

DOCKETED

Docket Number:	13-AFC-01
Project Title:	Alamitos Energy Center
TN #:	201620-41
Document Title:	AEC AFC Appendix 5.1A Construction Emission Calculations
Description:	Previously TN# 201493-14
Filer:	Tiffani Winter
Organization:	CH2M Hill
Submitter Role:	Applicant Consultant
Submission Date:	2/3/2014 12:47:11 PM
Docketed Date:	2/3/2014

Appendix 5.1A
Construction Emission Estimates

APPENDIX 5.1A

Construction Emission Estimates (Criteria and Greenhouse Gas)

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Table 5.1A.1 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	CO Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Water Truck	145.30	145.30	145.30	145.30	145.30	72.65	72.65	72.65
Excavator	505.79	505.79	505.79	505.79	505.79	337.19	337.19	337.19
Cranes	223.11	223.11	223.11	223.11	223.11	111.56	111.56	111.56
Tractor/Loader/Backhoe	77.08	77.08	77.08	77.08	77.08	38.54	38.54	38.54
Rubber Tired Loader	58.32	58.32	58.32	58.32	58.32	29.16	29.16	29.16
Crawler Tractor	130.82	130.82	130.82	130.82	130.82	65.41	65.41	65.41
Air Compressor	231.09	231.09	231.09	231.09	231.09	115.54	115.54	115.54
Forklift	54.47	108.93	108.93	108.93	108.93	54.47	54.47	54.47
Onsite Total (lbs/month)	1,425.98	1,480.45	1,480.45	1,480.45	1,480.45	824.52	824.52	824.52
Onsite Total (lbs/day) *	62.00	64.37	64.37	64.37	64.37	35.85	35.85	35.85
Onsite Total (tons/year)	4.91							

Construction Equipment VOC Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	VOC Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Water Truck	27.08	27.08	27.08	27.08	27.08	13.54	13.54	13.54
Excavator	57.26	57.26	57.26	57.26	57.26	38.18	38.18	38.18
Cranes	53.82	53.82	53.82	53.82	53.82	26.91	26.91	26.91
Tractor/Loader/Backhoe	10.88	10.88	10.88	10.88	10.88	5.44	5.44	5.44
Rubber Tired Loader	15.79	15.79	15.79	15.79	15.79	7.90	7.90	7.90
Crawler Tractor	32.56	32.56	32.56	32.56	32.56	16.28	16.28	16.28
Air Compressor	45.20	45.20	45.20	45.20	45.20	22.60	22.60	22.60
Forklift	9.79	19.57	19.57	19.57	19.57	9.79	9.79	9.79
Onsite Total (lbs/month)	252.38	262.17	262.17	262.17	262.17	140.63	140.63	140.63
Onsite Total (lbs/day) *	10.97	11.40	11.40	11.40	11.40	6.11	6.11	6.11
Onsite Total (tons/year)	0.86							

Construction Equipment NOx Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	NOx Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Water Truck	311.99	311.99	311.99	311.99	311.99	155.99	155.99	155.99
Excavator	653.67	653.67	653.67	653.67	653.67	435.78	435.78	435.78
Cranes	637.72	637.72	637.72	637.72	637.72	318.86	318.86	318.86
Tractor/Loader/Backhoe	104.00	104.00	104.00	104.00	104.00	52.00	52.00	52.00
Rubber Tired Loader	205.42	205.42	205.42	205.42	205.42	102.71	102.71	102.71
Crawler Tractor	438.81	438.81	438.81	438.81	438.81	219.41	219.41	219.41
Air Compressor	290.99	290.99	290.99	290.99	290.99	145.49	145.49	145.49
Forklift	84.23	168.47	168.47	168.47	168.47	84.23	84.23	84.23
Onsite Total (lbs/month)	2,726.83	2,811.06	2,811.06	2,811.06	2,811.06	1,514.48	1,514.48	1,514.48
Onsite Total (lbs/day) *	118.56	122.22	122.22	122.22	122.22	65.85	65.85	65.85
Onsite Total (tons/year)	9.26							

Table 5.1A.1 Onsite Construction Equipment Exhaust Emissions

Construction Equipment SOx Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	SOx Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Water Truck	0.38	0.38	0.38	0.38	0.38	0.19	0.19	0.19
Excavator	0.78	0.78	0.78	0.78	0.78	0.52	0.52	0.52
Cranes	0.42	0.42	0.42	0.42	0.42	0.21	0.21	0.21
Tractor/Loader/Backhoe	0.10	0.10	0.10	0.10	0.10	0.05	0.05	0.05
Rubber Tired Loader	0.19	0.19	0.19	0.19	0.19	0.10	0.10	0.10
Crawler Tractor	0.36	0.36	0.36	0.36	0.36	0.18	0.18	0.18
Air Compressor	0.36	0.36	0.36	0.36	0.36	0.18	0.18	0.18
Forklift	0.07	0.13	0.13	0.13	0.13	0.07	0.07	0.07
Onsite Total (lbs/month)	2.66	2.73	2.73	2.73	2.73	1.50	1.50	1.50
Onsite Total (lbs/day) ^a	0.12	0.12	0.12	0.12	0.12	0.07	0.07	0.07
Onsite Total (tons/year)	0.01							

Construction Equipment PM₁₀ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	PM ₁₀ Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Water Truck	11.77	11.77	11.77	11.77	11.77	5.88	5.88	5.88
Excavator	32.16	32.16	32.16	32.16	32.16	21.44	21.44	21.44
Cranes	28.94	28.94	28.94	28.94	28.94	14.47	14.47	14.47
Tractor/Loader/Backhoe	8.01	8.01	8.01	8.01	8.01	4.00	4.00	4.00
Rubber Tired Loader	7.01	7.01	7.01	7.01	7.01	3.50	3.50	3.50
Crawler Tractor	16.92	16.92	16.92	16.92	16.92	8.46	8.46	8.46
Air Compressor	24.12	24.12	24.12	24.12	24.12	12.06	12.06	12.06
Forklift	7.04	14.09	14.09	14.09	14.09	7.04	7.04	7.04
Onsite Total (lbs/month)	135.97	143.01	143.01	143.01	143.01	76.87	76.87	76.87
Onsite Total (lbs/day) ^a	5.91	6.22	6.22	6.22	6.22	3.34	3.34	3.34
Onsite Total (tons/year)	0.47							

Construction Equipment PM_{2.5} Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	PM _{2.5} Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Water Truck	10.83	10.83	10.83	10.83	10.83	5.41	5.41	5.41
Excavator	29.58	29.58	29.58	29.58	29.58	19.72	19.72	19.72
Cranes	26.62	26.62	26.62	26.62	26.62	13.31	13.31	13.31
Tractor/Loader/Backhoe	7.37	7.37	7.37	7.37	7.37	3.68	3.68	3.68
Rubber Tired Loader	6.45	6.45	6.45	6.45	6.45	3.22	3.22	3.22
Crawler Tractor	15.56	15.56	15.56	15.56	15.56	7.78	7.78	7.78
Air Compressor	24.12	24.12	24.12	24.12	24.12	12.06	12.06	12.06
Forklift	6.48	12.96	12.96	12.96	12.96	6.48	6.48	6.48
Onsite Total (lbs/month)	127.01	133.49	133.49	133.49	133.49	71.67	71.67	71.67
Onsite Total (lbs/day) ^a	5.52	5.80	5.80	5.80	5.80	3.12	3.12	3.12
Onsite Total (tons/year)	0.44							

Table 5.1A.1 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO₂ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	CO ₂ Emissions (metric tons/month)							
	1	2	3	4	5	6	7	8
Water Truck	28.95	28.95	28.95	28.95	28.95	14.48	14.48	14.48
Excavator	61.20	61.20	61.20	61.20	61.20	40.80	40.80	40.80
Cranes	31.02	31.02	31.02	31.02	31.02	15.51	15.51	15.51
Tractor/Loader/Backhoe	6.10	6.10	6.10	6.10	6.10	3.05	3.05	3.05
Rubber Tired Loader	17.44	17.44	17.44	17.44	17.44	8.72	8.72	8.72
Crawler Tractor	28.29	28.29	28.29	28.29	28.29	14.15	14.15	14.15
Air Compressor	16.16	16.16	16.16	16.16	16.16	8.08	8.08	8.08
Forklift	5.04	10.07	10.07	10.07	10.07	5.04	5.04	5.04
Onsite Total (metric tons/month)	194.19	199.23	199.23	199.23	199.23	109.81	109.81	109.81
Onsite Total (metric tons/day)^a	8.44	8.66	8.66	8.66	8.66	4.77	4.77	4.77
Onsite Total (metric tons/year)	1,320.53							

Construction Equipment N₂O Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	N ₂ O Emissions (metric tons/month)							
	1	2	3	4	5	6	7	8
Water Truck	0.0007	0.0007	0.0007	0.0007	0.0007	0.0004	0.0004	0.0004
Excavator	0.0016	0.0016	0.0016	0.0016	0.0016	0.0010	0.0010	0.0010
Cranes	0.0008	0.0008	0.0008	0.0008	0.0008	0.0004	0.0004	0.0004
Tractor/Loader/Backhoe	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Rubber Tired Loader	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0002	0.0002
Crawler Tractor	0.0007	0.0007	0.0007	0.0007	0.0007	0.0004	0.0004	0.0004
Air Compressor	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0002	0.0002
Forklift	0.0001	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001
Onsite Total (metric tons/month)	0.0049	0.0051	0.0051	0.0051	0.0051	0.0028	0.0028	0.0028
Onsite Total (metric tons/day)^a	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001
Onsite Total (metric tons/year)	0.0336							

Construction Equipment CH₄ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	CH ₄ Emissions (metric tons/month)							
	1	2	3	4	5	6	7	8
Water Truck	0.0016	0.0016	0.0016	0.0016	0.0016	0.0008	0.0008	0.0008
Excavator	0.0035	0.0035	0.0035	0.0035	0.0035	0.0023	0.0023	0.0023
Cranes	0.0018	0.0018	0.0018	0.0018	0.0018	0.0009	0.0009	0.0009
Tractor/Loader/Backhoe	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002	0.0002
Rubber Tired Loader	0.0010	0.0010	0.0010	0.0010	0.0010	0.0005	0.0005	0.0005
Crawler Tractor	0.0016	0.0016	0.0016	0.0016	0.0016	0.0008	0.0008	0.0008
Air Compressor	0.0009	0.0009	0.0009	0.0009	0.0009	0.0005	0.0005	0.0005
Forklift	0.0003	0.0006	0.0006	0.0006	0.0006	0.0003	0.0003	0.0003
Onsite Total (metric tons/month)	0.0110	0.0113	0.0113	0.0113	0.0113	0.0062	0.0062	0.0062
Onsite Total (metric tons/day)^a	0.0005	0.0005	0.0005	0.0005	0.0005	0.0003	0.0003	0.0003
Onsite Total (metric tons/year)	0.0750							

Notes:

^a Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls', the days per month are as follows:

Table 5.1A.2 Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle CO Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	CO Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02
Onsite Stake Truck	0.05	0.05	0.05	0.05	0.05	0.03	0.03	0.03
Onsite Dump Truck	0.05	0.05	0.05	0.05	0.05	0.03	0.03	0.03
Onsite Total (lbs/day)	0.15	0.15	0.15	0.15	0.15	0.07	0.07	0.07
Vehicle Type	CO Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.91	0.91	0.91	0.91	0.91	0.45	0.45	0.45
Onsite Stake Truck	1.26	1.26	1.26	1.26	1.26	0.63	0.63	0.63
Onsite Dump Truck	1.26	1.26	1.26	1.26	1.26	0.63	0.63	0.63
Onsite Total (lbs/month)	3.43	3.43	3.43	3.43	3.43	1.71	1.71	1.71
Onsite Total (tons/year)	0.01							

Onsite Construction Vehicle VOC Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	VOC Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.003	0.003	0.003	0.003	0.003	0.001	0.001	0.001
Onsite Stake Truck	0.028	0.028	0.028	0.028	0.028	0.014	0.014	0.014
Onsite Dump Truck	0.028	0.028	0.028	0.028	0.028	0.014	0.014	0.014
Onsite Total (lbs/day)	0.059	0.059	0.059	0.059	0.059	0.029	0.029	0.029
Vehicle Type	VOC Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.061	0.061	0.061	0.061	0.061	0.030	0.030	0.030
Onsite Stake Truck	0.646	0.646	0.646	0.646	0.646	0.323	0.323	0.323
Onsite Dump Truck	0.646	0.646	0.646	0.646	0.646	0.323	0.323	0.323
Onsite Total (lbs/month)	1.353	1.353	1.353	1.353	1.353	0.676	0.676	0.676
Onsite Total (tons/year)	0.004							

Onsite Construction Vehicle SOx Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	SOx Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.00004	0.00004	0.00004	0.00004	0.00004	0.00002	0.00002	0.00002
Onsite Stake Truck	0.00015	0.00015	0.00015	0.00015	0.00015	0.00007	0.00007	0.00007
Onsite Dump Truck	0.00015	0.00015	0.00015	0.00015	0.00015	0.00007	0.00007	0.00007
Onsite Total (lbs/day)	0.00033	0.00033	0.00033	0.00033	0.00033	0.00017	0.00017	0.00017
Vehicle Type	SOx Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.00092	0.00092	0.00092	0.00092	0.00092	0.00046	0.00046	0.00046
Onsite Stake Truck	0.00335	0.00335	0.00335	0.00335	0.00335	0.00167	0.00167	0.00167
Onsite Dump Truck	0.00335	0.00335	0.00335	0.00335	0.00335	0.00167	0.00167	0.00167
Onsite Total (lbs/month)	0.00761	0.00761	0.00761	0.00761	0.00761	0.00381	0.00381	0.00381
Onsite Total (tons/year)	0.00002							

Onsite Construction Vehicle NOx Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	NOx Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.004	0.004	0.004	0.004	0.004	0.002	0.002	0.002
Onsite Stake Truck	0.174	0.174	0.174	0.174	0.174	0.087	0.087	0.087
Onsite Dump Truck	0.174	0.174	0.174	0.174	0.174	0.087	0.087	0.087
Onsite Total (lbs/day)	0.352	0.352	0.352	0.352	0.352	0.176	0.176	0.176
Vehicle Type	NOx Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.09	0.09	0.09	0.09	0.09	0.04	0.04	0.04
Onsite Stake Truck	4.00	4.00	4.00	4.00	4.00	2.00	2.00	2.00
Onsite Dump Truck	4.00	4.00	4.00	4.00	4.00	2.00	2.00	2.00
Onsite Total (lbs/month)	8.09	8.09	8.09	8.09	8.09	4.05	4.05	4.05
Onsite Total (tons/year)	0.03							

Table 5.1A.2 Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle PM₁₀ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	PM ₁₀ Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000
Onsite Stake Truck	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001
Onsite Dump Truck	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001
Onsite Total (lbs/day)	0.005	0.005	0.005	0.005	0.005	0.002	0.002	0.002
Vehicle Type	PM ₁₀ Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.0126	0.0126	0.0126	0.0126	0.0126	0.0063	0.0063	0.0063
Onsite Stake Truck	0.0510	0.0510	0.0510	0.0510	0.0510	0.0255	0.0255	0.0255
Onsite Dump Truck	0.0510	0.0510	0.0510	0.0510	0.0510	0.0255	0.0255	0.0255
Onsite Total (lbs/month)	0.1147	0.1147	0.1147	0.1147	0.1147	0.0574	0.0574	0.0574
Onsite Total (tons/year)	0.0004							

Onsite Construction Vehicle PM_{2.5} Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	PM _{2.5} Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001
Onsite Stake Truck	0.0016	0.0016	0.0016	0.0016	0.0016	0.0008	0.0008	0.0008
Onsite Dump Truck	0.0016	0.0016	0.0016	0.0016	0.0016	0.0008	0.0008	0.0008
Onsite Total (lbs/day)	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002
Vehicle Type	PM _{2.5} Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.0069	0.0069	0.0069	0.0069	0.0069	0.0034	0.0034	0.0034
Onsite Stake Truck	0.0361	0.0361	0.0361	0.0361	0.0361	0.0181	0.0181	0.0181
Onsite Dump Truck	0.0361	0.0361	0.0361	0.0361	0.0361	0.0181	0.0181	0.0181
Onsite Total (lbs/month)	0.0791	0.0791	0.0791	0.0791	0.0791	0.0396	0.0396	0.0396
Onsite Total (tons/year)	0.0003							

Onsite Construction Vehicle CO₂ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	CO ₂ Emissions (metric tons/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001
Onsite Stake Truck	0.007	0.007	0.007	0.007	0.007	0.004	0.004	0.004
Onsite Dump Truck	0.007	0.007	0.007	0.007	0.007	0.004	0.004	0.004
Onsite Total (metric tons/day)	0.017	0.017	0.017	0.017	0.017	0.008	0.008	0.008
Vehicle Type	CO ₂ Emissions (metric tons/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02
Onsite Stake Truck	0.17	0.17	0.17	0.17	0.17	0.08	0.08	0.08
Onsite Dump Truck	0.17	0.17	0.17	0.17	0.17	0.08	0.08	0.08
Onsite Total (metric tons/month)	0.38	0.38	0.38	0.38	0.38	0.19	0.19	0.19
Onsite Total (metric tons/year)	2.48							

Onsite Construction Vehicle N₂O Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	N ₂ O Emissions (metric tons/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.00000003	0.00000003	0.00000003	0.00000003	0.00000003	0.00000001	0.00000001	0.00000001
Onsite Stake Truck	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000001	0.00000001	0.00000001
Onsite Dump Truck	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000001	0.00000001	0.00000001
Onsite Total (metric tons/day)	0.00000006	0.00000006	0.00000006	0.00000006	0.00000006	0.00000003	0.00000003	0.00000003
Vehicle Type	N ₂ O Emissions (metric tons/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.00000006	0.00000006	0.00000006	0.00000006	0.00000006	0.00000003	0.00000003	0.00000003
Onsite Stake Truck	0.00000004	0.00000004	0.00000004	0.00000004	0.00000004	0.00000002	0.00000002	0.00000002
Onsite Dump Truck	0.00000004	0.00000004	0.00000004	0.00000004	0.00000004	0.00000002	0.00000002	0.00000002
Onsite Total (metric tons/month)	0.00000015	0.00000015	0.00000015	0.00000015	0.00000015	0.00000007	0.00000007	0.00000007
Onsite Total (metric tons/year)	0.0000097							

Table 5.1A.2 Onsite Motor Vehicle Exhaust Emissions

Onsite Construction Vehicle CH₄ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	CH ₄ Emissions (metric tons/day)							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.00000007	0.00000007	0.00000007	0.00000007	0.00000007	0.00000003	0.00000003	0.00000003
Onsite Stake Truck	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000001	0.00000001	0.00000001
Onsite Dump Truck	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000001	0.00000001	0.00000001
Onsite Total (metric tons/day)	0.00000011	0.00000011	0.00000011	0.00000011	0.00000011	0.00000005	0.00000005	0.00000005
Vehicle Type	CH ₄ Emissions (metric tons/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.0000015	0.0000015	0.0000015	0.0000015	0.0000015	0.0000007	0.0000007	0.0000007
Onsite Stake Truck	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000002	0.0000002	0.0000002
Onsite Dump Truck	0.0000005	0.0000005	0.0000005	0.0000005	0.0000005	0.0000002	0.0000002	0.0000002
Onsite Total (metric tons/month)	0.0000024	0.0000024	0.0000024	0.0000024	0.0000024	0.0000012	0.0000012	0.0000012
Onsite Total (metric tons/year)	0.0000158							

Notes:

^a The days per month are per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls', as presented in Table 5.1A.3, Onsite Demolition Fugitive Dust Emissions.

Table 5.1A.3 Onsite Demolition Fugitive Dust Emissions

Demolition Activity Levels for Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Source	Monthly Activity Levels							
	1	2	3	4	5	6	7	8
Debris Generated from Mechanical Dismemberment (tons) ^a	1,782.70	1,782.70	1,782.70	1,782.70	1,782.70	1,782.70	1,782.70	1,782.70

^a Debris generated from Table 5.14-3, Wastes Generated during Demolition of AGS Units 1-7. Assume Scrap Materials waste is unique to the turbines. Assume Scrap Metals, Concrete, Asphalt, and Asbestos wastes include waste from the turbines and the northeast warehouse with similar quantities for each. Therefore, 1/7 of Scrap Materials waste is from the Demolition of Unit 7 and 2/8 of Scrap Metals, Concrete, Asphalt, and Asbestos waste is from the Demolition of Unit 7, Fuel Tank, and Northeast Warehouse. Only materials generated from demolition that may generate fugitive dust were included. The monthly quantities were determined as follows:

Scrap Materials	2,286	lbs/week	4.57	tons/month
Scrap Metals	12,500	tons	1,562.50	tons/month
Concrete	938	tons	117.19	tons/month
Asphalt	38	tons	4.69	tons/month
Asbestos Waste	750	tons	93.75	tons/month

The above calculations are based on the following assumptions:
 Demolition will last 8 months
 The construction schedule allows for 4 weeks/month

Onsite Construction Vehicle Fugitive PM₁₀ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	Fugitive PM ₁₀ Emissions (lbs/day) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	3.38	3.38	3.38	3.38	3.38	1.69	1.69	1.69
Onsite Stake Truck	3.38	3.38	3.38	3.38	3.38	1.69	1.69	1.69
Onsite Dump Truck	3.38	3.38	3.38	3.38	3.38	1.69	1.69	1.69
Onsite Total (lbs/day)	10.14	10.14	10.14	10.14	10.14	5.07	5.07	5.07
Vehicle Type	Fugitive PM ₁₀ Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	77.76	77.76	77.76	77.76	77.76	38.88	38.88	38.88
Onsite Stake Truck	77.76	77.76	77.76	77.76	77.76	38.88	38.88	38.88
Onsite Dump Truck	77.76	77.76	77.76	77.76	77.76	38.88	38.88	38.88
Onsite Total (lbs/month)	233.29	233.29	233.29	233.29	233.29	116.64	116.64	116.64
Onsite Total (tons/year)	0.76							

Notes:
^a Emissions based on highest (controlled) unpaved road emission factor for PM₁₀.

Onsite Construction Vehicle Fugitive PM_{2.5} Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	Fugitive PM _{2.5} Emissions (lbs/day) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	0.34	0.34	0.34	0.34	0.34	0.17	0.17	0.17
Onsite Stake Truck	0.34	0.34	0.34	0.34	0.34	0.17	0.17	0.17
Onsite Dump Truck	0.34	0.34	0.34	0.34	0.34	0.17	0.17	0.17
Onsite Total (lbs/day)	1.01	1.01	1.01	1.01	1.01	0.51	0.51	0.51
Vehicle Type	Fugitive PM _{2.5} Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	7.78	7.78	7.78	7.78	7.78	3.89	3.89	3.89
Onsite Stake Truck	7.78	7.78	7.78	7.78	7.78	3.89	3.89	3.89
Onsite Dump Truck	7.78	7.78	7.78	7.78	7.78	3.89	3.89	3.89
Onsite Total (lbs/month)	23.33	23.33	23.33	23.33	23.33	11.66	11.66	11.66
Onsite Total (tons/year)	0.69							

Notes:
^a Emissions based on the highest (controlled) unpaved road emission factor for PM_{2.5}.

Onsite Demolition Fugitive PM₁₀ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Demolition Activity	Fugitive PM ₁₀ Emissions (lbs/day) ^{a,b}							
	1	2	3	4	5	6	7	8
Dismemberment	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Debris Loading ^c	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Onsite Total (lbs/day)	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Demolition Activity	Fugitive PM ₁₀ Emissions (lbs/month) ^{a,b}							
	1	2	3	4	5	6	7	8
Dismemberment	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Debris Loading ^c	23.16	23.16	23.16	23.16	23.16	23.16	23.16	23.16
Onsite Total (lbs/month)	24.41	24.41	24.41	24.41	24.41	24.41	24.41	24.41
Onsite Total (tons/year)	0.10							

Notes:
^a Work days per month are as follows, per MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls: 23
^b Emissions based on the highest (controlled) emission factor for PM₁₀.
^c Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Table 5.1A.3 Onsite Demolition Fugitive Dust Emissions

Onsite Demolition Fugitive PM_{2.5} Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Demolition Activity	Fugitive PM _{2.5} Emissions (lbs/day) ^{a, b}							
	1	2	3	4	5	6	7	8
Dismemberment	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Debris Loading ^c	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Onsite Total (lbs/day)	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16

Demolition Activity	Fugitive PM _{2.5} Emissions (lbs/month) ^{a, b}							
	1	2	3	4	5	6	7	8
Dismemberment	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Debris Loading ^c	3.51	3.51	3.51	3.51	3.51	3.51	3.51	3.51
Onsite Total (lbs/month)	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
Onsite Total (tons/year)	0.01							

Notes:
^a Work days per month are as follows, per MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls: 23
^b Emissions based on the highest (controlled) emission factor for PM_{2.5}.
^c Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Onsite Construction Vehicle Activity for Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	Miles/Day ^a	Working Days per Month ^b
Onsite Pick-up Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
^a Estimated based on dimensions of the project site.
^b Per MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls.

Fugitive Dust Emission Factors for Unpaved Roads

Parameter	PM ₁₀	PM _{2.5}
Mean Vehicle Weight ^a	16.5	16.5
Silt Content ^b	8.5	8.5
k ^c	1.5	0.15
a ^d	0.9	0.9
b ^e	0.45	0.45
P ^f	31	31
Emission Factor (Uncontrolled, lbs/mile)^g	2.17	0.22
Reduction from Watering 3x per Day^h	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
^a Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons.
^b Silt content taken from Table 13.2.2-1 of Section 13.2.2 of AP-42 (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
^c k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of AP-42 (EPA, 2006) for industrial roads.
^d P taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^e Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of AP-42 (EPA, 2006):
 Emission Factor (lbs/mile) = (k (lbs/mile) × [Silt Content (%) / 12]³ × [Mean Vehicle Weight (tons) / 3]³) × [(365 - P) / 365]
^f Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Dismemberment

Parameter	PM ₁₀	PM _{2.5}
k ^a	0.35	0.053
U (mph) ^b	4.9	4.9
M (%) ^c	2.0	2.0
Emission Factor (lbs/ton)^d	0.00110	0.00017
Reduction from Watering Every 4 Hours^e	36%	36%
Emission Factor (Controlled, lbs/ton)	0.00070	0.00011

Notes:
^a k, the particle size multiplier, taken from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b U, the mean wind speed, taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin. Converted from meters/second (m/s) to miles per hour (mph).
^c M, the material moisture content, taken from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^d Emission factor calculated using the following equation from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 Emission Factor (lbs/ton) = k × 0.0032 × [U / 5]³ / [M / 2]^{1.4}
^e Control efficiency taken from Table XI-A of the CEQA Handbook for Active Demolition and Debris Removal (SCAQMD, 2007).

Fugitive Dust Emission Factors for Debris Loading

Parameter	PM ₁₀	PM _{2.5}
k ^a	0.35	0.053
EF _{L,100} ^b	0.058	0.058
Emission Factor (lbs/ton)^c	0.020	0.003
Reduction from Watering Every 4 Hours^d	36%	36%
Emission Factor (Controlled, lbs/ton)	0.013	0.002

Notes:
^a k taken from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b EF_{L,100} taken from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^c Emission factor calculated using the following equation from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 Emission Factor (lbs/ton) = k × EF_{L,100} (lbs/ton)
^d Control efficiency taken from Table XI-A of the CEQA Handbook for Active Demolition and Debris Removal (SCAQMD, 2007).

Table 5.1A.4 Offsite Motor Vehicle Emissions

Offsite Vehicle Usage During Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	Number per Day							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks ^a	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Material Hauling Trucks ^b	0.63	0.63	0.63	0.13	0.13	0.13	0.63	0.63
Waste Hauling Trucks ^c	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
Construction Worker Commute ^d	37.00	37.00	43.00	48.00	46.00	51.00	49.00	44.00

Notes:

^a Offsite Delivery Trucks include trucks transporting "Consumables & Supplies", as provided in 'TRUCK_DELIVERIES_ALAMITOS 02 01 13.xls'.

^b Material Hauling Trucks include trucks transporting "Contractor Mobilization", "Contractor Demobilization", and "Demo Equipment", as provided in 'TRUCK_DELIVERIES_ALAMITOS 02 01 13.xls'.

^c Waste Hauling Trucks include trucks transporting "Mechanical Equipment", "Electrical Equip. & Mtrls", "Piping, Supports, & Valves", "Concrete and Rebar", and "Steel/Architectural" as provided in 'TRUCK_DELIVERIES_ALAMITOS 02 01 13.xls'.

^d Assumed 1 commute per 1 worker; number of workers taken from 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Offsite Vehicle CO Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	CO Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Material Hauling Trucks	0.04	0.04	0.04	0.01	0.01	0.01	0.04	0.04
Waste Hauling Trucks	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Construction Worker Commute	3.63	3.63	4.22	4.71	4.51	5.00	4.81	4.32
Offsite Total (lbs/day)	4.04	4.04	4.62	5.08	4.88	5.37	5.21	4.72
Vehicle Type	CO Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Material Hauling Trucks	1.02	1.02	1.02	0.20	0.20	0.20	1.02	1.02
Waste Hauling Trucks	8.16	8.16	8.16	8.16	8.16	8.16	8.16	8.16
Construction Worker Commute	83.46	83.46	96.99	108.27	103.76	115.04	110.53	99.25
Offsite Total (lbs/month)	92.83	92.83	106.36	116.82	112.31	123.59	119.89	108.62
Offsite Total (tons/year)	0.44							

Offsite Vehicle VOC Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	VOC Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Material Hauling Trucks	0.010	0.010	0.010	0.002	0.002	0.002	0.010	0.010
Waste Hauling Trucks	0.078	0.078	0.078	0.078	0.078	0.078	0.078	0.078
Construction Worker Commute	0.080	0.080	0.093	0.104	0.100	0.111	0.106	0.096
Offsite Total (lbs/day)	0.170	0.170	0.183	0.186	0.182	0.193	0.196	0.185
Vehicle Type	VOC Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.041	0.041	0.041	0.041	0.041	0.041	0.041	0.041
Material Hauling Trucks	0.224	0.224	0.224	0.045	0.045	0.045	0.224	0.224
Waste Hauling Trucks	1.796	1.796	1.796	1.796	1.796	1.796	1.796	1.796
Construction Worker Commute	1.847	1.847	2.147	2.397	2.297	2.546	2.447	2.197
Offsite Total (lbs/month)	3.908	3.908	4.208	4.278	4.178	4.428	4.507	4.257
Offsite Total (tons/year)	0.017							

Table 5.1A.4 Offsite Motor Vehicle Emissions

Offsite Vehicle SOx Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	SOx Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Material Hauling Trucks	0.0007	0.0007	0.0007	0.0001	0.0001	0.0001	0.0007	0.0007
Waste Hauling Trucks	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060
Construction Worker Commute	0.0098	0.0098	0.0114	0.0127	0.0121	0.0135	0.0129	0.0116
Offsite Total (lbs/day)	0.017	0.017	0.018	0.019	0.018	0.020	0.020	0.018
Vehicle Type	SOx Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Material Hauling Trucks	0.017	0.017	0.017	0.003	0.003	0.003	0.017	0.017
Waste Hauling Trucks	0.138	0.138	0.138	0.138	0.138	0.138	0.138	0.138
Construction Worker Commute	0.225	0.225	0.261	0.291	0.279	0.310	0.298	0.267
Offsite Total (lbs/month)	0.383	0.383	0.419	0.436	0.424	0.454	0.456	0.425
Offsite Total (tons/year)	0.002							

Offsite Vehicle NOx Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	NOx Emissions (lbs/day)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Material Hauling Trucks	0.26	0.26	0.26	0.05	0.05	0.05	0.26	0.26
Waste Hauling Trucks	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Construction Worker Commute	0.36	0.36	0.42	0.46	0.44	0.49	0.47	0.43
Offsite Total (lbs/day)	2.77	2.77	2.83	2.67	2.65	2.70	2.89	2.84
Vehicle Type	NOx Emissions (lbs/month)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Material Hauling Trucks	6.04	6.04	6.04	1.21	1.21	1.21	6.04	6.04
Waste Hauling Trucks	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41
Construction Worker Commute	8.23	8.23	9.56	10.68	10.23	11.34	10.90	9.79
Offsite Total (lbs/month)	63.73	63.73	65.06	61.35	60.90	62.01	66.40	65.29
Offsite Total (tons/year)	0.25							

Offsite Vehicle PM₁₀ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	PM ₁₀ Emissions (lbs/day) ^a							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Material Hauling Trucks	0.027	0.027	0.027	0.005	0.005	0.005	0.027	0.027
Waste Hauling Trucks	0.219	0.219	0.219	0.219	0.219	0.219	0.219	0.219
Construction Worker Commute	0.832	0.832	0.967	1.080	1.035	1.147	1.102	0.990
Offsite Total (lbs/day)	1.082	1.082	1.217	1.308	1.263	1.375	1.352	1.240
Vehicle Type	PM ₁₀ Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Material Hauling Trucks	0.63	0.63	0.63	0.13	0.13	0.13	0.63	0.63
Waste Hauling Trucks	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04
Construction Worker Commute	19.15	19.15	22.25	24.84	23.80	26.39	25.35	22.77
Offsite Total (lbs/month)	24.89	24.89	28.00	30.08	29.05	31.64	31.10	28.52
Offsite Total (tons/year)	0.11							

Notes:
^a PM₁₀ Emissions include emissions from exhaust and paved roads.

Table 5.1A.4 Offsite Motor Vehicle Emissions

Offsite Vehicle PM_{2.5} Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	PM _{2.5} Emissions (lbs/day) ^a							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Material Hauling Trucks	0.011	0.011	0.011	0.002	0.002	0.002	0.011	0.011
Waste Hauling Trucks	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
Construction Worker Commute	0.227	0.227	0.264	0.294	0.282	0.313	0.300	0.270
Offsite Total (lbs/day)	0.324	0.324	0.360	0.383	0.370	0.401	0.397	0.367
Vehicle Type	PM _{2.5} Emissions (lbs/month) ^a							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Material Hauling Trucks	0.24	0.24	0.24	0.05	0.05	0.05	0.24	0.24
Waste Hauling Trucks	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Construction Worker Commute	5.22	5.22	6.06	6.77	6.49	7.19	6.91	6.20
Offsite Total (lbs/month)	7.44	7.44	8.29	8.80	8.52	9.22	9.14	8.43
Offsite Total (tons/year)	0.03							

Notes:
^a PM_{2.5} Emissions include emissions from exhaust and paved roads.

Offsite Vehicle CO₂ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	CO ₂ Emissions (metric tons/day)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Material Hauling Trucks	0.04	0.04	0.04	0.01	0.01	0.01	0.04	0.04
Waste Hauling Trucks	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Construction Worker Commute	0.47	0.47	0.54	0.61	0.58	0.64	0.62	0.56
Offsite Total (metric tons/day)	0.79	0.79	0.87	0.90	0.88	0.94	0.94	0.88
Vehicle Type	CO ₂ Emissions (metric tons/month)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Material Hauling Trucks	0.81	0.81	0.81	0.16	0.16	0.16	0.81	0.81
Waste Hauling Trucks	6.51	6.51	6.51	6.51	6.51	6.51	6.51	6.51
Construction Worker Commute	10.76	10.76	12.51	13.96	13.38	14.83	14.25	12.80
Offsite Total (metric tons/month)	18.23	18.23	19.97	20.78	20.19	21.65	21.72	20.26
Offsite Total (metric tons/year)	161.02							

Offsite Vehicle N₂O Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	N ₂ O Emissions (metric tons/day)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002
Material Hauling Trucks	0.00000012	0.00000012	0.00000012	0.00000002	0.00000002	0.00000002	0.00000012	0.00000012
Waste Hauling Trucks	0.00000096	0.00000096	0.00000096	0.00000096	0.00000096	0.00000096	0.00000096	0.00000096
Construction Worker Commute	0.00000392	0.00000392	0.00000455	0.00000508	0.00000487	0.00000540	0.00000519	0.00000466
Offsite Total (metric tons/day)	0.00000501	0.00000501	0.00000565	0.00000608	0.00000587	0.00000640	0.00000628	0.00000576
Vehicle Type	N ₂ O Emissions (metric tons/month)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.00000004	0.00000004	0.00000004	0.00000004	0.00000004	0.00000004	0.00000004	0.00000004
Material Hauling Trucks	0.00000028	0.00000028	0.00000028	0.00000006	0.00000006	0.00000006	0.00000028	0.00000028
Waste Hauling Trucks	0.0000221	0.0000221	0.0000221	0.0000221	0.0000221	0.0000221	0.0000221	0.0000221
Construction Worker Commute	0.0000901	0.0000901	0.0001047	0.0001168	0.0001120	0.0001242	0.0001193	0.0001071
Offsite Total (metric tons/month)	0.0001153	0.0001153	0.0001299	0.0001399	0.0001350	0.0001472	0.0001446	0.0001324
Offsite Total (metric tons/year)	0.0010597							

Table 5.1A.4 Offsite Motor Vehicle Emissions

Offsite Vehicle CH₄ Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	CH ₄ Emissions (metric tons/day)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002	0.00000002
Material Hauling Trucks	0.00000013	0.00000013	0.00000013	0.00000003	0.00000003	0.00000003	0.00000013	0.00000013
Waste Hauling Trucks	0.00000102	0.00000102	0.00000102	0.00000102	0.00000102	0.00000102	0.00000102	0.00000102
Construction Worker Commute	0.00001882	0.00001882	0.00002187	0.00002441	0.00002340	0.00002594	0.00002492	0.00002238
Offsite Total (metric tons/day)	0.00001999	0.00001999	0.00002304	0.00002548	0.00002446	0.00002701	0.00002609	0.00002355
Vehicle Type	CH ₄ Emissions (metric tons/month)							
	1	2	3	4	5	6	7	8
Offsite Delivery Trucks	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004	0.0000004
Material Hauling Trucks	0.0000029	0.0000029	0.0000029	0.0000006	0.0000006	0.0000006	0.0000029	0.0000029
Waste Hauling Trucks	0.0000235	0.0000235	0.0000235	0.0000235	0.0000235	0.0000235	0.0000235	0.0000235
Construction Worker Commute	0.0004328	0.0004328	0.0005030	0.0005615	0.0005381	0.0005966	0.0005732	0.0005147
Offsite Total (metric tons/month)	0.0004597	0.0004597	0.0005299	0.0005860	0.0005626	0.0006211	0.0006001	0.0005416
Offsite Total (metric tons/year)	0.0043606							

Offsite Construction Vehicle Activity for Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	Roundtrip Miles/Day	Working Days per Month ^d
Offsite Delivery Trucks ^a	13.8	23
Material Hauling Trucks ^b	40.0	23
Waste Hauling Trucks ^c	42.2	23
Construction Worker Commute ^a	29.4	23

Notes:

^a Roundtrip miles/day taken for the South Coast Air Basin from Table 4.2 (Urban C-NW and H-W values) of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013)

^b Roundtrip miles/day taken for from Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013)

^c Roundtrip miles/day were assumed to travel directly to the Puente Hills Landfill for offsite waste disposal.

^d Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Table 5.1A.5 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Emission Source	Pollutant(s)	Equation	Variables		
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)		
			EF = Emission factor (g/bhp-hr)		
			N = Number of pieces of equipment		
				$E_d = E_m / D$	Hp = Average horsepower
			L = Average load factor		
			H = Hours per month		
				$E_t = \sum E_m / 2,000$	453.6 = Conversion from g to lbs
			E_d = Emissions (lbs/day)		
			E_m = Emissions (lbs/month)		
			$E_m = N * FC * EF * H * 0.001$	D = Number of construction days per month	
		E_t = Emissions (tons/year)			
		E_m = Emissions (lbs/month)			
			$E_d = E_m / D$	2,000 = Conversion from lbs to tons	
		E_m = Emissions (metric tons/month)			
		N = Number of pieces of equipment			
		$E_t = \sum E_m$	FC = Fuel consumption (gallons/hour)		
	E_d = Emissions (metric tons/day)				
	E_m = Emissions (metric tons/month)				
		$E_m = N * FC * EF * H / 1,000 * 0.001$	EF = Emission factor (kg/gallon)		
	E_t = Emissions (metric tons/year)				
	E_m = Emissions (metric tons/month)				
		$E_d = E_m / D$	H = Hours per month		
	E_m = Emissions (metric tons/day)				
	E_m = Emissions (metric tons/month)				
		$E_t = \sum E_m$	0.001 = Conversion from kg to metric tons		
	E_d = Emissions (metric tons/day)				
	E_m = Emissions (metric tons/month)				
		$E_m = N * FC * EF * H / 1,000 * 0.001$	D = Number of construction days per month		
	E_t = Emissions (metric tons/year)				
	E_m = Emissions (metric tons/month)				
		$E_d = E_m / D$	E_m = Emissions (metric tons/month)		
	E_t = Emissions (metric tons/year)				
	E_m = Emissions (metric tons/month)				
		$E_t = \sum E_m$	N = Number of vehicles		
	E_d = Emissions (lbs/day)				
	E_m = Emissions (lbs/month)				
		$E_d = N * VMT * EF / 453.6$	VMT = Vehicle miles traveled per day (miles/day)		
	E_t = Emissions (tons/year)				
	E_m = Emissions (lbs/month)				
		$E_m = E_d * D$	EF = EMFAC2011 emission factor (g/mile). Paved and unpaved road fugitive PM ₁₀ and PM _{2.5} emission factors calculated per Sections 13.2.1 and 13.2.2 of AP-42 (EPA, 2011 and 2006), respectively.		
	E_d = Emissions (lbs/day)				
	D = Number of construction days per month				
		$E_t = \sum E_m / 2,000$	453.6 = Conversion from g to lbs		
	E_m = Emissions (lbs/month)				
	E_t = Emissions (tons/year)				
		$E_m = E_d * D$	E_m = Emissions (lbs/month)		
	E_d = Emissions (lbs/day)				
	D = Number of construction days per month				
		$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year)		
	E_m = Emissions (lbs/month)				
	2,000 = Conversion from lbs to tons				

Table 5.1A.5 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Emission Source	Pollutant(s)	Equation	Variables	
Onsite and Offsite Vehicle Exhaust	CO ₂	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day)	
			N = Number of vehicles	
			VMT = Vehicle miles traveled per day (miles/day)	
		FE = Fuel economy (mpg)		
		EF = Emission factor (kg/gallon)		
		0.001 = Conversion from kg to metric tons		
			$E_m = E_d * D$	E_m = Emissions (metric tons/month)
				E_d = Emissions (metric tons/day)
				D = Number of construction days per month
			$E_i = \sum E_m$	E_i = Emissions (metric tons/year)
				E_m = Emissions (metric tons/month)
				E_d = Emissions (metric tons/day)
CH ₄ and N ₂ O		$E_d = N * VMT * EF / 1,000 * 0.001$	N = Number of vehicles	
			VMT = Vehicle miles traveled per day (miles/day)	
			EF = Emission factor (g/mile)	
			$E_m = E_d * D$	1,000 = Conversion from g to kg
				0.001 = Conversion from kg to metric tons
				E_m = Emissions (metric tons/month)
		$E_i = \sum E_m$	E_d = Emissions (metric tons/day)	
			D = Number of construction days per month	
			E_i = Emissions (metric tons/year)	
Onsite Fugitive PM ₁₀ and PM _{2.5} from Dismemberment and Debris Loading	PM ₁₀ and PM _{2.5}	$E_d = T * EF / D$	E_d = Emissions (lbs/day)	
			T = Tons of material dismembered or loaded per month (tons/month)	
			EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/ton), calculated per Section 13.2.4.3 of AP-42 (EPA, 2006) for dismemberment and Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013) for debris loading.	
			$E_m = E_d * D$	D = Number of construction days per month
				E_m = Emissions (lbs/month)
				E_d = Emissions (lbs/day)
			$E_i = \sum E_m / 2,000$	D = Number of construction days per month
				E_i = Emissions (tons/year)
				E_m = Emissions (lbs/month)
			2,000 = Conversion from lbs to tons	

Table 5.1A.6 Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Onsite Equipment	Number per Month ^{a, b}							
	1	2	3	4	5	6	7	8
Water Truck	2	2	2	2	2	1	1	1
Excavator	6	6	6	6	6	4	4	4
Cranes ^c	4	4	4	4	4	2	2	2
Tractor/Loader/Backhoe ^d	2	2	2	2	2	1	1	1
Rubber Tired Loader ^e	2	2	2	2	2	1	1	1
Crawler Tractor ^f	2	2	2	2	2	1	1	1
Air Compressor	4	4	4	4	4	2	2	2
Forklift	2	4	4	4	4	2	2	2

Notes:

^a Equipment counts taken from 'EQUIP_USE_ALAMITOS 06 12 13.xls'.

