0.0034	5.96
	250	0.1414	0.4152	1.1789	0.0015	0.0482	0.0443	130.3	0.0128	0.0034	5.92
	750	0.5700	2.3652	4.7352	0.0057	0.1902	0.1750	567.6	0.0514	0.0148	25.83
	1000	0.8608	3.7053	8.7994	0.0082	0.2874	0.2644	813.6	0.0777	0.0212	37.05
Off-Highway Trucks	175	0.1162	0.7545	0.7637	0.0014	0.0417	0.0383	125.0	0.0105	0.0033	5.70
	250	0.1178	0.3648	0.8666	0.0019	0.0290	0.0267	166.4	0.0106	0.0043	7.54
	500	0.1854	0.5791	1.2508	0.0027	0.0448	0.0412	272.1	0.0167	0.0071	12.33
	750	0.3021	0.9393	2.0910	0.0044	0.0738	0.0679	441.3	0.0273	0.0115	19.99
	1000	0.4570	1.4115	4.8811	0.0063	0.1357	0.1248	624.2	0.0412	0.0162	28.29
Other Construction Equipment	15	0.0118	0.0617	0.0736	0.0002	0.0029	0.0026	10.1	0.0011	0.0003	0.46

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	25	0.0159	0.0544	0.1007	0.0002	0.0038	0.0035	13.2	0.0014	0.0003	0.60
	50	0.0529	0.2444	0.2272	0.0004	0.0143	0.0131	28.0	0.0048	0.0007	1.29
	120	0.0745	0.5165	0.5488	0.0009	0.0383	0.0353	80.8	0.0067	0.0021	3.69
	175	0.0727	0.5856	0.5848	0.0012	0.0290	0.0267	106.4	0.0066	0.0028	4.85
	500	0.1242	0.4864	1.0402	0.0025	0.0350	0.0322	254.0	0.0112	0.0066	11.49
Other General Industrial Equipmen	15	0.0066	0.0390	0.0466	0.0001	0.0018	0.0017	6.4	0.0006	0.0002	0.29
	25	0.0185	0.0631	0.1169	0.0002	0.0044	0.0040	15.3	0.0017	0.0004	0.70
	50	0.0704	0.2449	0.1999	0.0003	0.0171	0.0158	21.7	0.0064	0.0006	1.01
	120	0.0900	0.4340	0.5404	0.0007	0.0463	0.0426	62.0	0.0081	0.0016	2.84
	175	0.0995	0.5662	0.7079	0.0011	0.0398	0.0366	95.8	0.0090	0.0025	4.37
	250	0.0987	0.2944	0.8771	0.0015	0.0278	0.0256	135.5	0.0089	0.0035	6.14
	500	0.1824	0.5588	1.4858	0.0026	0.0507	0.0466	265.2	0.0165	0.0069	12.01
	750	0.3031	0.9210	2.5481	0.0044	0.0855	0.0787	437.1	0.0273	0.0113	19.80
	1000	0.4268	1.3208	4.9252	0.0056	0.1383	0.1272	559.1	0.0385	0.0145	25.35
Other Material Handling Equipment	50	0.0977	0.3384	0.2779	0.0004	0.0238	0.0219	30.3	0.0088	0.0008	1.41
	120	0.0874	0.4225	0.5278	0.0007	0.0452	0.0416	60.6	0.0079	0.0016	2.78
	175	0.1253	0.7172	0.8995	0.0014	0.0504	0.0464	122.0	0.0113	0.0032	5.57
	250	0.1042	0.3135	0.9371	0.0016	0.0296	0.0273	144.9	0.0094	0.0038	6.57
	500	0.1300	0.4021	1.0713	0.0019	0.0365	0.0336	191.5	0.0117	0.0050	8.67
	9999	0.5858	1.7445	6.5141	0.0073	0.1824	0.1678	740.7	0.0529	0.0192	33.58
Pavers	25	0.0230	0.0774	0.1446	0.0002	0.0061	0.0056	18.6	0.0021	0.0005	0.85
	50	0.1116	0.3335	0.2691	0.0004	0.0252	0.0232	28.0	0.0101	0.0007	1.30
	120	0.1162	0.4925	0.7022	0.0008	0.0590	0.0543	69.1	0.0105	0.0018	3.17
	175	0.1522	0.7671	1.1259	0.0014	0.0626	0.0576	128.2	0.0137	0.0034	5.85
	250	0.1757	0.5365	1.5465	0.0022	0.0586	0.0539	194.2	0.0159	0.0051	8.81
	500	0.1954	0.7641	1.6700	0.0023	0.0640	0.0589	233.0	0.0176	0.0061	10.58
Paving Equipment	25	0.0152	0.0519	0.0962	0.0002	0.0036	0.0034	12.6	0.0014	0.0003	0.57
	50	0.0951	0.2826	0.2295	0.0003	0.0215	0.0198	23.9	0.0086	0.0006	1.11
	120	0.0911	0.3858	0.5516	0.0006	0.0467	0.0429	54.5	0.0082	0.0014	2.50
	175	0.1187	0.5999	0.8845	0.0011	0.0491	0.0452	100.9	0.0107	0.0026	4.61
	250	0.1076	0.3300	0.9691	0.0014	0.0360	0.0331	122.2	0.0097	0.0032	5.54
Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	0.0011	4.3	0.0005	0.0001	0.20
Pressure Washers	15	0.0062	0.0312	0.0431	0.0001	0.0023	0.0021	4.9	0.0006	0.0001	0.22
	25	0.0098	0.0329	0.0606	0.0001	0.0031	0.0029	7.1	0.0009	0.0002	0.33
	50	0.0224	0.0945	0.1138	0.0002	0.0069	0.0063	14.3	0.0020	0.0004	0.65
	120	0.0219	0.1404	0.1803	0.0003	0.0114	0.0105	24.1	0.0020	0.0006	1.10
Pumps	15	0.0106	0.0474	0.0661	0.0001	0.0038	0.0035	7.4	0.0010	0.0002	0.34
	25	0.0296	0.0896	0.1653	0.0002	0.0089	0.0081	19.5	0.0027	0.0005	0.89
	50	0.0773	0.2830	0.2871	0.0004	0.0207	0.0190	34.3	0.0070	0.0009	1.58
	120	0.0859	0.4842	0.6215	0.0009	0.0456	0.0419	77.9	0.0078	0.0020	3.56
	175	0.1051	0.7345	0.9483	0.0016	0.0450	0.0414	140.0	0.0095	0.0037	6.38
	250	0.1008	0.3910	1.1926	0.0023	0.0337	0.0310	201.2	0.0091	0.0052	9.10
	500	0.1567	0.6671	1.8006	0.0034	0.0540	0.0497	344.9	0.0141	0.0089	15.61
	750	0.2666	1.1029	3.0910	0.0057	0.0913	0.0840	570.2	0.0241	0.0148	25.80
	9999	0.8122	2.9422	11.0546	0.0136	0.2800	0.2576	1353.6	0.0733	0.0351	61.31

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
Rollers	15	0.0074	0.0386	0.0460	0.0001	0.0018	0.0017	6.3	0.0007	0.0002	0.29
	25	0.0161	0.0549	0.1016	0.0002	0.0038	0.0035	13.3	0.0015	0.0003	0.61
	50	0.0797	0.2677	0.2321	0.0003	0.0191	0.0176	26.0	0.0072	0.0007	1.20
	120	0.0794	0.3967	0.5105	0.0007	0.0415	0.0382	58.9	0.0072	0.0015	2.70
	175	0.1031	0.6146	0.7957	0.0012	0.0431	0.0396	108.0	0.0093	0.0028	4.93
	250	0.1041	0.3461	0.9947	0.0017	0.0333	0.0306	153.0	0.0094	0.0040	6.93
	500	0.1390	0.5316	1.2651	0.0021	0.0442	0.0406	218.9	0.0125	0.0057	9.92
Rough Terrain Forklifts	50	0.0838	0.3456	0.2951	0.0004	0.0216	0.0199	33.8	0.0076	0.0009	1.56
	120	0.0728	0.4227	0.4736	0.0007	0.0368	0.0339	62.4	0.0066	0.0016	2.85
	175	0.1079	0.7230	0.7786	0.0014	0.0422	0.0388	124.8	0.0097	0.0033	5.69
	250	0.1106	0.3588	0.9194	0.0019	0.0302	0.0278	170.6	0.0100	0.0044	7.73
	500	0.1588	0.5200	1.2074	0.0025	0.0427	0.0393	256.3	0.0143	0.0067	11.61
Rubber Tired Dozers	175	0.1849	0.8272	1.3057	0.0015	0.0739	0.0680	129.4	0.0167	0.0034	5.92
	250	0.2097	0.6062	1.7064	0.0021	0.0706	0.0650	183.3	0.0189	0.0048	8.34
	500	0.2792	1.1673	2.2363	0.0026	0.0915	0.0841	264.6	0.0252	0.0069	12.05
	750	0.4216	1.7575	3.4223	0.0040	0.1388	0.1277	398.4	0.0380	0.0104	18.14
	1000	0.6577	2.8383	6.5313	0.0059	0.2168	0.1995	591.4	0.0593	0.0154	26.95
Rubber Tired Loaders	25	0.0204	0.0696	0.1289	0.0002	0.0048	0.0044	16.9	0.0018	0.0004	0.77
	50	0.0900	0.3346	0.2780	0.0004	0.0218	0.0200	31.1	0.0081	0.0008	1.44
	120	0.0771	0.4059	0.4822	0.0007	0.0386	0.0355	58.9	0.0070	0.0015	2.69
	175	0.1021	0.6236	0.7285	0.0012	0.0402	0.0369	106.2	0.0092	0.0028	4.85
	250	0.1055	0.3354	0.8884	0.0017	0.0302	0.0278	148.8	0.0095	0.0039	6.75
	500	0.1591	0.5590	1.2560	0.0023	0.0449	0.0413	236.8	0.0144	0.0062	10.73
	750	0.3276	1.1451	2.6434	0.0049	0.0933	0.0859	485.1	0.0296	0.0126	21.98
	1000	0.4390	1.5579	4.9818	0.0060	0.1421	0.1307	593.3	0.0396	0.0154	26.91
Scrapers	120	0.1563	0.6768	0.9284	0.0011	0.0780	0.0718	93.8	0.0141	0.0025	4.30
	175	0.1768	0.8992	1.2602	0.0017	0.0708	0.0652	147.9	0.0160	0.0039	6.76
	250	0.1909	0.5685	1.6065	0.0024	0.0606	0.0558	209.3	0.0172	0.0054	9.50
	500	0.2734	1.0101	2.2158	0.0032	0.0850	0.0782	321.1	0.0247	0.0084	14.58
	750	0.4742	1.7450	3.9092	0.0056	0.1485	0.1366	554.8	0.0428	0.0144	25.19
Signal Boards	15	0.0072	0.0376	0.0449	0.0001	0.0018	0.0016	6.2	0.0006	0.0002	0.28
	50	0.0831	0.3131	0.3029	0.0005	0.0219	0.0201	36.2	0.0075	0.0010	1.67
	120	0.0871	0.5067	0.6223	0.0009	0.0466	0.0428	80.1	0.0079	0.0021	3.66
	175	0.1167	0.8280	1.0071	0.0017	0.0497	0.0457	154.4	0.0105	0.0040	7.03
	250	0.1317	0.4994	1.4456	0.0029	0.0424	0.0390	255.1	0.0119	0.0066	11.54
Skid Steer Loaders	25	0.0183	0.0593	0.1106	0.0002	0.0053	0.0049	13.8	0.0017	0.0004	0.63
	50	0.0323	0.2087	0.1951	0.0003	0.0094	0.0087	25.5	0.0029	0.0007	1.17
	120	0.0295	0.2693	0.2409	0.0005	0.0138	0.0127	42.7	0.0027	0.0011	1.95
Surfacing Equipment	50	0.0375	0.1299	0.1218	0.0002	0.0093	0.0085	14.1	0.0034	0.0004	0.65
	120	0.0778	0.4119	0.5357	0.0007	0.0402	0.0370	63.7	0.0070	0.0017	2.91
	175	0.0733	0.4690	0.6121	0.0010	0.0307	0.0283	85.7	0.0066	0.0022	3.91
	250	0.0832	0.3010	0.8495	0.0015	0.0280	0.0257	134.7	0.0075	0.0035	6.10
	500	0.1259	0.5481	1.2540	0.0022	0.0425	0.0391	221.0	0.0114	0.0057	10.01
	750	0.2001	0.8599	2.0162	0.0035	0.0675	0.0621	346.7	0.0181	0.0090	15.71
Sweepers/Scrubbers	15	0.0124	0.0728	0.0869	0.0002	0.0034	0.0031	11.9	0.0011	0.0003	0.54

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	25	0.0236	0.0807	0.1494	0.0002	0.0056	0.0051	19.6	0.0021	0.0005	0.89
	50	0.0664	0.3077	0.2709	0.0004	0.0182	0.0167	31.5	0.0060	0.0008	1.45
	120	0.0774	0.5009	0.5315	0.0009	0.0391	0.0360	75.0	0.0070	0.0020	3.43
	175	0.1096	0.7990	0.7988	0.0016	0.0427	0.0393	138.9	0.0099	0.0036	6.33
	250	0.0972	0.3248	0.7925	0.0018	0.0255	0.0235	161.9	0.0088	0.0042	7.33
Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1215	0.0002	0.0048	0.0044	15.8	0.0017	0.0004	0.72
	50	0.0622	0.2946	0.2534	0.0004	0.0162	0.0149	30.3	0.0056	0.0008	1.40
	120	0.0524	0.3456	0.3522	0.0006	0.0253	0.0233	51.7	0.0047	0.0014	2.36
	175	0.0787	0.5844	0.5566	0.0011	0.0292	0.0269	101.3	0.0071	0.0026	4.62
	250	0.1024	0.3530	0.7902	0.0019	0.0260	0.0239	171.6	0.0092	0.0045	7.77
	500	0.1983	0.6958	1.4074	0.0039	0.0496	0.0456	344.5	0.0179	0.0089	15.60
	750	0.2988	1.0436	2.1713	0.0058	0.0755	0.0695	516.8	0.0270	0.0134	23.40
Trenchers	15	0.0098	0.0516	0.0616	0.0001	0.0024	0.0022	8.5	0.0009	0.0002	0.39
	25	0.0397	0.1354	0.2507	0.0004	0.0094	0.0086	32.9	0.0036	0.0009	1.50
	50	0.1303	0.3809	0.3138	0.0004	0.0293	0.0269	32.9	0.0118	0.0009	1.53
	120	0.1078	0.4558	0.6645	0.0008	0.0550	0.0506	64.8	0.0097	0.0017	2.97
	175	0.1676	0.8488	1.2792	0.0016	0.0699	0.0643	143.8	0.0151	0.0038	6.56
	250	0.1989	0.6255	1.8028	0.0025	0.0690	0.0635	222.7	0.0179	0.0058	10.11
	500	0.2558	1.0674	2.2733	0.0031	0.0873	0.0803	311.0	0.0231	0.0081	14.13
	750	0.4845	2.0123	4.3689	0.0059	0.1663	0.1530	586.4	0.0437	0.0153	26.63
Welders	15	0.0089	0.0396	0.0552	0.0001	0.0032	0.0030	6.2	0.0008	0.0002	0.28
	25	0.0171	0.0519	0.0957	0.0001	0.0051	0.0047	11.3	0.0015	0.0003	0.51
	50	0.0725	0.2489	0.2260	0.0003	0.0182	0.0167	25.9	0.0065	0.0007	1.20
	120	0.0498	0.2581	0.3303	0.0005	0.0267	0.0245	39.5	0.0045	0.0010	1.80
	175	0.0857	0.5408	0.6972	0.0011	0.0364	0.0335	98.1	0.0077	0.0026	4.47
	250	0.0701	0.2427	0.7413	0.0013	0.0222	0.0205	119.0	0.0063	0.0031	5.39
	500	0.0912	0.3360	0.9083	0.0016	0.0291	0.0268	167.4	0.0082	0.0043	7.58

[a] ROG, CO, NOx, SOx, PM, CO2 and CH4 emission factors calculated by dividing total daily emissions in MDAB by total hours of operation in MDAB by equipment type and horsepower range calculated with CARB OFFROAD 2007 model.

Hourly fuel use calculated by dividing total daily fuel use in MDAB by total hours of operation in MDAB by equipment type and horsepower range.

Diesel PM10 emission factor = PM emission factor

Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5

and PM 2.5 Significance Thresholds, SCAQMD, October 2006,

http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

N2O emission factors calculated by multiplying hourly fuel use by 0.26 g/gallon from Table 13.7 from 2013 Climate Registry Default Emission Factors downloaded from http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf

Table 107

Motor Vehicle Entrained Road Dust Emission Factors

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
1-Ton Crew Cab Flatbed, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab Flatbed, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
1-Ton Crew Cab, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
1-Ton Crew Cab, 4x4, Gale-Pisgah	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Gale-Pisgah	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
1-Ton Crew Cab, 4x4, Substation	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Substation	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
1-Ton Crew Cab, 4x4, Transmission	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Transmission	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
1-Ton Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Truck, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
2 Ton Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
2 Ton Truck	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
3/4-Ton Pick-up Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
3/4-Ton Pick-up Truck, 4x4	Unpaved	8	3.4	1.10E+00	1.10E-01	0%	1.10E+00	1.10E-01
3/4-Ton Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
3/4-Ton Truck, 4x4	Unpaved	8	3.4	1.10E+00	1.10E-01	0%	1.10E+00	1.10E-01
40-Foot Flat Bed Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
40-Foot Flat Bed Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Aggregate Base Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Aggregate Base Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Asphalt Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Asphalt Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Auger Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Auger Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Boom Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Boom Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01

Table 107

Motor Vehicle Entrained Road Dust Emission Factors

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Boom/Crane Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Boom/Crane Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Bucket Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Bucket Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Carry-all Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Carry-all Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Concrete Mixer Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Mixer Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Concrete Redi-Mix Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Redi-Mix Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Concrete Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Crew Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Crew Truck	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
Dump Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Dump Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Extendable Flat Bed Pole Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Extendable Flat Bed Pole Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Flat Bed Pole Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Pole Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Flat Bed Truck w/Derrick	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Truck w/Derrick	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Flat Bed Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Flatbed Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flatbed Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Foreman Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Foreman Truck	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
Fuel, Helicopter Support Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Fuel, Helicopter Support Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01

Table 107

Motor Vehicle Entrained Road Dust Emission Factors

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Gravel Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Gravel Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Inspection Services	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Inspection Services	Unpaved	8	3.4	1.10E+00	1.10E-01	0%	1.10E+00	1.10E-01
Jet A Fuel Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Jet A Fuel Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Lowboy Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Lowboy Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Manlift/Bucket Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Manlift/Bucket Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Pick-up Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Pick-up Truck	Unpaved	8	10	1.79E+00	1.79E-01	0%	1.79E+00	1.79E-01
Pipe Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Pipe Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Sleeving Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Sleeving Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Soils Test Crew Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Soils Test Crew Truck	Unpaved	8	6.5	1.47E+00	1.47E-01	0%	1.47E+00	1.47E-01
Splicing Lab	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Splicing Lab	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
Splicing Rig	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Splicing Rig	Unpaved	8	5	1.31E+00	1.31E-01	0%	1.31E+00	1.31E-01
Stake Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Stake Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Static Truck/Tensioner	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Static Truck/Tensioner	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Structure Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Structure Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Survey Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Survey Truck	Unpaved	8	3.4	1.10E+00	1.10E-01	0%	1.10E+00	1.10E-01

Table 107

Motor Vehicle Entrained Road Dust Emission Factors

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Tool Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Tool Truck	Unpaved	8	3.4	1.10E+00	1.10E-01	0%	1.10E+00	1.10E-01
Truck, Semi Tractor	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Truck, Semi Tractor	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Water Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Water Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Wire Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Wire Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Wiring Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Wiring Truck	Unpaved	8	17	2.27E+00	2.27E-01	0%	2.27E+00	2.27E-01
Worker Commute	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Worker Commute	Unpaved	8	3.4	1.10E+00	1.10E-01	0%	1.10E+00	1.10E-01

[a] Paved road silt loading from MDAQMD Mineral Guidance for paved low traffic road.

Unpaved road silt content from MDAQMD Mineral Guidance for unpaved industrial haul road.

[b] Average paved on-road vehicle weight in San Bernardino County from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

Unpaved worker commuting weight on access road assumed to be same as paved road weight

Unpaved weight for other trucks is based on upper limit of 33,000 lbs for medium heavy-duty trucks. Heavy heavy duty trucks are also in this range, as they range from 30,001 lbs to 60,000.

[c] Equations:

$EF(paved) = k_p (sL)^{0.91} (W)^{1.02}$ Ref: AP-42, Section 13.2.1, "Paved Roads," January 2011

$EF (unpaved) = k_u (s/12)^a (W/3)^b$ Ref: AP-42, Section 13.2.2, "Unpaved Roads," November 2006

Constants:

k_p =	0.0022	(Particle size multiplier for PM10)
	0.00054	(Particle size multiplier for PM2.5)
k_u =	1.5	(Particle size multiplier for PM)
	0.15	(Particle size multiplier for PM2.5)
a =	0.9	for PM10
	0.9	for PM2.5
b =	0.45	for PM10

Table 107

Motor Vehicle Entrained Road Dust Emission Factors

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
	0.45		for PM2.5					

Table 108
Commuter Vehicle And Pick-up Truck Emission Factors

EMFAC 2011
2016 Estimated Annual Emissions
EMFAC 2011 Vehicle Categories
San Bernardino COUNTY
Mojave Desert AIR BASIN
Mojave Desert AQMD
All Model Years

Comm. Vehicles Gas (pounds/mile)	
CO	**0.00502350**
NOx	**0.00054760**
ROG	**0.00017532**
SOx	**0.00000845**
PM10	**0.00010306**
PM2.5	**0.00000402**
CO2	**0.69705741**
CH4	**0.00004259**
N2O	**0.00002278**

MDV Diesel (pounds/mile)	
CO	**0.00036597**
NOx	**0.00112028**
ROG	**0.00006639**
SOx	**0.00000827**
PM10	**0.00014987**
PM2.5	**0.00004711**
CO2	**0.74885278**
CH4	**0.00000308**
N2O	**0.00002848**

MDV Gas (pounds/mile)	
CO	**0.00784027**
NOx	**0.00114357**
ROG	**0.00028277**
SOx	**0.00001317**
PM10	**0.00010343**
PM2.5	**0.00000438**
CO2	**1.15450592**
CH4	**0.00007002**
N2O	**0.00004757**

MDV Combo (pounds/mile)	
CO	**0.00410312**
NOx	**0.00113192**
ROG	**0.00017458**
SOx	**0.00001072**
PM10	**0.00012665**
PM2.5	**0.00002575**
CO2	**0.95167935**
CH4	**0.00003655**
N2O	**0.00003803**

Note: Commuter vehicles are based on emissions from gaoline LDV, LDT1, and LDT2

Methane and N2O calculated as prescribed by ARB:
http://www.arb.ca.gov/msei/emfac2011-faq.htm#emfac2011_web_db_qstn07

- **How do I calculate Methane (CH4) and Nitrous Oxide (N2O) emissions?**
  - Methane (CH4) calculation method
    - Run EMFAC2011-LDV to calculate CH4 for those vehicle categories;
    - Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.
  - Nitrous Oxide (N2O) calculation method
    - Use 4.16% of NOx to calculate N2O for all gasoline vehicles, the same assumption as for the emissions inventory for the Advanced Clean Cars rule;
    - Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Table 109
Light Heavy-Duty and Heavy Heavy-Duty Vehicle Emission Factors

EMFAC 2011
2016 Estimated Annual Emissions
EMFAC 2011 Vehicle Categories
San Bernardino COUNTY
Mojave Desert AIR BASIN
Mojave Desert AQMD
All Model Years

LHDT Diesel (pounds/mile)	
CO	**0.00192798**
NOx	**0.01237034**
ROG	**0.00027862**
SOx	**0.00001103**
PM10	**0.00026112**
PM2.5	**0.00005485**
CO2	**1.11519022**
CH4	**0.00001294**
N2O	**0.00003802**

HHDT Diesel (pounds/mile)	
CO	**0.00284760**
NOx	**0.01656235**
ROG	**0.00042317**
SOx	**0.00003500**
PM10	**0.00054297**
PM2.5	**0.00030129**
CO2	**3.54025345**
CH4	**0.00001966**
N2O	**0.00012069**

Note: HHDT is based on the emissions from the T7 Tractor.

Methane and N2O calculated as prescribed by ARB:
http://www.arb.ca.gov/msei/emfac2011-faq.htm#emfac2011_web_db_qstn07

- **How do I calculate Methane (CH4) and Nitrous Oxide (N2O) emissions?**
  - Methane (CH4) calculation method
    - Run EMFAC2011-LDV to calculate CH4 for those vehicle categories;
    - Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.
  - Nitrous Oxide (N2O) calculation method
    - Use 4.16% of NOx to calculate N2O for all gasoline vehicles, the same assumption as for the emissions inventory for the Advanced Clean Cars rule;
    - Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Table 110
Fugitive Dust Emission Factors
Soil Dropping During Excavation

Emission Factor [lb/cu. yd] = 0.0032 x (mean wind speed [mi/hr] / 5)$^{1.3}$ / (moisture [%] / 2)$^{1.4}$ x (number drops per ton) x (density [ton/cu. yd]) x k
Reference: AP-42, Equation (1), Section 13.2.4, November 2006

Parameter	Value	Basis
Mean Wind Speed	7.7	Conservative default from Wind Erosion from Unpaved Areas and Roads, MDAQMD Mineral
Moisture	0.5	Conservative default from Bulldozing, Scraping and Grading, MDAQMD Mineral Guidance.
Number Drops	4	Assumption
Soil Density	1.215	Table 2.46, Handbook of Solid Waste Management

Controlled PM10 Emission Factor	6.65E-02	lb/cu. yd	(k = 0.35)
Controlled PM2.5 Emission Factor	1.01E-02	lb/cu. yd	(k = 0.053)

Emissions [pounds per day] = Controlled emission factor [pounds per cubic yard] x Volume soil handled [cubic yards per day]

Storage Pile Wind Erosion

Emission Factor [lb/day-acre] = k x 1.7 x (silt content [%] / 1.5) x (365 / 235) x (percentage of time unobstructed wind exceeds 12 mph / 15)
Reference: MDAQMD Emission Inventory Guidance, Mineral Handling and Processing Inductries, April 2000

Parameter	Value	Basis
Silt Content	30	Conservative default from Bulldozing, Scraping and Grading, MDAQMD Mineral Guidance.
Pct. time wind > 12 mph	100	Worst-case assumption

PM10 Emission Factor (Uncontrolled)	176.0	lb/day-acre	(k = 0.5)
PM2.5 Emission Factor (Uncontrolled)	70.4	lb/day-acre	(k = 0.2)
Reduction from Watering Twice/Day	90%	Control efficiency from watering storage pile by hand at a rate of 1.4 gallons/hour-yard^2, Table XI-B, Mitigation Measure Examples, Fugitive Dust from Materials Handling, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html	
Controlled PM10 Emission Factor	17.6	lb/day-acre	
Controlled PM2.5 Emission Factor	7.0	lb/day-acre	

Emissions [pounds per day] = Controlled emission factor [pounds per acre-day] x Storage pile surface area [acres]

Bulldozing, Scraping and Grading

PM10 Emission Factor [lb/hr] = 0.75 x (silt content [%])$^{1.5}$ / (moisture)$^{1.4}$
PM2.5 Emission Factor [lb/hr] = 0.60 x (silt content [%])$^{1.2}$ / (moisture)$^{1.3}$
Reference: AP-42, Table 11.9-1, July 1998

Parameter	Value	Basis
Silt Content	15	Default value from MDAQMD Rule 403.2 (F)
Moisture	0.5	Conservative default from Bulldozing, Scraping and Grading, MDAQMD Mineral Guidance.

PM10 Emission Factor	115.0	lb/hr
PM2.5 Emission Factor	38.1	lb/hr

Emissions [pounds per day] = Controlled emission factor [pounds per hour] x Bulldozing, scraping or grading time [hours/day]

Controlled Alternative Project Segment 10 Emissions

Table 1
Controlled Annual Construction Emissions with Alternative Transmission Segment 10

Controlled Annual Construction Emissions[a]

Source	VOC (tons/year)	CO (tons/year)	NOX (tons/year)	SOX (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)	CO2e (tons/year)
Off-Road Equipment Exhaust (Unmitigated)	13.53	54.31	105.46	0.21	4.09	3.76	20,446.99
Percentage Reduction from APM	0%	0%	20%	0%	45%	45%	0%
Reduction from APM[b]	0.00	0.00	21.09	0.00	1.84	1.69	0.00
Off-Road Equipment Exhaust (Mitigated)	**13.53**	**54.31**	**84.37**	**0.21**	**2.25**	**2.07**	**20,446.99**
Other Sources (Unmitigated)	5.89	25.91	41.33	8.86	1,963.66	435.63	11,740.09
Emissions Reduction from APM-2[c]	0.00	0.00	0.00	0.00	1,570.50	388.32	0.00
Other Sources (Mitigated)	**5.89**	**25.91**	**41.33**	**8.86**	**393.16**	**47.31**	**11,740.09**
Total Emissions (Mitigated)	**19.42**	**80.22**	**125.70**	**9.07**	**395.40**	**49.38**	**32,187.08**

[a] Maximum annual emissions are during months 1 through 12

[b] Percentage reductions that would be achieved by using equipment with engines that meet Tier 3 emission standards instead of Tier 2 emission standards. Percentages from TABLE II - OFF-ROAD ENGINE EMISSION RATES & COMPARISON OF UNCONTROLLED TO TIERED RATES AND TIERED TO TIERED RATES, Downloaded from http://www.aqmd.gov/ceqa/handbook/mitigation/offroad/MM_offroad.html

[c] Emission reductions from watering to maintain a soil moisture content of 10 percent during soil handling, grading, bulldozing and scraping and limiting speeds on unpavedroads to 15 mph

Table 2
Operational Emissions with Alternative Transmission Segment 10

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Emergency Generator Testing	0.40	4.34	7.61	0.01	0.25	0.25	706.9
SF_6 Leakage	--	--	--	--	--	--	1,229.7
Motor Vehicle Exhaust	0.02	0.13	0.39	0.00	0.05	0.02	267.0
Motor Vehicle Fugitive PM	--	--	--	--	43.97	4.53	
Total	**0.42**	**4.47**	**8.00**	**0.01**	**44.28**	**4.80**	**2,203.63**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Emergency Generator Testing	0.01	0.11	0.20	0.00	0.01	0.01	18.38
SF_6 Leakage	--	--	--	--	--	--	224.42
Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.25
Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	--
Total	**0.01**	**0.11**	**0.20**	**0.00**	**0.05**	**0.01**	**244.05**

Emergency Generator Testing Emissions

Horsepower	Hours/Day	Fuel Use (gal/hr)	Emission Factors (g/bhp-hr)[a]					Emission Factors (g/gal)		
			CO	VOC[b]	NOx[b]	PM10[c]	PM2.5[c]	CO_2[d]	CH_4[e]	N_2O[e]
757	1	31.3	2.6	0.24	4.56	0.15	0.15	10,210	0.41	0.083

[a] Emission factors assumed the same as emission limits for emergency CI engine in Title 17, CCR, Section 93115.6 Table 2

[b] For NMHC+NOx limit, emissions assumed to be 5 percent ROC
and 95 percent NOx, from Table D-25 of 2011 Carl Moyer Program Guidelines - http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm

[c] PM10 and PM2.5 assumed to be same as PM emission standards.

[d] From Table C-1 of Title 40, Code of Federal Regulations, Subpart 98 for No. 2 distillate fuel oil.

[e] From Table C-2 of Title 40, Code of Federal Regulations, Subpart 98 for No. 2 distillate fuel oil.

Load Factor	Emission Rates (lb/hr)								
	CO[a]	VOC[a]	NOx[a]	SOx[b]	PM10[a]	PM2.5[a]	CO_2[c]	CH_4[c]	N_2O[c]
1	4.34	0.40	7.61	0.007	0.25	0.25	704.53	0.03	0.01

Diesel Fuel Density = 6.943 lb/gal
Diesel Fuel Sulfur = 15 ppmw

[a] Emission Rate [lb/hr] = Emission Factor [g/bhp-hr] x Engine Horsepower [hp] x Load Factor [unitless] / 453.6 [g/lb]

[b] Emission Rate [lb/hr] = Fuel Use [gal/hr] x Fuel Density [lb/gal] x Fuel Sulfur [ppmw] x 10^{-6} x 2 [lb SO_2/lb S]

[c] Emission Rate [lb/hr] = Emission Factor [g/gal] x Fuel Use [gal/hr] / 453.6 [g/lb]

Daily Emissions (lb/day)[a]									
CO	VOC	NOx	SOx	PM10	PM2.5	CO_2	CH_4	N_2O	CO_2e[b]
4.34	0.40	7.61	0.01	0.25	0.25	704.53	0.03	0.01	706.90

Table 2
Operational Emissions with Alternative Transmission Segment 10

[a] Daily Emissions [lb/day] = Hourly Emissions [lb/hr-unit] x Operating Time [hr/day]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Op. (hr/year)	Annual Emissions (tons)[a]									
	CO	VOC	NOx	SOx	PM10	PM2.5	CO_2	CH_4	N_2O	CO_2e
52	0.11	0.01	0.20	0.00	0.01	0.01	18.32	0.00	0.00	18.38

[a] Annual Emissions [tons] = Hourly Emissions [lb/hr] x Operating Time [hr/year]

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
1-Ton Crew Cab, 4x4, Substation	1	48	N/A	60
1-Ton Crew Cab, 4x4, Transmission	1	2	N/A	132.4
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	1	N/A	71
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	1	N/A	89

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
1-Ton Crew Cab, 4x4, Substation	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Transmission	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Gale-Pisgah	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
1-Ton Crew Cab, 4x4, Substation	0.00	0.02	0.07	0.00	0.01	0.00	44.93	0.00	0.00	45.46
1-Ton Crew Cab, 4x4, Transmission	0.01	0.05	0.15	0.00	0.02	0.01	99.15	0.00	0.00	100.33
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	0.00	0.03	0.08	0.00	0.01	0.00	53.17	0.00	0.00	53.80
1-Ton Crew Cab, 4x4, Gale-Pisgah	0.01	0.03	0.10	0.00	0.01	0.00	66.65	0.00	0.00	67.44
Total	**0.02**	**0.13**	**0.39**	**0.00**	**0.05**	**0.02**	**263.90**	**0.00**	**0.01**	**267.03**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
1-Ton Crew Cab, 4x4, Substation	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.00	0.00	1.09
1-Ton Crew Cab, 4x4, Transmission	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.10
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03

Table 2
Operational Emissions with Alternative Transmission Segment 10

1-Ton Crew Cab, 4x4, Gale-Pisgah	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.24**	**0.00**	**0.00**	**1.25**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
1-Ton Crew Cab, 4x4, Substation	1	Unpaved	0	48	0.564	0.056	0.00	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Substation	1	Paved	60	48	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Transmission	1	Unpaved	72.4	2	0.564	0.056	40.80	4.08	0.04	0.00
1-Ton Crew Cab, 4x4, Transmission	1	Paved	60	2	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	Unpaved	4	1	0.564	0.056	2.25	0.23	0.00	0.00
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	1	Paved	67	1	0.003	0.001	0.22	0.05	0.00	0.00
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	Unpaved	0	1	0.564	0.056	0.00	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	Paved	89	1	0.003	0.001	0.30	0.07	0.00	0.00
Total							**43.97**	**4.53**	**0.05**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

SF_6 Leakage Greenhouse Gas Emissions

Item	Value	Units
Total SF_6	3,756	pounds
SF_6 Leakage Rate	0.5	%/year
SF_6 Emissions	18.78	pounds
SF_6 Global Warming Potential[a]	23,900	
CO_2e Emissions[b]	**1,230**	**lbs/day**
CO_2e Emissions[b]	**224**	**tpy**

[c] From Table A-1 of Title 40, Code of Federal Regulations, Subpart 98

[b] CO_2e emissions [tpy] = SF_6 emissions [lb] x
Global warming potential [lb CO_2e/lb SF_6] / 2000 [lb/ton]

Table 3
Controlled Annual Construction Emissions with Alternative Transmission Segment 10

Controlled Annual Construction Emissions on BLM Land[a]

Source	VOC (tons/year)	CO (tons/year)	NOX (tons/year)	SOX (tons/year)	PM10 (tons/year)	PM2.5 (tons/year)	CO2e (tons/year)
Off-Road Equipment Exhaust (Unmitigated)	4.05	16.50	31.53	0.06	1.22	1.12	6,200.32
Percentage Reduction from APM	0%	0%	20%	0%	45%	45%	0%
Reduction from APM[b]	0.00	0.00	6.31	0.00	0.55	0.51	0.00
Off-Road Equipment Exhaust (Mitigated)	**4.05**	**16.50**	**25.22**	**0.06**	**0.67**	**0.62**	**6,200.32**
Other Sources (Unmitigated)	2.11	7.85	11.30	3.40	569.91	117.38	3,365.14
Emissions Reduction from APM-2[c]	0.00	0.00	0.00	0.00	431.24	101.45	0.00
Other Sources (Mitigated)	**2.11**	**7.85**	**11.30**	**3.40**	**138.67**	**15.93**	**3,365.14**
Total Emissions (Mitigated)	**6.16**	**24.35**	**36.52**	**3.46**	**139.34**	**16.55**	**9,565.47**

[a] Maximum annual emissions are during months 1 through 12

[b] Percentage reductions that would be achieved by using equipment with engines that meet Tier 3 emission standards instead of Tier 2 emission standards. Percentages from TABLE II - OFF-ROAD ENGINE EMISSION RATES & COMPARISON OF UNCONTROLLED TO TIERED RATES AND TIERED TO TIERED RATES, Downloaded from http://www.aqmd.gov/ceqa/handbook/mitigation/offroad/MM_offroad.html

[c] Emission reductions from watering to maintain a soil moisture content of 10 percent during soil handling, grading, bulldozing and scraping and limiting speeds on unpavedroads to 15 mph

Table 4
Operational Emissions with Alternative Transmission Segment 10 on BLM Land

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Motor Vehicle Exhaust	0.00	0.01	0.04	0.00	0.01	0.00	25.5
Motor Vehicle Fugitive PM	--	--	--	--	15.73	1.58	
Total	**0.00**	**0.01**	**0.04**	**0.00**	**15.73**	**1.58**	**25.47**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	--
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.02**

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	1	N/A	6
1-Ton Crew Cab, 4x4, Transmission	1	2	N/A	28

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
1-Ton Crew Cab, 4x4, Gale-Pisgah	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab, 4x4, Transmission	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
1-Ton Crew Cab, 4x4, Gale-Pisgah	0.00	0.00	0.01	0.00	0.00	0.00	4.30	0.00	0.00	4.35
1-Ton Crew Cab, 4x4, Transmission	0.00	0.01	0.03	0.00	0.00	0.00	20.87	0.00	0.00	21.12
Total	**0.00**	**0.01**	**0.04**	**0.00**	**0.01**	**0.00**	**25.17**	**0.00**	**0.00**	**25.47**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
1-Ton Crew Cab, 4x4, Gale-Pisgah	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Transmission	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**

Table 4
Operational Emissions with Alternative Transmission Segment 10 on BLM Land

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
1-Ton Crew Cab, 4x4, Gale-Pisgah	1	Paved	6	1	0.003	0.001	0.02	0.00	0.00	0.00
1-Ton Crew Cab, 4x4, Transmission	1	Unpaved	28	2	0.564	0.056	15.71	1.57	0.02	0.00
Total							**15.73**	**1.58**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 5
Total Construction Emissions Summary with Alternative Transmission Segment 10 - Controlled Fugitive PM

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out										
Survey	0.00	0.00	0.00	0.00	0.03	0.00	0.68	1.00	0.00	0.00
Grading	0.96	4.03	10.57	0.02	14.57	3.66	1,936.17	1.00	0.00	0.00
Perimeter Wall	0.06	0.43	0.52	0.00	0.53	0.08	203.77	1.00	0.00	0.00
Water Well	0.02	0.16	0.14	0.00	0.25	0.03	70.96	1.00	0.00	0.00
Civil	0.12	0.80	4.18	0.01	10.84	1.27	908.53	1.00	0.00	0.00
Electrical	0.01	0.05	0.06	0.00	0.04	0.01	10.26	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.09	0.01	7.43	1.00	0.00	0.00
MEER	0.01	0.11	0.04	0.00	0.18	0.03	18.75	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.05	0.01	3.32	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.05	0.01	5.75	1.00	0.00	0.00
Asphalting	0.10	0.51	1.92	0.00	3.57	0.44	374.47	1.00	0.00	0.00
Substation Construction - Full Build Out										
Survey	0.00	0.11	0.01	0.00	0.17	0.03	15.57	0.00	1.00	0.00
Civil	0.78	4.41	6.27	0.02	4.74	0.77	1,594.62	0.00	1.00	0.00
Electrical	0.19	1.41	1.36	0.00	0.70	0.18	246.08	0.00	0.67	0.67
Wiring	0.00	0.07	0.01	0.00	0.12	0.02	9.91	0.00	0.67	0.67
Control Room	0.01	0.14	0.06	0.00	0.20	0.03	24.75	0.00	0.67	0.67
Maintenance	0.00	0.06	0.01	0.00	0.12	0.02	8.29	0.00	0.67	0.67
Asphalting	0.10	0.41	1.11	0.00	1.01	0.14	188.30	0.00	0.00	1.00
Transformer Assembly	0.09	0.63	0.68	0.00	0.34	0.08	135.09	0.00	0.67	0.67
Testing	0.01	0.39	0.04	0.00	0.37	0.07	55.34	0.00	0.67	0.67
Distribution for Station Light & Power										
Overhead Construction	0.00	0.03	0.04	0.00	0.02	0.00	13.31	1.00	0.00	0.00
Underground Civil Construction	0.01	0.03	0.05	0.00	0.02	0.00	11.87	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.02	0.00	7.70	1.00	0.00	0.00
Modifications to Coolwater Switchyard										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	1.00	0.00	0.00
Civil	0.11	0.65	0.78	0.00	0.10	0.05	184.00	1.00	0.00	0.00
Electrical	0.06	0.34	0.50	0.00	0.08	0.04	84.18	1.00	0.00	0.00
Wiring	0.00	0.02	0.00	0.00	0.01	0.00	2.49	1.00	0.00	0.00
MEER	0.01	0.06	0.04	0.00	0.03	0.01	12.10	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	1.00	0.00	0.00

Table 5
Total Construction Emissions Summary with Alternative Transmission Segment 10 - Controlled Fugitive PM

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	1.00	0.00	0.00
Modifications to Lugo Substation										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	1.00	0.00	0.00
Civil	0.20	1.17	1.37	0.00	0.19	0.09	342.12	1.00	0.00	0.00
Electrical	0.09	0.52	0.71	0.00	0.13	0.06	124.34	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.04	0.01	7.40	1.00	0.00	0.00
Control Room	0.01	0.07	0.05	0.00	0.03	0.01	14.83	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	1.00	0.00	0.00
Transformer Assembly	0.08	0.48	0.60	0.00	0.10	0.04	103.59	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	1.00	0.00	0.00
Transmission and Subtransmission Construction										
Survey	0.01	0.16	0.02	0.00	2.12	0.22	22.91	1.00	0.00	0.00
Construction and Materials Yards	3.60	16.40	31.77	0.07	5.19	1.93	6,520.20	0.40	0.40	0.40
Right-of-Way Clearing	0.67	3.07	5.09	0.01	12.76	2.83	1,074.78	1.00	0.00	0.00
Roads and Landing Work	1.49	5.79	11.64	0.02	25.81	5.15	2,315.44	1.00	0.00	0.00
Retaining Wall Installation	2.39	12.16	20.69	0.05	83.23	9.09	4,617.97	1.00	0.00	0.00
Wet Crossing Installation	1.53	7.91	13.59	0.03	68.93	7.43	2,745.75	1.00	0.00	0.00
Guard Structure Installation	0.12	0.59	0.97	0.00	4.18	0.46	245.04	0.40	0.40	0.40
Remove Existing Conductor & GW	0.25	1.22	2.59	0.01	9.88	1.08	563.41	0.40	0.40	0.40
LST Removal	0.27	1.09	1.97	0.00	3.09	0.40	358.39	0.40	0.40	0.40
LST Foundation Removal	0.03	0.14	0.21	0.00	0.36	0.05	48.29	0.40	0.40	0.40
Install LST Foundations	1.79	8.35	17.00	0.44	127.07	13.30	4,591.96	0.40	0.40	0.40
LST Steel Haul	0.77	1.82	5.15	1.61	11.38	1.30	1,304.18	0.40	0.40	0.40
LST Steel Assembly	6.01	24.84	42.65	6.63	45.37	6.47	8,908.39	0.40	0.40	0.40
LST Erection	8.30	18.91	39.61	10.92	57.29	7.15	8,769.91	0.40	0.40	0.40
Install TSP Foundations	1.08	5.18	9.93	0.03	68.26	7.18	2,585.63	0.40	0.40	0.40
TSP Haul	0.05	0.22	0.42	0.00	3.55	0.37	83.32	0.40	0.40	0.40
TSP Assembly	0.11	0.55	0.81	0.00	4.70	0.51	153.21	0.40	0.40	0.40
TSP Erection	0.10	0.54	0.78	0.00	3.38	0.38	145.70	0.40	0.40	0.40
Install Conductor	5.49	19.58	24.30	2.55	64.41	7.78	6,508.79	0.40	0.40	0.40
Guard Structure Removal	0.07	0.34	0.56	0.00	2.86	0.31	101.26	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.04	0.08	0.00	0.30	0.03	15.66	0.40	0.40	0.40
Install TSP Riser Foundations	0.07	0.37	0.72	0.00	6.50	0.68	186.70	0.40	0.40	0.40

Table 5
Total Construction Emissions Summary with Alternative Transmission Segment 10 - Controlled Fugitive PM

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
TSP Riser Haul	0.00	0.02	0.04	0.00	0.31	0.03	7.29	0.40	0.40	0.40
TSP Riser Assembly	0.04	0.22	0.33	0.00	1.88	0.21	61.29	0.40	0.40	0.40
TSP Riser Erection	0.04	0.22	0.31	0.00	1.35	0.15	58.28	0.40	0.40	0.40
Vault Installation	0.04	0.21	0.34	0.00	3.00	0.32	71.39	0.40	0.40	0.40
Duct Bank Installation	0.02	0.15	0.19	0.00	3.37	0.35	41.99	0.40	0.40	0.40
Install Underground Cable	0.07	0.33	0.75	0.00	3.62	0.39	167.43	0.40	0.40	0.40
Restoration	0.20	1.33	1.38	0.00	7.87	1.36	233.87	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)										
Install Cable	0.03	0.14	0.33	0.00	0.21	0.03	66.73	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.08	0.01	12.27	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)										
Install Cable	0.01	0.06	0.14	0.00	0.09	0.01	27.80	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.05	0.01	6.56	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)										
Install Cable	0.02	0.10	0.23	0.00	0.08	0.02	46.14	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.04	0.00	0.04	0.01	10.26	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall										
Install Cable	0.03	0.14	0.29	0.00	0.09	0.02	60.35	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.04	0.01	13.10	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation										
Install Cable	0.02	0.09	0.18	0.00	0.06	0.01	37.72	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.03	0.01	11.63	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation										
Install 5 Foot Crossarm	0.00	0.02	0.03	0.00	0.04	0.00	6.39	1.00	0.00	0.00
Install Down Guys	0.00	0.02	0.02	0.00	0.03	0.00	4.93	1.00	0.00	0.00
Install Cable	0.03	0.14	0.32	0.00	0.20	0.03	64.46	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.02	0.00	0.72	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.02	0.03	0.00	0.05	0.01	8.16	1.00	0.00	0.00

Table 5
Total Construction Emissions Summary with Alternative Transmission Segment 10 - Controlled Fugitive PM

Total Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Restoration	0.00	0.01	0.00	0.00	0.03	0.00	1.29	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable										
Install 5 Foot Crossarm	0.02	0.09	0.19	0.00	0.02	0.01	39.90	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.09	0.17	0.00	0.02	0.01	41.02	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.01	0.00	3.93	1.00	0.00	0.00
Install Cable	0.01	0.08	0.17	0.00	0.02	0.01	36.10	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.02	0.00	0.00	0.02	0.00	3.53	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.06	0.09	0.00	0.02	0.01	22.55	1.00	0.00	0.00
Restoration	0.00	0.02	0.01	0.00	0.01	0.00	3.69	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower										
All	0.01	0.08	0.09	0.00	0.02	0.01	27.81	1.00	0.00	0.00
Totals by 12-Month Period										
Months 1-12	19.42	80.22	146.79	9.07	397.24	51.07	32,187.08			
Months 13-24	12.45	47.75	81.25	8.93	183.93	22.31	18,687.19			
Months 19-30	11.86	44.14	77.09	8.91	180.54	21.74	17,480.23			
12-Month Maximum	**19.42**	**80.22**	**146.79**	**9.07**	**397.24**	**51.07**	**32,187.08**			
Total GHG Emissions (metric tons)							**54,261.84**			

Table 6
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Grading	0.85	3.12	6.80	0.01	0.26	0.24	1,092.04	1.00	0.00	0.00
Perimeter Wall	0.06	0.33	0.36	0.00	0.01	0.01	160.94	1.00	0.00	0.00
Water Well	0.02	0.11	0.12	0.00	0.00	0.00	62.74	1.00	0.00	0.00
Civil	0.02	0.07	0.10	0.00	0.01	0.00	24.90	1.00	0.00	0.00
Electrical	0.01	0.03	0.06	0.00	0.00	0.00	7.78	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Asphalting	0.07	0.26	0.61	0.00	0.02	0.02	87.66	1.00	0.00	0.00
Substation Construction - Full Build Out										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Civil	0.73	3.64	5.07	0.01	0.24	0.22	1,267.98	0.00	1.00	0.00
Electrical	0.18	0.94	1.31	0.00	0.08	0.08	180.29	0.00	0.67	0.67
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.00	0.67	0.67
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Asphalting	0.09	0.32	0.76	0.00	0.03	0.03	109.57	0.00	0.00	1.00
Transformer Assembly	0.08	0.36	0.65	0.00	0.03	0.03	98.12	0.00	0.67	0.67
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67
Distribution for Station Light & Power										
Overhead Construction	0.00	0.02	0.04	0.00	0.00	0.00	12.68	1.00	0.00	0.00
Underground Civil Construction	0.01	0.02	0.04	0.00	0.00	0.00	10.39	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.00	0.00	7.27	1.00	0.00	0.00
Modifications to Coolwater Switchyard										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Civil	0.11	0.57	0.73	0.00	0.04	0.04	163.64	1.00	0.00	0.00
Electrical	0.06	0.26	0.49	0.00	0.02	0.02	72.67	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00

Table 6
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Modifications to Lugo Substation										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Civil	0.19	1.01	1.27	0.00	0.07	0.06	304.10	1.00	0.00	0.00
Electrical	0.09	0.38	0.70	0.00	0.03	0.03	103.81	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Transformer Assembly	0.08	0.37	0.59	0.00	0.03	0.03	88.72	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Transmission and Subtransmission Construction										
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Construction and Materials Yards	3.31	10.95	25.97	0.05	0.92	0.84	4,736.74	0.40	0.40	0.40
Right-of-Way Clearing	0.63	2.25	4.84	0.01	0.18	0.16	926.78	1.00	0.00	0.00
Roads and Landing Work	1.46	5.08	11.25	0.02	0.41	0.37	2,154.97	1.00	0.00	0.00
Retaining Wall Installation	2.25	10.13	17.26	0.04	0.65	0.60	3,707.32	1.00	0.00	0.00
Wet Crossing Installation	1.42	6.19	10.97	0.02	0.42	0.39	2,029.61	1.00	0.00	0.00
Guard Structure Installation	0.11	0.49	0.88	0.00	0.03	0.03	214.70	0.40	0.40	0.40
Remove Existing Conductor & GW	0.23	0.94	2.36	0.00	0.07	0.07	480.91	0.40	0.40	0.40
LST Removal	0.26	0.96	1.91	0.00	0.09	0.08	328.47	0.40	0.40	0.40
LST Foundation Removal	0.03	0.10	0.19	0.00	0.01	0.01	41.63	0.40	0.40	0.40
Install LST Foundations	1.49	6.07	10.82	0.03	0.36	0.33	3,072.31	0.40	0.40	0.40
LST Steel Haul	0.23	0.75	1.91	0.00	0.06	0.06	367.05	0.40	0.40	0.40
LST Steel Assembly	3.85	17.36	29.05	0.05	1.39	1.28	4,673.69	0.40	0.40	0.40
LST Erection	1.82	6.58	14.32	0.02	0.63	0.58	2,263.48	0.40	0.40	0.40
Install TSP Foundations	0.98	3.86	7.29	0.02	0.24	0.22	1,911.12	0.40	0.40	0.40
TSP Haul	0.04	0.14	0.34	0.00	0.01	0.01	58.12	0.40	0.40	0.40
TSP Assembly	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.40	0.40	0.40
TSP Erection	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.40	0.40	0.40
Install Conductor	2.23	8.36	19.92	0.04	0.67	0.62	3,894.68	0.40	0.40	0.40
Guard Structure Removal	0.06	0.26	0.52	0.00	0.02	0.02	85.27	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.03	0.08	0.00	0.00	0.00	13.63	0.40	0.40	0.40
Install TSP Riser Foundations	0.06	0.23	0.44	0.00	0.01	0.01	114.63	0.40	0.40	0.40

