

Attachment A: Updated Construction Schedule
Attachment B: Updated CalEEMod Output Files
Attachment C: Matt Hagemann CV
Attachment D: Paul Rosenfeld CV

Construction Schedule Calculations					
Phase	Default Phase Length	Construction Duration	%	Construction Duration	Revised Phase Length
Demolition	20	559	0.0358	351	13
Site Preparation	10	559	0.0179	351	6
Grading	30	559	0.0537	351	19
Construction	300	559	0.5367	351	188
Paving	20	559	0.0358	351	13
Architectural Coating	20	559	0.0358	351	13

	Total Default Construction Duration	Revised Construction Duration
Start Date	5/2/2023	5/2/2023
End Date	11/11/2024	4/17/2024
Total Days	559	351

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

IE Distribution Center #14 (Construction)

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	243.00	1000sqft	7.08	243,303.00	0
Refrigerated Warehouse-No Rail	27.00	1000sqft	0.79	27,000.00	0
Parking Lot	299.00	Space	1.53	119,600.00	0
Other Asphalt Surfaces	161.00	1000sqft	3.68	161,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with DEIR's model.

Land Use - Consistent with DEIR's model.

Construction Phase - See SWAPE comment on "Unsubstantiated Changes to Individual Construction Phase Lengths"

Grading - Consistent with DEIR's model.

Trips and VMT - Consistent with DEIR's model.

Architectural Coating - See SWAPE Comment on "Unsubstantiated Changes to Architectural Coating Emission Factors"

Construction Off-road Equipment Mitigation - See SWAPE comment on "Incorrect Application of Tier 4 Interim Mitigation"

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tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	300.00	188.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	30.00	19.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	PhaseEndDate	11/11/2024	4/17/2024
tblConstructionPhase	PhaseEndDate	9/16/2024	3/12/2024
tblConstructionPhase	PhaseEndDate	5/29/2023	5/18/2023
tblConstructionPhase	PhaseEndDate	7/24/2023	6/22/2023
tblConstructionPhase	PhaseEndDate	10/14/2024	3/29/2024
tblConstructionPhase	PhaseEndDate	6/12/2023	5/26/2023
tblConstructionPhase	PhaseStartDate	10/15/2024	3/30/2024
tblConstructionPhase	PhaseStartDate	7/25/2023	6/23/2023
tblConstructionPhase	PhaseStartDate	6/13/2023	5/27/2023
tblConstructionPhase	PhaseStartDate	9/17/2024	3/13/2024
tblConstructionPhase	PhaseStartDate	5/30/2023	5/19/2023
tblLandUse	LandUseSquareFeet	243,000.00	243,303.00
tblLandUse	LotAcreage	5.58	7.08
tblLandUse	LotAcreage	0.62	0.79
tblLandUse	LotAcreage	2.69	1.53
tblLandUse	LotAcreage	3.70	3.68
tblTripsAndVMT	HaulingTripNumber	0.00	3.00
tblTripsAndVMT	HaulingTripNumber	0.00	38.00
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20

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tbITripsAndVMT	VendorTripLength	6.90	10.20
tbITripsAndVMT	VendorTripNumber	0.00	5.00
tbITripsAndVMT	VendorTripNumber	0.00	5.00
tbITripsAndVMT	VendorTripNumber	90.00	25.00
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripNumber	15.00	18.00
tbITripsAndVMT	WorkerTripNumber	231.00	114.00
tbITripsAndVMT	WorkerTripNumber	46.00	23.00

2.0 Emissions Summary

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

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	tons/yr										MT/yr					
2023	0.1964	1.6412	1.9050	4.1900e-003	0.2751	0.0727	0.3478	0.0996	0.0679	0.1675	0.0000	373.7245	373.7245	0.0669	8.9100e-003	378.0538
2024	1.3575	0.4600	0.6562	1.3900e-003	0.0504	0.0199	0.0702	0.0135	0.0186	0.0321	0.0000	124.6714	124.6714	0.0197	3.1800e-003	126.1120
Maximum	1.3575	1.6412	1.9050	4.1900e-003	0.2751	0.0727	0.3478	0.0996	0.0679	0.1675	0.0000	373.7245	373.7245	0.0669	8.9100e-003	378.0538

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	tons/yr										MT/yr					
2023	0.1377	2.5149	2.1450	4.1900e-003	0.2751	0.0841	0.3592	0.0996	0.0841	0.1836	0.0000	373.7242	373.7242	0.0669	8.9100e-003	378.0535
2024	1.3465	0.7991	0.7181	1.3900e-003	0.0504	0.0289	0.0793	0.0135	0.0289	0.0424	0.0000	124.6713	124.6713	0.0197	3.1800e-003	126.1119
Maximum	1.3465	2.5149	2.1450	4.1900e-003	0.2751	0.0841	0.3592	0.0996	0.0841	0.1836	0.0000	373.7242	373.7242	0.0669	8.9100e-003	378.0535

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	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
Percent Reduction	4.48	-57.72	-11.79	0.00	0.00	-22.19	-4.92	0.00	-30.49	-13.21	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-2-2023	8-1-2023	0.8599	1.2059
2	8-2-2023	11-1-2023	0.5912	0.8764
3	11-2-2023	2-1-2024	0.5800	0.8771
4	2-2-2024	5-1-2024	1.6719	1.8820
		Highest	1.6719	1.8820

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	tons/yr										MT/yr					
Area	1.1249	8.0000e-005	9.2900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0181	0.0181	5.0000e-005	0.0000	0.0193
Energy	0.0102	0.0924	0.0777	5.5000e-004		7.0300e-003	7.0300e-003		7.0300e-003	7.0300e-003	0.0000	398.9265	398.9265	0.0271	4.9000e-003	401.0633
Mobile	0.2689	0.4550	3.0211	7.1300e-003	0.7757	5.6400e-003	0.7814	0.2072	5.2800e-003	0.2125	0.0000	675.3712	675.3712	0.0350	0.0320	685.7892
Waste						0.0000	0.0000		0.0000	0.0000	51.5191	0.0000	51.5191	3.0447	0.0000	127.6364
Water						0.0000	0.0000		0.0000	0.0000	19.8085	144.1817	163.9902	2.0467	0.0495	229.9130
Total	1.4040	0.5475	3.1080	7.6800e-003	0.7757	0.0127	0.7884	0.2072	0.0123	0.2195	71.3277	1,218.4975	1,289.8251	5.1535	0.0864	1,444.4212

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2.2 Overall Operational

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	tons/yr										MT/yr					
Area	1.1249	8.0000e-005	9.2900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0181	0.0181	5.0000e-005	0.0000	0.0193
Energy	0.0102	0.0924	0.0777	5.5000e-004		7.0300e-003	7.0300e-003		7.0300e-003	7.0300e-003	0.0000	398.9265	398.9265	0.0271	4.9000e-003	401.0633
Mobile	0.2689	0.4550	3.0211	7.1300e-003	0.7757	5.6400e-003	0.7814	0.2072	5.2800e-003	0.2125	0.0000	675.3712	675.3712	0.0350	0.0320	685.7892
Waste						0.0000	0.0000		0.0000	0.0000	51.5191	0.0000	51.5191	3.0447	0.0000	127.6364
Water						0.0000	0.0000		0.0000	0.0000	19.8085	144.1817	163.9902	2.0467	0.0495	229.9130
Total	1.4040	0.5475	3.1080	7.6800e-003	0.7757	0.0127	0.7884	0.2072	0.0123	0.2195	71.3277	1,218.4975	1,289.8251	5.1535	0.0864	1,444.4212

	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
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	5/2/2023	5/18/2023	5	13	
2	Site Preparation	Site Preparation	5/19/2023	5/26/2023	5	6	
3	Grading	Grading	5/27/2023	6/22/2023	5	19	

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4	Building Construction	Building Construction	6/23/2023	3/12/2024	5	188
5	Paving	Paving	3/13/2024	3/29/2024	5	13
6	Architectural Coating	Architectural Coating	3/30/2024	4/17/2024	5	13

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 57

Acres of Paving: 5.21

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 405,455; Non-Residential Outdoor: 135,152; Striped Parking Area: 16,836 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

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Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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	6	18.00	0.00	3.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	5.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	5.00	38.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	114.00	25.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	23.00	0.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Demolition - 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	tons/yr										MT/yr					
Off-Road	0.0148	0.1397	0.1277	2.5000e-004		6.4800e-003	6.4800e-003		6.0300e-003	6.0300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495
Total	0.0148	0.1397	0.1277	2.5000e-004		6.4800e-003	6.4800e-003		6.0300e-003	6.0300e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495

