

Appendix A

Air Quality Data and Pedestrian Smart Growth Scorecard

Ice Blocks
Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	54.85	1000sqft	1.26	54,850.00	0
Parking Lot	204.00	Space	1.84	81,600.00	0
Apartments Low Rise	208.00	Dwelling Unit	13.00	208,000.00	555
Strip Mall	69.68	1000sqft	1.60	69,680.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	3.5	Precipitation Freq (Days)	58
Climate Zone	6			Operational Year	2017

Utility Company Sacramento Municipal Utility District

CO2 Intensity (lb/MW/hr)	590.31	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	300.00	247.00
tblConstructionPhase	NumDays	20.00	8.00
tblConstructionPhase	NumDays	30.00	9.00
tblConstructionPhase	NumDays	20.00	24.00
tblConstructionPhase	NumDays	10.00	4.00
tblConstructionPhase	PhaseEndDate	11/11/2016	11/12/2016
tblConstructionPhase	PhaseEndDate	10/16/2015	10/17/2015
tblEnergyUse	T24E	348.18	261.14
tblEnergyUse	T24E	6.08	4.56
tblEnergyUse	T24E	3.98	2.99
tblEnergyUse	T24NG	11,068.06	8,301.05
tblEnergyUse	T24NG	13.07	9.80
tblEnergyUse	T24NG	4.72	3.54
tblGrading	AcresOfGrading	7.88	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2015	7.8578	84.0379	63.8491	0.0668	39.6569	4.5832	44.2400	21.7597	4.2165	25.9762	0.0000	6,422.747	6,422.747	1.8263	0.0000	6,461.099
2016	364.6066	41.3641	42.4449	0.0667	2.0329	2.6567	4.6896	0.5456	2.4777	3.0233	0.0000	6,310.061	6,310.061	0.9810	0.0000	6,330.662
Total	372.4644	125.4020	106.2940	0.1335	41.6898	7.2399	48.9296	22.3053	6.6942	28.9995	0.0000	12,732.80	12,732.80	2.8073	0.0000	12,791.76

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
2015	2.2868	26.0438	43.8302	0.0668	35.7049	0.1693	35.4920	19.5874	0.1692	19.4113	0.0000	6,422.747	6,422.747	1.8263	0.0000	6,461.099
2016	364.2976	21.2477	41.4319	0.0667	2.0329	0.1050	2.0082	0.5456	0.1049	0.5384	0.0000	6,310.061	6,310.061	0.9810	0.0000	6,330.662
Total	366.5844	47.2916	85.2620	0.1335	37.7378	0.2743	37.5002	20.1330	0.2742	19.9497	0.0000	12,732.80	12,732.80	2.8073	0.0000	12,791.76

2.2 Overall Operational
Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	10.6023	0.2024	17.3673	9.1000e-004	0.0942	0.0942	0.0942	0.0942	0.0942	0.0942	0.0000	30.9708	30.9708	0.0312	0.0000	31.6263
Energy	0.0926	0.8052	0.4413	5.0500e-003	0.0640	0.0640	0.0640	0.0640	0.0640	0.0640		1,009.6696	1,009.6696	0.0194	0.0185	1,015.6143
Mobile	23.7830	33.7265	183.3217	0.3847	25.1368	0.4723	25.6091	6.7148	0.4352	7.1500		31,156.2373	31,156.2373	1.2262		31,181.9877
Total	34.4778	34.7341	201.1303	0.3906	25.1368	0.6305	25.7673	6.7148	0.5934	7.3082	0.0000	32,196.8777	32,196.8777	1.2768	0.0185	32,229.4283

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	10.6023	0.2024	17.3673	9.1000e-004	0.0942	0.0942	0.0942	0.0942	0.0942	0.0942	0.0000	30.9708	30.9708	0.0312	0.0000	31.6263
Energy	0.0814	0.7082	0.3869	4.4400e-003	0.0563	0.0563	0.0563	0.0563	0.0563	0.0563		888.2764	888.2764	0.0170	0.0163	893.6823
Mobile	23.7830	33.7265	183.3217	0.3847	25.1368	0.4723	25.6091	6.7148	0.4352	7.1500		31,156.2373	31,156.2373	1.2262		31,181.9877
Total	34.4667	34.6371	201.0759	0.3900	25.1368	0.6228	25.7596	6.7148	0.5857	7.3005	0.0000	32,075.4845	32,075.4845	1.2745	0.0163	32,107.2963