^b Equipment counts include the Demolition of Unit 7 Peaker, Fuel Tank, and Eastern Part of Water Treatment Enclosure equipment and the Demolition of Northeastern Warehouse equipment. Northeastern Warehouse Demolition occurs during months 1 through 5.

^c Numbers presented for Cranes include the equipment counts for the the 35 Ton Hydraulic Crane.

^d Numbers presented for Tractor/Loader/Backhoe include the equipment counts for the Backhoe.

^e Numbers presented for Rubber Tired Loader include the equipment counts for the Front End Loader.

^f Numbers presented for Crawler Tractor include the equipment counts for the Dozer.

Number of Onsite Motor Vehicles for Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	Number per Month ^{a, b}							
	1	2	3	4	5	6	7	8
Onsite Pick-up Truck	2	2	2	2	2	1	1	1
Onsite Stake Truck	2	2	2	2	2	1	1	1
Onsite Dump Truck	4	4	4	4	4	2	2	2

Notes:

^a Vehicle counts taken from 'EQUIP_USE_ALAMITOS 06 12 13.xls'.

^b Vehicle counts include the Demolition of Unit 7 Peaker, Fuel Tank, and Eastern Part of Water Treatment Enclosure vehicles and the Demolition of Northeastern Warehouse equipment. Northeastern Warehouse Demolition occurs during months 1 through 5.

Table 5.1A.7 Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Equipment ^a	Percent Usage ^b	Hours per Month ^c	Horsepower ^d	Load Factor ^d	Emission Factors (g/bhp-hr) ^e						Fuel Consumption (gallons/hour) 2016 ^f
					CO 2016	VOC 2016	NO _x 2016	SO _x 2016	PM ₁₀ 2016	PM _{2.5} 2016	
Water Truck ^g	50%	115	400	0.38	1.885	0.351	4.048	0.005	0.153	0.141	12.33
Excavator	85%	196	163	0.38	3.158	0.358	4.081	0.005	0.201	0.185	5.11
Cranes	65%	150	226	0.29	2.582	0.623	7.381	0.005	0.335	0.308	5.08
Tractor/Loader/Backhoe	55%	127	98	0.37	3.811	0.538	5.142	0.005	0.396	0.364	2.36
Rubber Tired Loader	55%	127	200	0.36	1.452	0.393	5.115	0.005	0.175	0.161	6.75
Crawler Tractor	80%	184	208	0.43	1.803	0.449	6.047	0.005	0.233	0.215	7.53
Air Compressor	80%	184	78	0.48	3.804	0.744	4.790	0.006	0.397	0.397	2.15
Forklift	75%	173	89	0.20	4.023	0.723	6.222	0.005	0.520	0.479	1.43

Notes:

^a Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Percent Usage assumed typical of power plant construction.

^c Hours per month calculated based on the following schedule, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls':

Work hours per day: 10
 Work days per month: 23

^d Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

^e Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2016 were used for the construction equipment exhaust emission calculations.

^f Fuel consumption based on consumption in the OFFROAD2007 model for the South Coast Air Basin in the year 2016; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).

^g Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks.

Table 5.1A.8 Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Vehicle Type	Vehicle Class ^a	Exhaust Emission Factors (g/mile) ^b						Paved Road Emission Factors (g/mile) ^c		Fuel Economy 2016 (mpg) ^d
		CO 2016	VOC 2016	SO _x 2016	NO _x 2016	PM ₁₀ 2016	PM _{2.5} 2016	PM ₁₀	PM _{2.5}	
Onsite Pick-up Truck	Light-duty Truck	4.479	0.298	0.005	0.422	0.062	0.034	N/A	N/A	18.162
Onsite Stake Truck	Heavy-duty Diesel	6.211	3.186	0.017	19.740	0.252	0.178	N/A	N/A	5.565
Onsite Dump Truck	Heavy-duty Diesel	6.211	3.186	0.017	19.740	0.252	0.178	N/A	N/A	5.565
Offsite Delivery Trucks	Heavy-duty Diesel	1.089	0.233	0.017	6.018	0.170	0.103	0.300	0.075	5.565
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.803	0.177	0.014	4.763	0.195	0.117	0.300	0.075	7.233
Waste Hauling Trucks	Heavy/Medium-duty Diesel	0.803	0.177	0.014	4.763	0.195	0.117	0.300	0.075	7.233
Construction Worker Commute	Light-duty Auto/Truck	1.513	0.033	0.004	0.149	0.047	0.019	0.300	0.075	20.413

Notes:

^a The vehicle classes are represented as follows:

Light-duty Truck: Assumed to be an average of LDT1, GAS and LDT2, GAS values.

Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2016, using EMFAC2007 Vehicle Categories. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

^c Paved road emission factors calculated using CalEEMod methodology, as described below.

^d Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2016, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM ₁₀	PM _{2.5}
Average Weight ^a	2.4	2.4
k ^b	1.0	0.25
sL ^c	0.1	0.1
Emission Factor (g/mile) ^d	0.300	0.075

Notes:

^a Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).

^c sL taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.

^d Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):

$$\text{Emission Factor (g/mile)} = k \text{ (g/mile)} \times [\text{sL (g/m}^2\text{)}]^{0.91} \times [\text{Average Weight (tons)}]^{1.02}$$

Table 5.1A.9 Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO₂ Emission Factors			
Gasoline	8.78	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N₂O Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0036	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0066	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0048	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N ₂ O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH₄ Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0173	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0163	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0051	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH ₄ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

^a Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.10 Offsite Construction Equipment Exhaust Emissions

Construction Equipment CO Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	CO Emissions (lbs/month)			
	9	10	11	12
Excavator	168.60	168.60	168.60	168.60
Crane	55.78	55.78	55.78	55.78
Roller	35.17	35.17	35.17	35.17
Plate Compactor	3.63	3.63	3.63	3.63
Offsite Total (lbs/month)	263.17	263.17	263.17	263.17
Offsite Total (lbs/day) ^a	11.44	11.44	11.44	11.44
Offsite Total (tons/year)	0.53			

Construction Equipment VOC Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	VOC Emissions (lbs/month)			
	9	10	11	12
Excavator	19.09	19.09	19.09	19.09
Crane	13.46	13.46	13.46	13.46
Roller	5.88	5.88	5.88	5.88
Plate Compactor	0.69	0.69	0.69	0.69
Offsite Total (lbs/month)	39.12	39.12	39.12	39.12
Offsite Total (lbs/day) ^a	1.70	1.70	1.70	1.70
Offsite Total (tons/year)	0.08			

Construction Equipment NOx Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	NOx Emissions (lbs/month)			
	9	10	11	12
Excavator	217.89	217.89	217.89	217.89
Crane	159.43	159.43	159.43	159.43
Roller	54.37	54.37	54.37	54.37
Plate Compactor	4.33	4.33	4.33	4.33
Offsite Total (lbs/month)	436.02	436.02	436.02	436.02
Offsite Total (lbs/day) ^a	18.96	18.96	18.96	18.96
Offsite Total (tons/year)	0.87			

Construction Equipment SOx Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	SOx Emissions (lbs/month)			
	9	10	11	12
Excavator	0.262	0.262	0.262	0.262
Crane	0.106	0.106	0.106	0.106
Roller	0.046	0.046	0.046	0.046
Plate Compactor	0.008	0.008	0.008	0.008
Offsite Total (lbs/month)	0.422	0.422	0.422	0.422
Offsite Total (lbs/day) ^a	0.018	0.018	0.018	0.018
Offsite Total (tons/year)	0.001			

Table 5.1A.10 Offsite Construction Equipment Exhaust Emissions

Construction Equipment PM₁₀ Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	PM ₁₀ Emissions (lbs/month)			
	9	10	11	12
Excavator	10.72	10.72	10.72	10.72
Crane	7.23	7.23	7.23	7.23
Roller	4.00	4.00	4.00	4.00
Plate Compactor	0.17	0.17	0.17	0.17
Offsite Total (lbs/month)	22.13	22.13	22.13	22.13
Offsite Total (lbs/day) ^a	0.96	0.96	0.96	0.96
Offsite Total (tons/year)	0.04			

Construction Equipment PM_{2.5} Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	PM _{2.5} Emissions (lbs/month)			
	9	10	11	12
Excavator	9.86	9.86	9.86	9.86
Crane	6.66	6.66	6.66	6.66
Roller	3.68	3.68	3.68	3.68
Plate Compactor	0.17	0.17	0.17	0.17
Offsite Total (lbs/month)	20.37	20.37	20.37	20.37
Offsite Total (lbs/day) ^a	0.89	0.89	0.89	0.89
Offsite Total (tons/year)	0.04			

Construction Equipment CO₂ Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	CO ₂ Emissions (metric tons/month)			
	9	10	11	12
Excavator	20.40	20.40	20.40	20.40
Crane	7.75	7.75	7.75	7.75
Roller	3.80	3.80	3.80	3.80
Plate Compactor	0.28	0.28	0.28	0.28
Offsite Total (metric tons/month)	32.24	32.24	32.24	32.24
Offsite Total (metric tons/day) ^a	1.40	1.40	1.40	1.40
Offsite Total (metric tons/year)	128.96			

Construction Equipment N₂O Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	N ₂ O Emissions (metric tons/month)			
	9	10	11	12
Excavator	0.00052	0.00052	0.00052	0.00052
Crane	0.00020	0.00020	0.00020	0.00020
Roller	0.00010	0.00010	0.00010	0.00010
Plate Compactor	0.00001	0.00001	0.00001	0.00001
Offsite Total (metric tons/month)	0.00082	0.00082	0.00082	0.00082
Offsite Total (metric tons/day) ^a	0.00004	0.00004	0.00004	0.00004
Offsite Total (metric tons/year)	0.00328			

Table 5.1A.10 Offsite Construction Equipment Exhaust Emissions

Construction Equipment CH₄ Emissions from New & Upgrade Sewer Line Construction

Offsite Equipment	CH ₄ Emissions (metric tons/month)			
	9	10	11	12
Excavator	0.00116	0.00116	0.00116	0.00116
Crane	0.00044	0.00044	0.00044	0.00044
Roller	0.00022	0.00022	0.00022	0.00022
Plate Compactor	0.00002	0.00002	0.00002	0.00002
Offsite Total (metric tons/month)	0.00183	0.00183	0.00183	0.00183
Offsite Total (metric tons/day)^a	0.00008	0.00008	0.00008	0.00008
Offsite Total (metric tons/year)	0.00733			

Notes:

^a Per 'Offsite Sewer Line Manpower/Equipment Truck Deliveries 05.02.13.xls', the days per month are as follows:

Table 5.1A.11 Offsite Construction Fugitive Dust Emissions

Earthmoving Activity Levels for New & Upgrade Sewer Line Construction

Source	Acres			
	9	10	11	12
Sewer Line Staging Areas ^a	0.29	0.29	0.29	0.29

Notes:
^a A total of 50,000 sq ft (1.15 acres) is disturbed for the staging areas of the New & Upgrade Sewer Line construction as estimated from 'Alamitos_Civil_Sewer Offsite New and Potential Upgrade_05.02.13.doc'. Assumed this disturbance was equally distributed amongst all the months.

Cut/Fill Activity Levels for New & Upgrade Sewer Line Construction

Source	Cut/Fill Volume (ft ³ /month)			
	9	10	11	12
New Sewer Line ^a	4,000	4,000	4,000	4,000
Upgrade Sewer Line ^b	40,000	40,000	40,000	40,000

Notes:
^a A total of 16,000 ft³ is moved during the New Sewer Line construction as estimated from 'Alamitos_Civil_Sewer Offsite New and Potential Upgrade_05.02.13.doc'. Assumed this disturbance was equally distributed amongst all the months.
^b A total of 160,000 ft³ is moved during the Upgrade Sewer Line construction as estimated from 'Alamitos_Civil_Sewer Offsite New and Potential Upgrade_05.02.13.doc'. Assumed this disturbance was equally distributed amongst all the months.

Offsite Fine Site Grading Emissions Fugitive PM₁₀ Emissions from New & Upgrade Sewer Line Construction

Source	Fugitive PM ₁₀ Emissions (lbs/month) ^a			
	9	10	11	12
New Sewer Line	6.82	6.82	6.82	6.82
Upgrade Sewer Line	68.18	68.18	68.18	68.18
Sewer Line Staging Areas	24.67	24.67	24.67	24.67
Sewer Line Total (lbs/month)	99.66	99.66	99.66	99.66
Sewer Line Total (lbs/day)^b	4.33	4.33	4.33	4.33
Sewer Line Total (tons/year)	0.20			

Notes:
^a Emissions based on highest (controlled) emission factor for PM₁₀.
^b Work days per month are as follows, per 'Offsite Sewer Line Manpower/Equipment Truck Deliveries 05.02.13.xls': 23

Offsite Fine Site Grading Emissions Fugitive PM_{2.5} Emissions from New & Upgrade Sewer Line Construction

Source	Fugitive PM _{2.5} Emissions (lbs/month) ^a			
	9	10	11	12
New Sewer Line	1.42	1.42	1.42	1.42
Upgrade Sewer Line	14.18	14.18	14.18	14.18
Sewer Line Staging Areas	5.13	5.13	5.13	5.13
Sewer Line Total (lbs/month)	20.73	20.73	20.73	20.73
Sewer Line Total (lbs/day)^b	0.90	0.90	0.90	0.90
Sewer Line Total (tons/year)	0.04			

Notes:
^a Emissions based on highest (controlled) emission factor for PM_{2.5}.
^b Work days per month are as follows, per 'Offsite Sewer Line Manpower/Equipment Truck Deliveries 05.02.13.xls': 23

Fugitive Dust Emission Factors for Fine Site Grading

New and Upgrade Sewer Line Trenching and Grading Activities

Emissions Factors	PM ₁₀ ^a	PM _{2.5} ^b
Acresage Emission Factor (ton/acre/month)	0.11	0.02
Reduction from Watering Every 3 Hours ^c	61%	61%
Acresage Emission Factor (Controlled, ton/acre/month)	0.043	0.009
Cut/Fill Emission Factor (ton/yd ³) ^d	0.00006	0.00001
Reduction from Watering Every 3 Hours ^c	61%	61%
Cut/ Fill Emission Factor (Controlled, (ton/yd³))	0.000023	0.000005

Notes:
^a PM₁₀ emission factors taken from Table A-4 of Appendix A of the Software User's Guide: URBEMIS2007 for Windows (USA, 2007).
^b Assume PM_{2.5} emissions to be 20.8% of the PM₁₀ emissions per Appendix A, Table A of Final -Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds (SCAQMD, 2006).
^c 100% of the cut/fill volume was assumed to be "onsite" (i.e., excavated material will be used as backfill).
^d Control efficiency taken from Table XI-A of the CEQA Handbook for Construction Activities (SCAQMD, 2007).

Table 5.1A.12 Offsite Motor Vehicle Emissions

Offsite Vehicle Usage During New & Upgrade Sewer Line Construction

Vehicle Type	Number per Day			
	9	10	11	12
Material Hauling Trucks ^a	12.00	12.00	12.00	12.00
Construction Worker Commute ^b	10.00	10.00	10.00	5.00

Notes:

^a Material Hauling Trucks include trucks transporting "Gravel/Fill Material/Asphalt", and "Mechanical:

Pipes, Fittings, Pumps etc.", as provided in 'Offsite Sewer Line Manpower/Equipment Truck Deliveries 05.02.13.xls'.

^b Assumed 1 commute per 1 worker; number of workers taken from 'Offsite Sewer Line Manpower/Equipment Truck Deliveries 05.02.13.xls'.

Offsite Vehicle CO Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	CO Emissions (lbs/day)			
	9	10	11	12
Material Hauling Trucks	0.85	0.85	0.85	0.85
Construction Worker Commute	0.98	0.98	0.98	0.49
Offsite Total (lbs/day)	1.83	1.83	1.83	1.34
Vehicle Type	CO Emissions (lbs/month)			
	9	10	11	12
Material Hauling Trucks	19.54	19.54	19.54	19.54
Construction Worker Commute	22.56	22.56	22.56	11.28
Offsite Total (lbs/month)	42.10	42.10	42.10	30.82
Offsite Total (tons/year)	0.08			

Offsite Vehicle VOC Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	VOC Emissions (lbs/day)			
	9	10	11	12
Material Hauling Trucks	0.19	0.19	0.19	0.19
Construction Worker Commute	0.02	0.02	0.02	0.01
Offsite Total (lbs/day)	0.21	0.21	0.21	0.20
Vehicle Type	VOC Emissions (lbs/month)			
	9	10	11	12
Material Hauling Trucks	4.30	4.30	4.30	4.30
Construction Worker Commute	0.50	0.50	0.50	0.25
Offsite Total (lbs/month)	4.80	4.80	4.80	4.55
Offsite Total (tons/year)	0.01			

Offsite Vehicle SOx Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	SOx Emissions (lbs/day)			
	9	10	11	12
Material Hauling Trucks	0.014	0.014	0.014	0.014
Construction Worker Commute	0.003	0.003	0.003	0.001
Offsite Total (lbs/day)	0.017	0.017	0.017	0.016
Vehicle Type	SOx Emissions (lbs/month)			
	9	10	11	12
Material Hauling Trucks	0.331	0.331	0.331	0.331
Construction Worker Commute	0.061	0.061	0.061	0.030
Offsite Total (lbs/month)	0.392	0.392	0.392	0.361
Offsite Total (tons/year)	0.001			

Table 5.1A.12 Offsite Motor Vehicle Emissions

Offsite Vehicle NOx Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	NOx Emissions (lbs/day)			
	9	10	11	12
Material Hauling Trucks	5.04	5.04	5.04	5.04
Construction Worker Commute	0.10	0.10	0.10	0.05
Offsite Total (lbs/day)	5.14	5.14	5.14	5.09
Vehicle Type	NOx Emissions (lbs/month)			
	9	10	11	12
Material Hauling Trucks	115.92	115.92	115.92	115.92
Construction Worker Commute	2.22	2.22	2.22	1.11
Offsite Total (lbs/month)	118.14	118.14	118.14	117.03
Offsite Total (tons/year)	0.24			

Offsite Vehicle PM₁₀ Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	PM ₁₀ Emissions (lbs/day) ^a			
	9	10	11	12
Material Hauling Trucks	0.52	0.52	0.52	0.52
Construction Worker Commute	0.22	0.22	0.22	0.11
Offsite Total (lbs/day)	0.75	0.75	0.75	0.64
Vehicle Type	PM ₁₀ Emissions (lbs/month) ^a			
	9	10	11	12
Material Hauling Trucks	12.07	12.07	12.07	12.07
Construction Worker Commute	5.17	5.17	5.17	2.59
Offsite Total (lbs/month)	17.24	17.24	17.24	14.65
Offsite Total (tons/year)	0.03			

Notes:
^a PM₁₀ Emissions include emissions from exhaust and paved roads.

Offsite Vehicle PM_{2.5} Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	PM _{2.5} Emissions (lbs/day) ^a			
	9	10	11	12
Material Hauling Trucks	0.20	0.20	0.20	0.20
Construction Worker Commute	0.06	0.06	0.06	0.03
Offsite Total (lbs/day)	0.26	0.26	0.26	0.23
Vehicle Type	PM _{2.5} Emissions (lbs/month) ^a			
	9	10	11	12
Material Hauling Trucks	4.67	4.67	4.67	4.67
Construction Worker Commute	1.41	1.41	1.41	0.71
Offsite Total (lbs/month)	6.08	6.08	6.08	5.38
Offsite Total (tons/year)	0.01			

Notes:
^a PM_{2.5} Emissions include emissions from exhaust and paved roads.

Offsite Vehicle CO₂ Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	CO ₂ Emissions (metric tons/day)			
	9	10	11	12
Material Hauling Trucks	0.68	0.68	0.68	0.68
Construction Worker Commute	0.13	0.13	0.13	0.06
Offsite Total (metric tons/day)	0.80	0.80	0.80	0.74
Vehicle Type	CO ₂ Emissions (metric tons/month)			
	9	10	11	12
Material Hauling Trucks	15.58	15.58	15.58	15.58
Construction Worker Commute	2.91	2.91	2.91	1.45
Offsite Total (metric tons/month)	18.49	18.49	18.49	17.04
Offsite Total (metric tons/year)	72.52			

Table 5.1A.12 Offsite Motor Vehicle Emissions

Offsite Vehicle N₂O Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	N ₂ O Emissions (metric tons/day)			
	9	10	11	12
Material Hauling Trucks	0.000023	0.000023	0.000023	0.000023
Construction Worker Commute	0.000011	0.000011	0.000011	0.000005
Offsite Total (metric tons/day)	0.000034	0.000034	0.000034	0.000028
Vehicle Type	N ₂ O Emissions (metric tons/month)			
	9	10	11	12
Material Hauling Trucks	0.00005	0.00005	0.00005	0.00005
Construction Worker Commute	0.00002	0.00002	0.00002	0.00001
Offsite Total (metric tons/month)	0.00008	0.00008	0.00008	0.00007
Offsite Total (metric tons/year)	0.00030			

Offsite Vehicle CH₄ Emissions from New & Upgrade Sewer Line Construction

Vehicle Type	CH ₄ Emissions (metric tons/day)			
	9	10	11	12
Material Hauling Trucks	0.000002	0.000002	0.000002	0.000002
Construction Worker Commute	0.000005	0.000005	0.000005	0.000003
Offsite Total (metric tons/day)	0.000008	0.000008	0.000008	0.000005
Vehicle Type	CH ₄ Emissions (metric tons/month)			
	9	10	11	12
Material Hauling Trucks	0.00006	0.00006	0.00006	0.00006
Construction Worker Commute	0.00012	0.00012	0.00012	0.00006
Offsite Total (metric tons/month)	0.00017	0.00017	0.00017	0.00011
Offsite Total (metric tons/year)	0.00063			

Offsite Construction Vehicle Activity for New & Upgrade Sewer Line Construction

Vehicle Type	Roundtrip Miles/Day	Working Days per Month ^c
Material Hauling Trucks ^a	40.0	23
Construction Worker Commute ^b	29.4	23

Notes:

^a Roundtrip miles/day taken for from Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Roundtrip miles/day taken for the South Coast Air Basin from Table 4.2 (H-W value) of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

^c Per 'Offsite Sewer Line Manpower/Equipment Truck Deliveries 05.02.13.xls'.

Table 5.1A.13 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from New & Upgrade Sewer Line Construction

Emission Source	Pollutant(s)	Equation	Variables
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)
			EF = Emission factor (g/bhp-hr)
			N = Number of pieces of equipment
		$E_d = E_m / D$	Hp = Average horsepower
			L = Average load factor
			H = Hours per month
		$E_t = \sum E_m / 2,000$	453.6 = Conversion from g to lbs
			E_d = Emissions (lbs/day)
			E_m = Emissions (lbs/month)
	CO ₂	$E_m = N * FC * EF * H * 0.001$	D = Number of construction days per month
			E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
		$E_d = E_m / D$	$2,000$ = Conversion from lbs to tons
			E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
CH ₄ and N ₂ O	$E_m = N * FC * EF * H / 1,000 * 0.001$	FC = Fuel consumption (gallons/hour)	
		EF = Emission factor (kg/gallon)	
		H = Hours per month	
	$E_d = E_m / D$	0.001 = Conversion from kg to metric tons	
		E_d = Emissions (metric tons/day)	
		E_m = Emissions (metric tons/month)	
$E_t = \sum E_m$	D = Number of construction days per month		
	E_t = Emissions (metric tons/year)		
	E_m = Emissions (metric tons/month)		
Offsite Vehicle Exhaust and Paved Road Fugitive PM ₁₀ and PM _{2.5}	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_d = N * VMT * EF / 453.6$	E_d = Emissions (lbs/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
		$E_m = E_d * D$	EF = EMFAC2011 emission factor (g/mile). Paved road fugitive PM ₁₀ and PM _{2.5} emission factors calculated per Sections 13.2.1 of AP-42 (EPA, 2011)
			453.6 = Conversion from g to lbs
			E_m = Emissions (lbs/month)
	$E_t = \sum E_m / 2,000$	E_d = Emissions (lbs/day)	
		D = Number of construction days per month	
		E_t = Emissions (tons/year)	
			E_m = Emissions (lbs/month)
			$2,000$ = Conversion from lbs to tons

Table 5.1A.13 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from New & Upgrade Sewer Line Construction

Emission Source	Pollutant(s)	Equation	Variables
Offsite Vehicle Exhaust	CO ₂	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
		FE = Fuel economy (mpg)	
		EF = Emission factor (kg/gallon)	
		0.001 = Conversion from kg to metric tons	
	$E_m = E_d * D$	E_m = Emissions (metric tons/month)	
		E_d = Emissions (metric tons/day)	
		D = Number of construction days per month	
$E_t = \sum E_m$	E_t = Emissions (metric tons/year)		
	E_m = Emissions (metric tons/month)		
CH ₄ and N ₂ O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day)	
		N = Number of vehicles	
		VMT = Vehicle miles traveled per day (miles/day)	
	EF = Emission factor (g/mile)		
	1,000 = Conversion from g to kg		
	0.001 = Conversion from kg to metric tons		
$E_m = E_d * D$	E_m = Emissions (metric tons/month)		
	E_d = Emissions (metric tons/day)		
	D = Number of construction days per month		
$E_t = \sum E_m$	E_t = Emissions (metric tons/year)		
	E_m = Emissions (metric tons/month)		
Offsite Fugitive PM ₁₀ and PM _{2.5} from Trenching (Fine Site Grading)	PM ₁₀ and PM _{2.5}	$E_m = (EF_{\text{volume}} / 27 * V) * 2000$	E_m = Emissions (lbs/month)
			Table A-4 of Appendix A of the <i>Software User's Guide: URBEMIS2007 for Windows</i> (JSA, 2007) and Appendix A, Table A of <i>Final -Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds</i> (SCAQMD, 2006).
			27 = Conversion factor from cubic yards to cubic feet
		$E_t = \sum E_m / 2,000$	V = Cut/fill volume (ft ³ /month)
			2,000 = Conversion from tons to lbs
			E_t = Emissions (metric tons/year)
$E_m = \sum E_m / 2,000$	E_m = Emissions (lbs/month)		
	2,000 = Conversion from lbs to tons		
Offsite Fugitive PM ₁₀ and PM _{2.5} from Staging Area (Fine Site Grading)	PM ₁₀ and PM _{2.5}	$E_m = (EF_{\text{acreage}} * A) * 2000$	E_m = Emissions (lbs/month)
			EF_{acreage} = Fugitive PM ₁₀ and PM _{2.5} emission factors (tons/acre/month), calculated per Table A-4 of Appendix A of the <i>Software User's Guide: URBEMIS2007 for Windows</i> (JSA, 2007) and Appendix A, Table A of <i>Final -Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds</i> (SCAQMD, 2006).
			A = Site disturbed (acres)
		$E_t = \sum E_m / 2,000$	2,000 = Conversion from tons to lbs
			E_t = Emissions (metric tons/year)
			E_m = Emissions (lbs/month)
$E_m = \sum E_m / 2,000$	2,000 = Conversion from lbs to tons		

Table 5.1A.14 Number of Offsite Construction Equipment

Number of Offsite Equipment for New & Upgrade Sewer Line Construction

Onsite Equipment	Number per Month ^a			
	9	10	11	12
Excavator	2	2	2	2
Crane ^b	1	1	1	1
Roller	1	1	1	1
Plate Compactor ^c	1	1	1	1

Notes:

^a Equipment counts taken from 'Offsite Sewer Line ManpowerEquipment Truck Deliveries 05.02.13.xls'.

^b Numbers presented for Crane includes the equipment counts for the 75 Ton Crawler Crane.

^c Numbers presented for Plate Compactor includes the equipment counts for the Rammer Jumping Jack.

Table 5.1A.15 Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for New & Upgrade Sewer Line Construction

Equipment ^a	Percent Usage ^b	Hours per Month ^c	Horsepower ^d	Load Factor ^d	Emission Factors (g/bhp-hr) ^e						Fuel Consumption 2016 (gallons/hour) ^f
					CO 2016	VOC 2016	NO _x 2016	SO _x 2016	PM ₁₀ 2016	PM _{2.5} 2016	
Excavator	85%	196	163	0.38	3.158	0.358	4.081	0.005	0.201	0.185	5.11
Crane	65%	150	226	0.29	2.582	0.623	7.381	0.005	0.335	0.308	5.08
Roller	60%	138	81	0.38	3.755	0.628	5.806	0.005	0.428	0.393	2.70
Plate Compactor	60%	138	8	0.43	3.469	0.661	4.142	0.008	0.161	0.161	0.20

Notes:

^a Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Percent Usage assumed typical of power plant construction.

^c Hours per month calculated based on the following schedule, per 'Offsite Sewer Line ManpowerEquipment Truck Deliveries 05.02.13.xls'.

Work hours per day: 10

Work days per month: 23

^d Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

^e Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2016 were used for the construction equipment exhaust emission calculations.

^f Fuel consumption based on consumption in the OFFROAD2007 model for the SCAB in the year 2016; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).

Table 5.1A.16 Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for New & Upgrade Sewer Line Construction

Vehicle Type	Vehicle Class ^a	Exhaust Emission Factors (g/mile) ^b						Paved Road Emission Factors (g/mile) ^c		Fuel Economy 2016 (mpg) ^d
		CO 2016	VOC 2016	SO _x 2016	NO _x 2016	PM ₁₀ 2016	PM _{2.5} 2016	PM ₁₀	PM _{2.5}	
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.803	0.177	0.014	4.763	0.195	0.117	0.300	0.075	7.233
Construction Worker Commute	Light-duty Auto/Truck	1.513	0.033	0.004	0.149	0.047	0.019	0.300	0.075	20.413

Notes:

^a The vehicle classes are represented as follows:

Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2016, using EMFAC2007 Vehicle Categories. A speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

^c Paved road emission factors calculated using CalEEMod methodology, as described below.

^d Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2016, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM ₁₀	PM _{2.5}
Average Weight ^a	2.4	2.4
k ^b	1.0	0.25
sL ^c	0.1	0.1
Emission Factor (g/mile) ^d	0.300	0.075

Notes:

^a Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).

^c sL taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.

^d Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):

$$\text{Emission Factor (g/mile)} = k \text{ (g/mile)} \times [\text{sL (g/m}^2\text{)}]^{0.91} \times [\text{Average Weight (tons)}]^{1.02}$$

Table 5.1A.17 Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for New & Upgrade Sewer Line Construction

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO₂ Emission Factors			
Gasoline	8.78	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N₂O Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0036	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0048	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N ₂ O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH₄ Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0173	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0051	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH ₄ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

^a Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.18 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CH₄ Emissions from Blocks 1 & 2 Construction

Onsite Equipment	CH ₄ Emissions (metric tons/month)																																	
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
Water Truck	0.00164	0.00164	0.00164	0.00247	0.00247	0.00247	0.00247	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00082	0.00082	0.00082	0.00082	0.00082	0.00082	0.00082	0.00000
Excavator	0.00116	0.00116	0.00116	0.00174	0.00174	0.00174	0.00116	0.00116	0.00116	0.00116	0.00116	0.00116	0.00116	0.00116	0.00116	0.00116	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00000
Grader	0.00060	0.00060	0.00060	0.00121	0.00121	0.00121	0.00121	0.00121	0.00121	0.00060	0.00060	0.00060	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00121	0.00060	0.00000	0.00000	0.00000	0.00000	0.00000	
Cranes	0.00044	0.00044	0.00044	0.00088	0.00132	0.00132	0.00308	0.00352	0.00352	0.00440	0.00396	0.00352	0.00396	0.00352	0.00308	0.00396	0.00396	0.00352	0.00264	0.00264	0.00264	0.00176	0.00176	0.00176	0.00176	0.00176	0.00176	0.00088	0.00088	0.00088	0.00044	0.00044	0.00044	0.00044
Tractor/Loader/Backhoe	0.00017	0.00017	0.00017	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00035	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	
Rubber Tired Loader	0.00050	0.00050	0.00050	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00099	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050
Crawler Tractor	0.00080	0.00080	0.00080	0.00161	0.00161	0.00161	0.00161	0.00161	0.00080	0.00080	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Air Compressor	0.00046	0.00046	0.00046	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00092	0.00069	0.00069	0.00069	0.00069	0.00069	0.00069	0.00069	0.00069	0.00069	0.00069	0.00069	0.00069	0.00069
Forklift	0.00029	0.00029	0.00029	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00057	0.00043	0.00043	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	0.00029	
Roller	0.00022	0.00022	0.00022	0.00043	0.00043	0.00043	0.00043	0.00043	0.00022	0.00022	0.00022	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00043	0.00022	0.00000	0.00000	0.00000	0.00000	0.00000	
Other General Industrial Equipment	0.00053	0.00027	0.00027	0.00053	0.00027	0.00027	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Onsite Total (metric tons/month)	0.00681	0.00655	0.00655	0.01169	0.01186	0.01128	0.01278	0.01240	0.01166	0.01122	0.00997	0.00959	0.00915	0.00871	0.00959	0.00829	0.00785	0.00697	0.00683	0.00683	0.00572	0.00630	0.00630	0.00607	0.00484	0.00510	0.00414	0.00309	0.00265	0.00265	0.00265	0.00108		
Onsite Total (metric tons/day) ^a	0.00030	0.00028	0.00028	0.00051	0.00052	0.00049	0.00056	0.00054	0.00051	0.00049	0.00043	0.00042	0.00040	0.00038	0.00042	0.00036	0.00034	0.00030	0.00030	0.00030	0.00030	0.00025	0.00027	0.00027	0.00026	0.00021	0.00022	0.00018	0.00013	0.00012	0.00012	0.00005		
Onsite Total (metric tons/year)	0.13273																																	

Notes:
^a Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls', the days per month are as follows

Table 5.1A.20 Onsite Construction Fugitive Dust Emissions

Onsite Construction Vehicle Activity for Blocks 1 & 2 Construction

Vehicle Type	Miles/Day ^a	Working Days per Month ^b
Onsite Pick-up Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
^a Estimated based on the dimensions of the project site.
^b Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Fugitive Dust Emission Factors for Unpaved Roads

Parameter	PM ₁₀	PM _{2.5}
Mean Vehicle Weight ^a	16.5	16.5
Silt Content ^b	9.5	9.5
k ^c	1.5	0.15
a ^d	0.9	0.9
b ^d	0.45	0.45
P ^e	31	31
Emission Factor (Uncontrolled, lbs/mile) ^a	2.17	0.22
Reduction from Watering 3x per Day ^f	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
^a Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons.
^b Silt content taken from Table 13.2.2-1 of Section 13.2.2 of AP-42 (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
^c k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of AP-42 (EPA, 2006) for industrial roads.
^d P taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^e Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of AP-42 (EPA, 2006):
 Emission Factor (lbs/mile) = (k (lbs/mile) x [Silt Content (%) / 12]² x [Mean Vehicle Weight (tons) / 3]²) x [(365 - P) / 365]
^f Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Grading

Parameter	PM ₁₀	PM _{2.5}
S (mph) ^a	7.1	7.1
F ^b	0.6	0.031
Emission Factor (lbs/VMT) ^b	1.543	0.167
Reduction from Watering Every 3 Hours ^c	61%	61%
Emission Factor (Controlled, lbs/VMT)	0.602	0.065

Notes:
^a The mean vehicle speed (S) and the particulate matter scaling factor (F) taken from Tables 11.9-1 and 11.9-3 of Section 11.9 of AP-42 (EPA, 1998) per Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b Emission factor calculated using the following equation from Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 PM₁₀ Emission Factor (lbs/VMT) = 0.051 x (S)^{2.2} x F_{PM10}
 PM_{2.5} Emission Factor (lbs/VMT) = 0.04 x (S)^{2.2} x F_{PM2.5}
^c Control efficiency taken from Table XI-A of the CEQA Handbook for Construction Activities (SCAQMD, 2007).

Fugitive Dust Emission Factors for Bulldozing

Parameter	PM ₁₀	PM _{2.5}
C ^a	1.0	5.7
M (%) ^a	7.9	7.9
s (%) ^a	6.9	6.9
F ^b	0.75	0.105
Emission Factor (lbs/hr) ^b	0.753	0.414
Reduction from Watering Every 3 Hours ^c	61%	61%
Emission Factor (Controlled, lbs/hr)	0.294	0.161

Notes:
^a The arbitrary coefficient (C), material moisture content (M), material silt content (s), and particulate matter scaling factor (F) taken from Tables 11.9-1 and 11.9-3 of Section 11.9 of AP-42 (EPA, 1998) per Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b Emission factor calculated using the following equation from Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 PM₁₀ Emission Factor (lbs/hr) = [(C x s^{1.5}) / M^{1.5}] x F_{PM10}
 PM_{2.5} Emission Factor (lbs/hr) = [(C x s^{1.5}) / M^{1.5}] x F_{PM2.5}
^c Control efficiency taken from Table XI-A of the CEQA Handbook for Construction Activities (SCAQMD, 2007).

Table 5.1A.22 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Blocks 1 & 2 Construction

Emission Source	Pollutant(s)	Equation	Variables	
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)	
			EF = Emission factor (g/bhp-hr)	
			N = Number of pieces of equipment	
			Hp = Average horsepower	
			L = Average load factor	
			H = Hours per month	
			$E_d = E_m / D$	E_d = Emissions (lbs/day)
				E_m = Emissions (lbs/month)
				D = Number of construction days per month
			$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year)
				E_m = Emissions (lbs/month)
				$2,000$ = Conversion from lbs to tons
CO ₂		$E_m = N * FC * EF * H * 0.001$	E_m = Emissions (metric tons/month)	
			N = Number of pieces of equipment	
			FC = Fuel consumption (gallons/hour)	
			$E_d = E_m / D$	EF = Emission factor (kg/gallon)
				H = Hours per month
				0.001 = Conversion from kg to metric tons
		$E_t = \sum E_m$	E_d = Emissions (metric tons/day)	
			E_m = Emissions (metric tons/month)	
			D = Number of construction days per month	
CH ₄ and N ₂ O		$E_m = N * FC * EF * H / 1,000 * 0.001$	E_t = Emissions (metric tons/year)	
			E_m = Emissions (metric tons/month)	
			0.001 = Conversion from kg to metric tons	
			$E_d = E_m / D$	E_m = Emissions (metric tons/month)
				E_m = Emissions (metric tons/month)
				D = Number of construction days per month
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year)	
			E_m = Emissions (metric tons/month)	
			E_m = Emissions (metric tons/month)	
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM ₁₀ and PM _{2.5}	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_d = N * VMT * EF / 453.6$	E_d = Emissions (lbs/day)	
			N = Number of vehicles	
			VMT = Vehicle miles traveled per day (miles/day)	
			road fugitive PM ₁₀ and PM _{2.5} emission factors calculated per Sections 13.2.1 and 13.2.2 of AP-42 (EPA, 2011 and 2006), respectively.	
			453.6 = Conversion from g to lbs	
			E_m = Emissions (lbs/month)	
		$E_m = E_d * D$	E_d = Emissions (lbs/day)	
			E_d = Emissions (lbs/day)	
			D = Number of construction days per month	
		$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year)	
			E_m = Emissions (lbs/month)	
			$2,000$ = Conversion from lbs to tons	

Table 5.1A.22 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Blocks 1 & 2 Construction

Emission Source	Pollutant(s)	Equation	Variables
Onsite and Offsite Vehicle Exhaust	CO ₂	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
		FE = Fuel economy (mpg)	
		EF = Emission factor (kg/gallon)	
		0.001 = Conversion from kg to metric tons	
	$E_m = E_d * D$	E_m = Emissions (metric tons/month)	
		E_d = Emissions (metric tons/day)	
		D = Number of construction days per month	
$E_t = \sum E_m$	E_t = Emissions (metric tons/year)		
	E_m = Emissions (metric tons/month)		
CH ₄ and N ₂ O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day)	
		N = Number of vehicles	
		VMT = Vehicle miles traveled per day (miles/day)	
	EF = Emission factor (g/mile)		
	1,000 = Conversion from g to kg		
	0.001 = Conversion from kg to metric tons		
$E_m = E_d * D$	E_m = Emissions (metric tons/month)		
	E_d = Emissions (metric tons/day)		
	D = Number of construction days per month		
$E_t = \sum E_m$	E_t = Emissions (metric tons/year)		
	E_m = Emissions (metric tons/month)		
Onsite Fugitive PM ₁₀ and PM _{2.5} from Grading	PM ₁₀ and PM _{2.5}	$E_d = EF * A / W * 43,560 / 5,280 / D$	E_d = Emissions (lbs/day)
			EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/mile), calculated per Section 4.3 of Appendix A of the <i>CalEEMod User's Guide</i> (ENVIRON, 2013).
			A = Site disturbed (acres/month)
		W = Grading equipment blade width (ft)	
		43,560 = Conversion factor from square feet to acres	
		5,280 = Conversion factor from feet to miles	
	$E_m = E_d * D$	E_m = Emissions (lbs/month)	
		E_d = Emissions (lbs/day)	
		D = Number of construction days per month	
$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year)		
	E_m = Emissions (lbs/month)		
	2,000 = Conversion from lbs to tons		
Onsite Fugitive PM ₁₀ and PM _{2.5} from Bulldozing	PM ₁₀ and PM _{2.5}	$E_d = EF * H / D$	E_d = Emissions (lbs/day)
			EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/hr), calculated per Section 4.3 of Appendix A of the <i>CalEEMod User's Guide</i> (ENVIRON, 2013).
			H = Hours per month for all bulldozers
		D = Number of construction days per month	
		$E_m = E_d * D$	E_m = Emissions (lbs/month)
		E_d = Emissions (lbs/day)	
	D = Number of construction days per month		
	$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year)	
		E_m = Emissions (lbs/month)	
2,000 = Conversion from lbs to tons			

Table 5.1A.23 Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Blocks 1 & 2 Construction

Onsite Equipment	Number per Month ^a																																
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
Water Truck	2	2	2	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	0
Excavator	2	2	2	3	3	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	
Grader	1	1	1	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	
Cranes ^b	1	1	1	2	3	3	7	8	8	10	9	8	9	8	7	9	9	8	6	6	6	4	4	4	4	4	2	2	2	1	1	1	
Tractor/Loader/Backhoe ^c	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	0		
Rubber Tired Loader ^d	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1		
Crawler Tractor ^e	1	1	1	2	2	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Air Compressor	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	2	1	1	1	0	0	0		
Forklift	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1		
Roller ^f	1	1	1	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0		
Other General Industrial Equipment ^g	2	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Notes:
^a Equipment counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.
^b Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane, the 35 Ton Hydraulic Crane, the Heavy Lift Lattice Boom Main Crane, the Heavy Lift Lattice Boom Tail Crane, and the Heavy Lift Gantry Crane.
^c Numbers presented for Tractor/Loader/Backhoe includes the equipment counts for the Backhoe.
^d Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.
^e Numbers presented for Crawler Tractor includes the equipment counts for the Dozer.
^f Numbers presented for Roller includes the equipment counts for the Compactor.
^g Numbers presented for Other General Industrial Equipment includes the equipment counts for the Pile Driver.