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3.2 Demolition - 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	tons/yr										MT/yr					
Hauling	0.0000	1.7000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0834	0.0834	0.0000	1.0000e-005	0.0874
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	0.0000	0.0000
Worker	4.7000e-004	3.7000e-004	4.6300e-003	1.0000e-005	1.6100e-003	1.0000e-005	1.6200e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.2556	1.2556	3.0000e-005	3.0000e-005	1.2660
Total	4.7000e-004	5.4000e-004	4.6800e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3390	1.3390	3.0000e-005	4.0000e-005	1.3534

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	tons/yr										MT/yr					
Off-Road	8.2000e-003	0.2123	0.1604	2.5000e-004		5.9400e-003	5.9400e-003		5.9400e-003	5.9400e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495
Total	8.2000e-003	0.2123	0.1604	2.5000e-004		5.9400e-003	5.9400e-003		5.9400e-003	5.9400e-003	0.0000	22.0948	22.0948	6.1900e-003	0.0000	22.2495

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3.2 Demolition - 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	tons/yr										MT/yr					
Hauling	0.0000	1.7000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0834	0.0834	0.0000	1.0000e-005	0.0874
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	0.0000	0.0000
Worker	4.7000e-004	3.7000e-004	4.6300e-003	1.0000e-005	1.6100e-003	1.0000e-005	1.6200e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.2556	1.2556	3.0000e-005	3.0000e-005	1.2660
Total	4.7000e-004	5.4000e-004	4.6800e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3390	1.3390	3.0000e-005	4.0000e-005	1.3534

3.3 Site Preparation - 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	tons/yr										MT/yr					
Fugitive Dust					0.0590	0.0000	0.0590	0.0303	0.0000	0.0303	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9800e-003	0.0826	0.0547	1.1000e-004		3.8000e-003	3.8000e-003		3.4900e-003	3.4900e-003	0.0000	10.0352	10.0352	3.2500e-003	0.0000	10.1164
Total	7.9800e-003	0.0826	0.0547	1.1000e-004	0.0590	3.8000e-003	0.0628	0.0303	3.4900e-003	0.0338	0.0000	10.0352	10.0352	3.2500e-003	0.0000	10.1164

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3.3 Site Preparation - 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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	2.0000e-005	7.2000e-004	2.5000e-004	0.0000	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.3741	0.3741	1.0000e-005	6.0000e-005	0.3908
Worker	2.2000e-004	1.7000e-004	2.1400e-003	1.0000e-005	7.5000e-004	0.0000	7.5000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5795	0.5795	1.0000e-005	2.0000e-005	0.5843
Total	2.4000e-004	8.9000e-004	2.3900e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.9536	0.9536	2.0000e-005	8.0000e-005	0.9751

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	tons/yr										MT/yr					
Fugitive Dust					0.0590	0.0000	0.0590	0.0303	0.0000	0.0303	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6300e-003	0.1012	0.0689	1.1000e-004		2.8400e-003	2.8400e-003		2.8400e-003	2.8400e-003	0.0000	10.0352	10.0352	3.2500e-003	0.0000	10.1163
Total	3.6300e-003	0.1012	0.0689	1.1000e-004	0.0590	2.8400e-003	0.0618	0.0303	2.8400e-003	0.0332	0.0000	10.0352	10.0352	3.2500e-003	0.0000	10.1163

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3.3 Site Preparation - 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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	2.0000e-005	7.2000e-004	2.5000e-004	0.0000	1.4000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.3741	0.3741	1.0000e-005	6.0000e-005	0.3908
Worker	2.2000e-004	1.7000e-004	2.1400e-003	1.0000e-005	7.5000e-004	0.0000	7.5000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5795	0.5795	1.0000e-005	2.0000e-005	0.5843
Total	2.4000e-004	8.9000e-004	2.3900e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.9536	0.9536	2.0000e-005	8.0000e-005	0.9751

3.4 Grading - 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	tons/yr										MT/yr					
Fugitive Dust					0.0874	0.0000	0.0874	0.0347	0.0000	0.0347	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0316	0.3279	0.2665	5.9000e-004		0.0135	0.0135		0.0125	0.0125	0.0000	51.8085	51.8085	0.0168	0.0000	52.2274
Total	0.0316	0.3279	0.2665	5.9000e-004	0.0874	0.0135	0.1010	0.0347	0.0125	0.0472	0.0000	51.8085	51.8085	0.0168	0.0000	52.2274

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3.4 Grading - 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	tons/yr										MT/yr					
Hauling	4.0000e-005	2.2100e-003	6.4000e-004	1.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.0558	1.0558	4.0000e-005	1.7000e-004	1.1068
Vendor	6.0000e-005	2.2900e-003	8.0000e-004	1.0000e-005	4.4000e-004	2.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.1846	1.1846	3.0000e-005	1.7000e-004	1.2374
Worker	7.7000e-004	6.0000e-004	7.5200e-003	2.0000e-005	2.6200e-003	1.0000e-005	2.6300e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.0390	2.0390	5.0000e-005	5.0000e-005	2.0560
Total	8.7000e-004	5.1000e-003	8.9600e-003	4.0000e-005	3.3900e-003	5.0000e-005	3.4400e-003	9.2000e-004	5.0000e-005	9.7000e-004	0.0000	4.2794	4.2794	1.2000e-004	3.9000e-004	4.4002

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	tons/yr										MT/yr					
Fugitive Dust					0.0874	0.0000	0.0874	0.0347	0.0000	0.0347	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.4868	0.3489	5.9000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	51.8084	51.8084	0.0168	0.0000	52.2273
Total	0.0172	0.4868	0.3489	5.9000e-004	0.0874	0.0127	0.1001	0.0347	0.0127	0.0474	0.0000	51.8084	51.8084	0.0168	0.0000	52.2273

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3.4 Grading - 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	tons/yr										MT/yr					
Hauling	4.0000e-005	2.2100e-003	6.4000e-004	1.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.0558	1.0558	4.0000e-005	1.7000e-004	1.1068
Vendor	6.0000e-005	2.2900e-003	8.0000e-004	1.0000e-005	4.4000e-004	2.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.1846	1.1846	3.0000e-005	1.7000e-004	1.2374
Worker	7.7000e-004	6.0000e-004	7.5200e-003	2.0000e-005	2.6200e-003	1.0000e-005	2.6300e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.0390	2.0390	5.0000e-005	5.0000e-005	2.0560
Total	8.7000e-004	5.1000e-003	8.9600e-003	4.0000e-005	3.3900e-003	5.0000e-005	3.4400e-003	9.2000e-004	5.0000e-005	9.7000e-004	0.0000	4.2794	4.2794	1.2000e-004	3.9000e-004	4.4002

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	tons/yr										MT/yr					
Off-Road	0.1070	0.9782	1.1046	1.8300e-003		0.0476	0.0476		0.0448	0.0448	0.0000	157.6272	157.6272	0.0375	0.0000	158.5647
Total	0.1070	0.9782	1.1046	1.8300e-003		0.0476	0.0476		0.0448	0.0448	0.0000	157.6272	157.6272	0.0375	0.0000	158.5647

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	2.2300e-003	0.0821	0.0286	4.4000e-004	0.0158	6.6000e-004	0.0165	4.5700e-003	6.3000e-004	5.1900e-003	0.0000	42.3946	42.3946	1.1000e-003	6.2500e-003	44.2846
Worker	0.0313	0.0243	0.3069	9.0000e-004	0.1070	5.3000e-004	0.1075	0.0284	4.9000e-004	0.0289	0.0000	83.1922	83.1922	1.9500e-003	2.1500e-003	83.8827
Total	0.0336	0.1064	0.3355	1.3400e-003	0.1228	1.1900e-003	0.1240	0.0330	1.1200e-003	0.0341	0.0000	125.5868	125.5868	3.0500e-003	8.4000e-003	128.1673

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	tons/yr										MT/yr					
Off-Road	0.0735	1.6017	1.2154	1.8300e-003		0.0614	0.0614		0.0614	0.0614	0.0000	157.6270	157.6270	0.0375	0.0000	158.5645
Total	0.0735	1.6017	1.2154	1.8300e-003		0.0614	0.0614		0.0614	0.0614	0.0000	157.6270	157.6270	0.0375	0.0000	158.5645

