3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1281	4.5031	1.2213	0.0118	0.3067	9.3500e-003	0.3160	0.0883	8.9500e-003	0.0972		1,290.2040	1,290.2040	0.1012		1,292.7333
Worker	0.7111	0.4302	5.9835	0.0208	2.2020	0.0143	2.2163	0.5840	0.0131	0.5971		2,072.8225	2,072.8225	0.0444		2,073.9322
Total	**0.8391**	**4.9333**	**7.2047**	**0.0326**	**2.5087**	**0.0236**	**2.5323**	**0.6722**	**0.0221**	**0.6943**		**3,363.0265**	**3,363.0265**	**0.1456**		**3,366.6654**

75C-193

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**		**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1204	4.2602	1.1792	0.0117	0.3067	8.1400e-003	0.3148	0.0883	7.7800e-003	0.0960		1,277.5325	1,277.5325	0.0980		1,279.9826
Worker	0.6720	0.3898	5.5845	0.0200	2.2020	0.0140	2.2160	0.5840	0.0129	0.5969		1,996.0064	1,996.0064	0.0403		1,997.0143
Total	**0.7924**	**4.6500**	**6.7637**	**0.0317**	**2.5087**	**0.0221**	**2.5308**	**0.6722**	**0.0207**	**0.6929**		**3,273.5390**	**3,273.5390**	**0.1383**		**3,276.9968**

75C-163

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**	**0.0000**	**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1204	4.2602	1.1792	0.0117	0.3067	8.1400e-003	0.3148	0.0883	7.7800e-003	0.0960		1,277.5325	1,277.5325	0.0980		1,279.9826
Worker	0.6720	0.3898	5.5845	0.0200	2.2020	0.0140	2.2160	0.5840	0.0129	0.5969		1,996.0064	1,996.0064	0.0403		1,997.0143
Total	**0.7924**	**4.6500**	**6.7637**	**0.0317**	**2.5087**	**0.0221**	**2.5308**	**0.6722**	**0.0207**	**0.6929**		**3,273.5390**	**3,273.5390**	**0.1383**		**3,276.9968**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.5233	2,289.5233	0.4330		2,300.3479
Total	**1.7136**	**13.6239**	**14.2145**	**0.0250**		**0.6136**	**0.6136**		**0.5880**	**0.5880**		**2,289.5233**	**2,289.5233**	**0.4330**		**2,300.3479**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0917	3.2155	1.1006	0.0113	0.3067	3.8700e-003	0.3105	0.0883	3.7000e-003	0.0920		1,238.7194	1,238.7194	0.0911		1,240.9971
Worker	0.6364	0.3539	5.2080	0.0192	2.2020	0.0137	2.2157	0.5840	0.0127	0.5966		1,919.2715	1,919.2715	0.0366		1,920.1856
Total	**0.7280**	**3.5693**	**6.3086**	**0.0306**	**2.5087**	**0.0176**	**2.5263**	**0.6722**	**0.0164**	**0.6886**		**3,157.9909**	**3,157.9909**	**0.1277**		**3,161.1827**

75C-165

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479
Total	**1.7136**	**13.6239**	**14.2145**	**0.0250**		**0.6136**	**0.6136**		**0.5880**	**0.5880**	**0.0000**	**2,289.5233**	**2,289.5233**	**0.4330**		**2,300.3479**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0917	3.2155	1.1006	0.0113	0.3067	3.8700e-003	0.3105	0.0883	3.7000e-003	0.0920		1,238.7194	1,238.7194	0.0911		1,240.9971
Worker	0.6364	0.3539	5.2080	0.0192	2.2020	0.0137	2.2157	0.5840	0.0127	0.5966		1,919.2715	1,919.2715	0.0366		1,920.1856
Total	**0.7280**	**3.5693**	**6.3086**	**0.0306**	**2.5087**	**0.0176**	**2.5263**	**0.6722**	**0.0164**	**0.6886**		**3,157.9909**	**3,157.9909**	**0.1277**		**3,161.1827**

Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8802	8.6098	11.6840	0.0179		0.4338	0.4338		0.4003	0.4003		1,709.9926	1,709.9926	0.5420		1,723.5414
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8802**	**8.6098**	**11.6840**	**0.0179**		**0.4338**	**0.4338**		**0.4003**	**0.4003**		**1,709.9926**	**1,709.9926**	**0.5420**		**1,723.5414**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0270	0.3966	1.4600e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		146.1374	146.1374	2.7800e-003		146.2070
Total	**0.0485**	**0.0270**	**0.3966**	**1.4600e-003**	**0.1677**	**1.0500e-003**	**0.1687**	**0.0445**	**9.6000e-004**	**0.0454**		**146.1374**	**146.1374**	**2.7800e-003**		**146.2070**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8802	8.6098	11.6840	0.0179		0.4338	0.4338		0.4003	0.4003	0.0000	1,709.9926	1,709.9926	0.5420		1,723.5414
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8802**	**8.6098**	**11.6840**	**0.0179**		**0.4338**	**0.4338**		**0.4003**	**0.4003**	**0.0000**	**1,709.9926**	**1,709.9926**	**0.5420**		**1,723.5414**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0270	0.3966	1.4600e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		146.1374	146.1374	2.7800e-003		146.2070
Total	**0.0485**	**0.0270**	**0.3966**	**1.4600e-003**	**0.1677**	**1.0500e-003**	**0.1687**	**0.0445**	**9.6000e-004**	**0.0454**		**146.1374**	**146.1374**	**2.7800e-003**		**146.2070**

75C-198

Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	73.8023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**73.9940**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1260	0.0701	1.0310	3.8100e-003	0.4359	2.7200e-003	0.4387	0.1156	2.5000e-003	0.1181		379.9573	379.9573	7.2400e-003		380.1383
Total	**0.1260**	**0.0701**	**1.0310**	**3.8100e-003**	**0.4359**	**2.7200e-003**	**0.4387**	**0.1156**	**2.5000e-003**	**0.1181**		**379.9573**	**379.9573**	**7.2400e-003**		**380.1383**

75C-169

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	73.8023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**73.9940**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1260	0.0701	1.0310	3.8100e-003	0.4359	2.7200e-003	0.4387	0.1156	2.5000e-003	0.1181		379.9573	379.9573	7.2400e-003		380.1383
Total	**0.1260**	**0.0701**	**1.0310**	**3.8100e-003**	**0.4359**	**2.7200e-003**	**0.4387**	**0.1156**	**2.5000e-003**	**0.1181**		**379.9573**	**379.9573**	**7.2400e-003**		**380.1383**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.4943	5.0753	18.9920	0.0747	7.0094	0.0503	7.0597	1.8744	0.0467	1.9211		7,593.5687	7,593.5687	0.2979		7,601.0168
Unmitigated	1.4943	5.0753	18.9920	0.0747	7.0094	0.0503	7.0597	1.8744	0.0467	1.9211		7,593.5687	7,593.5687	0.2979		7,601.0168

750-171

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	799.37	799.37	799.37	2,731,569	2,731,569
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	251.21	251.21	251.21	342,360	342,360
Strip Mall	120.99	120.99	120.99	230,188	230,188
Total	1,171.57	1,171.57	1,171.57	3,304,116	3,304,116

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
Enclosed Parking with Elevator	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
High Turnover (Sit Down Restaurant)	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
Strip Mall	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

750-172

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0870	0.7598	0.4361	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.1193	949.1193	0.0182	0.0174	954.7595
NaturalGas Unmitigated	0.0870	0.7598	0.4361	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.1193	949.1193	0.0182	0.0174	954.7595

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5291.07	0.0571	0.4876	0.2075	3.1100e-003		0.0394	0.0394		0.0394	0.0394		622.4789	622.4789	0.0119	0.0114	626.1780
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	2735.29	0.0295	0.2682	0.2253	1.6100e-003		0.0204	0.0204		0.0204	0.0204		321.7992	321.7992	6.1700e-003	5.9000e-003	323.7115
Strip Mall	41.1507	4.4000e-004	4.0300e-003	3.3900e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		4.8413	4.8413	9.0000e-005	9.0000e-005	4.8700
Total		**0.0870**	**0.7598**	**0.4361**	**4.7400e-003**		**0.0601**	**0.0601**		**0.0601**	**0.0601**		**949.1193**	**949.1193**	**0.0182**	**0.0174**	**954.7595**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5.29107	0.0571	0.4876	0.2075	3.1100e-003		0.0394	0.0394		0.0394	0.0394		622.4789	622.4789	0.0119	0.0114	626.1780
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	2.73529	0.0295	0.2682	0.2253	1.6100e-003		0.0204	0.0204		0.0204	0.0204		321.7992	321.7992	6.1700e-003	5.9000e-003	323.7115
Strip Mall	0.0411507	4.4000e-004	4.0300e-003	3.3900e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		4.8413	4.8413	9.0000e-005	9.0000e-005	4.8700
Total		**0.0870**	**0.7598**	**0.4361**	**4.7400e-003**		**0.0601**	**0.0601**		**0.0601**	**0.0601**		**949.1193**	**949.1193**	**0.0182**	**0.0174**	**954.7595**

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6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.8199	2.5441	15.0041	0.0160		0.2700	0.2700		0.2700	0.2700	0.0000	3,067.2002	3,067.2002	0.0827	0.0558	3,085.8870
Unmitigated	4.8199	2.5441	15.0041	0.0160		0.2700	0.2700		0.2700	0.2700	0.0000	3,067.2002	3,067.2002	0.0827	0.0558	3,085.8870

750-775

2.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3437					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2789	2.3829	1.0140	0.0152		0.1927	0.1927		0.1927	0.1927	0.0000	3,042.0000	3,042.0000	0.0583	0.0558	3,060.0771
Landscaping	0.4242	0.1612	13.9901	7.4000e-004		0.0774	0.0774		0.0774	0.0774		25.2002	25.2002	0.0244		25.8099
Total	**4.8199**	**2.5441**	**15.0041**	**0.0160**		**0.2700**	**0.2700**		**0.2700**	**0.2700**	**0.0000**	**3,067.2002**	**3,067.2002**	**0.0827**	**0.0558**	**3,085.8870**

6.2 Area by SubCategory

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.3437					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2789	2.3829	1.0140	0.0152		0.1927	0.1927		0.1927	0.1927	0.0000	3,042.0000	3,042.0000	0.0583	0.0558	3,060.0771
Landscaping	0.4242	0.1612	13.9901	7.4000e-004		0.0774	0.0774		0.0774	0.0774		25.2002	25.2002	0.0244		25.8099
Total	**4.8199**	**2.5441**	**15.0041**	**0.0160**		**0.2700**	**0.2700**		**0.2700**	**0.2700**	**0.0000**	**3,067.2002**	**3,067.2002**	**0.0827**	**0.0558**	**3,085.8870**

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7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

4th and Mortimer Mixed-Use Project

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	422.00	Space	1.23	168,800.00	0
High Turnover (Sit Down Restaurant)	3.85	1000sqft	0.09	3,850.00	0
Apartments Mid Rise	169.00	Dwelling Unit	1.23	176,178.00	483
Strip Mall	7.51	1000sqft	0.17	7,510.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	513	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWAPE comment about CO2 intensity factor.

Land Use - See SWAPE comment about residential land use size. 93,117-SF residential space (Block A) + 8,075-SF leasing/amenity space (Block A) + 74,986-SF residential space (Block B) = 176,178-SF total residential land use space modeled as "Apartments Mid Rise."

Construction Phase - See SWAPE comment about construction schedule.

Grading -

Vehicle Trips - See SWAPE comment about trip rates.

Woodstoves - Consistent with Addendum's model.

Construction Off-road Equipment Mitigation - See SWAPE comment about construction-related mitigation measures.

Mobile Land Use Mitigation - See SWAPE comment about operational mitigation measures.

Area Mitigation - Consistent with Addendum's model.

Water Mitigation - See SWAPE comment about operational mitigation measures.

Waste Mitigation - See SWAPE comment about operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	17.00
tblConstructionPhase	NumDays	220.00	372.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	10.00	17.00
tblConstructionPhase	NumDays	3.00	5.00
tblFireplaces	NumberWood	8.45	0.00
tblLandUse	LandUseSquareFeet	169,000.00	176,178.00
tblLandUse	LotAcreage	3.80	1.23
tblLandUse	LotAcreage	4.45	1.23
tblProjectCharacteristics	CO2IntensityFactor	702.44	513
tblVehicleTrips	ST_TR	6.39	4.73
tblVehicleTrips	ST_TR	158.37	65.25
tblVehicleTrips	ST_TR	42.04	16.11
tblVehicleTrips	SU_TR	5.86	4.73
tblVehicleTrips	SU_TR	131.84	65.25
tblVehicleTrips	SU_TR	20.43	16.11
tblVehicleTrips	WD_TR	6.65	4.73
tblVehicleTrips	WD_TR	127.15	65.25
tblVehicleTrips	WD_TR	44.32	16.11
tblWoodstoves	NumberCatalytic	8.45	0.00
tblWoodstoves	NumberNoncatalytic	8.45	0.00

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2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.9845	20.9927	21.4240	0.0562	6.6641	1.0418	7.5806	3.3971	0.9723	4.2403	0.0000	5,509.2321	5,509.2321	0.7692	0.0000	5,524.1933
2022	2.7447	19.2795	20.7903	0.0554	2.5087	0.7246	3.2333	0.6722	0.6941	1.3663	0.0000	5,424.4980	5,424.4980	0.5824	0.0000	5,439.0577
2023	74.1374	17.2097	20.1924	0.0543	2.5087	0.6315	3.1401	0.6722	0.6046	1.2768	0.0000	5,314.8597	5,314.8597	0.5624	0.0000	5,328.9195
Maximum	**74.1374**	**20.9927**	**21.4240**	**0.0562**	**6.6641**	**1.0418**	**7.5806**	**3.3971**	**0.9723**	**4.2403**	**0.0000**	**5,509.2321**	**5,509.2321**	**0.7692**	**0.0000**	**5,524.1933**

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Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.9845	20.9927	21.4240	0.0562	6.6641	1.0418	7.5806	3.3971	0.9723	4.2403	0.0000	5,509.2321	5,509.2321	0.7692	0.0000	5,524.1933
2022	2.7447	19.2795	20.7903	0.0554	2.5087	0.7246	3.2333	0.6722	0.6941	1.3663	0.0000	5,424.4980	5,424.4980	0.5824	0.0000	5,439.0577
2023	74.1374	17.2097	20.1924	0.0543	2.5087	0.6315	3.1401	0.6722	0.6046	1.2768	0.0000	5,314.8597	5,314.8597	0.5624	0.0000	5,328.9195
Maximum	**74.1374**	**20.9927**	**21.4240**	**0.0562**	**6.6641**	**1.0418**	**7.5806**	**3.3971**	**0.9723**	**4.2403**	**0.0000**	**5,509.2321**	**5,509.2321**	**0.7692**	**0.0000**	**5,524.1933**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.8199	2.5441	15.0041	0.0160		0.2700	0.2700		0.2700	0.2700	0.0000	3,067.2002	3,067.2002	0.0827	0.0558	3,085.8870
Energy	0.0870	0.7598	0.4361	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.1193	949.1193	0.0182	0.0174	954.7595
Mobile	1.4667	5.2077	18.2140	0.0714	7.0094	0.0505	7.0599	1.8744	0.0469	1.9213		7,259.1292	7,259.1292	0.2975		7,266.5671
Total	**6.3736**	**8.5116**	**33.6542**	**0.0921**	**7.0094**	**0.3806**	**7.3900**	**1.8744**	**0.3770**	**2.2514**	**0.0000**	**11,275.4487**	**11,275.4487**	**0.3984**	**0.0732**	**11,307.2137**