Number of Onsite Motor Vehicles for Blocks 1 & 2 Construction

Vehicle Type	Number per Month ^a																															
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Onsite Pick-up Truck	2	2	2	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2
Onsite Stake Truck	2	2	2	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Onsite Dump Truck	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0

Notes:
^a Vehicle counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

Table 5.1A.24 Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Blocks 1 & 2 Construction

Equipment ^a	Percent Usage ^b	Hours per Month ^c	Horsepower ^d	Load Factor ^d	Emission Factors (g/bhp-hr) ^e														Fuel Consumption 2016 (gallons/hour) ^f	
					CO 2016	VOC 2016	NO _x 2016	NO _x 2017	NO _x 2018	NO _x 2019	SO _x 2016	PM ₁₀ 2016	PM ₁₀ 2017	PM ₁₀ 2018	PM ₁₀ 2019	PM _{2.5} 2016	PM _{2.5} 2017	PM _{2.5} 2018		PM _{2.5} 2019
Water Truck ^g	50%	115	400	0.38	1.885	0.351	4.048	3.668	3.090	2.669	0.005	0.153	0.136	0.113	0.097	0.141	0.125	0.104	0.089	12.33
Excavator	85%	196	163	0.38	3.158	0.358	4.081	3.700	2.924	2.533	0.005	0.201	0.182	0.142	0.122	0.185	0.168	0.130	0.112	5.11
Grader	80%	184	175	0.41	3.916	0.810	8.250	7.663	6.605	6.014	0.005	0.464	0.430	0.371	0.337	0.426	0.396	0.342	0.310	5.65
Cranes	65%	150	226	0.29	2.582	0.623	7.381	6.655	5.773	5.084	0.005	0.335	0.297	0.250	0.216	0.308	0.273	0.230	0.198	5.08
Tractor/Loader/Backhoe	55%	127	98	0.37	3.811	0.538	5.142	4.809	4.154	3.693	0.005	0.396	0.362	0.294	0.247	0.364	0.333	0.271	0.227	2.36
Rubber Tired Loader	55%	127	200	0.36	1.452	0.393	5.115	4.755	4.131	3.745	0.005	0.175	0.162	0.140	0.126	0.161	0.149	0.129	0.116	6.75
Crawler Tractor	80%	184	208	0.43	1.803	0.449	6.047	5.760	5.290	4.972	0.005	0.233	0.220	0.200	0.188	0.215	0.202	0.184	0.173	7.53
Air Compressor	80%	184	78	0.48	3.804	0.744	4.790	4.412	4.050	3.706	0.006	0.397	0.350	0.304	0.260	0.397	0.350	0.304	0.260	2.15
Forklift	75%	173	89	0.20	4.023	0.723	6.222	5.818	5.015	4.550	0.005	0.520	0.480	0.400	0.353	0.479	0.442	0.368	0.324	1.43
Roller	60%	138	81	0.38	3.755	0.628	5.806	5.411	4.650	4.179	0.005	0.428	0.392	0.320	0.275	0.393	0.361	0.294	0.253	2.70
Other General Industrial Equipment	70%	161	88	0.34	4.045	0.716	6.144	5.721	4.955	4.497	0.005	0.518	0.471	0.392	0.343	0.476	0.433	0.360	0.316	2.84

Notes:
^a Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
^b Percent Usage assumed typical of power plant construction.
^c Hours per month calculated based on the following schedule, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.
 Work hours per day: 10
 Work days per month: 23
^d Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).
^e Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2016 were used for the construction equipment exhaust emission calculations for CO, VOC, and SO_x. The emission factors for year 2016, 2017, 2018, and 2019 were used for
^f Fuel consumption based on consumption in the OFFROAD2007 model for the South Coast Air Basin in the year 2016; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).
^g Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks.

Table 5.1A.25 Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Blocks 1 & 2 Construction

Vehicle Type	Vehicle Class ^a	Exhaust Emission Factors (g/mile) ^b															Paved Road Emission Factors (g/mile) ^c		Fuel Economy 2016 (mpg) ^d
		CO 2016	VOC 2016	SO _x 2016	NO _x 2016	NO _x 2017	NO _x 2018	NO _x 2019	PM ₁₀ 2016	PM ₁₀ 2017	PM ₁₀ 2018	PM ₁₀ 2019	PM _{2.5} 2016	PM _{2.5} 2017	PM _{2.5} 2018	PM _{2.5} 2019	PM ₁₀	PM _{2.5}	
Onsite Pick-up Truck	Light-duty Truck	4.479	0.298	0.005	0.422	0.385	0.353	0.323	0.062	0.062	0.061	0.061	0.034	0.033	0.033	0.032	N/A	N/A	18.162
Onsite Stake Truck	Heavy-duty Diesel	6.211	3.186	0.017	19.740	18.082	16.770	15.730	0.252	0.220	0.213	0.207	0.178	0.149	0.143	0.137	N/A	N/A	5.565
Onsite Dump Truck	Heavy-duty Diesel	6.211	3.186	0.017	19.740	18.082	16.770	15.730	0.252	0.220	0.213	0.207	0.178	0.149	0.143	0.137	N/A	N/A	5.565
Offsite Delivery Trucks	Heavy-duty Diesel	1.089	0.233	0.017	6.018	5.500	5.087	4.756	0.170	0.164	0.164	0.163	0.103	0.097	0.097	0.097	0.300	0.075	5.565
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.803	0.177	0.014	4.763	4.273	3.874	3.534	0.195	0.187	0.183	0.179	0.117	0.109	0.106	0.102	0.300	0.075	7.233
Construction Worker Commute	Light-duty Auto/Truck	1.513	0.033	0.004	0.149	0.135	0.122	0.112	0.047	0.047	0.046	0.046	0.019	0.019	0.019	0.019	0.300	0.075	20.413

Notes:
^a The vehicle classes are represented as follows:
 Light-duty Truck: Assumed to be an average of LDT1, GAS and LDT2, GAS values.
 Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
 Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHD, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
 Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
^b Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2016 for CO, VOC, and SO_x. Calendar years 2016, 2017, 2018, and 2019 were used for NO_x, PM₁₀, and PM_{2.5}. EMFAC2007 Vehicle Categories were used. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.
^c Paved road emission factors calculated using CalEEMod methodology, as described below.
^d Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2016, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM ₁₀	PM _{2.5}
Average Weight ^a	2.4	2.4
k ^b	1.0	0.25
sL ^c	0.1	0.1
Emission Factor (g/mile) ^d	0.300	0.075

Notes:
^a Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
^b k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).
^c sL taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^d Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):
 Emission Factor (g/mile) = k (g/mile) x [sL (g/m²)]^{0.91} x [Average Weight (tons)]^{1.02}

Table 5.1A.26 Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Blocks 1 & 2 Construction

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO₂ Emission Factors			
Gasoline	8.78	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N₂O Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0036	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0066	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0048	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N ₂ O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH₄ Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0173	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0163	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0051	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH ₄ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

^a Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.27 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO Emissions from Units 5 & 6 Demolition

Onsite Equipment	CO Emissions (lbs/month)																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Water Truck	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10	60.10
Cranes	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	138.32	184.43	184.43	184.43	184.43	184.43	184.43	184.43
Rubber Tired Loader	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07	54.07
Air Compressor	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58	170.58
Forklift	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23	52.23
Excavator	165.16	165.16	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48	495.48
Onsite Total (lbs/month)	640.47	640.47	970.79	970.79	970.79	970.79	970.79	970.79	970.79	970.79	970.79	970.79	970.79	970.79	970.79	970.79	970.79	1,016.89	1,016.89	1,016.89	1,016.89	1,016.89	1,016.89	1,016.89
Onsite Total (lbs/day) ^a	27.85	27.85	42.21	42.21	42.21	42.21	42.21	42.21	42.21	42.21	42.21	42.21	42.21	42.21	42.21	42.21	42.21	44.21	44.21	44.21	44.21	44.21	44.21	44.21
Onsite Total (tons/year)	6.01																							

Construction Equipment VOC Emissions from Units 5 & 6 Demolition

Onsite Equipment	VOC Emissions (lbs/month)																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Water Truck	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06
Cranes	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	31.31	41.74	41.74	41.74	41.74	41.74	41.74	41.74
Rubber Tired Loader	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39	13.39
Air Compressor	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47
Forklift	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68
Excavator	14.58	14.58	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74	43.74
Onsite Total (lbs/month)	105.50	105.50	134.66	134.66	134.66	134.66	134.66	134.66	134.66	134.66	134.66	134.66	134.66	134.66	134.66	134.66	134.66	145.09	145.09	145.09	145.09	145.09	145.09	145.09
Onsite Total (lbs/day) ^a	4.59	4.59	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Onsite Total (tons/year)	0.85																							

Construction Equipment NOx Emissions from Units 5 & 6 Demolition

Onsite Equipment	NOx Emissions (lbs/month)																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Water Truck	119.07	119.07	119.07	102.83	102.83	102.83	102.83	102.83	102.83	102.83	102.83	102.83	102.83	102.83	102.83	90.44	90.44	90.44	90.44	90.44	90.44	90.44	90.44	90.44
Cranes	374.11	374.11	374.11	329.47	329.47	329.47	329.47	329.47	329.47	329.47	329.47	329.47	329.47	329.47	329.47	295.72	394.29	394.29	394.29	394.29	394.29	394.29	394.29	394.29
Rubber Tired Loader	165.91	165.91	165.91	150.38	150.38	150.38	150.38	150.38	150.38	150.38	150.38	150.38	150.38	150.38	150.38	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39	137.39
Air Compressor	184.53	184.53	184.53	168.85	168.85	168.85	168.85	168.85	168.85	168.85	168.85	168.85	168.85	168.85	168.85	154.91	154.91	154.91	154.91	154.91	154.91	154.91	154.91	154.91
Forklift	67.90	67.90	67.90	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	55.95	55.95	55.95	55.95	55.95	55.95	55.95	55.95	55.95
Excavator	156.10	156.10	468.29	405.67	405.67	405.67	405.67	405.67	405.67	405.67	405.67	405.67	405.67	405.67	405.67	364.94	364.94	364.94	364.94	364.94	364.94	364.94	364.94	364.94
Onsite Total (lbs/month)	1,067.61	1,067.61	1,379.81	1,218.80	1,218.80	1,218.80	1,218.80	1,218.80	1,218.80	1,218.80	1,218.80	1,218.80	1,218.80	1,218.80	1,218.80	1,099.35	1,197.92	1,197.92	1,197.92	1,197.92	1,197.92	1,197.92	1,197.92	1,197.92
Onsite Total (lbs/day) ^a	46.42	46.42	59.99	52.99	52.99	52.99	52.99	52.99	52.99	52.99	52.99	52.99	52.99	52.99	52.99	47.80	52.08	52.08	52.08	52.08	52.08	52.08	52.08	52.08
Onsite Total (tons/year)	7.39																							

Construction Equipment SOx Emissions from Units 5 & 6 Demolition

Onsite Equipment	SOx Emissions (lbs/month)																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Water Truck	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Cranes	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Rubber Tired Loader	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Air Compressor	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Forklift	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Excavator	0.26	0.26	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Onsite Total (lbs/month)	1.30	1.30	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.93	1.93	1.93	1.93	1.93	1.93	1.93	1.93
Onsite Total (lbs/day) ^a	0.06	0.06	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Onsite Total (tons/year)	0.01																							

Table 5.1A.27 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CH₄ Emissions from Units 5 & 6 Demolition

Onsite Equipment	CH ₄ Emissions (metric tons/month)																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Water Truck	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
Cranes	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018
Rubber Tired Loader	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
Air Compressor	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Forklift	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Excavator	0.0012	0.0012	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035
Onsite Total (metric tons/month)	0.0053	0.0053	0.0076	0.0080																				
Onsite Total (metric tons/day)^a	0.0002	0.0002	0.0003																					
Onsite Total (metric tons/year)	0.0945																							

Notes:

^a Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls', the days per month are as follows: 23

Table 5.1A.29 Onsite Demolition Fugitive Dust Emissions

Demolition Activity Levels for Units 5 & 6 Demolition

Source	Monthly Activity Levels																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Debris Generated from Mechanical Dismemberment (tons) ^a	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85

^a Debris generated from Table 5.14-3, Wastes Generated during Demolition of AGS Units 1-7. Assume Scrap Materials waste is unique to the turbines. Assume Scrap Metals, Concrete, Asphalt, and Asbestos wastes include waste from turbines and northeast warehouse and assuming similar quantities for each. Therefore, 2/7 of Scrap Materials waste is from Demolition of Units 5 & 6; and 2/8 of Scrap Metals, Concrete, Asphalt, and Asbestos waste is from Demolition of Units 5 & 6. Only materials generated from demolition that may generate fugitive dust were included. The monthly quantities were determined as follows:

Scrap Materials	4,571	lbs/week	which equals	9.14	tons/month
Scrap Metals	12,500	tons	which equals	520.83	tons/month
Concrete	938	tons	which equals	39.06	tons/month
Asphalt	38	tons	which equals	1.56	tons/month
Asbestos Waste	750	tons	which equals	31.25	tons/month

The above calculations are based on the following assumptions:

Demolition will last	24	months
The construction schedule allows for	4	weeks/month

Onsite Construction Vehicle Fugitive PM₁₀ Emissions from Units 5 & 6 Demolition

Vehicle Type	Fugitive PM ₁₀ Emissions (lbs/day) ^a																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Onsite Pick-up Truck	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Stake Truck	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Dump Truck	0.85	0.85	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Total (lbs/day)	4.23	4.23	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
Vehicle Type	Fugitive PM ₁₀ Emissions (lbs/month) ^a																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Onsite Pick-up Truck	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88
Onsite Stake Truck	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88
Onsite Dump Truck	19.44	19.44	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88
Onsite Total (lbs/month)	97.20	97.20	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64
Onsite Total (tons/year)	0.70																							

Notes:

^a Emissions based on highest (controlled) unpaved road emission factor for PM₁₀.

Onsite Construction Vehicle Fugitive PM_{2.5} Emissions from Units 5 & 6 Demolition

Vehicle Type	Fugitive PM _{2.5} Emissions (lbs/day) ^a																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Onsite Pick-up Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Stake Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Dump Truck	0.08	0.08	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Total (lbs/day)	0.42	0.42	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Vehicle Type	Fugitive PM _{2.5} Emissions (lbs/month) ^a																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Onsite Pick-up Truck	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
Onsite Stake Truck	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
Onsite Dump Truck	1.94	1.94	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
Onsite Total (lbs/month)	9.72	9.72	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66	11.66
Onsite Total (tons/year)	0.07																							

Notes:

^a Emissions based on the highest (controlled) unpaved road emission factor for PM_{2.5}.

Onsite Demolition Fugitive PM₁₀ Emissions from Units 5 & 6 Demolition

Demolition Activity	Fugitive PM ₁₀ Emissions (lbs/day) ^{a, b}																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Dismemberment	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Debris Loading ^c	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Onsite Total (lbs/day)	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Demolition Activity	Fugitive PM ₁₀ Emissions (lbs/month) ^{a, b}																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Dismemberment	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Debris Loading ^c	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82
Onsite Total (lbs/month)	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24
Onsite Total (tons/year)	0.05																							

Notes:

^a Work days per month are as follows, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls': 23

^b Emissions based on the highest (controlled) emission factor for PM₁₀.

^c Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Table 5.1A.29 Onsite Demolition Fugitive Dust Emissions

Onsite Demolition Fugitive PM_{2.5} Emissions from Units 5 & 6 Demolition

Demolition Activity	Fugitive PM _{2.5} Emissions (lbs/day) ^{a, b}																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Dismemberment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debris Loading ^c	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Onsite Total (lbs/day)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05

Demolition Activity	Fugitive PM _{2.5} Emissions (lbs/month) ^{a, b}																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Dismemberment	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Debris Loading ^c	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
Onsite Total (lbs/month)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Onsite Total (tons/year)	0.01																							

Notes:
^a Work days per month are as follows, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls': 23
^b Emissions based on the highest (controlled) emission factor for PM_{2.5}.
^c Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Onsite Construction Vehicle Activity for Units 5 & 6 Demolition

Vehicle Type	Miles/Day ^a	Working Days per Month ^b
Onsite Pick-up Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
^a Estimated based on the dimensions of the project site.
^b Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Fugitive Dust Emission Factors for Unpaved Roads

Parameter	PM ₁₀	PM _{2.5}
Mean Vehicle Weight ^a	16.5	16.5
Silt Content ^b	8.5	8.5
k ^c	1.5	0.15
a ^c	0.9	0.9
b ^c	0.45	0.45
P ^d	31	31
Emission Factor (Uncontrolled, lbs/mile)^e	2.17	0.22
Reduction from Watering 3x per Day^f	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
^a Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons.
^b Silt content taken from Table 13.2.2-1 of Section 13.2.2 of AP-42 (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
^c k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of AP-42 (EPA, 2006) for industrial roads.
^d P taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^e Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of AP-42 (EPA, 2006):

$$\text{Emission Factor (lbs/mile)} = (k \text{ (lbs/mile)} \times [\text{Silt Content (\%)} / 12]^2 \times [\text{Mean Vehicle Weight (tons)} / 3])^2 \times [(365 - P) / 365]$$

^f Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Dismemberment

Parameter	PM ₁₀	PM _{2.5}
k ^a	0.35	0.053
U (mph) ^b	4.9	4.9
M (%) ^c	2.0	2.0
Emission Factor (lbs/ton)^d	0.00110	0.00017
Reduction from Watering Every 4 Hours^e	36%	36%
Emission Factor (Controlled, lbs/ton)	0.00070	0.00011

Notes:
^a k, the particle size multiplier, taken from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b U, the mean wind speed, taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin. Converted from meters/second (m/s) to miles per hour (mph).
^c M, the material moisture content, taken from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^d Emission factor calculated using the following equation from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):

$$\text{Emission Factor (lbs/ton)} = k \times 0.0032 \times [U / 5]^{1.3} / [M / 2]^{1.4}$$

^e Control efficiency taken from Table XI-A of the CEQA Handbook for Active Demolition and Debris Removal (SCAQMD, 2007).

Fugitive Dust Emission Factors for Debris Loading

Parameter	PM ₁₀	PM _{2.5}
k ^a	0.35	0.053
EF _{L-TSP} ^b	0.058	0.058
Emission Factor (lbs/ton)^c	0.020	0.003
Reduction from Watering Every 4 Hours^d	36%	36%
Emission Factor (Controlled, lbs/ton)	0.013	0.002

Notes:
^a k taken from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b EF_{L-TSP} taken from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^c Emission factor calculated using the following equation from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):

$$\text{Emission Factor (lbs/ton)} = k \times \text{EF}_{L-TSP} \text{ (lbs/ton)}$$

^d Control efficiency taken from Table XI-A of the CEQA Handbook for Active Demolition and Debris Removal (SCAQMD, 2007).

Table 5.1A.31 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Units 5 & 6 Demolition

Emission Source	Pollutant(s)	Equation	Variables
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)
			EF = Emission factor (g/bhp-hr)
			N = Number of pieces of equipment
		$E_d = E_m / D$	Hp = Average horsepower
			L = Average load factor
			H = Hours per month
		$E_t = \sum E_m / 2,000$	453.6 = Conversion from g to lbs
			E_d = Emissions (lbs/day)
			E_m = Emissions (lbs/month)
	CO ₂	$E_m = N * FC * EF * H * 0.001$	D = Number of construction days per month
			E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
		$E_d = E_m / D$	$2,000$ = Conversion from lbs to tons
			E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
CH ₄ and N ₂ O	$E_m = N * FC * EF * H / 1,000 * 0.001$	FC = Fuel consumption (gallons/hour)	
		EF = Emission factor (kg/gallon)	
		H = Hours per month	
	$E_d = E_m / D$	0.001 = Conversion from kg to metric tons	
		E_d = Emissions (metric tons/day)	
		E_m = Emissions (metric tons/month)	
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM ₁₀ and PM _{2.5}	$E_d = N * VMT * EF / 453.6$	D = Number of construction days per month	
		E_t = Emissions (tons/year)	
		E_m = Emissions (lbs/month)	
	$E_m = E_d * D$	EF = EMFAC2011 emission factor (g/mile). Paved and unpaved road fugitive PM ₁₀ and PM _{2.5} emission factors calculated per Sections 13.2.1 and 13.2.2 of AP-42 (EPA, 2011 and 2006), respectively.	
		453.6 = Conversion from g to lbs	
		E_m = Emissions (lbs/month)	
$E_t = \sum E_m / 2,000$	E_d = Emissions (lbs/day)		
	D = Number of construction days per month		
	E_t = Emissions (tons/year)		
	E_m = Emissions (lbs/month)		
	$2,000$ = Conversion from lbs to tons		

Table 5.1A.31 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Units 5 & 6 Demolition

Emission Source	Pollutant(s)	Equation	Variables		
Onsite and Offsite Vehicle Exhaust	CO ₂	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) FE = Fuel economy (mpg) EF = Emission factor (kg/gallon) 0.001 = Conversion from kg to metric tons		
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month		
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)		
	CH ₄ and N ₂ O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) EF = Emission factor (g/mile) 1,000 = Conversion from g to kg 0.001 = Conversion from kg to metric tons		
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month		
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)		
		Onsite Fugitive PM ₁₀ and PM _{2.5} from Dismemberment and Debris Loading	PM ₁₀ and PM _{2.5}	$E_d = T * EF / D$	E_d = Emissions (lbs/day) T = Tons of material dismembered or loaded per month (tons/month) EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/ton), calculated per Section 13.2.4.3 of AP-42 (EPA, 2006) for dismemberment and Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013) for debris loading. D = Number of construction days per month
				$E_m = E_d * D$	E_m = Emissions (lbs/month) E_d = Emissions (lbs/day) D = Number of construction days per month
				$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year) E_m = Emissions (lbs/month) 2,000 = Conversion from lbs to tons

Table 5.1A.32 Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Units 5 & 6 Demolition

Onsite Equipment	Number per Month ^a																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Water Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cranes ^b	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
Rubber Tired Loader ^c	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Air Compressor	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Forklift	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Excavators	2	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Notes:

^a Equipment counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

^b Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane and the 35 Ton Hydraulic Crane.

^c Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.

Number of Onsite Motor Vehicles for Units 5 & 6 Demolition

Vehicle Type	Number per Month ^a																							
	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Onsite Pick-up Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Stake Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Dump Truck	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Notes:

^a Vehicle counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

Table 5.1A.33 Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Units 5 & 6 Demolition

Equipment ^a	Percent Usage ^b	Hours per Month ^c	Horsepower ^d	Load Factor ^d	Emission Factors (g/bhp-hr) ^e											Fuel Consumption 2018 (gallons/hour) ^f	
					CO 2018	VOC 2018	NO _x 2018	NO _x 2019	NO _x 2020	SO _x 2018	PM ₁₀ 2018	PM ₁₀ 2019	PM ₁₀ 2020	PM _{2.5} 2018	PM _{2.5} 2019		PM _{2.5} 2020
Water Truck ^g	50%	115	400	0.38	1.560	0.287	3.090	2.669	2.347	0.005	0.113	0.097	0.086	0.104	0.089	0.079	12.32
Cranes	65%	150	226	0.29	2.134	0.483	5.773	5.084	4.563	0.005	0.250	0.216	0.188	0.230	0.198	0.173	5.08
Rubber Tired Loader	55%	127	200	0.36	1.346	0.334	4.131	3.745	3.421	0.005	0.140	0.126	0.114	0.129	0.116	0.105	6.74
Air Compressor	80%	184	78	0.48	3.744	0.603	4.050	3.706	3.400	0.006	0.304	0.260	0.224	0.304	0.260	0.224	2.14
Forklift	75%	173	89	0.20	3.858	0.567	5.015	4.550	4.133	0.005	0.400	0.353	0.308	0.368	0.324	0.283	1.42
Excavator	85%	196	163	0.38	3.093	0.273	2.924	2.533	2.278	0.005	0.142	0.122	0.110	0.130	0.112	0.102	5.11

Notes:

^a Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Percent Usage assumed typical of power plant construction.

^c Hours per month calculated based on the following schedule, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls':
 Work hours per day: 10
 Work days per month: 23

^d Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

^e Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2018 were used for the construction equipment exhaust emission calculations for CO, VOC, and SO_x. The emission factors for year 2018, 2019 and 2020 were used for NO_x, PM₁₀, and PM_{2.5}.

^f Fuel consumption based on consumption in the OFFROAD2007 model for the South Coast Air Basin in the year 2018; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).

^g Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks.

Table 5.1A.34 Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Units 5 & 6 Demolition

Vehicle Type	Vehicle Class ^a	Exhaust Emission Factors (g/mile) ^b												Paved Road Emission Factors (g/mile) ^c		Fuel Economy 2018 (mpg) ^d
		CO 2018	VOC 2018	SO _x 2018	NO _x 2018	NO _x 2019	NO _x 2020	PM ₁₀ 2018	PM ₁₀ 2019	PM ₁₀ 2020	PM _{2.5} 2018	PM _{2.5} 2019	PM _{2.5} 2020	PM ₁₀	PM _{2.5}	
Onsite Pick-up Truck	Light-duty Truck	3.569	0.224	0.005	0.353	0.323	0.299	0.061	0.061	0.060	0.033	0.032	0.032	N/A	N/A	18.192
Onsite Stake Truck	Heavy-duty Diesel	6.168	3.129	0.016	16.770	15.730	14.065	0.213	0.207	0.194	0.143	0.137	0.125	N/A	N/A	5.571
Onsite Dump Truck	Heavy-duty Diesel	6.168	3.129	0.016	16.770	15.730	14.065	0.213	0.207	0.194	0.143	0.137	0.125	N/A	N/A	5.571
Offsite Delivery Trucks	Heavy-duty Diesel	1.076	0.232	0.016	5.087	4.756	4.213	0.164	0.163	0.163	0.097	0.097	0.096	0.300	0.075	5.571
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.758	0.168	0.014	3.874	3.534	3.000	0.183	0.179	0.174	0.106	0.102	0.097	0.300	0.075	7.248
Waste Hauling Trucks	Heavy/Medium-duty Diesel	0.758	0.168	0.014	3.874	3.534	3.000	0.183	0.179	0.174	0.106	0.102	0.097	0.300	0.075	7.248
Construction Worker Commute	Light-duty Auto/Truck	1.248	0.023	0.004	0.122	0.112	0.104	0.046	0.046	0.046	0.019	0.019	0.019	0.300	0.075	20.439

Notes:

^a The vehicle classes are represented as follows:

Light-duty Truck: Assumed to be an average of LDT1, GAS and LDT2, GAS values.

Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).

Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).

Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).

^b Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2018 for CO, VOC, and SO_x. Calendar years 2018, 2019, and 2020 were used for NO_x, PM₁₀, and PM_{2.5}. EMFAC2007 Vehicle Categories were used. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

^c Paved road emission factors calculated using CalEEMod methodology, as described below.

^d Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2018, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM ₁₀	PM _{2.5}
Average Weight ^a	2.4	2.4
k ^b	1.0	0.25
sL ^c	0.1	0.1
Emission Factor (g/mile) ^d	0.300	0.075

Notes:

^a Average Weight taken as the default value from Section 5.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).

^b k taken from Table 13.2.1-1 of Section 13.2.1 of AP-42 (EPA, 2011).

^c sL taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.

^d Emission factor calculated using Equation 1 from Section 13.2.1 of AP-42 (EPA, 2011):

$$\text{Emission Factor (g/mile)} = k \text{ (g/mile)} \times [\text{sL (g/m}^2\text{)}]^{0.91} \times [\text{Average Weight (tons)}]^{1.02}$$

Table 5.1A.35 Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Units 5 & 6 Demolition

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO₂ Emission Factors			
Gasoline	8.78	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N₂O Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0036	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0066	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0048	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N ₂ O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH₄ Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0173	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0163	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0051	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH ₄ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

^a Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Construction Equipment CH₄ Emissions from Block 3 Construction

Onsite Equipment	CH ₄ Emissions (metric tons/month)																														
	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
Water Truck	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00164	0.00082	0.00082	0.00082	0.00082	0.00082	0.00082	0.00082	0.00082	0.00082	0.00082	0.00082	0.00000
Excavator	0.00116	0.00116	0.00116	0.00116	0.00116	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00058	0.00058	0.00058	0.00058	0.00058	0.00058	0.00000	0.00000
Grader	0.00120	0.00120	0.00060	0.00060	0.00060	0.00060	0.00060	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00060	0.00060	0.00000	0.00000	
Cranes	0.00000	0.00000	0.00000	0.00044	0.00088	0.00088	0.00220	0.00220	0.00220	0.00220	0.00176	0.00176	0.00264	0.00264	0.00176	0.00176	0.00176	0.00176	0.00088	0.00088	0.00088	0.00132	0.00132	0.00132	0.00044	0.00044	0.00044	0.00044	0.00044	0.00044	
Tractor/Loader/Backhoe	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00000	
Rubber Tired Loader	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00049	0.00000	0.00000	0.00000	0.00000	0.00049	
Crawler Tractor	0.00080	0.00080	0.00080	0.00080	0.00080	0.00080	0.00080	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Air Compressor	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00046	0.00023	0.00023	0.00023	0.00023	0.00000	0.00000	0.00000	0.00000	0.00000	
Forklift	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00028	0.00014	0.00014	0.00014	0.00014	0.00014	
Roller	0.00043	0.00043	0.00022	0.00022	0.00022	0.00022	0.00022	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00022	0.00022	0.00000	0.00000	
Other General Industrial Equipment	0.00026	0.00026	0.00026	0.00026	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
Onsite Total (metric tons/month)	0.00691	0.00691	0.00609	0.00654	0.00671	0.00613	0.00745	0.00583	0.00583	0.00539	0.00539	0.00627	0.00627	0.00481	0.00481	0.00481	0.00481	0.00393	0.00311	0.00311	0.00332	0.00332	0.00390	0.00302	0.00216	0.00297	0.00297	0.00158	0.00108		
Onsite Total (metric tons/day) ^a	0.00030	0.00030	0.00026	0.00028	0.00029	0.00027	0.00032	0.00025	0.00025	0.00023	0.00023	0.00027	0.00027	0.00021	0.00021	0.00021	0.00021	0.00017	0.00014	0.00014	0.00014	0.00014	0.00017	0.00013	0.00009	0.00013	0.00013	0.00007	0.00005		
Onsite Total (metric tons/year)	0.07504																														

Notes:
^a Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls', the days per month are as follows 23

Onsite Construction Vehicle Activity for Block 3 Construction

Vehicle Type	Miles/Day ^a	Working Days per Month ^b
Onsite Pickup Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
^a Estimated based on the dimensions of the project site.
^b Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Fugitive Dust Emission Factors for Unpaved Roads

Parameter	PM ₁₀	PM _{2.5}
Mean Vehicle Weight ^a	16.6	16.6
Silt Content ^b	8.5	8.5
k ^c	1.5	0.15
a ^d	0.9	0.9
b ^e	0.45	0.45
P ^f	31	31
Emission Factor (Uncontrolled, lbs/mile)^g	2.17	0.22
Reduction from Watering 3x per Day^h	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
^a Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons.
^b Silt content taken from Table 13.2.2-1 of Section 13.2.2 of AP-42 (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
^c k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of AP-42 (EPA, 2006) for industrial roads.
^d P taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^e Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of AP-42 (EPA, 2006):
 Emission Factor (lbs/mile) = (k (lbs/mile) x [Silt Content (%) / 12]² x [Mean Vehicle Weight (tons) / 3]³) x [(365 - P) / 365]
^f Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Grading

Parameter	PM ₁₀	PM _{2.5}
S (mph) ^a	7.1	7.1
F ^b	0.6	0.031
Emission Factor (lbs/VMT)^b	1.543	0.167
Reduction from Watering Every 3 Hours^c	61%	61%
Emission Factor (Controlled, lbs/VMT)	0.602	0.065

Notes:
^a The mean vehicle speed (S) and the particulate matter scaling factor (F) taken from Tables 11.9-1 and 11.9-3 of Section 11.9 of AP-42 (EPA, 1998) per Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b Emission factor calculated using the following equation from Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 PM₁₀ Emission Factor (lbs/VMT) = 0.051 x (S)^{1.9} x F_{PM10}
 PM_{2.5} Emission Factor (lbs/VMT) = 0.04 x (S)^{1.9} x F_{PM2.5}
^c Control efficiency taken from Table XI-A of the CEQA Handbook for Construction Activities (SCAQMD, 2007).

Fugitive Dust Emission Factors for Bulldozing

Parameter	PM ₁₀	PM _{2.5}
C ^a	1.0	5.7
M (%) ^b	7.9	7.9
s (%) ^c	6.9	6.9
F ^d	0.75	0.105
Emission Factor (lbs/hr)^b	0.753	0.414
Reduction from Watering Every 3 Hours^e	61%	61%
Emission Factor (Controlled, lbs/hr)	0.294	0.161

Notes:
^a The arbitrary coefficient (C), material moisture content (M), material silt content (s), and particulate matter scaling factor (F) taken from Tables 11.9-1 and 11.9-3 of Section 11.9 of AP-42 (EPA, 1998) per Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b Emission factor calculated using the following equation from Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 PM₁₀ Emission Factor (lbs/hr) = [(C x s^{1.5}) / M^{1.5}] x F_{PM10}
 PM_{2.5} Emission Factor (lbs/hr) = [(C x s^{1.5}) / M^{1.5}] x F_{PM2.5}
^c Control efficiency taken from Table XI-A of the CEQA Handbook for Construction Activities (SCAQMD, 2007).

Table 5.1A.40 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Block 3 Construction

Emission Source	Pollutant(s)	Equation	Variables	
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)	
			EF = Emission factor (g/bhp-hr)	
			N = Number of pieces of equipment	
			Hp = Average horsepower	
			L = Average load factor	
			H = Hours per month	
			$E_d = E_m / D$	453.6 = Conversion from g to lbs
				E_d = Emissions (lbs/day)
				E_m = Emissions (lbs/month)
			$E_t = \sum E_m / 2,000$	D = Number of construction days per month
				E_t = Emissions (tons/year)
				E_m = Emissions (lbs/month)
CO ₂		$E_m = N * FC * EF * H * 0.001$	2,000 = Conversion from lbs to tons	
			E_m = Emissions (metric tons/month)	
			N = Number of pieces of equipment	
			$E_d = E_m / D$	FC = Fuel consumption (gallons/hour)
				E_d = Emissions (metric tons/day)
				E_m = Emissions (metric tons/month)
		$E_t = \sum E_m$	D = Number of construction days per month	
			E_t = Emissions (metric tons/year)	
			E_m = Emissions (metric tons/month)	
CH ₄ and N ₂ O		$E_m = N * FC * EF * H / 1,000 * 0.001$	0.001 = Conversion from kg to metric tons	
			E_d = Emissions (metric tons/day)	
			N = Number of pieces of equipment	
			$E_d = E_m / D$	FC = Fuel consumption (gallons/hour)
				E_m = Emissions (metric tons/month)
				E_m = Emissions (metric tons/month)
		$E_t = \sum E_m$	EF = Emission factor (g/gallon)	
			E_t = Emissions (metric tons/year)	
			E_m = Emissions (metric tons/month)	
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM ₁₀ and PM _{2.5}	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_d = N * VMT * EF / 453.6$	H = Hours per month	
			E_d = Emissions (lbs/day)	
			N = Number of vehicles	
			VMT = Vehicle miles traveled per day (miles/day)	
			road fugitive PM ₁₀ and PM _{2.5} emission factors calculated per Sections 13.2.1 and 13.2.2 of AP-42 (EPA, 2011 and 2006), respectively.	
			453.6 = Conversion from g to lbs	
		$E_m = E_d * D$	E_m = Emissions (lbs/month)	
			E_d = Emissions (lbs/day)	
			D = Number of construction days per month	
		$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year)	
			E_m = Emissions (lbs/month)	
			2,000 = Conversion from lbs to tons	

Onsite and Offsite Vehicle Exhaust	CO ₂	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) FE = Fuel economy (mpg) EF = Emission factor (kg/gallon) 0.001 = Conversion from kg to metric tons	
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month	
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)	
	CH ₄ and N ₂ O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) EF = Emission factor (g/mile) 1,000 = Conversion from g to kg 0.001 = Conversion from kg to metric tons	
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month	
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)	
	Onsite Fugitive PM ₁₀ and PM _{2.5} from Grading	PM ₁₀ and PM _{2.5}	$E_d = EF * A / W * 43,560 / 5,280 / D$	E_d = Emissions (lbs/day) EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/mile), calculated per Section 4.3 of Appendix A of the <i>CalEEMod User's Guide</i> (ENVIRON, 2013). A = Site disturbed (acres/month) W = Grading equipment blade width (ft) 43,560 = Conversion factor from square feet to acres 5,280 = Conversion factor from feet to miles D = Number of construction days per month
			$E_m = E_d * D$	E_m = Emissions (lbs/month) E_d = Emissions (lbs/day) D = Number of construction days per month
			$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year) E_m = Emissions (lbs/month) 2,000 = Conversion from lbs to tons
Onsite Fugitive PM ₁₀ and PM _{2.5} from Bulldozing	PM ₁₀ and PM _{2.5}	$E_d = EF * H / D$	E_d = Emissions (lbs/day) EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/hr), calculated per Section 4.3 of Appendix A of the <i>CalEEMod User's Guide</i> (ENVIRON, 2013). H = Hours per month for all bulldozers D = Number of construction days per month	
		$E_m = E_d * D$	E_m = Emissions (lbs/month) E_d = Emissions (lbs/day) D = Number of construction days per month	
		$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year) E_m = Emissions (lbs/month) 2,000 = Conversion from lbs to tons	

Table 5.1A.41 Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Block 3 Construction

Onsite Equipment	Number per Month ^a																													
	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Water Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	0
Excavator	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0
Grader	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Cranes ^b	0	0	0	1	2	2	5	5	5	5	4	4	6	6	4	4	4	4	2	2	2	3	3	3	1	1	1	1	1	1
Tractor/Loader/Backhoe ^c	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	
Rubber Tired Loader ^d	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	
Crawler Tractor ^e	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Air Compressor	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	0	0	0	0	0	
Forklift	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Roller ^f	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Other General Industrial Equipment ^g	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Notes:
^a Equipment counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.
^b Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane, the 35 Ton Hydraulic Crane, the Heavy Lift Lattice Boom Main Crane, the Heavy Lift Lattice Boom Tail Crane, and the Heavy Lift Gantry Crane.
^c Numbers presented for Tractor/Loader/Backhoe includes the equipment counts for the Backhoe.
^d Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.
^e Numbers presented for Crawler Tractor includes the equipment counts for the Dozer
^f Numbers presented for Roller includes the equipment counts for the Compactor.
^g Numbers presented for Other General Industrial Equipment includes the equipment counts for the Pile Driver.