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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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	2.2300e-003	0.0821	0.0286	4.4000e-004	0.0158	6.6000e-004	0.0165	4.5700e-003	6.3000e-004	5.1900e-003	0.0000	42.3946	42.3946	1.1000e-003	6.2500e-003	44.2846
Worker	0.0313	0.0243	0.3069	9.0000e-004	0.1070	5.3000e-004	0.1075	0.0284	4.9000e-004	0.0289	0.0000	83.1922	83.1922	1.9500e-003	2.1500e-003	83.8827
Total	0.0336	0.1064	0.3355	1.3400e-003	0.1228	1.1900e-003	0.1240	0.0330	1.1200e-003	0.0341	0.0000	125.5868	125.5868	3.0500e-003	8.4000e-003	128.1673

3.5 Building Construction - 2024

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	tons/yr										MT/yr					
Off-Road	0.0383	0.3495	0.4203	7.0000e-004		0.0160	0.0160		0.0150	0.0150	0.0000	60.2808	60.2808	0.0143	0.0000	60.6371
Total	0.0383	0.3495	0.4203	7.0000e-004		0.0160	0.0160		0.0150	0.0150	0.0000	60.2808	60.2808	0.0143	0.0000	60.6371

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	8.3000e-004	0.0317	0.0107	1.6000e-004	6.0500e-003	2.5000e-004	6.3000e-003	1.7500e-003	2.4000e-004	1.9800e-003	0.0000	15.9876	15.9876	4.1000e-004	2.3600e-003	16.7000
Worker	0.0112	8.2400e-003	0.1093	3.3000e-004	0.0409	1.9000e-004	0.0411	0.0109	1.8000e-004	0.0110	0.0000	31.1319	31.1319	6.7000e-004	7.6000e-004	31.3758
Total	0.0120	0.0400	0.1200	4.9000e-004	0.0469	4.4000e-004	0.0474	0.0126	4.2000e-004	0.0130	0.0000	47.1194	47.1194	1.0800e-003	3.1200e-003	48.0757

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	tons/yr										MT/yr					
Off-Road	0.0281	0.6124	0.4647	7.0000e-004		0.0235	0.0235		0.0235	0.0235	0.0000	60.2807	60.2807	0.0143	0.0000	60.6371
Total	0.0281	0.6124	0.4647	7.0000e-004		0.0235	0.0235		0.0235	0.0235	0.0000	60.2807	60.2807	0.0143	0.0000	60.6371

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3.5 Building Construction - 2024

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	8.3000e-004	0.0317	0.0107	1.6000e-004	6.0500e-003	2.5000e-004	6.3000e-003	1.7500e-003	2.4000e-004	1.9800e-003	0.0000	15.9876	15.9876	4.1000e-004	2.3600e-003	16.7000
Worker	0.0112	8.2400e-003	0.1093	3.3000e-004	0.0409	1.9000e-004	0.0411	0.0109	1.8000e-004	0.0110	0.0000	31.1319	31.1319	6.7000e-004	7.6000e-004	31.3758
Total	0.0120	0.0400	0.1200	4.9000e-004	0.0469	4.4000e-004	0.0474	0.0126	4.2000e-004	0.0130	0.0000	47.1194	47.1194	1.0800e-003	3.1200e-003	48.0757

3.6 Paving - 2024

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	tons/yr										MT/yr					
Off-Road	6.4200e-003	0.0619	0.0951	1.5000e-004		3.0500e-003	3.0500e-003		2.8000e-003	2.8000e-003	0.0000	13.0173	13.0173	4.2100e-003	0.0000	13.1225
Paving	6.8300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0133	0.0619	0.0951	1.5000e-004		3.0500e-003	3.0500e-003		2.8000e-003	2.8000e-003	0.0000	13.0173	13.0173	4.2100e-003	0.0000	13.1225

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3.6 Paving - 2024

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	tons/yr										MT/yr					
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	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	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.5900e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	1.0241	1.0241	2.0000e-005	3.0000e-005	1.0321
Total	3.7000e-004	2.7000e-004	3.5900e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	1.0241	1.0241	2.0000e-005	3.0000e-005	1.0321

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	tons/yr										MT/yr					
Off-Road	6.0500e-003	0.1307	0.1124	1.5000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003	0.0000	13.0172	13.0172	4.2100e-003	0.0000	13.1225
Paving	6.8300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0129	0.1307	0.1124	1.5000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003	0.0000	13.0172	13.0172	4.2100e-003	0.0000	13.1225

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3.6 Paving - 2024

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	tons/yr										MT/yr					
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	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	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.5900e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	1.0241	1.0241	2.0000e-005	3.0000e-005	1.0321
Total	3.7000e-004	2.7000e-004	3.5900e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	1.0241	1.0241	2.0000e-005	3.0000e-005	1.0321

3.7 Architectural Coating - 2024

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	tons/yr										MT/yr					
Archit. Coating	1.2919					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1700e-003	7.9200e-003	0.0118	2.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	1.6596	1.6596	9.0000e-005	0.0000	1.6620
Total	1.2930	7.9200e-003	0.0118	2.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	1.6596	1.6596	9.0000e-005	0.0000	1.6620

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3.7 Architectural Coating - 2024

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	tons/yr										MT/yr					
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	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	0.0000	0.0000
Worker	5.6000e-004	4.2000e-004	5.5100e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.5703	1.5703	3.0000e-005	4.0000e-005	1.5826
Total	5.6000e-004	4.2000e-004	5.5100e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.5703	1.5703	3.0000e-005	4.0000e-005	1.5826

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	tons/yr										MT/yr					
Archit. Coating	1.2919					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4000e-004	0.0153	0.0119	2.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	1.6596	1.6596	9.0000e-005	0.0000	1.6620
Total	1.2926	0.0153	0.0119	2.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	1.6596	1.6596	9.0000e-005	0.0000	1.6620

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

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	tons/yr										MT/yr					
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	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	0.0000	0.0000
Worker	5.6000e-004	4.2000e-004	5.5100e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.5703	1.5703	3.0000e-005	4.0000e-005	1.5826
Total	5.6000e-004	4.2000e-004	5.5100e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0700e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.5703	1.5703	3.0000e-005	4.0000e-005	1.5826

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	tons/yr										MT/yr					
Mitigated	0.2689	0.4550	3.0211	7.1300e-003	0.7757	5.6400e-003	0.7814	0.2072	5.2800e-003	0.2125	0.0000	675.3712	675.3712	0.0350	0.0320	685.7892
Unmitigated	0.2689	0.4550	3.0211	7.1300e-003	0.7757	5.6400e-003	0.7814	0.2072	5.2800e-003	0.2125	0.0000	675.3712	675.3712	0.0350	0.0320	685.7892

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	57.24	57.24	57.24	245,314	245,314
Unrefrigerated Warehouse-No Rail	422.82	422.82	422.82	1,812,087	1,812,087
Total	480.06	480.06	480.06	2,057,401	2,057,401

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Parking Lot	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Refrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	298.2957	298.2957	0.0252	3.0500e-003	299.8346
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	298.2957	298.2957	0.0252	3.0500e-003	299.8346
NaturalGas Mitigated	0.0102	0.0924	0.0777	5.5000e-004		7.0300e-003	7.0300e-003		7.0300e-003	7.0300e-003	0.0000	100.6308	100.6308	1.9300e-003	1.8400e-003	101.2288
NaturalGas Unmitigated	0.0102	0.0924	0.0777	5.5000e-004		7.0300e-003	7.0300e-003		7.0300e-003	7.0300e-003	0.0000	100.6308	100.6308	1.9300e-003	1.8400e-003	101.2288

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	tons/yr										MT/yr					
Other Asphalt Surfaces	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	0.0000
Parking Lot	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	0.0000
Refrigerated Warehouse-No Rail	1.39671e+006	7.5300e-003	0.0685	0.0575	4.1000e-004		5.2000e-003	5.2000e-003		5.2000e-003	5.2000e-003	0.0000	74.5338	74.5338	1.4300e-003	1.3700e-003	74.9767
Unrefrigerated Warehouse-No Rail	489039	2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.0970	26.0970	5.0000e-004	4.8000e-004	26.2521
Total		0.0102	0.0924	0.0777	5.5000e-004		7.0200e-003	7.0200e-003		7.0200e-003	7.0200e-003	0.0000	100.6308	100.6308	1.9300e-003	1.8500e-003	101.2288