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Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.8199	2.5441	15.0041	0.0160		0.2700	0.2700		0.2700	0.2700	0.0000	3,067.2002	3,067.2002	0.0827	0.0558	3,085.8870
Energy	0.0870	0.7598	0.4361	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.1193	949.1193	0.0182	0.0174	954.7595
Mobile	1.4667	5.2077	18.2140	0.0714	7.0094	0.0505	7.0599	1.8744	0.0469	1.9213		7,259.1292	7,259.1292	0.2975		7,266.5671
Total	**6.3736**	**8.5116**	**33.6542**	**0.0921**	**7.0094**	**0.3806**	**7.3900**	**1.8744**	**0.3770**	**2.2514**	**0.0000**	**11,275.4487**	**11,275.4487**	**0.3984**	**0.0732**	**11,307.2137**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/18/2021	5	34	
2	Site Preparation	Site Preparation	10/19/2021	10/25/2021	5	5	
3	Grading	Grading	10/26/2021	11/8/2021	5	10	
4	Building Construction	Building Construction	11/9/2021	4/12/2023	5	372	
5	Paving	Paving	4/13/2023	5/5/2023	5	17	
6	Architectural Coating	Architectural Coating	5/6/2023	5/30/2023	5	17	

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Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 5

Acres of Paving: 1.23

Residential Indoor: 356,760; Residential Outdoor: 118,920; Non-Residential Indoor: 17,040; Non-Residential Outdoor: 5,680; Striped Parking Area: 10,128 (Architectural Coating – sqft)

OffRoad Equipment

4th and Mortimer Mixed-Use Project - Orange County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	197.00	48.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**		**1.0409**	**1.0409**		**0.9715**	**0.9715**		**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275
Total	**0.0531**	**0.0312**	**0.3644**	**1.3000e-003**	**0.1453**	**9.4000e-004**	**0.1463**	**0.0385**	**8.7000e-004**	**0.0394**		**129.4582**	**129.4582**	**2.7700e-003**		**129.5275**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**		**1.0409**	**1.0409**		**0.9715**	**0.9715**	**0.0000**	**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275
Total	**0.0531**	**0.0312**	**0.3644**	**1.3000e-003**	**0.1453**	**9.4000e-004**	**0.1463**	**0.0385**	**8.7000e-004**	**0.0394**		**129.4582**	**129.4582**	**2.7700e-003**		**129.5275**

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Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457		2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**1.5908**	**0.7019**	**2.2926**	**0.1718**	**0.6457**	**0.8175**		**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	**0.0327**	**0.0192**	**0.2242**	**8.0000e-004**	**0.0894**	**5.8000e-004**	**0.0900**	**0.0237**	**5.3000e-004**	**0.0243**		**79.6666**	**79.6666**	**1.7100e-003**		**79.7092**

75C-189

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457	0.0000	2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**1.5908**	**0.7019**	**2.2926**	**0.1718**	**0.6457**	**0.8175**	**0.0000**	**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	**0.0327**	**0.0192**	**0.2242**	**8.0000e-004**	**0.0894**	**5.8000e-004**	**0.0900**	**0.0237**	**5.3000e-004**	**0.0243**		**79.6666**	**79.6666**	**1.7100e-003**		**79.7092**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**6.5523**	**0.9158**	**7.4681**	**3.3675**	**0.8425**	**4.2100**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0409	0.0240	0.2803	1.0000e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		99.5832	99.5832	2.1300e-003		99.6365
Total	**0.0409**	**0.0240**	**0.2803**	**1.0000e-003**	**0.1118**	**7.2000e-004**	**0.1125**	**0.0296**	**6.7000e-004**	**0.0303**		**99.5832**	**99.5832**	**2.1300e-003**		**99.6365**

75C-191

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**6.5523**	**0.9158**	**7.4681**	**3.3675**	**0.8425**	**4.2100**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0409	0.0240	0.2803	1.0000e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		99.5832	99.5832	2.1300e-003		99.6365
Total	**0.0409**	**0.0240**	**0.2803**	**1.0000e-003**	**0.1118**	**7.2000e-004**	**0.1125**	**0.0296**	**6.7000e-004**	**0.0303**		**99.5832**	**99.5832**	**2.1300e-003**		**99.6365**

75C-192

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**		**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1344	4.4925	1.3398	0.0116	0.3067	9.7100e-003	0.3164	0.0883	9.2800e-003	0.0975		1,258.5072	1,258.5072	0.1061		1,261.1601
Worker	0.8050	0.4728	5.5213	0.0197	2.2020	0.0143	2.2163	0.5840	0.0131	0.5971		1,961.7894	1,961.7894	0.0420		1,962.8396
Total	**0.9395**	**4.9652**	**6.8611**	**0.0312**	**2.5087**	**0.0240**	**2.5326**	**0.6722**	**0.0224**	**0.6946**		**3,220.2966**	**3,220.2966**	**0.1481**		**3,223.9997**

75C-193

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**	**0.0000**	**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1344	4.4925	1.3398	0.0116	0.3067	9.7100e-003	0.3164	0.0883	9.2800e-003	0.0975		1,258.5072	1,258.5072	0.1061		1,261.1601
Worker	0.8050	0.4728	5.5213	0.0197	2.2020	0.0143	2.2163	0.5840	0.0131	0.5971		1,961.7894	1,961.7894	0.0420		1,962.8396
Total	**0.9395**	**4.9652**	**6.8611**	**0.0312**	**2.5087**	**0.0240**	**2.5326**	**0.6722**	**0.0224**	**0.6946**		**3,220.2966**	**3,220.2966**	**0.1481**		**3,223.9997**

75C-194

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**		**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1264	4.2473	1.2918	0.0114	0.3067	8.4500e-003	0.3151	0.0883	8.0800e-003	0.0963		1,246.0286	1,246.0286	0.1026		1,248.5935
Worker	0.7628	0.4283	5.1452	0.0189	2.2020	0.0140	2.2160	0.5840	0.0129	0.5969		1,889.1882	1,889.1882	0.0381		1,890.1413
Total	**0.8892**	**4.6755**	**6.4371**	**0.0304**	**2.5087**	**0.0224**	**2.5311**	**0.6722**	**0.0210**	**0.6932**		**3,135.2168**	**3,135.2168**	**0.1407**		**3,138.7347**

75C-195

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**	**0.0000**	**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1264	4.2473	1.2918	0.0114	0.3067	8.4500e-003	0.3151	0.0883	8.0800e-003	0.0963		1,246.0286	1,246.0286	0.1026		1,248.5935
Worker	0.7628	0.4283	5.1452	0.0189	2.2020	0.0140	2.2160	0.5840	0.0129	0.5969		1,889.1882	1,889.1882	0.0381		1,890.1413
Total	**0.8892**	**4.6755**	**6.4371**	**0.0304**	**2.5087**	**0.0224**	**2.5311**	**0.6722**	**0.0210**	**0.6932**		**3,135.2168**	**3,135.2168**	**0.1407**		**3,138.7347**

75C-196

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880		2,289.5233	2,289.5233	0.4330		2,300.3479
Total	**1.7136**	**13.6239**	**14.2145**	**0.0250**		**0.6136**	**0.6136**		**0.5880**	**0.5880**		**2,289.5233**	**2,289.5233**	**0.4330**		**2,300.3479**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0963	3.1970	1.1871	0.0111	0.3067	4.1100e-003	0.3108	0.0883	3.9300e-003	0.0922		1,208.6844	1,208.6844	0.0949		1,211.0560
Worker	0.7245	0.3887	4.7909	0.0182	2.2020	0.0137	2.2157	0.5840	0.0127	0.5966		1,816.6520	1,816.6520	0.0346		1,817.5157
Total	**0.8208**	**3.5857**	**5.9780**	**0.0293**	**2.5087**	**0.0179**	**2.5265**	**0.6722**	**0.0166**	**0.6888**		**3,025.3364**	**3,025.3364**	**0.1294**		**3,028.5716**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7136	13.6239	14.2145	0.0250		0.6136	0.6136		0.5880	0.5880	0.0000	2,289.5233	2,289.5233	0.4330		2,300.3479
Total	**1.7136**	**13.6239**	**14.2145**	**0.0250**		**0.6136**	**0.6136**		**0.5880**	**0.5880**	**0.0000**	**2,289.5233**	**2,289.5233**	**0.4330**		**2,300.3479**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0963	3.1970	1.1871	0.0111	0.3067	4.1100e-003	0.3108	0.0883	3.9300e-003	0.0922		1,208.6844	1,208.6844	0.0949		1,211.0560
Worker	0.7245	0.3887	4.7909	0.0182	2.2020	0.0137	2.2157	0.5840	0.0127	0.5966		1,816.6520	1,816.6520	0.0346		1,817.5157
Total	**0.8208**	**3.5857**	**5.9780**	**0.0293**	**2.5087**	**0.0179**	**2.5265**	**0.6722**	**0.0166**	**0.6888**		**3,025.3364**	**3,025.3364**	**0.1294**		**3,028.5716**

Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8802	8.6098	11.6840	0.0179		0.4338	0.4338		0.4003	0.4003		1,709.9926	1,709.9926	0.5420		1,723.5414
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8802**	**8.6098**	**11.6840**	**0.0179**		**0.4338**	**0.4338**		**0.4003**	**0.4003**		**1,709.9926**	**1,709.9926**	**0.5420**		**1,723.5414**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0552	0.0296	0.3648	1.3900e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		138.3238	138.3238	2.6300e-003		138.3895
Total	**0.0552**	**0.0296**	**0.3648**	**1.3900e-003**	**0.1677**	**1.0500e-003**	**0.1687**	**0.0445**	**9.6000e-004**	**0.0454**		**138.3238**	**138.3238**	**2.6300e-003**		**138.3895**

7GC-199

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8802	8.6098	11.6840	0.0179		0.4338	0.4338		0.4003	0.4003	0.0000	1,709.9926	1,709.9926	0.5420		1,723.5414
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8802**	**8.6098**	**11.6840**	**0.0179**		**0.4338**	**0.4338**		**0.4003**	**0.4003**	**0.0000**	**1,709.9926**	**1,709.9926**	**0.5420**		**1,723.5414**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0552	0.0296	0.3648	1.3900e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		138.3238	138.3238	2.6300e-003		138.3895
Total	**0.0552**	**0.0296**	**0.3648**	**1.3900e-003**	**0.1677**	**1.0500e-003**	**0.1687**	**0.0445**	**9.6000e-004**	**0.0454**		**138.3238**	**138.3238**	**2.6300e-003**		**138.3895**

75C-200

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	73.8023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**73.9940**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1434	0.0770	0.9485	3.6000e-003	0.4359	2.7200e-003	0.4387	0.1156	2.5000e-003	0.1181		359.6418	359.6418	6.8400e-003		359.8127
Total	**0.1434**	**0.0770**	**0.9485**	**3.6000e-003**	**0.4359**	**2.7200e-003**	**0.4387**	**0.1156**	**2.5000e-003**	**0.1181**		**359.6418**	**359.6418**	**6.8400e-003**		**359.8127**

75C-201

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	73.8023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**73.9940**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1434	0.0770	0.9485	3.6000e-003	0.4359	2.7200e-003	0.4387	0.1156	2.5000e-003	0.1181		359.6418	359.6418	6.8400e-003		359.8127
Total	**0.1434**	**0.0770**	**0.9485**	**3.6000e-003**	**0.4359**	**2.7200e-003**	**0.4387**	**0.1156**	**2.5000e-003**	**0.1181**		**359.6418**	**359.6418**	**6.8400e-003**		**359.8127**

75C-202

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.4667	5.2077	18.2140	0.0714	7.0094	0.0505	7.0599	1.8744	0.0469	1.9213		7,259.1292	7,259.1292	0.2975		7,266.5671
Unmitigated	1.4667	5.2077	18.2140	0.0714	7.0094	0.0505	7.0599	1.8744	0.0469	1.9213		7,259.1292	7,259.1292	0.2975		7,266.5671

75G-203

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	799.37	799.37	799.37	2,731,569	2,731,569
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	251.21	251.21	251.21	342,360	342,360
Strip Mall	120.99	120.99	120.99	230,188	230,188
Total	1,171.57	1,171.57	1,171.57	3,304,116	3,304,116

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
Enclosed Parking with Elevator	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
High Turnover (Sit Down Restaurant)	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904
Strip Mall	0.563406	0.043070	0.209298	0.109958	0.015015	0.005784	0.026182	0.017546	0.001775	0.001524	0.004941	0.000598	0.000904

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

75C-204

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0870	0.7598	0.4361	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.1193	949.1193	0.0182	0.0174	954.7595
NaturalGas Unmitigated	0.0870	0.7598	0.4361	4.7500e-003		0.0601	0.0601		0.0601	0.0601		949.1193	949.1193	0.0182	0.0174	954.7595

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5291.07	0.0571	0.4876	0.2075	3.1100e-003		0.0394	0.0394		0.0394	0.0394		622.4789	622.4789	0.0119	0.0114	626.1780
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	2735.29	0.0295	0.2682	0.2253	1.6100e-003		0.0204	0.0204		0.0204	0.0204		321.7992	321.7992	6.1700e-003	5.9000e-003	323.7115
Strip Mall	41.1507	4.4000e-004	4.0300e-003	3.3900e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		4.8413	4.8413	9.0000e-005	9.0000e-005	4.8700
Total		**0.0870**	**0.7598**	**0.4361**	**4.7400e-003**		**0.0601**	**0.0601**		**0.0601**	**0.0601**		**949.1193**	**949.1193**	**0.0182**	**0.0174**	**954.7595**

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5.29107	0.0571	0.4876	0.2075	3.1100e-003		0.0394	0.0394		0.0394	0.0394		622.4789	622.4789	0.0119	0.0114	626.1780
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	2.73529	0.0295	0.2682	0.2253	1.6100e-003		0.0204	0.0204		0.0204	0.0204		321.7992	321.7992	6.1700e-003	5.9000e-003	323.7115
Strip Mall	0.0411507	4.4000e-004	4.0300e-003	3.3900e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		4.8413	4.8413	9.0000e-005	9.0000e-005	4.8700
Total		**0.0870**	**0.7598**	**0.4361**	**4.7400e-003**		**0.0601**	**0.0601**		**0.0601**	**0.0601**		**949.1193**	**949.1193**	**0.0182**	**0.0174**	**954.7595**

75C-206

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.8199	2.5441	15.0041	0.0160		0.2700	0.2700		0.2700	0.2700	0.0000	3,067.2002	3,067.2002	0.0827	0.0558	3,085.8870
Unmitigated	4.8199	2.5441	15.0041	0.0160		0.2700	0.2700		0.2700	0.2700	0.0000	3,067.2002	3,067.2002	0.0827	0.0558	3,085.8870

750-207

2.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3437					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2789	2.3829	1.0140	0.0152		0.1927	0.1927		0.1927	0.1927	0.0000	3,042.0000	3,042.0000	0.0583	0.0558	3,060.0771
Landscaping	0.4242	0.1612	13.9901	7.4000e-004		0.0774	0.0774		0.0774	0.0774		25.2002	25.2002	0.0244		25.8099
Total	**4.8199**	**2.5441**	**15.0041**	**0.0160**		**0.2700**	**0.2700**		**0.2700**	**0.2700**	**0.0000**	**3,067.2002**	**3,067.2002**	**0.0827**	**0.0558**	**3,085.8870**

6.2 Area by SubCategory

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.3437					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.7730					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2789	2.3829	1.0140	0.0152		0.1927	0.1927		0.1927	0.1927	0.0000	3,042.0000	3,042.0000	0.0583	0.0558	3,060.0771
Landscaping	0.4242	0.1612	13.9901	7.4000e-004		0.0774	0.0774		0.0774	0.0774		25.2002	25.2002	0.0244		25.8099
Total	**4.8199**	**2.5441**	**15.0041**	**0.0160**		**0.2700**	**0.2700**		**0.2700**	**0.2700**	**0.0000**	**3,067.2002**	**3,067.2002**	**0.0827**	**0.0558**	**3,085.8870**

75C-208

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

75C-209

Start date and time 10/08/20 14:58:45

AERSCREEN 16216

4th and Mortimer Construction

4th and Mortimer Construction

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.156E-02 g/s	0.123E-01 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	157.00 meters	515.09 feet
Area Source Width:	70.00 meters	229.66 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	332725	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations

Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K -9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

```
 Anemometer Height:   10.000 meters

 Dominant Surface Profile: Urban

 Dominant Climate Type:    Average Moisture

 Surface friction velocity (u*): not adjusted

DEBUG OPTION ON



 AERSCREEN output file:

 2020.10.08_4thandMortimer_Construction.out



 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
**************************************************

SURFACE CHARACTERISTICS & MAKEMET

Obtaining surface characteristics...
```

