

APPENDIX D

AIR EMISSIONS MODEL OUTPUT (REVISED)

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Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Lytton\Lytton Alt A and B Near-Term11911.urb924

Project Name: Lytton Alts A and B Near Term

Project Location: Bay Area Air District

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

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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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (tons/year unmitigated)	1.30	7.47	7.17	0.00	7.82	0.45	8.26	1.63	0.41	2.05	1,061.80
2012 TOTALS (tons/year mitigated)	1.20	6.40	7.17	0.00	0.57	0.05	0.61	0.12	0.04	0.16	1,061.80
Percent Reduction	7.86	14.37	0.00	0.00	92.75	89.75	92.59	92.61	89.87	92.06	0.00
2013 TOTALS (tons/year unmitigated)	2.63	6.82	9.38	0.01	0.03	0.52	0.55	0.01	0.47	0.48	1,284.93
2013 TOTALS (tons/year mitigated)	1.74	5.88	9.38	0.01	0.03	0.06	0.09	0.01	0.06	0.07	1,284.93
Percent Reduction	33.74	13.80	0.00	0.00	0.00	88.12	83.23	0.00	88.31	86.33	0.00
2014 TOTALS (tons/year unmitigated)	2.52	6.40	8.91	0.01	0.03	0.47	0.50	0.01	0.43	0.44	1,285.23
2014 TOTALS (tons/year mitigated)	1.63	5.51	8.91	0.01	0.03	0.06	0.09	0.01	0.05	0.06	1,285.23
Percent Reduction	35.19	13.85	0.00	0.00	0.00	87.90	82.57	0.00	88.11	85.94	0.00
2015 TOTALS (tons/year unmitigated)	2.16	4.98	6.77	0.00	0.02	0.37	0.39	0.01	0.34	0.35	1,023.48
2015 TOTALS (tons/year mitigated)	1.29	4.29	6.77	0.00	0.02	0.04	0.07	0.01	0.04	0.05	1,023.48
Percent Reduction	40.01	13.99	0.00	0.00	0.00	88.21	82.99	0.00	88.42	86.30	0.00

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.83	0.35	0.73	0.00	0.00	0.00	430.08

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.67	2.20	20.38	0.03	4.71	0.89	2,533.96

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	3.50	2.55	21.11	0.03	4.71	0.89	2,964.04

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Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Lytton\Lytton Alt A and B Near-Term11911.urb924

Project Name: Lytton Alts A and B Near Term

Project Location: Bay Area Air District

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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (lbs/day unmitigated)	17.55	56.97	63.17	0.04	100.02	3.61	102.83	20.89	3.31	23.47	8,208.26
2012 TOTALS (lbs/day mitigated)	9.70	48.45	63.17	0.04	7.07	0.42	7.29	1.48	0.38	1.68	8,208.26
2013 TOTALS (lbs/day unmitigated)	16.78	43.60	59.94	0.04	0.19	3.30	3.49	0.07	3.03	3.09	8,210.41
2013 TOTALS (lbs/day mitigated)	11.12	37.58	59.94	0.04	0.19	0.39	0.59	0.07	0.35	0.42	8,210.41
2014 TOTALS (lbs/day unmitigated)	16.09	40.88	56.94	0.04	0.19	3.00	3.19	0.07	2.75	2.82	8,212.34
2014 TOTALS (lbs/day mitigated)	10.43	35.22	56.94	0.04	0.19	0.36	0.56	0.07	0.33	0.40	8,212.34
2015 TOTALS (lbs/day unmitigated)	15.42	38.03	54.18	0.04	0.19	2.76	2.95	0.07	2.53	2.60	8,213.90
2015 TOTALS (lbs/day mitigated)	9.65	32.75	54.18	0.04	0.19	0.34	0.53	0.07	0.30	0.37	8,213.90

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AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	10.61	1.91	7.34	0.00	0.02	0.02	2,361.95

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	8.94	10.36	110.93	0.14	25.80	4.90	14,552.36

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	19.55	12.27	118.27	0.14	25.82	4.92	16,914.31

