

APPENDIX B - AIR QUALITY

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\smyers\Application Data\Urbemis\Version9a\Projects\Rocklin General Plan-Existing Conditions.urb924

Project Name: City of Rocklin General Plan-Existing Conditions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,489.07	296.22	879.07	0.03	2.51	2.48	365,042.52

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	2,665.38	3,534.63	30,560.50	26.50	4,593.27	893.79	2,705,230.79

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	4,154.45	3,830.85	31,439.57	26.53	4,595.78	896.27	3,070,273.31

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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>	<u>CO2</u>
Natural Gas	22.01	287.90	142.39	0.00	0.55	0.54	363,857.69
Hearth - No Summer Emissions							
Landscape	132.21	8.32	736.68	0.03	1.96	1.94	1,184.83
Consumer Products	1,029.15						
Architectural Coatings	305.70						
TOTALS (lbs/day, unmitigated)	1,489.07	296.22	879.07	0.03	2.51	2.48	365,042.52

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>	<u>CO2</u>
Single family housing	1,141.19	1,447.50	12,786.75	10.95	1,886.29	367.30	1,115,832.52
Apartments low rise	81.83	107.72	951.58	0.81	140.38	27.33	83,039.39
Apartments mid rise	255.38	319.28	2,820.38	2.41	416.06	81.02	246,119.55
Mobile home park	21.12	24.90	219.96	0.19	32.45	6.32	19,195.09
Retail and Commercial	947.63	1,365.71	11,510.32	10.14	1,768.99	343.95	1,036,496.57
Industrial	127.78	149.36	1,258.79	1.11	193.46	37.61	113,352.74
Office	90.45	120.16	1,012.72	0.89	155.64	30.26	91,194.93
TOTALS (lbs/day, unmitigated)	2,665.38	3,534.63	30,560.50	26.50	4,593.27	893.79	2,705,230.79

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Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	2,022.60	8.05	dwelling units	15,855.00	127,632.75	1,091,221.77
Apartments low rise	3,775.62	11.43	dwelling units	831.00	9,498.33	81,207.88
Apartments mid rise	297.66	7.20	dwelling units	3,910.00	28,152.00	240,691.15
Mobile home park	73.33	4.99	dwelling units	440.00	2,195.60	18,771.72
Retail and Commercial		45.04	1000 sq ft	3,074.60	138,479.99	1,023,782.56
Industrial		4.96	1000 sq ft	3,053.30	15,144.37	111,962.31
Office		11.42	1000 sq ft	1,066.90	12,184.00	90,076.30
					333,287.04	2,657,713.69

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	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)						
Retail and Commercial				2.0	1.0	97.0
Industrial				2.0	1.0	97.0
Office				2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\smyers\Application Data\Urbemis\Version9a\Projects\Rocklin General Plan-Existing Conditions.urb924

Project Name: City of Rocklin General Plan-Existing Conditions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	5,588.43	791.57	22,432.74	69.42	3,579.51	3,445.46	1,062,450.56

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3,112.08	5,063.94	34,757.24	23.64	4,593.27	893.79	2,362,386.83

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	8,700.51	5,855.51	57,189.98	93.06	8,172.78	4,339.25	3,424,837.39

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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>	<u>CO2</u>
Natural Gas	22.01	287.90	142.39	0.00	0.55	0.54	363,857.69
Hearth	4,231.57	503.67	22,290.35	69.42	3,578.96	3,444.92	698,592.87
Landscaping - No Winter Emissions							
Consumer Products	1,029.15						
Architectural Coatings	305.70						
TOTALS (lbs/day, unmitigated)	5,588.43	791.57	22,432.74	69.42	3,579.51	3,445.46	1,062,450.56

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>	<u>CO2</u>
Single family housing	1,275.35	2,075.93	14,367.81	9.76	1,886.29	367.30	975,065.37
Apartments low rise	94.91	154.49	1,069.24	0.73	140.38	27.33	72,563.61
Apartments mid rise	281.31	457.89	3,169.11	2.15	416.06	81.02	215,070.50
Mobile home park	21.94	35.71	247.16	0.17	32.45	6.32	16,773.54
Retail and Commercial	1,201.47	1,954.26	13,282.65	9.04	1,768.99	343.95	904,429.05
Industrial	131.39	213.72	1,452.61	0.99	193.46	37.61	98,909.64
Office	105.71	171.94	1,168.66	0.80	155.64	30.26	79,575.12
TOTALS (lbs/day, unmitigated)	3,112.08	5,063.94	34,757.24	23.64	4,593.27	893.79	2,362,386.83

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Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 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
Single family housing	2,022.60	8.05	dwelling units	15,855.00	127,632.75	1,091,221.77
Apartments low rise	3,775.62	11.43	dwelling units	831.00	9,498.33	81,207.88
Apartments mid rise	297.66	7.20	dwelling units	3,910.00	28,152.00	240,691.15
Mobile home park	73.33	4.99	dwelling units	440.00	2,195.60	18,771.72
Retail and Commercial		45.04	1000 sq ft	3,074.60	138,479.99	1,023,782.56
Industrial		4.96	1000 sq ft	3,053.30	15,144.37	111,962.31
Office		11.42	1000 sq ft	1,066.90	12,184.00	90,076.30
					333,287.04	2,657,713.69

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	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)						
Retail and Commercial				2.0	1.0	97.0
Industrial				2.0	1.0	97.0
Office				2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\smyers\Application Data\Urbemis\Version9a\Projects\Rocklin General Plan-Resultant Conditions.urb924

Project Name: City of Rocklin General Plan-Resultant Conditions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	2,132.35	484.07	1,276.29	0.05	3.59	3.55	594,196.17

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	5,554.28	7,516.47	64,372.81	56.16	9,755.79	1,897.80	5,734,658.98

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	7,686.63	8,000.54	65,649.10	56.21	9,759.38	1,901.35	6,328,855.15

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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>	<u>CO2</u>
Natural Gas	35.85	472.59	259.23	0.00	0.89	0.88	592,561.14
Hearth - No Summer Emissions							
Landscape	182.88	11.48	1,017.06	0.05	2.70	2.67	1,635.03
Consumer Products	1,425.37						
Architectural Coatings	488.25						
TOTALS (lbs/day, unmitigated)	2,132.35	484.07	1,276.29	0.05	3.59	3.55	594,196.17

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>	<u>CO2</u>
Single family housing	1,496.41	1,883.00	16,633.81	14.24	2,453.80	477.81	1,451,545.17
Apartments low rise	111.47	146.61	1,295.12	1.11	191.05	37.20	113,018.46
Apartments mid rise	365.27	458.92	4,053.94	3.47	598.03	116.45	353,766.17
Mobile home park	29.47	34.75	306.95	0.26	45.28	8.82	26,785.87
Retail and Commercial	2,741.15	3,950.51	33,295.18	29.34	5,117.05	994.92	2,998,207.73
Industrial	213.38	249.42	2,102.17	1.85	323.08	62.82	189,298.66
Office	597.13	793.26	6,685.64	5.89	1,027.50	199.78	602,036.92
TOTALS (lbs/day, unmitigated)	5,554.28	7,516.47	64,372.81	56.16	9,755.79	1,897.80	5,734,658.98

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Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	2,086.07	7.56	dwelling units	21,962.00	166,032.72	1,419,529.96
Apartments low rise	3,406.20	11.32	dwelling units	1,142.00	12,927.44	110,525.73
Apartments mid rise	485.79	7.47	dwelling units	5,417.00	40,464.99	345,963.52
Mobile home park	102.33	4.99	dwelling units	614.00	3,063.86	26,195.08
Retail and Commercial		45.04	1000 sq ft	8,893.70	400,572.26	2,961,430.72
Industrial		4.96	1000 sq ft	5,099.00	25,291.04	186,976.66
Office		11.42	1000 sq ft	7,043.30	80,434.48	594,652.13
					728,786.79	5,645,273.80