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR started 10/08/20 14:59:34

****

Running AERMOD

Processing Winter

Processing surface roughness sector 1

```
**************************************************

Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***
```

```
*****************************************************

Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

*****************************************************

Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

*****************************************************

Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 *****************************************
```

```
  Running AERMOD

 Processing Spring


Processing surface roughness sector  1


**************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 *****************************************

  Running AERMOD

 Processing Summer


Processing surface roughness sector  1


***************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


***************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5


    ********   WARNING MESSAGES   ********

               ***  NONE  ***
```

```
**************************************************

Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 *********************************************

  Running AERMOD

 Processing Autumn

Processing surface roughness sector  1

*****************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

*****************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


FLOWSECTOR   ended 10/08/20 14:59:45


REFINE       started 10/08/20 14:59:45


 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


REFINE       ended 10/08/20 14:59:46


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 AERSCREEN Finished Successfully

 With no errors or warnings
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Check log file for details

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Ending date and time  10/08/20 14:59:48
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 Concentration     Distance Elevation  Diag  Season/Month   Zo sector       Date
 H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.30467E+01         1.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33827E+01        25.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36935E+01        50.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.39144E+01        75.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
*  0.39459E+01        79.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27307E+01       100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18815E+01       125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14398E+01       150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11524E+01       175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.95248E+00       200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.80642E+00       225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.69567E+00       250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.60877E+00       275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.53971E+00       300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48264E+00       325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.43557E+00       350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.39621E+00       375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36244E+00       400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33335E+00       425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30808E+00       450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28604E+00       475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26665E+00       500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24930E+00       525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23383E+00       550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21997E+00       575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20750E+00       600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19623E+00       625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18599E+00       650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17661E+00       675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16803E+00       700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16016E+00       725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15289E+00       750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14615E+00       775.00      0.00   0.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13992E+00       800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13413E+00       825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12877E+00       850.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12376E+00       875.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11908E+00       900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11470E+00       925.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11060E+00       950.01      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10674E+00       975.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10311E+00      1000.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.99699E-01      1025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.96478E-01      1050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.93435E-01      1075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.90557E-01      1100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.87831E-01      1125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.85243E-01      1150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.82786E-01      1175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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   0.80444E-01      1200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.78210E-01      1225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.76082E-01      1250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.74052E-01      1275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.72105E-01      1300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.70528E-01      1325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.68742E-01      1350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.67033E-01      1375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.65397E-01      1400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.63828E-01      1425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.62324E-01      1450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.60879E-01      1475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59492E-01      1500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.58159E-01      1525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.56877E-01      1550.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.55642E-01      1575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.54454E-01      1600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.53309E-01      1625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.52204E-01      1650.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.51139E-01      1675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.50111E-01      1700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.49118E-01      1725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48159E-01      1750.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.47232E-01      1775.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.46335E-01      1800.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.45467E-01      1825.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.44627E-01      1850.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.43814E-01      1875.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.43026E-01      1900.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.42262E-01      1924.99      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.41521E-01      1950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40803E-01      1975.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40106E-01      2000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.39429E-01      2025.00      0.00   5.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.38772E-01      2050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.38133E-01      2075.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37513E-01      2100.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36909E-01      2125.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36323E-01      2150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.35752E-01      2175.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.35197E-01      2200.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34656E-01      2225.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34130E-01      2250.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33617E-01      2275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33118E-01      2300.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32631E-01      2325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32157E-01      2350.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31694E-01      2375.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31242E-01      2400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30802E-01      2425.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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   0.30373E-01      2449.99      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29953E-01      2475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29544E-01      2500.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29144E-01      2525.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28754E-01      2550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28372E-01      2575.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27999E-01      2600.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27635E-01      2625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27278E-01      2650.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26930E-01      2675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26589E-01      2700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26256E-01      2725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25929E-01      2750.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25610E-01      2775.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25298E-01      2800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24991E-01      2825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24692E-01      2850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.24399E-01      2875.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24111E-01      2900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23829E-01      2925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23553E-01      2950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23283E-01      2975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23018E-01      3000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22758E-01      3025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22503E-01      3050.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22253E-01      3075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22007E-01      3100.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21767E-01      3125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21531E-01      3150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21299E-01      3175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21071E-01      3200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20848E-01      3225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20629E-01      3250.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20414E-01      3275.00      0.00   0.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20203E-01      3300.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19995E-01      3325.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19791E-01      3350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19591E-01      3375.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19394E-01      3400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19200E-01      3425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19010E-01      3450.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18823E-01      3475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18639E-01      3500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18459E-01      3525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18281E-01      3550.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18106E-01      3575.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17934E-01      3600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17765E-01      3625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17599E-01      3650.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17436E-01      3675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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   0.17275E-01      3700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17116E-01      3725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16960E-01      3750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16807E-01      3775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16655E-01      3800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16507E-01      3825.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16360E-01      3849.99      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16216E-01      3875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16074E-01      3900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15934E-01      3925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15796E-01      3950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15660E-01      3975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15527E-01      4000.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15395E-01      4025.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15265E-01      4050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15137E-01      4075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15011E-01      4100.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.14887E-01      4125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14764E-01      4150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14643E-01      4175.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14524E-01      4200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14407E-01      4225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14291E-01      4250.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14177E-01      4275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14064E-01      4300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13953E-01      4325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13843E-01      4350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13735E-01      4375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13628E-01      4400.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13523E-01      4425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13419E-01      4450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13317E-01      4475.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13216E-01      4500.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13116E-01      4525.00      0.00   0.0        Winter       0-360   10011001
```

```
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13018E-01      4550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12920E-01      4575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12824E-01      4600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12730E-01      4625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12636E-01      4650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12544E-01      4675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12453E-01      4700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12363E-01      4725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12274E-01      4750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12186E-01      4775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12099E-01      4800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12013E-01      4825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11929E-01      4850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11845E-01      4875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11763E-01      4900.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11681E-01      4925.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
```

```
   0.11600E-01      4950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11521E-01      4975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11442E-01      5000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
```

Start date and time 10/08/20 14:59:50

AERSCREEN 16216

4th and Mortimer Operation

4th and Mortimer Operation

---------- DATA ENTRY VALIDATION ----------

	METRIC	ENGLISH
** AREADATA **	---	---
Emission Rate:	0.926E-03 g/s	0.735E-02 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	157.00 meters	515.09 feet
Area Source Width:	70.00 meters	229.66 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	332725	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations

Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K -9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

```
 Anemometer Height:   10.000 meters

 Dominant Surface Profile: Urban

 Dominant Climate Type:    Average Moisture

 Surface friction velocity (u*): not adjusted

DEBUG OPTION ON



 AERSCREEN output file:

 2020.10.08_4thandMortimer_Operation.out



 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
**************************************************

SURFACE CHARACTERISTICS & MAKEMET

Obtaining surface characteristics...
```

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR started 10/08/20 15:00:33

****

Running AERMOD

Processing Winter

Processing surface roughness sector 1

```
**************************************************

Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***
```

```
**************************************************

Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ****************************************
```

```
  Running AERMOD

 Processing Spring


Processing surface roughness sector  1


**************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 *****************************************

  Running AERMOD

 Processing Summer


Processing surface roughness sector  1


****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5


    ********   WARNING MESSAGES   ********

               ***  NONE  ***
```

```
**************************************************

Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ********************************************

  Running AERMOD

 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


FLOWSECTOR   ended 10/08/20 15:00:43


REFINE       started 10/08/20 15:00:43


 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


REFINE       ended 10/08/20 15:00:45


 *****************************************

 AERSCREEN Finished Successfully

 With no errors or warnings
```

Check log file for details

****

Ending date and time 10/08/20 15:00:47

```
 Concentration     Distance Elevation  Diag  Season/Month   Zo sector       Date
 H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS     HT
REF TA     HT
   0.18149E+01         1.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20150E+01        25.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22002E+01        50.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23318E+01        75.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
*  0.23505E+01        79.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16266E+01       100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11208E+01       125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.85766E+00       150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.68647E+00       175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.56738E+00       200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.48038E+00       225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.41440E+00       250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36264E+00       275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32150E+00       300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28750E+00       325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25946E+00       350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
```

```
310.0    2.0
   0.23602E+00       375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21590E+00       400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19858E+00       425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18352E+00       450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17039E+00       475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15884E+00       500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14851E+00       525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13929E+00       550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13104E+00       575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12361E+00       600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11689E+00       625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11079E+00       650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10520E+00       675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10009E+00       700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.95407E-01       725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.91074E-01       750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.87061E-01       775.00      0.00   0.0        Winter       0-360   10011001
```

```
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.83348E-01       800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.79903E-01       825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.76704E-01       850.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.73720E-01       875.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.70932E-01       900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.68325E-01       925.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.65880E-01       950.01      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.63585E-01       975.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.61424E-01      1000.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.59389E-01      1025.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.57471E-01      1050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.55659E-01      1075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.53944E-01      1100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.52320E-01      1125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.50779E-01      1150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.49315E-01      1175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
```

