APPENDIX A – AIR QUALITY WORKSHEETS

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4144 Arden

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	61.16	1000sqft	1.40	61,163.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2019
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 - Per ISMND

Land Use - Per ISMND

Construction Phase - per ISMND

Demolition -

Construction Off-road Equipment Mitigation -

Area Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	200.00	130.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	4.00	22.00
tblConstructionPhase	NumDays	10.00	23.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	PhaseEndDate	10/30/2018	11/30/2018
tblConstructionPhase	PhaseEndDate	9/28/2018	9/30/2018
tblConstructionPhase	PhaseEndDate	3/30/2018	3/31/2018
tblConstructionPhase	PhaseEndDate	9/28/2018	10/31/2018
tblConstructionPhase	PhaseEndDate	3/2/2018	2/28/2018
tblConstructionPhase	PhaseStartDate	9/29/2018	11/1/2018
tblConstructionPhase	PhaseStartDate	3/31/2018	4/1/2018
tblConstructionPhase	PhaseStartDate	3/3/2018	3/1/2018
tblConstructionPhase	PhaseStartDate	9/29/2018	10/1/2018
tblGrading	AcresOfGrading	8.25	1.50
tblGrading	AcresOfGrading	10.00	1.00
tblProjectCharacteristics	OperationalYear	2018	2019

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					
2018	26.0976	25.0167	15.8746	0.0279	5.4118	1.4399	6.3647	2.9259	1.3462	3.8026	0.0000	2,717.3137	2,717.3137	0.6227	0.0000	2,732.6800
Maximum	26.0976	25.0167	15.8746	0.0279	5.4118	1.4399	6.3647	2.9259	1.3462	3.8026	0.0000	2,717.3137	2,717.3137	0.6227	0.0000	2,732.6800

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					
2018	26.0976	25.0167	15.8746	0.0279	2.1651	1.4399	3.1181	1.1556	1.3462	2.0323	0.0000	2,717.3137	2,717.3137	0.6227	0.0000	2,732.6800
Maximum	26.0976	25.0167	15.8746	0.0279	2.1651	1.4399	3.1181	1.1556	1.3462	2.0323	0.0000	2,717.3137	2,717.3137	0.6227	0.0000	2,732.6800

	ROG	NOx	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	59.99	0.00	51.01	60.51	0.00	46.56	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	1.3670	6.0000e-005	6.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0143
Energy	1.5700e-003	0.0143	0.0120	9.0000e-005		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003		17.1513	17.1513	3.3000e-004	3.1000e-004	17.2532
Mobile	0.2521	1.3155	3.7211	0.0122	0.9364	0.0135	0.9499	0.2506	0.0127	0.2633		1,237.3695	1,237.3695	0.0627		1,238.9361
Total	**1.6206**	**1.3298**	**3.7394**	**0.0123**	**0.9364**	**0.0146**	**0.9510**	**0.2506**	**0.0138**	**0.2644**		**1,254.5342**	**1,254.5342**	**0.0630**	**3.1000e-004**	**1,256.2036**

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	1.3670	6.0000e-005	6.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0143
Energy	1.5700e-003	0.0143	0.0120	9.0000e-005		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003		17.1513	17.1513	3.3000e-004	3.1000e-004	17.2532
Mobile	0.2521	1.3155	3.7211	0.0122	0.9364	0.0135	0.9499	0.2506	0.0127	0.2633		1,237.3695	1,237.3695	0.0627		1,238.9361
Total	**1.6206**	**1.3298**	**3.7394**	**0.0123**	**0.9364**	**0.0146**	**0.9510**	**0.2506**	**0.0138**	**0.2644**		**1,254.5342**	**1,254.5342**	**0.0630**	**3.1000e-004**	**1,256.2036**

	ROG	NOx	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	1/1/2018	1/31/2018	5	23	
2	Site Preparation	Site Preparation	2/1/2018	2/28/2018	5	20	
3	Grading	Grading	3/1/2018	3/31/2018	5	22	
4	Building Construction	Building Construction	4/1/2018	9/30/2018	5	130	
5	Paving	Paving	10/1/2018	10/31/2018	5	23	
6	Architectural Coating	Architectural Coating	11/1/2018	11/30/2018	5	22	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 91,745; Non-Residential Outdoor: 30,582; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	26.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	45.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2018

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					0.4280	0.0000	0.4280	0.0648	0.0000	0.0648			0.0000			0.0000
Off-Road	2.4838	24.3641	15.1107	0.0241		1.4355	1.4355		1.3429	1.3429		2,391.1659	2,391.1659	0.6058		2,406.3105
Total	**2.4838**	**24.3641**	**15.1107**	**0.0241**	**0.4280**	**1.4355**	**1.8644**	**0.0648**	**1.3429**	**1.4077**		**2,391.1659**	**2,391.1659**	**0.6058**		**2,406.3105**

3.2 Demolition - 2018

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	0.0170	0.6024	0.1116	1.5500e-003	0.0342	2.3200e-003	0.0365	9.3700e-003	2.2200e-003	0.0116		167.6321	167.6321	0.0115		167.9187
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	0.0701	0.0502	0.6523	1.5900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		158.5157	158.5157	5.4100e-003		158.6508
Total	0.0870	0.6526	0.7638	3.1400e-003	0.1795	3.4800e-003	0.1830	0.0479	3.2900e-003	0.0512		326.1478	326.1478	0.0169		326.5696

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					0.1669	0.0000	0.1669	0.0253	0.0000	0.0253			0.0000			0.0000
Off-Road	2.4838	24.3641	15.1107	0.0241		1.4365	1.4365		1.3429	1.3429	0.0000	2,391.1659	2,391.1659	0.6058		2,406.3105
Total	2.4838	24.3641	15.1107	0.0241	0.1669	1.4365	1.6034	0.0253	1.3429	1.3682	0.0000	2,391.1659	2,391.1659	0.6058		2,406.3105

3.2 Demolition - 2018

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	0.0170	0.6024	0.1116	1.5500e-003	0.0342	2.3200e-003	0.0365	9.3700e-003	2.2200e-003	0.0116		167.6321	167.6321	0.0115		167.9187
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	0.0701	0.0502	0.6523	1.5900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		158.5157	158.5157	5.4100e-003		158.6508
Total	**0.0870**	**0.6526**	**0.7638**	**3.1400e-003**	**0.1795**	**3.4800e-003**	**0.1830**	**0.0479**	**3.2900e-003**	**0.0512**		**326.1478**	**326.1478**	**0.0169**		**326.5696**

3.3 Site Preparation - 2018

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					5.3224	0.0000	5.3224	2.9022	0.0000	2.9022			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761		1,735.3630	1,735.3630	0.5402		1,748.8690
Total	**1.8061**	**20.7472**	**8.0808**	**0.0172**	**5.3224**	**0.9523**	**6.2746**	**2.9022**	**0.8761**	**3.7782**		**1,735.3630**	**1,735.3630**	**0.5402**		**1,748.8690**

3.3 Site Preparation - 2018

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	0.0431	0.0309	0.4014	9.8000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		97.5481	97.5481	3.3300e-003		97.6313
Total	**0.0431**	**0.0309**	**0.4014**	**9.8000e-004**	**0.0894**	**7.1000e-004**	**0.0901**	**0.0237**	**6.6000e-004**	**0.0244**		**97.5481**	**97.5481**	**3.3300e-003**		**97.6313**

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					2.0757	0.0000	2.0757	1.1319	0.0000	1.1319			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690
Total	**1.8061**	**20.7472**	**8.0808**	**0.0172**	**2.0757**	**0.9523**	**3.0280**	**1.1319**	**0.8761**	**2.0079**	**0.0000**	**1,735.3630**	**1,735.3630**	**0.5402**		**1,748.8690**

3.3 Site Preparation - 2018

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	0.0431	0.0309	0.4014	9.8000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		97.5481	97.5481	3.3300e-003		97.6313
Total	**0.0431**	**0.0309**	**0.4014**	**9.8000e-004**	**0.0894**	**7.1000e-004**	**0.0901**	**0.0237**	**6.6000e-004**	**0.0244**		**97.5481**	**97.5481**	**3.3300e-003**		**97.6313**

3.4 Grading - 2018

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					4.5889	0.0000	4.5889	2.4905	0.0000	2.4905			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311		1,421.2605	1,421.2605	0.4425		1,432.3219
Total	**1.4972**	**17.0666**	**6.7630**	**0.0141**	**4.5889**	**0.7947**	**5.3836**	**2.4905**	**0.7311**	**3.2216**		**1,421.2605**	**1,421.2605**	**0.4425**		**1,432.3219**

3.4 Grading - 2018

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	0.0431	0.0309	0.4014	9.8000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		97.5481	97.5481	3.3300e-003		97.6313
Total	**0.0431**	**0.0309**	**0.4014**	**9.8000e-004**	**0.0894**	**7.1000e-004**	**0.0901**	**0.0237**	**6.6000e-004**	**0.0244**		**97.5481**	**97.5481**	**3.3300e-003**		**97.6313**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7897	0.0000	1.7897	0.9713	0.0000	0.9713			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219
Total	**1.4972**	**17.0666**	**6.7630**	**0.0141**	**1.7897**	**0.7947**	**2.5844**	**0.9713**	**0.7311**	**1.7024**	**0.0000**	**1,421.2605**	**1,421.2605**	**0.4425**		**1,432.3219**

3.4 Grading - 2018

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	0.0431	0.0309	0.4014	9.8000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		97.5481	97.5481	3.3300e-003		97.6313
Total	**0.0431**	**0.0309**	**0.4014**	**9.8000e-004**	**0.0894**	**7.1000e-004**	**0.0901**	**0.0237**	**6.6000e-004**	**0.0244**		**97.5481**	**97.5481**	**3.3300e-003**		**97.6313**

3.5 Building Construction - 2018

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.838 9	2,030.838 9	0.4086		2,041.059 6
Total	**2.5919**	**17.4280**	**13.8766**	**0.0220**		**1.0580**	**1.0580**		**1.0216**	**1.0216**		**2,030.838 9**	**2,030.838 9**	**0.4086**		**2,041.059 6**

3.5 Building Construction - 2018

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	0.0426	1.2118	0.3018	2.6200e-003	0.0640	8.8500e-003	0.0729	0.0164	8.4700e-003	0.0249		278.6580	278.6580	0.0190		279.1322
Worker	0.1401	0.1004	1.3046	3.1900e-003	0.2906	2.3200e-003	0.2929	0.0771	2.1400e-003	0.0792		317.0314	317.0314	0.0108		317.3017
Total	**0.1826**	**1.3123**	**1.6064**	**5.8100e-003**	**0.3546**	**0.0112**	**0.3658**	**0.0935**	**0.0106**	**0.1041**		**595.6895**	**595.6895**	**0.0298**		**596.4339**

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	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216	0.0000	2,030.838 9	2,030.838 9	0.4086		2,041.059 6
Total	**2.5919**	**17.4280**	**13.8766**	**0.0220**		**1.0580**	**1.0580**		**1.0216**	**1.0216**	**0.0000**	**2,030.838 9**	**2,030.838 9**	**0.4086**		**2,041.059 6**

3.5 Building Construction - 2018

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	0.0426	1.2118	0.3018	2.6200e-003	0.0640	8.8500e-003	0.0729	0.0184	8.4700e-003	0.0269		278.6580	278.6580	0.0100		279.1322
Worker	0.1401	0.1004	1.3046	3.1800e-003	0.2906	2.3200e-003	0.2929	0.0771	2.1400e-003	0.0792		317.0314	317.0314	0.0188		317.3017
Total	0.1826	1.3123	1.6064	5.8100e-003	0.3546	0.0112	0.3658	0.0955	0.0106	0.1061		595.6895	595.6895	0.0288		596.4339

3.6 Paving - 2018

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	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186