Table 6
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
TSP Riser Haul	0.00	0.01	0.03	0.00	0.00	0.00	5.09	0.40	0.40	0.40
TSP Riser Assembly	0.04	0.15	0.30	0.00	0.01	0.01	46.68	0.40	0.40	0.40
TSP Riser Erection	0.04	0.15	0.30	0.00	0.01	0.01	46.68	0.40	0.40	0.40
Vault Installation	0.03	0.16	0.25	0.00	0.01	0.01	47.60	0.40	0.40	0.40
Duct Bank Installation	0.01	0.10	0.10	0.00	0.01	0.01	16.44	0.40	0.40	0.40
Install Underground Cable	0.07	0.27	0.66	0.00	0.02	0.02	142.59	0.40	0.40	0.40
Restoration	0.19	1.09	1.24	0.00	0.09	0.08	174.35	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)										
Install Cable	0.03	0.12	0.32	0.00	0.01	0.01	61.79	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)										
Install Cable	0.01	0.05	0.13	0.00	0.00	0.00	25.75	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.01	0.02	0.00	0.00	0.00	4.85	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)										
Install Cable	0.02	0.08	0.22	0.00	0.01	0.01	42.91	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.00	0.00	7.62	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall										
Install Cable	0.02	0.10	0.28	0.00	0.01	0.01	54.93	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation										
Install Cable	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.00	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation										
Install 5 Foot Crossarm	0.00	0.01	0.03	0.00	0.00	0.00	5.15	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.00	0.00	3.43	1.00	0.00	0.00
Install Cable	0.03	0.11	0.31	0.00	0.01	0.01	60.08	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.01	0.03	0.00	0.00	0.00	6.23	1.00	0.00	0.00

Table 6
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction of Total Emissions		
								Months 1-2	Months 13-24	Months 19-30
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable										
Install 5 Foot Crossarm	0.02	0.07	0.18	0.00	0.01	0.00	34.33	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.07	0.16	0.00	0.00	0.00	36.98	1.00	0.00	0.00
Install Down Guys	0.00	0.00	0.01	0.00	0.00	0.00	2.57	1.00	0.00	0.00
Install Cable	0.01	0.06	0.16	0.00	0.00	0.00	30.90	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.04	0.08	0.00	0.00	0.00	17.32	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Telecommunications Construction, Coolwater Microwave Tower										
All	0.01	0.05	0.09	0.00	0.00	0.00	23.46	1.00	0.00	0.00
Totals by 12-Month Period										
Months 1-12	13.53	54.31	105.46	0.21	4.09	3.76	20,446.99			
Months 13-24	7.08	28.72	54.90	0.11	2.25	2.07	10,694.76			
Months 19-30	6.52	25.76	51.55	0.10	2.06	1.90	9,725.44			
12-Month Maximum	**13.53**	**54.31**	**105.46**	**0.21**	**4.09**	**3.76**	**20,446.99**			
Total GHG Emissions (metric tons)							**32,796.63**			

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 10 - Controlled Fugitive PM

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out											
Survey	0.00	0.00	0.00	0.00	0.03	0.00	0.68	0.000	1.00	0.00	0.00
Grading	0.96	4.03	10.57	0.02	14.57	3.66	1,936.17	0.000	1.00	0.00	0.00
Perimeter Wall	0.06	0.43	0.52	0.00	0.53	0.08	203.77	0.000	1.00	0.00	0.00
Water Well	0.02	0.16	0.14	0.00	0.25	0.03	70.96	0.000	1.00	0.00	0.00
Civil	0.12	0.80	4.18	0.01	10.84	1.27	908.53	0.000	1.00	0.00	0.00
Electrical	0.01	0.05	0.06	0.00	0.04	0.01	10.26	0.000	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.09	0.01	7.43	0.000	1.00	0.00	0.00
MEER	0.01	0.11	0.04	0.00	0.18	0.03	18.75	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.05	0.01	3.32	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.05	0.01	5.75	0.000	1.00	0.00	0.00
Asphalting	0.10	0.51	1.92	0.00	3.57	0.44	374.47	0.000	1.00	0.00	0.00
Substation Construction - Full Build Out											
Survey	0.00	0.11	0.01	0.00	0.17	0.03	15.57	0.000	0.00	1.00	0.00
Civil	0.78	4.41	6.27	0.02	4.74	0.77	1,594.62	0.000	0.00	1.00	0.00
Electrical	0.19	1.41	1.36	0.00	0.70	0.18	246.08	0.000	0.00	0.67	0.67
Wiring	0.00	0.07	0.01	0.00	0.12	0.02	9.91	0.000	0.00	0.67	0.67
Control Room	0.01	0.14	0.06	0.00	0.20	0.03	24.75	0.000	0.00	0.67	0.67
Maintenance	0.00	0.06	0.01	0.00	0.12	0.02	8.29	0.000	0.00	0.67	0.67
Asphalting	0.10	0.41	1.11	0.00	1.01	0.14	188.30	0.000	0.00	0.00	1.00
Transformer Assembly	0.09	0.63	0.68	0.00	0.34	0.08	135.09	0.000	0.00	0.67	0.67
Testing	0.01	0.39	0.04	0.00	0.37	0.07	55.34	0.000	0.00	0.67	0.67
Distribution for Station Light & Power											
Overhead Construction	0.00	0.03	0.04	0.00	0.02	0.00	13.31	0.000	1.00	0.00	0.00
Underground Civil Construction	0.01	0.03	0.05	0.00	0.02	0.00	11.87	0.000	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.02	0.00	7.70	0.000	1.00	0.00	0.00
Modifications to Coolwater Switchyard											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.000	1.00	0.00	0.00
Civil	0.11	0.65	0.78	0.00	0.10	0.05	184.00	0.000	1.00	0.00	0.00
Electrical	0.06	0.34	0.50	0.00	0.08	0.04	84.18	0.000	1.00	0.00	0.00
Wiring	0.00	0.02	0.00	0.00	0.01	0.00	2.49	0.000	1.00	0.00	0.00
MEER	0.01	0.06	0.04	0.00	0.03	0.01	12.10	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	0.000	1.00	0.00	0.00
Modifications to Lugo Substation											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.000	1.00	0.00	0.00

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 10 - Controlled Fugitive PM

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Civil	0.20	1.17	1.37	0.00	0.19	0.09	342.12	0.000	1.00	0.00	0.00
Electrical	0.09	0.52	0.71	0.00	0.13	0.06	124.34	0.000	1.00	0.00	0.00
Wiring	0.00	0.05	0.01	0.00	0.04	0.01	7.40	0.000	1.00	0.00	0.00
Control Room	0.01	0.07	0.05	0.00	0.03	0.01	14.83	0.000	1.00	0.00	0.00
Maintenance	0.00	0.02	0.00	0.00	0.02	0.00	3.29	0.000	1.00	0.00	0.00
Transformer Assembly	0.08	0.48	0.60	0.00	0.10	0.04	103.59	0.000	1.00	0.00	0.00
Testing	0.00	0.04	0.00	0.00	0.03	0.01	5.74	0.000	1.00	0.00	0.00
Transmission and Subtransmission Construction											
Survey	0.01	0.16	0.02	0.00	2.12	0.22	22.91	0.385	1.00	0.00	0.00
Construction and Materials Yards	3.60	16.40	31.77	0.07	5.19	1.93	6,520.20	0.000	0.40	0.40	0.40
Right-of-Way Clearing	0.67	3.07	5.09	0.01	12.76	2.83	1,074.78	0.385	1.00	0.00	0.00
Roads and Landing Work	1.49	5.79	11.64	0.02	25.81	5.15	2,315.44	0.385	1.00	0.00	0.00
Retaining Wall Installation	2.39	12.16	20.69	0.05	83.23	9.09	4,617.97	0.385	1.00	0.00	0.00
Wet Crossing Installation	1.53	7.91	13.59	0.03	68.93	7.43	2,745.75	0.385	1.00	0.00	0.00
Guard Structure Installation	0.12	0.59	0.97	0.00	4.18	0.46	245.04	0.385	0.40	0.40	0.40
Remove Existing Conductor & GW	0.25	1.22	2.59	0.01	9.88	1.08	563.41	0.385	0.40	0.40	0.40
LST Removal	0.27	1.09	1.97	0.00	3.09	0.40	358.39	0.385	0.40	0.40	0.40
LST Foundation Removal	0.03	0.14	0.21	0.00	0.36	0.05	48.29	0.385	0.40	0.40	0.40
Install LST Foundations	1.79	8.35	17.00	0.44	127.07	13.30	4,591.96	0.385	0.40	0.40	0.40
LST Steel Haul	0.77	1.82	5.15	1.61	11.38	1.30	1,304.18	0.385	0.40	0.40	0.40
LST Steel Assembly	6.01	24.84	42.65	6.63	45.37	6.47	8,908.39	0.385	0.40	0.40	0.40
LST Erection	8.30	18.91	39.61	10.92	57.29	7.15	8,769.91	0.385	0.40	0.40	0.40
Install TSP Foundations	1.08	5.18	9.93	0.03	68.26	7.18	2,585.63	0.385	0.40	0.40	0.40
TSP Haul	0.05	0.22	0.42	0.00	3.55	0.37	83.32	0.385	0.40	0.40	0.40
TSP Assembly	0.11	0.55	0.81	0.00	4.70	0.51	153.21	0.385	0.40	0.40	0.40
TSP Erection	0.10	0.54	0.78	0.00	3.38	0.38	145.70	0.385	0.40	0.40	0.40
Install Conductor	5.49	19.58	24.30	2.55	64.41	7.78	6,508.79	0.385	0.40	0.40	0.40
Guard Structure Removal	0.07	0.34	0.56	0.00	2.86	0.31	101.26	0.385	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.04	0.08	0.00	0.30	0.03	15.66	0.385	0.40	0.40	0.40
Install TSP Riser Foundations	0.07	0.37	0.72	0.00	6.50	0.68	186.70	0.385	0.40	0.40	0.40
TSP Riser Haul	0.00	0.02	0.04	0.00	0.31	0.03	7.29	0.385	0.40	0.40	0.40
TSP Riser Assembly	0.04	0.22	0.33	0.00	1.88	0.21	61.29	0.385	0.40	0.40	0.40
TSP Riser Erection	0.04	0.22	0.31	0.00	1.35	0.15	58.28	0.385	0.40	0.40	0.40
Vault Installation	0.04	0.21	0.34	0.00	3.00	0.32	71.39	0.385	0.40	0.40	0.40
Duct Bank Installation	0.02	0.15	0.19	0.00	3.37	0.35	41.99	0.385	0.40	0.40	0.40
Install Underground Cable	0.07	0.33	0.75	0.00	3.62	0.39	167.43	0.385	0.40	0.40	0.40

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 10 - Controlled Fugitive PM

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
Restoration	0.20	1.33	1.38	0.00	7.87	1.36	233.87	0.385	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)											
Install Cable	0.03	0.14	0.33	0.00	0.21	0.03	66.73	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.08	0.01	12.27	0.000	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)											
Install Cable	0.01	0.06	0.14	0.00	0.09	0.01	27.80	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.01	0.00	0.35	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.05	0.01	6.56	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)											
Install Cable	0.02	0.10	0.23	0.00	0.08	0.02	46.14	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.04	0.00	0.04	0.01	10.26	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall											
Install Cable	0.03	0.14	0.29	0.00	0.09	0.02	60.35	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.04	0.01	13.10	0.000	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation											
Install Cable	0.02	0.09	0.18	0.00	0.06	0.01	37.72	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.03	0.05	0.00	0.03	0.01	11.63	0.000	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation											
Install 5 Foot Crossarm	0.00	0.02	0.03	0.00	0.04	0.00	6.39	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.02	0.02	0.00	0.03	0.00	4.93	0.000	1.00	0.00	0.00
Install Cable	0.03	0.14	0.32	0.00	0.20	0.03	64.46	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.02	0.00	0.72	0.000	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.02	0.03	0.00	0.05	0.01	8.16	0.000	1.00	0.00	0.00
Restoration	0.00	0.01	0.00	0.00	0.03	0.00	1.29	0.000	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable											
Install 5 Foot Crossarm	0.02	0.09	0.19	0.00	0.02	0.01	39.90	0.198	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.09	0.17	0.00	0.02	0.01	41.02	0.198	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.01	0.00	3.93	0.198	1.00	0.00	0.00
Install Cable	0.01	0.08	0.17	0.00	0.02	0.01	36.10	0.198	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.02	0.00	0.00	0.02	0.00	3.53	0.198	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.06	0.09	0.00	0.02	0.01	22.55	0.198	1.00	0.00	0.00
Restoration	0.00	0.02	0.01	0.00	0.01	0.00	3.69	0.198	1.00	0.00	0.00

Table 7
Total Construction Emissions Summary with Alternative Transmission Segment 10 - Controlled Fugitive PM

Total Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Coolwater Microwave Tower											
All	0.01	0.08	0.09	0.00	0.02	0.01	27.81	0.000	1.00	0.00	0.00
Totals by 12-Month Period											
Months 1-12	6.16	24.35	42.83	3.46	139.89	17.05	9,565.47				
Months 13-24	3.86	13.42	23.41	3.42	67.65	7.88	5,446.86				
Months 19-30	3.86	13.42	23.41	3.42	67.65	7.88	5,446.86				
12-Month Maximum	**6.16**	**24.35**	**42.83**	**3.46**	**139.89**	**17.05**	**9,565.47**				
Total GHG Emissions (metric tons)							**54,261.84**				

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Substation Construction - Initial Build Out											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Grading	0.85	3.12	6.80	0.01	0.26	0.24	1,092.04	0.000	1.00	0.00	0.00
Perimeter Wall	0.06	0.33	0.36	0.00	0.01	0.01	160.94	0.000	1.00	0.00	0.00
Water Well	0.02	0.11	0.12	0.00	0.00	0.00	62.74	0.000	1.00	0.00	0.00
Civil	0.02	0.07	0.10	0.00	0.01	0.00	24.90	0.000	1.00	0.00	0.00
Electrical	0.01	0.03	0.06	0.00	0.00	0.00	7.78	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Asphalting	0.07	0.26	0.61	0.00	0.02	0.02	87.66	0.000	1.00	0.00	0.00
Substation Construction - Full Build Out											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	1.00	0.00
Civil	0.73	3.64	5.07	0.01	0.24	0.22	1,267.98	0.000	0.00	1.00	0.00
Electrical	0.18	0.94	1.31	0.00	0.08	0.08	180.29	0.000	0.00	0.67	0.67
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.000	0.00	0.67	0.67
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Asphalting	0.09	0.32	0.76	0.00	0.03	0.03	109.57	0.000	0.00	0.00	1.00
Transformer Assembly	0.08	0.36	0.65	0.00	0.03	0.03	98.12	0.000	0.00	0.67	0.67
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.67	0.67
Distribution for Station Light & Power											
Overhead Construction	0.00	0.02	0.04	0.00	0.00	0.00	12.68	0.000	1.00	0.00	0.00
Underground Civil Construction	0.01	0.02	0.04	0.00	0.00	0.00	10.39	0.000	1.00	0.00	0.00
Underground Electrical Construction	0.01	0.02	0.04	0.00	0.00	0.00	7.27	0.000	1.00	0.00	0.00
Modifications to Coolwater Switchyard											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Civil	0.11	0.57	0.73	0.00	0.04	0.04	163.64	0.000	1.00	0.00	0.00
Electrical	0.06	0.26	0.49	0.00	0.02	0.02	72.67	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
MEER	0.00	0.01	0.03	0.00	0.00	0.00	5.45	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Modifications to Lugo Substation											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Civil	0.19	1.01	1.27	0.00	0.07	0.06	304.10	0.000	1.00	0.00	0.00
Electrical	0.09	0.38	0.70	0.00	0.03	0.03	103.81	0.000	1.00	0.00	0.00
Wiring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Control Room	0.01	0.02	0.05	0.00	0.00	0.00	8.17	0.000	1.00	0.00	0.00
Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Transformer Assembly	0.08	0.37	0.59	0.00	0.03	0.03	88.72	0.000	1.00	0.00	0.00
Testing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Transmission and Subtransmission Construction											
Survey	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.385	1.00	0.00	0.00
Construction and Materials Yards	3.31	10.95	25.97	0.05	0.92	0.84	4,736.74	0.000	0.40	0.40	0.40
Right-of-Way Clearing	0.63	2.25	4.84	0.01	0.18	0.16	926.78	0.385	1.00	0.00	0.00
Roads and Landing Work	1.46	5.08	11.25	0.02	0.41	0.37	2,154.97	0.385	1.00	0.00	0.00
Retaining Wall Installation	2.25	10.13	17.26	0.04	0.65	0.60	3,707.32	0.385	1.00	0.00	0.00
Wet Crossing Installation	1.42	6.19	10.97	0.02	0.42	0.39	2,029.61	0.385	1.00	0.00	0.00
Guard Structure Installation	0.11	0.49	0.88	0.00	0.03	0.03	214.70	0.385	0.40	0.40	0.40
Remove Existing Conductor & GW	0.23	0.94	2.36	0.00	0.07	0.07	480.91	0.385	0.40	0.40	0.40
LST Removal	0.26	0.96	1.91	0.00	0.09	0.08	328.47	0.385	0.40	0.40	0.40
LST Foundation Removal	0.03	0.10	0.19	0.00	0.01	0.01	41.63	0.385	0.40	0.40	0.40
Install LST Foundations	1.49	6.07	10.82	0.03	0.36	0.33	3,072.31	0.385	0.40	0.40	0.40
LST Steel Haul	0.23	0.75	1.91	0.00	0.06	0.06	367.05	0.385	0.40	0.40	0.40
LST Steel Assembly	3.85	17.36	29.05	0.05	1.39	1.28	4,673.69	0.385	0.40	0.40	0.40
LST Erection	1.82	6.58	14.32	0.02	0.63	0.58	2,263.48	0.385	0.40	0.40	0.40
Install TSP Foundations	0.98	3.86	7.29	0.02	0.24	0.22	1,911.12	0.385	0.40	0.40	0.40
TSP Haul	0.04	0.14	0.34	0.00	0.01	0.01	58.12	0.385	0.40	0.40	0.40
TSP Assembly	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.385	0.40	0.40	0.40
TSP Erection	0.10	0.37	0.74	0.00	0.04	0.03	116.69	0.385	0.40	0.40	0.40
Install Conductor	2.23	8.36	19.92	0.04	0.67	0.62	3,894.68	0.385	0.40	0.40	0.40
Guard Structure Removal	0.06	0.26	0.52	0.00	0.02	0.02	85.27	0.385	0.40	0.40	0.40
115 kV Pole Removal	0.01	0.03	0.08	0.00	0.00	0.00	13.63	0.385	0.40	0.40	0.40
Install TSP Riser Foundations	0.06	0.23	0.44	0.00	0.01	0.01	114.63	0.385	0.40	0.40	0.40
TSP Riser Haul	0.00	0.01	0.03	0.00	0.00	0.00	5.09	0.385	0.40	0.40	0.40
TSP Riser Assembly	0.04	0.15	0.30	0.00	0.01	0.01	46.68	0.385	0.40	0.40	0.40
TSP Riser Erection	0.04	0.15	0.30	0.00	0.01	0.01	46.68	0.385	0.40	0.40	0.40
Vault Installation	0.03	0.16	0.25	0.00	0.01	0.01	47.60	0.385	0.40	0.40	0.40
Duct Bank Installation	0.01	0.10	0.10	0.00	0.01	0.01	16.44	0.385	0.40	0.40	0.40
Install Underground Cable	0.07	0.27	0.66	0.00	0.02	0.02	142.59	0.385	0.40	0.40	0.40

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions Months 1-2	Months 13-24	Months 19-30
Restoration	0.19	1.09	1.24	0.00	0.09	0.08	174.35	0.385	0.00	0.67	0.67
Telecommunications Construction, LADWP Corridor Underground Crossing (Segment 2/Segment 8)											
Install Cable	0.03	0.12	0.32	0.00	0.01	0.01	61.79	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.000	1.00	0.00	0.00
Telecommunications Construction, OPGW Underground Crossing near Highway 47 (Segment 5)											
Install Cable	0.01	0.05	0.13	0.00	0.00	0.00	25.75	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.01	0.02	0.00	0.00	0.00	4.85	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW Underground Crossing near SR-18 (Segment 5)											
Install Cable	0.02	0.08	0.22	0.00	0.01	0.01	42.91	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.00	0.02	0.03	0.00	0.00	0.00	7.62	0.000	0.00	0.00	1.00
Telecommunications Construction, OPGW from Last Transmission Towers to Desert View Substation Wall											
Install Cable	0.02	0.10	0.28	0.00	0.01	0.01	54.93	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.70	0.000	0.00	0.00	1.00
Telecommunications Construction, 220 kV/500 kV Towers to Desert View Substation											
Install Cable	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.000	0.00	0.00	1.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	1.00
Ungerground Conduit and Structures	0.01	0.02	0.04	0.00	0.00	0.00	9.00	0.000	0.00	0.00	1.00
Telecommunications Construction, Apple Valley to Desert View Substation											
Install 5 Foot Crossarm	0.00	0.01	0.03	0.00	0.00	0.00	5.15	0.000	1.00	0.00	0.00
Install Down Guys	0.00	0.01	0.02	0.00	0.00	0.00	3.43	0.000	1.00	0.00	0.00
Install Cable	0.03	0.11	0.31	0.00	0.01	0.01	60.08	0.000	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Underground Conduit from Pole to Pole	0.00	0.01	0.03	0.00	0.00	0.00	6.23	0.000	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	1.00	0.00	0.00
Telecommunications Construction, Gale to Pisgah Fiber Optic Cable											
Install 5 Foot Crossarm	0.02	0.07	0.18	0.00	0.01	0.00	34.33	0.198	1.00	0.00	0.00
Replacement Wood Pole Haul/Install	0.02	0.07	0.16	0.00	0.00	0.00	36.98	0.198	1.00	0.00	0.00
Install Down Guys	0.00	0.00	0.01	0.00	0.00	0.00	2.57	0.198	1.00	0.00	0.00
Install Cable	0.01	0.06	0.16	0.00	0.00	0.00	30.90	0.198	1.00	0.00	0.00
Splice Fiber Optic Cable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.198	1.00	0.00	0.00
Underground Conduit & Structures	0.01	0.04	0.08	0.00	0.00	0.00	17.32	0.198	1.00	0.00	0.00
Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.198	1.00	0.00	0.00

Table 8
Total Off-Road Construction Equipment Emissions Summary with Alternative Transmission Segment 10 - Uncontrolled

Total Off-Road Construction Equipment Emissions by Construction Activity on BLM Land

Activity	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)	Fraction on BLM Land	Fraction of Total Emissions		
									Months 1-2	Months 13-24	Months 19-30
Telecommunications Construction, Coolwater Microwave Tower											
All	0.01	0.05	0.09	0.00	0.00	0.00	23.46	0.000	1.00	0.00	0.00
Totals by 12-Month Period											
Months 1-12	4.05	16.50	31.53	0.06	1.22	1.12	6,200.32				
Months 13-24	1.87	7.63	14.67	0.03	0.60	0.55	2,825.93				
Months 19-30	1.87	7.63	14.67	0.03	0.60	0.55	2,825.93				
12-Month Maximum	**4.05**	**16.50**	**31.53**	**0.06**	**1.22**	**1.12**	**6,200.32**				
Total GHG Emissions (metric tons)							**32,796.63**				

Table 9
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Grading

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	14.21	52.08	113.36	0.18	4.36	4.01	18,200.6
Onsite Motor Vehicle Exhaust	0.02	0.15	0.86	0.00	0.03	0.01	173.6
Onsite Motor Vehicle Fugitive PM	--	--	--	--	20.07	2.01	
Earthwork Fugitive PM	--	--	--	--	107.65	40.91	
Onsite Total	**14.24**	**52.23**	**114.22**	**0.18**	**132.10**	**46.94**	**18374.2**
Offsite Motor Vehicle Exhaust	1.72	14.94	61.96	0.14	2.11	1.12	13,895.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	119.29	14.08	
Offsite Total	**1.72**	**14.94**	**61.96**	**0.14**	**121.40**	**15.20**	**13895.2**
Total	**15.96**	**67.17**	**176.18**	**0.32**	**253.50**	**62.14**	**32269.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.85	3.12	6.80	0.01	0.26	0.24	1,092.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.05	0.00	0.00	0.00	10.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.20	0.12	
Earthwork Fugitive PM	--	--	--	--	6.46	2.45	
Onsite Total	**0.85**	**3.13**	**6.85**	**0.01**	**7.93**	**2.82**	**1102.5**
Offsite Motor Vehicle Exhaust	0.10	0.90	3.72	0.01	0.13	0.07	833.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.52	0.78	
Offsite Total	**0.10**	**0.90**	**3.72**	**0.01**	**6.65**	**0.85**	**833.7**
Total	**0.96**	**4.03**	**10.57**	**0.02**	**14.57**	**3.66**	**1936.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
980 Loader	400	2	120	8
Grader/Blade	400	2	120	8
Compactor	100	1	120	5
Earth Mover	400	4	120	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
980 Loader	400	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Grader/Blade	400	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders
Compactor	100	0.079	0.397	0.511	0.001	0.042	0.038	58.936	0.007	0.002	Rollers
Earth Mover	400	0.273	1.010	2.216	0.003	0.085	0.078	321.140	0.025	0.008	Scrapers

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 9
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Grading

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
980 Loader	2.55	8.94	20.10	0.04	0.72	0.66	3788.73	0.23	0.10	3,824.1
Grader/Blade	2.52	8.83	19.80	0.04	0.71	0.66	3668.45	0.23	0.10	3,702.8
Compactor	0.40	1.98	2.55	0.00	0.21	0.19	294.68	0.04	0.01	297.8
Earth Mover	8.75	32.32	70.91	0.10	2.72	2.50	10276.48	0.79	0.27	10,376.0
Total	**14.21**	**52.08**	**113.36**	**0.18**	**4.36**	**4.01**	**18028.34**	**1.28**	**0.47**	**18200.64**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
980 Loader	0.15	0.54	1.21	0.00	0.04	0.04	227.32	0.01	0.01	229.4
Grader/Blade	0.15	0.53	1.19	0.00	0.04	0.04	220.11	0.01	0.01	222.2
Compactor	0.02	0.12	0.15	0.00	0.01	0.01	17.68	0.00	0.00	17.9
Earth Mover	0.52	1.94	4.25	0.01	0.16	0.15	616.59	0.05	0.02	622.6
Total	**0.85**	**3.12**	**6.80**	**0.01**	**0.26**	**0.24**	**1081.70**	**0.08**	**0.03**	**1092.04**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	4	120	N/A	4
Survey Truck	1	120	N/A	4
Soils Test Crew Truck	1	120	N/A	4
Dump Truck	60	120	N/A	0.5
Offsite				
Water Truck	4	120	N/A	28
Dump Truck	60	120	N/A	60
Worker Commute	15	120	N/A	58

[a] Dump trucks based on exporting 100,000 CY over 120 days and 14 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Survey Truck	LHDT	2.79E-04	1.93E-03	1.24E-02	1.10E-05	2.61E-04	5.48E-05	1.12E+00	1.29E-05	3.80E-05
Soils Test Crew Truck	LHDT	2.79E-04	1.93E-03	1.24E-02	1.10E-05	2.61E-04	5.48E-05	1.12E+00	1.29E-05	3.80E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										

Table 9
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Grading

Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.05	0.26	0.00	0.01	0.00	56.64	0.00	0.00	57.25
Survey Truck	0.00	0.01	0.05	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Soils Test Crew Truck	0.00	0.01	0.05	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Dump Truck	0.01	0.09	0.50	0.00	0.02	0.01	106.21	0.00	0.00	107.34
Onsite Total	**0.02**	**0.15**	**0.86**	**0.00**	**0.03**	**0.01**	**171.77**	**0.00**	**0.01**	**173.61**
Offsite										
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Dump Truck	1.52	10.25	59.62	0.13	1.95	1.08	12744.91	0.07	0.43	12881.09
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**1.72**	**14.94**	**61.96**	**0.14**	**2.11**	**1.12**	**13747.86**	**0.11**	**0.47**	**13895.19**
Total	**1.75**	**15.09**	**62.82**	**0.14**	**2.13**	**1.14**	**13919.63**	**0.11**	**0.47**	**14068.80**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.40	0.00	0.00	3.43
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Soils Test Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Dump Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Onsite Total	**0.00**	**0.01**	**0.05**	**0.00**	**0.00**	**0.00**	**10.31**	**0.00**	**0.00**	**10.42**
Offsite										
Water Truck	0.00	0.02	0.11	0.00	0.00	0.00	23.79	0.00	0.00	24.04
Dump Truck	0.09	0.62	3.58	0.01	0.12	0.07	764.69	0.00	0.03	772.87
Worker Commute	0.01	0.26	0.03	0.00	0.01	0.00	36.39	0.00	0.00	36.80
Offsite Total	**0.10**	**0.90**	**3.72**	**0.01**	**0.13**	**0.07**	**824.87**	**0.01**	**0.03**	**833.71**
Total	**0.10**	**0.91**	**3.77**	**0.01**	**0.13**	**0.07**	**835.18**	**0.01**	**0.03**	**844.13**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 9
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Grading

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	4	Unpaved	4	120	0.977	0.098	15.64	1.56	0.94	0.09
Survey Truck	1	Unpaved	4	120	0.474	0.047	1.89	0.19	0.11	0.01
Soils Test Crew Truck	1	Unpaved	4	120	0.634	0.063	2.54	0.25	0.15	0.02
Onsite Total							**20.07**	**2.01**	**1.20**	**0.12**
Offsite										
Water Truck	4	Unpaved	1.5	120	0.977	0.098	5.86	0.59	0.35	0.04
Water Truck	4	Paved	16.5	120	0.003	0.001	0.22	0.05	0.01	0.00
Dump Truck	60	Unpaved	1.5	120	0.977	0.098	87.97	8.80	5.28	0.53
Dump Truck	60	Paved	58.5	120	0.003	0.001	11.69	2.87	0.70	0.17
Worker Commute	15	Paved	58	120	0.003	0.001	2.90	0.71	0.17	0.04
Worker Commute	15	Unpaved	1.5	120	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**119.29**	**14.08**	**6.52**	**0.78**
Total							**139.36**	**16.09**	**7.72**	**0.90**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	24325	2918950	1.00E-03	1.52E-04	24.39	3.69	1.46	0.22
Bulldozing, Scraping and Grading	hr	48	5760	1.735	0.775	83.26	37.21	5.00	2.23
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**107.65**	**40.91**	**6.46**	**2.45**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 2,918,950 CY over120 days

Table 10
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.89	10.96	11.92	0.05	0.41	0.38	5,364.6
Onsite Motor Vehicle Exhaust	0.00	0.08	0.09	0.00	0.00	0.00	27.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	7.14	0.71	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**1.89**	**11.04**	**12.01**	**0.05**	**7.58**	**1.10**	**5391.8**
Offsite Motor Vehicle Exhaust	0.21	3.19	5.22	0.01	0.21	0.09	1,400.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	15.53	1.92	
Offsite Total	**0.21**	**3.19**	**5.22**	**0.01**	**15.75**	**2.01**	**1400.6**
Total	**2.10**	**14.23**	**17.24**	**0.07**	**23.32**	**3.11**	**6792.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.33	0.36	0.00	0.01	0.01	160.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.21	0.02	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.33**	**0.36**	**0.00**	**0.23**	**0.03**	**161.8**
Offsite Motor Vehicle Exhaust	0.01	0.10	0.16	0.00	0.01	0.00	42.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.30	0.04	
Offsite Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.30**	**0.04**	**42.0**
Total	**0.06**	**0.43**	**0.52**	**0.00**	**0.53**	**0.08**	**203.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	2	60	8
Bobcat	75	1	60	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.65	8.81	9.99	0.05	0.30	0.27	4976.47	0.15	0.13	5,019.6
Bobcat	0.24	2.15	1.93	0.00	0.11	0.10	341.79	0.02	0.01	345.0
Total	**1.89**	**10.96**	**11.92**	**0.05**	**0.41**	**0.38**	**5318.25**	**0.17**	**0.14**	**5364.58**

Table 10
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.05	0.26	0.30	0.00	0.01	0.01	149.29	0.00	0.00	150.6
Bobcat	0.01	0.06	0.06	0.00	0.00	0.00	10.25	0.00	0.00	10.4
Total	**0.06**	**0.33**	**0.36**	**0.00**	**0.01**	**0.01**	**159.55**	**0.01**	**0.00**	**160.94**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Concrete Truck	3	60	N/A	1
Flatbed Truck	2	60	N/A	1
Crew Truck	1	60	N/A	4
Foreman Truck	1	60	N/A	4
Offsite				
Concrete Truck	3	60	N/A	60
Flatbed Truck	2	60	N/A	60
Worker Commute	8	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Foreman Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Concrete Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73

Table 10
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

Flatbed Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Crew Truck	0.00	0.03	0.00	0.00	0.00	0.00	4.62	0.00	0.00	4.68
Foreman Truck	0.00	0.03	0.00	0.00	0.00	0.00	4.62	0.00	0.00	4.68
Onsite Total	**0.00**	**0.08**	**0.09**	**0.00**	**0.00**	**0.00**	**26.94**	**0.00**	**0.00**	**27.26**
Offsite										
Concrete Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Flatbed Truck	0.05	0.34	1.99	0.00	0.07	0.04	424.83	0.00	0.01	429.37
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.21**	**3.19**	**5.22**	**0.01**	**0.21**	**0.09**	**1385.51**	**0.03**	**0.05**	**1400.55**
Total	**0.21**	**3.26**	**5.31**	**0.01**	**0.21**	**0.09**	**1412.45**	**0.03**	**0.05**	**1427.81**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.32
Flatbed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.81**	**0.00**	**0.00**	**0.82**
Offsite										
Concrete Truck	0.00	0.02	0.09	0.00	0.00	0.00	19.12	0.00	0.00	19.32
Flatbed Truck	0.00	0.01	0.06	0.00	0.00	0.00	12.74	0.00	0.00	12.88
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.01**	**0.00**	**41.57**	**0.00**	**0.00**	**42.02**
Total	**0.01**	**0.10**	**0.16**	**0.00**	**0.01**	**0.00**	**42.37**	**0.00**	**0.00**	**42.83**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Concrete Truck	3	Unpaved	1	60	0.977	0.098	2.93	0.29	0.09	0.01
Flatbed Truck	2	Unpaved	1	60	0.977	0.098	1.95	0.20	0.06	0.01
Crew Truck	1	Unpaved	4	60	0.564	0.056	2.25	0.23	0.07	0.01
Onsite Total							**7.14**	**0.71**	**0.21**	**0.02**
Offsite										
Concrete Truck	3	Unpaved	1.5	60	0.977	0.098	4.40	0.44	0.13	0.01
Concrete Truck	3	Paved	58.5	60	0.003	0.001	0.58	0.14	0.02	0.00
Flatbed Truck	2	Unpaved	1.5	60	0.977	0.098	2.93	0.29	0.09	0.01
Flatbed Truck	2	Paved	58.5	60	0.003	0.001	0.39	0.10	0.01	0.00

Table 10
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Perimeter Wall

Worker Commute	8	Paved	58	60	0.003	0.001	1.54	0.38	0.05	0.01
Worker Commute	8	Unpaved	1.5	60	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**15.53**	**1.92**	**0.30**	**0.04**
Total							**22.68**	**2.63**	**0.51**	**0.06**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	27	810	1.00E-03	1.52E-04	0.03	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.03**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 810 CY over 30 days

Table 11
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Water Well

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.03	5.51	6.25	0.03	0.19	0.17	3,137.2
Onsite Motor Vehicle Exhaust	0.00	0.07	0.03	0.00	0.00	0.00	19.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	9.28	0.93	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.04**	**5.57**	**6.28**	**0.03**	**9.46**	**1.10**	**3156.2**
Offsite Motor Vehicle Exhaust	0.09	2.38	0.55	0.00	0.06	0.01	391.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.75	1.11	
Offsite Total	**0.09**	**2.38**	**0.55**	**0.00**	**8.81**	**1.12**	**391.5**
Total	**1.12**	**7.96**	**6.83**	**0.04**	**18.27**	**2.21**	**3547.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.11	0.12	0.00	0.00	0.00	62.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.19	0.02	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.11**	**0.13**	**0.00**	**0.19**	**0.02**	**63.1**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.06**	**0.01**	**7.8**
Total	**0.02**	**0.16**	**0.14**	**0.00**	**0.25**	**0.03**	**71.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Drill Rig	350	1	40	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Drill Rig	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Drill Rig	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2

Table 11
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Water Well

Total	**1.03**	**5.51**	**6.25**	**0.03**	**0.19**	**0.17**	**3110.29**	**0.09**	**0.08**	**3137.23**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Drill Rig	0.02	0.11	0.12	0.00	0.00	0.00	62.21	0.00	0.00	62.7
Total	**0.02**	**0.11**	**0.12**	**0.00**	**0.00**	**0.00**	**62.21**	**0.00**	**0.00**	**62.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	1	40	N/A	1
Tool Truck	2	40	N/A	4
Crew Truck	2	40	N/A	4
Offsite				
Water Truck	1	40	N/A	18
Worker Commute	8	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.01	0.00	0.00	0.00	5.99	0.00	0.00	6.06

Table 11
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Water Well

Crew Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.07**	**0.03**	**0.00**	**0.00**	**0.00**	**18.77**	**0.00**	**0.00**	**19.01**
Offsite										
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.38**	**0.55**	**0.00**	**0.06**	**0.01**	**387.16**	**0.02**	**0.01**	**391.53**
Total	**0.09**	**2.45**	**0.59**	**0.00**	**0.06**	**0.01**	**405.93**	**0.02**	**0.01**	**410.54**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.12
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.19
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.38**	**0.00**	**0.00**	**0.38**
Offsite										
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.27	0.00	0.00	1.29
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.74**	**0.00**	**0.00**	**7.83**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**8.12**	**0.00**	**0.00**	**8.21**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	1	Unpaved	1	40	0.977	0.098	0.98	0.10	0.02	0.00
Tool Truck	2	Unpaved	4	40	0.474	0.047	3.79	0.38	0.08	0.01
Crew Truck	2	Unpaved	4	40	0.564	0.056	4.51	0.45	0.09	0.01
Onsite Total							**9.28**	**0.93**	**0.19**	**0.02**
Offsite										
Water Truck	1	Unpaved	1.5	40	0.977	0.098	1.47	0.15	0.03	0.00
Water Truck	1	Paved	16.5	40	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	8	Paved	58	40	0.003	0.001	1.54	0.38	0.03	0.01
Worker Commute	8	Unpaved	1.5	40	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**8.75**	**1.11**	**0.06**	**0.01**

Table 11
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Water Well

Total							**18.03**	**2.04**	**0.25**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 12
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.53	7.36	10.49	0.03	0.53	0.49	2,489.6
Onsite Motor Vehicle Exhaust	0.17	1.17	6.73	0.01	0.22	0.12	1,455.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	397.77	39.78	
Earthwork Fugitive PM	--	--	--	--	0.23	0.03	
Onsite Total	**1.71**	**8.53**	**17.22**	**0.04**	**398.76**	**40.42**	**3944.6**
Offsite Motor Vehicle Exhaust	10.32	71.24	401.03	0.85	13.19	7.29	86,909.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	678.09	79.46	
Offsite Total	**10.32**	**71.24**	**401.03**	**0.85**	**691.28**	**86.75**	**86909.5**
Total	**12.03**	**79.77**	**418.25**	**0.89**	**1090.03**	**127.17**	**90854.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.10	0.00	0.01	0.00	24.9
Onsite Motor Vehicle Exhaust	0.00	0.01	0.07	0.00	0.00	0.00	14.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.97	0.40	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.09**	**0.17**	**0.00**	**3.98**	**0.40**	**39.4**
Offsite Motor Vehicle Exhaust	0.10	0.71	4.01	0.01	0.13	0.07	869.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.72	0.79	
Offsite Total	**0.10**	**0.71**	**4.01**	**0.01**	**6.86**	**0.86**	**869.1**
Total	**0.12**	**0.80**	**4.18**	**0.01**	**10.84**	**1.27**	**908.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	20	4
Skip Loader	350	1	20	3
Forklift	100	1	20	4
Trencher	75	1	20	4
Bobcat	75	1	20	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

a From Table 106

Table 12
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	0.41	2.20	2.50	0.01	0.07	0.07	1244.12	0.04	0.03	1,254.9
Skip Loader	0.48	1.68	3.77	0.01	0.13	0.12	710.39	0.04	0.02	717.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.09	0.81	0.72	0.00	0.04	0.04	128.17	0.01	0.00	129.4
Total	**1.53**	**7.36**	**10.49**	**0.03**	**0.53**	**0.49**	**2466.81**	**0.14**	**0.06**	**2489.60**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.00	0.02	0.02	0.00	0.00	0.00	12.44	0.00	0.00	12.5
Skip Loader	0.00	0.02	0.04	0.00	0.00	0.00	7.10	0.00	0.00	7.2
Forklift	0.00	0.01	0.01	0.00	0.00	0.00	1.25	0.00	0.00	1.3
Trencher	0.00	0.02	0.03	0.00	0.00	0.00	2.59	0.00	0.00	2.6
Bobcat	0.00	0.01	0.01	0.00	0.00	0.00	1.28	0.00	0.00	1.3
Total	**0.02**	**0.07**	**0.10**	**0.00**	**0.01**	**0.00**	**24.67**	**0.00**	**0.00**	**24.90**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	20	N/A	1
Concrete Truck	127	20	N/A	1
Water Truck	2	20	N/A	1
Tool Truck	1	20	N/A	1
Gravel Delivery Truck	276	20	N/A	1
Inspection Services	1	5	N/A	1
Offsite				
Water Truck	1	20	N/A	18
Gravel Delivery Truck	276	20	N/A	60
Concrete Truck	127	20	N/A	60
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,300 CY over 20 days and 10 CY/truck

Gravel delivery truck based on 40,250 CU over 20 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Table 12
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Gravel Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Gravel Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Concrete Truck	0.05	0.36	2.10	0.00	0.07	0.04	449.61	0.00	0.02	454.42
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Tool Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Gravel Delivery Truck	0.12	0.79	4.57	0.01	0.15	0.08	977.11	0.01	0.03	987.55
Inspection Services	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.17**	**1.17**	**6.73**	**0.01**	**0.22**	**0.12**	**1439.65**	**0.01**	**0.05**	**1455.04**
Offsite										
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Gravel Delivery Truck	7.01	47.16	274.27	0.58	8.99	4.99	58626.60	0.33	2.00	59253.00
Concrete Truck	3.22	21.70	126.21	0.27	4.14	2.30	26976.73	0.15	0.92	27264.97
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**10.32**	**71.24**	**401.03**	**0.85**	**13.19**	**7.29**	**85990.49**	**0.50**	**2.93**	**86909.50**
Total	**10.49**	**72.41**	**407.76**	**0.87**	**13.41**	**7.41**	**87430.14**	**0.50**	**2.98**	**88364.55**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Concrete Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.50	0.00	0.00	4.54
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01

Table 12
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Gravel Delivery Truck	0.00	0.01	0.05	0.00	0.00	0.00	9.77	0.00	0.00	9.88
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.01**	**0.07**	**0.00**	**0.00**	**0.00**	**14.39**	**0.00**	**0.00**	**14.54**
Offsite										
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Gravel Delivery Truck	0.07	0.47	2.74	0.01	0.09	0.05	586.27	0.00	0.02	592.53
Concrete Truck	0.03	0.22	1.26	0.00	0.04	0.02	269.77	0.00	0.01	272.65
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.10**	**0.71**	**4.01**	**0.01**	**0.13**	**0.07**	**859.90**	**0.00**	**0.03**	**869.10**
Total	**0.10**	**0.72**	**4.08**	**0.01**	**0.13**	**0.07**	**874.29**	**0.01**	**0.03**	**883.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Unpaved	1	20	0.977	0.098	0.98	0.10	0.01	0.00
Concrete Truck	127	Unpaved	1	20	0.977	0.098	124.13	12.41	1.24	0.12
Water Truck	2	Unpaved	1	20	0.977	0.098	1.95	0.20	0.02	0.00
Tool Truck	1	Unpaved	1	20	0.474	0.047	0.47	0.05	0.00	0.00
Gravel Delivery Truck	276	Unpaved	1	20	0.977	0.098	269.76	26.98	2.70	0.27
Inspection Services	1	Unpaved	1	5	0.474	0.047	0.47	0.05	0.00	0.00
Onsite Total							**397.77**	**39.78**	**3.97**	**0.40**
Offsite										
Water Truck	1	Unpaved	1.5	20	0.977	0.098	1.47	0.15	0.01	0.00
Water Truck	1	Paved	16.5	20	0.003	0.001	0.05	0.01	0.00	0.00
Gravel Delivery Truck	276	Unpaved	1.5	20	0.977	0.098	404.65	40.46	4.05	0.40
Gravel Delivery Truck	276	Paved	58.5	20	0.003	0.001	53.76	13.20	0.54	0.13
Concrete Truck	127	Unpaved	1.5	20	0.977	0.098	186.20	18.62	1.86	0.19
Concrete Truck	127	Paved	58.5	20	0.003	0.001	24.74	6.07	0.25	0.06
Worker Commute	8	Paved	58	20	0.003	0.001	1.54	0.38	0.02	0.00
Worker Commute	8	Unpaved	1.5	20	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**678.09**	**79.46**	**6.72**	**0.79**
Total							**1075.87**	**119.24**	**10.70**	**1.19**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 12
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Civil

Soil Handling[d]	CY	230	4600	1.00E-03	1.52E-04	0.23	0.03	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.23**	**0.03**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 4,600 CY over 20 days

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.65	6.81	13.06	0.02	0.62	0.57	1,960.9
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	4.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.14	0.31	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.65**	**6.82**	**13.07**	**0.02**	**3.76**	**0.88**	**1965.1**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.23	0.95	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**7.28**	**0.95**	**327.1**
Total	**1.73**	**9.15**	**13.32**	**0.03**	**11.04**	**1.83**	**2292.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.03	0.06	0.00	0.00	0.00	7.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.02**	**0.00**	**7.8**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**
Total	**0.01**	**0.05**	**0.06**	**0.00**	**0.04**	**0.01**	**10.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	15	4
Manlift	75	2	15	4
14 Ton Crane	250	1	2	3
150 Ton Crane	300	1	2	4
5 Ton Crane	250	1	15	3
Forklift	100	1	15	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.17	0.94	1.21	0.00	0.09	0.08	152.15	0.01	0.00	153.7
Manlift	0.33	1.88	2.42	0.00	0.18	0.16	304.30	0.03	0.01	307.4
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.65**	**6.81**	**13.06**	**0.02**	**0.62**	**0.57**	**1942.15**	**0.15**	**0.05**	**1960.95**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.00	0.01	0.01	0.00	0.00	0.00	1.14	0.00	0.00	1.2
Manlift	0.00	0.01	0.02	0.00	0.00	0.00	2.28	0.00	0.00	2.3
14 Ton Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.3
150 Ton Crane	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.7
5 Ton Crane	0.00	0.01	0.02	0.00	0.00	0.00	2.52	0.00	0.00	2.5
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.7
Total	**0.01**	**0.03**	**0.06**	**0.00**	**0.00**	**0.00**	**7.70**	**0.00**	**0.00**	**7.78**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	15	N/A	1
Crew Truck	2	15	N/A	1
Inspection Services	1	5	N/A	1
Offsite				
Worker Commute	8	15	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Inspection Services	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.15**	**0.00**	**0.00**	**4.20**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.26**	**0.00**	**0.05**	**0.00**	**327.58**	**0.02**	**0.01**	**331.33**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.03**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.43	0.00	0.00	2.45
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.43**	**0.00**	**0.00**	**2.45**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.45**	**0.00**	**0.00**	**2.48**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Unpaved	1	15	0.770	0.077	1.54	0.15	0.01	0.00
Crew Truck	2	Unpaved	1	15	0.564	0.056	1.13	0.11	0.01	0.00
Inspection Services	1	Unpaved	1	5	0.474	0.047	0.47	0.05	0.00	0.00
Onsite Total							**3.14**	**0.31**	**0.02**	**0.00**

Table 13
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Electrical

Offsite										
Worker Commute	8	Paved	58	15	0.003	0.001	1.54	0.38	0.01	0.00
Worker Commute	8	Unpaved	1.5	15	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**7.23**	**0.95**	**0.01**	**0.00**
Total							**10.37**	**1.26**	**0.03**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 14
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.75	0.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**1.75**	**0.17**	**2.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.42	0.71	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**5.46**	**0.71**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**7.21**	**0.89**	**247.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.09**	**0.01**	**7.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 14
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Wiring

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	1
Pick-up Truck	1	60	N/A	1
Offsite				
Worker Commute	6	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Pick-up Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.31**	**0.00**	**0.00**	**2.34**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**244.88**	**0.01**	**0.01**	**247.69**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 14
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Wiring

Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.04
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**0.07**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.28**	**0.00**	**0.00**	**7.36**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.35**	**0.00**	**0.00**	**7.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Unpaved	1	60	0.977	0.098	0.98	0.10	0.03	0.00
Pick-up Truck	1	Unpaved	1	60	0.770	0.077	0.77	0.08	0.02	0.00
Onsite Total							**1.75**	**0.17**	**0.05**	**0.01**
Offsite										
Worker Commute	6	Paved	58	60	0.003	0.001	1.16	0.28	0.03	0.01
Worker Commute	6	Unpaved	1.5	60	0.474	0.047	4.26	0.43	0.00	0.00
Offsite Total							**5.42**	**0.71**	**0.03**	**0.01**
Total							**7.17**	**0.89**	**0.09**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 15
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
MEER

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	5.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.93	0.29	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.67**	**6.45**	**0.01**	**3.17**	**0.51**	**1095.3**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.23	0.95	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**7.28**	**0.95**	**327.1**
Total	**0.88**	**5.00**	**6.70**	**0.01**	**10.44**	**1.46**	**1422.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.12	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.12**	**0.01**	**5.7**
Offsite Motor Vehicle Exhaust	0.00	0.09	0.01	0.00	0.00	0.00	13.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.02	
Offsite Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.06**	**0.02**	**13.1**
Total	**0.01**	**0.11**	**0.04**	**0.00**	**0.18**	**0.03**	**18.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 15
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
MEER

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.00	0.01	0.03	0.00	0.00	0.00	5.40	0.00	0.00	5.4
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.40**	**0.00**	**0.00**	**5.45**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	1
Stake Truck	1	80	N/A	1
Wiring Truck	1	80	N/A	1
Offsite				
Worker Commute	8	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**5.44**	**0.00**	**0.00**	**5.51**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.27**	**0.00**	**0.05**	**0.00**	**328.88**	**0.02**	**0.01**	**332.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 15
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
MEER

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.00**	**0.00**	**0.22**
Offsite										
Worker Commute	0.00	0.09	0.01	0.00	0.00	0.00	12.94	0.00	0.00	13.09
Offsite Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.00**	**0.00**	**12.94**	**0.00**	**0.00**	**13.09**
Total	**0.00**	**0.09**	**0.01**	**0.00**	**0.00**	**0.00**	**13.16**	**0.00**	**0.00**	**13.31**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Stake Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Wiring Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Onsite Total							**2.93**	**0.29**	**0.12**	**0.01**
Offsite										
Worker Commute	8	Paved	58	80	0.003	0.001	1.54	0.38	0.06	0.02
Worker Commute	8	Unpaved	1.5	80	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**7.23**	**0.95**	**0.06**	**0.02**
Total							**10.16**	**1.24**	**0.18**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

Table 15
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
MEER

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 16
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.69	0.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**1.69**	**0.17**	**2.3**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.61	0.47	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**3.64**	**0.47**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.33**	**0.64**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.05**	**0.01**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 16
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Maintenance

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	1
Crew Truck	2	40	N/A	1
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.25**	**0.00**	**0.00**	**2.27**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 16
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Maintenance

Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.05**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.28**	**0.00**	**0.00**	**3.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Unpaved	1	40	0.564	0.056	0.56	0.06	0.01	0.00
Crew Truck	2	Unpaved	1	40	0.564	0.056	1.13	0.11	0.02	0.00
Onsite Total							**1.69**	**0.17**	**0.03**	**0.00**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Worker Commute	4	Unpaved	1.5	40	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**3.61**	**0.47**	**0.02**	**0.00**
Total							**5.31**	**0.64**	**0.05**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 17
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.56	0.06	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.56**	**0.06**	**0.8**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.61	0.47	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**3.64**	**0.47**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**4.20**	**0.53**	**164.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.05**	**0.01**	**5.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 17
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Testing

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	1
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**	**0.00**	**0.00**	**0.76**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.47**	**0.01**	**0.01**	**164.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.03**

Table 17
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Testing

Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.69**	**0.00**	**0.00**	**5.75**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Unpaved	1	70	0.564	0.056	0.56	0.06	0.02	0.00
Onsite Total							**0.56**	**0.06**	**0.02**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Worker Commute	4	Unpaved	1.5	70	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**3.61**	**0.47**	**0.03**	**0.01**
Total							**4.18**	**0.53**	**0.05**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 18
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	4.56	17.14	40.49	0.07	1.52	1.40	5,844.0
Onsite Motor Vehicle Exhaust	0.04	0.26	1.49	0.00	0.05	0.03	323.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	88.12	8.81	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Asphaltic Paving VOC	0.7	--	--	--	--	--	--
Onsite Total	**5.35**	**17.41**	**41.98**	**0.07**	**89.69**	**10.24**	**6167.16**
Offsite Motor Vehicle Exhaust	2.27	16.61	86.65	0.19	2.87	1.57	18,922.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	149.92	17.63	
Offsite Total	**2.27**	**16.61**	**86.65**	**0.19**	**152.79**	**19.20**	**18922.9**
Total	**7.62**	**34.02**	**128.63**	**0.25**	**242.48**	**29.44**	**25090.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.07	0.26	0.61	0.00	0.02	0.02	87.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	3.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.32	0.13	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.07**	**0.26**	**0.62**	**0.00**	**1.35**	**0.15**	**90.6**
Offsite Motor Vehicle Exhaust	0.03	0.25	1.30	0.00	0.04	0.02	283.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.18	0.26	
Offsite Total	**0.03**	**0.25**	**1.30**	**0.00**	**2.23**	**0.28**	**283.8**
Total	**0.10**	**0.51**	**1.92**	**0.00**	**3.57**	**0.44**	**374.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Paving Roller	200	2	30	8
Asphalt Paver	250	1	30	8
Tractor	150	1	30	8
Asphalt Curb Machine	250	1	30	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Paving Roller	200	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Asphalt Paver	250	0.176	0.537	1.546	0.002	0.059	0.054	194.197	0.016	0.005	Pavers
Tractor	150	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Asphalt Curb Machine	250	0.108	0.330	0.969	0.001	0.036	0.033	122.182	0.010	0.003	Paving Equipment