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.03	0.28	0.03	0.16	0.00	1.22	0.03	0.00	1.30	0.11	0.00	0.38	0.38	0.18	11.99	0.38

3.0 Construction Detail

Construction Phase			Phase Date		Phase Type		Phase Description	
Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days		
1	Demolition	Demolition	10/1/2015	10/12/2015	5	8		
2	Site Preparation	Site Preparation	10/13/2015	10/17/2015	5	4		
3	Grading	Grading	10/18/2015	10/29/2015	5	9		
4	Building Construction	Building Construction	10/30/2015	10/10/2016	5	247		
5	Paving	Paving	10/11/2016	11/12/2016	5	24		
6	Architectural Coating	Architectural Coating	11/13/2016	11/29/2016	5	12		

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 421,200; Residential Outdoor: 140,400; Non-Residential Indoor: 190,472; Non-Residential Outdoor: 63,491 (Architectural Coating - sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	7.00	81	0.73
Demolition	Excavators	5	7.00	162	0.38
Demolition	Rubber Tired Dozers	3	7.00	255	0.40
Site Preparation	Rubber Tired Dozers	5	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	7	7.00	97	0.37
Grading	Excavators	3	7.00	162	0.38
Grading	Graders	1	7.00	174	0.41
Grading	Rubber Tired Dozers	1	7.00	255	0.40
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	5	7.00	89	0.20
Building Construction	Generator Sets	1	7.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	5	7.00	97	0.37
Building Construction	Welders	1	7.00	46	0.45
Paving	Pavers	2	7.00	125	0.42
Paving	Paving Equipment	3	7.00	130	0.36
Paving	Rollers	3	7.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	20.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	224.00	56.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Use Soil Stabilizer
- Replace Ground Cover
- Water Unpaved Roads
- Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2015

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	5.7877	63.4197	47.1875	0.0520		3.1520	3.1520		2.9270	2.9270		5,400.705 ₅	5,400.705 ₅	1.5132		5,432.482 ₃
Total	5.7877	63.4197	47.1875	0.0520	0.0000	3.1520	3.1520	0.0000	2.9270	2.9270		5,400.705₅	5,400.705₅	1.5132		5,432.482₃

3.2 Demolition - 2015

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.0671	0.0606	0.8086	1.4600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311	124.4588	124.4588	6.3700e-003	124.5927		124.5927
Total	0.0671	0.0606	0.8086	1.4600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311	124.4588	124.4588	6.3700e-003	124.5927		124.5927

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.2462	24.4762	33.2296	0.0520	0.1684	0.1684	0.1684	0.1684	0.1684	0.1684	0.0000	5,400.7055	5,400.7055	1.5132		5,432.4823
Total	1.2462	24.4762	33.2296	0.0520	0.0000	0.1684	0.1684	0.0000	0.1684	0.1684	0.0000	5,400.7055	5,400.7055	1.5132		5,432.4823

3.2 Demolition - 2015
Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
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	0.0671	0.0606	0.8086	1.4600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311	124.4588	124.4588	124.4588	6.3700e-003	124.5927	124.5927
Total	0.0671	0.0606	0.8086	1.4600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311	124.4588	124.4588	124.4588	6.3700e-003		124.5927

3.3 Site Preparation - 2015
Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					39.5199	0.0000	39.5199	21.7234	0.0000	21.7234			0.0000			0.0000
Off-Road	7.7773	83.9651	62.8788	0.0560	4.5821	4.5821	4.5821	4.2155	4.2155	4.2155	6,091.811	1	6,091.811	1.8187		6,130.0030
Total	7.7773	83.9651	62.8788	0.0560	39.5199	4.5821	44.1020	21.7234	4.2155	25.9389	6,091.811	1	6,091.811	1.8187		6,130.0030

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3.3 Site Preparation - 2015
Unmitigated Construction Off-Site

Category	lb/day										lb/day				CO2e		
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4		N2O	CO2e
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	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	0.0000
Worker	0.0805	0.0727	0.9703	1.7500e-003	0.1369	1.0600e-003	0.1380	0.0363	9.7000e-004	0.0373	149.3506	149.3506	149.3506	7.6500e-003	7.6500e-003	149.5112	149.5112
Total	0.0805	0.0727	0.9703	1.7500e-003	0.1369	1.0600e-003	0.1380	0.0363	9.7000e-004	0.0373	149.3506	149.3506	149.3506	7.6500e-003	7.6500e-003	149.5112	149.5112

