

**APPENDIX E**  
***URBEMIS 2007 Version 9.2.4 Modeling and  
Estimated Emissions  
and  
Greenhouse Gas Emission Calculations***



APPENDIX E – PART I  
*URBEMIS 2007 Version 9.2.4 Modeling and  
Estimated Emissions*



Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\300.Environmental\6959 DPLU As Needed\Equine Ordinance EIR\DUDEK WORK PRODUCTS\DOCUMENTS\DEIR\AQ\_GHG items\Equine Ordinance.urb924

Project Name: Equine Ordinance

Project Location: California State-wide

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> |
|-----------------------------------|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|
| 2014 TOTALS (lbs/day unmitigated) | 20.24      | 19.14      | 11.89     | 0.00       | 20.01            | 0.89                | 20.90       | 4.18              | 0.82                 | 5.00         |
| 2014 TOTALS (lbs/day mitigated)   | 20.24      | 19.14      | 11.89     | 0.00       | 11.32            | 0.89                | 12.21       | 2.36              | 0.82                 | 3.18         |

AREA SOURCE EMISSION ESTIMATES

|                               | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM2.5</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|
| TOTALS (lbs/day, unmitigated) | 0.17       | 0.02       | 1.55      | 0.00       | 0.01        | 0.01         |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

|                               | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM2.5</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|
| TOTALS (lbs/day, unmitigated) | 0.26       | 0.28       | 2.50      | 0.00       | 0.51        | 0.10         |

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> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|
| TOTALS (lbs/day, unmitigated) | 0.43       | 0.30       | 4.05      | 0.00       | 0.52        | 0.11         |

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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> |
|---|--------------|--------------|--------------|-------------|------------------|---------------------|--------------|-------------------|----------------------|--------------|
| Time Slice 1/1/2014-1/15/2014<br>Active Days: 11  | 2.44         | <b>19.14</b> | <b>11.89</b> | <b>0.00</b> | <u>20.01</u>     | <b>0.89</b>         | <u>20.90</u> | <u>4.18</u>       | <b>0.82</b>          | <u>5.00</u>  |
| Fine Grading 01/01/2014-01/15/2014                | 2.44         | 19.14        | 11.89        | 0.00        | 20.01            | 0.89                | 20.90        | 4.18              | 0.82                 | 5.00         |
| Fine Grading Dust                                 | 0.00         | 0.00         | 0.00         | 0.00        | 20.00            | 0.00                | 20.00        | 4.18              | 0.00                 | 4.18         |
| Fine Grading Off Road Diesel                      | 2.41         | 19.08        | 10.74        | 0.00        | 0.00             | 0.89                | 0.89         | 0.00              | 0.82                 | 0.82         |
| 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         |
| Fine Grading Worker Trips                         | 0.03         | 0.06         | 1.16         | 0.00        | 0.01             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.01         |
| Time Slice 1/16/2014-2/17/2014<br>Active Days: 23 | 2.65         | 13.05        | 10.56        | 0.00        | 0.00             | 0.83                | 0.83         | 0.00              | 0.76                 | 0.76         |
| Building 01/16/2014-02/17/2014                    | 2.65         | 13.05        | 10.56        | 0.00        | 0.00             | 0.83                | 0.83         | 0.00              | 0.76                 | 0.76         |
| Building Off Road Diesel                          | 2.63         | 12.97        | 9.89         | 0.00        | 0.00             | 0.82                | 0.82         | 0.00              | 0.76                 | 0.76         |
| Building Vendor Trips                             | 0.00         | 0.04         | 0.04         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |
| Building Worker Trips                             | 0.02         | 0.03         | 0.63         | 0.00        | 0.00             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.00         |
| Time Slice 2/18/2014-2/28/2014<br>Active Days: 9  | <b>20.24</b> | 0.01         | 0.27         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |
| Coating 02/18/2014-02/28/2014                     | 20.24        | 0.01         | 0.27         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |
| Architectural Coating                             | 20.23        | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |
| Coating Worker Trips                              | 0.01         | 0.01         | 0.27         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |

