APPENDIX E

ROADMOD RESULTS

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Boronda Road Widening

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	3.06	23.58	34.50	151.45	1.45	150.00	32.50	1.30	31.20	0.06	5,393.41	1.42	0.13	5,467.15
Grading/Excavation	13.53	97.97	154.54	156.55	6.55	150.00	37.12	5.92	31.20	0.22	21,024.68	6.20	0.29	21,265.86
Drainage/Utilities/Sub-Grade	9.17	80.14	92.63	154.23	4.23	150.00	35.13	3.93	31.20	0.16	15,463.98	3.19	0.20	15,603.61
Paving	3.41	39.08	33.08	1.87	1.87	0.00	1.66	1.66	0.00	0.07	6,307.34	1.68	0.12	6,384.27
Maximum (pounds/day)	13.53	97.97	154.54	156.55	6.55	150.00	37.12	5.92	31.20	0.22	21,024.68	6.20	0.29	21,265.86
Total (tons/construction project)	2.49	19.92	27.10	34.85	1.19	33.66	8.09	1.09	7.00	0.04	4,041.23	1.05	0.06	4,084.60

Notes:

Project Start Year ->	2020
Project Length (months) ->	24
Total Project Area (acres) ->	46
Maximum Area Disturbed/Day (acres) ->	15
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	560	120
Grading/Excavation	0	0	0	0	1,760	120
Drainage/Utilities/Sub-Grade	0	0	0	0	1,520	80
Paving	0	0	0	0	960	80

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 -> Boronda Road Widening

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	0.08	0.62	0.91	4.00	0.04	3.96	0.86	0.03	0.82	0.00	142.39	0.04	0.00	130.94
Grading/Excavation	1.43	10.35	16.32	16.53	0.69	15.84	3.92	0.63	3.29	0.02	2,220.21	0.65	0.03	2,037.26
Drainage/Utilities/Sub-Grade	0.85	7.41	8.56	14.25	0.39	13.86	3.25	0.36	2.88	0.01	1,428.87	0.30	0.02	1,307.97
Paving	0.14	1.55	1.31	0.07	0.07	0.00	0.07	0.07	0.00	0.00	249.77	0.07	0.00	229.35
Maximum (tons/phase)	1.43	10.35	16.32	16.53	0.69	15.84	3.92	0.63	3.29	0.02	2220.21	0.65	0.03	2,037.26
Total (tons/construction project)	2.49	19.92	27.10	34.85	1.19	33.66	8.09	1.09	7.00	0.04	4041.23	1.05	0.06	3,705.52

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.