3.6 Paving - 2018

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	0.0701	0.0502	0.6523	1.5900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		158.5157	158.5157	5.4100e-003		158.6508
Total	**0.0701**	**0.0502**	**0.6523**	**1.5900e-003**	**0.1453**	**1.1600e-003**	**0.1465**	**0.0385**	**1.0700e-003**	**0.0396**		**158.5157**	**158.5157**	**5.4100e-003**		**158.6508**

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	1.0182	10.4625	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618	0.0000	1,346.436 0	1,346.436 0	0.4113		1,356.718 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0182**	**10.4625**	**8.9926**	**0.0135**		**0.6097**	**0.6097**		**0.5618**	**0.5618**	**0.0000**	**1,346.436 0**	**1,346.436 0**	**0.4113**		**1,356.718 6**

3.6 Paving - 2018

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	0.0701	0.0502	0.6523	1.5900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		158.5157	158.5157	5.4100e-003		158.6508
Total	**0.0701**	**0.0502**	**0.6523**	**1.5900e-003**	**0.1453**	**1.1600e-003**	**0.1465**	**0.0385**	**1.0700e-003**	**0.0396**		**158.5157**	**158.5157**	**5.4100e-003**		**158.6508**

3.7 Architectural Coating - 2018

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	25.7721					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0068	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**26.0707**	**2.0068**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating - 2018

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	0.0269	0.0193	0.2509	6.1000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.1000e-004	0.0152		60.9676	60.9676	2.0800e-003		61.0196
Total	0.0269	0.0193	0.2509	6.1000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.1000e-004	0.0152		60.9676	60.9676	2.0800e-003		61.0196

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	25.7721					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	26.0707	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171

3.7 Architectural Coating - 2018

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	0.0269	0.0193	0.2509	6.1000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.1000e-004	0.0152		60.9676	60.9676	2.0800e-003		61.0196
Total	**0.0269**	**0.0193**	**0.2509**	**6.1000e-004**	**0.0559**	**4.5000e-004**	**0.0563**	**0.0148**	**4.1000e-004**	**0.0152**		**60.9676**	**60.9676**	**2.0800e-003**		**61.0196**

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	0.2521	1.3155	3.7211	0.0122	0.9364	0.0135	0.9499	0.2506	0.0127	0.2633		1,237.3695	1,237.3695	0.0627		1,238.9361
Unmitigated	0.2521	1.3155	3.7211	0.0122	0.9364	0.0135	0.9499	0.2506	0.0127	0.2633		1,237.3695	1,237.3695	0.0627		1,238.9361

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Unrefrigerated Warehouse-No Rail	102.75	102.75	102.75	440,374	440,374
Total	102.75	102.75	102.75	440,374	440,374

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
Unrefrigerated Warehouse-No	15.60	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
Unrefrigerated Warehouse-No Rail	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.5700e-003	0.0143	0.0120	9.0000e-005		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003		17.1513	17.1513	3.3000e-004	3.1000e-004	17.2532
NaturalGas Unmitigated	1.5700e-003	0.0143	0.0120	9.0000e-005		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003		17.1513	17.1513	3.3000e-004	3.1000e-004	17.2532

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					
Unrefrigerated Warehouse-No Rail	145.786	1.5700e-003	0.0143	0.0120	9.0000e-005		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003		17.1513	17.1513	3.3000e-004	3.1000e-004	17.2532
Total		**1.5700e-003**	**0.0143**	**0.0120**	**9.0000e-005**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**		**17.1513**	**17.1513**	**3.3000e-004**	**3.1000e-004**	**17.2532**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Unrefrigerated Warehouse-No Rail	0.145786	1.5700e-003	0.0143	0.0120	9.0000e-005		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003		17.1513	17.1513	3.3000e-004	3.1000e-004	17.2532
Total		**1.5700e-003**	**0.0143**	**0.0120**	**9.0000e-005**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**		**17.1513**	**17.1513**	**3.3000e-004**	**3.1000e-004**	**17.2532**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.3670	6.0000e-005	6.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0143
Unmitigated	1.3670	6.0000e-005	6.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0143

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	0.1553					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-004	6.0000e-005	6.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0143
Total	**1.3670**	**6.0000e-005**	**6.3100e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0134**	**0.0134**	**4.0000e-005**		**0.0143**

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	0.1553					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2110					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0000e-004	6.0000e-005	6.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0143
Total	**1.3670**	**6.0000e-005**	**6.3100e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0134**	**0.0134**	**4.0000e-005**		**0.0143**

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

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APPENDIX B – TRAFFIC IMPACT STUDY

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TRAFFIC IMPACT STUDY

INDUSTRIAL WAREHOUSE DEVELOPMENT

4144 ARDEN DRIVE

EL MONTE, CALIFORNIA

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Prepared for

CALVERT ARCHITECTURAL GROUP

3801 Long Beach Boulevard
Long Beach, CA 90807
Attn.: Mr. Thomas A. Calvert, Architect
Email: tcalvert@calvertarchgroup.com
Tel: 562-595-7032

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Prepared by

Crown City Engineers, Inc.

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

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

July 6, 2018

CCE2017-04 PBL/MYR

TRAFFIC IMPACT STUDY
INDUSTRIAL WAREHOUSE DEVELOPMENT
4144 ARDEN DRIVE
EL MONTE, CALIFORNIA

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TECHNICAL APPENDIX

PREPARER'S CERTIFICATION

TRAFFIC IMPACT STUDY

INDUSTRIAL WAREHOUSE DEVELOPMENT

4144 ARDEN DRIVE

EL MONTE, 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

7-6-2018
Date

Professional Engineer's Stamp

TRAFFIC IMPACT STUDY
INDUSTRIAL WAREHOUSE DEVELOPMENT
4144 ARDEN DRIVE
EL MONTE, CALIFORNIA

EXECUTIVE SUMMARY

The purpose of this traffic impact analysis is to evaluate the impacts on traffic circulation system due to the proposed construction of a 61,163 square feet industrial warehouse development in the City of El Monte, California. The proposed project will be located at 4144 Arden Drive within an approximately 2.60 acres (106,262 square feet) of industrially (M-2) zoned parcel of land. The following are the key objectives of the study:

- Documentation of existing 2017 traffic conditions in the vicinity of the site.
- Determination of Project Opening Year (2019) 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 five key intersections in the general vicinity of the site:

- Arden Drive and Hickson Street
- Arden Drive and Valley Boulevard
- Arden Drive and Lower Azusa Road
- Baldwin Avenue and Valley Boulevard
- Santa Anita Avenue and Valley Boulevard

Per rates from "Trip Generation" manual, 10th edition, published by the Institute of Transportation Engineers (ITE) in September 2017, the proposed warehouse project is estimated to generate approximately 128 vehicular trips (expressed in passenger car equivalent) per average day (64 inbound and 64 outbound). The average weekday new peak hour trips (expressed in passenger car equivalents) will be approximately 12 trips during the AM peak hour (9 inbound and 3 outbound), and 14 trips during the PM peak hour (4 inbound and 10 outbound).

Based on the results of the traffic impact analysis, the proposed industrial warehouse project would not have significant impact at any of the 5 key intersections analyzed in the

surrounding roadway system. Three of the 5 study intersections would continue to operate at an acceptable level of service (i.e., at LOS A through D) during the AM and PM peak hours. The intersection of Baldwin Avenue and Valley Boulevard will be operating at LOS E during the PM peak hour. This intersection would be operating at LOS E without the project traffic due to existing traffic, ambient growth and other related projects. The addition of project traffic will not increase the volume to capacity (V/C) ratios at any signalized intersection beyond the significance thresholds of project related impacts as defined in the City's Traffic Study Guidelines.

The critical approach (Hickson Street) of the intersection of Arden Drive and Hickson Street will not be significantly impacted since project traffic will increase delay by 1.7 seconds at LOS E (less than the threshold value of 2.0 seconds) during the AM peak hour. Also, the PM peak hour LOS and delay will remain at an acceptable level with the project. The overall LOS at this intersection would be at an acceptable LOS C during both AM and PM peak hours. Since the project's impact is not significant at any of the intersections, no additional mitigation measures would be necessary for the development of this project.

Adequate parking spaces will be provided on-site for the proposed warehouse project in accordance with the parking code requirements of the City of El Monte. The total number of parking spaces required for the proposed warehouse uses will be 68 (plus 3 accessible spaces), and the project will provide a total of 72 parking spaces (including 3 regular accessible and 1 van accessible) in the on-site surface parking areas. Therefore, the project will not have any parking impacts on the neighborhood residential streets.

The site plan shows the use of truck turning template for interstate semitrailer (W-20 [W-65 and W-67]) design vehicles based on "A Policy on Geometric Design of Highway and Street". The developer will implement necessary modifications to the curb at the intersection of Arden Drive and Hickson Street, as shown in the Site Plan, to accommodate safe turns for trucks. Also, to facilitate inbound movements of cars from the north to the driveway on Arden Drive, a southbound left-turn bay (in the form of a 30 feet long, 10 feet wide two-way left-turn lane) may be constructed in the median area of Arden Drive at the driveway. This may be necessary as a minimum of 1 car is expected to use this turn bay during the peak hours.

Adequate visibility is available for the vehicles exiting Hickson Street onto Arden Drive. However, parking restriction for vehicles is recommended along the east side of Arden Drive and south side of Hickson Street for a distance of 50 feet on each street to facilitate turning of trucks from northbound Arden Drive to eastbound Hickson Street. Only a minimal number of trucks (no more than 1 during the peak hours) are expected to turn right from Hickson Street onto Arden Drive to travel north under normal operation of the project. To minimize encroachment onto southbound lanes and maintain visibility and adequate stopping sight distance from Hickson Street to the north on Arden Drive, approximately 50 feet of curb on east side of Arden Drive should be painted red to prohibit parking in this area. This prohibition of parking is not expected to significantly impact neighborhood parking conditions.

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INTRODUCTION

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The following are the key objectives of the study:

- Documentation of existing 2017 traffic conditions in the vicinity of the site.
- Determination of Project Opening Year (2019) 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 2017 and anticipated future 2019 opening year traffic operating conditions. The study has been prepared per City of El Monte'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 2019, 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 2019 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 signalized 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.

For the study area unsignalized intersections, the Highway Capacity Manual (HCM) method for unsignalized intersections has been utilized to determine intersection levels of service.

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 east-west regional access to the site is provided by Valley Boulevard. Major north-south regional access is provided by Arden Drive.

