

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\San Diego\10_Staff\Air Quality Staff\VNY Airport\Castle and Cook Aviation\Urbemis Data\CastleCentury2010.urb924

Project Name: Castle and Cooke Aviation Services - Century Aero Club Site

Project Location: South Coast AQMD

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>
2009 TOTALS (lbs/day unmitigated)	5.75	51.46	24.46	0.01	11.24	2.45	13.69	2.35	2.26	4.61	4,941.59
2009 TOTALS (lbs/day mitigated)	5.75	44.63	24.46	0.01	6.31	0.58	6.89	1.32	0.53	1.85	4,941.59
2010 TOTALS (lbs/day unmitigated)	2.30	20.38	12.60	0.01	0.04	0.98	1.02	0.01	0.90	0.91	2,618.02
2010 TOTALS (lbs/day mitigated)	2.30	17.91	12.60	0.01	0.04	0.29	0.33	0.01	0.26	0.28	2,618.02

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>
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Time Slice 9/1/2009-10/23/2009	2.12	16.71	9.42	0.00	0.68	0.98	1.66	0.14	0.90	1.04	1,689.48
Active Days: 39											
Demolition 09/01/2009-10/23/2009	2.12	16.71	9.42	0.00	0.68	0.98	1.66	0.14	0.90	1.04	1,689.48
Fugitive Dust	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.14	0.00	0.14	0.00
Demo Off Road Diesel	2.02	15.86	7.72	0.00	0.00	0.94	0.94	0.00	0.87	0.87	1,439.76
Demo On Road Diesel	0.06	0.76	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.19
Demo Worker Trips	0.05	0.08	1.41	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.54
Time Slice 10/26/2009-12/11/2009	5.75	51.46	24.46	0.01	11.24	2.45	13.69	2.35	2.26	4.61	4,941.59
Active Days: 35											
Fine Grading 10/26/2009-12/11/2009	5.75	51.46	24.46	0.01	11.24	2.45	13.69	2.35	2.26	4.61	4,941.59
Fine Grading Dust	0.00	0.00	0.00	0.00	11.20	0.00	11.20	2.34	0.00	2.34	0.00
Fine Grading Off Road Diesel	5.24	45.57	20.00	0.00	0.00	2.21	2.21	0.00	2.03	2.03	3,978.49
Fine Grading On Road Diesel	0.43	5.76	2.21	0.01	0.02	0.24	0.26	0.01	0.22	0.23	714.23
Fine Grading Worker Trips	0.07	0.14	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.86
Time Slice 12/14/2009-12/31/2009	2.47	21.78	13.30	0.01	0.04	1.07	1.12	0.01	0.99	1.00	2,618.14
Active Days: 14											
Building 12/14/2009-04/30/2010	2.47	21.78	13.30	0.01	0.04	1.07	1.12	0.01	0.99	1.00	2,618.14
Building Off Road Diesel	2.01	17.49	6.85	0.00	0.00	0.89	0.89	0.00	0.82	0.82	1,559.80
Building Vendor Trips	0.34	4.07	2.82	0.01	0.02	0.17	0.19	0.01	0.16	0.17	656.54
Building Worker Trips	0.12	0.22	3.64	0.00	0.02	0.01	0.03	0.01	0.01	0.02	401.80
Time Slice 1/1/2010-4/30/2010	2.30	20.38	12.60	0.01	0.04	0.98	1.02	0.01	0.90	0.91	2,618.02
Active Days: 86											
Building 12/14/2009-04/30/2010	2.30	20.38	12.60	0.01	0.04	0.98	1.02	0.01	0.90	0.91	2,618.02
Building Off Road Diesel	1.88	16.47	6.60	0.00	0.00	0.81	0.81	0.00	0.75	0.75	1,559.80
Building Vendor Trips	0.32	3.71	2.62	0.01	0.02	0.15	0.18	0.01	0.14	0.15	656.55
Building Worker Trips	0.11	0.20	3.38	0.00	0.02	0.01	0.03	0.01	0.01	0.02	401.68