Vehicle Fleet Mix

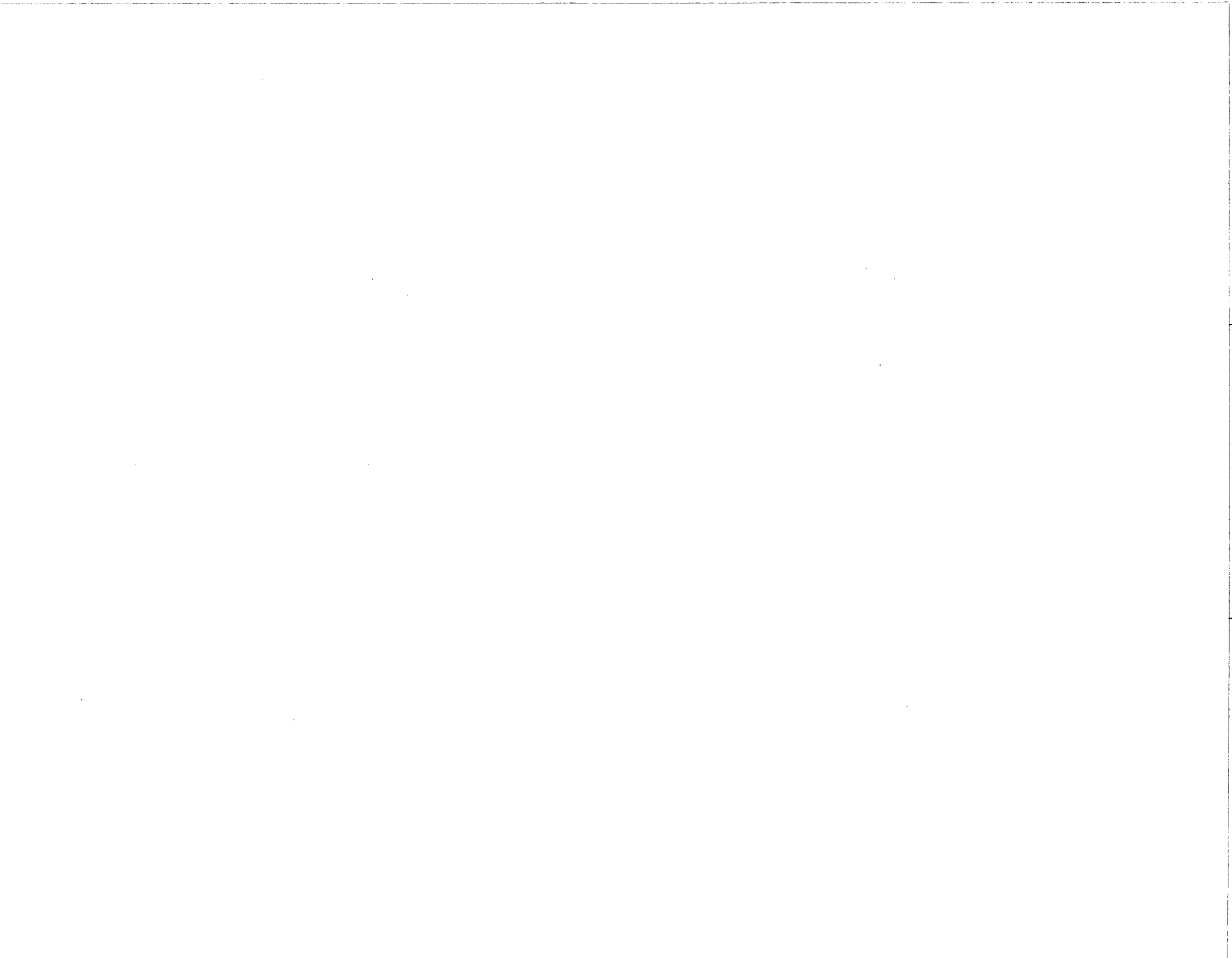
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

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)						
Retail and Commercial				2.0	1.0	97.0
Industrial				2.0	1.0	97.0
Office				2.0	1.0	97.0



Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\smyers\Application Data\Urbemis\Version9a\Projects\Rocklin General Plan-Resultant Conditions.urb924

Project Name: City of Rocklin General Plan-Resultant Conditions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	7,810.22	1,170.18	31,131.52	96.15	4,957.77	4,772.12	1,560,131.12

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	6,615.91	10,763.73	73,608.70	50.08	9,755.79	1,897.80	5,006,421.02

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	14,426.13	11,933.91	104,740.22	146.23	14,713.56	6,669.92	6,566,552.14

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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>	<u>CO2</u>
Natural Gas	35.85	472.59	259.23	0.00	0.89	0.88	592,561.14
Hearth	5,860.75	697.59	30,872.29	96.15	4,956.88	4,771.24	967,569.98
Landscaping - No Winter Emissions							
Consumer Products	1,425.37						
Architectural Coatings	488.25						
TOTALS (lbs/day, unmitigated)	7,810.22	1,170.18	31,131.52	96.15	4,957.77	4,772.12	1,560,131.12

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>	<u>CO2</u>
Single family housing	1,659.06	2,700.50	18,690.55	12.70	2,453.80	477.81	1,268,426.40
Apartments low rise	129.18	210.26	1,455.26	0.99	191.05	37.20	98,760.69
Apartments mid rise	404.34	658.16	4,555.20	3.10	598.03	116.45	309,137.02
Mobile home park	30.62	49.83	344.90	0.23	45.28	8.82	23,406.72
Retail and Commercial	3,475.42	5,652.96	38,421.87	26.16	5,117.05	994.92	2,616,184.40
Industrial	219.43	356.91	2,425.85	1.65	323.08	62.82	165,178.75
Office	697.86	1,135.11	7,715.07	5.25	1,027.50	199.78	525,327.04
TOTALS (lbs/day, unmitigated)	6,615.91	10,763.73	73,608.70	50.08	9,755.79	1,897.80	5,006,421.02

5/1/2009 12:05:58 PM

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 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
Single family housing	2,086.07	7.56	dwelling units	21,962.00	166,032.72	1,419,529.96
Apartments low rise	3,406.20	11.32	dwelling units	1,142.00	12,927.44	110,525.73
Apartments mid rise	485.79	7.47	dwelling units	5,417.00	40,464.99	345,963.52
Mobile home park	102.33	4.99	dwelling units	614.00	3,063.86	26,195.08
Retail and Commercial		45.04	1000 sq ft	8,893.70	400,572.26	2,961,430.72
Industrial		4.96	1000 sq ft	5,099.00	25,291.04	186,976.66
Office		11.42	1000 sq ft	7,043.30	80,434.48	594,652.13
					728,786.79	5,645,273.80

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

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)						
Retail and Commercial				2.0	1.0	97.0
Industrial				2.0	1.0	97.0
Office				2.0	1.0	97.0

Localized Mobile-Source Carbon Monoxide Impact Assessment

For

City of Rocklin General Plan Update
Rocklin, CA

May 1, 2009

Prepared For:

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Introduction

Carbon monoxide (CO) is a tasteless, odorless, and colorless gas. If inhaled, CO can be adsorbed easily by the blood stream and can inhibit oxygen delivery to the body, which can cause significant health effects ranging from slight headaches to death. The most serious effects are felt by individuals susceptible to oxygen deficiencies, including people with anemia and those suffering from chronic lung or heart disease. Under specific meteorological and operational conditions, such as near areas of heavily congested roadway intersections, CO concentrations may reach unhealthy levels. As a result, the California Department of Transportation (Caltrans) typically recommends analysis of localized mobile-source CO concentrations for roadway intersections project to operate at unacceptable levels of service (i.e., LOS E or F) (Caltrans 1997).

Methodology

Localized concentrations of mobile-source carbon monoxide (CO) concentrations were quantitatively assessed for roadway intersections projected to operate at unacceptable levels of service (i.e., LOS E or F), based on data obtained from the traffic analysis prepared for this project (DKS 2009). Localized carbon monoxide (CO) concentrations were analyzed utilizing the CALINE4 intersection-level screening procedure developed by the Bay Area Air Quality Management District (BAAQMD). The BAAQMD screening procedure is based on the CALINE4 computer model, which was developed by the California Department of Transportation (Caltrans). Mobile-source emission factors used in the analysis were derived from the Emfac2007 computer model for Placer County under January operational conditions. To ensure a conservative analysis, a minimum vehicle speed of 3 miles per hour was assumed for all analyzed roadway segments (Caltrans 1997). For modeling purposes, the highest measured 1-hour and 8-hour ambient CO concentrations (i.e., 2.6 and 1.9 ppm, respectively), obtained from the nearest monitoring stations for the last three years of available data, were used for both near-term and future cumulative conditions (ARB 2009, USEPA 2009). Predicted 8-hour CO concentrations were calculated based on predicted 1-hour CO concentrations and assuming a persistence factor of 0.7. Localized CO concentrations were evaluated for p.m. peak-hour conditions at adversely affected intersections located within the City, as well as neighboring jurisdictions, for both Existing-Plus-Project and Cumulative-Plus-Project conditions. Predicted 1-hour and 8-hour concentrations were compared with applicable California Ambient Air Quality Standards (i.e., 20 and 9 ppm, respectively) for determination of impact significance.

Existing-Plus-Project Conditions

Predicted localized CO concentrations at intersections projected to operate at unacceptable levels of service (i.e., LOS E or F) under existing-plus-project conditions are summarized in Table 1. Based on the modeling conducted, predicted maximum 1-hour and 8-hour CO concentrations at modeled roadway intersections would not exceed applicable ambient air quality standards. Given that other area intersections would be predicted to operate at more acceptable levels of service (i.e., less

congestion) than those included in this analysis, predicted CO concentrations at other locations would, likewise, not be anticipated to exceed applicable ambient air quality standards. As a result, the project's contribution to near-term localized concentrations of mobile-source CO would be considered *less than significant*.

Table 1 Localized Mobile-Source Carbon Monoxide Concentrations Existing-Plus-Project Conditions		
Intersection	Predicted CO Concentrations (ppm)	
	1-Hour	8-Hour
City of Rocklin		
Pacific Street & Del Mar Avenue/Dominguez Road	5.4	3.0
Sunset Boulevard & Springview Drive	6.5	3.5
Sunset Boulevard & West Oaks Boulevard	5.5	3.3
State Route 65		
State Route 65 & Sunset Boulevard	7.9	4.2
State Route 65 Northbound & Pleasant Grove Boulevard	7.4	3.9
Town of Loomis		
Sierra College Boulevard & Taylor Road	5.8	3.3
City of Roseville		
Pleasant Grove Boulevard & Fairway Drive	7.4	3.9
California Ambient Air Quality Standards:	20.0	9.0

Cumulative-Plus-Project Conditions

Predicted localized CO concentrations at intersections projected to operate at unacceptable levels of service (i.e., LOS E or F) under cumulative-plus-project conditions are summarized in Table 2. Based on the modeling conducted, predicted maximum 1-hour and 8-hour CO concentrations at modeled roadway intersections would not exceed applicable ambient air quality standards. Given that other area intersections would be predicted to operate at more acceptable levels of service (i.e., less congestion) than those included in this analysis, predicted CO concentrations at other locations would, likewise, not be anticipated to exceed applicable ambient air quality standards. As a result, the project's contribution to future cumulative localized concentrations of mobile-source CO would be considered *less than significant*.