Number of Onsite Motor Vehicles for Block 3 Construction

Vehicle Type	Number per Month ^a																													
	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Onsite Pick-up Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Onsite Stake Truck	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Dump Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
^a Vehicle counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

Table 5.1A.42 Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Block 3 Construction

Equipment ^a	Percent Usage ^b	Hours per Month ^c	Horsepower ^d	Load Factor ^d	Emission Factors (g/bhp-hr) ^e											Fuel Consumption 2020 (gallons/hour) ^f	
					CO 2020	VOC 2020	NO _x 2020	NO _x 2021	NO _x 2022	SO _x 2020	PM ₁₀ 2020	PM ₁₀ 2021	PM ₁₀ 2022	PM _{2.5} 2020	PM _{2.5} 2021		PM _{2.5} 2022
Water Truck ^g	50%	115	400	0.38	1.414	0.246	2.347	1.954	1.490	0.005	0.086	0.072	0.054	0.079	0.066	0.050	12.32
Excavator	85%	196	163	0.38	3.086	0.231	2.278	2.034	1.678	0.005	0.110	0.099	0.081	0.102	0.091	0.075	5.11
Grader	80%	184	175	0.41	3.621	0.567	5.530	4.839	4.125	0.005	0.309	0.270	0.229	0.284	0.248	0.211	5.64
Cranes	65%	150	226	0.29	1.790	0.384	4.563	4.104	3.541	0.005	0.188	0.167	0.147	0.173	0.153	0.135	5.08
Tractor/Loader/Backhoe	55%	127	98	0.37	3.601	0.331	3.326	2.995	2.647	0.005	0.210	0.177	0.142	0.194	0.163	0.131	2.36
Rubber Tired Loader	55%	127	200	0.36	1.269	0.290	3.421	2.998	2.347	0.005	0.114	0.100	0.079	0.105	0.092	0.072	6.74
Crawler Tractor	80%	184	208	0.43	1.555	0.360	4.632	4.334	3.737	0.005	0.175	0.163	0.141	0.161	0.150	0.130	7.52
Air Compressor	80%	184	78	0.48	3.698	0.489	3.400	3.083	2.844	0.006	0.224	0.190	0.165	0.224	0.190	0.165	2.14
Forklift	75%	173	89	0.20	3.760	0.459	4.133	3.756	3.360	0.005	0.308	0.267	0.223	0.283	0.245	0.205	1.42
Roller	60%	138	81	0.38	3.531	0.388	3.882	3.589	3.219	0.005	0.248	0.219	0.186	0.228	0.202	0.171	2.69
Other General Industrial Equipment	70%	161	88	0.34	3.771	0.446	4.061	3.718	3.200	0.005	0.296	0.256	0.199	0.272	0.235	0.183	2.83

Notes:
^a Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
^b Percent Usage assumed typical of power plant construction.
^c Hours per month calculated based on the following schedule, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.
 Work hours per day: 10
 Work days per month: 23
^d Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).
^e Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2020 were used for the construction equipment exhaust emission calculations for CO, VOC, and SOx. The emission factors for year 2020, 2021, and 2022 were used for NOx, PM₁₀, and PM_{2.5}.
^f Fuel consumption based on consumption in the OFFROAD2007 model for the South Coast Air Basin in the year 2020; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).
^g Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks.

Table 5.1A.43 Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Block 3 Construction

Vehicle Type	Vehicle Class ^a	Exhaust Emission Factors (g/mile) ^b											Paved Road Emission Factors (g/mile) ^c		Fuel Economy 2020 (mpg) ^d	
		CO 2020	VOC 2020	SO _x 2020	NO _x 2020	NO _x 2021	NO _x 2022	PM ₁₀ 2020	PM ₁₀ 2021	PM ₁₀ 2022	PM _{2.5} 2020	PM _{2.5} 2021	PM _{2.5} 2022	PM ₁₀		PM _{2.5}
Onsite Pick-up Truck	Light-duty Truck	2.988	0.184	0.005	0.299	0.278	0.258	0.060	0.060	0.060	0.032	0.032	0.032	N/A	N/A	18.242
Onsite Stake Truck	Heavy-duty Diesel	6.155	3.102	0.016	14.065	12.344	11.262	0.194	0.185	0.183	0.125	0.116	0.115	N/A	N/A	5.590
Onsite Dump Truck	Heavy-duty Diesel	6.155	3.102	0.016	14.065	12.344	11.262	0.194	0.185	0.183	0.125	0.116	0.115	N/A	N/A	5.590
Offsite Delivery Trucks	Heavy-duty Diesel	1.072	0.232	0.016	4.213	3.656	3.320	0.163	0.162	0.162	0.096	0.096	0.095	0.300	0.075	5.590
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.718	0.160	0.013	3.000	2.471	2.216	0.174	0.168	0.168	0.097	0.092	0.092	0.300	0.075	7.282
Construction Worker Commute	Light-duty Auto/Truck	1.078	0.018	0.004	0.104	0.098	0.092	0.046	0.046	0.046	0.019	0.019	0.019	0.300	0.075	20.492

Notes:

^a The vehicle classes are represented as follows:
 Light-duty Truck: Assumed to be an average of LDT1, GAS and LDT2, GAS values.
 Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
 Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHD, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
 Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2020 for CO, VOC, and SO_x. Calendar years 2020, 2021, and 2022 were used for NO_x, PM₁₀, and PM_{2.5}. EMFAC2007 Vehicle Categories were used. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

^c Paved road emission factors calculated using CalEEMod methodology, as described below.

^d Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2020, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM ₁₀	PM _{2.5}
Average Weight ^a	2.4	2.4
k ^b	1.0	0.25
sL ^c	0.1	0.1
Emission Factor (g/mile)^d	0.300	0.075

Notes:

^a Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
^b k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).
^c sL taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^d Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):
 Emission Factor (g/mile) = k (g/mile) x [sL (g/m³)^{0.91} x [Average Weight (tons)]^{1.02}

Table 5.1A.44 Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Block 3 Construction

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO₂ Emission Factors			
Gasoline	8.78	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N₂O Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0036	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0066	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0048	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N ₂ O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH₄ Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0173	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0163	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0051	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH ₄ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

^a Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.45 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CH₄ Emissions from Units 3 & 4 Demolition

Onsite Equipment	CH ₄ Emissions (metric tons/month)																							
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Water Truck	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
Cranes	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
Rubber Tired Loader	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
Air Compressor	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Forklift	0.0001	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Excavator	0.0012	0.0012	0.0017	0.0017	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023
Onsite Total (metric tons/month)	0.0044	0.0044	0.0051	0.0051	0.0057	0.0057	0.0053	0.0062																
Onsite Total (metric tons/day)^a	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003							
Onsite Total (metric tons/year)	0.0705																							

Notes:

^a Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls', the days per month are as follows: 23

Table 5.1A.47 Onsite Demolition Fugitive Dust Emissions

Onsite Demolition Fugitive PM_{2.5} Emissions from Units 3 & 4 Demolition

Demolition Activity	Fugitive PM _{2.5} Emissions (lbs/day) ^{a,b}																							
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Dismemberment	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Debris Loading ^c	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051
Onsite Total (lbs/day)	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054
Demolition Activity	Fugitive PM _{2.5} Emissions (lbs/month) ^{a,b}																							
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Dismemberment	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Debris Loading ^c	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
Onsite Total (lbs/month)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Onsite Total (tons/year)	0.01																							

Notes:
^a Work days per month are as follows, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls': 23
^b Emissions based on the highest (controlled) emission factor for PM_{2.5}.
^c Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Onsite Construction Vehicle Activity for Units 3 & 4 Demolition

Vehicle Type	Miles/Day ^a	Working Days per Month ^b
Onsite Pick-up Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
^a Estimated based on the dimensions of the project site.
^b Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Fugitive Dust Emission Factors for Unpaved Roads

Vehicles on Unpaved Surfaces at Industrial Sites

Parameter	PM ₁₀	PM _{2.5}
Mean Vehicle Weight ^a	16.5	16.5
Silt Content ^b	8.5	8.5
k ^c	1.5	0.15
a ^c	0.9	0.9
b ^c	0.45	0.45
P ^d	31	31
Emission Factor (Uncontrolled, lbs/mile)^e	2.17	0.22
Reduction from Watering 3x per Day^f	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
^a Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons.
^b Silt content taken from Table 13.2.2-1 of Section 13.2.2 of AP-42 (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
^c k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of AP-42 (EPA, 2006) for industrial roads.
^d P taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^e Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of AP-42 (EPA, 2006):
 Emission Factor (lbs/mile) = (k (lbs/mile) x [Silt Content (%) / 12]² x [Mean Vehicle Weight (tons) / 3]³) x [(365 - P) / 365]
^f Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Dismemberment

Dismemberment and Collapse of Structures

Parameter	PM ₁₀	PM _{2.5}
k ^a	0.35	0.053
U (mph) ^b	4.9	4.9
M (%) ^c	2.0	2.0
Emission Factor (lbs/ton)^d	0.00110	0.00017
Reduction from Watering Every 4 Hours^e	36%	36%
Emission Factor (Controlled, lbs/ton)	0.00070	0.00011

Notes:
^a k, the particle size multiplier, taken from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b U, the mean wind speed, taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin. Converted from meters/second (m/s) to miles per hour (mph).
^c M, the material moisture content, taken from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^d Emission factor calculated using the following equation from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 Emission Factor (lbs/ton) = k x 0.0032 x [U / 5]^{1.3} / [M / 2]^{1.4}
^e Control efficiency taken from Table XI-A of the CEQA Handbook for Active Demolition and Debris Removal (SCAQMD, 2007).

Fugitive Dust Emission Factors for Debris Loading

Loading of Debris/Building Waste

Parameter	PM ₁₀	PM _{2.5}
k ^a	0.35	0.053
EF _{L-TSP} ^b	0.058	0.058
Emission Factor (lbs/ton)^c	0.020	0.003
Reduction from Watering Every 4 Hours^d	36%	36%
Emission Factor (Controlled, lbs/ton)	0.013	0.002

Notes:
^a k taken from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b EF_{L-TSP} taken from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^c Emission factor calculated using the following equation from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 Emission Factor (lbs/ton) = k x EF_{L-TSP} (lbs/ton)
^d Control efficiency taken from Table XI-A of the CEQA Handbook for Active Demolition and Debris Removal (SCAQMD, 2007).

Table 5.1A.49 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Units 3 & 4 Demolition

Emission Source	Pollutant(s)	Equation	Variables
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)
			EF = Emission factor (g/bhp-hr)
			N = Number of pieces of equipment
		$E_d = E_m / D$	Hp = Average horsepower
			L = Average load factor
			H = Hours per month
		$E_t = \sum E_m / 2,000$	453.6 = Conversion from g to lbs
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
	CO ₂	$E_m = N * FC * EF * H * 0.001$	E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			$2,000$ = Conversion from lbs to tons
		$E_d = E_m / D$	E_m = Emissions (metric tons/month)
			N = Number of pieces of equipment
			FC = Fuel consumption (gallons/hour)
$E_t = \sum E_m$	EF = Emission factor (kg/gallon)		
	H = Hours per month		
	0.001 = Conversion from kg to metric tons		
CH ₄ and N ₂ O	$E_m = N * FC * EF * H / 1,000 * 0.001$	E_d = Emissions (metric tons/day)	
		E_m = Emissions (metric tons/month)	
		D = Number of construction days per month	
	$E_d = E_m / D$	E_t = Emissions (metric tons/year)	
		E_m = Emissions (metric tons/month)	
		$E_t = \sum E_m$	
	$E_t = \sum E_m$	E_m = Emissions (metric tons/month)	
		N = Number of pieces of equipment	
		FC = Fuel consumption (gallons/hour)	
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM ₁₀ and PM _{2.5}	$E_d = N * VMT * EF / 453.6$	EF = Emission factor (g/gallon)	
		H = Hours per month	
		$1,000$ = Conversion from g to kg	
	$E_m = E_d * D$	0.001 = Conversion from kg to metric tons	
		E_d = Emissions (metric tons/day)	
		E_m = Emissions (metric tons/month)	
$E_t = \sum E_m / 2,000$	D = Number of construction days per month		
	E_t = Emissions (metric tons/year)		
	E_m = Emissions (metric tons/month)		
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM ₁₀ and PM _{2.5}	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_d = N * VMT * EF / 453.6$	E_d = Emissions (lbs/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
		$E_m = E_d * D$	EF = EMFAC2011 emission factor (g/mile). Paved and unpaved road fugitive PM ₁₀ and PM _{2.5} emission factors calculated per Sections 13.2.1 and 13.2.2 of AP-42 (EPA, 2011 and 2006), respectively.
			453.6 = Conversion from g to lbs
			E_m = Emissions (lbs/month)
	$E_t = \sum E_m / 2,000$	E_d = Emissions (lbs/day)	
		D = Number of construction days per month	
		E_t = Emissions (tons/year)	
		E_m = Emissions (lbs/month)	
		$2,000$ = Conversion from lbs to tons	

Table 5.1A.49 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Units 3 & 4 Demolition

Emission Source	Pollutant(s)	Equation	Variables		
Onsite and Offsite Vehicle Exhaust	CO ₂	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) FE = Fuel economy (mpg) EF = Emission factor (kg/gallon) 0.001 = Conversion from kg to metric tons		
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month		
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)		
	CH ₄ and N ₂ O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) EF = Emission factor (g/mile) 1,000 = Conversion from g to kg 0.001 = Conversion from kg to metric tons		
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month		
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)		
		Onsite Fugitive PM ₁₀ and PM _{2.5} from Dismemberment and Debris Loading	PM ₁₀ and PM _{2.5}	$E_d = T * EF / D$	E_d = Emissions (lbs/day) T = Tons of material dismembered or loaded per month (tons/month) EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/ton), calculated per Section 13.2.4.3 of AP-42 (EPA, 2006) for dismemberment and Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013) for debris loading. D = Number of construction days per month
				$E_m = E_d * D$	E_m = Emissions (lbs/month) E_d = Emissions (lbs/day) D = Number of construction days per month
				$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year) E_m = Emissions (lbs/month) 2,000 = Conversion from lbs to tons

Table 5.1A.50 Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Units 3 & 4 Demolition

Onsite Equipment	Number per Month ^a																							
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Water Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cranes ^b	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Rubber Tired Loader ^c	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Air Compressor	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklift	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Excavators	2	2	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Notes:

^a Equipment counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

^b Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane and the 35 Ton Hydraulic Crane.

^c Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.

Number of Onsite Motor Vehicles for Units 3 & 4 Demolition

Vehicle Type	Number per Month ^a																							
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Onsite Pick-up Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Stake Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Dump Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Notes:

^a Vehicle counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

Table 5.1A.51 Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Units 3 & 4 Demolition

Equipment ^a	Percent Usage ^b	Hours per Month ^c	Horsepower ^d	Load Factor ^d	Emission Factors (g/bhp-hr) ^e									Fuel Consumption 2022 (gallons/hour) ^f
					CO 2022	VOC 2022	NO _x 2022	NO _x 2023	SO _x 2022	PM ₁₀ 2022	PM ₁₀ 2023	PM _{2.5} 2022	PM _{2.5} 2023	
Water Truck ^g	50%	115	400	0.38	1.247	0.196	1.490	1.324	0.005	0.054	0.048	0.050	0.044	12.31
Cranes	65%	150	226	0.29	1.602	0.316	3.541	3.229	0.005	0.147	0.135	0.135	0.124	5.07
Rubber Tired Loader	55%	127	200	0.36	1.188	0.226	2.347	2.060	0.005	0.079	0.069	0.072	0.064	6.74
Air Compressor	80%	184	78	0.48	3.662	0.413	2.844	2.631	0.006	0.165	0.143	0.165	0.143	2.14
Forklift	75%	173	89	0.20	3.675	0.362	3.360	3.057	0.005	0.223	0.189	0.205	0.174	1.42
Excavator	85%	196	163	0.38	3.074	0.191	1.678	1.462	0.005	0.081	0.072	0.075	0.066	5.11

Notes:

^a Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Percent Usage assumed typical of power plant construction.

^c Hours per month calculated based on the following schedule, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Work hours per day: 10

Work days per month: 23

^d Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

^e Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2022 were used for the construction equipment exhaust emission calculations for CO, VOC, and SO_x. The emission factors for year 2022 and 2023 were used for NO_x, PM₁₀, and PM_{2.5}.

^f Fuel consumption based on consumption in the OFFROAD2007 model for the South Coast Air Basin in the year 2022; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).

^g Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks.

Table 5.1A.52 Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Units 3 & 4 Demolition

Vehicle Type	Vehicle Class ^a	Exhaust Emission Factors (g/mile) ^b									Paved Road Emission Factors (g/mile) ^c		Fuel Economy 2022 (mpg) ^d
		CO 2022	VOC 2022	NO _x 2022	NO _x 2023	SO _x 2022	PM ₁₀ 2022	PM ₁₀ 2023	PM _{2.5} 2022	PM _{2.5} 2023	PM ₁₀	PM _{2.5}	
Onsite Pick-up Truck	Light-duty Truck	2.569	0.160	0.258	0.240	0.005	0.060	0.060	0.032	0.032	N/A	N/A	18.215
Onsite Stake Truck	Heavy-duty Diesel	6.360	3.191	11.262	7.634	0.016	0.183	0.182	0.115	0.114	N/A	N/A	5.586
Onsite Dump Truck	Heavy-duty Diesel	6.360	3.191	11.262	7.634	0.016	0.183	0.182	0.115	0.114	N/A	N/A	5.586
Offsite Delivery Trucks	Heavy-duty Diesel	1.108	0.241	3.320	2.257	0.016	0.162	0.161	0.095	0.095	0.300	0.075	5.586
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.724	0.162	2.216	1.597	0.013	0.168	0.167	0.092	0.091	0.300	0.075	7.289
Waste Hauling Trucks	Heavy/Medium-duty Diesel	0.724	0.162	2.216	1.597	0.013	0.168	0.167	0.092	0.091	0.300	0.075	7.289
Construction Worker Commute	Light-duty Auto/Truck	0.960	0.016	0.092	0.086	0.004	0.046	0.046	0.019	0.019	0.300	0.075	20.457

Notes:

^a The vehicle classes are represented as follows:

Light-duty Truck: Assumed to be an average of LDT1, GAS and LDT2, GAS values.

Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2022 for CO, VOC, and SO_x. Calendar years 2022 and 2023 were used for NO_x, PM₁₀, and PM_{2.5}. EMFAC2007 Vehicle Categories were used. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

^c Paved road emission factors calculated using CalEEMod methodology, as described below.

^d Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2022, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM ₁₀	PM _{2.5}
Average Weight ^a	2.4	2.4
k ^b	1.0	0.25
sL ^c	0.1	0.1
Emission Factor (g/mile) ^d	0.300	0.075

Notes:

^a Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).

^c sL taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.

^d Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):

$$\text{Emission Factor (g/mile)} = k \text{ (g/mile)} \times [\text{sL (g/m}^2)]^{0.91} \times [\text{Average Weight (tons)}]^{1.02}$$

Table 5.1A.53 Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Units 3 & 4 Demolition

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO₂ Emission Factors			
Gasoline	8.78	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N₂O Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0036	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0066	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0048	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N ₂ O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH₄ Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0173	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0163	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0051	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH ₄ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

^a Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.54 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO Emissions from Block 4 Construction

Table with columns for Onsite Equipment and CO Emissions (lbs/month) from 90 to 119. Rows include Water Truck, Excavator, Grader, Cranes, Tractor/Loader/Backhoe, Rubber Tired Loader, Crawler Tractor, Air Compressor, Forklift, Roller, and Other General Industrial Equipment. Summary rows: Onsite Total (lbs/month) 785.80, Onsite Total (lbs/day) 34.17, Onsite Total (tons/year) 3.67.

Construction Equipment VOC Emissions from Block 4 Construction

Table with columns for Onsite Equipment and VOC Emissions (lbs/month) from 90 to 119. Rows include Water Truck, Excavator, Grader, Cranes, Tractor/Loader/Backhoe, Rubber Tired Loader, Crawler Tractor, Air Compressor, Forklift, Roller, and Other General Industrial Equipment. Summary rows: Onsite Total (lbs/month) 80.88, Onsite Total (lbs/day) 3.52, Onsite Total (tons/year) 0.42.

Construction Equipment NOx Emissions from Block 4 Construction

Table with columns for Onsite Equipment and NOx Emissions (lbs/month) from 90 to 119. Rows include Water Truck, Excavator, Grader, Cranes, Tractor/Loader/Backhoe, Rubber Tired Loader, Crawler Tractor, Air Compressor, Forklift, Roller, and Other General Industrial Equipment. Summary rows: Onsite Total (lbs/month) 725.76, Onsite Total (lbs/day) 31.55, Onsite Total (tons/year) 3.79.

Construction Equipment SOx Emissions from Block 4 Construction

Table with columns for Onsite Equipment and SOx Emissions (lbs/month) from 90 to 119. Rows include Water Truck, Excavator, Grader, Cranes, Tractor/Loader/Backhoe, Rubber Tired Loader, Crawler Tractor, Air Compressor, Forklift, Roller, and Other General Industrial Equipment. Summary rows: Onsite Total (lbs/month) 1.45, Onsite Total (lbs/day) 0.06, Onsite Total (tons/year) 0.01.

Construction Equipment CH₄ Emissions from Block 4 Construction

Onsite Equipment	CH ₄ Emissions (metric tons/month)																													
	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119
Water Truck	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008
Excavator	0.0012	0.0012	0.0012	0.0012	0.0012	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Grader	0.0012	0.0012	0.0006	0.0006	0.0006	0.0006	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0006	0.0006	0.0000
Cranes	0.0000	0.0000	0.0000	0.0004	0.0009	0.0009	0.0022	0.0022	0.0022	0.0022	0.0013	0.0013	0.0022	0.0022	0.0018	0.0018	0.0018	0.0018	0.0009	0.0009	0.0009	0.0013	0.0013	0.0013	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Tractor/Loader/Backhoe	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Rubber Tired Loader	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Crawler Tractor	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Air Compressor	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000
Forklift	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0001	0.0001
Roller	0.0004	0.0004	0.0002	0.0002	0.0002	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0002	0.0000	0.0000
Other General Industrial Equipment	0.0003	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Onsite Total (metric tons/month)	0.0061	0.0061	0.0053	0.0057	0.0059	0.0053	0.0066	0.0050	0.0050	0.0050	0.0041	0.0041	0.0050	0.0050	0.0040	0.0040	0.0040	0.0040	0.0031	0.0031	0.0031	0.0033	0.0033	0.0039	0.0030	0.0022	0.0030	0.0030	0.0016	0.0019
Onsite Total (metric tons/day) ^a	0.0003	0.0003	0.0002	0.0002	0.0003	0.0002	0.0003	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001											
Onsite Total (metric tons/year)	0.0643																													

Notes:
^a Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls', the days per month are as follows: 23

Onsite Construction Vehicle Activity for Block 4 Construction

Vehicle Type	Miles/Day ^a	Working Days per Month ^b
Onsite Pickup Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
^a Estimated based on the dimensions of the project site.
^b Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Fugitive Dust Emission Factors for Unpaved Roads

Parameter	PM ₁₀	PM _{2.5}
Mean Vehicle Weight ^a	16.5	16.5
Silt Content ^b	8.5	8.5
k ^c	1.5	0.15
a ^c	0.9	0.9
b ^c	0.45	0.45
P ^d	31	31
Emission Factor (Uncontrolled, lbs/mile) ^e	2.17	0.22
Reduction from Watering 3x per Day ^f	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
^a Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons.
^b Silt content taken from Table 13.2.2-1 of Section 13.2.2 of AP-42 (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
^c k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of AP-42 (EPA, 2006) for industrial roads.
^d P taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^e Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of AP-42 (EPA, 2006):
 Emission Factor (lbs/mile) = (k (lbs/mile) x [Silt Content (%) / 12] x [Mean Vehicle Weight (tons) / 3]) x [(365 - P) / 365]
^f Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Grading

Parameter	PM ₁₀	PM _{2.5}
S (mph) ^a	7.1	7.1
F ^b	0.6	0.031
Emission Factor (lbs/VMT) ^c	1.543	0.167
Reduction from Watering Every 3 Hours ^d	61%	61%
Emission Factor (Controlled, lbs/VMT)	0.602	0.065

Notes:
^a The mean vehicle speed (S) and the particulate matter scaling factor (F) taken from Tables 11.9-1 and 11.9-3 of Section 11.9 of AP-42 (EPA, 1998) per Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b Emission factor calculated using the following equation from Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 PM₁₀ Emission Factor (lbs/VMT) = 0.051 x (S)^{2.0} x F_{PM10}
 PM_{2.5} Emission Factor (lbs/VMT) = 0.04 x (S)^{2.0} x F_{PM2.5}
^c Control efficiency taken from Table XI-A of the CEQA Handbook for Construction Activities (SCAQMD, 2007).

Fugitive Dust Emission Factors for Bulldozing

Parameter	PM ₁₀	PM _{2.5}
C ^a	1.0	5.7
M (%) ^a	7.9	7.9
s (%) ^a	6.9	6.9
F ^b	0.75	0.105
Emission Factor (lbs/hr) ^c	0.753	0.414
Reduction from Watering Every 3 Hours ^d	61%	61%
Emission Factor (Controlled, lbs/hr)	0.294	0.161

Notes:
^a The arbitrary coefficient (C), material moisture content (M), material silt content (s), and particulate matter scaling factor (F) taken from Tables 11.9-1 and 11.9-3 of Section 11.9 of AP-42 (EPA, 1998) per Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b Emission factor calculated using the following equation from Section 4.3 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 PM₁₀ Emission Factor (lbs/hr) = [(C x s^{1.5}) / M^{1.1}] x F_{PM10}
 PM_{2.5} Emission Factor (lbs/hr) = [(C x s^{1.5}) / M^{1.1}] x F_{PM2.5}
^c Control efficiency taken from Table XI-A of the CEQA Handbook for Construction Activities (SCAQMD, 2007).

Table 5.1A.58 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Block 4 Construction

Emission Source	Pollutant(s)	Equation	Variables
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)
			EF = Emission factor (g/bhp-hr)
			N = Number of pieces of equipment
			Hp = Average horsepower
			L = Average load factor
			H = Hours per month
	CO ₂	$E_d = E_m / D$	E_d = Emissions (lbs/day)
			E_m = Emissions (lbs/month)
			D = Number of construction days per month
			$E_t = \sum E_m / 2,000$
			E_t = Emissions (tons/year)
			$2,000$ = Conversion from lbs to tons
CH ₄ and N ₂ O	$E_m = N * FC * EF * H * 0.001$	E_m = Emissions (metric tons/month)	
		N = Number of pieces of equipment	
		FC = Fuel consumption (gallons/hour)	
		EF = Emission factor (kg/gallon)	
		H = Hours per month	
		0.001 = Conversion from kg to metric tons	
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM ₁₀ and PM _{2.5}	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_d = N * VMT * EF / 453.6$	E_d = Emissions (lbs/day)
			N = Number of vehicles
			VMT = Vehicle miles traveled per day (miles/day)
			EF = EPA AP-42 emission factor (g/mile). Paved and unpaved road fugitive PM ₁₀ and PM _{2.5} emission factors calculated per Sections 13.2.1 and 13.2.2 of AP-42 (EPA, 2011 and 2006), respectively.
			453.6 = Conversion from g to lbs
			$E_m = E_d * D$
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM ₁₀ and PM _{2.5}	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_t = \sum E_m / 2,000$	E_m = Emissions (lbs/month)
			E_d = Emissions (lbs/day)
			D = Number of construction days per month
			E_t = Emissions (tons/year)
			E_m = Emissions (lbs/month)
			$2,000$ = Conversion from lbs to tons

Onsite and Offsite Vehicle Exhaust	CO ₂	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) FE = Fuel economy (mpg) EF = Emission factor (kg/gallon) 0.001 = Conversion from kg to metric tons	
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month	
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)	
	CH ₄ and N ₂ O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) EF = Emission factor (g/mile) 1,000 = Conversion from g to kg 0.001 = Conversion from kg to metric tons	
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month	
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)	
	Onsite Fugitive PM ₁₀ and PM _{2.5} from Grading	PM ₁₀ and PM _{2.5}	$E_d = EF * A / W * 43,560 / 5,280 / D$	E_d = Emissions (lbs/day) EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/mile), calculated per Section 4.3 of Appendix A of the <i>CalEEMod User's Guide</i> (ENVIRON, 2013). A = Site disturbed (acres/month) W = Grading equipment blade width (ft) 43,560 = Conversion factor from square feet to acres 5,280 = Conversion factor from feet to miles D = Number of construction days per month
			$E_m = E_d * D$	E_m = Emissions (lbs/month) E_d = Emissions (lbs/day) D = Number of construction days per month
			$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year) E_m = Emissions (lbs/month) 2,000 = Conversion from lbs to tons
Onsite Fugitive PM ₁₀ and PM _{2.5} from Bulldozing	PM ₁₀ and PM _{2.5}	$E_d = EF * H / D$	E_d = Emissions (lbs/day) EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/hr), calculated per Section 4.3 of Appendix A of the <i>CalEEMod User's Guide</i> (ENVIRON, 2013). H = Hours per month for all bulldozers D = Number of construction days per month	
		$E_m = E_d * D$	E_m = Emissions (lbs/month) E_d = Emissions (lbs/day) D = Number of construction days per month	
		$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year) E_m = Emissions (lbs/month) 2,000 = Conversion from lbs to tons	

Table 5.1A.59 Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Block 4 Construction

Onsite Equipment	Number per Month ^a																													
	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119
Water Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Excavator	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0
Grader	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Cranes ^b	0	0	0	1	2	2	5	5	5	5	3	3	5	5	4	4	4	4	2	2	2	3	3	3	1	1	1	1	1	1
Tractor/Loader/Backhoe ^c	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Rubber Tired Loader ^d	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
Crawler Tractor ^e	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressor	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	0	0	0	0	0
Forklift	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Roller ^f	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Other General Industrial Equipment ^g	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

^a Equipment counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

^b Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane, the 35 Ton Hydraulic Crane, the Heavy Lift Lattice Boom Main Crane, the Heavy Lift Lattice Boom Tail Crane, and the Heavy Lift Gantry Crane.

^c Numbers presented for Tractor/Loader/Backhoe includes the equipment counts for the Backhoe.

^d Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.

^e Numbers presented for Crawler Tractor includes the equipment counts for the Dozer.

^f Numbers presented for Roller includes the equipment counts for the Compactor.

^g Numbers presented for Other General Industrial Equipment includes the equipment counts for the Pile Driver.

Number of Onsite Motor Vehicles for Block 4 Construction

Vehicle Type	Number per Month ^a																													
	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119
Onsite Pick-up Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Onsite Stake Truck	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Dump Truck	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

^a Vehicle counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

Table 5.1A.60 Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Block 4 Construction

Equipment ^a	Percent Usage ^b	Hours per Month ^c	Horsepower ^d	Load Factor ^d	Emission Factors (g/bhp-hr) ^e											Fuel Consumption 2023 (gallons/hour) ^f	
					CO 2023	VOC 2023	NO _x 2023	NO _x 2024	NO _x 2025	SO _x 2023	PM ₁₀ 2023	PM ₁₀ 2024	PM ₁₀ 2025	PM _{2.5} 2023	PM _{2.5} 2024		PM _{2.5} 2025
Water Truck ^g	50%	115	400	0.38	1.221	0.187	1.324	1.235	1.064	0.005	0.048	0.045	0.038	0.044	0.041	0.035	12.31
Excavator	85%	196	163	0.38	3.076	0.178	1.462	1.325	1.154	0.005	0.072	0.065	0.057	0.066	0.060	0.052	5.11
Grader	80%	184	175	0.41	3.450	0.390	3.548	3.202	2.774	0.005	0.195	0.177	0.152	0.180	0.163	0.140	5.64
Cranes	65%	150	226	0.29	1.553	0.297	3.229	2.966	2.681	0.005	0.135	0.123	0.114	0.124	0.114	0.105	5.07
Tractor/Loader/Backhoe	55%	127	98	0.37	3.525	0.239	2.426	2.288	2.109	0.005	0.120	0.105	0.086	0.110	0.097	0.079	2.36
Rubber Tired Loader	55%	127	200	0.36	1.171	0.210	2.060	1.806	1.442	0.005	0.069	0.060	0.048	0.064	0.056	0.045	6.74
Crawler Tractor	80%	184	208	0.43	1.395	0.276	3.187	2.953	2.462	0.005	0.124	0.115	0.096	0.114	0.106	0.088	7.52
Air Compressor	80%	184	78	0.48	3.657	0.387	2.631	2.461	2.313	0.006	0.143	0.123	0.104	0.143	0.123	0.104	2.14
Forklift	75%	173	89	0.20	3.647	0.327	3.057	2.814	2.607	0.005	0.189	0.163	0.140	0.174	0.150	0.128	1.42
Roller	60%	138	81	0.38	3.455	0.287	3.003	2.843	2.691	0.005	0.165	0.151	0.135	0.152	0.138	0.125	2.69
Other General Industrial Equipment	70%	161	88	0.34	3.647	0.308	2.924	2.708	2.439	0.005	0.169	0.146	0.118	0.155	0.134	0.109	2.83

Notes:

^a Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Percent Usage assumed typical of power plant construction.

^c Hours per month calculated based on the following schedule, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls':

Work hours per day: 10

Work days per month: 23

^d Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

^e Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2023 were used for the construction equipment exhaust emission calculations for CO, VOC, and SO_x. The emission factors for year 2023, 2024, and 2025 were used for NO_x, PM₁₀, and PM_{2.5}.

^f Fuel consumption based on consumption in the OFFROAD2007 model for the South Coast Air Basin in the year 2023; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).

^g Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks.

Table 5.1A.61 Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Block 4 Construction

Vehicle Type	Vehicle Class ^a	Exhaust Emission Factors (g/mile) ^b											Paved Road Emission Factors (g/mile) ^c		Fuel Economy 2023 (mpg) ^d	
		CO 2023	VOC 2023	SO _x 2023	NO _x 2023	NO _x 2024	NO _x 2025	PM ₁₀ 2023	PM ₁₀ 2024	PM ₁₀ 2025	PM _{2.5} 2023	PM _{2.5} 2024	PM _{2.5} 2025	PM ₁₀		PM _{2.5}
Onsite Pick-up Truck	Light-duty Truck	2.374	0.149	0.005	0.240	0.223	0.209	0.060	0.060	0.059	0.032	0.031	0.031	N/A	N/A	18.221
Onsite Stake Truck	Heavy-duty Diesel	5.370	2.693	0.016	7.634	7.630	7.626	0.182	0.182	0.183	0.114	0.114	0.115	N/A	N/A	5.624
Onsite Dump Truck	Heavy-duty Diesel	5.370	2.693	0.016	7.634	7.630	7.626	0.182	0.182	0.183	0.114	0.114	0.115	N/A	N/A	5.624
Offsite Delivery Trucks	Heavy-duty Diesel	0.936	0.203	0.016	2.257	2.257	2.251	0.161	0.162	0.162	0.095	0.095	0.096	0.300	0.075	5.624
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.626	0.140	0.013	1.597	1.597	1.594	0.167	0.167	0.168	0.091	0.091	0.091	0.300	0.075	7.317
Construction Worker Commut	Light-duty Auto/Truck	0.908	0.015	0.004	0.086	0.082	0.078	0.046	0.046	0.046	0.019	0.019	0.019	0.300	0.075	20.464

Notes:

^a The vehicle classes are represented as follows:
 Light-duty Truck: Assumed to be an average of LDT1, GAS and LDT2, GAS values.
 Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
 Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
 Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2023 for CO, VOC, and SO_x. Calendar years 2023, 2024, and 2025 were used for NO_x, PM₁₀, and PM_{2.5}. EMFAC2007 Vehicle Categories were used. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and onsite commutes, which is consistent with the CalEEMod defaults.

^c Paved road emission factors calculated using CalEEMod methodology, as described below.

^d Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2023, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM ₁₀	PM _{2.5}
Average Weight ^a	2.4	2.4
k ^b	1.0	0.25
sL ^c	0.1	0.1
Emission Factor (g/mile)^d	0.300	0.075

Notes:

^a Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).
^b k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).
^c sL taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^d Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):
 Emission Factor (g/mile) = k (g/mile) x [sL (g/m³)]^{0.91} x [Average Weight (tons)]^{1.02}

Table 5.1A.62 Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Block 4 Construction

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO₂ Emission Factors			
Gasoline	8.78	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N₂O Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0036	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0066	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0048	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N ₂ O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH₄ Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0173	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0163	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0051	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH ₄ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

^a Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.63 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CO Emissions from Units 1 & 2 Demolition

Onsite Equipment	CO Emissions (lbs/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	45.56	
Cranes	95.24	95.24	95.24	95.24	95.24	95.24	63.49	63.49	63.49	63.49	63.49	63.49	63.49	63.49	63.49	63.49	95.24	95.24	95.24	95.24	95.24	95.24	95.24	95.24	
Rubber Tired Loader	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	22.92	45.85	45.85	45.85	45.85	45.85	45.85	45.85	45.85	
Air Compressor	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	110.96	
Forklift	24.45	24.45	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	48.89	
Excavator	164.34	164.34	246.51	246.51	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	328.68	
Onsite Total (lbs/month)	463.47	463.47	570.09	570.09	652.26	652.26	620.51	675.18																	
Onsite Total (lbs/day)^a	20.15	20.15	24.79	24.79	28.36	28.36	26.98	29.36																	
Onsite Total (tons/year)	3.94																								

Construction Equipment VOC Emissions from Units 1 & 2 Demolition

Onsite Equipment	VOC Emissions (lbs/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83	
Cranes	17.16	17.16	17.16	17.16	17.16	17.16	11.44	11.44	11.44	11.44	11.44	11.44	11.44	11.44	11.44	11.44	17.16	17.16	17.16	17.16	17.16	17.16	17.16	17.16	
Rubber Tired Loader	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	
Air Compressor	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	10.48	
Forklift	1.87	1.87	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	
Excavator	8.43	8.43	12.64	12.64	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	16.85	
Onsite Total (lbs/month)	48.33	48.33	54.42	54.42	58.63	58.63	52.91	62.19																	
Onsite Total (lbs/day)^a	2.10	2.10	2.37	2.37	2.55	2.55	2.30	2.70																	
Onsite Total (tons/year)	0.35																								

Construction Equipment NOx Emissions from Units 1 & 2 Demolition^b

Onsite Equipment	NOx Emissions (lbs/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	40.99	
Cranes	173.76	173.76	173.76	173.76	173.76	173.76	115.84	115.84	115.84	115.84	115.84	115.84	115.84	115.84	115.84	115.84	173.76	173.76	173.76	173.76	173.76	173.76	173.76	173.76	
Rubber Tired Loader	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	28.96	57.91	57.91	57.91	57.91	57.91	57.91	57.91	57.91	
Air Compressor	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	70.26	
Forklift	17.65	17.65	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	35.30	
Excavator	61.60	61.60	92.39	92.39	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	123.19	
Onsite Total (lbs/month)	393.21	393.21	441.66	441.66	472.45	472.45	414.54	501.41																	
Onsite Total (lbs/day)^a	17.10	17.10	19.20	19.20	20.54	20.54	18.02	21.80																	
Onsite Total (tons/year)	2.83																								

Construction Equipment SOx Emissions from Units 1 & 2 Demolition

Onsite Equipment	SOx Emissions (lbs/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	
Cranes	0.32	0.32	0.32	0.32	0.32	0.32	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	
Rubber Tired Loader	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
Air Compressor	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	
Forklift	0.03	0.03	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
Excavator	0.26	0.26	0.39	0.39	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	
Onsite Total (lbs/month)	1.08	1.08	1.25	1.25	1.38	1.38	1.27	1.47																	
Onsite Total (lbs/day)^a	0.05	0.05	0.05	0.05	0.06																				
Onsite Total (tons/year)	0.01																								

Table 5.1A.63 Onsite Construction Equipment Exhaust Emissions

Construction Equipment PM₁₀ Emissions from Units 1 & 2 Demolition ^b

Onsite Equipment	PM ₁₀ Emissions (lbs/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	
Cranes	7.39	7.39	7.39	7.39	7.39	7.39	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	4.93	7.39	7.39	7.39	7.39	7.39	7.39	7.39	7.39	
Rubber Tired Loader	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	
Air Compressor	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	
Forklift	0.94	0.94	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	1.89	
Excavator	3.02	3.02	4.53	4.53	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	
Onsite Total (lbs/month)	16.95	16.95	19.41	19.41	20.92	20.92	18.45	21.89																	
Onsite Total (lbs/day) ^a	0.74	0.74	0.84	0.84	0.91	0.91	0.80	0.95																	
Onsite Total (tons/year)	0.12																								

Construction Equipment PM_{2.5} Emissions from Units 1 & 2 Demolition ^b

Onsite Equipment	PM _{2.5} Emissions (lbs/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	
Cranes	6.80	6.80	6.80	6.80	6.80	6.80	4.53	4.53	4.53	4.53	4.53	4.53	4.53	4.53	4.53	4.53	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	
Rubber Tired Loader	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	
Air Compressor	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	3.16	
Forklift	0.87	0.87	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	
Excavator	2.78	2.78	4.16	4.16	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	
Onsite Total (lbs/month)	15.85	15.85	18.10	18.10	19.49	19.49	17.23	20.39																	
Onsite Total (lbs/day) ^a	0.69	0.69	0.79	0.79	0.85	0.85	0.75	0.89																	
Onsite Total (tons/year)	0.12																								

Construction Equipment CO₂ Emissions from Units 1 & 2 Demolition

Onsite Equipment	CO ₂ Emissions (metric tons/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	14.45	
Cranes	23.22	23.22	23.22	23.22	23.22	23.22	15.48	15.48	15.48	15.48	15.48	15.48	15.48	15.48	15.48	15.48	23.22	23.22	23.22	23.22	23.22	23.22	23.22	23.22	
Rubber Tired Loader	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	8.71	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	
Air Compressor	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	8.04	
Forklift	2.50	2.50	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Excavator	20.36	20.36	30.54	30.54	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	40.72	
Onsite Total (metric tons/month)	77.28	77.28	89.96	89.96	100.14	100.14	92.40	108.84																	
Onsite Total (metric tons/day) ^a	3.36	3.36	3.91	3.91	4.35	4.35	4.02	4.73																	
Onsite Total (metric tons/year)	1,240.33																								

Construction Equipment N₂O Emissions from Units 1 & 2 Demolition

Onsite Equipment	N ₂ O Emissions (metric tons/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	
Cranes	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	
Rubber Tired Loader	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	
Air Compressor	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	
Forklift	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	
Excavator	0.0005	0.0005	0.0008	0.0008	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	
Onsite Total (metric tons/month)	0.0020	0.0020	0.0023	0.0023	0.0026	0.0026	0.0024	0.0028																	
Onsite Total (metric tons/day) ^a	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	
Onsite Total (metric tons/year)	0.0316																								

Table 5.1A.63 Onsite Construction Equipment Exhaust Emissions

Construction Equipment CH₄ Emissions from Units 1 & 2 Demolition

Onsite Equipment	CH ₄ Emissions (metric tons/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Water Truck	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	
Cranes	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	
Rubber Tired Loader	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	
Air Compressor	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	
Forklift	0.0001	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	
Excavator	0.0012	0.0012	0.0017	0.0017	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	
Onsite Total (metric tons/month)	0.0044	0.0044	0.0051	0.0051	0.0057	0.0057	0.0052	0.0062																	
Onsite Total (metric tons/day)^a	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003								
Onsite Total (metric tons/year)	0.0705																								

Notes:

^a Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls', the days per month are as follows: 23

^b Starting in year 2025, Table 3.4 of Appendix D of the CalEEMod User's Guide (ENVIRON, 2013) lists emission factors for every five years; therefore, year 2025 emission factors were used for years 2026 and 2027.

