APPENDICES

CITY OF SANTA FE SPRINGS
CARMENITA ROAD WAREHOUSE
13900 AND 13904 CARMENITA ROAD
DEVELOPMENT PLAN APPROVAL (DPA NO. 967)
TENTATIVE TRACT MAP (TTM 82732)

LEAD AGENCY:
CITY OF SANTA FE SPRINGS
PLANNING AND DEVELOPMENT DEPARTMENT
11710 TELEGRAPH ROAD
SANTA FE SPRINGS, CALIFORNIA 90670

REPORT PREPARED BY:
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OCTOBER 30, 2019

SFSP 063

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APPENDIX A
AIR QUALITY WORKSHEETS

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Santa Fe Springs Carmenita Road Warehouse

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	150.55	1000sqft	3.46	150,548.00	0
Parking Lot	198.00	Space	1.78	79,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction times are estimated.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation -

Water Mitigation -

Grading - Total size of project site.

Santa Fe Springs Carmenita Road Warehouse - South Coast AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	88.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	20.00
tblGrading	AcresOfGrading	11.00	6.50
tblGrading	MaterialExported	0.00	8,136.00
tblGrading	MaterialImported	0.00	2,322.00
tblLandUse	LandUseSquareFeet	150,550.00	150,548.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	32.5465	53.4122	24.4263	0.0713	18.9699	2.2342	21.2041	10.1766	2.0568	12.2333	0.0000	7,261.1801	7,261.1801	1.4239	0.0000	7,296.7778
Maximum	**32.5465**	**53.4122**	**24.4263**	**0.0713**	**18.9699**	**2.2342**	**21.2041**	**10.1766**	**2.0568**	**12.2333**	**0.0000**	**7,261.1801**	**7,261.1801**	**1.4239**	**0.0000**	**7,296.7778**

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					
2020	32.5465	53.4122	24.4263	0.0713	7.9495	2.2342	10.1837	4.1188	2.0568	6.1756	0.0000	7,261.1801	7,261.1801	1.4239	0.0000	7,296.7778
Maximum	**32.5465**	**53.4122**	**24.4263**	**0.0713**	**7.9495**	**2.2342**	**10.1837**	**4.1188**	**2.0568**	**6.1756**	**0.0000**	**7,261.1801**	**7,261.1801**	**1.4239**	**0.0000**	**7,296.7778**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**58.09**	**0.00**	**51.97**	**59.53**	**0.00**	**49.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.4006	3.3000e-004	0.0356	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0763	0.0763	2.0000e-004		0.0813
Energy	3.8700e-003	0.0352	0.0296	2.1000e-004		2.6700e-003	2.6700e-003		2.6700e-003	2.6700e-003		42.2165	42.2165	8.1000e-004	7.7000e-004	42.4674
Mobile	0.4877	2.5699	7.1660	0.0277	2.3049	0.0209	2.3258	0.6167	0.0195	0.6362		2,822.5393	2,822.5393	0.1265		2,825.7026
Total	**3.8921**	**2.6055**	**7.2312**	**0.0279**	**2.3049**	**0.0237**	**2.3286**	**0.6167**	**0.0223**	**0.6390**		**2,864.8321**	**2,864.8321**	**0.1275**	**7.7000e-004**	**2,868.2513**

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	3.4006	3.3000e-004	0.0356	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0763	0.0763	2.0000e-004		0.0813
Energy	3.8700e-003	0.0352	0.0296	2.1000e-004		2.6700e-003	2.6700e-003		2.6700e-003	2.6700e-003		42.2165	42.2165	8.1000e-004	7.7000e-004	42.4674
Mobile	0.4877	2.5699	7.1660	0.0277	2.3049	0.0209	2.3258	0.6167	0.0195	0.6362		2,822.5393	2,822.5393	0.1265		2,825.7026
Total	**3.8921**	**2.6055**	**7.2312**	**0.0279**	**2.3049**	**0.0237**	**2.3286**	**0.6167**	**0.0223**	**0.6390**		**2,864.8321**	**2,864.8321**	**0.1275**	**7.7000e-004**	**2,868.2513**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/31/2020	5	23	
2	Site Preparation	Site Preparation	2/1/2020	2/29/2020	5	20	
3	Grading	Grading	3/1/2020	3/31/2020	5	22	
4	Building Construction	Building Construction	4/1/2020	7/31/2020	5	88	
5	Paving	Paving	8/1/2020	8/31/2020	5	21	
6	Architectural Coating	Architectural Coating	9/1/2020	10/31/2020	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 1.78

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 225,822; Non-Residential Outdoor: 75,274; Striped Parking Area: 4,752 (Architectural Coating – sqft)

OffRoad Equipment

Santa Fe Springs Carmenita Road Warehouse - South Coast AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
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
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Santa Fe Springs Carmenita Road Warehouse - South Coast AQMD Air District, Summer

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	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	804.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	230.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	96.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**		**1.6587**	**1.6587**		**1.5419**	**1.5419**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0456	0.6132	1.7200e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		171.6626	171.6626	4.9400e-003		171.7860
Total	**0.0679**	**0.0456**	**0.6132**	**1.7200e-003**	**0.1677**	**1.2700e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**171.6626**	**171.6626**	**4.9400e-003**		**171.7860**

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	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**		**1.6587**	**1.6587**		**1.5419**	**1.5419**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0456	0.6132	1.7200e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		171.6626	171.6626	4.9400e-003		171.7860
Total	**0.0679**	**0.0456**	**0.6132**	**1.7200e-003**	**0.1677**	**1.2700e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**171.6626**	**171.6626**	**4.9400e-003**		**171.7860**

3.3 Site Preparation - 2020

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	0.3053	10.9401	2.1768	0.0312	0.7025	0.0353	0.7377	0.1925	0.0337	0.2263		3,370.0834	3,370.0834	0.2262		3,375.7371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0814	0.0547	0.7359	2.0700e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		205.9951	205.9951	5.9200e-003		206.1432
Total	**0.3868**	**10.9949**	**2.9127**	**0.0332**	**0.9037**	**0.0368**	**0.9405**	**0.2459**	**0.0352**	**0.2810**		**3,576.0786**	**3,576.0786**	**0.2321**		**3,581.8803**

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					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**7.0458**	**2.1974**	**9.2433**	**3.8730**	**2.0216**	**5.8946**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

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	0.3053	10.9401	2.1768	0.0312	0.7025	0.0353	0.7377	0.1925	0.0337	0.2263		3,370.0834	3,370.0834	0.2262		3,375.7371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0814	0.0547	0.7359	2.0700e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		205.9951	205.9951	5.9200e-003		206.1432
Total	**0.3868**	**10.9949**	**2.9127**	**0.0332**	**0.9037**	**0.0368**	**0.9405**	**0.2459**	**0.0352**	**0.2810**		**3,576.0786**	**3,576.0786**	**0.2321**		**3,581.8803**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3354	0.0000	6.3354	3.3441	0.0000	3.3441			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.3354**	**1.2734**	**7.6089**	**3.3441**	**1.1716**	**4.5156**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

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	0.0794	2.8451	0.5661	8.1100e-003	0.1827	9.1700e-003	0.1919	0.0501	8.7700e-003	0.0588		876.4351	876.4351	0.0588		877.9054
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0456	0.6132	1.7200e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		171.6626	171.6626	4.9400e-003		171.7860
Total	**0.1473**	**2.8907**	**1.1793**	**9.8300e-003**	**0.3503**	**0.0104**	**0.3608**	**0.0945**	**9.9400e-003**	**0.1045**		**1,048.0977**	**1,048.0977**	**0.0638**		**1,049.6914**

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					2.4708	0.0000	2.4708	1.3042	0.0000	1.3042			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**2.4708**	**1.2734**	**3.7442**	**1.3042**	**1.1716**	**2.4757**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

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	0.0794	2.8451	0.5661	8.1100e-003	0.1827	9.1700e-003	0.1919	0.0501	8.7700e-003	0.0588		876.4351	876.4351	0.0588		877.9054
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0456	0.6132	1.7200e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		171.6626	171.6626	4.9400e-003		171.7860
Total	**0.1473**	**2.8907**	**1.1793**	**9.8300e-003**	**0.3503**	**0.0104**	**0.3608**	**0.0945**	**9.9400e-003**	**0.1045**		**1,048.0977**	**1,048.0977**	**0.0638**		**1,049.6914**

3.5 Building Construction - 2020

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1248	3.9875	0.9495	9.7800e-003	0.2432	0.0198	0.2630	0.0700	0.0189	0.0889		1,042.9041	1,042.9041	0.0655		1,044.5411
Worker	0.4343	0.2920	3.9247	0.0110	1.0731	8.1400e-003	1.0812	0.2846	7.5000e-003	0.2921		1,098.6408	1,098.6408	0.0316		1,099.4304
Total	**0.5591**	**4.2795**	**4.8742**	**0.0208**	**1.3163**	**0.0279**	**1.3442**	**0.3546**	**0.0264**	**0.3810**		**2,141.5449**	**2,141.5449**	**0.0971**		**2,143.9715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1248	3.9875	0.9495	9.7800e-003	0.2432	0.0198	0.2630	0.0700	0.0189	0.0889		1,042.9041	1,042.9041	0.0655		1,044.5411
Worker	0.4343	0.2920	3.9247	0.0110	1.0731	8.1400e-003	1.0812	0.2846	7.5000e-003	0.2921		1,098.6408	1,098.6408	0.0316		1,099.4304
Total	**0.5591**	**4.2795**	**4.8742**	**0.0208**	**1.3163**	**0.0279**	**1.3442**	**0.3546**	**0.0264**	**0.3810**		**2,141.5449**	**2,141.5449**	**0.0971**		**2,143.9715**

3.6 Paving - 2020

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.2221					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5786**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0456	0.6132	1.7200e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		171.6626	171.6626	4.9400e-003		171.7860
Total	**0.0679**	**0.0456**	**0.6132**	**1.7200e-003**	**0.1677**	**1.2700e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**171.6626**	**171.6626**	**4.9400e-003**		**171.7860**

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.2221					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5786**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0456	0.6132	1.7200e-003	0.1677	1.2700e-003	0.1689	0.0445	1.1700e-003	0.0456		171.6626	171.6626	4.9400e-003		171.7860
Total	**0.0679**	**0.0456**	**0.6132**	**1.7200e-003**	**0.1677**	**1.2700e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**171.6626**	**171.6626**	**4.9400e-003**		**171.7860**

3.7 Architectural Coating - 2020

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	32.2183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**32.4605**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0860	0.0578	0.7768	2.1800e-003	0.2124	1.6100e-003	0.2140	0.0563	1.4800e-003	0.0578		217.4393	217.4393	6.2500e-003		217.5956
Total	**0.0860**	**0.0578**	**0.7768**	**2.1800e-003**	**0.2124**	**1.6100e-003**	**0.2140**	**0.0563**	**1.4800e-003**	**0.0578**		**217.4393**	**217.4393**	**6.2500e-003**		**217.5956**

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	32.2183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**32.4605**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0860	0.0578	0.7768	2.1800e-003	0.2124	1.6100e-003	0.2140	0.0563	1.4800e-003	0.0578		217.4393	217.4393	6.2500e-003		217.5956
Total	**0.0860**	**0.0578**	**0.7768**	**2.1800e-003**	**0.2124**	**1.6100e-003**	**0.2140**	**0.0563**	**1.4800e-003**	**0.0578**		**217.4393**	**217.4393**	**6.2500e-003**		**217.5956**

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	0.4877	2.5699	7.1660	0.0277	2.3049	0.0209	2.3258	0.6167	0.0195	0.6362		2,822.5393	2,822.5393	0.1265		2,825.7026
Unmitigated	0.4877	2.5699	7.1660	0.0277	2.3049	0.0209	2.3258	0.6167	0.0195	0.6362		2,822.5393	2,822.5393	0.1265		2,825.7026

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	252.92	252.92	252.92	1,083,961	1,083,961
Total	252.92	252.92	252.92	1,083,961	1,083,961

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
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
Parking Lot	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Unrefrigerated Warehouse-No Rail	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.8700e-003	0.0352	0.0296	2.1000e-004		2.6700e-003	2.6700e-003		2.6700e-003	2.6700e-003		42.2165	42.2165	8.1000e-004	7.7000e-004	42.4674
NaturalGas Unmitigated	3.8700e-003	0.0352	0.0296	2.1000e-004		2.6700e-003	2.6700e-003		2.6700e-003	2.6700e-003		42.2165	42.2165	8.1000e-004	7.7000e-004	42.4674

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					
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
Unrefrigerated Warehouse-No Rail	358.84	3.8700e-003	0.0352	0.0296	2.1000e-004		2.6700e-003	2.6700e-003		2.6700e-003	2.6700e-003		42.2165	42.2165	8.1000e-004	7.7000e-004	42.4674
Total		**3.8700e-003**	**0.0352**	**0.0296**	**2.1000e-004**		**2.6700e-003**	**2.6700e-003**		**2.6700e-003**	**2.6700e-003**		**42.2165**	**42.2165**	**8.1000e-004**	**7.7000e-004**	**42.4674**

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					
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
Unrefrigerated Warehouse-No Rail	0.35884	3.8700e-003	0.0352	0.0296	2.1000e-004		2.6700e-003	2.6700e-003		2.6700e-003	2.6700e-003		42.2165	42.2165	8.1000e-004	7.7000e-004	42.4674
Total		**3.8700e-003**	**0.0352**	**0.0296**	**2.1000e-004**		**2.6700e-003**	**2.6700e-003**		**2.6700e-003**	**2.6700e-003**		**42.2165**	**42.2165**	**8.1000e-004**	**7.7000e-004**	**42.4674**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	3.4006	3.3000e-004	0.0356	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0763	0.0763	2.0000e-004		0.0813
Unmitigated	3.4006	3.3000e-004	0.0356	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0763	0.0763	2.0000e-004		0.0813

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	0.3884					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0089					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.3100e-003	3.3000e-004	0.0356	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0763	0.0763	2.0000e-004		0.0813
Total	**3.4006**	**3.3000e-004**	**0.0356**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0763**	**0.0763**	**2.0000e-004**		**0.0813**

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	0.3884					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0089					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.3100e-003	3.3000e-004	0.0356	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004		0.0763	0.0763	2.0000e-004		0.0813
Total	**3.4006**	**3.3000e-004**	**0.0356**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**		**0.0763**	**0.0763**	**2.0000e-004**		**0.0813**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Santa Fe Springs Carmenita Road Warehouse

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	150.55	1000sqft	3.46	150,548.00	0
Parking Lot	198.00	Space	1.78	79,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction times are estimated.

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation -

Water Mitigation -

Grading - Total size of project site.

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	230.00	88.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	20.00
tblGrading	AcresOfGrading	11.00	6.50
tblGrading	MaterialExported	0.00	8,136.00
tblGrading	MaterialImported	0.00	2,322.00
tblLandUse	LandUseSquareFeet	150,550.00	150,548.00

2.0 Emissions Summary

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					
2020	0.9629	2.4669	1.8519	4.0500e-003	0.3281	0.1163	0.4445	0.1571	0.1085	0.2655	0.0000	362.4011	362.4011	0.0701	0.0000	364.1540
Maximum	**0.9629**	**2.4669**	**1.8519**	**4.0500e-003**	**0.3281**	**0.1163**	**0.4445**	**0.1571**	**0.1085**	**0.2655**	**0.0000**	**362.4011**	**362.4011**	**0.0701**	**0.0000**	**364.1540**

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					
2020	0.9629	2.4669	1.8519	4.0500e-003	0.1754	0.1163	0.2917	0.0741	0.1085	0.1825	0.0000	362.4009	362.4009	0.0701	0.0000	364.1537
Maximum	**0.9629**	**2.4669**	**1.8519**	**4.0500e-003**	**0.1754**	**0.1163**	**0.2917**	**0.0741**	**0.1085**	**0.1825**	**0.0000**	**362.4009**	**362.4009**	**0.0701**	**0.0000**	**364.1537**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.54**	**0.00**	**34.36**	**52.85**	**0.00**	**31.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	1.3599	1.3599
2	4-1-2020	6-30-2020	0.8497	0.8497
3	7-1-2020	9-30-2020	0.8313	0.8313
		Highest	1.3599	1.3599

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	0.6204	4.0000e-005	4.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.6500e-003	8.6500e-003	2.0000e-005	0.0000	9.2200e-003
Energy	7.1000e-004	6.4200e-003	5.3900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	202.8961	202.8961	8.2200e-003	1.8000e-003	203.6385
Mobile	0.0830	0.4877	1.2297	4.8500e-003	0.4119	3.8100e-003	0.4157	0.1104	3.5600e-003	0.1139	0.0000	447.9037	447.9037	0.0207	0.0000	448.4206
Waste						0.0000	0.0000		0.0000	0.0000	28.7273	0.0000	28.7273	1.6977	0.0000	71.1706
Water						0.0000	0.0000		0.0000	0.0000	11.0451	144.4381	155.4832	1.1404	0.0280	192.3433
Total	**0.7042**	**0.4941**	**1.2396**	**4.8900e-003**	**0.4119**	**4.3200e-003**	**0.4162**	**0.1104**	**4.0700e-003**	**0.1144**	**39.7724**	**795.2466**	**835.0190**	**2.8670**	**0.0298**	**915.5822**

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	0.6204	4.0000e-005	4.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.6500e-003	8.6500e-003	2.0000e-005	0.0000	9.2200e-003
Energy	7.1000e-004	6.4200e-003	5.3900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	202.8961	202.8961	8.2200e-003	1.8000e-003	203.6385
Mobile	0.0830	0.4877	1.2297	4.8500e-003	0.4119	3.8100e-003	0.4157	0.1104	3.5600e-003	0.1139	0.0000	447.9037	447.9037	0.0207	0.0000	448.4206
Waste						0.0000	0.0000		0.0000	0.0000	28.7273	0.0000	28.7273	1.6977	0.0000	71.1706
Water						0.0000	0.0000		0.0000	0.0000	9.3221	121.9058	131.2278	0.9625	0.0237	162.3377
Total	**0.7042**	**0.4941**	**1.2396**	**4.8900e-003**	**0.4119**	**4.3200e-003**	**0.4162**	**0.1104**	**4.0700e-003**	**0.1144**	**38.0493**	**772.7142**	**810.7636**	**2.6891**	**0.0255**	**885.5766**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.33**	**2.83**	**2.90**	**6.21**	**14.65**	**3.28**

3.0 Construction Detail

Construction Phase

Santa Fe Springs Carmenita Road Warehouse - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/31/2020	5	23	
2	Site Preparation	Site Preparation	2/1/2020	2/29/2020	5	20	
3	Grading	Grading	3/1/2020	3/31/2020	5	22	
4	Building Construction	Building Construction	4/1/2020	7/31/2020	5	88	
5	Paving	Paving	8/1/2020	8/31/2020	5	21	
6	Architectural Coating	Architectural Coating	9/1/2020	10/31/2020	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 6.5

Acres of Paving: 1.78

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 225,822; Non-Residential Outdoor: 75,274; Striped Parking Area: 4,752 (Architectural Coating – sqft)

OffRoad Equipment

Santa Fe Springs Carmenita Road Warehouse - South Coast AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
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
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Santa Fe Springs Carmenita Road Warehouse - South Coast AQMD Air District, Annual

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	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	804.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	230.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	96.00	38.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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	0.0381	0.3818	0.2502	4.5000e-004		0.0191	0.0191		0.0177	0.0177	0.0000	39.0984	39.0984	0.0110	0.0000	39.3743
Total	**0.0381**	**0.3818**	**0.2502**	**4.5000e-004**		**0.0191**	**0.0191**		**0.0177**	**0.0177**	**0.0000**	**39.0984**	**39.0984**	**0.0110**	**0.0000**	**39.3743**

3.2 Demolition - 2020

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	7.7000e-004	5.9000e-004	6.5300e-003	2.0000e-005	1.8900e-003	1.0000e-005	1.9100e-003	5.0000e-004	1.0000e-005	5.2000e-004	0.0000	1.7037	1.7037	5.0000e-005	0.0000	1.7050
Total	**7.7000e-004**	**5.9000e-004**	**6.5300e-003**	**2.0000e-005**	**1.8900e-003**	**1.0000e-005**	**1.9100e-003**	**5.0000e-004**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**1.7037**	**1.7037**	**5.0000e-005**	**0.0000**	**1.7050**

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	0.0381	0.3818	0.2502	4.5000e-004		0.0191	0.0191		0.0177	0.0177	0.0000	39.0984	39.0984	0.0110	0.0000	39.3743
Total	**0.0381**	**0.3818**	**0.2502**	**4.5000e-004**		**0.0191**	**0.0191**		**0.0177**	**0.0177**	**0.0000**	**39.0984**	**39.0984**	**0.0110**	**0.0000**	**39.3743**

3.2 Demolition - 2020

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	7.7000e-004	5.9000e-004	6.5300e-003	2.0000e-005	1.8900e-003	1.0000e-005	1.9100e-003	5.0000e-004	1.0000e-005	5.2000e-004	0.0000	1.7037	1.7037	5.0000e-005	0.0000	1.7050
Total	**7.7000e-004**	**5.9000e-004**	**6.5300e-003**	**2.0000e-005**	**1.8900e-003**	**1.0000e-005**	**1.9100e-003**	**5.0000e-004**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**1.7037**	**1.7037**	**5.0000e-005**	**0.0000**	**1.7050**

3.3 Site Preparation - 2020

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4307	33.4307	0.0108	0.0000	33.7010
Total	**0.0408**	**0.4242**	**0.2151**	**3.8000e-004**	**0.1807**	**0.0220**	**0.2026**	**0.0993**	**0.0202**	**0.1195**	**0.0000**	**33.4307**	**33.4307**	**0.0108**	**0.0000**	**33.7010**

3.3 Site Preparation - 2020

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	3.0900e-003	0.1128	0.0225	3.1000e-004	6.9100e-003	3.5000e-004	7.2700e-003	1.9000e-003	3.4000e-004	2.2400e-003	0.0000	30.3365	30.3365	2.0900e-003	0.0000	30.3888
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	8.0000e-004	6.2000e-004	6.8200e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7778	1.7778	5.0000e-005	0.0000	1.7791
Total	**3.8900e-003**	**0.1134**	**0.0293**	**3.3000e-004**	**8.8800e-003**	**3.7000e-004**	**9.2600e-003**	**2.4200e-003**	**3.5000e-004**	**2.7800e-003**	**0.0000**	**32.1143**	**32.1143**	**2.1400e-003**	**0.0000**	**32.1679**

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					0.0705	0.0000	0.0705	0.0387	0.0000	0.0387	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4306	33.4306	0.0108	0.0000	33.7009
Total	**0.0408**	**0.4242**	**0.2151**	**3.8000e-004**	**0.0705**	**0.0220**	**0.0924**	**0.0387**	**0.0202**	**0.0590**	**0.0000**	**33.4306**	**33.4306**	**0.0108**	**0.0000**	**33.7009**

3.3 Site Preparation - 2020

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	3.0900e-003	0.1128	0.0225	3.1000e-004	6.9100e-003	3.5000e-004	7.2700e-003	1.9000e-003	3.4000e-004	2.2400e-003	0.0000	30.3365	30.3365	2.0900e-003	0.0000	30.3888
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	8.0000e-004	6.2000e-004	6.8200e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7778	1.7778	5.0000e-005	0.0000	1.7791
Total	**3.8900e-003**	**0.1134**	**0.0293**	**3.3000e-004**	**8.8800e-003**	**3.7000e-004**	**9.2600e-003**	**2.4200e-003**	**3.5000e-004**	**2.7800e-003**	**0.0000**	**32.1143**	**32.1143**	**2.1400e-003**	**0.0000**	**32.1679**

3.4 Grading - 2020

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					0.0697	0.0000	0.0697	0.0368	0.0000	0.0368	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0267	0.2902	0.1766	3.3000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	28.6646	28.6646	9.2700e-003	0.0000	28.8964
Total	**0.0267**	**0.2902**	**0.1766**	**3.3000e-004**	**0.0697**	**0.0140**	**0.0837**	**0.0368**	**0.0129**	**0.0497**	**0.0000**	**28.6646**	**28.6646**	**9.2700e-003**	**0.0000**	**28.8964**

3.4 Grading - 2020

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	8.8000e-004	0.0323	6.4400e-003	9.0000e-005	1.9800e-003	1.0000e-004	2.0800e-003	5.4000e-004	1.0000e-004	6.4000e-004	0.0000	8.6784	8.6784	6.0000e-004	0.0000	8.6933
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	7.4000e-004	5.6000e-004	6.2500e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6297	1.6297	5.0000e-005	0.0000	1.6308
Total	**1.6200e-003**	**0.0328**	**0.0127**	**1.1000e-004**	**3.7900e-003**	**1.1000e-004**	**3.9000e-003**	**1.0200e-003**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**10.3080**	**10.3080**	**6.5000e-004**	**0.0000**	**10.3241**

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					0.0272	0.0000	0.0272	0.0144	0.0000	0.0144	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0267	0.2902	0.1766	3.3000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	28.6646	28.6646	9.2700e-003	0.0000	28.8964
Total	**0.0267**	**0.2902**	**0.1766**	**3.3000e-004**	**0.0272**	**0.0140**	**0.0412**	**0.0144**	**0.0129**	**0.0272**	**0.0000**	**28.6646**	**28.6646**	**9.2700e-003**	**0.0000**	**28.8964**

3.4 Grading - 2020

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	8.8000e-004	0.0323	6.4400e-003	9.0000e-005	1.9800e-003	1.0000e-004	2.0800e-003	5.4000e-004	1.0000e-004	6.4000e-004	0.0000	8.6784	8.6784	6.0000e-004	0.0000	8.6933
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	7.4000e-004	5.6000e-004	6.2500e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6297	1.6297	5.0000e-005	0.0000	1.6308
Total	**1.6200e-003**	**0.0328**	**0.0127**	**1.1000e-004**	**3.7900e-003**	**1.1000e-004**	**3.9000e-003**	**1.0200e-003**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**10.3080**	**10.3080**	**6.5000e-004**	**0.0000**	**10.3241**

3.5 Building Construction - 2020

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	0.0933	0.8442	0.7413	1.1800e-003		0.0492	0.0492		0.0462	0.0462	0.0000	101.9084	101.9084	0.0249	0.0000	102.5299
Total	**0.0933**	**0.8442**	**0.7413**	**1.1800e-003**		**0.0492**	**0.0492**		**0.0462**	**0.0462**	**0.0000**	**101.9084**	**101.9084**	**0.0249**	**0.0000**	**102.5299**

3.5 Building Construction - 2020

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	5.6000e-003	0.1784	0.0442	4.3000e-004	0.0105	8.7000e-004	0.0114	3.0400e-003	8.4000e-004	3.8800e-003	0.0000	41.1232	41.1232	2.7000e-003	0.0000	41.1906
Worker	0.0189	0.0145	0.1600	4.6000e-004	0.0463	3.6000e-004	0.0467	0.0123	3.3000e-004	0.0126	0.0000	41.7190	41.7190	1.2000e-003	0.0000	41.7489
Total	**0.0245**	**0.1929**	**0.2042**	**8.9000e-004**	**0.0569**	**1.2300e-003**	**0.0581**	**0.0154**	**1.1700e-003**	**0.0165**	**0.0000**	**82.8422**	**82.8422**	**3.9000e-003**	**0.0000**	**82.9396**

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	0.0933	0.8442	0.7413	1.1800e-003		0.0492	0.0492		0.0462	0.0462	0.0000	101.9083	101.9083	0.0249	0.0000	102.5298
Total	**0.0933**	**0.8442**	**0.7413**	**1.1800e-003**		**0.0492**	**0.0492**		**0.0462**	**0.0462**	**0.0000**	**101.9083**	**101.9083**	**0.0249**	**0.0000**	**102.5298**

3.5 Building Construction - 2020

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	5.6000e-003	0.1784	0.0442	4.3000e-004	0.0105	8.7000e-004	0.0114	3.0400e-003	8.4000e-004	3.8800e-003	0.0000	41.1232	41.1232	2.7000e-003	0.0000	41.1906
Worker	0.0189	0.0145	0.1600	4.6000e-004	0.0463	3.6000e-004	0.0467	0.0123	3.3000e-004	0.0126	0.0000	41.7190	41.7190	1.2000e-003	0.0000	41.7489
Total	**0.0245**	**0.1929**	**0.2042**	**8.9000e-004**	**0.0569**	**1.2300e-003**	**0.0581**	**0.0154**	**1.1700e-003**	**0.0165**	**0.0000**	**82.8422**	**82.8422**	**3.9000e-003**	**0.0000**	**82.9396**

3.6 Paving - 2020

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	0.0142	0.1477	0.1539	2.4000e-004		7.9000e-003	7.9000e-003		7.2700e-003	7.2700e-003	0.0000	21.0296	21.0296	6.8000e-003	0.0000	21.1997
Paving	2.3300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0166**	**0.1477**	**0.1539**	**2.4000e-004**		**7.9000e-003**	**7.9000e-003**		**7.2700e-003**	**7.2700e-003**	**0.0000**	**21.0296**	**21.0296**	**6.8000e-003**	**0.0000**	**21.1997**

3.6 Paving - 2020

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	7.0000e-004	5.4000e-004	5.9700e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.5556	1.5556	4.0000e-005	0.0000	1.5567
Total	**7.0000e-004**	**5.4000e-004**	**5.9700e-003**	**2.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.5556**	**1.5556**	**4.0000e-005**	**0.0000**	**1.5567**

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	0.0142	0.1477	0.1539	2.4000e-004		7.9000e-003	7.9000e-003		7.2700e-003	7.2700e-003	0.0000	21.0296	21.0296	6.8000e-003	0.0000	21.1996
Paving	2.3300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0166**	**0.1477**	**0.1539**	**2.4000e-004**		**7.9000e-003**	**7.9000e-003**		**7.2700e-003**	**7.2700e-003**	**0.0000**	**21.0296**	**21.0296**	**6.8000e-003**	**0.0000**	**21.1996**

3.6 Paving - 2020

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	7.0000e-004	5.4000e-004	5.9700e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.5556	1.5556	4.0000e-005	0.0000	1.5567
Total	**7.0000e-004**	**5.4000e-004**	**5.9700e-003**	**2.0000e-005**	**1.7300e-003**	**1.0000e-005**	**1.7400e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**1.5556**	**1.5556**	**4.0000e-005**	**0.0000**	**1.5567**

3.7 Architectural Coating - 2020

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	0.7088					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3300e-003	0.0370	0.0403	7.0000e-005		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	5.6172	5.6172	4.3000e-004	0.0000	5.6280
Total	**0.7141**	**0.0370**	**0.0403**	**7.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.4400e-003**	**2.4400e-003**	**0.0000**	**5.6172**	**5.6172**	**4.3000e-004**	**0.0000**	**5.6280**

3.7 Architectural Coating - 2020

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	1.8700e-003	1.4300e-003	0.0158	5.0000e-005	4.5900e-003	4.0000e-005	4.6200e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	4.1284	4.1284	1.2000e-004	0.0000	4.1314
Total	**1.8700e-003**	**1.4300e-003**	**0.0158**	**5.0000e-005**	**4.5900e-003**	**4.0000e-005**	**4.6200e-003**	**1.2200e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**4.1284**	**4.1284**	**1.2000e-004**	**0.0000**	**4.1314**

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	0.7088					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3300e-003	0.0370	0.0403	7.0000e-005		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	5.6172	5.6172	4.3000e-004	0.0000	5.6280
Total	**0.7141**	**0.0370**	**0.0403**	**7.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.4400e-003**	**2.4400e-003**	**0.0000**	**5.6172**	**5.6172**	**4.3000e-004**	**0.0000**	**5.6280**

3.7 Architectural Coating - 2020

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	1.8700e-003	1.4300e-003	0.0158	5.0000e-005	4.5900e-003	4.0000e-005	4.6200e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	4.1284	4.1284	1.2000e-004	0.0000	4.1314
Total	**1.8700e-003**	**1.4300e-003**	**0.0158**	**5.0000e-005**	**4.5900e-003**	**4.0000e-005**	**4.6200e-003**	**1.2200e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**4.1284**	**4.1284**	**1.2000e-004**	**0.0000**	**4.1314**