**Table 2
Localized Mobile-Source Carbon Monoxide Concentrations
Cumulative-Plus-Project Conditions**

Intersection	Predicted CO Concentrations (ppm)	
	1-Hour	8-Hour
City of Rocklin		
Pacific Street & Del Mar Avenue/Dominguez Road	3.4	2.2
Pacific Street & Farron Street	3.6	2.3
Rocklin Road & Sierra College Boulevard	3.5	2.3
Sunset Boulevard & Springview Drive	3.5	2.3
Sunset Boulevard & Whitney Boulevard	3.8	2.4
Blue Oaks Boulevard & Lonetree Boulevard	3.7	2.4
Sunset Boulevard & Atherton Road	3.6	2.3
Sunset Boulevard & West Oaks Boulevard	3.5	2.3
W. Stanford Ranch Road & Sunset Boulevard	3.4	2.3
Stanford Ranch Road & Crest Drive	3.0	2.1
Interstate 80		
Rocklin Road & I-80 Eastbound	3.4	2.3
Rocklin Road & I-80 Westbound	3.5	2.3
Town of Loomis		
Sierra College Boulevard & Taylor Road	3.4	2.3
Taylor Road & Horseshoe Bar Road	3.1	2.1
City of Roseville		
Pleasant Grove Boulevard & Fairway Drive	4.3	2.6
Pleasant Grove Boulevard & Roseville Parkway	3.9	2.6
Galleria & Roseville Parkway	4.1	2.6
Roseville Parkway & N. Sunrise Boulevard	4.0	2.5
Sierra College Boulevard & Secret Ravine Parkway	3.5	2.3
California Ambient Air Quality Standards:	20.0	9.0

References

Bay Area Air Quality Management District (BAAQMD). 1999. BAAQMD CEQA Guidelines.

California Air Resources Board (ARB). April 30, 2009. California Air Quality Data. Website url: <http://www.arb.ca.gov/aqd/aqdpage.htm>

California Department of Transportation (Caltrans) December 1997. Transportation Project-Level Carbon Monoxide Protocol.

DKS Associates. 2009. Traffic Analysis for the Proposed City of Rocklin General Plan Update.

United States Environmental Protection Agency (USEPA). April 30, 2009. AirData. Website url: <http://www.epa.gov/air/data/geosel.html>.

APPENDIX A
EMISSIONS MODELING

CO SCREENING ASSESSMENT: EXISTING PLUS PROJECT

BACKGROUND INFORMATION

	PROJECT: Rocklin General Plan			
	PROJECT LOCATION: Placer County			
	NEAREST AIR QUALITY MONITORING STATION(S): Roseville-N Sunrise Blvd			
	MONITORING YEARS:	2003	2004	2005
	HIGHEST MEASURED 1-HR CO CONC. (PPM):	2.4	2.6	2
	HIGHEST MEASURED 8-HR CO CONC. (PPM):	1.6	1.9	1.3
	HIGHEST 3-YR MEASURED 1-HR CO CONC. (PPM):	2.6		
	HIGHEST 3-YR MEASURED 8-HR CO CONC. (PPM):	1.9		

*Monitoring data is based on the highest measured values obtained from the nearest monitoring station for the last three years of available data (i.e., 2003-2005).

REFERENCE CO CONCENTRATIONS

ROADWAY TYPE	PRIMARY ROAD (Highest Volume)		SECONDARY ROAD (Highest Volume)	
	At Edge	At 25'	At Edge	At 25'
At Grade				
2 lane	14	7.6	3.7	2.7
4 lane	11.9	7	3.3	2.6
6 lane	9.5	6.1	2.8	2.3
8 lane	8.5	5.7	2.6	2.2
Depressed 15 feet				
2 lane	20.9	8.2	4.8	2.4
8 lane	15.4	6.3	3.7	1.9
Depressed 30 feet				
2 lane	26.8	7.9	5.2	3.2
8 lane	21.3	6	4.1	2.7
Elevated 15 feet				
2 lane	14	7.3	3.7	2.6
8 lane	8.5	5.4	2.6	2.1
Elevated 30 feet				
2 lane	14	7.3	3.6	2.6
8 lane	8.5	5.4	2.5	2.1

EMISSION FACTORS

EMFAC2007

LOCATION: Placer Couy

MONTH: JANUARY

TEMP: 35F

YEAR: 2009

SPEED(MPH)	EF
3	8.343

Emfac modeling assumptions based on Caltrans-recommended screening defaults (Caltrans 1997).

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): PACIFIC ST & DEL MAR/DOMINGUEZ
PROJECT SCENARIO: EXISTING PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		72	542	35		
WEST	263				88	EAST
	331				103	
	371				144	
		119	686	169		
		SOUTH				
HIGHEST VOLUMES						
		N-S	2031			
		E-W	1259			

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET			1-HR	8-HR				
PM PEAK HOUR	Primary Road	2	14.00	7.60	2031.00	8.343	2.37	1.29				
	Secondary Road	2	3.70	2.70	1259.00	8.343	0.39	0.28	2.6	1.9	5.4	3.0
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO screening methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SUNSET BLVD & SPRINGVIEW DR
PROJECT SCENARIO: EXISTING PLUS PROJECT
PEAK HOUR PM

PM

		NORTH																									
		394	41	51																							
WEST	360				106	EAST																					
	1146				1510																						
	112				203																						
		127	40	187																							
		SOUTH																									
<table border="0" style="width: 100%;"> <tr> <td colspan="7" style="text-align: center;"><u>HIGHEST VOLUMES</u></td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;">N-S</td> <td colspan="2" style="text-align: center;">992</td> <td></td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;">E-W</td> <td colspan="2" style="text-align: center;">3649</td> <td></td> </tr> </table>							<u>HIGHEST VOLUMES</u>									N-S		992					E-W		3649		
<u>HIGHEST VOLUMES</u>																											
		N-S		992																							
		E-W		3649																							

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC			ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
			AT ROADWAY		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR					8-HR
			EDGE	AT 25 FEET								
PM	Primary Road	4	11.90	7.00	3649.00	8.343	3.62	2.13				
	Secondary Road	2	3.70	2.70	992.00	8.343	0.31	0.22	2.6	1.9		
										6.5	3.5	
										CAAQS: 20.0	9.0	
										EXCEEDS: NO	NO	

NOTES:

CO screening methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SUNSET & W OAKS
PROJECT SCENARIO: EXISTING PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		40	123	877		
WEST	42				496	EAST
	751				822	
	6				160	
		46	117	101		
		SOUTH				
HIGHEST VOLUMES						
		N-S		1695		
		E-W		3207		

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET			1-HR	8-HR				
PM PEAK HOUR	Primary Road	6	9.50	6.10	3207.00	8.343	2.54	1.63				
	Secondary Road	6	2.80	2.30	1695.00	8.343	0.40	0.33	2.6	1.9	5.5	3.3
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO screening methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SR65 & SUNSET BLVD
PROJECT SCENARIO: EXISTING PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		28	1696	203		
WEST	189				456	EAST
	194				330	
	334				608	
		379	1703	130		
		SOUTH				
HIGHEST VOLUMES						
		N-S		4850		
		E-W		1921		

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET		HIGHEST TRAFFIC VOLUME	1-HR				
PM PEAK HOUR	Primary Road	4	11.90	7.00	4850.00	8.343	4.82	2.83			
	Secondary Road	4	3.30	2.60	1921.00	8.343	0.53	0.42	2.6	1.9	
										7.9	4.2
										CAAQS:	
										EXCEEDS:	
										NO	NO

NOTES:

CO screening methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): PLEASANT GROVE & SR65 NB
PROJECT SCENARIO: EXISTING PLUS PROJECT
PEAK HOUR PM

PM

		NORTH				
		0	0	0		
WEST	0				0	
	1369				2148	
	282				0	EAST
		351	0	823		
		SOUTH				
HIGHEST VOLUMES						
		N-S		1456		
		E-W		4340		

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET			1-HR	8-HR				
PM	Primary Road	4	11.90	7.00	4340.00	8.343	4.31	2.53				
	Secondary Road	2	3.70	2.70	1456.00	8.343	0.45	0.33	2.6	1.9	7.4	3.9
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO screening methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SIERRA COLLEGE BLVD & TAYLOR RD
PROJECT SCENARIO: EXISTING PLUS PROJECT
PEAK HOUR PM

(NOT USED)

		NORTH				
		118	616	46		
WEST	313				70	EAST
	439				263	
	414				193	
		209	1092	254		
		SOUTH				
HIGHEST VOLUMES						
		N-S	2778			
		E-W	1756			

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC			ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
			AT ROADWAY		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR					8-HR
			EDGE	AT 25 FEET								
PM	Primary Road	4	11.90	7.00	2778.00	8.343	2.76	1.62				
	Secondary Road	4	3.30	2.60	1756.00	8.343	0.48	0.38	2.6	1.9		
										CAAQS:		
										EXCEEDS:		
										5.8	3.3	
										20.0	9.0	
										NO	NO	

NOTES:

CO screening methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): PLEASANT GROVE AND FAIRWAY
PROJECT SCENARIO: EXISTING PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		119	1309	176		
WEST	161				85	EAST
	296				385	
	264				581	
		487	1285	356		
		SOUTH				
HIGHEST VOLUMES						
		N-S	4282			
		E-W	1879			

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET			1-HR	8-HR				
PM	Primary Road	4	11.90	7.00	4282.00	8.343	4.25	2.50				
	Secondary Road	4	3.30	2.60	1879.00	8.343	0.52	0.41	2.6	1.9	7.4	3.9
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO screening methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT: CUMULATIVE PLUS PROJECT

BACKGROUND INFORMATION

	PROJECT: Rocklin General Plan			
	PROJECT LOCATION: Placer County			
	NEAREST AIR QUALITY MONITORING STATION(S): Roseville-N Sunrise Blvd			
	MONITORING YEARS:	2003	2004	2005
	HIGHEST MEASURED 1-HR CO CONC. (PPM):	2.4	2.6	2
	HIGHEST MEASURED 8-HR CO CONC. (PPM):	1.6	1.9	1.3
	HIGHEST 3-YR MEASURED 1-HR CO CONC. (PPM):	2.6		
	HIGHEST 3-YR MEASURED 8-HR CO CONC. (PPM):	1.9		

*Monitoring data is based on the highest measured values obtained from the nearest monitoring station for the last three years of available data (i.e., 2003-2005).