Phase Assumptions

Phase: Fine Grading 1/1/2014 - 1/15/2014 - Default Fine Site Grading Description

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 1

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Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 1/16/2014 - 2/17/2014 - Default Building Construction Description

Off-Road Equipment:

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

Phase: Architectural Coating 2/18/2014 - 2/28/2014 - 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

|            |            |           |            |                  |                     |             |                   |                      |              |
|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|
| <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> |
|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|

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|   |                     |                     |                     |                    |                     |                    |                     |                    |                    |                    |
|---|---------------------|---------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|--------------------|--------------------|
| Time Slice 1/1/2014-1/15/2014<br>Active Days: 11  | 2.44                | <b><u>19.14</u></b> | <b><u>11.89</u></b> | <b><u>0.00</u></b> | <b><u>11.32</u></b> | <b><u>0.89</u></b> | <b><u>12.21</u></b> | <b><u>2.36</u></b> | <b><u>0.82</u></b> | <b><u>3.18</u></b> |
| Fine Grading 01/01/2014-01/15/2014                | 2.44                | 19.14               | 11.89               | 0.00               | 11.32               | 0.89               | 12.21               | 2.36               | 0.82               | 3.18               |
| Fine Grading Dust                                 | 0.00                | 0.00                | 0.00                | 0.00               | 11.31               | 0.00               | 11.31               | 2.36               | 0.00               | 2.36               |
| Fine Grading Off Road Diesel                      | 2.41                | 19.08               | 10.74               | 0.00               | 0.00                | 0.89               | 0.89                | 0.00               | 0.82               | 0.82               |
| 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               |
| Fine Grading Worker Trips                         | 0.03                | 0.06                | 1.16                | 0.00               | 0.01                | 0.00               | 0.01                | 0.00               | 0.00               | 0.01               |
| Time Slice 1/16/2014-2/17/2014<br>Active Days: 23 | 2.65                | 13.05               | 10.56               | 0.00               | 0.00                | 0.83               | 0.83                | 0.00               | 0.76               | 0.76               |
| Building 01/16/2014-02/17/2014                    | 2.65                | 13.05               | 10.56               | 0.00               | 0.00                | 0.83               | 0.83                | 0.00               | 0.76               | 0.76               |
| Building Off Road Diesel                          | 2.63                | 12.97               | 9.89                | 0.00               | 0.00                | 0.82               | 0.82                | 0.00               | 0.76               | 0.76               |
| Building Vendor Trips                             | 0.00                | 0.04                | 0.04                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |
| Building Worker Trips                             | 0.02                | 0.03                | 0.63                | 0.00               | 0.00                | 0.00               | 0.01                | 0.00               | 0.00               | 0.00               |
| Time Slice 2/18/2014-2/28/2014<br>Active Days: 9  | <b><u>20.24</u></b> | 0.01                | 0.27                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |
| Coating 02/18/2014-02/28/2014                     | 20.24               | 0.01                | 0.27                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |
| Architectural Coating                             | 20.23               | 0.00                | 0.00                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |
| Coating Worker Trips                              | 0.01                | 0.01                | 0.27                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2014 - 1/15/2014 - Default Fine Site Grading Description

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

PM10: 55% PM25: 55%

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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> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|
| Natural Gas                   |            |            |           |            |             |              |
| Hearth                        |            |            |           |            |             |              |
| Landscape                     | 0.12       | 0.02       | 1.55      | 0.00       | 0.01        | 0.01         |
| Consumer Products             |            |            |           |            |             |              |
| Architectural Coatings        | 0.05       |            |           |            |             |              |
| TOTALS (lbs/day, unmitigated) | 0.17       | 0.02       | 1.55      | 0.00       | 0.01        | 0.01         |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL 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>PM25</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|-------------|
| Tier 3/Tier 4 Equine Facility | 0.26       | 0.28       | 2.50      | 0.00       | 0.51        | 0.10        |
| TOTALS (lbs/day, unmitigated) | 0.26       | 0.28       | 2.50      | 0.00       | 0.51        | 0.10        |