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, 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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/2/2012-5/1/2012 Active Days: 104	7.07	56.97	33.92	0.00	100.02	2.81	102.83	20.89	2.58	23.47	6,106.13
Mass Grading 01/01/2012-05/01/2012	7.07	56.97	33.92	0.00	100.02	2.81	102.83	20.89	2.58	23.47	6,106.13
Mass Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Mass Grading Off Road Diesel	6.97	56.77	30.37	0.00	0.00	2.80	2.80	0.00	2.58	2.58	5,715.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.10	0.20	3.55	0.00	0.02	0.01	0.03	0.01	0.01	0.02	390.77

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Time Slice 5/2/2012-6/30/2012	7.07	<u>56.97</u>	33.92	0.00	<u>100.02</u>	2.81	<u>102.83</u>	<u>20.89</u>	2.58	<u>23.47</u>	6,106.13
Active Days: 52											
Fine Grading 05/02/2012-07/01/2012	7.07	56.97	33.92	0.00	100.02	2.81	102.83	20.89	2.58	23.47	6,106.13
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	6.97	56.77	30.37	0.00	0.00	2.80	2.80	0.00	2.58	2.58	5,715.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.10	0.20	3.55	0.00	0.02	0.01	0.03	0.01	0.01	0.02	390.77
Time Slice 7/2/2012-9/29/2012	6.85	30.73	52.06	0.04	0.18	2.23	2.41	0.07	2.05	2.11	6,709.99
Active Days: 78											
Building 07/01/2012-10/01/2015	6.85	30.73	52.06	0.04	0.18	2.23	2.41	0.07	2.05	2.11	6,709.99
Building Off Road Diesel	5.86	27.03	20.36	0.00	0.00	2.07	2.07	0.00	1.91	1.91	2,912.10
Building Vendor Trips	0.16	2.02	1.67	0.00	0.02	0.08	0.09	0.01	0.07	0.07	489.16
Building Worker Trips	0.84	1.68	30.04	0.03	0.16	0.08	0.25	0.06	0.07	0.13	3,308.73
Time Slice 10/1/2012-11/30/2012	9.50	46.39	63.03	0.04	0.19	3.61	3.80	0.07	3.31	3.38	8,193.58
Active Days: 53											
Asphalt 10/01/2012-12/31/2015	2.65	15.67	10.97	0.00	0.01	1.38	1.39	0.00	1.27	1.27	1,483.58
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.55	15.48	9.17	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,272.41
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.79
Paving Worker Trips	0.05	0.10	1.77	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.39
Building 07/01/2012-10/01/2015	6.85	30.73	52.06	0.04	0.18	2.23	2.41	0.07	2.05	2.11	6,709.99
Building Off Road Diesel	5.86	27.03	20.36	0.00	0.00	2.07	2.07	0.00	1.91	1.91	2,912.10
Building Vendor Trips	0.16	2.02	1.67	0.00	0.02	0.08	0.09	0.01	0.07	0.07	489.16
Building Worker Trips	0.84	1.68	30.04	0.03	0.16	0.08	0.25	0.06	0.07	0.13	3,308.73

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Time Slice 12/16/2015-12/31/2015	2.20	13.21	10.34	0.00	0.01	1.12	1.13	0.00	1.03	1.03	1,483.89
Active Days: 14											
Asphalt 10/01/2012-12/31/2015	2.20	13.21	10.34	0.00	0.01	1.12	1.13	0.00	1.03	1.03	1,483.89
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.12	13.07	8.93	0.00	0.00	1.11	1.11	0.00	1.02	1.02	1,272.41
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.79
Paving Worker Trips	0.04	0.07	1.39	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.69

Phase Assumptions

Phase: Fine Grading 5/2/2012 - 7/1/2012 - Default Fine Site Grading Description

Total Acres Disturbed: 67

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

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

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

Phase: Mass Grading 1/1/2012 - 5/1/2012 - Type Your Description Here

Total Acres Disturbed: 67

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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- 3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 10/1/2012 - 12/31/2015 - Default Paving Description

Acres to be Paved: 15

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 7/1/2012 - 10/1/2015 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 3 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 12/1/2012 - 12/15/2015 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