REFERENCE CO CONCENTRATIONS

ROADWAY TYPE	PRIMARY ROAD (Highest Volume)		SECONDARY ROAD (Highest Volume)	
	At Edge	At 25'	At Edge	At 25'
At Grade				
2 lane	14	7.6	3.7	2.7
4 lane	11.9	7	3.3	2.6
6 lane	9.5	6.1	2.8	2.3
8 lane	8.5	5.7	2.6	2.2
Depressed 15 feet				
2 lane	20.9	8.2	4.8	2.4
8 lane	15.4	6.3	3.7	1.9
Depressed 30 feet				
2 lane	26.8	7.9	5.2	3.2
8 lane	21.3	6	4.1	2.7
Elevated 15 feet				
2 lane	14	7.3	3.7	2.6
8 lane	8.5	5.4	2.6	2.1
Elevated 30 feet				
2 lane	14	7.3	3.6	2.6
8 lane	8.5	5.4	2.5	2.1

EMISSION FACTORS

EMFAC2007

LOCATION: Placer Couy

MONTH: JANUARY

TEMP: 35F

YEAR: 2030

SPEED(MPH)	EF
3	1.977

Emfac modeling assumptions based on Caltrans-recommended screening defaults (Caltrans 1997).

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): PACIFIC ST & DEL MAR/DOMINGUEZ
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH																									
		68	745	69																							
WEST	155				72	EAST																					
	192				162																						
	356				202																						
		265	905	153																							
		SOUTH																									
<table border="0" style="width: 100%;"> <tr> <td colspan="7" style="text-align: center;"><u>HIGHEST VOLUMES</u></td> </tr> <tr> <td colspan="2"></td> <td colspan="2">N-S</td> <td colspan="2">2626</td> <td></td> </tr> <tr> <td colspan="2"></td> <td colspan="2">E-W</td> <td colspan="2">1198</td> <td></td> </tr> </table>							<u>HIGHEST VOLUMES</u>									N-S		2626					E-W		1198		
<u>HIGHEST VOLUMES</u>																											
		N-S		2626																							
		E-W		1198																							

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC			ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
			AT ROADWAY		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR					8-HR
			EDGE	AT 25 FEET								
PM PEAK HOUR	Primary Road	2	14.00	7.60	2626.00	1.977	0.73	0.39				
	Secondary Road	2	3.70	2.70	1198.00	1.977	0.09	0.06	2.6	1.9		
										3.4	2.2	
										CAAQS:	20.0	
										EXCEEDS:	9.0	
										NO	NO	

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

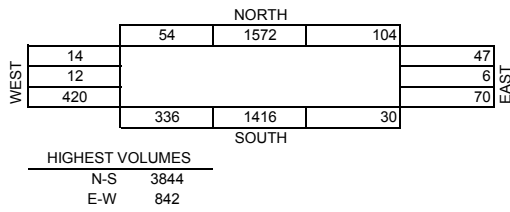
Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): PACIFIC ST AND FARRON ST
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM



PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY		HIGHEST TRAFFIC VOLUME		1-HR	8-HR				
			EDGE	AT 25 FEET	1-HR		8-HR					
PM	Primary Road	4	11.90	7.00	3844.00	1.977	0.90	0.53				
	Secondary Road	2	3.70	2.70	842.00	1.977	0.06	0.04	2.6	1.9	3.6	2.3
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District, 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): ROCKLIN RD AND SIERRA COLLEGE BLD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		140	967	151		
WEST	16				72	EAST
	559				260	
	952				82	
		656	1363	237		
		SOUTH				
HIGHEST VOLUMES						
		N-S		4257		
		E-W		2583		

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY		HIGHEST TRAFFIC VOLUME		1-HR	8-HR				
			EDGE	AT 25 FEET	1-HR		8-HR					
PM PEAK HOUR	Primary Road	6	9.50	6.10	4257.00	1.977	0.80	0.51				
	Secondary Road	6	2.80	2.30	2583.00	1.977	0.14	0.12	2.6	1.9	3.5	2.3
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SUNSET BL AND SPRINGVIEW DR
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

(NOT USED)

		NORTH				
		584	46	90		
WEST	662				130	EAST
	1416				2031	
	122				223	
		90	42	80		
		SOUTH				
HIGHEST VOLUMES						
		N-S	1554			
		E-W	4905			

PREDICTED CO CONCENTRATIONS

PEAK HOUR	NUMBER OF LANES	REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
		AT ROADWAY		HIGHEST TRAFFIC VOLUME		1-HR	8-HR				
		EDGE	AT 25 FEET	VOLUME		1-HR	8-HR				
(NOT USED)	Primary Road	8	8.50	5.70	4905.00	1.977	0.82	0.55			
	Secondary Road	4	3.30	2.60	1554.00	1.977	0.10	0.08	2.6	1.9	
CAAQS:										20.0	9.0
EXCEEDS:										NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District, 1999, BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SUNSET BL AND WHITNEY BL
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		26	54	159		
WEST	62				233	EAST
	1563				1921	
	50				507	
		48	34	439		
		SOUTH				
HIGHEST VOLUMES						
		N-S		1132		
		E-W		4822		

PREDICTED CO CONCENTRATIONS

PEAK HOUR	NUMBER OF LANES	REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
		AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME		1-HR	8-HR					
PM PEAK HOUR	Primary Road	4	11.90	7.00	4822.00	1.977	1.13	0.67				
	Secondary Road	4	3.30	2.60	1132.00	1.977	0.07	0.06	2.6	1.9		
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

**INTERSECTION (N-S/E-W): BLUE OAKS BL AND LONETREE
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM**

PM

		NORTH				
		941	758	49		
WEST	810				61	EAST
	589				432	
	487				132	
		651	388	92		
		SOUTH				
HIGHEST VOLUMES						
		N-S		3007		
		E-W		3910		

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET	HIGHEST TRAFFIC VOLUME		1-HR	8-HR				
PM	Primary Road	4	11.90	7.00	3910.00	1.977	0.92	0.54				
	Secondary Road	2	3.70	2.70	3007.00	1.977	0.22	0.16	2.6	1.9	3.7	2.4
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SUNSET BL AND ATHERTON
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM

		NORTH																									
		213	18	193																							
WEST	228				541	EAST																					
	1187				1830																						
	68				21																						
		392	108	77																							
		SOUTH																									
<table border="0" style="width: 100%;"> <tr> <td colspan="7" style="text-align: center;"><u>HIGHEST VOLUMES</u></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">N-S</td> <td colspan="4" style="text-align: center;">1301</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">E-W</td> <td colspan="4" style="text-align: center;">3918</td> </tr> </table>							<u>HIGHEST VOLUMES</u>									N-S	1301						E-W	3918			
<u>HIGHEST VOLUMES</u>																											
		N-S	1301																								
		E-W	3918																								

PREDICTED CO CONCENTRATIONS

PEAK HOUR		REFERENCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION				PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC		
		NUMBER OF LANES	AT ROADWAY		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC			BACKGROUND 8-HR CONC	
			EDGE	AT 25 FEET									
PM	Primary Road	4	11.90	7.00	3918.00	1.977	0.92	0.54					
	Secondary Road	4	3.30	2.60	1301.00	1.977	0.08	0.07	2.6	1.9			
											CAAQS:	20.0	9.0
											EXCEEDS:	NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SUNSET AND WEST OAKS BL
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH																									
		123	153	760																							
WEST	68				564	EAST																					
	1025				1290																						
	6				193																						
		47	226	230																							
		SOUTH																									
<table border="0" style="width: 100%;"> <tr> <td colspan="7" style="text-align: center;"><u>HIGHEST VOLUMES</u></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">N-S</td> <td colspan="4" style="text-align: center;">1894</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">E-W</td> <td colspan="4" style="text-align: center;">4062</td> </tr> </table>							<u>HIGHEST VOLUMES</u>									N-S	1894						E-W	4062			
<u>HIGHEST VOLUMES</u>																											
		N-S	1894																								
		E-W	4062																								

PREDICTED CO CONCENTRATIONS

PEAK HOUR		REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
		NUMBER OF LANES	AT ROADWAY			HIGHEST TRAFFIC VOLUME	1-HR					8-HR
			EDGE	AT 25 FEET								
PM PEAK HOUR	Primary Road	6	9.50	6.10	4062.00	1.977	0.76	0.49				
	Secondary Road	6	2.80	2.30	1894.00	1.977	0.10	0.09	2.6	1.9		
											3.5	
											2.3	
										CAAQS:	20.0	
										EXCEEDS:	9.0	
											NO	
											NO	

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): W STANFORD RANCH RD AND SUNSET BL
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		377	516	412		
WEST	790				311	EAST
	493				517	
	122				229	
		105	1141	154		
		SOUTH				
HIGHEST VOLUMES						
		N-S	3547			
		E-W	2404			