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	tons/yr										MT/yr					
Mitigated	0.0830	0.4877	1.2297	4.8500e-003	0.4119	3.8100e-003	0.4157	0.1104	3.5600e-003	0.1139	0.0000	447.9037	447.9037	0.0207	0.0000	448.4206
Unmitigated	0.0830	0.4877	1.2297	4.8500e-003	0.4119	3.8100e-003	0.4157	0.1104	3.5600e-003	0.1139	0.0000	447.9037	447.9037	0.0207	0.0000	448.4206

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	252.92	252.92	252.92	1,083,961	1,083,961
Total	252.92	252.92	252.92	1,083,961	1,083,961

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
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
Parking Lot	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Unrefrigerated Warehouse-No Rail	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	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	195.9067	195.9067	8.0900e-003	1.6700e-003	196.6075
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	195.9067	195.9067	8.0900e-003	1.6700e-003	196.6075
NaturalGas Mitigated	7.1000e-004	6.4200e-003	5.3900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9894	6.9894	1.3000e-004	1.3000e-004	7.0310
NaturalGas Unmitigated	7.1000e-004	6.4200e-003	5.3900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9894	6.9894	1.3000e-004	1.3000e-004	7.0310

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					
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
Unrefrigerated Warehouse-No Rail	130977	7.1000e-004	6.4200e-003	5.3900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9894	6.9894	1.3000e-004	1.3000e-004	7.0310
Total		**7.1000e-004**	**6.4200e-003**	**5.3900e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**6.9894**	**6.9894**	**1.3000e-004**	**1.3000e-004**	**7.0310**

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					
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
Unrefrigerated Warehouse-No Rail	130977	7.1000e-004	6.4200e-003	5.3900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9894	6.9894	1.3000e-004	1.3000e-004	7.0310
Total		**7.1000e-004**	**6.4200e-003**	**5.3900e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**6.9894**	**6.9894**	**1.3000e-004**	**1.3000e-004**	**7.0310**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	27720	8.8322	3.6000e-004	8.0000e-005	8.8638
Unrefrigerated Warehouse-No Rail	587137	187.0745	7.7200e-003	1.6000e-003	187.7438
Total		**195.9067**	**8.0800e-003**	**1.6800e-003**	**196.6075**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	27720	8.8322	3.6000e-004	8.0000e-005	8.8638
Unrefrigerated Warehouse-No Rail	587137	187.0745	7.7200e-003	1.6000e-003	187.7438
Total		**195.9067**	**8.0800e-003**	**1.6800e-003**	**196.6075**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.6204	4.0000e-005	4.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.6500e-003	8.6500e-003	2.0000e-005	0.0000	9.2200e-003
Unmitigated	0.6204	4.0000e-005	4.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.6500e-003	8.6500e-003	2.0000e-005	0.0000	9.2200e-003

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	0.0709					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.1000e-004	4.0000e-005	4.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.6500e-003	8.6500e-003	2.0000e-005	0.0000	9.2200e-003
Total	**0.6204**	**4.0000e-005**	**4.4600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.6500e-003**	**8.6500e-003**	**2.0000e-005**	**0.0000**	**9.2200e-003**

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	0.0709					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5491					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.1000e-004	4.0000e-005	4.4600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.6500e-003	8.6500e-003	2.0000e-005	0.0000	9.2200e-003
Total	**0.6204**	**4.0000e-005**	**4.4600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.6500e-003**	**8.6500e-003**	**2.0000e-005**	**0.0000**	**9.2200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	131.2278	0.9625	0.0237	162.3377
Unmitigated	155.4832	1.1404	0.0280	192.3433

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	34.8147 / 0	155.4832	1.1404	0.0280	192.3433
Total		**155.4832**	**1.1404**	**0.0280**	**192.3433**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	29.3836 / 0	131.2278	0.9625	0.0237	162.3377
Total		**131.2278**	**0.9625**	**0.0237**	**162.3377**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	28.7273	1.6977	0.0000	71.1706
Unmitigated	28.7273	1.6977	0.0000	71.1706

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	141.52	28.7273	1.6977	0.0000	71.1706
Total		**28.7273**	**1.6977**	**0.0000**	**71.1706**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	141.52	28.7273	1.6977	0.0000	71.1706
Total		**28.7273**	**1.6977**	**0.0000**	**71.1706**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Air District
Region: SOUTH COAST AQMD
Calendar Year: 2019
Season: Summer
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HT

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips
SOUTH CO	2019	LHD2	Aggregatec	Aggregatec	DSL	39171.17	1600204	492724

SK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

ROG_RUNE	ROG_IDLEX	ROG_STRE	ROG_HOTS	ROG_RUNL	ROG_RESTI	ROG_DIUR	TOG_RUNE	TOG_IDLEX
0.082058	0.10976	0	0	0	0	0	0.093417	0.124954

TOG_STRE	TOG_HOTS	TOG_RUNL	TOG_RESTI	TOG_DIURI	CO_RUNEX	CO_IDLEX	CO_STREX	NOx_RUNE
0	0	0	0	0	0.46817	0.909745	0	2.052048

NOx_IDLEX	NOx_STRE	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	PM10_RUN
2.347949	0	538.7381	220.2522	0	0.003811	0.005098	0	0.019088

PM10_IDLE	PM10_STR	PM10_PMT	PM10_PME	PM2_5_RU	PM2_5_IDI	PM2_5_STI	PM2_5_PM	PM2_5_PM
0.02834	0	0.012	0.08918	0.018262	0.027114	0	0.003	0.03822

SOx_RUNE	SOx_IDLEX	SOx_STREX	N2O_RUNE	N2O_IDLEX	N2O_STREX
0.005093	0.002082	0	0.084682	0.034621	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Air District
Region: SOUTH COAST AQMD
Calendar Year: 2019
Season: Summer
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	ROG_RUNE	ROG_IDLE	ROG_STRE	ROG_HOTS
SOUTH CO	2019	T7 single c	Aggregatec	Aggregatec	DSL	7365.488	512176.4	33299.08	0.278745	1.897742	0	0

and DIURN

ROG_RUNL	ROG_RESTI	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNL	TOG_RESTI	TOG_DIURI	CO_RUNEX	CO_IDLEX	CO_STREX
0	0	0	0.31733	2.160434	0	0	0	0	0	1.061113	14.59288	0

NOx_RUNE	NOx_IDLEX	NOx_STRE	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PMT
6.292809	26.13273	2.127845	1543.254	3273.996	0	0.012947	0.088145	0	0.157637	0.131369	0	0.036

PM10_PMI	PM2_5_RU	PM2_5_IDI	PM2_5_STI	PM2_5_PM	PM2_5_PM	SOx_RUNE	SOx_IDLEX	SOx_STREX	N2O_RUNE	N2O_IDLE	N2O_STREX
0.06174	0.150818	0.125686	0	0.009	0.02646	0.01458	0.030931	0	0.242578	0.514627	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Air District
Region: SOUTH COAST AQMD
Calendar Year: 2019
Season: Summer
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUI

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	ROG_RUNE
SOUTH CO	2019	T7 POLA	Aggregatec	Aggregatec	DSL	13241.84	1584533	100638	0.207772

NLS, g/vehicle/day for IDLEX, RESTL and DIURN

ROG_IDLE	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_RESTI	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS
3.29435	0	0	0	0	0	0.236533	3.750367	0	0

TOG_RUNI	TOG_RESTI	TOG_DIURI	CO_RUNEX	CO_IDLEX	CO_STREX	NOx_RUNE	NOx_IDLEX	NOx_STRE	CO2_RUNE
0	0	0	0.668619	31.00664	0	5.435014	58.99676	0.980529	1722.067

CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PMT	PM10_PMI
9695.027	0	0.00965	0.153014	0	0.040551	0.017291	0	0.036	0.06174

PM2_5_RU	PM2_5_IDI	PM2_5_STI	PM2_5_PM	PM2_5_PM	SOx_RUNE	SOx_IDLEX	SOx_STREX	N2O_RUNE	N2O_IDLEX
0.038797	0.016543	0	0.009	0.02646	0.016269	0.091594	0	0.270685	1.523923

N2O_STREX
0

APPENDIX B
PHASE I

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Phase I Environmental Site Assessment and Document Review

Univar USA Inc. Facility
13900 Carmenita Road
Santa Fe Springs, California

Prepared for:
Bridge Acquisition, LLC
1600 East Franklin Avenue, Suite D
El Segundo, California 90245

Prepared by:
Ardent Environmental Group, Inc.
1827 Capital Street, Suite 103
Corona, California 92880

December 21, 2018
Project No. 101026001

ARDENT
ENVIRONMENTAL GROUP, INC.

December 21, 2018
Project No. 101026001

Mr. Kevin Finnegan
Bridge Acquisition, LLC
1600 East Franklin Avenue, Suite D
El Segundo, California 90245

Subject: **Phase I Environmental Site Assessment and Document Review**
Univar USA Inc. Facility
13900 Carmenita Road
Santa Fe Springs, California

Dear Mr. Finnegan:

Ardent Environmental Group, Inc. (Ardent) has performed a Phase I Environmental Site Assessment (ESA) and Document Review for the Univar USA Inc. Facility located at 13900 Carmenita Road in the city of Santa Fe Springs, California (site). Work was conducted in general accordance with the proposal dated July 31, 2018 between Bridge Acquisition, LLC (Bridge) and Ardent. Bridge is considering purchasing the site for commercial redevelopment. The attached report presents our methodology, findings, opinions, and conclusions regarding the environmental conditions at the site. We appreciate the opportunity to be of service on this project. If there are any questions, please feel free to call the undersigned at your convenience.

Sincerely,
Ardent Environmental Group, Inc.

Heidi Heggeness
Senior Staff Geologist

Paul A. Roberts, P.G.
Principal Geologist

PAR/HH/nw

Distribution: (1) Addressee (electronic copy)

1827 Capital Street, Suite 103 • Corona, CA 92880 • (951) 736-5334 • www.ardentenv.com

13900 Carmenita Road
Santa Fe Springs, California

December 21, 2018
Project No. 101026001

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13900 Carmenita Road
Santa Fe Springs, California

December 21, 2018
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EXECUTIVE SUMMARY

Ardent Environmental Group, Inc. (Ardent) was retained by Bridge Acquisition, LLC (Bridge) to perform a Phase I Environmental Site Assessment (ESA) and Document Review for the Univar USA Inc. (Univar) Facility located at 13900 Carmenita Road in the city of Santa Fe Springs, California (site). Prior to the 1950s, the site was used for agricultural purposes. In 1959, Chemcentral Corporation (Chemcentral), or it predecessors, developed the property as a chemical mixing and distribution plant. Univar continued these activities following acquisition of Chemcentral in 2007. Petroleum hydrocarbon and volatile organic compound (VOC) impacted soil and groundwater exists at the site. Some of the groundwater contaminants are associated with the Golden West Refinery that was formerly located immediately upgradient from the site. In the early-2000s, the Golden West Refinery was decommissioned and the property was subsequently redeveloped with commercial warehouse buildings.

Bridge is considering purchasing the site for commercial redevelopment. Univar and Chevron (current owners of the Golden West Refinery property) will retain the responsibility to mitigate impacted groundwater, while Bridge will be responsible to remediate impacted soil. Site assessment activities for this report were conducted between August 2, 2018 and September 18, 2018.

The following is a summary of the results of the Phase I ESA:

- From at least 1928 through 1938, the site was vacant land. In 1947, the western portion of the site may have been used for residential purposes. In 1952 and 1954, at least 19 small, apparently residential, bunkhouses were noted on the site, possible associated with the surrounding agricultural land use or for employees of the nearby Golden West Refinery. Some additional similar looking structures were also located on the property immediately south of the site. In 1959, the site was developed by Chemcentral, or its predecessors, as a chemical bulk storage, blending, and distribution facility. Chemicals were reportedly transported to the site by railcar via on on-site rail spur located in the northern portion of the property and distributed by trucks and/or rail. The chemicals, including alcohols, ketones, aliphatic and aromatic hydrocarbons, solvents, glycol ether, surfactants, and plasticizers, were stored in clustered underground storage tanks (USTs) and aboveground storage tanks (ASTs) located in the northwestern portion of the site. In 1998, the site was modernized which included removal of the old USTs and ASTs and replaced with a new plant building and aboveground chemical storage facility located in the southeastern portion of the site. In 2007, Univar acquired Chemcentral and continued similar operations at the site.
- Based on numerous investigations completed at the site, groundwater has been encountered beneath the property in a shallow semi-perched groundwater zone and in a deeper groundwater aquifer. Shallow groundwater has been measured in on-site wells at

depths of approximately 16 to 34 feet below the ground surface (bgs) within a groundwater zone referred to by others as the Semi-Perched Aquifer. This groundwater zone is noted in groundwater wells located in the northwestern portion of the site, but is not observed in wells located in the southern and eastern portion of the site. Based on this information, the Semi-Perched Aquifer is considered discontinuous throughout the site. The next groundwater bearing zone is located at depths of approximately 72 to 83 feet bgs within the Artesia Aquifer. Groundwater monitoring activities completed in these zones have discovered free product (aka light non-aqueous phase liquids [LNAPLs]) at thickness of up to 6 feet in the Semi-Perched Aquifer and up to 12 feet thick in the Artesia Aquifer. Dissolved phase petroleum hydrocarbons and VOCs have been reported in both water bearing zones. Groundwater investigations and future remediation will be completed under the direction and oversight of the California Regional Water Quality Control Board, Los Angeles Region (RWQCB) and as directed in Cleanup and Abatement Orders (CAOs) issued to both Univar and Golden West Refinery.

- Prior to 1998, the chemical mixing and distribution plant was located in the western and northern portion of the site. The operations included 88 USTs and three ASTs clustered in the northwestern corner of the site. This portion of the site also included a Former Drum Cleaning Area, Former Spill Prevention Containment Container (SPCC) Tank, two clarifiers, a Former Drum Filling Area, and Former Blending Tanks. Two Former Fuel Tanks were located south of the main plant building (referred to as Warehouse 1 and 2, and Former Loading Dock A). During this time, chemicals were delivered to the site by railcar along the northern property line, and distributed by trucks and/or rail. In 1998, Chemcentral decided to modernize the plant by replacing the chemical storage USTs with the Current AST Area and expanding the plant into the southeastern portion of the site. The old Former Drum Filling Area, Former Blending Tanks, Former Drum Cleaning Area, and Former SPCC Tank were replaced with new modernized systems in the southeastern portion of the new plant building.
- Extensive soil investigations related to the former plant operations were completed in 1999 and 2000. In preparation of soil remediation and after removal of the clustered USTs in the Former UST area, horizontal and vertical soil vapor extraction (SVE) wells were installed. However, due to the discovery of free product beneath the site and the complications of comingling groundwater plumes from the Golden West Refinery, soil remediation was postponed until groundwater responsibility could be determined. Univar and Chevron, current owners of the Golden West Refinery property, are in negotiations to mitigate impacted groundwater beneath the site. In 2014, the site was issued a CAO from the RWQCB to mitigate soil and groundwater.
- The two Former Fuel Tanks were removed from the site in 1995 under the direction and oversight of the Los Angeles County Department of Public Works (LACDPW). Following removal, confirmation soil samples were collected beneath the USTs and the associated fuel dispenser, which was reportedly located immediately adjacent to the tanks. Laboratory results of soil samples collected beneath the USTs indicated no detectable to low concentrations of petroleum hydrocarbons. However, petroleum hydrocarbon impacted soil was detected directly beneath the fuel dispenser which was subsequently excavated to a depth of approximately 11 feet bgs. Laboratory results of a confirmation soil sample collected at this depth reportedly contained concentrations of total petroleum hydrocarbons as diesel (TPHd) at 22,000 milligram per kilogram (mg/kg). It should be noted that in later years, the Certified Unified Program Agency (CUPA) for UST removal

changed from the LACDPW to the City of Santa Fe Springs Fire Department (SFSFD). According to representatives at the LACDPW, this case was transferred to either the SFSFD or the RWQCB. During Ardent's review of regulatory file information at the SFSFD, RWQCB, and LACDPW, no case closure documentation or UST removal reports were noted regarding this former release. The information discussed above was obtained from an environmental summary report provided by Univar. Based on this information, the Former Fuel Tanks apparently are considered an open case, and therefore, would be considered a recognized environmental condition (REC).

- Ardent reviewed the previous soil data and compared the results to current regulatory screening levels for the protection of human health. Based on its evaluation, a number of areas of soil contamination exists at the site. These areas are related to former chemical handling, storage, and processing completed prior to 1998. These areas would be considered RECs and are planning to be mitigated under the RWQCB CAO discussed above. The known areas of concern with impacted soil include the following.
  - Railroad Spur along the northern property line;
  - Former Loading Dock A, Former Drum Filling Area, and Former Blend Tanks;
  - Former UST Area and Former ASTs;
  - Former Drum Cleaning Area;
  - Former Fuel Tanks;
  - Two and Possibly Three Former Clarifiers (referred to herein as "Clarifiers A, B, and C");
  - Former SPCC Tank; and
  - 1960 Spray Booth.
- As noted above, the plant was modernized in 1998 and expanded to the southeastern portion of the site. No environmental investigations have been completed in this newer portion of the plant. Based on our site reconnaissance and other information obtained during completion of this Phase I ESA, the following areas of possible environmental concern were identified. These areas would also be considered RECs.
  - **Current AST Area** – This area is located in the southeastern portion of the site and consists of 64 ASTs used to store hundreds of thousands of gallons of chemicals. Chemicals delivered to the site by railcars and tanker trucks are transferred to the ASTs through aboveground piping. The Current AST Area is concrete-lined and equipped within secondary containment.
  - **Former Drum Wash Rack and Drying Area** - This area, located within the Drum Storage Area, was formerly used to wash, dry, and paint 55-gallon drums. The paint spray booth, referred to herein as the "2001 Spray Booth," was reportedly permitted in 2001 and was not noted during Ardent's site reconnaissance. This feature was reportedly located in the vicinity of the Former Drum Wash Rack and Drying Area. The drum wash rack and drying area were still present, but were not used. Due to the possible use of paints and solvents in this area, the Former Drum Wash Rack and Drying Area would be considered an environmental concern to the site.

- **Three-Stage Clarifier** – This feature is located immediately south of the Current AST Area and was previously utilized to treat wastewater associated with the Former Drum Wash Rack discussed above.
- **SPCC and Transfer Pump** – These areas are located immediately west of the Current UST Area. The Transfer Pump area is used to load and unload chemicals from tanker trucks. During transfer of chemicals, the tanker trucks are staged within the SPCC area. The SPCC area is a concrete-lined, bermed area used to contain accidental spillage. Floor drains within the SPCC area transfer chemical spills to a large concrete-lined Containment Pond located in the southwestern portion of the site. A number of releases have been reported in this area, namely a 2012 incident in which 1,700-gallons of acetone was released due to an overfilled tanker truck.
- **Containment Pond** – This area is located in the southwestern portion of the site and used for containing stormwater runoff and emergency spill containment from various areas throughout the site.
- **Pump House** – This feature is located immediately west of the Current AST Area and is utilized for mixing, pumping and filling smaller containers with solvent based chemicals. The Pump House contains the White Room which is utilized for mixing, pumping, and filling smaller containers with food-grade chemicals.
- **Floor Drains** – A number of floor drains were observed in areas throughout the site including Covered Dock No. 1, Covered Dock No. 2, Current AST Area, Drum Storage Area, SPCC area, and Transfer Pump. These floor drains transfer wastes to the Containment Pond.
- **Warehouse 1 and 2** – These warehouses were constructed in 1959 and 1964 and were reportedly used to store and distribute chemicals. Although no reported chemical mixing or transferring activities were noted in these buildings during Ardent's site reconnaissance, due to the longevity of chemical handling in these buildings and the fact that no investigations have been conducted to-date, these areas would be considered a possible environmental concern to the site.
- **Former 1960 Spray Booth** – A spray booth was located immediately east of the Former Drum Filling Area. The spray booth, herein referred to as the "Former 1960 Spray Booth", was permitted between at least 1960 and 1982. Based on the utilization of chlorinated solvents throughout the site during this time, this feature would be considered an environmental concern to the site. Although this feature has not been specifically targeted during previous investigations, it lies within the Former Loading Dock A which has undergone extensive investigations. Based on this information, no further investigations would be needed in the vicinity of this former feature.

- Based on the age of the older buildings (i.e. Warehouse 1, Warehouse 2, and the Office Building constructed between 1959 and 1964), asbestos containing building materials (ACMs) and lead-based paint (LBP) may be present. Based on the age of the remaining buildings (constructed after 1998), friable ACMs and LBP are not likely present.
- No other on- or off-site environmental concerns were noted.

Ardent has performed this Phase I ESA and Document Review in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-13, ASTM Practice E 2600-15, and the EPA Standards and Practices for All Appropriate Inquires (AAI), Final Rule (40 CFR, Part 312), for the Univar USA Inc. Facility located at 13900 Carmenita in Santa Fe Springs, California. Any limitations or exceptions encountered during completion of this report are stated in Section 1.4. Based on the information received to date, no evidence or indication of RECs, historic-RECs (HRECs), controlled-RECs (CRECs), or conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the subject property has been revealed, with the exception of the following.

HRECs

No HRECs were identified during completion of this investigation.

RECs

The following RECs have been identified at the site:

- Railroad Spur along the northern property line;
- Former Loading Dock A, Former Drum Filling Area, and Former Blend Tanks;
- Former UST Area and Former ASTs;
- Former Drum Cleaning Area;
- Former Fuel Tanks;
- Two and Possibly Three Former Clarifiers (Clarifiers A, B, and C)
- Former SPCC Tank
- 1960 Spray Booth
- Current AST Area
- Former Drum Wash Rack and Drying Area
- Three-Stage Clarifier
- SPCC and Transfer Pump
- Containment Pond
- Pump House
- SPCC
- Transfer Pump
- Floor Drains

- Warehouse 1 and 2

CRECs

No CRECs were identified during completion of this investigation.

Other Environmental Considerations

Although not considered a REC in accordance with ASTM Standards, ACMs and LBP are likely present.

Based on the results of this Phase I ESA, Ardent presents the following recommendations.

- A comprehensive soil investigation should be completed in specific areas of the site to fill in data gaps from previous investigations and to investigate the newly identified environmental concerns presented in this Phase I ESA. The data will be used to assess the area and volume of shallow impacted soil that will be encountered during grading and redevelopment. Prior to mass grading, shallow impacted soil (less than 5 feet bgs) should be excavated and removed from the site. Deep impacted soil will likely be remediated after site redevelopment with in-situ treatment, such as SVE.
- The lead regulatory agency for the closure of the Former Fuel Tanks should be determined and case closure should be obtained. This might include completing additional investigations and/or remediation of the petroleum hydrocarbon impacted soils.
- The existing Three-Stage Clarifier should be removed under the direction and oversight of the local CUPA and in accordance with current regulatory guidelines.
- Following acquisition, Bridge should notify the RWQCB of its purchase and planned redevelopment/remedial actions as per the current CAO.
- Prior to demolition, a comprehensive asbestos and LBP survey should be completed. If present, ACMs and/or LBP should be removed (ACMs) or stabilized (LBP) prior to demolition activities.
- A Soil Management Plan (SMP) should be prepared for use during shallow soil remediation, grading, and redevelopment activities.
- A vapor barrier should be installed beneath the future building for precautionary measures.

1. INTRODUCTION

Ardent Environmental Group, Inc. (Ardent) was retained by Bridge Acquisition, LLC (Bridge) to perform a Phase I Environmental Site Assessment (ESA) and Document Review for the Univar USA Inc. (Univar) Facility located at 13900 Carmenita Road in the city of Santa Fe Springs, California (site; Figure 1). Work was conducted in general accordance with the proposal dated July 31, 2018 between Bridge and Ardent. Prior to the 1950s, the site was used for agricultural purposes. In 1959, Chemcentral Corporation (Chemcentral), or its predecessors, developed the property as a chemical mixing and distribution plant. Univar continued these activities following acquisition of Chemcentral in 2007. Petroleum hydrocarbon and volatile organic compound (VOC) impacted soil and groundwater exists at the site. Some of the groundwater contaminants are associated with the Golden West Refinery that was formerly located immediately upgradient from the site. In the early-2000s, the Golden West Refinery was decommissioned and the property was subsequently redeveloped with commercial warehouse buildings.

Bridge is considering purchasing the site for commercial redevelopment. Univar and Chevron (current owner of the Golden West Refinery property) will retain the responsibility to mitigate impacted groundwater, while Bridge will be responsible to remediate impacted soil. The following sections identify the purpose, involved parties, scope of work, and limitations and exceptions associated with the Phase I ESA.

1.1. Purpose of Phase I ESA

In accordance with the American Society for Testing and Materials (ASTM) E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM Standard E 1527-13), the objective of the Phase I ESA was to identify, to the extent feasible pursuant to ASTM Standard E 1527-13, recognized environmental conditions (RECs), which are defined by ASTM as "…the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."

The United States Environmental Protection Agency ("USEPA" or "EPA") has stated that ASTM Standard E 1527-13, is consistent with the Standards and Practices for All

Appropriate Inquires (AAI), Final Rule (40 Code of Federal Regulations [CFR], Part 312) and is compliant with the statutory criteria for all appropriate inquires. All appropriate inquires, as defined in the AAI Final Rule, must be conducted by persons seeking the landowner liability protections under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) prior to acquiring a property or seeking or receiving federal Brownfields grants under the authorities of CERCLA. The purpose of AAI, as defined in the AAI Final Rule, was to identify releases and threatened releases of hazardous substances which cause or threaten to cause the incurrence of response costs.

As part of this Phase I ESA, Ardent also assessed whether a vapor encroachment condition (VEC) exists at the site. The VEC assessment was completed following the ASTM E 2600-15 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions (ASTM Standard E 2600-15). The objective of this work was to evaluate the possibility that hazardous materials or other adverse environmental conditions are present due to past or present use of the site and/or properties in the site vicinity.

1.2. Involved Parties

Ms. Heidi Heggeness of Ardent conducted the historical research, site reconnaissance, regulatory inquiries, and document review. Mr. Paul Roberts of Ardent completed project oversight and review. Mr. Roberts meets the definition of an *environmental professional* as set forth in the AAI Final Rule.

1.3. Scope of Work

Ardent's scope of work for this Phase I ESA is consistent with ASTM Standard E1527-13 and included the activities listed below.

- **Review of User Provided Information** – Review of information regarding title and judicial records for environmental liens or activity and use limitations, recorded environmental liens, actual or specialized knowledge or commonly known information regarding environmental conditions at the site, the relationship of the purchase price of the property to the fair market value, readily available maps, environmental reports, and other environmental documents pertaining to the site, as available and obtained from the user/client.
- **Records Review** – Acquisition and review of records, including federal, state, tribal, and local regulatory agency databases, for the site and for properties located within a specified radius of the site; local regulatory agency files for the site and selected nearby

properties of potential environmental concern; physical setting sources, including topographic maps, geologic maps, and geologic and hydrogeologic reference documents; and historic land use information including aerial photographs, historical fire insurance rate maps, building department records, and city directories, as necessary, that are reasonably ascertainable, publicly available, can be obtained within reasonable time and cost, and are practically reviewable.

- **Vapor Encroachment Condition (VEC)** – Review available regulatory and client provided data to assess Tier 1 non-numeric screening for the site. Ardent evaluated whether contaminants were present in soil and/or groundwater in the site vicinity which might pose a VEC at the site.

- **Site Reconnaissance** – Performance of a site reconnaissance to visually observe the site and any structure(s) located on the site to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles. The purpose of the site reconnaissance is to obtain information indicating the likelihood of identifying RECs in connection with the site, including the general site setting, site usage, use and storage of hazardous materials and petroleum products, disposal of waste products and materials, sources of polychlorinated biphenyls (PCBs), and evidence of releases and possible risks of contamination from activities at adjacent properties.
- **Interviews** – Interviews with site representatives, including owners, occupants, and site managers, regarding the environmental condition of the site to the extent necessary and such persons are available. Interviews with state and/or local government officials as necessary.
- **Report** – Evaluation of the information and data obtained by the Phase I ESA process outlined above and preparation of this Phase I ESA report documenting findings and providing opinions and conclusions regarding possible environmental impacts and RECs at the site.

1.4. Limitations and Exceptions

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ardent should be contacted if the reader requires any additional information or has questions regarding the content, interpretations presented, or completeness of this document.

The findings, opinions, and conclusions are based on an analysis of the observed site conditions and the referenced literature. It should be understood that the conditions of a site can change with time as a result of natural processes or the activities of man at the

subject property or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ardent has no control. Ardent cannot warrant or guarantee that not finding indicators of any particular hazardous material means that this particular hazardous material or any other hazardous materials do not exist on the site. Additional research, including invasive testing, can reduce the uncertainty, but no techniques now commonly employed can eliminate the uncertainty altogether.

1.5. Special Terms and Conditions

As indicated in Section 13.1.5 of ASTM Standard E 1527-13, the following, which is not intended to be all inclusive, represents out-of-scope items with respect to a Phase I ESA: asbestos-containing materials (ACMs), radon, lead-based paint (LBP), lead in drinking water, wetlands, regulatory compliance, cultural and historic risk, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment, biological agents, and mold. As part of our agreement with the client, Ardent visually assessed site buildings (if present) for possible ACMs, LBP, and mold. In addition, ASTM Standard E 2600-15 supplements the ASTM Standard E 1527-13 to include evaluation of VEC using Tier 1 screening.

This study did not include an evaluation of geotechnical conditions or potential geologic hazards. In addition, Ardent did not address interpretations of zoning regulations, building code requirements, or property title issues.

1.6. User Reliance

This report may be relied upon and is intended exclusively for use by the client, its partners, members, investors, affiliates, successors and assigns, and lenders. Any use or reuse of the findings, opinions, and/or conclusions of this report by parties other than the foregoing parties is undertaken at said parties' sole risk.

1.7. Physical Limitations

There were no physical limitations encountered during the site visit.

1.8. Data Gaps

No significant data gaps were noted during the preparation of this Phase I ESA report.

2. GENERAL SITE CHARACTERISTICS

The following sections describe the location and the current uses of the site and adjacent properties. A site location map is presented as Figure 1, a site vicinity map is presented as Figure 2, and a site layout is presented as Figure 3. Selected photographs of the site and surrounding properties are provided in Appendix A.

2.1. Location and Legal Description

The site is located at 13900 Carmenita Road in the city of Santa Fe Springs, California (Figure 2). Documentation obtained in regulatory files indicated a historical site address of 13820 Carmenita Road. Both current and historical addresses were used during regulatory requests for file reviews. The Tax Assessor Parcel Numbers (APNs) assigned to the property are 8059-004-054 and 8059-004-031. The site description is provided in the Preliminary Title Report presented in Appendix B.

The site is bounded by railroad tracks to the north, Carmenita Road to the west, a commercial warehouse building to the south, and a lumber yard to the east (Figure 2). Site boundary information was provided during the site reconnaissance and information provided by the client.

2.2. Site Description and Current Site Uses/Operations

The following paragraphs present a description of the structures present at the site, the current occupant of the site, the activities being conducted on-site, the heating and cooling systems utilized in the site buildings, the sewage disposal system, and the potable water provider for the site, if any.

2.2.1. Site Description

The site is a rectangular-shaped property that comprises approximately 6.4 acres.

2.2.2. Occupants

The site building is occupied by Univar, a chemical mixing and distribution plant.

2.2.3. Heating and Cooling Systems

Heating and cooling systems are powered by electricity and/or natural gas which are provided by local utility providers.

2.2.4. Sewage Disposal/Septic Systems

The site buildings are connected to the municipal sewer system. On-site septic systems, such as septic tanks and leach fields, were not observed during our site reconnaissance or historically reported for the site.

2.2.5. Potable Water

Potable water is supplied by the local water purveyor.

2.3. Adjacent Properties

In general, the site vicinity is used for industrial and commercial purposes (Figure 2). Immediately north of the site are railroad tracks, followed by a commercial building occupied by ACTenviro, a hazardous waste disposal and environmental management company (Figure 2). Immediately east of the site is Huff Lumber Company, a lumberyard (Figure 2). Immediately south of the site is a commercial warehouse building. Immediately west of the site is Carmenita Road, followed by California Box Company, a manufacturer and distributor of cardboard boxes, and American Polymers, a manufacturer of polymer products (Figure 2).