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	tons/yr										MT/yr					
Other Asphalt Surfaces	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	0.0000
Parking Lot	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	0.0000
Refrigerated Warehouse-No Rail	1.39671e+006	7.5300e-003	0.0685	0.0575	4.1000e-004		5.2000e-003	5.2000e-003		5.2000e-003	5.2000e-003	0.0000	74.5338	74.5338	1.4300e-003	1.3700e-003	74.9767
Unrefrigerated Warehouse-No Rail	489039	2.6400e-003	0.0240	0.0201	1.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	26.0970	26.0970	5.0000e-004	4.8000e-004	26.2521
Total		0.0102	0.0924	0.0777	5.5000e-004		7.0200e-003	7.0200e-003		7.0200e-003	7.0200e-003	0.0000	100.6308	100.6308	1.9300e-003	1.8500e-003	101.2288

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	41860	7.4237	6.3000e-004	8.0000e-005	7.4620
Refrigerated Warehouse-No Rail	1.07568e+006	190.7671	0.0161	1.9500e-003	191.7512
Unrefrigerated Warehouse-No Rail	564463	100.1050	8.4500e-003	1.0200e-003	100.6214
Total		298.2957	0.0252	3.0500e-003	299.8346

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	41860	7.4237	6.3000e-004	8.0000e-005	7.4620
Refrigerated Warehouse-No Rail	1.07568e+006	190.7671	0.0161	1.9500e-003	191.7512
Unrefrigerated Warehouse-No Rail	564463	100.1050	8.4500e-003	1.0200e-003	100.6214
Total		298.2957	0.0252	3.0500e-003	299.8346

6.0 Area Detail

6.1 Mitigation Measures Area

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	tons/yr										MT/yr					
Mitigated	1.1249	8.0000e-005	9.2900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0181	0.0181	5.0000e-005	0.0000	0.0193
Unmitigated	1.1249	8.0000e-005	9.2900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0181	0.0181	5.0000e-005	0.0000	0.0193

6.2 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	tons/yr										MT/yr					
Architectural Coating	0.1292					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.6000e-004	8.0000e-005	9.2900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0181	0.0181	5.0000e-005	0.0000	0.0193
Total	1.1249	8.0000e-005	9.2900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0181	0.0181	5.0000e-005	0.0000	0.0193

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	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	tons/yr										MT/yr					
Architectural Coating	0.1292					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.6000e-004	8.0000e-005	9.2900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0181	0.0181	5.0000e-005	0.0000	0.0193
Total	1.1249	8.0000e-005	9.2900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0181	0.0181	5.0000e-005	0.0000	0.0193

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	163.9902	2.0467	0.0495	229.9130
Unmitigated	163.9902	2.0467	0.0495	229.9130

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	6.24375 / 0	16.3990	0.2047	4.9500e-003	22.9913
Unrefrigerated Warehouse-No Rail	56.1938 / 0	147.5912	1.8420	0.0446	206.9217
Total		163.9902	2.0467	0.0495	229.9130

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	6.24375 / 0	16.3990	0.2047	4.9500e-003	22.9913
Unrefrigerated Warehouse-No Rail	56.1938 / 0	147.5912	1.8420	0.0446	206.9217
Total		163.9902	2.0467	0.0495	229.9130

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	51.5191	3.0447	0.0000	127.6364
Unmitigated	51.5191	3.0447	0.0000	127.6364

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25.38	5.1519	0.3045	0.0000	12.7636
Unrefrigerated Warehouse-No Rail	228.42	46.3672	2.7402	0.0000	114.8728
Total		51.5191	3.0447	0.0000	127.6364

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25.38	5.1519	0.3045	0.0000	12.7636
Unrefrigerated Warehouse-No Rail	228.42	46.3672	2.7402	0.0000	114.8728
Total		51.5191	3.0447	0.0000	127.6364

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number
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11.0 Vegetation

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

IE Distribution Center #14 (Construction)

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	243.00	1000sqft	7.08	243,303.00	0
Refrigerated Warehouse-No Rail	27.00	1000sqft	0.79	27,000.00	0
Parking Lot	299.00	Space	1.53	119,600.00	0
Other Asphalt Surfaces	161.00	1000sqft	3.68	161,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with DEIR's model.

Land Use - Consistent with DEIR's model.

Construction Phase - See SWAPE comment on "Unsubstantiated Changes to Individual Construction Phase Lengths"

Grading - Consistent with DEIR's model.

Trips and VMT - Consistent with DEIR's model.

Architectural Coating - See SWAPE Comment on "Unsubstantiated Changes to Architectural Coating Emission Factors"

Construction Off-road Equipment Mitigation - See SWAPE comment on "Incorrect Application of Tier 4 Interim Mitigation"

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	300.00	188.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	30.00	19.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	PhaseEndDate	11/11/2024	4/17/2024
tblConstructionPhase	PhaseEndDate	9/16/2024	3/12/2024
tblConstructionPhase	PhaseEndDate	5/29/2023	5/18/2023
tblConstructionPhase	PhaseEndDate	7/24/2023	6/22/2023
tblConstructionPhase	PhaseEndDate	10/14/2024	3/29/2024
tblConstructionPhase	PhaseEndDate	6/12/2023	5/26/2023
tblConstructionPhase	PhaseStartDate	10/15/2024	3/30/2024
tblConstructionPhase	PhaseStartDate	7/25/2023	6/23/2023
tblConstructionPhase	PhaseStartDate	6/13/2023	5/27/2023
tblConstructionPhase	PhaseStartDate	9/17/2024	3/13/2024
tblConstructionPhase	PhaseStartDate	5/30/2023	5/19/2023
tblLandUse	LandUseSquareFeet	243,000.00	243,303.00
tblLandUse	LotAcreage	5.58	7.08
tblLandUse	LotAcreage	0.62	0.79
tblLandUse	LotAcreage	2.69	1.53
tblLandUse	LotAcreage	3.70	3.68
tblTripsAndVMT	HaulingTripNumber	0.00	3.00
tblTripsAndVMT	HaulingTripNumber	0.00	38.00
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tbITripsAndVMT	VendorTripLength	6.90	10.20
tbITripsAndVMT	VendorTripNumber	0.00	5.00
tbITripsAndVMT	VendorTripNumber	0.00	5.00
tbITripsAndVMT	VendorTripNumber	90.00	25.00
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripNumber	15.00	18.00
tbITripsAndVMT	WorkerTripNumber	231.00	114.00
tbITripsAndVMT	WorkerTripNumber	46.00	23.00

2.0 Emissions Summary

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2023	3.4230	35.0214	29.1274	0.0670	19.9575	1.4301	21.2266	10.1832	1.3159	11.3509	0.0000	6,527.3925	6,527.3925	1.9586	0.1339	6,589.8803
2024	199.0264	14.8878	21.4861	0.0471	1.8398	0.6303	2.4701	0.4932	0.5929	1.0861	0.0000	4,661.6684	4,661.6684	0.7177	0.1301	4,716.6803
Maximum	199.0264	35.0214	29.1274	0.0670	19.9575	1.4301	21.2266	10.1832	1.3159	11.3509	0.0000	6,527.3925	6,527.3925	1.9586	0.1339	6,589.8803

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					
2023	1.9118	51.7444	37.7988	0.0670	19.9575	1.3389	20.9068	10.1832	1.3386	11.1323	0.0000	6,527.3925	6,527.3925	1.9586	0.1339	6,589.8803
2024	198.9596	24.9984	23.1930	0.0471	1.8398	0.9205	2.7604	0.4932	0.9195	1.4128	0.0000	4,661.6684	4,661.6684	0.7177	0.1301	4,716.6803
Maximum	198.9596	51.7444	37.7988	0.0670	19.9575	1.3389	20.9068	10.1832	1.3386	11.1323	0.0000	6,527.3925	6,527.3925	1.9586	0.1339	6,589.8803

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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
Percent Reduction	0.78	-53.77	-20.51	0.00	0.00	-9.66	0.12	0.00	-18.31	-0.87	0.00	0.00	0.00	0.00	0.00	0.00

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Energy	0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279
Mobile	1.6822	2.3048	17.9617	0.0417	4.3441	0.0310	4.3751	1.1586	0.0290	1.1876		4,350.2494	4,350.2494	0.2065	0.1869	4,411.0998
Total	7.9041	2.8120	18.4615	0.0447	4.3441	0.0698	4.4138	1.1586	0.0678	1.2263		4,958.2251	4,958.2251	0.2186	0.1980	5,022.6978