FIGURE 1: VICINITY MAP

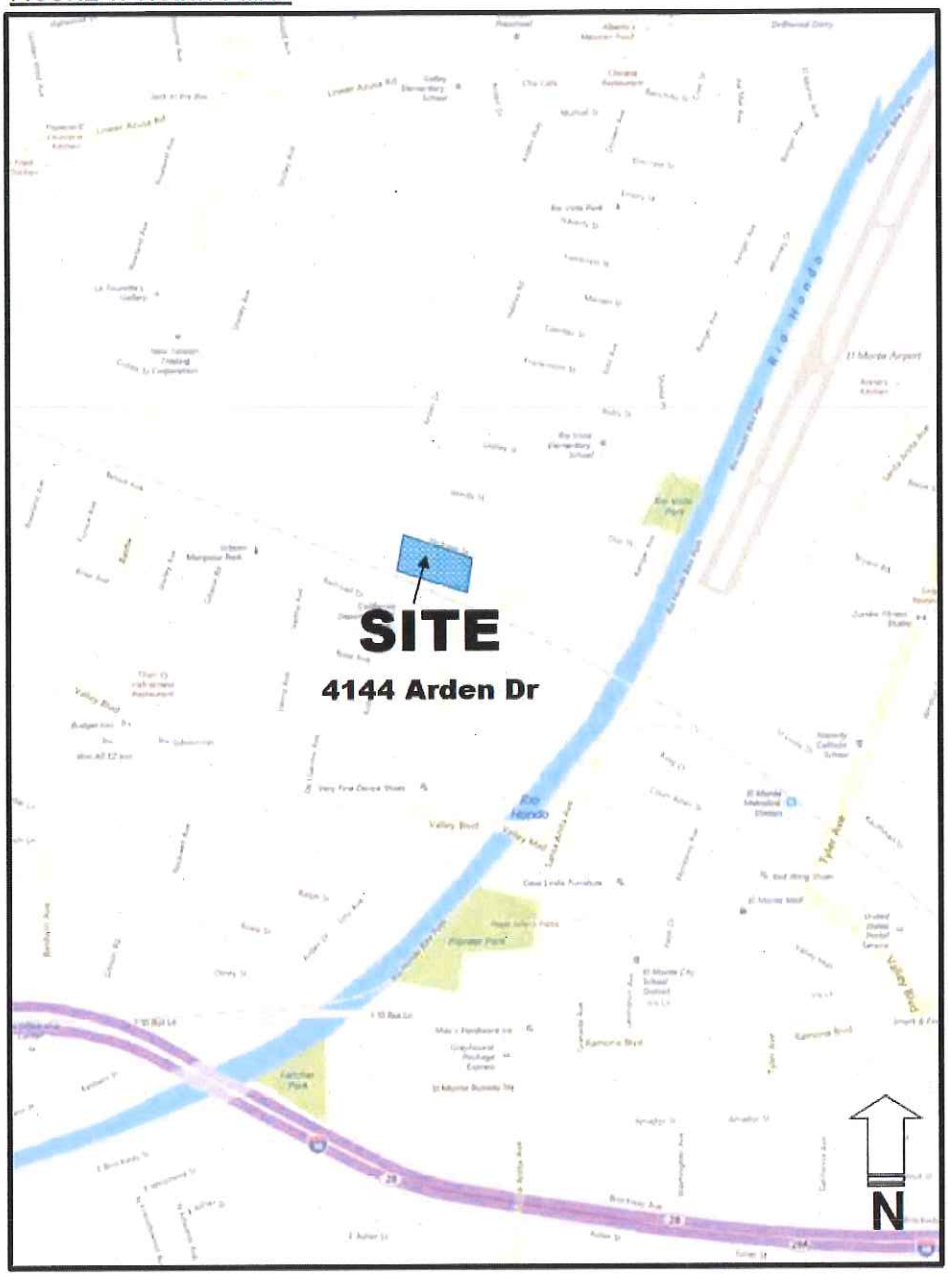
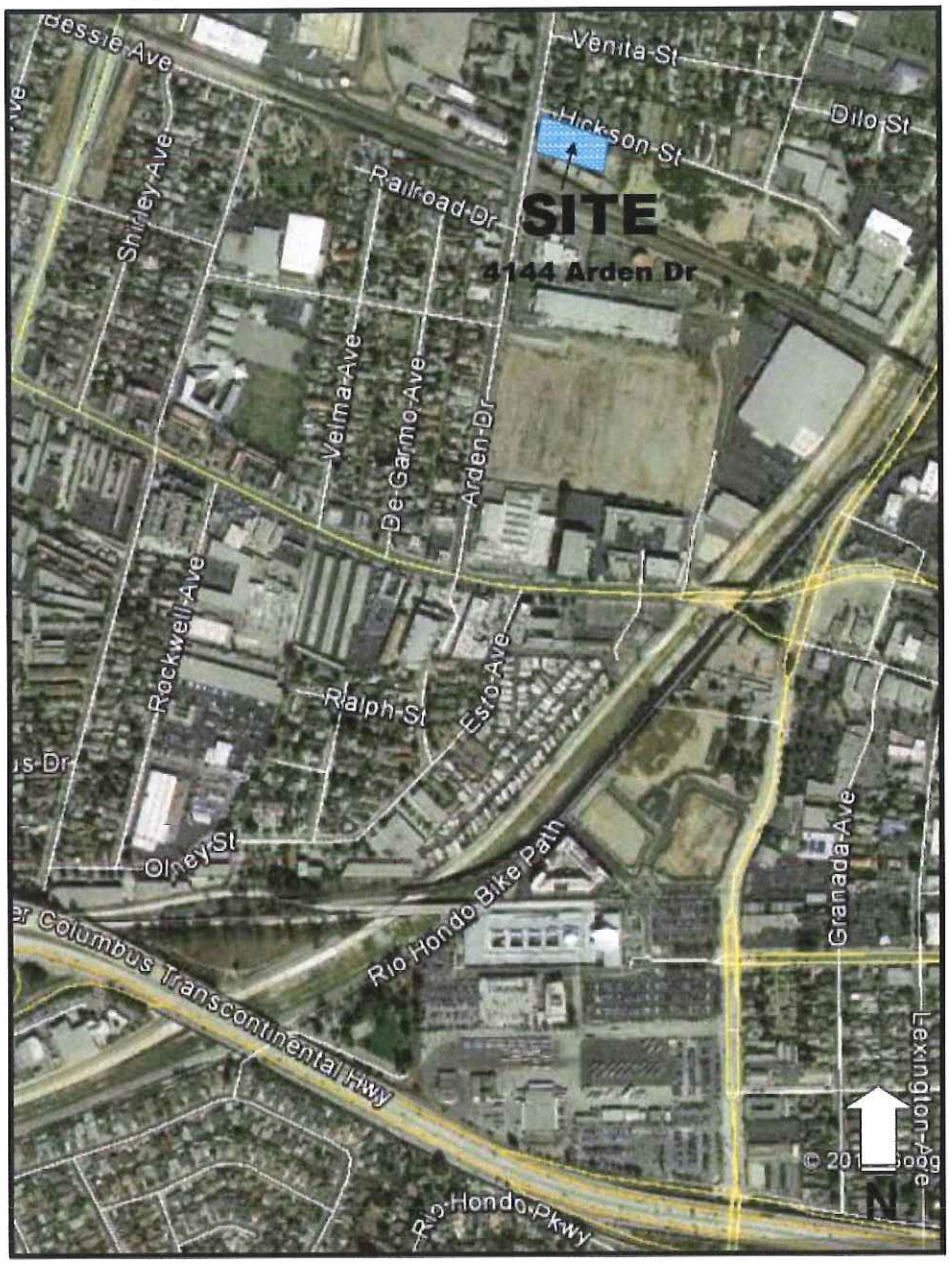


FIGURE 2: AERIAL VIEW OF CIRCULATION NETWORK



The project would provide one full-access driveway on Arden Drive for regular non-truck vehicles. For trucks, a separate full access driveway will be provided on Hickson Street. 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.

ARDEN DRIVE. Arden Drive is a north-south secondary arterial street in the vicinity of the project, striped with two travel lanes in each direction. Directional travel is separated by double yellow lines along the center. The street is approximately 56 feet wide and posted with a speed limit of 35 miles per hour. Most of the key intersections along Arden Drive are signalized. The intersection of Arden Drive and Hickson Street is a T-intersection (with Hickson Street joining Arden Drive from the east) and controlled by a STOP sign placed on Hickson Street. Exclusive left-turn lanes are provided at major intersections. Parking is prohibited on both the east and west sides of Arden Drive south of Hickson Street and on the west side of Arden Drive north of Hickson Street.

VALLEY BOULEVARD. Valley Boulevard is a major east-west arterial street with two travel lanes in each direction. Directional travel is separated by double yellow lines along the center. The street is approximately 76 feet wide and posted with a speed limit of 35 miles per hour. Most of the key intersections along Valley Boulevard are signalized. Parking is permitted along the sides of the street. Valley Boulevard is a designated truck route within the City.

HICKSON STREET. Hickson Street is an east-west local street with one travel lane in each direction. The street is approximately 36 feet wide and has a prime facie speed limit of 25 miles per hour. The intersection of Hickson Street with Arden Drive is stop-controlled with a STOP sign placed on Hickson Street. Parking is permitted along the sides of the street. Hickson Street is a cul-de-sac at its eastern terminus.

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 June 2017 while schools were in session. The intersections were counted during the peak hours of 7:00 to 9:00 AM and 4:00 to 6:00 PM. It was determined that the following key intersections would be analyzed in the study:

- Arden Drive and Hickson Street (Unsignalized, Stop sign on Hickson Street)
- Arden Drive and Valley Boulevard (Signalized)
- Arden Drive and Lower Azusa Road (Signalized)
- Baldwin Avenue and Valley Boulevard (Signalized)
- Santa Anita Avenue and Valley Boulevard (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 2017 TRAFFIC CONDITIONS

Year 2017 existing traffic conditions were evaluated for intersections using the Intersection Capacity Utilization (ICU) method (or HCM delay method for unsignalized intersections) of level of service (LOS) analysis.

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, all of the 5 study intersections are operating at an acceptable LOS D or better during the existing 2017 AM and PM peak hours, as shown in **Table 3**.