No aboveground storage tanks (ASTs), evidence of underground storage tanks (USTs), or possible hazardous materials or wastes were noted being stored by off-site facilities along the site property line.

3. USER PROVIDED INFORMATION

The following sections summarize information provided by the user to assist the environmental professional in identifying the possibility of RECs in connection with the site, and to fulfill the user's responsibilities in accordance with Section 6 of ASTM Standard E 1527-13. A copy of the user questionnaire is presented in Appendix B. The questionnaire was completed by Mr. Kevin Finnegan of Bridge.

3.1. Current Title Information

A Preliminary Title Report dated November 14, 2018 and prepared by First American Title Insurance Company was provided by Bridge for review. According to the preliminary title report, the site is owned by "Univar USA Inc., a Washington corporation, successor in interest by merger with Chemcentral Corporation, an Illinois corporation, successor in interest by merger with Chemcentral Pacific Corporation, an Illinois corporation." A copy of the Preliminary Title Report is included in Appendix B.

3.2. Environmental Liens or Activity and Use Limitations

Our review of the provided Preliminary Title Report did not reveal records of environmental liens or activity and use limitations (AULs) associated with the site. In addition, Mr. Finnegan was not aware of environmental liens or AULs against the site that are filed or recorded under federal, state, or local law.

As noted herein, the site will undergo soil and groundwater remediation in the near future. It is anticipated that cleanup values will be based on industrial/commercial guidelines, and therefore, future land use restrictions will likely be required by regulatory agencies.

3.3. Specialized Knowledge

Mr. Finnegan indicated that, for purposes of this assessment, Bridge has no specialized knowledge or experience pertaining to the site or the adjacent properties that is material to RECs in connection with the subject property.

3.4. Commonly Known or Reasonably Ascertainable Information

Mr. Finnegan indicated that the client was not aware of commonly known or reasonably ascertainable information pertaining to the site that is material to RECs in connection with the subject property.

3.5. Valuation Reduction for Environmental Issues

In a transaction involving the purchase of a parcel of commercial real estate, the user shall consider the relationship of the purchase price of the property to fair market value of the property if the property was not affected by hazardous substances or petroleum products. Mr. Finnegan reported that the purchase price of the property reflects fair market value.

3.6. Reason for Performing Phase I ESA

This Phase I ESA is being completed as part of Bridge's environmental due diligence for the purchase of the site.

3.7. Other User Provided Information

The client provided Ardent a number of environmental reports for the site as well as the Golden West Refinery. Ardent also obtained additional reports from regulatory agency files, such as the State Water Resources Control Board (SWRCB) GeoTracker website. The following presents a review of the key reports. A complete list of available reports is provided in Appendix C.

3.7.1. Golden West Refinery

The following presents the historical land use of the Golden West Refinery property, the results of the initial investigations and chemicals of concern, the negotiated cleanup goals, and the results of the property redevelopment and current regulatory status.

3.7.1.1. Background

Golden West Refining Company and its predecessors owned and operated an oil refinery located at 13539 East Foster Road in the city of Santa Fe Springs, California. The refinery was built in the 1930s by the Wilshire Oil Company. In 1960, the facility was sold to Gulf Oil Corporation who continued the refinery operations until 1983. Golden West Refining Company purchased the property from Gulf Oil Corporation in August 1983. In February 1992, crude oil processing were ceased, the buildings and structures demolished, and the property was commercially redeveloped.

The facility refined crude oil into various fuels. The refinery had four principal areas, the Process Unit Area, West Tank Farm, Marketing Area, and South Tank Farm (Figure 2). Crude oil was refined in the Process Unit Area mainly into fuel oil such as diesel, gasoline or propane. The South and West Tank Farms were used to store and blend crude oils, intermediate products, and finished products. Loading and inventory of finished products took place in the Marketing Area. Golden West Refining Company and/or its predecessors have released pollutants, primary petroleum hydrocarbons, VOCs, and metals into soil with some pollutants migrating to groundwater. Some free phase petroleum hydrocarbons have been detected in the

semi-perched groundwater zone (referred to by others as the "Semi-Perched Aquifer") at a depth of approximately 20 to 24 feet below the ground surface (bgs) and in wells completed at about 80 feet bgs in the Artesia Aquifer.

The former refinery stored and processed crude oil and petroleum, resulting in the usage and storage of crude oil, refined fuels such as gasoline, naphtha, and diesel, tetra ethyl lead used as a fuel additive, and arsenic used as an anti-corrosion agent. Since the refinery operations ceased in 1992, fuel oxygenates such as methyl tertiary butyl ether (MTBE), were not manufactured at the Golden West Refinery. Blending of MTBE fuels was conducted for approximately 3 months in late-1992, and MTBE was present in fuels sold at the terminal facility between March 1995 to August 1997. On August 8, 1997, the sale of gasoline was discontinued at the terminal facility.

3.7.1.2. Initial Investigations and Chemicals of Concern

In 1991, the California Regional Water Quality Control Board, Los Angeles Region (RWQCB) issued its first Cleanup and Abatement Order (CAO) to the Golden West Refinery (RWQCB, 1991). Subsequent CAO's were issued in 1993 and 2004 (RWQCB, 1994 and 2004). As noted on Figure 2, the South Tank Farm is located directly upgradient from the site and was formerly occupied by a number of large ASTs. In early-2000 and to ready the property for future commercial redevelopment, demolition, cleaning, and removal of the ASTs began. Since this former facility was located directly upgradient from the subject property, Ardent focused its review on this portion of the Golden West Refinery.

Since 1986, numerous investigations, excavations, groundwater remediation, and completion of a soil vapor extraction (SVE) pilot test were completed at the South Tank Farm property. In September 2003, a Supplemental Site Characterization and Remedial Action Plan was prepared (referred to herein as the "Remedial Action Plan"). On February 2, 2004, the Remedial Action Plan was approved by the RWQCB. The Remedial Action Plan outlined the proposed cleanup criteria for shallow soil, so property redevelopment could commence (see Section 3.7.1.3). Under the Remedial Action Plan, Golden West Refinery remediated all shallow soil by excavation and off-site disposal to the limits specified. Remediation of the deep soil (greater than 10 feet bfg) in the South Tank Farm was proposed in an Addendum

to Remedial Action Work Plan/Soil Vapor Extraction Work Plan, South Tank Farm dated February 26, 2004. This work plan was approved on April 29, 2004.

During investigations of the South Tank Farm, the main chemicals of concern included petroleum hydrocarbons, and benzene, toluene, ethylbenzene, and xylenes (BTEX). Some chlorinated solvents and metals were also discovered at a lesser extent.

3.7.1.3. Cleanup Goals

The site characterization presented in the Remedial Action Plan included assessing the extent of shallow and deep soil based on a Waste Discharge Requirement (WDR) for the protection of groundwater that was issued by the RWQCB on December 4, 2003, and a Human Health Risk Assessment (HHRA) for the protection of human health which was approved by the California Office of Environmental Health and Hazard Assessment (OEHHA). A copy of the WDR is provided in Appendix C. Copies of the HHRA were not provided by the client and were not available on GeoTracker.

Shallow impacted soil (0 to 5 feet below final grade [bfg]) exceeding the RWQCB approved WDR were excavated and disposed of off-site. Impacted soils in the upper 10 feet bfg were excavated and disposed until concentrations met the cleanup criteria set forth in the HHRA. Completing these tasks provided a health-protective buffer zone and significantly reduced the secondary potential source of groundwater contamination.

In a letter dated July 2, 2004, the RWQCB issued a case closure for shallow soil for the South Tank Farm. During redevelopment, a 2-foot layer of "clean" soil was placed across the property and after redevelopment, 95 percent of the property was paved, reducing further infiltration potential. Deeper impacted soils (below 10 feet bfg) exceeding these criteria would be remediated by SVE following redevelopment.

3.7.1.4. Redevelopment Activities and Current Regulatory Status

Following issuance of the NFA for shallow soils, the South Tank Farm was redeveloped with two slab-on-grade commercial buildings (Figure 2). Since redevelopment, Golden West Refinery has operated several soil vapor extraction

(SVE) systems and is regularly removing free product from groundwater wells. The benzene cleanup target level in soil greater than 10 feet is 19 mg/kg, which was determined in the HHRA. According to the RWQCB, light non-aqueous phase liquid (LNAPL or "free product") is present in both the Semi-Perched Aquifer and Artesia Aquifer beneath the Golden West Refinery and Univar properties. Based on the operational history, the RWQCB believes that the LNAPL and dissolved phased contaminants found beneath the Univar property are from historical operations at the former Golden West Refinery. The chlorinated solvents and 1,4-dioxane in the groundwater are due to the operations of Univar.

In a letter dated August 3, 2018 to Golden West Refinery and Chevron, the RWQCB stated that the LNAPL recovery has been going on since the 1980s and "…there is no end in sight." Therefore, the RWQCB requested that Golden West Refinery and Chevron reevaluate its LNAPL recovery system.

3.7.2. Univar

The following presents the historical land use of the site, the results of the investigations completed, chemicals discovered, and redevelopment plans and current regulatory status. As noted below, Chemcentral began operations at the site and was purchased by Univar in 2007. Chemcentral and Univar are therefore used interchangeable in this report.

3.7.2.1. Background

The site was used by Chemcentral or its predecessors since 1959 as a chemical distribution and blending facility. Prior to 1998, the site contained Warehouse 1 and 2, Former Loading Dock A located in the northeastern portion of the site, and an Office Building located in the southwestern portion of the site (Figure 3) During this time, Warehouse 1 and Warehouse 2 were used for enclosed warehousing, while Former Loading Dock A was used for outside 55-gallon drum and other container storage. During this time, eighty-eight USTs and three ASTs were located in the northwestern portion of the site (Figure 3). Chemicals were brought to the site by railcars on the railroad spur located along the northern property line and by tanker truck which were loaded and unloaded in an area located immediately north of the scale (Figure 3). The chemicals would be dispensed into the USTs and ASTs.

Chemicals were mixed in two Former Blending Tanks which filled 55-gallon drums and totes in the Former Drum Filling Area located in the western portion of Former Loading Dock A (Figure 3). Drums were cleaned in the Former Drum Cleaning Area located further west. The Former Spill Prevention Containment Container (SPCC) Tank was also located in this area of the site (Figure 3). This area also contained at least two clarifiers, and possibly a third, used by the Chemcentral as part of its drum cleaning operations or spill containment in the northwestern portion of the site (Figure 3). Two Former Fuel Tanks were also located in the central portion of the site (Figure 3).

Beginning in 1998, Chemcentral began an improvement program at the site to replace the USTs and ASTs and to modernize the facility. This included the removal of the USTs and ASTs located in the northwestern portion of the site, abandoning the SPCC tank in-place, the removal of the Former Drum Cleaning Area, Former Drum Filling Area, and clarifiers, and replacing Former Loading Dock A with a covered loading dock (referred to as Covered Dock No. 1). The plant modernization also included the construction of Covered Dock No. 2, the Current AST Area (used to store raw chemicals), Drum Storage Area, the new covered SPCC, Pump House, and White Room (Figure 4). The modernization features brought the site to its current configuration.

During post-1998 plant uses, chemicals were still brought to the site by railcars along the northern property line, although were transferred by aboveground piping to the Current AST Area located in the southeastern portion of the site or were directly transferred to tanker trucks at the Transfer Pump area. The SPCC and other floor drains located throughout the site are piped to a large concrete lined Containment Pond located in the southwestern portion of the site (Figure 4). Spills are directed to this area prior for discharge to the sewer. In October 2007, Univar acquired Chemcentral.

Shallow groundwater beneath portions of the site (i.e. the Semi-Perched Aquifer) has been reported at depths between approximately 16 and 34 feet bgs. Deeper groundwater occurs in the Artesia Aquifer reported at depths between approximately 72 and 83 feet bgs. Free product, or LNAPL, has also been reported on-site. Some of the free product and dissolved phased contaminants have migrated on-site from

the Golden West Refinery, but others have been associated with a number of releases on-site.

3.7.2.2. Historical Areas of Concern and Investigations

The following presents a summary of the historical areas of concern and previous investigations completed. Most of the work presented below was completed under the direction and oversight of the City of Santa Fe Springs Fire Department (SFSFD), Los Angeles County Department of Public Works (LADPW), or the RWQCB. Based on the results, impacted soil and groundwater has been detected and Univar entered into a CAO with the RWQCB dated September 17, 2014.

Former UST Area

The clustered USTs were reportedly installed in three phases. The first phase was installed in 1959, while the second and third phases were installed in 1962 and 1970, respectively. The tanks were used to store chemical products for distribution by Chemcentral. The solvents stored generally consisted of alcohols, ketones, aliphatic and aeromatic hydrocarbons, glycol ethers, esters surfactants, and plasticizers.

The USTs and ASTs were constructed of single-wall steel and ranged in capacity from 4,000 to 15,000-gallons. Seventeen USTs had one or more compartments for storage of separate products. The USTs and ASTs were clustered together in a single tank area (Figure 3). The USTs and ASTs were removed from the site by Earth Tech from January 27 through February 23, 1999 under the direction and oversight of the SFSFD.

Following removal of the USTs, confirmation soil samples were collected. Laboratory results indicated elevated concentrations of petroleum hydrocarbons, primarily diesel range hydrocarbons, VOCs, BTEX, PCE, and TCE, and phthalates. The excavation was reportedly backfilled with "native" and import soil. During backfilling of the tank excavation, Earth Tech installed two horizontal well casings with screens consisting of an upper and lower array designed for future vapor extraction. Each well screen was placed between approximately 18 and 31 feet apart. The lower piping array consists of 2-inch diameter, schedule 40 PVC with 0.020-inch slot. The lower array was installed at the bottom of the excavation, at approximately 13.5 to 16.5 feet bgs,

and contains nine pipe runs. The upper array consists of 2-inch diameter, schedule 80 PVC, with 0.020-inch slot. The upper array was installed at approximately 3 feet bgs and contains four pipe runs, located within the eastern portion of the tank excavation. Each set of pipes were installed within a trench lined and covered with bedding sand. Due to the impacted soil and groundwater associated with these USTs, the case was transferred to the RWQCB and is being mitigated under the current CAO.

Former SPCC Tank

The Former SPCC Tank was located in the northwestern portion of the site and was constructed of concrete (Figure 3). The SPCC tank had a capacity of approximately 6,000-gallons. The SPCC was built as a spill prevention and countermeasure tank and was not used for chemical storage. The SPCC was abandoned in-place in March 4, 1999 with concrete slurry. Impacted soil and groundwater in the vicinity of this feature is being mitigated under the current CAO.

Former Loading Dock A, Former Drum Filling Area, and Former Blending Tanks

Former Loading Dock A was used to store 55-gallon drums and other containers. The western portion of the loading dock contained the Former Drum Filling Area and two Blending Tanks. The two blending ASTs with capacities of 2,000 and 8,000-gallons were located immediately north of the Former Drum Filling Area and were used to blend products prior to packaging and final shipment. The Former Blending Tanks were removed on April 13, 1999 under the direction and oversight of the SFSFD. These features were further investigated as described below. Due to the impacted soil and groundwater associated with these features, the case was transferred to the RWQCB and is being mitigated under the current CAO.

Former Fuel Tanks

The Former Fuel Tanks consisted of two 8,000-gallon USTs, one containing gasoline and the other containing diesel fuel. The dispenser island was located immediately adjacent to the USTs.

In April 1991 and prior to removal of the USTs, two soil borings (C5 and C6) were drilled in the vicinity of the fuel USTs to depths of approximately 40 feet bgs. No perched groundwater or stained or odorous soil was encountered. Soil samples collected at depths of 5, 10, 15, 20, 30, and 40 feet bgs were chemically analyzed for total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd, respectively), total recoverable petroleum hydrocarbons (TRPH), BTEX, and VOCs. Laboratory results indicated no detectable concentrations of TPHg and TPHd, no detectable to low concentrations of TRPH (up to 9 mg/kg), total BTEX (up to 0.11 mg/kg), and total VOCs (up to 0.45 mg/kg). Based on the lack of elevated concentrations, it was assumed that little to no contamination was present.

The USTs and associated dispenser island, which was reportedly located immediately adjacent to the USTs, were removed in 1995 under the direction and oversight of the LACDPW, the Certified Unified Program Agency (CUPA) during this time. Laboratory results of soil samples collected beneath the USTs indicated no detectable to low concentrations of petroleum hydrocarbons. Petroleum hydrocarbon impacted soil was detected directly beneath the fuel dispenser, so excavation of the materials continued to a depth of approximately 11 feet bgs. Laboratory results of a confirmation soil sample indicated concentrations of TPHd at 22,000 mg/kg. Due to the lack of perched groundwater in this portion of the site, the LACDPW allowed these residual contaminants to be left in-place. According to current regulatory guidelines, namely the RWQCB, Interim Site Assessment and Cleanup Guidebook, dated May 1996 (RWQCB Guidelines), and the Environmental Protection Agency (EPA) Region 9, Regional Screening Levels for industrial/commercial land use (EPA RSLi), dated May 2018, the concentrations of TPHd reported in the vicinity of the former dispenser island would be considered elevated. Based on these documents, TPHd would be considered elevated at concentrations greater than 1,000 mg/kg for the protection of groundwater and would be considered elevated at concentrations exceeding 440 to 600 mg/kg for the protection of human health.

It should be noted that in later years, the CUPA for UST removal changed from the LACDPW to the SFSFD. According to representatives at the LACDPW, this case was transferred to either the SFSFD or the RWQCB. During Ardent's review of regulatory file information at the SFSFD, RWQCB, and LACDPW, no case closure

documentation or UST removal reports were noted regarding this former release. The information discussed above was obtained from an environmental summary report provided by Univar. Based on this information, the Former Fuel Tanks apparently are considered an open case, and therefore, would be considered an REC.

Soil Investigations

Two extensive soil investigations were completed following removal of the above mentioned areas of concern; one completed in 1999 and another in 2000. In 1999, an investigation was completed throughout Former Loading Dock A, including the Former Drum Filling Area and Former Blend Tanks, Former UST and AST Areas, Former Drum Cleaning Area, and Former SPCC Tank.

The investigation included the drilling of 35 soil borings to depths of up to 25 feet bgs. Perched groundwater was encountered at this time at depths of between 15 and 20 feet bgs. In general, soil lithology consists of interbedded silty sands, clay, and well graded sands. From surface to approximately 15 feet the soil lithology consists of silty fine sand. From approximately 15 to 20 feet is a clay material, beneath which is the well graded sand.

Ardent compared the results of this investigation to current Department of Toxic Substances Control (DTSC) Screening Levels and Environmental Protection Agency (EPA) Regional Screening Levels for industrial/commercial land use (DTSC-SLi and EPA-RSLi). These regulatory screening guidelines are based on a human health risk criteria. Based on our review, elevated concentrations of VOCs, namely benzene, methylene chloride, PCE, TCE, 1,1-dichloroethane (1,1-DCA), ethylbenzene, and naphthalene were discovered.

The 2000 soil investigation included the advancement of 27 soil borings along the northern and western property line and around the Office Building. The soil borings were drilled to depths of approximately 15 feet bgs (immediately above groundwater) for the chemical analyses of selected soil samples. Laboratory results indicated elevated concentrations of PCE and TCE in areas along the railroad spur and in locations around the Office Building. Petroleum hydrocarbons, benzene, and ethylbenzene were detected along the northern property line (i.e. in the vicinity of the

railroad spur), western property line, and around the Office Building. These concentrations increased with depth (15 and 20 feet bgs) and were likely associated with groundwater contamination.

In 2001, eleven SVE wells were reportedly installed at the site. Further construction and implementation of the SVE activities were temporarily suspended pending additional discussions with the RWQCB regarding Golden West Refinery and its proposed groundwater cleanup. Work completed in subsequent years mainly involved impacted groundwater characterization.

In 2016, two rounds of sub-slab soil gas and indoor ambient air sampling was completed in March and August. Laboratory results indicated indoor air samples were higher than sub-slab results. Based on these findings, it was concluded that soil vapor is not contributing to the concentrations of VOCs detected in indoor samples.

3.7.2.3. Redevelopment Plans and Current Regulatory Status

Bridge is planning to redevelop the site with one 141,164 square foot warehouse building (Figure 5). As noted above, Bridge is considering purchasing the site and retaining obligations for soil mitigation, while Univar and Chevron will retain liability of groundwater contamination. Bridge is considering a similar soil remediation tactic as what was completed at the Golden West Refinery during its property redevelopment. The shallow soils beneath the site will be mitigated to levels protective of human health and the environment under the direction and oversight of the RWQCB. This might include excavation and removal of soils exceeding cleanup guidelines prior to grading and mitigating deeper soils through an in-situ treatment such as SVE.

In a letter dated July 27, 2018, the RWQCB reviewed environmental reports prepared by Univar following groundwater and indoor air evaluations. Based on recent groundwater data, LNAPL is present in the Semi-Perched Aquifer and Artesia Aquifer beneath the site. The chemicals of concern in the Semi-Perched Aquifer include petroleum hydrocarbons, BTEX, naphthalene, chlorinated solvents including PCE, TCE, cis-1,2-dichloroethane (cis-1,2-DCA), methylene chloride, 1,1,1-TCA, 1,1-DCA, and 1,4-dioxane.

At this time, further investigations as to the dissolved phase chemicals of concern in the Artesia Aquifer needs to be completed. According to the RWQCB, the LNAPL found at the Univar property (primarily comprised on petroleum hydrocarbons and BTEX) originated from the Golden West Refinery. The chlorinated solvents and 1,4-dioxaine in the groundwater is due to the operations of Univar. The dissolved phase petroleum hydrocarbons, BTEX, and naphthalene are the result of the LNAPL plume, although Univar may have also contributed chemicals such as toluene and xylenes.

During recent groundwater monitoring events, the depth to groundwater in the Semi-Perched Aquifer has lowered. This groundwater zone is also discontinuous across the site (see Section 4.3.2). Therefore, the RWQCB indicated that the extent of the impacted groundwater in the Semi-Perched Aquifer has been "…more or less delineated." However, if the groundwater rises in future years, current dry wells should be included in the monitoring activities.

The direction of flow in the Artesia Aquifer is to the northeast. According to the RWQCB, monitoring of the Artesia Aquifer needs to be completed on a quarterly basis to better define the chemicals of concern. In addition, even though recent air monitoring suggests no human health risks at the site due to possible vapor intrusion, the RWQCB requested that a remedial approach be developed to mitigate the chemicals of concern in soil gas and the Semi-Perched Aquifer. The remedial action plan to complete this work is required by December 1, 2018.

4. PHYSICAL SETTING

The following sections include discussions of topographic, geologic, and hydrogeologic conditions in the vicinity of the site, based upon our document review and our visual reconnaissance of the site and adjacent areas.

4.1. Topography

Based on the review of the United States Geological Survey (USGS) 7.5 Minute Series, Whittier, California, Topographic Quadrangle Map dated 2012, the site has an approximate elevation of 87 feet above mean sea level (msl). Regional topography generally slopes in a south to westerly direction.

4.2. Geology

The site is located on the northeastern margin of the Central Plain of the Los Angeles Basin, bounded by the Puente Hills to the northeast. Strata beneath the site consist of recent age alluvium derived primarily from stream channels and flood plain deposits of the ancestral San Gabriel fluvial system. The alluvium is underlain by the Miocene-age Puente Formation.

4.3. Hydrology

The following sections discuss the site hydrology in terms of both surface waters and groundwater.

4.3.1. Surface Waters

No natural surface water bodies, including ponds, streams, or other bodies of water, are located on the site.

4.3.2. Groundwater

As previously discussed, shallow and deep groundwater zones have been encountered beneath the property in the Semi-Perched Aquifer and Artesia Aquifer, respectively. During investigations conducted at the site, the Semi-Perched Aquifer was noted in groundwater wells or soil borings located in the northwestern portion of the site but was not observed in wells located in the southern and eastern portion of the site. Therefore, the Semi-Perched Aquifer is considered discontinuous throughout the site. During the most recent groundwater monitoring event conducted at the site in March 2018, groundwater within the Semi-Perched Aquifer was measured at depths between approximately 22 to 32 feet bgs and between approximately 72 to 83 feet bgs in the Artesia Aquifer. Groundwater within the Semi-Perched Aquifer has consistently flows in a southwest direction and groundwater within the deeper Artesia Aquifer flows in a northeast direction. In general, groundwater in the northwestern portion of the site, within the Semi-Perched Aquifer, has historically been measured since 2000, at depths between approximately 16 to 23 feet with sporadic groundwater depths measured down to approximately 34 feet bgs in wells located in the central and southwestern portion of the site. Groundwater monitoring conducted at the site within the Artesia Aquifer began recently in 2017.

Recent groundwater monitoring activities completed in 2018 have discovered free product at thickness of up to 6 feet thick in the Semi-Perched Aquifer and up to 12 feet thick in the Artesia Aquifer. Dissolved phase petroleum hydrocarbons and VOCs have been reported in both water bearing zones. Groundwater investigations and future remediation will be completed under the direction and oversight of the RWQCB and as directed in CAOs issued to both Univar and Golden West Refinery. In the CAO, the RWQCB has requested that groundwater monitoring be completed on a semi-annual basis for the Semi-Perched Aquifer. Additionally, groundwater sampling was requested to be completed on a quarterly basis to establish the containments of concern (COCs) in the Artesia Aquifer.

Based on site plans included in the UST Removal and Closure Report, dated May 7, 1999, and the Supplemental Site Investigation Report, dated September 15, 2016, there are currently 12 on-site groundwater monitoring wells and 11 SVE wells (one of which is utilized for monitoring groundwater) installed throughout the western portion of the site and 13 horizontal wells installed beneath the Former UST Area. Additionally, there are seven nested soil vapor monitoring points (SVMP) installed throughout the site.

4.4. Oil and Gas Maps

Based on a review of the Division of Oil, Gas, and Geothermal Resources (DOGGR) on-line database, the site does not lie within or adjacent to an active oil field and no oil or natural gas wells have been drilled on the site.

According to the City of Santa Fe Springs Methane Ordinance Number 955, buildings located within the City of Santa Fe Springs' defined Methane Zone or the Santa Fe Springs Oil Field must be constructed with engineering controls for the ventilation of possible methane gas. If a property is located within the Methane Zone, the Santa Fe Springs Oil Field, or within 1,000-feet of a landfill, a methane gas investigation is required prior to redevelopment of the site. Since the site is not located within the Methane Zone, Santa Fe Springs Oil Field, or within 1,000 feet of a landfill, it is unlikely the City of Santa Fe Springs will require a methane gas survey be completed at the site. Due to the known contaminants beneath the site, it is our understanding that Bridge is considering constructing the new commercial buildings with vapor barriers for precautionary measures.

5. HISTORICAL LAND USE

Ardent conducted a historical record search for both the site and surrounding areas. This included a review of one or more of the following sources that were found to be both reasonably ascertainable and useful for the purposes of this Phase I ESA: historical fire insurance maps, historical aerial photographs, building permits and plans, historical city directories, topographic maps, property tax records, zoning/land use records, and a review of prior environmental assessment reports regarding the site. Copies of historical data are provided in Appendix D.

5.1. Summary of Historical Land Use of the Property

From at least 1928 through 1938, the site was vacant land. In 1947, the western portion of the site may have been used for residential purposes. In 1952 and 1954, at least 19 small, apparently residential, bunkhouses were noted on the site, possible associated with the surrounding agricultural land use or for employees of the nearby Golden West Refinery. Some additional similar looking structures were also located on the property immediately south of the site. In 1959, the site was developed by Chemcentral, or its predecessors, as a chemical bulk storage, blending, and distribution facility. Chemicals were reportedly transported to the site by railcar via on on-site rail spur located in the northern portion of the property and distributed by truck and/or railcar. The chemicals, including alcohols, ketones, aliphatic and aromatic hydrocarbons, solvents, glycol ether, surfactants, and plasticizers, were stored in clustered USTs and ASTs located in the northwestern portion of the site. In 1998, the site was modernized which included removal of the old USTs and ASTs and replaced with a new plant building and aboveground chemical storage facility located in the southeastern portion of the site. In 2007, Univar acquired Chemcentral and continued similar operations at the site.

5.2. Summary of Historical Land Use of Adjoining Properties

The adjoining properties were used for agricultural purposes from at least the late-1920s through mid-1950s. By the early-1960s, the properties to the west, northwest, north, and south were developed for commercial or industrial purposes. By 1970, the properties to the east and southwest were developed for commercial purposes. The Golden West Refinery, located 150 feet north to northeast of the site, was present in this location since the 1930s.

5.3. Fire Insurance Rate Maps

Historical Sanborn Fire Insurance Rate Maps (Sanborn maps) were requested from Environmental Data Resources Inc. (EDR) of Milford, Connecticut. No Sanborn maps were available for the site or immediate site vicinity.

5.4. Historical Aerial Photographs

Historical aerial photographs for selected years between 1938 and 2012 were reviewed. The following presents a summary of our review.

- **1928 and 1938 –** In 1928, the site and surrounding properties appeared to be vacant land. Large ASTs associated with the Golden West Refinery were noted northwest and north of the site. By 1938, some of the surrounding properties were being used for agricultural purposes. The site was bound to the west by a road (currently Carmenita Road) and current railroad track located northeast of the site was present. Properties located southwest of the site were developed for residential purposes.
- **1947 –** In 1947, the eastern portion of the site contained small structures, possibly residences. The surrounding properties continued to be used for agricultural and oil refining purposes.
- **1952 and 1954 –** The site was developed with at least 19 small structures, possibly used for residential purposes to house employees for the surrounding agricultural and refining businesses. Properties located north of the site were not shown in the 1952 aerial photograph. In 1954, the site vicinity remained relatively unchanged.
- **1963** – The site was redeveloped with Warehouse 1, the Former Drum Filling Area building, a number of small outbuildings around the Former Drum Filling Area, and the Office Building. A rail spur was located along the northern portion of the site. The properties located immediately north, northwest, and west of the site were developed for commercial or industrial purposes. The property located southeast of the site was developed as a lumberyard.
- **1970** - The site appeared similar to the 1963 photograph, although Warehouse 2 was now noted. The east adjacent property included stacked lumber associated with the lumberyard. The property located southwest of the site is developed for commercial purposes and the warehouse building west of the site was constructed with additions to the existing building.
- **1979** - The remaining portion of the existing office building was constructed. The site vicinity continued to be developed with commercial buildings.
- **1981, 1989, and 1994 -** No significant changes were noted at the site or in the site vicinity in the 1981 aerial photograph. By 1989, the property located north of the site was developed with a triangular-shaped warehouse building and the properties northeast of the site were developed with commercial buildings. No significant changes were noted at the site or in the site vicinity in the 1994 aerial photograph.

- **2002, 2005, 2009, and 2010 - T**he site appeared in its existing configuration with the additions noted on Figure 4. The former west tank farm area of the Golden West Refinery facility had been demolished and redeveloped with two large warehouse buildings. The former South Tank Farm appeared to be partially decommissioned. By 2005, the former South Tank Farm property was redeveloped with one large commercial warehouse building. By 2009, the former South Tank Farm property included the addition of another commercial warehouse building. By 2010, the site vicinity appeared in its existing configuration.

5.5. Building Permits

The City of Santa Fe Springs Building Department (SFSBD) maintains building permits for the site and surrounding properties. Copies of selected records reviewed at the SFSBD are provided in Appendix D. Ardent reviewed various records available for the site including tenant improvement, mechanical, electrical, and plumbing permits. Pertinent permits and documents reviewed for the site are summarized below.

Records pertaining to the 13900 Carmenita Road address included building permits, obtained by Central Solvents & Chemicals Co. (CSC) in 1959, for the construction of a warehouse for "dispensing of chemicals" and an office building. Based on a review of the 1963 aerial photograph, this warehouse was the existing Warehouse 1 and the existing Office Building (Figure 3). Additionally, in 1959 a permit was obtained by CSC to connect to the sewer system. A plumbing permit obtained in 1959 indicated the installation of features including three floor drains and a lab sink located in Warehouse 1. An untitled document, dated August 31, 1959, indicated operations at the site by CSC included the delivery of bulk solvents and alcohols by railcar and tanker trucks which were pumped to USTs and subsequently dispersed into drums and tank trucks for delivery to customers. Operation areas included a drum cleaning facility and warehousing of materials including prepackaged wax, resins, insecticides, weed killers, alkalis, and salts. The document noted there was no dispersing operations in the warehouse, however, other building records indicated Warehouse 1 was utilized for dispersing chemicals.