Mitigated Construction On-Site

Category	lb/day										lb/day				CO2e		
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4		N2O	CO2e
Fugitive Dust	0.9219	25.9711	34.6652	0.0580	35.5680	0.0000	35.5680	19.5510	0.0000	19.5510	0.0000	0.0000	0.0000	0.0000	0.0000	6,130.003	0
Off-Road	0.9219	25.9711	34.6652	0.0580	35.5680	-0.2139	-0.2139	-0.1770	-0.1770	-0.1770	0.0000	6,091.811	6,091.811	1.8187	1.8187	6,130.003	0
Total	0.9219	25.9711	34.6652	0.0580	35.5680	-0.2139	35.3541	19.5510	-0.1770	19.3740	0.0000	6,091.811	6,091.811	1.8187	1.8187	6,130.003	0

CalEEMod Version: CalEEMod.2013.2.2

3.3 Site Preparation - 2015

Mitigated Construction Off-Site

Category	lb/day																
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
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	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	0.0000
Worker	0.0805	0.0727	0.9703	1.7500e-003	0.1369	1.0600e-003	0.1380	0.0363	9.7000e-004	0.0373	149.3506	149.3506	149.3506	7.6500e-003	0.0000	0.0000	149.5112
Total	0.0805	0.0727	0.9703	1.7500e-003	0.1369	1.0600e-003	0.1380	0.0363	9.7000e-004	0.0373	149.3506	149.3506	149.3506	7.6500e-003	0.0000	0.0000	149.5112

3.4 Grading - 2015

Unmitigated Construction On-Site

Category	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust	3.1366	34.8682	22.9903	0.0271	10.7743	1.7524	1.7524	5.8183	1.6122	1.6122	2,850.4551	2,850.4551	2,850.4551	0.8510	0.0000	2,868.3257
Off-Road	3.1366	34.8682	22.9903	0.0271	10.7743	1.7524	1.7524	5.8183	1.6122	1.6122	2,850.4551	2,850.4551	2,850.4551	0.8510	0.0000	2,868.3257
Total	3.1366	34.8682	22.9903	0.0271	10.7743	1.7524	1.7524	5.8183	1.6122	1.6122	2,850.4551	2,850.4551	2,850.4551	0.8510	0.0000	2,868.3257

3.4 Grading - 2015

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
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	0.0895	0.0808	1.0781	1.9500e-003	0.1521	1.1700e-003	0.1533	0.0404	1.0700e-003	0.0414	165.9451	165.9451	165.9451	8.5000e-003	166.1236	166.1236
Total	0.0895	0.0808	1.0781	1.9500e-003	0.1521	1.1700e-003	0.1533	0.0404	1.0700e-003	0.0414	165.9451	165.9451	165.9451	8.5000e-003	166.1236	166.1236

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust	0.6630	12.8182	18.7113	0.0271	9.6969	0.0000	9.6969	5.2365	0.0000	5.2365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6630	12.8182	18.7113	0.0271	0.0872	0.0872	0.0872	0.0872	0.0872	0.0872	0.0000	2,850.4551	2,850.4551	0.8510	2,868.3257	2,868.3257
Total	0.6630	12.8182	18.7113	0.0271	9.6969	0.0872	9.7840	5.2365	0.0872	5.3237	0.0000	2,850.4551	2,850.4551	0.8510	2,868.3257	2,868.3257

CalEEMod Version: CalEEMod.2013.2.2

3.4 Grading - 2015
Unmitigated Construction Off-Site

Category	lb/day										lb/day				CO2e	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4		N2O
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	0.0895	0.0808	1.0781	1.9500e-003	0.1521	1.1700e-003	0.1533	0.0404	1.0700e-003	0.0414	165.9451	165.9451	165.9451	8.5000e-003	8.5000e-003	166.1236
Total	0.0895	0.0808	1.0781	1.9500e-003	0.1521	1.1700e-003	0.1533	0.0404	1.0700e-003	0.0414	165.9451	165.9451	165.9451	8.5000e-003	8.5000e-003	166.1236