FIGURE 3: EXISTING LANE CONFIGURATION AT KEY INTERSECTIONS

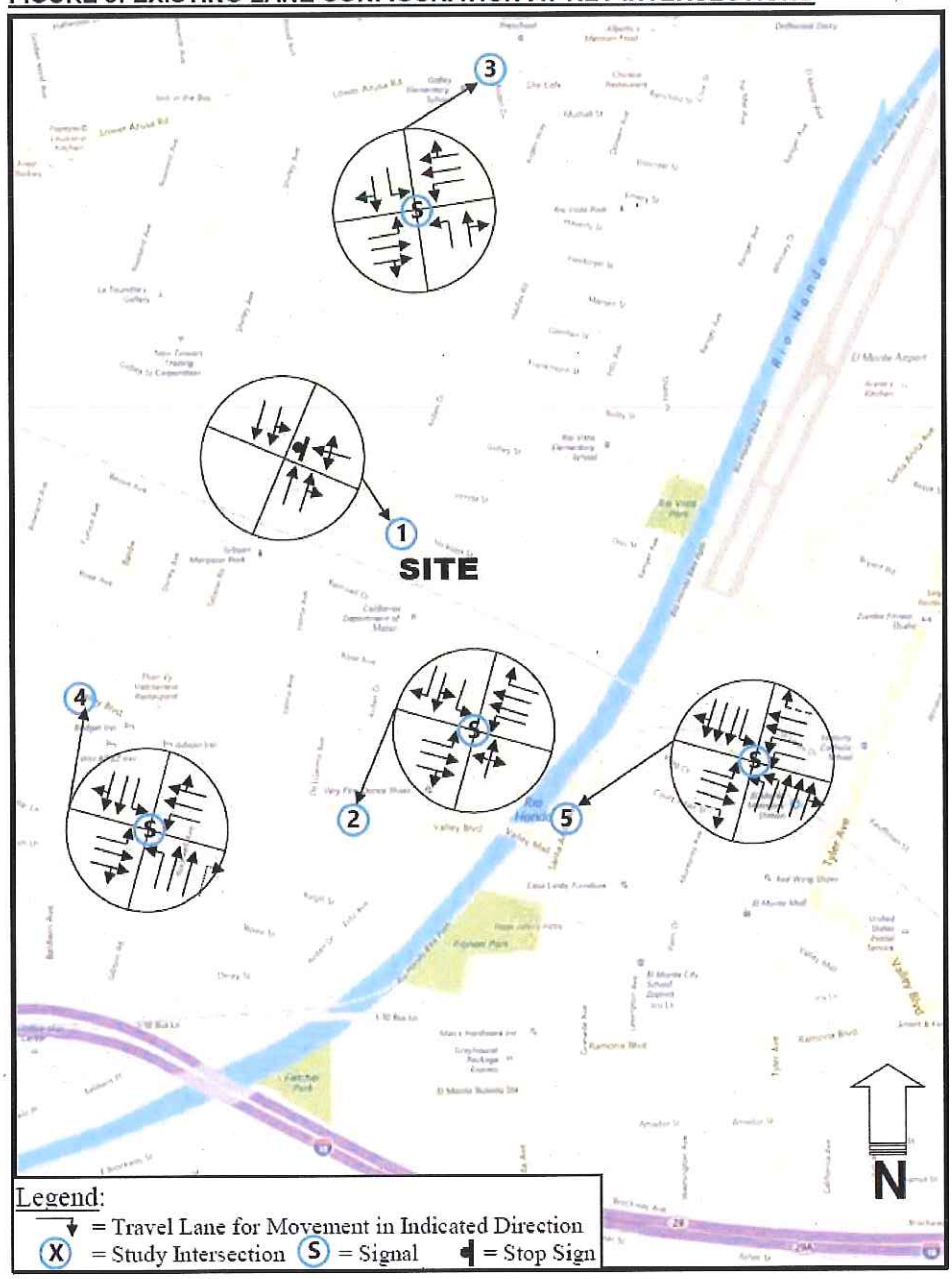


FIGURE 4: EXISTING 2017 TRAFFIC VOLUMES AT KEY INTERSECTIONS

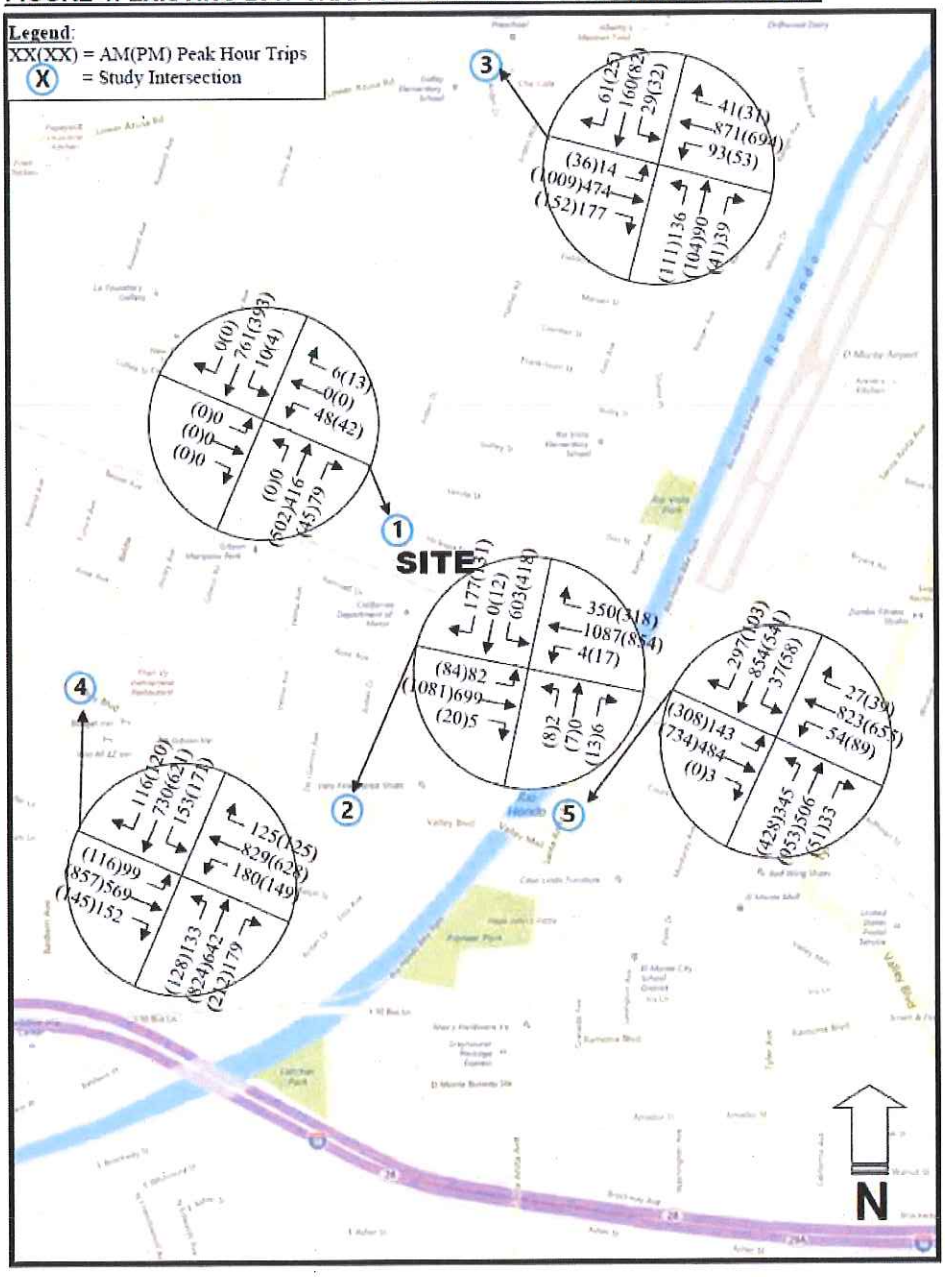


TABLE 3
EXISTING CONDITIONS (2017) LEVEL OF SERVICE SUMMARY

Intersection	Peak Hour	Existing 2017 Conditions	
		LOS	V/C (Delay)
1. Arden Drive and Hickson Street (Unsignalized)	AM PM	C C	27.7 sec 16.2 sec
2. Arden Drive and Valley Boulevard (Signalized)	AM PM	C B	0.745 0.644
3. Arden Drive and Lower Azusa Road (Signalized)	AM PM	B B	0.617 0.632
4. Baldwin Avenue and Valley Boulevard (Signalized)	AM PM	D D	0.808 0.871
5. Santa Anita Avenue and Valley Boulevard (Signalized)	AM PM	D C	0.806 0.780

(For unsignalized intersections, the LOS and Delay shown are for the worst critical approach)

OPENING YEAR 2019 PRE-PROJECT CONDITIONS

A 1.0 percent per year annual traffic growth rate was applied to existing traffic volumes to create a 2019 base condition (i.e., a factor of 1.02 was applied to 2017 volumes to obtain 2019 base traffic volumes due). 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 ten (10) other related projects located in the vicinity 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, 9th edition, published by the Institute of Transportation Engineers (ITE).

Table 4 shows a summary of trip generation estimates for the related projects. It is estimated that the related projects will generate approximately 3,689 trips (2,072 inbound and 1,617 outbound) during the average weekday AM peak hour. The average weekday PM peak hour trips will be approximately 4,050 trips (2,042 inbound and 2,008 outbound).

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 2019 pre-project traffic condition for the AM and PM peak hours.

Figure 6 shows future 2019 pre-project traffic volumes at the study intersections.

This pre-project traffic condition was evaluated using the Intersection Capacity Utilization (ICU) method (or HCM delay method for unsignalized intersections) of level of service (LOS) analysis for signalized intersections. The LOS and V/C ratios (or delay for unsignalized intersections) for the study intersections under 2019 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.

As the results indicate, 3 of the 5 study intersections will continue to operate at an acceptable LOS D or better during the future 2019 AM and PM peak hours with related projects. As shown in **Table 5**, the intersection of Baldwin Avenue and Valley Boulevard will be operating at LOS E during the PM peak hour, and the critical approach (Hickson Street) of the intersection of Arden Drive and Hickson Street will be operating at LOS E during the AM peak hour.