In 1964, building permits were obtained for an addition to the Office Building and the construction of Warehouse 2 and a dock for packaging chemicals (referred to as Former Loading Dock A on Figure 3). In 1965, a permit was issued for the installation of one 8,000-gallon UST at the site. In 1970, a permit was obtained for the installation of one 2,000-gallon and one 8,000-gallon "tanks" listed as T1 and T2. No information regarding whether these tanks were aboveground or underground or locations were provided in the permit.

Based on a review other historical documents, these tanks were most likely the blend tanks located immediately north of the Former Drum Filling Area (Figure 3). In 1971, a permit was issued for the installation of one UST. No other pertinent information was provided in this permit.

In 1976, a permit was obtained for the construction of a raised loading dock with metal roof utilized for drum cleaning and an addition to the metal roof utilized as the Drum Filling Area (Figure 3). In 1977, a permit was obtained for the construction of the block partition walls associated with the Hot Room (Figure 3). During this time, a separate permit was obtained for the installation of an "interceptor" (also known as a clarifier), a floor sink, and a floor drain. No locations were noted regarding these features. In 1978, a permit was obtained for a concrete addition to the existing loading dock utilized for drum cleaning.

A 1978 Investigation Report document indicated an illegal discharge to the street occurred from the washing of the inside of a tanker truck which occurred due to the failure of opening a manual valve for the catch basin in the northwestern portion of the site. This document and an attached site plan indicated the wastewater from the catch basin drained to a 12,000-gallon UST, shown in the location of the Former SPCC Tank (Figure 3). Based on a review of other historical documents, the former SPCC Tank was a 6,000-gallon UST. In 1980, a permit was obtained for the addition to the Office Building. In 1983, a permit was obtained for USTs and ASTs. The permit does not provide the number of features, the locations, or whether these features were being installed or removed.

In 1998, an expired sewer permit application indicated the intent to remove a clarifier and sample box. In 1998, an application for closure for a clarifier, noted as utilized for wastewater from truck washing and container reconditioning wash down area (Former Drum Cleaning Area), was submitted to the SFSFD. No other pertinent information was noted in the application.

In 1999, an application for "storage tank closure" was submitted to the SFSFD for the 6,000-gallon SPCC tank listed as being 25 years old and used to store emergency spill containment material. The application inquired whether a release had ever occurred from this feature. Chemcentral indicated that an unauthorized release of an unknown volume of material had occurred. No other information was provided. Chemcentral indicated that the

feature would be abandoned in place. An attached site plan showed the location of the SPCC tank immediately west of the scale (Figure 3).

In 1999, sewer permits were obtained for the abandonment of two clarifiers (Figure 3). Based on an attached site plan, two clarifiers were noted as removed, one of which was located immediately west of the Former ASTs (noted as removed on June 30, 1999) with the second clarifier shown immediately south of the Covered Dock No. 1 (noted as removed on May 14, 1999). These clarifiers are designated by Ardent as Clarifier A and Clarifier C on Figure 3. A SFSFD application for closure was also attached to these documents, however no soil analytical results were provided. These features are further discussed in Section 9.5. In 2000, an expired permit application indicated the intent to remove 59 USTs at the site. In 2007, a statement of intended use document indicated Univar purchased the site from Chemcentral with no change in operations at the site.

It should be noted, records available for the site associated with the 13900 Carmenita Road address included a document which described the legal description of a portion of the site and indicated a historical address for the site listed as "Central Solvents & Chemicals Co." at 13820 Carmenita Road in Santa Fe Springs, California. Records pertaining to this historical address were also reviewed. One document available for review was a permit issued in 1971 for the construction of a dock cover. No other documents filed by the SFSBD under this address were available for review.

5.6. City Directories

Ardent reviewed city directories obtained from EDR for the site and immediate site vicinity. Selected city directories between the years 1920 and 2013 were reviewed. The address associated with the site was listed in 1962, 1981, 1986, 1990, 2000, and 2008 as subsidiaries of Chemcentral. In 2013, the site was listed as "Clariant Corp", a plastic fabrication company. No other records have indicated this facility occupying the site.

According to the city directories, the property located approximately 80 feet west of and potentially crossgradient from the site at 13901 Carmenita Road, was listed as "Dura Steel Products" in 1967 and 1986. This facility may have used chlorinated solvents during its operations as a metal working facility. However, based on this direction, it is unlikely this facility has impacted the site. No other listings in city directories of facilities within the site vicinity indicated a significant environmental concern to the site.

5.7. Interviews

Interviews were conducted by Ardent with key site personnel (e.g., past and present owners, operators, and/or occupants) with the objective of obtaining information indicating RECs in connection with the subject property. The following are the site personnel interviewed for purposes of this assessment.

5.7.1. Interview with Owner

Ardent interviewed Mr. Chris Betancourt, Branch Operations Manager for Univar, representing the property owner. Mr. Betancourt has been an employee of Univar for 25 years. The information obtained is presented throughout this report.

5.7.2. Interview with Site Manager

Although no Site Manager was available to interview, Ardent interviewed Mr. Betancourt who is the Branch Operations Manager for Univar. The information obtained is presented throughout this report.

5.7.3. Interviews with Occupant

As stated above, Ardent interviewed Mr. Betancourt, Branch Operations Manager for Univar, current occupants of the site. The information obtained is presented throughout this report.

5.7.4. Interviews with Local Government Officials

Representatives of local regulatory agencies were interviewed during completion of this report. The information obtained is presented throughout this report.

5.7.5. Interviews with Others

No other interviews were completed during completion of this report.

6. SITE RECONNAISSANCE

The site reconnaissance was performed by Ardent on August 29, 2018. The site reconnaissance involved a walking tour of the site and visual observations of adjoining properties. At the time of the site reconnaissance, the weather was partly cloudy, however the weather did not obstruct visibility at the site.

At the time of the site reconnaissance, Univar was vacating the site. Univar uses the site as a chemical distribution plant. A variety of chemicals are brought to the site and either repackaged into smaller containers for distribution, or mixed and blended per a customer's specific recipe

and packaged for distribution. Customers include pharmaceutical companies requiring "food based" chemicals such as diluted isopropyl alcohol (IPA) for manufacturing hand sanitizers and other products, and commercial companies comprising "solvent based" chemicals used by the oil industry, ink and coating manufacturing businesses, printers, and energy companies.

Bulk chemicals are delivered to the site by railcar on the railroad spur located along the northern property line or by tanker truck unloaded through pipes located within the Transfer Pump area (Figure 4). Large quantities of chemicals are also loaded into tank trucks at the Transfer Pump area for off-site distribution. The chemicals are pumped to a number of ASTs located in the southeastern corner of the site. Railcars are also used for short term storage. As previously discussed, prior to 1998 chemicals delivered by the railcars were deposited into 88 clustered USTs and three ASTs located in the northwestern portion of the site. These USTs/ASTs were removed, and impacted soil is present in this area. During the site visit, evidence of the horizontal and vertical VES piping were observed, including a VES manifold in the northwestern portion of the site and a number of well boxes noted throughout the Former UST Area. Two historical fuel USTs were also located in the current location of the Pump House. As further discussed in Section 3.7, these USTs were removed prior to constructing the Pump House in 1995. Currently, no USTs are present on-site.

Stainless steel 330-gallon Intermediate Bulk Containers (IBCs), 250-gallon plastic totes (totes), 55-gallon drums, and "pails" (5-gallon buckets) are brought to the site by truck and delivered in Covered Dock No. 1 for storage. The mixing and pumping of solvent based chemicals occur in the Pump House and tanker truck loading and unloading area (Transfer Pump area). The Pump House is used to fill 55-gallon drums, pails, totes, and IBCs. The tanker truck loading and unloading area (Transfer Pump area) is used to unload and load tanker trucks of chemicals. All transfer of chemicals occurs by aboveground piping to and/or from the ASTs or tanker trucks and from the railcars. Food-grade chemicals are mixed and distributed in the White Room. Filled containers are stored for distribution by truck in Warehouse 1 and 2 and within areas of the Covered Dock No. 1 and Covered Dock No. 2. The Hot Room is used to store chemicals that need to remain less viscous.

Drums were formerly washed, dried, and painted in the former drum wash rack and drying area located within the Drum Storage Area in the southeastern portion of the site (Figure 4). According to Mr. Betancourt, wastewater produced by these operations drained to the Three-Stage Clarifier which was periodically pumped into totes for temporary storage, prior to being

treated at the Stripper. The treated wastewater was subsequently discharged to the municipal sewer (Figure 4).

A number of floor drains were noted throughout the building and parking lot area which transfer accidental spillage and rainwater through the SPCC and into a large concrete-lined Containment Pond located in the southwestern portion of the site. Floor drains were specifically observed in Covered Dock No. 1, Covered Dock No. 2, Current AST Area, Drum Storage Area, and tanker truck loading and unloading area (Transfer Pump). Water in the Containment Pond is discharged to the sewer system. An Office Building is located in the western portion of the site.

Based on the site reconnaissance, the areas of environmental concern were noted as Warehouse 1 and 2, the Current AST Area, the Three-Stage Clarifier located south of the Current AST Area, the Former Drum Wash Rack and Drying Area, floor drains, the SPCC and Transfer Pump Area, the Containment Pond, and Pump House (Figure 6). These areas and features are discussed in greater detail below.

Selected photographs taken during these activities are included in Appendix A.

6.1. Use and Storage of Hazardous Substances and Petroleum Products

As noted above, a number of ASTs were utilized for the storage and distribution of various chemicals. A number of IBCs, drums, and pales containing chemicals were noted throughout the Covered Dock No. 1, Covered Dock No. 2, Warehouse 1, Warehouse 2, and Current AST Area (Figure 4). A complete list of chemicals stored at the site is presented in Appendix C.

6.2. Storage and Disposal of Hazardous Wastes

As discussed above, Univar was vacating the site during the site reconnaissance. No disposal activities were noted. However, based on a review of environmental database records, the site has stored and generated hazardous wastes including chlorinated solvent wastes (such as PCE and/or TCE), reported as late as 2014. See Section 7.6 for more details regarding hazardous wastes at the site.

6.3. Unidentified Substance Containers

No unidentified substance containers were observed.

6.4. Aboveground Storage Tanks (ASTs) and Underground Storage Tanks (USTs)

No USTs are currently located on-site. As discussed above, a number of ASTs are located in the Current AST Area in the southeast portion of the site (Figure 4). These ASTs were reportedly installed in 1999 and were noted during the site reconnaissance in an area equipped with a concrete-lined secondary containment system. A table with the AST capacity and contents is provided in Appendix C.

As noted on the table presented in Appendix C, hundreds of thousands of gallons of chemicals are stored in the ASTs. Some of the most prevalent chemicals include acetone, xylenes, and MEK. This containment area and ASTs were reportedly constructed in 1999, approximately 19 years ago. Based on the longevity and volumes of chemicals being stored, the Current AST Area would be considered an environmental concern to the site.

6.5. Evidence of Releases

Evidence of chemical releases at the site was not observed during the site reconnaissance.

6.6. Polychlorinated Biphenyls (PCBs)

Historically, PCBs (a group of hazardous substances and suspected human carcinogens) were widely used as an additive in cooling oils for electrical components. Typical sources of PCBs can include electrical transformers. One pad-mounted electrical transformer was observed immediately west of the Covered Dock No.2 (Figure 2). No stains or evidence of leaks were noted. This feature would not be considered an environmental concern to the site.

6.7. Suspect Asbestos-Containing Building Materials (ACMs)

The manufacture of most ACM was phased out in the 1970s, ending in 1980. Previously manufactured ACM that were in stock continued to be used through approximately 1981. Some non-friable ACM are still manufactured. In general, buildings constructed after 1981 have a negligible potential to contain friable ACM and a low potential for most non-friable ACM. Based on the age of the older buildings (i.e. Warehouse 1, Warehouse 2, and the Office constructed between 1959 and 1964), ACMs may be present. Based on the age of the remaining buildings (constructed after 1998), friable ACMs are not likely present.

6.8. Lead Based Paint (LBP)

The manufacture of LBP was phased out in approximately 1978. Based on the age of the older buildings (i.e. Warehouse 1, Warehouse 2, and the Office constructed between 1959 and 1964), LBP may be present. Based on the age of the remaining buildings (constructed after 1998), LBP are not likely present.

6.9. Indications of Water Damage or Mold Growth

No indications of water damage or mold growth were noted.

6.10. Wastewater Systems

A Three-Stage Clarifier was observed immediately south of the Current AST Area and was reportedly installed in 2000 to accept wastewater generated from the former drum wash rack (Figure 4). According to Mr. Betancourt, this clarifier currently accepts Boiler blowdown. Wastewater accumulated in the clarifier is manually pumped out, processed through the stripper to remove residual solvents, and then transferred to the Containment Pond (also installed in 2000) for temporary storage prior to discharge to the sewer system (Figure 3). Based on the historical storage and distribution of a number of VOCs (including chlorinated solvents) and carcinogenic chemicals at the site, the Former Drum Wash Rack and Drying Area and Three-Stage Clarifier would be considered an environmental concern to the site.

6.11. Stormwater Systems

Stormwater systems such as drainage channels, sewer manholes, and gutters were noted throughout the paved areas at the site. A Containment Pond, located in the southwestern portion of the site, was reportedly used for containing stormwater runoff and emergency spill containment (Figure 4). During the site reconnaissance, the Containment Pond was dry. Mr. Betancourt indicated runoff is temporarily stored within the Containment Pond and sampled prior to discharge to the sewer system as required by Univar's Industrial Wastewater Permit. No other stormwater systems were noted on-site. Stains indicative of an environmental concern within and around the Containment Pond were not noted during the site reconnaissance. However, based on the historical utilization of various chemicals at the site, including chlorinated solvents, the Containment Pond would be considered an environmental concern to the site.

6.12. Wells

As previously discussed, a number of groundwater monitoring wells, SVE wells, and nested soil vapor monitoring points are located at the site, mainly in the northwestern portion of the property. These wells/monitoring points will need to be protected during future redevelopment activities. See Section 4.3.2 for the number of wells reportedly located at the site.

6.13. Other Subsurface Structures

There were no other significant subsurface structures present on-site.

6.14. Other Issues

No other no- or off-site issues of environmental concern were noted.

7. ENVIRONMENTAL DATABASE SEARCH

A computerized environmental information database search was performed by EDR on August 3, 2018. The database search included federal, state, local, and tribal databases. A summary of the environmental databases searched, their corresponding search radii, and number of noted facilities of environmental concern is presented in Appendix F. In addition, a description of the assumptions and approach to the database search is provided in Appendix F. The review was conducted to evaluate whether the site or properties within the vicinity of the site have been reported as having experienced significant unauthorized releases of hazardous substances or other events with potentially adverse environmental effects.

Two unmapped properties, due to poor or inadequate address information, was identified. Based on the information available, these listings would not be considered an environmental concern to the site.

The following paragraphs describe the databases that contain noted properties of environmental concern, and include a discussion of the regulatory status of the facilities and potential environmental impact to the site. As previously discussed, the site has been used as a chemical mixing and distribution plant for over 59 years. The former Golden West Refinery was also located approximately 150 feet northeast of and upgradient from the site. This oil refinery operated at this location for over 60 years. Needless to say, the site and Golden West Refinery

are listed on a number of regulatory databases and are known to have impacted soil and groundwater beneath these two properties.

7.1. Federal National Priorities List (NPL): Distance Searched – 1 mile

The NPL is the USEPA's database of uncontrolled or abandoned hazardous waste properties identified for priority remedial actions under the Superfund program. This database includes proposed NPL listings.

Neither the site nor properties located within a 1 mile radius were listed in this database.

7.2. Federal Delisted NPL: Distance Searched – 1 mile

This database contains delisted NPL properties under the Superfund program. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establish the criteria that the USEPA uses to delete properties from the NPL. In accordance with 40 Code of Federal Regulations (CFR) 300.425. (e), properties may be deleted from the NPL where no further response is appropriate.

Neither the site nor properties located within a 1 mile radius were listed in this database.

7.3. Federal Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List: Distance Searched – 0.5 mile

The CERCLIS database, currently known as the Superfund Enterprise Management System (SEMS), contains properties which are either proposed or on the NPL and properties which are in the screening and assessment phase for possible inclusion on the NPL. This database also includes properties listed on the SEMS-ARCHIVE database as No Further Remedial Action Planned (NFRAP).

The site was not listed. One property was located approximately 0.49-mile southeast of and crossgradient from the site. This facility is listed as "no assessment work needed." Four properties were listed on the SEMS-ARCHIVE database with a regulatory status of NFRAP. One of the facilities was listed as the Golden West Refinery. The remaining properties are located over 0.2-mile cross- to downgradient from the site. With the exception of the Golden West Refinery, the remaining facilities would not be considered an environmental concern based on their distance, direction, and status.

7.4. Federal Corrective Action Report (CORRACTS): Distance Searched – 1 mile

The USEPA maintains this database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing corrective action. A corrective action order is issued when there has been a release of hazardous waste or constituents into the environment from a RCRA facility.

The site was not listed on this database. Two properties were listed within the search radius. Golden West Refinery was listed, as well as United States Printing Ink Corporation. Golden West Refinery has impacted the site with chemicals and is further discussed in Section 3.7. The remaining facility, "United State Printing Ink Corp", is located approximately 0.46-mile southeast of and crossgradient from the site. The facility is listed with a regulatory status of "complete." With the exception of the Golden West Refinery, the remaining facility would not be considered an environmental concern based in its distance, direction, and regulatory status.

7.5. Federal Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal (TSD) Facilities List: Distance Searched – 0.5 mile

The RCRA TSD database (non-CORRACTS) is a compilation by the EPA of facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste.

The site was not listed on this database. The "United States Printing Ink Corp" facility discussed above was listed on this database. Based on the distance and direction and information provided in other databases regarding this facility, this listing would not be considered an environmental concern.

7.6. Federal RCRA Generators List: Distance Searched – Site and Adjoining Properties

This list identifies sites that generate hazardous waste as defined by RCRA. Inclusion on this list is for permitting purposes and is not indicative of a release.

Univar and Chemcentral are listed as large quantity generators of hazardous waste associated with their operations as a chemical distribution facility. Materials being disposed of from the site include ignitable, spent non-halogenated, PCE, TCE, and corrosive wastes. The site has been issued a number of violations. EDR did not provide details on the

violations. Chlorinated solvent wastes (such as PCE and/or TCE) were reported as late as 2014.

Three adjoining properties were listed as generators of hazardous wastes. Accurate Label located immediately west of the site and beyond Carmenita Road at 13827 Carmenita Road was listed as a large quantity generator of hazardous wastes. Wastes include unspecified solvent mixture, polymeric resin waste, other organic solids, laboratory waste chemicals, ignitable hazardous wastes, and non-halogenated solvents. No violations were noted.

Advance Chemical Transport Inc. located immediately north of the site at 13722 Carmenita Road is listed as a small quantity generator of hazardous waste. Wastes include batteries, lamps, thermostats, oxygenated solvents, waste and mixed oil, and ignitable hazardous wastes. No violations were noted.

Profile Structures Inc. is located immediately south of the site at 13926 Carmenita Road. This facility is listed as a small quantity generator of hazardous wastes. No information was provided regarding the type of waste generated at this facility, however, no violations were noted.

7.7. Federal Institutional Control/Engineering Control Registries: Distance Searched – 0.5 mile

These lists identify properties with engineering and/or institutional controls. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or affect human health. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on the site. Deed restrictions are generally required as part of the institutional controls.

Neither the site nor properties located within a 0.5-mile radius were listed in this database.

7.8. Federal Emergency Response Notification System (ERNS) List: Distance Searched – Site

The ERNS database, maintained by the USEPA, contains information on reported releases of oil and hazardous substances.

The site was listed on this database in 2012 due to an incident where a tanker truck overfilled and released approximately 1,700-gallons of acetone and water mixture into a cement diked area. The area associated with this release is likely to have occurred in the vicinity of the transfer pump area where tanker trucks are loaded and unloaded with chemicals (Figure 3). As noted above, the Transfer Pump Area is considered a REC.

7.9. Federal Brownfield List: Distance Searched – 0.5 mile

The USEPA Brownfield database, entitled Targeted Brownfield's Assessments (TBA), lists properties for which the USEPA is providing funding and/or technical support for environmental assessments and investigations. The objective of the TBA is to promote cleanup and redevelopment of undesirable properties with environmental issues.

Neither the site nor properties located within a 0.5-mile radius were listed in this database.

7.10. California EnviroStor or State-Equivalent CERCLIS: Distance Searched – 1 mile

The California EnviroStor database, also known as the State-equivalent CERCLIS, is maintained by the Cal-EPA DTSC. This database contains information on both known and potentially contaminated properties.

The site was not listed. Twenty-six properties were listed within the search radius. Twenty-one facilities are located greater than 0.21-mile from the site in a cross- to downgradient direction. Some of these facilities are listed with a regulatory status of NFA. Based on this information, these facilities would not be considered an environmental concern to the site.

The remaining facilities listed are located north to northeast of and up- to crossgradient from the site. The closest facility is the Golden West Refinery (listed on this database as "Santa Fe Springs Refinery"). As previously discussed, this facility has impacted groundwater beneath the site with petroleum hydrocarbons and VOCs. The remaining four facilities are located further northeast of Golden West Refinery and may have also contributed to groundwater impacts.

7.11. State Solid Waste Landfill Sites (SWLF): Distance Searched – 0.5 mile

The SWLF database consists of open and closed solid waste disposal facilities and transfer stations. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) and the SWRCB Waste Management Unit Database (WMUD) database.

The site is not listed on this database. Three facilities located within the search radius were listed. Golden West Refinery, located approximately 150 feet northeast of and upgradient from the site is listed on this database as "Santa Fe Springs Refinery." The refinery is listed as a solid waste disposal facility that poses a significant threat to groundwater. As previously discussed, Golden West Refinery has impacted groundwater beneath the site with petroleum hydrocarbons and VOCs.

The remaining two facilities are located at least 0.41-mile east to southeast and northwest of and crossgradient from the site. Based on the distance and direction, these facilities would not be considered an environmental concern to the site.

7.12. State Leaking Underground Storage Tank (LUST) Lists: Distance Searched – 0.5 mile

The LUST information system is maintained by the SWRCB and the Regional Water Quality Control Board (RWQCB).

The site is listed on this database due to release associated with the 88 USTs formerly located in the northwestern portion of the site. As previously discussed, these USTs released chemicals to the site and have impacted soil and groundwater. Soil and groundwater remediation is planned under the current CAO issued by the RWQCB.

Fourteen properties within the search radius were listed. The only upgradient facility is the Golden West Refinery, listed as Santa Fe Springs Refinery. As previously discussed, this facility has also impacted groundwater beneath the site with petroleum hydrocarbons and VOCs.

The remaining thirteen facilities are located crossgradient from the site. The closest facility is located west of the site and beyond Carmenita Road at 13827 Carmenita Road. This facility is listed two and has a regulatory status of NFA. The remaining eleven facilities are located at least 0.18-mile from the site. Some of which are closed cases. Based on the

distance, direction, and/or regulatory status, these facilities would not be considered an environmental concern to the site.

7.13. State Underground Storage Tank (UST) and Aboveground Storage Tank (AST) Registration List: Distance Searched – Site and Adjoining Properties

UST and AST databases are provided by the SWRCB. Inclusion on these lists is for permitting purposes and is not indicative of a release.

The site was listed as Chemcentral on the AST database and indicated a cumulative 100,001-gallon capacity of the ASTs. No other information was included in the listing. The site was listed on the historical UST database as Chemcentral for 86 tanks installed between 1960 and 1983 with capacities listed as between 3,000- and 15,000-gallons. With the exception of the 8,000, gallon diesel (installed in 1971), the 8,000-gallon gasoline (installed in 1975), and the 6,000-gallon SPCC (installed in 1975) USTs, no information regarding the contents of the tanks were included in the listings. As previously discussed the site historically utilized USTs and currently utilizes ASTs. Detailed information regarding these features are discussed throughout this report.

The east adjoining property, Huff Lumber Company, was listed as having a permitted UST. No other information was provided in the listing. No other adjoining properties were listed on this database.

7.14. State Voluntary Cleanup Programs (VCPs): Distance Searched – 0.5 mile

The State VCP database lists low threat level properties with either confirmed or unconfirmed releases. Project proponents have requested that the DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Neither the site nor properties located within a 0.5-mile radius were listed in this database.

7.15. Indian Reservations: Distance Searched – Site

This list depicts Indian administered lands of the United States that have an area equal to or greater than 640-acres. The site is not considered an Indian Reservation and the surrounding areas do not appear to be Indian Reservations either. Due to the lack of Indian Reservations within 1-mile of the site, other tribal database listings required by ASTM and AAI were deemed not applicable. These listings would include tribal-equivalent NPL,

CERCLIS, Landfill and/or Solid Waste Disposal, LUST, UST and AST Registrations, Institutional Control/Engineering Control Registries, VCPs, and Brownfields.

7.16. Other Non-ASTM and AAI Database: Distance Searched – Site

Other databases were included in the EDR report, but are not required by ASTM or AAI. The site was listed on the following databases:

7.16.1. Hazardous Waste information System (HAZNET)

The information presented in the HAZNET database is obtained from copies of hazardous waste manifests received by the DTSC. Listing on this database is not indicative of a release.

The site was listed as Chemcentral on this database between 1993 and 2016 for wastes including halogenated organic compounds, unspecified solvent mixture, aqueous solution with total organic residues less than 10 percent, other organic solids, and off-specification, aged or surplus organics. A detailed copy of this listing including quantities and disposal methods are available for review in Appendix F.

7.16.2. Facility Index System Identification Program Summary Report (FINDS)

The FINDS database contains information obtained from other regulatory databases. The FINDS database is maintained by the EPA.

The site was listed on this database as Chemcentral and Univar. No significant information was provided in these listings. However, based on our professional opinion, these listings are most likely associated with Chemcentral and Univar operations as a chemical distribution facility and would not be considered an environmental concern to the site.

7.16.3. Statewide Cleanup Program Sites-Spills, Leaks, Investigations, and Cleanups (CPS-SLIC)

This database is maintained by the State Water Resources Control Board (SWRCB) for Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) which are listed on GeoTracker for sites that impact, or have the potential to impact, water quality in California, with an emphasis on groundwater.

The site was listed on this database as Chemcentral with a CPS-SLIC case statuses listed as "Open – Site Assessment" and "Open – Inactive". The listing indicated groundwater, soil, and soil vapor may have been impacted with alcohols, 1,1,1-TCA, benzene, chlorinated hydrocarbons, PCE, toluene, TCE, vinyl chloride, xylene, gasoline, solvents, and VOCs.

7.16.4. California Hazardous Material Incident Report System (CHMIRS)

This database contains information on reported hazardous material incidents (accidental releases or spills).

The site was listed as Univar and Chemcentral. In 1995, the SFSFD was notified of a reported release of approximately 20-gallons of methylene chloride. The listing indicated there was leakage found through "discharge flanges" which was dripping liquid and releasing vapor and reportedly not contained. The location of the release was not included in the listing. In 1999, two incidents of a tanker truck being overfilled resulted in a release of approximately 152-gallons of methyl isobutyl ketone and approximately 100-gallons of "TXIB Plasticizer". In 2000, one incident of an overfilled tanker truck resulted in the release of approximately 150-gallons of "EEP". The incidents in 1999 and 2000 were noted to have been contained and cleaned up. In 2011, during a reported theft at the site, approximately 1-gallon of cyclohexane was spilled at the site. The location of the spill was not noted in the listing. As previously discussed, in 2012 a tanker truck was overfilled which released approximately 1,700-gallons of acetone and water mixture onto cement in a diked area. See Section 7.8 for further discussion on this incident.

Based on the limited quantity involved in the spills reported in 1995 and 2011, these releases would not be considered an environmental concern to the site. Based on information obtained during the site reconnaissance, the releases in 1999, 2000, and 2011 most likely occurred in the Transfer Pump area (Figure 3). Based on the number of releases reported and the various chemicals being transferred in this area, the Transfer Pump area would be considered an environmental concern to the site.

7.16.5. Emissions Inventory Data (EMI)

This database is maintained by the Air Resources Board (ARB) and local air pollution agencies.

The site was listed between 1987 and 2015 for emissions associated with total organic hydrocarbon gases and reactive organic gases. Based on the type of chemicals, this listing would not be considered an environmental concern to the site.

7.16.6. Hazardous Waste and Substance Site List (HIST CORTESE)

This database lists sites that are designated by the SWRCB LUST cases, the Integrated Waste Board [SWS/LS], and the DTSC. This database is no longer updated.

The site was listed however, no significant information was provided. The site was most likely listed for leaks associated with the removed USTs. See Section 3.7 for further discussion regarding these former features.

7.16.7. Hazardous Materials Information Reporting System (HMIRS)

This database is maintained by the United States Department of Transportation (DOT) and contains incidents of hazardous material spills.

The site was listed in this database. A 2005 listing for the site indicated an incident of a spill. No other information was provided. A 2006 listing indicated an incident including a spillage and explosion occurred at the site. No other information was provided. A 2012 listing referenced the release of acetone and water mixture as previously discussed. See Section 7.8 for further discussion of this incident.

7.16.8. Toxic Chemical Release Inventory System (TRIS)

This database is maintained by the EPA and identifies facilities which release toxic chemicals to the air, water, and land in reportable quantities.

The site was listed as a RCRA "Non-Generator" of hazardous waste. No violations were noted. Based on this information, this listing would not be considered an environmental concern to the site.

7.16.9. Enforcement and Compliance History Information (ECHO)

This database is maintained by the EPA and provided integrated compliance and enforcement information for approximately 800,000 facilities nationwide.

The site was listed on this database; however, no information was available for the site. Based on this information, it is unlikely that this listing would be considered an environmental concern to the site.

7.16.10. California Integrated Water Quality System (CIWQS)

This database is maintained by the SWRCB and is a computer system used by the SWRCB and RWQCB to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

The site was listed on this database as Chemcentral in 1998 for a stormwater construction permit with a status listed as terminated. No other significant information was provided. No violations were noted. Based on this information, this listing would not be considered an environmental concern to the site.

7.16.11. Los Angeles County Hazardous Material System (LACHMS)

This database is maintained by the Los Angeles County Department of Public Works and includes industrial waste and UST sites.

The site was listed as "Central Solvent & Chemical Co." and Chemcentral with a permit and facility statuses listed as closed. No other information was provided in this listing. These listings were most likely associated with the historical utilization of USTs at the site. See Section 3.7 for further discussion of these features.

8. VAPOR ENCROACHMENT CONDITION (VEC)

Ardent completed a VEC study for the site using Tier 1 criteria as recommended by ASTM E 2600-15. The Tier 1 screening identifies surrounding facilities that pose a possible vapor intrusion source to the site based on the results of the Phase I ESA investigations and certain criteria outlined by ASTM. These criteria include a certain distance from the target site (referred to by ASTM as within the "area of concern"); the types of chemicals used (referred to by ASTM as the

"chemicals of concern"); and a plume test to determine if the plume associated with a source of contamination is close enough to the site to impact indoor air quality.

As noted in Section 3.7, Univar recently completed sub-slab and indoor air sampling. Laboratory results indicated more elevated concentrations of VOCs in ambient air than in sub-slab soil gas. Based on this information, Univar concluded that no VEC existed. However, in a letter dated July 27, 2018, the RWQCB is requiring a remedial action plan to mitigate soil vapor issues.

As presented herein, Bridge is considering redeveloping the site with a large commercial warehouse. Prior to grading, Bridge will mitigate shallow impacted soil through excavation and off-site disposal. Deeper soil will be remediated through in-situ processes such as SVE. Based on the previous chemical releases and the location of the proposed building, soil vapor intrusion may be present. Based on the proposed mitigation plans, completing a soil vapor investigation at this point would be premature. Following shallow soil remediation and for precautionary measures, Bridge is planning to install a vapor barrier beneath the proposed building. The vapor barrier will eliminate the potential exposure route, and therefore, no vapor intrusion issue will be present.

9. REGULATORY RECORDS REVIEW

The DTSC, RWQCB, South Coast Air Quality Management District (SCAQMD), and SFSFD are lead regulatory agencies for permitting and regulating USTs, ASTs, LUST cases, and facilities that use, store, or generate hazardous waste or hazardous materials. Ardent requested information regarding possible files for the site using current and historic addresses.