ROG

NOx

CO

SO2

PM10 Dust

PM10 Exhaust

PM10

PM2.5 Dust

PM2.5 Exhaust

PM2.5

CO2

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Time Slice 1/2/2012-5/1/2012 Active Days: 104	7.07	<u>48.45</u>	33.92	0.00	<u>7.07</u>	0.22	<u>7.29</u>	<u>1.48</u>	0.20	<u>1.68</u>	6,106.13
Mass Grading 01/01/2012-05/01/2012	7.07	48.45	33.92	0.00	7.07	0.22	7.29	1.48	0.20	1.68	6,106.13
Mass Grading Dust	0.00	0.00	0.00	0.00	7.06	0.00	7.06	1.47	0.00	1.47	0.00
Mass Grading Off Road Diesel	6.97	48.25	30.37	0.00	0.00	0.21	0.21	0.00	0.19	0.19	5,715.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.10	0.20	3.55	0.00	0.02	0.01	0.03	0.01	0.01	0.02	390.77
Time Slice 5/2/2012-6/30/2012 Active Days: 52	7.07	<u>48.45</u>	33.92	0.00	<u>7.07</u>	0.22	<u>7.29</u>	<u>1.48</u>	0.20	<u>1.68</u>	6,106.13
Fine Grading 05/02/2012-07/01/2012	7.07	48.45	33.92	0.00	7.07	0.22	7.29	1.48	0.20	1.68	6,106.13
Fine Grading Dust	0.00	0.00	0.00	0.00	7.06	0.00	7.06	1.47	0.00	1.47	0.00
Fine Grading Off Road Diesel	6.97	48.25	30.37	0.00	0.00	0.21	0.21	0.00	0.19	0.19	5,715.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.10	0.20	3.55	0.00	0.02	0.01	0.03	0.01	0.01	0.02	390.77
Time Slice 7/2/2012-9/29/2012 Active Days: 78	6.85	26.67	52.06	0.04	0.18	0.31	0.49	0.07	0.28	0.35	6,709.99
Building 07/01/2012-10/01/2015	6.85	26.67	52.06	0.04	0.18	0.31	0.49	0.07	0.28	0.35	6,709.99
Building Off Road Diesel	5.86	22.97	20.36	0.00	0.00	0.16	0.16	0.00	0.14	0.14	2,912.10
Building Vendor Trips	0.16	2.02	1.67	0.00	0.02	0.08	0.09	0.01	0.07	0.07	489.16
Building Worker Trips	0.84	1.68	30.04	0.03	0.16	0.08	0.25	0.06	0.07	0.13	3,308.73

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Time Slice 12/16/2015-12/31/2015	2.20	11.25	10.34	0.00	0.01	0.09	0.10	0.00	0.08	0.09	1,483.89
Active Days: 14											
Asphalt 10/01/2012-12/31/2015	2.20	11.25	10.34	0.00	0.01	0.09	0.10	0.00	0.08	0.09	1,483.89
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.12	11.11	8.93	0.00	0.00	0.08	0.08	0.00	0.08	0.08	1,272.41
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.79
Paving Worker Trips	0.04	0.07	1.39	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.69

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 5/2/2012 - 7/1/2012 - 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 Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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%

For Graders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

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NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Mass Grading 1/1/2012 - 5/1/2012 - Type Your Description Here

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

PM10: 84% PM25: 84%

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

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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%

For Graders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Water Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Paving 10/1/2012 - 12/31/2015 - Default Paving Description

For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Building Construction 7/1/2012 - 10/1/2015 - Default Building Construction Description

For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Generator Sets, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Generator Sets, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Welders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Welders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Architectural Coating 12/1/2012 - 12/15/2015 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.14	1.84	0.78	0.00	0.00	0.00	2,351.41
Hearth - No Summer Emissions							
Landscape	1.19	0.07	6.56	0.00	0.02	0.02	10.54
Consumer Products	7.19						
Architectural Coatings	2.09						
TOTALS (lbs/day, unmitigated)	10.61	1.91	7.34	0.00	0.02	0.02	2,361.95

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 0%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	8.94	10.36	110.93	0.14	25.80	4.90	14,552.36
TOTALS (lbs/day, unmitigated)	8.94	10.36	110.93	0.14	25.80	4.90	14,552.36

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	74.00	9.57	dwelling units	147.00	1,406.79	15,030.28
					1,406.79	15,030.28

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	0.2	99.6	0.2

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck < 3750 lbs	12.7	0.8	96.8	2.4
Light Truck 3751-5750 lbs	19.9	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.9	0.0	77.8	22.2
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.2	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commute	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

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Operational Changes to Defaults

The urban/rural selection has been changed from Urban to Rural

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Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Lytton\Lytton Alt C Near-Term11911.urb924