FIGURE 5: RELATED PROJECT LOCATIONS

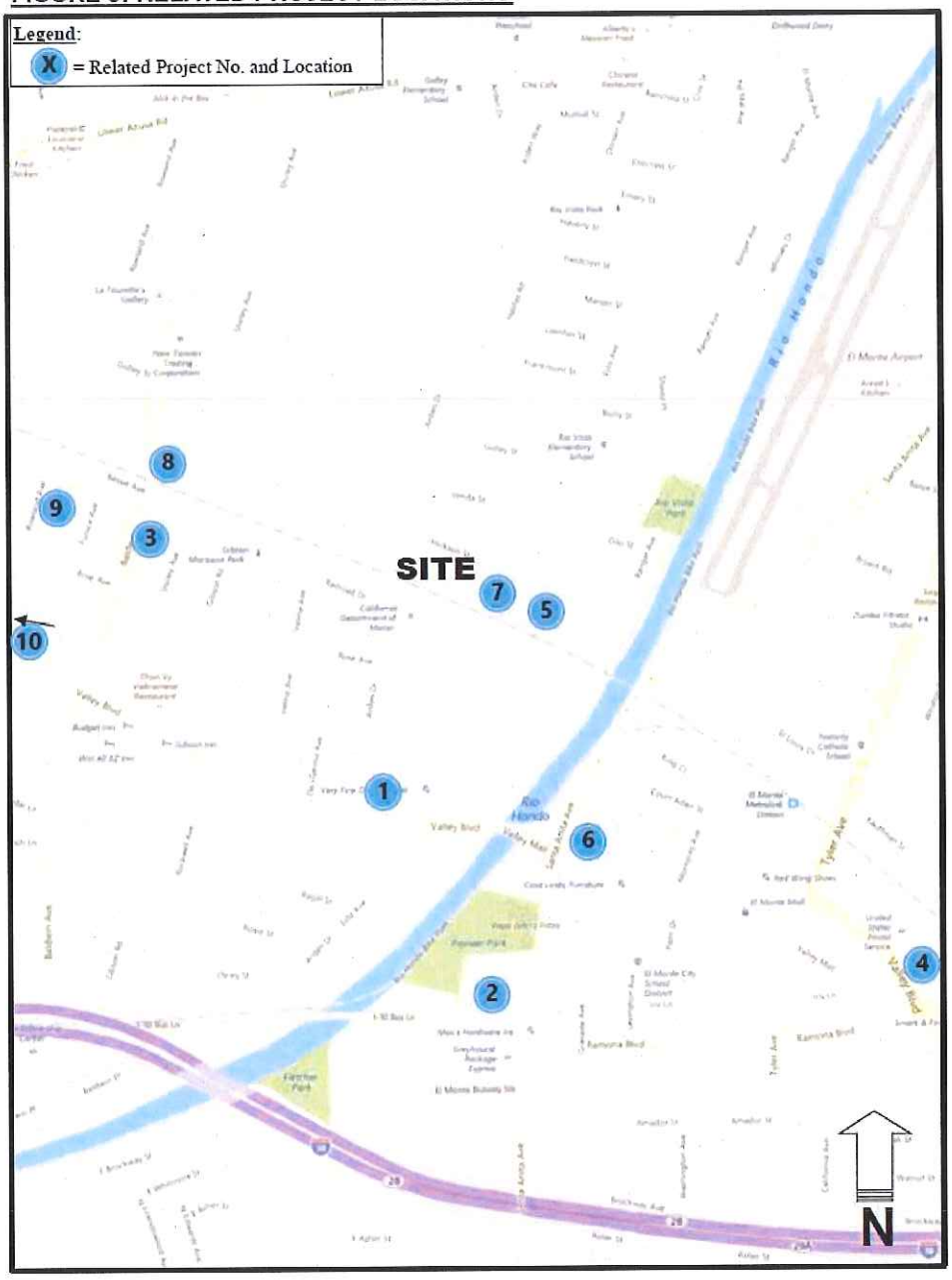


TABLE 4
TRIP GENERATION BY RELATED PROJECTS

ITE Code	Size & Unit	Land Use	Average Traffic Volume					
			AM Peak Hour			PM Peak Hour		
			IN	OUT	Total	IN	OUT	Total
Related Project 1: E/O Arden Dr and N/O Valley Bl (Walmart)								
813	182.50 KSF	Free-Standing Discount Superstore	189	149	338	389	405	794
		Less Pass-by (18% AM, 28% PM)	-34	-27	-61	-109	-113	-222
		Net Total	155	122	277	280	292	572
Related Project 2: 3527 Santa Anita Ave								
411	1.5 Acre	City Park	6	5	11	11	11	22
565	20 KSF	Day Care/Preschool	114	92	206	93	115	208
232	1203 DU	Condominium	42	230	272	165	82	247
820	262.14 KSF	Retail	112	70	182	334	329	663
		Less Pass-by	-22	-14	-36	-67	-6	-133
933	11.7 KSF	Restaurant (Counter Service)	249	10	408	107	89	196
		Less Pass-by	-50	-32	-82	-21	-18	-39
932	153.9 KSF	Restaurant (Table Service)	745	663	1408	702	391	1093
		Less Pass-by	-149	-133	-282	-140	-78	-219
220	647 DU	Apartment	35	184	210	152	66	218
310	200 Room	Hotel	47	39	86	47	33	81
710	41.5 KSF	Conference Center	47	6	53	8	42	50
710	500 KSF	Office	570	71	641	96	508	604
445	80 KSF	Theater	0	0	0	127	68	195
		Net Total	1745	1341	3086	1613	1572	3185
Related Project 3: 4102-4165 Baldwin Avenue & 9960 Bessie Avenue – 55 Affordable Units								
232	55 DU	Condominium	4	20	24	19	9	28
Related Project 4: 11127 Ramona Bl – 62 Townhomes including 4 live work Units								
232	62 DU	Townhomes	5	23	28	22	10	32
Related Project 5: 10620 Hickson Street								
150	67.111 KSF	Warehouse	29	8	37	10	29	39
Related Project 6: 10620 Valley Bl (Norms Restaurant)								
931	6.8 KSF	Restaurant	3	3	6	34	17	51
Related Project 7: 10460 Hickson Street								
150	93.927 KSF	Warehouse	30	8	38	11	30	41
Related Project 8: 4200 Baldwin Ave								
150	22.963 KSF	Warehouse	7	2	9	3	7	10
Related Project 9: 4127-4143 Rowland Ave								
220	72 DU	Apartment	7	29	36	29	16	45
Related Project 10: 9933 Valley Bl								
814	17.222 KSF	Retail	57	61	118	21	26	47
TOTAL			2,072	1,617	3,689	2,042	2,008	4,050

[Per Consultation with City Staff and Cumulative Project List. Trip Generation rates are from Institute of Transportation Engineers (ITE)'s "Trip Generation", 9th Edition, 2010]

FIGURE 6: DISTRIBUTION OF RELATED PROJECTS' TRAFFIC

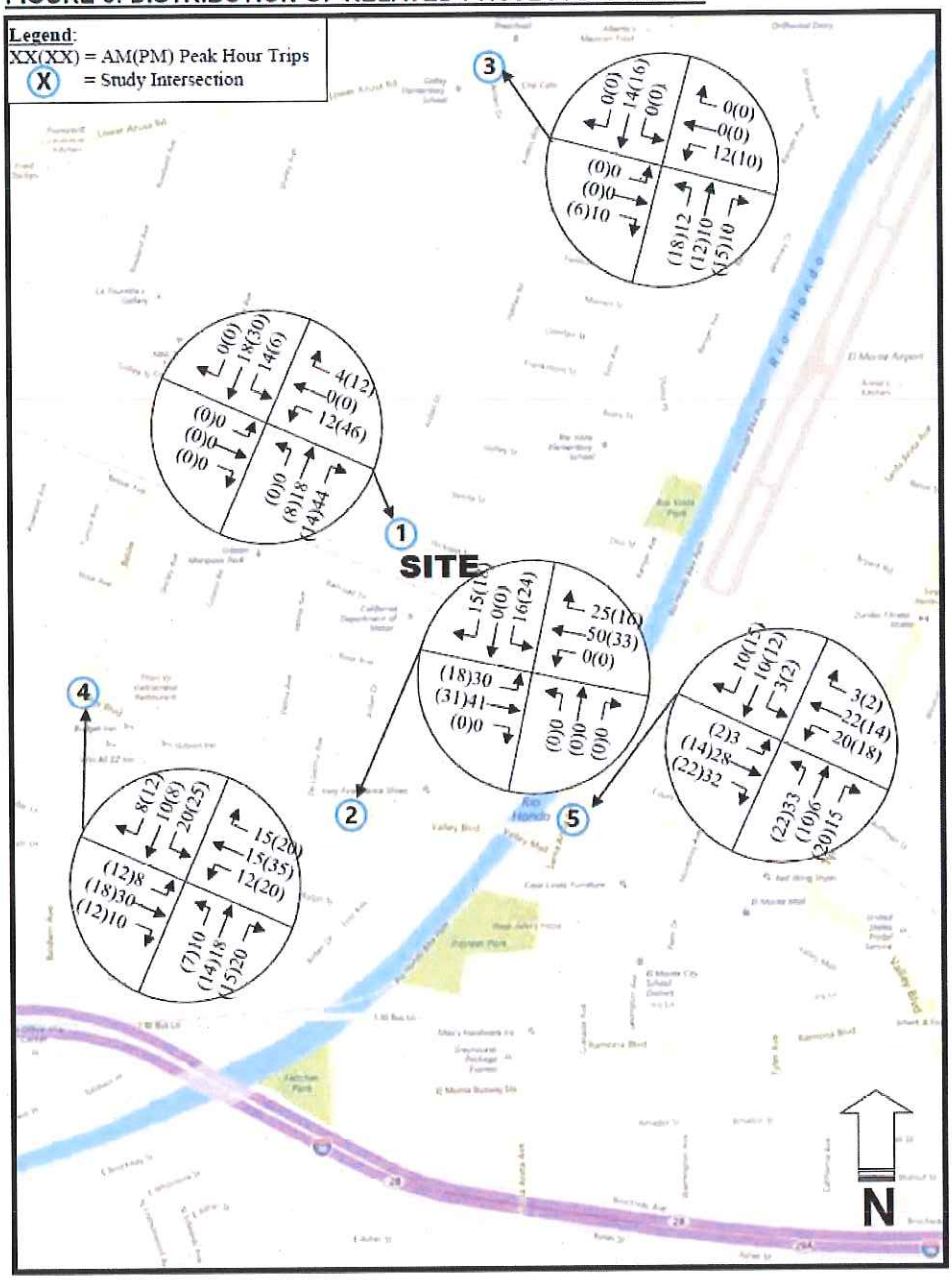


FIGURE 7: FUTURE 2019 PRE-PROJECT TRAFFIC VOLUMES AT INTERSECTIONS

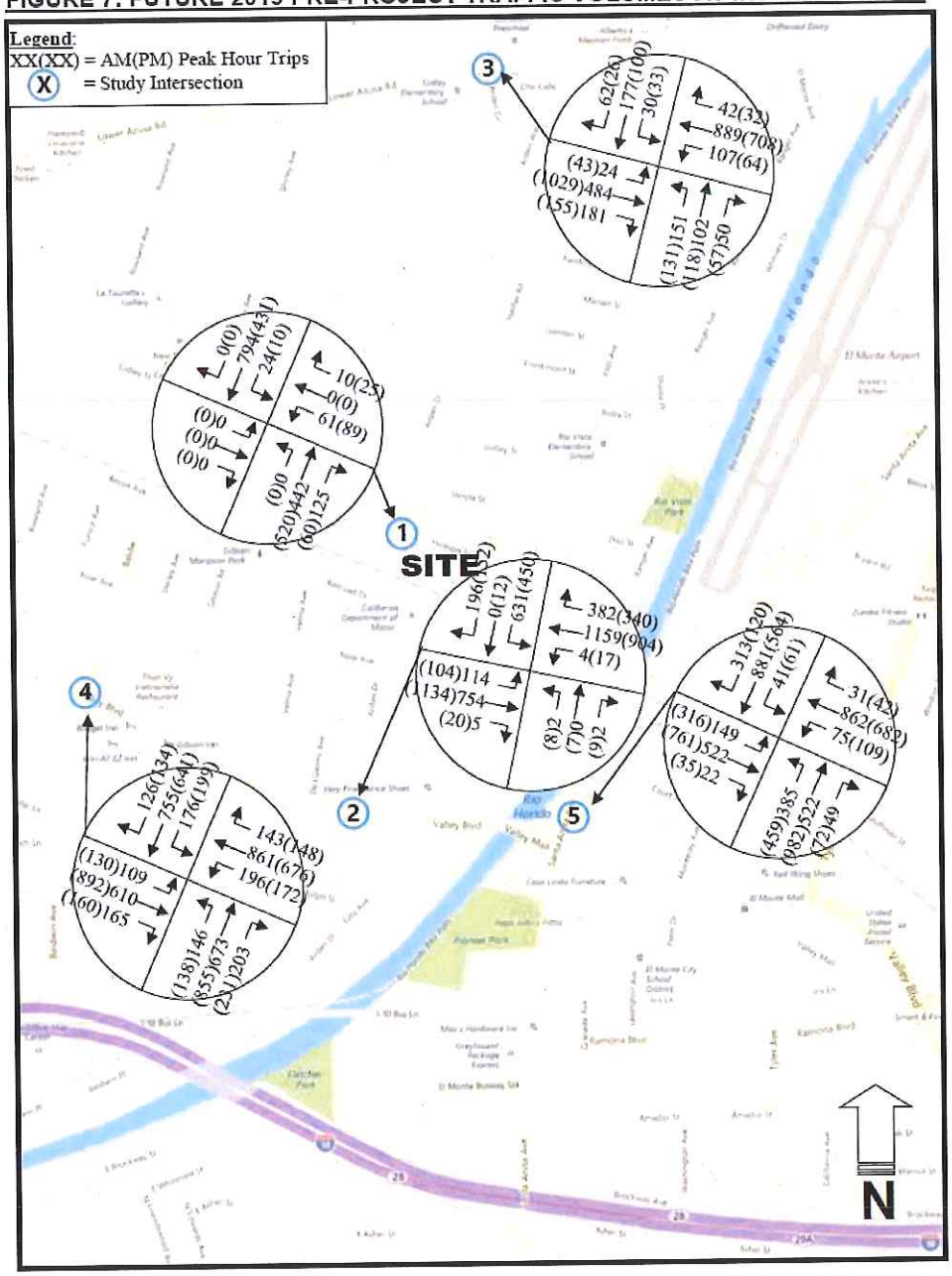


TABLE 5
2019 PRE-PROJECT FUTURE CONDITIONS LEVEL OF SERVICE SUMMARY

Intersection	Peak Hour	Future 2019 Conditions Without Project	
		LOS	V/C (Delay)
1. Arden Drive and Hickson Street (Unsignalized)	AM PM	E C	39.6 sec 21.0 sec
2. Arden Drive and Valley Boulevard (Signalized)	AM PM	C B	0.799 0.674
3. Arden Drive and Lower Azusa Road (Signalized)	AM PM	B B	0.650 0.670
4. Baldwin Avenue and Valley Boulevard (Signalized)	AM PM	D E	0.848 0.928
5. Santa Anita Avenue and Valley Boulevard (Signalized)	AM PM	D D	0.845 0.813

(For unsignalized intersections, the LOS and Delay shown are for the worst critical approach)