9.1. Department of Toxic Substance Control (DTSC)

Ardent reviewed the online DTSC EnviroStor database and requested a public records review. No records were noted in the EnviroStor database or on file for the site.

9.2. Regional Water Quality Control Board, Los Angeles Region (RWQCB)

Ardent reviewed the online SWRCB GeoTracker database and requested records for the site. Records reviewed for the site included documents which were already provided by Univar and/or available for review on GeoTracker. A review of these files are further discussed in Section 3.7.

9.3. South Coast Air Quality Management District (SCAQMD)

Ardent reviewed the online SCAQMD Facility Information Detail (FIND) database and requested a public records review. Due to the storage and distribution of large quantities of various volatile chemicals and petroleum products as part of the operations conducted by Chemcentral and Univar at the site, numerous files were listed in this database. The following summarizes the pertinent files reviewed by Ardent.

In 1960 a permit to operate a "spray booth paint and solvent" (herein referred to as the "1960 Spray Booth") was obtained. Based a review of historical site plans, the 1960 spray booth was located east of the Drum Filling Area (Figure 3). In 1983, permits to operate one 8,000-gallon and one 2,000-gallon mixing tanks (also known as the Former Blend Tanks) were obtained (Figure 3). Between 2001 and 2008, a permit to operate a "spray booth paint and solvent" equipment (herein referred to as the "2001 Spray Booth") was obtained. Based on interviews and information obtained during the site reconnaissance, the 2001 Spray Booth was located within the Former Drum Wash Rack and Drying Area as shown on Figure 4. Chemicals utilized within the spray booth included carcinogenic chemicals listed as xylenes, methyl ethyl ketone, toluene, and phenyl ethane. Based on the utilization of various chemicals and the historical storage of chlorinated solvents at the site, the 1960 Spray Booth, the Former Blend Tanks, and Former Drum Wash Rack and Drying Area (including the 2001 Spray Booth) would be considered an environmental concern to the site. Based on our review, no additional pertinent information regarding the site was obtained on this database.

9.4. Los Angeles County Department of Public Works (LACDPW)

Ardent requested records regarding the site from LACDPW. No records were available for review for the site. According to Mr. Tim Smith of the LACDPW, all files associated with the site were transferred to either the RWQCB or the SFSFD, the current CUPA for USTs in the city of Santa Fe Springs.

As noted here, no case closure documentation or UST removal reports were noted regarding this former release at either the RWQCB or SFSFD. Based on this information, the Former Fuel Tanks apparently are considered an open case, and therefore, would be considered an REC.

9.5. Santa Fe Spring Fire Department (SFSFD)

Ardent requested files regarding the site from the SFSFD. Due to the storage and distribution of large quantities of hazardous chemicals and petroleum products as part of the operations conducted by Chemcentral and Univar at the site, numerous files were available and reviewed by Ardent. Significant environmental records are summarized below.

A Fire Department Inspection Report, dated May 3, 1966, included a site plan which showed the storage of hazardous chemicals within Warehouse 2, including but not limited to, methylene chloride, PCE, and TCE. This site plan also indicated the location of the 1960 Spray Booth; shown as immediately north of a former Boiler Room (Figure 3). Permits issued in the early 1980s by the SFSFD indicated 72 USTs (in 1982) and the 1960 Spray Booth (between 1980 and 1982) were utilized at the site. A Hazardous Waste Release Report issued by the LACDPW indicated the LACDPW was notified in 1991 of a release from a UST of which impacted soil and groundwater with methylene chloride, petroleum 1,1,1-TCA, and BTEX. The document indicated the case was transferred to the RWQCB. A LACDPW Application for Closure document was submitted by Chemcentral in 1994 for the removal of one 8,000-gallon diesel and one 8,000-gallon gasoline UST. An Underground Storage Tank Unauthorized Release Contamination Site Report, dated January 31, 1996, indicated in 1995 a release of unleaded gasoline was discovered during the removal of the 8,000-gallon gasoline tank (referred to as the Former Fuel Tanks) which originated from a leaking pipe (Figure 3). No case closure letter was noted in the SFSFD file. In 1996, a letter dated August 22, 1996, issued by Chemcentral to the SFSFD, indicated an incident of an overfilled tank resulted in a release of approximately 70-gallons of methanol within a contained area. Based on a review of historical site plans, this methanol tank was formerly located in the vicinity of the Former Blend Tanks (Figure 3).

In 1999, documents issued by the SFSFD, indicated two incidents of releases. One of which occurred due to an overfilled tanker truck resulting in a spill of approximately 100-gallons of methyl isobutyl ketone (MIBK). The other incident was due to an overfilled AST located in the Current AST Area resulting in a spill of approximately 50- to 100-gallons of "TXIB Plasticizer" which was noted as contained within the secondary containment system in the Current AST Area (Figure 4). Both of these incidents were noted as being cleaned up. During 1999, three applications were submitted to the SFSFD for the removal of three 12,000-gallon ASTs. No closure documents were noted associated with these ASTs. In a

Removal of Sand and Grease Interceptor letter, dated July 7, 1999, prepared by Earth Tech and submitted to SFSFD, the sand and grease interceptor (also known as a clarifier and herein referred to as "Clarifier A") indicated Clarifier A was removed on February 9, 1999 during the demolition of an air stripper secondary containment pad. Earth Tech proposed that soil sampling requirements for closure of this feature would be met during the completion of the approved site assessment workplan. Subsequently, an Industrial Wastewater Pretreatment Equipment Closure Certification letter, dated October 1, 1999, issued by the SFSFD, indicated closure requirements for Clarifier A, described as located in the south portion of the former drum reconditioning area (also known as the Former Drum Cleaning Area; Figure 3). This document indicated that the closure requirements had been completed based on the review of the Final Closure Report, dated July 7, 1999. The location of Clarifier A was not provided on maps in either of these documents. However, based on the description and other historical maps and information reviewed by Ardent, Clarifier A was most likely located as shown on Figure 3. In a Removal of Concrete Clarifier letter, dated June 18, 1999, prepared by Earth Tech and submitted to SFSFD, a two-stage clarifier (herein referred to as "Clarifier B") was removed on May 14, 1999. The location was described as located in the southwestern corner of the existing loading dock and was used to receive wastewater from the Former Drum Cleaning Area. The location of Clarifier B was not provided on a map attached to this document. However, analytical results of one soil sample collected beneath the clarifier indicated detectable concentrations of acetone (2.1 mg/kg), 1,1-DCA (1.4 mg/kg), chlorobenzene (0.95 mg/kg), 1,3,5-trimethylbenzene (2.7 mg/kg), 1,2,4-trimethylbenzene (11 mg/kg), sec-butylbenzene (1.0 mg/kg), 4-isopropyltoluene (1.4 mg/kg), n-butylbenzene (17 mg/kg), 1,1,1-TCA (25 mg/kg), toluene (2.5 mg/kg), PCE (1.1 mg/kg), total xylenes (5.2 mg/kg), ethylbenzene (0.93 mg/kg), and naphthalene (26 mg/kg). No recommendations were included in this letter. Ardent compared these results to current regulatory guidelines. Based on the analytical results, these concentrations would be considered low and it is unlikely a significant release from Clarifier B has impacted the site. No closure documentation from regulatory agencies regarding Clarifier B was available in SFSFD files. In 1999, a sewer permit dated June 30, indicated the removal of a clarifier. Although no location or additional descriptions were provided, it is our assumption that this permit was associated with the removal of Clarifier A and/or B which were reportedly removed during this time frame. It is our understanding that the

regulatory closure of these two clarifiers will be obtained following soil mitigation in this general area which is being overseen by the RWQCB as per the latest CAO.

As previously discussed in Section 5.5, based on a site plan in files reviewed at the SFSBD (which was attached to sewer permits for the abandonment of two clarifiers) the clarifier shown located immediately west of the Former ASTs (Clarifier A) was noted as removed on June 30, 1999. This site plan also indicated a third clarifier (herein referred to as "Clarifier C"), shown immediately south of the Covered Dock No. 1, was removed on May 14, 1999 which is the same date of removal of Clarifier B. Based on the limited and poorly documented information regarding the removal of clarifiers, at least two and possibly three clarifiers have been removed from the site.

10. FINDINGS, OPINIONS, AND CONCLUSIONS

Based upon the results of this Phase I ESA the following findings and conclusions are provided.

10.1. Findings and Opinions

The following presents a summary of findings associated with this Phase I ESA performed for the subject property, including known or suspect RECs, controlled RECs, and *de minimis* environmental conditions (i.e., conditions that generally do not present a material risk of harm to public health or the environment).

- From at least 1928 through 1938, the site was vacant land. In 1947, the western portion of the site may have been used for residential purposes. In 1952 and 1954, at least 19 small, apparently residential, bunkhouses were noted on the site, possible associated with the surrounding agricultural land use or for employees of the nearby Golden West Refinery. Some additional similar looking structures were also located on the property immediately south of the site. In 1959, the site was developed by Chemcentral, or its predecessors, as a chemical bulk storage, blending, and distribution facility. Chemicals were reportedly transported to the site by railcar via on on-site rail spur located in the northern portion of the property and distributed by trucks and/or rail. The chemicals, including alcohols, ketones, aliphatic and aromatic hydrocarbons, solvents, glycol ether, surfactants, and plasticizers, were stored in clustered USTs and ASTs located in the northwestern portion of the site. In 1998, the site was modernized which included removal of the old USTs and ASTs and replaced with a new plant building and aboveground chemical storage facility located in the southeastern portion of the site. In 2007, Univar acquired Chemcentral and continued similar operations at the site.
- Based on numerous investigations completed at the site, groundwater has been encountered beneath the property in a shallow semi-perched groundwater zone and in a deeper groundwater aquifer. Shallow groundwater has been measured in on-site wells at

depths of approximately 16 to 34 feet bgs) within a groundwater zone referred to by others as the Semi-Perched Aquifer. This groundwater zone is noted in groundwater wells located in the northwestern portion of the site, but is not observed in wells located in the southern and eastern portion of the site. Based on this information, the Semi-Perched Aquifer is considered discontinuous throughout the site. The next groundwater bearing zone is located at depths of approximately 72 to 83 feet bgs within the Artesia Aquifer. Groundwater monitoring activities completed in these zones have discovered free product (aka LNAPLs) at thickness of up to 6 feet in the Semi-Perched Aquifer and up to 12 feet thick in the Artesia Aquifer. Dissolved phase petroleum hydrocarbons and VOCs have been reported in both water bearing zones. Groundwater investigations and future remediation will be completed under the direction and oversight of the RWQCB and as directed in CAOs issued to both Univar and Golden West Refinery.

- Prior to 1998, the chemical mixing and distribution plant was located in the western and northern portion of the site. The operations included 88 USTs and three ASTs clustered in the northwestern corner of the site. This portion of the site also included a Former Drum Cleaning Area, Former SPCC Tank, two clarifiers, a Former Drum Filling Area, and Former Blending Tanks. Two Former Fuel Tanks were located south of the main plant building (referred to as Warehouse 1 and 2, and Former Loading Dock A). During this time, chemicals were delivered to the site by railcar along the northern property line, and distributed by trucks and/or rail. In 1998, Chemcentral decided to modernize the plant by replacing the chemical storage USTs with the Current AST Area and expanding the plant into the southeastern portion of the site. The old Former Drum Filling Area, Former Blending Tanks, Former Drum Cleaning Area, and Former SPCC Tank were replaced with new modernized systems in the southeastern portion of the new plant building.
- Extensive soil investigations related to the former plant operations were completed in 1999 and 2000. In preparation of soil remediation and after removal of the clustered USTs in the Former UST area, horizontal and vertical soil vapor extraction (SVE) wells were installed. However, due to the discovery of free product beneath the site and the complications of comingling groundwater plumes from the Golden West Refinery, soil remediation was postponed until groundwater responsibility could be determined. Univar and Chevron, current owners of the Golden West Refinery property, are in negotiations to mitigate impacted groundwater beneath the site. In 2014, the site was issued a CAO from the RWQCB to mitigate soil and groundwater.
- The two Former Fuel Tanks were removed from the site in 1995 under the direction and oversight of the LACDPW. Following removal, confirmation soil samples were collected beneath the USTs and the associated fuel dispenser, which was reportedly located immediately adjacent to the tanks. Laboratory results of soil samples collected beneath the USTs indicated no detectable to low concentrations of petroleum hydrocarbons. However, petroleum hydrocarbon impacted soil was detected directly beneath the fuel dispenser which was subsequently excavated to a depth of approximately 11 feet bgs. Laboratory results of a confirmation soil sample collected at this depth reportedly contained concentrations of TPHd at 22,000 mg/kg. It should be noted that in later years, the CUPA for UST removal changed from the LACDPW to the SFSFD. According to representatives at the LACDPW, this case was transferred to either the SFSFD or the RWQCB. During Ardent's review of regulatory file information at the SFSFD, RWQCB, and LACDPW, no case closure documentation or UST removal reports were noted

regarding this former release. The information discussed above was obtained from an environmental summary report provided by Univar. Based on this information, the Former Fuel Tanks apparently are considered an open case, and therefore, would be considered an REC.

- Ardent reviewed the previous soil data and compared the results to current regulatory screening levels for the protection of human health. Based on its evaluation, a number of areas of soil contamination exists at the site. These areas are related to former chemical handling, storage, and processing completed prior to 1998. These areas would be considered RECs and are planning to be mitigated under the RWQCB CAO discussed above. The known areas of concern with impacted soil include the following.
  - Railroad Spur along the northern property line;
  - Former Loading Dock A, Former Drum Filling Area, and Former Blend Tanks;
  - Former UST Area and Former ASTs;
  - Former Drum Cleaning Area;
  - Former Fuel Tanks;
  - Two and Possibly Three Former Clarifiers (Clarifiers A, B, and C);
  - Former SPCC Tank; and
  - 1960 Spray Booth.
- As noted above, the plant was modernized in 1998 and expanded to the southeastern portion of the site. No environmental investigations have been completed in this newer portion of the plant. Based on our site reconnaissance and other information obtained during completion of this Phase I ESA, the following areas of possible environmental concern were identified. These areas would also be considered RECs.
  - **Current AST Area** – This area is located in the southeastern portion of the site and consists of 64 ASTs used to store hundreds of thousands of gallons of chemicals. Chemicals delivered to the site by railcars and tanker trucks are transferred to the ASTs through aboveground piping. The Current AST Area is concrete-lined and equipped within secondary containment.
  - **Former Drum Wash Rack and Drying Area** - This area, located within the Drum Storage Area, was formerly used to wash, dry, and paint 55-gallon drums. The paint spray booth, referred to herein as the "2001 Spray Booth," was reportedly permitted in 2001 and was not noted during Ardent's site reconnaissance. This feature was reportedly located in the vicinity of the Former Drum Wash Rack and Drying Area. The drum wash rack and drying area were still present, but were not used. Due to the possible use of paints and solvents in this area, the Former Drum Wash Rack and Drying Area would be considered an environmental concern to the site.
  - **Three-Stage Clarifier** – This feature is located immediately south of the Current AST Area and was previously utilized to treat wastewater associated with the Former Drum Wash Rack discussed above.
  - **SPCC and Transfer Pump** – These areas are located immediately west of the Current UST Area. The Transfer Pump area is used to load and unload chemicals from tanker trucks. During transfer of chemicals, the tanker trucks are staged within

the SPCC area. The SPCC area is a concrete-lined, bermed area used to contain accidental spillage. Floor drains within the SPCC area transfer chemical spills to a large concrete-lined Containment Pond located in the southwestern portion of the site. A number of releases have been reported in this area, namely a 2012 incident in which 1,700-gallons of acetone was released due to an overfilled tanker truck.

- **Containment Pond** – This area is located in the southwestern portion of the site and used for containing stormwater runoff and emergency spill containment from various areas throughout the site.

- **Pump House** – This feature is located immediately west of the Current AST Area and is utilized for mixing, pumping and filling smaller containers with solvent based chemicals. The Pump House contains the White Room which is utilized for mixing, pumping, and filling smaller containers with food-grade chemicals.
- **Floor Drains** – A number of floor drains were observed in areas throughout the site including Covered Dock No. 1, Covered Dock No. 2, Current AST Area, Drum Storage Area, SPCC area, and Transfer Pump. These floor drains transfer wastes to the Containment Pond.
- **Warehouse 1 and 2** – These warehouses were constructed in 1959 and 1964 and were reportedly used to store and distribute chemicals. Although no reported chemical mixing or transferring activities were noted in these buildings during Ardent's site reconnaissance, due to the longevity of chemical handling in these buildings and the fact that no investigations have been conducted to-date, these areas would be considered a possible environmental concern to the site.
- **Former 1960 Spray Booth** – A spray booth was located immediately east of the Former Drum Filling Area. The spray booth, herein referred to as the "Former 1960 Spray Booth", was permitted between at least 1960 and 1982. Based on the utilization of chlorinated solvents throughout the site during this time, this feature would be considered an environmental concern to the site. Although this feature has not been specifically targeted during previous investigations, it lies within the Former Loading Dock A which has undergone extensive investigations. Based on this information, no further investigations would be needed in the vicinity of this former feature.

- Based on the age of the older buildings (i.e. Warehouse 1, Warehouse 2, and the Office Building constructed between 1959 and 1964), ACMs and LBP may be present. Based on the age of the remaining buildings (constructed after 1998), friable ACMs and LBP are not likely present.
- No other on- or off-site environmental concerns were noted.

10.2. Conclusions

Ardent has performed this Phase I ESA and Document Review in general conformance with the scope and limitations of the ASTM Practice E 1527-13, ASTM Practice E 2600-15, and the EPA Standards and Practices for AAI, Final Rule (40 CFR, Part 312), for the Univar USA Inc. Facility located at 13900 Carmenita in Santa Fe Springs, California. Any

limitations or exceptions encountered during completion of this report are stated in Section 1.4. Based on the information received to date, no evidence or indication of RECs, HRECs, CRECs, or conditions indicative of releases or threatened releases of hazardous substances on, at, in, or to the subject property has been revealed, with the exception of the following.

HRECs

No HRECs were identified during completion of this investigation.

RECs

The following RECs have been identified at the site:

- Railroad Spur along the northern property line;
- Former Loading Dock A, Former Drum Filling Area, and Former Blend Tanks;
- Former UST Area and Former ASTs;
- Former Drum Cleaning Area;
- Former Fuel Tanks;
- Two and Possibly Three Former Clarifiers (Clarifiers A, B, and C)
- Former SPCC Tank
- 1960 Spray Booth
- Current AST Area
- Former Drum Wash Rack and Drying Area
- Three-Stage Clarifier
- SPCC and Transfer Pump
- Containment Pond
- Pump House
- SPCC
- Transfer Pump
- Floor Drains
- Warehouse 1 and 2

CRECs

No CRECs were identified during completion of this investigation.

Other Environmental Considerations

Although not considered a REC in accordance with ASTM Standards, ACMs and LBP are likely present.

11. RECOMMENDATIONS

Based on the results of this Phase I ESA, Ardent presents the following recommendations.

- A comprehensive soil investigation should be completed in specific areas of the site to fill in data gaps from previous investigations and to investigate the newly identified environmental concerns presented in this Phase I ESA. The data will be used to assess the area and volume of shallow impacted soil that will be encountered during grading and redevelopment. Prior to mass grading, shallow impacted soil (less than 5 feet bgs) should be excavated and removed from the site. Deep impacted soil will likely be remediated after site redevelopment with in-situ treatment, such as SVE.
- The lead regulatory agency for the closure of the Former Fuel Tanks should be determined and case closure should be obtained. This might include completing additional investigations and/or remediation of the petroleum hydrocarbon impacted soils.
- The existing Three-Stage Clarifier should be removed under the direction and oversight of the local CUPA and in accordance with current regulatory guidelines.
- Following acquisition, Bridge should notify the RWQCB of its purchase and planned redevelopment/remedial actions as per the current CAO.
- Prior to demolition, a comprehensive asbestos and LBP survey should be completed. If present, ACMs and/or LBP should be removed (ACMs) or stabilized (LBP) prior to demolition activities.
- A Soil Management Plan (SMP) should be prepared for use during shallow soil remediation, grading, and redevelopment activities.
- A vapor barrier should be installed beneath the future building for precautionary measures.

12. SELECTED REFERENCES

Earth Tech, Inc. (Earth Tech), 1999, Underground Storage Tank Removal and Closure Report, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Chemcentral Corporation, Bedford Park, Illinois, dated May 7.

Earth Tech, Inc. (Earth Tech), 1999, Site Assessment Report, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Chemcentral Bedford Park, Bedford Park, Illiniois, dated October 15.

Earth Tech, Inc. (Earth Tech), 2000, Additional Site Assessment Report, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Chemcentral Corporation, Bedford Park, Illiniois, dated October 30.

Enviropro, Inc., 2008, Site Summary Report, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Univar USA, Inc., Conifer, Colorado, dated December 15.

Environmental Database Research (EDR), 2018, Regulatory Database Report, dated August 3.

Environmental Resources Management, Inc. (ERM), 2014, Phase I Environmental Site Assessment, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Univar USA, Inc., Santa Fe Springs, California, dated December 23.

Environmental Resources Management, Inc. (ERM), 2016, Indoor Air Quality Assessment, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Univar USA, Inc., Santa Fe Springs, California, dated May 2.

Environmental Resources Management, Inc. (ERM), 2016, Supplemental Site Investigation Report, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Univar USA, Inc., Santa Fe Springs, California, dated May 15.

Environmental Resources Management, Inc. (ERM), 2017, Indoor Air Quality Assessment – Second Event 2016, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Univar USA, Inc., Santa Fe Springs, California, dated January 13.

Environmental Resources Management, Inc. (ERM), 2018, Semiannual Groundwater Monitoring Report, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Univar USA, Inc., Santa Fe Springs, California, dated July 13.

Los Angeles Regional Water Quality Control Board (RWQCB), 2014, Cleanup and Abatement Order No. R4-2014-0130, 13900 Carmenita Road, Santa Fe Springs, California: Prepared for Univar USA Inc., Nampa, Idaho, dated September 17.

Los Angeles Regional Water Quality Control Board (RWQCB), 2018, Review of Technical Reports Pursuant to Cleanup and Abatement Order No. R4-2014-0130 and Amendment to Cleanup and Abatement Order No. R4-2014-0130, 13900 Carmenita Road, Santa Fe Springs, California: Prepared for Univar USA Inc., Fuquay Varina, North Carolina, dated July 27.

Rubicon Engineering Corporation, 2011, Subsurface Environmental Investigation Summary Report, 13900 Carmenita Road, Santa Fe Springs, California: Report prepared for Univar USA Inc., Conifer, Colorado, dated July 15.

13. QUALIFICATIONS STATEMENT AND SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

Mr. Paul Roberts states that the Phase I ESA was performed under his direct supervision, and that he has reviewed and approved the report, and the methods and procedures employed in the development of the report conform to the minimum industry standards. Mr. Roberts certifies that Ardent project personnel and subcontractors are properly licensed and/or certified to do the work described herein.

Pursuant to Paragraph 12.13 of the ASTM Standard E1527-13:

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental professional* as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Paul A. Roberts
Principal Geologist

APPENDIX C
LOW IMPACT DEVELOPMENT (LID) REPORT

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LOW IMPACT DEVELOPMENT (LID) PLAN FOR 13900 CARMENITA ROAD

CITY OF SANTA FE
CALIFORNIA

PREPARED BY:

JLC Engineering & Consulting, Inc.

41660 IVY STREET
MURRIETA, CA 92562
(951) 304-9552 • FAX (951) 304-3568

DATE PREPARED:
JUNE 3, 2019
REVISED:

LOW IMPACT DEVELOPMENT (LID) PLAN FOR
13900 CARMENITA ROAD
SANTA FE SPRINGS, CA

This report has been prepared by or under the direction of the following registered civil engineer who attests to the technical information contained herein. The registered civil engineer has also judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.

Joseph L. Castaneda RCE 59835 Registered Civil Engineer	06/03/2019 Date	Seal

O:\265.05.19\Engineering\WQMP\LID Plan.docx

LOW IMPACT DEVELOPMENT (LID) PLAN FOR
13900 CARMENITA ROAD
SANTA FE SPRINGS, CA

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LOW IMPACT DEVELOPMENT (LID) PLAN FOR 13900 CARMENITA ROAD SANTA FE SPRINGS, CA

I. INTRODUCTION

13900 Carmenita Road is an existing industrial site that includes a building and parking lot. A redevelopment project is proposed to remove the existing buildings and parking area and with a site plan replacement that includes a new 150,000 square foot building and parking area. This project is classified as a "Designated Project", specifically as a redevelopment project that replaces 5,000 square feet or more of impervious surface on a site that was previously developed as a designated project. The project site will utilize Filterra Catch Basin Biofiltration Inlets and a subsurface basin system to retain the SWQDv (Stormwater Quality Design Volume) calculated for the project site. It should be noted that based on geotechnical analyses the project would not be allowed to use infiltration based BMPs due to the fact that the in-situ soil is contaminated. Therefore, the used of infiltration type BMPs is not recommended for this project site. The project will be creating new impervious area for the entire project site. This will result in a LID Plan that must demonstrate that the entire project must be treated for water quality purposes.

II. INFILTRATION FEASIBILITY

Based upon the geotechnical report included in Appendix A, the in-situ soil is contaminated. As a result, percolation/infiltration testing was not performed for the project since infiltration type BMPs would not be allowed for the project.

III. SOURCE CONTROL MEASURES

Source Control measures for the project site will be implemented. Per the Source Control Measures Selection Matrix for Projects Creating or Adding ≥ 5,000 ft^2, the following source control measures are required:

Source Control Measure	Implemented?	If No, State Reason
Storm Drain Message and Signage (S-1)	Yes	
Outdoor Material Storage Area (S-2)	No	Project is not storing materials outside
Outdoor Trash Storage/Waste Handling Areas (S-3)	Yes	
Outdoor Loading/Unloading Dock Area (S-4)	Yes	
Outdoor Vehicle/Equipment Repair/Maintenance Area (S-5)	No	Project does not incorporate outdoor vehicle /equipment repair/maintenance areas
Outdoor Vehicle/Equipment Accessory Wash Area (S-6)	No	Project does not incorporate vehicle/equipment accessory wash areas

Fuel & Maintenance (S-7)	No	Project does not incorporate fuel or maintenance areas of any kind
Landscape Irrigation Practices (S-8)	Yes	
Building Materials (S-9)	No	Project does not incorporate building materials
Animal Care and Handling Facilities (S-10)	No	Project does not incorporate animal care and handling facilities
Outdoor Horticulture Area (S-11)	No	Project does not include Horticulture Areas

The project site will incorporate signage on the proposed catch basin inlets and trash receptacle areas stating "no dumping of hazardous waste" or similar. The landscaped areas will incorporate drip irrigation or similar to prevent excess runoff.

IV. CALCULATION OF THE SWQDV

The Stormwater Quality Design Volume (SWQDv) was calculated using the 85th Percentile, 24-hour rain event as determined by the Los Angeles County 85th percentile precipitation isoheytal map since this value is 0.85 inch, as compared to 0.75 inch. The Low Impact Development Standards Manual states that the larger value of 0.75 inch or the 85th percentile, 24-hour rain event value shall be utilized. Therefore, the 0.85 inch rainfall value was utilized in the HydroCalc program to determine a flow rate and volume. The parameters required to assess the project flow rate have been identified on Exhibit B and Exhibit D and are as follows:

- Longest flow path
- Slope of the flow path based on design grades
- Soil Classification of 06 which was obtained from the Los Angeles County Hydrology Manual (see Appendix B)
- 85th Percentile, 24-Hour Rainfall of 0.85 inch, obtained from the Hydrology GIS (see Appendix C)
- Impervious fraction of the drainage areas tributary to each Filterra Catch Basin inlet.
- The drainage area of each sub-watershed for the project site.

The improvements consist of the construction of a building approximately 150,000 ft^2, asphalt and concrete drive aisle, and landscaped area that is approximately 23,500 ft^2. The overall impervious percentage of the project is 91.8%. Accounting for the land cover area where done on Exhibit B & D by measuring the impervious and pervious surfaces. The table below provides a breakdown of the impervious and pervious percentage of the proposed surface areas per subarea:

Table 1 – Land Cover Map for Catch Basins & Inlets

Subarea	Drainage Area (acres)	Inlet Designation	Impervious Percentage	Pervious Percentage	85th % Flow Rate (ft^3/s)
1A	0.35	1A	67%	33%	0.07
2A	1.76	2A	98.8%	1.2%	0.32
3A	0.99	3A	97.7%	2.3%	0.19
4A	0.89	4A	95.8%	4.2%	0.17
5A	0.45	5A	80%	20%	0.12
6A	0.95	6A	86%	14%	0.23
7A	1.19	7A	88%	12%	0.19

Note: Impervious surface include building rooftop, AC pavement, concrete pavement, concrete sidewalk, and other hardscape surfaces

The HydroCalc Rational Method was used to compute a flow rate which has been provided in Table 1. Additionally, the total Stormwater Quality Volume for the 6.58 acres area is calculation results in a 24-hour Runoff Volume of 16,801 ft^3. (0.386 ac-ft) and have been included in Appendix D. This value is utilized for the Stormwater Quality Design Volume.

V. HARVEST AND USE FEASIBILITY

The project site is a redevelopment of an existing site, therefore, implementing harvest and use for the project is not feasible. The project is only constructing 23,500 ft^2 of landscaped area that will implement the use of drip systems and California Native Plant Species.

VI. STORMWATER QUALITY CONTROL MEASURES

The project site will Filterra Catch Basin Inlet to provide a bio-filtration treatment and a subsurface system to store and mitigate the Stormwater Quality volume in a similar fashion as an extended detention basin. Small portions of the proposed driveway that connect to Carmenita Road will not be treated since it is not feasible due to the existing grades. A total of Runoff Volume of 16,801 ft^3 of SWQDv must be treated. Due to the constraints associated with the in-situ soil the proposed design will implement a design that would function similar to the Storm Water Quality Control Measure shown on Table 7-1 of the Low Impact Development Standards Manual by implementing the use of Filterra Catch Basin Inlet (BIO-1 & T-6) and a subsurface basin that will store the SWQDv of 16,801 ft^3 that will also function as an extended detention basin (T-3). Infiltration type Storm Water Quality Control Measure could not be used due to the soil contamination that exist on-site.

VII. HYDROMODIFICATION CONTROLS AND CALCULATIONS

The project site is exempt from implementation of hydromodification controls by meeting the criteria outlined in Section 8.2 of the Low Impact Development Standards Manual Low Impact Development Standards Manual for the following type exemptions:

1. "Redevelopment of a previously developed site in an urbanized area that does not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions."

2. "Project that discharges directly or through a storm drain into a concrete or otherwise engineered channel (i.e. channelized or armored with rip-rap, shotcrete), which in turn, discharges into a receiving water that is not susceptible to hydromodification impacts."

The project is constructing a site with similar land cover, land use conditions and impervious area as what exist to date on the project site. The project is not proposing to increase the impervious area. Moreover, the project will drain through a series of subsurface storm drain systems that connect to the Coyote Creek Flood Control Channel. The Coyote Creek Flood Control ultimately connects to the San Gabriel River Flood Control Channel which discharges runoff into the Pacific Ocean. See Figure 2. These facilities are major engineered channels that are not susceptible to hydromodification. Based on the exemption criteria outlined in the Low Impact Development Standards Manual Low Impact Development Standards Manual, the project site is exempt from hydromodifications.

VIII. PROPOSED MAINTENANCE PLAN

A maintenance plan will be prepared during final engineering.