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   0.47920E-01      1200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.46589E-01      1225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.45321E-01      1250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.44112E-01      1275.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.42952E-01      1300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.42013E-01      1325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.40949E-01      1350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.39931E-01      1375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.38956E-01      1400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.38022E-01      1425.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.37126E-01      1450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.36265E-01      1475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.35439E-01      1500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.34645E-01      1525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33881E-01      1550.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.33145E-01      1575.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.32438E-01      1600.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.31755E-01      1625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.31098E-01      1650.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.30463E-01      1675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29851E-01      1700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.29259E-01      1725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28688E-01      1750.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.28136E-01      1775.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27601E-01      1800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.27084E-01      1825.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26584E-01      1850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.26100E-01      1875.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25630E-01      1900.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.25175E-01      1924.99      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24734E-01      1950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.24306E-01      1975.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23891E-01      2000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23488E-01      2025.00      0.00   5.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.23096E-01      2050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22715E-01      2075.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.22346E-01      2100.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21986E-01      2125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21637E-01      2150.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.21297E-01      2175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20966E-01      2200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20644E-01      2225.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20331E-01      2250.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.20025E-01      2275.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19728E-01      2300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19438E-01      2325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.19155E-01      2350.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18880E-01      2375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18611E-01      2400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.18349E-01      2425.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
```

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   0.18093E-01      2449.99      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17843E-01      2475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17599E-01      2500.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17361E-01      2525.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.17128E-01      2550.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16901E-01      2575.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16679E-01      2600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16462E-01      2625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16249E-01      2650.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.16042E-01      2675.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15839E-01      2700.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15640E-01      2725.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15446E-01      2750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15256E-01      2775.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.15069E-01      2800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14887E-01      2825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14709E-01      2850.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.14534E-01      2875.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14363E-01      2900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14195E-01      2925.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.14031E-01      2950.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13869E-01      2975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13711E-01      2999.99      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13556E-01      3025.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13405E-01      3050.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13256E-01      3074.99      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.13109E-01      3100.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12966E-01      3125.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12826E-01      3150.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12687E-01      3175.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12552E-01      3200.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12419E-01      3225.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12288E-01      3250.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12160E-01      3275.00      0.00   0.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.12034E-01      3300.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11911E-01      3325.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11789E-01      3350.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11670E-01      3375.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11553E-01      3400.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11437E-01      3425.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11324E-01      3450.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11213E-01      3475.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.11103E-01      3500.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10996E-01      3525.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10890E-01      3550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10786E-01      3575.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10683E-01      3600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10583E-01      3625.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10484E-01      3650.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10386E-01      3675.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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   0.10290E-01      3700.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10196E-01      3725.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10103E-01      3750.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.10011E-01      3775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.99215E-02      3800.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.98329E-02      3825.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.97456E-02      3849.99      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.96597E-02      3875.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.95751E-02      3900.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.94917E-02      3925.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.94096E-02      3950.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.93287E-02      3975.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.92491E-02      4000.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.91705E-02      4025.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.90932E-02      4050.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.90169E-02      4075.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.89418E-02      4100.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
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310.0    2.0
   0.88677E-02      4125.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.87947E-02      4149.99      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.87228E-02      4175.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.86518E-02      4200.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.85818E-02      4225.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.85128E-02      4250.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.84448E-02      4275.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.83777E-02      4300.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.83115E-02      4325.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.82463E-02      4350.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.81819E-02      4375.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.81183E-02      4400.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.80556E-02      4425.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.79938E-02      4449.99      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.79328E-02      4475.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.78725E-02      4500.00      0.00  10.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.78131E-02      4525.00      0.00  10.0        Winter       0-360   10011001
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-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.77544E-02      4550.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.76965E-02      4575.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.76393E-02      4600.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.75829E-02      4625.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.75272E-02      4650.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.74722E-02      4675.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.74179E-02      4700.00      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.73642E-02      4725.00      0.00  25.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.73113E-02      4750.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.72590E-02      4775.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.72073E-02      4800.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.71563E-02      4825.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.71059E-02      4850.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.70561E-02      4875.00      0.00  20.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.70069E-02      4900.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.69582E-02      4924.99      0.00  15.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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   0.69102E-02      4950.00      0.00   5.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.68628E-02      4975.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
   0.68159E-02      5000.00      0.00   0.0        Winter       0-360   10011001
-1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50   10.0
310.0    2.0
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SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education:

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC filtration.
M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.
B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience:

Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling, oil spills, boilers, incinerators and other industrial and agricultural sources relating to nuisance and personal injury. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing petroleum, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, MtBE, fuel oxygenates and odor. Dr. Rosenfeld has evaluated greenhouse gas emissions using various modeling programs recommended by California Air Quality Management Districts.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist
Bureau of Land Management, Kremmling Colorado 1990; Scientist

Publications:

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R,. Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry.* Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing,

Rosenfeld P.E., and Suffet, I.H. (Mel) (2007). Anatomy of an Odor Wheel. *Water Science and Technology.*

Rosenfeld, P.E., Clark, J.J.J., Hensley A.R., Suffet, I.H. (Mel) (2007). The use of an odor wheel classification for evaluation of human health risk criteria for compost facilities. *Water Science And Technology.*

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society*. Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting*. Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust.* Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation*. Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest*. Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell*. Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest*. Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

Deposition and/or Trial Testimony:

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September, 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio

John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.
Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*
Civil Action No. CV 2008-2076
Rosenfeld Deposition: September 2010

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.
Civil Suit Number 224,041 Division G
Rosenfeld Deposition: September 2008

In the United States District Court, Western District Lafayette Division
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 2:07CV1052
Rosenfeld Deposition: July 2009

In the United States District Court for the Southern District of Ohio
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.
Case Number 1:05 CV 227
Rosenfeld Deposition: July 2008

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana
Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.
Case Number 153-212928-05
Rosenfeld Deposition: December 2006, October 2007
Rosenfeld Trial: January 2008

In the Superior Court of the State of California in and for the County of San Bernardino
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.
Case Number VCVVS044671
Rosenfeld Deposition: December 2009
Rosenfeld Trial: March 2010

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.
Civil Action Number 2:09-cv-232-WHA-TFM
Rosenfeld Deposition: July 2010, June 2011

In the Superior Court of the State of California in and for the County of Los Angeles
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California Corporation; and DOES 1 through 100, *Defendants.*
Case Number SC094173
Rosenfeld Deposition: September 2008, October 2008

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 though 100, *Defendants.*
Case Number 1229251 (Consolidated with case number 1231299)
Rosenfeld Deposition: January 2008

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants.*
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)
Rosenfeld Deposition: July 2010

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants.*
Civil Action Number 07-4037
Rosenfeld Deposition: March 2010
Rosenfeld Trial: October 2010

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant.*
Case Number 25,151
Rosenfeld Trial: May 2009

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

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VIA E-MAIL AND OVERNIGHT MAIL

November 3, 2020

Mayor Miguel Pulido and
Members of the City Council
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Re: 4th & Mortimer Project -- Housing Opportunity Ordinance

Mayor Pulido and Honorable Members of the City Council:

I am writing on behalf of the Supporters' Alliance for Environmental Responsibility ("SAFER"), a California non-profit organization with members living in and around the City of Santa Ana, regarding the 4th & Mortimer Project, proposed to be located on two city blocks at 409 East 4th Street (Block A), and 509 East 4th Street (Block B). ("Project"). This letter addresses the Project's failure to comply with the Housing Opportunity Ordinance ("HOO"), Santa Ana Municipal Code sections 41-1900, et seq.

The HOO applies to the Project because the Project exceeds densities allowed by current General Plan and zoning. As such the Project must provide inclusionary housing for low-income residents. However, the Project includes only full market-rate housing and provides no affordable housing and no in lieu payments for affordable housing. As such the Project must be rejected for failure to comply with the HOO.

The HOO applies to "any new Residential Project located within the city, including new construction, and condominium conversions which exceed the General Plan prescribed densities." (Sec. 41-1902(a)). Section 41-1902(b) states:

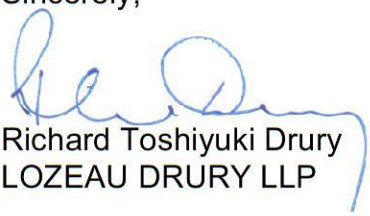
The requirements of this Article shall apply to any new Residential Project proposed in connection with an application to do any of the following:

(1) Increase the permitted residential density of the subject property above the density permitted by applicable zoning at the time of the application. The inclusionary requirement shall only apply to the incremental increase in the number of units beyond that which is allowed by the applicable zoning.
(2) Increase in the permitted residential density or percentage of residential development allowed due to the City initiated zone changes after November 28, 2011." (Sec. 41-1902(b))

Block B of the Project is inconsistent with the zoning, massing and density allowed by the current General Plan and Zoning. The UN-2 zoning allows single-family duplexes, triplexes and quadraplexes, courtyard housing and rowhouses. UN-2 does not allow "lined block buildings" such as proposed by the Project. (Addendum 2-11). The Project exceeds the massing allowed in the UN-2 zone and therefore requires a variance from section 41-2023 of the zoning code. In particular, UN-2 requires that floors 3-5 of a building may cover no more than 85% of the ground floor, but the project proposes 100% coverage. (Addendum 2-11). The Project exceeds the density allowed in UN-2. UN-2 allows density of up to 50 dwelling units per acres, but the Project proposes 54 DU/acres. (Addendum 3.6-5). For these reasons, the Project proposes to rezone the property from UN-2 to Urban Center (UC).

Since the Project requires amendments to the zoning that will increase the residential density allowed by the General Plan and Zoning code, the HOO applies to the Project and the developer must be required to provide affordable housing. Since the Project includes no affordable housing, it must be rejected by the City.

Sincerely,



Richard Toshiyuki Drury
LOZEAU DRURY LLP

Responses to Comments on the EIR Addendum

This section includes comments received during the circulation of the Environmental Impact Report (EIR) Addendum prepared for the 4th and Mortimer Project (project). The EIR Addendum analyzes changes to the previously approved Transit Zoning Code (hereafter referred to as the "approved project" or "approved TZC"), for which the City of Santa Ana (City) certified a programmatic Final EIR in 2010 (hereafter referred to as the "2010 FEIR").

The City received a public comment letter on the Addendum on October 12, 2020. The letter was written by Richard Toshiyuki Drury (hereafter referred to as the "commenter") of Lozeau Drury LLP on behalf of the Supporters' Alliance for Environmental Responsibility (SAFER), a California non-profit organization.

The comment letter is included after the responses below and has been numbered sequentially and each issue raised by the commenter has been assigned a number. The responses to each comment identify first the number assigned to each issue. Response 1, for example, indicates that the response is for the first issue raised in the comment letter.

COMMENTER: Richard Toshiyuki Drury, Lozeau Drury LLP, on behalf of Supporters' Alliance for Environmental Responsibility (SAFER)

DATE: October 12, 2020

Response 1

The commenter provides an introductory statement and notes that the comments on the Addendum are submitted on behalf of SAFER and its members living near and around the City of Santa Ana. The commenter states that the project is an entirely different project than the project that was analyzed in the 2010 FEIR and requires a new EIR to analyze and mitigate the project's impacts based on the project's: (1) consistency with the zoning, massing, land use, population density analyzed in the 2010 FEIR; (2) exclusion of numerous mitigation measures required by the 2010 FEIR; (3) new and different environmental impacts that were not analyzed in the 2010 FEIR; and (4) relation to the approved TZC which was determined in the 2010 FEIR to result in significant an unmitigable environmental impacts.

This comment is a general introduction to the commenter's claims of how the project is different from the approved project that was analyzed in the 2010 FEIR, how the Addendum is flawed, and why the use of an Addendum in lieu of an EIR is inappropriate. The primary objective of the approved TZC is to provide zoning for the integration of new infill development into existing neighborhoods encompassing over 100 blocks and 450 acres in the central core of Santa Ana. Specifically, the 2010 FEIR analyzed the potential development of 4,075 new residential units, approximately 351,000 square feet (sf) of retail development, and the addition of new open space. Since development in the TZC area has not exceeded these numbers, the proposed project is within the development parameters that were analyzed under the 2010 FEIR and is consistent with the type of project that was envisioned under the TZC.

Generally, an addendum to a previously certified EIR is prepared when a lead agency is asked to issue a discretionary decision regarding a project, but none of the proposed actions meet the conditions that trigger the need for a subsequent or supplemental EIR. As noted in the Addendum, and pursuant to Public Resources Code (PRC) Section 21166 (Subsequent or Supplemental Impact Report; Conditions) and CEQA Guidelines Section 15162(a) (Subsequent EIRs and Negative Declarations), the proposed project did not require a subsequent or supplemental EIR or negative declaration because the lead agency determined, through environmental review, that none of the following conditions triggered the need for these environmental documents:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
(2) Substantial changes would occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
    A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

B. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
D. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