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 18
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Paving Roller	1.67	5.54	15.91	0.03	0.53	0.49	2447.24	0.15	0.06	2,470.1
Asphalt Paver	1.41	4.29	12.37	0.02	0.47	0.43	1553.58	0.13	0.04	1,568.8
Tractor	0.63	4.68	4.45	0.01	0.23	0.22	810.37	0.06	0.02	818.1
Asphalt Curb Machine	0.86	2.64	7.75	0.01	0.29	0.26	977.45	0.08	0.03	987.0
Total	**4.56**	**17.14**	**40.49**	**0.07**	**1.52**	**1.40**	**5788.64**	**0.41**	**0.15**	**5843.96**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Paving Roller	0.02	0.08	0.24	0.00	0.01	0.01	36.71	0.00	0.00	37.1
Asphalt Paver	0.02	0.06	0.19	0.00	0.01	0.01	23.30	0.00	0.00	23.5
Tractor	0.01	0.07	0.07	0.00	0.00	0.00	12.16	0.00	0.00	12.3
Asphalt Curb Machine	0.01	0.04	0.12	0.00	0.00	0.00	14.66	0.00	0.00	14.8
Total	**0.07**	**0.26**	**0.61**	**0.00**	**0.02**	**0.02**	**86.83**	**0.01**	**0.00**	**87.66**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Stake Truck	1	30	N/A	1
Dump Truck	1	30	N/A	1
Crew Truck	2	30	N/A	1
Asphalt Delivery Truck	35	30	N/A	1
Aggregate Base Delivery Truck	52	30	N/A	1
Offsite				
Asphalt Delivery Truck	35	30	N/A	60
Aggregate Base Delivery Truck	52	30	N/A	60
Worker Commute	6	30	N/A	58

[a] Asphalt delivery trucks based on 7,500 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 11,400 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 18
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Offsite										
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Crew Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Asphalt Delivery Truck	0.01	0.10	0.58	0.00	0.02	0.01	123.91	0.00	0.00	125.23
Aggregate Base Delivery Truck	0.02	0.15	0.86	0.00	0.03	0.02	184.09	0.00	0.01	186.06
Onsite Total	**0.04**	**0.26**	**1.49**	**0.00**	**0.05**	**0.03**	**319.78**	**0.00**	**0.01**	**323.20**
Offsite										
Asphalt Delivery Truck	0.89	5.98	34.78	0.07	1.14	0.63	7434.53	0.04	0.25	7513.97
Aggregate Base Delivery Truck	1.32	8.88	51.67	0.11	1.69	0.94	11045.59	0.06	0.38	11163.61
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**2.27**	**16.61**	**86.65**	**0.19**	**2.87**	**1.57**	**18722.70**	**0.12**	**0.64**	**18922.92**
Total	**2.31**	**16.88**	**88.14**	**0.19**	**2.92**	**1.60**	**19042.48**	**0.12**	**0.65**	**19246.12**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Aggregate Base Delivery Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.76	0.00	0.00	2.79
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.94**	**0.00**	**0.00**	**2.97**
Offsite										
Asphalt Delivery Truck	0.01	0.09	0.52	0.00	0.02	0.01	111.52	0.00	0.00	112.71
Aggregate Base Delivery Truck	0.02	0.13	0.78	0.00	0.03	0.01	165.68	0.00	0.01	167.45
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	3.64	0.00	0.00	3.68
Offsite Total	**0.03**	**0.25**	**1.30**	**0.00**	**0.04**	**0.02**	**280.84**	**0.00**	**0.01**	**283.84**
Total	**0.03**	**0.25**	**1.31**	**0.00**	**0.04**	**0.02**	**283.78**	**0.00**	**0.01**	**286.81**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 18
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Asphalting

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Stake Truck	1	Unpaved	1	30	0.977	0.098	0.98	0.10	0.01	0.00
Dump Truck	1	Unpaved	1	30	0.977	0.098	0.98	0.10	0.01	0.00
Crew Truck	2	Unpaved	1	30	0.564	0.056	1.13	0.11	0.02	0.00
Asphalt Delivery Truck	35	Unpaved	1	30	0.977	0.098	34.21	3.42	0.51	0.05
Aggregate Base Delivery Truck	52	Unpaved	1	30	0.977	0.098	50.83	5.08	0.76	0.08
Onsite Total							**88.12**	**8.81**	**1.32**	**0.13**
Offsite										
Asphalt Delivery Truck	35	Unpaved	1.5	30	0.977	0.098	51.31	5.13	0.77	0.08
Asphalt Delivery Truck	35	Paved	58.5	30	0.003	0.001	6.82	1.67	0.10	0.03
Aggregate Base Delivery Truck	52	Unpaved	1.5	30	0.977	0.098	76.24	7.62	1.14	0.11
Aggregate Base Delivery Truck	52	Paved	58.5	30	0.003	0.001	10.13	2.49	0.15	0.04
Worker Commute	6	Paved	58	30	0.003	0.001	1.16	0.28	0.02	0.00
Worker Commute	6	Unpaved	1.5	30	0.474	0.047	4.26	0.43	0.00	0.00
Offsite Total							**149.92**	**17.63**	**2.18**	**0.26**
Total							**238.04**	**26.44**	**3.51**	**0.39**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Asphaltic Paving VOC Emissions

Area Paved (acre/day)[a]	Emission Factor (lb/acre)[b]	VOC (lb/day)[c]
0.29	2.62	0.7

[a] Based on 372,400 sq. ft. of area paved in 30 days

[b] From CalEEMod User's Guide

[c] Emissions [lb/day] = Emission factor [lb/acre] x Area paved [acre/day]

Table 19
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	9.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.79	0.38	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**3.79**	**0.38**	**9.4**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.81	0.24	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**1.82**	**0.24**	**81.8**
Total	**0.02**	**0.65**	**0.07**	**0.00**	**5.61**	**0.62**	**91.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 19
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM
Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	4
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**9.24**	**0.00**	**0.00**	**9.37**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.65**	**0.07**	**0.00**	**0.01**	**0.00**	**90.09**	**0.01**	**0.00**	**91.15**

Table 19
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Survey

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**0.07**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.68**	**0.00**	**0.00**	**0.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Unpaved	4	15	0.474	0.047	3.79	0.38	0.03	0.00
Onsite Total							**3.79**	**0.38**	**0.03**	**0.00**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Worker Commute	2	Unpaved	1.5	15	0.474	0.047	1.42	0.14	0.00	0.00
Offsite Total							**1.81**	**0.24**	**0.00**	**0.00**
Total							**5.60**	**0.62**	**0.03**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Table 19
Alternative Substation Construction Emissions - Initial Build Out - Controlled Fugitive PM Survey

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 20
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.65	27.99	38.98	0.10	1.86	1.71	9,753.7
Onsite Motor Vehicle Exhaust	0.01	0.07	0.24	0.00	0.01	0.00	54.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	15.58	1.56	
Earthwork Fugitive PM	--	--	--	--	0.15	0.02	
Onsite Total	**5.66**	**28.06**	**39.21**	**0.10**	**17.59**	**3.29**	**9808.4**
Offsite Motor Vehicle Exhaust	0.37	5.84	9.02	0.03	0.37	0.16	2,459.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	29.89	3.65	
Offsite Total	**0.37**	**5.84**	**9.02**	**0.03**	**30.26**	**3.81**	**2459.7**
Total	**6.03**	**33.90**	**48.23**	**0.12**	**47.85**	**7.10**	**12268.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.73	3.64	5.07	0.01	0.24	0.22	1,268.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	6.9
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.93	0.19	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.74**	**3.65**	**5.10**	**0.01**	**2.19**	**0.42**	**1274.9**
Offsite Motor Vehicle Exhaust	0.05	0.76	1.17	0.00	0.05	0.02	319.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.50	0.34	
Offsite Total	**0.05**	**0.76**	**1.17**	**0.00**	**2.55**	**0.36**	**319.8**
Total	**0.78**	**4.41**	**6.27**	**0.02**	**4.74**	**0.77**	**1594.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	4	260	4
Excavator	85	2	260	3
Skip Loader	350	4	260	3
Forklift	100	3	260	4
Trencher	75	2	260	4
Bobcat	75	4	260	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

Table 20
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.65	8.81	9.99	0.05	0.30	0.27	4976.47	0.15	0.13	5,019.6
Excavator	0.50	3.04	3.17	0.01	0.24	0.22	441.34	0.05	0.01	445.9
Skip Loader	1.91	6.71	15.07	0.03	0.54	0.50	2841.55	0.17	0.07	2,868.0
Forklift	0.37	2.55	2.53	0.00	0.18	0.16	374.36	0.03	0.01	378.1
Trencher	0.86	3.65	5.32	0.01	0.44	0.41	518.70	0.08	0.01	524.6
Bobcat	0.35	3.23	2.89	0.01	0.17	0.15	512.68	0.03	0.01	517.5
Total	**5.65**	**27.99**	**38.98**	**0.10**	**1.86**	**1.71**	**9665.09**	**0.51**	**0.25**	**9753.66**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.21	1.15	1.30	0.01	0.04	0.04	646.94	0.02	0.02	652.5
Excavator	0.06	0.40	0.41	0.00	0.03	0.03	57.37	0.01	0.00	58.0
Skip Loader	0.25	0.87	1.96	0.00	0.07	0.06	369.40	0.02	0.01	372.8
Forklift	0.05	0.33	0.33	0.00	0.02	0.02	48.67	0.00	0.00	49.2
Trencher	0.11	0.47	0.69	0.00	0.06	0.05	67.43	0.01	0.00	68.2
Bobcat	0.05	0.42	0.38	0.00	0.02	0.02	66.65	0.00	0.00	67.3
Total	**0.73**	**3.64**	**5.07**	**0.01**	**0.24**	**0.22**	**1256.46**	**0.07**	**0.03**	**1267.98**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	4	260	N/A	1
Concrete Truck	8	260	N/A	1
Water Truck	2	260	N/A	1
Tool Truck	2	260	N/A	1
Inspection Services	2	60	N/A	1
Offsite				
Water Truck	2	260	N/A	18
Concrete Truck	8	260	N/A	60
Worker Commute	15	260	N/A	58

[a] Concrete trucks based on 20,000 CY over 260 days and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Table 20
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.01	0.07	0.00	0.00	0.00	14.16	0.00	0.00	14.31
Concrete Truck	0.00	0.02	0.13	0.00	0.00	0.00	28.32	0.00	0.00	28.62
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Tool Truck	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Inspection Services	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Onsite Total	**0.01**	**0.07**	**0.24**	**0.00**	**0.01**	**0.00**	**54.18**	**0.00**	**0.00**	**54.78**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.20	1.37	7.95	0.02	0.26	0.14	1699.32	0.01	0.06	1717.48
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.37**	**5.84**	**9.02**	**0.03**	**0.37**	**0.16**	**2433.21**	**0.05**	**0.08**	**2459.65**
Total	**0.38**	**5.91**	**9.26**	**0.03**	**0.38**	**0.16**	**2487.39**	**0.05**	**0.08**	**2514.43**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.84	0.00	0.00	1.86
Concrete Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.68	0.00	0.00	3.72
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.00	0.93
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.30
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.81**	**0.00**	**0.00**	**6.89**
Offsite										
Water Truck	0.00	0.01	0.08	0.00	0.00	0.00	16.57	0.00	0.00	16.75

Table 20
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Civil

Concrete Truck	0.03	0.18	1.03	0.00	0.03	0.02	220.91	0.00	0.01	223.27
Worker Commute	0.02	0.57	0.06	0.00	0.01	0.00	78.84	0.00	0.00	79.74
Offsite Total	**0.05**	**0.76**	**1.17**	**0.00**	**0.05**	**0.02**	**316.32**	**0.01**	**0.01**	**319.75**
Total	**0.05**	**0.77**	**1.20**	**0.00**	**0.05**	**0.02**	**323.13**	**0.01**	**0.01**	**326.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	4	Unpaved	1	260	0.977	0.098	3.91	0.39	0.51	0.05
Concrete Truck	8	Unpaved	1	260	0.977	0.098	7.82	0.78	1.02	0.10
Water Truck	2	Unpaved	1	260	0.977	0.098	1.95	0.20	0.25	0.03
Tool Truck	2	Unpaved	1	260	0.474	0.047	0.95	0.09	0.12	0.01
Inspection Services	2	Unpaved	1	60	0.474	0.047	0.95	0.09	0.03	0.00
Onsite Total							**15.58**	**1.56**	**1.93**	**0.19**
Offsite										
Water Truck	2	Unpaved	1.5	260	0.977	0.098	2.93	0.29	0.38	0.04
Water Truck	2	Paved	16.5	260	0.003	0.001	0.11	0.03	0.01	0.00
Concrete Truck	8	Unpaved	1.5	260	0.977	0.098	11.73	1.17	1.52	0.15
Concrete Truck	8	Paved	58.5	260	0.003	0.001	1.56	0.38	0.20	0.05
Worker Commute	15	Paved	58	260	0.003	0.001	2.90	0.71	0.38	0.09
Worker Commute	15	Unpaved	1.5	260	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**29.89**	**3.65**	**2.50**	**0.34**
Total							**45.46**	**5.21**	**4.43**	**0.53**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	146	29150	1.00E-03	1.52E-04	0.15	0.02	0.01	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.15**	**0.02**	**0.01**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on handling 29,150 CY over 200 days

Table 21
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.86	12.87	22.36	0.04	1.15	1.05	3,271.3
Onsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.61	0.36	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.86**	**12.89**	**22.36**	**0.04**	**4.76**	**1.42**	**3276.6**
Offsite Motor Vehicle Exhaust	0.16	4.66	0.51	0.01	0.10	0.00	654.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.46	1.90	
Offsite Total	**0.16**	**4.66**	**0.51**	**0.01**	**14.56**	**1.90**	**654.3**
Total	**3.03**	**17.55**	**22.87**	**0.04**	**19.32**	**3.31**	**3930.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.18	0.94	1.31	0.00	0.08	0.08	180.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.30	0.03	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.18**	**0.94**	**1.31**	**0.00**	**0.38**	**0.10**	**180.7**
Offsite Motor Vehicle Exhaust	0.02	0.47	0.05	0.00	0.01	0.00	65.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.31	0.08	
Offsite Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.32**	**0.08**	**65.4**
Total	**0.19**	**1.41**	**1.36**	**0.00**	**0.70**	**0.18**	**246.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	2	200	4
Manlift	75	4	200	4
14 Ton Crane	250	2	20	4
150 Ton Crane	300	1	20	4
5 Ton Crane	250	1	200	3
Forklift	100	4	200	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

Table 21
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.33	1.88	2.42	0.00	0.18	0.16	304.30	0.03	0.01	307.4
Manlift	0.66	3.77	4.84	0.01	0.35	0.32	608.60	0.06	0.02	614.8
14 Ton Crane	0.70	2.11	6.02	0.01	0.21	0.19	896.47	0.06	0.02	905.0
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.37	2.55	2.53	0.00	0.18	0.16	374.36	0.03	0.01	378.1
Total	**2.86**	**12.87**	**22.36**	**0.04**	**1.15**	**1.05**	**3239.66**	**0.26**	**0.08**	**3271.27**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.03	0.19	0.24	0.00	0.02	0.02	30.43	0.00	0.00	30.7
Manlift	0.07	0.38	0.48	0.00	0.04	0.03	60.86	0.01	0.00	61.5
14 Ton Crane	0.01	0.02	0.06	0.00	0.00	0.00	8.96	0.00	0.00	9.1
150 Ton Crane	0.01	0.02	0.04	0.00	0.00	0.00	7.20	0.00	0.00	7.3
5 Ton Crane	0.03	0.08	0.23	0.00	0.01	0.01	33.62	0.00	0.00	33.9
Forklift	0.04	0.26	0.25	0.00	0.02	0.02	37.44	0.00	0.00	37.8
Total	**0.18**	**0.94**	**1.31**	**0.00**	**0.08**	**0.08**	**178.51**	**0.02**	**0.00**	**180.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	200	N/A	1
Crew Truck	2	200	N/A	1
Inspection Services	2	60	N/A	1
Offsite				
Worker Commute	16	200	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 21
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Inspection Services	0.00	0.02	0.00	0.00	0.00	0.00	2.31	0.00	0.00	2.34
Onsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.30**	**0.00**	**0.00**	**5.37**
Offsite										
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25
Offsite Total	**0.16**	**4.66**	**0.51**	**0.01**	**0.10**	**0.00**	**646.87**	**0.04**	**0.02**	**654.25**
Total	**0.16**	**4.68**	**0.51**	**0.01**	**0.10**	**0.00**	**652.17**	**0.04**	**0.02**	**659.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.37**
Offsite										
Worker Commute	0.02	0.47	0.05	0.00	0.01	0.00	64.69	0.00	0.00	65.43
Offsite Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.01**	**0.00**	**64.69**	**0.00**	**0.00**	**65.43**
Total	**0.02**	**0.47**	**0.05**	**0.00**	**0.01**	**0.00**	**65.06**	**0.00**	**0.00**	**65.80**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Unpaved	1	200	0.770	0.077	1.54	0.15	0.15	0.02
Crew Truck	2	Unpaved	1	200	0.564	0.056	1.13	0.11	0.11	0.01
Inspection Services	2	Unpaved	1	60	0.474	0.047	0.95	0.09	0.03	0.00
Onsite Total							**3.61**	**0.36**	**0.30**	**0.03**

Table 21
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Electrical

Offsite										
Worker Commute	16	Paved	58	200	0.003	0.001	3.09	0.76	0.31	0.08
Worker Commute	16	Unpaved	1.5	200	0.474	0.047	11.37	1.14	0.00	0.00
Offsite Total							**14.46**	**1.90**	**0.31**	**0.08**
Total							**18.07**	**2.26**	**0.60**	**0.11**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 22
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.75	0.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**1.75**	**0.17**	**2.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.42	0.71	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**5.46**	**0.71**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**7.21**	**0.89**	**247.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.01	0.00	0.00	0.00	9.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.05**	**0.01**	**9.8**
Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.12**	**0.02**	**9.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 22
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Wiring

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	80	N/A	1
Pick-up Truck	1	80	N/A	1
Offsite				
Worker Commute	6	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Pick-up Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.31**	**0.00**	**0.00**	**2.34**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**244.88**	**0.01**	**0.01**	**247.69**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 22
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Wiring

Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.00**	**0.00**	**0.09**
Offsite										
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**9.70**	**0.00**	**0.00**	**9.81**
Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**9.80**	**0.00**	**0.00**	**9.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Pick-up Truck	1	Unpaved	1	80	0.770	0.077	0.77	0.08	0.03	0.00
Onsite Total							**1.75**	**0.17**	**0.07**	**0.01**
Offsite										
Worker Commute	6	Paved	58	80	0.003	0.001	1.16	0.28	0.05	0.01
Worker Commute	6	Unpaved	1.5	80	0.474	0.047	4.26	0.43	0.00	0.00
Offsite Total							**5.42**	**0.71**	**0.05**	**0.01**
Total							**7.17**	**0.89**	**0.12**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 23
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Control Room

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	5.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.93	0.29	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.67**	**6.45**	**0.01**	**3.17**	**0.51**	**1095.3**
Offsite Motor Vehicle Exhaust	0.10	2.91	0.32	0.00	0.06	0.00	408.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.04	1.18	
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**9.10**	**1.19**	**408.9**
Total	**0.90**	**5.58**	**6.76**	**0.02**	**12.26**	**1.69**	**1504.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.05	0.00	0.00	0.00	8.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.12	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.12**	**0.01**	**8.4**
Offsite Motor Vehicle Exhaust	0.00	0.12	0.01	0.00	0.00	0.00	16.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.02	
Offsite Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.08**	**0.02**	**16.4**
Total	**0.01**	**0.14**	**0.06**	**0.00**	**0.20**	**0.03**	**24.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	15	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 23
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Control Room

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.01	0.02	0.05	0.00	0.00	0.00	8.10	0.00	0.00	8.2
Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.10**	**0.00**	**0.00**	**8.17**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	1
Stake Truck	1	80	N/A	1
Wiring Truck	1	80	N/A	1
Offsite				
Worker Commute	10	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**5.44**	**0.00**	**0.00**	**5.51**
Offsite										
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**0.06**	**0.00**	**404.29**	**0.02**	**0.01**	**408.91**
Total	**0.10**	**2.92**	**0.34**	**0.00**	**0.06**	**0.00**	**409.74**	**0.02**	**0.01**	**414.41**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 23
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Control Room

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**	**0.00**	**0.00**	**0.22**
Offsite										
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.17	0.00	0.00	16.36
Offsite Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.00**	**0.00**	**16.17**	**0.00**	**0.00**	**16.36**
Total	**0.00**	**0.12**	**0.01**	**0.00**	**0.00**	**0.00**	**16.39**	**0.00**	**0.00**	**16.58**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Stake Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Wiring Truck	1	Unpaved	1	80	0.977	0.098	0.98	0.10	0.04	0.00
Onsite Total							**2.93**	**0.29**	**0.12**	**0.01**
Offsite										
Worker Commute	10	Paved	58	80	0.003	0.001	1.93	0.47	0.08	0.02
Worker Commute	10	Unpaved	1.5	80	0.474	0.047	7.11	0.71	0.00	0.00
Offsite Total							**9.04**	**1.18**	**0.08**	**0.02**
Total							**11.97**	**1.48**	**0.19**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

Table 23
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Control Room

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 24
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.69	0.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**1.69**	**0.17**	**2.3**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.61	0.47	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**3.64**	**0.47**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.33**	**0.64**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	8.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.01	
Offsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.04**	**0.01**	**8.2**
Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.12**	**0.02**	**8.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 24
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Maintenance

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	100	N/A	1
Crew Truck	2	100	N/A	1
Offsite				
Worker Commute	4	100	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.25**	**0.00**	**0.00**	**2.27**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 24
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Maintenance

Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.08
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.06	0.01	0.00	0.00	0.00	8.09	0.00	0.00	8.18
Offsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**8.09**	**0.00**	**0.00**	**8.18**
Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**8.20**	**0.00**	**0.00**	**8.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Unpaved	1	100	0.564	0.056	0.56	0.06	0.03	0.00
Crew Truck	2	Unpaved	1	100	0.564	0.056	1.13	0.11	0.06	0.01
Onsite Total							**1.69**	**0.17**	**0.08**	**0.01**
Offsite										
Worker Commute	4	Paved	58	100	0.003	0.001	0.77	0.19	0.04	0.01
Worker Commute	4	Unpaved	1.5	100	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**3.61**	**0.47**	**0.04**	**0.01**
Total							**5.31**	**0.64**	**0.12**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.70	21.43	50.61	0.08	1.90	1.75	7,304.9
Onsite Motor Vehicle Exhaust	0.01	0.08	0.43	0.00	0.01	0.01	94.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	25.56	2.56	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Asphaltic Paving VOC	0.3	--	--	--	--	--	--
Onsite Total	**6.05**	**21.51**	**51.05**	**0.08**	**27.48**	**4.32**	**7399.15**
Offsite Motor Vehicle Exhaust	0.64	5.68	23.05	0.05	0.79	0.42	5,183.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	43.62	5.18	
Offsite Total	**0.64**	**5.68**	**23.05**	**0.05**	**44.41**	**5.60**	**5183.1**
Total	**6.70**	**27.19**	**74.09**	**0.13**	**71.89**	**9.92**	**12582.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.09	0.32	0.76	0.00	0.03	0.03	109.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.38	0.04	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.09**	**0.32**	**0.76**	**0.00**	**0.41**	**0.06**	**110.6**
Offsite Motor Vehicle Exhaust	0.01	0.09	0.35	0.00	0.01	0.01	77.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.59	0.07	
Offsite Total	**0.01**	**0.09**	**0.35**	**0.00**	**0.60**	**0.08**	**77.7**
Total	**0.10**	**0.41**	**1.11**	**0.00**	**1.01**	**0.14**	**188.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Paving Roller	200	2	30	10
Asphalt Paver	250	1	30	10
Tractor	150	1	30	10
Asphalt Curb Machine	250	1	30	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Paving Roller	200	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Asphalt Paver	250	0.176	0.537	1.546	0.002	0.059	0.054	194.197	0.016	0.005	Pavers
Tractor	150	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Asphalt Curb Machine	250	0.108	0.330	0.969	0.001	0.036	0.033	122.182	0.010	0.003	Paving Equipment

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Paving Roller	2.08	6.92	19.89	0.03	0.67	0.61	3059.05	0.19	0.08	3,087.6
Asphalt Paver	1.76	5.37	15.46	0.02	0.59	0.54	1941.97	0.16	0.05	1,961.0
Tractor	0.79	5.84	5.57	0.01	0.29	0.27	1012.96	0.07	0.03	1,022.7
Asphalt Curb Machine	1.08	3.30	9.69	0.01	0.36	0.33	1221.82	0.10	0.03	1,233.7
Total	**5.70**	**21.43**	**50.61**	**0.08**	**1.90**	**1.75**	**7235.80**	**0.51**	**0.19**	**7304.95**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Paving Roller	0.03	0.10	0.30	0.00	0.01	0.01	45.89	0.00	0.00	46.3
Asphalt Paver	0.03	0.08	0.23	0.00	0.01	0.01	29.13	0.00	0.00	29.4
Tractor	0.01	0.09	0.08	0.00	0.00	0.00	15.19	0.00	0.00	15.3
Asphalt Curb Machine	0.02	0.05	0.15	0.00	0.01	0.00	18.33	0.00	0.00	18.5
Total	**0.09**	**0.32**	**0.76**	**0.00**	**0.03**	**0.03**	**108.54**	**0.01**	**0.00**	**109.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Stake Truck	1	30	N/A	1
Dump Truck	1	30	N/A	1
Crew Truck	2	30	N/A	1
Asphalt Delivery Truck	8	30	N/A	1
Aggregate Base Delivery Truck	15	30	N/A	1
Offsite				
Asphalt Delivery Truck	8	30	N/A	60
Aggregate Base Delivery Truck	15	30	N/A	60
Worker Commute	6	30	N/A	58

[a] Asphalt delivery trucks based on 1,710 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 3,250 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Offsite										
Asphalt Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Aggregate Base Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Stake Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Crew Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.08	0.00	0.00	7.16
Asphalt Delivery Truck	0.00	0.02	0.13	0.00	0.00	0.00	28.32	0.00	0.00	28.62
Aggregate Base Delivery Truck	0.01	0.04	0.25	0.00	0.01	0.00	53.10	0.00	0.00	53.67
Onsite Total	**0.01**	**0.08**	**0.43**	**0.00**	**0.01**	**0.01**	**93.20**	**0.00**	**0.00**	**94.20**
Offsite										
Asphalt Delivery Truck	0.20	1.37	7.95	0.02	0.26	0.14	1699.32	0.01	0.06	1717.48
Aggregate Base Delivery Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.64**	**5.68**	**23.05**	**0.05**	**0.79**	**0.42**	**5128.13**	**0.04**	**0.17**	**5183.09**
Total	**0.66**	**5.76**	**23.48**	**0.05**	**0.80**	**0.43**	**5221.33**	**0.04**	**0.18**	**5277.30**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Aggregate Base Delivery Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.81
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.97**	**0.00**	**0.00**	**0.98**
Offsite										
Asphalt Delivery Truck	0.00	0.02	0.12	0.00	0.00	0.00	25.49	0.00	0.00	25.76
Aggregate Base Delivery Truck	0.01	0.04	0.22	0.00	0.01	0.00	47.79	0.00	0.00	48.30
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	3.64	0.00	0.00	3.68
Offsite Total	**0.01**	**0.09**	**0.35**	**0.00**	**0.01**	**0.01**	**76.92**	**0.00**	**0.00**	**77.75**
Total	**0.01**	**0.09**	**0.35**	**0.00**	**0.01**	**0.01**	**77.90**	**0.00**	**0.00**	**78.73**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 25
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Asphalting

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Stake Truck	1	Unpaved	1	30	0.977	0.098	0.98	0.10	0.01	0.00
Dump Truck	1	Unpaved	1	30	0.977	0.098	0.98	0.10	0.01	0.00
Crew Truck	2	Unpaved	1	30	0.564	0.056	1.13	0.11	0.02	0.00
Asphalt Delivery Truck	8	Unpaved	1	30	0.977	0.098	7.82	0.78	0.12	0.01
Aggregate Base Delivery Truck	15	Unpaved	1	30	0.977	0.098	14.66	1.47	0.22	0.02
Onsite Total							**25.56**	**2.56**	**0.38**	**0.04**
Offsite										
Asphalt Delivery Truck	8	Unpaved	1.5	30	0.977	0.098	11.73	1.17	0.18	0.02
Asphalt Delivery Truck	8	Paved	58.5	30	0.003	0.001	1.56	0.38	0.02	0.01
Aggregate Base Delivery Truck	15	Unpaved	1.5	30	0.977	0.098	21.99	2.20	0.33	0.03
Aggregate Base Delivery Truck	15	Paved	58.5	30	0.003	0.001	2.92	0.72	0.04	0.01
Worker Commute	6	Paved	58	30	0.003	0.001	1.16	0.28	0.02	0.00
Worker Commute	6	Unpaved	1.5	30	0.474	0.047	4.26	0.43	0.00	0.00
Offsite Total							**43.62**	**5.18**	**0.59**	**0.07**
Total							**69.19**	**7.74**	**0.97**	**0.11**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Asphaltic Paving VOC Emissions

Area Paved (acre/day)[a]	Emission Factor (lb/acre)[b]	VOC (lb/day)[c]
0.13	2.62	0.3

[a] Based on 169,000 sq. ft. of area paved in 30 days

[b] From CalEEMod User's Guide

[c] Emissions [lb/day] = Emission factor [lb/acre] x Area paved [acre/day]

Table 26
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Transformer Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.90	7.62	15.41	0.03	0.65	0.60	2,314.2
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.7
Onsite Motor Vehicle Fugitive PM	--	--	--	--	2.10	0.21	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.90**	**7.63**	**15.42**	**0.03**	**2.76**	**0.81**	**2316.9**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.56	1.78	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**13.65**	**1.78**	**613.4**
Total	**2.05**	**12.00**	**15.89**	**0.03**	**16.40**	**2.59**	**2930.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.08	0.36	0.65	0.00	0.03	0.03	98.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.13	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.08**	**0.36**	**0.65**	**0.00**	**0.16**	**0.04**	**98.3**
Offsite Motor Vehicle Exhaust	0.01	0.26	0.03	0.00	0.01	0.00	36.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.17	0.04	
Offsite Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.18**	**0.04**	**36.8**
Total	**0.09**	**0.63**	**0.68**	**0.00**	**0.34**	**0.08**	**135.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Forklift	100	2	120	8
50 Ton Crane	200	2	75	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
50 Ton Crane	200	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Forklift	0.50	3.41	3.38	0.01	0.24	0.22	499.15	0.05	0.01	504.2
50 Ton Crane	1.40	4.21	12.04	0.02	0.41	0.38	1792.93	0.13	0.05	1,810.0
Total	**1.90**	**7.62**	**15.41**	**0.03**	**0.65**	**0.60**	**2292.08**	**0.17**	**0.06**	**2314.18**

Table 26
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Transformer Assembly

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Forklift	0.03	0.20	0.20	0.00	0.01	0.01	29.95	0.00	0.00	30.2
50 Ton Crane	0.05	0.16	0.45	0.00	0.02	0.01	67.23	0.00	0.00	67.9
Total	**0.08**	**0.36**	**0.65**	**0.00**	**0.03**	**0.03**	**97.18**	**0.01**	**0.00**	**98.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	120	N/A	1
Crew Truck	2	120	N/A	1
Offsite				
Worker Commute	15	120	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.65**	**0.00**	**0.00**	**2.69**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.38**	**0.48**	**0.01**	**0.09**	**0.00**	**609.09**	**0.04**	**0.02**	**616.05**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 26
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Transformer Assembly

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.16**	**0.00**	**0.00**	**0.16**
Offsite										
Worker Commute	0.01	0.26	0.03	0.00	0.01	0.00	36.39	0.00	0.00	36.80
Offsite Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.01**	**0.00**	**36.39**	**0.00**	**0.00**	**36.80**
Total	**0.01**	**0.26**	**0.03**	**0.00**	**0.01**	**0.00**	**36.55**	**0.00**	**0.00**	**36.96**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Unpaved	1	120	0.977	0.098	0.98	0.10	0.06	0.01
Crew Truck	2	Unpaved	1	120	0.564	0.056	1.13	0.11	0.07	0.01
Onsite Total							**2.10**	**0.21**	**0.13**	**0.01**
Offsite										
Worker Commute	15	Paved	58	120	0.003	0.001	2.90	0.71	0.17	0.04
Worker Commute	15	Unpaved	1.5	120	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**13.56**	**1.78**	**0.17**	**0.04**
Total							**15.66**	**1.99**	**0.30**	**0.06**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 27
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.13	0.11	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**1.13**	**0.11**	**1.5**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.56	1.78	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**13.65**	**1.78**	**613.4**
Total	**0.15**	**4.37**	**0.48**	**0.01**	**14.77**	**1.89**	**614.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**	**0.01**	**0.1**
Offsite Motor Vehicle Exhaust	0.01	0.39	0.04	0.00	0.01	0.00	55.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.26	0.06	
Offsite Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.27**	**0.06**	**55.2**
Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.37**	**0.07**	**55.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 27
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Testing

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	2	180	N/A	1
Offsite				
Worker Commute	15	180	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	1.52
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.50**	**0.00**	**0.00**	**1.52**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**607.94**	**0.04**	**0.02**	**614.88**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.14
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.13**	**0.00**	**0.00**	**0.14**

Table 27
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM Testing

Offsite										
Worker Commute	0.01	0.39	0.04	0.00	0.01	0.00	54.58	0.00	0.00	55.20
Offsite Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.01**	**0.00**	**54.58**	**0.00**	**0.00**	**55.20**
Total	**0.01**	**0.39**	**0.04**	**0.00**	**0.01**	**0.00**	**54.71**	**0.00**	**0.00**	**55.34**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	2	Unpaved	1	180	0.564	0.056	1.13	0.11	0.10	0.01
Onsite Total							**1.13**	**0.11**	**0.10**	**0.01**
Offsite										
Worker Commute	15	Paved	58	180	0.003	0.001	2.90	0.71	0.26	0.06
Worker Commute	15	Unpaved	1.5	180	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**13.56**	**1.78**	**0.26**	**0.06**
Total							**14.68**	**1.89**	**0.36**	**0.07**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 28
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.06	0.01	0.00	0.00	0.00	9.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.79	0.38	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**3.79**	**0.38**	**9.4**
Offsite Motor Vehicle Exhaust	0.15	4.37	0.48	0.01	0.09	0.00	613.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.56	1.78	
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**13.65**	**1.78**	**613.4**
Total	**0.15**	**4.43**	**0.49**	**0.01**	**17.44**	**2.16**	**622.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.09	0.01	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.01**	**0.2**
Offsite Motor Vehicle Exhaust	0.00	0.11	0.01	0.00	0.00	0.00	15.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.02	
Offsite Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.07**	**0.02**	**15.3**
Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.17**	**0.03**	**15.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 28
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	50	N/A	4
Offsite				
Worker Commute	15	50	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.06	0.01	0.00	0.00	0.00	9.24	0.00	0.00	9.37
Onsite Total	**0.00**	**0.06**	**0.01**	**0.00**	**0.00**	**0.00**	**9.24**	**0.00**	**0.00**	**9.37**
Offsite										
Worker Commute	0.15	4.37	0.48	0.01	0.09	0.00	606.44	0.04	0.02	613.36
Offsite Total	**0.15**	**4.37**	**0.48**	**0.01**	**0.09**	**0.00**	**606.44**	**0.04**	**0.02**	**613.36**
Total	**0.15**	**4.43**	**0.49**	**0.01**	**0.09**	**0.00**	**615.68**	**0.04**	**0.02**	**622.73**

Table 28
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Survey

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.23
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.23**	**0.00**	**0.00**	**0.23**
Offsite										
Worker Commute	0.00	0.11	0.01	0.00	0.00	0.00	15.16	0.00	0.00	15.33
Offsite Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.00**	**0.00**	**15.16**	**0.00**	**0.00**	**15.33**
Total	**0.00**	**0.11**	**0.01**	**0.00**	**0.00**	**0.00**	**15.39**	**0.00**	**0.00**	**15.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Unpaved	4	50	0.474	0.047	3.79	0.38	0.09	0.01
Onsite Total							**3.79**	**0.38**	**0.09**	**0.01**
Offsite										
Worker Commute	15	Paved	58	50	0.003	0.001	2.90	0.71	0.07	0.02
Worker Commute	15	Unpaved	1.5	50	0.474	0.047	10.66	1.07	0.00	0.00
Offsite Total							**13.56**	**1.78**	**0.07**	**0.02**
Total							**17.35**	**2.16**	**0.17**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Table 28
Alternative Substation Construction Emissions - Full Build Out - Controlled Fugitive PM
Survey

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 29
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.63	19.06	24.20	0.06	1.34	1.23	5,454.6
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.63**	**19.07**	**24.23**	**0.06**	**1.35**	**1.24**	**5462.9**
Offsite Motor Vehicle Exhaust	0.12	2.60	1.84	0.01	0.10	0.03	670.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.86	0.46	
Offsite Total	**0.12**	**2.60**	**1.84**	**0.01**	**1.96**	**0.49**	**670.6**
Total	**3.75**	**21.67**	**26.08**	**0.06**	**3.31**	**1.72**	**6133.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.11	0.57	0.73	0.00	0.04	0.04	163.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.11**	**0.57**	**0.73**	**0.00**	**0.04**	**0.04**	**163.9**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.06	0.00	0.00	0.00	20.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.06	0.01	
Offsite Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.06**	**0.01**	**20.1**
Total	**0.11**	**0.65**	**0.78**	**0.00**	**0.10**	**0.05**	**184.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	60	8
Excavator	85	2	60	8
Skip Loader	350	1	60	5
Forklift	100	1	60	4
Trencher	75	1	60	4
Bobcat	75	1	60	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

Table 29
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Excavator	1.33	8.10	8.46	0.01	0.63	0.58	1176.91	0.12	0.03	1,189.0
Skip Loader	0.80	2.79	6.28	0.01	0.22	0.21	1183.98	0.07	0.03	1,195.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.12	1.08	0.96	0.00	0.06	0.05	170.89	0.01	0.00	172.5
Total	**3.63**	**19.06**	**24.20**	**0.06**	**1.34**	**1.23**	**5404.15**	**0.33**	**0.14**	**5454.62**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.02	0.13	0.15	0.00	0.00	0.00	74.65	0.00	0.00	75.3
Excavator	0.04	0.24	0.25	0.00	0.02	0.02	35.31	0.00	0.00	35.7
Skip Loader	0.02	0.08	0.19	0.00	0.01	0.01	35.52	0.00	0.00	35.9
Forklift	0.00	0.03	0.03	0.00	0.00	0.00	3.74	0.00	0.00	3.8
Trencher	0.01	0.05	0.08	0.00	0.01	0.01	7.78	0.00	0.00	7.9
Bobcat	0.00	0.03	0.03	0.00	0.00	0.00	5.13	0.00	0.00	5.2
Total	**0.11**	**0.57**	**0.73**	**0.00**	**0.04**	**0.04**	**162.12**	**0.01**	**0.00**	**163.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	60	N/A	0.5
Concrete Truck	1	60	N/A	0.5
Water Truck	2	60	N/A	0.5
Tool Truck	1	60	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Water Truck	2	60	N/A	18
Concrete Truck	1	60	N/A	60
Worker Commute	8	60	N/A	58

[a] Concrete trucks based on 20,000 CY over 200 days and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Table 29
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.24**	**0.00**	**0.00**	**8.33**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.12**	**2.60**	**1.84**	**0.01**	**0.10**	**0.03**	**663.30**	**0.02**	**0.02**	**670.62**
Total	**0.12**	**2.62**	**1.88**	**0.01**	**0.10**	**0.03**	**671.53**	**0.02**	**0.02**	**678.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.24**	**0.00**	**0.00**	**0.24**
Offsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.82	0.00	0.00	3.86

Table 29
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Civil

Concrete Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.00**	**0.00**	**19.90**	**0.00**	**0.00**	**20.12**
Total	**0.00**	**0.08**	**0.06**	**0.00**	**0.00**	**0.00**	**20.13**	**0.00**	**0.00**	**20.36**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	2	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Tool Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Water Truck	2	Paved	17.5	60	0.003	0.001	0.12	0.03	0.00	0.00
Concrete Truck	1	Paved	59.5	60	0.003	0.001	0.20	0.05	0.01	0.00
Worker Commute	8	Paved	58	60	0.003	0.001	1.54	0.38	0.05	0.01
Offsite Total							**1.86**	**0.46**	**0.06**	**0.01**
Total							**1.87**	**0.46**	**0.06**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 30
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.77	7.52	13.97	0.02	0.68	0.63	2,076.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.77**	**7.53**	**13.97**	**0.02**	**0.69**	**0.63**	**2078.3**
Offsite Motor Vehicle Exhaust	0.08	2.33	0.25	0.00	0.05	0.00	327.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.54	0.38	
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**1.59**	**0.38**	**327.1**
Total	**1.85**	**9.86**	**14.23**	**0.03**	**2.29**	**1.01**	**2405.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.26	0.49	0.00	0.02	0.02	72.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.26**	**0.49**	**0.00**	**0.02**	**0.02**	**72.7**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.01	0.00	0.00	0.00	11.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.06**	**0.01**	**11.4**
Total	**0.06**	**0.34**	**0.50**	**0.00**	**0.08**	**0.04**	**84.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	70	5
Manlift	75	2	70	5
14 Ton Crane	250	1	70	3
150 Ton Crane	300	1	70	4
5 Ton Crane	250	1	70	3
Forklift	100	1	70	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

Table 30
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.21	1.18	1.51	0.00	0.11	0.10	190.19	0.02	0.00	192.1
Manlift	0.42	2.35	3.03	0.00	0.22	0.20	380.38	0.04	0.01	384.3
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.77**	**7.52**	**13.97**	**0.02**	**0.68**	**0.63**	**2056.26**	**0.16**	**0.05**	**2076.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.01	0.04	0.05	0.00	0.00	0.00	6.66	0.00	0.00	6.7
Manlift	0.01	0.08	0.11	0.00	0.01	0.01	13.31	0.00	0.00	13.4
14 Ton Crane	0.01	0.03	0.08	0.00	0.00	0.00	11.77	0.00	0.00	11.9
150 Ton Crane	0.02	0.06	0.15	0.00	0.01	0.00	25.19	0.00	0.00	25.4
5 Ton Crane	0.01	0.03	0.08	0.00	0.00	0.00	11.77	0.00	0.00	11.9
Forklift	0.00	0.02	0.02	0.00	0.00	0.00	3.28	0.00	0.00	3.3
Total	**0.06**	**0.26**	**0.49**	**0.00**	**0.02**	**0.02**	**71.97**	**0.01**	**0.00**	**72.67**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	70	N/A	0.5
Crew Truck	2	70	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Worker Commute	8	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 30
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**	**0.00**	**0.00**	**2.10**
Offsite										
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.33**	**0.25**	**0.00**	**0.05**	**0.00**	**323.43**	**0.02**	**0.01**	**327.13**
Total	**0.08**	**2.34**	**0.26**	**0.00**	**0.05**	**0.00**	**325.51**	**0.02**	**0.01**	**329.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.00**	**0.00**	**0.06**
Offsite										
Worker Commute	0.00	0.08	0.01	0.00	0.00	0.00	11.32	0.00	0.00	11.45
Offsite Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**11.32**	**0.00**	**0.00**	**11.45**
Total	**0.00**	**0.08**	**0.01**	**0.00**	**0.00**	**0.00**	**11.38**	**0.00**	**0.00**	**11.51**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**

Table 30
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Electrical

Offsite										
Worker Commute	8	Paved	58	70	0.003	0.001	1.54	0.38	0.05	0.01
Offsite Total							**1.54**	**0.38**	**0.05**	**0.01**
Total							**1.55**	**0.38**	**0.05**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 31
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	2.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.01**	**0.00**	**2.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 31
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Wiring

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	0.5
Pick-up Truck	1	60	N/A	0.5
Offsite				
Worker Commute	2	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 31
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Wiring

Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.04**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.43	0.00	0.00	2.45
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.43**	**0.00**	**0.00**	**2.45**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2.46**	**0.00**	**0.00**	**2.49**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Pick-up Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	60	0.003	0.001	0.39	0.09	0.01	0.00
Offsite Total							**0.39**	**0.09**	**0.01**	**0.00**
Total							**0.39**	**0.10**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 32
Modifications to Coolwater Switchyard - Controlled Fugitive PM
MEER

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.66**	**6.44**	**0.01**	**0.24**	**0.21**	**1092.6**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.84**	**3.83**	**6.56**	**0.01**	**1.03**	**0.41**	**1256.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.6**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	6.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.03**	**0.01**	**6.5**
Total	**0.01**	**0.06**	**0.04**	**0.00**	**0.03**	**0.01**	**12.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 32
Modifications to Coolwater Switchyard - Controlled Fugitive PM
MEER

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.00	0.01	0.03	0.00	0.00	0.00	5.40	0.00	0.00	5.4
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.40**	**0.00**	**0.00**	**5.45**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	0.5
Stake Truck	1	80	N/A	0.5
Wiring Truck	1	80	N/A	0.5
Offsite				
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.72**	**0.00**	**0.00**	**2.75**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.14**	**0.00**	**0.02**	**0.00**	**164.44**	**0.01**	**0.01**	**166.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 32
Modifications to Coolwater Switchyard - Controlled Fugitive PM
MEER

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.47**	**0.00**	**0.00**	**6.54**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Stake Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Wiring Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.78**	**0.19**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 33
Modifications to Coolwater Switchyard - Controlled Fugitive PM Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**1.1**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**164.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 33
Modifications to Coolwater Switchyard - Controlled Fugitive PM Maintenance

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	0.5
Crew Truck	2	40	N/A	0.5
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.12**	**0.00**	**0.00**	**1.14**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.84**	**0.01**	**0.01**	**164.70**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 33
Modifications to Coolwater Switchyard - Controlled Fugitive PM Maintenance

Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.26**	**0.00**	**0.00**	**3.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.77**	**0.19**	**0.02**	**0.00**
Total							**0.78**	**0.19**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 34
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.4**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 34
Modifications to Coolwater Switchyard - Controlled Fugitive PM Testing

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	0.5
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.38**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.09**	**0.01**	**0.01**	**163.94**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**

Table 34
Modifications to Coolwater Switchyard - Controlled Fugitive PM Testing

Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.67**	**0.00**	**0.00**	**5.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.77**	**0.19**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 35
Modifications to Coolwater Switchyard - Controlled Fugitive PM Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 35
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	0.5
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

Table 35
Modifications to Coolwater Switchyard - Controlled Fugitive PM
Survey

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.00**	**0.00**	**0.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Offsite Total							**0.39**	**0.09**	**0.00**	**0.00**
Total							**0.39**	**0.10**	**0.00**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

Table 35
Modifications to Coolwater Switchyard - Controlled Fugitive PM Survey

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 36
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.83	20.16	25.45	0.06	1.38	1.27	6,082.1
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.83**	**20.17**	**25.48**	**0.06**	**1.39**	**1.27**	**6090.4**
Offsite Motor Vehicle Exhaust	0.14	3.19	1.91	0.01	0.11	0.03	752.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.25	0.55	
Offsite Total	**0.14**	**3.19**	**1.91**	**0.01**	**2.36**	**0.58**	**752.4**
Total	**3.98**	**23.36**	**27.39**	**0.07**	**3.75**	**1.85**	**6842.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.19	1.01	1.27	0.00	0.07	0.06	304.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.19**	**1.01**	**1.27**	**0.00**	**0.07**	**0.06**	**304.5**
Offsite Motor Vehicle Exhaust	0.01	0.16	0.10	0.00	0.01	0.00	37.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.11	0.03	
Offsite Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.12**	**0.03**	**37.6**
Total	**0.20**	**1.17**	**1.37**	**0.00**	**0.19**	**0.09**	**342.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Driller	350	1	100	10
Excavator	85	2	100	8
Skip Loader	350	1	100	5
Forklift	100	1	100	4
Trencher	75	1	100	4
Bobcat	75	1	100	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Driller	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Excavator	85	0.083	0.507	0.529	0.001	0.039	0.036	73.557	0.008	0.002	Excavators
Skip Loader	350	0.159	0.559	1.256	0.002	0.045	0.041	236.796	0.014	0.006	Rubber Tired Loaders
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
Trencher	75	0.108	0.456	0.665	0.001	0.055	0.051	64.837	0.010	0.002	Trenchers
Bobcat	75	0.029	0.269	0.241	0.001	0.014	0.013	42.723	0.003	0.001	Skid Steer Loaders

Table 36
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Driller	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2
Excavator	1.33	8.10	8.46	0.01	0.63	0.58	1176.91	0.12	0.03	1,189.0
Skip Loader	0.80	2.79	6.28	0.01	0.22	0.21	1183.98	0.07	0.03	1,195.0
Forklift	0.12	0.85	0.84	0.00	0.06	0.05	124.79	0.01	0.00	126.0
Trencher	0.43	1.82	2.66	0.00	0.22	0.20	259.35	0.04	0.01	262.3
Bobcat	0.12	1.08	0.96	0.00	0.06	0.05	170.89	0.01	0.00	172.5
Total	**3.83**	**20.16**	**25.45**	**0.06**	**1.38**	**1.27**	**6026.21**	**0.35**	**0.16**	**6082.06**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Driller	0.05	0.28	0.31	0.00	0.01	0.01	155.51	0.00	0.00	156.9
Excavator	0.07	0.41	0.42	0.00	0.03	0.03	58.85	0.01	0.00	59.4
Skip Loader	0.04	0.14	0.31	0.00	0.01	0.01	59.20	0.00	0.00	59.8
Forklift	0.01	0.04	0.04	0.00	0.00	0.00	6.24	0.00	0.00	6.3
Trencher	0.02	0.09	0.13	0.00	0.01	0.01	12.97	0.00	0.00	13.1
Bobcat	0.01	0.05	0.05	0.00	0.00	0.00	8.54	0.00	0.00	8.6
Total	**0.19**	**1.01**	**1.27**	**0.00**	**0.07**	**0.06**	**301.31**	**0.02**	**0.01**	**304.10**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Dump Truck	1	100	N/A	0.5
Concrete Truck	1	100	N/A	0.5
Water Truck	2	100	N/A	0.5
Tool Truck	1	100	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Water Truck	2	100	N/A	18
Concrete Truck	1	100	N/A	60
Worker Commute	10	100	N/A	58

[a] Concrete trucks based on 20,000 CY over 200 days and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Table 36
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Tool Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.24**	**0.00**	**0.00**	**8.33**
Offsite										
Water Truck	0.02	0.10	0.60	0.00	0.02	0.01	127.45	0.00	0.00	128.81
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.14**	**3.19**	**1.91**	**0.01**	**0.11**	**0.03**	**744.16**	**0.03**	**0.02**	**752.40**
Total	**0.14**	**3.20**	**1.94**	**0.01**	**0.11**	**0.03**	**752.39**	**0.03**	**0.03**	**760.73**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.18
Tool Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.39**	**0.00**	**0.00**	**0.39**
Offsite										
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44

Table 36
Modifications to Lugo Substation - Controlled Fugitive PM
Civil

Concrete Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.01	0.15	0.02	0.00	0.00	0.00	20.21	0.00	0.00	20.45
Offsite Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.01**	**0.00**	**37.21**	**0.00**	**0.00**	**37.62**
Total	**0.01**	**0.16**	**0.10**	**0.00**	**0.01**	**0.00**	**37.60**	**0.00**	**0.00**	**38.01**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Dump Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Tool Truck	1	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Water Truck	2	Paved	17.5	100	0.003	0.001	0.12	0.03	0.01	0.00
Concrete Truck	1	Paved	59.5	100	0.003	0.001	0.20	0.05	0.01	0.00
Worker Commute	10	Paved	58	100	0.003	0.001	1.93	0.47	0.10	0.02
Offsite Total							**2.25**	**0.55**	**0.11**	**0.03**
Total							**2.26**	**0.55**	**0.11**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 37
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.77	7.52	13.97	0.02	0.68	0.63	2,076.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	2.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.77**	**7.53**	**13.97**	**0.02**	**0.69**	**0.63**	**2078.3**
Offsite Motor Vehicle Exhaust	0.10	2.91	0.32	0.00	0.06	0.00	408.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.93	0.47	
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**1.99**	**0.48**	**408.9**
Total	**1.87**	**10.44**	**14.29**	**0.03**	**2.68**	**1.11**	**2487.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.09	0.38	0.70	0.00	0.03	0.03	103.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.09**	**0.38**	**0.70**	**0.00**	**0.03**	**0.03**	**103.9**
Offsite Motor Vehicle Exhaust	0.01	0.15	0.02	0.00	0.00	0.00	20.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.10	0.02	
Offsite Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.10**	**0.02**	**20.4**
Total	**0.09**	**0.52**	**0.71**	**0.00**	**0.13**	**0.06**	**124.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Reach Manlift	75	1	100	5
Manlift	75	2	100	5
14 Ton Crane	250	1	100	3
150 Ton Crane	300	1	100	4
5 Ton Crane	250	1	100	3
Forklift	100	1	100	3

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Reach Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
Manlift	75	0.042	0.235	0.303	0.000	0.022	0.020	38.038	0.004	0.001	Aerial Lifts
14 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
150 Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
5 Ton Crane	250	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts