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APPENDIX D
NOISE WORKSHEETS

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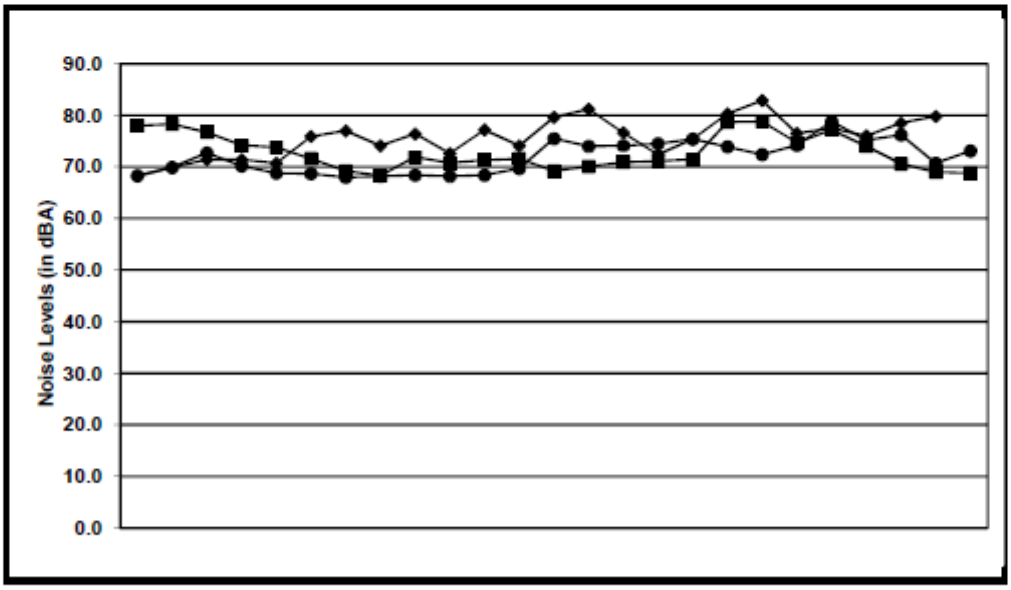
Actual Noise Levels During Measurement				Noise Measurement Results in Leq%				
1-25	26-50	51-75	76-100	L%	1-25	26-50	51-75	76-100
72.5	68.2	78.0	68.3	L_{99}	78.0	82.9	78.8	78.8
73.7	69.9	78.3	69.9		77.4	81.2	78.7	76.2
73.8	71.4	76.7	72.7	L_{90}	76.6	80.3	78.3	75.5
73.3	71.4	74.2	70.2		75.5	79.8	78.0	75.4
73.6	70.7	73.8	68.8		75.1	79.6	77.2	75.2
71.9	75.9	71.6	68.7		74.4	78.5	76.7	74.5
68.8	77.0	69.2	68.0		74.3	77.5	74.7	74.2
68.2	74.1	68.3	68.2		74.1	77.2	74.2	74.1
68.4	76.4	71.9	68.4		73.8	77.0	74.0	74.0
70.3	72.6	70.8	68.2		73.7	76.6	73.8	73.9
72.6	77.2	71.3	68.4		73.6	76.5	71.9	73.1
74.1	74.1	71.6	69.7	L_{50}	73.3	76.4	71.6	72.7
74.3	79.6	69.2	75.5		72.9	76.1	71.6	72.4
72.9	81.2	70.1	74.0		72.9	76.0	71.5	70.7
71.9	76.6	70.9	74.1		72.9	75.9	71.3	70.2
72.9	72.4	71.1	74.5		72.6	75.4	71.1	69.9
75.1	75.4	71.5	75.4		72.5	74.1	70.9	69.7
75.5	80.3	78.7	73.9		71.9	74.1	70.8	68.8
77.4	82.9	78.8	72.4		71.9	72.6	70.6	68.7
78.0	76.5	74.7	74.2	L_{25}	71.9	72.4	70.1	68.4
76.6	77.5	77.2	78.8		71.1	71.4	69.2	68.4
74.4	76.0	74.0	75.2		70.3	71.4	69.2	68.3
72.9	78.5	70.6	76.2	L_{10}	68.8	70.7	69.0	68.2
71.9	79.8	69.0	70.7		68.4	69.9	68.8	68.2
71.1	76.1	68.8	73.1		68.2	68.2	68.3	68.0



Noise Measurements
East side of Carmenita Road
Source: Blodgett Baylosis Environmental Planning

82.9
81.2
80.3
79.8
79.6
78.8
78.8
78.7
78.5
78.3
78.0
78.0
77.5
77.4
77.2
77.2
77.0
76.7
76.6

99%

90%

76.6
76.5
76.4
76.2
76.1
76.0
75.9
75.5
75.5
75.4
75.4
75.2
75.1
74.7
74.5
74.4
74.3
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74.2
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71.9
71.9
71.9
71.9
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71.6
71.5
71.4
71.4
71.3
71.1
71.1
70.9
70.8
70.7
70.7
70.6
70.3

75%

50%

70.2
70.1
69.9
69.9
69.7
69.2
69.2
69.0
68.8
68.8
68.8
68.7
68.4
68.4
68.4
68.3
68.3
68.2
68.2
68.2
68.2
68.0

7335.6
73.356

Construction Noise
Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 08/27/2019
Case Description: Carmenita Warehouse

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Single Family Neighborhood	Residential	73.3	55.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1100.0	0.0
Grader	No	40	85.0		1100.0	0.0
Dozer	No	40		81.7	1100.0	0.0
Backhoe	No	40		77.6	1100.0	0.0
Backhoe	No	40		77.6	1100.0	0.0
Backhoe	No	40		77.6	1100.0	0.0
Front End Loader	No	40		79.1	1100.0	0.0
Front End Loader	No	40		79.1	1100.0	0.0
Front End Loader	No	40		79.1	1100.0	0.0
Tractor	No	40	84.0		1100.0	0.0
Tractor	No	40	84.0		1100.0	0.0
Tractor	No	40	84.0		1100.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	53.9	49.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	58.2	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	54.8	50.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	50.7	46.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	50.7	46.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	50.7	46.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	52.3	48.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	52.3	48.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Page 1

Construction Noise

Front End Loader			52.3	48.3	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Tractor			57.2	53.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Tractor			57.2	53.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Tractor			57.2	53.2	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			
	Total		58.2	61.6	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A			

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APPENDIX E
TRAFFIC IMPACT ANALYSIS

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TRAFFIC IMPACT STUDY
BRIDGE UNIVAR INDUSTRIAL WAREHOUSE
13900 CARMENITA ROAD
SANTA FE SPRINGS, CALIFORNIA

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Prepared for

CITY OF SANTA FE SPRINGS
PLANNING DEPARTMENT
11710 Telegraph Road
Santa Fe Springs, CA 90670

Attn: Mr. Cuong Nguyen, Senior Planner
Tel: 562-868-0511 Ext. 7359
Email: cuongnguyen@santafesprings.org

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Prepared by

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1475 Glen Oaks Boulevard
Pasadena, CA 91105
Tel: 818-730-1970

Under the Supervision of:
Patrick B. Lang, P.E
Registered Traffic Engineer

October 14, 2019

CCE2019-12 PBL/MYR

TRAFFIC IMPACT STUDY
BRIDGE UNIVAR INDUSTRIAL WAREHOUSE
13900 CARMENITA ROAD
SANTA FE SPRINGS, CALIFORNIA

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PREPARER'S CERTIFICATION

TRAFFIC IMPACT STUDY
BRIDGE UNIVAR INDUSTRIAL WAREHOUSE
13900 CARMENITA ROAD
SANTA FE SPRINGS, CALIFORNIA

This is to certify that the above titled traffic study has been prepared under the supervision of Patrick B. Lang, P.E, a Professional Traffic Engineer, registered in the State of California.

Patrick B. Lang, P.E, Registration #: TR-875	10-14-2019 Date	Professional Engineer's Stamp

TRAFFIC IMPACT STUDY
BRIDGE UNIVAR INDUSTRIAL WAREHOUSE
13900 CARMENITA ROAD
SANTA FE SPRINGS, CALIFORNIA

EXECUTIVE SUMMARY

The purpose of this traffic impact analysis is to evaluate the impacts on traffic circulation system due to the proposed operation of Bridge Univar Industrial Warehouse project in the City of Santa Fe Springs, California. The proposed project will be located at 13900 Carmenita Road on the east side of Carmenita Road between Rosecrans Avenue and Foster Avenue on a 6.57-acre parcel of developed land. The proposed project consists of construction of a warehouse buildings with a total floor area of 150,548 square feet, including a total of 10,000 square feet for ancillary office uses (5,000 square feet on the first floor and 5,000 square feet in the mezzanine).

The following are the key objectives of the study:

- Documentation of existing 2019 traffic conditions in the vicinity of the site.
- Determination of Project Opening Year (2021) traffic conditions and level of service (LOS) without and with the project.
- Determination of project related impacts to the circulation system, and
- Identification of mitigation measures to reduce any significant impacts to a level of insignificance.

The study included evaluation of the following six key intersections in the general vicinity of the site:

- Carmenita Road and I-5 Northbound Off/On-Ramps (Signalized)
- Carmenita Road and I-5 Southbound Off/On-Ramps (Signalized)
- Carmenita Road and Rosecrans Avenue (Signalized)
- Carmenita Road and Foster Road (Signalized)
- Carmenita Road and Imperial Highway (Signalized)
- Rosecrans Avenue and Marquardt Avenue (Signalized)
- Rosecrans Avenue and Valley View Avenue (Signalized)

The proposed Bridge Univar Industrial Warehouse project is estimated to generate approximately 346 new one-way PCE trips per average day (173 inbound and 173 outbound). The average weekday new peak hour PCE trips will be approximately 34 trips during the AM peak hour (26 inbound and 8 outbound), and 39 trips during the PM peak hour (9 inbound and 30 outbound).

Based on the results of the traffic impact analysis, the proposed Bridge Univar Industrial Warehouse project would not significantly impact any of the key intersections analyzed in the surrounding roadway system. The addition of project traffic will not increase the volume to capacity (V/C) ratios at these intersections beyond the significance thresholds of project related impacts as defined in the City's Traffic Study Guidelines. Therefore, no off-site mitigation measures would be necessary for the development of this project.

Vehicular access by passenger cars and trucks will be provided by two driveways from Carmenita Road - one near the northerly property line and one near the southerly property line. Traffic volume accessing the driveways by making left turns is expected to be low and is not expected to cause any significant on-street delays or long queues. Adequate sight distance is available from the driveways along both directions on Carmenita Road.

A total of 198 parking spaces, including a total of 6 (six) ADA accessible parking spaces, will be provided on-site for the proposed Bridge Univar Industrial Warehouse project in accordance with the parking code requirements of the City of Santa Fe Springs. In addition, a total of 4 trailer parking spaces will also be provided. The project's parking supply will adequately satisfy the City's parking requirement of 198 spaces plus 4 trailer spaces per code.

TRAFFIC IMPACT STUDY
BRIDGE UNIVAR INDUSTRIAL WAREHOUSE
13900 CARMENITA ROAD
SANTA FE SPRINGS, CALIFORNIA

INTRODUCTION

The purpose of this traffic impact analysis is to evaluate the impacts on traffic circulation system due to the proposed operation of Bridge Univar Industrial Warehouse project in the City of Santa Fe Springs, California. The proposed project will be located at 13900 Carmenita Road on the east side of Carmenita Road between Rosecrans Avenue and Foster Avenue on a 6.57-acre parcel of developed land. The proposed project consists of construction of a warehouse buildings with a total floor area of 150,548 square feet, including a total of 10,000 square feet for ancillary office uses (5,000 square feet on the first floor and 5,000 square feet in the mezzanine).

The following are the key objectives of the study:

- Documentation of existing 2019 traffic conditions in the vicinity of the site.
- Determination of Project Opening Year (2021) traffic conditions and level of service (LOS) without and with the project.
- Determination of project related impacts to the circulation system, and
- Identification of mitigation measures to reduce any significant impacts to a level of insignificance.

The report provides data regarding existing operational characteristics of traffic in the general vicinity of the project, as well as an analysis of the proposed project's impacts to these existing and anticipated future traffic conditions. The report identifies and quantifies the impacts at key intersections and attempts to address the most appropriate and reasonable mitigation strategies at any impacted intersections which are identified to be operating at a deficient level of service.

This report investigates existing 2019 and anticipated future 2021 opening year traffic operating conditions. The study has been prepared per City of Santa Fe Springs's latest Traffic Impact Study Guidelines.

REPORT METHODOLOGY

STUDY APPROACH

This report approaches the task of identifying and quantifying the anticipated impacts to the circulation system with a structured, "building block" methodology. The first step is to inventory and quantify existing conditions. Upon this foundation of fact, a travel forecast model, based on physical and operational characteristics of road network and manual observation of peak hour traffic movements, is structured for the entire project area and calibrated manually, by adjusting any traffic flow inconsistency, to produce reliable output, verifiable with the existing data. With the project traffic calculated and distributed onto the study area, at the anticipated opening year of the project in 2021, the travel forecast methodology is utilized to assess the project's traffic impacts at that time. The methodology utilizes a growth factor for traffic based upon regional guidelines, any other projects in the project vicinity, as well as the traffic anticipated to be introduced from the proposed project to produce the travel forecast and level-of-service data for the future target year.

The trip generation estimate is based on the 10th edition of Institute of Transportation Engineers (ITE)'s "Trip Generation" manual. Research and interviews have been conducted with local and regional agencies in order to identify and characterize the most probable trip distribution patterns within the study area.

Project impacts are identified for the future year 2021 conditions. At those intersections operating deficiently (e.g., at a level worse than LOS D) and significantly impacted by the proposed project, a mitigation measure is identified and applied, and a before-and-after mitigation analysis conducted.

LEVEL OF SERVICE CRITERIA

Roadway operations and the relationship between capacity and traffic volumes are generally expressed in terms of levels of service (LOS). Levels of service are defined as LOS A through F. These levels recognize that, while an absolute limit exists as to the amount of traffic traveling through a given intersection (the absolute capacity), the conditions that motorists experience deteriorate rapidly as traffic approaches the absolute capacity. Under such conditions, congestion as well as delay is experienced. There is generally instability in the traffic flow, which means that relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays. This near-capacity situation is labeled LOS E. Beyond LOS E, capacity is exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it. An upstream queue will form and continue to expand in length until the demand volume reduces.

A complete description of the meaning of level of service can be found in the Highway Research Board's Special Report 209 titled *Highway Capacity Manual*. The manual establishes the definitions for levels of service A through F. Brief descriptions of the six

levels of service, as extracted from the manual, are listed in **Table 1.** The thresholds of level of service for signalized and unsignalized intersections are shown in **Table 2**.

LOS D is the minimum threshold at all key intersections in the urbanized areas. The traffic study guidelines require that traffic mitigation measures be identified to provide for operations at the minimum threshold levels.

For the study area intersections, the Intersection Capacity Utilization (ICU) procedure has been utilized to determine intersection levels of service. Levels of service are presented for the entire intersection, consistent with the local and regional agency policies.

While the level of service concept and analysis methodology provides an indication of the performance of the entire intersection, the single letter grade A through F cannot describe specific operational deficiencies at intersections. Progression, queue formation, and left-turn storage are examples of the operational issues that affect the performance of an intersection, but do not factor into the strict calculation of level of service. However, it provides a volume to capacity (V/C) ratio that is more meaningful when identifying a project's impact and developing mitigation measures. Therefore, this V/C ratio information is included in describing an intersection's operational performance under various scenarios.

TABLE 1
LEVEL OF SERVICE DEFINITIONS

LOS	Description
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally, drivers have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to congestion. In the extreme case, both speed and volume can drop to zero.

TABLE 2
LEVEL OF SERVICE CRITERIA

Level of Service	Two-Way or All-Way Stop Controlled Intersection Average Delay per Vehicle (sec)	Signalized Intersection Average Delay per Vehicle (sec)	Volume to Capacity (V/C) Ratio
A	0 - 10	< or = 10	0 – 0.60
B	> 10 - 15	> 10 - 20	> 0.60 – 0.70
C	> 15 - 25	> 20 - 35	> 0.70 - 0.80
D	> 25 - 35	> 35 - 55	> 0.80 – 0.90
E	> 35 - 50	> 55 - 80	> 0.90 – 1.00
F	> 50	> 80 or a V/C ratio equal to or greater than 1.0	> 1.00

EXISTING ROADWAY SYSTEM AND TRAFFIC VOLUMES

EXISTING CIRCULATION NETWORK

In order to assess future operating conditions both with and without the proposed project, existing traffic conditions within the study area were evaluated.

Figure 1, Vicinity Map, illustrates the existing circulation network within the study area as well as the location of the proposed project.

Figure 2 shows an aerial view of the circulation network. Major north-south regional access to the site is provided by Carmenita Road. Major east-west regional access is provided by Rosecrans Avenue, and Imperial Highway.

The project will provide two full-access driveways for both passenger cars and trucks on Carmenita Road.

FIGURE 1: VICINITY MAP

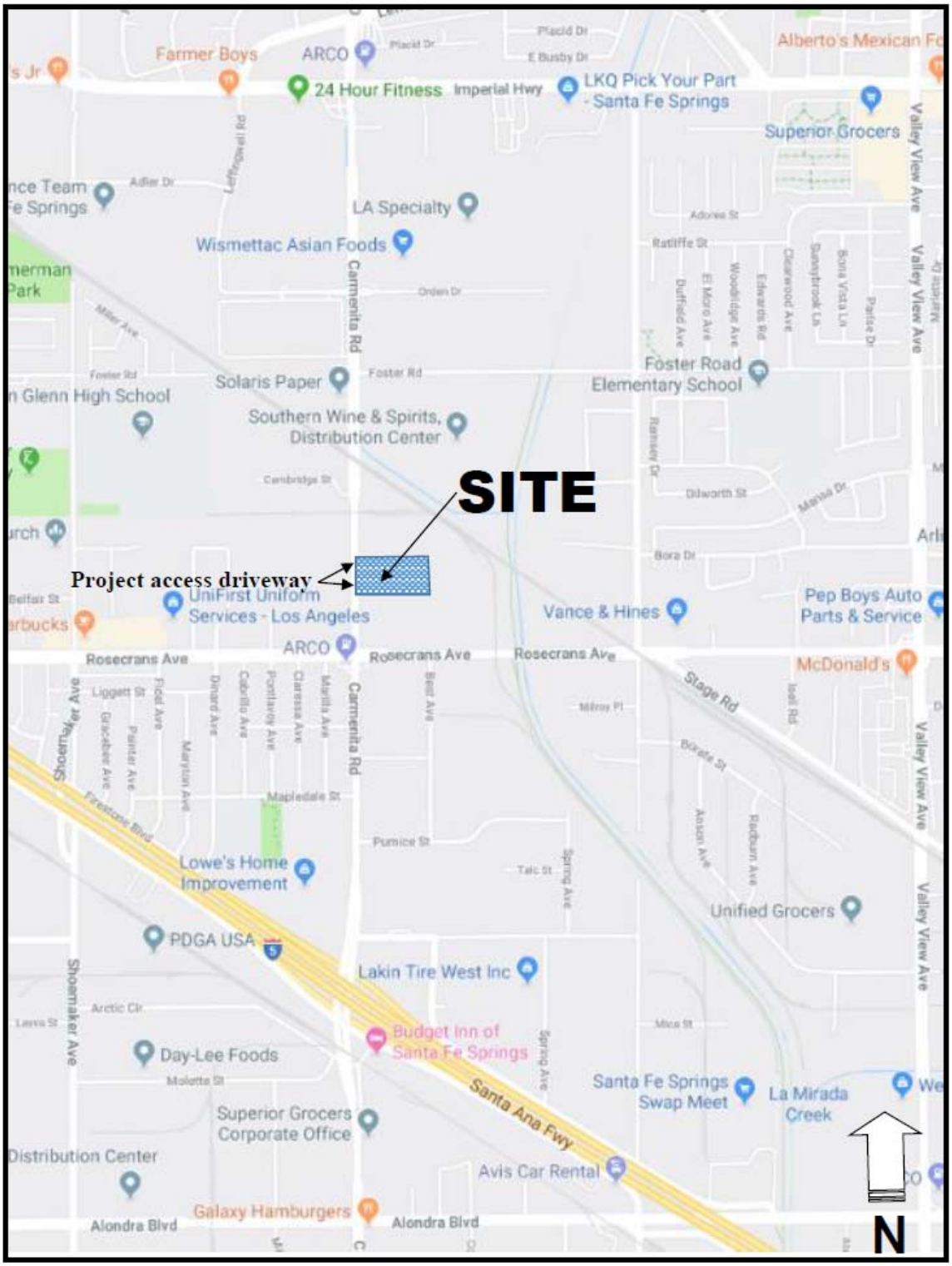
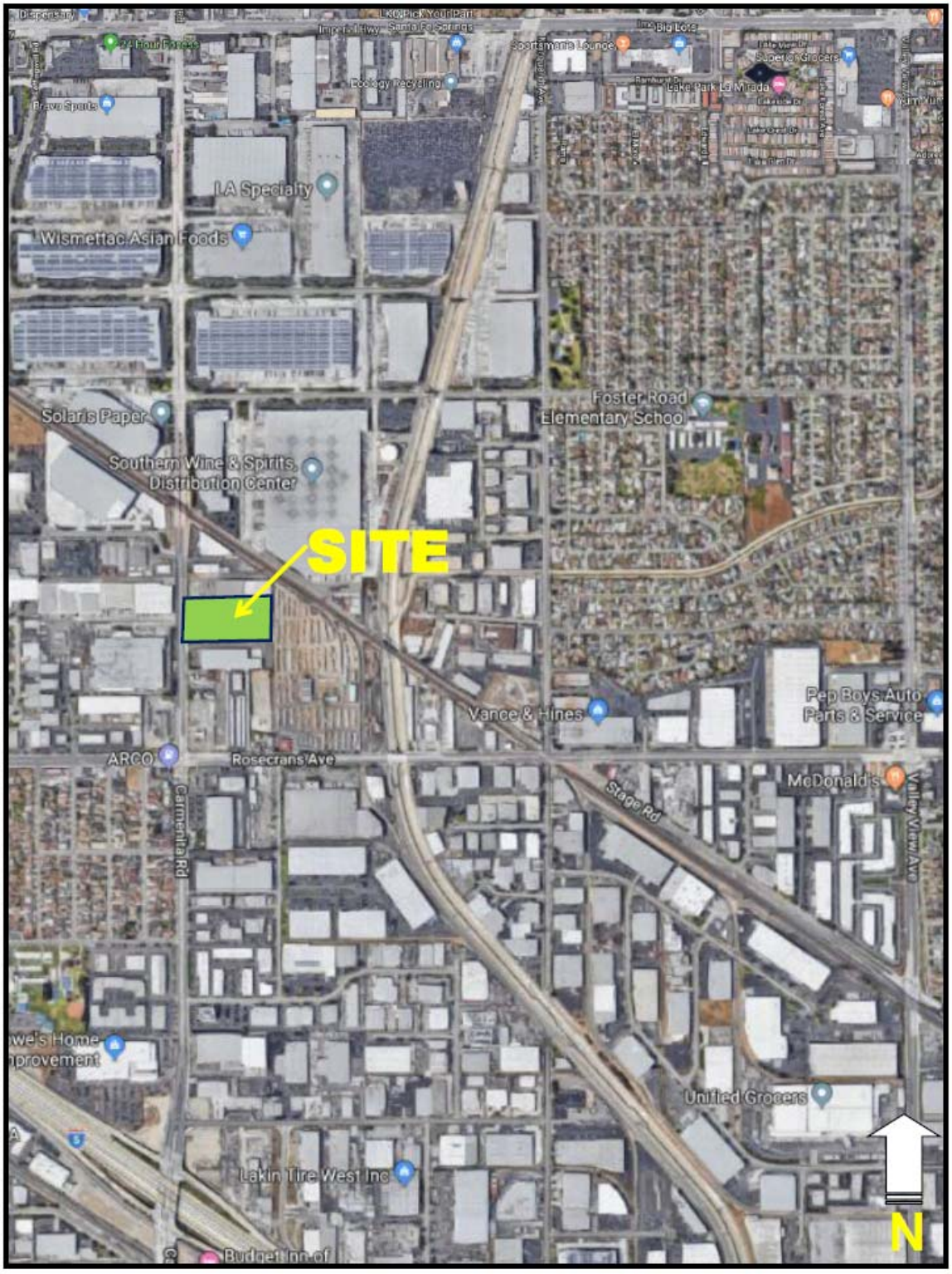


FIGURE 2: AERIAL VIEW OF CIRCULATION NETWORK



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The following paragraphs provide a brief description of the existing roadways which comprise the circulation network of the study area, providing the majority of both regional and local access to the project.

CARMENITA ROAD. Carmenita Road is a major north-south arterial street with two travel lanes in each direction plus a two-way turn lane in the center. The street is approximately 80 feet wide and posted with a speed limit of 45 miles per hour. Most of the intersections are signalized and exclusive left- and right-turn lanes are provided at major intersections. On-street parking is prohibited along the sides of the street. The intersection of Carmenita Road and Rosecrans Avenue, as well as Carmenita Road Imperial Highway are signalized. Parking is permitted along the sides of the street. The average daily volume on Carmenita Road is approximately 30,230 vehicles per day (assuming PM peak hour volume counted on Carmenita Road represents approximately 10% of its average daily traffic volume).

ROSECRANS AVENUE. Rosecrans Avenue is a major east-west arterial street with two travel lanes in each direction. The street is approximately 76 feet wide and posted with a speed limit of 45 miles per hour. Directional travels are separated by a two-way turn lane in the center of the street. Most of the intersections are signalized and exclusive left- and right-turn lanes are provided at major intersections. On-street parking is prohibited along the sides of the street. The intersection of Rosecrans Avenue at Carmenita Road as well as Marquardt Avenue and at Valley View Avenue are signalized. The average daily volume on Rosecrans Avenue is approximately 25,720 vehicles per day (assuming PM peak hour volume counted on Rosecrans Avenue represents approximately 10% of its average daily traffic volume).

IMPERIAL HIGHWAY. Imperial Highway is a major east-west arterial street with three travel lanes in each direction. The street is approximately 80 feet wide and posted with a speed limit of 45 miles per hour. Most of the intersections are signalized and exclusive left- and right-turn lanes are provided at major intersections. Directional travels are separated by a raised median island along the center of the street. The intersection of Imperial Highway at Camenita Avenue is signalized. Parking is not permitted along the sides of the street. The average daily volume on Imperial Highway is approximately 24,670 vehicles per day (assuming PM peak hour volume counted on Imperial Highway represents approximately 10% of its average daily traffic volume)

EXISTING TRAFFIC VOLUMES

For the purpose of evaluating existing operating conditions as well as future operating conditions with and without the proposed project, the study area was carefully selected in accordance with local traffic study guidelines. Manual turning movement counts for the selected intersections were collected in the field for the morning and evening peak periods during the month of August 2019. The intersections were counted during the peak hours of 7:00 to 9:00 AM and 4:00 to 6:00 PM on a typical weekday (Tuesday, Wednesday or Thursday) in a non-holiday school week. It was determined that the following 6 (six) key intersections would be analyzed in the study:

- Carmenita Road and I-5 Northbound Off/On-Ramps (Signalized)
- Carmenita Road and I-5 Southbound Off/On-Ramps (Signalized)
- Carmenita Road and Rosecrans Avenue (Signalized)
- Carmenita Road and Foster Road (Signalized)
- Carmenita Road and Imperial Highway (Signalized)
- Rosecrans Avenue and Marquardt Avenue (Signalized)
- Rosecrans Avenue and Valley View Avenue (Signalized)

Existing lane configurations at the key intersections are shown in **Figure 3**.

Existing turning movement counts for AM and PM peak hour conditions are shown in **Figure 4.** Detailed turning movement counts are included in the Technical Appendix of this report.

EXISTING 2019 TRAFFIC CONDITIONS

Year 2019 existing traffic conditions were evaluated using the Intersection Capacity Utilization (ICU) method of level of service (LOS) analysis for signalized intersections.

Table 3 presents existing condition intersection level of service (LOS) analysis summary. Detailed calculations relating to the study intersections are included in the Technical Appendix of this report.

Based on the results of this analysis, 4 of the 7 study intersections are operating at an acceptable level of service (i.e., LOS D or better) during the AM and PM peak hours under existing 2019 traffic conditions. The intersections of Carmenita Road and Rosecrans Avenue, Carmenita Road and Imperial Highway, and Rosecrans Avenue and Valley View Avenue are operating at a deficient level (i.e., LOS E) during the PM peak hours, as shown in **Table 3**.