According to CEQA Guidelines Section 15164 (Addendum to an EIR or Negative Declaration), the lead agency shall prepare an addendum if none of the conditions specified in CEQA Guidelines Section 15162 are met. Primarily, Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the proposed project would not result in new or more severe impacts than those of the approved project disclosed in the previously certified 2010 FEIR and would not require a major revision to the 2010 FEIR. The Addendum also includes applicable mitigation measures identified in the 2010 FEIR. Therefore, the City is within its discretion to proceed with an addendum as the appropriate environmental document for the project under CEQA. In addition, the comment does not provide any specific examples of where analysis within the Addendum is inadequate, where additional information is needed, what mitigation measures are excluded, or what impacts are new and different than those analyzed in the 2010 FEIR. The commenter does provide additional detail to their claims further into the comment letter and, therefore, individual responses to each claim are provided based on order of appearance throughout the remaining responses of this section.

Response 2

The commenter identifies experts that have reviewed the project, including certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH; and Dr. Paul Rosenfeld, Ph.D. and Matthew Hagemann, C. Hg. of Soil Water Air Protection Enterprise (SWAPE). The commenter generally states that these experts have identified significant impacts associated with the project's air quality impacts and have identified omissions and flaws in the documents relied upon by City Staff.

This comment and the identified experts' separate analyses, which are attached as Exhibits A and B to the comment letter, are acknowledged but do not raise specific concerns regarding the project's air quality impacts or other alleged flaws in the Addendum and associated documents. Responses to the commenter's concerns based on the findings of Mr. Offermann and SWAPE are provided in Responses 10 through 12 and Response 18, respectively, of this section.

Response 3

The commenter states that use of an addendum instead of an EIR or supplemental EIR deprived the public from a public review period and other circulation requirements associated with EIRs. On behalf of SAFER, the commenter asks that the City not adopt the Addendum or otherwise approve the project and, instead, direct City Staff to prepare an EIR for public review circulation and comment prior to approval.

As described in Response 1, the project did not require a subsequent or supplemental EIR or negative declaration because none of the conditions described in PRC Section 21166 and CEQA

Guidelines Sections 15162 and 15164 were met to trigger the need for these documents. Although the project did not require a public review period (per CEQA Guidelines Section 15164(c)), the project was presented to the public during a Planning Commission meeting held on October 12, 2020[1] and the Addendum and 2010 FEIR are considered by the City in making a decision about the project. Furthermore, although not required under an addendum, the City is responding to this public comment letter and any other public comments related to the project.

Response 4

The commenter summarizes the proposed project, including the project's location, zoning, massing, density, and associated discretionary actions. In particular, the commenter summarizes the project's inconsistency with the Urban Neighborhood 2 subzone (UN-2) requirements studied in the 2010 FEIR.

This comment is an introduction and summary of the project and does not pertain to the adequacy of the environmental analysis in the Addendum.

Response 5

The commenter provides a summary of CEQA requirements through references to case law and statutes related to use of an addendum and tiering an analysis under CEQA.

The intent of this comment is to provide a regulatory background and does not pertain to the adequacy of the EIR Addendum.

Response 6

The commenter states that CEQA requires the City to prepare a tiered EIR, which is governed by CEQA Guidelines Section 15152 (Tiering) of the CEQA Guidelines, instead of an addendum, which is governed by CEQA Guidelines Sections 15162 and 15164. The commenter notes that the 2010 FEIR states "This EIR will be used to tier subsequent environmental analysis for future development included within the Transit Zoning Code boundaries, as allowed by Section 15152 of the CEQA Guidelines."

As described in Response 1, the project did not require a subsequent or supplemental EIR or negative declaration because none of the conditions described in PRC Section 21166 and CEQA Guidelines Sections 15162 and 15164 were met to trigger the need for these documents. Therefore, the City is within its discretion to proceed with an addendum as the appropriate environmental document for the project under CEQA.

Response 7

The commenter states that, based on references to case law (i.e., *Friends of College of San Mateo Gardens v. San Mateo County Community College Dist.* (2016) 1 Cal.5th 937, 944) and subsequent Supreme Court rulings, that subsequent review provisions under CEQA are dependent on the determination that the original environmental document retains "some informational value" despite the proposed changes. The commenter adds that the City cannot claim that the 2010 FEIR retains informational value or addresses the project's impacts since the project exceeds the density

[1] Planning Commission Agenda. Monday, October 12, 2020. Open Meeting. https://santaana.granicus.com/GeneratedAgendaViewer.php?view_id=2&clip_id=2999.

and massing originally analyzed in the 2010 FEIR. The commenter concludes that the project is a new project that has not undergone CEQA review and "must start from the beginning of the CEQA process" with an initial study prior to approval.

The 2010 FEIR retains both relevance and informational value to the proposed project. Courts may only reject an agency's use of a previously certified EIR if it is "wholly irrelevant." As discussed in Response 1, Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project would not result in new or more severe impacts than those of the approved project previously disclosed in the 2010 FEIR and would not require a major revision to the 2010 FEIR. Therefore, the City shall proceed with an addendum as the appropriate environmental document for the project under CEQA.

Response 8

The commenter summarizes the 2010 FEIR's significant and unavoidable impacts (i.e., those related to Aesthetics, Air Quality, Cultural Resources, Noise, and Traffic) and, based on a reference to case law, adds that the City is required to conduct project-level supplemental EIRs for specific projects proposed in the program area to analyze and determine whether mitigation measures exist to reduce these significant and unavoidable impacts.

As described in Response 1, the project does not require a subsequent or supplemental EIR or negative declaration because none of the conditions described in PRC Section 21166 and CEQA Guidelines Sections 15162 and 15164 were met to trigger the need for these documents. Although the 2010 FEIR identified significant and unavoidable impacts, the question is whether the project analyzed in an addendum would result in new or more severe impacts than those of the approved project. Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project would not result in new or more severe impacts, including those related to Aesthetics, Air Quality, Cultural Resources, Noise, and Traffic, with implementation of applicable mitigation measures identified in the 2010 FEIR and included in the Addendum discussion. Appendix K to the Addendum includes the Mitigation Monitoring and Reporting Program (MMRP) of the 2010 FEIR for reference.

Response 9

The commenter states that, even if addendum provisions under CEQA applied to the project, a supplemental EIR would still be required to analyze new significant impacts of the project resulting from changes to the approved project and new impacts that were not analyzed in the 2010 FEIR.

As described in Response 1, the project did not require a subsequent or supplemental EIR or negative declaration because none of the conditions described in PRC Section 21166 and CEQA Guidelines Sections 15162 and 15164 were met to trigger the need for these documents. Primarily, Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project would not result in new or more severe impacts than those of the approved project previously disclosed in the 2010 FEIR and would not require a major revision to the 2010 FEIR. Therefore, the City is within its discretion to proceed with an addendum as the appropriate environmental document for the project under CEQA.

Response 10

The commenter provides an introduction to Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, and describes that, based on Mr. Offermann's findings, many composite wood products typically used in modern home construction contain formaldehyde-based glues which off-gas formaldehyde. The comment asserts that there is a fair argument that residents of the project will be exposed to a cancer risk from formaldehyde between 112 and 180 per million, above the South Coast Air Quality Management District (SCAQMD) CEQA significance threshold for airborne cancer risk of 10 per million. The commenter further asserts that, even if the project uses modern California Air Resources Board (CARB)-compliant materials, formaldehyde will create a cancer risk more than 10 times above the CEQA significance threshold and requests the implementation of mitigation measures to reduce this risk.

The comment does not describe how the formaldehyde related cancer risk of between 112 and 180 per million would occur and does not identify any project-specific conditions (other than the fact that the project's construction may use wood building materials) that would lead to impacts. Current federal and State regulations limit the potential formaldehyde emissions from building materials. On June 1, 2018, the United States Toxic Substances Control Act (TSCA) Title VI was implemented, which requires that composite wood products sold, supplied, offered for sale, manufactured, or imported in the United States meet new emission standards for formaldehyde from composite wood products in order to reduce exposures to formaldehyde and avoid adverse health effects. Typical composite wood products include hardwood plywood, medium-density fiberboard, and particleboard, as well as household and other finished goods containing these products. The new emission limits include the following:

- Hardwood Plywood: 0.05 parts per million (ppm)
- Particleboard: 0.09 ppm
- Medium-density fibreboard: 0.11 ppm
- Thin Medium-density fibreboard: 0.13 ppm

These emission levels were determined to be in compliance with and result in less exposure (e.g., daily intake) than the California Proposition 65 safe harbor level for formaldehyde (40 micrograms [µg]/day), which is based on Proposition 65's risk criterion of 1 in 100,000. Therefore, products manufactured to TSCA Title VI and California Proposition 65 safe harbor standards, which is now required by the United States Environmental Protection Agency (USEPA) for all products manufactured or imported into the United States, would not generate formaldehyde emissions that would exceed the SCAQMD significance threshold of 10 per million. The CalGreen Building Code also includes similar formaldehyde limits for building products. By law, project construction materials would have to comply with these formaldehyde requirements, as all products manufactured or imported in the United States are required to meet these regulations.

Furthermore, according to the United States National Library of Medicine's Hazardous Substances Database, formaldehyde is readily biodegradable and complete degradation of formaldehyde can be accomplished in less than 30 days, and formaldehyde in the air can be degraded in less than four days. Most, if not all, formaldehyde residue in furniture can be expected to be off-gassed and released shortly after it is manufactured (i.e., 30 days after manufacture), meaning that the amount of formaldehyde residue in furniture and indoor air would be expected to approach zero within 30 days. Cancer effects are produced following extensive, long-term exposures for usually more than seven years. Wood-pressed furniture would not have enough formaldehyde to off-gas for that length of time (or any length of time generally exceeding five days).

Building material manufacturer compliance with existing regulations combined with the characteristics of formaldehyde would limit the potential of human health and cancer risks to a less than significant level pursuant to the SCAQMD significance threshold of 10 per million. Therefore, health risks related to formaldehyde, including impacts associated with the project, would not result in a new significant impact.

Response 11

The commenter restates Mr. Offermann's conclusion that the significant formaldehyde impact should be analyzed in an EIR and mitigation measures should be implementation to reduce the risk of formaldehyde exposure. The commenter lists a few of Mr. Offermann's recommended mitigation measures, such as requiring the use of no-added-formaldehyde composite wood products, requiring air ventilation systems that would reduce formaldehyde levels.

As described in Response 10, the project would not exceed SCAQMD significance thresholds for formaldehyde. The project would be implemented pursuant to existing formaldehyde requirements, as all products manufactured or imported in the United States are required to meet these regulations. Application of these mandatory regulations would limit the potential of human health and cancer risks and avoid impacts related to formaldehyde. Therefore, no new significant impact would occur, and new mitigation measures related to formaldehyde are not necessary for the proposed project.

Response 12

The commenter states that the City has a duty to investigate issues relating to a project' s potential environmental impacts, particularly those impacts raised by an expert's comments and those impacts on a project's users or residents that arise from the project's effects on the environment. The commenter states that the carcinogenic formaldehyde emissions identified by Mr. Offermann are not an existing environmental condition, rather those emissions would be a result from implementation of the project and are required to be addressed in the CEQA process. The commenter adds that the Addendum fails to disclose, analyze, or mitigate these new significant impacts.

As discussed in Response 10, the project would be implemented pursuant to formaldehyde requirements, as all products manufactured or imported in the United States are required to meet these regulations. This would limit the potential of human health and cancer risks to a less than significant level pursuant to the SCAQMD significance threshold of 10 per million. As described in Response 10, the project would not exceed SCAQMD significance thresholds for formaldehyde and no new impact would occur.

Response 13

The commenter summarizes the project's inconsistencies with the current UN-2 zone and associated zone change and variance, and states that these inconsistences with the zoning code and designations are significant impacts under CEQA that require analysis and mitigation in a supplemental EIR. The commenter states that these impacts were not analyzed in the 2010 FEIR since it was assumed that future projects would comply with the designated zoning and land use laws.

As discussed in Response 7, to support the use of the 2010 FEIR and that the 2010 FEIR retains relevance and has informational value, the City may rely on evidence of the similarities in the project to the approved project analyzed in the 2010 FEIR. Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project (e.g., associated zone change and variance) would not result in new or more severe impacts than those of the approved project previously disclosed in the 2010 FEIR and would not require a major revision to the 2010 FEIR. Rather, with approval of the zone change and variance, the proposed project would comply with the setback, parking, landscaping, massing and floor area ratio requirements of the approved TZC. As noted in the 2010 FEIR, the TZC was found to initially conflict with the Santa Ana General Plan by adopting standards and land uses not previously allowed in the proposed TZC area. However, as part of the approved TZC, the General Plan was amended to incorporate the proposed land uses and development standards and provide consistency between the General Plan and the TZC. With approval of the requested discretionary actions, the proposed project would also be consistent with the local land designation and development standards. Therefore, the City is within its discretion to proceed with an addendum as the appropriate environmental document for the project under CEQA.

Response 14

The commenter states that the project would have a significant impact to historic resources due to the demolition of the Santa Ana Car Salon located at 509-515 East 4th Street, which is listed on the Built Environment Resources Directory (BERD) for Orange County.

As discussed in Section 3.3, *Cultural Resources and Tribal Cultural Resources*, of the Addendum, Rincon also referenced the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Points of Historical Interest (PHI) and Landmarks lists, California Office of Historic Preservation Archaeological Determinations of Eligibility (ADOE), and Santa Ana Register of Historic Properties (RHP) in addition to the BERD for Orange County. Review of the NRHP, CRHR, PHI and Landmark Lists, ADOE and the Santa Ana RHP were negative for the project site. The comment is correct in that review of the BERD identified the on-site Santa Ana Car Salon as previously recorded and found locally eligible as a historic resource in 1980. However, the resource record for this property was also not identified through the CHRIS records searches. While the Santa Ana Car Salon was an example of the Western False Front Style in Santa Ana at the time it was recorded in 1980, the area surrounding the property was surveyed again in 2006 and the property was not identified as potentially eligible at that time. The property's historical significance was reexamined as part of the Cultural Resources Study conducted for the project dated April 2019, which is included as Appendix C to the Addendum. The Cultural Resources Study found that, since its last recordation, the property has been significantly altered such that it no longer embodies a particular architectural style. Therefore, it is ineligible for listing in the NRHP, CRHR and on the City of Santa Ana RHP and does not qualify as a historical resource as defined by CEQA. The project would not have an impact to historic resources due to the demolition of the Santa Ana Car Salon and no impact would occur that would require preparation of an EIR.

Response 15

The commenter states that 2010 FEIR requires a case-by-case historic analysis for future projects conducted by a historic resource expert and adds that no such historic resource analysis was done for the project due to "constraints surrounding COVID-19."

As discussed in Response 14, a Cultural Resources Study was conducted for the project in April 2019 in accordance with CEQA and is included as Appendix C to the Addendum. The Cultural Resources Study was specifically prepared in accordance with the requirements of Mitigation Measure 4.4-3 from the 2010 FEIR and guidelines outlined by the Office of Historic Preservation. An independent CHRIS records search was not completed for the current project due to "constraints surrounding COVID-19" given the adequate coverage provided by the previous searches. However, other efforts included background and archival research, a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search, a field survey of the project site, the evaluation of one property for historical significance, and a discussion of potential project-related impacts which found that no new impact to historic resources would occur.

Response 16

The commenter states that, since the City failed to implement mitigation measures required by the 2010 FEIR, the City has failed to proceed in a manner required by law and a subsequent EIR is required. The commenter specifies that the project would have significant impacts to a historic resource and, because the City failed to comply with mitigation measures required by the 2010 FEIR, a supplemental EIR is required to analyze the project.

As described in Response 1, the project did not require a subsequent or supplemental EIR or negative declaration because none of the conditions described in PRC Section 21166 and CEQA Guidelines Sections 15162 and 15164 were met to trigger the need for these documents. Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project would not result in new or more severe impacts and includes applicable mitigation measures identified in the 2010 FEIR. Appendix K to the Addendum includes the MMRP of the 2010 FEIR for reference to applicable mitigation measures. Furthermore, as discussed in Response 14, the Santa Ana Car Salon is ineligible for listing in the NRHP, CRHR and on the City of Santa Ana RHP and does not qualify as a historical resource as defined by CEQA. The project would not result in a new or significant impact to historic resources.

Response 17

The commenter states that, in addition to the historic resources mitigation measure in the 2010 FEIR, the City failed to implement mitigation measures related to energy conservation, greenhouse gas emissions, and air quality. The commenter specifies that the 2010 FEIR requires projects to exceed Title 24 energy standards by 20 percent, whereas the project would only comply with Title 24 and not exceed it. The commenter restates that, because the City failed to comply with mitigation measures required by the 2010 FEIR, a supplemental EIR is required to analyze the project.

As discussed in Response 14, the Santa Ana Car Salon is ineligible for listing in the NRHP, CRHR and on the City of Santa Ana RHP and does not qualify as a historical resource as defined by CEQA. Therefore, the project would not have an impact to historic resources and no mitigation is required. As described in Response 1, the project did not require a subsequent or supplemental EIR or negative declaration because none of the conditions described in PRC Section 21166 and CEQA Guidelines Sections 15162 and 15164 were met to trigger the need for these documents. Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project would not result in new or more severe impacts related to energy conservation, greenhouse gas emissions, and air quality and includes applicable mitigation measures identified in the 2010

FEIR. With respect to Title 24, the project is required to comply with the standards set by the 2010 FEIR to minimize the wasteful, inefficient, or unnecessary consumption of energy resources during project operation.

Response 18