Table 5.1A.65 Onsite Demolition Fugitive Dust Emissions

Demolition Activity Levels for Units 1 & 2 Demolition

Source	Monthly Activity Levels																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Debris Generated from Mechanical Dismemberment (tons) ^a	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85	601.85

^a Debris generated from Table 5.14-3, Wastes Generated during Demolition of AGS Units 1-7. Assume Scrap Materials waste is unique to the turbines. Assume Scrap Metals, Concrete, Asphalt, and Asbestos wastes include waste from turbines and northeast warehouse and assuming similar quantities for each. Therefore, 2/7 of Scrap Materials waste is from Demolition of Units 1 & 2; and 2/8 of Scrap Metals, Concrete, Asphalt, and Asbestos waste is from Demolition of Units 1 & 2. Only materials generated from demolition that may generate fugitive dust were included. The monthly quantities were determined as follows:

Scrap Materials	4,571	lbs/week	which equals	9.14	tons/month
Scrap Metals	12,500	tons	which equals	520.83	tons/month
Concrete	938	tons	which equals	39.06	tons/month
Asphalt	38	tons	which equals	1.56	tons/month
Asbestos Waste	750	tons	which equals	31.25	tons/month

The above calculations are based on the following assumptions:

Demolition will last	24	months
The construction schedule allows for	4	weeks/month

Onsite Construction Vehicle Fugitive PM₁₀ Emissions from Units 1 & 2 Demolition

Vehicle Type	Fugitive PM ₁₀ Emissions (lbs/day) ^a																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Onsite Pick-up Truck	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Stake Truck	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Onsite Dump Truck	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Onsite Total (lbs/day)	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23

Vehicle Type	Fugitive PM ₁₀ Emissions (lbs/month) ^a																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Onsite Pick-up Truck	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	
Onsite Stake Truck	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	
Onsite Dump Truck	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	
Onsite Total (lbs/month)	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	97.20	
Onsite Total (tons/year)	0.58																								

Notes:

^a Emissions based on highest (controlled) unpaved road emission factor for PM₁₀.

Onsite Construction Vehicle Fugitive PM_{2.5} Emissions from Units 1 & 2 Demolition

Vehicle Type	Fugitive PM _{2.5} Emissions (lbs/day) ^a																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Onsite Pick-up Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Stake Truck	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Onsite Dump Truck	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Onsite Total (lbs/day)	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42

Vehicle Type	Fugitive PM _{2.5} Emissions (lbs/month) ^a																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Onsite Pick-up Truck	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	
Onsite Stake Truck	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	
Onsite Dump Truck	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	
Onsite Total (lbs/month)	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	
Onsite Total (tons/year)	0.06																								

Notes:

^a Emissions based on the highest (controlled) unpaved road emission factor for PM_{2.5}.

Onsite Demolition Fugitive PM₁₀ Emissions from Units 1 & 2 Demolition

Demolition Activity	Fugitive PM ₁₀ Emissions (lbs/day) ^{a, b}																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Dismemberment	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Debris Loading ^c	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Onsite Total (lbs/day)	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36

Demolition Activity	Fugitive PM ₁₀ Emissions (lbs/month) ^{a, b}																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Dismemberment	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	
Debris Loading ^c	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.82	
Onsite Total (lbs/month)	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	8.24	
Onsite Total (tons/year)	0.05																								

Notes:

^a Work days per month are as follows, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls': 23

^b Emissions based on the highest (controlled) emission factor for PM₁₀.

^c Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Table 5.1A.65 Onsite Demolition Fugitive Dust Emissions

Onsite Demolition Fugitive PM_{2.5} Emissions from Units 1 & 2 Demolition

Demolition Activity	Fugitive PM _{2.5} Emissions (lbs/day) ^{a, b}																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Dismemberment	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Debris Loading ^c	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051
Onsite Total (lbs/day)	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054
Demolition Activity	Fugitive PM _{2.5} Emissions (lbs/month) ^{a, b}																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Dismemberment	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Debris Loading ^c	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
Onsite Total (lbs/month)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Onsite Total (tons/year)	0.01																							

Notes:
^a Work days per month are as follows, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls': 23
^b Emissions based on the highest (controlled) emission factor for PM_{2.5}.
^c Assume that all debris generated per month from dismemberment is loaded in the same month that it is generated.

Onsite Construction Vehicle Activity for Units 1 & 2 Demolition

Vehicle Type	Miles/Day ^a	Working Days per Month ^b
Onsite Pick-up Truck	2	23
Onsite Stake Truck	2	23
Onsite Dump Truck	1	23

Notes:
^a Estimated based on the dimensions of the project site.
^b Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Fugitive Dust Emission Factors for Unpaved Roads

Vehicles on Unpaved Surfaces at Industrial Sites

Parameter	PM ₁₀	PM _{2.5}
Mean Vehicle Weight ^a	16.5	16.5
Silt Content ^b	8.5	8.5
k ^c	1.5	0.15
a ^c	0.9	0.9
b ^c	0.45	0.45
P ^d	31	31
Emission Factor (Uncontrolled, lbs/mile)^e	2.17	0.22
Reduction from Watering 3x per Day^f	61%	61%
Emission Factor (Controlled, lbs/mile)	0.85	0.08

Notes:
^a Mean vehicle weight assumes that medium/heavy duty trucks weigh 16.5 tons.
^b Silt content taken from Table 13.2.2-1 of Section 13.2.2 of AP-42 (EPA, 2006) for a Construction Site, Scraper Route; this value is consistent with the CalEEMod defaults.
^c k, a, and b taken from Table 13.2.2-2 of Section 13.2.2 of AP-42 (EPA, 2006) for industrial roads.
^d P taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.
^e Emission factor calculated using Equations 1a and 2 from Section 13.2.2 of AP-42 (EPA, 2006):
 Emission Factor (lbs/mile) = (k (lbs/mile) x [Silt Content (%) / 12]² x [Mean Vehicle Weight (tons) / 3]³) x [(365 - P) / 365]
^f Control efficiency taken from the URBEMIS default mitigation measures for unpaved roads.

Fugitive Dust Emission Factors for Dismemberment

Dismemberment and Collapse of Structures

Parameter	PM ₁₀	PM _{2.5}
k ^a	0.35	0.053
U (mph) ^b	4.9	4.9
M (%) ^c	2.0	2.0
Emission Factor (lbs/ton)^d	0.00110	0.00017
Reduction from Watering Every 4 Hours^e	36%	36%
Emission Factor (Controlled, lbs/ton)	0.00070	0.00011

Notes:
^a k, the particle size multiplier, taken from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b U, the mean wind speed, taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin. Converted from meters/second (m/s) to miles per hour (mph).
^c M, the material moisture content, taken from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^d Emission factor calculated using the following equation from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 Emission Factor (lbs/ton) = k x 0.0032 x [U / 5]^{1.3} / [M / 2]^{1.4}
^e Control efficiency taken from Table XI-A of the CEQA Handbook for Active Demolition and Debris Removal (SCAQMD, 2007).

Fugitive Dust Emission Factors for Debris Loading

Loading of Debris/Building Waste

Parameter	PM ₁₀	PM _{2.5}
k ^a	0.35	0.053
EF _{L-TSP} ^b	0.058	0.058
Emission Factor (lbs/ton)^c	0.020	0.003
Reduction from Watering Every 4 Hours^d	36%	36%
Emission Factor (Controlled, lbs/ton)	0.013	0.002

Notes:
^a k taken from Section 13.2.4.3 of AP-42 (EPA, 2006) per Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^b EF_{L-TSP} taken from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^c Emission factor calculated using the following equation from Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013):
 Emission Factor (lbs/ton) = k x EF_{L-TSP} (lbs/ton)
^d Control efficiency taken from Table XI-A of the CEQA Handbook for Active Demolition and Debris Removal (SCAQMD, 2007).

Table 5.1A.66 Offsite Motor Vehicle Emissions

Offsite Vehicle Usage During Units 1 & 2 Demolition

Vehicle Type	Number per Day																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite Delivery Trucks ^a	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Material Hauling Trucks ^b	1.00	1.00	1.00	1.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	3.50	4.50	4.50	1.00
Waste Hauling Trucks ^c	3.00	4.00	4.00	5.00	5.00	5.00	6.00	6.00	8.00	8.00	11.00	11.00	12.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	9.00	8.00	6.00	5.00
Construction Worker Commute ^d	15.00	15.00	31.00	45.00	49.00	55.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	49.00	47.00	46.00	25.00	14.00

Notes:
^a Offsite Delivery Trucks include trucks transporting "Consumables & Supplies", as provided in 'TRUCK_DELIVERIES_ALAMITOS 02 01 13.xls'.
^b Material Hauling Trucks include trucks transporting "Fill Material", "Contractor Mobilization", "Contractor Demobilization", and "Construction Equipment", as provided in 'TRUCK_DELIVERIES_ALAMITOS 02 01 13.xls'.
^c Waste Hauling Trucks include trucks transporting "Mechanical Equipment", "Electrical Equip. & Mtrls", "Concrete / Rebar / Rubble", and "Steel/Architectural", as provided in 'TRUCK_DELIVERIES_ALAMITOS 02 01 13.xls'.
^d Assumed 1 commute per 1 worker; number of workers taken from 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Offsite Vehicle CO Emissions from Units 1 & 2 Demolition

Vehicle Type	CO Emissions (lbs/day)																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite Delivery Trucks	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00
Material Hauling Trucks	0.06	0.06	0.06	0.06	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.20	0.25	0.25	0.06
Waste Hauling Trucks	0.18	0.24	0.24	0.29	0.29	0.29	0.35	0.35	0.47	0.47	0.65	0.65	0.71	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.53	0.47	0.35	0.29
Construction Worker Commute	0.80	0.80	1.66	2.41	2.62	2.94	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.62	2.52	2.46	1.34	0.75
Offsite Total (lbs/day)	1.06	1.12	1.98	2.79	2.97	3.29	3.25	3.25	3.36	3.36	3.54	3.54	3.60	3.66	3.66	3.66	3.66	3.66	3.66	3.44	3.27	3.21	1.97	1.10

Vehicle Type	CO Emissions (lbs/month)																							
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
Offsite Delivery Trucks	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.00
Material Hauling Trucks	1.28	1.28	1.28	1.28	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	4.49	5.77	5.77	1.28
Waste Hauling Trucks	4.06	5.41	5.41	6.77	6.77	6.77	8.12	8.12	10.82	10.82	14.88	14.88	16.24	17.59	17.59	17.59	17.59	17.59	17.59	17.59	12.18	10.82	8.12	6.77
Construction Worker Commute	18.47	18.47	38.16	55.40	60.32	67.71	65.25	65.25	65.25	65.25	65.25	65.25	65.25	65.25	65.25	65.25	65.25	65.25	65.25	60.32	57.86	56.63	30.78	17.23
Offsite Total (lbs/month)	24.47	25.82	45.52	64.11	68.39	75.78	74.67	74.67	77.37	77.37	81.43	81.43	82.79	84.14	84.14	84.14	84.14	84.14	84.14	79.21	75.19	73.89	45.33	25.28
Offsite Total (tons/year)	0.49																							

Offsite Vehicle VOC Emissions from Units 1 & 2 Demolition

Vehicle Type	VOC Emissions (lbs/day)																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite Delivery Trucks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Material Hauling Trucks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.06	0.06	0.06	0.01
Waste Hauling Trucks	0.04	0.05	0.05	0.07	0.07	0.07	0.08	0.08	0.11	0.11	0.14	0.14	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.12	0.11	0.08	0.07	0.07
Construction Worker Commute	0.01	0.01	0.03	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.01
Offsite Total (lbs/day)	0.07	0.08	0.10	0.12	0.12	0.12	0.14	0.14	0.16	0.16	0.20	0.20	0.21	0.23	0.23	0.23	0.23	0.23	0.23	0.22	0.21	0.21	0.16	0.09

Vehicle Type	VOC Emissions (lbs/month)																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite Delivery Trucks	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.00
Material Hauling Trucks	0.29	0.29	0.29	0.29	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	1.29	1.29	1.29	0.29
Waste Hauling Trucks	0.91	1.21	1.21	1.51	1.51	1.51	1.82	1.82	2.42	2.42	3.33	3.33	3.63	3.93	3.93	3.93	3.93	3.93	3.93	2.72	2.42	1.82	1.51	1.51
Construction Worker Commute	0.29	0.29	0.60	0.87	0.95	1.06	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	0.95	0.91	0.89	0.48	0.42	0.27
Offsite Total (lbs/month)	1.63	1.93	2.24	2.81	2.75	2.86	3.13	3.13	3.73	3.73	4.64	4.64	4.94	5.24	5.24	5.24	5.24	5.24	5.17	4.78	4.74	3.73	2.07	
Offsite Total (tons/year)	0.03																							

Offsite Vehicle SOx Emissions from Units 1 & 2 Demolition

Vehicle Type	SOx Emissions (lbs/day)																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite Delivery Trucks	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0000
Material Hauling Trucks	0.0012	0.0012	0.0012	0.0012	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0041	0.0053	0.0053	0.0053	0.0012
Waste Hauling Trucks	0.0037	0.0050	0.0050	0.0062	0.0062	0.0062	0.0075	0.0075	0.0100	0.0100	0.0137	0.0137	0.0150	0.0162	0.0162	0.0162	0.0162	0.0162	0.0162	0.0112	0.0100	0.0075	0.0062	0.0062
Construction Worker Commute	0.0040	0.0040	0.0082	0.0119	0.0130	0.0146	0.0140	0.0140	0.0140	0.0140	0.0140	0.0140	0.0140	0.0140	0.0140	0.0140	0.0140	0.0140	0.0140	0.0130	0.0124	0.0066	0.0058	0.0037
Offsite Total (lbs/day)	0.0094	0.0106	0.0149	0.0198	0.0203	0.0219	0.0226	0.0226	0.0251	0.0251	0.0289	0.0289	0.0301	0.0314	0.0314	0.0314	0.0314	0.0314	0.0303	0.0283	0.0280	0.0199	0.0179	0.0111

Vehicle Type	SOx Emissions (lbs/month)																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite Delivery Trucks	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.000
Material Hauling Trucks	0.027	0.027	0.027	0.027	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.095	0.122	0.122	0.122	0.027
Waste Hauling Trucks	0.086	0.115	0.115	0.144	0.144	0.144	0.172	0.172	0.230	0.230	0.316	0.316	0.345	0.373	0.373	0.373	0.373	0.373	0.373	0.258	0.230	0.172	0.144	0.144
Construction Worker Commute	0.091	0.091	0.189	0.274	0.298	0.335	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.323	0.298	0.286	0.280	0.152	0.085
Offsite Total (lbs/month)	0.216	0.245	0.342	0.456	0.467	0.504	0.520	0.520	0.578	0.578	0.664	0.664	0.692	0.721	0.721	0.721	0.721	0.721	0.697	0.651	0.644	0.458	0.411	0.256
Offsite Total (tons/year)	0.004																							

Table 5.1A.66 Offsite Motor Vehicle Emissions

Offsite Vehicle N₂O Emissions from Units 1 & 2 Demolition

Vehicle Type	N ₂ O Emissions (metric tons/day)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Offsite Delivery Trucks	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007
Material Hauling Trucks	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019	0.0000019
Waste Hauling Trucks	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061	0.0000061
Construction Worker Commute	0.0000159	0.0000159	0.0000328	0.0000476	0.0000519	0.0000582	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000561	0.0000519	0.0000487	0.0000265	0.0000233	0.0000148	0.0000148
Offsite Total (metric tons/day)	0.0000245	0.0000266	0.0000435	0.0000603	0.0000636	0.0000700	0.0000699	0.0000699	0.0000739	0.0000739	0.0000800	0.0000800	0.0000820	0.0000841	0.0000841	0.0000841	0.0000841	0.0000841	0.0000841	0.0000798	0.0000754	0.0000742	0.0000479	0.0000427	0.0000269

Vehicle Type	N ₂ O Emissions (metric tons/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Offsite Delivery Trucks	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000000
Material Hauling Trucks	0.000004	0.000004	0.000004	0.000004	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000015	0.000020	0.000020	0.000020	0.000004	0.000004
Waste Hauling Trucks	0.000014	0.000019	0.000019	0.000023	0.000023	0.000023	0.000028	0.000028	0.000037	0.000037	0.000051	0.000051	0.000056	0.000061	0.000061	0.000061	0.000061	0.000061	0.000061	0.000042	0.000037	0.000028	0.000023	0.000023	0.000023
Construction Worker Commute	0.000037	0.000037	0.000075	0.000110	0.000119	0.000134	0.000129	0.000129	0.000129	0.000129	0.000129	0.000129	0.000129	0.000129	0.000129	0.000129	0.000129	0.000129	0.000119	0.000114	0.000112	0.000061	0.000054	0.000034	0.000034
Offsite Total (metric tons/month)	0.000056	0.000061	0.000100	0.000139	0.000146	0.000161	0.000161	0.000161	0.000170	0.000170	0.000184	0.000184	0.000189	0.000193	0.000193	0.000193	0.000193	0.000193	0.000193	0.000184	0.000173	0.000171	0.000110	0.000098	0.000062
Offsite Total (metric tons/year)	0.002221																								

Offsite Vehicle CH₄ Emissions from Units 1 & 2 Demolition

Vehicle Type	CH ₄ Emissions (metric tons/day)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Offsite Delivery Trucks	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000007	0.0000000
Material Hauling Trucks	0.0000020	0.0000020	0.0000020	0.0000020	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000010	0.0000019	0.0000092	0.0000092	0.0000092	0.0000020
Waste Hauling Trucks	0.0000065	0.0000086	0.0000086	0.0000108	0.0000108	0.0000108	0.0000129	0.0000129	0.0000172	0.0000172	0.0000237	0.0000237	0.0000258	0.0000280	0.0000280	0.0000280	0.0000280	0.0000280	0.0000280	0.0000194	0.0000172	0.0000129	0.0000108	0.0000108	0.0000108
Construction Worker Commute	0.0000763	0.0000763	0.0001577	0.0002289	0.0002492	0.0002797	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002696	0.0002492	0.0002391	0.0002340	0.0001272	0.0001119	0.0000712
Offsite Total (metric tons/day)	0.0000855	0.0000876	0.0001690	0.0002424	0.0002617	0.0002922	0.0002842	0.0002842	0.0002885	0.0002885	0.0002950	0.0002950	0.0002971	0.0002993	0.0002993	0.0002993	0.0002993	0.0002993	0.0002993	0.0002789	0.0002663	0.0002611	0.0001500	0.0001325	0.0000840

Vehicle Type	CH ₄ Emissions (metric tons/month)																								
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	
Offsite Delivery Trucks	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000000	
Material Hauling Trucks	0.000005	0.000005	0.000005	0.000005	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000002	0.000016	0.000021	0.000021	0.000021	0.000005	
Waste Hauling Trucks	0.000015	0.000020	0.000020	0.000025	0.000025	0.000025	0.000030	0.000030	0.000040	0.000040	0.000054	0.000054	0.000059	0.000064	0.000064	0.000064	0.000064	0.000064	0.000064	0.000045	0.000040	0.000030	0.000025	0.000025	
Construction Worker Commute	0.000175	0.000175	0.000363	0.000526	0.000573	0.000643	0.000620	0.000620	0.000620	0.000620	0.000620	0.000620	0.000620	0.000620	0.000620	0.000620	0.000620	0.000620	0.000573	0.000550	0.000538	0.000292	0.000257	0.000164	
Offsite Total (metric tons/month)	0.000197	0.000202	0.000389	0.000557	0.000602	0.000672	0.000654	0.000654	0.000664	0.000664	0.000678	0.000678	0.000683	0.000688	0.000688	0.000688	0.000688	0.000688	0.000688	0.000642	0.000612	0.000600	0.000345	0.000305	0.000193
Offsite Total (metric tons/year)	0.008116																								

Offsite Construction Vehicle Activity for Units 1 & 2 Demolition

Vehicle Type	Roundtrip Miles/Day	Working Days per Month ^d
Offsite Delivery Trucks ^a	13.8	23
Material Hauling Trucks ^b	40.0	23
Waste Hauling Trucks ^c	42.2	23
Construction Worker Commute ^a	29.4	23

Notes:
^a Roundtrip miles/day taken for the South Coast Air Basin from Table 4.2 (Urban C-NW and H-W values) of Appendix D of the CalEEMod User's Guide (ENVIRON, 2013).
^b Roundtrip miles/day taken for from Section 4.5 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013).
^c Roundtrip miles/day were assumed to travel directly to the Puente Hills Landfill for offsite waste disposal.
^d Per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Table 5.1A.67 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Units 1 & 2 Demolition

Emission Source	Pollutant(s)	Equation	Variables		
Construction Equipment Exhaust	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_m = EF * N * Hp * L * H / 453.6$	E_m = Emissions (lbs/month)		
			EF = Emission factor (g/bhp-hr)		
			N = Number of pieces of equipment		
					Hp = Average horsepower
					L = Average load factor
					H = Hours per month
					453.6 = Conversion from g to lbs
				$E_d = E_m / D$	E_d = Emissions (lbs/day)
					E_m = Emissions (lbs/month)
				D = Number of construction days per month	
			$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year)	
				E_m = Emissions (lbs/month)	
				2,000 = Conversion from lbs to tons	
	CO ₂	$E_m = N * FC * EF * H * 0.001$	E_m = Emissions (metric tons/month)		
			N = Number of pieces of equipment		
FC = Fuel consumption (gallons/hour)					
				EF = Emission factor (kg/gallon)	
				H = Hours per month	
				0.001 = Conversion from kg to metric tons	
			$E_d = E_m / D$	E_d = Emissions (metric tons/day)	
				E_m = Emissions (metric tons/month)	
				D = Number of construction days per month	
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year)		
			E_m = Emissions (metric tons/month)		
CH ₄ and N ₂ O	$E_m = N * FC * EF * H / 1,000 * 0.001$	E_m = Emissions (metric tons/month)			
		N = Number of pieces of equipment			
		FC = Fuel consumption (gallons/hour)			
				EF = Emission factor (g/gallon)	
				H = Hours per month	
				1,000 = Conversion from g to kg	
				0.001 = Conversion from kg to metric tons	
			$E_d = E_m / D$	E_d = Emissions (metric tons/day)	
				E_m = Emissions (metric tons/month)	
			D = Number of construction days per month		
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year)		
			E_m = Emissions (metric tons/month)		
Onsite and Offsite Vehicle Exhaust and Paved and Unpaved Road Fugitive PM ₁₀ and PM _{2.5}	CO, VOC, NOx, SOx, PM ₁₀ , and PM _{2.5}	$E_d = N * VMT * EF / 453.6$	E_d = Emissions (lbs/day)		
			N = Number of vehicles		
			VMT = Vehicle miles traveled per day (miles/day)		
				EF = EMFAC2011 emission factor (g/mile). Paved and unpaved road fugitive PM ₁₀ and PM _{2.5} emission factors calculated per Sections 13.2.1 and 13.2.2 of AP-42 (EPA, 2011 and 2006), respectively.	
				453.6 = Conversion from g to lbs	
			$E_m = E_d * D$	E_m = Emissions (lbs/month)	
				E_d = Emissions (lbs/day)	
				D = Number of construction days per month	
			$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year)	
			E_m = Emissions (lbs/month)		
			2,000 = Conversion from lbs to tons		

Table 5.1A.67 Equations Used to Calculate Criteria Pollutant and GHG Emissions

Equations Used to Calculate Emissions from Units 1 & 2 Demolition

Emission Source	Pollutant(s)	Equation	Variables		
Onsite and Offsite Vehicle Exhaust	CO ₂	$E_d = N * VMT / FE * EF * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) FE = Fuel economy (mpg) EF = Emission factor (kg/gallon) 0.001 = Conversion from kg to metric tons		
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month		
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)		
	CH ₄ and N ₂ O	$E_d = N * VMT * EF / 1,000 * 0.001$	E_d = Emissions (metric tons/day) N = Number of vehicles VMT = Vehicle miles traveled per day (miles/day) EF = Emission factor (g/mile) 1,000 = Conversion from g to kg 0.001 = Conversion from kg to metric tons		
		$E_m = E_d * D$	E_m = Emissions (metric tons/month) E_d = Emissions (metric tons/day) D = Number of construction days per month		
		$E_t = \sum E_m$	E_t = Emissions (metric tons/year) E_m = Emissions (metric tons/month)		
		Onsite Fugitive PM ₁₀ and PM _{2.5} from Dismemberment and Debris Loading	PM ₁₀ and PM _{2.5}	$E_d = T * EF / D$	E_d = Emissions (lbs/day) T = Tons of material dismembered or loaded per month (tons/month) EF = Fugitive PM ₁₀ and PM _{2.5} emission factors (lbs/ton), calculated per Section 13.2.4.3 of AP-42 (EPA, 2006) for dismemberment and Section 4.4 of Appendix A of the CalEEMod User's Guide (ENVIRON, 2013) for debris loading. D = Number of construction days per month
				$E_m = E_d * D$	E_m = Emissions (lbs/month) E_d = Emissions (lbs/day) D = Number of construction days per month
				$E_t = \sum E_m / 2,000$	E_t = Emissions (tons/year) E_m = Emissions (lbs/month) 2,000 = Conversion from lbs to tons

Table 5.1A.68 Number of Onsite Construction Equipment and Motor Vehicles

Number of Onsite Equipment for Units 1 & 2 Demolition

Onsite Equipment	Number per Month ^a																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Water Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cranes ^b	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Rubber Tired Loader ^c	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Air Compressor	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Forklift	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Excavators	2	2	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Notes:

^a Equipment counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

^b Numbers presented for Cranes includes the equipment counts for the 75 Ton Hydraulic Crane and the 35 Ton Hydraulic Crane.

^c Numbers presented for Rubber Tired Loader includes the equipment counts for the Front End Loader.

Number of Onsite Motor Vehicles for Units 1 & 2 Demolition

Vehicle Type	Number per Month ^a																							
	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Onsite Pick-up Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Stake Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Onsite Dump Truck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Notes:

^a Vehicle counts taken from 'EQUIP_USE_AEC 06 12 13.xls'.

Table 5.1A.69 Construction Equipment Exhaust Criteria Pollutant Emission Factors

Construction Equipment Emission Factors for Units 1 & 2 Demolition

Equipment ^a	Percent Usage ^b	Hours per Month ^c	Horsepower ^d	Load Factor ^d	Emission Factors (g/bhp-hr) ^e						Fuel Consumption 2025 (gallons/hour) ^f
					CO 2025	VOC 2025	NO _x 2025	SO _x 2025	PM ₁₀ 2025	PM _{2.5} 2025	
Water Truck ^g	50%	115	400	0.38	1.182	0.177	1.064	0.005	0.038	0.035	12.31
Cranes	65%	150	226	0.29	1.470	0.265	2.681	0.005	0.114	0.105	5.07
Rubber Tired Loader	55%	127	200	0.36	1.142	0.177	1.442	0.005	0.048	0.045	6.74
Air Compressor	80%	184	78	0.48	3.653	0.345	2.313	0.006	0.104	0.104	2.14
Forklift	75%	173	89	0.20	3.611	0.277	2.607	0.005	0.140	0.128	1.42
Excavator	85%	196	163	0.38	3.078	0.158	1.154	0.005	0.057	0.052	5.10

Notes:

^a Assumed all equipment is fired with diesel fuel, per Section 4.2 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Percent Usage assumed typical of power plant construction.

^c Hours per month calculated based on the following schedule, per 'MANPOWER_SCHEDULE_ALAMITOS 02 01 13.xls'.

Work hours per day: 10
 Work days per month: 23

^d Construction equipment horsepower and load factor taken from Table 3.3 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013).

^e Construction equipment emission factors taken from Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013). The emission factors for the year 2025 were used for the construction equipment exhaust emission calculations for CO, VOC, SO_x, NO_x, PM₁₀, and PM_{2.5}. Starting in year 2025, Table 3.4 of Appendix D of the *CalEEMod User's Guide* (ENVIRON, 2013) lists emission factors for every five years; therefore, year 2025 emission factors were used for years 2026 and 2027.

^f Fuel consumption based on consumption in the OFFROAD2007 model for the South Coast Air Basin in the year 2025; value estimated by dividing the reported consumption (gallons/day) by the reported activity (hours/day).

^g Horsepower, load factor, and emission factors for Off-Highway Trucks were assumed representative of Water Trucks.

Table 5.1A.70 Onsite and Offsite Motor Vehicle Criteria Pollutant Emission Factors

Vehicle Emission Factors for Units 1 & 2 Demolition

Vehicle Type	Vehicle Class ^a	Exhaust Emission Factors (g/mile) ^b											Paved Road Emission Factors (g/mile) ^c		Economy 2025 (mpg) ^d	
		CO 2025	VOC 2025	NO _x 2025	NO _x 2026	NO _x 2027	SO _x 2025	PM ₁₀ 2025	PM ₁₀ 2026	PM ₁₀ 2027	PM _{2.5} 2025	PM _{2.5} 2026	PM _{2.5} 2027	PM ₁₀		PM _{2.5}
Onsite Pick-up Truck	Light-duty Truck	2.067	0.131	0.209	0.196	0.185	0.005	0.059	0.059	0.059	0.031	0.031	0.031	N/A	N/A	18.137
Onsite Stake Truck	Heavy-duty Diesel	5.427	2.721	7.626	7.231	7.180	0.016	0.183	0.177	0.177	0.115	0.110	0.110	N/A	N/A	5.612
Onsite Dump Truck	Heavy-duty Diesel	5.427	2.721	7.626	7.231	7.180	0.016	0.183	0.177	0.177	0.115	0.110	0.110	N/A	N/A	5.612
Offsite Delivery Trucks	Heavy-duty Diesel	0.945	0.205	2.251	2.135	2.118	0.016	0.162	0.158	0.158	0.096	0.092	0.092	0.300	0.075	5.612
Material Hauling Trucks	Heavy/Medium-duty Diesel	0.632	0.141	1.594	1.534	1.525	0.013	0.168	0.166	0.166	0.091	0.090	0.090	0.300	0.075	7.299
Waste Hauling Trucks	Heavy/Medium-duty Diesel	0.632	0.141	1.594	1.534	1.525	0.013	0.168	0.166	0.166	0.091	0.090	0.090	0.300	0.075	7.299
Construction Worker Commute	Light-duty Auto/Truck	0.826	0.013	0.078	0.075	0.072	0.004	0.046	0.046	0.046	0.019	0.019	0.019	0.300	0.075	20.368

Notes:

^a The vehicle classes are represented as follows:

Light-duty Truck: Assumed to be an average of LDT1, GAS and LDT2, GAS values.

Heavy-duty Diesel: Assumed to be 100% HHDT, DSL values, as confirmed in Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Heavy/Medium-duty Diesel: 50% HHDT, DSL and 50% MHDT, DSL values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

Light-duty Auto/Truck: 50% LDA, GAS; 25% LDT1, GAS; and 25% LDT2, GAS values, per Section 4.5 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b Exhaust emission factors from EMFAC2011-PL for the South Coast Air Basin, calendar year 2025 for CO, VOC, and SO_x. Calendar years 2025, 2026, and 2027 were used for NO_x, PM₁₀, and PM_{2.5}. EMFAC2007 Vehicle Categories were used. A speed of 5 mph was assumed for onsite vehicles; a speed of 40 mph was assumed for offsite vehicles and worker commutes, which is consistent with the CalEEMod defaults.

^c Paved road emission factors calculated using CalEEMod methodology, as described below.

^d Fuel economy from EMFAC2011 Web Based Emissions Database for the South Coast Air Basin, calendar year 2025, using EMFAC2007 Vehicle Categories. An aggregated speed and model year were used for onsite and offsite vehicles. Value estimated by dividing the VMT (miles/day) by the Fuel (gal/day).

Derivation of Paved Road Emission Factors

Vehicles on Paved Roads

Parameter	PM ₁₀	PM _{2.5}
Average Weight ^a	2.4	2.4
k ^b	1.0	0.25
sL ^c	0.1	0.1
Emission Factor (g/mile) ^d	0.300	0.075

Notes:

^a Average Weight taken as the default value from Section 5.3 of Appendix A of the *CalEEMod User's Guide* (ENVIRON, 2013).

^b k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (EPA, 2011).

^c sL taken as the CalEEMod default for the Long Beach climate region of the South Coast Air Basin.

^d Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (EPA, 2011):

$$\text{Emission Factor (g/mile)} = k \text{ (g/mile)} \times [\text{sL (g/m}^2\text{)}]^{0.91} \times [\text{Average Weight (tons)}]^{1.02}$$

Table 5.1A.71 Onsite and Offsite Greenhouse Gas Emission Factors

Greenhouse Gas Emission Factors for Units 1 & 2 Demolition

Fuel / Category Type	Emission Factor	Emission Factor Units	Emission Factor Source
CO₂ Emission Factors			
Gasoline	8.78	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
Diesel	10.21	kg CO ₂ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.1, March 2013 as updated through April 2013.
N₂O Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0036	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0066	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0048	g N ₂ O/mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.26	g N ₂ O/gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.
CH₄ Emission Factors			
Gasoline Passenger Car Model Year 2010 ^a	0.0173	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Gasoline Light-duty Truck Model Year 2010 ^a	0.0163	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Heavy-duty Truck Model Year 1960 - 2010 ^a	0.0051	g CH ₄ /mile	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.5, March 2013 as updated through April 2013.
Diesel Off-road Vehicle	0.58	g CH ₄ /gallon	The Climate Registry General Reporting Protocol, Version 2.0, Table 13.7, March 2013 as updated through April 2013.

Notes:

^a Model Year 2010 was the most recent year of emission factors available. As a result, it was assumed representative of vehicles used for this project.

Table 5.1A.72 Onsite Construction Exhaust and Fugitive Emissions Summary

Total Onsite PM₁₀ Emissions (Exhaust and Fugitive)

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
Pounds per Month	393.78	490.83	490.83	490.83	490.83	217.98	217.98	217.98	355.69	350.19	350.19	649.24	597.99	592.73	613.37	575.63	575.63	496.74	490.34	498.43	398.25	391.84	395.43	399.23	367.73	342.88	312.63	309.92	290.47	255.60	259.39	259.39	254.77	491.32	415.70	355.99		
Pounds per Day	17.12	17.43	17.43	17.43	17.43	9.48	9.48	9.48	15.46	15.23	15.23	28.25	25.38	25.77	26.67	25.03	25.03	21.60	21.32	17.76	17.32	17.04	16.76	17.32	15.99	14.91	13.59	11.11	11.28	11.28	11.08	17.45	16.07	15.48				
Yearly Maximums	4,356.95	4,560.75	4,752.05	4,965.20	5,139.99	5,314.79	5,593.56	5,865.91	6,056.36	6,098.92	6,140.57	6,175.82	5,924.23	5,694.36	5,444.51	5,143.77	4,878.07	4,592.91	4,351.77	4,120.82	3,971.78	3,828.30	3,837.78	3,868.05	3,825.79	3,782.31	3,759.01	3,765.97	3,775.63	3,795.26	3,723.51	3,647.97	3,572.44	3,501.52	3,284.05	3,052.20		
Maximum Pounds per Hour ^a	26.33																																					
Maximum Pounds per Month	649.84																																					
Month with Maximum	12																																					
Maximum Pounds per Year	6,175.82																																					
Maximum Average Pounds per Hour ^b	0.71																																					
Year with Maximum	Months 12 - 23																																					
Tons per Year	3.09																																					

Onsite Exhaust PM_{2.5} Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36			
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																							
Total (lbs/month)	127.09	133.57	133.57	133.57	133.57	71.71	71.71	71.71																															
Total (lbs/day)	5.53	5.81	5.81	5.81	5.81	3.12	3.12	3.12																															
Blocks 1 & 2 Construction																																							
Total (lbs/month)									86.85	81.79	81.79	153.21	140.69	136.22	155.21	156.26	156.26	145.82	139.92	126.68	117.68	111.78	105.88	117.68	89.36	84.39	74.45	71.96	71.95	57.39	60.67	60.67	56.26	44.90	57.78	42.57			
Total (lbs/day)									3.78	3.56	3.56	6.66	6.12	5.92	6.75	6.79	6.79	6.34	6.08	5.51	5.12	4.86	4.60	5.12	3.89	3.67	3.24	3.13	3.13	2.50	2.65	2.65	2.45	1.95	2.51	1.85			
Units 5 & 6 Demolition																																							
Total (lbs/month)																																				49.60	48.88	63.83	
Total (lbs/day)																																			2.17	2.17	2.79		
Block 3 Construction																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Units 3 & 4 Demolition																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Block 4 Construction																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Units 1 & 2 Demolition																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Total Onsite Exhaust PM _{2.5} Emissions (Construction Equipment and Vehicles)																																							
Pounds per Month	127.09	133.57	133.57	133.57	133.57	71.71	71.71	71.71	86.85	81.79	81.79	153.21	140.69	136.22	155.21	156.26	156.26	145.82	139.92	126.68	117.68	111.78	105.88	117.68	89.36	84.39	74.45	71.96	71.95	57.39	60.67	60.67	56.26	44.90	57.78	106.40			
Pounds per Day	5.53	5.81	5.81	5.81	5.81	3.12	3.12	3.12	3.78	3.56	3.56	6.66	6.12	5.92	6.75	6.79	6.79	6.34	6.08	5.51	5.12	4.86	4.60	5.12	3.89	3.67	3.24	3.13	3.13	2.50	2.65	2.65	2.45	1.95	2.51	4.68			
Yearly Maximums	1,293.13	1,293.73	1,296.38	1,318.09	1,340.72	1,363.42	1,437.92	1,505.73	1,568.69	1,591.53	1,621.52	1,645.81	1,610.08	1,598.79	1,596.92	1,426.16	1,341.85	1,257.53	1,169.11	1,090.06	1,024.25	962.63	945.85	947.65	936.37	924.05	912.42	910.72	911.52	903.59	901.40	895.73	890.06	889.00	849.41	796.93			
Maximum Pounds per Day	6.79																																						
Maximum Pounds per Hour ^a	0.68																																						
Maximum Pounds per Month	156.26																																						
Month with Maximum	15 or 17																																						
Maximum Pounds per Year	1,645.81																																						
Maximum Average Pounds per Hour ^b	0.19																																						
Year with Maximum	Months 12 - 23																																						
Tons per Year	0.82																																						

Onsite Fugitive PM_{2.5} Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36					
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																									
Total (lbs/month)	27.03	27.03	27.03	27.03	27.03	15.36	15.36	15.36																																	
Total (lbs/day)	1.18	1.18	1.18	1.18	1.18	0.67	0.67	0.67																																	
Blocks 1 & 2 Construction																																									
Total (lbs/month)									56.60	56.60	56.60	109.27	105.38	105.38	105.38	101.49	101.49	64.37	64.37	27.26	27.22	27.22	27.22	27.22	27.22	25.27	23.33	23.33	21.38	19.44	19.44	19.44	19.44	19.44	19.44	19.48	11.71				
Total (lbs/day)									2.46	2.46	2.46	4.75	4.58	4.58	4.58	4.41	4.41	2.80	2.80	1.19	1.18	1.18	1.18	1.18	1.18	1.10	1.01	1.01	0.93	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.51				
Units 5 & 6 Demolition																																									
Total (lbs/month)																																						10.97	10.97	12.91	
Total (lbs/day)																																							0.48	0.48	0.56
Block 3 Construction																																									
Total (lbs/month)																																									
Total (lbs/day)																																									
Units 3 & 4 Demolition																																									
Total (lbs/month)																																									
Total (lbs/day)																																									
Block 4 Construction																																									
Total (lbs/month)																																									
Total (lbs/day)																																									
Units 1 & 2 Demolition																																									
Total (lbs/month)																																									
Total (lbs/day)																																									
Total Onsite Fugitive PM _{2.5} Emissions (Disassembly, Debris Loading, Grading, Bulldozing, and Onsite Construction Vehicles)																																									
Pounds per Month	27.03	27.03	27.03	27.03	27.03	15.36	15.36	15.36	56.60	56.60	56.60	109.27	105.38	105.38	105.38	101.49	101.49	64.37	64.37	27.26	27.22	27.22	27.22	27.22	27.22	25.27	23.33	23.33</													

Table 5.1A.72 Onsite Construction Exhaust and Fugitive Emissions Summary

Total Onsite PM_{2.5} Emissions (Exhaust and Fugitive)

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36			
Pounds per Month	154.11	160.59	160.59	160.59	160.59	87.08	87.08	87.08	143.44	138.38	138.38	262.48	246.07	241.60	260.59	257.76	257.76	210.19	204.29	153.94	144.89	139.09	133.10	144.89	116.58	109.66	97.78	85.28	93.33	78.83	80.31	80.31	75.70	125.21	138.13	131.02			
Pounds per Day	6.70	6.98	6.98	6.98	6.98	3.79	3.79	3.79	6.24	6.02	6.02	11.41	10.70	10.50	11.33	11.21	11.21	9.14	8.68	6.69	6.30	6.04	5.79	6.30	5.07	4.77	4.25	4.14	4.06	3.34	3.49	3.49	3.29	5.44	6.01	5.70			
Yearly Maximums	1,740.40	1,832.36	1,832.36	1,832.36	1,832.36	2,207.68	2,207.68	2,207.68	2,438.00	2,368.56	2,368.56	2,516.33	2,516.33	2,516.33	2,516.33	2,516.33	2,516.33	2,126.07	2,088.48	1,602.36	1,534.65	1,602.36	1,285.99	1,234.02	1,220.15	1,055.18	1,192.86	1,025.18	1,043.42	1,043.42	989.00	1,492.02	1,678.92	1,811.92	1,719.18				
Maximum Pounds per Hour *	11.41																																						
Maximum Pounds per Month	1,141																																						
Month with Maximum	12																																						
Maximum Pounds per Year	2,516.34																																						
Maximum Average Pounds per Hour *	0.287																																						
Year with Maximum	Months 11 - 22																																						
Tons per Year	1.26																																						