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	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Energy	0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279
Mobile	1.6822	2.3048	17.9617	0.0417	4.3441	0.0310	4.3751	1.1586	0.0290	1.1876		4,350.2494	4,350.2494	0.2065	0.1869	4,411.0998
Total	7.9041	2.8120	18.4615	0.0447	4.3441	0.0698	4.4138	1.1586	0.0678	1.2263		4,958.2251	4,958.2251	0.2186	0.1980	5,022.6978

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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
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	5/2/2023	5/18/2023	5	13	
2	Site Preparation	Site Preparation	5/19/2023	5/26/2023	5	6	
3	Grading	Grading	5/27/2023	6/22/2023	5	19	
4	Building Construction	Building Construction	6/23/2023	3/12/2024	5	188	
5	Paving	Paving	3/13/2024	3/29/2024	5	13	
6	Architectural Coating	Architectural Coating	3/30/2024	4/17/2024	5	13	

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 57

Acres of Paving: 5.21

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 405,455; Non-Residential Outdoor: 135,152; Striped Parking Area: 16,836 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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	6	18.00	0.00	3.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	5.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	5.00	38.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	114.00	25.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	23.00	0.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183

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	5.6000e-004	0.0254	7.7300e-003	1.3000e-004	4.0400e-003	2.7000e-004	4.3100e-003	1.1100e-003	2.6000e-004	1.3600e-003		14.1270	14.1270	6.0000e-004	2.2400e-003	14.8094
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	0.0000
Worker	0.0807	0.0512	0.8336	2.2500e-003	0.2532	1.2300e-003	0.2544	0.0671	1.1300e-003	0.0683		230.5180	230.5180	5.0000e-003	5.1700e-003	232.1822
Total	0.0812	0.0766	0.8413	2.3800e-003	0.2572	1.5000e-003	0.2587	0.0682	1.3900e-003	0.0696		244.6450	244.6450	5.6000e-003	7.4100e-003	246.9916

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

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	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183

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	5.6000e-004	0.0254	7.7300e-003	1.3000e-004	4.0400e-003	2.7000e-004	4.3100e-003	1.1100e-003	2.6000e-004	1.3600e-003		14.1270	14.1270	6.0000e-004	2.2400e-003	14.8094
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	0.0000
Worker	0.0807	0.0512	0.8336	2.2500e-003	0.2532	1.2300e-003	0.2544	0.0671	1.1300e-003	0.0683		230.5180	230.5180	5.0000e-003	5.1700e-003	232.1822
Total	0.0812	0.0766	0.8413	2.3800e-003	0.2572	1.5000e-003	0.2587	0.0682	1.3900e-003	0.0696		244.6450	244.6450	5.6000e-003	7.4100e-003	246.9916

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

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	0.0000
Vendor	6.7900e-003	0.2289	0.0830	1.2800e-003	0.0473	1.9300e-003	0.0492	0.0136	1.8500e-003	0.0155		137.3494	137.3494	3.5800e-003	0.0202	143.4684
Worker	0.0807	0.0512	0.8336	2.2500e-003	0.2532	1.2300e-003	0.2544	0.0671	1.1300e-003	0.0683		230.5180	230.5180	5.0000e-003	5.1700e-003	232.1822
Total	0.0875	0.2801	0.9166	3.5300e-003	0.3005	3.1600e-003	0.3036	0.0807	2.9800e-003	0.0837		367.8673	367.8673	8.5800e-003	0.0254	375.6506

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0381		0.9462	0.9462		0.9462	0.9462	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	1.2097	33.7214	22.9600	0.0381	19.6570	0.9462	20.6032	10.1025	0.9462	11.0486	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9

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	0.0000
Vendor	6.7900e-003	0.2289	0.0830	1.2800e-003	0.0473	1.9300e-003	0.0492	0.0136	1.8500e-003	0.0155		137.3494	137.3494	3.5800e-003	0.0202	143.4684
Worker	0.0807	0.0512	0.8336	2.2500e-003	0.2532	1.2300e-003	0.2544	0.0671	1.1300e-003	0.0683		230.5180	230.5180	5.0000e-003	5.1700e-003	232.1822
Total	0.0875	0.2801	0.9166	3.5300e-003	0.3005	3.1600e-003	0.3036	0.0807	2.9800e-003	0.0837		367.8673	367.8673	8.5800e-003	0.0254	375.6506

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 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					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	3.3217	34.5156	28.0512	0.0621	9.2036	1.4245	10.6281	3.6538	1.3105	4.9643		6,011.4777	6,011.4777	1.9442		6,060.0836

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	4.8200e-003	0.2200	0.0670	1.1200e-003	0.0350	2.3100e-003	0.0373	9.6000e-003	2.2100e-003	0.0118		122.4344	122.4344	5.2200e-003	0.0194	128.3481
Vendor	6.7900e-003	0.2289	0.0830	1.2800e-003	0.0473	1.9300e-003	0.0492	0.0136	1.8500e-003	0.0155		137.3494	137.3494	3.5800e-003	0.0202	143.4684
Worker	0.0896	0.0569	0.9262	2.5000e-003	0.2813	1.3700e-003	0.2827	0.0746	1.2600e-003	0.0759		256.1311	256.1311	5.5600e-003	5.7400e-003	257.9802
Total	0.1012	0.5058	1.0762	4.9000e-003	0.3636	5.6100e-003	0.3692	0.0978	5.3200e-003	0.1031		515.9148	515.9148	0.0144	0.0454	529.7967

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	1.8106	51.2386	36.7226	0.0621		1.3333	1.3333		1.3333	1.3333	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	1.8106	51.2386	36.7226	0.0621	9.2036	1.3333	10.5369	3.6538	1.3333	4.9871	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836

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	4.8200e-003	0.2200	0.0670	1.1200e-003	0.0350	2.3100e-003	0.0373	9.6000e-003	2.2100e-003	0.0118		122.4344	122.4344	5.2200e-003	0.0194	128.3481
Vendor	6.7900e-003	0.2289	0.0830	1.2800e-003	0.0473	1.9300e-003	0.0492	0.0136	1.8500e-003	0.0155		137.3494	137.3494	3.5800e-003	0.0202	143.4684
Worker	0.0896	0.0569	0.9262	2.5000e-003	0.2813	1.3700e-003	0.2827	0.0746	1.2600e-003	0.0759		256.1311	256.1311	5.5600e-003	5.7400e-003	257.9802
Total	0.1012	0.5058	1.0762	4.9000e-003	0.3636	5.6100e-003	0.3692	0.0978	5.3200e-003	0.1031		515.9148	515.9148	0.0144	0.0454	529.7967

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

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	0.0000
Vendor	0.0340	1.1446	0.4151	6.4000e-003	0.2365	9.6600e-003	0.2461	0.0681	9.2400e-003	0.0773		686.7469	686.7469	0.0179	0.1012	717.3418
Worker	0.5109	0.3244	5.2794	0.0143	1.6034	7.7800e-003	1.6111	0.4252	7.1600e-003	0.4323		1,459.9470	1,459.9470	0.0317	0.0327	1,470.4873
Total	0.5449	1.4690	5.6945	0.0207	1.8398	0.0174	1.8573	0.4932	0.0164	0.5096		2,146.6939	2,146.6939	0.0496	0.1339	2,187.8291

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

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	0.0000
Vendor	0.0340	1.1446	0.4151	6.4000e-003	0.2365	9.6600e-003	0.2461	0.0681	9.2400e-003	0.0773		686.7469	686.7469	0.0179	0.1012	717.3418
Worker	0.5109	0.3244	5.2794	0.0143	1.6034	7.7800e-003	1.6111	0.4252	7.1600e-003	0.4323		1,459.9470	1,459.9470	0.0317	0.0327	1,470.4873
Total	0.5449	1.4690	5.6945	0.0207	1.8398	0.0174	1.8573	0.4932	0.0164	0.5096		2,146.6939	2,146.6939	0.0496	0.1339	2,187.8291

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0000
Vendor	0.0331	1.1565	0.4072	6.3200e-003	0.2365	9.5100e-003	0.2460	0.0681	9.1000e-003	0.0772		677.3311	677.3311	0.0173	0.0998	707.4951
Worker	0.4749	0.2875	4.9121	0.0139	1.6034	7.4800e-003	1.6108	0.4252	6.8800e-003	0.4321		1,428.6384	1,428.6384	0.0286	0.0303	1,438.3775
Total	0.5080	1.4440	5.3193	0.0202	1.8398	0.0170	1.8568	0.4932	0.0160	0.5092		2,105.9695	2,105.9695	0.0459	0.1301	2,145.8726