Project Name: Lytton Alt C Near Term

Project Location: Bay Area Air District

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

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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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (tons/year unmitigated)	1.18	7.29	5.61	0.00	7.81	0.44	8.25	1.63	0.41	2.04	875.10
2012 TOTALS (tons/year mitigated)	1.15	6.22	5.61	0.00	0.56	0.04	0.60	0.12	0.03	0.15	875.10
Percent Reduction	3.22	14.73	0.00	0.00	92.86	91.31	92.78	92.80	91.37	92.51	0.00
2013 TOTALS (tons/year unmitigated)	1.75	6.50	6.51	0.00	0.01	0.50	0.51	0.00	0.46	0.47	911.31
2013 TOTALS (tons/year mitigated)	1.42	5.56	6.51	0.00	0.01	0.05	0.06	0.00	0.04	0.05	911.31
Percent Reduction	18.95	14.49	0.00	0.00	0.00	90.68	88.50	0.00	90.76	89.89	0.00
2014 TOTALS (tons/year unmitigated)	1.65	6.11	6.26	0.00	0.01	0.46	0.47	0.00	0.42	0.42	911.43
2014 TOTALS (tons/year mitigated)	1.32	5.22	6.26	0.00	0.01	0.04	0.06	0.00	0.04	0.04	911.43
Percent Reduction	20.10	14.51	0.00	0.00	0.00	90.58	88.19	0.00	90.67	89.72	0.00
2015 TOTALS (tons/year unmitigated)	1.35	4.79	4.94	0.00	0.01	0.36	0.37	0.00	0.33	0.33	742.42
2015 TOTALS (tons/year mitigated)	1.03	4.09	4.94	0.00	0.01	0.03	0.04	0.00	0.03	0.03	742.42
Percent Reduction	23.94	14.56	0.00	0.00	0.00	90.67	88.29	0.00	90.77	89.82	0.00

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.68	0.13	0.27	0.00	0.00	0.00	160.91

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OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.63	0.82	7.62	0.01	1.76	0.33	948.08

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	1.31	0.95	7.89	0.01	1.76	0.33	1,108.99

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Lytton\Lytton Alt C Near-Term11911.urb924

Project Name: Lytton Alt C Near Term

Project Location: Bay Area Air District

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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2012 TOTALS (lbs/day unmitigated)	11.89	56.97	43.24	0.02	100.02	3.51	102.83	20.89	3.23	23.47	6,106.13
2012 TOTALS (lbs/day mitigated)	8.95	48.45	43.24	0.02	7.07	0.32	7.29	1.48	0.30	1.68	6,106.13
2013 TOTALS (lbs/day unmitigated)	11.18	41.52	41.57	0.02	0.08	3.20	3.28	0.03	2.94	2.97	5,823.04
2013 TOTALS (lbs/day mitigated)	9.06	35.50	41.57	0.02	0.08	0.30	0.38	0.03	0.27	0.30	5,823.04
2014 TOTALS (lbs/day unmitigated)	10.54	39.01	40.01	0.02	0.08	2.91	2.99	0.03	2.67	2.70	5,823.83
2014 TOTALS (lbs/day mitigated)	8.42	33.35	40.01	0.02	0.08	0.27	0.35	0.03	0.25	0.28	5,823.83
2015 TOTALS (lbs/day unmitigated)	9.92	36.35	38.57	0.02	0.08	2.67	2.75	0.03	2.46	2.48	5,824.46
2015 TOTALS (lbs/day mitigated)	7.76	31.07	38.57	0.02	0.08	0.25	0.33	0.03	0.23	0.26	5,824.46

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AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3.96	0.72	2.75	0.00	0.01	0.01	883.72

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3.34	3.88	41.50	0.05	9.65	1.83	5,444.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	7.30	4.60	44.25	0.05	9.66	1.84	6,328.48

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, 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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 1/2/2012-5/1/2012 Active Days: 104	7.07	56.97	33.92	0.00	100.02	2.81	102.83	20.89	2.58	23.47	6,106.13
Mass Grading 01/01/2012-05/01/2012	7.07	56.97	33.92	0.00	100.02	2.81	102.83	20.89	2.58	23.47	6,106.13
Mass Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Mass Grading Off Road Diesel	6.97	56.77	30.37	0.00	0.00	2.80	2.80	0.00	2.58	2.58	5,715.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.10	0.20	3.55	0.00	0.02	0.01	0.03	0.01	0.01	0.02	390.77