Table 37
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Reach Manlift	0.21	1.18	1.51	0.00	0.11	0.10	190.19	0.02	0.00	192.1
Manlift	0.42	2.35	3.03	0.00	0.22	0.20	380.38	0.04	0.01	384.3
14 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
150 Ton Crane	0.53	1.77	4.28	0.01	0.15	0.14	719.76	0.05	0.02	726.6
5 Ton Crane	0.26	0.79	2.26	0.00	0.08	0.07	336.17	0.02	0.01	339.4
Forklift	0.09	0.64	0.63	0.00	0.04	0.04	93.59	0.01	0.00	94.5
Total	**1.77**	**7.52**	**13.97**	**0.02**	**0.68**	**0.63**	**2056.26**	**0.16**	**0.05**	**2076.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Reach Manlift	0.01	0.06	0.08	0.00	0.01	0.01	9.51	0.00	0.00	9.6
Manlift	0.02	0.12	0.15	0.00	0.01	0.01	19.02	0.00	0.00	19.2
14 Ton Crane	0.01	0.04	0.11	0.00	0.00	0.00	16.81	0.00	0.00	17.0
150 Ton Crane	0.03	0.09	0.21	0.00	0.01	0.01	35.99	0.00	0.00	36.3
5 Ton Crane	0.01	0.04	0.11	0.00	0.00	0.00	16.81	0.00	0.00	17.0
Forklift	0.00	0.03	0.03	0.00	0.00	0.00	4.68	0.00	0.00	4.7
Total	**0.09**	**0.38**	**0.70**	**0.00**	**0.03**	**0.03**	**102.81**	**0.01**	**0.00**	**103.81**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Pick-up Truck	2	100	N/A	0.5
Crew Truck	2	100	N/A	0.5
Inspection Services	1	20	N/A	0.5
Offsite				
Worker Commute	10	100	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Pick-up Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 37
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

Inspection Services	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.07**	**0.00**	**0.00**	**2.10**
Offsite										
Worker Commute	0.10	2.91	0.32	0.00	0.06	0.00	404.29	0.02	0.01	408.91
Offsite Total	**0.10**	**2.91**	**0.32**	**0.00**	**0.06**	**0.00**	**404.29**	**0.02**	**0.01**	**408.91**
Total	**0.10**	**2.92**	**0.32**	**0.00**	**0.06**	**0.00**	**406.37**	**0.02**	**0.01**	**411.01**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Inspection Services	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**0.00**	**0.00**	**0.08**
Offsite										
Worker Commute	0.01	0.15	0.02	0.00	0.00	0.00	20.21	0.00	0.00	20.45
Offsite Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.00**	**0.00**	**20.21**	**0.00**	**0.00**	**20.45**
Total	**0.01**	**0.15**	**0.02**	**0.00**	**0.00**	**0.00**	**20.30**	**0.00**	**0.00**	**20.53**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Pick-up Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	100	0.003	0.001	0.00	0.00	0.00	0.00
Inspection Services	1	Paved	0.5	20	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**

Table 37
Modifications to Lugo Substation - Controlled Fugitive PM
Electrical

Offsite										
Worker Commute	10	Paved	58	100	0.003	0.001	1.93	0.47	0.10	0.02
Offsite Total							**1.93**	**0.47**	**0.10**	**0.02**
Total							**1.94**	**0.48**	**0.10**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 38
Modifications to Lugo Substation - Controlled Fugitive PM
Wiring

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.16	0.28	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**1.19**	**0.29**	**245.3**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**1.20**	**0.29**	**246.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	7.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.04**	**0.01**	**7.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 38
Modifications to Lugo Substation - Controlled Fugitive PM
Wiring

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Wiring Truck	1	60	N/A	0.5
Pick-up Truck	1	60	N/A	0.5
Offsite				
Worker Commute	6	60	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Wiring Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Pick-up Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.76**	**0.19**	**0.00**	**0.04**	**0.00**	**243.73**	**0.01**	**0.01**	**246.52**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 38
Modifications to Lugo Substation - Controlled Fugitive PM
Wiring

Onsite										
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Pick-up Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.04**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.28**	**0.00**	**0.00**	**7.36**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**7.31**	**0.00**	**0.00**	**7.40**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Wiring Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Pick-up Truck	1	Paved	0.5	60	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	6	Paved	58	60	0.003	0.001	1.16	0.28	0.03	0.01
Offsite Total							**1.16**	**0.28**	**0.03**	**0.01**
Total							**1.16**	**0.29**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 39
Modifications to Lugo Substation - Controlled Fugitive PM
Control Room

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.79	2.66	6.43	0.01	0.23	0.21	1,089.8
Onsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.79**	**2.66**	**6.44**	**0.01**	**0.24**	**0.21**	**1092.6**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.84**	**3.83**	**6.56**	**0.01**	**1.03**	**0.41**	**1256.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.05	0.00	0.00	0.00	8.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.3**
Offsite Motor Vehicle Exhaust	0.00	0.05	0.01	0.00	0.00	0.00	6.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.03**	**0.01**	**6.5**
Total	**0.01**	**0.07**	**0.05**	**0.00**	**0.03**	**0.01**	**14.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30 Ton Crane	350	1	15	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30 Ton Crane	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30 Ton Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Total	**0.79**	**2.66**	**6.43**	**0.01**	**0.23**	**0.21**	**1079.64**	**0.07**	**0.03**	**1089.84**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 39
Modifications to Lugo Substation - Controlled Fugitive PM
Control Room

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30 Ton Crane	0.01	0.02	0.05	0.00	0.00	0.00	8.10	0.00	0.00	8.2
Total	**0.01**	**0.02**	**0.05**	**0.00**	**0.00**	**0.00**	**8.10**	**0.00**	**0.00**	**8.17**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	80	N/A	0.5
Stake Truck	1	80	N/A	0.5
Wiring Truck	1	80	N/A	0.5
Offsite				
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Stake Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Wiring Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.59
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.72**	**0.00**	**0.00**	**2.75**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.14**	**0.00**	**0.02**	**0.00**	**164.44**	**0.01**	**0.01**	**166.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 39
Modifications to Lugo Substation - Controlled Fugitive PM
Control Room

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Stake Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Wiring Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.11**
Offsite										
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.47**	**0.00**	**0.00**	**6.54**
Total	**0.00**	**0.05**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Stake Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Wiring Truck	1	Paved	0.5	80	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.78**	**0.19**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 40
Modifications to Lugo Substation - Controlled Fugitive PM
Maintenance

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	1.1
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**1.1**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**164.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 40
Modifications to Lugo Substation - Controlled Fugitive PM
Maintenance

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Foreman Truck	1	40	N/A	0.5
Crew Truck	2	40	N/A	0.5
Offsite				
Worker Commute	4	40	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Foreman Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.12**	**0.00**	**0.00**	**1.14**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.84**	**0.01**	**0.01**	**164.70**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]

Table 40
Modifications to Lugo Substation - Controlled Fugitive PM
Maintenance

Onsite										
Foreman Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**
Offsite										
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.23**	**0.00**	**0.00**	**3.27**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.26**	**0.00**	**0.00**	**3.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Foreman Truck	1	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	40	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.77**	**0.19**	**0.02**	**0.00**
Total							**0.78**	**0.19**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Transformer Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.67	7.42	13.25	0.02	0.61	0.56	1,987.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	2.5
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.67**	**7.42**	**13.26**	**0.02**	**0.61**	**0.56**	**1990.3**
Offsite Motor Vehicle Exhaust	0.06	1.75	0.19	0.00	0.04	0.00	245.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.16	0.28	
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**1.19**	**0.29**	**245.3**
Total	**1.74**	**9.17**	**13.45**	**0.03**	**1.81**	**0.85**	**2235.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.08	0.37	0.59	0.00	0.03	0.03	88.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.08**	**0.37**	**0.59**	**0.00**	**0.03**	**0.03**	**88.9**
Offsite Motor Vehicle Exhaust	0.00	0.10	0.01	0.00	0.00	0.00	14.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.02	
Offsite Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.07**	**0.02**	**14.7**
Total	**0.08**	**0.48**	**0.60**	**0.00**	**0.10**	**0.04**	**103.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Forklift	100	2	120	10
50 Ton Crane	200	2	75	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Forklift	100	0.031	0.213	0.211	0.000	0.015	0.014	31.197	0.003	0.001	Forklifts
50 Ton Crane	200	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Transformer Assembly

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Forklift	0.62	4.26	4.22	0.01	0.30	0.27	623.94	0.06	0.02	630.2
50 Ton Crane	1.05	3.16	9.03	0.02	0.31	0.29	1344.70	0.09	0.03	1,357.5
Total	**1.67**	**7.42**	**13.25**	**0.02**	**0.61**	**0.56**	**1968.64**	**0.15**	**0.05**	**1987.71**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Forklift	0.04	0.26	0.25	0.00	0.02	0.02	37.44	0.00	0.00	37.8
50 Ton Crane	0.04	0.12	0.34	0.00	0.01	0.01	50.43	0.00	0.00	50.9
Total	**0.08**	**0.37**	**0.59**	**0.00**	**0.03**	**0.03**	**87.86**	**0.01**	**0.00**	**88.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Carry-all Truck	1	120	N/A	0.5
Crew Truck	2	120	N/A	0.5
Offsite				
Worker Commute	6	120	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Carry-all Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Transformer Assembly

Carry-all Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.52**	**0.00**	**0.00**	**2.55**
Offsite										
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.06**	**1.75**	**0.19**	**0.00**	**0.04**	**0.00**	**242.58**	**0.01**	**0.01**	**245.34**
Total	**0.06**	**1.75**	**0.20**	**0.00**	**0.04**	**0.00**	**245.09**	**0.01**	**0.01**	**247.89**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Carry-all Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.05
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.15**	**0.00**	**0.00**	**0.15**
Offsite										
Worker Commute	0.00	0.10	0.01	0.00	0.00	0.00	14.55	0.00	0.00	14.72
Offsite Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.00**	**0.00**	**14.55**	**0.00**	**0.00**	**14.72**
Total	**0.00**	**0.10**	**0.01**	**0.00**	**0.00**	**0.00**	**14.71**	**0.00**	**0.00**	**14.87**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Carry-all Truck	1	Paved	0.5	120	0.003	0.001	0.00	0.00	0.00	0.00
Crew Truck	2	Paved	0.5	120	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	6	Paved	58	120	0.003	0.001	1.16	0.28	0.07	0.02
Offsite Total							**1.16**	**0.28**	**0.07**	**0.02**
Total							**1.16**	**0.29**	**0.07**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 41
Modifications to Lugo Substation - Controlled Fugitive PM
Transformer Assembly

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 42
Modifications to Lugo Substation - Controlled Fugitive PM Testing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.4**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.03**	**0.01**	**5.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 42
Modifications to Lugo Substation - Controlled Fugitive PM Testing

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Crew Truck	1	70	N/A	0.5
Offsite				
Worker Commute	4	70	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Crew Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.00**	**0.00**	**0.38**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**162.09**	**0.01**	**0.01**	**163.94**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Crew Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**

Table 42
Modifications to Lugo Substation - Controlled Fugitive PM Testing

Offsite										
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.66	0.00	0.00	5.72
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.66**	**0.00**	**0.00**	**5.72**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.67**	**0.00**	**0.00**	**5.74**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Crew Truck	1	Paved	0.5	70	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	4	Paved	58	70	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**0.77**	**0.19**	**0.03**	**0.01**
Total							**0.77**	**0.19**	**0.03**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 43
Modifications to Lugo Substation - Controlled Fugitive PM
Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.2**
Offsite Motor Vehicle Exhaust	0.02	0.58	0.06	0.00	0.01	0.00	81.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.39	0.09	
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.40**	**0.10**	**81.8**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.40**	**0.10**	**83.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 43
Modifications to Lugo Substation - Controlled Fugitive PM
Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Survey Truck	2	15	N/A	0.5
Offsite				
Worker Commute	2	15	N/A	58

[a] Asphalt delivery trucks based on 4,765 CY over 30 days and 7.3 CY/truck

Aggregate base delivery trucks based on 7,800 CY over 30 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Survey Truck	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Survey Truck	0.00	0.01	0.00	0.00	0.00	0.00	1.15	0.00	0.00	1.17
Onsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.15**	**0.00**	**0.00**	**1.17**
Offsite										
Worker Commute	0.02	0.58	0.06	0.00	0.01	0.00	80.86	0.00	0.00	81.78
Offsite Total	**0.02**	**0.58**	**0.06**	**0.00**	**0.01**	**0.00**	**80.86**	**0.00**	**0.00**	**81.78**
Total	**0.02**	**0.59**	**0.06**	**0.00**	**0.01**	**0.00**	**82.01**	**0.01**	**0.00**	**82.95**

Table 43
Modifications to Lugo Substation - Controlled Fugitive PM
Survey

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Survey Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**
Offsite										
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.61**	**0.00**	**0.00**	**0.61**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.00**	**0.00**	**0.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Survey Truck	2	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Worker Commute	2	Paved	58	15	0.003	0.001	0.39	0.09	0.00	0.00
Offsite Total							**0.39**	**0.09**	**0.00**	**0.00**
Total							**0.39**	**0.10**	**0.00**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

Table 43
Modifications to Lugo Substation - Controlled Fugitive PM Survey

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 44
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Survey

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.23	6.42	0.76	0.01	0.12	0.00	916.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	84.50	8.94	
Offsite Total	**0.23**	**6.42**	**0.76**	**0.01**	**84.62**	**8.94**	**916.5**
Total	**0.23**	**6.42**	**0.76**	**0.01**	**84.62**	**8.94**	**916.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.01	0.16	0.02	0.00	0.00	0.00	22.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.11	0.22	
Offsite Total	**0.01**	**0.16**	**0.02**	**0.00**	**2.12**	**0.22**	**22.9**
Total	**0.01**	**0.16**	**0.02**	**0.00**	**2.12**	**0.22**	**22.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 44
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Survey

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	8	50	N/A	28
Worker Commute	16	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25

Table 44
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Survey

Offsite Total	**0.23**	**6.42**	**0.76**	**0.01**	**0.12**	**0.00**	**905.48**	**0.06**	**0.03**	**916.49**
Total	**0.23**	**6.42**	**0.76**	**0.01**	**0.12**	**0.00**	**905.48**	**0.06**	**0.03**	**916.49**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.04	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.56
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.17	0.00	0.00	16.36
Offsite Total	**0.01**	**0.16**	**0.02**	**0.00**	**0.00**	**0.00**	**22.64**	**0.00**	**0.00**	**22.91**
Total	**0.01**	**0.16**	**0.02**	**0.00**	**0.00**	**0.00**	**22.64**	**0.00**	**0.00**	**22.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	8	Unpaved	18	50	0.564	0.056	81.15	8.11	2.03	0.20
1-Ton Truck, 4x4	8	Paved	10	50	0.003	0.001	0.27	0.07	0.01	0.00
Worker Commute	16	Paved	58	50	0.003	0.001	3.09	0.76	0.08	0.02
Offsite Total							**84.50**	**8.94**	**2.11**	**0.22**
Total							**84.50**	**8.94**	**2.11**	**0.22**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 44
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Survey

Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 45
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Construction and Materials Yards

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.91	3.00	7.11	0.01	0.25	0.23	1,297.0
Onsite Motor Vehicle Exhaust	0.04	0.33	1.46	0.00	0.05	0.03	324.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.32	0.08	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.95**	**3.33**	**8.57**	**0.02**	**0.62**	**0.34**	**1621.8**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	163.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.77	0.19	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.80**	**0.19**	**163.6**
Total/Yard	**0.99**	**4.49**	**8.70**	**0.02**	**1.42**	**0.53**	**1785.4**
Total for 8 Yards	**7.89**	**35.93**	**69.59**	**0.15**	**11.37**	**4.22**	**14283.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.41	1.37	3.25	0.01	0.11	0.11	592.1
Onsite Motor Vehicle Exhaust	0.02	0.15	0.67	0.00	0.02	0.01	148.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.15	0.04	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.43**	**1.52**	**3.91**	**0.01**	**0.29**	**0.15**	**740.4**
Offsite Motor Vehicle Exhaust	0.02	0.53	0.06	0.00	0.01	0.00	74.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.35	0.09	
Offsite Total	**0.02**	**0.53**	**0.06**	**0.00**	**0.36**	**0.09**	**74.7**
Total/Yard	**0.45**	**2.05**	**3.97**	**0.01**	**0.65**	**0.24**	**815.0**
Total for 8 Yards	**3.60**	**16.40**	**31.77**	**0.07**	**5.19**	**1.93**	**6520.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
R/T Forklfit	200	1	913	5
Boom/Crane Truck	350	1	913	5

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
R/T Forklfit	200	0.049	0.157	0.351	0.001	0.012	0.011	77.053	0.004	0.002	Forklifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Table 45
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Construction and Materials Yards

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
R/T Forklfit	0.24	0.78	1.76	0.00	0.06	0.05	385.26	0.02	0.01	388.8
Boom/Crane Truck	0.66	2.21	5.36	0.01	0.19	0.18	899.70	0.06	0.02	908.2
Total	**0.91**	**3.00**	**7.11**	**0.01**	**0.25**	**0.23**	**1284.96**	**0.08**	**0.03**	**1297.03**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
R/T Forklfit	0.11	0.36	0.80	0.00	0.03	0.02	175.87	0.01	0.00	177.5
Boom/Crane Truck	0.30	1.01	2.44	0.00	0.09	0.08	410.71	0.03	0.01	414.6
Total	**0.41**	**1.37**	**3.25**	**0.01**	**0.11**	**0.11**	**586.58**	**0.04**	**0.02**	**592.09**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.[a]
Onsite				
1-Ton Truck, 4x4	1	913	4	10
Boom/Crane Truck	1	913	5	12.5
Water Truck	2	913	10	25
Jet A Fuel Truck	1	913	4	10
Truck, Semi Tractor	1	913	6	15
Offsite				
Worker Commute	4	913	N/A	58

[a] Onsite travel based on 25% use at 10 mph average speed

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Jet A Fuel Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Truck, Semi Tractor	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 45
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Construction and Materials Yards

Offsite										
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
1-Ton Truck, 4x4	0.00	0.08	0.01	0.00	0.00	0.00	11.55	0.00	0.00	11.71
Boom/Crane Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.25	0.00	0.00	44.73
Water Truck	0.02	0.14	0.83	0.00	0.03	0.02	177.01	0.00	0.01	178.90
Jet A Fuel Truck	0.00	0.03	0.17	0.00	0.01	0.00	35.40	0.00	0.00	35.78
Truck, Semi Tractor	0.01	0.04	0.25	0.00	0.01	0.00	53.10	0.00	0.00	53.67
Onsite Total	**0.04**	**0.33**	**1.46**	**0.00**	**0.05**	**0.03**	**321.32**	**0.00**	**0.01**	**324.79**
Offsite										
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**161.72**	**0.01**	**0.01**	**163.56**
Total	**0.08**	**1.49**	**1.59**	**0.01**	**0.07**	**0.03**	**483.03**	**0.01**	**0.02**	**488.35**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
1-Ton Truck, 4x4	0.00	0.04	0.01	0.00	0.00	0.00	5.27	0.00	0.00	5.34
Boom/Crane Truck	0.00	0.02	0.09	0.00	0.00	0.00	20.20	0.00	0.00	20.42
Water Truck	0.01	0.06	0.38	0.00	0.01	0.01	80.81	0.00	0.00	81.67
Jet A Fuel Truck	0.00	0.01	0.08	0.00	0.00	0.00	16.16	0.00	0.00	16.33
Truck, Semi Tractor	0.00	0.02	0.11	0.00	0.00	0.00	24.24	0.00	0.00	24.50
Onsite Total	**0.02**	**0.15**	**0.67**	**0.00**	**0.02**	**0.01**	**146.68**	**0.00**	**0.01**	**148.27**
Offsite										
Worker Commute	0.02	0.53	0.06	0.00	0.01	0.00	73.82	0.00	0.00	74.67
Offsite Total	**0.02**	**0.53**	**0.06**	**0.00**	**0.01**	**0.00**	**73.82**	**0.00**	**0.00**	**74.67**
Total	**0.04**	**0.68**	**0.72**	**0.00**	**0.03**	**0.01**	**220.51**	**0.01**	**0.01**	**222.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Table 45
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Construction and Materials Yards

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
1-Ton Truck, 4x4	1	Paved	10	913	0.003	0.001	0.03	0.01	0.02	0.00
Boom/Crane Truck	1	Paved	12.5	913	0.003	0.001	0.04	0.01	0.02	0.00
Water Truck	2	Paved	25	913	0.003	0.001	0.17	0.04	0.08	0.02
Jet A Fuel Truck	1	Paved	10	913	0.003	0.001	0.03	0.01	0.02	0.00
Truck, Semi Tractor	1	Paved	15	913	0.003	0.001	0.05	0.01	0.02	0.01
Onsite Total							**0.32**	**0.08**	**0.15**	**0.04**
Offsite										
Worker Commute	4	Paved	58	913	0.003	0.001	0.77	0.19	0.35	0.09
Offsite Total							**0.77**	**0.19**	**0.35**	**0.09**
Total							**1.10**	**0.27**	**0.50**	**0.12**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 46
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Right-of-Way Clearing

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	12.06	42.79	92.13	0.18	3.38	3.11	17,652.9
Onsite Motor Vehicle Exhaust	0.01	0.05	0.30	0.00	0.01	0.01	64.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	17.59	1.76	
Earthwork Fugitive PM	--	--	--	--	72.85	32.56	
Onsite Total	**12.06**	**42.84**	**92.43**	**0.18**	**93.84**	**37.44**	**17717.3**
Offsite Motor Vehicle Exhaust	0.60	15.71	4.52	0.03	0.40	0.06	2,754.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	148.88	16.34	
Offsite Total	**0.60**	**15.71**	**4.52**	**0.03**	**149.28**	**16.40**	**2754.7**
Total	**12.67**	**58.55**	**96.94**	**0.21**	**243.11**	**53.84**	**20472.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.63	2.25	4.84	0.01	0.18	0.16	926.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.02	0.00	0.00	0.00	3.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.92	0.09	
Earthwork Fugitive PM	--	--	--	--	3.82	1.71	
Onsite Total	**0.63**	**2.25**	**4.85**	**0.01**	**4.93**	**1.97**	**930.2**
Offsite Motor Vehicle Exhaust	0.03	0.82	0.24	0.00	0.02	0.00	144.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.82	0.86	
Offsite Total	**0.03**	**0.82**	**0.24**	**0.00**	**7.84**	**0.86**	**144.6**
Total	**0.67**	**3.07**	**5.09**	**0.01**	**12.76**	**2.83**	**1074.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	350	3	105	7
Track Type Dozer	350	3	105	7
Road Grader	350	3	105	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Track Type Dozer	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Road Grader	350	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	4.16	14.61	29.56	0.08	1.04	0.96	7235.42	0.38	0.19	7,301.5
Track Type Dozer	4.58	16.59	36.58	0.05	1.40	1.29	5438.93	0.41	0.14	5,491.5

Table 46
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Right-of-Way Clearing

Road Grader	3.31	11.59	25.99	0.05	0.94	0.86	4814.84	0.30	0.13	4,859.9
Total	**12.06**	**42.79**	**92.13**	**0.18**	**3.38**	**3.11**	**17489.19**	**1.09**	**0.45**	**17652.89**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.22	0.77	1.55	0.00	0.05	0.05	379.86	0.02	0.01	383.3
Track Type Dozer	0.24	0.87	1.92	0.00	0.07	0.07	285.54	0.02	0.01	288.3
Road Grader	0.17	0.61	1.36	0.00	0.05	0.05	252.78	0.02	0.01	255.1
Total	**0.63**	**2.25**	**4.84**	**0.01**	**0.18**	**0.16**	**918.18**	**0.06**	**0.02**	**926.78**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	6	105	N/A	3
Offsite				
1-Ton Truck, 4x4	3	105	N/A	28
Water Truck	6	105	N/A	28
Lowboy Truck/Trailer	3	105	N/A	1
Worker Commute	50	105	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Onsite Total	**0.01**	**0.05**	**0.30**	**0.00**	**0.01**	**0.01**	**63.72**	**0.00**	**0.00**	**64.41**
Offsite										
1-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34

Table 46
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Right-of-Way Clearing

Water Truck	0.07	0.48	2.78	0.01	0.09	0.05	594.76	0.00	0.02	601.12
Lowboy Truck/Trailer	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.51	14.57	1.59	0.02	0.30	0.01	2021.47	0.12	0.07	2044.54
Offsite Total	**0.60**	**15.71**	**4.52**	**0.03**	**0.40**	**0.06**	**2723.83**	**0.13**	**0.09**	**2754.73**
Total	**0.61**	**15.76**	**4.81**	**0.03**	**0.41**	**0.07**	**2787.55**	**0.13**	**0.09**	**2819.14**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.35	0.00	0.00	3.38
Onsite Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**3.35**	**0.00**	**0.00**	**3.38**
Offsite										
1-Ton Truck, 4x4	0.00	0.03	0.01	0.00	0.00	0.00	5.09	0.00	0.00	5.16
Water Truck	0.00	0.03	0.15	0.00	0.00	0.00	31.23	0.00	0.00	31.56
Lowboy Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.56
Worker Commute	0.03	0.76	0.08	0.00	0.02	0.00	106.13	0.01	0.00	107.34
Offsite Total	**0.03**	**0.82**	**0.24**	**0.00**	**0.02**	**0.00**	**143.00**	**0.01**	**0.00**	**144.62**
Total	**0.03**	**0.83**	**0.25**	**0.00**	**0.02**	**0.00**	**146.35**	**0.01**	**0.00**	**148.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	6	Unpaved	3	105	0.977	0.098	17.59	1.76	0.92	0.09
Onsite Total							**17.59**	**1.76**	**0.92**	**0.09**
Offsite										
1-Ton Truck, 4x4	3	Unpaved	18	105	0.564	0.056	30.43	3.04	1.60	0.16
1-Ton Truck, 4x4	3	Paved	10	105	0.003	0.001	0.10	0.02	0.01	0.00
Water Truck	6	Unpaved	18	105	0.977	0.098	105.56	10.56	5.54	0.55
Water Truck	6	Paved	10	105	0.003	0.001	0.20	0.05	0.01	0.00
Lowboy Truck/Trailer	3	Unpaved	1	105	0.977	0.098	2.93	0.29	0.15	0.02
Worker Commute	50	Paved	58	105	0.003	0.001	9.66	2.37	0.51	0.12
Offsite Total							**148.88**	**16.34**	**7.82**	**0.86**
Total							**166.47**	**18.10**	**8.74**	**0.95**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 46
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Right-of-Way Clearing

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr	42	4410	1.735	0.775	72.85	32.56	3.82	1.71
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**72.85**	**32.56**	**3.82**	**1.71**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 47
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Roads and Landing Work

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	21.08	73.13	161.45	0.32	5.84	5.37	31,372.7
Onsite Motor Vehicle Exhaust	0.01	0.07	0.40	0.00	0.01	0.01	85.9
Onsite Motor Vehicle Fugitive PM	--	--	--	--	23.46	2.35	
Earthwork Fugitive PM	--	--	--	--	85.50	37.55	
Onsite Total	**21.09**	**73.20**	**161.85**	**0.32**	**114.81**	**45.28**	**31458.6**
Offsite Motor Vehicle Exhaust	0.40	9.40	4.79	0.02	0.29	0.08	2,059.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	230.97	23.85	
Offsite Total	**0.40**	**9.40**	**4.79**	**0.02**	**231.26**	**23.92**	**2059.4**
Total	**21.49**	**82.59**	**166.64**	**0.35**	**346.07**	**69.20**	**33518.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.46	5.08	11.25	0.02	0.41	0.37	2,155.0
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	6.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.76	0.18	
Earthwork Fugitive PM	--	--	--	--	6.41	2.82	
Onsite Total	**1.46**	**5.08**	**11.28**	**0.02**	**8.58**	**3.37**	**2161.4**
Offsite Motor Vehicle Exhaust	0.03	0.70	0.36	0.00	0.02	0.01	154.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	17.21	1.78	
Offsite Total	**0.03**	**0.70**	**0.36**	**0.00**	**17.23**	**1.78**	**154.0**
Total	**1.49**	**5.79**	**11.64**	**0.02**	**25.81**	**5.15**	**2315.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	350	4	150	7
Track Type Dozer	350	4	150	7
Road Grader	350	4	150	5
Drum Type Compactor	250	4	150	5
Excavator	300	4	90	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Track Type Dozer	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Road Grader	350	0.158	0.552	1.238	0.002	0.045	0.041	229.278	0.014	0.006	Graders
Drum Type Compactor	250	0.104	0.346	0.995	0.002	0.033	0.031	152.952	0.009	0.004	Rollers
Excavator	300	0.149	0.485	1.022	0.002	0.037	0.034	233.525	0.013	0.006	Excavators

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 47
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Roads and Landing Work

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	5.55	19.48	39.41	0.11	1.39	1.28	9647.23	0.50	0.25	9,735.4
Track Type Dozer	6.11	22.11	48.77	0.07	1.87	1.72	7251.90	0.55	0.19	7,322.0
Road Grader	3.15	11.04	24.76	0.05	0.89	0.82	4585.56	0.28	0.12	4,628.5
Drum Type Compactor	2.08	6.92	19.89	0.03	0.67	0.61	3059.05	0.19	0.08	3,087.6
Excavator	4.18	13.57	28.63	0.06	1.02	0.94	6538.71	0.38	0.17	6,599.3
Total	**21.08**	**73.13**	**161.45**	**0.32**	**5.84**	**5.37**	**31082.46**	**1.90**	**0.81**	**31372.69**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.42	1.46	2.96	0.01	0.10	0.10	723.54	0.04	0.02	730.2
Track Type Dozer	0.46	1.66	3.66	0.01	0.14	0.13	543.89	0.04	0.01	549.1
Road Grader	0.24	0.83	1.86	0.00	0.07	0.06	343.92	0.02	0.01	347.1
Drum Type Compactor	0.16	0.52	1.49	0.00	0.05	0.05	229.43	0.01	0.01	231.6
Excavator	0.19	0.61	1.29	0.00	0.05	0.04	294.24	0.02	0.01	297.0
Total	**1.46**	**5.08**	**11.25**	**0.02**	**0.41**	**0.37**	**2135.02**	**0.13**	**0.06**	**2154.97**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	8	150	N/A	3
Offsite				
1-Ton Truck, 4x4	8	150	N/A	28
Water Truck	8	150	N/A	28
Lowboy Truck/Trailer	4	90	N/A	1
Worker Commute	24	150	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Table 47
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Roads and Landing Work

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.07	0.40	0.00	0.01	0.01	84.97	0.00	0.00	85.87
Onsite Total	**0.01**	**0.07**	**0.40**	**0.00**	**0.01**	**0.01**	**84.97**	**0.00**	**0.00**	**85.87**
Offsite										
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Water Truck	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Lowboy Truck/Trailer	0.00	0.01	0.07	0.00	0.00	0.00	14.16	0.00	0.00	14.31
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.40**	**9.40**	**4.79**	**0.02**	**0.29**	**0.08**	**2036.09**	**0.08**	**0.07**	**2059.42**
Total	**0.41**	**9.47**	**5.19**	**0.02**	**0.30**	**0.08**	**2121.06**	**0.08**	**0.07**	**2145.30**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.37	0.00	0.00	6.44
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.37**	**0.00**	**0.00**	**6.44**
Offsite										
1-Ton Truck, 4x4	0.00	0.13	0.02	0.00	0.00	0.00	19.40	0.00	0.00	19.67
Water Truck	0.01	0.05	0.28	0.00	0.01	0.01	59.48	0.00	0.00	60.11
Lowboy Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.02	0.52	0.06	0.00	0.01	0.00	72.77	0.00	0.00	73.60
Offsite Total	**0.03**	**0.70**	**0.36**	**0.00**	**0.02**	**0.01**	**152.28**	**0.01**	**0.01**	**154.03**
Total	**0.03**	**0.71**	**0.39**	**0.00**	**0.02**	**0.01**	**158.65**	**0.01**	**0.01**	**160.47**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	8	Unpaved	3	150	0.977	0.098	23.46	2.35	1.76	0.18
Onsite Total							**23.46**	**2.35**	**1.76**	**0.18**
Offsite										
1-Ton Truck, 4x4	8	Unpaved	18	150	0.564	0.056	81.15	8.11	6.09	0.61
1-Ton Truck, 4x4	8	Paved	10	150	0.003	0.001	0.27	0.07	0.02	0.00
Water Truck	8	Unpaved	18	150	0.977	0.098	140.75	14.07	10.56	1.06
Water Truck	8	Paved	10	150	0.003	0.001	0.27	0.07	0.02	0.00
Lowboy Truck/Trailer	4	Unpaved	1	90	0.977	0.098	3.91	0.39	0.18	0.02
Worker Commute	24	Paved	58	150	0.003	0.001	4.63	1.14	0.35	0.09

Table 47
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Roads and Landing Work

Offsite Total							**230.97**	**23.85**	**17.21**	**1.78**
Total							**254.43**	**26.19**	**18.96**	**1.95**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	2232	334752	1.00E-03	1.52E-04	2.24	0.34	0.17	0.03
Bulldozing, Scraping and Grading	hr	48	7200	1.735	0.775	83.26	37.21	6.24	2.79
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**85.50**	**37.55**	**6.41**	**2.82**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating or backfilling and grading 18 ft. wide x 63.4 miles long x 1.5 ft. deep = 331,056 CY over 150 days

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Retaining Wall Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	6.07	27.28	46.47	0.11	1.75	1.61	9,979.3
Onsite Motor Vehicle Exhaust	0.00	0.01	0.07	0.00	0.00	0.00	14.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	3.91	0.39	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**6.07**	**27.29**	**46.54**	**0.11**	**5.66**	**2.00**	**9993.6**
Offsite Motor Vehicle Exhaust	0.46	6.12	13.17	0.03	0.49	0.23	3,304.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	305.76	31.16	
Offsite Total	**0.46**	**6.12**	**13.17**	**0.03**	**306.26**	**31.39**	**3304.2**
Total	**6.53**	**33.41**	**59.70**	**0.14**	**311.92**	**33.39**	**13297.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	2.25	10.13	17.26	0.04	0.65	0.60	3,707.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.02	0.00	0.00	0.00	5.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.45	0.15	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.26**	**10.14**	**17.29**	**0.04**	**2.10**	**0.74**	**3712.6**
Offsite Motor Vehicle Exhaust	0.13	2.02	3.40	0.01	0.13	0.06	905.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	80.99	8.28	
Offsite Total	**0.13**	**2.02**	**3.40**	**0.01**	**81.12**	**8.34**	**905.3**
Total	**2.39**	**12.16**	**20.69**	**0.05**	**83.23**	**9.09**	**4618.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom Truck	350	2	743	8
Tracked Drill Rig	250	2	743	8
Rubber Tire Backhoe	125	2	743	8
Wheel Loader	250	2	743	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Tracked Drill Rig	250	0.063	0.342	0.388	0.002	0.011	0.010	187.933	0.006	0.005	Bore/Drill Rigs
Rubber Tire Backhoe	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Wheel Loader	250	0.106	0.335	0.888	0.002	0.030	0.028	148.843	0.010	0.004	Rubber Tired Loaders

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Retaining Wall Installation

Boom Truck	2.12	7.08	17.14	0.03	0.62	0.57	2879.03	0.19	0.07	2,906.2
Tracked Drill Rig	1.00	5.48	6.21	0.03	0.18	0.17	3006.93	0.09	0.08	3,033.0
Rubber Tire Backhoe	1.26	9.35	8.91	0.02	0.47	0.43	1620.73	0.11	0.04	1,636.2
Wheel Loader	1.69	5.37	14.21	0.03	0.48	0.44	2381.49	0.15	0.06	2,403.9
Total	**6.07**	**27.28**	**46.47**	**0.11**	**1.75**	**1.61**	**9888.18**	**0.55**	**0.26**	**9979.34**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom Truck	0.79	2.63	6.37	0.01	0.23	0.21	1069.56	0.07	0.03	1,079.7
Tracked Drill Rig	0.37	2.03	2.31	0.01	0.07	0.06	1117.07	0.03	0.03	1,126.8
Rubber Tire Backhoe	0.47	3.47	3.31	0.01	0.17	0.16	602.10	0.04	0.02	607.9
Wheel Loader	0.63	1.99	5.28	0.01	0.18	0.17	884.72	0.06	0.02	893.0
Total	**2.25**	**10.13**	**17.26**	**0.04**	**0.65**	**0.60**	**3673.46**	**0.20**	**0.10**	**3707.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	2	743	N/A	2
Offsite				
1-Ton Truck, 4x4	2	743	N/A	28
Boom Truck	2	743	N/A	28
Dump Truck	4	743	N/A	60
Water Truck	2	743	N/A	28
Concrete Redi-Mix Truck	6	342	N/A	60
Lowboy Truck/Trailer	2	105	N/A	28
Worker Commute	12	743	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Redi-Mix Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Retaining Wall Installation

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.00	0.01	0.07	0.00	0.00	0.00	14.16	0.00	0.00	14.31
Onsite Total	**0.00**	**0.01**	**0.07**	**0.00**	**0.00**	**0.00**	**14.16**	**0.00**	**0.00**	**14.31**
Offsite										
1-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Boom Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.10	0.68	3.97	0.01	0.13	0.07	849.66	0.00	0.03	858.74
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Redi-Mix Truck	0.15	1.03	5.96	0.01	0.20	0.11	1274.49	0.01	0.04	1288.11
Lowboy Truck/Trailer	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.46**	**6.12**	**13.17**	**0.03**	**0.49**	**0.23**	**3268.72**	**0.05**	**0.11**	**3304.22**
Total	**0.46**	**6.13**	**13.23**	**0.03**	**0.50**	**0.24**	**3282.88**	**0.05**	**0.11**	**3318.53**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	5.26	0.00	0.00	5.32
Onsite Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**5.26**	**0.00**	**0.00**	**5.32**
Offsite										
1-Ton Truck, 4x4	0.01	0.16	0.02	0.00	0.00	0.00	24.02	0.00	0.00	24.36
Boom Truck	0.01	0.06	0.34	0.00	0.01	0.01	73.65	0.00	0.00	74.44
Dump Truck	0.04	0.25	1.48	0.00	0.05	0.03	315.65	0.00	0.01	319.02
Water Truck	0.01	0.06	0.34	0.00	0.01	0.01	73.65	0.00	0.00	74.44
Concrete Redi-Mix Truck	0.03	0.18	1.02	0.00	0.03	0.02	217.94	0.00	0.01	220.27
Lowboy Truck/Trailer	0.00	0.01	0.05	0.00	0.00	0.00	10.41	0.00	0.00	10.52
Worker Commute	0.05	1.30	0.14	0.00	0.03	0.00	180.23	0.01	0.01	182.29
Offsite Total	**0.13**	**2.02**	**3.40**	**0.01**	**0.13**	**0.06**	**895.55**	**0.02**	**0.03**	**905.33**
Total	**0.13**	**2.02**	**3.42**	**0.01**	**0.14**	**0.06**	**900.81**	**0.02**	**0.03**	**910.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	2	Unpaved	2	743	0.977	0.098	3.91	0.39	1.45	0.15

Table 48
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Retaining Wall Installation

Onsite Total							**3.91**	**0.39**	**1.45**	**0.15**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	743	0.564	0.056	20.29	2.03	7.54	0.75
1-Ton Truck, 4x4	2	Paved	10	743	0.003	0.001	0.07	0.02	0.02	0.01
Boom Truck	2	Unpaved	18	743	0.977	0.098	35.19	3.52	13.07	1.31
Boom Truck	2	Paved	10	743	0.003	0.001	0.07	0.02	0.02	0.01
Dump Truck	4	Unpaved	18	743	0.977	0.098	70.37	7.04	26.14	2.61
Dump Truck	4	Paved	42	743	0.003	0.001	0.56	0.14	0.21	0.05
Water Truck	2	Unpaved	18	743	0.977	0.098	35.19	3.52	13.07	1.31
Water Truck	2	Paved	10	743	0.003	0.001	0.07	0.02		
Concrete Redi-Mix Truck	6	Unpaved	18	342	0.977	0.098	105.56	10.56	18.05	1.81
Concrete Redi-Mix Truck	6	Paved	42	342	0.003	0.001	0.84	0.21	0.14	0.04
Lowboy Truck/Trailer	2	Unpaved	18	105	0.977	0.098	35.19	3.52	1.85	0.18
Lowboy Truck/Trailer	2	Paved	10	105	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	12	Paved	58	743	0.003	0.001	2.32	0.57	0.86	0.21
Offsite Total							**305.76**	**31.16**	**80.99**	**8.28**
Total							**309.67**	**31.55**	**82.44**	**8.43**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Wet Crossing Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	13.89	60.40	107.04	0.22	4.11	3.78	19,801.1
Onsite Motor Vehicle Exhaust	0.01	0.03	0.20	0.00	0.01	0.00	42.9
Onsite Motor Vehicle Fugitive PM	--	--	--	--	11.73	1.17	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**13.90**	**60.44**	**107.24**	**0.22**	**15.85**	**4.96**	**19844.0**
Offsite Motor Vehicle Exhaust	1.28	18.25	34.02	0.09	1.32	0.60	8,828.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	811.53	82.86	
Offsite Total	**1.28**	**18.25**	**34.02**	**0.09**	**812.84**	**83.46**	**8828.9**
Total	**15.18**	**78.69**	**141.26**	**0.31**	**828.69**	**88.42**	**28672.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.42	6.19	10.97	0.02	0.42	0.39	2,029.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.02	0.00	0.00	0.00	4.4
Onsite Motor Vehicle Fugitive PM	--	--	--	--	1.20	0.12	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.42**	**6.19**	**10.99**	**0.02**	**1.62**	**0.51**	**2034.0**
Offsite Motor Vehicle Exhaust	0.11	1.72	2.59	0.01	0.11	0.05	711.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	67.20	6.87	
Offsite Total	**0.11**	**1.72**	**2.59**	**0.01**	**67.31**	**6.92**	**711.7**
Total	**1.53**	**7.91**	**13.59**	**0.03**	**68.93**	**7.43**	**2745.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Tracked Excavator	250	6	205	8
Rubber Tire Backhoe	125	6	205	8
Wheel Loader	250	6	205	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Tracked Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators
Rubber Tire Backhoe	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Wheel Loader	250	0.106	0.335	0.888	0.002	0.030	0.028	148.843	0.010	0.004	Rubber Tired Loaders

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Tracked Excavator	5.05	16.25	37.68	0.09	1.26	1.16	7609.93	0.46	0.20	7,680.8
Rubber Tire Backhoe	3.78	28.05	26.72	0.05	1.40	1.29	4862.20	0.34	0.13	4,908.7

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Wet Crossing Installation

Wheel Loader	5.07	16.10	42.64	0.08	1.45	1.33	7144.46	0.46	0.19	7,211.6
Total	**13.89**	**60.40**	**107.04**	**0.22**	**4.11**	**3.78**	**19616.60**	**1.25**	**0.51**	**19801.09**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Tracked Excavator	0.52	1.67	3.86	0.01	0.13	0.12	780.02	0.05	0.02	787.3
Rubber Tire Backhoe	0.39	2.88	2.74	0.01	0.14	0.13	498.38	0.03	0.01	503.1
Wheel Loader	0.52	1.65	4.37	0.01	0.15	0.14	732.31	0.05	0.02	739.2
Total	**1.42**	**6.19**	**10.97**	**0.02**	**0.42**	**0.39**	**2010.70**	**0.13**	**0.05**	**2029.61**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	6	205	N/A	2
Offsite				
1-Ton Truck, 4x4	6	205	N/A	28
Dump Truck	12	205	N/A	60
Water Truck	6	205	N/A	28
Concrete Redi-Mix Truck	18	105	N/A	60
Lowboy Truck/Trailer	6	205	N/A	28
Worker Commute	36	205	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Redi-Mix Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.01	0.03	0.20	0.00	0.01	0.00	42.48	0.00	0.00	42.94

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Wet Crossing Installation

Onsite Total	**0.01**	**0.03**	**0.20**	**0.00**	**0.01**	**0.00**	**42.48**	**0.00**	**0.00**	**42.94**
Offsite										
1-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
Dump Truck	0.30	2.05	11.92	0.03	0.39	0.22	2548.98	0.01	0.09	2576.22
Water Truck	0.07	0.48	2.78	0.01	0.09	0.05	594.76	0.00	0.02	601.12
Concrete Redi-Mix Truck	0.46	3.08	17.89	0.04	0.59	0.33	3823.47	0.02	0.13	3864.33
Lowboy Truck/Trailer	0.03	0.84	0.09	0.00	0.02	0.00	117.11	0.01	0.00	118.44
Worker Commute	0.37	10.49	1.14	0.02	0.22	0.01	1455.46	0.09	0.05	1472.07
Offsite Total	**1.28**	**18.25**	**34.02**	**0.09**	**1.32**	**0.60**	**8733.74**	**0.15**	**0.30**	**8828.85**
Total	**1.28**	**18.29**	**34.22**	**0.09**	**1.32**	**0.61**	**8776.22**	**0.15**	**0.30**	**8871.79**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.35	0.00	0.00	4.40
Onsite Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**4.35**	**0.00**	**0.00**	**4.40**
Offsite										
1-Ton Truck, 4x4	0.00	0.14	0.02	0.00	0.00	0.00	19.88	0.00	0.00	20.16
Dump Truck	0.03	0.21	1.22	0.00	0.04	0.02	261.27	0.00	0.01	264.06
Water Truck	0.01	0.05	0.29	0.00	0.01	0.01	60.96	0.00	0.00	61.61
Concrete Redi-Mix Truck	0.02	0.16	0.94	0.00	0.03	0.02	200.73	0.00	0.01	202.88
Lowboy Truck/Trailer	0.00	0.09	0.01	0.00	0.00	0.00	12.00	0.00	0.00	12.14
Worker Commute	0.04	1.08	0.12	0.00	0.02	0.00	149.18	0.01	0.00	150.89
Offsite Total	**0.11**	**1.72**	**2.59**	**0.01**	**0.11**	**0.05**	**704.03**	**0.01**	**0.02**	**711.74**
Total	**0.11**	**1.72**	**2.61**	**0.01**	**0.11**	**0.05**	**708.39**	**0.01**	**0.02**	**716.14**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	6	Unpaved	2	205	0.977	0.098	11.73	1.17	1.20	0.12
Onsite Total							**11.73**	**1.17**	**1.20**	**0.12**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	205	0.564	0.056	60.86	6.09	6.24	0.62
1-Ton Truck, 4x4	6	Paved	10	205	0.003	0.001	0.20	0.05	0.02	0.01
Dump Truck	12	Unpaved	18	205	0.977	0.098	211.12	21.11	21.64	2.16
Dump Truck	12	Paved	42	205	0.003	0.001	1.68	0.41	0.17	0.04
Water Truck	6	Unpaved	18	205	0.977	0.098	105.56	10.56	10.82	1.08
Water Truck	6	Paved	10	205	0.003	0.001	0.20	0.05		
Concrete Redi-Mix Truck	18	Unpaved	18	105	0.977	0.098	316.68	31.67	16.63	1.66

Table 49
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Wet Crossing Installation

Concrete Redi-Mix Truck	18	Paved	42	105	0.003	0.001	2.52	0.62	0.13	0.03
Lowboy Truck/Trailer	6	Unpaved	18	205	0.977	0.098	105.56	10.56	10.82	1.08
Lowboy Truck/Trailer	6	Paved	10	205	0.003	0.001	0.20	0.05	0.02	0.01
Worker Commute	36	Paved	58	205	0.003	0.001	6.95	1.71	0.71	0.17
Offsite Total							**811.53**	**82.86**	**67.20**	**6.87**
Total							**823.26**	**84.03**	**68.40**	**6.99**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Guard Structure Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	11.20	48.80	87.62	0.21	3.43	3.16	21,470.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	1.8
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.49	0.05	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**11.20**	**48.80**	**87.63**	**0.21**	**3.92**	**3.21**	**21471.9**
Offsite Motor Vehicle Exhaust	0.52	10.15	9.03	0.03	0.44	0.16	3,031.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	413.48	42.16	
Offsite Total	**0.52**	**10.15**	**9.03**	**0.03**	**413.92**	**42.32**	**3031.7**
Total	**11.72**	**58.95**	**96.66**	**0.24**	**417.84**	**45.52**	**24503.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.11	0.49	0.88	0.00	0.03	0.03	214.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.11**	**0.49**	**0.88**	**0.00**	**0.04**	**0.03**	**214.7**
Offsite Motor Vehicle Exhaust	0.01	0.10	0.09	0.00	0.00	0.00	30.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.13	0.42	
Offsite Total	**0.01**	**0.10**	**0.09**	**0.00**	**4.14**	**0.42**	**30.3**
Total	**0.12**	**0.59**	**0.97**	**0.00**	**4.18**	**0.46**	**245.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	4	20	7
Manlift/Bucket Truck	350	4	20	5
Boom/Crane Truck	500	4	20	8
Auger Truck	500	4	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Guard Structure Installation

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.76	8.82	11.22	0.02	0.94	0.87	1313.43	0.16	0.03	1,327.4
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1
Boom/Crane Truck	4.24	14.17	34.27	0.06	1.24	1.14	5758.07	0.38	0.15	5,812.5
Auger Truck	3.30	17.62	19.99	0.10	0.60	0.55	9952.93	0.30	0.26	10,039.1
Total	**11.20**	**48.80**	**87.62**	**0.21**	**3.43**	**3.16**	**21277.72**	**1.01**	**0.55**	**21470.16**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.02	0.09	0.11	0.00	0.01	0.01	13.13	0.00	0.00	13.3
Manlift/Bucket Truck	0.02	0.08	0.22	0.00	0.01	0.01	42.53	0.00	0.00	42.9
Boom/Crane Truck	0.04	0.14	0.34	0.00	0.01	0.01	57.58	0.00	0.00	58.1
Auger Truck	0.03	0.18	0.20	0.00	0.01	0.01	99.53	0.00	0.00	100.4
Total	**0.11**	**0.49**	**0.88**	**0.00**	**0.03**	**0.03**	**212.78**	**0.01**	**0.01**	**214.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
Water Truck	1	20	N/A	0.5
Offsite				
3/4-Ton Truck, 4x4	8	20	N/A	28
1-Ton Truck, 4x4	4	20	N/A	28
Manlift/Bucket Truck	4	20	N/A	28
Boom/Crane Truck	4	20	N/A	28
Water Truck	1	20	N/A	28
Auger Truck	4	20	N/A	28
Extendable Flat Bed Pole Truck	4	20	N/A	28
Worker Commute	24	20	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Guard Structure Installation

1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Extendable Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**1.77**	**0.00**	**0.00**	**1.79**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.01	0.04	0.13	0.00	0.02	0.01	83.87	0.00	0.00	84.87
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Auger Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Extendable Flat Bed Pole Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.52**	**10.15**	**9.03**	**0.03**	**0.44**	**0.16**	**2997.95**	**0.08**	**0.10**	**3031.65**
Total	**0.52**	**10.15**	**9.04**	**0.03**	**0.44**	**0.16**	**2999.72**	**0.08**	**0.10**	**3033.44**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.59	0.00	0.00	2.62
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.85
Manlift/Bucket Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Auger Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Extendable Flat Bed Pole Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Worker Commute	0.00	0.07	0.01	0.00	0.00	0.00	9.70	0.00	0.00	9.81
Offsite Total	**0.01**	**0.10**	**0.09**	**0.00**	**0.00**	**0.00**	**29.98**	**0.00**	**0.00**	**30.32**

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Guard Structure Installation

Total	**0.01**	**0.10**	**0.09**	**0.00**	**0.00**	**0.00**	**30.00**	**0.00**	**0.00**	**30.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
Water Truck	1	Unpaved	0.5	20	0.977	0.098	0.49	0.05	0.00	0.00
Onsite Total							**0.49**	**0.05**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	20	0.474	0.047	68.22	6.82	0.68	0.07
3/4-Ton Truck, 4x4	8	Paved	10	20	0.003	0.001	0.27	0.07	0.00	0.00
1-Ton Truck, 4x4	4	Unpaved	18	20	0.564	0.056	40.57	4.06	0.41	0.04
1-Ton Truck, 4x4	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	20	0.977	0.098	70.37	7.04	0.70	0.07
Manlift/Bucket Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	4	Unpaved	18	20	0.977	0.098	70.37	7.04	0.70	0.07
Boom/Crane Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Water Truck	1	Unpaved	18	20	0.977	0.098	17.59	1.76	0.18	0.02
Water Truck	1	Paved	10	20	0.003	0.001	0.03	0.01	0.00	0.00
Auger Truck	4	Unpaved	18	20	0.977	0.098	70.37	7.04	0.70	0.07
Auger Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Extendable Flat Bed Pole Truck	4	Unpaved	18	20	0.977	0.098	70.37	7.04	0.70	0.07
Extendable Flat Bed Pole Truck	4	Paved	10	20	0.003	0.001	0.13	0.03	0.00	0.00
Worker Commute	24	Paved	58	20	0.003	0.001	4.63	1.14	0.05	0.01
Offsite Total							**413.48**	**42.16**	**4.13**	**0.42**
Total							**413.97**	**42.21**	**4.14**	**0.42**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

Table 50
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Guard Structure Installation

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Remove Existing Conductor & GW