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

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	1.0809	23.5544	17.8738	0.0270		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.0809	23.5544	17.8738	0.0270		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0000
Vendor	0.0331	1.1565	0.4072	6.3200e-003	0.2365	9.5100e-003	0.2460	0.0681	9.1000e-003	0.0772		677.3311	677.3311	0.0173	0.0998	707.4951
Worker	0.4749	0.2875	4.9121	0.0139	1.6034	7.4800e-003	1.6108	0.4252	6.8800e-003	0.4321		1,428.6384	1,428.6384	0.0286	0.0303	1,438.3775
Total	0.5080	1.4440	5.3193	0.0202	1.8398	0.0170	1.8568	0.4932	0.0160	0.5092		2,105.9695	2,105.9695	0.0459	0.1301	2,145.8726

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	1.0500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0382	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3

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	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	0.0000
Worker	0.0625	0.0378	0.6463	1.8200e-003	0.2110	9.8000e-004	0.2120	0.0559	9.1000e-004	0.0569		187.9787	187.9787	3.7600e-003	3.9800e-003	189.2602
Total	0.0625	0.0378	0.6463	1.8200e-003	0.2110	9.8000e-004	0.2120	0.0559	9.1000e-004	0.0569		187.9787	187.9787	3.7600e-003	3.9800e-003	189.2602

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

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	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	1.0500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.9811	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3

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	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	0.0000
Worker	0.0625	0.0378	0.6463	1.8200e-003	0.2110	9.8000e-004	0.2120	0.0559	9.1000e-004	0.0569		187.9787	187.9787	3.7600e-003	3.9800e-003	189.2602
Total	0.0625	0.0378	0.6463	1.8200e-003	0.2110	9.8000e-004	0.2120	0.0559	9.1000e-004	0.0569		187.9787	187.9787	3.7600e-003	3.9800e-003	189.2602

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

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	198.7499					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	198.9306	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

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	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	0.0000
Worker	0.0958	0.0580	0.9910	2.7900e-003	0.3235	1.5100e-003	0.3250	0.0858	1.3900e-003	0.0872		288.2341	288.2341	5.7700e-003	6.1100e-003	290.1990
Total	0.0958	0.0580	0.9910	2.7900e-003	0.3235	1.5100e-003	0.3250	0.0858	1.3900e-003	0.0872		288.2341	288.2341	5.7700e-003	6.1100e-003	290.1990

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

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	198.7499					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443
Total	198.8638	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443

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	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	0.0000
Worker	0.0958	0.0580	0.9910	2.7900e-003	0.3235	1.5100e-003	0.3250	0.0858	1.3900e-003	0.0872		288.2341	288.2341	5.7700e-003	6.1100e-003	290.1990
Total	0.0958	0.0580	0.9910	2.7900e-003	0.3235	1.5100e-003	0.3250	0.0858	1.3900e-003	0.0872		288.2341	288.2341	5.7700e-003	6.1100e-003	290.1990

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.6822	2.3048	17.9617	0.0417	4.3441	0.0310	4.3751	1.1586	0.0290	1.1876		4,350,249 4	4,350,249 4	0.2065	0.1869	4,411.099 8
Unmitigated	1.6822	2.3048	17.9617	0.0417	4.3441	0.0310	4.3751	1.1586	0.0290	1.1876		4,350,249 4	4,350,249 4	0.2065	0.1869	4,411.099 8

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	57.24	57.24	57.24	245,314	245,314
Unrefrigerated Warehouse-No Rail	422.82	422.82	422.82	1,812,087	1,812,087
Total	480.06	480.06	480.06	2,057,401	2,057,401

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	Miles			Trip %			Trip Purpose %		
	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
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Parking Lot	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Refrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	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					
NaturalGas Mitigated	0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279
NaturalGas Unmitigated	0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Other Asphalt Surfaces	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
Parking Lot	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
Refrigerated Warehouse-No Rail	3826.6	0.0413	0.3752	0.3151	2.2500e-003		0.0285	0.0285		0.0285	0.0285		450.1886	450.1886	8.6300e-003	8.2500e-003	452.8638
Unrefrigerated Warehouse-No Rail	1339.83	0.0145	0.1314	0.1103	7.9000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003		157.6274	157.6274	3.0200e-003	2.8900e-003	158.5641
Total		0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Other Asphalt Surfaces	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
Parking Lot	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
Refrigerated Warehouse-No Rail	3.8266	0.0413	0.3752	0.3151	2.2500e-003		0.0285	0.0285		0.0285	0.0285		450.1886	450.1886	8.6300e-003	8.2500e-003	452.8638
Unrefrigerated Warehouse-No Rail	1.33983	0.0145	0.1314	0.1103	7.9000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003		157.6274	157.6274	3.0200e-003	2.8900e-003	158.5641
Total		0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279

6.0 Area Detail

6.1 Mitigation Measures Area

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Unmitigated	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702

6.2 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	0.7079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.4514					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.8400e-003	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Total	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	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	0.7079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.4514					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.8400e-003	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Total	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702

7.0 Water Detail

7.1 Mitigation Measures Water

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

IE Distribution Center #14 (Construction)

San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	243.00	1000sqft	7.08	243,303.00	0
Refrigerated Warehouse-No Rail	27.00	1000sqft	0.79	27,000.00	0
Parking Lot	299.00	Space	1.53	119,600.00	0
Other Asphalt Surfaces	161.00	1000sqft	3.68	161,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with DEIR's model.

Land Use - Consistent with DEIR's model.

Construction Phase - See SWAPE comment on "Unsubstantiated Changes to Individual Construction Phase Lengths"

Grading - Consistent with DEIR's model.

Trips and VMT - Consistent with DEIR's model.

Architectural Coating - See SWAPE Comment on "Unsubstantiated Changes to Architectural Coating Emission Factors"

Construction Off-road Equipment Mitigation - See SWAPE comment on "Incorrect Application of Tier 4 Interim Mitigation"

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	300.00	188.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	30.00	19.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	PhaseEndDate	11/11/2024	4/17/2024
tblConstructionPhase	PhaseEndDate	9/16/2024	3/12/2024
tblConstructionPhase	PhaseEndDate	5/29/2023	5/18/2023
tblConstructionPhase	PhaseEndDate	7/24/2023	6/22/2023
tblConstructionPhase	PhaseEndDate	10/14/2024	3/29/2024
tblConstructionPhase	PhaseEndDate	6/12/2023	5/26/2023
tblConstructionPhase	PhaseStartDate	10/15/2024	3/30/2024
tblConstructionPhase	PhaseStartDate	7/25/2023	6/23/2023
tblConstructionPhase	PhaseStartDate	6/13/2023	5/27/2023
tblConstructionPhase	PhaseStartDate	9/17/2024	3/13/2024
tblConstructionPhase	PhaseStartDate	5/30/2023	5/19/2023
tblLandUse	LandUseSquareFeet	243,000.00	243,303.00
tblLandUse	LotAcreage	5.58	7.08
tblLandUse	LotAcreage	0.62	0.79
tblLandUse	LotAcreage	2.69	1.53
tblLandUse	LotAcreage	3.70	3.68
tblTripsAndVMT	HaulingTripNumber	0.00	3.00
tblTripsAndVMT	HaulingTripNumber	0.00	38.00
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20
tblTripsAndVMT	VendorTripLength	6.90	10.20

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tbITripsAndVMT	VendorTripLength	6.90	10.20
tbITripsAndVMT	VendorTripNumber	0.00	5.00
tbITripsAndVMT	VendorTripNumber	0.00	5.00
tbITripsAndVMT	VendorTripNumber	90.00	25.00
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripLength	14.70	18.50
tbITripsAndVMT	WorkerTripNumber	15.00	18.00
tbITripsAndVMT	WorkerTripNumber	231.00	114.00
tbITripsAndVMT	WorkerTripNumber	46.00	23.00

2.0 Emissions Summary

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2023	3.4204	35.0486	28.9591	0.0668	19.9575	1.4301	21.2267	10.1832	1.3159	11.3509	0.0000	6,503.6563	6,503.6563	1.9585	0.1352	6,566.2175
2024	199.0247	14.9646	20.5895	0.0458	1.8398	0.6303	2.4701	0.4932	0.5929	1.0861	0.0000	4,528.3866	4,528.3866	0.7177	0.1312	4,583.7350
Maximum	199.0247	35.0486	28.9591	0.0668	19.9575	1.4301	21.2267	10.1832	1.3159	11.3509	0.0000	6,503.6563	6,503.6563	1.9585	0.1352	6,566.2175