3.5 Building Construction - 2015
Unmitigated Construction On-Site

Category	lb/day										lb/day				CO2e	
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4		N2O
Off-Road	4.4539	37.9987	24.0101	0.0332	2.7590	2.7590	2.7590	2.5759	2.5759	2.5759	3,379.3707	3,379.3707	3,379.3707	0.8968	0.8968	3,398.2028
Total	4.4539	37.9987	24.0101	0.0332	2.7590	2.7590	2.7590	2.5759	2.5759	2.5759	3,379.3707	3,379.3707	3,379.3707	0.8968	0.8968	3,398.2028

3.5 Building Construction - 2015
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.8069	5.1487	9.0404	0.0118	0.3290	0.0880	0.4170	0.0937	0.0808	0.1745	1,184.791 3	1,184.791 3	1,184.791 3	0.0101		1,185.004 3
Worker	1.0020	0.9051	12.0749	0.0218	1.7040	0.0132	1.7171	0.4520	0.0120	0.4640	1,858.585 1	1,858.585 1	1,858.585 1	0.0952		1,860.584 2
Total	1.8089	6.0548	21.1153	0.0336	2.0329	0.1012	2.1341	0.5456	0.0928	0.6385	3,043.376 4	3,043.376 4	3,043.376 4	0.1053		3,045.588 5

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.4779	15.7256	22.7149	0.0332		-0.1330	-0.1330		-0.1067	-0.1067	0.0000	3,379.370 7	3,379.370 7	0.8968		3,398.202 8
Total	0.4779	15.7256	22.7149	0.0332		-0.1330	-0.1330		-0.1067	-0.1067	0.0000	3,379.370 7	3,379.370 7	0.8968		3,398.202 8

3.5 Building Construction - 2015
Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.8069	5.1497	9.0404	0.0118	0.3290	0.0880	0.4170	0.0937	0.0608	0.1745	1,184.791 3	1,184.791 3	1,184.791 3	0.0101		1,185.004 3
Worker	1.0020	0.9051	12.0749	0.0218	1.7040	0.0132	1.7171	0.4520	0.0120	0.4640	1,858.585 1	1,858.585 1	1,858.585 1	0.0952		1,860.584 2
Total	1.8089	6.0548	21.1153	0.0336	2.0329	0.1012	2.1341	0.5456	0.0928	0.6385	3,043.376 4	3,043.376 4	3,043.376 4	0.1053		3,045.588 5

3.5 Building Construction - 2016
Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	4.1641	36.0589	23.7438	0.0332	2.5705	2.5705	2.5705	2.3985	2.3985	2.3985	3,350.150 3	3,350.150 3	3,350.150 3	0.8853		3,368.741 4
Total	4.1641	36.0589	23.7438	0.0332	2.5705	2.5705	2.5705	2.3985	2.3985	2.3985	3,350.150 3	3,350.150 3	3,350.150 3	0.8853		3,368.741 4

CalEEMod Version: CalEEMod.2013.2.2

3.5 Building Construction - 2016
Unmitigated Construction Off-Site

Category	lb/day										CO2e						
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total		Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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	0.0000
Vendor	0.6766	4.4977	7.8915	0.0117	0.3289	0.0737	0.4027	0.0937	0.0677	0.1613	1,168.187	0	1,168.187	9.2000e-003	0	1,169.380	2
Worker	0.8977	0.8075	10.8096	0.0218	1.7040	0.0125	1.7165	0.4520	0.0115	0.4635	1,790.723	8	1,790.723	0.0865	8	1,792.540	5
Total	1.5743	5.3052	18.7011	0.0335	2.0329	0.0862	2.1192	0.5456	0.0792	0.6248	2,959.910	8	2,959.910	0.0957	8	2,961.920	7

Mitigated Construction On-Site

Category	lb/day										CO2e							
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total		Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Off-Road	0.5021	15.9425	22.7308	0.0332	-0.1110	-0.1110	-0.1110	-0.0864	-0.0864	-0.0864	0.0000	3,350.150	3	3,350.150	0.8853	3	3,368.741	4
Total	0.5021	15.9425	22.7308	0.0332	-0.1110	-0.1110	-0.1110	-0.0864	-0.0864	-0.0864	0.0000	3,350.150	3	3,350.150	0.8853	3	3,368.741	4