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 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 |
|-------------------------------|---------|-----------|------------|-----------|-------------|-----------|
| Tier 3/Tier 4 Equine Facility |         | 5.18      | 1000 sq ft | 8.50      | 44.03       | 297.73    |
|                               |         |           |            |           | 44.03       | 297.73    |

Vehicle Fleet Mix

| Vehicle Type                        | Percent Type | Non-Catalyst | Catalyst | Diesel |
|-------------------------------------|--------------|--------------|----------|--------|
| Light Auto                          | 48.4         | 0.4          | 99.4     | 0.2    |
| Light Truck < 3750 lbs              | 10.9         | 0.9          | 95.4     | 3.7    |
| Light Truck 3751-5750 lbs           | 21.9         | 0.5          | 99.5     | 0.0    |
| Med Truck 5751-8500 lbs             | 9.7          | 0.0          | 100.0    | 0.0    |
| Lite-Heavy Truck 8501-10,000 lbs    | 1.7          | 0.0          | 76.5     | 23.5   |
| Lite-Heavy Truck 10,001-14,000 lbs  | 0.7          | 0.0          | 42.9     | 57.1   |
| Med-Heavy Truck 14,001-33,000 lbs   | 1.0          | 0.0          | 20.0     | 80.0   |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.9          | 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                          | 3.5          | 51.4         | 48.6     | 0.0    |
| School Bus                          | 0.1          | 0.0          | 0.0      | 100.0  |
| Motor Home                          | 1.0          | 0.0          | 90.0     | 10.0   |

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      |

Travel Conditions

|                                       | Residential |           |            | Commercial |          |          |
|---------------------------------------|-------------|-----------|------------|------------|----------|----------|
|                                       | Home-Work   | Home-Shop | Home-Other | Commute    | Non-Work | Customer |
| 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) |             |           |            |            |          |          |
| Tier 3/Tier 4 Equine Facility         |             |           |            | 2.0        | 1.0      | 97.0     |

Operational Changes to Defaults

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

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\300.Environmental\6959 DPLU As Needed\Equine Ordinance EIR\DUDEK WORK PRODUCTS\DOCUMENTS\DEIR\AQ\_GHG items\Equine Ordinance.urb924

Project Name: Equine Ordinance

Project Location: California State-wide

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> |
|-----------------------------------|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|
| 2014 TOTALS (lbs/day unmitigated) | 20.24      | 19.14      | 11.89     | 0.00       | 20.01            | 0.89                | 20.90       | 4.18              | 0.82                 | 5.00         |
| 2014 TOTALS (lbs/day mitigated)   | 20.24      | 19.14      | 11.89     | 0.00       | 11.32            | 0.89                | 12.21       | 2.36              | 0.82                 | 3.18         |

AREA SOURCE EMISSION ESTIMATES

|                               | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM2.5</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|
| TOTALS (lbs/day, unmitigated) | 0.05       |            |           |            |             |              |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

|                               | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM2.5</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|
| TOTALS (lbs/day, unmitigated) | 0.24       | 0.41       | 2.75      | 0.00       | 0.51        | 0.10         |

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> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|
| TOTALS (lbs/day, unmitigated) | 0.29       | 0.41       | 2.75      | 0.00       | 0.51        | 0.10         |