Phase Assumptions

Phase: Demolition 9/1/2009 - 10/23/2009 - Demolition of Hanger, Office, and UST

Building Volume Total (cubic feet): 431816

Building Volume Daily (cubic feet): 1600

On Road Truck Travel (VMT): 22.22

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

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

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 10/26/2009 - 12/11/2009 - Grading site and pouring concrete

Total Acres Disturbed: 1.97

Maximum Daily Acreage Disturbed: 0.56

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 168.51

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

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

1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

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

1 Surfacing Equipment (362 hp) operating at a 0.45 load factor for 8 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

Phase: Building Construction 12/14/2009 - 4/30/2010 - Building Construction

Off-Road Equipment:

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- 1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, 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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 9/1/2009-10/23/2009 Active Days: 39	2.12	15.48	9.42	0.00	0.68	0.43	1.12	0.14	0.40	0.54	1,689.48
Demolition 09/01/2009-10/23/2009	2.12	15.48	9.42	0.00	0.68	0.43	1.12	0.14	0.40	0.54	1,689.48
Fugitive Dust	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.14	0.00	0.14	0.00
Demo Off Road Diesel	2.02	14.64	7.72	0.00	0.00	0.40	0.40	0.00	0.37	0.37	1,439.76
Demo On Road Diesel	0.06	0.76	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.19
Demo Worker Trips	0.05	0.08	1.41	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.54
Time Slice 10/26/2009-12/11/2009 Active Days: 35	5.75	44.63	24.46	0.01	6.31	0.58	6.89	1.32	0.53	1.85	4,941.59
Fine Grading 10/26/2009-12/11/2009	5.75	44.63	24.46	0.01	6.31	0.58	6.89	1.32	0.53	1.85	4,941.59
Fine Grading Dust	0.00	0.00	0.00	0.00	6.27	0.00	6.27	1.31	0.00	1.31	0.00
Fine Grading Off Road Diesel	5.24	38.73	20.00	0.00	0.00	0.33	0.33	0.00	0.30	0.30	3,978.49
Fine Grading On Road Diesel	0.43	5.76	2.21	0.01	0.02	0.24	0.26	0.01	0.22	0.23	714.23
Fine Grading Worker Trips	0.07	0.14	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.86

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Time Slice 12/14/2009-12/31/2009 Active Days: 14	2.47	19.16	13.30	<u>0.01</u>	0.04	0.32	0.36	0.01	0.29	0.30	2,618.14
Building 12/14/2009-04/30/2010	2.47	19.16	13.30	0.01	0.04	0.32	0.36	0.01	0.29	0.30	2,618.14
Building Off Road Diesel	2.01	14.87	6.85	0.00	0.00	0.13	0.13	0.00	0.12	0.12	1,559.80
Building Vendor Trips	0.34	4.07	2.82	0.01	0.02	0.17	0.19	0.01	0.16	0.17	656.54
Building Worker Trips	0.12	0.22	3.64	0.00	0.02	0.01	0.03	0.01	0.01	0.02	401.80
Time Slice 1/1/2010-4/30/2010 Active Days: 86	<u>2.30</u>	<u>17.91</u>	<u>12.60</u>	<u>0.01</u>	<u>0.04</u>	<u>0.29</u>	<u>0.33</u>	<u>0.01</u>	<u>0.26</u>	<u>0.28</u>	<u>2,618.02</u>
Building 12/14/2009-04/30/2010	2.30	17.91	12.60	0.01	0.04	0.29	0.33	0.01	0.26	0.28	2,618.02
Building Off Road Diesel	1.88	14.00	6.60	0.00	0.00	0.12	0.12	0.00	0.11	0.11	1,559.80
Building Vendor Trips	0.32	3.71	2.62	0.01	0.02	0.15	0.18	0.01	0.14	0.15	656.55
Building Worker Trips	0.11	0.20	3.38	0.00	0.02	0.01	0.03	0.01	0.01	0.02	401.68

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 9/1/2009 - 10/23/2009 - Demolition of Hanger, Office, and UST

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Fine Grading 10/26/2009 - 12/11/2009 - Grading site and pouring concrete

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

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PM10: 34% PM25: 34%

For Soil Stabilizing Measures, the Cover stockpiles with tarp mitigation reduces emissions by:

PM10: 9.5% PM25: 9.5%

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

PM10: 40% PM25: 40%

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

PM10: 30% PM25: 30%

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

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Other Material Handling Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

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NOX: 15%

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

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Surfacing Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 12/14/2009 - 4/30/2010 - Building Construction

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

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Other Material Handling Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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Combined Winter Emissions Reports (Pounds/Day)

File Name: G:\San Diego\10_Staff\Air Quality Staff\VNY Airport\Castle and Cook Aviation\Urbemis Data\CastleCentury2010.urb924

Project Name: Castle and Cooke Aviation Services - Century Aero Club Site

Project Location: South Coast AQMD

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>
2009 TOTALS (lbs/day unmitigated)	5.75	51.46	24.46	0.01	11.24	2.45	13.69	2.35	2.26	4.61	4,941.59
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2010 TOTALS (lbs/day unmitigated)	2.30	20.38	12.60	0.01	0.04	0.98	1.02	0.01	0.90	0.91	2,618.02
2010 TOTALS (lbs/day mitigated)	2.30	17.91	12.60	0.01	0.04	0.29	0.33	0.01	0.26	0.28	2,618.02

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter 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>
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Time Slice 9/1/2009-10/23/2009	2.12	16.71	9.42	0.00	0.68	0.98	1.66	0.14	0.90	1.04	1,689.48
Active Days: 39											
Demolition 09/01/2009-10/23/2009	2.12	16.71	9.42	0.00	0.68	0.98	1.66	0.14	0.90	1.04	1,689.48
Fugitive Dust	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.14	0.00	0.14	0.00
Demo Off Road Diesel	2.02	15.86	7.72	0.00	0.00	0.94	0.94	0.00	0.87	0.87	1,439.76
Demo On Road Diesel	0.06	0.76	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.19
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Fine Grading Dust	0.00	0.00	0.00	0.00	11.20	0.00	11.20	2.34	0.00	2.34	0.00
Fine Grading Off Road Diesel	5.24	45.57	20.00	0.00	0.00	2.21	2.21	0.00	2.03	2.03	3,978.49
Fine Grading On Road Diesel	0.43	5.76	2.21	0.01	0.02	0.24	0.26	0.01	0.22	0.23	714.23
Fine Grading Worker Trips	0.07	0.14	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.86
Time Slice 12/14/2009-12/31/2009	2.47	21.78	13.30	0.01	0.04	1.07	1.12	0.01	0.99	1.00	2,618.14
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Building 12/14/2009-04/30/2010	2.47	21.78	13.30	0.01	0.04	1.07	1.12	0.01	0.99	1.00	2,618.14
Building Off Road Diesel	2.01	17.49	6.85	0.00	0.00	0.89	0.89	0.00	0.82	0.82	1,559.80
Building Vendor Trips	0.34	4.07	2.82	0.01	0.02	0.17	0.19	0.01	0.16	0.17	656.54
Building Worker Trips	0.12	0.22	3.64	0.00	0.02	0.01	0.03	0.01	0.01	0.02	401.80
Time Slice 1/1/2010-4/30/2010	2.30	20.38	12.60	0.01	0.04	0.98	1.02	0.01	0.90	0.91	2,618.02
Active Days: 86											
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Building Off Road Diesel	1.88	16.47	6.60	0.00	0.00	0.81	0.81	0.00	0.75	0.75	1,559.80
Building Vendor Trips	0.32	3.71	2.62	0.01	0.02	0.15	0.18	0.01	0.14	0.15	656.55
Building Worker Trips	0.11	0.20	3.38	0.00	0.02	0.01	0.03	0.01	0.01	0.02	401.68

Phase Assumptions

Phase: Demolition 9/1/2009 - 10/23/2009 - Demolition of Hanger, Office, and UST

Building Volume Total (cubic feet): 431816

Building Volume Daily (cubic feet): 1600

On Road Truck Travel (VMT): 22.22

Off-Road Equipment:

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1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

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

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 10/26/2009 - 12/11/2009 - Grading site and pouring concrete