The commenter states that, based on conclusions from Dr. Paul Rosenfeld, Ph.D. and Matthew Hagemann, C. Hg, P.G. of the environmental consulting firm SWAPE, the Addendum's air quality analysis is flawed due to unsubstantiated input parameters used estimate the project's air quality emissions. The commenter adds that SWAPE concluded that the project would create a cancer risk from airborne pollution of up to 210 per million – over 20 times above the SCAQMD significance threshold of 10 per million. The commenter states that SWAPE also calculated significance greenhouse gas impacts associated with the project. The commenter concludes that the Addendum fails to implement all feasible mitigation measures to reduce the project's air quality emissions and adds that an EIR is required to analyze and mitigate the project's significant air quality and greenhouse gas emissions impacts.

According to the Air Quality Assessment conducted for the project, which is included as Appendix B to the Addendum, emissions were modeled using the California Emissions Estimator Model version 2016.2.3 (CalEEMod). CalEEMod is a Statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Air quality impacts were adequately assessed according to methodologies recommended by CARB and the SCAQMD. Regulatory measures that apply to the project include compliance with SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.) and SCAQMD Rule 1113 (low-Volatile Organic Compound paint) and were included in CalEEMod. Furthermore, the air quality and greenhouse gas emissions associated with the project and reported in the Addendum conservatively do not take credit for the emissions currently associated with the existing uses that would be removed.

As discussed in the Air Quality Assessment and Section 3.2, *Air Quality*, of the Addendum, construction would result in the generation of diesel particulate matter (DPM) emissions from the use of off-road diesel equipment. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to Toxic Air Contaminant [TAC] emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The use of diesel trucks would be most prevalent during the temporary construction period of the project rather than during operation of the project. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. DPM emissions from the 21-month construction period of the project would represent a range of 2.5 to 19.4 percent of the typical exposure duration used in health risk assessments. The closest sensitive receptors are located adjacent to the site, approximately 55 feet from the project site boundary. Project construction involves phased activities in several areas across the site and the project would not require the extensive use of heavy-duty equipment or diesel trucks in any one location over the duration of construction, which would limit the exposure of any proximate individual sensitive receptor to TACs. The project would not result in a significant cancer risk from airborne pollution. As such, Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that

changes to the project would not result in new or more severe impacts related to air quality or greenhouse gas emissions and includes applicable mitigation measures identified in the 2010 FEIR.

Response 19

The commenter states that any changes to a project's circumstances or the addition of new substantial information subsequent to the certification of an EIR for a project requires that an agency prepare a subsequent or supplemental EIR if the changes are "substantial" and require "major revisions" to the previous EIR. The commenter concludes that the project considered by the 2010 FEIR has undergone significant changes and requires revisions to the 2010 FEIR.

As described in Response 1, the project did not require a subsequent or supplemental EIR or negative declaration because none of the conditions (i.e., does not meet CEQA's definition of a "substantial change") described in PRC Section 21166 and CEQA Guidelines Sections 15162 and 15164 were met to trigger the need for these documents. Primarily, Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project would not result in new or more severe impacts than those of the approved project previously disclosed in the 2010 FEIR and would not require a major revision to the 2010 FEIR. Therefore, the City is within its discretion to proceed with an addendum as the appropriate environmental document for the project under CEQA.

Response 20

The commenter states that an EIR is require because the: (1) project's increase in massing and density and associated zone change and variance are a substantial change from the approved project, and (2) the Addendum failed to include a historic resource analysis.

As discussed in Response 13, Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project (e.g., associated zone change and variance) would not result in new or more severe impacts than those of the approved project previously disclosed in the 2010 FEIR and would not require a major revision to the 2010 FEIR. Rather, with approval of the zone change and variance, the proposed project would comply with the setback, parking, landscaping, massing and floor area ratio requirements of the approved TZC. Furthermore, as discussed in Responses 14 and 15, a Cultural Resources Study was conducted for the project in April 2019 in accordance with CEQA and is included as Appendix C to the Addendum.

Response 21

The commenter reiterates the conclusion of Mr. Offermann that the project would result in a significant air quality impact related to formaldehyde for residential occupants of the project. The commenter adds that this impact is new when compared to the 2010 FEIR because the science in this area did not exist until 2015 and states that the City violated CEQA by not preparing an EIR to analyze and mitigate this new impact.

As described in Response 10, the project would not exceed SCAQMD significance thresholds for formaldehyde. The project would be implemented pursuant to existing formaldehyde requirements, as all products manufactured or imported in the United States would be required to meet these regulations. Application of these mandatory regulations would limit the potential of human health and cancer risks and avoid impacts related to formaldehyde.

Response 22

The commenter states that the City's decision to prepare an addendum instead of an EIR is not supported by evidence and adds that approval of the project based on the Addendum would constitute an abuse of the City's discretion. The commenter also states that the City may not rely on the 10-year 2010 FEIR and requests that the Planning Commission decline to recommend the City Council approval of the Addendum and, instead, direct Planning Staff to prepare and circulate an EIR for public review.

As discussed in Response 1, the project did not require a subsequent or supplemental EIR or negative declaration because none of the conditions described in PRC Section 21166 and CEQA Guidelines Sections 15162 and 15164 were met to trigger the need for these documents. Primarily, Section 3, *Environmental Impact Analysis*, of the Addendum supports the conclusion that changes to the project would not result in new or more severe impacts than those of the approved project previously disclosed in the 2010 FEIR and would not require a major revision to the 2010 FEIR. Therefore, the City is within its discretion to proceed with an addendum as the appropriate environmental document for the project under CEQA. Furthermore, as discussed in Response 7, to support the use of the 2010 FEIR and that the 2010 FEIR retains relevance and has "some informational value," the City may rely on evidence of the similarities in the project to the approved project analyzed in the 2010 FEIR, and does not have to necessarily show that the impacts from the project were analyzed in the 2010 FEIR or that the 2010 FEIR adequately analyzed the approved project with the proposed changes under current CEQA standards.

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October 12, 2020

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Re: Comment on EIR Addendum for 4th & Mortimer Project (SCH NO. 2006071100)

Chair McLoughlin and Members of the Planning Commission:

I am writing on behalf of the Supporters' Alliance for Environmental Responsibility ("SAFER"), a California non-profit organization with members living in and around the City of Santa Ana, regarding the 4th & Mortimer Project, proposed to be located on two city blocks at 409 East 4th Street (Block A), and 509 East 4th Street (Block B). ("Project"). Staff contends that the potential environmental effects of the Project have been fully addressed by the Transit Zoning Code Environmental Impact Report certified a decade ago in 2010 ("2010 EIR"). Fundamentally, the proposed Project is an entirely different project than was analyzed in 2010 EIR ("2010 Project"). The proposed Project is inconsistent with the zoning, massing and land use analyzed in the 2010 EIR, and therefore requires zone changes. The proposed Project includes greater massing and higher population density than analyzed in the 2010 EIR. Also the Proposed Project fails to incorporate numerous mitigation measures required by the 2010 EIR. The Proposed Project will have several new and different environmental impacts that were not analyzed in the 2010 EIR. Finally, the 2010 EIR recognized that the 2010 Project would have many significant and unmitigated environmental impacts. As such a new draft EIR is required to analyze and mitigate the impacts of the proposed Project. 1

A number of highly qualified experts have reviewed the proposed Project and its environmental effects. Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, and Dr. Paul Rosenfeld, Ph.D. and Matthew Hagemann, C. Hg. of environmental consulting firm Soil Water Air Protection Enterprise ("SWAPE") have identified a number of significant impacts from the proposed Project including air quality impacts, as well as omissions and flaws in the documents relied upon by staff. These comments are attached as Exhibits A and B. 2

By opting to proceed with an Addendum instead of the required EIR or supplemental EIR ("SEIR"), the City of Santa Ana ("City") has deprived the members of the public of the public review and circulation requirement available for EIRs. SAFER urges the Commission not to adopt the Addendum or approve the Project, and instead to direct staff to prepare a Draft EIR for the Project, and to circulate the Draft EIR for public review and comment prior to Project approval. 3

PROJECT DESCRIPTION

The Project involves a residential and commercial development that would consist of 169 residential units and 11,361 square feet of commercial retail space on two city blocks, 409 East 4th Street (Block A) and 509 East 4th Street (Block B).

The City attempts to rely on a decade-old EIR certified in 2010 for the Transit Zoning Code ("TZC"). The TZC area covers over 100 blocks and 450 acres in the central core of Santa Ana. Under the TZC, Block A is currently zoned as "District Center-Downtown subzone," and Block B is zoned as "Urban Neighborhood 2 subzone" (UN-2).

Block B is inconsistent with the zoning, massing and density studied in the 2010 EIR. The UN-2 zoning allows single-family duplexes, triplexes and quadraplexes, courtyard housing and rowhouses. UN-2 does not allow "lined block buildings" such as proposed by the Project. (Addendum 2-11). The Project exceeds the massing allowed in the UN-2 zone and therefore requires a variance from section 41-2023 of the zoning code. In particular, UN-2 requires that floors 3-5 of a building may cover no more than 85% of the ground floor, but the project proposes 100% coverage. (Addendum 2-11). The Project exceeds the density allowed in UN-2. UN-2 allows density of up to 50 dwelling units per acres, but the Project proposes 54 DU/acres. (Addendum 3.6-5). For these reasons, the Project proposes to rezone the property from UN-2 to Urban Center (UC). 4

LEGAL STANDARD

CEQA contains a strong presumption in favor of requiring a lead agency to prepare an EIR. This presumption is reflected in the fair argument standard. Under that standard, a lead agency must prepare an EIR whenever substantial evidence in the whole record before the agency supports a fair argument that a project may have a significant effect on the environment. Pub. Res. Code § 21082.2; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1993) ("Laurel Heights II") 6 Cal. 4th 1112, 1123; 5

No Oil, Inc. v. City of Los Angeles (1974) 13 Cal.3d 68, 75, 82; *Quail Botanical Gardens v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602.

A. Addendum Standard.

The City relies on CEQA Guidelines § 15162 and 15164 to claim that no CEQA review is required. The court of appeal recently stated, "The addendum is the other side of the coin from the supplement to an EIR. This section provides an interpretation with a label and an explanation of the kind of document that does not need additional public review." "It must be remembered that an addendum is prepared where '(2) **Only minor technical changes or additions are necessary to make the EIR under consideration adequate under CEQA; and (3) The changes to the EIR made by the addendum do not raise important new issues about the significant effects on the environment.**' ([Guideline] 15164, subd. (a).)" *Save Our Heritage Org. v. City of San Diego*, 28 Cal. App. 5th 656, 664–65 (2018) (emphasis added).

Section 15164(a) of the State CEQA Guidelines states that "the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred." Pursuant to Section 15162(a) of the State CEQA Guidelines, a subsequent EIR or Negative Declaration is only required when:

5 cont.

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
    (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
    (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    (C) Mitigation measures or alternatives previously found not to be feasible would, in fact, be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more

significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

B. Tiering Under CEQA

CEQA permits agencies to 'tier' EIRs, in which general matters and environmental effects are considered in an EIR "prepared for a policy, plan, program or ordinance followed by narrower or site-specific [EIRs] which incorporate by reference the discussion in any prior [EIR] and which concentrate on the environmental effects which (a) are capable of being mitigated, or (b) were not analyzed as significant effects on the environment in the prior [EIR]." (Cal. Pub. Res. Code ("PRC") § 21068.5.) "[T]iering is appropriate when it helps a public agency to focus upon the issues ripe for decision at each level of environmental review and in order to exclude duplicative analysis of environmental effects examined in previous [EIRs]." (PRC § 21093.) The initial general policy-oriented EIR is called a programmatic EIR ("PEIR") and offers the advantage of allowing "the lead agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts." (14 CCR §15168.) CEQA regulations strongly promote tiering of EIRs, stating that "[EIRs] shall be tiered whenever feasible, as determined by the lead agency." (PRC § 21093.)

"Subsequent activities in the program must be examined in light of the program EIR to determine whether an additional environmental document must be prepared." (14 CCR § 15168(c).) The first consideration is whether the activity proposed is covered by the PEIR. Id. If a later project is outside the scope of the program, then it is treated as a separate project and the PEIR may not be relied upon in further review. (*Sierra Club v. County of Sonoma* (1992) 6 Cal.App.4th 1307.) The second consideration is whether the "later activity would have effects that were not examined in the program EIR." (14 CCR §§ 15168(c)(1).) A PEIR may only serve "to the extent that it contemplates and adequately analyzes the potential environmental impacts of the project." (*Sierra Nevada Conservation v. County of El Dorado* (2012) 202 Cal.App.4th 1156). If the PEIR does not evaluate the environmental impacts of the project, a tiered EIR must be completed before the project is approved. (Id.) 5 cont.

For these inquiries, the "fair argument test" applies. (*Sierra Club*, 6 Cal.App.4th 1307, 1318; see also *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, 1164 ("when a prior EIR has been prepared and certified for a program or plan, the question for a court reviewing an agency's decision not to use a tiered EIR for a later project 'is one of law, i.e., the sufficiency of the evidence to support a fair argument.'").) Under the fair argument test, a new EIR must be prepared "whenever it can be fairly argued on the basis of substantial evidence that the project may have significant environmental impact. (Id. at 1316 [quotations omitted].) When applying the fair argument test, "deference to the agency's determination is not appropriate and its decision not to require an EIR can be upheld only when there is no credible evidence to the contrary." (*Sierra Club*, 6 Cal. App. 4th at 1312.) "[I]f there is substantial evidence in the record that the later project may arguably have a significant adverse effect on the environment which was not examined in the prior program EIR, doubts must be resolved in favor of

environmental review and the agency must prepare a new tiered EIR, notwithstanding the existence of contrary evidence." (*Sierra Club*, 6 Cal.App.4th at 1319.) 5 cont.

DISCUSSION

A. CEQA REQUIRES THE CITY TO PREPARE A TIERED EIR FOR THE PROJECT INSTEAD OF AN ADDENDUM

The City has incorrectly applied the CEQA criteria for preparing an addendum when, instead, the City should have applied CEQA's tiering provisions. The City relies on CEQA Guidelines section 15164, which applies to preparing an addendum to an existing EIR for a project. However, the 2010 EIR was not a project-specific EIR, which the CEQA Guidelines define as an "EIR[which] examines the environmental impacts of a specific development project." (14 CCR § 15161.) Rather, the 2010 EIR was a comprehensive policy and regulatory guidance document for the private use and development of all properties within the TZC area. Tiering is governed by CEQA Guidelines section 15152, not sections 15162 and 15164.

The 2010 EIR made clear that the City was relying on CEQA's tiering provisions. It states, "**This EIR will be used to tier subsequent environmental analysis for future development included within the Transit Zoning Code boundaries, as allowed by Section 15152 of the CEQA Guidelines**." (2010 DEIR 2-4). There is no question that the 2010 TZC EIR was intended as a first tier CEQA document, and that second tier CEQA documents would be required for specific project proposals. The 2010 EIR states that it will "provide a basis for the preparation of subsequent environmental documentation for future development within the Transit Zoning Code area." (2010 DEIR 2-1). Thus the 2010 EIR clearly contemplated that specific projects would be subject to "subsequent environmental documentation." The 2010 EIR states, "the Transit Zoning Code does not constitute a commitment to any specific project … Thus, the EIR will analyze these future actions at a programmatic level. **Each future development proposal undertaken within the Transit Zoning Code must be approved individually by the City, as appropriate, in compliance with CEQA**." (2020 DEIR 2-2). Despite these clear assurances that the 2010 EIR was a programmatic EIR and that project-specific environmental review would be required for individual projects, the City is now attempting to avoid the very project-specific review that is promised the public in 2010. 6

The 2010 EIR is a Program EIR, which the CEQA Guidelines define as:

> An EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:
> (1) Geographically,
> (2) As logical parts in the chain of contemplated actions,
> (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
> (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

(14 CCR § 15168.) Thus, instead of proceeding under the provisions of CEQA Guidelines section 15164, the City should have proceeded under section 15152 provisions for subsequent analysis for a Program EIR rather than an addendum to an existing project-specific EIR. 6 cont.

B. THE 2010 EIR HAS NO INFORMATIONAL VALUE TO THE PROJECT.

As the California Supreme Court explained in *San Mateo Gardens*, subsequent CEQA review provisions "**can apply only if the project has been subject to initial review; they can have no application if the agency has proposed a new project that has not previously been subject to review**." *Friends of College of San Mateo Gardens v. San Mateo,* 1 Cal.5th 937, 950 (2016) ("*San Mateo Gardens*"); see also, *Martis Camp Cmty. Ass'n v. Cty. of Placer*, 53 Cal. App. 5th 569 (2020). As the Supreme Court explains, "[a] decision to proceed under CEQA's subsequent review provisions must thus necessarily rest on a determination — whether implicit or explicit — that the ***original environmental document*** retains some informational value." *Id*. at 951 (emph. added). Only if the original environmental document retains some informational value despite the proposed changes, changes in circumstances or new substantial information does the agency proceed to decide under CEQA's subsequent review provisions whether such changes or substantial new information will require major revisions to the original environmental document because of the involvement of new, previously unconsidered significant environmental effects. 1 Cal.5th at 952. Reviewing the 2010 EIR, the City cannot reasonably claim that it addresses the Project that exceeds the density and massing analyzed in the 2010 EIR. 7

Since the Project exceeds the density and massing analyzed in the 2010, and requires a variance, it has never undergone CEQA review, it is a new project, and the City must start from the beginning of the CEQA process under section 21151, conduct an initial study, and determine whether there is substantial evidence of a fair argument that the project will have a significant environmental impact. *Friends of College of San Mateo Gardens v. San Mateo*, 1 Cal.5th at 951. The City Council should require CEQA review for the Project, and not approve the Project until CEQA review is completed.

C. A TIERED EIR IS REQUIRED TO ANALYZE AND MITIGATE SIGNIFICANT UNAVOIDABLE IMPACTS IDENTIFIED IN THE 2010 EIR.

The 2010 EIR admitted that the program would have significant unavoidable impacts in the areas of:

- Aesthetics: shadows. (2010 DEIR 1-11)
- Air Quality:
    - inconsistency with 2007 Air Quality Management Plan;
    - construction emissions exceed significance thresholds;
    - mobile source emissions of VOC, NOx, CO and PM-10 exceed significance thresholds; 8

- construction and operation emissions are cumulatively considerable in excess of significance thresholds for VOC, NOx, CO and PM-10. (2010 DEIR 1-11).

- Cultural Resources: The TZC area includes historic buildings and an historic district. "The feasibility of retaining a historic structure/resource is determined on a case-by-case basis." (2010 DEIR 1-12).
- Noise: significant noise and vibration from pile-driving and nearby rail operations. (2010 DEIR 1-12).
- Traffic: Significant traffic impacts, includoing at the 1-5 northbound off-ramp at Santa Ana Blvd. to an unacceptable level of service. (2010 DEIR 1-12).

