

# Appendix A

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## Air Quality Modeling Outputs

**Road Construction Emissions Model, Version 9.0.0**

Daily Emission Estimates for -> Sky Canyon Sewer Main Extension														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	5.42	30.68	50.46	7.02	2.02	5.00	2.88	1.84	1.04	0.10	9,685.94	3.06	0.09	9,790.26
Grading/Excavation	6.13	38.09	64.71	7.79	2.79	5.00	3.56	2.52	1.04	0.10	9,693.53	2.67	0.29	9,847.14
Drainage/Utilities/Sub-Grade	3.84	29.18	35.57	6.54	1.54	5.00	2.40	1.36	1.04	0.09	8,748.93	2.30	0.31	8,898.96
Paving	3.59	26.86	32.60	1.29	1.29	0.00	1.12	1.12	0.00	0.10	9,730.62	2.49	0.38	9,905.45
Maximum (pounds/day)	6.13	38.09	64.71	7.79	2.79	5.00	3.56	2.52	1.04	0.10	9,730.62	3.06	0.38	9,905.45
Total (tons/construction project)	0.77	5.62	7.39	1.19	0.32	0.87	0.46	0.28	0.18	0.02	1,656.67	0.44	0.06	1,684.61
Notes: Project Start Year -> 2021														
Project Length (months) -> 17														
Total Project Area (acres) -> 8														
Maximum Area Disturbed/Day (acres) -> 1														
Water Truck Used? -> Yes														
		Total Material Imported/Exported Volume (yd <sup>3</sup> /day)			Daily VMT (miles/day)									
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck								
Grubbing/Land Clearing	0	0	0	0	320	0								
Grading/Excavation	91	5	300	30	180	0								
Drainage/Utilities/Sub-Grade	61	25	210	90	220	80								
Paving	0	150	0	450	180	40								
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
Total Emission Estimates by Phase for -> Sky Canyon Sewer Main Extension														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.02	0.10	0.17	0.02	0.01	0.02	0.01	0.01	0.00	0.00	31.96	0.01	0.00	29.31
Grading/Excavation	0.17	1.05	1.78	0.21	0.08	0.14	0.10	0.07	0.03	0.00	266.57	0.07	0.01	245.66
Drainage/Utilities/Sub-Grade	0.55	4.17	5.09	0.94	0.22	0.72	0.34	0.19	0.15	0.01	1,251.10	0.33	0.04	1,154.45
Paving	0.04	0.30	0.36	0.01	0.01	0.00	0.01	0.01	0.00	0.00	107.04	0.03	0.00	98.85
Maximum (tons/phase)	0.55	4.17	5.09	0.94	0.22	0.72	0.34	0.19	0.15	0.01	1251.10	0.33	0.04	1,154.45
Total (tons/construction project)	0.77	5.62	7.39	1.19	0.32	0.87	0.46	0.28	0.18	0.02	1656.67	0.44	0.06	1,528.27
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
The CO2e emissions are reported as metric tons per phase.														

**Road Construction Emissions Model, Version 9.0.0**

Daily Emission Estimates for -> Sky Canyon Sewer Main Extension															
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)	
Grubbing/Land Clearing	5.32	29.69	50.37	6.99	1.99	5.00	2.87	1.83	1.04	0.10	9,441.08	3.05	0.09	9,542.77	
Grading/Excavation	5.77	36.71	59.85	7.62	2.62	5.00	3.45	2.41	1.04	0.08	8,202.76	2.65	0.07	8,291.14	
Drainage/Utilities/Sub-Grade	3.55	27.88	31.55	6.39	1.39	5.00	2.31	1.27	1.04	0.08	7,367.88	2.28	0.11	7,458.99	
Paving	3.36	25.69	27.75	1.13	1.13	0.00	1.04	1.04	0.00	0.08	7,817.82	2.48	0.09	7,907.73	
Maximum (pounds/day)	5.77	36.71	59.85	7.62	2.62	5.00	3.45	2.41	1.04	0.10	9,441.08	3.05	0.11	9,542.77	
Total (tons/construction project)	0.72	5.38	6.63	1.16	0.29	0.87	0.45	0.27	0.18	0.01	1,396.34	0.44	0.02	1,413.12	
Notes: Project Start Year -> 2021															
Project Length (months) -> 17															
Total Project Area (acres) -> 8															
Maximum Area Disturbed/Day (acres) -> 1															
Water Truck Used? -> Yes															
		Total Material Imported/Exported Volume (yd <sup>3</sup> /day)		Daily VMT (miles/day)											
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck									
Grubbing/Land Clearing	0	0	0	0	0	0									
Grading/Excavation	0	0	0	0	0	0									
Drainage/Utilities/Sub-Grade	0	0	0	0	0	80									
Paving	0	0	0	0	0	40									
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.															
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.															
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.															
Total Emission Estimates by Phase for -> Sky Canyon Sewer Main Extension															
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)	
Grubbing/Land Clearing	0.02	0.10	0.17	0.02	0.01	0.02	0.01	0.01	0.00	0.00	31.16	0.01	0.00	28.57	
Grading/Excavation	0.16	1.01	1.65	0.21	0.07	0.14	0.09	0.07	0.03	0.00	225.58	0.07	0.00	206.85	
Drainage/Utilities/Sub-Grade	0.51	3.99	4.51	0.91	0.20	0.72	0.33	0.18	0.15	0.01	1,053.61	0.33	0.02	967.65	
Paving	0.04	0.28	0.31	0.01	0.01	0.00	0.01	0.01	0.00	0.00	86.00	0.03	0.00	78.91	
Maximum (tons/phase)	0.51	3.99	4.51	0.91	0.20	0.72	0.33	0.18	0.15	0.01	1053.61	0.33	0.02	967.65	
Total (tons/construction project)	0.72	5.38	6.63	1.16	0.29	0.87	0.45	0.27	0.18	0.01	1396.34	0.44	0.02	1,281.97	
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.															
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.															
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The CO2e emissions are reported as metric tons per phase.															