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	17.16	68.78	170.35	0.34	5.38	4.95	35,167.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**17.16**	**68.78**	**170.35**	**0.34**	**5.38**	**4.95**	**35167.6**
Offsite Motor Vehicle Exhaust	0.95	18.83	16.07	0.06	0.84	0.28	5,550.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	661.73	67.95	
Offsite Total	**0.95**	**18.83**	**16.07**	**0.06**	**662.57**	**68.23**	**5550.1**
Total	**18.11**	**87.62**	**186.42**	**0.40**	**667.95**	**73.18**	**40717.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.23	0.94	2.36	0.00	0.07	0.07	480.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.23**	**0.94**	**2.36**	**0.00**	**0.07**	**0.07**	**480.9**
Offsite Motor Vehicle Exhaust	0.01	0.28	0.24	0.00	0.01	0.00	82.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.79	1.01	
Offsite Total	**0.01**	**0.28**	**0.24**	**0.00**	**9.81**	**1.01**	**82.5**
Total	**0.25**	**1.22**	**2.59**	**0.01**	**9.88**	**1.08**	**563.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	350	9	30	10
Sleeving Truck	300	3	30	5
Boom/Crane Truck	350	3	30	5
Bull Wheel Puller	500	3	21	5
Hydraulic Rewind Puller	300	3	21	5
Excavator	250	1	15	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Sleeving Truck	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Bull Wheel Puller	500	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Hydraulic Rewind Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators

a From Table 106

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Remove Existing Conductor & GW

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	8.54	36.87	99.62	0.19	2.96	2.72	19139.85	0.77	0.50	19,309.9
Sleeving Truck	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Boom/Crane Truck	1.99	6.64	16.07	0.03	0.58	0.53	2699.09	0.18	0.07	2,724.6
Bull Wheel Puller	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Hydraulic Rewind Puller	1.86	7.30	15.60	0.04	0.52	0.48	3810.15	0.17	0.10	3,844.3
Excavator	1.05	3.39	7.85	0.02	0.26	0.24	1585.40	0.09	0.04	1,600.2
Total	**17.16**	**68.78**	**170.35**	**0.34**	**5.38**	**4.95**	**34854.80**	**1.55**	**0.90**	**35167.61**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.13	0.55	1.49	0.00	0.04	0.04	287.10	0.01	0.01	289.6
Sleeving Truck	0.03	0.11	0.23	0.00	0.01	0.01	57.15	0.00	0.00	57.7
Boom/Crane Truck	0.03	0.10	0.24	0.00	0.01	0.01	40.49	0.00	0.00	40.9
Bull Wheel Puller	0.02	0.08	0.16	0.00	0.01	0.01	40.01	0.00	0.00	40.4
Hydraulic Rewind Puller	0.02	0.08	0.16	0.00	0.01	0.01	40.01	0.00	0.00	40.4
Excavator	0.01	0.03	0.06	0.00	0.00	0.00	11.89	0.00	0.00	12.0
Total	**0.23**	**0.94**	**2.36**	**0.00**	**0.07**	**0.07**	**476.64**	**0.02**	**0.01**	**480.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	12	30	N/A	28
Manlift/Bucket Truck	9	30	N/A	28
Sleeving Truck	3	30	N/A	28
Boom/Crane Truck	3	30	N/A	28
Truck, Semi Tractor	3	30	N/A	28
Dump Truck	1	15	N/A	28
Water Truck	2	30	N/A	28
Lowboy Truck/Trailer	9	30	N/A	28
Worker Commute	56	30	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Remove Existing Conductor & GW

Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Sleeving Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Truck, Semi Tractor	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.02	0.12	0.38	0.00	0.05	0.02	251.61	0.00	0.01	254.60
Manlift/Bucket Truck	0.11	0.72	4.17	0.01	0.14	0.08	892.14	0.00	0.03	901.68
Sleeving Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Truck, Semi Tractor	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Lowboy Truck/Trailer	0.11	0.72	4.17	0.01	0.14	0.08	892.14	0.00	0.03	901.68
Worker Commute	0.57	16.32	1.78	0.03	0.33	0.01	2264.04	0.14	0.07	2289.88
Offsite Total	**0.95**	**18.83**	**16.07**	**0.06**	**0.84**	**0.28**	**5489.47**	**0.16**	**0.18**	**5550.07**
Total	**0.95**	**18.83**	**16.07**	**0.06**	**0.84**	**0.28**	**5489.47**	**0.16**	**0.18**	**5550.07**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	3.77	0.00	0.00	3.82
Manlift/Bucket Truck	0.00	0.01	0.06	0.00	0.00	0.00	13.38	0.00	0.00	13.53
Sleeving Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Truck, Semi Tractor	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Remove Existing Conductor & GW

Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.97	0.00	0.00	3.01
Lowboy Truck/Trailer	0.00	0.01	0.06	0.00	0.00	0.00	13.38	0.00	0.00	13.53
Worker Commute	0.01	0.24	0.03	0.00	0.01	0.00	33.96	0.00	0.00	34.35
Offsite Total	**0.01**	**0.28**	**0.24**	**0.00**	**0.01**	**0.00**	**81.60**	**0.00**	**0.00**	**82.50**
Total	**0.01**	**0.28**	**0.24**	**0.00**	**0.01**	**0.00**	**81.60**	**0.00**	**0.00**	**82.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	12	Unpaved	18	30	0.564	0.056	121.72	12.17	1.83	0.18
1-Ton Truck, 4x4	12	Paved	10	30	0.003	0.001	0.40	0.10	0.01	0.00
Manlift/Bucket Truck	9	Unpaved	18	30	0.977	0.098	158.34	15.83	2.38	0.24
Manlift/Bucket Truck	9	Paved	10	30	0.003	0.001	0.30	0.07	0.00	0.00
Sleeving Truck	3	Unpaved	18	30	0.977	0.098	52.78	5.28	0.79	0.08
Sleeving Truck	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	30	0.977	0.098	52.78	5.28	0.79	0.08
Boom/Crane Truck	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Truck, Semi Tractor	3	Unpaved	18	30	0.977	0.098	52.78	5.28	0.79	0.08
Truck, Semi Tractor	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Dump Truck	1	Unpaved	18	15	0.977	0.098	17.59	1.76	0.13	0.01
Dump Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	2	Unpaved	18	30	0.977	0.098	35.19	3.52	0.53	0.05
Water Truck	2	Paved	10	30	0.003	0.001	0.07	0.02	0.00	0.00
Lowboy Truck/Trailer	9	Unpaved	18	30	0.977	0.098	158.34	15.83	2.38	0.24
Lowboy Truck/Trailer	9	Paved	10	30	0.003	0.001	0.30	0.07	0.00	0.00
Worker Commute	56	Paved	58	30	0.003	0.001	10.81	2.65	0.16	0.04
Offsite Total							**661.73**	**67.95**	**9.79**	**1.01**
Total							**661.73**	**67.95**	**9.79**	**1.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00

Table 51
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Remove Existing Conductor & GW

Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM LST Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	14.83	55.02	108.94	0.19	5.05	4.65	18,769.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**14.83**	**55.02**	**108.94**	**0.19**	**5.05**	**4.65**	**18769.6**
Offsite Motor Vehicle Exhaust	0.33	7.53	3.73	0.02	0.26	0.06	1,709.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	171.45	17.88	
Offsite Total	**0.33**	**7.53**	**3.73**	**0.02**	**171.71**	**17.94**	**1709.8**
Total	**15.16**	**62.55**	**112.68**	**0.21**	**176.77**	**22.59**	**20479.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.26	0.96	1.91	0.00	0.09	0.08	328.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.26**	**0.96**	**1.91**	**0.00**	**0.09**	**0.08**	**328.5**
Offsite Motor Vehicle Exhaust	0.01	0.13	0.07	0.00	0.00	0.00	29.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.00	0.31	
Offsite Total	**0.01**	**0.13**	**0.07**	**0.00**	**3.01**	**0.31**	**29.9**
Total	**0.27**	**1.09**	**1.97**	**0.00**	**3.09**	**0.40**	**358.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	6	35	10
Excavator	300	4	35	7
R/T Crane (M)	215	3	35	5
R/T Crane (L)	300	6	35	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Excavator	300	0.149	0.485	1.022	0.002	0.037	0.034	233.525	0.013	0.006	Excavators
R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
R/T Crane (L)	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Removal

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	3.78	18.90	24.05	0.03	2.02	1.85	2814.48	0.34	0.07	2,844.5
Excavator	4.18	13.57	28.63	0.06	1.02	0.94	6538.71	0.38	0.17	6,599.3
R/T Crane (M)	1.31	3.95	11.29	0.02	0.39	0.36	1680.87	0.12	0.04	1,696.9
R/T Crane (L)	5.56	18.60	44.98	0.07	1.62	1.49	7557.46	0.50	0.20	7,628.9
Total	**14.83**	**55.02**	**108.94**	**0.19**	**5.05**	**4.65**	**18591.53**	**1.34**	**0.48**	**18769.56**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.07	0.33	0.42	0.00	0.04	0.03	49.25	0.01	0.00	49.8
Excavator	0.07	0.24	0.50	0.00	0.02	0.02	114.43	0.01	0.00	115.5
R/T Crane (M)	0.02	0.07	0.20	0.00	0.01	0.01	29.42	0.00	0.00	29.7
R/T Crane (L)	0.10	0.33	0.79	0.00	0.03	0.03	132.26	0.01	0.00	133.5
Total	**0.26**	**0.96**	**1.91**	**0.00**	**0.09**	**0.08**	**325.35**	**0.02**	**0.01**	**328.47**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	6	35	N/A	28
Water Truck	2	35	N/A	28
Dump Truck	1	35	N/A	28
Flat Bed Truck/Trailer	3	35	N/A	28
Worker Commute	24	35	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Removal

Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.33**	**7.53**	**3.73**	**0.02**	**0.26**	**0.06**	**1690.87**	**0.06**	**0.06**	**1709.80**
Total	**0.33**	**7.53**	**3.73**	**0.02**	**0.26**	**0.06**	**1690.87**	**0.06**	**0.06**	**1709.80**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	2.23
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.47	0.00	0.00	3.51
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.73	0.00	0.00	1.75
Flat Bed Truck/Trailer	0.00	0.00	0.02	0.00	0.00	0.00	5.20	0.00	0.00	5.26
Worker Commute	0.00	0.12	0.01	0.00	0.00	0.00	16.98	0.00	0.00	17.17
Offsite Total	**0.01**	**0.13**	**0.07**	**0.00**	**0.00**	**0.00**	**29.59**	**0.00**	**0.00**	**29.92**
Total	**0.01**	**0.13**	**0.07**	**0.00**	**0.00**	**0.00**	**29.59**	**0.00**	**0.00**	**29.92**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00

Table 52
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Removal

Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	35	0.564	0.056	60.86	6.09	1.07	0.11
1-Ton Truck, 4x4	6	Paved	10	35	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	2	Unpaved	18	35	0.977	0.098	35.19	3.52	0.62	0.06
Water Truck	2	Paved	10	35	0.003	0.001	0.07	0.02	0.00	0.00
Dump Truck	1	Unpaved	18	35	0.977	0.098	17.59	1.76	0.31	0.03
Dump Truck	1	Paved	10	35	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	35	0.977	0.098	52.78	5.28	0.92	0.09
Flat Bed Truck/Trailer	3	Paved	10	35	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	24	Paved	58	35	0.003	0.001	4.63	1.14	0.08	0.02
Offsite Total							**171.45**	**17.88**	**3.00**	**0.31**
Total							**171.45**	**17.88**	**3.00**	**0.31**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Foundation Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.67	13.49	25.93	0.06	1.09	1.01	5,551.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.67**	**13.49**	**25.93**	**0.06**	**1.09**	**1.01**	**5551.2**
Offsite Motor Vehicle Exhaust	0.19	5.04	1.47	0.01	0.13	0.02	887.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	46.90	5.15	
Offsite Total	**0.19**	**5.04**	**1.47**	**0.01**	**47.03**	**5.18**	**887.4**
Total	**3.86**	**18.53**	**27.40**	**0.07**	**48.13**	**6.18**	**6438.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.10	0.19	0.00	0.01	0.01	41.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.10**	**0.19**	**0.00**	**0.01**	**0.01**	**41.6**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.01	0.00	0.00	0.00	6.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.35	0.04	
Offsite Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.35**	**0.04**	**6.7**
Total	**0.03**	**0.14**	**0.21**	**0.00**	**0.36**	**0.05**	**48.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	15	10
Backhoe/Front Loader	350	1	15	10
Excavator	250	1	15	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Backhoe/Front Loader	350	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.63	3.15	4.01	0.01	0.34	0.31	469.08	0.06	0.01	474.1
Backhoe/Front Loader	1.98	6.96	14.07	0.04	0.50	0.46	3445.44	0.18	0.09	3,476.9

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Foundation Removal

Excavator	1.05	3.39	7.85	0.02	0.26	0.24	1585.40	0.09	0.04	1,600.2
Total	**3.67**	**13.49**	**25.93**	**0.06**	**1.09**	**1.01**	**5499.92**	**0.33**	**0.14**	**5551.16**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.00	0.02	0.03	0.00	0.00	0.00	3.52	0.00	0.00	3.6
Backhoe/Front Loader	0.01	0.05	0.11	0.00	0.00	0.00	25.84	0.00	0.00	26.1
Excavator	0.01	0.03	0.06	0.00	0.00	0.00	11.89	0.00	0.00	12.0
Total	**0.03**	**0.10**	**0.19**	**0.00**	**0.01**	**0.01**	**41.25**	**0.00**	**0.00**	**41.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	1	15	N/A	28
Water Truck	1	15	N/A	28
Dump Truck	1	15	N/A	28
Worker Commute	16	15	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.22	0.03	0.00	0.00	0.00	32.33	0.00	0.00	32.78

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Foundation Removal

Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.16	4.66	0.51	0.01	0.10	0.00	646.87	0.04	0.02	654.25
Offsite Total	**0.19**	**5.04**	**1.47**	**0.01**	**0.13**	**0.02**	**877.45**	**0.04**	**0.03**	**887.41**
Total	**0.19**	**5.04**	**1.47**	**0.01**	**0.13**	**0.02**	**877.45**	**0.04**	**0.03**	**887.41**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.25
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.91
Offsite Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.66**
Total	**0.00**	**0.04**	**0.01**	**0.00**	**0.00**	**0.00**	**6.58**	**0.00**	**0.00**	**6.66**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	1	Unpaved	18	15	0.474	0.047	8.53	0.85	0.06	0.01
3/4-Ton Truck, 4x4	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	15	0.977	0.098	17.59	1.76	0.13	0.01
Water Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Dump Truck	1	Unpaved	18	15	0.977	0.098	17.59	1.76	0.13	0.01
Dump Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	16	Paved	58	15	0.003	0.001	3.09	0.76	0.02	0.01
Offsite Total							**46.90**	**5.15**	**0.35**	**0.04**
Total							**46.90**	**5.15**	**0.35**	**0.04**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 53
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Foundation Removal

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install LST Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	19.83	58.02	138.40	26.53	4.27	4.04	38,552.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.33	0.05	
Onsite Total	**19.83**	**58.02**	**138.40**	**26.53**	**4.60**	**4.09**	**38552.9**
Offsite Motor Vehicle Exhaust	1.42	17.15	43.21	0.11	1.57	0.77	10,495.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1011.62	102.76	
Offsite Total	**1.42**	**17.15**	**43.21**	**0.11**	**1013.19**	**103.53**	**10495.5**
Total	**21.25**	**75.16**	**181.62**	**26.64**	**1017.79**	**107.62**	**49048.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	1.61	6.21	11.60	0.43	0.38	0.35	3,280.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.04	0.01	
Onsite Total	**1.61**	**6.21**	**11.60**	**0.43**	**0.42**	**0.36**	**3280.0**
Offsite Motor Vehicle Exhaust	0.18	2.14	5.40	0.01	0.20	0.10	1,311.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	126.45	12.84	
Offsite Total	**0.18**	**2.14**	**5.40**	**0.01**	**126.65**	**12.94**	**1311.9**
Total	**1.79**	**8.35**	**17.00**	**0.44**	**127.07**	**13.30**	**4592.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	4	250	7
Backhoe/Front Loader	200	4	250	10
Auger Truck	500	4	250	10
Kaman K-MAX	1500	1	30	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Kaman K-MAX	1500	1.129	1.353	7.403	3.755	0.201	0.201	1978.170	0.055	0.063	See note b

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install LST Foundations

Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Action Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Action Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Action Registry Default Emission Factors
Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	3.71	12.40	29.99	0.05	1.08	1.00	5038.31	0.33	0.13	5,085.9
Backhoe/Front Loader	4.09	14.12	31.61	0.08	1.04	0.96	6863.31	0.37	0.18	6,926.3
Auger Truck	4.13	22.02	24.98	0.12	0.74	0.68	12441.16	0.37	0.32	12,548.9
Kaman K-MAX	7.90	9.47	51.82	26.28	1.40	1.40	13847.19	0.38	0.44	13,991.7
Total	**19.83**	**58.02**	**138.40**	**26.53**	**4.27**	**4.04**	**38189.97**	**1.46**	**1.07**	**38552.88**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.46	1.55	3.75	0.01	0.14	0.12	629.79	0.04	0.02	635.7
Backhoe/Front Loader	0.51	1.77	3.95	0.01	0.13	0.12	857.91	0.05	0.02	865.8
Auger Truck	0.52	2.75	3.12	0.02	0.09	0.09	1555.15	0.05	0.04	1,568.6
Kaman K-MAX	0.12	0.14	0.78	0.39	0.02	0.02	207.71	0.01	0.01	209.9
Total	**1.61**	**6.21**	**11.60**	**0.43**	**0.38**	**0.35**	**3250.56**	**0.14**	**0.09**	**3280.02**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	250	N/A	28
Boom/Crane Truck	4	250	N/A	28
Auger Truck	4	250	N/A	28
Water Truck	4	250	N/A	28
Dump Truck	8	250	N/A	28
Concrete Mixer Truck	33	250	N/A	60
Worker Commute	28	250	N/A	58

[a] Concrete truck based on 82,100 CY concrete (see Earthwork Fugitive PM below) over 250 days and 10 CY/truck load

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install LST Foundations

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Auger Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Dump Truck	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Concrete Mixer Truck	0.84	5.64	32.79	0.07	1.08	0.60	7009.70	0.04	0.24	7084.60
Worker Commute	0.28	8.16	0.89	0.01	0.17	0.01	1132.02	0.07	0.04	1144.94
Offsite Total	**1.42**	**17.15**	**43.21**	**0.11**	**1.57**	**0.77**	**10382.87**	**0.13**	**0.35**	**10495.51**
Total	**1.42**	**17.15**	**43.21**	**0.11**	**1.57**	**0.77**	**10382.87**	**0.13**	**0.35**	**10495.51**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.22	0.03	0.00	0.00	0.00	32.33	0.00	0.00	32.78
Boom/Crane Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Auger Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Water Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Dump Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install LST Foundations

Concrete Mixer Truck	0.10	0.70	4.10	0.01	0.13	0.07	876.21	0.00	0.03	885.57
Worker Commute	0.04	1.02	0.11	0.00	0.02	0.00	141.50	0.01	0.00	143.12
Offsite Total	**0.18**	**2.14**	**5.40**	**0.01**	**0.20**	**0.10**	**1297.86**	**0.02**	**0.04**	**1311.94**
Total	**0.18**	**2.14**	**5.40**	**0.01**	**0.20**	**0.10**	**1297.86**	**0.02**	**0.04**	**1311.94**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	250	0.474	0.047	68.22	6.82	8.53	0.85
3/4-Ton Truck, 4x4	8	Paved	10	250	0.003	0.001	0.27	0.07	0.03	0.01
Boom/Crane Truck	4	Unpaved	18	250	0.977	0.098	70.37	7.04	8.80	0.88
Boom/Crane Truck	4	Paved	10	250	0.003	0.001	0.13	0.03	0.02	0.00
Auger Truck	4	Unpaved	18	250	0.977	0.098	70.37	7.04	8.80	0.88
Auger Truck	4	Paved	10	250	0.003	0.001	0.13	0.03	0.02	0.00
Water Truck	4	Unpaved	18	250	0.977	0.098	70.37	7.04	8.80	0.88
Water Truck	4	Paved	10	250	0.003	0.001	0.13	0.03	0.02	0.00
Dump Truck	8	Unpaved	18	250	0.977	0.098	140.75	14.07	17.59	1.76
Dump Truck	8	Paved	10	250	0.003	0.001	0.27	0.07	0.03	0.01
Concrete Mixer Truck	33	Unpaved	18	250	0.977	0.098	580.58	58.06	72.57	7.26
Concrete Mixer Truck	33	Paved	42	250	0.003	0.001	4.61	1.13	0.58	0.14
Worker Commute	28	Paved	58	250	0.003	0.001	5.41	1.33	0.68	0.17
Offsite Total							**1011.62**	**102.76**	**126.45**	**12.84**
Total							**1011.62**	**102.76**	**126.45**	**12.84**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	328	82100	1.00E-03	1.52E-04	0.33	0.05	0.04	0.01
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.33**	**0.05**	**0.04**	**0.01**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 54
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install LST Foundations

[d] Based on 392 LSTs, 4 foundations/LST, 6 ft. diameter x 50 ft. deep each over 250 days

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Steel Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	39.67	62.12	248.50	100.37	7.11	6.96	64,385.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**39.67**	**62.12**	**248.50**	**100.37**	**7.11**	**6.96**	**64385.9**
Offsite Motor Vehicle Exhaust	0.57	13.63	6.17	0.03	0.39	0.09	2,834.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	345.27	35.55	
Offsite Total	**0.57**	**13.63**	**6.17**	**0.03**	**345.66**	**35.65**	**2834.9**
Total	**40.24**	**75.76**	**254.66**	**100.40**	**352.77**	**42.60**	**67220.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.75	1.37	4.95	1.61	0.15	0.14	1,212.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.75**	**1.37**	**4.95**	**1.61**	**0.15**	**0.14**	**1212.0**
Offsite Motor Vehicle Exhaust	0.02	0.44	0.20	0.00	0.01	0.00	92.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	11.22	1.16	
Offsite Total	**0.02**	**0.44**	**0.20**	**0.00**	**11.23**	**1.16**	**92.1**
Total	**0.77**	**1.82**	**5.15**	**1.61**	**11.38**	**1.30**	**1304.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
R/T Forklift	200	8	65	8
Bell 212	1800	2	32	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
R/T Forklift	200	0.111	0.359	0.919	0.002	0.030	0.028	170.643	0.010	0.004	Rough Terrain Forklifts
Bell 212	1800	2.328	2.797	13.547	7.160	0.370	0.370	3772.296	0.104	0.120	See note b

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Fuel use = 541.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A

CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Steel Haul

CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 541.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
R/T Forklift	7.08	22.97	58.84	0.12	1.93	1.78	10921.16	0.64	0.28	11,022.5
Bell 212	32.59	39.16	189.66	100.24	5.18	5.18	52812.15	1.46	1.68	53,363.4
Total	**39.67**	**62.12**	**248.50**	**100.37**	**7.11**	**6.96**	**63733.30**	**2.10**	**1.96**	**64385.86**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
R/T Forklift	0.23	0.75	1.91	0.00	0.06	0.06	354.94	0.02	0.01	358.2
Bell 212	0.52	0.63	3.03	1.60	0.08	0.08	844.99	0.02	0.03	853.8
Total	**0.75**	**1.37**	**4.95**	**1.61**	**0.15**	**0.14**	**1199.93**	**0.04**	**0.04**	**1212.04**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	16	65	N/A	28
Water Truck	2	65	N/A	28
Flat Bed Truck/Trailer	8	65	N/A	28
Worker Commute	32	65	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Steel Haul

Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.13	3.51	0.51	0.01	0.05	0.00	517.22	0.03	0.02	524.48
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Flat Bed Truck/Trailer	0.09	0.64	3.71	0.01	0.12	0.07	793.02	0.00	0.03	801.49
Worker Commute	0.33	9.32	1.02	0.02	0.19	0.01	1293.74	0.08	0.04	1308.51
Offsite Total	**0.57**	**13.63**	**6.17**	**0.03**	**0.39**	**0.09**	**2802.23**	**0.12**	**0.10**	**2834.85**
Total	**0.57**	**13.63**	**6.17**	**0.03**	**0.39**	**0.09**	**2802.23**	**0.12**	**0.10**	**2834.85**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.11	0.02	0.00	0.00	0.00	16.81	0.00	0.00	17.05
Water Truck	0.00	0.01	0.03	0.00	0.00	0.00	6.44	0.00	0.00	6.51
Flat Bed Truck/Trailer	0.00	0.02	0.12	0.00	0.00	0.00	25.77	0.00	0.00	26.05
Worker Commute	0.01	0.30	0.03	0.00	0.01	0.00	42.05	0.00	0.00	42.53
Offsite Total	**0.02**	**0.44**	**0.20**	**0.00**	**0.01**	**0.00**	**91.07**	**0.00**	**0.00**	**92.13**
Total	**0.02**	**0.44**	**0.20**	**0.00**	**0.01**	**0.00**	**91.07**	**0.00**	**0.00**	**92.13**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 55
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Steel Haul

1-Ton Truck, 4x4	16	Unpaved	18	65	0.564	0.056	162.29	16.23	5.27	0.53
1-Ton Truck, 4x4	16	Paved	10	65	0.003	0.001	0.53	0.13	0.02	0.00
Water Truck	2	Unpaved	18	65	0.977	0.098	35.19	3.52	1.14	0.11
Water Truck	2	Paved	10	65	0.003	0.001	0.07	0.02	0.00	0.00
Flat Bed Truck/Trailer	8	Unpaved	18	65	0.977	0.098	140.75	14.07	4.57	0.46
Flat Bed Truck/Trailer	8	Paved	10	65	0.003	0.001	0.27	0.07	0.01	0.00
Worker Commute	32	Paved	58	65	0.003	0.001	6.18	1.52	0.20	0.05
Offsite Total							**345.27**	**35.55**	**11.22**	**1.16**
Total							**345.27**	**35.55**	**11.22**	**1.16**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Steel Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	19.74	62.88	141.20	26.43	5.69	5.35	28,261.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**19.74**	**62.88**	**141.20**	**26.43**	**5.69**	**5.35**	**28261.1**
Offsite Motor Vehicle Exhaust	0.56	15.75	2.00	0.03	0.35	0.02	2,378.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	133.87	14.85	
Offsite Total	**0.56**	**15.75**	**2.00**	**0.03**	**134.22**	**14.88**	**2378.2**
Total	**20.31**	**78.63**	**143.20**	**26.46**	**139.91**	**20.23**	**30639.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	5.82	19.73	42.00	6.62	1.75	1.63	8,135.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**5.82**	**19.73**	**42.00**	**6.62**	**1.75**	**1.63**	**8135.5**
Offsite Motor Vehicle Exhaust	0.18	5.12	0.65	0.01	0.11	0.01	772.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	43.51	4.83	
Offsite Total	**0.18**	**5.12**	**0.65**	**0.01**	**43.62**	**4.84**	**772.9**
Total	**6.01**	**24.84**	**42.65**	**6.63**	**45.37**	**6.47**	**8908.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	5	650	7
R/T Forklift	125	4	650	7
R/T Crane (L)	300	5	650	10
Kaman K-MAX	1500	1	500	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Forklift	125	0.108	0.723	0.779	0.001	0.042	0.039	124.788	0.010	0.003	Rough Terrain Forklifts
R/T Crane (L)	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Kaman K-MAX	1500	1.129	1.353	7.403	3.755	0.201	0.201	1978.170	0.055	0.063	See note b

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en
PM2.5 emissions assumed equal to PM10

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Steel Assembly

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]
Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 283.9 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	2.20	11.03	14.03	0.02	1.18	1.08	1641.78	0.20	0.04	1,659.3
R/T Forklift	3.02	20.24	21.80	0.04	1.18	1.09	3494.05	0.27	0.09	3,528.1
R/T Crane (L)	6.62	22.14	53.55	0.09	1.93	1.78	8996.98	0.60	0.23	9,082.0
Kaman K-MAX	7.90	9.47	51.82	26.28	1.40	1.40	13847.19	0.38	0.44	13,991.7
Total	**19.74**	**62.88**	**141.20**	**26.43**	**5.69**	**5.35**	**27980.00**	**1.45**	**0.81**	**28261.11**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.72	3.58	4.56	0.01	0.38	0.35	533.58	0.06	0.01	539.3
R/T Forklift	0.98	6.58	7.09	0.01	0.38	0.35	1135.57	0.09	0.03	1,146.6
R/T Crane (L)	2.15	7.20	17.40	0.03	0.63	0.58	2924.02	0.19	0.08	2,951.6
Kaman K-MAX	1.98	2.37	12.95	6.57	0.35	0.35	3461.80	0.10	0.11	3,497.9
Total	**5.82**	**19.73**	**42.00**	**6.62**	**1.75**	**1.63**	**8054.96**	**0.44**	**0.23**	**8135.48**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]
[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	5	650	N/A	28
1-Ton Truck, 4x4	8	650	N/A	28
Worker Commute	50	650	N/A	58

Motor Vehicle Exhaust Emission Factors

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Steel Assembly

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.04	1.10	0.16	0.00	0.01	0.00	161.63	0.01	0.01	163.90
1-Ton Truck, 4x4	0.01	0.08	0.25	0.00	0.03	0.01	167.74	0.00	0.01	169.74
Worker Commute	0.51	14.57	1.59	0.02	0.30	0.01	2021.47	0.12	0.07	2044.54
Offsite Total	**0.56**	**15.75**	**2.00**	**0.03**	**0.35**	**0.02**	**2350.84**	**0.13**	**0.08**	**2378.18**
Total	**0.56**	**15.75**	**2.00**	**0.03**	**0.35**	**0.02**	**2350.84**	**0.13**	**0.08**	**2378.18**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.36	0.05	0.00	0.00	0.00	52.53	0.00	0.00	53.27
1-Ton Truck, 4x4	0.00	0.03	0.08	0.00	0.01	0.00	54.52	0.00	0.00	55.16
Worker Commute	0.17	4.73	0.52	0.01	0.10	0.00	656.98	0.04	0.02	664.48
Offsite Total	**0.18**	**5.12**	**0.65**	**0.01**	**0.11**	**0.01**	**764.02**	**0.04**	**0.03**	**772.91**
Total	**0.18**	**5.12**	**0.65**	**0.01**	**0.11**	**0.01**	**764.02**	**0.04**	**0.03**	**772.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]

Table 56
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Steel Assembly

Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	5	Unpaved	18	650	0.474	0.047	42.64	4.26	13.86	1.39
3/4-Ton Truck, 4x4	5	Paved	10	650	0.003	0.001	0.17	0.04	0.05	0.01
1-Ton Truck, 4x4	8	Unpaved	18	650	0.564	0.056	81.15	8.11	26.37	2.64
1-Ton Truck, 4x4	8	Paved	10	650	0.003	0.001	0.27	0.07	0.09	0.02
Worker Commute	50	Paved	58	650	0.003	0.001	9.66	2.37	3.14	0.77
Offsite Total							**133.87**	**14.85**	**43.51**	**4.83**
Total							**133.87**	**14.85**	**43.51**	**4.83**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	70.00	104.00	750.85	238.25	17.21	16.99	136,353.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**70.00**	**104.00**	**750.85**	**238.25**	**17.21**	**16.99**	**136353.4**
Offsite Motor Vehicle Exhaust	0.75	19.72	4.73	0.04	0.49	0.07	3,386.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	249.62	26.75	
Offsite Total	**0.75**	**19.72**	**4.73**	**0.04**	**250.11**	**26.82**	**3386.4**
Total	**70.75**	**123.72**	**755.58**	**238.29**	**267.32**	**43.81**	**139739.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	8.13	14.38	38.56	10.91	1.18	1.13	7,999.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**8.13**	**14.38**	**38.56**	**10.91**	**1.18**	**1.13**	**7999.1**
Offsite Motor Vehicle Exhaust	0.17	4.53	1.05	0.01	0.11	0.01	770.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	56.00	6.01	
Offsite Total	**0.17**	**4.53**	**1.05**	**0.01**	**56.11**	**6.03**	**770.8**
Total	**8.30**	**18.91**	**39.61**	**10.92**	**57.29**	**7.15**	**8769.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	60	4	460	7
R/T Crane (M)	215	4	460	7
R/T Crane (L)	275	4	460	7
Hughes 500 E Helicopter	420	3	300	7
Sikorsky S64	9000	2	60	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	60	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
R/T Crane (L)	275	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Hughes 500 E Helicopter	420	1.765	2.199	1.421	1.485	0.044	0.044	782.418	0.022	0.025	See note b
Sikorsky S64	9000	1.786	2.088	47.051	14.783	0.966	0.966	7788.012	0.216	0.248	See note c

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Erection

Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en
PM2.5 emissions assumed equal to PM10
SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]
Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

[c] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of
Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en
PM2.5 emissions assumed equal to PM10
SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]
Fuel use = 1,118 kg/hr from Guidance on the Determination of Helicopter Emissions
Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A
CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]
CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from
http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf
CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors
N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Action Registry Default Emission Factors
Fuel use = 1,118 kg/hr from Guidance on the Determination of Helicopter Emissions
Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.76	8.82	11.22	0.02	0.94	0.87	1313.43	0.16	0.03	1,327.4
R/T Crane (M)	2.45	7.37	21.07	0.04	0.73	0.67	3137.63	0.22	0.08	3,167.5
R/T Crane (L)	3.71	12.40	29.99	0.05	1.08	1.00	5038.31	0.33	0.13	5,085.9
Hughes 500 E Helicopter	37.08	46.18	29.85	31.19	0.93	0.93	16430.79	0.46	0.52	16,602.3
Sikorsky S64	25.01	29.24	658.72	206.96	13.53	13.53	109032.17	3.02	3.47	110,170.2
Total	**70.00**	**104.00**	**750.85**	**238.25**	**17.21**	**16.99**	**134952.32**	**4.19**	**4.24**	**136353.44**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.41	2.03	2.58	0.00	0.22	0.20	302.09	0.04	0.01	305.3
R/T Crane (M)	0.56	1.69	4.85	0.01	0.17	0.15	721.65	0.05	0.02	728.5
R/T Crane (L)	0.85	2.85	6.90	0.01	0.25	0.23	1158.81	0.08	0.03	1,169.8
Hughes 500 E Helicopter	5.56	6.93	4.48	4.68	0.14	0.14	2464.62	0.07	0.08	2,490.3
Sikorsky S64	0.75	0.88	19.76	6.21	0.41	0.41	3270.97	0.09	0.10	3,305.1

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Erection

Total	**8.13**	**14.38**	**38.56**	**10.91**	**1.18**	**1.13**	**7918.14**	**0.32**	**0.24**	**7999.06**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	460	N/A	28
1-Ton Truck, 4x4	8	460	N/A	28
Jet A Fuel Truck	1	300	N/A	28
Water Truck	4	460	N/A	28
Worker Commute	60	460	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Jet A Fuel Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.01	0.08	0.25	0.00	0.03	0.01	167.74	0.00	0.01	169.74
Jet A Fuel Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Worker Commute	0.61	17.48	1.91	0.03	0.36	0.01	2425.76	0.15	0.08	2453.45
Offsite Total	**0.75**	**19.72**	**4.73**	**0.04**	**0.49**	**0.07**	**3347.75**	**0.17**	**0.11**	**3386.36**
Total	**0.75**	**19.72**	**4.73**	**0.04**	**0.49**	**0.07**	**3347.75**	**0.17**	**0.11**	**3386.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Erection

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.40	0.06	0.00	0.01	0.00	59.48	0.00	0.00	60.32
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	38.58	0.00	0.00	39.04
Jet A Fuel Truck	0.00	0.01	0.07	0.00	0.00	0.00	14.87	0.00	0.00	15.03
Water Truck	0.01	0.07	0.43	0.00	0.01	0.01	91.20	0.00	0.00	92.17
Worker Commute	0.14	4.02	0.44	0.01	0.08	0.00	557.92	0.03	0.02	564.29
Offsite Total	**0.17**	**4.53**	**1.05**	**0.01**	**0.11**	**0.01**	**762.05**	**0.04**	**0.03**	**770.85**
Total	**0.17**	**4.53**	**1.05**	**0.01**	**0.11**	**0.01**	**762.05**	**0.04**	**0.03**	**770.85**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	460	0.474	0.047	68.22	6.82	15.69	1.57
3/4-Ton Truck, 4x4	8	Paved	10	460	0.003	0.001	0.27	0.07	0.06	0.02
1-Ton Truck, 4x4	8	Unpaved	18	460	0.564	0.056	81.15	8.11	18.66	1.87
1-Ton Truck, 4x4	8	Paved	10	460	0.003	0.001	0.27	0.07	0.06	0.02
Jet A Fuel Truck	1	Unpaved	18	300	0.977	0.098	17.59	1.76	2.64	0.26
Jet A Fuel Truck	1	Paved	10	300	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	4	Unpaved	18	460	0.977	0.098	70.37	7.04	16.19	1.62
Water Truck	4	Paved	10	460	0.003	0.001	0.13	0.03	0.03	0.01
Worker Commute	60	Paved	58	460	0.003	0.001	11.59	2.84	2.67	0.65
Offsite Total							**249.62**	**26.75**	**56.00**	**6.01**
Total							**249.62**	**26.75**	**56.00**	**6.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 57
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
LST Erection

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install TSP Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.96	24.27	43.29	0.12	1.43	1.32	12,280.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.15	0.02	
Onsite Total	**5.96**	**24.27**	**43.29**	**0.12**	**1.58**	**1.34**	**12280.6**
Offsite Motor Vehicle Exhaust	0.65	8.01	19.19	0.05	0.70	0.34	4,709.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	460.69	46.78	
Offsite Total	**0.65**	**8.01**	**19.19**	**0.05**	**461.39**	**47.12**	**4709.1**
Total	**6.61**	**32.29**	**62.48**	**0.17**	**462.97**	**48.46**	**16989.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.98	3.86	7.29	0.02	0.24	0.22	1,911.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.01	0.00	
Onsite Total	**0.98**	**3.86**	**7.29**	**0.02**	**0.25**	**0.23**	**1911.1**
Offsite Motor Vehicle Exhaust	0.10	1.33	2.64	0.01	0.10	0.05	674.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	67.91	6.90	
Offsite Total	**0.10**	**1.33**	**2.64**	**0.01**	**68.01**	**6.95**	**674.5**
Total	**1.08**	**5.18**	**9.93**	**0.03**	**68.26**	**7.18**	**2585.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	2	370	7
Backhoe/Front Loader	200	2	370	10
Auger Truck	500	2	255	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.85	6.20	14.99	0.02	0.54	0.50	2519.15	0.17	0.07	2,543.0
Backhoe/Front Loader	2.05	7.06	15.80	0.04	0.52	0.48	3431.66	0.18	0.09	3,463.1

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install TSP Foundations

Auger Truck	2.06	11.01	12.49	0.06	0.37	0.34	6220.58	0.19	0.16	6,274.5
Total	**5.96**	**24.27**	**43.29**	**0.12**	**1.43**	**1.32**	**12171.39**	**0.54**	**0.32**	**12280.57**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.34	1.15	2.77	0.00	0.10	0.09	466.04	0.03	0.01	470.4
Backhoe/Front Loader	0.38	1.31	2.92	0.01	0.10	0.09	634.86	0.03	0.02	640.7
Auger Truck	0.26	1.40	1.59	0.01	0.05	0.04	793.12	0.02	0.02	800.0
Total	**0.98**	**3.86**	**7.29**	**0.02**	**0.24**	**0.22**	**1894.02**	**0.09**	**0.05**	**1911.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	370	N/A	28
Boom/Crane Truck	2	370	N/A	28
Auger Truck	2	255	N/A	28
Water Truck	2	370	N/A	28
Dump Truck	2	370	N/A	28
Concrete Mixer Truck	15	255	N/A	60
Worker Commute	12	370	N/A	58

[a] Concrete mixer trucks based on 148 CY/TSP, 1 TSP/day and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install TSP Foundations

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
Boom/Crane Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Auger Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Mixer Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.65**	**8.01**	**19.19**	**0.05**	**0.70**	**0.34**	**4658.35**	**0.06**	**0.16**	**4709.13**
Total	**0.65**	**8.01**	**19.19**	**0.05**	**0.70**	**0.34**	**4658.35**	**0.06**	**0.16**	**4709.13**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.01	0.24	0.04	0.00	0.00	0.00	35.88	0.00	0.00	36.39
Boom/Crane Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Auger Truck	0.00	0.02	0.12	0.00	0.00	0.00	25.28	0.00	0.00	25.55
Water Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Dump Truck	0.00	0.03	0.17	0.00	0.01	0.00	36.68	0.00	0.00	37.07
Concrete Mixer Truck	0.05	0.33	1.90	0.00	0.06	0.03	406.24	0.00	0.01	410.58
Worker Commute	0.02	0.65	0.07	0.00	0.01	0.00	89.75	0.01	0.00	90.78
Offsite Total	**0.10**	**1.33**	**2.64**	**0.01**	**0.10**	**0.05**	**667.19**	**0.01**	**0.02**	**674.50**
Total	**0.10**	**1.33**	**2.64**	**0.01**	**0.10**	**0.05**	**667.19**	**0.01**	**0.02**	**674.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	370	0.474	0.047	51.16	5.12	9.47	0.95

Table 58
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install TSP Foundations

3/4-Ton Truck, 4x4	6	Paved	10	370	0.003	0.001	0.20	0.05	0.04	0.01
Boom/Crane Truck	2	Unpaved	18	370	0.977	0.098	35.19	3.52	6.51	0.65
Boom/Crane Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Auger Truck	2	Unpaved	18	255	0.977	0.098	35.19	3.52	4.49	0.45
Auger Truck	2	Paved	10	255	0.003	0.001	0.07	0.02	0.01	0.00
Water Truck	2	Unpaved	18	370	0.977	0.098	35.19	3.52	6.51	0.65
Water Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Dump Truck	2	Unpaved	18	370	0.977	0.098	35.19	3.52	6.51	0.65
Dump Truck	2	Paved	10	370	0.003	0.001	0.07	0.02	0.01	0.00
Concrete Mixer Truck	15	Unpaved	18	255	0.977	0.098	263.90	26.39	33.65	3.36
Concrete Mixer Truck	15	Paved	42	255	0.003	0.001	2.10	0.51	0.27	0.07
Worker Commute	12	Paved	58	370	0.003	0.001	2.32	0.57	0.43	0.11
Offsite Total							**460.69**	**46.78**	**67.91**	**6.90**
Total							**460.69**	**46.78**	**67.91**	**6.90**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	148	12831	1.00E-03	1.52E-04	0.15	0.02	0.01	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.15**	**0.02**	**0.01**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 TSP, 13 ft. diameter x 30 ft. deep; total based on 87 TSPs

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM TSP Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.06	3.54	8.57	0.01	0.31	0.28	1,453.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1453.1**
Offsite Motor Vehicle Exhaust	0.10	1.92	2.05	0.01	0.09	0.03	629.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	88.40	8.98	
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**88.49**	**9.02**	**629.9**
Total	**1.16**	**5.47**	**10.61**	**0.02**	**88.80**	**9.30**	**2083.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.04	0.14	0.34	0.00	0.01	0.01	58.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.04**	**0.14**	**0.34**	**0.00**	**0.01**	**0.01**	**58.1**
Offsite Motor Vehicle Exhaust	0.00	0.08	0.08	0.00	0.00	0.00	25.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.54	0.36	
Offsite Total	**0.00**	**0.08**	**0.08**	**0.00**	**3.54**	**0.36**	**25.2**
Total	**0.05**	**0.22**	**0.42**	**0.00**	**3.55**	**0.37**	**83.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	80	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Haul

Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1439.52**	**0.10**	**0.04**	**1453.12**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.04	0.14	0.34	0.00	0.01	0.01	57.58	0.00	0.00	58.1
Total	**0.04**	**0.14**	**0.34**	**0.00**	**0.01**	**0.01**	**57.58**	**0.00**	**0.00**	**58.12**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	2	80	N/A	28
Boom/Crane Truck	1	80	N/A	28
Water Truck	1	80	N/A	28
Flat Bed Pole Truck	2	80	N/A	28
Worker Commute	4	80	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Haul

None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**
Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.02	0.00	0.00	0.00	0.00	2.59	0.00	0.00	2.62
Boom/Crane Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Water Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.97	0.00	0.00	4.01
Flat Bed Pole Truck	0.00	0.01	0.04	0.00	0.00	0.00	7.93	0.00	0.00	8.01
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	6.47	0.00	0.00	6.54
Offsite Total	**0.00**	**0.08**	**0.08**	**0.00**	**0.00**	**0.00**	**24.92**	**0.00**	**0.00**	**25.19**
Total	**0.00**	**0.08**	**0.08**	**0.00**	**0.00**	**0.00**	**24.92**	**0.00**	**0.00**	**25.19**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	2	Unpaved	18	80	0.474	0.047	17.05	1.71	0.68	0.07
3/4-Ton Truck, 4x4	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	80	0.977	0.098	17.59	1.76	0.70	0.07

Table 59
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Haul

Boom/Crane Truck	1	Paved	10	80	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	80	0.977	0.098	17.59	1.76	0.70	0.07
Water Truck	1	Paved	10	80	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	2	Unpaved	18	80	0.977	0.098	35.19	3.52	1.41	0.14
Flat Bed Pole Truck	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	80	0.003	0.001	0.77	0.19	0.03	0.01
Offsite Total							**88.40**	**8.98**	**3.54**	**0.36**
Total							**88.40**	**8.98**	**3.54**	**0.36**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.29	6.94	2.81	0.02	0.21	0.05	1,460.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	186.41	19.22	
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**186.62**	**19.27**	**1460.8**
Total	**4.20**	**21.91**	**32.51**	**0.06**	**188.03**	**20.57**	**6128.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.10	0.37	0.74	0.00	0.04	0.03	116.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**116.7**
Offsite Motor Vehicle Exhaust	0.01	0.17	0.07	0.00	0.01	0.00	36.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	4.66	0.48	
Offsite Total	**0.01**	**0.17**	**0.07**	**0.00**	**4.67**	**0.48**	**36.5**
Total	**0.11**	**0.55**	**0.81**	**0.00**	**4.70**	**0.51**	**153.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	50	6
Boom/Crane Truck	350	3	50	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
Boom/Crane Truck	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Assembly

Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.03	0.14	0.18	0.00	0.02	0.01	21.11	0.00	0.00	21.3
Boom/Crane Truck	0.07	0.23	0.56	0.00	0.02	0.02	94.47	0.01	0.00	95.4
Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**115.58**	**0.01**	**0.00**	**116.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	50	N/A	28
1-Ton Truck, 4x4	6	50	N/A	28
Boom/Crane Truck	3	50	N/A	28
Water Truck	1	50	N/A	28
Worker Commute	18	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Assembly

Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**
Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.92
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	3.15	0.00	0.00	3.18
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.43	0.00	0.00	7.51
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.48	0.00	0.00	2.50
Worker Commute	0.00	0.13	0.01	0.00	0.00	0.00	18.19	0.00	0.00	18.40
Offsite Total	**0.01**	**0.17**	**0.07**	**0.00**	**0.01**	**0.00**	**36.10**	**0.00**	**0.00**	**36.52**
Total	**0.01**	**0.17**	**0.07**	**0.00**	**0.01**	**0.00**	**36.10**	**0.00**	**0.00**	**36.52**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	50	0.474	0.047	51.16	5.12	1.28	0.13
3/4-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	50	0.564	0.056	60.86	6.09	1.52	0.15
1-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	50	0.977	0.098	52.78	5.28	1.32	0.13
Boom/Crane Truck	3	Paved	10	50	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Unpaved	18	50	0.977	0.098	17.59	1.76	0.44	0.04

Table 60
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Assembly

Water Truck	1	Paved	10	50	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	18	Paved	58	50	0.003	0.001	3.48	0.85	0.09	0.02
Offsite Total							**186.41**	**19.22**	**4.66**	**0.48**
Total							**186.41**	**19.22**	**4.66**	**0.48**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.25	6.70	1.42	0.01	0.17	0.02	1,160.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	133.53	13.92	
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**133.69**	**13.94**	**1160.2**
Total	**4.17**	**21.67**	**31.12**	**0.06**	**135.11**	**15.25**	**5828.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.10	0.37	0.74	0.00	0.04	0.03	116.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**116.7**
Offsite Motor Vehicle Exhaust	0.01	0.17	0.04	0.00	0.00	0.00	29.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.34	0.35	
Offsite Total	**0.01**	**0.17**	**0.04**	**0.00**	**3.34**	**0.35**	**29.0**
Total	**0.10**	**0.54**	**0.78**	**0.00**	**3.38**	**0.38**	**145.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	50	6
R/T Crane (L)	350	3	50	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (L)	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
R/T Crane (L)	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Erection

Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.03	0.14	0.18	0.00	0.02	0.01	21.11	0.00	0.00	21.3
R/T Crane (L)	0.07	0.23	0.56	0.00	0.02	0.02	94.47	0.01	0.00	95.4
Total	**0.10**	**0.37**	**0.74**	**0.00**	**0.04**	**0.03**	**115.58**	**0.01**	**0.00**	**116.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	50	N/A	28
1-Ton Truck, 4x4	6	50	N/A	28
Water Truck	1	50	N/A	28
Worker Commute	18	50	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Erection

3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**
Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.03	0.00	0.00	0.00	0.00	4.85	0.00	0.00	4.92
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	3.15	0.00	0.00	3.18
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.48	0.00	0.00	2.50
Worker Commute	0.00	0.13	0.01	0.00	0.00	0.00	18.19	0.00	0.00	18.40
Offsite Total	**0.01**	**0.17**	**0.04**	**0.00**	**0.00**	**0.00**	**28.67**	**0.00**	**0.00**	**29.01**
Total	**0.01**	**0.17**	**0.04**	**0.00**	**0.00**	**0.00**	**28.67**	**0.00**	**0.00**	**29.01**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	50	0.474	0.047	51.16	5.12	1.28	0.13
3/4-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	50	0.564	0.056	60.86	6.09	1.52	0.15
1-Ton Truck, 4x4	6	Paved	10	50	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	50	0.977	0.098	17.59	1.76	0.44	0.04
Water Truck	1	Paved	10	50	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	18	Paved	58	50	0.003	0.001	3.48	0.85	0.09	0.02
Offsite Total							**133.53**	**13.92**	**3.34**	**0.35**
Total							**133.53**	**13.92**	**3.34**	**0.35**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 61
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Erection

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Install Conductor

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	46.32	116.44	206.41	21.16	7.11	6.59	48,424.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**46.32**	**116.44**	**206.41**	**21.16**	**7.11**	**6.59**	**48424.3**
Offsite Motor Vehicle Exhaust	1.93	50.27	14.00	0.10	1.31	0.20	8,860.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	476.59	52.44	
Offsite Total	**1.93**	**50.27**	**14.00**	**0.10**	**477.90**	**52.65**	**8860.8**
Total	**48.26**	**166.71**	**220.41**	**21.27**	**485.01**	**59.24**	**57285.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	5.20	12.06	22.31	2.53	0.75	0.69	5,209.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**5.20**	**12.06**	**22.31**	**2.53**	**0.75**	**0.69**	**5209.1**
Offsite Motor Vehicle Exhaust	0.29	7.52	1.99	0.01	0.19	0.03	1,299.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	63.47	7.06	
Offsite Total	**0.29**	**7.52**	**1.99**	**0.01**	**63.66**	**7.09**	**1299.7**
Total	**5.49**	**19.58**	**24.30**	**2.55**	**64.41**	**7.78**	**6508.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	350	3	300	10
Boom/Crane Truck	350	3	300	10
R/T Crane (M)	215	3	300	10
Sock Line Puller	300	2	80	10
Bull Wheel Puller	350	2	160	10
Static Truck/Tensioner	350	2	300	10
Spacing Cart	10	4	80	10
Backhoe/Front Loader	125	2	60	8
D8 Cat	350	1	60	8
Sag Cat w/ 2 Winches	350	1	60	10
Hughes 500 E Helicopter	420	2	240	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Conductor

R/T Crane (M)	215	0.087	0.263	0.752	0.001	0.026	0.024	112.058	0.008	0.003	Cranes
Sock Line Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Bull Wheel Puller	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Static Truck/Tensioner	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Spacing Cart	10	0.012	0.062	0.074	0.000	0.003	0.003	10.098	0.001	0.000	Other Construction Equipment
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
D8 Cat	350	0.218	0.790	1.742	0.003	0.067	0.061	258.997	0.020	0.007	Crawler Tractors
Sag Cat w/ 2 Winches	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment
Hughes 500 E Helicopter	420	1.765	2.199	1.421	1.485	0.044	0.044	782.418	0.022	0.025	See note b

a From Table 106

[b] All except SOx, PM2.5, CO2, CH4 and N2O from Guidance on the Determination of Helicopter Emissions, Federal Department of the Environment, Transport, Energy and Communications, DETEC, Federal Office of Civil Aviation FOCA, Division Aviation Policy and Strategy, Swiss Confederation, March 2009. Downloaded from http://www.bazl.admin.ch/experten/regulation/03312/03419/03532/index.html?lang=en

PM2.5 emissions assumed equal to PM10

SOx emissions [lb/hr] = Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] x Fuel sulfur [wt. %] / 100 x 2 [lb SO2/lbS]

Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Fuel sulfur = 0.3% from ASTM D-1655 for Jet-A

CO2 emissions [lb/hr] = CO2 emission factor [kg/gal] x 1000 [g/kg] / 453.6 [g/lb] x Fuel use [kg/hr] x 1000 [g/kg] / 453.6 [g/lb] / Fuel density [lb/gal]

CO2 emission factor = 9.75 kg/gal from Table 13.1 of 2013 Climate Registry Default Emission Factors, downloaded from http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf

CH4 emission factor = 0.27 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

N2O emission factor = 0.31 g/gal from Table 13.7 of 2013 Climate Registry Default Emission Factors

Fuel use = 112.3 kg/hr from Guidance on the Determination of Helicopter Emissions