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					
2023	1.9093	51.7716	37.6305	0.0668	19.9575	1.3389	20.9068	10.1832	1.3386	11.1323	0.0000	6,503.6563	6,503.6563	1.9585	0.1352	6,566.2175
2024	198.9579	25.0753	22.2964	0.0458	1.8398	0.9206	2.7604	0.4932	0.9196	1.4128	0.0000	4,528.3866	4,528.3866	0.7177	0.1312	4,583.7350
Maximum	198.9579	51.7716	37.6305	0.0668	19.9575	1.3389	20.9068	10.1832	1.3386	11.1323	0.0000	6,503.6563	6,503.6563	1.9585	0.1352	6,566.2175

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Energy	0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279
Mobile	1.4842	2.4487	15.9232	0.0386	4.3441	0.0310	4.3751	1.1586	0.0290	1.1876		4,035.0170	4,035.0170	0.2097	0.1913	4,097.2745
Total	7.7060	2.9559	16.4230	0.0417	4.3441	0.0698	4.4138	1.1586	0.0678	1.2264		4,642.9927	4,642.9927	0.2217	0.2025	4,708.8726

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	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Energy	0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279
Mobile	1.4842	2.4487	15.9232	0.0386	4.3441	0.0310	4.3751	1.1586	0.0290	1.1876		4,035.0170	4,035.0170	0.2097	0.1913	4,097.2745
Total	7.7060	2.9559	16.4230	0.0417	4.3441	0.0698	4.4138	1.1586	0.0678	1.2264		4,642.9927	4,642.9927	0.2217	0.2025	4,708.8726

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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
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	5/2/2023	5/18/2023	5	13	
2	Site Preparation	Site Preparation	5/19/2023	5/26/2023	5	6	
3	Grading	Grading	5/27/2023	6/22/2023	5	19	
4	Building Construction	Building Construction	6/23/2023	3/12/2024	5	188	
5	Paving	Paving	3/13/2024	3/29/2024	5	13	
6	Architectural Coating	Architectural Coating	3/30/2024	4/17/2024	5	13	

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 57

Acres of Paving: 5.21

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 405,455; Non-Residential Outdoor: 135,152; Striped Parking Area: 16,836 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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	6	18.00	0.00	3.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	5.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	5.00	38.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	114.00	25.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	23.00	0.00	0.00	18.50	10.20	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183

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	5.1000e-004	0.0268	7.8700e-003	1.3000e-004	4.0400e-003	2.7000e-004	4.3100e-003	1.1100e-003	2.6000e-004	1.3600e-003		14.1484	14.1484	6.0000e-004	2.2400e-003	14.8317
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	0.0000
Worker	0.0790	0.0538	0.6790	2.0400e-003	0.2532	1.2300e-003	0.2544	0.0671	1.1300e-003	0.0683		208.7797	208.7797	4.9200e-003	5.3300e-003	210.4905
Total	0.0795	0.0806	0.6869	2.1700e-003	0.2572	1.5000e-003	0.2587	0.0682	1.3900e-003	0.0696		222.9281	222.9281	5.5200e-003	7.5700e-003	225.3221

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

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	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183

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	5.1000e-004	0.0268	7.8700e-003	1.3000e-004	4.0400e-003	2.7000e-004	4.3100e-003	1.1100e-003	2.6000e-004	1.3600e-003		14.1484	14.1484	6.0000e-004	2.2400e-003	14.8317
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	0.0000
Worker	0.0790	0.0538	0.6790	2.0400e-003	0.2532	1.2300e-003	0.2544	0.0671	1.1300e-003	0.0683		208.7797	208.7797	4.9200e-003	5.3300e-003	210.4905
Total	0.0795	0.0806	0.6869	2.1700e-003	0.2572	1.5000e-003	0.2587	0.0682	1.3900e-003	0.0696		222.9281	222.9281	5.5200e-003	7.5700e-003	225.3221

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 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					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.308 1	3,687.308 1	1.1926		3,717.121 9

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	0.0000
Vendor	6.4100e-003	0.2413	0.0852	1.2800e-003	0.0473	1.9400e-003	0.0492	0.0136	1.8500e-003	0.0155		137.5820	137.5820	3.5600e-003	0.0203	143.7145
Worker	0.0790	0.0538	0.6790	2.0400e-003	0.2532	1.2300e-003	0.2544	0.0671	1.1300e-003	0.0683		208.7797	208.7797	4.9200e-003	5.3300e-003	210.4905
Total	0.0854	0.2951	0.7643	3.3200e-003	0.3005	3.1700e-003	0.3036	0.0807	2.9800e-003	0.0837		346.3617	346.3617	8.4800e-003	0.0256	354.2050

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0381		0.9462	0.9462		0.9462	0.9462	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9
Total	1.2097	33.7214	22.9600	0.0381	19.6570	0.9462	20.6032	10.1025	0.9462	11.0486	0.0000	3,687.308 1	3,687.308 1	1.1926		3,717.121 9

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	0.0000
Vendor	6.4100e-003	0.2413	0.0852	1.2800e-003	0.0473	1.9400e-003	0.0492	0.0136	1.8500e-003	0.0155		137.5820	137.5820	3.5600e-003	0.0203	143.7145
Worker	0.0790	0.0538	0.6790	2.0400e-003	0.2532	1.2300e-003	0.2544	0.0671	1.1300e-003	0.0683		208.7797	208.7797	4.9200e-003	5.3300e-003	210.4905
Total	0.0854	0.2951	0.7643	3.3200e-003	0.3005	3.1700e-003	0.3036	0.0807	2.9800e-003	0.0837		346.3617	346.3617	8.4800e-003	0.0256	354.2050

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 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					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	3.3217	34.5156	28.0512	0.0621	9.2036	1.4245	10.6281	3.6538	1.3105	4.9643		6,011.4777	6,011.4777	1.9442		6,060.0836

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	4.4600e-003	0.2319	0.0682	1.1300e-003	0.0350	2.3200e-003	0.0373	9.6000e-003	2.2200e-003	0.0118		122.6191	122.6191	5.2100e-003	0.0194	128.5411
Vendor	6.4100e-003	0.2413	0.0852	1.2800e-003	0.0473	1.9400e-003	0.0492	0.0136	1.8500e-003	0.0155		137.5820	137.5820	3.5600e-003	0.0203	143.7145
Worker	0.0878	0.0598	0.7545	2.2700e-003	0.2813	1.3700e-003	0.2827	0.0746	1.2600e-003	0.0759		231.9775	231.9775	5.4700e-003	5.9200e-003	233.8783
Total	0.0987	0.5330	0.9079	4.6800e-003	0.3636	5.6300e-003	0.3692	0.0978	5.3300e-003	0.1031		492.1786	492.1786	0.0142	0.0456	506.1339

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

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					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	1.8106	51.2386	36.7226	0.0621		1.3333	1.3333		1.3333	1.3333	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	1.8106	51.2386	36.7226	0.0621	9.2036	1.3333	10.5369	3.6538	1.3333	4.9871	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836

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	4.4600e-003	0.2319	0.0682	1.1300e-003	0.0350	2.3200e-003	0.0373	9.6000e-003	2.2200e-003	0.0118		122.6191	122.6191	5.2100e-003	0.0194	128.5411
Vendor	6.4100e-003	0.2413	0.0852	1.2800e-003	0.0473	1.9400e-003	0.0492	0.0136	1.8500e-003	0.0155		137.5820	137.5820	3.5600e-003	0.0203	143.7145
Worker	0.0878	0.0598	0.7545	2.2700e-003	0.2813	1.3700e-003	0.2827	0.0746	1.2600e-003	0.0759		231.9775	231.9775	5.4700e-003	5.9200e-003	233.8783
Total	0.0987	0.5330	0.9079	4.6800e-003	0.3636	5.6300e-003	0.3692	0.0978	5.3300e-003	0.1031		492.1786	492.1786	0.0142	0.0456	506.1339