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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> |
|---|--------------|--------------|--------------|-------------|------------------|---------------------|--------------|-------------------|----------------------|--------------|
| Time Slice 1/1/2014-1/15/2014<br>Active Days: 11  | 2.44         | <b>19.14</b> | <b>11.89</b> | <b>0.00</b> | <u>20.01</u>     | <b>0.89</b>         | <u>20.90</u> | <u>4.18</u>       | <b>0.82</b>          | <u>5.00</u>  |
| Fine Grading 01/01/2014-01/15/2014                | 2.44         | 19.14        | 11.89        | 0.00        | 20.01            | 0.89                | 20.90        | 4.18              | 0.82                 | 5.00         |
| Fine Grading Dust                                 | 0.00         | 0.00         | 0.00         | 0.00        | 20.00            | 0.00                | 20.00        | 4.18              | 0.00                 | 4.18         |
| Fine Grading Off Road Diesel                      | 2.41         | 19.08        | 10.74        | 0.00        | 0.00             | 0.89                | 0.89         | 0.00              | 0.82                 | 0.82         |
| 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         |
| Fine Grading Worker Trips                         | 0.03         | 0.06         | 1.16         | 0.00        | 0.01             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.01         |
| Time Slice 1/16/2014-2/17/2014<br>Active Days: 23 | 2.65         | 13.05        | 10.56        | 0.00        | 0.00             | 0.83                | 0.83         | 0.00              | 0.76                 | 0.76         |
| Building 01/16/2014-02/17/2014                    | 2.65         | 13.05        | 10.56        | 0.00        | 0.00             | 0.83                | 0.83         | 0.00              | 0.76                 | 0.76         |
| Building Off Road Diesel                          | 2.63         | 12.97        | 9.89         | 0.00        | 0.00             | 0.82                | 0.82         | 0.00              | 0.76                 | 0.76         |
| Building Vendor Trips                             | 0.00         | 0.04         | 0.04         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |
| Building Worker Trips                             | 0.02         | 0.03         | 0.63         | 0.00        | 0.00             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.00         |
| Time Slice 2/18/2014-2/28/2014<br>Active Days: 9  | <b>20.24</b> | 0.01         | 0.27         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |
| Coating 02/18/2014-02/28/2014                     | 20.24        | 0.01         | 0.27         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |
| Architectural Coating                             | 20.23        | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |
| Coating Worker Trips                              | 0.01         | 0.01         | 0.27         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         |

Phase Assumptions

Phase: Fine Grading 1/1/2014 - 1/15/2014 - Default Fine Site Grading Description

Total Acres Disturbed: 1

Maximum Daily Acreage Disturbed: 1

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Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 1/16/2014 - 2/17/2014 - Default Building Construction Description

Off-Road Equipment:

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

Phase: Architectural Coating 2/18/2014 - 2/28/2014 - 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 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> |
|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|