Jet-A density = 6.8 lb/gal

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	2.85	12.29	33.21	0.06	0.99	0.91	6379.95	0.26	0.17	6,436.6
Boom/Crane Truck	3.97	13.28	32.13	0.05	1.16	1.07	5398.19	0.36	0.14	5,449.2
R/T Crane (M)	2.62	7.89	22.57	0.04	0.78	0.71	3361.74	0.24	0.09	3,393.8
Sock Line Puller	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Bull Wheel Puller	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Static Truck/Tensioner	2.48	9.73	20.80	0.05	0.70	0.64	5080.20	0.22	0.13	5,125.8
Spacing Cart	0.47	2.47	2.94	0.01	0.12	0.11	403.93	0.04	0.01	408.1
Backhoe/Front Loader	1.26	9.35	8.91	0.02	0.47	0.43	1620.73	0.11	0.04	1,636.2
D8 Cat	1.74	6.32	13.93	0.02	0.53	0.49	2071.97	0.16	0.05	2,092.0
Sag Cat w/ 2 Winches	1.24	4.86	10.40	0.02	0.35	0.32	2540.10	0.11	0.07	2,562.9
Hughes 500 E Helicopter	24.72	30.78	19.90	20.79	0.62	0.62	10953.86	0.30	0.35	11,068.2
Total	**46.32**	**116.44**	**206.41**	**21.16**	**7.11**	**6.59**	**47971.08**	**2.25**	**1.31**	**48424.31**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.43	1.84	4.98	0.01	0.15	0.14	956.99	0.04	0.02	965.5
Boom/Crane Truck	0.60	1.99	4.82	0.01	0.17	0.16	809.73	0.05	0.02	817.4

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Conductor

R/T Crane (M)	0.39	1.18	3.39	0.01	0.12	0.11	504.26	0.04	0.01	509.1
Sock Line Puller	0.10	0.39	0.83	0.00	0.03	0.03	203.21	0.01	0.01	205.0
Bull Wheel Puller	0.20	0.78	1.66	0.00	0.06	0.05	406.42	0.02	0.01	410.1
Static Truck/Tensioner	0.37	1.46	3.12	0.01	0.10	0.10	762.03	0.03	0.02	768.9
Spacing Cart	0.02	0.10	0.12	0.00	0.00	0.00	16.16	0.00	0.00	16.3
Backhoe/Front Loader	0.04	0.28	0.27	0.00	0.01	0.01	48.62	0.00	0.00	49.1
D8 Cat	0.05	0.19	0.42	0.00	0.02	0.01	62.16	0.00	0.00	62.8
Sag Cat w/ 2 Winches	0.04	0.15	0.31	0.00	0.01	0.01	76.20	0.00	0.00	76.9
Hughes 500 E Helicopter	2.97	3.69	2.39	2.50	0.07	0.07	1314.46	0.04	0.04	1,328.2
Total	**5.20**	**12.06**	**22.31**	**2.53**	**0.75**	**0.69**	**5160.24**	**0.24**	**0.14**	**5209.14**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	3	300	N/A	28
1-Ton Truck, 4x4	6	300	N/A	28
Manlift/Bucket Truck	3	300	N/A	28
Boom/Crane Truck	3	300	N/A	28
Dump Truck	2	300	N/A	28
Wire Truck/Trailer	3	206	N/A	28
Static Truck/Tensioner	2	300	N/A	28
Splicing Rig	2	80	N/A	28
Splicing Lab	2	80	N/A	28
Lowboy Truck/Trailer	3	300	N/A	28
Fuel, Helicopter Support Truck	2	240	N/A	28
Worker Commute	165	300	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Wire Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Static Truck/Tensioner	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Splicing Rig	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Conductor

Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Fuel, Helicopter Support Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Manlift/Bucket Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Wire Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Static Truck/Tensioner	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Splicing Rig	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Splicing Lab	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Lowboy Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Fuel, Helicopter Support Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	1.68	48.07	5.24	0.08	0.99	0.04	6670.84	0.41	0.22	6746.98
Offsite Total	**1.93**	**50.27**	**14.00**	**0.10**	**1.31**	**0.20**	**8761.78**	**0.42**	**0.29**	**8860.84**
Total	**1.93**	**50.27**	**14.00**	**0.10**	**1.31**	**0.20**	**8761.78**	**0.42**	**0.29**	**8860.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.10	0.01	0.00	0.00	0.00	14.55	0.00	0.00	14.75
1-Ton Truck, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	18.87	0.00	0.00	19.10
Manlift/Bucket Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08
Boom/Crane Truck	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08
Dump Truck	0.00	0.02	0.14	0.00	0.00	0.00	29.74	0.00	0.00	30.06
Wire Truck/Trailer	0.00	0.02	0.14	0.00	0.00	0.00	30.63	0.00	0.00	30.96
Static Truck/Tensioner	0.00	0.02	0.14	0.00	0.00	0.00	29.74	0.00	0.00	30.06
Splicing Rig	0.00	0.00	0.00	0.00	0.00	0.00	1.68	0.00	0.00	1.70
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	1.68	0.00	0.00	1.70
Lowboy Truck/Trailer	0.01	0.04	0.21	0.00	0.01	0.00	44.61	0.00	0.00	45.08

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Conductor

Fuel, Helicopter Support Truck	0.00	0.02	0.11	0.00	0.00	0.00	23.79	0.00	0.00	24.04
Worker Commute	0.25	7.21	0.79	0.01	0.15	0.01	1000.63	0.06	0.03	1012.05
Offsite Total	**0.29**	**7.52**	**1.99**	**0.01**	**0.19**	**0.03**	**1285.12**	**0.06**	**0.04**	**1299.65**
Total	**0.29**	**7.52**	**1.99**	**0.01**	**0.19**	**0.03**	**1285.12**	**0.06**	**0.04**	**1299.65**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	3	Unpaved	18	300	0.474	0.047	25.58	2.56	3.84	0.38
3/4-Ton Truck, 4x4	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
1-Ton Truck, 4x4	6	Unpaved	18	300	0.564	0.056	60.86	6.09	9.13	0.91
1-Ton Truck, 4x4	6	Paved	10	300	0.003	0.001	0.20	0.05	0.03	0.01
Manlift/Bucket Truck	3	Unpaved	18	300	0.977	0.098	52.78	5.28	7.92	0.79
Manlift/Bucket Truck	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Boom/Crane Truck	3	Unpaved	18	300	0.977	0.098	52.78	5.28	7.92	0.79
Boom/Crane Truck	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Dump Truck	2	Unpaved	18	300	0.977	0.098	35.19	3.52	5.28	0.53
Dump Truck	2	Paved	10	300	0.003	0.001	0.07	0.02	0.01	0.00
Wire Truck/Trailer	3	Unpaved	18	206	0.977	0.098	52.78	5.28	5.44	0.54
Wire Truck/Trailer	3	Paved	10	206	0.003	0.001	0.10	0.02	0.01	0.00
Static Truck/Tensioner	2	Unpaved	18	300	0.977	0.098	35.19	3.52	5.28	0.53
Static Truck/Tensioner	2	Paved	10	300	0.003	0.001	0.07	0.02	0.01	0.00
Splicing Rig	2	Unpaved	18	80	0.564	0.056	20.29	2.03	0.81	0.08
Splicing Rig	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Splicing Lab	2	Unpaved	18	80	0.564	0.056	20.29	2.03	0.81	0.08
Splicing Lab	2	Paved	10	80	0.003	0.001	0.07	0.02	0.00	0.00
Lowboy Truck/Trailer	3	Unpaved	18	300	0.977	0.098	52.78	5.28	7.92	0.79
Lowboy Truck/Trailer	3	Paved	10	300	0.003	0.001	0.10	0.02	0.01	0.00
Fuel, Helicopter Support Truck	2	Unpaved	18	240	0.977	0.098	35.19	3.52	4.22	0.42
Fuel, Helicopter Support Truck	2	Paved	10	240	0.003	0.001	0.07	0.02	0.01	0.00
Worker Commute	165	Paved	58	300	0.003	0.001	31.87	7.82	4.78	1.17
Offsite Total							**476.59**	**52.44**	**63.47**	**7.06**
Total							**476.59**	**52.44**	**63.47**	**7.06**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 62
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Conductor

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Guard Structure Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	10.72	43.55	87.42	0.14	4.09	3.76	14,211.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**10.72**	**43.55**	**87.42**	**0.14**	**4.09**	**3.76**	**14211.6**
Offsite Motor Vehicle Exhaust	0.53	12.43	6.03	0.03	0.36	0.09	2,665.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	471.81	48.02	
Offsite Total	**0.53**	**12.43**	**6.03**	**0.03**	**472.18**	**48.11**	**2665.6**
Total	**11.25**	**55.97**	**93.46**	**0.17**	**476.26**	**51.87**	**16877.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.26	0.52	0.00	0.02	0.02	85.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.26**	**0.52**	**0.00**	**0.02**	**0.02**	**85.3**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.04	0.00	0.00	0.00	16.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.83	0.29	
Offsite Total	**0.00**	**0.07**	**0.04**	**0.00**	**2.83**	**0.29**	**16.0**
Total	**0.07**	**0.34**	**0.56**	**0.00**	**2.86**	**0.31**	**101.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	8	12	7
Manlift/Bucket Truck	350	4	12	5
Boom/Crane Truck	500	4	12	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	350	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	3.53	17.64	22.44	0.03	1.88	1.73	2626.85	0.32	0.07	2,654.9
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Guard Structure Removal

Boom/Crane Truck	5.29	17.71	42.84	0.07	1.55	1.42	7197.58	0.48	0.19	7,265.6
Total	**10.72**	**43.55**	**87.42**	**0.14**	**4.09**	**3.76**	**14077.73**	**0.97**	**0.37**	**14211.58**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.02	0.11	0.13	0.00	0.01	0.01	15.76	0.00	0.00	15.9
Manlift/Bucket Truck	0.01	0.05	0.13	0.00	0.00	0.00	25.52	0.00	0.00	25.7
Boom/Crane Truck	0.03	0.11	0.26	0.00	0.01	0.01	43.19	0.00	0.00	43.6
Total	**0.06**	**0.26**	**0.52**	**0.00**	**0.02**	**0.02**	**84.47**	**0.01**	**0.00**	**85.27**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	8	12	N/A	28
1-Ton Truck, 4x4	8	12	N/A	28
Water Truck	2	12	N/A	28
Manlift/Bucket Truck	4	12	N/A	28
Boom/Crane Truck	4	12	N/A	28
Extendable Flat Bed Pole Truck	8	12	N/A	28
Worker Commute	24	12	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Guard Structure Removal

Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
1-Ton Truck, 4x4	0.06	1.76	0.26	0.00	0.02	0.00	258.61	0.02	0.01	262.24
Water Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Extendable Flat Bed Pole Truck	0.04	1.13	0.12	0.00	0.02	0.00	156.14	0.01	0.01	157.92
Worker Commute	0.24	6.99	0.76	0.01	0.14	0.01	970.30	0.06	0.03	981.38
Offsite Total	**0.53**	**12.43**	**6.03**	**0.03**	**0.36**	**0.09**	**2634.93**	**0.11**	**0.09**	**2665.65**
Total	**0.53**	**12.43**	**6.03**	**0.03**	**0.36**	**0.09**	**2634.93**	**0.11**	**0.09**	**2665.65**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.55	0.00	0.00	1.57
1-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.55	0.00	0.00	1.57
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.19	0.00	0.00	1.20
Manlift/Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Boom/Crane Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.38	0.00	0.00	2.40
Extendable Flat Bed Pole Truck	0.00	0.01	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.95
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**15.81**	**0.00**	**0.00**	**15.99**
Total	**0.00**	**0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**15.81**	**0.00**	**0.00**	**15.99**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	8	Unpaved	18	12	0.474	0.047	68.22	6.82	0.41	0.04
3/4-Ton Truck, 4x4	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00
1-Ton Truck, 4x4	8	Unpaved	18	12	0.564	0.056	81.15	8.11	0.49	0.05

Table 63
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Guard Structure Removal

1-Ton Truck, 4x4	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00
Water Truck	2	Unpaved	18	12	0.977	0.098	35.19	3.52	0.21	0.02
Water Truck	2	Paved	10	12	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	12	0.977	0.098	70.37	7.04	0.42	0.04
Manlift/Bucket Truck	4	Paved	10	12	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	4	Unpaved	18	12	0.977	0.098	70.37	7.04	0.42	0.04
Boom/Crane Truck	4	Paved	10	12	0.003	0.001	0.13	0.03	0.00	0.00
Extendable Flat Bed Pole Truck	8	Unpaved	18	12	0.977	0.098	140.75	14.07	0.84	0.08
Extendable Flat Bed Pole Truck	8	Paved	10	12	0.003	0.001	0.27	0.07	0.00	0.00
Worker Commute	24	Paved	58	12	0.003	0.001	4.63	1.14	0.03	0.01
Offsite Total							**471.81**	**48.02**	**2.83**	**0.29**
Total							**471.81**	**48.02**	**2.83**	**0.29**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
115 kV Pole Removal

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.13	8.39	19.43	0.03	0.74	0.68	3,406.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.13**	**8.39**	**19.43**	**0.03**	**0.74**	**0.68**	**3406.6**
Offsite Motor Vehicle Exhaust	0.09	2.07	1.20	0.01	0.08	0.02	507.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	74.39	7.63	
Offsite Total	**0.09**	**2.07**	**1.20**	**0.01**	**74.47**	**7.65**	**507.9**
Total	**2.23**	**10.46**	**20.62**	**0.04**	**75.21**	**8.33**	**3914.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.03	0.08	0.00	0.00	0.00	13.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.03**	**0.08**	**0.00**	**0.00**	**0.00**	**13.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.30	0.03	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.30**	**0.03**	**2.0**
Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.30**	**0.03**	**15.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	8	5
Manlift/Bucket Truck	250	1	8	8
Boom/Crane Truck	350	1	8	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Manlift/Bucket Truck	250	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.31	1.58	2.00	0.00	0.17	0.15	234.54	0.03	0.01	237.0
Manlift/Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
115 kV Pole Removal

Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**2.13**	**8.39**	**19.43**	**0.03**	**0.74**	**0.68**	**3375.38**	**0.19**	**0.09**	**3406.60**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.00	0.01	0.01	0.00	0.00	0.00	0.94	0.00	0.00	0.9
Manlift/Bucket Truck	0.00	0.01	0.04	0.00	0.00	0.00	6.81	0.00	0.00	6.9
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.76	0.00	0.00	5.8
Total	**0.01**	**0.03**	**0.08**	**0.00**	**0.00**	**0.00**	**13.50**	**0.00**	**0.00**	**13.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	8	N/A	28
Manlift/Bucket Truck	1	8	N/A	28
Boom/Crane Truck	1	8	N/A	28
Flat Bed Pole Truck	1	8	N/A	28
Worker Commute	6	8	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
115 kV Pole Removal

1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Manlift/Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.00	0.14	0.02	0.00	0.00	0.00	19.52	0.00	0.00	19.74
Worker Commute	0.06	1.75	0.19	0.00	0.04	0.00	242.58	0.01	0.01	245.34
Offsite Total	**0.09**	**2.07**	**1.20**	**0.01**	**0.08**	**0.02**	**502.28**	**0.02**	**0.02**	**507.89**
Total	**0.09**	**2.07**	**1.20**	**0.01**	**0.08**	**0.02**	**502.28**	**0.02**	**0.02**	**507.89**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
Manlift/Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.40
Flat Bed Pole Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.01**	**0.00**	**0.00**	**2.03**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.01**	**0.00**	**0.00**	**2.03**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	8	0.564	0.056	20.29	2.03	0.08	0.01
1-Ton Truck, 4x4	2	Paved	10	8	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	1	Unpaved	18	8	0.977	0.098	17.59	1.76	0.07	0.01
Manlift/Bucket Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	8	0.977	0.098	17.59	1.76	0.07	0.01
Boom/Crane Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	1	Unpaved	18	8	0.977	0.098	17.59	1.76	0.07	0.01
Flat Bed Pole Truck	1	Paved	10	8	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	6	Paved	58	8	0.003	0.001	1.16	0.28	0.00	0.00
Offsite Total							**74.39**	**7.63**	**0.30**	**0.03**
Total							**74.39**	**7.63**	**0.30**	**0.03**

Table 64
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
115 kV Pole Removal

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install TSP Riser Foundations

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.98	12.14	21.65	0.06	0.72	0.66	6,140.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.15	0.02	
Onsite Total	**2.98**	**12.14**	**21.65**	**0.06**	**0.86**	**0.68**	**6140.3**
Offsite Motor Vehicle Exhaust	0.59	7.12	17.70	0.04	0.65	0.32	4,310.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	382.13	38.89	
Offsite Total	**0.59**	**7.12**	**17.70**	**0.04**	**382.77**	**39.21**	**4310.2**
Total	**3.57**	**19.25**	**39.35**	**0.11**	**383.64**	**39.89**	**10450.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.06	0.23	0.44	0.00	0.01	0.01	114.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.06**	**0.23**	**0.44**	**0.00**	**0.02**	**0.01**	**114.6**
Offsite Motor Vehicle Exhaust	0.01	0.14	0.28	0.00	0.01	0.01	72.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.47	0.66	
Offsite Total	**0.01**	**0.14**	**0.28**	**0.00**	**6.48**	**0.67**	**72.1**
Total	**0.07**	**0.37**	**0.72**	**0.00**	**6.50**	**0.68**	**186.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	45	7
Backhoe/Front Loader	200	1	45	10
Auger Truck	500	1	30	10

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes
Auger Truck	500	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5
Backhoe/Front Loader	1.02	3.53	7.90	0.02	0.26	0.24	1715.83	0.09	0.04	1,731.6

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install TSP Riser Foundations

Auger Truck	1.03	5.51	6.25	0.03	0.19	0.17	3110.29	0.09	0.08	3,137.2
Total	**2.98**	**12.14**	**21.65**	**0.06**	**0.72**	**0.66**	**6085.70**	**0.27**	**0.16**	**6140.29**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.02	0.07	0.17	0.00	0.01	0.01	28.34	0.00	0.00	28.6
Backhoe/Front Loader	0.02	0.08	0.18	0.00	0.01	0.01	38.61	0.00	0.00	39.0
Auger Truck	0.02	0.08	0.09	0.00	0.00	0.00	46.65	0.00	0.00	47.1
Total	**0.06**	**0.23**	**0.44**	**0.00**	**0.01**	**0.01**	**113.60**	**0.01**	**0.00**	**114.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	3	45	N/A	28
Boom/Crane Truck	1	45	N/A	28
Auger Truck	1	30	N/A	28
Water Truck	1	45	N/A	28
Dump Truck	2	45	N/A	28
Concrete Mixer Truck	15	30	N/A	60
Worker Commute	12	45	N/A	58

[a] Concrete mixer trucks based 1 TSP/day, on 148 CY/TSP and 10 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Auger Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install TSP Riser Foundations

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.66	0.10	0.00	0.01	0.00	96.98	0.01	0.00	98.34
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Auger Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Concrete Mixer Truck	0.38	2.56	14.91	0.03	0.49	0.27	3186.23	0.02	0.11	3220.27
Worker Commute	0.12	3.50	0.38	0.01	0.07	0.00	485.15	0.03	0.02	490.69
Offsite Total	**0.59**	**7.12**	**17.70**	**0.04**	**0.65**	**0.32**	**4263.99**	**0.06**	**0.15**	**4310.23**
Total	**0.59**	**7.12**	**17.70**	**0.04**	**0.65**	**0.32**	**4263.99**	**0.06**	**0.15**	**4310.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	2.18	0.00	0.00	2.21
Boom/Crane Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.23	0.00	0.00	2.25
Auger Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.23	0.00	0.00	2.25
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Concrete Mixer Truck	0.01	0.04	0.22	0.00	0.01	0.00	47.79	0.00	0.00	48.30
Worker Commute	0.00	0.08	0.01	0.00	0.00	0.00	10.92	0.00	0.00	11.04
Offsite Total	**0.01**	**0.14**	**0.28**	**0.00**	**0.01**	**0.01**	**71.30**	**0.00**	**0.00**	**72.08**
Total	**0.01**	**0.14**	**0.28**	**0.00**	**0.01**	**0.01**	**71.30**	**0.00**	**0.00**	**72.08**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	3	Unpaved	18	45	0.474	0.047	25.58	2.56	0.58	0.06

Table 65
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install TSP Riser Foundations

3/4-Ton Truck, 4x4	3	Paved	10	45	0.003	0.001	0.10	0.02	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	45	0.977	0.098	17.59	1.76	0.40	0.04
Boom/Crane Truck	1	Paved	10	45	0.003	0.001	0.03	0.01	0.00	0.00
Auger Truck	1	Unpaved	18	30	0.977	0.098	17.59	1.76	0.26	0.03
Auger Truck	1	Paved	10	30	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	45	0.977	0.098	17.59	1.76	0.40	0.04
Water Truck	1	Paved	10	45	0.003	0.001	0.03	0.01	0.00	0.00
Dump Truck	2	Unpaved	18	45	0.977	0.098	35.19	3.52	0.79	0.08
Dump Truck	2	Paved	10	45	0.003	0.001	0.07	0.02	0.00	0.00
Concrete Mixer Truck	15	Unpaved	18	30	0.977	0.098	263.90	26.39	3.96	0.40
Concrete Mixer Truck	15	Paved	42	30	0.003	0.001	2.10	0.51	0.03	0.01
Worker Commute	12	Paved	58	45	0.003	0.001	2.32	0.57	0.05	0.01
Offsite Total							**382.13**	**38.89**	**6.47**	**0.66**
Total							**382.13**	**38.89**	**6.47**	**0.66**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	148	1475	1.00E-03	1.52E-04	0.15	0.02	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.15**	**0.02**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 TSP, 13 ft. diameter x 30 ft. deep; total based on 10 TSPs

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Haul

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.06	3.54	8.57	0.01	0.31	0.28	1,453.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1453.1**
Offsite Motor Vehicle Exhaust	0.10	1.92	2.05	0.01	0.09	0.03	629.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	88.40	8.98	
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**88.49**	**9.02**	**629.9**
Total	**1.16**	**5.47**	**10.61**	**0.02**	**88.80**	**9.30**	**2083.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.1**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.31	0.03	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.31**	**0.03**	**2.2**
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.31**	**0.03**	**7.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Boom/Crane Truck	350	1	7	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Boom/Crane Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**1.06**	**3.54**	**8.57**	**0.01**	**0.31**	**0.28**	**1439.52**	**0.10**	**0.04**	**1453.12**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Haul

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Boom/Crane Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.04	0.00	0.00	5.1
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.04**	**0.00**	**0.00**	**5.09**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	2	7	N/A	28
Water Truck	1	7	N/A	28
Boom/Crane Truck	1	7	N/A	28
Flat Bed Pole Truck	2	7	N/A	28
Worker Commute	4	7	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Pole Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.02	0.44	0.06	0.00	0.01	0.00	64.65	0.00	0.00	65.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Pole Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**
Total	**0.10**	**1.92**	**2.05**	**0.01**	**0.09**	**0.03**	**622.88**	**0.02**	**0.02**	**629.87**

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Haul

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.23
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.35
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.35
Flat Bed Pole Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.00	0.70
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.57
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.18**	**0.00**	**0.00**	**2.20**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.18**	**0.00**	**0.00**	**2.20**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	2	Unpaved	18	7	0.474	0.047	17.05	1.71	0.06	0.01
3/4-Ton Truck, 4x4	2	Paved	10	7	0.003	0.001	0.07	0.02	0.00	0.00
Water Truck	1	Unpaved	18	7	0.977	0.098	17.59	1.76	0.06	0.01
Water Truck	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	7	0.977	0.098	17.59	1.76	0.06	0.01
Boom/Crane Truck	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Pole Truck	2	Unpaved	18	7	0.977	0.098	35.19	3.52	0.12	0.01
Flat Bed Pole Truck	2	Paved	10	7	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	7	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**88.40**	**8.98**	**0.31**	**0.03**
Total							**88.40**	**8.98**	**0.31**	**0.03**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 66
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Haul

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Assembly

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.29	6.94	2.81	0.02	0.21	0.05	1,460.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	186.41	19.22	
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**186.62**	**19.27**	**1460.8**
Total	**4.20**	**21.91**	**32.51**	**0.06**	**188.03**	**20.57**	**6128.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.04	0.15	0.30	0.00	0.01	0.01	46.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.04**	**0.15**	**0.30**	**0.00**	**0.01**	**0.01**	**46.7**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.03	0.00	0.00	0.00	14.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.86	0.19	
Offsite Total	**0.00**	**0.07**	**0.03**	**0.00**	**1.87**	**0.19**	**14.6**
Total	**0.04**	**0.22**	**0.33**	**0.00**	**1.88**	**0.21**	**61.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	20	6
Boom/Crane Truck	350	3	20	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
Boom/Crane Truck	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Assembly

Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.01	0.06	0.07	0.00	0.01	0.01	8.44	0.00	0.00	8.5
Boom/Crane Truck	0.03	0.09	0.22	0.00	0.01	0.01	37.79	0.00	0.00	38.1
Total	**0.04**	**0.15**	**0.30**	**0.00**	**0.01**	**0.01**	**46.23**	**0.00**	**0.00**	**46.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	20	N/A	28
1-Ton Truck, 4x4	6	20	N/A	28
Water Truck	1	20	N/A	28
Boom/Crane Truck	3	20	N/A	28
Worker Commute	18	20	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Assembly

Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Boom/Crane Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**
Total	**0.29**	**6.94**	**2.81**	**0.02**	**0.21**	**0.05**	**1444.00**	**0.06**	**0.05**	**1460.76**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.94	0.00	0.00	1.97
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.26	0.00	0.00	1.27
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Boom/Crane Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.97	0.00	0.00	3.01
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.07**	**0.03**	**0.00**	**0.00**	**0.00**	**14.44**	**0.00**	**0.00**	**14.61**
Total	**0.00**	**0.07**	**0.03**	**0.00**	**0.00**	**0.00**	**14.44**	**0.00**	**0.00**	**14.61**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	20	0.474	0.047	51.16	5.12	0.51	0.05
3/4-Ton Truck, 4x4	6	Paved	10	20	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	20	0.564	0.056	60.86	6.09	0.61	0.06
1-Ton Truck, 4x4	6	Paved	10	20	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	20	0.977	0.098	17.59	1.76	0.18	0.02
Water Truck	1	Paved	10	20	0.003	0.001	0.03	0.01	0.00	0.00
Boom/Crane Truck	3	Unpaved	18	20	0.977	0.098	52.78	5.28	0.53	0.05

Table 67
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Assembly

Boom/Crane Truck	3	Paved	10	20	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	18	Paved	58	20	0.003	0.001	3.48	0.85	0.03	0.01
Offsite Total							**186.41**	**19.22**	**1.86**	**0.19**
Total							**186.41**	**19.22**	**1.86**	**0.19**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Erection

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.91	14.97	29.71	0.05	1.42	1.30	4,667.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4667.8**
Offsite Motor Vehicle Exhaust	0.25	6.70	1.42	0.01	0.17	0.02	1,160.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	133.53	13.92	
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**133.69**	**13.94**	**1160.2**
Total	**4.17**	**21.67**	**31.12**	**0.06**	**135.11**	**15.25**	**5828.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.04	0.15	0.30	0.00	0.01	0.01	46.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.04**	**0.15**	**0.30**	**0.00**	**0.01**	**0.01**	**46.7**
Offsite Motor Vehicle Exhaust	0.00	0.07	0.01	0.00	0.00	0.00	11.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.34	0.14	
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**1.34**	**0.14**	**11.6**
Total	**0.04**	**0.22**	**0.31**	**0.00**	**1.35**	**0.15**	**58.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	3	20	6
R/T Crane (L)	350	3	20	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
R/T Crane (L)	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	1.13	5.67	7.21	0.01	0.60	0.56	844.35	0.10	0.02	853.4
R/T Crane (L)	2.78	9.30	22.49	0.04	0.81	0.75	3778.73	0.25	0.10	3,814.4

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Erection

Total	**3.91**	**14.97**	**29.71**	**0.05**	**1.42**	**1.30**	**4623.08**	**0.35**	**0.12**	**4667.80**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.01	0.06	0.07	0.00	0.01	0.01	8.44	0.00	0.00	8.5
R/T Crane (L)	0.03	0.09	0.22	0.00	0.01	0.01	37.79	0.00	0.00	38.1
Total	**0.04**	**0.15**	**0.30**	**0.00**	**0.01**	**0.01**	**46.23**	**0.00**	**0.00**	**46.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Truck, 4x4	6	20	N/A	28
1-Ton Truck, 4x4	6	20	N/A	28
Water Truck	1	20	N/A	28
Worker Commute	18	20	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Truck, 4x4	MDV Gas	2.83E-04	7.84E-03	1.14E-03	1.32E-05	1.03E-04	4.38E-06	1.15E+00	7.00E-05	4.76E-05
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Erection

3/4-Ton Truck, 4x4	0.05	1.32	0.19	0.00	0.02	0.00	193.96	0.01	0.01	196.68
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.18	5.24	0.57	0.01	0.11	0.00	727.73	0.04	0.02	736.03
Offsite Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**
Total	**0.25**	**6.70**	**1.42**	**0.01**	**0.17**	**0.02**	**1146.62**	**0.06**	**0.04**	**1160.20**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	0.00	0.01	0.00	0.00	0.00	0.00	1.94	0.00	0.00	1.97
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.26	0.00	0.00	1.27
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Worker Commute	0.00	0.05	0.01	0.00	0.00	0.00	7.28	0.00	0.00	7.36
Offsite Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**11.47**	**0.00**	**0.00**	**11.60**
Total	**0.00**	**0.07**	**0.01**	**0.00**	**0.00**	**0.00**	**11.47**	**0.00**	**0.00**	**11.60**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Truck, 4x4	6	Unpaved	18	20	0.474	0.047	51.16	5.12	0.51	0.05
3/4-Ton Truck, 4x4	6	Paved	10	20	0.003	0.001	0.20	0.05	0.00	0.00
1-Ton Truck, 4x4	6	Unpaved	18	20	0.564	0.056	60.86	6.09	0.61	0.06
1-Ton Truck, 4x4	6	Paved	10	20	0.003	0.001	0.20	0.05	0.00	0.00
Water Truck	1	Unpaved	18	20	0.977	0.098	17.59	1.76	0.18	0.02
Water Truck	1	Paved	10	20	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	18	Paved	58	20	0.003	0.001	3.48	0.85	0.03	0.01
Offsite Total							**133.53**	**13.92**	**1.34**	**0.14**
Total							**133.53**	**13.92**	**1.34**	**0.14**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 68
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
TSP Riser Erection

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Vault Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.29	10.15	17.45	0.03	0.69	0.63	3,209.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.10	0.02	
Onsite Total	**2.29**	**10.15**	**17.45**	**0.03**	**0.79**	**0.65**	**3209.7**
Offsite Motor Vehicle Exhaust	0.24	3.42	6.54	0.02	0.26	0.12	1,714.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	198.48	20.18	
Offsite Total	**0.24**	**3.42**	**6.54**	**0.02**	**198.74**	**20.30**	**1714.9**
Total	**2.54**	**13.57**	**23.99**	**0.05**	**199.53**	**20.94**	**4924.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.16	0.25	0.00	0.01	0.01	47.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.16**	**0.25**	**0.00**	**0.01**	**0.01**	**47.6**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.09	0.00	0.00	0.00	23.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.99	0.30	
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**2.99**	**0.31**	**23.8**
Total	**0.04**	**0.21**	**0.34**	**0.00**	**3.00**	**0.32**	**71.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	125	1	36	8
Excavator	250	1	36	7
Crane (L)	500	1	20	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Excavator	250	0.105	0.339	0.785	0.002	0.026	0.024	158.540	0.009	0.004	Excavators
Crane (L)	500	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.63	4.68	4.45	0.01	0.23	0.22	810.37	0.06	0.02	818.1
Excavator	0.74	2.37	5.50	0.01	0.18	0.17	1109.78	0.07	0.03	1,120.1

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Vault Installation

Crane (L)	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5
Total	**2.29**	**10.15**	**17.45**	**0.03**	**0.69**	**0.63**	**3179.73**	**0.21**	**0.08**	**3209.71**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.08	0.08	0.00	0.00	0.00	14.59	0.00	0.00	14.7
Excavator	0.01	0.04	0.10	0.00	0.00	0.00	19.98	0.00	0.00	20.2
Crane (L)	0.01	0.03	0.07	0.00	0.00	0.00	12.60	0.00	0.00	12.7
Total	**0.03**	**0.16**	**0.25**	**0.00**	**0.01**	**0.01**	**47.16**	**0.00**	**0.00**	**47.60**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	36	N/A	28
Dump Truck	2	36	N/A	28
Water Truck	1	36	N/A	28
Concrete Mixer Truck	3	14	N/A	60
Lowboy Truck/Trailer	1	36	N/A	28
Flat Bed Truck/Trailer	3	36	N/A	28
Worker Commute	8	36	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Vault Installation

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Dump Truck	0.02	0.16	0.93	0.00	0.03	0.02	198.25	0.00	0.01	200.37
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Concrete Mixer Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Lowboy Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.24**	**3.42**	**6.54**	**0.02**	**0.26**	**0.12**	**1696.51**	**0.03**	**0.06**	**1714.92**
Total	**0.24**	**3.42**	**6.54**	**0.02**	**0.26**	**0.12**	**1696.51**	**0.03**	**0.06**	**1714.92**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.57	0.00	0.00	3.61
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Concrete Mixer Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Lowboy Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Flat Bed Truck/Trailer	0.00	0.00	0.03	0.00	0.00	0.00	5.35	0.00	0.00	5.41
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**23.53**	**0.00**	**0.00**	**23.78**
Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**23.53**	**0.00**	**0.00**	**23.78**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	36	0.564	0.056	20.29	2.03	0.37	0.04

Table 69
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Vault Installation

1-Ton Truck, 4x4	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Dump Truck	2	Unpaved	18	36	0.977	0.098	35.19	3.52	0.63	0.06
Dump Truck	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Water Truck	1	Unpaved	18	36	0.977	0.098	17.59	1.76	0.32	0.03
Water Truck	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Mixer Truck	3	Unpaved	18	14	0.977	0.098	52.78	5.28	0.37	0.04
Concrete Mixer Truck	3	Paved	42	14	0.003	0.001	0.42	0.10	0.00	0.00
Lowboy Truck/Trailer	1	Unpaved	18	36	0.977	0.098	17.59	1.76	0.32	0.03
Lowboy Truck/Trailer	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	36	0.977	0.098	52.78	5.28	0.95	0.10
Flat Bed Truck/Trailer	3	Paved	10	36	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	36	0.003	0.001	1.54	0.38	0.03	0.01
Offsite Total							**198.48**	**20.18**	**2.99**	**0.30**
Total							**198.48**	**20.18**	**2.99**	**0.30**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	99	1182	1.00E-03	1.52E-04	0.10	0.02	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.10**	**0.02**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Daily based on 1 vault/day, 11 ft.-2 in. x 21 ft.-4 in. x 11 ft.-2 in.; total based on 12 vaults

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Duct Bank Installation

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.87	5.67	5.90	0.01	0.37	0.34	952.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.06	0.01	
Onsite Total	**0.87**	**5.67**	**5.90**	**0.01**	**0.43**	**0.35**	**952.9**
Offsite Motor Vehicle Exhaust	0.27	3.58	7.47	0.02	0.29	0.13	1,915.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	233.74	23.71	
Offsite Total	**0.27**	**3.58**	**7.47**	**0.02**	**234.03**	**23.85**	**1915.3**
Total	**1.13**	**9.25**	**13.37**	**0.03**	**234.46**	**24.20**	**2868.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.10	0.10	0.00	0.01	0.01	16.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.10**	**0.10**	**0.00**	**0.01**	**0.01**	**16.4**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.09	0.00	0.00	0.00	25.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.36	0.34	
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**3.36**	**0.34**	**25.5**
Total	**0.02**	**0.15**	**0.19**	**0.00**	**3.37**	**0.35**	**42.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Compressor Trailer	120	1	30	5
Backhoe/Front Loader	125	1	36	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Compressor Trailer	120	0.063	0.315	0.401	0.001	0.034	0.031	46.908	0.006	0.001	Air Compressors
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Compressor Trailer	0.31	1.58	2.00	0.00	0.17	0.15	234.54	0.03	0.01	237.0
Backhoe/Front Loader	0.55	4.09	3.90	0.01	0.20	0.19	709.07	0.05	0.02	715.9
Total	**0.87**	**5.67**	**5.90**	**0.01**	**0.37**	**0.34**	**943.61**	**0.08**	**0.02**	**952.90**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Duct Bank Installation

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Compressor Trailer	0.00	0.02	0.03	0.00	0.00	0.00	3.52	0.00	0.00	3.6
Backhoe/Front Loader	0.01	0.07	0.07	0.00	0.00	0.00	12.76	0.00	0.00	12.9
Total	**0.01**	**0.10**	**0.10**	**0.00**	**0.01**	**0.01**	**16.28**	**0.00**	**0.00**	**16.44**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	36	N/A	28
Dump Truck	3	30	N/A	28
Water Truck	1	36	N/A	28
Concrete Mixer Truck	3	12	N/A	60
Lowboy Truck/Trailer	1	36	N/A	28
Flat Bed Truck/Trailer	3	36	N/A	28
Pipe Truck/Trailer	1	30	N/A	28
Worker Commute	8	36	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Mixer Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Pipe Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Duct Bank Installation

None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Dump Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Concrete Mixer Truck	0.08	0.51	2.98	0.01	0.10	0.05	637.25	0.00	0.02	644.05
Lowboy Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Pipe Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.27**	**3.58**	**7.47**	**0.02**	**0.29**	**0.13**	**1894.76**	**0.03**	**0.06**	**1915.29**
Total	**0.27**	**3.58**	**7.47**	**0.02**	**0.29**	**0.13**	**1894.76**	**0.03**	**0.06**	**1915.29**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Dump Truck	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.51
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Concrete Mixer Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.82	0.00	0.00	3.86
Lowboy Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Flat Bed Truck/Trailer	0.00	0.00	0.03	0.00	0.00	0.00	5.35	0.00	0.00	5.41
Pipe Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**25.27**	**0.00**	**0.00**	**25.54**
Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**25.27**	**0.00**	**0.00**	**25.54**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	36	0.564	0.056	20.29	2.03	0.37	0.04
1-Ton Truck, 4x4	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00

Table 70
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Duct Bank Installation

Dump Truck	3	Unpaved	18	30	0.977	0.098	52.78	5.28	0.79	0.08
Dump Truck	3	Paved	10	30	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Unpaved	18	36	0.977	0.098	17.59	1.76	0.32	0.03
Water Truck	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Mixer Truck	3	Unpaved	18	12	0.977	0.098	52.78	5.28	0.32	0.03
Concrete Mixer Truck	3	Paved	42	12	0.003	0.001	0.42	0.10	0.00	0.00
Lowboy Truck/Trailer	1	Unpaved	18	36	0.977	0.098	17.59	1.76	0.32	0.03
Lowboy Truck/Trailer	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	36	0.977	0.098	52.78	5.28	0.95	0.10
Flat Bed Truck/Trailer	3	Paved	10	36	0.003	0.001	0.10	0.02	0.00	0.00
Pipe Truck/Trailer	1	Unpaved	18	30	0.977	0.098	17.59	1.76	0.26	0.03
Pipe Truck/Trailer	1	Paved	10	30	0.003	0.001	0.03	0.01	0.00	0.00
Worker Commute	8	Paved	58	36	0.003	0.001	1.54	0.38	0.03	0.01
Offsite Total							**233.74**	**23.71**	**3.36**	**0.34**
Total							**233.74**	**23.71**	**3.36**	**0.34**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	62	2222	1.00E-03	1.52E-04	0.06	0.01	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.06**	**0.01**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on 24 in. x 60 in. x 6,000 ft. over 36 days

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Underground Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	4.07	16.16	40.04	0.08	1.28	1.18	8,125.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**4.07**	**16.16**	**40.04**	**0.08**	**1.28**	**1.18**	**8125.4**
Offsite Motor Vehicle Exhaust	0.22	3.23	5.42	0.02	0.22	0.10	1,471.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	215.79	21.87	
Offsite Total	**0.22**	**3.23**	**5.42**	**0.02**	**216.01**	**21.96**	**1471.6**
Total	**4.28**	**19.38**	**45.46**	**0.09**	**217.29**	**23.14**	**9597.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.07	0.27	0.66	0.00	0.02	0.02	142.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.07**	**0.27**	**0.66**	**0.00**	**0.02**	**0.02**	**142.6**
Offsite Motor Vehicle Exhaust	0.00	0.06	0.09	0.00	0.00	0.00	24.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.59	0.36	
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**3.60**	**0.37**	**24.8**
Total	**0.07**	**0.33**	**0.75**	**0.00**	**3.62**	**0.39**	**167.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Manlift/Bucket Truck	250	4	36	5
Boom/Crane Truck	350	1	15	7
Puller	350	2	36	5

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Manlift/Bucket Truck	250	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
Boom/Crane Truck	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Puller	350	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Manlift/Bucket Truck	1.90	8.19	22.14	0.04	0.66	0.61	4253.30	0.17	0.11	4,291.1
Boom/Crane Truck	0.93	3.10	7.50	0.01	0.27	0.25	1259.58	0.08	0.03	1,271.5

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Underground Cable

Puller	1.24	4.86	10.40	0.02	0.35	0.32	2540.10	0.11	0.07	2,562.9
Total	**4.07**	**16.16**	**40.04**	**0.08**	**1.28**	**1.18**	**8052.98**	**0.37**	**0.21**	**8125.45**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Manlift/Bucket Truck	0.03	0.15	0.40	0.00	0.01	0.01	76.56	0.00	0.00	77.2
Boom/Crane Truck	0.01	0.04	0.08	0.00	0.00	0.00	19.05	0.00	0.00	19.2
Puller	0.02	0.09	0.19	0.00	0.01	0.01	45.72	0.00	0.00	46.1
Total	**0.07**	**0.27**	**0.66**	**0.00**	**0.02**	**0.02**	**141.33**	**0.01**	**0.00**	**142.59**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	2	36	N/A	28
Manlift/Bucket Truck	4	36	N/A	28
Boom/Crane Truck	1	15	N/A	28
Water Truck	1	36	N/A	28
Pipe Truck/Trailer	1	30	N/A	28
Wire Truck/Trailer	1	30	N/A	28
Flat Bed Truck/Trailer	3	36	N/A	28
Worker Commute	8	36	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Manlift/Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Boom/Crane Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Pipe Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Wire Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Underground Cable

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	41.94	0.00	0.00	42.43
Manlift/Bucket Truck	0.05	0.32	1.85	0.00	0.06	0.03	396.51	0.00	0.01	400.74
Boom/Crane Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Water Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Pipe Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Wire Truck/Trailer	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Flat Bed Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.22**	**3.23**	**5.42**	**0.02**	**0.22**	**0.10**	**1455.77**	**0.03**	**0.05**	**1471.61**
Total	**0.22**	**3.23**	**5.42**	**0.02**	**0.22**	**0.10**	**1455.77**	**0.03**	**0.05**	**1471.61**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Manlift/Bucket Truck	0.00	0.01	0.03	0.00	0.00	0.00	7.14	0.00	0.00	7.21
Boom/Crane Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Pipe Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Wire Truck/Trailer	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Flat Bed Truck/Trailer	0.00	0.00	0.03	0.00	0.00	0.00	5.35	0.00	0.00	5.41
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.82	0.00	0.00	5.89
Offsite Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**24.57**	**0.00**	**0.00**	**24.84**
Total	**0.00**	**0.06**	**0.09**	**0.00**	**0.00**	**0.00**	**24.57**	**0.00**	**0.00**	**24.84**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00

Table 71
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM
Install Underground Cable

Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	2	Unpaved	18	36	0.564	0.056	20.29	2.03	0.37	0.04
1-Ton Truck, 4x4	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Manlift/Bucket Truck	4	Unpaved	18	36	0.977	0.098	70.37	7.04	1.27	0.13
Manlift/Bucket Truck	4	Paved	10	36	0.003	0.001	0.13	0.03	0.00	0.00
Boom/Crane Truck	1	Unpaved	18	15	0.977	0.098	17.59	1.76	0.13	0.01
Boom/Crane Truck	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	18	36	0.977	0.098	17.59	1.76	0.32	0.03
Water Truck	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Pipe Truck/Trailer	1	Unpaved	18	30	0.977	0.098	17.59	1.76	0.26	0.03
Pipe Truck/Trailer	1	Paved	10	30	0.003	0.001	0.03	0.01	0.00	0.00
Wire Truck/Trailer	1	Unpaved	18	30	0.977	0.098	17.59	1.76	0.26	0.03
Wire Truck/Trailer	1	Paved	10	30	0.003	0.001	0.03	0.01	0.00	0.00
Flat Bed Truck/Trailer	3	Unpaved	18	36	0.977	0.098	52.78	5.28	0.95	0.10
Flat Bed Truck/Trailer	3	Paved	10	36	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	36	0.003	0.001	1.54	0.38	0.03	0.01
Offsite Total							**215.79**	**21.87**	**3.59**	**0.36**
Total							**215.79**	**21.87**	**3.59**	**0.36**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	5.94	28.86	44.31	0.08	2.24	2.06	7,043.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	36.43	16.28	
Onsite Total	**5.94**	**28.86**	**44.31**	**0.08**	**38.66**	**18.34**	**7043.6**
Offsite Motor Vehicle Exhaust	0.30	6.66	3.64	0.02	0.24	0.06	1,587.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	170.88	17.74	
Offsite Total	**0.30**	**6.66**	**3.64**	**0.02**	**171.12**	**17.80**	**1587.1**
Total	**6.24**	**35.52**	**47.95**	**0.10**	**209.78**	**36.14**	**8630.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.19	1.09	1.24	0.00	0.09	0.08	174.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	1.37	0.61	
Onsite Total	**0.19**	**1.09**	**1.24**	**0.00**	**1.45**	**0.69**	**174.3**
Offsite Motor Vehicle Exhaust	0.01	0.25	0.14	0.00	0.01	0.00	59.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.41	0.67	
Offsite Total	**0.01**	**0.25**	**0.14**	**0.00**	**6.42**	**0.67**	**59.5**
Total	**0.20**	**1.33**	**1.38**	**0.00**	**7.87**	**1.36**	**233.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	125	3	75	7
Motor Grader	250	3	75	7
Drum Type Compactor	100	3	75	7

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	125	0.079	0.584	0.557	0.001	0.029	0.027	101.296	0.007	0.003	Tractors/Loaders/Backhoes
Motor Grader	250	0.125	0.393	1.043	0.002	0.036	0.033	171.959	0.011	0.004	Graders
Drum Type Compactor	100	0.079	0.397	0.511	0.001	0.042	0.038	58.936	0.007	0.002	Rollers

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	1.65	12.27	11.69	0.02	0.61	0.56	2127.21	0.15	0.06	2,147.6
Motor Grader	2.62	8.26	21.90	0.04	0.75	0.69	3611.13	0.24	0.09	3,645.2

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Restoration

Drum Type Compactor	1.67	8.33	10.72	0.01	0.87	0.80	1237.65	0.15	0.03	1,250.9
Total	**5.94**	**28.86**	**44.31**	**0.08**	**2.24**	**2.06**	**6976.00**	**0.54**	**0.18**	**7043.63**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.06	0.46	0.44	0.00	0.02	0.02	79.77	0.01	0.00	80.5
Motor Grader	0.06	0.31	0.40	0.00	0.03	0.03	46.41	0.01	0.00	46.9
Drum Type Compactor	0.06	0.31	0.40	0.00	0.03	0.03	46.41	0.01	0.00	46.9
Total	**0.19**	**1.09**	**1.24**	**0.00**	**0.09**	**0.08**	**172.59**	**0.02**	**0.00**	**174.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Truck, 4x4	6	75	N/A	28
Water Truck	3	75	N/A	28
Lowboy Truck/Trailer	3	75	N/A	28
Worker Commute	21	75	N/A	58

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Lowboy Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.01	0.06	0.19	0.00	0.03	0.01	125.81	0.00	0.00	127.30

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Restoration

Water Truck	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Lowboy Truck/Trailer	0.04	0.24	1.39	0.00	0.05	0.03	297.38	0.00	0.01	300.56
Worker Commute	0.21	6.12	0.67	0.01	0.13	0.00	849.02	0.05	0.03	858.71
Offsite Total	**0.30**	**6.66**	**3.64**	**0.02**	**0.24**	**0.06**	**1569.59**	**0.06**	**0.05**	**1587.13**
Total	**0.30**	**6.66**	**3.64**	**0.02**	**0.24**	**0.06**	**1569.59**	**0.06**	**0.05**	**1587.13**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	4.72	0.00	0.00	4.77
Water Truck	0.00	0.01	0.05	0.00	0.00	0.00	11.15	0.00	0.00	11.27
Lowboy Truck/Trailer	0.00	0.01	0.05	0.00	0.00	0.00	11.15	0.00	0.00	11.27
Worker Commute	0.01	0.23	0.03	0.00	0.00	0.00	31.84	0.00	0.00	32.20
Offsite Total	**0.01**	**0.25**	**0.14**	**0.00**	**0.01**	**0.00**	**58.86**	**0.00**	**0.00**	**59.52**
Total	**0.01**	**0.25**	**0.14**	**0.00**	**0.01**	**0.00**	**58.86**	**0.00**	**0.00**	**59.52**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0		0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Truck, 4x4	6	Unpaved	18	75	0.564	0.056	60.86	6.09	2.28	0.23
1-Ton Truck, 4x4	6	Paved	10	75	0.003	0.001	0.20	0.05	0.01	0.00
Water Truck	3	Unpaved	18	75	0.977	0.098	52.78	5.28	1.98	0.20
Water Truck	3	Paved	10	75	0.003	0.001	0.10	0.02	0.00	0.00
Lowboy Truck/Trailer	3	Unpaved	18	75	0.977	0.098	52.78	5.28	1.98	0.20
Lowboy Truck/Trailer	3	Paved	10	75	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	21	Paved	58	75	0.003	0.001	4.06	1.00	0.15	0.04
Offsite Total							**170.88**	**17.74**	**6.41**	**0.67**
Total							**170.88**	**17.74**	**6.41**	**0.67**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 72
Alternative Transmission and Subtransmission Construction Emissions with Segment 10 - Controlled Fugitive PM Restoration

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr	21	1575	1.735	0.775	36.43	16.28	1.37	0.61
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**36.43**	**16.28**	**1.37**	**0.61**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 73
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.25	0.61	0.00	0.04	0.01	274.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.95	1.22	
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**10.99**	**1.23**	**274.4**
Total	**1.57**	**7.80**	**18.32**	**0.04**	**11.51**	**1.72**	**3707.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.12	0.32	0.00	0.01	0.01	61.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.12**	**0.32**	**0.00**	**0.01**	**0.01**	**61.8**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	4.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.20	0.02	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.20**	**0.02**	**4.9**
Total	**0.03**	**0.14**	**0.33**	**0.00**	**0.21**	**0.03**	**66.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	36	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 73
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.03	0.12	0.32	0.00	0.01	0.01	61.25	0.00	0.00	61.8
Total	**0.03**	**0.12**	**0.32**	**0.00**	**0.01**	**0.01**	**61.25**	**0.00**	**0.00**	**61.79**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	36	N/A	14
Bucket Truck	2	36	N/A	14
Worker Commute	4	36	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 73
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**
Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.19
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.78	0.00	0.00	1.80
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.91	0.00	0.00	2.94
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.88**	**0.00**	**0.00**	**4.94**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.88**	**0.00**	**0.00**	**4.94**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	36	0.564	0.056	2.25	0.23	0.04	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	36	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	36	0.977	0.098	7.82	0.78	0.14	0.01
Bucket Truck	2	Paved	10	36	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	36	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**10.95**	**1.22**	**0.20**	**0.02**
Total							**10.95**	**1.22**	**0.20**	**0.02**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 73
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Install Cable

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 74
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.18	0.16	0.00	0.03	0.00	184.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.35	0.66	
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**5.38**	**0.66**	**184.8**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**5.38**	**0.66**	**184.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 74
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	14
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	20.97	0.00	0.00	21.22

Table 74
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	2	0.564	0.056	4.51	0.45	0.00	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**5.35**	**0.66**	**0.01**	**0.00**
Total							**5.35**	**0.66**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 74
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 75
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.24**	**0.20**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.42	0.01	0.07	0.02	490.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.22	1.50	
Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**13.29**	**1.53**	**490.4**
Total	**0.90**	**4.50**	**7.74**	**0.02**	**13.53**	**1.72**	**1875.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.08**	**0.01**	**2.6**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.08**	**0.01**	**12.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	14	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 75
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	9.61	0.00	0.00	9.7
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.61**	**0.00**	**0.00**	**9.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	14	N/A	14
1-Ton Crew Cab Flatbed, 4x4	1	14	N/A	14
Water Truck	1	14	N/A	14
Concrete Truck	1	6	N/A	60
Worker Commute	5	14	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Water Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 75
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**
Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.35
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.42	0.00	0.00	1.43
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	14	0.474	0.047	1.89	0.19	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	14	0.564	0.056	2.25	0.23	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	4	14	0.977	0.098	3.91	0.39	0.03	0.00
Water Truck	1	Paved	10	14	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	4	6	0.977	0.098	3.91	0.39	0.01	0.00
Concrete Truck	1	Paved	56	6	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	14	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**13.22**	**1.50**	**0.08**	**0.01**
Total							**13.22**	**1.50**	**0.08**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 75
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
LADWP Corridor Underground Crossing (Segment 2/Segment 8) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	28	311	1.00E-03	1.52E-04	0.03	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.03**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 2,800 ft. long x 1 ft. wide x 3 ft. deep over 11 days

Table 76
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.25	0.61	0.00	0.04	0.01	274.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.95	1.22	
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**10.99**	**1.23**	**274.4**
Total	**1.57**	**7.80**	**18.32**	**0.04**	**11.51**	**1.72**	**3707.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.05	0.13	0.00	0.00	0.00	25.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.05**	**0.13**	**0.00**	**0.00**	**0.00**	**25.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	2.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.08**	**0.01**	**2.1**
Total	**0.01**	**0.06**	**0.14**	**0.00**	**0.09**	**0.01**	**27.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	15	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 76
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.01	0.05	0.13	0.00	0.00	0.00	25.52	0.00	0.00	25.7
Total	**0.01**	**0.05**	**0.13**	**0.00**	**0.00**	**0.00**	**25.52**	**0.00**	**0.00**	**25.75**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	15	N/A	14
Bucket Truck	2	15	N/A	14
Worker Commute	4	15	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 76
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Bucket Truck	0.01	0.08	0.46	0.00	0.02	0.01	99.13	0.00	0.00	100.19
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**
Total	**0.05**	**1.25**	**0.61**	**0.00**	**0.04**	**0.01**	**271.33**	**0.01**	**0.01**	**274.36**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.21	0.00	0.00	1.23
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.03**	**0.00**	**0.00**	**2.06**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.03**	**0.00**	**0.00**	**2.06**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	15	0.564	0.056	2.25	0.23	0.02	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	15	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	15	0.977	0.098	7.82	0.78	0.06	0.01
Bucket Truck	2	Paved	10	15	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	15	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**10.95**	**1.22**	**0.08**	**0.01**
Total							**10.95**	**1.22**	**0.08**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 76
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Install Cable