Onsite CO₂ Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36					
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																									
Total (metric tons/month)	194.57	199.61	199.61	199.61	199.61	110.00	110.00	110.00	120.19	115.52	115.52	206.28	209.34	199.14	225.49	218.68	218.68	205.63	197.87	175.97	169.31	161.55	153.80	169.31	146.39	138.59	123.04	120.52	120.48	100.89	111.09	111.09	107.05	85.49	80.16	206.65					
Total (metric tons/day)	8.46	8.68	8.68	8.68	8.68	4.78	4.78	4.78	5.23	5.02	5.02	8.97	9.10	8.66	9.80	9.51	9.51	8.94	8.60	7.65	7.36	7.02	6.69	7.36	6.36	6.03	5.35	5.24	4.39	4.83	4.83	4.65	3.72	3.92	9.06						
Blocks 1 & 2 Construction																																									
Total (metric tons/month)									120.19	115.52	115.52	206.28	209.34	199.14	225.49	218.68	218.68	205.63	197.87	175.97	169.31	161.55	153.80	169.31	146.39	138.59	123.04	120.52	120.48	100.89	111.09	111.09	107.05	85.49	80.16	206.65					
Total (metric tons/day)									5.23	5.02	5.02	8.97	9.10	8.66	9.80	9.51	9.51	8.94	8.60	7.65	7.36	7.02	6.69	7.36	6.36	6.03	5.35	5.24	4.39	4.83	4.83	4.65	3.72	3.92	9.06	8.98					
Units 5 & 6 Demolition																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Block 3 Construction																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Units 3 & 4 Demolition																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Block 4 Construction																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Units 1 & 2 Demolition																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Total Onsite CO₂ Emissions (Construction Equipment and Vehicles)																																									
Metric Tons per Month	194.57	199.61	199.61	199.61	199.61	110.00	110.00	110.00	120.19	115.52	115.52	206.28	209.34	199.14	225.49	218.68	218.68	205.63	197.87	175.97	169.31	161.55	153.80	169.31	146.39	138.59	123.04	120.52	120.48	100.89	111.09	111.09	107.05	85.49	80.16	206.65					
Metric Tons per Day	8.46	8.68	8.68	8.68	8.68	4.78	4.78	4.78	5.23	5.02	5.02	8.97	9.10	8.66	9.80	9.51	9.51	8.94	8.60	7.65	7.36	7.02	6.69	7.36	6.36	6.03	5.35	5.24	4.39	4.83	4.83	4.65	3.72	3.92	9.06	8.98					
Yearly Maximums	1,885.52	1,895.29	1,894.83	1,894.83	1,894.83	1,920.71	1,939.79	1,939.79	1,939.79	1,954.49	1,924.36	2,298.33	2,257.45	2,303.48	2,341.76	2,304.79	2,241.83	2,181.28	2,078.84	1,980.68	1,882.48	1,777.74	1,696.96	1,626.08	1,563.83	1,580.51	1,499.58	1,446.90	1,488.70	1,390.54	1,378.84	1,347.85	1,080.07	1,012.77	1,035.27	1,057.77	1,064.30	1,038.06	1,090.40		
Maximum Metric Tons per Day *	11.96																																								
Maximum Metric Tons per Hour *	1.19																																								
Maximum Metric Tons per Month	272.85																																								
Month with Maximum	57																																								
Maximum Average Metric Tons per Hour *	0.28																																								
Year with Maximum	Months 46 - 57																																								

Onsite N₂O Emissions

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36				
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																								
Total (metric tons/month)	0.00495	0.00507	0.00507	0.00507	0.00507	0.00280	0.00280	0.00280	0.00395	0.00294	0.00294	0.00524	0.00532	0.00506	0.00573	0.00556	0.00556	0.00523	0.00503	0.00447	0.00430	0.00411	0.00391	0.00430	0.00372	0.00352	0.00313	0.00306	0.00306	0.00256	0.00282	0.00282	0.00272	0.00453	0.00455	0.00526				
Total (metric tons/day)	0.00022	0.00022	0.00022	0.00022	0.00022	0.00012	0.00012	0.00012	0.00013	0.00013	0.00013	0.00023	0.00023	0.00022	0.00025	0.00024	0.00024	0.00023	0.00022	0.00019	0.00019	0.00018	0.00017	0.00019	0.00016	0.00015	0.00014	0.00013	0.00013	0.00011	0.00012	0.00012	0.00012	0.00009	0.00010	0.00010	0.00015	0.00015	0.00018	
Blocks 1 & 2 Construction																																								
Total (metric tons/month)									0.00306	0.00294	0.00294	0.00524	0.00532	0.00506	0.00573	0.00556	0.00556	0.00523	0.00503	0.00447	0.00430	0.00411	0.00391	0.00430	0.00372	0.00352	0.00313	0.00306	0.00306	0.00256	0.00282	0.00282	0.00272	0.00453	0.00455	0.00526				
Total (metric tons/day)																																								

Table 5.1A.72 Onsite Construction Exhaust and Fi

Construction Step	SOx Emissions by Month																																					
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																						
Total (lbs/month)																																						
Total (lbs/day)																																						
Blocks 1 & 2 Construction																																						
Total (lbs/month)	0.71	0.61	0.61	0.61	0.24																																	
Total (lbs/day)	0.03	0.03	0.03	0.03	0.01																																	
Units 5 & 6 Demolition																																						
Total (lbs/month)	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83		
Total (lbs/day)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08		
Block 3 Construction																																						
Total (lbs/month)																																						
Total (lbs/day)																																						
Units 3 & 4 Demolition																																						
Total (lbs/month)																																						
Total (lbs/day)																																						
Block 4 Construction																																						
Total (lbs/month)																																						
Total (lbs/day)																																						
Units 1 & 2 Demolition																																						
Total (lbs/month)																																						
Total (lbs/day)																																						
Total Onsite SOx Emissions (Construction Equipment and Vehicles)																																						
Pounds per Month	2.54	2.43	2.43	2.43	2.07	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.93	3.58	3.58	3.39	3.50	3.55	3.42	3.74	1.44	1.44	1.44	1.33	1.33	1.54	1.54	1.20	1.20	1.20	1.20	0.99	0.80	0.80	0.81	
Pounds per Day	0.11	0.11	0.11	0.11	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.16	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.05	0.05	0.05	0.05	0.04	0.03	0.03	0.04	
Yearly Maximums	24.70	23.99	23.49	24.63	25.78	27.10	28.77	30.49	32.09	34.00	33.93	33.22	32.83	32.33	31.73	39.69	27.98	25.46	23.17	20.82	18.60	15.84	15.20	14.56	13.94	14.50	15.64	15.86	16.74	17.61	18.07	18.38	18.87	19.14	19.82			
Maximum Pounds per Day																																						
Maximum Pounds per Hour *																																						
Maximum Pounds per Month																																						
Month with Maximum																																						
Maximum Pounds per Year																																						
Maximum Average Pounds per Hour *																																						
Year with Maximum																																						
Tons per Year																																						

Construction Step	Exhaust PM ₁₀ Emissions by Month																																						
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72			
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Blocks 1 & 2 Construction																																							
Total (lbs/month)	23.74	19.08	19.08	19.08	9.59																																		
Total (lbs/day)	1.03	0.83	0.83	0.83	0.42																																		
Units 5 & 6 Demolition																																							
Total (lbs/month)	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97		
Total (lbs/day)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56		
Block 3 Construction																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Units 3 & 4 Demolition																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Block 4 Construction																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Units 1 & 2 Demolition																																							
Total (lbs/month)																																							
Total (lbs/day)																																							
Total Onsite Exhaust PM₁₀ Emissions (Construction Equipment and Vehicles)																																							
Pounds per Month	82.71	78.05	78.05	78.05	68.56	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97	58.97			
Pounds per Day	3.60	3.39	3.39	3.39	2.98	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56			
Yearly Maximums	798.19	767.63	745.80	783.96	822.13	858.49	908.51	959.44	1,007.44	1,067.62	1,053.95	1,040.29	1,026.63	1,010.25	989.82	916.58	843.33	771.56	695.72	618.96	545.13	451.91	429.78	407.64	386.21	394.													

Table 5.1A.72 Onsite Construction Exhaust and Fugitive

Total Onsite PM₁₀ Emissions (Exhaust and Fugitive)

Parameter	Total PM ₁₀ Emissions by Month																																				
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	
Pounds per Month	324.24	319.58	319.58	319.58	310.09	183.85	183.85	183.85	183.85	183.85	183.85	177.04	181.10	503.28	503.28	491.98	496.04	496.04	494.02	506.21	239.71	239.71	191.30	191.30	198.50	198.50	188.67	188.67	188.67	188.67	169.22	142.57	138.81	139.81	140.52		
Pounds per Day	14.10	13.89	13.89	13.89	13.48	7.99	7.99	7.99	7.99	7.99	7.99	7.70	7.87	21.88	21.88	21.39	21.57	21.61	21.48	22.01	10.42	10.42	8.32	8.32	8.63	8.63	8.20	8.20	8.20	8.20	7.36	6.20	6.08	6.08	6.11		
Yearly Maximums	2,880.06	2,732.85	2,594.37	2,778.06	2,961.76	3,143.64	3,455.83	3,768.95	4,079.11	4,401.46	4,457.32	4,513.18	4,569.04	4,583.30	4,593.51	4,288.73	3,983.96	3,680.65	3,373.28	3,064.98	2,740.19	2,376.55	2,276.65	2,176.75	2,077.56	2,152.61	2,229.83	2,297.17	2,358.91	2,441.31	2,523.70	2,592.10	2,678.00	2,667.61	2,659.99	2,652.36	
Maximum Pounds per Day																																					
Maximum Pounds per Hour *																																					
Maximum Pounds per Month																																					
Month with Maximum																																					
Maximum Pounds per Year																																					
Maximum Average Pounds per Hour *																																					
Year with Maximum																																					
Tons per Year																																					

Onsite Exhaust PM_{2.5} Emissions

Construction Step	Exhaust PM _{2.5} Emissions by Month																																				
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																					
Blocks 1 & 2 Construction	21.34	17.55	17.55	17.55	8.82																																
Units 5 & 6 Demolition	55.20	55.20	55.20	55.20	55.20	55.20	55.20	55.20	55.20	55.20	55.20	55.20	48.77	52.51	52.51	52.51	52.51	52.51	52.51	52.51	2.28	2.28	2.28	2.28													
Block 3 Construction															55.73	55.73	45.33	49.07	49.92	47.21	58.43	42.21	42.21	42.21	42.21	33.36	33.36	39.98	39.98	30.94	30.94	30.94	30.93	24.30	21.76	21.76	22.19
Units 3 & 4 Demolition															2.42	2.42	1.97	2.13	2.17	2.05	2.54	1.84	1.84	1.84	1.84	1.45	1.45	1.74	1.74	1.35	1.35	1.35	1.34	1.06	0.95	0.95	0.96
Block 4 Construction																																					
Units 1 & 2 Demolition																																					

Total Onsite Exhaust PM_{2.5} Emissions (Construction Equipment as

Parameter	Total Onsite Exhaust PM _{2.5} Emissions (Construction Equipment as																																						
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72			
Pounds per Month	77.04	72.76	72.76	72.76	64.02	55.20	55.20	55.20	55.20	55.20	55.20	55.20	48.77	52.51	52.51	52.51	52.51	52.51	52.51	52.51	2.28	2.28	2.28	2.28															
Pounds per Day	3.35	3.16	3.16	3.16	2.78	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.12	2.28	2.28	2.28	2.28	2.28	2.28	2.28	0.10	0.10	0.10	0.10															
Yearly Maximums	745.73	717.47	697.23	732.71	768.20	802.02	848.41	895.64	940.16	995.91	962.91	969.92	956.93	941.51	922.36	854.19	785.85	718.94	648.29	576.79	508.09	421.36	400.91	380.47	360.44	368.39	378.33	378.18	374.68	368.95	403.22	404.85	404.68	405.37	408.60	411.82			
Maximum Pounds per Day																																							
Maximum Pounds per Hour *																																							
Maximum Pounds per Month																																							
Month with Maximum																																							
Maximum Pounds per Year																																							
Maximum Average Pounds per Hour *																																							
Year with Maximum																																							
Tons per Year																																							

Onsite Fugitive PM_{2.5} Emissions

Construction Step	Fugitive PM _{2.5} Emissions by Month																																						
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72			
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																							
Blocks 1 & 2 Construction	11.66	11.66	11.66	11.66	11.66																																		
Units 5 & 6 Demolition	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91																			
Block 3 Construction																																							
Units 3 & 4 Demolition																																							
Block 4 Construction																																							
Units 1 & 2 Demolition																																							
Total Onsite Fugitive PM _{2.5} Emissions (Disassembly, Debris Lo	24.58	24.58	24.58	24.58	24.58	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91	12.91			
Pounds per Day	1.07	1.07	1.07	1.07	1.07	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56				
Yearly Maximums	213.27	201.61	189.94	234.96	279.78	324.70	381.28	437.86	494.45	551.03	557.56	564.09	570.61	573.25	575.90	521.95	468.01	414.07	360.12	306.18	250.29	192.46	184.69	176.91	169.14	176.22	183.30	190.38	197.46	204.56	211.67	218.75	227.77	227.08	228.38	225.69			
Maximum Pounds per Day																																							
Maximum Pounds per Hour *																																							
Maximum Pounds per Month																																							
Month with Maximum																																							
Maximum Pounds per Year																																							
Maximum Average Pounds per Hour *																																							
Year with Maximum																																							
Tons per Year																																							

Table 5.1A.72 Onsite Construction Exhaust and Fi

Construction Step	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	
Onsite SOx Emissions																											
Demolition of Unit 7 Peaker Fuel Tank & Northeast Warehouse																											
Total (lbs/month)																											
Total (lbs/day)																											
Blocks 1 & 2 Construction																											
Total (lbs/month)																											
Total (lbs/day)																											
Units 5 & 6 Demolition																											
Total (lbs/month)																											
Total (lbs/day)																											
Block 3 Construction																											
Total (lbs/month)	0.81	0.84	0.73	0.51	0.70	0.70	0.38	0.24																			
Total (lbs/day)	0.04	0.04	0.03	0.02	0.03	0.03	0.02	0.01																			
Units 3 & 4 Demolition																											
Total (lbs/month)	1.08	1.08	1.25	1.26	1.38	1.38	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48		
Total (lbs/day)	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06		
Block 4 Construction																											
Total (lbs/month)																											
Total (lbs/day)																											
Units 1 & 2 Demolition																											
Total (lbs/month)																											
Total (lbs/day)																											
Total Onsite SOx Emissions (Construction Equipment and Vehicles)																											
Pounds per Month	1.90	2.03	1.98	1.76	2.08	2.08	1.85	1.51	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.48	2.94	2.94	2.75	2.85	2.91	2.78	3.10	1.25	1.25	
Pounds per Day	0.08	0.09	0.09	0.08	0.09	0.09	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.13	0.13	0.12	0.12	0.13	0.12	0.13	0.05	0.05	
Yearly Maximums	20.98	19.46	18.70	18.00	17.51	16.91	17.77	19.05	20.29	21.87	23.51	25.01	26.83	28.81	28.79	28.77	26.53	26.09	24.40	22.71	20.98	19.14	17.34	15.48	13.18	12.73	
Maximum Pounds per Day																											
Maximum Pounds per Hour *																											
Maximum Pounds per Month																											
Month with Maximum																											
Maximum Pounds per Year																											
Maximum Average Pounds per Hour *																											
Year with Maximum																											
Tons per Year																											

Construction Step	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	
Onsite Exhaust PM₁₀ Emissions																											
Demolition of Unit 7 Peaker Fuel Tank & Northeast Warehouse																											
Total (lbs/month)																											
Total (lbs/day)																											
Blocks 1 & 2 Construction																											
Total (lbs/month)																											
Total (lbs/day)																											
Units 5 & 6 Demolition																											
Total (lbs/month)																											
Total (lbs/day)																											
Block 3 Construction																											
Total (lbs/month)	20.19	22.35	18.00	10.41	18.82	18.82	8.24	8.20																			
Total (lbs/day)	0.88	0.97	0.70	0.45	0.82	0.82	0.36	0.27																			
Units 3 & 4 Demolition																											
Total (lbs/month)	24.08	24.08	27.75	27.75	29.91	29.91	26.74	26.74	26.74	26.74	26.74	26.74	26.74	23.64	23.64	23.64	23.64	27.94	27.94	27.94	27.94	27.94	27.94	27.94	27.94		
Total (lbs/day)	1.05	1.05	1.21	1.21	1.30	1.30	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.03	1.03	1.03	1.03	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21		
Block 4 Construction																											
Total (lbs/month)																											
Total (lbs/day)																											
Units 1 & 2 Demolition																											
Total (lbs/month)																											
Total (lbs/day)																											
Total Onsite Exhaust PM₁₀ Emissions (Construction Equipment and Vehicles)																											
Pounds per Month	44.26	48.43	43.75	38.16	48.73	48.73	34.98	33.03	26.74	26.74	26.74	26.74	23.64	23.64	23.64	23.64	27.94	63.91	63.91	56.68	59.59	60.72	58.81	67.55	25.06	25.06	
Pounds per Day	1.90	2.02	1.90	1.66	2.12	2.12	1.52	1.44	1.16	1.16	1.16	1.16	1.03	1.03	1.03	1.03	1.21	2.78	2.78	2.48	2.59	2.64	2.54	2.94	1.09	1.09	
Yearly Maximums	445.03	424.41	401.62	381.51	368.99	346.20	361.38	390.31	413.95	446.81	480.78	512.65	553.66	555.08	556.51	557.93	554.01	545.78	506.92	468.05	432.01	393.06	352.98	314.80	262.54	250.78	
Maximum Pounds per Day																											
Maximum Pounds per Hour *																											
Maximum Pounds per Month																											
Month with Maximum																											
Maximum Pounds per Year																											
Maximum Average Pounds per Hour *																											
Year with Maximum																											
Tons per Year																											

Construction Step	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	
Onsite Fugitive PM₁₀ Emissions																											
Demolition of Unit 7 Peaker Fuel Tank & Northeast Warehouse																											
Total (lbs/month)																											
Total (lbs/day)																											
Blocks 1 & 2 Construction																											
Total (lbs/month)																											
Total (lbs/day)																											
Units 5 & 6 Demolition																											
Total (lbs/month)																											
Total (lbs/day)																											
Block 3 Construction																											
Total (lbs/month)	116.64	116.64	116.64	116.64	116.89	116.89	116.64	116.64																			
Total (lbs/day)	5.07	5.07	5.07	5.07	5.08	5.08	5.07	5.07																			
Units 3 & 4 Demolition																											
Total (lbs/month)	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45	106.45		
Total (lbs/day)	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	
Block 4 Construction																											
Total (lbs/month)																											
Total (lbs/day)																											
Units 1 & 2 Demolition																											
Total (lbs/month)																											
Total (lbs/day)																											
Total Onsite Fugitive PM₁₀ Emissions (Disembodiment, Debris Loss)																											
Pounds per Month	222.09	222.09	222.09	222.09	222.33	222.33	222.09	222.09	195.45	195.45	195.45	195.45	195.45	195.45	195.45	195.45	195.45	367.65	367.65	367.65	367.65	367.65	367.65	367.65	194.41	194.41	
Pounds per Day	9.66	9.66	9.66	9.66	9.67	9.67	9.66	9.66	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	15.98	15.98	15.98	15.98	15.98	15.98	15.98	8.45	8.45	
Yearly Maximums	2,198.99	2,082.35	1,965.70	1,849.06	1,732.41	1,615.53	1,760.84	1,906.40	2,051.95	2,314.15	2,576.36	2,838.56	3														

Table 5.1A.72 Onsite Construction Exhaust and Fugitive

Total Onsite PM_{2.5} Emissions (Exhaust and Fugitive)

Parameter	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Pounds per Month	53.34	65.93	63.46	58.12	67.87	67.87	55.19	53.40	35.96	35.96	35.96	35.96	33.06	33.06	33.06	37.01	127.02	127.02	120.37	123.05	124.99	122.33	130.37	42.77	42.77	
Pounds per Day	2.78	2.87	2.76	2.53	2.95	2.95	2.40	2.32	1.56	1.56	1.56	1.56	1.44	1.44	1.44	1.61	5.52	5.52	5.23	5.35	5.40	5.32	5.67	1.86	1.86	
Yearly Maximums	639.61	698.73	575.86	545.46	520.40	489.55	548.70	620.53	687.50	774.59	862.72	949.08	1,043.49	1,053.21	1,042.92	1,072.63	1,073.54	1,070.50	962.35	894.20	808.65	720.41	631.15	541.69	437.34	418.72
Maximum Pounds per Day																										
Maximum Pounds per Hour *																										
Maximum Pounds per Month																										
Month with Maximum																										
Maximum Pounds per Year																										
Maximum Average Pounds per Hour *																										
Year with Maximum																										
Tons per Year																										

Onsite CO₂ Emissions

Construction Step	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																										
Total (metric tons/month)																										
Total (metric tons/day)																										
Blocks 1 & 2 Construction																										
Total (metric tons/month)																										
Total (metric tons/day)																										
Units 5 & 6 Demolition																										
Total (metric tons/month)																										
Total (metric tons/day)																										
Block 3 Construction																										
Total (metric tons/month)	58.63	68.83	53.32	38.10	52.48	52.48	27.90	18.09																		
Total (metric tons/day)	2.59	2.89	2.32	1.66	2.28	2.28	1.21	0.83																		
Units 3 & 4 Demolition																										
Total (metric tons/month)	77.46	77.46	90.17	90.17	100.37	100.37	92.63	92.63	92.63	92.63	92.63	92.63	92.63	92.63	92.63	109.07	109.07	109.07	109.07	109.07	109.07	109.07	109.07	109.07	109.07	109.07
Total (metric tons/day)	3.37	3.37	3.92	3.92	4.36	4.36	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.74	4.74	4.74	4.74	4.74	4.74	4.74	4.74	4.74	4.74	4.74
Block 4 Construction																										
Total (metric tons/month)																	107.48	107.48	93.11	100.85	103.93	93.73	116.95	88.44	88.44	88.44
Total (metric tons/day)																	4.67	4.67	4.05	4.38	4.52	4.08	5.09	3.85	3.85	3.85
Units 1 & 2 Demolition																										
Total (metric tons/month)																										
Total (metric tons/day)																										
Total Onsite CO ₂ Emissions (Construction Equipment and Vehicles)																										
Metric Tons per Month	136.10	146.30	143.49	128.26	152.85	152.85	120.52	111.72	92.63	92.63	92.63	92.63	92.63	92.63	92.63	109.07	216.57	216.57	202.18	209.92	213.61	202.81	226.02	88.44	88.44	
Metric Tons per Day	5.92	6.36	6.24	5.58	6.65	6.65	5.24	4.86	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.74	9.42	9.42	8.79	9.13	9.26	8.82	9.83	3.85	3.85	
Yearly Maximums	1,462.59	1,419.12	1,365.45	1,314.58	1,278.95	1,235.17	1,298.89	1,394.93	1,485.39	1,602.69	1,723.07	1,833.24	1,966.64	1,962.45	1,958.26	1,954.07	1,934.32	1,886.13	1,789.92	1,641.71	1,599.95	1,370.44	1,227.85	1,095.42	924.26	890.67
Maximum Metric Tons per Day																										
Maximum Metric Tons per Hour *																										
Maximum Metric Tons per Month																										
Month with Maximum																										
Maximum Metric Tons per Year																										
Maximum Average Metric Tons per Hour *																										
Year with Maximum																										

Onsite N₂O Emissions

Construction Step	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																										
Total (metric tons/month)																										
Total (metric tons/day)																										
Blocks 1 & 2 Construction																										
Total (metric tons/month)																										
Total (metric tons/day)																										
Units 5 & 6 Demolition																										
Total (metric tons/month)																										
Total (metric tons/day)																										
Block 3 Construction																										
Total (metric tons/month)	0.00149	0.00175	0.00136	0.00097	0.00133	0.00133	0.00071	0.00048																		
Total (metric tons/day)	0.00006	0.00008	0.00006	0.00004	0.00006	0.00006	0.00003	0.00002																		
Units 3 & 4 Demolition																										
Total (metric tons/month)	0.00197	0.00197	0.00229	0.00229	0.00255	0.00255	0.00236	0.00236	0.00236	0.00236	0.00236	0.00236	0.00236	0.00236	0.00236	0.00277	0.00277	0.00277	0.00277	0.00277	0.00277	0.00277	0.00277	0.00277	0.00277	0.00277
Total (metric tons/day)	0.00009	0.00009	0.00010	0.00010	0.00011	0.00011	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00012	0.00012	0.00012	0.00012	0.00012	0.00012	0.00012	0.00012	0.00012	0.00012	0.00012
Block 4 Construction																										
Total (metric tons/month)																	0.00273	0.00273	0.00236	0.00256	0.00264	0.00238	0.00297	0.00225	0.00225	0.00225
Total (metric tons/day)																	0.00012	0.00012	0.00010	0.00011	0.00011	0.00010	0.00013	0.00010	0.00010	0.00010
Units 1 & 2 Demolition																										
Total (metric tons/month)																										
Total (metric tons/day)																										
Total Onsite N ₂ O Emissions (Construction Equipment and Vehicles)																										
Metric Tons per Month	0.00346	0.00372	0.00365	0.00326	0.00389	0.00389	0.00396	0.00284	0.00236	0.00236	0.00236	0.00236	0.00236	0.00236	0.00236	0.00277	0.00551	0.00551	0.00514	0.00534	0.00541	0.00518	0.00575	0.00225	0.00225	
Metric Tons per Day	0.00015	0.00016	0.00016	0.00014	0.00017	0.00017	0.00017	0.00013	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00012	0.00024	0.00024	0.00022	0.00023	0.00024	0.00022	0.00025	0.00010	0.00010	
Yearly Maximums	0.03719	0.03608	0.03472	0.03343	0.03252	0.03141	0.03303	0.03547	0.03777	0.04075	0.04381	0.04691	0.05000	0.04989	0.04978	0.04967	0.04917	0.04824	0.04498	0.04172	0.03937	0.03483	0.03128	0.02783	0.02348	0.02263
Maximum Metric Tons per Day																										
Maximum Metric Tons per Hour *			</																							

Table 5.1A.72 Onsite Construction Exhaust and Fi

Onsite SOx Emissions

Construction Step	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139				
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Blocks 1 & 2 Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Units 5 & 6 Demolition																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Block 3 Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Units 3 & 4 Demolition																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Block 4 Construction																																													
Total (lbs/month)	1.25	1.04	1.04	1.25	1.25	1.01	1.01	1.01	1.01	0.80	0.80	0.80	0.81	0.81	0.95	0.73	0.51	0.70	0.70	0.38	0.43																								
Total (lbs/day)	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.02	0.03	0.03	0.02	0.02																								
Units 1 & 2 Demolition																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Total Onsite SOx Emissions (Construction Equipment and Vehicles)																																													
Pounds per Month	1.25	1.04	1.04	1.25	1.25	1.01	1.01	1.01	1.01	0.80	0.80	0.80	0.81	0.81	0.95	0.73	0.51	1.78	1.78	1.83	1.68	1.38	1.38	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27	1.27			
Pounds per Day	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.02	0.08	0.08	0.08	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Yearly Maximums	12.28	11.84	11.82	11.52	11.01	10.27	11.04	11.81	12.43	13.09	13.67	14.25	14.72	15.18	15.64	15.97	16.51	17.28	16.76	16.25	15.90	15.50	15.59	16.69	15.90	16.10	16.31	16.51	16.71	16.92															
Maximum Pounds per Day																																													
Maximum Pounds per Hour *																																													
Maximum Pounds per Month																																													
Month with Maximum																																													
Maximum Pounds per Year																																													
Maximum Average Pounds per Hour *																																													
Year with Maximum																																													
Tons per Year																																													

Onsite Exhaust PM₁₀ Emissions

Construction Step	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139						
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																															
Total (lbs/month)																																															
Total (lbs/day)																																															
Blocks 1 & 2 Construction																																															
Total (lbs/month)																																															
Total (lbs/day)																																															
Units 5 & 6 Demolition																																															
Total (lbs/month)																																															
Total (lbs/day)																																															
Block 3 Construction																																															
Total (lbs/month)																																															
Total (lbs/day)																																															
Units 3 & 4 Demolition																																															
Total (lbs/month)																																															
Total (lbs/day)																																															
Block 4 Construction																																															
Total (lbs/month)	25.06	19.71	19.71	25.05	25.05	20.64	20.64	20.64	20.63	15.29	13.31	13.31	14.19	14.19	15.70	10.77	7.28	29.96	29.96	25.21	25.31	20.95	20.95	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49					
Total (lbs/day)	1.09	0.86	0.86	1.09	1.09	0.90	0.90	0.90	0.90	0.66	0.58	0.58	0.62	0.62	0.68	0.47	0.32	0.96	0.96	0.25	0.26																										
Units 1 & 2 Demolition																																															
Total (lbs/month)																																															
Total (lbs/day)																																															
Total Onsite Exhaust PM ₁₀ Emissions (Construction Equipment and Vehicles)																																															
Pounds per Month	25.06	19.71	19.71	25.05	25.05	20.64	20.64	20.64	20.63	15.29	13.31	13.31	14.19	14.19	15.70	10.77	7.28	29.96	29.96	25.21	25.31	20.95	20.95	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49	18.49			
Pounds per Day	1.09	0.86	0.86	1.09	1.09	0.90	0.90	0.90	0.90	0.66	0.58	0.58	0.62	0.62	0.68	0.47	0.32	0.96	0.96	0.25	0.26																										
Yearly Maximums	239.02	228.14	228.02	218.60	204.33	166.56	195.88	205.20	209.77	214.46	220.12	227.77	232.95	237.25	241.55	244.33	252.05	263.26	251.79	240.32	233.60	226.77	227.74	228.71	232.15	235.58	239.02	242.45	245.89	249.32																	
Maximum Pounds per Day																																															
Maximum Pounds per Hour *																																															
Maximum Pounds per Month																																															
Month with Maximum																																															
Maximum Pounds per Year																																															
Maximum Average Pounds per Hour *																																															
Year with Maximum																																															
Tons per Year																																															

Onsite Fugitive PM₁₀ Emissions

Construction Step	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139							
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																																
Total (lbs/month)																																																
Total (lbs/day)																																																
Blocks 1 & 2 Construction																																																
Total (lbs/month)																																																
Total (lbs/day)																																																
Units 5 & 6 Demolition																																																
Total (lbs/month)																																																
Total (lbs/day)																																																
Block 3 Construction																																																
Total (lbs/month)																																																
Total (lbs/day)																																																
Units 3 & 4 Demolition																																																
Total (lbs/month)																																																
Total (lbs/day)																																																
Block 4 Construction																																																
Total (lbs/month)	194.41	155.53	155.53	155.53	155.53	155.53	155.53	155.53	136.09	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64				
Total (lbs/day)	8.45	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	
Units 1 & 2 Demolition																																																
Total (lbs/month)																																																
Total (lbs/day)																																																
Total Onsite Fugitive PM ₁₀ Emissions (Disembodiment, Debris Loss)																																																
Pounds per Month	194.41	155.53	155.53	155.53	155.53	155.53	155.53	155.53	136.09	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	116.64	
Pounds per Day	8.45	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.76
Yearly Maximums	1,769.11	1,691.35	1,652.47	1,613.39	1,574.71	1,535.82	1,602.66	1,669.49	1,736.06	1,822.06	1,810.86	1,799.66	1,788.47	1,777.27	1,766.07	1,754.87	1,743.67	1,732.47	1,615.56	1,496.64	1,382.00	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	1,265.35	
Maximum Pounds per Day																																																
Maximum Pounds per Hour *																																																
Maximum Pounds per Month																																																
Month with Maximum																																																
Maximum Pounds per Year																																																
Maximum Average Pounds per Hour *																																																
Year with Maximum																																																
Tons per Year																																																

Table 5.1A.73 Offsite Construction Exhaust and Fugitive Emissions Summary

Construction Step		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40												
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse		92.83	92.83	106.36	116.82	112.31	123.59	119.89	108.62																																												
Total (lbs/month)		92.83	92.83	106.36	116.82	112.31	123.59	119.89	108.62																																												
Total (lbs/day)		4.04	4.04	4.62	5.08	4.88	5.37	5.21	4.72																																												
New & Upgrade Sewer Construction																																																					
Total (lbs/month)										305.27	305.27	305.27	293.99																																								
Total (lbs/day)										13.27	13.27	13.27	12.78																																								
Blocks 1 & 2 Construction																																																					
Total (lbs/month)										63.78	95.73	134.65	226.29	318.92	388.38	419.70	525.50	562.97	573.37	632.18	705.83	845.22	855.87	910.06	1,029.58	1,039.40	1,038.80	1,038.80	1,019.71	1,036.50	1,031.61	1,025.10	903.67	818.83	666.08	383.50	346.41	303.55	296.16	165.31	151.77												
Total (lbs/day)										2.77	4.16	5.85	9.84	13.87	16.89	18.25	22.85	24.48	24.93	27.49	30.69	36.75	37.21	39.57	44.76	45.19	45.17	45.17	44.34	45.07	44.85	44.57	39.29	35.60	28.96	16.67	15.06	13.20	12.88	7.19	6.60												
Units 5 & 6 Demolition																																																					
Total (lbs/month)																																																					
Total (lbs/day)																																																					
Block 3 Construction																																																					
Total (lbs/month)																																																					
Total (lbs/day)																																																					
Units 3 & 4 Demolition																																																					
Total (lbs/month)																																																					
Total (lbs/day)																																																					
Block 4 Construction																																																					
Total (lbs/month)																																																					
Total (lbs/day)																																																					
Units 1 & 2 Demolition																																																					
Total (lbs/month)																																																					
Total (lbs/day)																																																					
Total Offsite CO Emissions (Construction Vehicles)																																																					
Pounds per Month		92.83	92.83	106.36	116.82	112.31	123.59	119.89	108.62	369.04	401.00	439.91	520.28	318.92	388.38	419.70	525.50	562.97	573.37	632.18	705.83	845.22	855.87	910.06	1,029.58	1,039.40	1,038.80	1,038.80	1,019.71	1,036.50	1,031.61	1,025.10	903.67	818.83	701.14	420.18	412.85	397.66	396.94	277.25	261.62												
Pounds per Day		4.04	4.04	4.62	5.08	4.88	5.37	5.21	4.72	16.05	17.43	19.13	22.42	13.87	16.89	18.25	22.85	24.48	24.93	27.49	30.69	36.75	37.21	39.57	44.76	45.19	45.17	45.17	44.34	45.07	44.85	44.57	39.29	35.60	30.48	18.27	17.95	17.29	17.28	12.68	11.37												
Yearly Maximums		2,603.49	2,829.59	3,125.14	3,438.48	3,847.15	4,287.81	4,747.59	5,259.88	5,857.69	6,333.26	6,798.13	7,258.27	7,767.57	8,488.05	9,138.47	9,757.57	10,251.78	10,725.31	11,183.55	11,576.46	11,774.31	11,747.92	11,593.20	11,103.32	10,486.59	9,844.85	9,202.88	8,441.43	7,683.34	6,906.20	5,987.68	5,075.67	4,289.95	3,589.07	3,007.51	2,708.53	2,416.88	2,140.42	1,864.69	1,761.75												
Maximum Pounds per Day		45.19																																																			
Maximum Pounds per Hour		4.52																																																			
Maximum Pounds per Month		1,039.40																																																			
Month with Maximum		25																																																			
Maximum Pounds per Year		11,774.31																																																			
Maximum Average Pounds per Hour		1.34																																																			
Year with Maximum		Months 21 - 32																																																			
Tons per Year		5.89																																																			

Construction Step		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40												
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse		3.91	3.91	4.21	4.28	4.18	4.43	4.51	4.26																																												
Total (lbs/month)		3.91	3.91	4.21	4.28	4.18	4.43	4.51	4.26																																												
Total (lbs/day)		0.17	0.17	0.18	0.19	0.18	0.19	0.20	0.19																																												
New & Upgrade Sewer Construction																																																					
Total (lbs/month)										43.92	43.92	43.92	43.67																																								
Total (lbs/day)										1.91	1.91	1.91	1.90																																								
Blocks 1 & 2 Construction																																																					
Total (lbs/month)										1.53	3.21	4.18	6.49	9.91	12.24	14.23	16.97	18.97	20.36	21.69	23.62	26.61	27.17	27.93	30.13	30.05	29.48	29.48	27.51	28.52	27.45	26.01	24.29	20.80	17.10	11.17	9.70	8.75															

Table 5.1A.73 Offsite Construction Exhaust and Fugitive Emissions Summary

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																										
Total (metric tons/month)	18.23	18.23	19.97	20.78	20.19	21.65	21.72	20.26																																		
Total (metric tons/day)	0.79	0.79	0.87	0.90	0.88	0.94	0.94	0.88																																		
New & Upgrade Sewer Construction																																										
Total (metric tons/month)									50.73	50.73	50.73	49.28																														
Total (metric tons/day)									2.21	2.21	2.21	2.14																														
Blocks 1 & 2 Construction																																										
Total (metric tons/month)									8.64	16.02	21.40	34.17	50.74	62.38	70.77	85.77	94.55	99.82	107.51	117.99	135.65	138.11	143.63	157.51	157.80	155.82	155.82	148.13	152.47	148.58	143.38	130.99	114.61	93.82	58.47	51.51	45.99	46.12	24.74	22.99		
Total (metric tons/day)									0.38	0.70	0.93	1.49	2.21	2.71	3.08	3.73	4.11	4.34	4.67	5.13	5.90	6.00	6.24	6.85	6.86	6.77	6.77	6.44	6.63	6.46	6.23	5.70	4.98	4.08	2.54	2.24	2.00	2.01	1.08	1.08		
Units 5 & 6 Demolition																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Block 3 Construction																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Units 3 & 4 Demolition																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Block 4 Construction																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Units 1 & 2 Demolition																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Total Offsite CO₂ Emissions (Construction Vehicles)																																										
Metric Tons per Month	18.23	18.23	19.97	20.78	20.19	21.65	21.72	20.26	59.37	66.76	72.14	83.45	50.74	62.38	70.77	85.77	94.55	99.82	107.51	117.99	135.65	138.11	143.63	157.51	157.80	155.82	155.82	148.13	152.47	148.58	143.38	130.99	114.61	104.16	70.18	67.87	67.77	68.42	48.78	47.82		
Metric Tons per Day	0.79	0.79	0.87	0.90	0.88	0.94	0.94	0.88	2.58	2.90	3.14	3.63	2.21	2.71	3.08	3.73	4.11	4.34	4.67	5.13	5.90	6.00	6.24	6.85	6.86	6.77	6.77	6.44	6.63	6.46	6.23	5.70	4.98	4.53	3.05	2.95	2.95	2.97	2.12	2.08		
Yearly Maximums	442.73	475.29	519.40	570.20	635.19	709.55	787.72	873.51	971.24	1,047.51	1,118.87	1,190.36	1,264.42	1,371.48	1,464.92	1,549.97	1,612.33	1,670.25	1,719.01	1,754.88	1,767.88	1,746.84	1,712.89	1,639.44	1,549.80	1,459.77	1,372.37	1,265.34	1,165.03	1,060.09	939.08	823.28	723.93	640.99	569.88	534.08	506.82	467.24	433.22	431.89		
Maximum Metric Tons per Day	6.86																																									
Maximum Metric Tons per Hour ^a	0.69																																									
Maximum Metric Tons per Month	157.80																																									
Month with Maximum	25																																									
Maximum Metric Tons per Year	1,787.88																																									
Maximum Average Metric Tons per Hour ^b	0.20																																									
Year with Maximum	Months 21 - 32																																									

Construction Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																									
Total (metric tons/month)	0.000115	0.000115	0.000130	0.000140	0.000135	0.000147	0.000145	0.000132																																	
Total (metric tons/day)	0.000005	0.000005	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006																																	
New & Upgrade Sewer Construction																																									
Total (metric tons/month)									0.000898	0.000898	0.000898	0.000886																													
Total (metric tons/day)									0.000039	0.000039	0.000039	0.000039																													
Blocks 1 & 2 Construction																																									
Total (metric tons/month)									0.000070	0.000112	0.000155	0.000256	0.000367	0.000448	0.000493	0.000610	0.000660	0.000681	0.000745	0.000827	0.000976	0.000990	0.001045	0.001171	0.001179	0.001174	0.001174	0.001140	0.001164	0.001150	0.001133	0.001010	0.000905	0.000727	0.000435	0.000390	0.000343	0.000338	0.000186	0.000172	
Total (metric tons/day)									0.000003	0.000006	0.000007	0.000011	0.000016	0.000019	0.000021	0.000027	0.000029	0.000030	0.000032	0.000036	0.000042	0.000043	0.000045	0.000051	0.000051	0.000051	0.000050	0.000051	0.000050	0.000049	0.000044	0.000039	0.000035	0.000022	0.000021	0.000021	0.000021	0.000015	0.000015	0.000008	0.000007
Units 5 & 6 Demolition																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Block 3 Construction																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Units 3 & 4 Demolition																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Block 4 Construction																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Units 1 & 2 Demolition																																									
Total (metric tons/month)																																									
Total (metric tons/day)																																									
Total Offsite N₂O Emissions (Construction Vehicles)																																									
Metric Tons per Month	0.000115	0.000115	0.000130	0.000140	0.000135	0.000147	0.000145	0.000132	0.000968	0.001011	0.001053	0.001142	0.000367	0.000448	0.000493	0.000610	0.000660	0.000681	0.000745	0.000827	0.000976	0.000990	0.001045	0.001171	0.001179	0.001174	0.001174	0.001140	0.001164	0.001150	0.001133	0.001010	0.000905	0.000727	0.000496	0.000490	0.000482	0.000484	0.000347	0.000332	
Metric Tons per Day	0.000005	0.000005	0.000006	0.000006	0.000006	0.000006	0.000006	0.000006	0.000042	0.000044	0.000046	0.000050	0.000016	0.000019	0.000021	0.000027	0.000029	0.000030	0.000032	0.000036	0.000042	0.000043	0.000045	0.000051	0.000051	0.000051	0.000051	0.000050	0.000051	0.000050	0.000049	0.000044	0.000039	0.000035	0.000022	0.000021	0.000021	0.000021	0.000015	0.000015	
Yearly Maximums	0.005234	0.005486	0.005619	0.006182	0.006652	0.007178	0.007712	0.008312	0.009007	0.009615	0.009895	0.009887	0.009615	0.009627	0.010552	0.011232	0.011762	0.012265	0																						