Since the overall program will have significant unavoidable impacts, the City must conduct project-level supplemental EIRs for specific projects proposed within the program area. The supplemental EIRs are required to determine whether mitigation measures exist to reduce the significant unavoidable impacts identified in the 2010 EIR.

In the case of *Communities for a Better Environment v. Cal. Resources Agency* (2002) 103 Cal.App.4th 98, 122-125, the court of appeal held that when a "first tier" EIR admits a significant, unavoidable environmental impact, then the agency must prepare second tier EIRs for later phases of the project to ensure that those unmitigated impacts are "mitigated or avoided." (Id. citing CEQA Guidelines §15152(f)) The court reasoned that the unmitigated impacts were not "adequately addressed" in the first tier EIR since they were not "mitigated or avoided." (Id.) Thus, significant effects disclosed in first tier EIRs will trigger second tier EIRs unless such effects have been "adequately addressed," in a way that ensures the effects will be "mitigated or avoided." (Id.) Such a second tier EIR is required, even if the impact still cannot be fully mitigated and a statement of overriding considerations will be required. The court explained, "The requirement of a statement of overriding considerations is central to CEQA's role as a public accountability statute; it requires public officials, in approving environmental detrimental projects, to justify their decisions based on counterbalancing social, economic or other benefits, and to point to substantial evidence in support." (Id. at 124-125) The court specifically rejected a prior version of the CEQA guidelines regarding tiering that would have allowed a statement of overriding considerations for a program-level project to be used for a later specific project within that program. (*Communities for a Better Env't v. California Res.* Agency (2001) 103 Cal.App.4th 98, 124, disapproved on other grounds by *Berkeley Hillside Pres. v. City of Berkeley* (2015) 60 Cal.4th 1086.) Even though "a prior EIR's analysis of environmental effects may be subject to being incorporated in a later EIR for a later, more specific project, the responsible public officials must still go on the record and explain specifically why they are approving the later project despite its significant unavoidable impacts." (Id., pp. 124-25.)

8 cont.

D. THE ADDENDUM'S CONCLUSIONS ARE NOT SUPPORTED BY SUBSTANTIAL EVIDENCE AND THERE IS SUBSTANTIAL EVIDENCE OF A FAIR ARGUMENT THAT THE PROJECT WILL HAVE SIGNIFICANT ENVIRONMENTAL IMPACTS.

Even if the addendum provisions applied to the Project (which they do not), a supplemental EIR would be required to analyze new significant impacts of the Project resulting from changes to the 2010 Project and new impacts that were not analyzed in the 2010 EIR. 9

1. There is Substantial Evidence that the Project Will Result in Significant Indoor Air Quality Impacts.

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH, has conducted a review of the proposed Project and relevant documents regarding the Project's indoor air emissions. Indoor Environmental Engineering Comments (Exhibit A). Mr. Offerman concludes that it is likely that the Project will expose future residents of the Project's residential units to significant impacts related to indoor air quality, and in particular, emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is one of the world's leading experts on indoor air quality and has published extensively on the topic. *See* attached CV.

Mr. Offermann explains that many composite wood products typically used in modern home construction contain formaldehyde-based glues which off-gas formaldehyde over a very long time period. He states, "The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." Offermann Comment, pp. 2-3. 10

Mr. Offermann states:

> Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek.

Offermann Comment, p. 1.

Formaldehyde is a known human carcinogen. Mr. Offermann states that there is a fair argument that residents of the Project will be exposed to a cancer risk from formaldehyde of between **112 and 180 per million**. (Offermann Comment, pp. 2-3.) This is far above the South Coast Air Quality Management District (SCAQMD) CEQA

significance threshold for airborne cancer risk of 10 per million. Even if the Project uses modern "CARB-compliant" materials, Mr. Offermann concludes that formaldehyde will create a cancer risk more than ten times above the CEQA significance threshold. Offermann Comment, p. 3. Mr. Offermann concludes that this significant environmental impact should be analyzed in an EIR and mitigation measures should be imposed to reduce the risk of formaldehyde exposure. 10 cont.

Mr. Offermann concludes that this significant environmental impact should be analyzed in an EIR and mitigation measures should be imposed to reduce the risk of formaldehyde exposure. *Id.*, pp. 4. Mr. Offermann identifies mitigation measures that are available to reduce these significant health risks, including the installation of air filters and a requirement that the applicant use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins in the buildings' interiors. Offermann Comments, pp. 11-12 11

The City has a duty to investigate issues relating to a project's potential environmental impacts, especially those issues raised by an expert's comments. *See Cty. Sanitation Dist. No. 2 v. Cty. of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98 ("under CEQA, the lead agency bears a burden to investigate potential environmental impacts"). In addition to assessing the Project's potential health impacts to residents and workers, Mr. Offermann identifies the investigatory path that the City should be following in developing an EIR to more precisely evaluate the Project's future formaldehyde emissions and establishing mitigation measures that reduce the cancer risk below the SCAQMD level. Offermann Comments, pp. 5-9. Such an analysis would be similar in form to the air quality modeling and traffic modeling typically conducted as part of a CEQA review.

The failure to address the project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). At issue in *CBIA* was whether the Air District could enact CEQA guidelines that advised lead agencies that they must analyze the impacts of adjacent environmental conditions on a project. The Supreme Court held that CEQA does not generally require lead agencies to consider the environment's effects on a project. *CBIA*, 62 Cal.4th at 800-801. However, to the extent a project may exacerbate existing adverse environmental conditions at or near a project site, those would still have to be considered pursuant to CEQA. *Id.* at 801 ("CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"). In so holding, the Court expressly held that CEQA's statutory language required lead agencies to disclose and analyze "impacts on ***a project's users or residents*** that arise ***from the project's effects*** on the environment." *Id.* at 800 (emphasis added).) 12

The carcinogenic formaldehyde emissions identified by Mr. Offermann are not an existing environmental condition. Those emissions to the air will be from the Project. Residents will be users of the residential units, and employees will be users of the hotel and offices. Currently, there is presumably little if any formaldehyde emissions at the site.

Once the Project is built, emissions will begin at levels that pose significant health risks. Rather than excusing the City from addressing the impacts of carcinogens emitted into the indoor air from the project, the Supreme Court in *CBIA* expressly finds that this type of effect by the project on the environment and a "project's users and residents" must be addressed in the CEQA process.

The Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings,* either directly or indirectly.'" *CBIA*, 62 Cal.4th at 800 (emphasis in original). Likewise, "the Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." *Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d). It goes without saying that the thousands of future residents and employees at the Project are human beings and the health and safety of those workers is as important to CEQA's safeguards as nearby residents currently living near the project site. 12 cont.

The Addendum fails to disclose, analyze, or mitigate these new significant impacts. Because Mr. Offermann's expert review is substantial evidence of a fair argument of a significant environmental impact to future users of the project, an EIR must be prepared to disclose and mitigate those impacts.

2. The Project Will Have Significant Impacts Due to Inconsistencies with the Planning and Zoning Code.

The proposed Project exceeds massing and density allowed by the zoning code. Urban Neighborhood zone (UN-2) allows single-family, duplexes, triplexes, and quadplexes, courtyard housing and rowhouses. The Project is much more intense than quadplexes. UN-2 does not permit Lined Block buildings, such as the Project. (Addendum 2-11). The Project requires a variance for massing since Zoning Code section 41-2023 requires floors 3-5 may occupy no more than 85% of ground floor, but the Project proposes 100% coverage. (Addedum 2-11). The UN-2 zone allows density up to 50 dwelling units per acre, but this Project has 54 DU/acre. (Addendum 3.6-5).

These inconsistencies with the zoning code and zoning designations are significant impacts under CEQA that must be analyzed and mitigated in a supplemental EIR. Of course, these impacts were not analyzed in the 2010 EIR since that document assumed that future projects would comply with the designated zoning and land use laws. 13

Where a local or regional policy of general applicability, such as an ordinance, is adopted in order to avoid or mitigate environmental effects, a conflict with that policy in itself indicates a potentially significant impact on the environment. (*Pocket Protectors v. Sacramento* (2005) 124 Cal.App.4th 903.) Indeed, any inconsistencies between a proposed project and applicable plans must be discussed in an EIR. (14 CCR §

15125(d); *City of Long Beach v. Los Angeles Unif. School Dist.* (2009) 176 Cal. App. 4th 889, 918; *Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal. App. 4th 859, 874 (EIR inadequate when Lead Agency failed to identify relationship of project to relevant local plans).) A Project's inconsistencies with local plans and policies constitute significant impacts under CEQA. (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 783-4, 32 Cal.Rptr.3d 177; see also, *County of El Dorado v. Dept. of Transp.* (2005) 133 Cal.App.4th 1376 (fact that a project may be consistent with a plan, such as an air plan, does not necessarily mean that it does not have significant impacts).) *Californians for Alternatives to Toxics v. Department of Food and Agriculture* (2005) 136 Ca1.App.4th 1, 17 ("[c]ompliance with the law is not enough to support a finding of no significant impact under the CEQA."). The recent *Georgetown Preservation Society v. County of El Dorado* (2018) 30 Cal.App.5th 358 echoes *Pocket Protectors*. These both apply the fair argument standard to a potential inconsistency with a plan adopted for environmental protection. *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099 holds that an EIR needs to analyze any topic for which a fair argument of significant impact is raised. 13 cont.

Since the proposed Project is inconsistent with the zoning code, and requires a zone change and variance, it will have significant impacts that must be analyzed in a tiered EIR. These impacts were not analyzed in the 2010 EIR.

3. The Project Will Have Significant Impacts to Historic Resources.

The proposed Project may have significant impacts to historic resources, and the City has failed to implement applicable mitigation measures from the 2010 EIR with respect to this impact. The downtown zone is a National Historic District (2010 DEIR 1-5). The 2010 DEIR required development to be "context-sensitive infill development." (Id.) The Addendum admits that the Project site includes a historically significant building on the Built Environment Resources Directory ("BERD") database. (Addendum 3.3-3). The historic building is the Santa Ana Car Salon, located at 509-515 East 4th Street. (Addendum Appendix C, Cultural Resources, p.3, 8). The historic resource is a "rare example of the Western False Front Style in Santa Ana." (Id.) This historic building will be demolished as part of the Project, and the Project will therefore have adverse impacts on an historic resource. 14

The 2010 EIR required a case-by-case historic analysis for future projects, and required that for each project an historic resource expert must be retained to conduct an analysis and to suggest measures to minimize impacts. (2010 DEIR 1-24). However, no such historic resource analysis was done for the Project due to "constraints surrounding COVID-19." (Addendum 3.1-1). 15

Since the City has failed to implement mitigation measures required by the 2010 EIR, a subsequent EIR is required. If the agency fails to implement mitigation measures required by a prior EIR, this requires CEQA review, even for an otherwise ministerial project. *Katzeff v. Dept. of Forestry* (2010) 181 Cal.App.4th 601, 611, 614; *Lincoln Place Tenants v. City of Los Angeles (*2005) 130 Cal.App.4th 1491, 1507-1508. The purpose of this requirement "is to ensure that feasible mitigation measures will actually be 16

implemented as a condition of development, and not merely adopted and then neglected or disregarded." *Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1260-1261. The decision to abandon an adopted mitigation measure is a discretionary decision.

An agency fails proceed in a manner required by law when it fails to comply with adopted CEQA mitigation measures. *Lincoln Place*, 130 Cal.App.4th at 1508, 1510 ("[h]aving placed these conditions . . . the city cannot simply ignore them. Mitigating conditions are not mere expressions of hope . . . [i]n the present case the city failed to proceed according to law . . ."). "[T]his rule is applicable even if one of the smaller parts might require only ministerial, rather than discretionary, approval." *Katzeff*, 181 Cal.App.4th at 611; *Lincoln Place*, 130 Cal.App.4th 1491, 1507 n22 ("it cannot be argued CEQA does not apply to the . . . demolition on the ground the demolition permits are ministerial acts.") 16 cont.

Since the Project may have significant impacts to historic resources, and the City has failed to comply with mitigation measures required by the 2010 EIR, a supplemental EIR is required to analyze this impact.

4. The Project Fails to Implement Mitigation Measures Required by the 2010 EIR.

The Project fails to implement several mitigation measures required by the 2010 EIR. As discussed above, the failure to implement mitigation measures set forth in a prior EIR itself requires preparation of a supplemental EIR.

In addition to the historic resources mitigation measure, the Addendum fails to implement energy conservation and greenhouse gas mitigation measure 4.2-22, which requires projects to exceed Title 24 energy standards by 20%. (2010 DEIR 1-18). However, the Addendum fails to implement this measure, since the Project will merely comply with Title 24, not exceed Title 24 by 20%. 17

The 2010 EIR included numerous air quality mitigation measures that are not required in the Addendum for the Project. (2010 EIR 1-18, MM 4.2-21, 4.2-22). The failure to implement these mitigation measures requires preparation of a supplemental EIR.

5. The Project Will Have Significant Adverse Air Quality and Greenhouse Gas Impacts.

We submit herewith the comments of Dr. Paul Rosenfeld, Ph.D. and Matthew Hagemann, C. Hg, P.G. of the environmental consulting firm SWAPE. They conclude that the Addendum's air quality analysis is riddled with errors due to unsubstantiated input parameters used to estimate Project emissions. (SWAPE 1). Correcting for these errors, SWAPE concludes that the Project will create a cancer risk from airborne pollution of up to 210 per million. (SWAPE 18). This is over twenty times above the South Coast Air 18

Quality Management District (SCAQMD) CEQA significance threshold of 10 per million. SWAPE also calculates that the Project will have significant greenhouse gas impacts. (SWAPE 23). SWAPE concludes that the Addendum fails to impose all feasible mitigation measures to reduce the Project's air quality impacts.

Exceedance of Air District thresholds establishes a significant impact under CEQA. Indeed, in many instances, such air quality thresholds are the only criteria reviewed and treated as dispositive in evaluating the significance of a project's air quality impacts. See, e.g. *Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 960 (County applies BAAQMD's "published CEQA quantitative criteria" and "threshold level of cumulative significance"). See also *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 110-111 ("A 'threshold of significance' for a given environmental effect is simply that level at which the lead agency finds the effects of the project to be significant"). The California Supreme Court recently made clear the substantial importance that a BAAQMD significance threshold plays in providing substantial evidence of a significant adverse impact. *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 ("As the [South Coast Air Quality Management] District's established significance threshold for NOx is 55 pounds per day, these estimates [of NOx emissions of 201 to 456 pounds per day] constitute substantial evidence supporting a fair argument for a significant adverse impact").

18 cont.

An EIR is required to analyze and mitigate the Project's significant air quality and greenhouse gas impacts.

E. EVEN IF THE 2010 EIR WERE STILL RELEVANT TO THE PROJECT, A SUPPLEMENTAL OR SUBSEQUENT EIR IS NECESSARY BECAUSE SUBSTANTIAL CHANGES WILL RESULT IN NEW AND MORE SIGNIFICANT ENVIRONMENTAL IMPACTS.

Even assuming that the 2010 EIR had some relevance to evaluating the environmental impacts of this Project, numerous substantial changes in the development plans have occurred such as the increase in massing and density, new information of substantial importance has arisen, and substantial changes in circumstances have taken place that require a wholesale revision of the dated 2010 EIR.

When changes to a project's circumstances or new substantial information comes to light subsequent to the certification of an EIR for a project, the agency must prepare a subsequent or supplemental EIR if the changes are "[s]ubstantial" and require "major revisions" of the previous EIR. *Friends of Coll. of San Mateo Gardens v. San Mateo Cty. Cmty. Coll. Dist.* (2016) 1 Cal.5th 937, 943. "[W]hen there is a change in plans, circumstances, or available information after a project has received initial approval, the agency's environmental review obligations "turn[ ] on the value of the new information to

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the still pending decisionmaking process." *Id.*, 1 Cal.5th at 951–52. The agency must "decide under CEQA's subsequent review provisions whether project changes will require major revisions to the original environmental document because of the involvement of new, previously unconsidered significant environmental effects." *Id.*, 1 Cal.5th at 952. Section 21166 and CEQA Guidelines § 15162 "do[] not permit agencies to avoid their obligation to prepare subsequent or supplemental EIRs to address new, and previously unstudied, potentially significant environmental effects." *Id.*, 1 Cal.5th at 958. 19 cont.

The evidence indicates that the project considered by the 2010 EIR has undergone significant changes to the project and its circumstances requiring substantial revisions to that 10-year old EIR.

A. A New EIR is Required Because the Increase in Massing and Density is a Substantial Change from the 2010 Project and there is Substantial Evidence that the Project Will Result in Emissions of Formaldehyde to the Air that Will Have a Significant Health Impact on Future Residents.

Even if the 201 EIR were somehow relevant to the current Project, the City would still be required to prepare an SEIR. The increase in massing and density, the failure to conduct a historic resource analysis, and zoning changes and variances required as part of the Project is a substantial change from the 2010 project. "The purpose behind the requirement of a subsequent or supplemental EIR or negative declaration is to explore environmental impacts not considered in the original environmental document." *Friends of College of San Mateo Gardens v. San Mateo* (2016) 1 Cal.5th 937, 949 (quoting *Save Our Neighborhood v. Lishman* (2006) 140 Cal.App.4th 1288, 1296). For example, in the case of *Ventura Foothill Neighbors*, a mere increase in the height of a building by 15 feet required a supplemental EIR, not an addendum. *Ventura Foothill Neighbors v. Cty. of Ventura*, 232 Cal. App. 4th 429 (2014). 20

As discussed above, the expert opinion of Mr. Offermann constitutes substantial evidence that the residential component of the Project will result in a significant air quality impact to residential occupants of the Project. This impact is significant and new. It could not have been known in 2010 because the science in this area did not exist until 2015. Accordingly, the City violated CEQA by not preparing an SEIR to analyze and mitigate this new significant impact. 21

There is no substantial evidence in the record to support a conclusion that the Project will not have a new significant indoor air quality impact as a result of significant changes to the Project when compared to the project analyzed in the 2010 EIR. Accordingly, the City's decision to prepare an Addendum rather than an SEIR is not supported by substantial evidence, and approval of the Project based on the Addendum would constitute an abuse of discretion. 22

CONCLUSION

For the above and other reasons, the Planning Commission should decline to recommend the City Council approve the Addendum, and instead direct Planning Staff to

prepare and circulate an EIR for public review. The City may not rely on the 10-year old 2010 EIR. ↑ 22 cont.

Sincerely,

Richard Toshiyuki Drury
LOZEAU DRURY LLP

LS 12.1.20

RESOLUTION NO. 2020-xx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA DENYING APPEAL APPLICATION NO. 2020-02 AND UPHOLDING THE DETERMINATION OF THE PLANNING COMMISSION TO APPROVE AN ADDENDUM TO THE ENVIRONMENTAL IMPACT REPORT FOR THE TRANSIT ZONING CODE PROJECT (SCH NO. 2006071100) AND ADOPTION OF A MITIGATION MONITORING AND REPORTING PROGRAM FOR SITE PLAN REVIEW NO. 2020-03 AND VARIANCE NO. 2020-06 FOR A NEW MIXED-USE RESIDENTIAL AND COMMERCIAL DEVELOPMENT FOR THE PROPERTIES LOCATED AT 409 EAST FOURTH STREET (SITE A) AND 509 EAST FOURTH STREET (SITE B)

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS:

Section 1. The City Council of the City of Santa Ana hereby finds, determines and declares as follows:

A. On October 12, 2020, the Planning Commission of the City of Santa Ana held a duly noticed public hearing to consider various entitlements including Site Plan Review No. 2020-03, Variance No. 2020-06, and Amendment Application 2020-04 to allow the construction of a new mixed-use residential and commercial development consisting of 169 residential rental units and 11,361 square feet of commercial space at 409 and 509 East Fourth Street. After receiving public testimony on the item, the Planning Commission voted unanimously (7:0) to adopt a resolution approving an Addendum to the Environmental Impact Report (EIR) for the Transit Zoning Code Project, mitigation monitoring and reporting program, Site Plan Review No. 2020-03 as conditioned, and Variance No. 2020-06 as conditioned. In addition, the Planning Commission recommended that the City Council adopt a resolution approving an Addendum to the Environmental Impact Report for the Transit Zoning Code Project, mitigation monitoring and reporting program, and an ordinance approving Amendment Application No. 2020-04 for Specific Development No. 84 (SD84).

B. On October 22, 2020, Michael Lozeau with Lozeau Drury, LLP, on behalf of the Supporters Alliance for Environmental Responsibility (SAFER) hereinafter referred to as "Appellant", submitted an appeal application

pursuant to Section 41-645 of the Santa Ana Municipal Code (SAMC) requesting that the City Council reconsider the Planning Commission's decision based on the following reasons:

I. California Environmental Quality Act (CEQA) compliance. Specifically, the Appellant states that the "City failed to comply with the CEQA by failing to prepare a project-specific EIR for the project";

II. The Appellant states that, "The City failed to comply with the Housing Opportunity Ordinance (HOO) by failing to require the developer to include affordable housing units in the project"; and

III. The Appellant states that, "The Planning Commission abused its discretion by failing to read or consider comments submitted by SAFER."

C. Pursuant to SAMC Section 41-645 (a), appeals can only be made on a decision or requirement made by the Planning Commission. Of the above-mentioned appeal reasons, the only action taken by the Planning Commission was the action to adopt a resolution approving the addendum to the EIR for the TZC. The subsequent appeal items do not satisfy the requirements of SAMC Section 41-645 (a) and should not be considered as part of the appeal:

I. No decision or action was taken by the Planning Commission regarding the HOO requirements because the HOO did not apply to the project; and

II. Consideration of a public comment letter received does not constitute "a decision or requirement made by the Planning Commission".

Nonetheless, a comprehensive response and findings are provided below on all appeal items received.

D. On December 1, 2020, the City Council conducted a duly noticed public hearing on Appeal Application No. 2020-02 and found that:

I. The City complied with the California Environmental Quality Act (CEQA) requirements by preparing an addendum to the previously certified 2010 Transit Zoning Code Environmental Impact report (EIR). CEQA does permit the use of an addendum when the original EIR being relied upon was a Program EIR. Public Resources Code Section 21166 and State CEQA Guidelines Section 15162 clearly establish when an agency must prepare a Supplemental or Subsequent EIR, and when an agency is permitted instead to prepare an Addendum. If an agency determines that one of the conditions described in Public Resources Code section

21166 or State CEQA Guidelines section 15162 is present, the agency must prepare either a Subsequent EIR or a Supplemental EIR. When none of those conditions are present, but it is necessary to make changes to a previous EIR, the agency may prepare an addendum. This process applies regardless of whether the original EIR is a Program or Project EIR. Nothing in State CEQA Guidelines section 15152 (describing the process for utilizing a Supplemental or Subsequent EIR or negative declaration) prohibits use of an addendum where none of the conditions of Public Resources Code section 21166 or State CEQA Guidelines section 15162 are present. Nothing in State CEQA Guidelines sections 15162 or 15164 prohibit use of an addendum where the original EIR is a Program, and not a Project, EIR.

As established in these sections of the Public Resources Code and the State CEQA Guidelines, one of the circumstances described in Public Resources Code section 21166 or State CEQA Guidelines section 15162 must be present before either a Subsequent or Supplemental EIR is required. Here, none of those conditions are present. These conditions are:

i. Substantial changes are proposed which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

ii. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant effects or a substantial increase in the severity of previously identified significant effects; or

iii. New information has come to light showing new impacts, substantially more severe impacts, that mitigation measures or alternatives previously found to be infeasible would actually be feasible, or that mitigation measures or alternatives previously not identified would reduce impacts.

This is also consistent with CEQA Guidelines section 15152(f), which the Appellant incorrectly claims prohibits use of addenda when the original EIR is a Program EIR. Section 15152(f) states, "A later EIR shall be required when the initial study or other analysis finds that the later project may cause significant effects on the environment that were not adequately addressed in the prior EIR." For the subject project, the "other analysis" (including technical studies and the text of the Addendum) found that no additional significant effects would occur beyond those already addressed in the 2010 EIR. An addendum is therefore the appropriate CEQA document.

II. That the City has complied with the Housing Opportunity Ordinance (HOO) requirements. The HOO does not apply to the project because the project does not exceed the residential density permitted in the General Plan. As recently amended, the HOO only applies when a project requires a General Plan Amendment.

The Appellant's comment letter cites to an outdated and superseded version of Section 41-1902(b)(1). The HOO was amended on September 1, 2020, and the comment letter does not reflect the amended language. While previously, Section 41-1902(b)(1) applied the HOO to any project that exceeded the maximum density permitted by zoning, the recent amendments remove this reference. As amended, the HOO now only applies when a residential project proposes a residential density above the General Plan permitted density. The 4th and Mortimer Mixed-Use Development project is consistent with the General Plan. No General Plan Amendment is required for the Project. The Project seeks only a zone change, on only a portion of the project site. No density allowance above that currently permitted by the site's General Plan designation is proposed. Therefore, the HOO does not apply.

III. The Planning Commission did not abuse its discretion and did consider comments submitted by Lozeau Drury, LLP, on behalf of SAFER. The Planning Commission considered Mr. Drury's public comment and received input from the City Attorney and the City's environmental consultant regarding the whether the addendum prepared for the project was the appropriate document. Both the City Attorney and the consultant were confident that no subsequent CEQA analysis was required for the project other than the addendum which was prepared. Again, this was based on the fact that the technical studies evidenced that an EIR Addendum to the previously-certified 2010 EIR was the appropriate CEQA document to evaluate and disclose the project's impacts. Therefore, the Planning Commission did consider Mr. Drury's comments and concerns but agreed with staff's recommendation that the addendum was the appropriate environmental document.

Section 2. The City Council, after hearing, considering and weighing all evidence in the record presented on behalf of all parties and being fully informed of the application, the Planning Commission's decision, and the appeal, hereby finds and determines that the Planning Commission's decision was not made in error, that the Planning Commission's decision was not an abuse of discretion by the Planning Commission and that the Planning Commission's decision was supported by substantial evidence in the record.

Section 3. In accordance with the California Environmental Quality Act (CEQA), the Planning Commission of the City of Santa Ana hereby finds, determines, and declares as follows:

Based on the substantial evidence set forth in the record, including but not limited to the Environmental Impact Report (EIR) for the Transit Zoning Code Project (SCH NO. 2006071100) and the 2020 4th and Mortimer Mixed-Use Development EIR Addendum, the City Council finds that an addendum is the appropriate document for disclosing the changes to the subject properties, and that none of the conditions identified in Public Resources Code section 21166 and State CEQA Guidelines section 15162 requiring subsequent environmental review have occurred, because:

A. The project does not constitute a substantial change that would require major revisions of the 2010 EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

B. There is not a substantial change with respect to the circumstances under which the project will be developed that would require major revisions of the 2010 EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects.

C. New information of substantial importance has not been presented that was not known and could not have been known with the exercise of reasonable diligence at the time the 2010 EIR was certified or adopted, showing any of the following: (i) that the modifications would have one or more significant effects not discussed in the earlier environmental documentation; (ii) that significant effects previously examined would be substantially more severe than shown in the earlier environmental documentation; (iii) that mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects, but the Applicant declined to adopt such measures; or (iv) that mitigation measures or alternatives considerably different from those analyzed previously would substantially reduce one or more significant effects on the environment, but which the Applicant declined to adopt.

Further, the City Council finds that, pursuant to State CEQA Guidelines Section 15164, only minor changes or additions to the 2010 EIR are necessary to address the proposed project. In making this finding, the City Council has considered both the Addendum and the certified, final 2010 EIR.

Section 4. The Applicant shall indemnify, protect, defend and hold the City and/or any of its officials, officers, employees, agents, departments, agencies, authorized volunteers, and instrumentalities thereof, harmless from any and all claims, demands, lawsuits, writs of mandamus, and other and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolution procedures (including, but not limited to arbitrations, mediations, and such other procedures), judgments, orders, and decisions (collectively "Actions"), brought against the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, any action of, or any permit or approval issued by the City and/or

any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City) for or concerning the project, whether such Actions are brought under the Ralph M. Brown Act, California Environmental Quality Act, the Planning and Zoning Law, the Subdivision Map Act, Code of Civil Procedure sections 1085 or 1094.5, or any other federal, state or local constitution, statute, law, ordinance, charter, rule, regulation, or any decision of a court of competent jurisdiction. It is expressly agreed that the City shall have the right to approve, which approval will not be unreasonably withheld, the legal counsel providing the City's defense, and that Applicant shall reimburse the City for any costs and expenses directly and necessarily incurred by the City in the course of the defense. City shall promptly notify the Applicant of any Action brought and City shall cooperate with Applicant in the defense of the Action.

Section 5. The City Council of the City of Santa Ana hereby denies Appeal Application No. 2020-02, thereby upholding the Planning Commission's approval of an Addendum to the Environmental Impact Report (EIR) for the Transit Zoning Code Project (SCH NO. 2006071100), mitigation monitoring and reporting program, Site Plan Review No. 2020-03 as conditioned, and Variance No. 2020-06 as conditioned. This decision is based upon the evidence submitted at the abovesaid hearing, which includes, but is not limited to: the Request for City Council Action dated December 1, 2020, and exhibits attached thereto, and the public testimony, written and oral, all of which are incorporated herein by this reference.

ADOPTED this ____ day of _____, 2020.

_____
Miguel A. Pulido
Mayor

APPROVED AS TO FORM:
Sonia R. Carvalho
City Attorney

By: _____
Lisa Storck
Assistant City Attorney

AYES: Councilmembers _____

NOES: Councilmembers _____

ABSTAIN: Councilmembers _____

NOT PRESENT: Councilmembers _____

CERTIFICATE OF ATTESTATION AND ORIGINALITY

I, DAISY GOMEZ, Clerk of the Council, do hereby attest to and certify the attached Resolution No. 2020-xx to be the original resolution adopted by the City Council of the City of Santa Ana on _____, 2020.

Date: _____

_____
Clerk of the Council

75C-318

LS 12.1.20

RESOLUTION NO. 2020-xx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA APPROVING AND ADOPTING AN ADDENDUM TO THE ENVIRONMENTAL IMPACT REPORT FOR THE TRANSIT ZONING CODE PROJECT (SCH NO. 2006071100) FOR AMENDMENT APPLICATION NO. 2020-04 AND ADOPTION OF A MITIGATION MONITORING AND REPORTING PROGRAM FOR THE 4TH AND MORTIMER MIXED-USE DEVELOPMENT PROJECT LOCATED AT 409 AND 509 EAST FOURTH STREET

WHEREAS, Andrew Nelson, with Red Oak Investments, LLC, representing Northgate Gonzalez Real Estate (hereinafter referred to as "Applicant"), is requesting approval of Amendment Application No. 2020-04, as conditioned, to allow the construction of a new mixed-use residential and commercial development consisting of 169 residential rental units and 11,361 square feet of commercial space at 409 and 509 East Fourth Street; and

WHEREAS, the subject property contains 2.715 acres at two separate but adjacent sites at 409 and 509 East Fourth Street, currently developed with a commercial building (Northgate Gonzalez Market), surface parking lot, and vacant buildings and parcels; and

WHEREAS, the Transit Zoning Code was adopted in 2010 as a result of interest in developing transit-oriented mixed-use residential and commercial projects in its project area. The Transit Zoning Code was amended in 2019 to modernize and refine development standards to further these interests. The regulating plan, which establishes land uses and development standards, allows a variety of housing and commercial projects, including mixed-use residential communities, live/work units, hotels, and offices; and

WHEREAS, the City Council of the City of Santa Ana certified the Environmental Impact Report (SCH No. 2006071100) and adopted a mitigation monitoring and reporting program for the Transit Zoning Code, which allows a mixture of residential, commercial, and limited industrial land uses; and

WHEREAS, the entitlements sought for the proposed mixed-use development project include a Site Plan Review application, Variance application, and an Amendment Application; and

WHEREAS, in 2010, the City Council certified the Final Environmental Impact Report ("2010 EIR") for the Transit Zoning Code Project ("Originally Approved Plan"),

which analyzed the potentially significant environmental impacts of a mixed-use plan area consisting of new residential, commercial, and industrial development; and

WHEREAS, pursuant to the 2010 EIR, the subject site may be developed with a mixed-use development consisting of residential and commercial land uses; and

WHEREAS, when compared against the Originally Approved Plan, the proposed mixed-use development will not result in any new or intensified significant impacts; and

WHEREAS, pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.) ("CEQA") and the State CEQA Guidelines (14 Cal. Code Regs. 15000 et seq.), the City is the Lead Agency for the proposed development; and

WHEREAS, pursuant to CEQA, when taking subsequent discretionary actions in furtherance of a project for which an EIR has already been certified, the Lead Agency is prohibited from requiring a subsequent or supplemental EIR unless at least one of the circumstances identified in Public Resources Code section 21166 or State CEQA Guidelines section 15162 are present; and

WHEREAS, City staff has evaluated the proposed project and considered whether, in light of the impacts associated with its development, any supplemental or subsequent environmental review is required pursuant to Public Resources Code section 21166 or State CEQA Guidelines section 15162; and

WHEREAS, the analysis contained in the 4th and Mortimer Mixed-Use Development project's EIR Addendum ("2020 Addendum") concludes that none of the circumstances described in Public Resources Code section 21166 or State CEQA Guidelines section 15162 have occurred, and thus no supplemental or subsequent EIR is required; and

WHEREAS, the proposed Project is within a transit priority area (TPA) as defined by Public Resources Code (PRC) Section 21099(a)(7). A TPA is an area within one-half mile of a major transit stop that is existing (or planned under certain conditions). A major transit stop includes the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (PRC § 21064.3). The Project site is within 0.5 miles of the intersection of Bus Routes 53, 55, 64, 83, 206 and 462 with transit stops located throughout Main Street, Civic Center Drive, Fifth Street, Santa Ana Boulevard and First Street. Furthermore, the Santa Ana Metrolink Station and Santa Ana Regional Transportation Center is located less than 0.5 miles to the east at Santa Ana Boulevard and Santiago Street. The transit frequency at the stops along Main Street and First Street is every 15-minutes during the morning and afternoon peak commute periods and therefore qualifies as a high-quality transit corridor. Lastly, the project is located within a 0.5 miles of a high-quality transit corridor (routes along Main Street and First Street), plus the future OC Streetcar, which would further enhance mobility throughout Downtown Santa Ana, beyond the current

transit opportunities that are now availability. Therefore, under SB 743, aesthetic and parking impacts cannot be considered a significant impact within TPA's; and

WHEREAS, on October 12, 2020 at a duly noticed public hearing, the Planning Commission considered the 2020 EIR Addendum for Site Plan Review No. 2020-03 and Variance No. 2020-06 when recommending that the City Council approve the Project; and

WHEREAS, on December 1, 2020 at a duly noticed public hearing, the City Council considered the 2020 EIR Addendum for Amendment Application No. 2020-04; and

WHEREAS, all other legal prerequisites to the adoption of this Resolution have occurred.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SANTA ANA DOES RESOLVE, DETERMINE, FIND AND ORDER AS FOLLOWS:

SECTION 1. The above recitals are true and correct and incorporated herein by reference.

SECTION 2. State CEQA Guidelines section 15164 requires lead agencies to prepare an addendum to a previously certified EIR if some changes or additions to the project are necessary, but none of the conditions requiring preparation of a subsequent EIR are present. The City Council has reviewed and considered the 2010 EIR and the 2020 Addendum, and finds that these documents taken together contain a complete and accurate reporting of all of the potential environmental impacts associated with the proposed development. The City Council further finds that the 2020 Addendum has been completed in compliance with CEQA and the State CEQA Guidelines. The City Council further finds and determines that the EIR Addendum reflects the City's independent judgment.

SECTION 3. Based on the substantial evidence set forth in the record, including but not limited to the 2010 EIR and the 2020 Addendum, the City Council finds that an addendum is the appropriate document for disclosing the changes to the subject property, and that none of the conditions identified in Public Resources Code section 21166 and State CEQA Guidelines section 15162 requiring subsequent environmental review have occurred, because:

(a) The proposed development does not constitute a substantial change that would require major revisions of the 2010 EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

(b) There is not a substantial change with respect to the circumstances under which the proposed development will be developed that would require major revisions of the 2010 EIR due to the involvement of new significant

environmental effects or a substantial increase in the severity of the previously identified significant effects.

(c) New information of substantial importance has not been presented that was not known and could not have been known with the exercise of reasonable diligence at the time the 2010 EIR was certified or adopted, showing any of the following: (i) that the modifications would have one or more significant effects not discussed in the earlier environmental documentation; (ii) that significant effects previously examined would be substantially more severe than shown in the earlier environmental documentation; (iii) that mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects, but the Applicant declined to adopt such measures; or (iv) that mitigation measures or alternatives considerably different from those analyzed previously would substantially reduce one or more significant effects on the environment, but which the Applicant declined to adopt.

The City Council further finds that, pursuant to State CEQA Guidelines section 15164, only minor changes or additions to the 2010 EIR are necessary to address the proposed project. In making this finding, the City Council has considered both the Addendum and the certified, final EIR.

SECTION 4. The City Council hereby finds that mitigation measures identified in the 2010 EIR remain applicable to the Transit Zoning Code, with exception of mitigation measure MM4.4-1(a) as part of the Cultural Resources which has been revised after consultation with California Native American Tribes. These findings are described more specifically in the Mitigation Monitoring and Reporting Program ("MMRP") attached hereto as **Exhibit A**. The City Council therefore hereby adopts those mitigation measures identified as remaining applicable to the Transit Zoning Code, through the MMRP attached hereto and incorporated herein as **Exhibit A**.

SECTION 5. The City Council hereby approves and adopts the 2020 4th and Mortimer Mixed-Use Development EIR Addendum related to Amendment Application No. 2020, attached hereto and incorporated herein as **Exhibit B**.

SECTION 6. The Applicant shall indemnify, protect, defend and hold the City and/or any of its officials, officers, employees, agents, departments, agencies, authorized volunteers, and instrumentalities thereof, harmless from any and all claims, demands, lawsuits, writs of mandamus, and other and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolution procedures (including, but not limited to arbitrations, mediations, and such other procedures), judgments, orders, and decisions (collectively "Actions"), brought against the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, any action of, or any permit or approval issued by