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|   |                     |                     |                     |                    |                     |                    |                     |                    |                    |                    |
|---|---------------------|---------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|--------------------|--------------------|
| Time Slice 1/1/2014-1/15/2014<br>Active Days: 11  | 2.44                | <b><u>19.14</u></b> | <b><u>11.89</u></b> | <b><u>0.00</u></b> | <b><u>11.32</u></b> | <b><u>0.89</u></b> | <b><u>12.21</u></b> | <b><u>2.36</u></b> | <b><u>0.82</u></b> | <b><u>3.18</u></b> |
| Fine Grading 01/01/2014-01/15/2014                | 2.44                | 19.14               | 11.89               | 0.00               | 11.32               | 0.89               | 12.21               | 2.36               | 0.82               | 3.18               |
| Fine Grading Dust                                 | 0.00                | 0.00                | 0.00                | 0.00               | 11.31               | 0.00               | 11.31               | 2.36               | 0.00               | 2.36               |
| Fine Grading Off Road Diesel                      | 2.41                | 19.08               | 10.74               | 0.00               | 0.00                | 0.89               | 0.89                | 0.00               | 0.82               | 0.82               |
| 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               |
| Fine Grading Worker Trips                         | 0.03                | 0.06                | 1.16                | 0.00               | 0.01                | 0.00               | 0.01                | 0.00               | 0.00               | 0.01               |
| Time Slice 1/16/2014-2/17/2014<br>Active Days: 23 | 2.65                | 13.05               | 10.56               | 0.00               | 0.00                | 0.83               | 0.83                | 0.00               | 0.76               | 0.76               |
| Building 01/16/2014-02/17/2014                    | 2.65                | 13.05               | 10.56               | 0.00               | 0.00                | 0.83               | 0.83                | 0.00               | 0.76               | 0.76               |
| Building Off Road Diesel                          | 2.63                | 12.97               | 9.89                | 0.00               | 0.00                | 0.82               | 0.82                | 0.00               | 0.76               | 0.76               |
| Building Vendor Trips                             | 0.00                | 0.04                | 0.04                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |
| Building Worker Trips                             | 0.02                | 0.03                | 0.63                | 0.00               | 0.00                | 0.00               | 0.01                | 0.00               | 0.00               | 0.00               |
| Time Slice 2/18/2014-2/28/2014<br>Active Days: 9  | <b><u>20.24</u></b> | 0.01                | 0.27                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |
| Coating 02/18/2014-02/28/2014                     | 20.24               | 0.01                | 0.27                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |
| Architectural Coating                             | 20.23               | 0.00                | 0.00                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |
| Coating Worker Trips                              | 0.01                | 0.01                | 0.27                | 0.00               | 0.00                | 0.00               | 0.00                | 0.00               | 0.00               | 0.00               |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2014 - 1/15/2014 - Default Fine Site Grading Description

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

PM10: 55% PM25: 55%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter 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> |
|--------------------------------------|-------------|------------|-----------|------------|-------------|--------------|
| Natural Gas                          |             |            |           |            |             |              |
| Hearth                               |             |            |           |            |             |              |
| Landscaping - No Winter Emissions    |             |            |           |            |             |              |
| Consumer Products                    |             |            |           |            |             |              |
| Architectural Coatings               | 0.05        |            |           |            |             |              |
| <b>TOTALS (lbs/day, unmitigated)</b> | <b>0.05</b> |            |           |            |             |              |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

| <u>Source</u>                        | <u>ROG</u>  | <u>NOX</u>  | <u>CO</u>   | <u>SO2</u>  | <u>PM10</u> | <u>PM25</u> |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Tier 3/Tier 4 Equine Facility        | 0.24        | 0.41        | 2.75        | 0.00        | 0.51        | 0.10        |
| <b>TOTALS (lbs/day, unmitigated)</b> | <b>0.24</b> | <b>0.41</b> | <b>2.75</b> | <b>0.00</b> | <b>0.51</b> | <b>0.10</b> |

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Temperature (F): 40 Season: Winter

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 |
|-------------------------------|---------|-----------|------------|-----------|-------------|-----------|
| Tier 3/Tier 4 Equine Facility |         | 5.18      | 1000 sq ft | 8.50      | 44.03       | 297.73    |
|                               |         |           |            |           | 44.03       | 297.73    |

Vehicle Fleet Mix

| Vehicle Type                        | Percent Type | Non-Catalyst | Catalyst | Diesel |
|-------------------------------------|--------------|--------------|----------|--------|
| Light Auto                          | 48.4         | 0.4          | 99.4     | 0.2    |
| Light Truck < 3750 lbs              | 10.9         | 0.9          | 95.4     | 3.7    |
| Light Truck 3751-5750 lbs           | 21.9         | 0.5          | 99.5     | 0.0    |
| Med Truck 5751-8500 lbs             | 9.7          | 0.0          | 100.0    | 0.0    |
| Lite-Heavy Truck 8501-10,000 lbs    | 1.7          | 0.0          | 76.5     | 23.5   |
| Lite-Heavy Truck 10,001-14,000 lbs  | 0.7          | 0.0          | 42.9     | 57.1   |
| Med-Heavy Truck 14,001-33,000 lbs   | 1.0          | 0.0          | 20.0     | 80.0   |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.9          | 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                          | 3.5          | 51.4         | 48.6     | 0.0    |
| School Bus                          | 0.1          | 0.0          | 0.0      | 100.0  |
| Motor Home                          | 1.0          | 0.0          | 90.0     | 10.0   |

