
APPENDIX A

URBEMIS MODELING

Urbemis 2007 Version 9.2.0

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\mfremont\Application Data\Urbemis\Version9a\Projects\East Main Street_Idaho Maryland Road.urb9

Project Name: East Main Street - Idaho Maryland Roundabout

Project Location: Mountain Counties Air Basin

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>
2008 TOTALS (lbs/day unmitigated)	3.46	29.23	15.92	0.00	9.01	1.46	10.47	1.88
2008 TOTALS (lbs/day mitigated)	3.46	29.23	15.92	0.00	0.97	1.46	2.43	0.20

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>
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<u>PM2.5</u> <u>Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
1.34	3.22	2,480.25
1.34	1.54	2,480.25

<u>PM2.5</u> <u>Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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Time Slice 6/2/2008-7/31/2008 Number Active Days: 44	<u>3.46</u>	<u>29.23</u>	<u>15.92</u>	<u>0.00</u>	<u>9.01</u>	<u>1.46</u>	<u>10.47</u>	<u>1.88</u>
Fine Grading 06/01/2008-07/31/2008	3.46	29.23	15.92	0.00	9.01	1.46	10.47	1.88
Fine Grading Dust	0.00	0.00	0.00	0.00	9.00	0.00	9.00	1.88
Fine Grading Off Road Diesel	3.31	28.00	13.56	0.00	0.00	1.41	1.41	0.00
Fine Grading On Road Diesel	0.07	1.10	0.36	0.00	0.00	0.04	0.05	0.00
Fine Grading Worker Trips	0.08	0.13	2.00	0.00	0.00	0.00	0.01	0.00
Time Slice 8/1/2008-10/15/2008 Number Active Days: 54	2.39	13.60	10.68	0.00	0.01	1.16	1.17	0.00
Asphalt 08/01/2008-10/15/2008	2.39	13.60	10.68	0.00	0.01	1.16	1.17	0.00
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.22	13.27	7.15	0.00	0.00	1.15	1.15	0.00
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00
Paving Worker Trips	0.14	0.22	3.50	0.00	0.01	0.00	0.01	0.00

Phase Assumptions

Phase: Fine Grading 6/1/2008 - 7/31/2008 - Default Fine Site Grading Description

Total Acres Disturbed: 1.8

Maximum Daily Acreage Disturbed: 0.45

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 32.6

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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<u>1.34</u>	<u>3.22</u>	<u>2,480.25</u>
1.34	3.22	2,480.25
0.00	1.88	0.00
1.30	1.30	2,247.32
0.04	0.04	131.25
0.00	0.00	101.69
1.06	1.07	1,170.03
1.06	1.07	1,170.03
0.00	0.00	0.00
1.06	1.06	979.23
0.00	0.00	12.86
0.00	0.01	177.95

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Phase: Paving 8/1/2008 - 10/15/2008 - Default Paving Description

Acres to be Paved: 0.45

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>
Time Slice 6/2/2008-7/31/2008 Number Active Days: 44	<u>3.46</u>	<u>29.23</u>	<u>15.92</u>	<u>0.00</u>	<u>0.97</u>	<u>1.46</u>	<u>2.43</u>	<u>0.20</u>
Fine Grading 06/01/2008-07/31/2008	3.46	29.23	15.92	0.00	0.97	1.46	2.43	0.20
Fine Grading Dust	0.00	0.00	0.00	0.00	0.96	0.00	0.96	0.20
Fine Grading Off Road Diesel	3.31	28.00	13.56	0.00	0.00	1.41	1.41	0.00
Fine Grading On Road Diesel	0.07	1.10	0.36	0.00	0.00	0.04	0.05	0.00
Fine Grading Worker Trips	0.08	0.13	2.00	0.00	0.00	0.00	0.01	0.00
Time Slice 8/1/2008-10/15/2008 Number Active Days: 54	<u>2.39</u>	<u>13.60</u>	<u>10.68</u>	<u>0.00</u>	<u>0.01</u>	<u>1.16</u>	<u>1.17</u>	<u>0.00</u>
Asphalt 08/01/2008-10/15/2008	2.39	13.60	10.68	0.00	0.01	1.16	1.17	0.00
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.22	13.27	7.15	0.00	0.00	1.15	1.15	0.00
Paving On Road Diesel	0.01	0.11	0.04	0.00	0.00	0.00	0.00	0.00
Paving Worker Trips	0.14	0.22	3.50	0.00	0.01	0.00	0.01	0.00

<u>PM2.5</u> <u>Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
<u>1.34</u>	<u>1.54</u>	<u>2,480.25</u>
1.34	1.54	2,480.25
0.00	0.20	0.00
1.30	1.30	2,247.32
0.04	0.04	131.25
0.00	0.00	101.69
1.06	1.07	1,170.03
1.06	1.07	1,170.03
0.00	0.00	0.00
1.06	1.06	979.23
0.00	0.00	12.86
0.00	0.01	177.95

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Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/1/2008 - 7/31/2008 - Default Fine Site Grading Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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