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET			1-HR	8-HR				
PM PEAK HOUR	Primary Road	6	9.50	6.10	3547.00	1.977	0.67	0.43				
	Secondary Road	6	2.80	2.30	2404.00	1.977	0.13	0.11	2.6	1.9	3.4	2.3
											CAAQS:	
											EXCEEDS:	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): STANFORD RANCH RD AND CREST DR
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH																									
		0	437	589																							
WEST	0				359	EAST																					
	0				0																						
	0				143																						
		0	569	295																							
		SOUTH																									
<table border="0" style="width: 100%;"> <tr> <td colspan="7" style="text-align: center;"><u>HIGHEST VOLUMES</u></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">N-S</td> <td colspan="2" style="text-align: center;">1954</td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">E-W</td> <td colspan="2" style="text-align: center;">1386</td> <td colspan="2"></td> </tr> </table>							<u>HIGHEST VOLUMES</u>									N-S	1954						E-W	1386			
<u>HIGHEST VOLUMES</u>																											
		N-S	1954																								
		E-W	1386																								

PREDICTED CO CONCENTRATIONS

PEAK HOUR		REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
		NUMBER OF LANES	AT ROADWAY			HIGHEST TRAFFIC VOLUME	1-HR					8-HR
			EDGE	AT 25 FEET								
PM PEAK HOUR	Primary Road	6	9.50	6.10	1954.00	1.977	0.37	0.24				
	Secondary Road	6	2.80	2.30	1386.00	1.977	0.08	0.06	2.6	1.9		
										3.0	2.1	
										CAAQS:		
										EXCEEDS:		
										20.0	9.0	
										NO	NO	

NOTES:

CO methodology derived from the Bay Area Air Quality Management District, 1999, BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): ROCKLIN RD AND I-80 EB
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		0	0	0		
WEST	470				169	EAST
	1291				1645	
	0				3	
		590	0	612		
		SOUTH				

HIGHEST VOLUMES	
N-S	1205
E-W	3996

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET			1-HR	8-HR				
PM PEAK HOUR	Primary Road	6	9.50	6.10	3996.00	1.977	0.75	0.48				
	Secondary Road	6	2.80	2.30	1205.00	1.977	0.07	0.05	2.6	1.9	3.4	2.3
											CAAQS:	
											EXCEEDS:	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): ROCKLIN RD AND I-80 WB
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH								
		410	1	117						
WEST	0				0	EAST				
	1635				1528					
721	655									
		0	0	0						
		SOUTH								
<p style="text-align: center;">HIGHEST VOLUMES</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">N-S</td> <td style="text-align: left;">1377</td> </tr> <tr> <td style="text-align: right;">E-W</td> <td style="text-align: left;">4294</td> </tr> </table>							N-S	1377	E-W	4294
N-S	1377									
E-W	4294									

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY EDGE	AT 25 FEET			1-HR	8-HR				
PM PEAK HOUR	Primary Road	6	9.50	6.10	4294.00	1.977	0.81	0.52			3.5	2.3
	Secondary Road	2	3.70	2.70	1377.00	1.977	0.10	0.07	2.6	1.9		
											CAAQS:	
											EXCEEDS:	
											20.0	9.0
											NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SIERRA COLLEGE AND TAYLOR RD
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		189	1017	120		
WEST	272				108	EAST
	450				302	
	315				332	
		226	1476	287		
		SOUTH				
HIGHEST VOLUMES						
		N-S	3653			
		E-W	1754			

PREDICTED CO CONCENTRATIONS

PEAK HOUR	NUMBER OF LANES	REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
		AT ROADWAY		HIGHEST TRAFFIC VOLUME		1-HR	8-HR				
		EDGE	AT 25 FEET	VOLUME		1-HR CONC	8-HR CONC				
PM	Primary Road	6	9.50	6.10	3653.00	1.977	0.69	0.44			
	Secondary Road	2	3.70	2.70	1754.00	1.977	0.13	0.09	2.6	1.9	
CAAQS:										20.0	9.0
EXCEEDS:										NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

**INTERSECTION (N-S/E-W): TAYLOR RD AND HORSESHOE BAR
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM**

PM PEAK-HOUR TRAFFIC:

		NORTH																													
		4	472	462																											
WEST	13	[Intersection Area]				479																									
	7					8																									
	5					139																									
		8	616	182																											
		SOUTH																													
<table border="0" style="width: 100%;"> <tr> <td colspan="8" style="text-align: center;">HIGHEST VOLUMES</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">N-S</td> <td colspan="5" style="text-align: center;">2046</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">E-W</td> <td colspan="5" style="text-align: center;">1277</td> </tr> </table>								HIGHEST VOLUMES										N-S	2046							E-W	1277				
HIGHEST VOLUMES																															
		N-S	2046																												
		E-W	1277																												

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC		HIGHEST TRAFFIC VOLUME	MOBILE- SOURCE EMISSION FACTORS	ESTIMATED MOBILE- SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
			AT ROADWAY EDGE	AT 25 FEET			1-HR	8-HR					
PM PEAK HOUR	Primary Road	6	9.50	6.10	2046.00	1.977	0.38	0.25					
	Secondary Road	4	3.30	2.60	1277.00	1.977	0.08	0.07	2.6	1.9	3.1	2.1	
											CAAQS: EXCEEDS:	20.0 NO	9.0 NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): PLEASANT GROVE AND FAIRWAY
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		239	1086	142		
WEST	265				144	EAST
	545				469	
	747				806	
		672	1477	602		
		SOUTH				
HIGHEST VOLUMES						
		N-S		5390		
		E-W		2937		

PREDICTED CO CONCENTRATIONS

PEAK HOUR		REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
		NUMBER OF LANES	AT ROADWAY			HIGHEST TRAFFIC VOLUME	1-HR					8-HR
			EDGE	AT 25 FEET								
PM PEAK HOUR	Primary Road	2	14.00	7.60	5390.00	1.977	1.49	0.81				
	Secondary Road	2	3.70	2.70	2937.00	1.977	0.21	0.16	2.6	1.9		
										CAAQS:		
										EXCEEDS:		
										4.3	2.6	
										20.0	9.0	
										NO	NO	

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): PLEASANT GROVE AND ROSEVILLE PK
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM PEAK-HOUR TRAFFIC:

		NORTH				
		44	983	399		
WEST	44				193	EAST
	1459				1820	
	783				844	
		710	939	1097		
		SOUTH				
HIGHEST VOLUMES						
		N-S	5356			
		E-W	5812			

PREDICTED CO CONCENTRATIONS

PEAK HOUR		NUMBER OF LANES	REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
			AT ROADWAY		HIGHEST TRAFFIC VOLUME		1-HR	8-HR				
			EDGE	AT 25 FEET								
PM PEAK HOUR	Primary Road	8	8.50	5.70	5812.00	1.977	0.98	0.65				
	Secondary Road	4	3.30	2.60	5356.00	1.977	0.35	0.28	2.6	1.9	3.9	2.6
										CAAQS:	20.0	9.0
										EXCEEDS:	NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): GALLERIA AND ROSEVILLE PK
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM

		NORTH				
		375	838	1025		
WEST	674				626	EAST
	1701				1991	
	874				270	
		599	752	33		
		SOUTH				
<u>HIGHEST VOLUMES</u>						
		N-S	4290			
		E-W	6214			

PREDICTED CO CONCENTRATIONS

PEAK HOUR		REFERENCE CO CONC				ESTIMATED MOBILE-SOURCE CO CONTRIBUTION				PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
		NUMBER OF LANES	AT ROADWAY		HIGHEST TRAFFIC VOLUME	MOBILE-SOURCE EMISSION FACTORS	1-HR	8-HR	BACKGROUND 1-HR CONC			BACKGROUND 8-HR CONC
			EDGE	AT 25 FEET								
PM	Primary Road	6	9.50	6.10	6214.00	1.977	1.17	0.75				
	Secondary Road	2	3.70	2.70	4290.00	1.977	0.31	0.23	2.6	1.9		
CAAQS:											20.0	9.0
EXCEEDS:											NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): ROSEVILLE PK AND N. SUNRISE
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM

		NORTH				
		394	287	159		
WEST	149				88	EAST
	2203				2416	
	753				309	
		555	157	406		
		SOUTH				
HIGHEST VOLUMES						
		N-S 2467				
		E-W 6470				

PREDICTED CO CONCENTRATIONS

PEAK HOUR		REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC	
		NUMBER OF LANES	AT ROADWAY			HIGHEST TRAFFIC VOLUME	1-HR					8-HR
			EDGE	AT 25 FEET								
PM	Primary Road	6	9.50	6.10	6470.00	1.977	1.22	0.78				
	Secondary Road	6	2.80	2.30	2467.00	1.977	0.14	0.11	2.6	1.9		
										CAAQS:		
										EXCEEDS:		
										4.0	2.5	
										20.0	9.0	
										NO	NO	

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.

Emission factors derived from Emfac2007 for year 2030 conditions.

Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.