Travel Conditions

|                           | Residential |           |            | Commuter | 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      |

Travel Conditions

|                                       | Residential |           |            | Commercial |          |          |
|---------------------------------------|-------------|-----------|------------|------------|----------|----------|
|                                       | Home-Work   | Home-Shop | Home-Other | Commute    | Non-Work | Customer |
| 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) |             |           |            |            |          |          |
| Tier 3/Tier 4 Equine Facility         |             |           |            | 2.0        | 1.0      | 97.0     |

Operational Changes to Defaults

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

APPENDIX E – PART II  
*Greenhouse Gas Emission Calculations*



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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\300.Environmental\6959 DPLU As Needed\Equine Ordinance EIR\DUDEK WORK PRODUCTS\DOCUMENTS\DEIR\AQ\_GHG items\Equine Ordinance.urb924

Project Name: Equine Ordinance

Project Location: California State-wide

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>CO2</u> |
|-------------------------------------|------------|
| 2014 TOTALS (tons/year unmitigated) | 33.15      |
| 2014 TOTALS (tons/year mitigated)   | 33.15      |
| Percent Reduction                   | 0.00       |

AREA SOURCE EMISSION ESTIMATES

|                                 | <u>CO2</u> |
|---------------------------------|------------|
| TOTALS (tons/year, unmitigated) | 0.25       |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

|                                 | <u>CO2</u> |
|---------------------------------|------------|
| TOTALS (tons/year, unmitigated) | 52.06      |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

|                                 | <u>CO2</u> |
|---------------------------------|------------|
| TOTALS (tons/year, unmitigated) | 52.31      |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

CO2

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|                                    |       |
|------------------------------------|-------|
| 2014                               | 33.15 |
| Fine Grading 01/01/2014-01/15/2014 | 13.22 |
| Fine Grading Dust                  | 0.00  |
| Fine Grading Off Road Diesel       | 12.36 |
| Fine Grading On Road Diesel        | 0.00  |
| Fine Grading Worker Trips          | 0.86  |
| Building 01/16/2014-02/17/2014     | 19.77 |
| Building Off Road Diesel           | 18.64 |
| Building Vendor Trips              | 0.14  |
| Building Worker Trips              | 0.98  |
| Coating 02/18/2014-02/28/2014      | 0.17  |
| Architectural Coating              | 0.00  |
| Coating Worker Trips               | 0.17  |

Phase Assumptions

Phase: Fine Grading 1/1/2014 - 1/15/2014 - Default Fine Site Grading Description  
Total Acres Disturbed: 1  
Maximum Daily Acreage Disturbed: 1  
Fugitive Dust Level of Detail: Default  
20 lbs per acre-day  
On Road Truck Travel (VMT): 0  
Off-Road Equipment:  
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day  
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day  
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day  
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Building Construction 1/16/2014 - 2/17/2014 - Default Building Construction Description

Off-Road Equipment:

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

Phase: Architectural Coating 2/18/2014 - 2/28/2014 - 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 Annual Tons Per Year, Mitigated

CO2

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|                                    |       |
|------------------------------------|-------|
| 2014                               | 33.15 |
| Fine Grading 01/01/2014-01/15/2014 | 13.22 |
| Fine Grading Dust                  | 0.00  |
| Fine Grading Off Road Diesel       | 12.36 |
| Fine Grading On Road Diesel        | 0.00  |
| Fine Grading Worker Trips          | 0.86  |
| Building 01/16/2014-02/17/2014     | 19.77 |
| Building Off Road Diesel           | 18.64 |
| Building Vendor Trips              | 0.14  |
| Building Worker Trips              | 0.98  |
| Coating 02/18/2014-02/28/2014      | 0.17  |
| Architectural Coating              | 0.00  |
| Coating Worker Trips               | 0.17  |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 1/1/2014 - 1/15/2014 - Default Fine Site Grading Description