Table 5.1A.73 Offsite Construction Exhaust and F

Construction Step	SOx Emissions by Month																																										
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
New & Upgrade Sewer Construction																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Blocks 1 & 2 Construction																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Units 5 & 6 Demolition																																											
Total (lbs/month)	0.52	0.58	0.58	0.67	0.67	0.69	0.72	0.72	0.72	0.72	0.72	0.70	0.65	0.65	0.48	0.41	0.26																										
Total (lbs/day)	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.01																										
Block 3 Construction																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Units 3 & 4 Demolition																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Block 4 Construction																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Units 1 & 2 Demolition																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Total Offsite SOx Emissions (Construction Vehicles)																																											
Pounds per Month	1.00	0.58	0.58	0.67	0.67	0.69	0.72	0.72	0.72	0.72	1.00	1.04	1.11	1.22	1.24	1.36	1.17	1.11	1.13	1.21	1.16	1.36	1.41	1.72	1.69	1.64	1.61	1.71	1.60	1.68	1.54	1.18	0.98	0.96	0.95	0.55	0.50	0.53	0.47	0.46	0.58	0.58	
Pounds per Day	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.05	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03
Yearly Maximums	9.12	9.23	9.98	10.54	11.24	11.74	12.16	12.56	13.05	13.49	14.12	14.53	15.21	15.79	16.20	16.57	16.92	17.35	17.91	18.32	18.30	18.34	18.18	18.06	17.35	16.63	16.02	15.39	14.66	13.64	12.54	11.67	11.15	10.64	10.16	9.58	9.30	8.95	8.62	8.08	9.25	9.92	
Maximum Pounds per Day																																											
Maximum Pounds per Hour ^a																																											
Maximum Pounds per Month																																											
Month with Maximum																																											
Maximum Pounds per Year																																											
Maximum Average Pounds per Hour ^b																																											
Year with Maximum																																											
Tons per Year																																											

Construction Step	PM ₁₀ Emissions by Month																																									
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
New & Upgrade Sewer Construction																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Blocks 1 & 2 Construction																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Units 5 & 6 Demolition																																										
Total (lbs/month)	34.38	36.43	36.43	39.61	39.51	40.54	41.56	41.56	41.41	41.41	41.41	39.34	37.13	36.56	23.67	21.10	13.28																									
Total (lbs/day)	1.49	1.58	1.58	1.72	1.72	1.76	1.81	1.81	1.80	1.80	1.80	1.71	1.61	1.59	1.03	0.92	0.58																									
Block 3 Construction																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Units 3 & 4 Demolition																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Block 4 Construction																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Units 1 & 2 Demolition																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Total Offsite PM₁₀ Emissions (Construction Vehicles and New & Upgr																																										
Pounds per Month	70.43	36.43	36.43	39.51	39.51	40.54	41.56	41.56	41.41	41.41	60.17	63.52	70.58	78.46	80.02	88.13	77.20	77.71	78.82	85.64	83.98	99.55	102.99	130.21	129.26	127.55	126.60	133.24	127.80	130.65	124.26	95.38	90.35	90.40	98.16	70.63	69.72	73.77	69.69	69.17	36.22	36.22
Pounds per Day	3.06	1.58	1.58	1.72	1.72	1.76	1.81	1.81	1.80	1.80	2.62	2.78	3.07	3.41	3.48	3.83	3.36	3.38	3.43	3.72	3.65	4.33	4.48	5.66	5.62	5.55	5.50	5.79	5.56	5.68	5.40	4.15	3.93	3.93	4.27	3.07	3.03	3.21	3.03	3.01	1.57	1.57
Yearly Maximums	552.49	552.64	594.67	638.25	686.87	724.56	761.73	798.99	843.07	885.65	943.80	986.62	1,053.31	1,111.98	1,161.07	1,207.65	1,252.75	1,303.35	1,356.29	1,401.73	1,411.46	1,417.83	1,408.67	1,403.83	1,344.25	1,284.71	1,230.94	1,174.04	1,109.97	1,018.40	923.97	838.94	782.79	732.66	683.47	626.53	597.11	568.61	554.77	549.39	553.67	597.73
Maximum Pounds per Day																																										
Maximum Pounds per Hour ^a																																										
Maximum Pounds per Month																																										
Month with Maximum																																										
Maximum Pounds per Year																																										
Maximum Average Pounds per Hour ^b																																										
Year with Maximum																																										
Tons per Year																																										

Construction Step	PM _{2.5} Emissions by Month																																									
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
New & Upgrade Sewer Construction																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Blocks 1 & 2 Construction																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Units 5 & 6 Demolition																																										
Total (lbs/month)	10.04	10.80	10.80	11.93	11.93	12.31	12.69	12.69	12.55	12.55	12.55	11.98	11.28	11.12	7.42	6.63	4.16																									
Total (lbs/day)	0.44	0.47	0.47	0.52	0.52	0.54	0.55	0.55	0.55	0.55	0.55	0.52	0.49	0.48	0.32	0.29	0.18																									
Block 3 Construction																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Units 3 & 4 Demolition																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Block 4 Construction																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Units 1 & 2 Demolition																																										
Total (lbs/month)																																										
Total (lbs/day)																																										
Total Offsite PM_{2.5} Emissions (Construction Vehicles and New & Upgr																																										
Pounds per Month	20.14	10.80	10.80	11.93	11.93	12.31	12.69	12.69	12.55	12.55	17.95	18.89	20.75	22.99	23.42	25.75	22.44	22.25	22.56	24.43	23.76	28.04	29.05	36.40	36.06	35.45	35.11	37.00	35.28	36.30	34.24	26.29	21.64	21.30	21.16	11.51	10.75	11.08	9.90	9.76	10.60	10.60
Pounds per Day	0.88	0.47	0.47	0.52	0.52	0.54	0.55	0.55	0.55	0.55	0.78	0.82	0.90	1.00	1.02	1.12	0.98	0.97	0.98	1.06	1.03	1.22	1.26	1.58	1.57	1.54	1.53	1.61	1.53	1.58	1.49	1.14	0.94	0.93	0.92	0.50	0.47	0.48	0.43	0.43	0.46	0.46
Yearly Maximums	165.22	165.83	178.02	190.65	204.47	214.98	224.92	234.79	246.52	257.74	273.23	284.33	301.85	317.17	329.82	341.32	352.56	365.40	379.45	391.12	392.99	394.51	391.77	390.13	373.81	357.46	342.91	327.59	310.24	285.57	259.87	237.31	222.69	209.42	196.49	181.44	173.73	166.38	163.21	162.37	164.09	176.82
Maximum Pounds per Day																																										
Maximum Pounds per Hour ^a																																										
Maximum Pounds per Month																																										
Month with Maximum																																										
Maximum Pounds per Year																																										
Maximum Average Pounds per Hour ^b																																										
Year with Maximum																																										
Tons per Year																																										

Table 5.1A.73 Offsite Construction Exhaust and F

Construction Step	CO ₂ Emissions by Month																																											
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82		
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
New & Upgrade Sewer Construction																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Blocks 1 & 2 Construction																																												
Total (metric tons/month)	22.70																																											
Total (metric tons/day)	0.99																																											
Units 5 & 6 Demolition																																												
Total (metric tons/month)	24.83	27.56	27.56	31.66	31.66	33.03	34.40	34.40	34.40	34.40	34.40	33.24	31.08	30.71	21.88	19.64	12.20																											
Total (metric tons/day)	1.08	1.20	1.20	1.38	1.38	1.44	1.50	1.50	1.50	1.50	1.50	1.45	1.45	1.35	1.34	0.96	0.85	0.53																										
Block 3 Construction																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Units 3 & 4 Demolition																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Block 4 Construction																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Units 1 & 2 Demolition																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Total Offsite CO₂ Emissions (Construction Vehicles)																																												
Metric Tons per Month	47.53	27.56	27.56	31.66	31.66	33.03	34.40	34.40	34.40	34.40	47.45	49.62	53.03	58.34	59.19	64.81	55.63	53.03	53.76	57.65	55.59	64.77	67.38	82.05	80.76	78.44	77.15	81.63	76.31	80.18	73.57	56.64	57.38	57.44	61.80	47.94	46.30	49.33	47.68	46.79	27.48	27.48		
Metric Tons per Day	2.07	1.20	1.20	1.38	1.38	1.44	1.50	1.50	1.50	2.06	2.16	2.31	2.54	2.57	2.82	2.31	2.34	2.51	2.42	2.82	2.93	3.57	3.51	3.41	3.35	3.55	3.32	3.49	3.20	2.46	2.05	1.99	1.98	1.14	1.05	1.10	2.34	2.03	2.01	2.14	2.05	2.03	1.19	1.19
Yearly Maximums	433.69	439.19	469.96	501.59	534.74	558.71	578.71	598.07	621.32	642.51	672.88	692.80	725.23	752.96	773.07	791.93	807.84	828.52	855.67	875.48	874.46	876.25	888.93	863.35	829.24	794.77	765.66	735.59	700.75	651.92	599.23	557.22	532.15	507.69	484.53	457.01	443.35	431.34	429.33	432.33	440.20	472.10		
Maximum Metric Tons per Day																																												
Maximum Metric Tons per Hour ^a																																												
Maximum Metric Tons per Month																																												
Month with Maximum																																												
Maximum Metric Tons per Year																																												
Maximum Average Metric Tons per Hour ^b																																												
Year with Maximum																																												

Construction Step	N ₂ O Emissions by Month																																											
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82		
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
New & Upgrade Sewer Construction																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Blocks 1 & 2 Construction																																												
Total (metric tons/month)	0.000169																																											
Total (metric tons/day)	0.000007																																											
Units 5 & 6 Demolition																																												
Total (metric tons/month)	0.000161	0.000170	0.000170	0.000184	0.000184	0.000189	0.000193	0.000193	0.000193	0.000193	0.000193	0.000193	0.000184	0.000173	0.000171	0.000110	0.000098	0.000082																										
Total (metric tons/day)	0.000007	0.000007	0.000007	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000007	0.000005	0.000004	0.000003																											
Block 3 Construction																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Units 3 & 4 Demolition																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Block 4 Construction																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Units 1 & 2 Demolition																																												
Total (metric tons/month)																																												
Total (metric tons/day)																																												
Total Offsite N₂O Emissions (Construction Vehicles)																																												
Metric Tons per Month	0.000330	0.000170	0.000170	0.000184	0.000184	0.000189	0.000193	0.000193	0.000193	0.000193	0.000281	0.000297	0.000330	0.000367	0.000375	0.000413	0.000362	0.000364	0.000370	0.000402	0.000395	0.000468	0.000484	0.000612	0.000608	0.000600	0.000595	0.000627	0.000601	0.000614	0.000585	0.000449	0.000425	0.000425	0.000462	0.000332	0.000328	0.000347	0.000328	0.000325	0.000170	0.000170		
Metric Tons per Day	0.000014	0.000007	0.000007	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000012	0.000012	0.000013	0.000014	0.000016	0.000016	0.000016	0.000016	0.000016	0.000017	0.000017	0.000020	0.000021	0.000027	0.000026	0.000026	0.000026	0.000026	0.000027	0.000026	0.000027	0.000026	0.000027	0.000026	0.000020	0.000018	0.000018	0.000020	0.000014	0.000014	0.000015	0.000014	0.000014	0.000007	0.000007
Yearly Maximums	0.002578	0.002579	0.002776	0.002980	0.003209	0.003387	0.003562	0.003739	0.003947	0.004149	0.004423	0.004626	0.004941	0.005219	0.005451	0.005672	0.005886	0.006125	0.006376	0.006590	0.006837	0.006868	0.006825	0.006602	0.006322	0.006042	0.005789	0.005521	0.005219	0.004788	0.004344	0.003943	0.003679	0.003442	0.003211	0.002942	0.002684	0.002669	0.002604	0.002578	0.002598	0.002805		
Maximum Metric Tons per Day																																												
Maximum Metric Tons per Hour ^a																																												
Maximum Metric Tons per Month																																												
Month with Maximum																																												
Maximum Metric Tons per Year																																												
Maximum Average Metric Tons per Hour ^b																																												
Year with Maximum																																												

Construction Step	CH ₄ Emissions by Month																																									
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
New & Upgrade Sewer Construction																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Blocks 1 & 2 Construction																																										
Total (metric tons/month)	0.000163																																									
Total (metric tons/day)	0.000033																																									
Units 5 & 6 Demolition																																										
Total (metric tons/month)	0.000654	0.000664	0.000664	0.000678	0.000678	0.000683	0.000688	0.000688	0.000688	0.000688	0.000688	0.000642	0.000612	0.000600	0.000345	0.000305	0.000193																									
Total (metric tons/day)	0.000028	0.000029	0.000029	0.000029	0.000029	0.000030	0.000030	0.000030	0.000030	0.000030	0.000030	0.000028	0.000027	0.000026	0.000015	0.000013	0.000008																									
Block 3 Construction																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Units 3 & 4 Demolition																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Block 4 Construction																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Units 1 & 2 Demolition																																										
Total (metric tons/month)																																										
Total (metric tons/day)																																										
Total Offsite CH₄ Emissions (Construction Vehicles)																																										
Metric Tons per Month	0.001417	0.000664	0.000664	0.000678	0.000678	0.000683	0.000688	0.000688	0.000688	0.000688	0.001055	0.001127	0.001299	0.001456	0.001491	0.001650	0.001468	0.001544	0.001568	0.001721	0.001713	0.002055	0.002118	0.002746	0.002741	0.002733	0.002728	0.002862	0.002789	0.002803	0.002726	0.002090	0.001900	0.001900	0.002076	0.001419	0.001423	0.001498	0.001405	0.001393	0.000664	0.000664
Metric Tons per Day	0.000062	0.000029	0.000029	0.000029	0.000029	0.000030	0.000030	0.000030	0.000030	0.000046	0.000049	0.000056	0.000063	0.000065	0.000072	0.000064	0.000067	0.000068	0.000075	0.000074	0.000089	0.000092	0.000119	0.000119	0.000119	0.000119	0.000124	0.000121	0.000122	0.000119	0.000091	0.000083	0.000083	0.000090	0.000062	0.000062	0.000065	0.000061	0.000061	0.000029	0.000029	
Yearly Maximums	0.009719	0.009601	0.010394	0.011222	0.012193	0.012984	0.013845	0.014724	0.015757	0.016782	0.018149	0.019211	0.020831	0.022274	0.023551	0.024788	0.025999	0.027320	0.028579	0.029736	0.030105	0.030292	0.030137	0.030095	0.028768	0.027450	0.026215	0.024891	0.023423	0.021297	0.019158	0.017110	0.015699	0.014482	0.013270	0.011883	0.011152	0.010417	0.009974	0.009974	0.009974	0.010534
Maximum Metric Tons per Day																																										
Maximum Metric Tons per Hour ^a																																										
Maximum Metric Tons per Month																																										
Month with Maximum																																										
Maximum Metric Tons per Year																																										
Maximum Average Metric Tons per Hour ^b																																										
Year with Maximum																																										

Notes:
^a The hours per day are per MANPOWER SCHEDULE ALAMITOS 02 01
^b The hours per year are assumed to allow operation 24 hours per day, 7 d
^c Emissions include emissions from exhaust and fugitive paved road dust, 1

Table 5.1A.73 Offsite Construction Exhaust and F

Construction Step		83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124								
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																																			
Total (lbs/month)																																																			
Total (lbs/day)																																																			
New & Upgrade Sewer Construction																																																			
Total (lbs/month)																																																			
Total (lbs/day)																																																			
Blocks 1 & 2 Construction																																																			
Total (lbs/month)																																																			
Total (lbs/day)																																																			
Units 5 & 6 Demolition																																																			
Total (lbs/month)																																																			
Total (lbs/day)																																																			
Block 3 Construction																																																			
Total (lbs/month)																																																			
Total (lbs/day)																																																			
Units 3 & 4 Demolition		94.37	94.37	95.92	97.47	97.47	97.47	97.47	97.47	91.75	87.10	85.59	52.45	46.61	29.25																																				
Total (lbs/month)		4.10	4.10	4.17	4.24	4.24	4.24	4.24	4.24	3.99	3.79	3.72	2.28	2.03	1.27																																				
Total (lbs/day)		4.10	4.10	4.17	4.24	4.24	4.24	4.24	4.24	3.99	3.79	3.72	2.28	2.03	1.27																																				
Block 4 Construction																																																			
Total (lbs/month)									44.91	61.65	80.71	108.55	143.73	161.88	152.76	186.08	190.86	202.45	206.47	240.44	240.95	313.11	311.84	309.55	308.28	317.68	313.87	317.68	312.60	311.33	231.45	230.18	190.92	102.83	97.50	90.85	89.38	88.02													
Total (lbs/day)									1.95	2.68	3.34	4.52	6.25	7.04	6.69	8.09	8.30	8.90	9.09	10.45	10.48	13.61	13.56	13.46	13.40	13.91	13.65	13.61	13.59	13.54	10.06	10.01	8.30	4.47	4.24	3.94	3.89	3.83													
Total (lbs/day)									1.95	2.68	3.34	4.52	6.25	7.04	6.69	8.09	8.30	8.90	9.09	10.45	10.48	13.61	13.56	13.46	13.40	13.91	13.65	13.61	13.59	13.54	10.06	10.01	8.30	4.47	4.24	3.94	3.89	3.83													
Units 1 & 2 Demolition																																																			
Total (lbs/month)																																																			
Total (lbs/day)																																																			
Total Offsite CO Emissions (Construction Vehicles)																																																			
Pounds per Month		94.37	94.37	95.92	97.47	97.47	97.47	97.47	142.38	153.40	177.81	194.13	196.18	208.49	183.01	186.08	190.86	202.45	206.47	240.44	240.95	313.11	311.84	309.55	308.28	317.68	313.87	317.68	312.60	311.33	231.45	230.18	190.92	102.83	121.97	116.47	134.90	152.13	68.39	75.78	74.67	74.67	77.37								
Pounds per Day		4.10	4.10	4.17	4.24	4.24	4.24	4.24	6.19	6.67	7.73	8.44	8.53	9.06	7.96	8.09	8.30	8.90	9.09	10.45	10.48	13.61	13.56	13.46	13.40	13.91	13.65	13.61	13.59	13.54	10.06	10.01	8.30	4.47	5.30	5.66	5.87	6.61	2.97	3.29	3.25	3.25	3.36								
Yearly Maximums		1,538.48	1,652.59	1,741.22	1,831.38	1,924.77	2,028.75	2,138.74	2,281.71	2,380.28	2,539.99	2,674.02	2,788.44	2,901.54	3,010.73	3,141.59	3,273.18	3,394.92	3,503.79	3,528.77	3,518.50	3,468.46	3,258.19	3,068.32	2,875.23	2,701.85	2,536.30	2,290.82	2,048.92	1,811.00	1,574.34	1,420.28	1,267.46	1,157.97	1,136.57	1,097.39	1,065.06	1,014.30	946.31	962.06	970.42	974.97	975.48								
Maximum Pounds per Day																																																			
Maximum Pounds per Hour																																																			
Month with Maximum																																																			
Maximum Pounds per Year																																																			
Maximum Average Pounds per Hour																																																			
Year with Maximum																																																			
Tons per Year																																																			

Construction Step		83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124									
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																																				
Total (lbs/month)																																																				
Total (lbs/day)																																																				
New & Upgrade Sewer Construction																																																				
Total (lbs/month)																																																				
Total (lbs/day)																																																				
Blocks 1 & 2 Construction																																																				
Total (lbs/month)																																																				
Total (lbs/day)																																																				
Units 5 & 6 Demolition																																																				
Total (lbs/month)																																																				
Total (lbs/day)																																																				
Block 3 Construction																																																				
Total (lbs/month)																																																				
Total (lbs/day)																																																				
Units 3 & 4 Demolition		5.39	5.39	5.74	6.08	6.08	6.08	6.08	6.08	5.99	5.54	5.50	4.31	3.89	2.39																																					
Total (lbs/month)		0.23	0.23	0.25	0.26	0.26	0.26	0.26	0.26	0.26	0.24	0.24	0.19	0.17	0.10																																					
Total (lbs/day)		0.23	0.23	0.25	0.26	0.26	0.26	0.26	0.26	0.26	0.24	0.24	0.19	0.17	0.10																																					
Block 4 Construction																																																				
Total (lbs/month)									1.62	1.99	2.60	3.21	4.34	5.03	4.90	5.95	6.46	6.81	6.58	7.16	7.27	8.25	7.97	7.45	7.17	7.59	6.73	7.59	6.45	6.17	4.87	4.58	3.95	2.78	2.43	2.58	2.30	2.27														
Total (lbs/day)									0.07	0.09	0.11	0.14	0.19	0.22	0.21	0.26	0.28	0.30	0.29	0.31	0.32	0.36	0.35	0.32	0.31	0.33	0.29	0.33	0.28	0.27	0.21	0.20	0.17	0.12	0.11	0.11	0.10	0.10														
Total (lbs/day)									0.07	0.09	0.11	0.14	0.19	0.22	0.21	0.26	0.28	0.30	0.29	0.31	0.32	0.36	0.35	0.32	0.31	0.33	0.29	0.33	0.28	0.27	0.21	0.20	0.17	0.12	0.11	0.11	0.10	0.10														
Units 1 & 2 Demolition																																																				
Total (lbs/month)																																																				
Total (lbs/day)																																																				
Total Offsite VOC Emissions (Construction Vehicles)																																																				
Pounds per Month		5.39	5.39	5.74	6.08	6.08	6.08	6.08	7.70	7.98	8.14	8.71	8.66	8.93	7.29	5.95	6.46	6.81	6.58	7.16	7.27	8.25	7.97	7.45	7.17	7.59	6.73	7.59	6.45	6.17	4.87	4.58	3.95	2.78	2.43	2.58	2.30	2.27	1.63	1.93	2.24	2.81	2.75	2.86	3.13	3.13	3.73					
Pounds per Day		0.23	0.23	0.25	0.26	0.26	0.26	0.26	0.33	0.35	0.35	0.38	0.38	0.39	0.32	0.26	0.28	0.30	0.29	0.31	0.32	0.36	0.35	0.32	0.31	0.33	0.29	0.33	0.28	0.27	0.21	0.20	0.17	0.12	0.12	0.12	0.12	0.12	0.12	0.14	0.14	0.16										
Yearly Maximums		82.95	85.59	87.49	87.70	88.08	88.80	89.30	90.38	89.95	90.22	90.95	88.79	87.30	85.96	85.40	87.03	87.02	85.38	84.67	82.09	78.77	73.29	69.38	66.44	63.90	61.30	57.31	52.59	49.26	46.22	45.09	44.23	44.93	46.79	47.67	48.41	49.12	49.28	51.77	54.18	56.20	57.85									
Maximum Pounds per Day																																																				
Maximum Pounds per Hour																																																				
Month with Maximum																																																				
Maximum Pounds per Year																																																				
Maximum Average Pounds per Hour																																																				
Year with Maximum																																																				
Tons per Year																																																				

Construction Step		83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
New & Upgrade Sewer Construction																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Blocks 1 & 2 Construction																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Units 5 & 6 Demolition																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Block 3 Construction																																											
Total (lbs/month)																																											
Total (lbs/day)																																											
Units 3 & 4 Demolition		63.97	63.97	51.05	54.46	54.46	54.46	54.46	54.46	53.95	49.74	49.43	39.89	36.08	22.13																												
Total (lbs/month)		2.78	2.78	2.22	2.37	2.37	2.37	2.37	2.37	2.35	2.16	2.15	1.73	1.57	0.96																												
Total (lbs/day)		2.78	2.78	2.22	2.37	2.37	2.37	2.37	2.37	2.35	2.16	2.15	1.73	1.57	0.96																												
Block 4 Construction																																											
Total (lbs/month)									14.82	17.55	21.87	27.47	37.43	43.84	43.																												

Table 5.1A.73 Offsite Construction Exhaust and F

Offsite SOx Emissions		83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	
Construction Step																																												
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																												
Total (lbs/month)																																												
Total (lbs/day)																																												
New & Upgrade Sewer Construction																																												
Total (lbs/month)																																												
Total (lbs/day)																																												
Blocks 1 & 2 Construction																																												
Total (lbs/month)																																												
Total (lbs/day)																																												
Units 5 & 6 Demolition																																												
Total (lbs/month)																																												
Total (lbs/day)																																												
Block 3 Construction																																												
Total (lbs/month)																																												
Total (lbs/day)																																												
Units 3 & 4 Demolition		0.66	0.66	0.69	0.72	0.72	0.72	0.72	0.72	0.70	0.65	0.64	0.46	0.41	0.26																													
Total (lbs/month)		0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.01																														
Total (lbs/day)																																												
Block 4 Construction																																												
Total (lbs/month)																																												
Total (lbs/day)																																												
Units 1 & 2 Demolition																																												
Total (lbs/month)																																												
Total (lbs/day)																																												
Total Offsite SOx Emissions (Construction Vehicles)																																												
Pounds per Month		0.66	0.66	0.69	0.72	0.72	0.72	0.72	0.72	0.99	1.05	1.15	1.25	1.26	1.33	1.14	1.07	1.13	1.19	1.19	1.34	1.35	1.66	1.63	1.58	1.55	1.62	1.54	1.62	1.51	1.48	1.12	1.10	0.92	0.55	0.50	0.49	0.47	0.46					
Pounds per Day		0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02				
Yearly Maximums		10.60	11.27	11.75	12.15	12.53	13.00	13.46	14.06	14.44	15.04	15.53	15.96	16.15	16.44	16.84	17.38	17.77	18.06	18.00	17.75	17.33	16.22	15.31	14.46	13.72	13.02	11.95	10.83	9.88	8.34	7.82	7.56	7.68	7.65	7.63	7.55	7.35	7.60	7.82	8.00	8.13		
Maximum Pounds per Day																																												
Maximum Pounds per Hour ^a																																												
Maximum Pounds per Month																																												
Month with Maximum																																												
Maximum Pounds per Year																																												
Maximum Average Pounds per Hour ^b																																												
Year with Maximum																																												
Tons per Year																																												

Offsite PM ₁₀ Emissions ^c		83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124		
Construction Step																																													
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
New & Upgrade Sewer Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Blocks 1 & 2 Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Units 5 & 6 Demolition																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Block 3 Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Units 3 & 4 Demolition																																													
Total (lbs/month)		39.23	39.23	40.21	41.21	41.21	41.21	41.21	41.21	38.14	36.95	36.38	23.52	20.97	13.19																														
Total (lbs/day)		1.71	1.71	1.75	1.79	1.79	1.79	1.79	1.79	1.70	1.61	1.58	1.02	0.91	0.57																														
Block 4 Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Units 1 & 2 Demolition																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Total Offsite PM ₁₀ Emissions (Construction Vehicles and New & Upgr																																													
Pounds per Month		39.23	39.23	40.21	41.21	41.21	41.21	41.21	59.93	64.31	73.46	80.28	81.84	86.92	76.03	76.12	78.66	83.37	84.39	97.41	97.79	125.01	124.06	122.35	121.40	125.45	122.61	125.46	121.66	120.71	90.20	89.25	74.25	41.07	38.57	36.42	35.47	34.95							
Pounds per Day		1.71	1.71	1.75	1.79	1.79	1.79	1.79	2.61	2.80	3.19	3.49	3.56	3.78	3.31	3.31	3.42	3.62	3.67	4.24	4.25	5.44	5.39	5.32	5.28	5.45	5.33	5.45	5.29	5.25	3.88	3.23	1.79	1.68	1.58	1.54	1.52								
Yearly Maximums		643.34	691.03	727.83	763.74	801.19	843.34	886.52	942.72	990.58	1,041.28	1,091.88	1,133.95	1,173.52	1,212.06	1,258.63	1,307.97	1,350.97	1,388.32	1,394.13	1,385.96	1,362.42	1,278.48	1,205.03	1,132.13	1,067.51	1,006.56	915.10	823.86	736.39	649.87	595.85	542.78	507.71	505.81	495.38	487.10	471.49	448.16	458.18	465.13	470.05	472.78		
Maximum Pounds per Day																																													
Maximum Pounds per Hour ^a																																													
Maximum Pounds per Month																																													
Month with Maximum																																													
Maximum Pounds per Year																																													
Maximum Average Pounds per Hour ^b																																													
Year with Maximum																																													
Tons per Year																																													

Offsite PM _{2.5} Emissions ^c		83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124		
Construction Step																																													
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
New & Upgrade Sewer Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Blocks 1 & 2 Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Units 5 & 6 Demolition																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Block 3 Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Units 3 & 4 Demolition																																													
Total (lbs/month)		11.67	11.67	12.01	12.37	12.37	12.37	12.37	12.37	11.81	11.11	10.95	7.29	6.51	4.08																														
Total (lbs/day)		0.51	0.51	0.52	0.54	0.54	0.54	0.54	0.54	0.51	0.48	0.48	0.32	0.28	0.18																														
Block 4 Construction																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Units 1 & 2 Demolition																																													
Total (lbs/month)																																													
Total (lbs/day)																																													
Total Offsite PM _{2.5} Emissions (Construction Vehicles and New & Upgr																																													
Pounds per Month		11.67	11.67	12.01	12.37	12.37	12.37	12.37	17.73	18.95	21.38	23.33	23.75	25.17	21.90	21.59	22.41	23.74	23.93	27.48	27.62	34.97	34.63	34.02	33.69	34.87	33.85	34.87	33.52	33.18	24.88	24.54	20.46	11.50	10.74	10.24	9.90	9.76							
Pounds per Day		0.51	0.51	0.52	0.54	0.54	0.54	0.54	0.77	0.82	0.93	1.01	1.03	1.09	0.95	0.94	0.97	1.03	1.04	1.19	1.20	1.52	1.51	1.48	1.46	1.52	1.47	1.52	1.46	1.44	1.08	1.07	0.89	0.50	0.47	0.45	0.43	0.42							
Yearly Maximums		189.97	203.47	213.70	223.28	233.32	244.69	256.25	271.37	281.26	297.28	310.53	321.23	331.16	340.85	352.80	366.08	377.19	386.63	387.58	384.64	377.47	354.01	333.76	313.97	296.44	279.90	255.02	229.93	206.27	182.95	168.64	154.67	145.84	145.96	143.55	141.65	137.83	131.83	135.19	137.73	139.64	140.86		
Maximum Pounds per Day																																													
Maximum Pounds per Hour ^a																																													
Maximum Pounds per Month																																													
Month with Maximum																																													
Maximum Pounds per Year																																													
Maximum Average Pounds per Hour ^b																																													
Year with Maximum																																													
Tons per Year																																													

Table 5.1A.73 Offsite Construction Exhaust and F

Construction Step		125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																
Total (lbs/month)																
Total (lbs/day)																
New & Upgrade Sewer Construction																
Total (lbs/month)																
Total (lbs/day)																
Blocks 1 & 2 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 5 & 6 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 3 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 3 & 4 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 4 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 1 & 2 Demolition																
Total (lbs/month)		77.37	81.43	81.43	82.79	84.14	84.14	84.14	84.14	84.14	79.21	75.19	73.89	45.33	40.28	25.28
Total (lbs/day)		3.36	3.54	3.54	3.60	3.66	3.66	3.66	3.66	3.66	3.44	3.27	3.21	1.97	1.75	1.10
Total Offsite CO Emissions (Construction Vehicles)																
Pounds per Month		77.37	81.43	81.43	82.79	84.14	84.14	84.14	84.14	84.14	79.21	75.19	73.89	45.33	40.28	25.28
Pounds per Day		3.36	3.54	3.54	3.60	3.66	3.66	3.66	3.66	3.66	3.44	3.27	3.21	1.97	1.75	1.10
Yearly Maximums		972.00	939.95	898.80	842.65											
Maximum Pounds per Day																
Maximum Pounds per Hour ^a																
Maximum Pounds per Month																
Month with Maximum																
Maximum Pounds per Year																
Maximum Average Pounds per Hour ^b																
Year with Maximum																
Tons per Year																

Construction Step		125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																
Total (lbs/month)																
Total (lbs/day)																
New & Upgrade Sewer Construction																
Total (lbs/month)																
Total (lbs/day)																
Blocks 1 & 2 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 5 & 6 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 3 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 3 & 4 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 4 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 1 & 2 Demolition																
Total (lbs/month)		3.73	4.64	4.64	4.94	5.24	5.24	5.24	5.24	5.24	5.17	4.78	4.74	3.73	3.37	2.07
Total (lbs/day)		0.16	0.20	0.20	0.21	0.23	0.23	0.23	0.23	0.23	0.22	0.21	0.21	0.16	0.15	0.09
Total Offsite VOC Emissions (Construction Vehicles)																
Pounds per Month		3.73	4.64	4.64	4.94	5.24	5.24	5.24	5.24	5.24	5.17	4.78	4.74	3.73	3.37	2.07
Pounds per Day		0.16	0.20	0.20	0.21	0.23	0.23	0.23	0.23	0.23	0.22	0.21	0.21	0.16	0.15	0.09
Yearly Maximums		58.96	58.96	57.60	55.93											
Maximum Pounds per Day																
Maximum Pounds per Hour ^a																
Maximum Pounds per Month																
Month with Maximum																
Maximum Pounds per Year																
Maximum Average Pounds per Hour ^b																
Year with Maximum																
Tons per Year																

Construction Step		125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																
Total (lbs/month)																
Total (lbs/day)																
New & Upgrade Sewer Construction																
Total (lbs/month)																
Total (lbs/day)																
Blocks 1 & 2 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 5 & 6 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 3 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 3 & 4 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 4 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 1 & 2 Demolition																
Total (lbs/month)		35.21	45.05	45.05	48.34	51.62	51.62	51.62	51.62	51.11	50.68	46.70	46.42	37.65	34.07	20.90
Total (lbs/day)		1.53	1.96	1.96	2.10	2.24	2.24	2.24	2.24	2.22	2.20	2.03	2.02	1.64	1.48	0.91
Total Offsite NOx Emissions (Construction Vehicles)																
Pounds per Month		35.21	45.05	45.05	48.34	51.62	51.62	51.62	51.62	51.11	50.68	46.70	46.42	37.65	34.07	20.90
Pounds per Day		1.53	1.96	1.96	2.10	2.24	2.24	2.24	2.24	2.22	2.20	2.03	2.02	1.64	1.48	0.91
Yearly Maximums		575.04	577.49	566.50	542.35											
Maximum Pounds per Day																
Maximum Pounds per Hour ^a																
Maximum Pounds per Month																
Month with Maximum																
Maximum Pounds per Year																
Maximum Average Pounds per Hour ^b																
Year with Maximum																
Tons per Year																

Table 5.1A.73 Offsite Construction Exhaust and F

Offsite SOx Emissions		Construction Step														
		125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																
Total (lbs/month)																
Total (lbs/day)																
New & Upgrade Sewer Construction																
Total (lbs/month)																
Total (lbs/day)																
Blocks 1 & 2 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 5 & 6 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 3 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 3 & 4 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 4 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 1 & 2 Demolition																
Total (lbs/month)		0.58	0.66	0.66	0.69	0.72	0.72	0.72	0.72	0.72	0.70	0.65	0.64	0.46	0.41	0.26
Total (lbs/day)		0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.01
Total Offsite SOx Emissions (Construction Vehicles)																
Pounds per Month		0.58	0.66	0.66	0.69	0.72	0.72	0.72	0.72	0.72	0.70	0.65	0.64	0.46	0.41	0.26
Pounds per Day		0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.01
Yearly Maximums		8.29	8.68	7.92	7.42											
Maximum Pounds per Day																
Maximum Pounds per Hour ^a																
Maximum Pounds per Month																
Month with Maximum																
Maximum Pounds per Year																
Maximum Average Pounds per Hour ^b																
Year with Maximum																
Tons per Year																

Offsite PM ₁₀ Emissions ^c		Construction Step														
		125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																
Total (lbs/month)																
Total (lbs/day)																
New & Upgrade Sewer Construction																
Total (lbs/month)																
Total (lbs/day)																
Blocks 1 & 2 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 5 & 6 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 3 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 3 & 4 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 4 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 1 & 2 Demolition																
Total (lbs/month)		36.18	39.18	39.18	40.17	41.17	41.17	41.17	41.17	41.17	39.11	36.92	36.35	23.49	20.94	13.18
Total (lbs/day)		1.57	1.70	1.70	1.75	1.79	1.79	1.79	1.79	1.79	1.70	1.61	1.58	1.02	0.91	0.57
Total Offsite PM ₁₀ Emissions (Construction Vehicles and New & Upgr																
Pounds per Month		36.18	39.18	39.18	40.17	41.17	41.17	41.17	41.17	41.17	39.11	36.92	36.35	23.49	20.94	13.18
Pounds per Day		1.57	1.70	1.70	1.75	1.79	1.79	1.79	1.79	1.79	1.70	1.61	1.58	1.02	0.91	0.57
Yearly Maximums		472.95	460.26	442.02	416.02											
Maximum Pounds per Day																
Maximum Pounds per Hour ^a																
Maximum Pounds per Month																
Month with Maximum																
Maximum Pounds per Year																
Maximum Average Pounds per Hour ^b																
Year with Maximum																
Tons per Year																

Offsite PM _{2.5} Emissions ^c		Construction Step														
		125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																
Total (lbs/month)																
Total (lbs/day)																
New & Upgrade Sewer Construction																
Total (lbs/month)																
Total (lbs/day)																
Blocks 1 & 2 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 5 & 6 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 3 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 3 & 4 Demolition																
Total (lbs/month)																
Total (lbs/day)																
Block 4 Construction																
Total (lbs/month)																
Total (lbs/day)																
Units 1 & 2 Demolition																
Total (lbs/month)		10.57	11.62	11.62	11.98	12.33	12.33	12.33	12.33	12.33	11.77	11.08	10.92	7.26	6.48	4.07
Total (lbs/day)		0.46	0.51	0.51	0.52	0.54	0.54	0.54	0.54	0.54	0.51	0.48	0.47	0.32	0.28	0.18
Total Offsite PM _{2.5} Emissions (Construction Vehicles and New & Upgr																
Pounds per Month		10.57	11.62	11.62	11.98	12.33	12.33	12.33	12.33	12.33	11.77	11.08	10.92	7.26	6.48	4.07
Pounds per Day		0.46	0.51	0.51	0.52	0.54	0.54	0.54	0.54	0.54	0.51	0.48	0.47	0.32	0.28	0.18
Yearly Maximums		141.22	137.91	132.77	125.21											
Maximum Pounds per Day																
Maximum Pounds per Hour ^a																
Maximum Pounds per Month																
Month with Maximum																
Maximum Pounds per Year																
Maximum Average Pounds per Hour ^b																
Year with Maximum																
Tons per Year																

Table 5.1A.73 Offsite Construction Exhaust and F

Construction Step	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite CO₂ Emissions															
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse															
Total (metric tons/month)															
Total (metric tons/day)															
New & Upgrade Sewer Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Blocks 1 & 2 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 5 & 6 Demolition															
Total (metric tons/month)															
Total (metric tons/day)															
Block 3 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 3 & 4 Demolition															
Total (metric tons/month)															
Total (metric tons/day)															
Block 4 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 1 & 2 Demolition															
Total (metric tons/month)	27.53	31.61	31.61	32.96	34.32	34.32	34.32	34.32	34.32	33.16	31.00	30.64	21.80	19.57	12.16
Total (metric tons/day)	1.20	1.37	1.37	1.43	1.49	1.49	1.49	1.49	1.49	1.44	1.35	1.33	0.95	0.85	0.53
Total Offsite CO₂ Emissions (Construction Vehicles)															
Metric Tons per Month	27.53	31.61	31.61	32.96	34.32	34.32	34.32	34.32	34.32	33.16	31.00	30.64	21.80	19.57	12.16
Metric Tons per Day	1.20	1.37	1.37	1.43	1.49	1.49	1.49	1.49	1.49	1.44	1.35	1.33	0.95	0.85	0.53
Yearly Maximums	390.11	384.38	372.34	352.90											
Maximum Metric Tons per Day ^a															
Maximum Metric Tons per Hour															
Maximum Metric Tons per Month															
Month with Maximum															
Maximum Metric Tons per Year															
Maximum Average Metric Tons per Hour ^b															
Year with Maximum															

Construction Step	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite N₂O Emissions															
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse															
Total (metric tons/month)															
Total (metric tons/day)															
New & Upgrade Sewer Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Blocks 1 & 2 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 5 & 6 Demolition															
Total (metric tons/month)															
Total (metric tons/day)															
Block 3 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 3 & 4 Demolition															
Total (metric tons/month)															
Total (metric tons/day)															
Block 4 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 1 & 2 Demolition															
Total (metric tons/month)	0.000170	0.000184	0.000184	0.000189	0.000193	0.000193	0.000193	0.000193	0.000193	0.000184	0.000173	0.000171	0.000110	0.000098	0.000062
Total (metric tons/day)	0.000007	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000007	0.000007	0.000005	0.000004	0.000003
Total Offsite N₂O Emissions (Construction Vehicles)															
Metric Tons per Month	0.000170	0.000184	0.000184	0.000189	0.000193	0.000193	0.000193	0.000193	0.000193	0.000184	0.000173	0.000171	0.000110	0.000098	0.000062
Metric Tons per Day	0.000007	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000008	0.000007	0.000007	0.000005	0.000004	0.000003
Yearly Maximums	0.002221	0.002161	0.002075	0.001953											
Maximum Metric Tons per Day ^a															
Maximum Metric Tons per Hour															
Maximum Metric Tons per Month															
Month with Maximum															
Maximum Metric Tons per Year															
Maximum Average Metric Tons per Hour ^b															
Year with Maximum															

Construction Step	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
Offsite CH₄ Emissions															
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse															
Total (metric tons/month)															
Total (metric tons/day)															
New & Upgrade Sewer Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Blocks 1 & 2 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 5 & 6 Demolition															
Total (metric tons/month)															
Total (metric tons/day)															
Block 3 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 3 & 4 Demolition															
Total (metric tons/month)															
Total (metric tons/day)															
Block 4 Construction															
Total (metric tons/month)															
Total (metric tons/day)															
Units 1 & 2 Demolition															
Total (metric tons/month)	0.000664	0.000678	0.000678	0.000683	0.000688	0.000688	0.000688	0.000688	0.000688	0.000642	0.000612	0.000600	0.000345	0.000305	0.000193
Total (metric tons/day)	0.000029	0.000029	0.000029	0.000030	0.000030	0.000030	0.000030	0.000030	0.000030	0.000028	0.000027	0.000026	0.000015	0.000013	0.000008
Total Offsite CH₄ Emissions (Construction Vehicles)															
Metric Tons per Month	0.000664	0.000678	0.000678	0.000683	0.000688	0.000688	0.000688	0.000688	0.000688	0.000642	0.000612	0.000600	0.000345	0.000305	0.000193
Metric Tons per Day	0.000029	0.000029	0.000029	0.000030	0.000030	0.000030	0.000030	0.000030	0.000030	0.000028	0.000027	0.000026	0.000015	0.000013	0.000008
Yearly Maximums	0.008000	0.007681	0.007308	0.006822											
Maximum Metric Tons per Day ^a															
Maximum Metric Tons per Hour															
Maximum Metric Tons per Month															
Month with Maximum															
Maximum Metric Tons per Year															
Maximum Average Metric Tons per Hour ^b															
Year with Maximum															