Total Acres Disturbed: 1.97

Maximum Daily Acreage Disturbed: 0.56

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 168.51

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

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

1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

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

1 Surfacing Equipment (362 hp) operating at a 0.45 load factor for 8 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

Phase: Building Construction 12/14/2009 - 4/30/2010 - Building Construction

Off-Road Equipment:

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- 1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, 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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 9/1/2009-10/23/2009 Active Days: 39	2.12	15.48	9.42	0.00	0.68	0.43	1.12	0.14	0.40	0.54	1,689.48
Demolition 09/01/2009-10/23/2009	2.12	15.48	9.42	0.00	0.68	0.43	1.12	0.14	0.40	0.54	1,689.48
Fugitive Dust	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.14	0.00	0.14	0.00
Demo Off Road Diesel	2.02	14.64	7.72	0.00	0.00	0.40	0.40	0.00	0.37	0.37	1,439.76
Demo On Road Diesel	0.06	0.76	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.19
Demo Worker Trips	0.05	0.08	1.41	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.54
Time Slice 10/26/2009-12/11/2009 Active Days: 35	5.75	44.63	24.46	0.01	6.31	0.58	6.89	1.32	0.53	1.85	4,941.59
Fine Grading 10/26/2009-12/11/2009	5.75	44.63	24.46	0.01	6.31	0.58	6.89	1.32	0.53	1.85	4,941.59
Fine Grading Dust	0.00	0.00	0.00	0.00	6.27	0.00	6.27	1.31	0.00	1.31	0.00
Fine Grading Off Road Diesel	5.24	38.73	20.00	0.00	0.00	0.33	0.33	0.00	0.30	0.30	3,978.49
Fine Grading On Road Diesel	0.43	5.76	2.21	0.01	0.02	0.24	0.26	0.01	0.22	0.23	714.23
Fine Grading Worker Trips	0.07	0.14	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.86

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Time Slice 12/14/2009-12/31/2009	2.47	19.16	13.30	<u>0.01</u>	0.04	0.32	0.36	0.01	0.29	0.30	2,618.14
Active Days: 14											
Building 12/14/2009-04/30/2010	2.47	19.16	13.30	0.01	0.04	0.32	0.36	0.01	0.29	0.30	2,618.14
Building Off Road Diesel	2.01	14.87	6.85	0.00	0.00	0.13	0.13	0.00	0.12	0.12	1,559.80
Building Vendor Trips	0.34	4.07	2.82	0.01	0.02	0.17	0.19	0.01	0.16	0.17	656.54
Building Worker Trips	0.12	0.22	3.64	0.00	0.02	0.01	0.03	0.01	0.01	0.02	401.80
Time Slice 1/1/2010-4/30/2010	<u>2.30</u>	<u>17.91</u>	<u>12.60</u>	<u>0.01</u>	<u>0.04</u>	<u>0.29</u>	<u>0.33</u>	<u>0.01</u>	<u>0.26</u>	<u>0.28</u>	<u>2,618.02</u>
Active Days: 86											
Building 12/14/2009-04/30/2010	2.30	17.91	12.60	0.01	0.04	0.29	0.33	0.01	0.26	0.28	2,618.02
Building Off Road Diesel	1.88	14.00	6.60	0.00	0.00	0.12	0.12	0.00	0.11	0.11	1,559.80
Building Vendor Trips	0.32	3.71	2.62	0.01	0.02	0.15	0.18	0.01	0.14	0.15	656.55
Building Worker Trips	0.11	0.20	3.38	0.00	0.02	0.01	0.03	0.01	0.01	0.02	401.68

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 9/1/2009 - 10/23/2009 - Demolition of Hanger, Office, and UST

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Fine Grading 10/26/2009 - 12/11/2009 - Grading site and pouring concrete

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

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PM10: 34% PM25: 34%

For Soil Stabilizing Measures, the Cover stockpiles with tarp mitigation reduces emissions by:

PM10: 9.5% PM25: 9.5%

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

PM10: 40% PM25: 40%

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

PM10: 30% PM25: 30%

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

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Other Material Handling Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

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NOX: 15%

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

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Surfacing Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 12/14/2009 - 4/30/2010 - Building Construction