FIGURE 3: EXISTING LANE CONFIGURATION AT KEY INTERSECTIONS

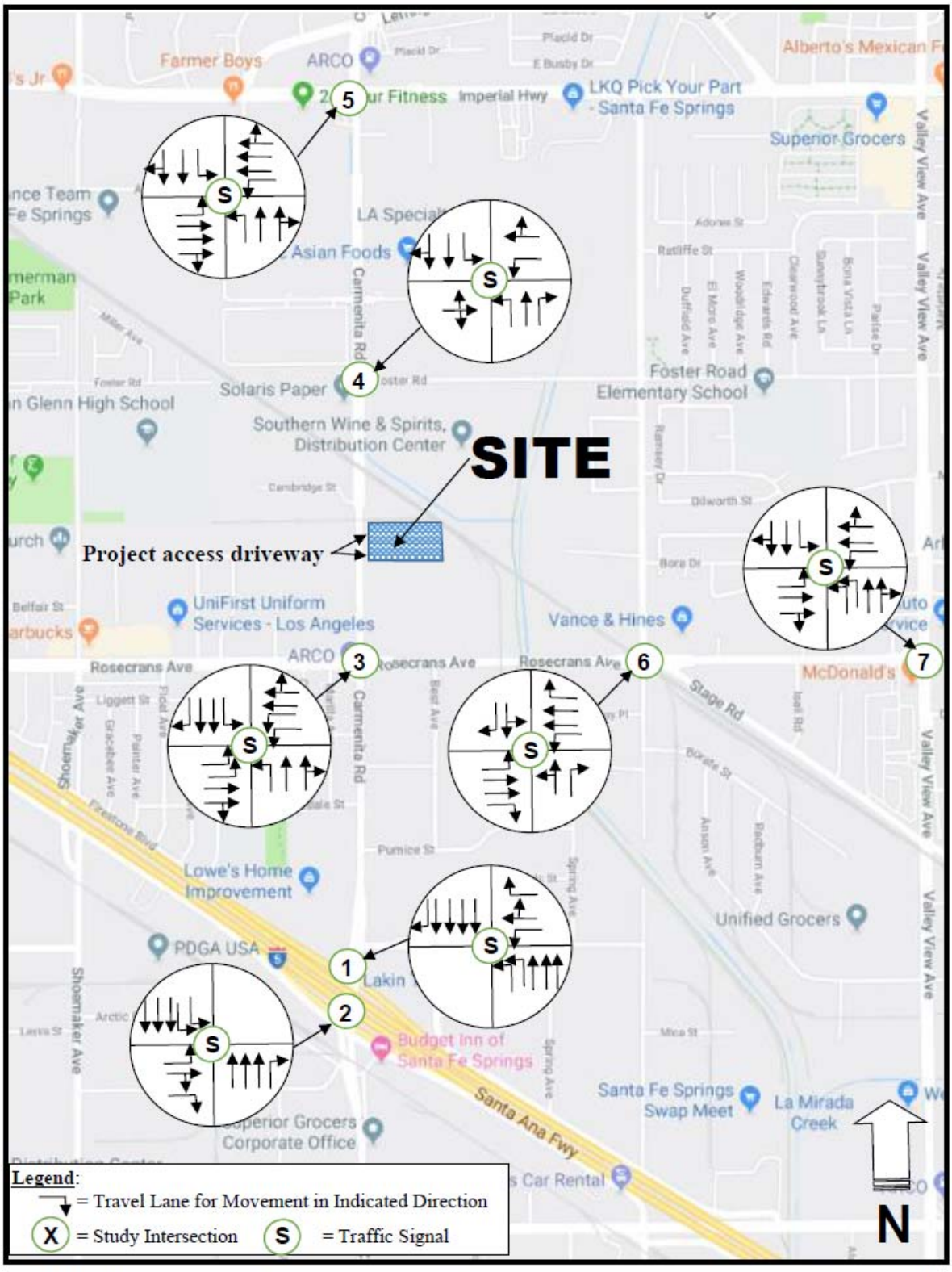


FIGURE 4: EXISTING 2019 TRAFFIC VOLUMES AT KEY INTERSECTIONS

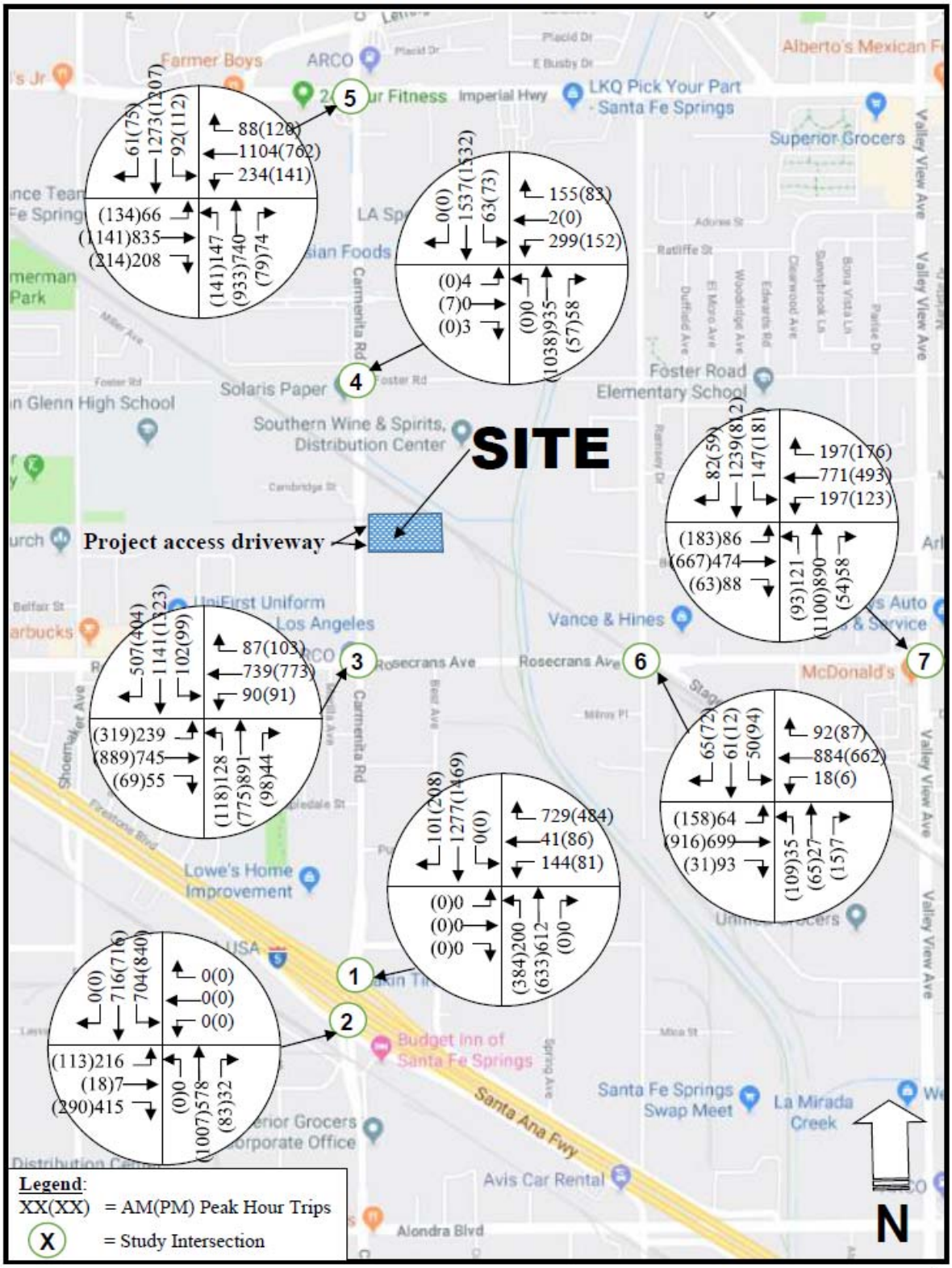


TABLE 3
EXISTING CONDITIONS (2019) LEVEL OF SERVICE SUMMARY

Intersection	Peak Hour	Existing 2019 Conditions	
		LOS	V/C
1. Carmenita Rd and I-5 N/B Off/On-Ramps (Signalized	AM PM	D C	0.825 0.765
2. Carmenita Rd and I-5 S/B Off/On-Ramps (Signalized)	AM PM	B C	0.694 0.730
3. Carmenita Rd and Rosecrans Ave (Signalized)	AM PM	D E	0.878 0.972
4. Carmenita Rd and Foster Rd (Signalized)	AM PM	C B	0.772 0.678
5. Carmenita Rd and Imperial Hwy (Signalized)	AM PM	E E	0.972 0.959
6. Rosecrans Ave and Marquardt Ave (Signalized)	AM PM	A A	0.486 0.514
7. Rosecrans Ave and Valley View Ave (Signalized)	AM PM	E D	0.911 0.897

OPENING YEAR 2021 PRE-PROJECT CONDITIONS

A 1.0 percent per year annual traffic growth rate was applied to existing traffic volumes to create a 2021 base condition (i.e., a factor of 1.02 was applied to 2019 volumes to obtain 2021 base traffic volumes due to ambient growth). This annual traffic growth rate accounts for the population growth within the study area and traffic from any other minor projects to be developed in the study area.

Per City's records, there are two (2) other related projects located within the one and one-half mile radius of the project that will contribute to cumulative traffic volumes with the development of this project.

The locations of these related projects are shown in **Figure 5**.

Trip generation estimates for these related projects were developed by using nationally recognized and recommended rates contained in "Trip Generation" manual, 10th edition, published by the Institute of Transportation Engineers (ITE). ITE also provides information on percentage of truck traffic associated with warehouse/storage land use. For warehouse uses, vehicle trips were calculated in terms of passenger car equivalents (PCE) by using vehicle mix percentages provided for warehouse uses in the City of Fontana's "Truck Trip Generation Study", August 2003. A truck trip is generally equivalent to 2 or 3 passenger car trips depending on the type of trucks. Accordingly, a 2.0 factor was applied to the number of 2-axle and 3-axle truck trips and a 3.0 factor was applied to the number of 4+-axle truck trips to estimate passenger car equivalent (PCE) trips generated by the trucks.

Table 4 shows a summary of trip generation estimates for the related projects. It is estimated that the related projects will generate approximately 2,054 PCE trips per average day (1,027 inbound and 1,027 outbound). The average weekday net new peak hour trips will be approximately 209 PCE trips during the AM peak hour (107 inbound and 102 outbound), and 226 PCE trips during the PM peak hour (111 inbound and 115 outbound).

Figure 5 also shows related projects' trips distributed at the study intersections.

The projected peak hour traffic volumes from these projects were added to existing traffic volumes with ambient growth at the study intersections to represent a 2021 pre-project traffic condition for the AM and PM peak hours. **Figure 6** shows future 2021 pre-project traffic volumes at the study intersections.

This pre-project traffic condition was evaluated using the Intersection Capacity Utilization (ICU) method of level of service (LOS) analysis for signalized intersections. The LOS and V/C ratios for the study intersections under 2021 pre-project conditions (without project) are shown in **Table 5**. Detailed calculations relating to the study intersections are included in the Technical Appendix of this report.

FIGURE 5: RELATED PROJECT LOCATIONS AND DISTRIBUTION OF TRIPS

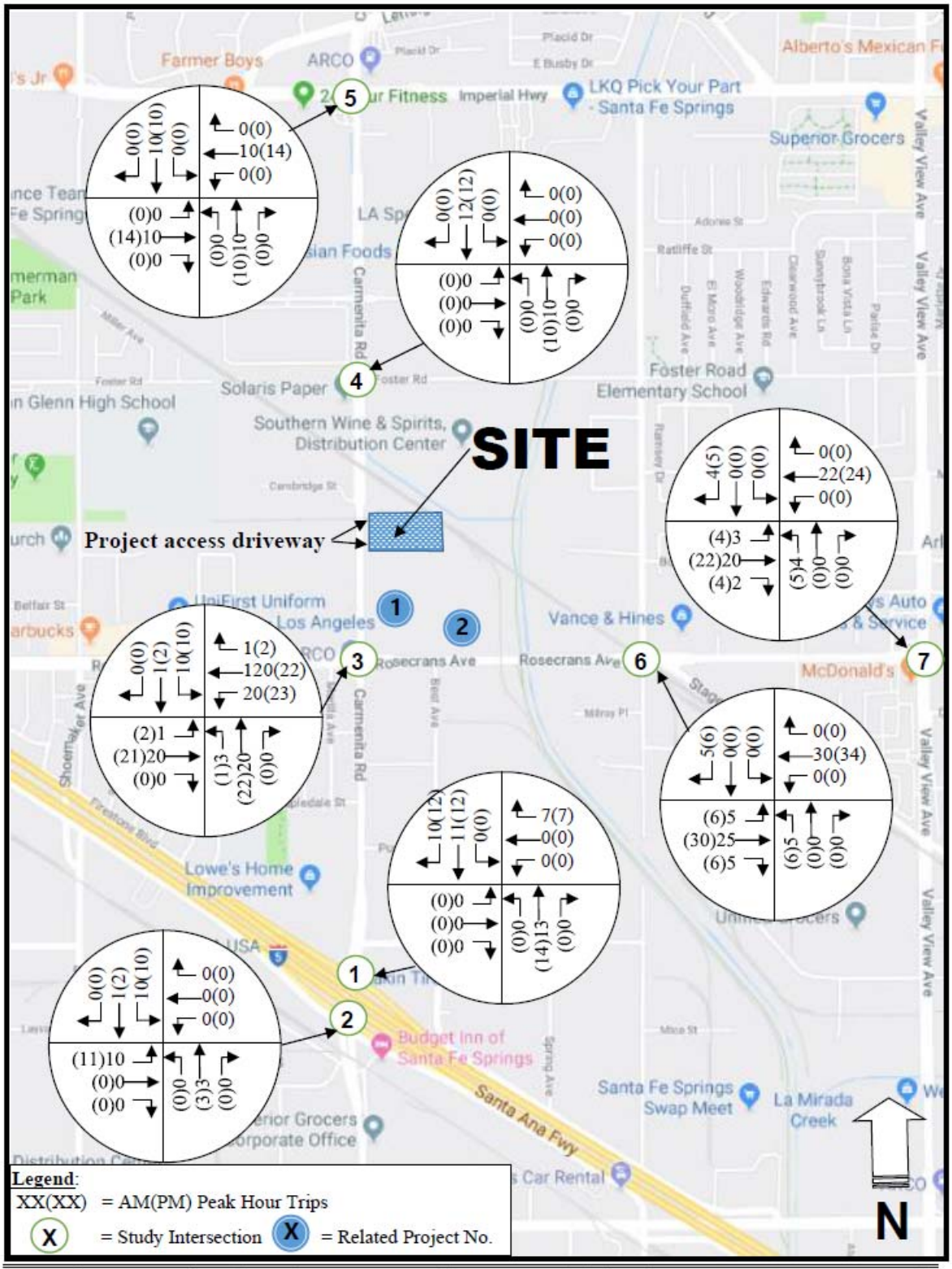


TABLE 4
TRIP GENERATION BY RELATED PROJECTS

Land Use (ITE Code)	Size & Unit	Trip Generation Rate							Average Traffic Volume						
		Daily Total	AM Peak Hour			PM Peak Hour			Daily Total	AM Peak Hour			PM Peak Hour		
			Total	%IN	%OUT	Total	%IN	%OUT		IN	OUT	Total	IN	OUT	Total
Related Project 1: Roy Furuto & Associates: 14114 Carmenita Road – 42,595 SF Industrial Building															
W/Hse (150)	42.594 KSF	1.74	0.17	77%	23%	0.19	27%	73%	74	6	2	7	2	6	8
Passenger Car Equivalent (PCE) Trips:									94	7	2	9	3	7	10
Related Project 2: Roy Furuto & Associates: 13417 Rosecrans Ave – 3,453 SF Gas Stn/Conv Store + 2,635 SFMechanical Car Wash															
Service Stn/Con Store (945)	8 VFP	198.16	20.27	50%	50%	22.36	50%	50%	1,586	81	81	162	89	89	179
Auto Car Wash (948)	2.635 KSF	142.00	14.20	50%	50%	14.20	50%	50%	374	19	19	38	19	19	37
Total Trips:									1,960	100	100	200	108	108	216

Total Trips in PCE:	2,054	107	102	209	111	115	226

Note: All rates are average rates. For warehouse uses, vehicle mix percentages were taken from the City of Fontana's "Truck Trip Generation Study", August 2003 and truck trips were converted into passenger car equivalent (PCE) trips using PCE factors, i.e, one 2-axle or 3-axle truck trip = 2 passenger car trips, and one 4+-axle truck trip = 3 passenger car trips.

For Service Station/Convenience store 8 Vehicle Fueling Position (VFP) was assumed. For Car Wash, daily and AM rates were estimated from PM peak hour rates.

[Ref: Institute of Transportation Engineer's (ITE) "Trip Generation", 10th Edition, 2017]

FIGURE 6: FUTURE 2021 PRE-PROJECT TRAFFIC VOLUMES

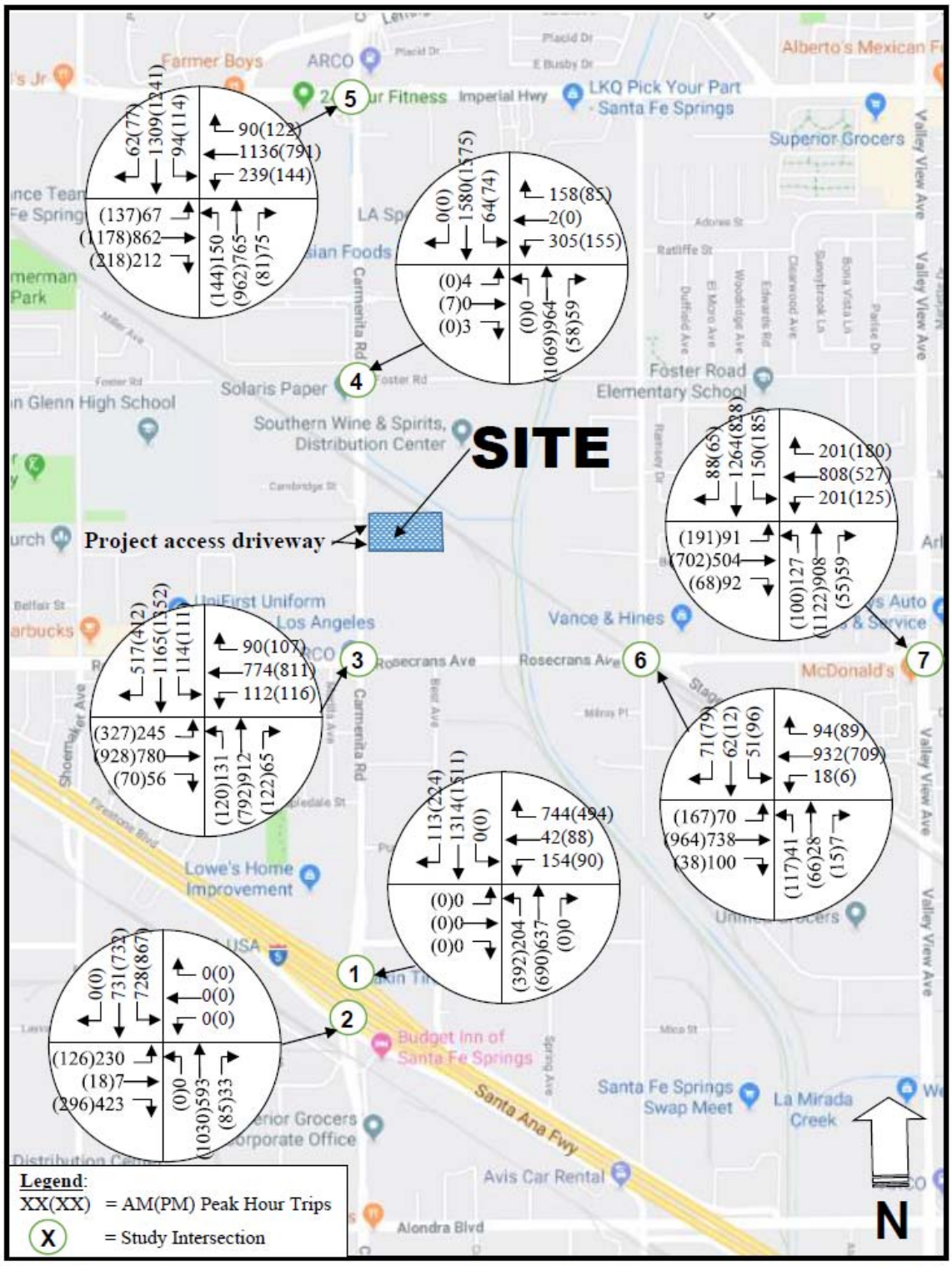


TABLE 5
2021 PRE-PROJECT FUTURE CONDITIONS LEVEL OF SERVICE SUMMARY

Intersection	Peak Hour	Future 2021 Conditions Without Project	
		LOS	V/C
1. Carmenita Rd and I-5 N/B Off/On-Ramps (Signalized	AM PM	D C	0.841 0.781
2. Carmenita Rd and I-5 S/B Off/On-Ramps (Signalized)	AM PM	C C	0.710 0.747
3. Carmenita Rd and Rosecrans Ave (Signalized)	AM PM	D E	0.901 0.998
4. Carmenita Rd and Foster Rd (Signalized)	AM PM	C B	0.789 0.693
5. Carmenita Rd and Imperial Hwy (Signalized)	AM PM	E E	0.995 0.982
6. Rosecrans Ave and Marquardt Ave (Signalized)	AM PM	A A	0.506 0.541
7. Rosecrans Ave and Valley View Ave (Signalized)	AM PM	E E	0.939 0.923

As the results indicate, 4 of the 7 study intersections will continue to operate at an acceptable level of service (i.e., LOS D or better) during the AM and PM peak hours under future cumulative traffic conditions without the project. The intersections of Carmenita Road and Rosecrans Avenue, Carmenita Road and Imperial Highway, and Rosecrans Avenue and Valley View Avenue will continue to be operating at a deficient level (i.e., LOS E) during the PM peak hours.

PROPOSED PROJECT

PROJECT DESCRIPTION

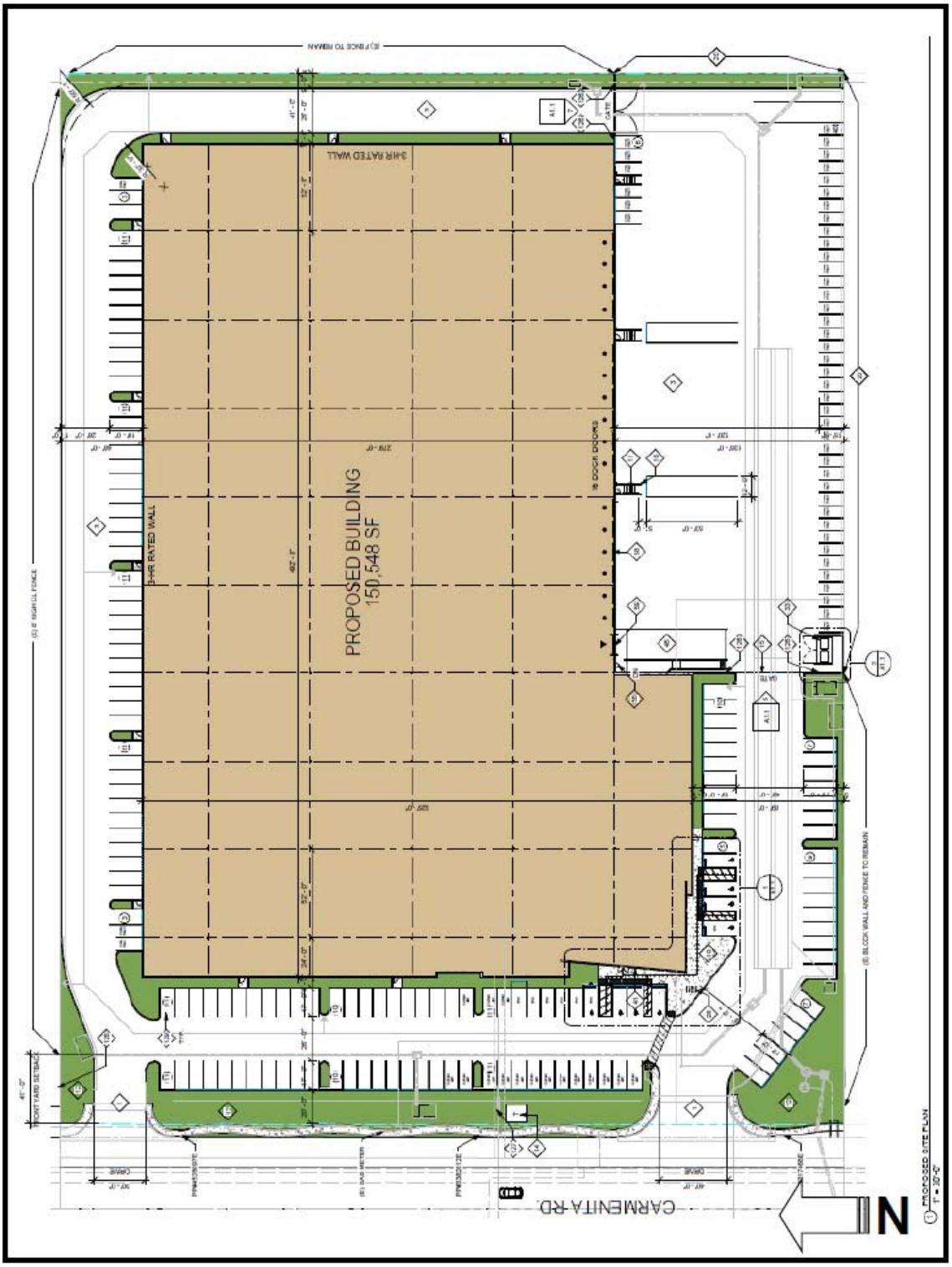
The proposed Bridge Univar Industrial Warehouse project will be located at 13900 Carmenita Road on the east side of Carmenita Road between Rosecrans Avenue and Foster Avenue on a 6.57-acre parcel of developed land. The proposed project consists of construction of a warehouse buildings with a total floor area of 150,548 square feet, including a total of 10,000 square feet for ancillary office uses (5,000 square feet on the first floor and 5,000 square feet in the mezzanine).

Vehicular access by passenger cars and trucks will be provided by two existing driveways from Carmenita Road - one near the northerly property line and one near the southerly property line. The width of the northerly driveway is 30' and the width of the southerly driveway is 40'.

A total of 198 parking spaces, including a total of 6 (six) ADA accessible parking spaces, will be provided on-site for the proposed Bridge Univar Industrial Warehouse project in accordance with the parking code requirements of the City of Santa Fe Springs. In addition, a total of 4 trailer parking spaces will also be provided for the buildings 16 dock doors.

Figure 7 shows the proposed site plan for the project.

FIGURE 7: PROJECT SITE PLAN



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PROJECT TRIP GENERATION

In order to evaluate future traffic conditions with the proposed project, trip generation estimates were developed for the project. Trip generation rates for the project are based on the nationally recognized recommendations contained in "Trip Generation" manual, 10th edition, published by the Institute of Transportation Engineers (ITE). ITE also provides information on percentage of truck traffic associated with warehouse/storage land use. The vehicle-mix percentages provided for heavy warehouse use in the City of Fontana's "Truck Trip Generation Study", August 2003, were used to determine the number of various types of truck trips to be generated. A truck trip is generally equivalent to 2 or 3 passenger car trips depending on the type of trucks. Accordingly, a 2.0 factor was applied to the number of 2-axle and 3-axle truck trips and a 3.0 factor was applied to the number of 4+-axle truck trips to estimate passenger car equivalent (PCE) trips generated by the trucks.

Table 6 shows a summary of trip generation estimates for the project. It is estimated that the project will generate approximately 346 new one-way PCE trips per average day (173 inbound and 173 outbound). The average weekday new peak hour PCE trips will be approximately 34 trips during the AM peak hour (26 inbound and 8 outbound), and 39 trips during the PM peak hour (9 inbound and 30 outbound).

TRIP DISTRIBUTION AND ASSIGNMENT

Arrival and departure distribution patterns for project-generated traffic were estimated based upon a review of circulation patterns within the study area network and regional traffic generation and attraction characteristics.

Figure 8 depicts the regional trip distribution percentages to and from the site.

Figure 9 depicts project traffic volumes at key circulation locations during the AM and PM peak hours.

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TABLE 6
TRIP GENERATION BY 13900 CARMENITA ROAD WAREHOUSE

ITE Code/ Land Use	Size & Unit	Trip Generation Rate[1]							Average Traffic Volume						
		Daily Total	AM Peak Hour			PM Peak Hour			Daily Total	AM Peak Hour			PM Peak Hour		
			Total	%IN	%OUT	Total	%IN	%OUT		IN	OUT	Total	IN	OUT	Total
Total Vehicle Trip Generation															
150 Ware-house	150.548 KSF	1.74	0.17	77%	23%	0.19	27%	73%	226	20	6	26	8	21	29
Vehicle Mix[2] and Passenger Car Equivalent (PCE) Trips															
Vehicle Mix	Trip %	Vehicle Trips							PCE trips						
		Daily Total	AM Peak Hour			PM Peak Hour			Daily Total	AM Peak Hour			PM Peak Hour		
			IN	OUT	Total	IN	OUT	Total		IN	OUT	Total	IN	OUT	Total
Car (PCE=1.0)	79.57%	208	16	5	21	6	17	23	208	16	5	21	6	17	23
2-axle Truck (PCE=2.0)	3.46%	9	1	0	1	0	1	1	18	2	0	2	0	2	2
3-axle Truck (PCE=2.0)	4.64%	12	1	0	1	0	1	1	24	2	0	2	0	2	2
4+-axle Truck (PCE=3.0)	12.33%	32	2	1	3	1	3	4	96	6	3	9	3	9	12
TOTAL TRIPS IN PCE:									346	26	8	34	9	30	39

Note: All trip rates are average rates per Institute of Transportation Engineers (ITE)'s publication manual "Trip Generation", 10th Edition, 2017.

[1] Trip rates for Warehouse (ITE Code 150) from Institute of Transportation Engineers (ITE), "Trip Generation" manual, 10th Edition, 2017

[2] Vehicle mix percentages for Heavy Warehouse (ITE Code 150) from the City of Fontana, "Truck Trip Generation Study", August 2003

FIGURE 8: PERCENTAGES OF PROJECT RELATED TRIP DISTRIBUTION

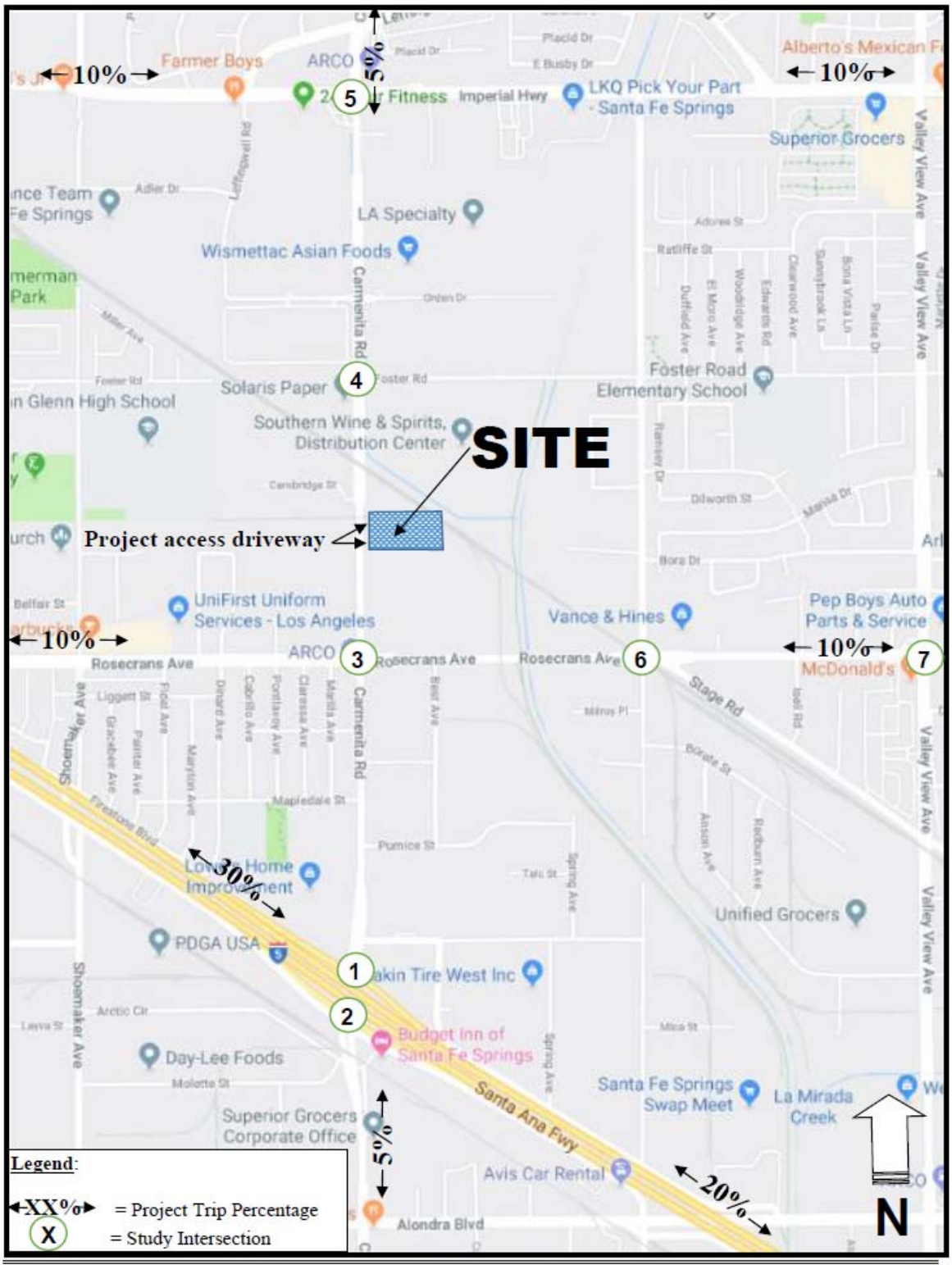
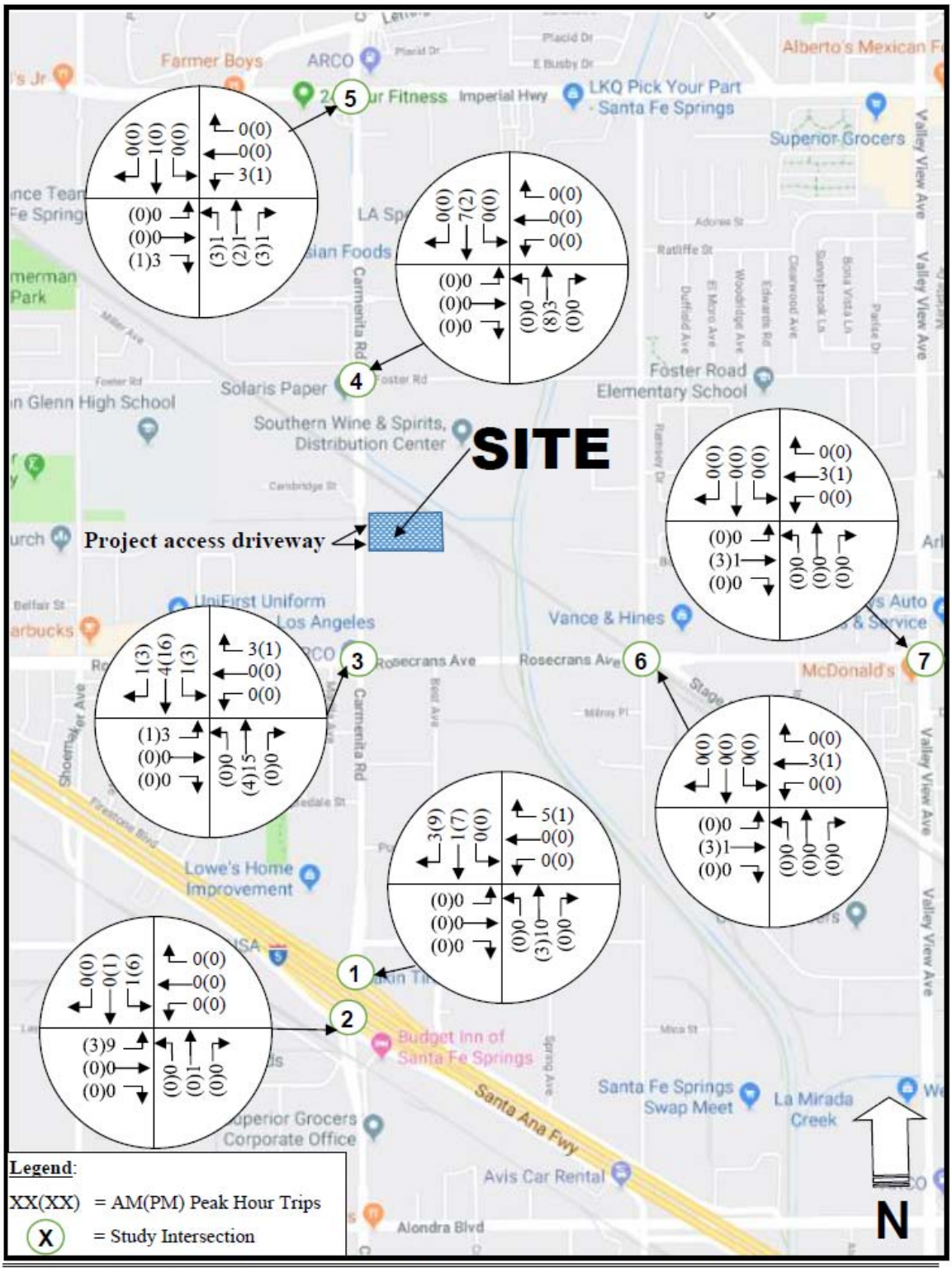


FIGURE 9: DISTRIBUTION OF PROJECT RELATED TRIPS



2021 CUMULATIVE CONDITIONS WITH PROJECT TRAFFIC

2021 POST-PROJECT CUMULATIVE TRAFFIC VOLUMES WITH PROJECT

The 2019 cumulative post-project traffic volumes were estimated by adding project related traffic volumes to the 2021 pre-project traffic volumes with 1.0% per year ambient growth and related project traffic. **Figure 10** shows Year 2021 post-project cumulative volumes for AM and PM peak hours.