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 77
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.18	0.16	0.00	0.03	0.00	184.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.35	0.66	
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**5.38**	**0.66**	**184.8**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**5.38**	**0.66**	**184.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 77
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	14
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	20.97	0.00	0.00	21.22

Table 77
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**
Total	**0.04**	**1.18**	**0.16**	**0.00**	**0.03**	**0.00**	**182.69**	**0.01**	**0.01**	**184.78**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	2	0.564	0.056	4.51	0.45	0.00	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**5.35**	**0.66**	**0.01**	**0.00**
Total							**5.35**	**0.66**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 77
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 78
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.22**	**0.19**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.42	0.01	0.07	0.02	490.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	13.22	1.50	
Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**13.29**	**1.53**	**490.4**
Total	**0.90**	**4.50**	**7.74**	**0.02**	**13.52**	**1.72**	**1875.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	4.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**4.8**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.05**	**0.01**	**1.7**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.05**	**0.01**	**6.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	7	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 78
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.01	0.02	0.00	0.00	0.00	4.80	0.00	0.00	4.8
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**4.80**	**0.00**	**0.00**	**4.85**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	7	N/A	14
1-Ton Crew Cab Flatbed, 4x4	1	7	N/A	14
Water Truck	1	7	N/A	14
Concrete Truck	1	7	N/A	60
Worker Commute	5	7	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	10.48	0.00	0.00	10.61
Water Truck	0.01	0.04	0.23	0.00	0.01	0.00	49.56	0.00	0.00	50.09
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 78
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**
Total	**0.08**	**1.68**	**1.42**	**0.01**	**0.07**	**0.02**	**485.09**	**0.01**	**0.02**	**490.45**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.18
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.72
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.70**	**0.00**	**0.00**	**1.72**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.70**	**0.00**	**0.00**	**1.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	7	0.474	0.047	1.89	0.19	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	7	0.564	0.056	2.25	0.23	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	4	7	0.977	0.098	3.91	0.39	0.01	0.00
Water Truck	1	Paved	10	7	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	4	7	0.977	0.098	3.91	0.39	0.01	0.00
Concrete Truck	1	Paved	56	7	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	7	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**13.22**	**1.50**	**0.05**	**0.01**
Total							**13.22**	**1.50**	**0.05**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 78
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near Highway 47 (Segment 5) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	16	111	1.00E-03	1.52E-04	0.02	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.02**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,000 ft. long x 1 ft. wide x 3 ft. deep over 7 days

Table 79
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.24	0.54	0.00	0.04	0.01	258.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.91	0.72	
Offsite Total	**0.05**	**1.24**	**0.54**	**0.00**	**5.95**	**0.73**	**258.5**
Total	**1.57**	**7.79**	**18.25**	**0.04**	**6.47**	**1.21**	**3691.4**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.08	0.22	0.00	0.01	0.01	42.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.08**	**0.22**	**0.00**	**0.01**	**0.01**	**42.9**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	3.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.07	0.01	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.07**	**0.01**	**3.2**
Total	**0.02**	**0.10**	**0.23**	**0.00**	**0.08**	**0.02**	**46.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	25	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 79
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.08	0.22	0.00	0.01	0.01	42.53	0.00	0.00	42.9
Total	**0.02**	**0.08**	**0.22**	**0.00**	**0.01**	**0.01**	**42.53**	**0.00**	**0.00**	**42.91**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	25	N/A	12
Bucket Truck	2	25	N/A	12
Worker Commute	4	25	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 79
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
Bucket Truck	0.01	0.07	0.40	0.00	0.01	0.01	84.97	0.00	0.00	85.87
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.24**	**0.54**	**0.00**	**0.04**	**0.01**	**255.67**	**0.01**	**0.01**	**258.53**
Total	**0.05**	**1.24**	**0.54**	**0.00**	**0.04**	**0.01**	**255.67**	**0.01**	**0.01**	**258.53**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.00	0.00	1.07
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	2.02	0.00	0.00	2.04
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.20**	**0.00**	**0.00**	**3.23**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.20**	**0.00**	**0.00**	**3.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	2	25	0.564	0.056	1.13	0.11	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	25	0.003	0.001	0.03	0.01	0.00	0.00
Bucket Truck	2	Unpaved	2	25	0.977	0.098	3.91	0.39	0.05	0.00
Bucket Truck	2	Paved	10	25	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	25	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**5.91**	**0.72**	**0.07**	**0.01**
Total							**5.91**	**0.72**	**0.07**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

Table 79
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Install Cable

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 80
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.15	0.00	0.03	0.00	181.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	3.09	0.43	
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**3.12**	**0.43**	**181.7**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**3.12**	**0.43**	**181.7**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 80
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	2	N/A	12
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.03	0.00	0.00	0.00	17.97	0.00	0.00	18.19

Table 80
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**179.69**	**0.01**	**0.01**	**181.75**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**179.69**	**0.01**	**0.01**	**181.75**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.34**	**0.00**	**0.00**	**0.35**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	2	2	0.564	0.056	2.25	0.23	0.00	0.00
Splicing Lab	2	Paved	10	2	0.003	0.001	0.07	0.02	0.00	0.00
Worker Commute	4	Paved	58	4	0.003	0.001	0.77	0.19	0.00	0.00
Offsite Total							**3.09**	**0.43**	**0.00**	**0.00**
Total							**3.09**	**0.43**	**0.00**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 80
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 81
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.23**	**0.20**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.67	1.38	0.01	0.07	0.02	480.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	7.24	0.91	
Offsite Total	**0.08**	**1.67**	**1.38**	**0.01**	**7.32**	**0.93**	**480.3**
Total	**0.90**	**4.49**	**7.70**	**0.02**	**7.55**	**1.13**	**1865.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.02	0.03	0.00	0.00	0.00	7.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.00**	**0.00**	**7.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.00	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.04**	**0.01**	**2.6**
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.04**	**0.01**	**10.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	11	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 81
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.02	0.03	0.00	0.00	0.00	7.55	0.00	0.00	7.6
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.00**	**0.00**	**7.55**	**0.00**	**0.00**	**7.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	11	N/A	12
1-Ton Crew Cab Flatbed, 4x4	1	11	N/A	12
Water Truck	1	11	N/A	12
Concrete Truck	1	11	N/A	60
Worker Commute	5	11	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.99	0.00	0.00	9.09
Water Truck	0.01	0.03	0.20	0.00	0.01	0.00	42.48	0.00	0.00	42.94
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 81
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Offsite Total	**0.08**	**1.67**	**1.38**	**0.01**	**0.07**	**0.02**	**475.02**	**0.01**	**0.02**	**480.26**
Total	**0.08**	**1.67**	**1.38**	**0.01**	**0.07**	**0.02**	**475.02**	**0.01**	**0.02**	**480.26**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.24
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.17	0.00	0.00	1.18
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.11	0.00	0.00	1.12
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.61**	**0.00**	**0.00**	**2.64**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.61**	**0.00**	**0.00**	**2.64**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	2	11	0.474	0.047	0.95	0.09	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	2	11	0.564	0.056	1.13	0.11	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
Water Truck	1	Unpaved	2	11	0.977	0.098	1.95	0.20	0.01	0.00
Water Truck	1	Paved	10	11	0.003	0.001	0.03	0.01	0.00	0.00
Concrete Truck	1	Unpaved	2	11	0.977	0.098	1.95	0.20	0.01	0.00
Concrete Truck	1	Paved	58	11	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	58	11	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**7.24**	**0.91**	**0.04**	**0.00**
Total							**7.24**	**0.91**	**0.04**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 81
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW Underground Crossing near SR-18 (Segment 5) - Underground Conduit and Structures

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	25	278	1.00E-03	1.52E-04	0.03	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.03**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 2,500 ft. long x 1 ft. wide x 3 ft. deep over 11 days

Table 82
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.08	2.34	0.31	0.00	0.05	0.00	339.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.97	1.32	
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**11.02**	**1.32**	**339.0**
Total	**1.60**	**8.89**	**18.02**	**0.04**	**11.54**	**1.80**	**3771.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.10	0.28	0.00	0.01	0.01	54.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.10**	**0.28**	**0.00**	**0.01**	**0.01**	**54.9**
Offsite Motor Vehicle Exhaust	0.00	0.04	0.00	0.00	0.00	0.00	5.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.08	0.01	
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.09**	**0.01**	**5.4**
Total	**0.03**	**0.14**	**0.29**	**0.00**	**0.09**	**0.02**	**60.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	32	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 82
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.10	0.28	0.00	0.01	0.01	54.44	0.00	0.00	54.9
Total	**0.02**	**0.10**	**0.28**	**0.00**	**0.01**	**0.01**	**54.44**	**0.00**	**0.00**	**54.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	32	N/A	1.5
Bucket Truck	2	32	N/A	1.5
Worker Commute	8	32	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 82
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**
Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
Worker Commute	0.00	0.04	0.00	0.00	0.00	0.00	5.17	0.00	0.00	5.23
Offsite Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.36**	**0.00**	**0.00**	**5.42**
Total	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**5.36**	**0.00**	**0.00**	**5.42**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	32	0.564	0.056	0.85	0.08	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	32	0.003	0.001	0.00	0.00	0.00	0.00
Bucket Truck	2	Unpaved	1.5	32	0.977	0.098	2.93	0.29	0.05	0.00
Bucket Truck	2	Paved	0	32	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	8	Paved	56.5	32	0.003	0.001	1.51	0.37	0.02	0.01
Worker Commute	8	Unpaved	1.5	32	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**10.97**	**1.32**	**0.08**	**0.01**
Total							**10.97**	**1.32**	**0.08**	**0.01**

a From Table 107

Table 82
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Install Cable

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 83
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	165.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.29	0.64	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.31**	**0.64**	**165.8**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.31**	**0.64**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 83
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	4	N/A	1.5
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00	2.27

Table 83
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	1.5	4	0.564	0.056	1.69	0.17	0.00	0.00
Splicing Lab	2	Paved	0	4	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	4	Paved	56.5	4	0.003	0.001	0.75	0.18	0.00	0.00
Worker Commute	4	Unpaved	1.5	4	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**5.29**	**0.64**	**0.00**	**0.00**
Total							**5.29**	**0.64**	**0.00**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 83
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 84
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.23**	**0.19**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.45	0.01	0.07	0.02	485.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.23	1.10	
Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**9.30**	**1.12**	**485.8**
Total	**0.90**	**4.50**	**7.78**	**0.02**	**9.54**	**1.32**	**1871.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.7**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	3.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.04	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.04**	**0.01**	**3.4**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.04**	**0.01**	**13.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	14	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 84
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	9.61	0.00	0.00	9.7
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.61**	**0.00**	**0.00**	**9.70**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	14	N/A	1.5
1-Ton Crew Cab Flatbed, 4x4	1	14	N/A	1.5
Water Truck	1	14	N/A	18
Concrete Truck	1	14	N/A	60
Worker Commute	5	14	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 84
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**
Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.45
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.42	0.00	0.00	1.43
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**3.36**	**0.00**	**0.00**	**3.40**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**3.36**	**0.00**	**0.00**	**3.40**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	1.5	14	0.474	0.047	0.71	0.07	0.00	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	0	14	0.003	0.001	0.00	0.00	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	14	0.564	0.056	0.85	0.08	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	14	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	1	Unpaved	1.5	14	0.977	0.098	1.47	0.15	0.01	0.00
Water Truck	1	Paved	16.5	14	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	14	0.977	0.098	1.47	0.15	0.01	0.00
Concrete Truck	1	Paved	58.5	14	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	14	0.003	0.001	0.94	0.23	0.01	0.00
Worker Commute	5	Unpaved	1.5	14	0.474	0.047	3.55	0.36	0.00	0.00
Offsite Total							**9.23**	**1.10**	**0.04**	**0.01**
Total							**9.23**	**1.10**	**0.04**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 84
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
OPGW from Last Transmission Towers to Desert View Substation Wall - Underground Conduit and Structures

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	24	333	1.00E-03	1.52E-04	0.02	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.02**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 3,000 ft. long x 1 ft. wide x 3 ft. deep over 14 days

Table 85
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.08	2.34	0.31	0.00	0.05	0.00	339.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	10.97	1.32	
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**11.02**	**1.32**	**339.0**
Total	**1.60**	**8.89**	**18.02**	**0.04**	**11.54**	**1.80**	**3771.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.18	0.00	0.01	0.00	34.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.3**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.05**	**0.01**	**3.4**
Total	**0.02**	**0.09**	**0.18**	**0.00**	**0.06**	**0.01**	**37.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 85
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.07	0.18	0.00	0.01	0.00	34.03	0.00	0.00	34.3
Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.03**	**0.00**	**0.00**	**34.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	20	N/A	1.5
Bucket Truck	2	20	N/A	1.5
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 85
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.01	0.05	0.00	0.00	0.00	10.62	0.00	0.00	10.73
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**
Total	**0.08**	**2.34**	**0.31**	**0.00**	**0.05**	**0.00**	**335.18**	**0.02**	**0.01**	**339.00**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.35**	**0.00**	**0.00**	**3.39**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.35**	**0.00**	**0.00**	**3.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	20	0.564	0.056	0.85	0.08	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	20	0.003	0.001	0.00	0.00	0.00	0.00
Bucket Truck	2	Unpaved	1.5	20	0.977	0.098	2.93	0.29	0.03	0.00
Bucket Truck	2	Paved	0	20	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	8	Paved	56.5	20	0.003	0.001	1.51	0.37	0.02	0.00
Worker Commute	8	Unpaved	1.5	20	0.474	0.047	5.68	0.57	0.00	0.00
Offsite Total							**10.97**	**1.32**	**0.05**	**0.01**
Total							**10.97**	**1.32**	**0.05**	**0.01**

a From Table 107

Table 85
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Install Cable

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 86
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.13	0.00	0.02	0.00	165.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	5.29	0.64	
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.31**	**0.64**	**165.8**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**5.31**	**0.64**	**165.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 86
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	4	N/A	1.5
Worker Commute	4	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00	2.27

Table 86
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**
Total	**0.04**	**1.17**	**0.13**	**0.00**	**0.02**	**0.00**	**163.96**	**0.01**	**0.01**	**165.84**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.33
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.33**	**0.00**	**0.00**	**0.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	1.5	4	0.564	0.056	1.69	0.17	0.00	0.00
Splicing Lab	2	Paved	0	4	0.003	0.001	0.00	0.00	0.00	0.00
Worker Commute	4	Paved	56.5	4	0.003	0.001	0.75	0.18	0.00	0.00
Worker Commute	4	Unpaved	1.5	4	0.474	0.047	2.84	0.28	0.00	0.00
Offsite Total							**5.29**	**0.64**	**0.00**	**0.00**
Total							**5.29**	**0.64**	**0.00**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 86
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 87
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.03	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.24**	**0.20**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.68	1.45	0.01	0.07	0.02	485.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	9.23	1.10	
Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**9.30**	**1.12**	**485.8**
Total	**0.90**	**4.50**	**7.78**	**0.02**	**9.54**	**1.32**	**1871.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	9.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**9.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	2.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.03**	**0.00**	**2.6**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.03**	**0.01**	**11.6**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	13	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 87
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	8.92	0.00	0.00	9.0
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**8.92**	**0.00**	**0.00**	**9.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	13	N/A	1.5
1-Ton Crew Cab Flatbed, 4x4	1	13	N/A	1.5
Water Truck	1	13	N/A	18
Concrete Truck	1	8	N/A	60
Worker Commute	5	13	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 87
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Offsite Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**
Total	**0.08**	**1.68**	**1.45**	**0.01**	**0.07**	**0.02**	**480.53**	**0.01**	**0.02**	**485.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.42
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.00	0.86
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.31	0.00	0.00	1.33
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.59**	**0.00**	**0.00**	**2.62**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**2.59**	**0.00**	**0.00**	**2.62**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	1.5	13	0.474	0.047	0.71	0.07	0.00	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	0	13	0.003	0.001	0.00	0.00	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	13	0.564	0.056	0.85	0.08	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	0	13	0.003	0.001	0.00	0.00	0.00	0.00
Water Truck	1	Unpaved	1.5	13	0.977	0.098	1.47	0.15	0.01	0.00
Water Truck	1	Paved	16.5	13	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	8	0.977	0.098	1.47	0.15	0.01	0.00
Concrete Truck	1	Paved	58.5	8	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	13	0.003	0.001	0.94	0.23	0.01	0.00
Worker Commute	5	Unpaved	1.5	13	0.474	0.047	3.55	0.36	0.00	0.00
Offsite Total							**9.23**	**1.10**	**0.03**	**0.00**
Total							**9.23**	**1.10**	**0.03**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 87
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
220 kV/500 kV Towers to Desert View Substation - Underground Conduit and Structures

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	30	389	1.00E-03	1.52E-04	0.03	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.03**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 3,500 ft. long x 1 ft. wide x 3 ft. deep over 13 days

Table 88
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.76	3.28	8.86	0.02	0.26	0.24	1,716.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.76**	**3.28**	**8.86**	**0.02**	**0.26**	**0.24**	**1716.4**
Offsite Motor Vehicle Exhaust	0.09	2.40	0.63	0.00	0.06	0.01	414.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	26.74	2.89	
Offsite Total	**0.09**	**2.40**	**0.63**	**0.00**	**26.80**	**2.90**	**414.2**
Total	**0.85**	**5.67**	**9.49**	**0.02**	**27.07**	**3.14**	**2130.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	5.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.1**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**1.2**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.04**	**0.00**	**6.4**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	6	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4

Table 88
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

Total	**0.76**	**3.28**	**8.86**	**0.02**	**0.26**	**0.24**	**1701.32**	**0.07**	**0.04**	**1716.44**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.10	0.00	0.00	5.1
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**5.10**	**0.00**	**0.00**	**5.15**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	11
Bucket Truck	2	6	N/A	11
Worker Commute	8	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 88
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.01	0.06	0.36	0.00	0.01	0.01	77.89	0.00	0.00	78.72
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.40**	**0.63**	**0.00**	**0.06**	**0.01**	**409.56**	**0.02**	**0.01**	**414.18**
Total	**0.09**	**2.40**	**0.63**	**0.00**	**0.06**	**0.01**	**409.56**	**0.02**	**0.01**	**414.18**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.03
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.24
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.23**	**0.00**	**0.00**	**1.24**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.23**	**0.00**	**0.00**	**1.24**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	6	0.564	0.056	2.25	0.23	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	6	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	6	0.977	0.098	7.82	0.78	0.02	0.00
Bucket Truck	2	Paved	7	6	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	8	Paved	54	6	0.003	0.001	1.44	0.35	0.00	0.00
Worker Commute	8	Unpaved	4	6	0.474	0.047	15.16	1.52	0.00	0.00
Offsite Total							**26.74**	**2.89**	**0.03**	**0.00**
Total							**26.74**	**2.89**	**0.03**	**0.00**

a From Table 107

Table 88
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install 5 Foot Crossarm

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 89
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Down Guys

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.38	1.64	4.43	0.01	0.13	0.12	858.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**858.2**
Offsite Motor Vehicle Exhaust	0.09	2.37	0.45	0.00	0.06	0.01	374.8
Offsite Motor Vehicle Fugitive PM	--	--	--	--	22.81	2.50	
Offsite Total	**0.09**	**2.37**	**0.45**	**0.00**	**22.86**	**2.50**	**374.8**
Total	**0.47**	**4.00**	**4.88**	**0.01**	**23.00**	**2.62**	**1233.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.02	0.00	0.00	0.00	3.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**3.4**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**1.5**
Total	**0.00**	**0.02**	**0.02**	**0.00**	**0.03**	**0.00**	**4.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	8	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.38	1.64	4.43	0.01	0.13	0.12	850.66	0.03	0.02	858.2

Table 89
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Down Guys

Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**850.66**	**0.03**	**0.02**	**858.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.02	0.00	0.00	0.00	3.40	0.00	0.00	3.4
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**3.40**	**0.00**	**0.00**	**3.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	8	N/A	11
Bucket Truck	1	8	N/A	11
Worker Commute	8	8	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 89
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Down Guys

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.00	0.03	0.18	0.00	0.01	0.00	38.94	0.00	0.00	39.36
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.09**	**2.37**	**0.45**	**0.00**	**0.06**	**0.01**	**370.61**	**0.02**	**0.01**	**374.82**
Total	**0.09**	**2.37**	**0.45**	**0.00**	**0.06**	**0.01**	**370.61**	**0.02**	**0.01**	**374.82**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.16
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.29	0.00	0.00	1.31
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.48**	**0.00**	**0.00**	**1.50**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.48**	**0.00**	**0.00**	**1.50**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	8	0.564	0.056	2.25	0.23	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	8	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	1	Unpaved	4	8	0.977	0.098	3.91	0.39	0.02	0.00
Bucket Truck	1	Paved	7	8	0.003	0.001	0.02	0.01	0.00	0.00
Worker Commute	8	Paved	54	8	0.003	0.001	1.44	0.35	0.01	0.00
Worker Commute	8	Unpaved	4	8	0.474	0.047	15.16	1.52	0.00	0.00
Offsite Total							**22.81**	**2.50**	**0.03**	**0.00**
Total							**22.81**	**2.50**	**0.03**	**0.00**

a From Table 107

Table 89
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Down Guys

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 90
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.05	1.23	0.50	0.00	0.04	0.01	250.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	18.44	1.96	
Offsite Total	**0.05**	**1.23**	**0.50**	**0.00**	**18.48**	**1.97**	**250.6**
Total	**1.57**	**7.79**	**18.21**	**0.04**	**19.01**	**2.45**	**3683.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.03	0.11	0.31	0.00	0.01	0.01	60.1
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.03**	**0.11**	**0.31**	**0.00**	**0.01**	**0.01**	**60.1**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	4.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.19	0.02	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.19**	**0.02**	**4.4**
Total	**0.03**	**0.14**	**0.32**	**0.00**	**0.20**	**0.03**	**64.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	35	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 90
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.03	0.11	0.31	0.00	0.01	0.01	59.55	0.00	0.00	60.1
Total	**0.03**	**0.11**	**0.31**	**0.00**	**0.01**	**0.01**	**59.55**	**0.00**	**0.00**	**60.08**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	35	N/A	11
Bucket Truck	2	35	N/A	11
Worker Commute	4	35	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 90
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Cable

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Bucket Truck	0.01	0.06	0.36	0.00	0.01	0.01	77.89	0.00	0.00	78.72
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.05**	**1.23**	**0.50**	**0.00**	**0.04**	**0.01**	**247.84**	**0.01**	**0.01**	**250.62**
Total	**0.05**	**1.23**	**0.50**	**0.00**	**0.04**	**0.01**	**247.84**	**0.01**	**0.01**	**250.62**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.15
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.36	0.00	0.00	1.38
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.83	0.00	0.00	2.86
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.34**	**0.00**	**0.00**	**4.39**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**4.34**	**0.00**	**0.00**	**4.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	35	0.564	0.056	2.25	0.23	0.04	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	35	0.003	0.001	0.02	0.01	0.00	0.00
Bucket Truck	2	Unpaved	4	35	0.977	0.098	7.82	0.78	0.14	0.01
Bucket Truck	2	Paved	7	35	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	4	Paved	54	35	0.003	0.001	0.72	0.18	0.01	0.00
Worker Commute	4	Unpaved	4	35	0.474	0.047	7.58	0.76	0.00	0.00
Offsite Total							**18.44**	**1.96**	**0.19**	**0.02**
Total							**18.44**	**1.96**	**0.19**	**0.02**

a From Table 107

Table 90
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Install Cable

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 91
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.17	0.15	0.00	0.03	0.00	180.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	12.85	1.40	
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**12.88**	**1.40**	**180.2**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**12.88**	**1.40**	**180.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.7**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 91
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	8	N/A	11
Worker Commute	4	8	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.01	0.02	0.00	0.00	0.00	16.47	0.00	0.00	16.67

Table 91
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**178.19**	**0.01**	**0.01**	**180.23**
Total	**0.04**	**1.17**	**0.15**	**0.00**	**0.03**	**0.00**	**178.19**	**0.01**	**0.01**	**180.23**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.65
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.71**	**0.00**	**0.00**	**0.72**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.71**	**0.00**	**0.00**	**0.72**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Unpaved	4	8	0.564	0.056	4.51	0.45	0.02	0.00
Splicing Lab	2	Paved	7	8	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	4	Paved	54	8	0.003	0.001	0.72	0.18	0.00	0.00
Worker Commute	4	Unpaved	4	8	0.474	0.047	7.58	0.76	0.00	0.00
Offsite Total							**12.85**	**1.40**	**0.02**	**0.00**
Total							**12.85**	**1.40**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 91
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Splice Fiber Optic Cable

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 92
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.23**	**0.19**	**1385.3**
Offsite Motor Vehicle Exhaust	0.09	1.69	1.48	0.01	0.08	0.03	500.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.31	1.61	
Offsite Total	**0.09**	**1.69**	**1.48**	**0.01**	**14.38**	**1.64**	**500.2**
Total	**0.90**	**4.51**	**7.80**	**0.02**	**14.61**	**1.83**	**1885.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	6.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.2**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	1.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.05	0.01	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.05**	**0.01**	**1.9**
Total	**0.00**	**0.02**	**0.03**	**0.00**	**0.05**	**0.01**	**8.2**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 92
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.01	0.03	0.00	0.00	0.00	6.18	0.00	0.00	6.2
Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**6.18**	**0.00**	**0.00**	**6.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	9	N/A	11
1-Ton Crew Cab Flatbed, 4x4	1	9	N/A	11
Water Truck	1	9	N/A	18
Concrete Truck	1	6	N/A	60
Worker Commute	5	9	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.01	0.00	0.00	0.00	8.24	0.00	0.00	8.34
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 92
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Offsite Total	**0.09**	**1.69**	**1.48**	**0.01**	**0.08**	**0.03**	**494.76**	**0.01**	**0.02**	**500.21**
Total	**0.09**	**1.69**	**1.48**	**0.01**	**0.08**	**0.03**	**494.76**	**0.01**	**0.02**	**500.21**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.04
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.29
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.92
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**1.91**	**0.00**	**0.00**	**1.93**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**1.91**	**0.00**	**0.00**	**1.93**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Unpaved	4	9	0.474	0.047	1.89	0.19	0.01	0.00
3/4-Ton Pick-up Truck, 4x4	1	Paved	7	9	0.003	0.001	0.02	0.01	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	4	9	0.564	0.056	2.25	0.23	0.01	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	7	9	0.003	0.001	0.02	0.01	0.00	0.00
Water Truck	1	Unpaved	4	9	0.977	0.098	3.91	0.39	0.02	0.00
Water Truck	1	Paved	14	9	0.003	0.001	0.05	0.01	0.00	0.00
Concrete Truck	1	Unpaved	1.5	6	0.977	0.098	1.47	0.15	0.00	0.00
Concrete Truck	1	Paved	58.5	6	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Paved	56.5	9	0.003	0.001	0.94	0.23	0.00	0.00
Worker Commute	5	Unpaved	1.5	9	0.474	0.047	3.55	0.36	0.00	0.00
Offsite Total							**14.31**	**1.61**	**0.05**	**0.01**
Total							**14.31**	**1.61**	**0.05**	**0.01**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 92
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Underground Conduit from Pole to Pole

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling[d]	CY	20	178	1.00E-03	1.52E-04	0.02	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.02**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,600 ft. long x 1 ft. wide x 3 ft. deep over 9 days

Table 93
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.08	2.10	0.55	0.00	0.05	0.01	367.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	14.80	1.69	
Offsite Total	**0.08**	**2.10**	**0.55**	**0.00**	**14.86**	**1.69**	**367.3**
Total	**0.08**	**2.10**	**0.55**	**0.00**	**14.86**	**1.69**	**367.3**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.03	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**1.3**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.03**	**0.00**	**1.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 93
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Restoration

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	2	7	N/A	11
Water Truck	1	7	N/A	18
Worker Commute	7	7	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 93
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Restoration

Offsite										
1-Ton Crew Cab, 4x4	0.00	0.01	0.02	0.00	0.00	0.00	16.47	0.00	0.00	16.67
Water Truck	0.01	0.05	0.30	0.00	0.01	0.01	63.72	0.00	0.00	64.41
Worker Commute	0.07	2.04	0.22	0.00	0.04	0.00	283.01	0.02	0.01	286.24
Offsite Total	**0.08**	**2.10**	**0.55**	**0.00**	**0.05**	**0.01**	**363.20**	**0.02**	**0.01**	**367.31**
Total	**0.08**	**2.10**	**0.55**	**0.00**	**0.05**	**0.01**	**363.20**	**0.02**	**0.01**	**367.31**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.23
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.99	0.00	0.00	1.00
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.27**	**0.00**	**0.00**	**1.29**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.27**	**0.00**	**0.00**	**1.29**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	2	Unpaved	4	7	0.564	0.056	4.51	0.45	0.02	0.00
1-Ton Crew Cab, 4x4	2	Paved	7	7	0.003	0.001	0.05	0.01	0.00	0.00
Water Truck	1	Unpaved	4	7	0.977	0.098	3.91	0.39	0.01	0.00
Water Truck	1	Paved	14	7	0.003	0.001	0.05	0.01	0.00	0.00
Worker Commute	7	Paved	56.5	7	0.003	0.001	1.32	0.32	0.00	0.00
Worker Commute	7	Unpaved	1.5	7	0.474	0.047	4.97	0.50	0.00	0.00
Offsite Total							**14.80**	**1.69**	**0.03**	**0.00**
Total							**14.80**	**1.69**	**0.03**	**0.00**

a From Table 107

Table 93
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Apple Valley to Desert View Substation - Restoration

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 94
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.11	2.51	1.25	0.01	0.08	0.02	556.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.83	0.45	
Offsite Total	**0.11**	**2.51**	**1.25**	**0.01**	**1.92**	**0.47**	**556.6**
Total	**1.63**	**9.06**	**18.96**	**0.04**	**2.44**	**0.96**	**3989.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.18	0.00	0.01	0.00	34.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.3**
Offsite Motor Vehicle Exhaust	0.00	0.03	0.01	0.00	0.00	0.00	5.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.02**	**0.00**	**5.6**
Total	**0.02**	**0.09**	**0.19**	**0.00**	**0.02**	**0.01**	**39.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	20	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 94
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.02	0.07	0.18	0.00	0.01	0.00	34.03	0.00	0.00	34.3
Total	**0.02**	**0.07**	**0.18**	**0.00**	**0.01**	**0.00**	**34.03**	**0.00**	**0.00**	**34.33**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	20	N/A	29
Bucket Truck	2	20	N/A	29
Worker Commute	8	20	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 94
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.11**	**2.51**	**1.25**	**0.01**	**0.08**	**0.02**	**550.49**	**0.02**	**0.02**	**556.63**
Total	**0.11**	**2.51**	**1.25**	**0.01**	**0.08**	**0.02**	**550.49**	**0.02**	**0.02**	**556.63**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.22
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.05	0.00	0.00	2.08
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	3.23	0.00	0.00	3.27
Offsite Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.50**	**0.00**	**0.00**	**5.57**
Total	**0.00**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**5.50**	**0.00**	**0.00**	**5.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	20	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	2	Paved	29	20	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	8	Paved	58	20	0.003	0.001	1.54	0.38	0.02	0.00
Offsite Total							**1.83**	**0.45**	**0.02**	**0.00**
Total							**1.83**	**0.45**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 94
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install 5 Foot Crossarm

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 95
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.40	14.50	31.28	0.07	0.98	0.91	7,395.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.40**	**14.50**	**31.28**	**0.07**	**0.98**	**0.91**	**7395.8**
Offsite Motor Vehicle Exhaust	0.14	2.69	2.27	0.01	0.12	0.04	808.1
Offsite Motor Vehicle Fugitive PM	--	--	--	--	2.22	0.55	
Offsite Total	**0.14**	**2.69**	**2.27**	**0.01**	**2.34**	**0.59**	**808.1**
Total	**3.54**	**17.19**	**33.55**	**0.08**	**3.33**	**1.49**	**8203.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.02	0.07	0.16	0.00	0.00	0.00	37.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.02**	**0.07**	**0.16**	**0.00**	**0.00**	**0.00**	**37.0**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.01	0.00	0.00	0.00	4.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.00**	**4.0**
Total	**0.02**	**0.09**	**0.17**	**0.00**	**0.02**	**0.01**	**41.0**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
30-Ton Crane	300	1	10	8
Bucket Truck	300	2	10	8
60' Digger Derrick	300	1	10	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
30-Ton Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
60' Digger Derrick	300	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Table 95
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
30-Ton Crane	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9
60' Digger Derrick	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Total	**3.40**	**14.50**	**31.28**	**0.07**	**0.98**	**0.91**	**7330.39**	**0.31**	**0.19**	**7395.78**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
30-Ton Crane	0.01	0.02	0.04	0.00	0.00	0.00	7.20	0.00	0.00	7.3
Bucket Truck	0.01	0.03	0.09	0.00	0.00	0.00	17.01	0.00	0.00	17.2
60' Digger Derrick	0.00	0.02	0.02	0.00	0.00	0.00	12.44	0.00	0.00	12.5
Total	**0.02**	**0.07**	**0.16**	**0.00**	**0.00**	**0.00**	**36.65**	**0.00**	**0.00**	**36.98**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	2	10	N/A	29
1-Ton Crew Cab Flatbed, 4x4	1	10	N/A	29
Bucket Truck	2	10	N/A	29
Flat Bed Truck w/Derrick	1	10	N/A	29
40-Foot Flat Bed Truck/Trailer	1	10	N/A	29
Worker Commute	8	10	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										

Table 95
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
40-Foot Flat Bed Truck/Trailer	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Flat Bed Truck w/Derrick	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
40-Foot Flat Bed Truck/Trailer	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.14**	**2.69**	**2.27**	**0.01**	**0.12**	**0.04**	**799.25**	**0.02**	**0.03**	**808.11**
Total	**0.14**	**2.69**	**2.27**	**0.01**	**0.12**	**0.04**	**799.25**	**0.02**	**0.03**	**808.11**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.22
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	1.04
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.52
40-Foot Flat Bed Truck/Trailer	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.52
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	1.62	0.00	0.00	1.64
Offsite Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.00**	**0.00**	**0.00**	**4.04**
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**4.00**	**0.00**	**0.00**	**4.04**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 95
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Replacement Wood Pole Haul/Install

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	29	10	0.003	0.001	0.19	0.05	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	2	Paved	29	10	0.003	0.001	0.19	0.05	0.00	0.00
Flat Bed Truck w/Derrick	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
40-Foot Flat Bed Truck/Trailer	1	Paved	29	10	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	10	0.003	0.001	1.54	0.38	0.01	0.00
Offsite Total							**2.22**	**0.55**	**0.01**	**0.00**
Total							**2.22**	**0.55**	**0.01**	**0.00**

a From Table 107
[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]
[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110
[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]
[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 96
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.38	1.64	4.43	0.01	0.13	0.12	858.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**858.2**
Offsite Motor Vehicle Exhaust	0.10	2.42	0.77	0.01	0.07	0.01	452.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.74	0.43	
Offsite Total	**0.10**	**2.42**	**0.77**	**0.01**	**1.81**	**0.44**	**452.9**
Total	**0.47**	**4.06**	**5.19**	**0.01**	**1.94**	**0.56**	**1311.1**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.01	0.00	0.00	0.00	2.6
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.6**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**1.4**
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.01**	**0.00**	**3.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	6	4

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.38	1.64	4.43	0.01	0.13	0.12	850.66	0.03	0.02	858.2

Table 96
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Total	**0.38**	**1.64**	**4.43**	**0.01**	**0.13**	**0.12**	**850.66**	**0.03**	**0.02**	**858.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	2.55	0.00	0.00	2.6
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**2.55**	**0.00**	**0.00**	**2.57**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	29
Bucket Truck	1	6	N/A	29
Worker Commute	8	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 96
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Bucket Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.10**	**2.42**	**0.77**	**0.01**	**0.07**	**0.01**	**447.82**	**0.02**	**0.01**	**452.87**
Total	**0.10**	**2.42**	**0.77**	**0.01**	**0.07**	**0.01**	**447.82**	**0.02**	**0.01**	**452.87**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.31
Worker Commute	0.00	0.01	0.00	0.00	0.00	0.00	0.97	0.00	0.00	0.98
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.34**	**0.00**	**0.00**	**1.36**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.34**	**0.00**	**0.00**	**1.36**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	6	0.003	0.001	0.10	0.02	0.00	0.00
Bucket Truck	1	Paved	29	6	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	8	Paved	58	6	0.003	0.001	1.54	0.38	0.00	0.00
Offsite Total							**1.74**	**0.43**	**0.01**	**0.00**
Total							**1.74**	**0.43**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 96
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Down Guys

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 97
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.52	6.55	17.71	0.03	0.53	0.48	3,432.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3432.9**
Offsite Motor Vehicle Exhaust	0.11	2.52	1.28	0.01	0.09	0.02	578.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.93	0.47	
Offsite Total	**0.11**	**2.52**	**1.28**	**0.01**	**2.02**	**0.50**	**578.6**
Total	**1.63**	**9.07**	**18.99**	**0.04**	**2.55**	**0.98**	**4011.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.06	0.16	0.00	0.00	0.00	30.9
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.06**	**0.16**	**0.00**	**0.00**	**0.00**	**30.9**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.02**	**0.00**	**5.2**
Total	**0.01**	**0.08**	**0.17**	**0.00**	**0.02**	**0.01**	**36.1**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	2	18	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.52	6.55	17.71	0.03	0.53	0.48	3402.64	0.14	0.09	3,432.9

Table 97
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Cable

Total	**1.52**	**6.55**	**17.71**	**0.03**	**0.53**	**0.48**	**3402.64**	**0.14**	**0.09**	**3432.87**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.01	0.06	0.16	0.00	0.00	0.00	30.62	0.00	0.00	30.9
Total	**0.01**	**0.06**	**0.16**	**0.00**	**0.00**	**0.00**	**30.62**	**0.00**	**0.00**	**30.90**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	2	18	N/A	29
Bucket Truck	2	18	N/A	29
Worker Commute	8	18	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 97
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Cable

Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
Bucket Truck	0.02	0.17	0.96	0.00	0.03	0.02	205.33	0.00	0.01	207.53
Worker Commute	0.08	2.33	0.25	0.00	0.05	0.00	323.43	0.02	0.01	327.13
Offsite Total	**0.11**	**2.52**	**1.28**	**0.01**	**0.09**	**0.02**	**572.20**	**0.02**	**0.02**	**578.60**
Total	**0.11**	**2.52**	**1.28**	**0.01**	**0.09**	**0.02**	**572.20**	**0.02**	**0.02**	**578.60**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.40
Bucket Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.85	0.00	0.00	1.87
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.91	0.00	0.00	2.94
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.15**	**0.00**	**0.00**	**5.21**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.15**	**0.00**	**0.00**	**5.21**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	29	18	0.003	0.001	0.19	0.05	0.00	0.00
Bucket Truck	2	Paved	29	18	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	8	Paved	58	18	0.003	0.001	1.54	0.38	0.01	0.00
Offsite Total							**1.93**	**0.47**	**0.02**	**0.00**
Total							**1.93**	**0.47**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 97
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Install Cable

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 98
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.04	1.19	0.19	0.00	0.03	0.00	207.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.97	0.24	
Offsite Total	**0.04**	**1.19**	**0.19**	**0.00**	**1.00**	**0.24**	**207.5**
Total	**0.04**	**1.19**	**0.19**	**0.00**	**1.00**	**0.24**	**207.5**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.00	0.00	0.00	0.00	3.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.5**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.02**	**0.00**	**3.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None				

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 98
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
Splicing Lab	2	34	N/A	29
Worker Commute	4	34	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
Splicing Lab	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95

Table 98
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.04**	**1.19**	**0.19**	**0.00**	**0.03**	**0.00**	**205.15**	**0.01**	**0.01**	**207.51**
Total	**0.04**	**1.19**	**0.19**	**0.00**	**0.03**	**0.00**	**205.15**	**0.01**	**0.01**	**207.51**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.75	0.00	0.00	2.78
Offsite Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.49**	**0.00**	**0.00**	**3.53**
Total	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**3.49**	**0.00**	**0.00**	**3.53**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
Splicing Lab	2	Paved	29	34	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	4	Paved	58	34	0.003	0.001	0.77	0.19	0.01	0.00
Offsite Total							**0.97**	**0.24**	**0.02**	**0.00**
Total							**0.97**	**0.24**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 98
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Splice Fiber Optic Cable

Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 99
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.82	2.82	6.32	0.02	0.21	0.19	1,385.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.02	0.00	
Onsite Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.23**	**0.19**	**1385.3**
Offsite Motor Vehicle Exhaust	0.08	1.64	1.18	0.00	0.07	0.02	455.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.35	0.33	
Offsite Total	**0.08**	**1.64**	**1.18**	**0.00**	**1.42**	**0.35**	**455.9**
Total	**0.90**	**4.47**	**7.51**	**0.02**	**1.65**	**0.55**	**1841.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.04	0.08	0.00	0.00	0.00	17.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.00**	**0.00**	**17.3**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	5.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.02**	**0.00**	**5.2**
Total	**0.01**	**0.06**	**0.09**	**0.00**	**0.02**	**0.01**	**22.5**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	200	1	25	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	200	0.102	0.353	0.790	0.002	0.026	0.024	171.583	0.009	0.004	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	0.82	2.82	6.32	0.02	0.21	0.19	1372.66	0.07	0.04	1,385.3
Total	**0.82**	**2.82**	**6.32**	**0.02**	**0.21**	**0.19**	**1372.66**	**0.07**	**0.04**	**1385.26**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Table 99
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.01	0.04	0.08	0.00	0.00	0.00	17.16	0.00	0.00	17.3
Total	**0.01**	**0.04**	**0.08**	**0.00**	**0.00**	**0.00**	**17.16**	**0.00**	**0.00**	**17.32**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
3/4-Ton Pick-up Truck, 4x4	1	25	N/A	29
1-Ton Crew Cab Flatbed, 4x4	1	25	N/A	29
Water Truck	1	25	N/A	29
Concrete Truck	1	16	N/A	29
Worker Commute	5	25	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
1-Ton Crew Cab Flatbed, 4x4	0.00	0.01	0.03	0.00	0.00	0.00	21.72	0.00	0.00	21.97
Water Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Concrete Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45

Table 99
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Offsite Total	**0.08**	**1.64**	**1.18**	**0.00**	**0.07**	**0.02**	**450.91**	**0.01**	**0.02**	**455.93**
Total	**0.08**	**1.64**	**1.18**	**0.00**	**0.07**	**0.02**	**450.91**	**0.01**	**0.02**	**455.93**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Water Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.28	0.00	0.00	1.30
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.83
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.53	0.00	0.00	2.56
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.17**	**0.00**	**0.00**	**5.23**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**5.17**	**0.00**	**0.00**	**5.23**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
3/4-Ton Pick-up Truck, 4x4	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
1-Ton Crew Cab Flatbed, 4x4	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
Water Truck	1	Paved	29	25	0.003	0.001	0.10	0.02	0.00	0.00
Concrete Truck	1	Paved	29	16	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	5	Paved	58	25	0.003	0.001	0.97	0.24	0.01	0.00
Offsite Total							**1.35**	**0.33**	**0.02**	**0.00**
Total							**1.35**	**0.33**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]

Table 99
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Underground Conduit & Structures

Soil Handling[d]	CY	20	178	1.00E-03	1.52E-04	0.02	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.02**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

[d] Based on excavating 1,600 ft. long x 1 ft. wide x 3 ft. deep over 9 days

Table 100
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Restoration

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.09	2.14	0.77	0.00	0.07	0.01	433.9
Offsite Motor Vehicle Fugitive PM	--	--	--	--	1.64	0.40	
Offsite Total	**0.09**	**2.14**	**0.77**	**0.00**	**1.71**	**0.42**	**433.9**
Total	**0.09**	**2.14**	**0.77**	**0.00**	**1.71**	**0.42**	**433.9**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0**
Offsite Motor Vehicle Exhaust	0.00	0.02	0.01	0.00	0.00	0.00	3.7
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**3.7**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.00**	**3.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
None	200	1	9	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
None	200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Table 100
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Restoration

Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	2	17	N/A	29
Water Truck	1	17	N/A	29
Worker Commute	7	17	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Water Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Table 100
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Restoration

Offsite										
1-Ton Crew Cab, 4x4	0.00	0.02	0.06	0.00	0.01	0.00	43.43	0.00	0.00	43.95
Water Truck	0.01	0.08	0.48	0.00	0.02	0.01	102.67	0.00	0.00	103.76
Worker Commute	0.07	2.04	0.22	0.00	0.04	0.00	283.01	0.02	0.01	286.24
Offsite Total	**0.09**	**2.14**	**0.77**	**0.00**	**0.07**	**0.01**	**429.11**	**0.02**	**0.01**	**433.95**
Total	**0.09**	**2.14**	**0.77**	**0.00**	**0.07**	**0.01**	**429.11**	**0.02**	**0.01**	**433.95**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.37
Water Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.88
Worker Commute	0.00	0.02	0.00	0.00	0.00	0.00	2.41	0.00	0.00	2.43
Offsite Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.65**	**0.00**	**0.00**	**3.69**
Total	**0.00**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**3.65**	**0.00**	**0.00**	**3.69**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Unpaved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	2	Paved	29	17	0.003	0.001	0.19	0.05	0.00	0.00
Water Truck	1	Paved	29	17	0.003	0.001	0.10	0.02	0.00	0.00
Worker Commute	7	Paved	58	17	0.003	0.001	1.35	0.33	0.01	0.00
Offsite Total							**1.64**	**0.40**	**0.01**	**0.00**
Total							**1.64**	**0.40**	**0.01**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Table 100
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Gale to Pisgah Fiber Optic Cable - Restoration

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 101
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Construct Coolwater Microwave Tower

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	3.79	14.31	27.06	0.08	0.94	0.86	7,144.5
Onsite Motor Vehicle Exhaust	0.00	0.01	0.03	0.00	0.00	0.00	8.3
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.01	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**3.79**	**14.32**	**27.10**	**0.08**	**0.95**	**0.87**	**7152.8**
Offsite Motor Vehicle Exhaust	0.07	1.34	1.12	0.00	0.06	0.02	378.2
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.97	0.24	
Offsite Total	**0.07**	**1.34**	**1.12**	**0.00**	**1.03**	**0.26**	**378.2**
Total	**3.86**	**15.65**	**28.22**	**0.08**	**1.98**	**1.12**	**7531.0**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.05	0.09	0.00	0.00	0.00	23.5
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.05**	**0.09**	**0.00**	**0.00**	**0.00**	**23.5**
Offsite Motor Vehicle Exhaust	0.00	0.03	0.00	0.00	0.00	0.00	4.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.02**	**0.00**	**4.3**
Total	**0.01**	**0.08**	**0.09**	**0.00**	**0.02**	**0.01**	**27.8**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Crane	300	1	8	6
Drill Rig	350	1	7	6
Concrete Pump	350	1	2	6
Forklift	300	1	10	4
Backhoe/Front Loader	300	1	10	6

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Crane	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Drill Rig	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs
Concrete Pump	350	0.157	0.667	1.801	0.003	0.054	0.050	344.895	0.014	0.009	Pumps
Forklift	300	0.069	0.215	0.451	0.001	0.016	0.015	110.880	0.006	0.003	Forklifts
Backhoe/Front Loader	300	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 101
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Construct Coolwater Microwave Tower

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Crane	0.79	2.66	6.43	0.01	0.23	0.21	1079.64	0.07	0.03	1,089.8
Drill Rig	0.62	3.30	3.75	0.02	0.11	0.10	1866.17	0.06	0.05	1,882.3
Concrete Pump	1.19	4.17	8.44	0.02	0.30	0.27	2067.26	0.11	0.05	2,086.1
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Backhoe/Front Loader	1.19	4.17	8.44	0.02	0.30	0.27	2067.26	0.11	0.05	2,086.1
Total	**3.79**	**14.31**	**27.06**	**0.08**	**0.94**	**0.86**	**7080.34**	**0.34**	**0.18**	**7144.48**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Crane	0.00	0.01	0.03	0.00	0.00	0.00	4.32	0.00	0.00	4.4
Drill Rig	0.00	0.01	0.01	0.00	0.00	0.00	6.53	0.00	0.00	6.6
Concrete Pump	0.00	0.00	0.01	0.00	0.00	0.00	2.07	0.00	0.00	2.1
Forklift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Backhoe/Front Loader	0.01	0.02	0.04	0.00	0.00	0.00	10.34	0.00	0.00	10.4
Total	**0.01**	**0.05**	**0.09**	**0.00**	**0.00**	**0.00**	**23.25**	**0.00**	**0.00**	**23.46**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
3/4-Ton Pick-up Truck, 4x4	2	40	N/A	0.5
Flatbed Truck	2	7	N/A	0.5
Dump Truck	1	7	N/A	0.5
2 Ton Truck	1	15	N/A	0.5
Concrete Truck	1	2	N/A	0.5
Offsite				
Concrete Truck	1	2	N/A	60
Worker Commute	4	50	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
3/4-Ton Pick-up Truck, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Flatbed Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Dump Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
2 Ton Truck	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05

Table 101
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Construct Coolwater Microwave Tower

Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Offsite										
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.76
Flatbed Truck	0.00	0.00	0.02	0.00	0.00	0.00	3.54	0.00	0.00	3.58
Dump Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
2 Ton Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.38
Concrete Truck	0.00	0.00	0.01	0.00	0.00	0.00	1.77	0.00	0.00	1.79
Onsite Total	**0.00**	**0.01**	**0.03**	**0.00**	**0.00**	**0.00**	**8.20**	**0.00**	**0.00**	**8.29**
Offsite										
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Worker Commute	0.04	1.17	0.13	0.00	0.02	0.00	161.72	0.01	0.01	163.56
Offsite Total	**0.07**	**1.34**	**1.12**	**0.00**	**0.06**	**0.02**	**374.13**	**0.01**	**0.01**	**378.25**
Total	**0.07**	**1.34**	**1.16**	**0.00**	**0.06**	**0.02**	**382.34**	**0.01**	**0.01**	**386.54**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
3/4-Ton Pick-up Truck, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Flatbed Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Dump Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
2 Ton Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.04**
Offsite										
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Worker Commute	0.00	0.03	0.00	0.00	0.00	0.00	4.04	0.00	0.00	4.09
Offsite Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**4.26**	**0.00**	**0.00**	**4.30**
Total	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**4.29**	**0.00**	**0.00**	**4.34**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]

Table 101
Alternative Telecommunications Construction Emissions - Controlled Fugitive PM
Construct Coolwater Microwave Tower

Onsite										
3/4-Ton Pick-up Truck, 4x4	2	Paved	0.5	40	0.003	0.001	0.00	0.00	0.00	0.00
Flatbed Truck	2	Paved	0.5	7	0.003	0.001	0.00	0.00	0.00	0.00
Dump Truck	1	Paved	0.5	7	0.003	0.001	0.00	0.00	0.00	0.00
2 Ton Truck	1	Paved	0.5	15	0.003	0.001	0.00	0.00	0.00	0.00
Concrete Truck	1	Paved	0.5	2	0.003	0.001	0.00	0.00	0.00	0.00
Onsite Total							**0.01**	**0.00**	**0.00**	**0.00**
Offsite										
Concrete Truck	1	Paved	60	2	0.003	0.001	0.20	0.05	0.00	0.00
Worker Commute	4	Paved	58	50	0.003	0.001	0.77	0.19	0.02	0.00
Offsite Total							**0.97**	**0.24**	**0.02**	**0.00**
Total							**0.98**	**0.24**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 102
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Overhead Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	1.58	7.68	13.85	0.04	0.41	0.38	4,226.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**1.58**	**7.68**	**13.85**	**0.04**	**0.41**	**0.38**	**4226.2**
Offsite Motor Vehicle Exhaust	0.05	1.46	0.19	0.00	0.03	0.00	211.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	6.83	0.82	
Offsite Total	**0.05**	**1.46**	**0.19**	**0.00**	**6.86**	**0.83**	**211.0**
Total	**1.64**	**9.14**	**14.04**	**0.04**	**7.27**	**1.20**	**4437.2**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.00	0.02	0.04	0.00	0.00	0.00	12.7
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**12.7**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.6
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.6**
Total	**0.00**	**0.03**	**0.04**	**0.00**	**0.02**	**0.00**	**13.3**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	6	8
60 ' Digger Derrick	350	1	6	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.095	0.410	1.107	0.002	0.033	0.030	212.665	0.009	0.006	Aerial Lifts
60 ' Digger Derrick	350	0.103	0.551	0.625	0.003	0.019	0.017	311.029	0.009	0.008	Bore/Drill Rigs

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	0.76	3.28	8.86	0.02	0.26	0.24	1701.32	0.07	0.04	1,716.4
60 ' Digger Derrick	0.83	4.40	5.00	0.02	0.15	0.14	2488.23	0.07	0.06	2,509.8
Total	**1.58**	**7.68**	**13.85**	**0.04**	**0.41**	**0.38**	**4189.55**	**0.14**	**0.11**	**4226.22**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Table 102
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Overhead Construction