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

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	0.0000
Vendor	0.0320	1.2065	0.4261	6.4100e-003	0.2365	9.6800e-003	0.2461	0.0681	9.2600e-003	0.0773		687.9099	687.9099	0.0178	0.1014	718.5725
Worker	0.5004	0.3410	4.3005	0.0129	1.6034	7.7800e-003	1.6111	0.4252	7.1600e-003	0.4323		1,322.2715	1,322.2715	0.0312	0.0338	1,333.1063
Total	0.5325	1.5475	4.7266	0.0193	1.8398	0.0175	1.8573	0.4932	0.0164	0.5097		2,010.1814	2,010.1814	0.0489	0.1352	2,051.6787

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

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	0.0000
Vendor	0.0320	1.2065	0.4261	6.4100e-003	0.2365	9.6800e-003	0.2461	0.0681	9.2600e-003	0.0773		687.9099	687.9099	0.0178	0.1014	718.5725
Worker	0.5004	0.3410	4.3005	0.0129	1.6034	7.7800e-003	1.6111	0.4252	7.1600e-003	0.4323		1,322.2715	1,322.2715	0.0312	0.0338	1,333.1063
Total	0.5325	1.5475	4.7266	0.0193	1.8398	0.0175	1.8573	0.4932	0.0164	0.5097		2,010.1814	2,010.1814	0.0489	0.1352	2,051.6787

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0000
Vendor	0.0311	1.2188	0.4182	6.3300e-003	0.2365	9.5300e-003	0.2460	0.0681	9.1200e-003	0.0772		678.4871	678.4871	0.0172	0.1000	708.7168
Worker	0.4665	0.3021	4.0044	0.0126	1.6034	7.4800e-003	1.6108	0.4252	6.8800e-003	0.4321		1,294.2005	1,294.2005	0.0282	0.0312	1,304.2105
Total	0.4976	1.5209	4.4226	0.0189	1.8398	0.0170	1.8568	0.4932	0.0160	0.5092		1,972.6877	1,972.6877	0.0454	0.1312	2,012.9273

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

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	1.0809	23.5544	17.8738	0.0270		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.0809	23.5544	17.8738	0.0270		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0000
Vendor	0.0311	1.2188	0.4182	6.3300e-003	0.2365	9.5300e-003	0.2460	0.0681	9.1200e-003	0.0772		678.4871	678.4871	0.0172	0.1000	708.7168
Worker	0.4665	0.3021	4.0044	0.0126	1.6034	7.4800e-003	1.6108	0.4252	6.8800e-003	0.4321		1,294.2005	1,294.2005	0.0282	0.0312	1,304.2105
Total	0.4976	1.5209	4.4226	0.0189	1.8398	0.0170	1.8568	0.4932	0.0160	0.5092		1,972.6877	1,972.6877	0.0454	0.1312	2,012.9273

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

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	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	1.0500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0382	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3

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	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	0.0000
Worker	0.0614	0.0397	0.5269	1.6500e-003	0.2110	9.8000e-004	0.2120	0.0559	9.1000e-004	0.0569		170.2895	170.2895	3.7100e-003	4.1100e-003	171.6067
Total	0.0614	0.0397	0.5269	1.6500e-003	0.2110	9.8000e-004	0.2120	0.0559	9.1000e-004	0.0569		170.2895	170.2895	3.7100e-003	4.1100e-003	171.6067

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

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	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	1.0500					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.9811	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3

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	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	0.0000
Worker	0.0614	0.0397	0.5269	1.6500e-003	0.2110	9.8000e-004	0.2120	0.0559	9.1000e-004	0.0569		170.2895	170.2895	3.7100e-003	4.1100e-003	171.6067
Total	0.0614	0.0397	0.5269	1.6500e-003	0.2110	9.8000e-004	0.2120	0.0559	9.1000e-004	0.0569		170.2895	170.2895	3.7100e-003	4.1100e-003	171.6067

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

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	198.7499					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	198.9306	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

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	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	0.0000
Worker	0.0941	0.0609	0.8079	2.5300e-003	0.3235	1.5100e-003	0.3250	0.0858	1.3900e-003	0.0872		261.1106	261.1106	5.6900e-003	6.3000e-003	263.1302
Total	0.0941	0.0609	0.8079	2.5300e-003	0.3235	1.5100e-003	0.3250	0.0858	1.3900e-003	0.0872		261.1106	261.1106	5.6900e-003	6.3000e-003	263.1302

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

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	198.7499					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443
Total	198.8638	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443

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	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	0.0000
Worker	0.0941	0.0609	0.8079	2.5300e-003	0.3235	1.5100e-003	0.3250	0.0858	1.3900e-003	0.0872		261.1106	261.1106	5.6900e-003	6.3000e-003	263.1302
Total	0.0941	0.0609	0.8079	2.5300e-003	0.3235	1.5100e-003	0.3250	0.0858	1.3900e-003	0.0872		261.1106	261.1106	5.6900e-003	6.3000e-003	263.1302

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.4842	2.4487	15.9232	0.0386	4.3441	0.0310	4.3751	1.1586	0.0290	1.1876		4,035.0170	4,035.0170	0.2097	0.1913	4,097.2745
Unmitigated	1.4842	2.4487	15.9232	0.0386	4.3441	0.0310	4.3751	1.1586	0.0290	1.1876		4,035.0170	4,035.0170	0.2097	0.1913	4,097.2745

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	57.24	57.24	57.24	245,314	245,314
Unrefrigerated Warehouse-No Rail	422.82	422.82	422.82	1,812,087	1,812,087
Total	480.06	480.06	480.06	2,057,401	2,057,401

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	Miles			Trip %			Trip Purpose %		
	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
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Parking Lot	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Refrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606
Unrefrigerated Warehouse-No Rail	0.543085	0.056300	0.173085	0.134258	0.025645	0.007009	0.011926	0.017481	0.000552	0.000248	0.024848	0.000956	0.004606

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	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					
NaturalGas Mitigated	0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279
NaturalGas Unmitigated	0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas 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					
Other Asphalt Surfaces	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
Parking Lot	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
Refrigerated Warehouse-No Rail	3826.6	0.0413	0.3752	0.3151	2.2500e-003		0.0285	0.0285		0.0285	0.0285		450.1886	450.1886	8.6300e-003	8.2500e-003	452.8638
Unrefrigerated Warehouse-No Rail	1339.83	0.0145	0.1314	0.1103	7.9000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003		157.6274	157.6274	3.0200e-003	2.8900e-003	158.5641
Total		0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Other Asphalt Surfaces	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
Parking Lot	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
Refrigerated Warehouse-No Rail	3.8266	0.0413	0.3752	0.3151	2.2500e-003		0.0285	0.0285		0.0285	0.0285		450.1886	450.1886	8.6300e-003	8.2500e-003	452.8638
Unrefrigerated Warehouse-No Rail	1.33983	0.0145	0.1314	0.1103	7.9000e-004		9.9800e-003	9.9800e-003		9.9800e-003	9.9800e-003		157.6274	157.6274	3.0200e-003	2.8900e-003	158.5641
Total		0.0557	0.5065	0.4255	3.0400e-003		0.0385	0.0385		0.0385	0.0385		607.8160	607.8160	0.0117	0.0111	611.4279

6.0 Area Detail

6.1 Mitigation Measures Area

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Unmitigated	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702

6.2 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	0.7079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.4514					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.8400e-003	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Total	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	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	0.7079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.4514					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.8400e-003	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702
Total	6.1661	6.7000e-004	0.0743	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1598	0.1598	4.2000e-004		0.1702

7.0 Water Detail

7.1 Mitigation Measures Water

IE Distribution Center #14 (Construction) - San Bernardino-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation



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**Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
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 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. 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) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014, 2017;
- 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 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, 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 more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- 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.

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 nationwide 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 is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

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, Colorado.

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 representatives, 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., Fukunaga, 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 Clean up 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 examinations, 2009-2011.



Technical Consultation, Data Analysis and
Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE

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Paul Rosenfeld, Ph.D.

Principal Environmental Chemist

Chemical Fate and Transport & Air Dispersion Modeling

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

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 H₂O 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

Publications:

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution*. **233**, 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health*. 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P.**, (2015) Modeling the Effect of Refinery Emission On Residential Property Value. *Journal of Real Estate Research*. 27(3):321-342

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 Aermol 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. (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., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

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). Perfluorooctanoic Acid (PFOA) and Perfluorooctane 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 Florida, 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 Conference*. 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 San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a
AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS “Conti Perdido” Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosiences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilbert, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

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 Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 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 No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. 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 No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

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 No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

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

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009