Year 2021 post-project cumulative (i.e., existing plus ambient traffic plus related project plus project traffic) conditions were evaluated using the Intersection Capacity Utilization (ICU) method of level of service (LOS) analysis for signalized intersections. The LOS and V/C ratios for the study intersections under 2021 post-project cumulative conditions (with project) are summarized in **Table 7**. Detailed calculations relating to the study intersections are included in the Technical Appendix of this report.

The results indicate that, 4 of the 7 study intersections will continue to operate at an acceptable level of service (i.e., LOS D or better) during the AM and PM peak hours under future cumulative traffic conditions with the project. The intersections of Carmenita Road and Rosecrans Avenue, Carmenita Road and Imperial Highway, and Rosecrans Avenue and Valley View Avenue will be operating at a deficient level (i.e., LOS E) during the PM peak hours.

FIGURE 10: FUTURE 2021 POST-PROJECT CUMULATIVE TRAFFIC VOLUMES

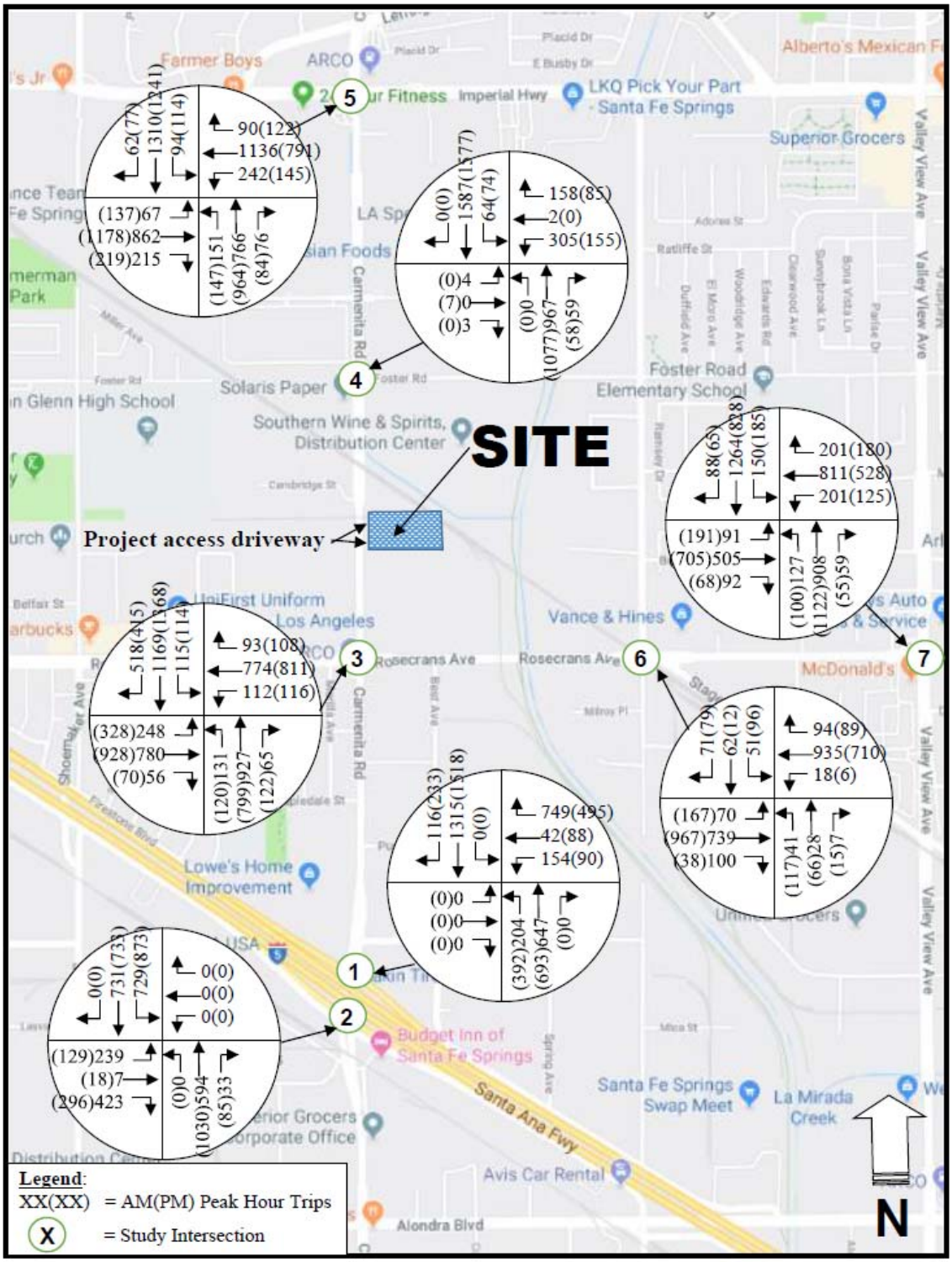


TABLE 7
FUTURE 2021 LEVEL OF SERVICE SUMMARY WITH PROJECT

Intersection	Peak Hour	Future 2021 Conditions With Project	
		LOS	V/C
1. Carmenita Rd and I-5 N/B Off/On-Ramps (Signalized	AM PM	D C	0.844 0.782
2. Carmenita Rd and I-5 S/B Off/On-Ramps (Signalized)	AM PM	C C	0.711 0.749
3. Carmenita Rd and Rosecrans Ave (Signalized)	AM PM	D E	0.904 1.004
4. Carmenita Rd and Foster Rd (Signalized)	AM PM	C B	0.791 0.694
5. Carmenita Rd and Imperial Hwy (Signalized)	AM PM	E E	0.998 0.985
6. Rosecrans Ave and Marquardt Ave (Signalized)	AM PM	A A	0.507 0.541
7. Rosecrans Ave and Valley View Ave (Signalized)	AM PM	E E	0.940 0.924

PROJECT IMPACT AND MITIGATION MEASURES

As indicated in the previous section, 4 of the 7 study intersections will continue to operate at an acceptable level of service (i.e., LOS D or better) during the AM and PM peak hours under future cumulative traffic conditions with the project. The intersections of Carmenita Road and Rosecrans Avenue, Carmenita Road and Imperial Highway, and Rosecrans Avenue and Valley View Avenue will be operating at a deficient level (i.e., LOS E) during the PM peak hours.

The project's off-site traffic impact would not be considered significant at any of these intersections based on volume to capacity ratio and level of service expected after the project. A project's impact on the circulation system is determined by comparing the level of service (LOS) and V/C ratios at key intersections under the future pre-project conditions and future post-project conditions. A LOS level D or better is acceptable for urban area intersections. A level of service worse than D (i.e., LOS E or F) is considered deficient and unacceptable. A project's traffic impact is determined to be significant if the increase in V/C ratio is 0.04 or more at LOS C, or 0.02 or more at LOS D, or 0.01 or more at LOS E and F.

The LOS, V/C ratio (or ICU) for the study intersections under 2021 cumulative conditions (with project as well as without project) are summarized in **Table 8** to compare Project's traffic impact at key intersections. As the results indicate, the increase in V/C ratio by project traffic would not exceed the significance thresholds of project-related impacts. Therefore, the project is not expected to significantly impact traffic conditions at any of the key intersections in the vicinity.

Since the project's traffic impacts would not be significant at any of the off-site intersections, no off-site mitigation measures would be necessary for the development of this project.

SITE ACCESS ANALYSIS

Vehicular access by passenger cars and trucks will be provided by two driveways from Carmenita Road - one near the northerly property line and one near the southerly property line. The width of the northerly driveway is 30' and the width of the southerly driveway is 40'.

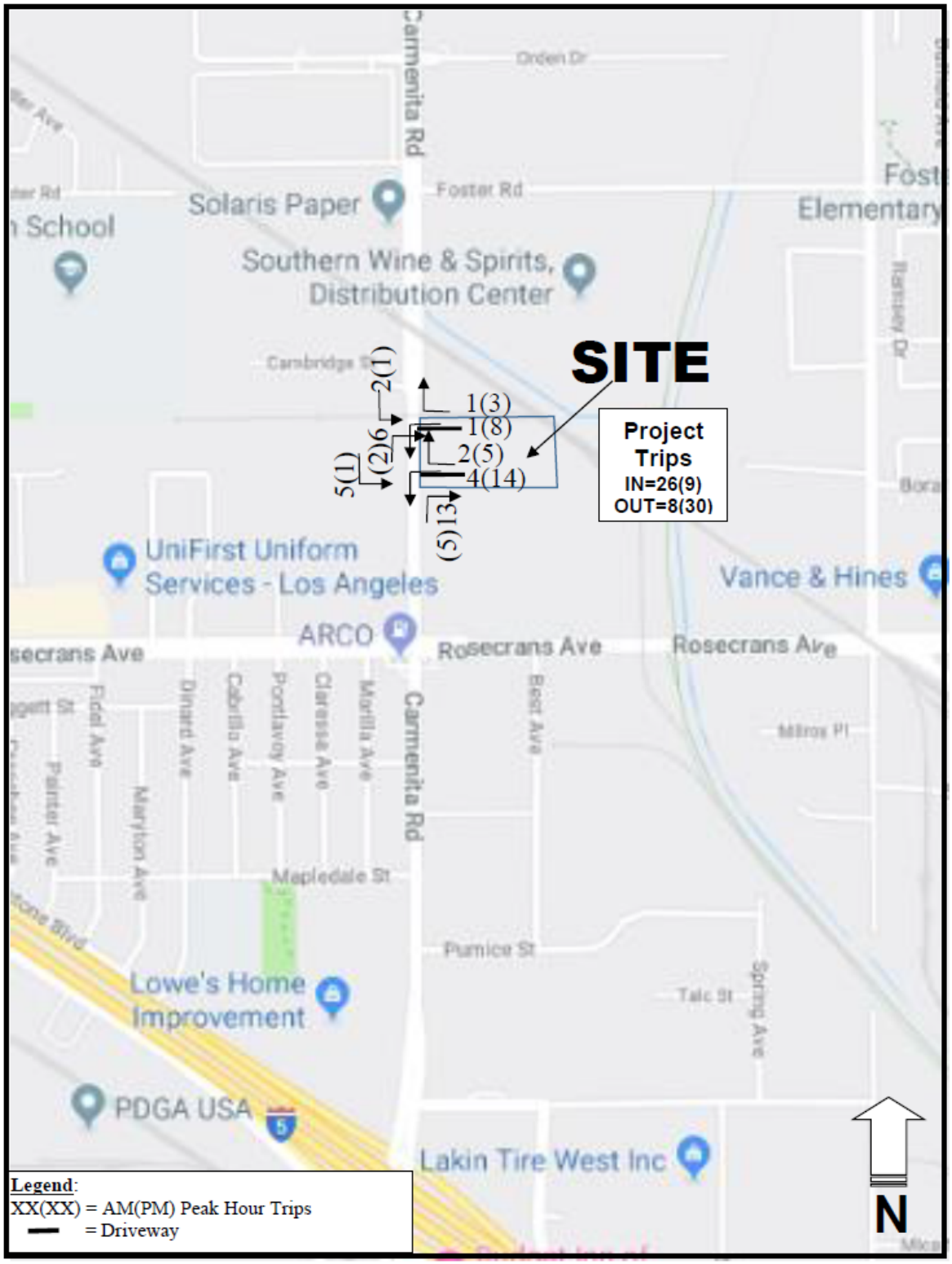
Figure 11 shows total project traffic at the driveways.

A maximum of 13 vehicles (passenger car equivalent) will enter the site during the peak hour through the southerly driveway from the south by making a right-turn movement. A maximum of 14 vehicles (passenger car equivalent) will exit the site during the peak hour through this driveway to travel south by making a left-turn movement. A maximum of 5 vehicles (passenger car equivalent) will enter the site during the peak hour through this driveway from north by making a left-turn movement.

TABLE 8
FUTURE 2021 LEVEL OF SERVICE SUMMARY WITH AND WITHOUT PROJECT

Intersection	Peak Hour	Future 2021 Conditions				Increase in V/C by Project
		Without Project		With Project		
		LOS	V/C	LOS	V/C	
1. Carmenita Rd and I-5 N/B Off/On-Ramps (Signalized	AM	D	0.841	D	0.844	0.003
	PM	C	0.781	C	0.782	0.001
2. Carmenita Rd and I-5 S/B Off/On-Ramps (Signalized)	AM	C	0.710	C	0.711	0.001
	PM	C	0.747	C	0.749	0.002
3. Carmenita Rd and Rosecrans Ave (Signalized)	AM	D	0.901	D	0.904	0.003
	PM	E	0.998	E	1.004	0.006
4. Carmenita Rd and Foster Rd (Signalized)	AM	C	0.789	C	0.791	0.002
	PM	B	0.693	B	0.694	0.001
5. Carmenita Rd and Imperial Hwy (Signalized)	AM	E	0.995	E	0.998	0.003
	PM	E	0.982	E	0.985	0.003
6. Rosecrans Ave and Marquardt Ave (Signalized)	AM	A	0.506	A	0.507	0.001
	PM	A	0.541	A	0.541	0.000
7. Rosecrans Ave and Valley View Ave (Signalized)	AM	E	0.939	E	0.940	0.001
	PM	E	0.923	E	0.924	0.001

FIGURE 11: PROJECT TRAFFIC AT DRIVEWAYS



Similarly, a maximum of 6 vehicles (passenger car equivalent) will enter the site during the peak hour from the south by making a right-turn movement through the northerly driveway. A maximum of 8 vehicles (passenger car equivalent) will exit the site during the peak hour through this driveway to travel south by making a left-turn movement. A maximum of 2 vehicles (passenger car equivalent) will enter the site during the peak hour through this driveway from north by making a left-turn movement. These low volumes of traffic are not expected to cause any significant on-street delays or long queues.

Adequate sight distance is available from the driveways along both directions on Carmenita Road.

PARKING DEMAND ANALYSIS

A total of 198 parking spaces, including a total of 6 (six) ADA accessible parking spaces, will be provided on-site for the proposed Bridge Univar Industrial Warehouse project in accordance with the parking code requirements of the City of Santa Fe Springs.

The City's parking code requires 1 parking space per 500 square feet of warehouse facilities up to 20,000 square feet of floor area, 1 space per 750 square feet of warehouse facilities for 20,000 – 100,000 square feet of floor area, and 1 parking space per 1,000 square feet for the floor area beyond 100,000 square feet. For office uses, the code requires 1 parking space per 250 square feet; however, it applies only when office square feet exceed 15% of the total warehouse square feet. The total office floor area is 10,000 square feet, which is 6.64% of warehouse buildings' total floor area of 150,548 square feet (i. e.,10,000/150,548 = 6.64%).

Therefore, the project's 150,548 square feet warehouse building will require 198 spaces [i.e., 20,000 / 500 + (100,000 - 20,000) / 750 + (150,548 – 100,000) / 1,000 = 40 + 107 + 51 = 198] per City's parking code. In addition, for truck parking, the City requires 1 space (12'x53') per 4 dock doors for buildings that are 100,000 square feet or greater. Since the project size is 150,548 square feet and there will be 16 dock doors, 4 trailer parking spaces will be required for this project.

The project's site plan shows that surface parking will consist of a total of 198 marked parking spaces to be provided along the sides of the warehouse building including 6 (six) ADA accessible spaces. In addition, a total of 4 trailer parking spaces will also be provided. Therefore, the project's parking requirement will be adequately satisfied.

CONCLUSION

Based on the results of the traffic impact analysis, the proposed Bridge Univar Industrial Warehouse project to be located at 13900 Carmenia Road would not significantly impact any of the key intersections analyzed in the surrounding roadway system. The addition of project traffic will not increase the volume to capacity (V/C) ratios at these intersections

beyond the significance thresholds of project related impacts as defined in the City's Traffic Study Guidelines. Therefore, no off-site mitigation measures would be necessary for the development of this project.

Vehicular access by passenger cars and trucks will be provided by two driveways from Carmenita Road - one near the northerly property line and one near the southerly property line. Traffic volume accessing the driveways by making left turns is expected to be low and is not expected to cause any significant on-street delays or long queues. Adequate sight distance is available from the driveways along both directions on Carmenita Road.

A total of 198 parking spaces, including a total of 6 (six) ADA accessible parking spaces, will be provided on-site for the proposed Bridge Univar Industrial Warehouse project in accordance with the parking code requirements of the City of Santa Fe Springs. In addition, a total of 4 trailer parking spaces will also be provided. The project's parking supply will adequately satisfy the City's parking requirement of 198 spaces plus 4 trailer spaces per code.

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APPENDIX F
UTILITY WORKSHEETS

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INTRODUCTION TO UTILITY SCREENING TABLES

The following worksheets are used to evaluated the potential impacts of a project.

Table 1 Definition of Project

This Table is used to establish the proposed development parameters that are used the calculation of utilities usage. The independent variable to be entered is identified by shading. For residential development, the number of housing units should be entered in the shaded area. For non-residential development, the total floor area of development should be entered in the shaded area.

Tables 2 Summary of Project Impacts

Consumption/Generation Rates. This table indicates the development's projected electrical consumption, natural gas consumption, water consumption, effluent generation, and solid waste generation. No modifications should be made to this table.

Tables 3 through 7 Calculation of Project Impacts

Tables 3 through 7 indicate the results of the analysis.

Table 3 Electrical Consumption - This Table calculates the projected electrical consumption for new development. Default generation rates provided in the shaded areas may be changed.

Table 4 Natural Gas Consumption - This Table calculates the projected natural gas useagefor new development. Default generation rates provided in the shaded areas may be changed.

Table 5 Water Consumption - This Table calculates the projected water consumption ratesfor new development. Default generation rates provided in the shaded areas may be changed.

Table 6 Sewage Generation - This Table calculates the projected effluent generation rates for new development. Default generation rates provided in the shaded areas may be changed.

Table 7 Solid Waste Generation - This Table calculates the projected waste generation for new development. Default generation rates provided in the shaded areas may be changed.

Table 1 Project Name: Bridge Development

Definition of Project Parameters - Enter independent variable (no. of units or floor area) in the shaded area. The independent variable to be entered is the number of units (for residential development) or the gross floor area (for non-residential development).

Land Use	Independent	Factor
Residential Uses	**Variable**	**Total Units**
Single-Family Residential	No. of Units	0
Medium Density Residential	No. of Units	0
Multiple-Family Residential	No. of Units	0
Mobile Home	No. of Units	0
Office Uses	**Variable**	**Total Floor Area**
Office	Sq. Ft.	10,000
Medical Office Building	Sq. Ft.	0
Office Park	Sq. Ft.	0
Bank/Financial Services	Sq. Ft.	0
Commercial Uses	**Variable**	**Floor Area/Rooms**
Specialty Retail Commercial	Sq. Ft.	0
Convenience Store	Sq. Ft.	0
Movie Theater	Sq. Ft.	0
Shopping Center	Sq. Ft.	0
Sit-Down Restaurant	Sq. Ft.	0
Fast-Food Restaurant	Sq. Ft.	0
Hotel	Rooms	0
Manufacturing Uses	**Variable**	**Total Floor Area**
Industrial Park	Sq. Ft.	0
Manufacturing	Sq. Ft.	0
General Light Industry	Sq. Ft.	0
Warehouse	Sq. Ft.	140,548
Public/Institutional	**Variable**	**Total Floor Area**
Public/Institutional	Sq. Ft.	0
Open Space	Sq. Ft.	0

Table 2: Projected Utility Consumption and Generation

Summary of Project Impacts - **Results of analysis identified below. No modifications should be made to this Table.**

Utilities Consumption and Generation	Factor	Rates
Electrical Consumption	kWh/day	2,418
Natural Gas Consumption	cubic feet/day	1,865
Water Consumption	gallons/day	9,325
Sewage Generation	gallons/day	5,514
Solid Waste Generation	pounds/day	1,315

Table 3: Electrical Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	**No. of Units**	**kWh**	**Variable**	**kWh/Unit/Day**
Single-Family Residential	0	5,625.00	kWh/Unit/Year	0.0
Medium Density Residential	0	5,625.00	kWh/Unit/Year	0.0
Multiple-Family Residential	0	5,625.00	kWh/Unit/Year	0.0
Mobile Home	0	4,644.00	kWh/Unit/Year	0.0
Office Uses	**Sq. Ft.**	**kWh**	**Variable**	**kWh/Sq. Ft./Day**
Office	10,000	20.80	kWh/Sq. Ft./Year	569.9
Medical Office Building	0	14.20	kWh/Sq. Ft./Year	0.0
Office Park	0	20.80	kWh/Sq. Ft./Year	0.0
Bank/Financial Services	0	20.80	kWh/Sq. Ft./Year	0.0
Commercial Uses	**Sq. Ft./Rooms**	**kWh**	**Variable**	**kWh/Sq. Ft./Day**
Specialty Retail Commercial	0	16.00	kWh/Sq. Ft./Year	0.0
Convenience Store	0	16.00	kWh/Sq. Ft./Year	0.0
Movie Theater	0	16.00	kWh/Sq. Ft./Year	0.0
Shopping Center	0	35.90	kWh/Sq. Ft./Year	0
Sit-Down Restaurant	0	49.10	kWh/Sq. Ft./Year	0.0
Fast-Food Restaurant	0	49.10	kWh/Sq. Ft./Year	0.0
Hotel	0	8,955.00	kWh/Sq. Ft./Year	0.0
Manufacturing Uses	**Sq. Ft.**	**kWh**	**Variable**	**kWh/Sq. Ft./Day**
Industrial Park	0	4.80	kWh/Sq. Ft./Year	0.0
Manufacturing	0	4.80	kWh/Sq. Ft./Year	0.0
General Light Industry	0	4.80	kWh/Sq. Ft./Year	0.0
Warehouse	140,548	4.80	kWh/Sq. Ft./Year	1,848.3
Public/Institutional	**Sq. Ft.**	**kWh**	**Variable**	**kWh/Sq. Ft./Day**
Public/Institutional	0	4.80	kWh/Sq. Ft./Year	0.0
Open Space	0	0.00	kWh/Sq. Ft./Year	0.0
Total Daily Electrical Consumption (kWh/day)				2,418.2

Sources:
Residential rates were derived from the SCAQMD's CEQA Air Quality Handbook (April 1993).
All other rates are from Common Forecasting Methodology VII Demand Forms, 1989

Table 4: Natural Gas Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	**No. of Units**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft./Day**
Single-Family Residential	0	6,665.00	Cu. Ft./Mo./Unit	0.0
Medium Density Residential	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Multiple-Family Residential	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Mobile Home	0	4,011.50	Cu. Ft./Mo./Unit	0.0
Office Uses	**Sq. Ft.**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft./Day**
Office	10,000	2.00	Cu. Ft./Mo./Sq. Ft.	54.8
Medical Office Building	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Office Park	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Bank/Financial Services	0	2.00	Cu. Ft./Mo./Sq. Ft.	0.0
Commercial Uses	**Sq. Ft./Rooms**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft./Day**
Specialty Retail Commercial	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Convenience Store	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Movie Theater	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Shopping Center	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Sit-Down Restaurant	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Fast-Food Restaurant	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Hotel	0	2.90	Cu. Ft./Mo./Room	0.0
Manufacturing Uses	**Sq. Ft.**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft./Day**
Industrial Park	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Manufacturing	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
General Light Industry	0	4.70	Cu. Ft./Mo./Sq. Ft.	0.0
Warehouse	140,548	4.70	Cu. Ft./Mo./Sq. Ft.	1,809.8
Public/Institutional Use	**Sq. Ft.**	**Cu. Ft. of Nat. Gas**	**Variable**	**Cu. Ft./Day**
Public/Institutional	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Open Space	0	2.90	Cu. Ft./Mo./Sq. Ft.	0.0
Total Daily Natural Gas Consumption (cubic feet/day)				1,864.6

Sources:
South Coast Air Quality Management District, CEQA Air Quality Handbook. April 1993

Table 5: Water Consumption

Project Component	Units of Measure	Consumption Factor		Projected Consumption
Residential Uses	**No. of Units**	**Gals. of Water**	**Variable**	**Gals./Day**
Single-Family Residential	0	390.00	Gals./Day/Unit	0.0
Medium Density Residential	0	300.00	Gals./Day/Unit	0.0
Multiple-Family Residential	0	234.00	Gals./Day/Unit	0.0
Mobile Home	0	234.00	Gals./Day/Unit	0.0
Office Uses	**Sq. Ft.**	**Gals. of Water**	**Variable**	**Gals./Day**
Office	10,000	0.30	Gals./Day/Sq. Ft.	3,000.0
Medical Office Building	0	0.30	Gals./Day/Sq. Ft.	0.0
Office Park	0	0.30	Gals./Day/Sq. Ft.	0.0
Bank/Financial Services	0	0.15	Gals./Day/Sq. Ft.	0.0
Commercial Uses	**Sq. Ft./Room**	**Gals. of Water**	**Variable**	**Gals./Day**
Specialty Retail Commercial	0	0.15	Gals./Day/Sq. Ft.	0.0
Convenience Store	0	0.15	Gals./Day/Sq. Ft.	0.0
Movie Theater	0	0.20	Gals./Day/Sq. Ft.	0.0
Shopping Center	0	0.50	Gals./Day/Sq. Ft.	0.0
Sit-Down Restaurant	0	1.50	Gals./Day/Sq. Ft.	0.0
Fast-Food Restaurant	0	0.12	Gals./Day/Sq. Ft.	0.0
Hotel	0	187.50	Gals./Day/Room.	0.0
Manufacturing Uses	**Sq. Ft.**	**Gals. of Water**	**Variable**	**Gals./Day**
Industrial Park	0	0.30	Gals./Day/Sq. Ft.	0.0
Manufacturing	0	0.30	Gals./Day/Sq. Ft.	0.0
General Light Industry	0	0.30	Gals./Day/Sq. Ft.	0.0
Warehouse	140,548	0.05	Gals./Day/Sq. Ft.	6,324.7
Public/Institutional Use	**Sq. Ft.**	**Gals. of Water**	**Variable**	**Gals./Day**
Public/Institutional	0	0.12	Gals./Day/Sq. Ft.	0.0
Open Space	0	0.12	Gals./Day/Sq. Ft.	0.0
Total Daily Water Consumption (gallons/day)				**9,324.7**

Sources:

Source: Derived from Los Angeles County Sanitation District rates (150% of effluent generation).

Table 6: Sewage Generation

Project Component	Units of Measure	Generation Factor		Projected Consumption
Residential Uses	**No. of Units**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Single-Family Residential	0	260.00	Gals./Day/Unit	0.0
Medium Density Residential	0	200.00	Gals./Day/Unit	0.0
Multiple-Family Residential	0	156.00	Gals./Day/Unit	0.0
Mobile Home	0	156.00	Gals./Day/Unit	0.0
Office Uses	**Sq. Ft.**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Office	10,000	0.20	Gals./Day/Sq. Ft.	2,000.0
Medical Office Building	0	0.20	Gals./Day/Sq. Ft.	0.0
Office Park	0	0.20	Gals./Day/Sq. Ft.	0.0
Bank/Financial Services	0	0.10	Gals./Day/Sq. Ft.	0.0
Commercial Uses	**Sq. Ft./Rooms**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Specialty Retail Commercial	0	0.10	Gals./Day/Sq. Ft.	0.0
Convenience Store	0	0.10	Gals./Day/Sq. Ft.	0.0
Movie Theater	0	0.13	Gals./Day/Sq. Ft.	0.0
Shopping Center	0	0.33	Gals./Day/Sq. Ft.	0.0
Sit-Down Restaurant	0	1.00	Gals./Day/Sq. Ft.	0.0
Fast-Food Restaurant	0	0.08	Gals./Day/Sq. Ft.	0.0
Hotel	0	125	Gals./Day/Room.	0.0
Manufacturing Uses	**Sq. Ft.**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Industrial Park	0	0.20	Gals./Day/Sq. Ft.	0.0
Manufacturing	0	0.20	Gals./Day/Sq. Ft.	0.0
General Light Industry	0	0.20	Gals./Day/Sq. Ft.	0.0
Warehouse	140,548	0.03	Gals./Day/Sq. Ft.	3,513.7
Public/Institutional Use	**Sq. Ft.**	**Gals. of Effluent**	**Variable**	**Gals./Day**
Public/Institutional	0	0.10	Gals./Day/Sq. Ft.	0.0
Open Space	0	0.10	Gals./Day/Sq. Ft.	0.0
Total Daily Sewage Generation (gallons/day)				5,513.7

Source: Los Angeles County Sanitation Districts.

Table 7: Solid Waste Generation

Project Component	Units of Measure	Generation Factor		Projected Generation
Residential Uses	**No. of Units**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Single-Family Residential	0	12.23	Lbs./Day/Unit	0.0
Medium Density Residential	0	12.23	Lbs./Day/Unit	0.0
Multiple-Family Residential	0	12.23	Lbs./Day/Unit	0.0
Mobile Home	0	12.23	Lbs./Day/Unit	0.0
Office Uses	**Sq. Ft.**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Office	10,000	6.00	Lbs./Day/1,000 Sq. Ft.	60.0
Medical Office Building	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Office Park	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Bank/Financial Services	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Commercial Uses	**Sq. Ft./Rooms**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Specialty Retail Commercial	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Convenience Store	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Movie Theater	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Shopping Center	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Sit-Down Restaurant	0	6.00	Lbs./Day/1,000 Sq. Ft.	0.0
Fast-Food Restaurant	0	42.00	Lbs./Day/1,000 Sq. Ft.	0.0
Hotel	0	6.00	Lbs./Day/Room	0.0
Manufacturing Uses	**Sq. Ft.**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Industrial Park	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Manufacturing	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
General Light Industry	0	8.93	Lbs./Day/1,000 Sq. Ft.	0.0
Warehouse	140,548	8.93	Lbs./Day/1,000 Sq. Ft.	1,255.1
Public/Institutional Use	**Sq. Ft.**	**Lbs.of Waste**	**Variable**	**Lbs./Day**
Public/Institutional	0	4.00	Lbs./Day/1,000 Sq. Ft.	0.0
Open Space	0	3.00	Lbs./Day/1,000 Sq. Ft.	0.0
Total Daily Solid Waste Generation				1,315.1

Source: City of Los Angeles CEQA Thresholds Guide, 2006, and
City of Los Angeles Average Solid Waste Generation Rates, April 1981