1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

CO SCREENING ASSESSMENT

INTERSECTION (N-S/E-W): SIERRA COLLEGE ND SECRET RAVINE
PROJECT SCENARIO: CUMULATIVE PLUS PROJECT
PEAK HOUR PM

PM

		NORTH																									
		370	1577	1																							
WEST	762				3	EAST																					
	2				5																						
177	3																										
		208	1498	3																							
		SOUTH																									
<table border="0" style="width: 100%;"> <tr> <td colspan="7" style="text-align: center;"><u>HIGHEST VOLUMES</u></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">N-S</td> <td colspan="4" style="text-align: center;">4211</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">E-W</td> <td colspan="4" style="text-align: center;">1524</td> </tr> </table>							<u>HIGHEST VOLUMES</u>									N-S	4211						E-W	1524			
<u>HIGHEST VOLUMES</u>																											
		N-S	4211																								
		E-W	1524																								

PREDICTED CO CONCENTRATIONS

PEAK HOUR	NUMBER OF LANES	REFERENCE CO CONC			MOBILE-SOURCE EMISSION FACTORS	ESTIMATED MOBILE-SOURCE CO CONTRIBUTION		BACKGROUND 1-HR CONC	BACKGROUND 8-HR CONC	PREDICTED TOTAL 1-HR CONC	PREDICTED TOTAL 8-HR CONC
		AT ROADWAY		HIGHEST TRAFFIC VOLUME		1-HR	8-HR				
		EDGE	AT 25 FEET	VOLUME		1-HR CONC	8-HR CONC				
PM	Primary Road	6	9.50	6.10	4211.00	1.977	0.79	0.51			
	Secondary Road	6	2.80	2.30	1524.00	1.977	0.08	0.07	2.6	1.9	
CAAQS:										20.0	9.0
EXCEEDS:										NO	NO

NOTES:

CO methodology derived from the Bay Area Air Quality Management District. 1999. BAAQMD CEQA Guidelines.
 Emission factors derived from Emfac2007 for year 2030 conditions.
 Background concentrations based on the highest measured concentration at the nearest air quality monitoring station for the last three years of available data.
 1-hour concentrations are calculated at the roadway edge. 8-hr concentrations are calculated at 25 feet and assume a persistence factor of 0.7.

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\smyers\Application Data\Urbemis\Version9a\Projects\Rocklin General Plan-Existing Conditions.urb924

Project Name: City of Rocklin General Plan-Existing Conditions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,489.07	296.22	879.07	0.03	2.51	2.48	365,042.52

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	2,665.38	3,534.63	30,560.50	26.50	4,593.27	893.79	2,705,230.79

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	4,154.45	3,830.85	31,439.57	26.53	4,595.78	896.27	3,070,273.31

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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>	<u>CO2</u>
Natural Gas	22.01	287.90	142.39	0.00	0.55	0.54	363,857.69
Hearth - No Summer Emissions							
Landscape	132.21	8.32	736.68	0.03	1.96	1.94	1,184.83
Consumer Products	1,029.15						
Architectural Coatings	305.70						
TOTALS (lbs/day, unmitigated)	1,489.07	296.22	879.07	0.03	2.51	2.48	365,042.52

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>	<u>CO2</u>
Single family housing	1,141.19	1,447.50	12,786.75	10.95	1,886.29	367.30	1,115,832.52
Apartments low rise	81.83	107.72	951.58	0.81	140.38	27.33	83,039.39
Apartments mid rise	255.38	319.28	2,820.38	2.41	416.06	81.02	246,119.55
Mobile home park	21.12	24.90	219.96	0.19	32.45	6.32	19,195.09
Retail and Commercial	947.63	1,365.71	11,510.32	10.14	1,768.99	343.95	1,036,496.57
Industrial	127.78	149.36	1,258.79	1.11	193.46	37.61	113,352.74
Office	90.45	120.16	1,012.72	0.89	155.64	30.26	91,194.93
TOTALS (lbs/day, unmitigated)	2,665.38	3,534.63	30,560.50	26.50	4,593.27	893.79	2,705,230.79

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Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	2,022.60	8.05	dwelling units	15,855.00	127,632.75	1,091,221.77
Apartments low rise	3,775.62	11.43	dwelling units	831.00	9,498.33	81,207.88
Apartments mid rise	297.66	7.20	dwelling units	3,910.00	28,152.00	240,691.15
Mobile home park	73.33	4.99	dwelling units	440.00	2,195.60	18,771.72
Retail and Commercial		45.04	1000 sq ft	3,074.60	138,479.99	1,023,782.56
Industrial		4.96	1000 sq ft	3,053.30	15,144.37	111,962.31
Office		11.42	1000 sq ft	1,066.90	12,184.00	90,076.30
					333,287.04	2,657,713.69

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	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)						
Retail and Commercial				2.0	1.0	97.0
Industrial				2.0	1.0	97.0
Office				2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\smyers\Application Data\Urbemis\Version9a\Projects\Rocklin General Plan-Existing Conditions.urb924

Project Name: City of Rocklin General Plan-Existing Conditions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	5,588.43	791.57	22,432.74	69.42	3,579.51	3,445.46	1,062,450.56

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3,112.08	5,063.94	34,757.24	23.64	4,593.27	893.79	2,362,386.83

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	8,700.51	5,855.51	57,189.98	93.06	8,172.78	4,339.25	3,424,837.39

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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>	<u>CO2</u>
Natural Gas	22.01	287.90	142.39	0.00	0.55	0.54	363,857.69
Hearth	4,231.57	503.67	22,290.35	69.42	3,578.96	3,444.92	698,592.87
Landscaping - No Winter Emissions							
Consumer Products	1,029.15						
Architectural Coatings	305.70						
TOTALS (lbs/day, unmitigated)	5,588.43	791.57	22,432.74	69.42	3,579.51	3,445.46	1,062,450.56

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>	<u>CO2</u>
Single family housing	1,275.35	2,075.93	14,367.81	9.76	1,886.29	367.30	975,065.37
Apartments low rise	94.91	154.49	1,069.24	0.73	140.38	27.33	72,563.61
Apartments mid rise	281.31	457.89	3,169.11	2.15	416.06	81.02	215,070.50
Mobile home park	21.94	35.71	247.16	0.17	32.45	6.32	16,773.54
Retail and Commercial	1,201.47	1,954.26	13,282.65	9.04	1,768.99	343.95	904,429.05
Industrial	131.39	213.72	1,452.61	0.99	193.46	37.61	98,909.64
Office	105.71	171.94	1,168.66	0.80	155.64	30.26	79,575.12
TOTALS (lbs/day, unmitigated)	3,112.08	5,063.94	34,757.24	23.64	4,593.27	893.79	2,362,386.83

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 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
Single family housing	2,022.60	8.05	dwelling units	15,855.00	127,632.75	1,091,221.77
Apartments low rise	3,775.62	11.43	dwelling units	831.00	9,498.33	81,207.88
Apartments mid rise	297.66	7.20	dwelling units	3,910.00	28,152.00	240,691.15
Mobile home park	73.33	4.99	dwelling units	440.00	2,195.60	18,771.72
Retail and Commercial		45.04	1000 sq ft	3,074.60	138,479.99	1,023,782.56
Industrial		4.96	1000 sq ft	3,053.30	15,144.37	111,962.31
Office		11.42	1000 sq ft	1,066.90	12,184.00	90,076.30
					333,287.04	2,657,713.69

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	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)						
Retail and Commercial				2.0	1.0	97.0
Industrial				2.0	1.0	97.0
Office				2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\smyers\Application Data\Urbemis\Version9a\Projects\Rocklin General Plan-Resultant Conditions.urb924

Project Name: City of Rocklin General Plan-Resultant Conditions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	2,132.35	484.07	1,276.29	0.05	3.59	3.55	594,196.17

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	5,554.28	7,516.47	64,372.81	56.16	9,755.79	1,897.80	5,734,658.98

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	7,686.63	8,000.54	65,649.10	56.21	9,759.38	1,901.35	6,328,855.15

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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>	<u>CO2</u>
Natural Gas	35.85	472.59	259.23	0.00	0.89	0.88	592,561.14
Hearth - No Summer Emissions							
Landscape	182.88	11.48	1,017.06	0.05	2.70	2.67	1,635.03
Consumer Products	1,425.37						
Architectural Coatings	488.25						
TOTALS (lbs/day, unmitigated)	2,132.35	484.07	1,276.29	0.05	3.59	3.55	594,196.17

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>	<u>CO2</u>
Single family housing	1,496.41	1,883.00	16,633.81	14.24	2,453.80	477.81	1,451,545.17
Apartments low rise	111.47	146.61	1,295.12	1.11	191.05	37.20	113,018.46
Apartments mid rise	365.27	458.92	4,053.94	3.47	598.03	116.45	353,766.17
Mobile home park	29.47	34.75	306.95	0.26	45.28	8.82	26,785.87
Retail and Commercial	2,741.15	3,950.51	33,295.18	29.34	5,117.05	994.92	2,998,207.73
Industrial	213.38	249.42	2,102.17	1.85	323.08	62.82	189,298.66
Office	597.13	793.26	6,685.64	5.89	1,027.50	199.78	602,036.92
TOTALS (lbs/day, unmitigated)	5,554.28	7,516.47	64,372.81	56.16	9,755.79	1,897.80	5,734,658.98

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Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	2,086.07	7.56	dwelling units	21,962.00	166,032.72	1,419,529.96
Apartments low rise	3,406.20	11.32	dwelling units	1,142.00	12,927.44	110,525.73
Apartments mid rise	485.79	7.47	dwelling units	5,417.00	40,464.99	345,963.52
Mobile home park	102.33	4.99	dwelling units	614.00	3,063.86	26,195.08
Retail and Commercial		45.04	1000 sq ft	8,893.70	400,572.26	2,961,430.72
Industrial		4.96	1000 sq ft	5,099.00	25,291.04	186,976.66
Office		11.42	1000 sq ft	7,043.30	80,434.48	594,652.13
					728,786.79	5,645,273.80