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

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Other Material Handling Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\San Diego\10_Staff\Air Quality Staff\VNY Airport\Castle and Cook Aviation\Urbemis Data\CastleThornton2010.urb924

Project Name: Castle and Cooke Aviation Services - Thornton Site

Project Location: South Coast AQMD

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>
2009 TOTALS (lbs/day unmitigated)	5.32	45.70	22.25	0.01	11.21	2.21	13.42	2.34	2.03	4.38	4,227.35
2009 TOTALS (lbs/day mitigated)	5.32	38.87	22.25	0.01	6.28	0.43	6.62	1.31	0.40	1.62	4,227.35
2010 TOTALS (lbs/day unmitigated)	2.53	18.57	11.62	0.01	0.02	0.97	0.99	0.01	0.89	0.90	2,198.04
2010 TOTALS (lbs/day mitigated)	2.53	15.89	11.62	0.01	0.02	0.17	0.20	0.01	0.16	0.17	2,198.04

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>
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Time Slice 9/1/2009-10/23/2009 Active Days: 39	2.12	16.71	9.42	0.00	0.68	0.98	1.66	0.14	0.90	1.04	1,689.48
Demolition 09/01/2009-10/23/2009	2.12	16.71	9.42	0.00	0.68	0.98	1.66	0.14	0.90	1.04	1,689.48
Fugitive Dust	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.14	0.00	0.14	0.00
Demo Off Road Diesel	2.02	15.86	7.72	0.00	0.00	0.94	0.94	0.00	0.87	0.87	1,439.76
Demo On Road Diesel	0.06	0.76	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.19
Demo Worker Trips	0.05	0.08	1.41	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.54
Time Slice 10/26/2009-12/11/2009 Active Days: 35	<u>5.32</u>	<u>45.70</u>	<u>22.25</u>	0.00	<u>11.21</u>	<u>2.21</u>	<u>13.42</u>	<u>2.34</u>	<u>2.03</u>	<u>4.38</u>	<u>4,227.35</u>
Fine Grading 10/26/2009-12/11/2009	5.32	45.70	22.25	0.00	11.21	2.21	13.42	2.34	2.03	4.38	4,227.35
Fine Grading Dust	0.00	0.00	0.00	0.00	11.20	0.00	11.20	2.34	0.00	2.34	0.00
Fine Grading Off Road Diesel	5.24	45.57	20.00	0.00	0.00	2.21	2.21	0.00	2.03	2.03	3,978.49
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	0.07	0.14	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.86
Time Slice 12/14/2009-12/31/2009 Active Days: 14	2.69	19.67	12.17	<u>0.01</u>	0.02	1.05	1.08	0.01	0.97	0.98	2,198.15
Building 12/14/2009-04/30/2010	2.69	19.67	12.17	0.01	0.02	1.05	1.08	0.01	0.97	0.98	2,198.15
Building Off Road Diesel	2.53	18.88	8.14	0.00	0.00	1.02	1.02	0.00	0.94	0.94	1,704.54
Building Vendor Trips	0.05	0.58	0.47	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.00
Building Worker Trips	0.11	0.21	3.56	0.00	0.02	0.01	0.03	0.01	0.01	0.02	392.60
Time Slice 1/1/2010-4/30/2010 Active Days: 86	<u>2.53</u>	<u>18.57</u>	<u>11.62</u>	<u>0.01</u>	<u>0.02</u>	<u>0.97</u>	<u>0.99</u>	<u>0.01</u>	<u>0.89</u>	<u>0.90</u>	<u>2,198.04</u>
Building 12/14/2009-04/30/2010	2.53	18.57	11.62	0.01	0.02	0.97	0.99	0.01	0.89	0.90	2,198.04
Building Off Road Diesel	2.38	17.84	7.88	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,704.54
Building Vendor Trips	0.05	0.53	0.44	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.00
Building Worker Trips	0.10	0.20	3.31	0.00	0.02	0.01	0.03	0.01	0.01	0.02	392.49