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Time Slice 5/2/2012-6/30/2012 Active Days: 52	7.07	<u>56.97</u>	33.92	0.00	<u>100.02</u>	2.81	<u>102.83</u>	<u>20.89</u>	2.58	<u>23.47</u>	<u>6,106.13</u>
Fine Grading 05/02/2012- 07/01/2012	7.07	56.97	33.92	0.00	100.02	2.81	102.83	20.89	2.58	23.47	6,106.13
Fine Grading Dust	0.00	0.00	0.00	0.00	100.00	0.00	100.00	20.88	0.00	20.88	0.00
Fine Grading Off Road Diesel	6.97	56.77	30.37	0.00	0.00	2.80	2.80	0.00	2.58	2.58	5,715.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.10	0.20	3.55	0.00	0.02	0.01	0.03	0.01	0.01	0.02	390.77
Time Slice 7/2/2012-9/29/2012 Active Days: 78	6.23	28.41	32.22	0.01	0.07	2.13	2.20	0.02	1.96	1.98	4,333.08
Building 07/01/2012-10/01/2015	6.23	28.41	32.22	0.01	0.07	2.13	2.20	0.02	1.96	1.98	4,333.08
Building Off Road Diesel	5.86	27.03	20.36	0.00	0.00	2.07	2.07	0.00	1.91	1.91	2,912.10
Building Vendor Trips	0.06	0.76	0.62	0.00	0.01	0.03	0.03	0.00	0.03	0.03	183.02
Building Worker Trips	0.31	0.63	11.24	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,237.96
Time Slice 10/1/2012-11/30/2012 Active Days: 53	8.88	44.08	43.19	0.02	0.08	3.51	3.59	0.03	3.23	3.25	5,816.67
Asphalt 10/01/2012-12/31/2015	2.65	15.67	10.97	0.00	0.01	1.38	1.39	0.00	1.27	1.27	1,483.58
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.55	15.48	9.17	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,272.41
Paving On Road Diesel	0.01	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.79
Paving Worker Trips	0.05	0.10	1.77	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.39
Building 07/01/2012-10/01/2015	6.23	28.41	32.22	0.01	0.07	2.13	2.20	0.02	1.96	1.98	4,333.08
Building Off Road Diesel	5.86	27.03	20.36	0.00	0.00	2.07	2.07	0.00	1.91	1.91	2,912.10
Building Vendor Trips	0.06	0.76	0.62	0.00	0.01	0.03	0.03	0.00	0.03	0.03	183.02
Building Worker Trips	0.31	0.63	11.24	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,237.96

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Time Slice 12/16/2015-12/31/2015	2.20	13.21	10.34	0.00	0.01	1.12	1.13	0.00	1.03	1.03	1,483.89
Active Days: 14											
Asphalt 10/01/2012-12/31/2015	2.20	13.21	10.34	0.00	0.01	1.12	1.13	0.00	1.03	1.03	1,483.89
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.12	13.07	8.93	0.00	0.00	1.11	1.11	0.00	1.02	1.02	1,272.41
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.79
Paving Worker Trips	0.04	0.07	1.39	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.69

Phase Assumptions

Phase: Fine Grading 5/2/2012 - 7/1/2012 - Default Fine Site Grading Description

Total Acres Disturbed: 67

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

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

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

Phase: Mass Grading 1/1/2012 - 5/1/2012 - Type Your Description Here

Total Acres Disturbed: 67

Maximum Daily Acreage Disturbed: 5

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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- 3 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 10/1/2012 - 12/31/2015 - Default Paving Description

Acres to be Paved: 15

Off-Road Equipment:

- 1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
- 2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 7/1/2012 - 10/1/2015 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 3 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 3 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 12/1/2012 - 12/15/2015 - Default Architectural Coating Description

- Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
- Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