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

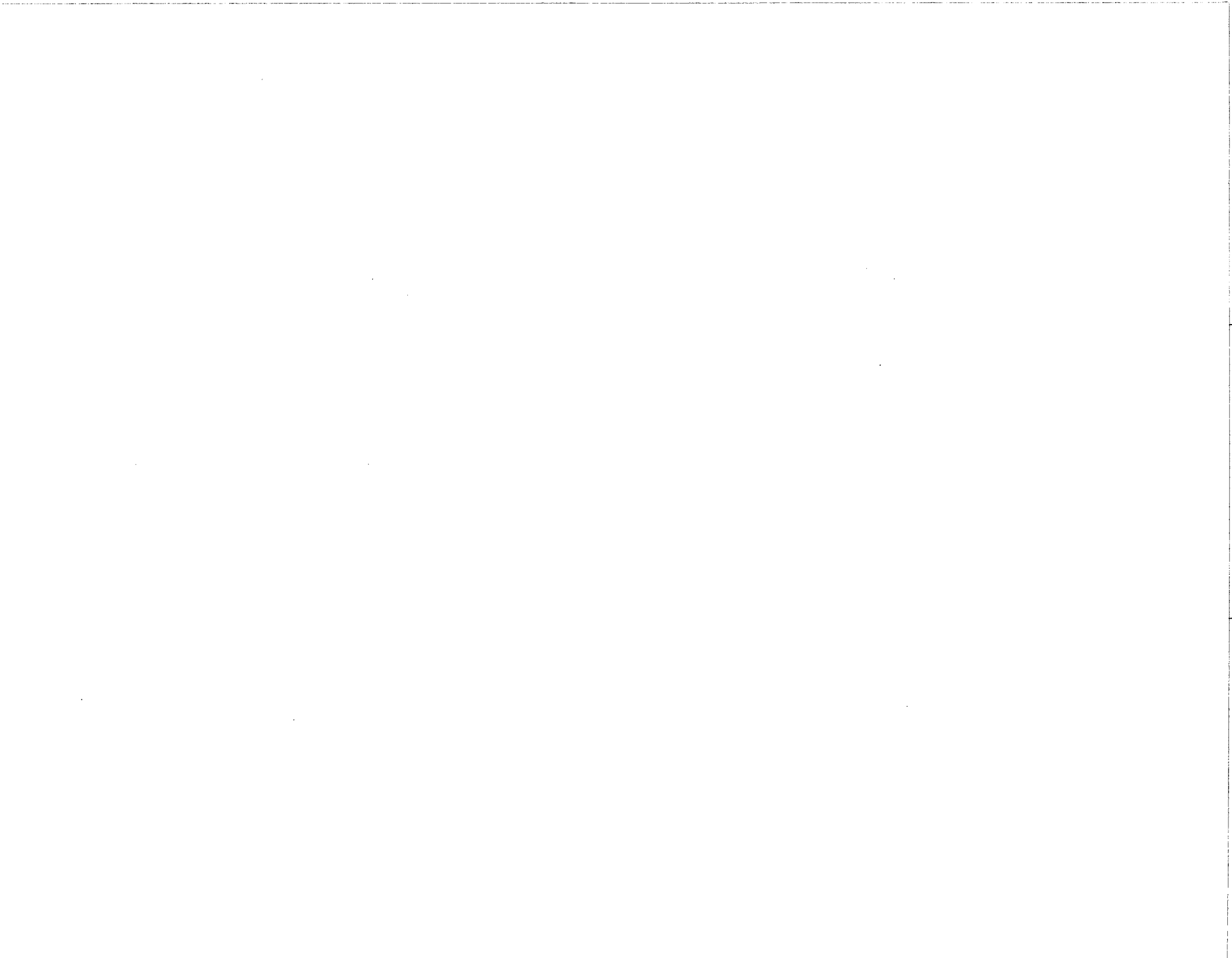
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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

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)						
Retail and Commercial				2.0	1.0	97.0
Industrial				2.0	1.0	97.0
Office				2.0	1.0	97.0



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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\smyers\Application Data\Urbemis\Version9a\Projects\Rocklin General Plan-Resultant Conditions.urb924

Project Name: City of Rocklin General Plan-Resultant Conditions

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	7,810.22	1,170.18	31,131.52	96.15	4,957.77	4,772.12	1,560,131.12

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	6,615.91	10,763.73	73,608.70	50.08	9,755.79	1,897.80	5,006,421.02

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	14,426.13	11,933.91	104,740.22	146.23	14,713.56	6,669.92	6,566,552.14

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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>	<u>CO2</u>
Natural Gas	35.85	472.59	259.23	0.00	0.89	0.88	592,561.14
Hearth	5,860.75	697.59	30,872.29	96.15	4,956.88	4,771.24	967,569.98
Landscaping - No Winter Emissions							
Consumer Products	1,425.37						
Architectural Coatings	488.25						
TOTALS (lbs/day, unmitigated)	7,810.22	1,170.18	31,131.52	96.15	4,957.77	4,772.12	1,560,131.12

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>	<u>CO2</u>
Single family housing	1,659.06	2,700.50	18,690.55	12.70	2,453.80	477.81	1,268,426.40
Apartments low rise	129.18	210.26	1,455.26	0.99	191.05	37.20	98,760.69
Apartments mid rise	404.34	658.16	4,555.20	3.10	598.03	116.45	309,137.02
Mobile home park	30.62	49.83	344.90	0.23	45.28	8.82	23,406.72
Retail and Commercial	3,475.42	5,652.96	38,421.87	26.16	5,117.05	994.92	2,616,184.40
Industrial	219.43	356.91	2,425.85	1.65	323.08	62.82	165,178.75
Office	697.86	1,135.11	7,715.07	5.25	1,027.50	199.78	525,327.04
TOTALS (lbs/day, unmitigated)	6,615.91	10,763.73	73,608.70	50.08	9,755.79	1,897.80	5,006,421.02

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Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 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
Single family housing	2,086.07	7.56	dwelling units	21,962.00	166,032.72	1,419,529.96
Apartments low rise	3,406.20	11.32	dwelling units	1,142.00	12,927.44	110,525.73
Apartments mid rise	485.79	7.47	dwelling units	5,417.00	40,464.99	345,963.52
Mobile home park	102.33	4.99	dwelling units	614.00	3,063.86	26,195.08
Retail and Commercial		45.04	1000 sq ft	8,893.70	400,572.26	2,961,430.72
Industrial		4.96	1000 sq ft	5,099.00	25,291.04	186,976.66
Office		11.42	1000 sq ft	7,043.30	80,434.48	594,652.13
					728,786.79	5,645,273.80

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

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)						
Retail and Commercial				2.0	1.0	97.0
Industrial				2.0	1.0	97.0
Office				2.0	1.0	97.0

APPENDIX B-2

“Mitigation for Air Quality Impacts” Form

MITIGATION FOR AIR QUALITY IMPACTS

The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established air quality standards, referred to as the National Ambient Air Quality Standards (NAAQS) and the State Ambient Air Quality Standards (SAAQS), respectively. The federal Clean Air Act and State Clean Air Act both require that areas in violation of the ambient air quality standards adopt strategies to attain these standards. The Placer County Air Pollution Control District (PCAPCD) has primary responsibility for planning and maintenance and/or attainment of air quality standards within Placer County. California is divided up into 15 air basins for the purpose of monitoring air quality. Western Placer County is included in the Sacramento Valley Air Basin. Areas may be classified as attainment, non-attainment, or unclassified with regard to the adopted standards. The unclassified designation is assigned in cases where monitoring data is insufficient to make a definitive determination. Under the federal standards, western Placer County, including Rocklin, is designated as non-attainment for ozone and particulate matter (PM_{2.5}). All other pollutants are designated unclassified or attainment in Rocklin. Under the state standards, western Placer County, including Rocklin, is designated as non attainment for ozone and particulate matter (PM₁₀) and unclassified or attainment for all other pollutants.

The project would have the following short-term construction impacts, if not mitigated:

- a. Construction activities, including grading, would generate a variety of pollutants, the most significant of which would be dust (particulate matter). This would exacerbate the existing particulate matter non-attainment condition if not mitigated.
- b. Construction equipment would produce short-term combustion emissions, and asphalt materials used for streets and driveways would produce pollutants during curing.

The mitigation measures listed below will reduce the short term impacts to less-than-significant. In the long-term, vehicle trips to and from the project site would generate Carbon Monoxide and ozone precursor emissions, thereby contributing to the non-attainment status of the local air basin. These incremental and cumulative adverse air quality impacts cannot be completely mitigated. However, these impacts were anticipated by the City of Rocklin General Plan, and were addressed through the 1991 Rocklin General Plan EIR and North Rocklin Circulation and Traffic Study. Findings of overriding significance were adopted for the unmitigatable an unavoidable significant air quality impacts.

Therefore, I, as the applicant for the proposed project, agree that the mitigation measures listed below are incorporated into the project description to mitigate for the short term impacts.

Mitigations

1. The project shall conform with the rules, regulations and requirements of the Placer County Air Pollution Control District.
2. Prior to commencement of any grading or construction activities, the applicant shall submit a Construction Emission/Dust Control Plan to the Placer County Air Pollution Control District (PCAPCD). The plans shall specify measures to reduce dust and construction emissions during all phases of construction. The applicant shall provide written evidence, provided by PCAPCD, to the City of Rocklin that the plan has been submitted to the PCAPCD. It is the responsibility of the applicant to deliver the approved plan to the City of Rocklin. The applicant shall not break ground prior to receiving PCAPCD or City Engineer approval of the Construction Emission/Dust Control Plan, and providing evidence of that approval to the City of Rocklin.
3. Traffic speeds on all unpaved road surfaces shall be posted at 15 m.p.h. or less.
4. All grading operations shall be suspended when wind speeds exceed 25 m.p.h.
5. All trucks leaving the site shall be washed off to eliminate dust and debris.
6. All construction equipment shall be maintained in clean condition.
7. All exposed surfaces shall be revegetated as quickly as feasible.
8. If fill dirt is brought to the construction site, tarps or soil stabilizers shall be placed on the dirt piles to minimize dust problems.
9. Apply water or dust palliatives on all exposed earth surfaces as necessary to control dust. Construction contracts shall include dust control treatment as frequently as necessary to minimize dust.
10. Construction equipment shall be properly maintained and tuned.
11. During construction, the contractor shall utilize existing power sources (e.g., power poles) or clean fuel (i.e., gasoline, biodiesel, natural gas) generators rather than temporary diesel power generators.
12. During construction, no open burning of removed vegetation shall be allowed.