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.03	0.00	0.00	0.00	5.10	0.00	0.00	5.1
60 ' Digger Derrick	0.00	0.01	0.01	0.00	0.00	0.00	7.46	0.00	0.00	7.5
Total	**0.00**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**12.57**	**0.00**	**0.00**	**12.68**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab Flatbed, 4x4	1	6	N/A	1.5
Flat Bed Truck w/Derrick	1	6	N/A	1.5
Worker Commute	5	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab Flatbed, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Flat Bed Truck w/Derrick	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45
Offsite Total	**0.05**	**1.46**	**0.19**	**0.00**	**0.03**	**0.00**	**208.58**	**0.01**	**0.01**	**210.96**
Total	**0.05**	**1.46**	**0.19**	**0.00**	**0.03**	**0.00**	**208.58**	**0.01**	**0.01**	**210.96**

Table 102
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Overhead Construction

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.63**	**0.00**	**0.00**	**0.63**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.63**	**0.00**	**0.00**	**0.63**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab Flatbed, 4x4	1	Unpaved	1.5	6	0.564	0.056	0.85	0.08	0.00	0.00
Flat Bed Truck w/Derrick	1	Unpaved	1.5	6	0.977	0.098	1.47	0.15	0.00	0.00
Worker Commute	5	Unpaved	1.5	6	0.474	0.047	3.55	0.36	0.01	0.00
Worker Commute	5	Paved	58	6	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**6.83**	**0.82**	**0.02**	**0.00**
Total							**6.83**	**0.82**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

Table 102
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Overhead Construction

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 103
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Civil Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.58	9.46	19.58	0.05	0.68	0.62	4,831.8
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.58**	**9.46**	**19.58**	**0.05**	**0.68**	**0.62**	**4831.8**
Offsite Motor Vehicle Exhaust	0.10	1.80	2.15	0.01	0.10	0.04	635.0
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.69	1.07	
Offsite Total	**0.10**	**1.80**	**2.15**	**0.01**	**8.78**	**1.10**	**635.0**
Total	**2.68**	**11.26**	**21.73**	**0.06**	**9.46**	**1.73**	**5466.8**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	10.4
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**10.4**
Offsite Motor Vehicle Exhaust	0.00	0.01	0.00	0.00	0.00	0.00	1.5
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.02**	**0.00**	**1.5**
Total	**0.01**	**0.03**	**0.05**	**0.00**	**0.02**	**0.00**	**11.9**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Backhoe/Front Loader	300	1	6	8
Hydraulic Rewind Puller	300	1	2	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Backhoe/Front Loader	300	0.198	0.696	1.407	0.004	0.050	0.046	344.544	0.018	0.009	Tractors/Loaders/Backhoes
Hydraulic Rewind Puller	300	0.124	0.486	1.040	0.002	0.035	0.032	254.010	0.011	0.007	Other Construction Equipment

a From Table 106

Construction Equipment Daily Exhaust Emissions

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Backhoe/Front Loader	1.59	5.57	11.26	0.03	0.40	0.36	2756.35	0.14	0.07	2,781.5
Hydraulic Rewind Puller	0.99	3.89	8.32	0.02	0.28	0.26	2032.08	0.09	0.05	2,050.3
Total	**2.58**	**9.46**	**19.58**	**0.05**	**0.68**	**0.62**	**4788.43**	**0.23**	**0.12**	**4831.83**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

Table 103
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Civil Construction

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Backhoe/Front Loader	0.00	0.02	0.03	0.00	0.00	0.00	8.27	0.00	0.00	8.3
Hydraulic Rewind Puller	0.00	0.00	0.01	0.00	0.00	0.00	2.03	0.00	0.00	2.1
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**10.30**	**0.00**	**0.00**	**10.39**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	1	6	N/A	1.5
Concrete Truck	1	6	N/A	60
Structure Delivery Truck	1	2	N/A	60
Worker Commute	5	6	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck
Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Concrete Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Structure Delivery Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Concrete Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68
Structure Delivery Truck	0.03	0.17	0.99	0.00	0.03	0.02	212.42	0.00	0.01	214.68

Table 103
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Civil Construction

Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45
Offsite Total	**0.10**	**1.80**	**2.15**	**0.01**	**0.10**	**0.04**	**628.10**	**0.01**	**0.02**	**634.96**
Total	**0.10**	**1.80**	**2.15**	**0.01**	**0.10**	**0.04**	**628.10**	**0.01**	**0.02**	**634.96**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.64
Structure Delivery Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.21
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.61
Offsite Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**0.00**	**0.00**	**1.48**
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**0.00**	**0.00**	**1.48**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	1	Unpaved	1.5	6	0.564	0.056	0.85	0.08	0.00	0.00
Concrete Truck	1	Unpaved	1.5	6	0.977	0.098	1.47	0.15	0.00	0.00
Concrete Truck	1	Paved	58.5	6	0.003	0.001	0.19	0.05	0.00	0.00
Structure Delivery Truck	1	Unpaved	1.5	2	0.977	0.098	1.47	0.15	0.00	0.00
Structure Delivery Truck	1	Paved	58.5	2	0.003	0.001	0.19	0.05	0.00	0.00
Worker Commute	5	Unpaved	1.5	6	0.474	0.047	3.55	0.36	0.01	0.00
Worker Commute	5	Paved	58	6	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**8.69**	**1.07**	**0.02**	**0.00**
Total							**8.69**	**1.07**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Table 103
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Civil Construction

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 104
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Electrical Construction

Daily Emissions Summary

Source	VOC (lb/day)	CO (lb/day)	NOX (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2e (lb/day)
Construction Equipment Exhaust	2.12	7.08	17.14	0.03	0.62	0.57	2,906.2
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**2.12**	**7.08**	**17.14**	**0.03**	**0.62**	**0.57**	**2906.2**
Offsite Motor Vehicle Exhaust	0.05	1.47	0.21	0.00	0.03	0.00	216.3
Offsite Motor Vehicle Fugitive PM	--	--	--	--	8.30	0.97	
Offsite Total	**0.05**	**1.47**	**0.21**	**0.00**	**8.33**	**0.97**	**216.3**
Total	**2.17**	**8.55**	**17.35**	**0.03**	**8.95**	**1.54**	**3122.6**

Total Emissions Summary

Source	VOC (tons)	CO (tons)	NOX (tons)	SOX (tons)	PM10 (tons)	PM2.5 (tons)	CO2e (tons)
Construction Equipment Exhaust	0.01	0.02	0.04	0.00	0.00	0.00	7.3
Onsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Onsite Motor Vehicle Fugitive PM	--	--	--	--	0.00	0.00	
Earthwork Fugitive PM	--	--	--	--	0.00	0.00	
Onsite Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**7.3**
Offsite Motor Vehicle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.4
Offsite Motor Vehicle Fugitive PM	--	--	--	--	0.02	0.00	
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.00**	**0.4**
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.02**	**0.00**	**7.7**

Construction Equipment Summary

Equipment	Horse-power	Number	Days Used	Hours Used/ Day
Bucket Truck	300	1	4	8
Flat Bed Truck w/Derrick	350	1	6	8

Construction Equipment Exhaust Emission Factors

Equipment	Horse-power	VOC (lb/hr)[a]	CO (lb/hr)[a]	NOX (lb/hr)[a]	SOX (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]	CO2 (lb/hr)[a]	CH4 (lb/hr)[a]	N2O (lb/hr)[a]	Category
Bucket Truck	300	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes
Flat Bed Truck w/Derrick	350	0.132	0.443	1.071	0.002	0.039	0.036	179.940	0.012	0.005	Cranes

a From Table 106

Construction Equipment Daily Exhaust Emissions

Table 104
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Electrical Construction

Equipment	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Bucket Truck	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Flat Bed Truck w/Derrick	1.06	3.54	8.57	0.01	0.31	0.28	1439.52	0.10	0.04	1,453.1
Total	**2.12**	**7.08**	**17.14**	**0.03**	**0.62**	**0.57**	**2879.03**	**0.19**	**0.07**	**2906.24**

[a] Emissions [lb/day] = number x hours/day x emission factor [lb/hr]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Construction Equipment Total Exhaust Emissions

Equipment	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Bucket Truck	0.00	0.01	0.02	0.00	0.00	0.00	2.88	0.00	0.00	2.9
Flat Bed Truck w/Derrick	0.00	0.01	0.03	0.00	0.00	0.00	4.32	0.00	0.00	4.4
Total	**0.01**	**0.02**	**0.04**	**0.00**	**0.00**	**0.00**	**7.20**	**0.00**	**0.00**	**7.27**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Usage

Vehicle	Number[a]	Days Used	Hours Used/ Day	Miles/ Day/ Veh.
Onsite				
None				
Offsite				
1-Ton Crew Cab, 4x4	1	4	N/A	1.5
Bucket Truck	1	4	N/A	1.5
Flat Bed Truck w/Derrick	1	4	N/A	1.5
Worker Commute	5	4	N/A	58

[a] Concrete trucks based on 25,350 CY over 60 days and 10 CY/truck

Gravel delivery truck based on 42,550 CU over 60 days and 7.3 CY/truck

Motor Vehicle Exhaust Emission Factors

Vehicle	Category	VOC (lb/mi)[a]	CO (lb/mi)[a]	NOX (lb/mi)[a]	SOX (lb/mi)[a]	PM10 (lb/mi)[a]	PM2.5 (lb/mi)[b]	CO2 (lb/mi)[a]	CH4 (lb/mi)[a]	N2O (lb/mi)[a]
Onsite										
None	MDV Diesel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Offsite										
1-Ton Crew Cab, 4x4	MDV Diesel	6.64E-05	3.66E-04	1.12E-03	8.27E-06	1.50E-04	4.71E-05	7.49E-01	3.08E-06	2.85E-05
Bucket Truck	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Flat Bed Truck w/Derrick	HHDT	4.23E-04	2.85E-03	1.66E-02	3.50E-05	5.43E-04	3.01E-04	3.54E+00	1.97E-05	1.21E-04
Worker Commute	Commuter	1.75E-04	5.02E-03	5.48E-04	8.45E-06	1.03E-04	4.02E-06	6.97E-01	4.26E-05	2.28E-05

a From Table 108 or Table 109

Table 104
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Electrical Construction

Motor Vehicle Daily Exhaust Emissions

Vehicle	VOC (lb/day)[a]	CO (lb/day)[a]	NOX (lb/day)[a]	SOX (lb/day)[a]	PM10 (lb/day)[a]	PM2.5 (lb/day)[a]	CO2 (lb/day)[a]	CH4 (lb/day)[a]	N2O (lb/day)[a]	CO2e (lb/day)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	1.14
Bucket Truck	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Flat Bed Truck w/Derrick	0.00	0.00	0.02	0.00	0.00	0.00	5.31	0.00	0.00	5.37
Worker Commute	0.05	1.46	0.16	0.00	0.03	0.00	202.15	0.01	0.01	204.45
Offsite Total	**0.05**	**1.47**	**0.21**	**0.00**	**0.03**	**0.00**	**213.89**	**0.01**	**0.01**	**216.32**
Total	**0.05**	**1.47**	**0.21**	**0.00**	**0.03**	**0.00**	**213.89**	**0.01**	**0.01**	**216.32**

[a] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Total Exhaust Emissions

Vehicle	VOC (tons)[a]	CO (tons)[a]	NOX (tons)[a]	SOX (tons)[a]	PM10 (tons)[a]	PM2.5 (tons)[a]	CO2 (tons)[a]	CH4 (tons)[a]	N2O (tons)[a]	CO2e (tons)[b]
Onsite										
None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Offsite										
1-Ton Crew Cab, 4x4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bucket Truck	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Flat Bed Truck w/Derrick	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Worker Commute	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.41
Offsite Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.43**	**0.00**	**0.00**	**0.43**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.43**	**0.00**	**0.00**	**0.43**

[a] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

[b] CO2-equivalent (CO2e) emission factors are CO2 emissions plus 21 x CH4 emissions plus 310 x N2O emissions

Motor Vehicle Fugitive Particulate Matter Emissions

Vehicle	Number	Road Type	Miles/ Day/ Vehicle	Days Used	PM10 Emission Factor (lb/mi)[a]	PM2.5 Emission Factor (lb/mi)[a]	PM10 Emissions (lb/day)[b]	PM2.5 Emissions (lb/day)[b]	PM10 Emissions (tons)[c]	PM2.5 Emissions (tons)[c]
Onsite										
None	0	Paved	0	0	0.000	0.000	0.00	0.00	0.00	0.00
Onsite Total							**0.00**	**0.00**	**0.00**	**0.00**
Offsite										

Table 104
Distribution for Station Light & Power Construction Emissions - Controlled Fugitive PM
Underground Electrical Construction

1-Ton Crew Cab, 4x4	1	Unpaved	1.5	4	0.564	0.056	0.85	0.08	0.00	0.00
Bucket Truck	1	Unpaved	1.5	4	0.977	0.098	1.47	0.15	0.00	0.00
Flat Bed Truck w/Derrick	1	Unpaved	1.5	4	0.977	0.098	1.47	0.15	0.00	0.00
Worker Commute	5	Unpaved	1.5	4	0.474	0.047	3.55	0.36	0.01	0.00
Worker Commute	5	Paved	58	4	0.003	0.001	0.97	0.24	0.00	0.00
Offsite Total							**8.30**	**0.97**	**0.02**	**0.00**
Total							**8.30**	**0.97**	**0.02**	**0.00**

a From Table 107

[b] Emissions [lb/day] = number x miles/day x emission factor [lb/mi]

[c] Emissions [tons] = Daily emissions [lb/day] x days used / 2,000 [lb/ton]

Earthwork Fugitive Particulate Matter Emissions

Activity	Activity Units	Daily Activity Level	Total Activity Level	PM10 Emission Factor (lb/activity)[a]	PM2.5 Emission Factor (lb/activity)[a]	PM10 (lb/day)[b]	PM2.5 (lb/day)[b]	PM10 (tons)[c]	PM2.5 (tons)[c]
Soil Handling	CY			1.00E-03	1.52E-04	0.00	0.00	0.00	0.00
Bulldozing, Scraping and Grading	hr			1.735	0.775	0.00	0.00	0.00	0.00
Storage Pile Wind Erosion	acres			17.6	7.04	0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

a From Table 110

[b] Emissions [lb/day] = Emission factor [lb/activity unit] x Daily Activity level [units/day]

[c] Emissions [tons] = Emission factor [lb/activity unit] x Total Activity level [units] / 2,000 [lb/ton]

Table 105

Motor Vehicle Travel Distances

Estimate of Unpaved Travel Distance for Transmission Line Segments

72.4	Total Mileage of Transmission Line
4	Number of Major Segments
18	Average Length of Major Segments
9	One-Way Distance to Middle of Segment

Estimate of One-Way Paved Travel from Staging Yard to Transmission Line Unpaved Travel Segment

5	Estimate of One-Way Paved Travel from Staging Yard to Transmission Line Unpaved Travel Segment

Estimate of Paved Travel Distance for workers

29.5	Distance from Hesperia to North Side Road and Rt. 247
28	Distance from Barstow to North Side Road and Rt. 247
29	Average Distance for worker travel (one way)

Estimate of On-Site Travel Distance for Substation Construction

4	10 lengthwise passes (approx 2000 ft each)

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
Aerial Lifts	15	0.0101	0.0528	0.0630	0.0001	0.0025	0.0023	8.6	0.0009	0.0002	0.39
	25	0.0150	0.0479	0.0887	0.0001	0.0043	0.0040	11.0	0.0014	0.0003	0.50
	50	0.0433	0.1594	0.1635	0.0003	0.0117	0.0107	19.6	0.0039	0.0005	0.90
	120	0.0416	0.2355	0.3027	0.0004	0.0220	0.0202	38.0	0.0037	0.0010	1.74
	500	0.0949	0.4096	1.1069	0.0021	0.0329	0.0303	212.7	0.0086	0.0055	9.62
	750	0.1769	0.7405	2.0785	0.0039	0.0608	0.0559	384.4	0.0160	0.0100	17.39
Air Compressors	15	0.0104	0.0461	0.0643	0.0001	0.0037	0.0034	7.2	0.0009	0.0002	0.33
	25	0.0219	0.0665	0.1225	0.0002	0.0066	0.0060	14.4	0.0020	0.0004	0.66
	50	0.0674	0.2287	0.1980	0.0003	0.0166	0.0153	22.3	0.0061	0.0006	1.03
	120	0.0630	0.3150	0.4008	0.0006	0.0336	0.0309	46.9	0.0057	0.0012	2.15
	175	0.0829	0.5003	0.6409	0.0010	0.0347	0.0320	88.4	0.0075	0.0023	4.03
	250	0.0839	0.2740	0.8339	0.0015	0.0256	0.0236	131.1	0.0076	0.0034	5.94
	500	0.1387	0.4733	1.2758	0.0023	0.0421	0.0387	231.5	0.0125	0.0060	10.48
	750	0.2164	0.7314	2.0513	0.0036	0.0667	0.0613	357.8	0.0195	0.0093	16.20
	1000	0.3318	1.1180	4.1931	0.0049	0.1138	0.1047	485.9	0.0299	0.0126	22.02
Bore/Drill Rigs	15	0.0120	0.0631	0.0753	0.0002	0.0029	0.0027	10.3	0.0011	0.0003	0.47
	25	0.0193	0.0658	0.1218	0.0002	0.0046	0.0042	16.0	0.0017	0.0004	0.73
	50	0.0220	0.2221	0.2104	0.0004	0.0058	0.0053	31.0	0.0020	0.0008	1.42
	120	0.0349	0.4666	0.3305	0.0009	0.0125	0.0115	77.1	0.0031	0.0020	3.51
	175	0.0565	0.7533	0.4371	0.0016	0.0156	0.0143	140.9	0.0051	0.0037	6.41
	250	0.0627	0.3422	0.3883	0.0021	0.0113	0.0104	187.9	0.0057	0.0049	8.50
	500	0.1032	0.5506	0.6246	0.0031	0.0186	0.0171	311.0	0.0093	0.0081	14.06
	750	0.2042	1.0879	1.2417	0.0062	0.0369	0.0339	614.5	0.0184	0.0159	27.78
	1000	0.3269	1.6468	4.6436	0.0093	0.1010	0.0929	927.4	0.0295	0.0240	41.94
Cement and Mortar Mixers	15	0.0074	0.0386	0.0461	0.0001	0.0019	0.0017	6.3	0.0007	0.0002	0.29
	25	0.0243	0.0771	0.1431	0.0002	0.0070	0.0065	17.5	0.0022	0.0005	0.80
Concrete/Industrial Saws	25	0.0199	0.0678	0.1255	0.0002	0.0047	0.0043	16.5	0.0018	0.0004	0.75
	50	0.0702	0.2670	0.2559	0.0004	0.0186	0.0171	30.2	0.0063	0.0008	1.39
	120	0.0807	0.4720	0.5776	0.0009	0.0435	0.0400	74.1	0.0073	0.0019	3.38
	175	0.1224	0.8659	1.0439	0.0018	0.0524	0.0482	160.1	0.0110	0.0042	7.29
Cranes	50	0.0777	0.2653	0.2157	0.0003	0.0184	0.0170	23.2	0.0070	0.0006	1.08
	120	0.0743	0.3530	0.4471	0.0006	0.0377	0.0347	50.1	0.0067	0.0013	2.29
	175	0.0861	0.4779	0.6091	0.0009	0.0345	0.0318	80.3	0.0078	0.0021	3.66
	250	0.0875	0.2631	0.7524	0.0013	0.0259	0.0238	112.1	0.0079	0.0029	5.08
	500	0.1324	0.4428	1.0711	0.0018	0.0387	0.0356	179.9	0.0119	0.0047	8.16
	750	0.2240	0.7451	1.8538	0.0030	0.0661	0.0608	302.8	0.0202	0.0079	13.73
	9999	0.8238	2.7044	8.7440	0.0098	0.2551	0.2347	969.7	0.0743	0.0252	44.01
Crawler Tractors	50	0.0943	0.3011	0.2384	0.0003	0.0214	0.0197	24.9	0.0085	0.0007	1.16
	120	0.1072	0.4734	0.6371	0.0008	0.0532	0.0489	65.8	0.0097	0.0017	3.01
	175	0.1425	0.7354	1.0083	0.0014	0.0566	0.0521	121.1	0.0129	0.0032	5.53
	250	0.1494	0.4449	1.2413	0.0019	0.0468	0.0430	166.0	0.0135	0.0043	7.53
	500	0.2181	0.7898	1.7418	0.0025	0.0668	0.0615	259.0	0.0197	0.0067	11.76
	750	0.3925	1.4158	3.1882	0.0047	0.1211	0.1114	464.3	0.0354	0.0121	21.08
	1000	0.5965	2.2357	6.3162	0.0066	0.1927	0.1773	657.5	0.0538	0.0171	29.87
Crushing/Proc. Equipment	50	0.1232	0.4488	0.3873	0.0006	0.0309	0.0284	44.0	0.0111	0.0012	2.03

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	120	0.1052	0.5588	0.6766	0.0010	0.0554	0.0510	83.1	0.0095	0.0022	3.80
	175	0.1510	0.9530	1.1412	0.0019	0.0619	0.0570	167.1	0.0136	0.0044	7.62
	250	0.1551	0.5067	1.4525	0.0027	0.0453	0.0417	244.3	0.0140	0.0063	11.07
	500	0.2238	0.7534	1.9232	0.0037	0.0647	0.0595	373.3	0.0202	0.0097	16.90
	750	0.3515	1.1810	3.1224	0.0059	0.1027	0.0945	588.3	0.0317	0.0153	26.64
	9999	0.9136	2.9321	10.8003	0.0131	0.2933	0.2699	1306.6	0.0824	0.0339	59.21
Dumpers/Tenders	25	0.0093	0.0314	0.0587	0.0001	0.0024	0.0022	7.6	0.0008	0.0002	0.35
Excavators	25	0.0198	0.0676	0.1252	0.0002	0.0047	0.0043	16.4	0.0018	0.0004	0.75
	50	0.0580	0.2619	0.2164	0.0003	0.0147	0.0135	25.0	0.0052	0.0007	1.15
	120	0.0832	0.5065	0.5286	0.0009	0.0394	0.0363	73.6	0.0075	0.0019	3.36
	175	0.0971	0.6642	0.6554	0.0013	0.0354	0.0326	112.1	0.0088	0.0029	5.11
	250	0.1053	0.3386	0.7851	0.0018	0.0262	0.0241	158.5	0.0095	0.0041	7.18
	500	0.1494	0.4846	1.0223	0.0023	0.0366	0.0336	233.5	0.0135	0.0061	10.58
	750	0.2488	0.8033	1.7451	0.0039	0.0616	0.0567	387.1	0.0225	0.0100	17.53
Forklifts	50	0.0284	0.1484	0.1270	0.0002	0.0079	0.0073	14.7	0.0026	0.0004	0.68
	120	0.0312	0.2129	0.2110	0.0004	0.0148	0.0137	31.2	0.0028	0.0008	1.43
	175	0.0452	0.3313	0.3042	0.0006	0.0165	0.0152	56.0	0.0041	0.0015	2.55
	250	0.0489	0.1569	0.3511	0.0009	0.0116	0.0107	77.1	0.0044	0.0020	3.49
	500	0.0687	0.2146	0.4506	0.0011	0.0163	0.0150	110.9	0.0062	0.0029	5.02
Generator Sets	15	0.0130	0.0651	0.0900	0.0002	0.0048	0.0044	10.2	0.0012	0.0003	0.47
	25	0.0241	0.0811	0.1495	0.0002	0.0077	0.0070	17.6	0.0022	0.0005	0.80
	50	0.0637	0.2398	0.2530	0.0004	0.0175	0.0161	30.6	0.0057	0.0008	1.41
	120	0.0822	0.4767	0.6120	0.0009	0.0434	0.0399	77.9	0.0074	0.0020	3.56
	175	0.1013	0.7331	0.9458	0.0016	0.0434	0.0399	141.9	0.0091	0.0037	6.46
	250	0.1006	0.4058	1.2378	0.0024	0.0342	0.0314	212.3	0.0091	0.0055	9.61
	500	0.1438	0.6410	1.7347	0.0033	0.0507	0.0467	336.6	0.0130	0.0087	15.23
	750	0.2402	1.0347	2.9072	0.0055	0.0837	0.0770	543.3	0.0217	0.0141	24.58
	9999	0.6073	2.2406	8.4553	0.0105	0.2116	0.1947	1047.7	0.0548	0.0272	47.44
Graders	50	0.0815	0.2999	0.2473	0.0004	0.0196	0.0180	27.5	0.0074	0.0007	1.28
	120	0.1001	0.5191	0.6212	0.0009	0.0498	0.0459	74.9	0.0090	0.0020	3.43
	175	0.1213	0.7303	0.8612	0.0014	0.0475	0.0437	123.8	0.0109	0.0032	5.65
	250	0.1249	0.3933	1.0428	0.0019	0.0358	0.0329	172.0	0.0113	0.0045	7.79
	500	0.1577	0.5520	1.2378	0.0023	0.0445	0.0410	229.3	0.0142	0.0060	10.39
	750	0.3354	1.1685	2.6888	0.0049	0.0956	0.0880	485.3	0.0303	0.0126	22.00
Off-Highway Tractors	120	0.1804	0.6982	1.0539	0.0011	0.0891	0.0820	93.7	0.0163	0.0025	4.30
	175	0.1780	0.8159	1.2809	0.0015	0.0722	0.0664	130.3	0.0161	0.0034	5.96
	250	0.1414	0.4152	1.1789	0.0015	0.0482	0.0443	130.3	0.0128	0.0034	5.92
	750	0.5700	2.3652	4.7352	0.0057	0.1902	0.1750	567.6	0.0514	0.0148	25.83
	1000	0.8608	3.7053	8.7994	0.0082	0.2874	0.2644	813.6	0.0777	0.0212	37.05
Off-Highway Trucks	175	0.1162	0.7545	0.7637	0.0014	0.0417	0.0383	125.0	0.0105	0.0033	5.70
	250	0.1178	0.3648	0.8666	0.0019	0.0290	0.0267	166.4	0.0106	0.0043	7.54
	500	0.1854	0.5791	1.2508	0.0027	0.0448	0.0412	272.1	0.0167	0.0071	12.33
	750	0.3021	0.9393	2.0910	0.0044	0.0738	0.0679	441.3	0.0273	0.0115	19.99
	1000	0.4570	1.4115	4.8811	0.0063	0.1357	0.1248	624.2	0.0412	0.0162	28.29
Other Construction Equipment	15	0.0118	0.0617	0.0736	0.0002	0.0029	0.0026	10.1	0.0011	0.0003	0.46

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	25	0.0159	0.0544	0.1007	0.0002	0.0038	0.0035	13.2	0.0014	0.0003	0.60
	50	0.0529	0.2444	0.2272	0.0004	0.0143	0.0131	28.0	0.0048	0.0007	1.29
	120	0.0745	0.5165	0.5488	0.0009	0.0383	0.0353	80.8	0.0067	0.0021	3.69
	175	0.0727	0.5856	0.5848	0.0012	0.0290	0.0267	106.4	0.0066	0.0028	4.85
	500	0.1242	0.4864	1.0402	0.0025	0.0350	0.0322	254.0	0.0112	0.0066	11.49
Other General Industrial Equipmen	15	0.0066	0.0390	0.0466	0.0001	0.0018	0.0017	6.4	0.0006	0.0002	0.29
	25	0.0185	0.0631	0.1169	0.0002	0.0044	0.0040	15.3	0.0017	0.0004	0.70
	50	0.0704	0.2449	0.1999	0.0003	0.0171	0.0158	21.7	0.0064	0.0006	1.01
	120	0.0900	0.4340	0.5404	0.0007	0.0463	0.0426	62.0	0.0081	0.0016	2.84
	175	0.0995	0.5662	0.7079	0.0011	0.0398	0.0366	95.8	0.0090	0.0025	4.37
	250	0.0987	0.2944	0.8771	0.0015	0.0278	0.0256	135.5	0.0089	0.0035	6.14
	500	0.1824	0.5588	1.4858	0.0026	0.0507	0.0466	265.2	0.0165	0.0069	12.01
	750	0.3031	0.9210	2.5481	0.0044	0.0855	0.0787	437.1	0.0273	0.0113	19.80
	1000	0.4268	1.3208	4.9252	0.0056	0.1383	0.1272	559.1	0.0385	0.0145	25.35
Other Material Handling Equipment	50	0.0977	0.3384	0.2779	0.0004	0.0238	0.0219	30.3	0.0088	0.0008	1.41
	120	0.0874	0.4225	0.5278	0.0007	0.0452	0.0416	60.6	0.0079	0.0016	2.78
	175	0.1253	0.7172	0.8995	0.0014	0.0504	0.0464	122.0	0.0113	0.0032	5.57
	250	0.1042	0.3135	0.9371	0.0016	0.0296	0.0273	144.9	0.0094	0.0038	6.57
	500	0.1300	0.4021	1.0713	0.0019	0.0365	0.0336	191.5	0.0117	0.0050	8.67
	9999	0.5858	1.7445	6.5141	0.0073	0.1824	0.1678	740.7	0.0529	0.0192	33.58
Pavers	25	0.0230	0.0774	0.1446	0.0002	0.0061	0.0056	18.6	0.0021	0.0005	0.85
	50	0.1116	0.3335	0.2691	0.0004	0.0252	0.0232	28.0	0.0101	0.0007	1.30
	120	0.1162	0.4925	0.7022	0.0008	0.0590	0.0543	69.1	0.0105	0.0018	3.17
	175	0.1522	0.7671	1.1259	0.0014	0.0626	0.0576	128.2	0.0137	0.0034	5.85
	250	0.1757	0.5365	1.5465	0.0022	0.0586	0.0539	194.2	0.0159	0.0051	8.81
	500	0.1954	0.7641	1.6700	0.0023	0.0640	0.0589	233.0	0.0176	0.0061	10.58
Paving Equipment	25	0.0152	0.0519	0.0962	0.0002	0.0036	0.0034	12.6	0.0014	0.0003	0.57
	50	0.0951	0.2826	0.2295	0.0003	0.0215	0.0198	23.9	0.0086	0.0006	1.11
	120	0.0911	0.3858	0.5516	0.0006	0.0467	0.0429	54.5	0.0082	0.0014	2.50
	175	0.1187	0.5999	0.8845	0.0011	0.0491	0.0452	100.9	0.0107	0.0026	4.61
	250	0.1076	0.3300	0.9691	0.0014	0.0360	0.0331	122.2	0.0097	0.0032	5.54
Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	0.0011	4.3	0.0005	0.0001	0.20
Pressure Washers	15	0.0062	0.0312	0.0431	0.0001	0.0023	0.0021	4.9	0.0006	0.0001	0.22
	25	0.0098	0.0329	0.0606	0.0001	0.0031	0.0029	7.1	0.0009	0.0002	0.33
	50	0.0224	0.0945	0.1138	0.0002	0.0069	0.0063	14.3	0.0020	0.0004	0.65
	120	0.0219	0.1404	0.1803	0.0003	0.0114	0.0105	24.1	0.0020	0.0006	1.10
Pumps	15	0.0106	0.0474	0.0661	0.0001	0.0038	0.0035	7.4	0.0010	0.0002	0.34
	25	0.0296	0.0896	0.1653	0.0002	0.0089	0.0081	19.5	0.0027	0.0005	0.89
	50	0.0773	0.2830	0.2871	0.0004	0.0207	0.0190	34.3	0.0070	0.0009	1.58
	120	0.0859	0.4842	0.6215	0.0009	0.0456	0.0419	77.9	0.0078	0.0020	3.56
	175	0.1051	0.7345	0.9483	0.0016	0.0450	0.0414	140.0	0.0095	0.0037	6.38
	250	0.1008	0.3910	1.1926	0.0023	0.0337	0.0310	201.2	0.0091	0.0052	9.10
	500	0.1567	0.6671	1.8006	0.0034	0.0540	0.0497	344.9	0.0141	0.0089	15.61
	750	0.2666	1.1029	3.0910	0.0057	0.0913	0.0840	570.2	0.0241	0.0148	25.80
	9999	0.8122	2.9422	11.0546	0.0136	0.2800	0.2576	1353.6	0.0733	0.0351	61.31

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
Rollers	15	0.0074	0.0386	0.0460	0.0001	0.0018	0.0017	6.3	0.0007	0.0002	0.29
	25	0.0161	0.0549	0.1016	0.0002	0.0038	0.0035	13.3	0.0015	0.0003	0.61
	50	0.0797	0.2677	0.2321	0.0003	0.0191	0.0176	26.0	0.0072	0.0007	1.20
	120	0.0794	0.3967	0.5105	0.0007	0.0415	0.0382	58.9	0.0072	0.0015	2.70
	175	0.1031	0.6146	0.7957	0.0012	0.0431	0.0396	108.0	0.0093	0.0028	4.93
	250	0.1041	0.3461	0.9947	0.0017	0.0333	0.0306	153.0	0.0094	0.0040	6.93
	500	0.1390	0.5316	1.2651	0.0021	0.0442	0.0406	218.9	0.0125	0.0057	9.92
Rough Terrain Forklifts	50	0.0838	0.3456	0.2951	0.0004	0.0216	0.0199	33.8	0.0076	0.0009	1.56
	120	0.0728	0.4227	0.4736	0.0007	0.0368	0.0339	62.4	0.0066	0.0016	2.85
	175	0.1079	0.7230	0.7786	0.0014	0.0422	0.0388	124.8	0.0097	0.0033	5.69
	250	0.1106	0.3588	0.9194	0.0019	0.0302	0.0278	170.6	0.0100	0.0044	7.73
	500	0.1588	0.5200	1.2074	0.0025	0.0427	0.0393	256.3	0.0143	0.0067	11.61
Rubber Tired Dozers	175	0.1849	0.8272	1.3057	0.0015	0.0739	0.0680	129.4	0.0167	0.0034	5.92
	250	0.2097	0.6062	1.7064	0.0021	0.0706	0.0650	183.3	0.0189	0.0048	8.34
	500	0.2792	1.1673	2.2363	0.0026	0.0915	0.0841	264.6	0.0252	0.0069	12.05
	750	0.4216	1.7575	3.4223	0.0040	0.1388	0.1277	398.4	0.0380	0.0104	18.14
	1000	0.6577	2.8383	6.5313	0.0059	0.2168	0.1995	591.4	0.0593	0.0154	26.95
Rubber Tired Loaders	25	0.0204	0.0696	0.1289	0.0002	0.0048	0.0044	16.9	0.0018	0.0004	0.77
	50	0.0900	0.3346	0.2780	0.0004	0.0218	0.0200	31.1	0.0081	0.0008	1.44
	120	0.0771	0.4059	0.4822	0.0007	0.0386	0.0355	58.9	0.0070	0.0015	2.69
	175	0.1021	0.6236	0.7285	0.0012	0.0402	0.0369	106.2	0.0092	0.0028	4.85
	250	0.1055	0.3354	0.8884	0.0017	0.0302	0.0278	148.8	0.0095	0.0039	6.75
	500	0.1591	0.5590	1.2560	0.0023	0.0449	0.0413	236.8	0.0144	0.0062	10.73
	750	0.3276	1.1451	2.6434	0.0049	0.0933	0.0859	485.1	0.0296	0.0126	21.98
	1000	0.4390	1.5579	4.9818	0.0060	0.1421	0.1307	593.3	0.0396	0.0154	26.91
Scrapers	120	0.1563	0.6768	0.9284	0.0011	0.0780	0.0718	93.8	0.0141	0.0025	4.30
	175	0.1768	0.8992	1.2602	0.0017	0.0708	0.0652	147.9	0.0160	0.0039	6.76
	250	0.1909	0.5685	1.6065	0.0024	0.0606	0.0558	209.3	0.0172	0.0054	9.50
	500	0.2734	1.0101	2.2158	0.0032	0.0850	0.0782	321.1	0.0247	0.0084	14.58
	750	0.4742	1.7450	3.9092	0.0056	0.1485	0.1366	554.8	0.0428	0.0144	25.19
Signal Boards	15	0.0072	0.0376	0.0449	0.0001	0.0018	0.0016	6.2	0.0006	0.0002	0.28
	50	0.0831	0.3131	0.3029	0.0005	0.0219	0.0201	36.2	0.0075	0.0010	1.67
	120	0.0871	0.5067	0.6223	0.0009	0.0466	0.0428	80.1	0.0079	0.0021	3.66
	175	0.1167	0.8280	1.0071	0.0017	0.0497	0.0457	154.4	0.0105	0.0040	7.03
	250	0.1317	0.4994	1.4456	0.0029	0.0424	0.0390	255.1	0.0119	0.0066	11.54
Skid Steer Loaders	25	0.0183	0.0593	0.1106	0.0002	0.0053	0.0049	13.8	0.0017	0.0004	0.63
	50	0.0323	0.2087	0.1951	0.0003	0.0094	0.0087	25.5	0.0029	0.0007	1.17
	120	0.0295	0.2693	0.2409	0.0005	0.0138	0.0127	42.7	0.0027	0.0011	1.95
Surfacing Equipment	50	0.0375	0.1299	0.1218	0.0002	0.0093	0.0085	14.1	0.0034	0.0004	0.65
	120	0.0778	0.4119	0.5357	0.0007	0.0402	0.0370	63.7	0.0070	0.0017	2.91
	175	0.0733	0.4690	0.6121	0.0010	0.0307	0.0283	85.7	0.0066	0.0022	3.91
	250	0.0832	0.3010	0.8495	0.0015	0.0280	0.0257	134.7	0.0075	0.0035	6.10
	500	0.1259	0.5481	1.2540	0.0022	0.0425	0.0391	221.0	0.0114	0.0057	10.01
	750	0.2001	0.8599	2.0162	0.0035	0.0675	0.0621	346.7	0.0181	0.0090	15.71
Sweepers/Scrubbers	15	0.0124	0.0728	0.0869	0.0002	0.0034	0.0031	11.9	0.0011	0.0003	0.54

Table 106
MDAQMD, San Bernardino County Fleet Average Emission Factors (Diesel)

2016

Air Basin	MD

Equipment	MaxHP	(lb/hr) ROG	(lb/hr) CO	(lb/hr) NOX	(lb/hr) SOX	(lb/hr) PM10	(lb/hr) PM2.5	(lb/hr) CO2	(lb/hr) CH4	(lb/hr) N2O	(gal/hr) Fuel
	25	0.0236	0.0807	0.1494	0.0002	0.0056	0.0051	19.6	0.0021	0.0005	0.89
	50	0.0664	0.3077	0.2709	0.0004	0.0182	0.0167	31.5	0.0060	0.0008	1.45
	120	0.0774	0.5009	0.5315	0.0009	0.0391	0.0360	75.0	0.0070	0.0020	3.43
	175	0.1096	0.7990	0.7988	0.0016	0.0427	0.0393	138.9	0.0099	0.0036	6.33
	250	0.0972	0.3248	0.7925	0.0018	0.0255	0.0235	161.9	0.0088	0.0042	7.33
Tractors/Loaders/Backhoes	25	0.0192	0.0653	0.1215	0.0002	0.0048	0.0044	15.8	0.0017	0.0004	0.72
	50	0.0622	0.2946	0.2534	0.0004	0.0162	0.0149	30.3	0.0056	0.0008	1.40
	120	0.0524	0.3456	0.3522	0.0006	0.0253	0.0233	51.7	0.0047	0.0014	2.36
	175	0.0787	0.5844	0.5566	0.0011	0.0292	0.0269	101.3	0.0071	0.0026	4.62
	250	0.1024	0.3530	0.7902	0.0019	0.0260	0.0239	171.6	0.0092	0.0045	7.77
	500	0.1983	0.6958	1.4074	0.0039	0.0496	0.0456	344.5	0.0179	0.0089	15.60
	750	0.2988	1.0436	2.1713	0.0058	0.0755	0.0695	516.8	0.0270	0.0134	23.40
Trenchers	15	0.0098	0.0516	0.0616	0.0001	0.0024	0.0022	8.5	0.0009	0.0002	0.39
	25	0.0397	0.1354	0.2507	0.0004	0.0094	0.0086	32.9	0.0036	0.0009	1.50
	50	0.1303	0.3809	0.3138	0.0004	0.0293	0.0269	32.9	0.0118	0.0009	1.53
	120	0.1078	0.4558	0.6645	0.0008	0.0550	0.0506	64.8	0.0097	0.0017	2.97
	175	0.1676	0.8488	1.2792	0.0016	0.0699	0.0643	143.8	0.0151	0.0038	6.56
	250	0.1989	0.6255	1.8028	0.0025	0.0690	0.0635	222.7	0.0179	0.0058	10.11
	500	0.2558	1.0674	2.2733	0.0031	0.0873	0.0803	311.0	0.0231	0.0081	14.13
	750	0.4845	2.0123	4.3689	0.0059	0.1663	0.1530	586.4	0.0437	0.0153	26.63
Welders	15	0.0089	0.0396	0.0552	0.0001	0.0032	0.0030	6.2	0.0008	0.0002	0.28
	25	0.0171	0.0519	0.0957	0.0001	0.0051	0.0047	11.3	0.0015	0.0003	0.51
	50	0.0725	0.2489	0.2260	0.0003	0.0182	0.0167	25.9	0.0065	0.0007	1.20
	120	0.0498	0.2581	0.3303	0.0005	0.0267	0.0245	39.5	0.0045	0.0010	1.80
	175	0.0857	0.5408	0.6972	0.0011	0.0364	0.0335	98.1	0.0077	0.0026	4.47
	250	0.0701	0.2427	0.7413	0.0013	0.0222	0.0205	119.0	0.0063	0.0031	5.39
	500	0.0912	0.3360	0.9083	0.0016	0.0291	0.0268	167.4	0.0082	0.0043	7.58

[a] ROG, CO, NOx, SOx, PM, CO2 and CH4 emission factors calculated by dividing total daily emissions in MDAB by total hours of operation in MDAB by equipment type and horsepower range calculated with CARB OFFROAD 2007 model.

Hourly fuel use calculated by dividing total daily fuel use in MDAB by total hours of operation in MDAB by equipment type and horsepower range.

Diesel PM10 emission factor = PM emission factor

Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction= 0.920

From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5

and PM 2.5 Significance Thresholds, SCAQMD, October 2006,

http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html

N2O emission factors calculated by multiplying hourly fuel use by 0.26 g/gallon from Table 13.7 from 2013 Climate Registry Default Emission Factors downloaded from http://www.theclimateregistry.org/downloads/2013/01/2013-Climate-Registry-Default-Emissions-Factors.pdf

Table 107

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
1-Ton Crew Cab Flatbed, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab Flatbed, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Apple Valley-Desert View	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4, Gale-Pisgah	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Gale-Pisgah	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4, Substation	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Substation	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Crew Cab, 4x4, Transmission	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Crew Cab, 4x4, Transmission	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
1-Ton Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
1-Ton Truck, 4x4	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
2 Ton Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
2 Ton Truck	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
3/4-Ton Pick-up Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
3/4-Ton Pick-up Truck, 4x4	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
3/4-Ton Truck, 4x4	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
3/4-Ton Truck, 4x4	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
40-Foot Flat Bed Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
40-Foot Flat Bed Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Aggregate Base Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Aggregate Base Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Asphalt Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Asphalt Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Auger Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Auger Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Boom Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Boom Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02

Table 107

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Boom/Crane Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Boom/Crane Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Bucket Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Bucket Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Carry-all Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Carry-all Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Concrete Mixer Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Mixer Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Concrete Redi-Mix Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Redi-Mix Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Concrete Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Concrete Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Crew Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Crew Truck	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
Dump Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Dump Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Extendable Flat Bed Pole Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Extendable Flat Bed Pole Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Flat Bed Pole Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Pole Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Flat Bed Truck w/Derrick	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Truck w/Derrick	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Flat Bed Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flat Bed Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Flatbed Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Flatbed Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Foreman Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Foreman Truck	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
Fuel, Helicopter Support Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Fuel, Helicopter Support Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02

Table 107

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Gravel Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Gravel Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Inspection Services	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Inspection Services	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
Jet A Fuel Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Jet A Fuel Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Lowboy Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Lowboy Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Manlift/Bucket Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Manlift/Bucket Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Pick-up Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Pick-up Truck	Unpaved	8	10	1.79E+00	1.79E-01	57%	7.70E-01	7.70E-02
Pipe Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Pipe Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Sleeving Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Sleeving Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Soils Test Crew Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Soils Test Crew Truck	Unpaved	8	6.5	1.47E+00	1.47E-01	57%	6.34E-01	6.34E-02
Splicing Lab	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Splicing Lab	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
Splicing Rig	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Splicing Rig	Unpaved	8	5	1.31E+00	1.31E-01	57%	5.64E-01	5.64E-02
Stake Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Stake Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Static Truck/Tensioner	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Static Truck/Tensioner	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Structure Delivery Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Structure Delivery Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Survey Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Survey Truck	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02

Table 107

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
Tool Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Tool Truck	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02
Truck, Semi Tractor	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Truck, Semi Tractor	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Water Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Water Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Wire Truck/Trailer	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Wire Truck/Trailer	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Wiring Truck	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Wiring Truck	Unpaved	8	17	2.27E+00	2.27E-01	57%	9.77E-01	9.77E-02
Worker Commute	Paved	0.4	3.4	3.33E-03	8.17E-04	0%	3.33E-03	8.17E-04
Worker Commute	Unpaved	8	3.4	1.10E+00	1.10E-01	57%	4.74E-01	4.74E-02

[a] Paved road silt loading from MDAQMD Mineral Guidance for paved low traffic road.

Unpaved road silt content from MDAQMD Mineral Guidance for unpaved industrial haul road.

[b] Average paved on-road vehicle weight in San Bernardino County from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

Unpaved worker commuting weight on access road assumed to be same as paved road weight

Unpaved weight for other trucks is based on upper limit of 33,000 lbs for medium heavy-duty trucks. Heavy heavy duty trucks are also in this range, as they range from 30,001 lbs to 60,000.

[c] Equations:

$EF(paved) = k_p (sL)^{0.91} (W)^{1.02}$ Ref: AP-42, Section 13.2.1, "Paved Roads," January 2011

$EF (unpaved) = k_u (s/12)^a (W/3)^b$ Ref: AP-42, Section 13.2.2, "Unpaved Roads," November 2006

Constants:

k_p =	0.0022	(Particle size multiplier for PM10)
	0.00054	(Particle size multiplier for PM2.5)
k_u =	1.5	(Particle size multiplier for PM)
	0.15	(Particle size multiplier for PM2.5)
a =	0.9	for PM10
	0.9	for PM2.5
b =	0.45	for PM10

Table 107

Motor Vehicle Entrained Road Dust Emission Factors - Controlled Fugitive PM

Vehicle Type	Surface	Silt Loading (sL, g/m2) or Silt Content (s, %)[a]	Average Weight (W) (tons)[b]	Un-controlled PM10 Emission Factor (lb/VMT)[c]	Un-controlled PM2.5 Emission Factor (lb/VMT)[c]	Control Efficiency (%)[d]	Controlled PM10 Emission Factor (lb/VMT)[e]	Controlled PM2.5 Emission Factor (lb/VMT)[e]
		0.45	for PM2.5					

[d] Control efficiency from limiting speeds on unpaved roads to 15 mph, from Table XI-A, Mitigation Measure Examples, Fugitive Dust from Construction & Demolition, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html

[e] Controlled emission factor [lb/mi] = Uncontrolled emission factor [lb/mi] x (1 - Control efficiency [%] / 100)

Table 108
Commuter Vehicle And Pick-up Truck Emission Factors

EMFAC 2011
2016 Estimated Annual Emissions
EMFAC 2011 Vehicle Categories
San Bernardino COUNTY
Mojave Desert AIR BASIN
Mojave Desert AQMD
All Model Years

Comm. Vehicles Gas (pounds/mile)	
CO	**0.00502350**
NOx	**0.00054760**
ROG	**0.00017532**
SOx	**0.00000845**
PM10	**0.00010306**
PM2.5	**0.00000402**
CO2	**0.69705741**
CH4	**0.00004259**
N2O	**0.00002278**

MDV Diesel (pounds/mile)	
CO	**0.00036597**
NOx	**0.00112028**
ROG	**0.00006639**
SOx	**0.00000827**
PM10	**0.00014987**
PM2.5	**0.00004711**
CO2	**0.74885278**
CH4	**0.00000308**
N2O	**0.00002848**

MDV Gas (pounds/mile)	
CO	**0.00784027**
NOx	**0.00114357**
ROG	**0.00028277**
SOx	**0.00001317**
PM10	**0.00010343**
PM2.5	**0.00000438**
CO2	**1.15450592**
CH4	**0.00007002**
N2O	**0.00004757**

MDV Combo (pounds/mile)	
CO	**0.00410312**
NOx	**0.00113192**
ROG	**0.00017458**
SOx	**0.00001072**
PM10	**0.00012665**
PM2.5	**0.00002575**
CO2	**0.95167935**
CH4	**0.00003655**
N2O	**0.00003803**

Note: Commuter vehicles are based on emissions from gaoline LDV, LDT1, and LDT2

Methane and N2O calculated as prescribed by ARB:
http://www.arb.ca.gov/msei/emfac2011-faq.htm#emfac2011_web_db_qstn07

- **How do I calculate Methane (CH4) and Nitrous Oxide (N2O) emissions?**
  - Methane (CH4) calculation method
    - Run EMFAC2011-LDV to calculate CH4 for those vehicle categories;
    - Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.
  - Nitrous Oxide (N2O) calculation method
    - Use 4.16% of NOx to calculate N2O for all gasoline vehicles, the same assumption as for the emissions inventory for the Advanced Clean Cars rule;
    - Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Table 109
Light Heavy-Duty and Heavy Heavy-Duty Vehicle Emission Factors

EMFAC 2011
2016 Estimated Annual Emissions
EMFAC 2011 Vehicle Categories
San Bernardino COUNTY
Mojave Desert AIR BASIN
Mojave Desert AQMD
All Model Years

LHDT Diesel (pounds/mile)	
CO	**0.00192798**
NOx	**0.01237034**
ROG	**0.00027862**
SOx	**0.00001103**
PM10	**0.00026112**
PM2.5	**0.00005485**
CO2	**1.11519022**
CH4	**0.00001294**
N2O	**0.00003802**

HHDT Diesel (pounds/mile)	
CO	**0.00284760**
NOx	**0.01656235**
ROG	**0.00042317**
SOx	**0.00003500**
PM10	**0.00054297**
PM2.5	**0.00030129**
CO2	**3.54025345**
CH4	**0.00001966**
N2O	**0.00012069**

Note: HHDT is based on the emissions from the T7 Tractor.

Methane and N2O calculated as prescribed by ARB:
http://www.arb.ca.gov/msei/emfac2011-faq.htm#emfac2011_web_db_qstn07

- **How do I calculate Methane (CH4) and Nitrous Oxide (N2O) emissions?**
  - Methane (CH4) calculation method
    - Run EMFAC2011-LDV to calculate CH4 for those vehicle categories;
    - Use CH4 = 0.0408 * TOG = 0.058821 * THC to calculate CH4 for EMFAC2011-HD categories.
  - Nitrous Oxide (N2O) calculation method
    - Use 4.16% of NOx to calculate N2O for all gasoline vehicles, the same assumption as for the emissions inventory for the Advanced Clean Cars rule;
    - Use 0.3316 g/gallon fuel to calculate for all diesel vehicles as the GHG inventory.

Table 110
Controlled Fugitive Dust Emission Factors
Soil Dropping During Excavation

Emission Factor [lb/cu. yd] = 0.0032 x (mean wind speed [mi/hr] / 5)$^{1.3}$ / (moisture [%] / 2)$^{1.4}$ x (number drops per ton) x (density [ton/cu. yd]) x k
Reference: AP-42, Equation (1), Section 13.2.4, November 2006

Parameter	Value	Basis
Mean Wind Speed	7.7	Conservative default from Wind Erosion from Unpaved Areas and Roads, MDAQMD Mineral
Moisture	10	Assumed moisture level achieved by watering
Number Drops	4	Assumption
Soil Density	1.215	Table 2.46, Handbook of Solid Waste Management

Controlled PM10 Emission Factor	1.00E-03	lb/cu. yd	(k = 0.35)
Controlled PM2.5 Emission Factor	1.52E-04	lb/cu. yd	(k = 0.053)

Emissions [pounds per day] = Controlled emission factor [pounds per cubic yard] x Volume soil handled [cubic yards per day]

Storage Pile Wind Erosion

Emission Factor [lb/day-acre] = k x 1.7 x (silt content [%] / 1.5) x (365 / 235) x (percentage of time unobstructed wind exceeds 12 mph / 15)
Reference: MDAQMD Emission Inventory Guidance, Mineral Handling and Processing Inductries, April 2000

Parameter	Value	Basis
Silt Content	30	Conservative default from Bulldozing, Scraping and Grading, MDAQMD Mineral Guidance.
Pct. time wind > 12 mph	100	Worst-case assumption

PM10 Emission Factor (Uncontrolled)	176.0	lb/day-acre	(k = 0.5)
PM2.5 Emission Factor (Uncontrolled)	70.4	lb/day-acre	(k = 0.2)
Reduction from Watering Twice/Day	90%	Control efficiency from watering storage pile by hand at a rate of 1.4 gallons/hour-yard^2, Table XI-B, Mitigation Measure Examples, Fugitive Dust from Materials Handling, http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html	
Controlled PM10 Emission Factor	17.6	lb/day-acre	
Controlled PM2.5 Emission Factor	7.0	lb/day-acre	

Emissions [pounds per day] = Controlled emission factor [pounds per acre-day] x Storage pile surface area [acres]

Bulldozing, Scraping and Grading

PM10 Emission Factor [lb/hr] = 0.75 x (silt content [%])$^{1.5}$ / (moisture)$^{1.4}$
PM2.5 Emission Factor [lb/hr] = 0.60 x (silt content [%])$^{1.2}$ / (moisture)$^{1.3}$
Reference: AP-42, Table 11.9-1, July 1998

Parameter	Value	Basis
Silt Content	15	Default value from NDAQMD Rule 403.2 (F)
Moisture	10	Assumed moisture level achieved by watering

PM10 Emission Factor	1.7	lb/hr
PM2.5 Emission Factor	0.8	lb/hr

Emissions [pounds per day] = Controlled emission factor [pounds per hour] x Bulldozing, scraping or grading time [hours/day]