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Phase Assumptions

Phase: Demolition 9/1/2009 - 10/23/2009 - Demolition of Hanger, Office, and UST

Building Volume Total (cubic feet): 50086.44

Building Volume Daily (cubic feet): 1600

On Road Truck Travel (VMT): 22.22

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

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

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 10/26/2009 - 12/11/2009 - Grading site and pouring concrete

Total Acres Disturbed: 1.55

Maximum Daily Acreage Disturbed: 0.56

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

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

1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

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

1 Surfacing Equipment (362 hp) operating at a 0.45 load factor for 8 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

Phase: Building Construction 12/14/2009 - 4/30/2010 - Building Construction

Off-Road Equipment:

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- 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
- 1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, 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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 9/1/2009-10/23/2009 Active Days: 39	2.12	15.48	9.42	0.00	0.68	<u>0.43</u>	1.12	0.14	<u>0.40</u>	0.54	1,689.48
Demolition 09/01/2009-10/23/2009	2.12	15.48	9.42	0.00	0.68	0.43	1.12	0.14	0.40	0.54	1,689.48
Fugitive Dust	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.14	0.00	0.14	0.00
Demo Off Road Diesel	2.02	14.64	7.72	0.00	0.00	0.40	0.40	0.00	0.37	0.37	1,439.76
Demo On Road Diesel	0.06	0.76	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.19
Demo Worker Trips	0.05	0.08	1.41	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.54
Time Slice 10/26/2009-12/11/2009 Active Days: 35	5.32	38.87	22.25	0.00	<u>6.28</u>	0.34	<u>6.62</u>	<u>1.31</u>	0.31	<u>1.62</u>	4,227.35
Fine Grading 10/26/2009-12/11/2009	5.32	38.87	22.25	0.00	6.28	0.34	6.62	1.31	0.31	1.62	4,227.35
Fine Grading Dust	0.00	0.00	0.00	0.00	6.27	0.00	6.27	1.31	0.00	1.31	0.00
Fine Grading Off Road Diesel	5.24	38.73	20.00	0.00	0.00	0.33	0.33	0.00	0.30	0.30	3,978.49
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	0.07	0.14	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.86

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Time Slice 12/14/2009-12/31/2009 Active Days: 14	2.69	16.84	12.17	0.01	0.02	0.19	0.21	0.01	0.17	0.18	2,198.15
Building 12/14/2009-04/30/2010	2.69	16.84	12.17	0.01	0.02	0.19	0.21	0.01	0.17	0.18	2,198.15
Building Off Road Diesel	2.53	16.05	8.14	0.00	0.00	0.15	0.15	0.00	0.14	0.14	1,704.54
Building Vendor Trips	0.05	0.58	0.47	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.00
Building Worker Trips	0.11	0.21	3.56	0.00	0.02	0.01	0.03	0.01	0.01	0.02	392.60
Time Slice 1/1/2010-4/30/2010 Active Days: 86	<u>2.53</u>	<u>15.89</u>	<u>11.62</u>	0.01	<u>0.02</u>	<u>0.17</u>	<u>0.20</u>	<u>0.01</u>	<u>0.16</u>	<u>0.17</u>	<u>2,198.04</u>
Building 12/14/2009-04/30/2010	2.53	15.89	11.62	0.01	0.02	0.17	0.20	0.01	0.16	0.17	2,198.04
Building Off Road Diesel	2.38	15.17	7.88	0.00	0.00	0.14	0.14	0.00	0.13	0.13	1,704.54
Building Vendor Trips	0.05	0.53	0.44	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.00
Building Worker Trips	0.10	0.20	3.31	0.00	0.02	0.01	0.03	0.01	0.01	0.02	392.49

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 9/1/2009 - 10/23/2009 - Demolition of Hanger, Office, and UST

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Fine Grading 10/26/2009 - 12/11/2009 - Grading site and pouring concrete

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

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PM10: 34% PM25: 34%

For Soil Stabilizing Measures, the Cover stockpiles with tarp mitigation reduces emissions by:

PM10: 9.5% PM25: 9.5%

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

PM10: 40% PM25: 40%

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

PM10: 30% PM25: 30%

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

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Other Material Handling Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

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NOX: 15%

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

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Surfacing Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 12/14/2009 - 4/30/2010 - Building Construction