Applicant's Name (printed)

Applicant's Signature

APPENDIX B-3

Placer County Air Pollution Control District and State Rule Based Requirements (Grading/Construction)

R1 Construction equipment exhaust emissions shall not exceed PCAPCD Rule 202 Visible Emission limitations. Operators of vehicles and equipment found to exceed opacity limits are to be immediately notified by PCAPCD to cease operations and the equipment must be repaired within 72 hours. *(Based on PCAPCD Rule 202)*

R2 The contractor shall suspend all grading operations when fugitive dust exceeds Placer County APCD Rule 228 (Fugitive Dust) limitations. The prime contractor shall be responsible for having an individual who is CARB-certified to perform Visible Emissions Evaluations (VEE). This individual shall evaluate compliance with Rule 228 on a weekly basis. It is to be noted that fugitive dust is not to exceed 40% opacity and not go beyond the property boundary at any time. Lime or other drying agents utilized to dry out wet grading areas shall not exceed PCAPCD Rule 228 Fugitive Dust limitations. Operators of vehicles and equipment found to exceed opacity limits will be notified by PCAPCD and the equipment must be repaired within 72 hours. *(Based on PCAPCD Rule 228)*

R3. The prime contractor shall be responsible for keeping adjacent public thoroughfares clean of silt, dirt, mud, and debris, and shall “wet broom” the streets (or use another method to control dust as approved by the individual jurisdiction) if silt, dirt, mud or debris is carried over to adjacent public thoroughfares. *(Based on PCAPCD Rule 228/section 401.5)*

R4. During construction, traffic speeds on all unpaved surfaces shall be limited to 15 miles per hour or less. *(Based on PCAPCD Rule 228/section 401.2)*

R5. a). In order to minimize wind driven dust during construction, the prime contractor shall apply methods such as surface stabilization, establishment of a vegetative cover, paving, (or use another method to control dust as approved by the individual jurisdiction).
b). The prime contractor shall suspend all grading operations when wind speeds (including instantaneous gusts) are excessive and dust is impacting adjacent properties. *(Based on APCD Rule 228/section 402)*

R6. The contractor shall apply water or use other method to control dust impacts offsite. Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site. *(Based on PCAPCD Rule 228/section 401.1, 401.4)*

R7. To limit the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use

within the District, all projects must comply with PCAPCD Rule 218. Please see the PCAPCD website for additional information. *(Based on PCAPCD Rule 218)*

R8. In order to limit the emission of nitrogen oxides (NO_x) from natural gas-fired water heaters, all projects that utilize gas fired water heaters must comply with Rule 246. *(Based on PCAPCD Rule 246).*

R9. During construction, no open burning of removed vegetation shall be allowed unless permitted by the PCAPCD. All removed vegetative material shall be either chipped on site or taken to an appropriate recycling site, or if a site is not available, a licensed disposal site. *(Based on PCAPCD Rule 310)*

R10. A person shall not discharge into the atmosphere volatile organic compounds (VOC's) caused by the use or manufacture of Cutback or Emulsified asphalts for paving, road construction or road maintenance, unless such manufacture or use complies with the provisions Rule 217. *(Based on PCAPCD Rule 217).*

R11. Processes that discharge 2 pounds per day or more of air contaminants, as defined by Health and Safety Code Section 39013, to the atmosphere may require a permit. **Permits may be required for both construction and operation.** Developers/contractors should contact the District prior to construction and obtain any necessary permits prior to the issuance of a Building Permit. *(Based on the California Health & Safety Code section 39013: <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=39001-40000&file=39010-39060>)*

NOTE: For complete listing of APCD Rules please visit:
<http://www.placer.ca.gov/Departments/Air/Rules.aspx>

Placer County Air Pollution Control District, State and Federal Rule Based Requirements (Operational)

R1B. Prior to building permit approval, in accordance with District Rule 225, only U.S. EPA Phase II certified wood burning devices shall be allowed in single-family residences. The emission potential from each residence shall not exceed a cumulative total of 7.5 grams per hour for all devices. Masonry fireplaces shall have either an EPA certified Phase II wood burning device or shall be a U.L. Listed Decorative Gas Appliance. *(Based on PCAPCD Rule 225).*

R2B. Wood burning or Pellet appliances shall not be permitted in multi-family developments. Only natural gas or propane fired fireplace appliances are permitted. These appliances shall be clearly delineated on the Floor Plans submitted in conjunction with the Building Permit application. *(Based on PCAPCD Rule 225, section 302.2).*

R3B. Pursuant to the Placer County Air Pollution Control District Rule 501, General Permit Requirements, the proposed project may need a permit from the District prior to construction. In general, any engine greater than 50 brake horsepower or any boiler with heat greater than 1,000,000 Btu per hour will need a permit issued by the District. Please contact with the District for permit requirements. *(Based on PCAPCD Rule 501).*

R4B. The demolition or remodeling of any structure may be subject to the National Emission Standard for Hazardous Air Pollutants (NESHAPS) for Asbestos. This may require that a structure to be demolished be inspected for the presence of asbestos by a certified asbestos inspector, and that all asbestos materials are removed prior to demolition. For more information, call the California Air Resources Board at (916) 916 322-6036 or the U. S. EPA at (415) 947-8704. *(Based on Calif. Code Regulations, Title 22: <http://www.ciwmb.ca.gov/Regulations/Title14/ch35.htm> and Code of Federal Regulations, Title 40: <http://www.ncdot.org/doh/preconstruct/ps/word/SP2R10.doc>*

R5B. Processes that discharge 2 pounds per day or more of air contaminants, as defined by Health and Safety Code Section 39013, to the atmosphere may require a permit. **Permits are required for both construction and operation.** Developers/contractors should contact the District prior to construction and obtain any necessary permits prior to the issuance of a Building Permit. *(Based on the California Health & Safety Code section 39013: <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=hsc&group=39001-40000&file=39010-39060>*

NOTE: For complete listing of APCD Rules please visit:
<http://www.placer.ca.gov/Departments/Air/Rules.aspx>

APPENDIX B-4

Master Mitigation List

(A “menu” of potential mitigations to be considered during environmental review.)

- If required by the Engineering Division and/or the Department of Public Works, the contractor shall hold a preconstruction meeting prior to any grading activities. The contractor shall invite the Placer County APCD to the pre-construction meeting in order to discuss the construction emission/dust control plan with employees and/or contractors.
- In order to control dust, operational watering trucks shall be utilized. In addition, dry, mechanical sweeping is prohibited. Watering of a construction site shall be carried out in compliance with all pertinent PCAPCD rules.
- Prior to building permit approval, the applicant shall show, on the plans submitted to the Building Department, provisions for construction of new residences, and where natural gas is available, the installation of a gas outlet for use with outdoor cooking appliances, such as a gas barbecue or outdoor recreational fire pits.
- The prime contractor shall submit to the District a comprehensive inventory (i.e. make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower or greater) that will be used in aggregate of 40 or more hours for the construction project. If any new equipment is added after submission of the inventory, the prime contractor shall contact the PCAPCD prior to the new equipment being utilized. At least three business days prior to the use of subject heavy-duty offroad equipment, the project representative shall provide the District with the anticipated construction timeline including start date, name, and phone number of the property owner, project manager, and on-site foreman.
- Prior to approval of Grading or Improvement Plans, whichever occurs first, the applicant shall provide a written calculation to the Placer County APCD for approval by the District demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction as required by CARB. . Acceptable options for reducing emissions may include use of late model engines, low emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. The following link shall be used to calculate compliance with this condition and shall be submitted to the Placer County APCD as described above: <http://www.airquality.org/ceqa/> (click on the current “Roadway Construction Emissions Model”).
- The proposed project will contribute to significant cumulative air quality impacts occurring within the City of Rocklin and Placer County. In order to mitigate the

projects contribution to long-term emission of pollutants, the applicant shall either:

- a. (Establish mitigation **on-site** by incorporating design features within the project. This may include, but not be limited to: “green” building features such solar panels, energy efficient heating and cooling, exceeding Title 24 standards, bike lanes, bus shelters, etc. **NOTE:** The specific amounts of “credits” received shall be established and coordinated through the Placer County Air Pollution Control District. .
 - b. Establish mitigation **off-site** within the same region (i.e. east or west Placer County) by participating in an offsite mitigation program, coordinated through the Placer County Air Pollution Control District. Examples include, but are not limited to participation in a “Biomass” program that provides emissions benefits; retrofitting, repowering, or replacing heavy duty engines from mobile sources (i.e. busses, construction equipment, on road haulers); or other program that the project proponent may propose to reduce emissions.
 - c. Participate in the Placer County Air Pollution District Offsite Mitigation Program by paying a fee to achieve the desired emissions reduction. The estimated payment for the proposed project is \$_____ based on \$14,300 per ton for a one year period. The actual amount to be paid shall be determined, and satisfied per current California Air Resource Board guidelines, at the time of (Choose one): [recordation of the Final Map, issuance of a Building Permit].
 - d. Any combination of a, b, or c, as determined feasible by the Director of PCAPCD.
- For those projects which include stationary sources (i.e. gasoline dispensing facility, auto painting, dry cleaning, large HVAC units, etc.), the applicant shall obtain an Authority to Construct (ATC) permit prior to the approval of Improvement Plans, Grading Permit, or Building Permit (whichever occurs first). **NOTE:** A third party detailed Health Risk Assessment may be required as a part of the permitting process.