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

PM10: 55% PM25: 55%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| <u>Source</u>                   | <u>CO2</u> |
|---------------------------------|------------|
| Natural Gas                     |            |
| Hearth                          |            |
| Landscape                       | 0.25       |
| Consumer Products               |            |
| Architectural Coatings          |            |
| TOTALS (tons/year, unmitigated) | 0.25       |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

| <u>Source</u>                   | <u>CO2</u> |
|---------------------------------|------------|
| Tier 3/Tier 4 Equine Facility   | 52.06      |
| TOTALS (tons/year, unmitigated) | 52.06      |

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Season: Annual

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 |
|-------------------------------|---------|-----------|------------|-----------|-------------|-----------|
| Tier 3/Tier 4 Equine Facility |         | 5.18      | 1000 sq ft | 8.50      | 44.03       | 297.73    |
|                               |         |           |            |           | 44.03       | 297.73    |

Vehicle Fleet Mix

| Vehicle Type                        | Percent Type | Non-Catalyst | Catalyst | Diesel |
|-------------------------------------|--------------|--------------|----------|--------|
| Light Auto                          | 48.4         | 0.4          | 99.4     | 0.2    |
| Light Truck < 3750 lbs              | 10.9         | 0.9          | 95.4     | 3.7    |
| Light Truck 3751-5750 lbs           | 21.9         | 0.5          | 99.5     | 0.0    |
| Med Truck 5751-8500 lbs             | 9.7          | 0.0          | 100.0    | 0.0    |
| Lite-Heavy Truck 8501-10,000 lbs    | 1.7          | 0.0          | 76.5     | 23.5   |
| Lite-Heavy Truck 10,001-14,000 lbs  | 0.7          | 0.0          | 42.9     | 57.1   |
| Med-Heavy Truck 14,001-33,000 lbs   | 1.0          | 0.0          | 20.0     | 80.0   |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.9          | 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                          | 3.5          | 51.4         | 48.6     | 0.0    |
| School Bus                          | 0.1          | 0.0          | 0.0      | 100.0  |
| Motor Home                          | 1.0          | 0.0          | 90.0     | 10.0   |

Travel Conditions

|                           | Residential |           |            | Commuter | 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      |

Travel Conditions

|                                       | Residential |           |            | Commercial |          |          |
|---------------------------------------|-------------|-----------|------------|------------|----------|----------|
|                                       | Home-Work   | Home-Shop | Home-Other | Commute    | Non-Work | Customer |
| 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) |             |           |            |            |          |          |
| Tier 3/Tier 4 Equine Facility         |             |           |            | 2.0        | 1.0      | 97.0     |

Operational Changes to Defaults

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

## Equine Ordinance Amendment GHG Emissions Summary

|   | CO <sub>2</sub><br>(tons/yr) | CO <sub>2</sub> E<br>(Mtons/yr) |
|---|------------------------------|---------------------------------|
| <b>CONSTRUCTION</b>                     |                              |                                 |
| <b>2014</b>                             |                              |                                 |
| Off-Road Diesel                         | 31.00                        | 28.38                           |
| Passenger Vehicles                      | 2.15                         | 2.05                            |
| <b>Total for 2014</b>                   | <b>33.15</b>                 | <b>30.43</b>                    |
| <i>Amortized Construction Emissions</i> |                              | <i>1.01</i>                     |
| <b>OPERATION</b>                        |                              |                                 |
| Passenger Vehicles                      | 52.06                        | 49.71                           |
| Landscaping                             | 0.25                         | 0.25                            |
| <b>Total Operational</b>                | <b>52.31</b>                 | <b>49.96</b>                    |