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

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Welders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Other Material Handling Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: G:\San Diego\10_Staff\Air Quality Staff\VNY Airport\Castle and Cook Aviation\Urbemis Data\CastleThornton2010.urb924

Project Name: Castle and Cooke Aviation Services - Thornton Site

Project Location: South Coast AQMD

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>
2009 TOTALS (lbs/day unmitigated)	5.32	45.70	22.25	0.01	11.21	2.21	13.42	2.34	2.03	4.38	4,227.35
2009 TOTALS (lbs/day mitigated)	5.32	38.87	22.25	0.01	6.28	0.43	6.62	1.31	0.40	1.62	4,227.35
2010 TOTALS (lbs/day unmitigated)	2.53	18.57	11.62	0.01	0.02	0.97	0.99	0.01	0.89	0.90	2,198.04
2010 TOTALS (lbs/day mitigated)	2.53	15.89	11.62	0.01	0.02	0.17	0.20	0.01	0.16	0.17	2,198.04

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter 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>
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Time Slice 9/1/2009-10/23/2009	2.12	16.71	9.42	0.00	0.68	0.98	1.66	0.14	0.90	1.04	1,689.48
Active Days: 39											
Demolition 09/01/2009-10/23/2009	2.12	16.71	9.42	0.00	0.68	0.98	1.66	0.14	0.90	1.04	1,689.48
Fugitive Dust	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.14	0.00	0.14	0.00
Demo Off Road Diesel	2.02	15.86	7.72	0.00	0.00	0.94	0.94	0.00	0.87	0.87	1,439.76
Demo On Road Diesel	0.06	0.76	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.19
Demo Worker Trips	0.05	0.08	1.41	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.54
Time Slice 10/26/2009-12/11/2009	5.32	45.70	22.25	0.00	11.21	2.21	13.42	2.34	2.03	4.38	4,227.35
Active Days: 35											
Fine Grading 10/26/2009-12/11/2009	5.32	45.70	22.25	0.00	11.21	2.21	13.42	2.34	2.03	4.38	4,227.35
Fine Grading Dust	0.00	0.00	0.00	0.00	11.20	0.00	11.20	2.34	0.00	2.34	0.00
Fine Grading Off Road Diesel	5.24	45.57	20.00	0.00	0.00	2.21	2.21	0.00	2.03	2.03	3,978.49
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	0.07	0.14	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.86
Time Slice 12/14/2009-12/31/2009	2.69	19.67	12.17	0.01	0.02	1.05	1.08	0.01	0.97	0.98	2,198.15
Active Days: 14											
Building 12/14/2009-04/30/2010	2.69	19.67	12.17	0.01	0.02	1.05	1.08	0.01	0.97	0.98	2,198.15
Building Off Road Diesel	2.53	18.88	8.14	0.00	0.00	1.02	1.02	0.00	0.94	0.94	1,704.54
Building Vendor Trips	0.05	0.58	0.47	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.00
Building Worker Trips	0.11	0.21	3.56	0.00	0.02	0.01	0.03	0.01	0.01	0.02	392.60
Time Slice 1/1/2010-4/30/2010	2.53	18.57	11.62	0.01	0.02	0.97	0.99	0.01	0.89	0.90	2,198.04
Active Days: 86											
Building 12/14/2009-04/30/2010	2.53	18.57	11.62	0.01	0.02	0.97	0.99	0.01	0.89	0.90	2,198.04
Building Off Road Diesel	2.38	17.84	7.88	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,704.54
Building Vendor Trips	0.05	0.53	0.44	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.00
Building Worker Trips	0.10	0.20	3.31	0.00	0.02	0.01	0.03	0.01	0.01	0.02	392.49

Phase Assumptions

Phase: Demolition 9/1/2009 - 10/23/2009 - Demolition of Hanger, Office, and UST

Building Volume Total (cubic feet): 50086.44

Building Volume Daily (cubic feet): 1600

On Road Truck Travel (VMT): 22.22

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

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

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 10/26/2009 - 12/11/2009 - Grading site and pouring concrete