PROPOSED PROJECT

PROJECT DESCRIPTION

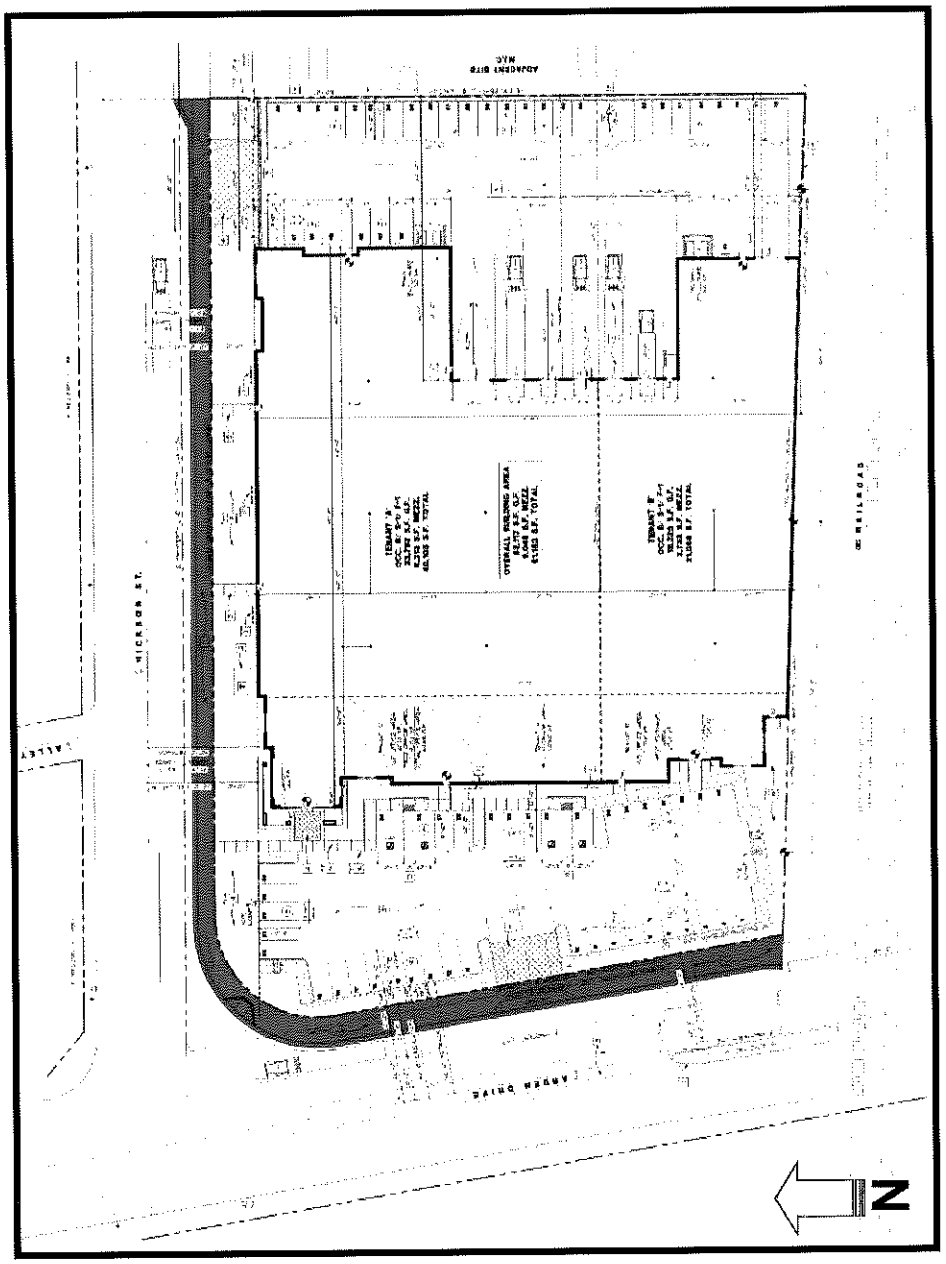
The proposed industrial warehouse project consists of demolishing all existing structures on-site and constructing a new building to provide a total of 61,163 square feet of warehouse uses. The proposed project will be located at 4144 Arden Drive within a 2.6-acre parcel of land (106,262 square feet) in the City's industrial (M-2) Zoning District.

Non-truck vehicular access to the project site will be provided by a full access 30-foot driveway on Arden Drive. A separate 40-foot driveway will be provided on Hickson Street. This driveway will accommodate both ingress and egress of vehicles, including trucks.

Surface parking will consist of 72 parking spaces. Of the total, 4 parking spaces will be ADA-compatible spaces (3 regular accessible spaces and 1 van accessible space).

Figure 8 shows the proposed site plan for the project.

FIGURE 8: PROJECT SITE PLAN



PROJECT TRIP GENERATION

In order to accurately assess 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) in September 2017. Additionally, information and data from City of Fontana's "Truck Trip Generation Study", 2003 were used to estimate truck percentages of all new vehicular trips associated with a Light Warehouse (≤ 100,000 gross square feet). The truck trips were converted into passenger car equivalents (PCE) using a 2.0 equivalence factor (i.e., 1 truck = 2 passenger cars) for intersection capacity and level of service analyses.

Table 6 shows a summary of trip generation estimates for the project. It is estimated that the project will generate approximately 128 vehicular trips (expressed in passenger car equivalents) per average day (64 inbound and 64 outbound). The average weekday new peak hour trips (expressed in passenger car equivalents) will be approximately 12 trips during the AM peak hour (9 inbound and 3 outbound), and 14 trips during the PM peak hour (4 inbound and 10 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, and in consultation with City staff.

Figure 9 depicts the regional trip distribution percentages to and from the site.

Figure 10 depicts project traffic volumes at key circulation locations during the AM and PM peak hours.

Year 2017 post-project (i.e., existing plus project traffic) conditions were evaluated using the Intersection Capacity Utilization (ICU) method (or HCM delay method for unsignalized intersections) of level of service (LOS) analysis for signalized intersections. The LOS and V/C ratios (or delay for unsignalized intersections) for the study intersections under 2017 post-project 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 all 5 study intersections will continue to operate at an acceptable LOS D or better during the AM and PM peak hours as shown in **Table 7**.

TABLE 6
TRIP GENERATION BY INDUSTRIAL WAREHOUSE PROJECT

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
TOTAL VEHICLE TRIP GENERATION															
150	61,163 GSF	1.74	0.17	77%	23%	0.19	27%	73%	106	8	2	11	3	9	12
TRUCK TRIP GENERATION (20% OF VEHICULAR TRIPS PER FONTANA STUDY)															
Truck Trips									22	2	0	2	1	2	2
PASSENGER CAR EQUIVALENT (PCE) TRIP GENERATION															
Truck in PCE (1 truck = 2 passenger cars)									44	3	1	4	1	3	4
Non-truck (Passenger Car Equivalent) Trips									84	6	2	8	3	7	10
Net New Trips in PCE									128	9	3	12	4	10	14

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

Ref: Institute of Transportation Engineers (ITE)'s "Trip Generation", 10th Edition, 2017 (for total vehicle trip generation and enter/exit split), and City of Fontana's "Truck Trip Generation Study", 2003 (truck mix)