3.5 Building Construction - 2016
Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.6766	4.4977	7.8915	0.0117	0.3289	0.0737	0.4027	0.0937	0.0677	0.1613	1,169.1870	1,169.1870	1,169.1870	9.2000e-003		1,169.3802
Worker	0.8977	0.8075	10.8096	0.0218	1.7040	0.0125	1.7165	0.4520	0.0115	0.4635	1,790.7238	1,790.7238	1,790.7238	0.0865		1,792.5405
Total	1.5743	5.3052	18.7011	0.0335	2.0329	0.0862	2.1192	0.5456	0.0792	0.6248		2,959.9108	2,959.9108	0.0957		2,961.9207

3.6 Paving - 2016
Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	2.3918	25.4326	16.9525	0.0253		1.4588	1.4588	1.3421	1.3421	1.3421	2,629.8463	2,629.8463	2,629.8463	0.7933		2,646.5046
Paving	0.2009					0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total	2.5927	25.4326	16.9525	0.0253		1.4588	1.4588	1.3421	1.3421	1.3421		2,629.8463	2,629.8463	0.7933		2,646.5046

3.6 Paving - 2016

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0541	0.7239	1.4600e-003	0.1141	8.4000e-004	0.1149	0.0303	7.7000e-004	0.0310	119.9145	119.9145	119.9145	5.7900e-003		120.0362
Total	0.0601	0.0541	0.7239	1.4600e-003	0.1141	8.4000e-004	0.1149	0.0303	7.7000e-004	0.0310		119.9145	119.9145	5.7900e-003		120.0362

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.6233	12.6424	19.2198	0.0253		0.1042	0.1042		0.1042	0.1042	0.0000	2,629,846 ₃	2,629,846 ₃	0.7933		2,646,504 ₆
Paving	0.2009					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8242	12.6424	19.2198	0.0253		0.1042	0.1042		0.1042	0.1042	0.0000	2,629,846₃	2,629,846₃	0.7933		2,646,504₆

3.6 Paving - 2016

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0541	0.7239	1.4600e-003	0.1141	8.4000e-004	0.1149	0.0303	7.7000e-004	0.0310	119.9145	119.9145	5.7900e-003			120.0362
Total	0.0601	0.0541	0.7239	1.4600e-003	0.1141	8.4000e-004	0.1149	0.0303	7.7000e-004	0.0310	119.9145	119.9145	5.7900e-003			120.0362

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Archit. Coating	364.0578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	281.4481	281.4481	0.0332			282.1449
Total	364.4263	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	281.4481	281.4481	0.0332			282.1449

3.7 Architectural Coating - 2016
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
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	0.1803	0.1622	2.1716	4.3800e-003	0.3423	2.5200e-003	0.3448	0.0908	2.3100e-003	0.0931	359.7436	359.7436	359.7436	0.0174		360.1086
Total	0.1803	0.1622	2.1716	4.3800e-003	0.3423	2.5200e-003	0.3448	0.0908	2.3100e-003	0.0931		359.7436	359.7436	0.0174		360.1086

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Archit. Coating	364.0578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003	0.0143	0.0143	0.0143	0.0143	0.0143	0.0143	0.0000	281.4481	281.4481	0.0332		282.1449
Total	364.1172	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0332		282.1449

**3.7 Architectural Coating - 2016
Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
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	0.1803	0.1622	2.1716	4.3800e-003	0.3423	2.5200e-003	0.3448	0.0908	2.3100e-003	0.0931		359.7436	359.7436	0.0174		360.1086
Total	0.1803	0.1622	2.1716	4.3800e-003	0.3423	2.5200e-003	0.3448	0.0908	2.3100e-003	0.0931		359.7436	359.7436	0.0174		360.1086

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Mitigated	23.7830	33.7265	183.3217	0.3847	25.1368	0.4723	25.6091	6.7148	0.4352	7.1500		31,156.2373	31,156.2373	1.2262		31,181.9877
Unmitigated	23.7830	33.7265	183.3217	0.3847	25.1368	0.4723	25.6091	6.7148	0.4352	7.1500		31,156.2373	31,156.2373	1.2262		31,181.9877

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate				Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday			
Apartment Low Rise	1,272.96	1,383.20	1173.12		3,270,367	3,270,367
General Office Building	832.07	179.36	74.05		1,302,130	1,302,130
Parking Lot	0.00	0.00	0.00			
Strip Mall	5,370.24	5,093.61	2475.73		6,046,619	6,046,619
Total	7,475.27	6,656.17	3,722.90		10,619,117	10,619,117