Total Acres Disturbed: 1.55

Maximum Daily Acreage Disturbed: 0.56

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 8 hours per day

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

1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

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

1 Surfacing Equipment (362 hp) operating at a 0.45 load factor for 8 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

Phase: Building Construction 12/14/2009 - 4/30/2010 - Building Construction

Off-Road Equipment:

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- 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
- 1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, 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>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 9/1/2009-10/23/2009 Active Days: 39	2.12	15.48	9.42	0.00	0.68	<u>0.43</u>	1.12	0.14	<u>0.40</u>	0.54	1,689.48
Demolition 09/01/2009-10/23/2009	2.12	15.48	9.42	0.00	0.68	0.43	1.12	0.14	0.40	0.54	1,689.48
Fugitive Dust	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.14	0.00	0.14	0.00
Demo Off Road Diesel	2.02	14.64	7.72	0.00	0.00	0.40	0.40	0.00	0.37	0.37	1,439.76
Demo On Road Diesel	0.06	0.76	0.29	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.19
Demo Worker Trips	0.05	0.08	1.41	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.54
Time Slice 10/26/2009-12/11/2009 Active Days: 35	5.32	38.87	22.25	0.00	<u>6.28</u>	0.34	<u>6.62</u>	<u>1.31</u>	0.31	<u>1.62</u>	4,227.35
Fine Grading 10/26/2009-12/11/2009	5.32	38.87	22.25	0.00	6.28	0.34	6.62	1.31	0.31	1.62	4,227.35
Fine Grading Dust	0.00	0.00	0.00	0.00	6.27	0.00	6.27	1.31	0.00	1.31	0.00
Fine Grading Off Road Diesel	5.24	38.73	20.00	0.00	0.00	0.33	0.33	0.00	0.30	0.30	3,978.49
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	0.07	0.14	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.86

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Time Slice 12/14/2009-12/31/2009	2.69	16.84	12.17	<u>0.01</u>	0.02	0.19	0.21	0.01	0.17	0.18	2,198.15
Active Days: 14											
Building 12/14/2009-04/30/2010	2.69	16.84	12.17	0.01	0.02	0.19	0.21	0.01	0.17	0.18	2,198.15
Building Off Road Diesel	2.53	16.05	8.14	0.00	0.00	0.15	0.15	0.00	0.14	0.14	1,704.54
Building Vendor Trips	0.05	0.58	0.47	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.00
Building Worker Trips	0.11	0.21	3.56	0.00	0.02	0.01	0.03	0.01	0.01	0.02	392.60
Time Slice 1/1/2010-4/30/2010	<u>2.53</u>	<u>15.89</u>	<u>11.62</u>	<u>0.01</u>	<u>0.02</u>	<u>0.17</u>	<u>0.20</u>	<u>0.01</u>	<u>0.16</u>	<u>0.17</u>	<u>2,198.04</u>
Active Days: 86											
Building 12/14/2009-04/30/2010	2.53	15.89	11.62	0.01	0.02	0.17	0.20	0.01	0.16	0.17	2,198.04
Building Off Road Diesel	2.38	15.17	7.88	0.00	0.00	0.14	0.14	0.00	0.13	0.13	1,704.54
Building Vendor Trips	0.05	0.53	0.44	0.00	0.00	0.02	0.03	0.00	0.02	0.02	101.00
Building Worker Trips	0.10	0.20	3.31	0.00	0.02	0.01	0.03	0.01	0.01	0.02	392.49

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 9/1/2009 - 10/23/2009 - Demolition of Hanger, Office, and UST

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Fine Grading 10/26/2009 - 12/11/2009 - Grading site and pouring concrete

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

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PM10: 34% PM25: 34%

For Soil Stabilizing Measures, the Cover stockpiles with tarp mitigation reduces emissions by:

PM10: 9.5% PM25: 9.5%

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

PM10: 40% PM25: 40%

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

PM10: 30% PM25: 30%

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

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Other Material Handling Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

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NOX: 15%

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

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Surfacing Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 12/14/2009 - 4/30/2010 - Building Construction

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

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Welders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

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

PM10: 85% PM25: 85%

For Other Material Handling Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%