ROG NOx CO SO2 PM10 Dust PM10 Exhaust PM10 PM2.5 Dust PM2.5 Exhaust PM2.5 CO2

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Time Slice 1/2/2012-5/1/2012 Active Days: 104	7.07	<u>48.45</u>	33.92	0.00	<u>7.07</u>	0.22	<u>7.29</u>	<u>1.48</u>	0.20	<u>1.68</u>	<u>6,106.13</u>
Mass Grading 01/01/2012-05/01/2012	7.07	48.45	33.92	0.00	7.07	0.22	7.29	1.48	0.20	1.68	6,106.13
Mass Grading Dust	0.00	0.00	0.00	0.00	7.06	0.00	7.06	1.47	0.00	1.47	0.00
Mass Grading Off Road Diesel	6.97	48.25	30.37	0.00	0.00	0.21	0.21	0.00	0.19	0.19	5,715.36
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.10	0.20	3.55	0.00	0.02	0.01	0.03	0.01	0.01	0.02	390.77
Time Slice 5/2/2012-6/30/2012 Active Days: 52	7.07	<u>48.45</u>	33.92	0.00	<u>7.07</u>	0.22	<u>7.29</u>	<u>1.48</u>	0.20	<u>1.68</u>	<u>6,106.13</u>
Fine Grading 05/02/2012-07/01/2012	7.07	48.45	33.92	0.00	7.07	0.22	7.29	1.48	0.20	1.68	6,106.13
Fine Grading Dust	0.00	0.00	0.00	0.00	7.06	0.00	7.06	1.47	0.00	1.47	0.00
Fine Grading Off Road Diesel	6.97	48.25	30.37	0.00	0.00	0.21	0.21	0.00	0.19	0.19	5,715.36
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.10	0.20	3.55	0.00	0.02	0.01	0.03	0.01	0.01	0.02	390.77
Time Slice 7/2/2012-9/29/2012 Active Days: 78	6.23	24.36	32.22	0.01	0.07	0.21	0.28	0.02	0.19	0.22	4,333.08
Building 07/01/2012-10/01/2015	6.23	24.36	32.22	0.01	0.07	0.21	0.28	0.02	0.19	0.22	4,333.08
Building Off Road Diesel	5.86	22.97	20.36	0.00	0.00	0.16	0.16	0.00	0.14	0.14	2,912.10
Building Vendor Trips	0.06	0.76	0.62	0.00	0.01	0.03	0.03	0.00	0.03	0.03	183.02
Building Worker Trips	0.31	0.63	11.24	0.01	0.06	0.03	0.09	0.02	0.03	0.05	1,237.96

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Time Slice 12/16/2015-12/31/2015	2.20	11.25	10.34	0.00	0.01	0.09	0.10	0.00	0.08	0.09	1,483.89
Active Days: 14											
Asphalt 10/01/2012-12/31/2015	2.20	11.25	10.34	0.00	0.01	0.09	0.10	0.00	0.08	0.09	1,483.89
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.12	11.11	8.93	0.00	0.00	0.08	0.08	0.00	0.08	0.08	1,272.41
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.79
Paving Worker Trips	0.04	0.07	1.39	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.69

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 5/2/2012 - 7/1/2012 - 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 Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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%

For Graders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

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NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Mass Grading 1/1/2012 - 5/1/2012 - Type Your Description Here

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

PM10: 84% PM25: 84%

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

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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%

For Graders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Water Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Paving 10/1/2012 - 12/31/2015 - Default Paving Description

For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Building Construction 7/1/2012 - 10/1/2015 - Default Building Construction Description

For Cranes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Generator Sets, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Generator Sets, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

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For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Welders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Welders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Architectural Coating 12/1/2012 - 12/15/2015 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.05	0.69	0.29	0.00	0.00	0.00	879.78
Hearth - No Summer Emissions							
Landscape	0.44	0.03	2.46	0.00	0.01	0.01	3.94
Consumer Products	2.69						
Architectural Coatings	0.78						
TOTALS (lbs/day, unmitigated)	3.96	0.72	2.75	0.00	0.01	0.01	883.72

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 0%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	3.34	3.88	41.50	0.05	9.65	1.83	5,444.76
TOTALS (lbs/day, unmitigated)	3.34	3.88	41.50	0.05	9.65	1.83	5,444.76

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2015 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	35.00	9.57	dwelling units	55.00	526.35	5,623.58
					526.35	5,623.58

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	0.2	99.6	0.2

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck < 3750 lbs	12.7	0.8	96.8	2.4
Light Truck 3751-5750 lbs	19.9	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.9	0.0	77.8	22.2
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.2	50.0	50.0	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

The urban/rural selection has been changed from Urban to Rural