FIGURE 9: PERCENTAGES OF PROJECT RELATED TRIP DISTRIBUTION

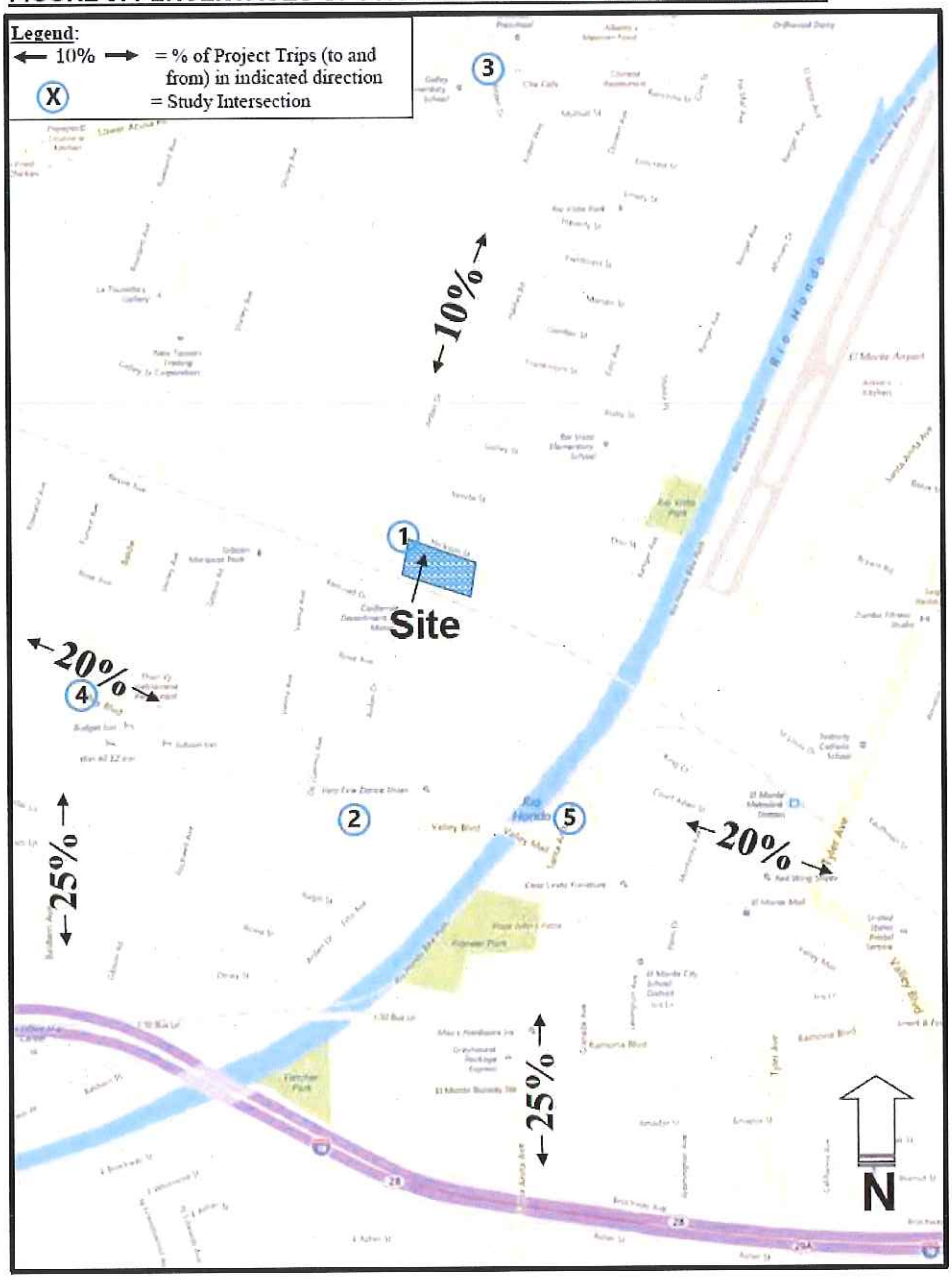


FIGURE 10: DISTRIBUTION OF PROJECT TRAFFIC

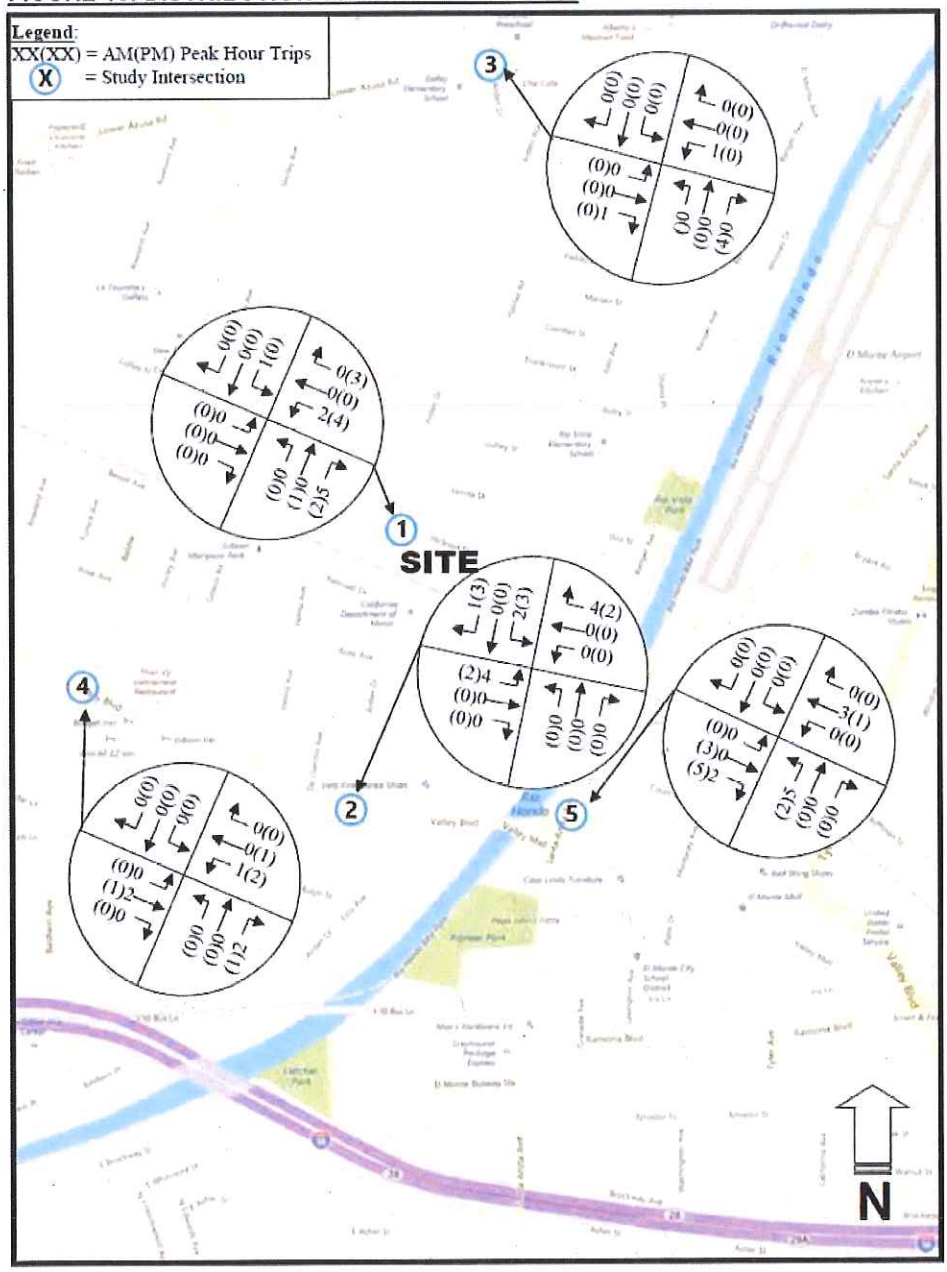


TABLE 7
EXISTING 2017 LEVEL OF SERVICE SUMMARY WITH PROJECT

Intersection	Peak Hour	Existing 2017 Conditions With Project	
		LOS	V/C (Delay)
1. Arden Drive and Hickson Street (Unsignalized)	AM PM	D C	28.4 sec 16.3 sec
2. Arden Drive and Valley Boulevard (Signalized)	AM PM	C B	0.748 0.645
3. Arden Drive and Lower Azusa Road (Signalized)	AM PM	B B	0.617 0.632
4. Baldwin Avenue and Valley Boulevard (Signalized)	AM PM	D D	0.808 0.872
5. Santa Anita Avenue and Valley Boulevard (Signalized)	AM PM	D C	0.807 0.781

(For unsignalized intersections, the LOS and Delay shown are for the worst critical approach)

2019 CUMULATIVE CONDITIONS WITH PROJECT TRAFFIC

2019 POST-PROJECT CUMULATIVE TRAFFIC VOLUMES WITH PROJECT

The 2019 cumulative post-project traffic volumes were estimated by adding project related traffic volumes to the 2019 pre-project traffic volumes with 1.0% per year ambient growth and related project traffic.

Figure 11 shows Year 2019 post-project cumulative volumes for AM and PM peak hours.

Year 2019 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 (or HCM delay method for unsignalized intersections) of level of service (LOS) analysis for signalized intersections. The LOS and V/C ratios (or delay for unsignalized intersections) for the study intersections under 2019 post-project cumulative conditions (with project) are summarized in **Table 8**. Detailed calculations relating to the study intersections are included in the Technical Appendix of this report.

The results indicate that 3 of the 5 study intersections will continue to operate at an acceptable LOS D or better during the AM and PM peak hours as shown in **Table 8**. The intersection of Baldwin Avenue and Valley Boulevard will be operating at LOS E during the PM peak hour, and the critical approach (Hickson Street) of the intersection of Arden Drive and Hickson Street will be operating at LOS E during the AM peak hour.

FIGURE 11: FUTURE 2019 POST-PROJECT TRAFFIC VOLUMES

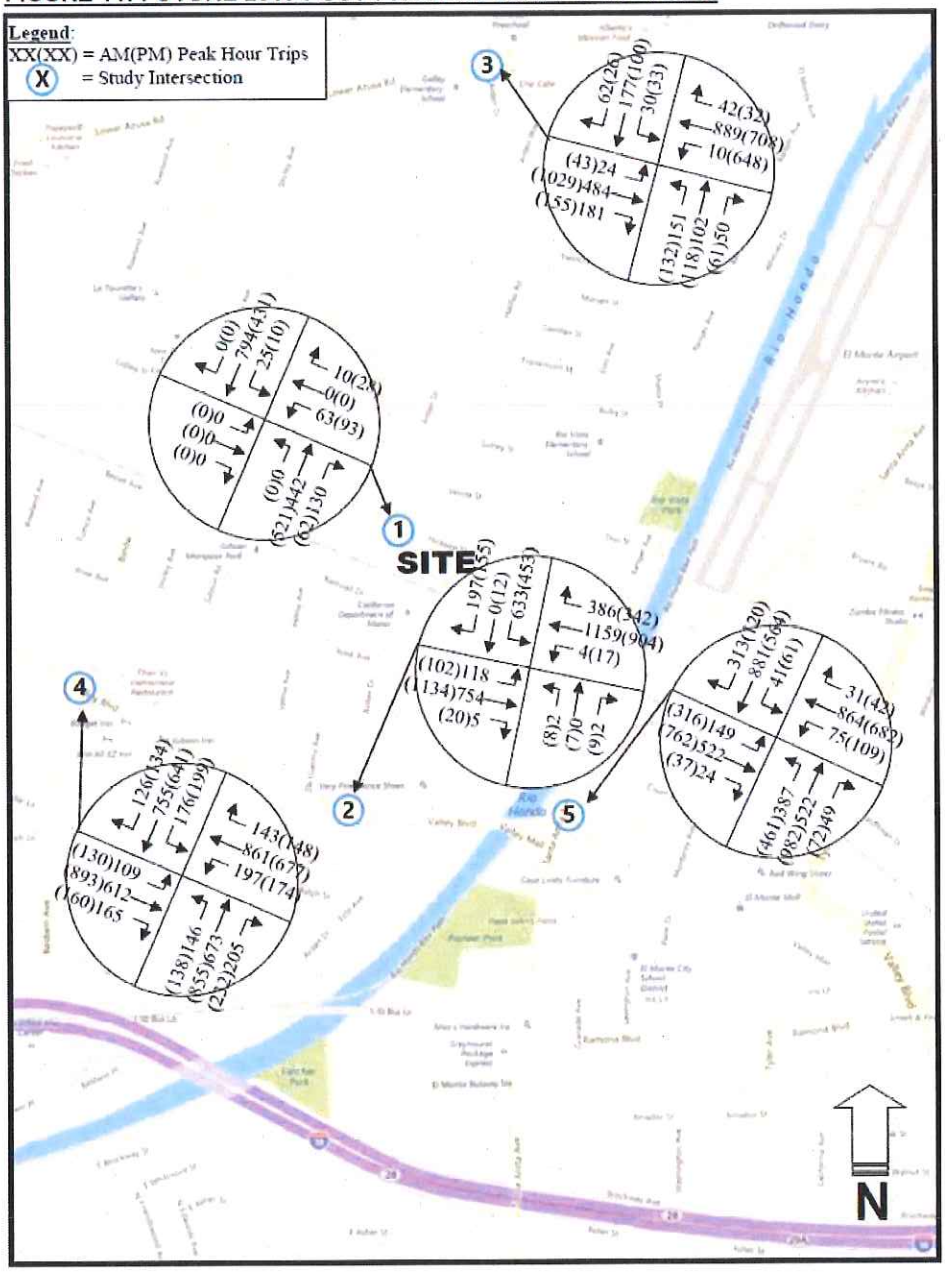


TABLE 8
FUTURE 2019 LEVEL OF SERVICE SUMMARY WITH PROJECT

Intersection	Peak Hour	Future 2019 Conditions With Project	
		LOS	V/C (Delay)
1. Arden Drive and Hickson Street (Unsignalized)	AM PM	E C	41.3 sec 21.4 sec
2. Arden Drive and Valley Boulevard (Signalized)	AM PM	C B	0.802 0.676
3. Arden Drive and Lower Azusa Road (Signalized)	AM PM	B B	0.650 0.670
4. Baldwin Avenue and Valley Boulevard (Signalized)	AM PM	D E	0.848 0.930
5. Santa Anita Avenue and Valley Boulevard (Signalized)	AM PM	D D	0.846 0.813

(For unsignalized intersections, the LOS and Delay shown are for the worst critical approach)

PROJECT IMPACT AND MITIGATION MEASURES

As indicated in the previous section, 3 of the 5 study intersections will continue to operate at an acceptable LOS D or better during the AM and PM peak hours. The intersection of Baldwin Avenue and Valley Boulevard will be operating at LOS E during the PM peak hour. Note that this intersection would be operating at LOS E without the project traffic due to ambient growth and other related projects.

The critical approach (Hickson Street) of the intersection of Arden Drive and Hickson Street will be operating at LOS E during the AM peak hour. This intersection also would be operating at LOS E without the project traffic due to ambient growth and other related projects

The project's off-site traffic impact would not be considered significant at any of the study intersections based on volume to capacity ratio (or average delay for unsignalized intersections) 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 (or average delay for unsignalized intersections) at key intersections under the future pre-project conditions with future post-project conditions. An 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 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 at signalized intersections. For unsignalized intersections, a significant impact is an increase in delay of 2.0 seconds or more at LOS E, or 1.0 second or more at LOS F.

The LOS, V/C ratio (or ICU) for the study intersections under 2019 cumulative conditions (with project as well as without project) are summarized in **Table 9** 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 at any of the signalized intersections.

The critical approach (Hickson Street) of the intersection of Arden Drive and Hickson Street will not be significantly impacted since project traffic will increase delay by 1.7 seconds at LOS E (less than the threshold value of 2.0 seconds) during the AM peak hour. Also, the PM peak hour LOS and delay will remain at an acceptable level with the project. The overall LOS at this intersection would be at an acceptable LOS C during both AM and PM peak hours.

Since the project's impact is not significant at any of the signalized intersections, no additional mitigation measures would be necessary for the development of this project.