**Equine Ordinance Amendment  
CO<sub>2</sub>-to-CO<sub>2</sub> Equivalent Factors**

|                          | <b>Source</b> | <b>Units</b> | <b>CO<sub>2</sub></b> | <b>CH<sub>4</sub></b> | <b>N<sub>2</sub>O</b> | <b>CO<sub>2</sub>E/CO<sub>2</sub></b> |
|--------------------------|---------------|--------------|-----------------------|-----------------------|-----------------------|---------------------------------------|
| Global Warming Potential |               |              | 1                     | 21                    | 310                   |                                       |
| Diesel Equipment         | 1             | kg/gal       | 10.15                 | 0.00058               | 0.00026               | 1.009                                 |
| Diesel Trucks            | 2             | g/mi         | 1,450.00              | 0.0051                | 0.0048                | 1.001                                 |
| Passenger Vehicles       | 3             |              |                       |                       |                       | 1.053                                 |

Serving Utility:                   SDG&E

1. California Climate Action Registry. 2009. *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions*, Version 3.1, Tables C.6 and C.7.

**Equine Ordinance Amendment  
CO<sub>2</sub>-to-CO<sub>2</sub> Equivalent Factors**

|                          | <b>Source</b> | <b>Units</b> | <b>CO<sub>2</sub></b> | <b>CH<sub>4</sub></b> | <b>N<sub>2</sub>O</b> | <b>CO<sub>2</sub>E/CO<sub>2</sub></b> |
|--------------------------|---------------|--------------|-----------------------|-----------------------|-----------------------|---------------------------------------|
| Global Warming Potential |               |              | 1                     | 21                    | 310                   |                                       |
| Diesel Equipment         | 1             | kg/gal       | 10.15                 | 0.00058               | 0.00026               | 1.009                                 |
| Diesel Trucks            | 2             | g/mi         | 1,450.00              | 0.0051                | 0.0048                | 1.001                                 |
| Passenger Vehicles       | 3             |              |                       |                       |                       | 1.053                                 |

Serving Utility:                   SDG&E

1. California Climate Action Registry. 2009. *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions*, Version 3.1, Tables C.6 and C.7.
2. California Climate Action Registry. 2009. *General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions*, Version 3.1, Tables C.3 and C.4.
3. US EPA, Office of Transportation and Air Quality. 2005. *Greenhouse Gas Emissions from a Typical Passenger Vehicle* (EPA420-F-05-004), p. 4.

**Equine Ordinance Amendment  
Construction Emissions**

|   | <b>CO<sub>2</sub><br/>(tons/yr)</b> | <b>CO<sub>2</sub>E<br/>(Mtons/yr)</b> |
|---|-------------------------------------|---------------------------------------|
| 2014                                    |                                     |                                       |
| Off-Road Diesel                         | 31.00                               | 28.38                                 |
| On-Road Diesel                          | -                                   | -                                     |
| Worker/Vendor Trips                     | 2.15                                | 2.05                                  |
| <b>Total</b>                            | <b>33.15</b>                        | <b>30.43</b>                          |
| <b>SUMMARY</b>                          |                                     |                                       |
| Total Construction Emissions            |                                     | 30.43                                 |
| Amortized Annual Construction Emissions |                                     | <b>1.01</b>                           |

**Equine Ordinance Amendment**  
**Motor Vehicle and Area Source Operational Emissions**

| Source         | CO <sub>2</sub><br>(tons/yr) <sup>1</sup> | CO <sub>2</sub> E<br>(Mtons/yr) |
|----------------|---|---------------------------------|
| Motor Vehicles | 52.06                                     | 49.71                           |
| Landscaping    | 0.25                                      | 0.25                            |
| <b>Total</b>   | <b>52.31</b>                              | <b>49.96</b>                    |

Source:

1. URBEMIS Output

Notes:

CO<sub>2</sub>E            Carbon dioxide equivalent  
Mtons            metric tons (= 1.1023 tons)