Notes:
^a The hours per day are per MANPOWER SCHEDULE ALAMITOS 02 01
^b The hours per year are assumed to allow operation 24 hours per day, 7 d
^c Emissions include emissions from exhaust and fugitive paved road dust, t

Table 5.1A.74 Onsite and Offsite Construction Exhaust and Fugitive Emissions Summary

Onsite and Offsite CO Emissions		Construction Step																																						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35				
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																								
Total (lbs/month)		1,522.24	1,576.70	1,590.24	1,600.70	1,596.19	949.83	946.13	934.85																															
Total (lbs/day)		66.18	68.55	69.14	69.60	69.40	41.30	41.14	40.65																															
New & Upgrade Sewer Construction *																																								
Total (lbs/month)										305.27	305.27	305.27	293.99																											
Total (lbs/day)										13.27	13.27	13.27	12.78																											
Blocks 1 & 2 Construction																																								
Total (lbs/month)										974.44	963.43	1,002.35	1,804.12	1,909.12	1,894.27	2,105.75	2,194.04	2,231.52	2,138.91	2,141.95	2,094.40	2,140.42	2,095.29	2,093.71	2,324.79	2,138.77	2,082.08	1,970.21	1,923.88	1,940.36	1,765.83	1,843.61	1,722.18	1,579.58	1,257.86	1,132.86				
Total (lbs/day)										42.37	41.89	43.58	78.44	83.01	82.36	91.55	95.39	97.02	93.00	93.13	91.06	93.06	91.10	91.03	101.08	92.99	90.53	85.68	83.65	84.36	76.78	80.16	74.88	68.68	54.69	49.25				
Units 5 & 6 Demolition																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Block 3 Construction																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Units 3 & 4 Demolition																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Block 4 Construction																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Units 1 & 2 Demolition																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Total Onsite and Offsite CO Emissions (Construction Equipment and Vehicles)																																								
Pounds per Month		1,522.24	1,576.70	1,590.24	1,600.70	1,596.19	949.83	946.13	934.85	1,279.71	1,288.70	1,307.62	2,098.11	1,909.12	1,894.27	2,105.75	2,194.04	2,231.52	2,138.91	2,141.95	2,094.40	2,140.42	2,095.29	2,093.71	2,324.79	2,138.77	2,082.08	1,970.21	1,923.88	1,940.36	1,765.83	1,843.61	1,722.18	1,579.58	1,257.86	1,132.86				
Pounds per Day		66.18	68.55	69.14	69.60	69.40	41.30	41.14	40.65	55.64	55.16	56.85	91.22	83.01	82.36	91.55	95.39	97.02	93.00	93.13	91.06	93.06	91.10	91.03	101.08	92.99	90.53	85.68	83.65	84.36	76.78	80.16	74.88	68.68	54.69	49.25				
Yearly Maximums		16,671.01	17,057.90	17,375.47	17,890.98	18,484.33	19,119.65	20,308.74	21,504.56	22,664.11	23,524.81	24,351.40	25,137.49	25,364.17	25,993.82	25,781.63	25,646.09	25,375.93	25,084.77	24,711.69	24,413.35	24,041.14	23,480.30	23,319.69	23,037.29	22,669.66	22,285.92	21,862.37	21,451.01	21,070.34	20,475.45	19,795.11	19,036.98	18,405.16	17,915.93	17,073.23				
Maximum Pounds per Day		161.08																																						
Maximum Pounds per Hour *		10.11																																						
Maximum Pounds per Month		2,324.79																																						
Month with Maximum		24																																						
Maximum Pounds per Year		25,781.63																																						
Maximum Average Pounds per Hour *		2.94																																						
Year with Maximum		Months 15 - 26																																						
Tons per Year		12.89																																						

Onsite and Offsite VOC Emissions		Construction Step																																						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35				
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																								
Total (lbs/month)		257.65	267.43	267.73	267.80	267.70	145.73	145.81	145.56																															
Total (lbs/day)		11.20	11.63	11.64	11.64	11.64	6.34	6.34	6.33																															
New & Upgrade Sewer Construction *																																								
Total (lbs/month)										43.92	43.92	43.92	43.67																											
Total (lbs/day)										1.91	1.91	1.91	1.90																											
Blocks 1 & 2 Construction																																								
Total (lbs/month)										168.84	162.91	163.89	302.40	311.74	304.53	352.73	355.07	357.06	339.64	327.52	299.71	286.71	273.81	261.12	290.22	266.17	251.98	224.90	218.04	218.89	179.45	187.56	185.84	171.05	137.06	155.22				
Total (lbs/day)										7.34	7.08	7.13	13.15	13.55	13.24	15.34	15.44	15.52	14.77	14.24	13.03	12.47	11.90	11.35	12.62	12.62	11.57	10.96	9.78	9.48	9.52	7.80	8.15	8.08	7.44	5.96	6.75			
Units 5 & 6 Demolition																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Block 3 Construction																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Units 3 & 4 Demolition																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Block 4 Construction																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Units 1 & 2 Demolition																																								
Total (lbs/month)																																								
Total (lbs/day)																																								
Total Onsite and Offsite VOC Emissions (Construction Equipment and Vehicles)																																								
Pounds per Month		257.65	267.43	267.73	267.80	267.70	145.73	145.81	145.56	212.75	206.83	207.80	346.16	311.74	304.53	352.73	355.07	357.06	339.64	327.52	299.71	286.71	273.81	261.12	290.22	266.17	251.98	224.90	218.04	218.89	179.45	187.56	185.84	171.05	137.06	155.22				
Pounds per Day		11.20	11.63	11.64	11.64	11.64	6.34	6.34	6.33	9.25	8.99	9.03	15.05	13.55	13.24	15.34	15.44	15.52	14.77	14.24	13.03	12.47	11.90	11.35	12.62	12.62	11.57	10.96	9.78	9.48	9.52	7.80	8.15	8.08	7.44	5.96	6.75			
Yearly Maximums		2,738.97	2,793.06	2,830.16	2,915.16	3,002.43	3,091.79	3,285.70	3,467.40	3,621.55	3,695.50	3,762.48	3,815.79	3,759.86	3,714.29	3,661.74	3,533.91	3,396.88	3,258.71	3,098.51	2,958.55	2,844.68	2,729.03	2,700.38	2,702.94	2,670.11	2,620.48	2,571.71	2,545.99	2,527.12	2,478.83	2,439.74	2,392.54	2,348.15	2,318.54	2,215.18				
Maximum Pounds per Day		11.52																																						
Maximum Pounds per Hour *		1.55																																						
Maximum Pounds per Month		357.06																																						

Table 5.1A.74 Onsite and Offsite Construction E

Onsite and Offsite CO Emissions		CO Emissions by Month																																				
Construction Step		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70		
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																						
Total (lb/month)																																						
Total (lbs/day)																																						
New & Upgrade Sewer Construction																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Blocks 1 & 2 Construction																																						
Total (lb/month)		918.30	668.52	605.35	474.51	460.97	283.23																															
Total (lbs/day)		39.93	29.07	26.32	20.63	20.04	11.44																															
Units 5 & 6 Demolition																																						
Total (lb/month)		1,038.95	1,066.51	1,073.18	1,084.34	1,082.24	1,082.24	1,085.49	1,085.49	1,090.36	1,090.36	1,091.98	1,093.60	1,093.60	1,093.60	1,139.71	1,139.71	1,132.27	1,126.67	1,124.73	1,082.42	1,075.22	1,054.20															
Total (lbs/day)		45.17	46.37	46.66	47.15	47.05	47.20	47.20	47.41	47.41	47.48	47.55	47.55	47.55	47.55	49.55	49.55	49.23	48.99	48.90	47.06	46.75	45.83															
Block 3 Construction																																						
Total (lb/month)																			827.84	844.47	834.05	897.03	937.30	884.26	990.65	834.76	838.16	859.19	817.58	865.01	851.71	1,037.36	876.17	873.54	872.09	890.90	800.84	750.71
Total (lbs/day)																			40.34	41.06	36.28	39.00	40.75	38.45	43.07	36.29	36.44	37.36	35.55	37.61	41.38	45.10	38.09	37.98	37.92	38.73	34.82	32.64
Units 3 & 4 Demolition																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Block 4 Construction																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Units 1 & 2 Demolition																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Total Onsite and Offsite CO Emissions (Construction Equipment)																																						
Pounds per Month		1,957.15	1,735.03	1,678.53	1,558.85	1,543.22	1,345.47	1,085.49	1,085.49	1,090.36	1,090.36	1,091.98	1,093.60	1,093.60	1,093.60	1,139.71	1,207.55	2,076.74	1,960.72	2,021.76	2,019.72	1,959.48	2,044.85	834.76	838.16	859.19	817.58	865.01	851.71	1,037.36	876.17	873.54	872.09	890.90	800.84	750.71		
Pounds per Day		85.09	75.44	72.98	67.78	67.10	58.50	47.20	47.20	47.41	47.41	47.48	47.55	47.55	47.55	49.55	89.89	90.29	85.25	87.90	87.81	85.19	36.29	36.44	37.36	35.55	37.61	41.38	45.10	38.09	37.98	37.92	38.73	34.82	32.64			
Yearly Maximums		16,355.52	15,491.97	14,850.54	14,311.71	14,820.42	15,353.94	15,969.19	16,905.46	17,839.69	18,708.81	19,663.30	19,406.08	19,150.64	18,916.23	18,640.18	18,365.49	17,249.65	16,210.27	15,125.71	13,977.50	12,629.87	11,761.29	10,517.28	10,433.23	10,331.93	10,103.91	10,370.01	10,671.13	10,936.43	10,917.98	11,279.95	11,654.58	11,762.82	11,785.20	11,705.65		
Maximum Pounds per Day																																						
Maximum Pounds per Hour																																						
Month with Maximum																																						
Maximum Pounds per Year																																						
Maximum Average Pounds per Hour																																						
Year with Maximum																																						
Tons per Year																																						

Onsite and Offsite VOC Emissions		VOC Emissions by Month																																				
Construction Step		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70		
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																						
Total (lb/month)																																						
Total (lbs/day)																																						
New & Upgrade Sewer Construction																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Blocks 1 & 2 Construction																																						
Total (lb/month)		119.06	77.36	64.07	59.83	59.53	30.96																															
Total (lbs/day)		5.18	3.36	2.79	2.60	2.59	1.35																															
Units 5 & 6 Demolition																																						
Total (lb/month)		138.33	139.18	139.14	139.35	139.64	139.64	140.36	140.36	141.44	141.44	141.80	142.16	142.16	142.16	152.60	152.60	152.46	151.97	151.92	150.47	150.01	148.38															
Total (lbs/day)		6.01	6.05	6.05	6.06	6.07	6.07	6.10	6.10	6.15	6.15	6.17	6.18	6.18	6.18	6.63	6.63	6.63	6.61	6.61	6.54	6.52	6.45															
Block 3 Construction																																						
Total (lb/month)																			122.52	122.91	103.41	112.49	117.39	112.46	137.16	105.39	105.48	105.87	96.75	97.74	114.74	115.98	92.90	92.31	91.99	92.45	74.61	66.10
Total (lbs/day)																			5.33	5.34	4.50	4.89	5.10	4.89	5.96	4.58	4.59	4.60	4.21	4.25	4.99	5.04	4.04	4.01	4.00	4.02	3.24	2.87
Units 3 & 4 Demolition																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Block 4 Construction																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Units 1 & 2 Demolition																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Total Onsite and Offsite VOC Emissions (Construction Equipment)																																						
Pounds per Month		257.39	216.54	203.21	199.18	199.17	170.60	140.36	140.36	141.44	141.44	141.80	142.16	142.16	142.16	152.60	275.11	275.37	255.38	264.41	267.86	262.47	285.54	105.39	105.48	105.87	96.75	97.74	114.74	115.98	92.90	92.31	91.99	92.45	74.61	66.10		
Pounds per Day		11.19	9.41	8.84	8.66	8.66	7.42	6.10	6.10	6.15	6.15	6.17	6.18	6.18	6.18	6.63	11.96	11.97	11.10	11.50	11.65	11.41	12.41	4.58	4.59	4.60	4.21	4.25	4.99	5.04	4.04	4.01	4.00	4.02	3.24	2.87		
Yearly Maximums		2,093.67	1,978.44	1,904.06	1,853.45	1,829.38	2,005.57	2,090.36	2,214.41	2,341.91	2,462.93	2,607.03	2,570.61	2,533.93	2,497.64	2,452.22	2,397.36	2,236.99	2,077.39	1,915.11	1,743.01	1,567.13	1,397.12	1,186.19	1,146.91	1,106.09	1,063.94	1,090.16	1,121.59	1,127.34	1,114.56	1,149.61	1,185.72	1,188.84	1,184.45	1,178.29		
Maximum Pounds per Day																																						
Maximum Pounds per Hour																																						
Month with Maximum																																						
Maximum Pounds per Year																																						
Maximum Average Pounds per Hour																																						
Year with Maximum																																						
Tons per Year																																						

Onsite and Offsite NOx Emissions		NOx Emissions by Month																																				
Construction Step		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70		
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																																						
Total (lb/month)																																						
Total (lbs/day)																																						
New & Upgrade Sewer Construction																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Blocks 1 & 2 Construction																																						
Total (lb/month)		881.13	602.18	498.85	459.81	458.80	250.85																															
Total (lbs/day)		42.66	26.18	21.69	19.99	19.95	10.91																															
Units 5 & 6 Demolition																																						
Total (lb/month)		1,433.45	1,277.85	1,274.94	1,275.94	1,283.17	1,283.17	1,298.29	1,298.29	1,320.98	1,320.98	1,328.54	1,336.11	1,336.11	1,336.11	1,199.90	1,298.47	1,298.47	1,297.85	1,290.11	1,289.62	1,273.53	1,266.64	1,241.15														
Total (lbs/day)		62.32	55.56	55.43	55.48	55.79	55.79	56.45	56.45	57.43	57.43	57.76	58.09	58.09	58.09	52.17	56.46	56.46	56.43	56.09	56.07	55.37	55.07	53.96														
Block 3 Construction																																						
Total (lb/month)																			1,199.44	1,203.20	1,011.57	1,119.93	1,192.00	1,148.87	1,443.65	1,096.91	1,097.96	1,100.58	874.10	881.32	1,063.88	1,067.97	831.35	822.33	817.32	823.30	629.60	569.35
Total (lbs/day)																			52.15	52.31	43.98	48.69	51.83	49.95	62.77	47.69	47.74	47.85	38.00	38.32	46.26	46.43	36.15	35.75	35.54	35.60	27.37	24.75
Units 3 & 4 Demolition																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Block 4 Construction																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Units 1 & 2 Demolition																																						
Total (lb/month)																																						
Total (lbs/day)																																						
Total Onsite and Offsite NOx Emissions (Construction Equipment)																																						
Pounds per Month		2,414.59	1,880.03	1,773.79	1,735.75	1,741.97	1,534.02	1,298.29	1,298.29	1,320.98	1,320.98	1,328.54	1,336.11	1,336.11	1,199.90	1,298.47	2,497.91	2,501.05	2,301.69	2,409.55	2,465.52	2,415.51	2,684.81	1,096.91	1,097.96	1,100.58	874.10	881.32	1,063.88	1,067.97	831.35	822.33	817.32	823.30	629.60	569.35		
Pounds per Day		104.98	81.74	77.12	75.47	75.74	66.70	56.45	56.45	57.43	57.43	57.76	58.09	58.09	52.17	56.46	108.60	108.74	100.07	104.76	107.29	105.02	116.73	47.89	47.74	47.85	38.00	38.32	46.26	46.43	36.15	35.75	35.54	35.60	27.37	24.75		
Yearly Maximums		18,983.34	17,904.86	17,224.73	16,749.41	17,511.57	18,270.65	19,038.32	20,149.58	21,316.81	22,411.34	23,775.17	23,543.53	23,305.38	23,069.86	22,744.06	22,326.91	20,892.88	19,459.79	17,989.45	16,402.23	14,754.03	13,161.82	11,106.61	10,579.05	10,029.67	9,506.64	9,679.44	9,890.07	9,834.74	9,663.69	9,917.66	10,185.96	10,186.93	10,144.73	10,135.22		
Maximum Pounds per Day																																						
Maximum Pounds per Hour																																						
Month with Maximum																																						
Maximum Pounds per Year																																						
Maximum Average Pounds per Hour																																						
Year with Maximum																																						
Tons per Year																																						

Table 5.1A.74 Onsite and Offsite Construction E

Onsite and Offsite SOx Emissions

Construction Step	SOx Emissions by Month																																					
	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70			
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse	Total (lbs/month)																																					
	Total (lbs/day)																																					
New & Upgrade Sewer Construction *	Total (lbs/month)																																					
	Total (lbs/day)																																					
Blocks 1 & 2 Construction	Total (lbs/month)																																					
	Total (lbs/day)																																					
Units 5 & 6 Demolition	Total (lbs/month)																																					
	Total (lbs/day)																																					
Block 3 Construction	Total (lbs/month)																																					
	Total (lbs/day)																																					
Units 3 & 4 Demolition	Total (lbs/month)																																					
	Total (lbs/day)																																					
Block 4 Construction	Total (lbs/month)																																					
	Total (lbs/day)																																					
Units 1 & 2 Demolition	Total (lbs/month)																																					
	Total (lbs/day)																																					
Total Onsite and Offsite SOx Emissions (Construction Equipment)																																						
Pounds per Month	4.24	3.96	3.87	3.46	3.44	3.06	2.41	2.41	2.49	2.49	2.52	2.55	2.55	2.55	2.66	4.58	4.62	4.50	4.72	4.79	4.78	4.91	2.55	2.57	2.65	2.50	2.69	2.95	3.26	2.89	2.84	2.81	2.91	2.58	2.48			
Pounds per Day	0.18	0.17	0.17	0.15	0.15	0.13	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.20	0.20	0.20	0.21	0.21	0.21	0.21	0.11	0.11	0.12	0.11	0.12	0.13	0.14	0.13	0.12	0.13	0.13	0.11	0.11			
Yearly Maximums	36.89	35.20	33.80	32.59	33.71	34.89	36.33	36.65	41.04	43.32	45.74	45.76	45.78	45.87	45.82	45.85	44.23	42.86	41.25	39.37	37.39	35.52	33.19	33.12	32.89	32.24	32.84	33.38	33.70	33.20	33.36	33.63	33.46	33.04	32.31			
Maximum Pounds per Day																																						
Maximum Pounds per Hour *																																						
Maximum Pounds per Month																																						
Month with Maximum																																						
Maximum Pounds per Year																																						
Maximum Average Pounds per Hour *																																						
Year with Maximum																																						
Tons per Year																																						

Onsite and Offsite PM₁₀ Emissions ^c

Construction Step	PM ₁₀ Emissions by Month																																						
	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70				
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse	Total (lbs/month)																																						
	Total (lbs/day)																																						
New & Upgrade Sewer Construction *	Total (lbs/month)																																						
	Total (lbs/day)																																						
Blocks 1 & 2 Construction	Total (lbs/month)																																						
	Total (lbs/day)																																						
Units 5 & 6 Demolition	Total (lbs/month)																																						
	Total (lbs/day)																																						
Block 3 Construction	Total (lbs/month)																																						
	Total (lbs/day)																																						
Units 3 & 4 Demolition	Total (lbs/month)																																						
	Total (lbs/day)																																						
Block 4 Construction	Total (lbs/month)																																						
	Total (lbs/day)																																						
Units 1 & 2 Demolition	Total (lbs/month)																																						
	Total (lbs/day)																																						
Total Onsite and Offsite PM₁₀ Emissions (Disassembly, Debris)																																							
Pounds per Month	460.49	427.08	423.91	393.64	390.53	380.53	220.29	220.29	223.36	223.36	224.39	225.42	225.42	218.44	222.51	563.45	566.80	562.56	574.50	576.88	582.15	583.41	317.43	318.54	325.35	275.29	290.86	301.50	328.71	317.93	316.22	315.27	302.46	270.37	270.46				
Pounds per Day	20.02	18.57	18.39	17.11	16.98	16.54	9.58	9.58	9.71	9.71	9.76	9.80	9.80	9.50	9.67	24.50	24.64	24.46	24.98	25.09	25.31	25.37	13.80	13.85	14.15	11.97	12.65	13.11	14.29	13.82	13.75	13.71	13.15	11.76	11.76				
Yearly Maximums	3.812	3.577	3.369	3.168	3.338	3.514	3.696	4.050	4.407	4.766	5.126	5.219	5.312	5.412	5.469	5.537	5.275	5.037	4.793	4.534	4.273	3.993	3.680	3.633	3.578	3.489	3.570	3.638	3.701	3.703	3.726	3.755	3.766	3.788	3.686				
Maximum Pounds per Day																																							
Maximum Pounds per Hour *																																							
Maximum Pounds per Month																																							
Month with Maximum																																							
Maximum Pounds per Year																																							
Maximum Average Pounds per Hour *																																							
Year with Maximum																																							
Tons per Year																																							

Onsite and Offsite PM_{2.5} Emissions

Construction Step	PM _{2.5} Emissions by Month																																						
	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70				
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse	Total (lbs/month)																																						
	Total (lbs/day)																																						
New & Upgrade Sewer Construction *	Total (lbs/month)																																						
	Total (lbs/day)																																						
Blocks 1 & 2 Construction	Total (lbs/month)																																						
	Total (lbs/day)																																						
Units 5 & 6 Demolition	Total (lbs/month)																																						
	Total (lbs/day)																																						
Block 3 Construction	Total (lbs/month)																																						
	Total (lbs/day)																																						
Units 3 & 4 Demolition	Total (lbs/month)																																						
	Total (lbs/day)																																						
Block 4 Construction	Total (lbs/month)																																						
	Total (lbs/day)																																						
Units 1 & 2 Demolition	Total (lbs/month)																																						
	Total (lbs/day)																																						
Total Onsite and Offsite PM_{2.5} Emissions (Disassembly, Debris)																																							
Pounds per Month	160.62	130.81	126.71	118.36	117.61	108.74	78.91	78.91	80.05	80.05	80.43	80.80	80.80	74.23	77.97	195.69	196.62	188.09	194.08	195.35	194.98	202.86	83.90	84.21	86.08	72.67	76.96	84.59	91.94	82.55	81.94	81.60	81.54	71.25	69.72				
Pounds per Day	6.98	5.49	5.51	5.15	5.11	4.73	3.43	3.43	3.48	3.48	3.50	3.51	3.51	3.23	3.39	8.51	8.55	8.18	8.44	8.49	8.48	8.92	3.65	3.66	3.74	3.16	3.35	3.68	4.00	3.59	3.56	3.55	3.55	3.10	3.03				
Yearly Maximums	1.242	1.162	1.106	1.057	1.134	1.213	1.293	1.408	1.524	1.639	1.762	1.765	1.769	1.774	1.773	1.771	1.660	1.556	1.450	1.338	1.224	1.111	979	965	948	923	939	953	960	946	951	958	951	943	918				
Maximum Pounds per Day																																							
Maximum Pounds per Hour *																																							
Maximum Pounds per Month																																							
Month with Maximum																																							
Maximum Pounds per Year																																							
Maximum Average Pounds per Hour *																																							
Year with Maximum																																							
Tons per Year																																							

Table 5.1A.74 Onsite and Offsite Construction E

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Onsite and Offsite CO Emissions																													
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																													
Total (lb/month)																													
Total (lbs/day)																													
New & Upgrade Sewer Construction																													
Total (lb/month)																													
Total (lbs/day)																													
Blocks 1 & 2 Construction																													
Total (lb/month)																													
Total (lbs/day)																													
Units 5 & 6 Demolition																													
Total (lb/month)																													
Total (lbs/day)																													
Block 3 Construction																													
Total (lb/month)	736.85	631.17	578.16	659.09	590.13	360.45	492.63	494.09	262.15	195.11																			
Total (lbs/day)	32.04	27.44	25.14	28.66	25.22	15.67	21.42	21.48	11.40	8.49																			
Units 3 & 4 Demolition																													
Total (lb/month)			505.50	507.05	636.88	658.45	745.50	754.09	718.18	718.18	721.28	721.28	725.93	725.93	727.48	729.03	729.03	729.03	787.48	787.48	781.76	777.11	775.60	742.46	736.62	719.25			
Total (lbs/day)			21.98	22.05	27.69	28.63	32.41	32.79	31.23	31.23	31.36	31.36	31.56	31.56	31.63	31.70	31.70	31.70	34.24	34.24	33.99	33.79	33.72	32.28	32.03	31.27			
Block 4 Construction																													
Total (lb/month)																				832.82	849.56	745.86	797.23	827.22	763.25	856.74	704.67	709.45	721.04
Total (lbs/day)																				36.21	36.94	32.43	34.66	35.97	33.18	37.21	30.64	30.85	31.35
Units 1 & 2 Demolition																													
Total (lb/month)																													
Total (lbs/day)																													
Total Onsite and Offsite CO Emissions (Construction Equipment)																													
Pounds per Month	736.85	631.17	1,083.66	1,166.14	1,217.01	1,018.90	1,238.13	1,248.17	980.33	913.29	721.28	721.28	725.93	725.93	727.48	729.03	729.03	729.03	787.48	1,620.30	1,631.32	1,522.97	1,672.83	1,569.68	1,499.86	1,574.99	704.67	709.45	721.04
Pounds per Day	32.04	27.44	47.12	50.70	52.91	44.30	53.83	54.27	42.62	39.71	31.36	31.36	31.56	31.56	31.63	31.70	31.70	31.70	34.24	70.45	70.93	66.22	68.38	68.25	65.21	68.48	30.64	30.85	31.35
Yearly Maximums	11,676.21	11,665.29	11,760.05	11,403.87	10,966.77	10,478.79	10,188.92	9,738.27	10,110.40	10,761.38	11,371.08	12,222.61	13,071.01	13,844.94	14,694.00	14,671.19	14,651.61	14,643.62	14,572.02	14,475.95	13,614.64	12,814.48	12,005.72	11,144.82	10,285.79	9,505.71	8,579.34	8,527.09	8,465.00
Maximum Pounds per Day																													
Maximum Pounds per Hour																													
Maximum Pounds per Month																													
Month with Maximum																													
Maximum Pounds per Year																													
Maximum Average Pounds per Hour																													
Year with Maximum																													
Tons per Year																													

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Onsite and Offsite VOC Emissions																													
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																													
Total (lb/month)																													
Total (lbs/day)																													
New & Upgrade Sewer Construction																													
Total (lb/month)																													
Total (lbs/day)																													
Blocks 1 & 2 Construction																													
Total (lb/month)																													
Total (lbs/day)																													
Units 5 & 6 Demolition																													
Total (lb/month)																													
Total (lbs/day)																													
Block 3 Construction																													
Total (lb/month)	64.66	63.72	62.82	68.67	62.07	34.09	63.81	64.14	27.34	20.31																			
Total (lbs/day)	2.81	2.77	2.73	2.99	2.66	1.48	2.34	2.35	1.19	0.89																			
Units 3 & 4 Demolition																													
Total (lb/month)			60.15	60.49	68.43	69.10	74.14	74.28	67.76	67.76	68.45	68.45	69.49	69.49	69.84	70.18	70.18	70.18	81.54	81.54	81.45	81.00	80.96	79.77	79.35	77.85			
Total (lbs/day)			2.62	2.63	2.98	3.00	3.22	3.23	2.95	2.95	2.98	2.98	3.02	3.02	3.04	3.05	3.05	3.05	3.55	3.55	3.54	3.52	3.52	3.47	3.45	3.38			
Block 4 Construction																													
Total (lb/month)																				83.35	83.72	70.30	77.34	81.63	77.56	96.70	73.70	74.20	74.55
Total (lbs/day)																				3.62	3.64	3.06	3.38	3.55	3.37	4.20	3.20	3.23	3.24
Units 1 & 2 Demolition																													
Total (lb/month)																													
Total (lbs/day)																													
Total Onsite and Offsite VOC Emissions (Construction Equipment)																													
Pounds per Month	64.66	63.72	122.97	129.17	120.49	103.19	127.95	128.42	95.10	88.07	68.45	68.45	69.49	69.49	69.84	70.18	70.18	70.18	81.54	164.89	165.17	151.29	158.30	161.39	156.91	174.55	73.70	74.20	74.55
Pounds per Day	2.81	2.77	5.35	5.62	5.24	4.49	5.56	5.58	4.13	3.83	2.98	2.98	3.02	3.02	3.04	3.05	3.05	3.05	3.55	7.17	7.18	6.58	6.88	7.02	6.82	7.59	3.20	3.23	3.24
Yearly Maximums	1,180.64	1,185.47	1,191.24	1,138.11	1,079.12	1,028.81	995.80	949.39	985.87	1,055.93	1,119.16	1,209.00	1,301.94	1,389.36	1,494.42	1,498.28	1,502.30	1,506.67	1,497.69	1,477.93	1,387.79	1,298.34	1,211.30	1,116.75	1,018.81	925.64	801.00	778.05	753.47
Maximum Pounds per Day																													
Maximum Pounds per Hour																													
Maximum Pounds per Month																													
Month with Maximum																													
Maximum Pounds per Year																													
Maximum Average Pounds per Hour																													
Year with Maximum																													
Tons per Year																													

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Onsite and Offsite NOx Emissions																													
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																													
Total (lb/month)																													
Total (lbs/day)																													
New & Upgrade Sewer Construction																													
Total (lb/month)																													
Total (lbs/day)																													
Blocks 1 & 2 Construction																													
Total (lb/month)																													
Total (lbs/day)																													
Units 5 & 6 Demolition																													
Total (lb/month)																													
Total (lbs/day)																													
Block 3 Construction																													
Total (lb/month)	548.58	577.55	489.31	529.62	376.48	258.2																							

Table 5.1A.74 Onsite and Offsite Construction E

Onsite and Offsite SOx Emissions

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																														
Total (lbs/month)																														
Total (lbs/day)																														
New & Upgrade Sewer Construction																														
Total (lbs/month)																														
Total (lbs/day)																														
Blocks 1 & 2 Construction																														
Total (lbs/month)																														
Total (lbs/day)																														
Units 5 & 6 Demolition																														
Total (lbs/month)																														
Total (lbs/day)																														
Block 3 Construction																														
Total (lbs/month)	2.34	2.90	1.80	1.90	1.68	1.06	1.20	1.23	0.85	0.70																				
Total (lbs/day)	0.10	0.09	0.08	0.09	0.07	0.05	0.05	0.05	0.04	0.03																				
Units 3 & 4 Demolition																														
Total (lbs/month)			1.30	1.33	1.59	1.70	1.85	1.88	1.79	1.79	1.85	1.85	1.94	1.94	1.97	1.99	1.99	1.99	2.20	2.20	2.17	2.13	2.12	1.94	1.89	1.73				
Total (lbs/day)			0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.09	0.09	0.09	0.08	0.08	0.08				
Block 4 Construction																														
Total (lbs/month)																					1.73	1.81	1.77	1.98	2.24	2.22	2.50	2.32	2.38	2.44
Total (lbs/day)																					0.08	0.08	0.08	0.09	0.10	0.10	0.11	0.10	0.10	0.11
Units 1 & 2 Demolition																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite SOx Emissions (Construction Equipment)																														
Pounds per Month	2.34	2.90	3.10	3.23	3.27	2.76	3.05	3.11	2.64	2.49	1.85	1.85	1.94	1.94	1.97	1.99	1.99	1.99	2.20	3.93	3.99	3.90	4.10	4.17	4.11	4.23	2.32	2.38	2.44	
Pounds per Day	0.10	0.09	0.13	0.14	0.14	0.12	0.13	0.14	0.11	0.11	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.17	0.17	0.17	0.18	0.18	0.18	0.18	0.10	0.10	0.11	
Yearly Maximums	31.69	31.29	31.23	30.10	28.86	27.58	26.81	25.96	26.79	28.13	29.54	31.79	34.11	36.28	38.58	38.94	39.32	39.77	40.00	40.17	38.84	37.76	36.51	35.00	33.39	31.91	30.02	30.11	30.04	
Maximum Pounds per Day																														
Maximum Pounds per Hour																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour																														
Year with Maximum																														
Tons per Year																														

Onsite and Offsite PM₁₀ Emissions^c

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																														
Total (lbs/month)																														
Total (lbs/day)																														
New & Upgrade Sewer Construction																														
Total (lbs/month)																														
Total (lbs/day)																														
Blocks 1 & 2 Construction																														
Total (lbs/month)																														
Total (lbs/day)																														
Units 5 & 6 Demolition																														
Total (lbs/month)																														
Total (lbs/day)																														
Block 3 Construction																														
Total (lbs/month)	264.07	235.91	215.14	216.35	209.49	168.12	174.28	175.23	160.36	157.89																				
Total (lbs/day)	11.48	10.26	9.35	9.41	9.11	7.31	7.58	7.62	6.97	6.86																				
Units 3 & 4 Demolition																														
Total (lbs/month)			141.56	142.56	154.51	162.75	166.51	169.61	166.40	166.40	168.41	168.41	171.41	171.41	169.30	170.30	170.30	170.30	174.60	174.60	172.53	170.34	169.77	156.91	154.36	146.58				
Total (lbs/day)			6.15	6.20	6.72	7.08	7.24	7.37	7.23	7.23	7.32	7.32	7.45	7.45	7.36	7.40	7.40	7.40	7.59	7.59	7.50	7.41	7.38	6.82	6.71	6.37				
Block 4 Construction																														
Total (lbs/month)																					310.89	323.34	327.44	337.75	353.29	359.01	364.65	295.59	298.13	302.84
Total (lbs/day)																					13.78	14.06	14.24	14.68	15.36	15.61	15.65	12.85	12.96	13.17
Units 1 & 2 Demolition																														
Total (lbs/month)																														
Total (lbs/day)																														
Total Onsite and Offsite PM ₁₀ Emissions (Disassembly, Debris)																														
Pounds per Month	264.07	235.91	356.70	358.92	364.00	330.88	340.79	344.84	326.76	324.29	168.41	168.41	171.41	171.41	169.30	170.30	170.30	170.30	174.60	491.49	496.87	497.78	507.52	510.20	513.37	511.23	295.59	298.13	302.84	
Pounds per Day	11.48	10.26	15.51	15.61	15.83	14.39	14.82	14.99	14.21	14.10	7.32	7.32	7.45	7.45	7.36	7.40	7.40	7.40	7.59	21.37	21.56	21.64	22.07	22.18	22.32	22.23	12.85	12.96	13.17	
Yearly Maximums	3.584	3.491	3.427	3.239	3.051	2.857	2.697	2.530	2.677	2.846	3.020	3.359	3.700	4.042	4.382	4.509	4.636	4.769	4.858	4.956	4.743	4.553	4.355	4.146	3.934	3.702	3.446	3.406	3.359	
Maximum Pounds per Day																														
Maximum Pounds per Hour																														
Maximum Pounds per Month																														
Month with Maximum																														
Maximum Pounds per Year																														
Maximum Average Pounds per Hour																														
Year with Maximum																														
Tons per Year																														

Onsite and Offsite PM_{2.5} Emissions

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																													
Total (lbs/month)																													
Total (lbs/day)																													
New & Upgrade Sewer Construction																													
Total (lbs/month)																													
Total (lbs/day)																													
Blocks 1 & 2 Construction																													
Total (lbs/month)																													
Total (lbs/day)																													
Units 5 & 6 Demolition																													
Total (lbs/month)																													
Total (lbs/day)																													
Block 3 Construction																													
Total (lbs/month)	87.66	60.15	52.07	53.72	47.74	32.73	30.74	40.07	29.14	27.21																			
Total (lbs/day)	2.94	2.62	2.26	2.34	2.08	1.42	1.74	1.74	1.27	1.18																			
Units 3 & 4 Demolition																													
Total (lbs/month																													

Table 5.1A.74 Onsite and Offsite Construction E

Onsite and Offsite CO₂ Emissions

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																														
Total (metric tons/month)																														
Total (metric tons/day)																														
New & Upgrade Sewer Construction *																														
Total (metric tons/month)																														
Total (metric tons/day)																														
Blocks 1 & 2 Construction																														
Total (metric tons/month)																														
Total (metric tons/day)																														
Units 5 & 6 Demolition																														
Total (metric tons/month)																														
Total (metric tons/day)																														
Block 3 Construction																														
Total (metric tons/month)	128.47	115.27	105.71	114.62	98.82	64.31	76.54	77.83	50.21	41.11																				
Total (metric tons/day)	5.59	5.01	4.60	4.88	4.30	2.80	3.33	3.38	2.18	1.79																				
Units 3 & 4 Demolition																														
Total (metric tons/month)			87.77	89.13	106.47	111.89	122.61	124.35	117.39	117.39	120.11	120.11	124.19	124.19	125.55	126.91	126.91	126.91	143.35	143.35	142.19	140.04	138.68	130.86	128.63	121.22				
Total (metric tons/day)			3.82	3.88	4.63	4.86	5.33	5.41	5.10	5.10	5.22	5.22	5.40	5.40	5.46	5.52	5.52	5.52	6.23	6.23	6.18	6.09	6.07	5.69	5.59	5.27				
Block 4 Construction																														
Total (metric tons/month)																					120.54	124.46	116.80	128.63	142.40	137.60	158.08	138.52	142.17	145.26
Total (metric tons/day)																					5.24	5.41	5.08	5.64	6.19	5.98	6.92	6.07	6.18	6.32
Units 1 & 2 Demolition																														
Total (metric tons/month)																														
Total (metric tons/day)																														
Total Onsite and Offsite CO ₂ Emissions (Construction Equipment)																														
Metric Tons per Month	128.47	115.27	193.47	203.74	205.29	176.20	199.15	202.18	167.60	158.51	120.11	120.11	124.19	124.19	125.55	126.91	126.91	126.91	143.35	263.89	266.64	256.84	269.30	273.26	286.24	280.30	138.52	142.17	145.26	
Metric Tons per Day	5.59	5.01	8.41	8.66	8.93	7.66	8.66	8.79	7.29	6.89	5.22	5.22	5.40	5.40	5.46	5.52	5.52	5.52	6.23	11.47	11.59	11.17	11.71	11.88	11.58	12.19	6.07	6.18	6.32	
Yearly Maximums	1,990.09	1,985.81	1,994.73	1,926.81	1,849.98	1,771.60	1,723.30	1,666.51	1,728.22	1,827.26	1,925.59	2,074.79	2,227.94	2,369.99	2,526.10	2,540.07	2,555.32	2,573.68	2,576.21	2,569.69	2,458.62	2,359.49	2,250.96	2,127.64	1,999.09	1,880.53	1,728.55	1,721.20	1,706.07	
Maximum Metric Tons per Day																														
Maximum Metric Tons per Hour *																														
Maximum Metric Tons per Month																														
Month with Maximum																														
Maximum Metric Tons per Year																														
Maximum Average Metric Tons per Hour †																														
Year with Maximum																														

Onsite and Offsite N₂O Emissions

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																														
Total (metric tons/month)																														
Total (metric tons/day)																														
New & Upgrade Sewer Construction *																														
Total (metric tons/month)																														
Total (metric tons/day)																														
Blocks 1 & 2 Construction																														
Total (metric tons/month)																														
Total (metric tons/day)																														
Units 5 & 6 Demolition																														
Total (metric tons/month)																														
Total (metric tons/day)																														
Block 3 Construction																														
Total (metric tons/month)	0.00198	0.00194	0.00186	0.00211	0.00172	0.00116	0.00152	0.00152	0.00087	0.00065																				
Total (metric tons/day)	0.00009	0.00008	0.00008	0.00009	0.00007	0.00005	0.00007	0.00007	0.00004	0.00003																				
Units 3 & 4 Demolition																														
Total (metric tons/month)			0.00203	0.00203	0.00239	0.00243	0.00270	0.00271	0.00252	0.00252	0.00253	0.00253	0.00254	0.00254	0.00254	0.00255	0.00255	0.00255	0.00256	0.00297	0.00297	0.00296	0.00295	0.00295	0.00288	0.00287	0.00284			
Total (metric tons/day)			0.00009	0.00009	0.00010	0.00011	0.00012	0.00012	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00013	0.00013	0.00013	0.00013	0.00013	0.00013	0.00012	0.00012			
Block 4 Construction																														
Total (metric tons/month)																					0.00282	0.00285	0.00254	0.00277	0.00291	0.00289	0.00327	0.00280	0.00282	0.00284
Total (metric tons/day)																					0.00012	0.00012	0.00011	0.00012	0.00012	0.00013	0.00014	0.00011	0.00011	0.00011
Units 1 & 2 Demolition																														
Total (metric tons/month)																														
Total (metric tons/day)																														
Total Onsite and Offsite N ₂ O Emissions (Construction Equipment)																														
Metric Tons per Month	0.00198	0.00194	0.00388	0.00414	0.00411	0.00359	0.00421	0.00423	0.00339	0.00316	0.00253	0.00253	0.00254	0.00254	0.00254	0.00255	0.00255	0.00255	0.00256	0.00297	0.00579	0.00581	0.00548	0.00571	0.00580	0.00556	0.00610	0.00266	0.00262	0.00264
Metric Tons per Day	0.00009	0.00008	0.00017	0.00018	0.00018	0.00016	0.00018	0.00018	0.00015	0.00014	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00013	0.00025	0.00025	0.00024	0.00025	0.00025	0.00024	0.00027	0.00011	0.00011	0.00011
Yearly Maximums	0.03971	0.04027	0.04087	0.03953	0.03793	0.03637	0.03532	0.03408	0.03563	0.03505	0.03037	0.03036	0.03036	0.03036	0.03036	0.03036	0.03036	0.03036	0.03036	0.03526	0.04959	0.04962	0.04350	0.04016	0.03672	0.03353	0.02940	0.02878	0.02813	
Maximum Metric Tons per Day																														
Maximum Metric Tons per Hour *																														
Maximum Metric Tons per Month																														
Month with Maximum																														
Maximum Metric Tons per Year																														
Maximum Average Metric Tons per Hour †																														
Year with Maximum																														

Onsite and Offsite CH₄ Emissions

Construction Step	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Demolition of Unit 7 Peaker, Fuel Tank, & Northeast Warehouse																													
Total (metric tons/month)																													
Total (metric tons/day)																													
New & Upgrade Sewer Construction *																													
Total (metric tons/month)																													
Total (metric tons/day)																													
Blocks 1 & 2 Construction																													
Total (metric tons/month)																													
Total (metric tons/day)																													
Units 5 & 6 Demolition																													
Total (metric tons/month)																													
Total (metric tons/day)																													
Block 3 Construction																													
Total (metric tons/month)	0.005839	0.0054																											