TABLE 9
FUTURE 2019 LEVEL OF SERVICE SUMMARY WITH AND WITHOUT PROJECT

Intersection	Peak Hour	Future 2019 Conditions				Increase in V/C (or Delay) by Project
		Without Project		With Project		
		LOS	V/C (Delay)	LOS	V/C (Delay)	
1. Arden Drive and Hickson Street (Unsignalized)	AM	E	39.6 sec	E	41.3 sec	1.7 sec
	PM	C	21.0 sec	C	21.4 sec	0.4 sec
2. Arden Drive and Valley Boulevard (Signalized)	AM	C	0.799	C	0.802	0.003
	PM	B	0.674	B	0.676	0.002
3. Arden Drive and Lower Azusa Road (Signalized)	AM	B	0.650	B	0.650	0.000
	PM	B	0.670	B	0.671	0.001
4. Baldwin Avenue and Valley Boulevard (Signalized)	AM	D	0.848	D	0.848	0.000
	PM	E	0.928	E	0.930	0.002
5. Santa Anita Avenue and Valley Boulevard (Signalized)	AM	D	0.845	D	0.846	0.001
	PM	D	0.813	D	0.813	0.000

(For unsignalized intersections, the LOS and Delay shown are for the worst critical approach)

SITE ACCESS ANALYSIS

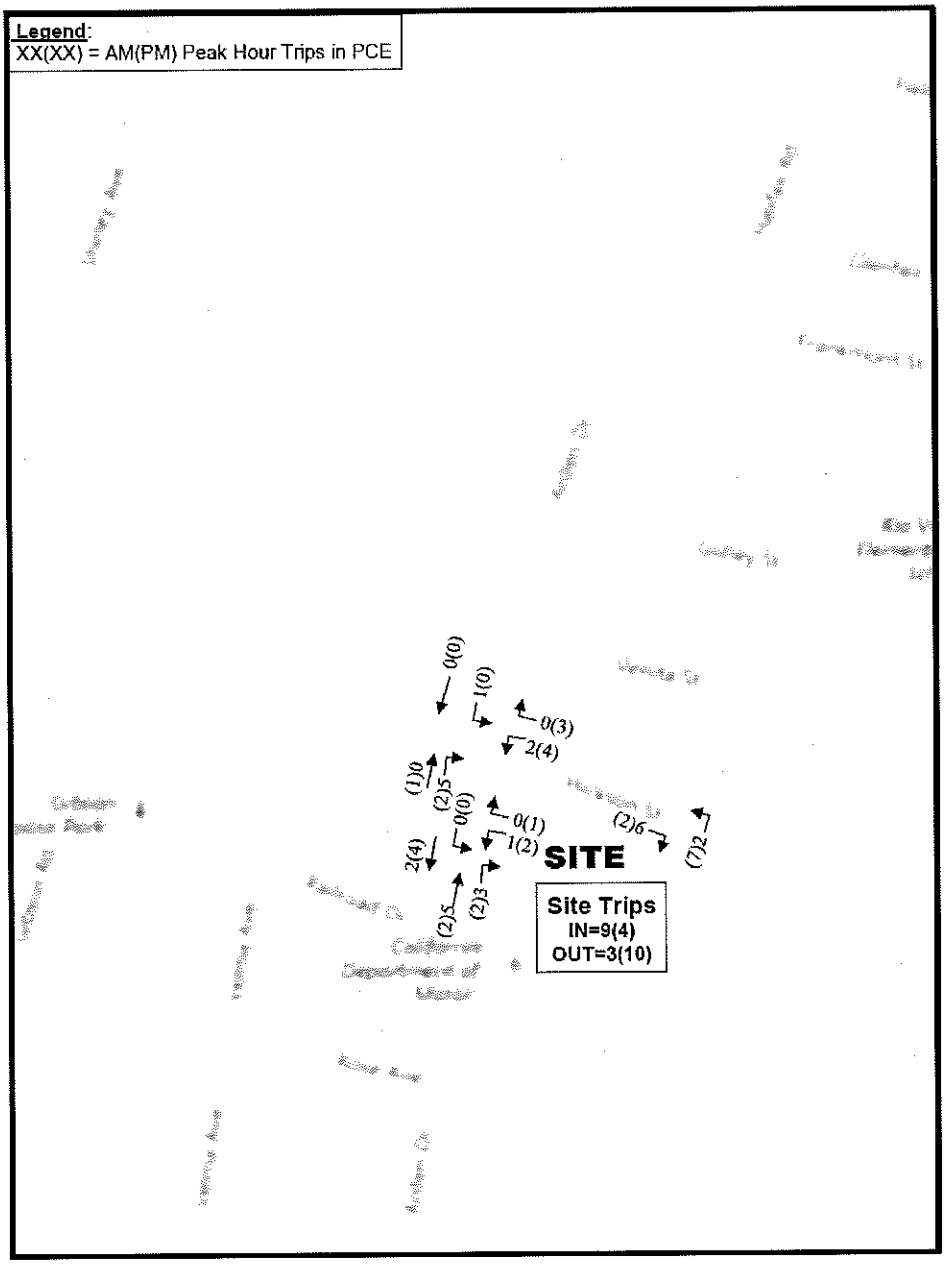
The project will provide one 30-foot full-access driveway on Arden Drive and one 40-foot full-access driveway on Hickson Street. The driveway on Arden Drive will be restricted for passenger cars only. The driveways will accommodate both ingress and egress of vehicles. **Figure 12** shows total trips in passenger car equivalent (PCE) from the site.

A maximum of 6 vehicles (in PCE) or 2 trucks and 1 car will enter the site during the AM peak hour from the west by making a right-turn movement from Hickson Street. A maximum of 7 vehicles (in PCE) or 2 trucks and 3 cars will exit the site during the PM peak hour to the west by making a left-turn movement.

Considering existing Hickson Street low traffic volumes (i.e., 89 eastbound and 54 westbound during the AM peak hour, and 49 eastbound and 55 westbound during the PM peak hour), the ingress/egress of trucks at the project driveway on Hickson Street will not be impacted.

Hickson Street is on a straight and flat alignment at the project's truck driveway. Therefore, adequate sight distance is available for the entering and exiting vehicles via the driveway.

FIGURE 12: PROJECT TRAFFIC AT DRIVEWAYS



The site plan shows the use of truck turning template for interstate semitrailer (W-20 [W-65 and W-67]) design vehicles based on "A Policy on Geometric Design of Highway and Street". The developer will implement necessary modifications to the curb at the intersection of Arden Drive and Hickson Street, as shown in the Site Plan (**Figure 8**), to accommodate safe turns for trucks. Also, to facilitate inbound movements of cars from the north to the driveway on Arden Drive, a southbound left-turn bay (in the form of a 30 feet long, 10 feet wide two-way left-turn lane) may be constructed in the median area of Arden Drive at the driveway. This may be necessary as a minimum of 1 car is expected to use this turn bay during the peak hours, as shown on **Figure 12**.

Adequate visibility is available for the vehicles exiting Hickson Street onto Arden Drive. However, parking restriction for vehicles is recommended along the east side of Arden Drive and south side of Hickson Street for a distance of 50 feet on each street to facilitate turning of trucks from northbound Arden Drive to eastbound Hickson Street. Only a minimal number of trucks are (no more than 1 during the peak hours) expected to turn right from Hickson Street onto Arden Drive to travel north under normal operation of the project. To minimize encroachment onto southbound lanes and maintain visibility and adequate stopping sight distance from Hickson Street to the north on Arden Drive, approximately 50 feet of curb on east side of Arden Drive should be painted red to prohibit parking in this area. This prohibition of parking is not expected to significantly impact neighborhood parking conditions.

PARKING DEMAND ANALYSIS

Adequate parking spaces will be provided on-site for the proposed industrial warehouse project in accordance with the parking code requirements of the City of El Monte.

The City's parking code requires 1 space per 400 sq. ft. of up to 5,000 sq. ft. of warehouse uses, 1 space per 500 sq. ft. of next 5,000 sq. ft. (i.e., up to 10,000 sq. ft.) of warehouse uses, 1 space per 750 sq. ft. of next 15,000 sq. ft. (I.e., up to 25,000 sq. ft.) of warehouse uses and 1 space per 1,500 sq. ft. of above 25,000 sq. ft. of warehouse uses. Accordingly, 13 spaces will be required for first 5,000 sq. ft. (i. e., 5,000/400 = 13), 10 spaces will be required for next 5,000 sq. ft. (i. e., 5,000/500 = 10), 20 spaces will be required for next 15,000 sq. ft. (i. e., 15,000/750 = 20) and 25 spaces will be required for the remaining 36,163 sq. ft. (i. e., 36,163/1,500 = 25) of warehouse uses of the project. The total number of parking spaces required will be 68 (i. e., 13 + 10 + 20 + 25 = 68). Additionally, 3 spaces will be required for accessible parking.

Surface parking to be provided on-site will consist of 72 parking spaces. Of the total, 4 parking spaces will be ADA-compatible spaces (3 will be 14'X19' regular accessible, 1 will be 17'X19' van accessible). Therefore, the project's parking demand will be adequately satisfied by on-site parking spaces, and the project will not have any parking impacts on the neighborhood residential streets.

CONCLUSION

Based on the results of the traffic impact analysis, the proposed industrial warehouse project would not have significant impact at any of the 5 key intersections analyzed in the surrounding roadway system. Three of the 5 study intersections would continue to operate at an acceptable level of service (i.e., at LOS A through D) during the AM and PM peak hours. The intersection of Baldwin Avenue and Valley Boulevard will be operating at LOS E during the PM peak hour. This intersection would be operating at LOS E without the project traffic due to existing traffic, ambient growth and other related projects. The addition of project traffic will not increase the volume to capacity (V/C) ratios at any signalized intersection beyond the significance thresholds of project related impacts as defined in the City's Traffic Study Guidelines.

The critical approach (Hickson Street) of the intersection of Arden Drive and Hickson Street will not be significantly impacted since project traffic will increase delay by 1.7 seconds at LOS E (less than the threshold value of 2.0 seconds) during the AM peak hour. Also, the PM peak hour LOS and delay will remain at an acceptable level with the project. The overall LOS at this intersection would be at an acceptable LOS C during both AM and PM peak hours.

Since the project's impact is not significant at any of the intersections, no additional mitigation measures would be necessary for the development of this project.

Adequate parking spaces will be provided on-site for the proposed industrial warehouse project in accordance with the parking code requirements of the City of El Monte. The total number of parking spaces required for the proposed warehouse uses will be 68 (plus 3 accessible spaces), and the project will provide a total of 72 parking spaces (including 3 regular accessible and 1 van accessible) in the on-site surface parking areas. Therefore, the project will not have any parking impacts on the neighborhood residential streets.

APPENDIX C – NO FURTHER ACTION LETTER

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COUNTY OF LOS ANGELES
FIRE DEPARTMENT

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

Refer reply to:
Health Hazardous Materials Division
5825 Rickenbacker Rd.
Commerce, CA 90040-3027

September 1, 2015

David L. Sipple, PE
Neenah Enterprises Inc.
2121 Brooks Avenue
Neenah, WI 54956

Dear Mr. Sipple:

FORMER GREGG INDUSTRIES FOUNDRY, 10460 HICKSON STREET, EL MONTE, CA 91731
(SMU FILE #11-840/RO0001354)

This Department has completed a review of the reports entitled, "Remediation Report for the Removal of Lead and TPH Impacted Soils and PCB Impacted Asphalt, Concrete, Metal, and Soils, Gregg Industries, Inc., 10460 Hickson Street, El Monte, California 91731," dated February 2015, "Soil Management and Due Diligence Report, Site Remediation, Hardscape Removal, and Rough Grading, Gregg Industries, Inc., 10460 Hickson Street, El Monte, California 91731," dated June, 2015; "Guard Shack Remediation, Gregg Industries, Inc., 10460 Hickson Street, El Monte, California 91731," dated August 2015; and, SMP 7-15 Remediation, Gregg Industries, Inc., 10460 Hickson Street, El Monte, California 91731," dated August 2015, submitted by your consultant AECOM Technical Services, Inc. (AECOM). This Department also reviewed the "Notice of Environmental Condition and Environmental Restriction, Regarding Assessors Parcel Numbers 8576-025-037, 8576-027-030 and 8576-027-031," recorded at the Los Angeles County Recorder's Office on August 28, 2015. This notice restricts the site to commercial/industrial use due to the presence of contaminants in the onsite soil and soil vapor that exceed residential environmental screening levels.

Based on information provided in the reports and with the provision that the information was accurate and representative of existing conditions, we concur with your consultant that the known site contamination has been satisfactorily mitigated for commercial/industrial site use and no further action is required at the subject site. The Site Mitigation Unit of this Department has no further requirement or restriction relating to this site at this time.

This letter, however, does not relieve you of any liability under the California Health and Safety Code, the State Water Code, or other applicable laws and regulations, nor does it relieve you of responsibility for any unidentified conditions or future operations that could pose an environmental concern.

If you have any questions, please feel free to call Richard Clark at (323) 890-4106.

Respectfully submitted,

RICHARD CLARK, SUPERVISOR
SITE MITIGATION UNIT
HEALTH HAZARDOUS MATERIALS DIVISION

RC:rc

cc: D. Koch, AECOM