

APPENDIX B

AIR QUALITY MODELING OUTPUT

CONSTRUCTION EMISSIONS

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Oleander Sundance\Oleander Su
 Project Name: Oleander Sundance Construction
 Project Location: San Joaquin Valley
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
 (Tons/Year)

CONSTRUCTION EMISSION ESTIMATES

*** 2006 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (tpy, unmitigated)	1.51	7.82	7.80	0.01	6.26	0.34	5.92
TOTALS (tpy, mitigated)	1.46	6.37	7.80	0.01	1.78	0.20	1.58

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	2.16	0.46	6.16	0.02	0.92

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	2.24	3.16	27.96	0.02	3.40

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	4.40	3.61	34.12	0.04	4.31

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DETAIL REPORT
 (Tons/Year)

Construction Start Month and Year: January, 2006
 Construction Duration: 11
 Total Land Use Area to be Developed: 50 acres
 Maximum Acreage Disturbed Per Day: 12.5 acres
 Single Family Units: 150 Multi-Family Units: 0
 Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (tons/year)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.13	-	0.13
Off-Road Diesel	0.01	0.05	0.06	-	0.00	0.00	0.00
On-Road Diesel	0.02	0.48	0.09	0.01	0.01	0.01	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	0.03	0.53	0.15	0.01	0.14	0.01	0.13
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	5.78	-	5.78
Off-Road Diesel	0.10	0.68	0.85	-	0.03	0.03	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Total tons/year	0.10	0.68	0.87	0.00	5.81	0.03	5.78
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.80	6.44	5.73	-	0.30	0.30	0.00
Bldg Const Worker Trips	0.07	0.04	0.82	0.00	0.01	0.00	0.01
Arch Coatings Off-Gas	0.47	-	-	-	-	-	-
Arch Coatings Worker Trips	0.01	0.00	0.09	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.01	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.02	0.09	0.13	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.04	0.01	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons/year	1.38	6.61	6.78	0.00	0.31	0.30	0.01
Total all phases tons/yr	1.51	7.82	7.80	0.01	6.26	0.34	5.92

Phase 1 - Demolition Assumptions
 Start Month/Year for Phase 1: Jan '06
 Phase 1 Duration: 0.5 months
 Building Volume Total (cubic feet): 615701.4
 Building Volume Daily (cubic feet): 55815
 On-Road Truck Travel (VMT): 3102
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Rubber Tired Loaders	165	0.465	8.0

Phase 2 - Site Grading Assumptions
 Start Month/Year for Phase 2: Jan '06
 Phase 2 Duration: 1.1 months
 On-Road Truck Travel (VMT): 0
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Crawler Tractors	143	0.575	8.0
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0

Phase 3 - Building Construction Assumptions
 Start Month/Year for Phase 3: Feb '06
 Phase 3 Duration: 9.4 months
 Start Month/Year for SubPhase Building: Feb '06
 SubPhase Building Duration: 9.4 months
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
4	Other Equipment	190	0.620	8.0

Start Month/Year for SubPhase Architectural Coatings: Nov '06

SubPhase Architectural Coatings Duration: 0.9 months

Start Month/Year for SubPhase Asphalt: Nov '06

SubPhase Asphalt Duration: 0.5 months

Acres to be Paved: 7.5

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Site Grading Fugitive Dust Emission Rate changed from 10 to 38.2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013
Phase 2 mitigation measure Soil Disturbance:
has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust:
has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust:
has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust:
has been changed from off to on.

Changes made to the default values for Area

The landscape year changed from 2005 to 2013.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.

OPERATIONAL EMISSIONS

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SUMMARY REPORT
 (Tons/Year)

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	15.54	3.43	44.39	0.15	6.56

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	17.94	25.45	223.83	0.16	27.38

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (tpy, unmitigated)	33.47	28.88	268.22	0.31	33.94

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Project Location: San Joaquin Valley
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Tons/Year)

AREA SOURCE EMISSION ESTIMATES (Tons per Year, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.20	2.59	1.16	0.00	0.00
Hearth	5.01	0.79	40.12	0.13	6.54
Landscaping	0.39	0.05	3.12	0.02	0.01
Consumer Prdcts	9.59	-	-	-	-
Architectural Coatings	0.35	-	-	-	-
TOTALS (tpy, unmitigated)	15.54	3.43	44.39	0.15	6.56

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	14.56	20.30	179.89	0.13	21.85
Elementary school	0.62	0.94	8.09	0.01	1.01
City park	0.03	0.00	0.00	0.00	0.00
Strip mall	2.74	4.21	35.85	0.03	4.52
TOTAL EMISSIONS (tons/yr)	17.94	25.45	223.83	0.16	27.38

Does not include correction for passby trips.

Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010

Season: Annual

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	229.89	8.60 trips/dwelling unit	1,074.00	9,236.40
Elementary school		23.40 trips/1000 sq. ft.	20.00	468.00
City park		0.00 trips/acres	19.19	0.00
Strip mall		38.40 trips/1000 sq. ft.	57.50	2,208.00
		Sum of Total Trips		11,912.40
		Total Vehicle Miles Traveled		98,933.23

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	1.20	98.10	0.70
Med Truck 5,751- 8,500	7.30	1.40	95.90	2.70
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.60	68.80	31.20	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.40	7.10	85.70	7.20

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
City park				5.0	2.5	92.5
Strip mall				2.0	1.0	97.0

Changes made to the default values for Land Use Trip Percentages

The Trip Rate and/or Acreage values for Single family housing
have changed from the defaults 9.57/358. to 8.6/229.89

Changes made to the default values for Area

The landscape year changed from 2005 to 2013.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.