4.3 Trip Type Information

Land Use	Miles										Trip Purpose %				
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by			
Apartment Low Rise	10.00	5.00	6.50	46.50	12.50	41.00				86	11	3			
General Office Building	10.00	5.00	6.50	33.00	48.00	19.00				77	19	4			
Parking Lot	10.00	5.00	6.50	0.00	0.00	0.00				0	0	0			
Strip Mall	10.00	5.00	6.50	16.60	64.40	19.00				45	40	15			

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.504263	0.068212	0.178684	0.146863	0.044671	0.006294	0.020946	0.016568	0.002299	0.002275	0.006187	0.000564	0.002174

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Category	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Natural Gas Mitigated	0.0814	0.7082	0.3869	4.4400e-003	0.0563	0.0563	0.0563	0.0563	0.0563	0.0563	888.2764	888.2764	0.0170	0.0163	0.0163	893.6823
Natural Gas Unmitigated	0.0926	0.8052	0.4413	5.0500e-003	0.0640	0.0640	0.0640	0.0640	0.0640	0.0640	1,009.669	1,009.669	0.0194	0.0185	0.0185	1,015.814
											6	6				3

5.2 Energy by Land Use - Natural Gas

Unmitigated

Land Use	Natural Gas Use kBTU/yr	lb/day															
		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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	0.0000	0.0000
Strip Mall	853.341	9.2000e-003	0.0837	0.0703	5.0000e-004	6.3600e-003	6.3600e-003	6.3600e-003	6.3600e-003	6.3600e-003	100.3931	100.3931	1.9200e-003	1.8400e-003	1.8400e-003	101.0041	
Apartments Low Rise	6153.98	0.0664	0.5671	0.2413	3.6200e-003	0.0459	0.0459	0.0459	0.0459	0.0459	723.9976	723.9976	0.0139	0.0133	0.0133	728.4037	
General Office Building	1574.87	0.0170	0.1544	0.1297	9.3000e-004	0.0117	0.0117	0.0117	0.0117	0.0117	185.2790	185.2790	3.5500e-003	3.4000e-003	3.4000e-003	186.4066	
Total		0.0926	0.8052	0.4413	5.0500e-003	0.0639	0.0639	0.0639	0.0639	0.0639	1,009.669	1,009.669	0.0194	0.0185	0.0185	1,015.814	
											6	6				3	

5.2 Energy by Land Use - Natural Gas Mitigated

Land Use	Natural Gas Use kBtu/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Blk- CO2	NBlk- CO2	Total CO2	CH4	N2O	CO2e
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	0.0000	0.0000	0.0000
Strip Mall	0.751971	8.1100e-003	0.0737	0.0619	4.4000e-004	5.6000e-003	5.6000e-003	5.6000e-003	5.6000e-003	5.6000e-003	5.6000e-003	88.4672	88.4672	88.4672	1.7000e-003	1.6200e-003	89.0056
Apartments Low Rise	5.44441	0.0587	0.5017	0.2135	3.2000e-003	0.0406	0.0406	0.0406	0.0406	0.0406	0.0406	640.5188	640.5188	640.5188	0.0123	0.0117	644.4169
General Office Building	1.35397	0.0146	0.1327	0.1115	8.0000e-004	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	159.2904	159.2904	159.2904	3.0500e-003	2.9200e-003	160.2598
Total		0.0814	0.7082	0.3869	4.4400e-003	0.0563	0.0563	0.0563	0.0563	0.0563	0.0563	888.2764	888.2764	888.2764	0.0170	0.0163	893.6824

6.0 Area Detail

6.1 Mitigation Measures Area

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Blk- CO2	NBlk- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Mitigated	10.6023	0.2024	17.3673	9.1000e-004	0.0942	0.0942	0.0942	0.0942	0.0942	0.0942	0.0000	30.9708	30.9708	0.0312	0.0000	31.6263
Unmitigated	10.6023	0.2024	17.3673	9.1000e-004	0.0942	0.0942	0.0942	0.0942	0.0942	0.0942	0.0000	30.9708	30.9708	0.0312	0.0000	31.6263

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NEBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Architectural Coating	1.1969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.8624					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5430	0.2024	17.3673	9.1000e-004		0.0942	0.0942		0.0942	0.0942		30.9708	30.9708	0.0312		31.6263
Total	10.6023	0.2024	17.3673	9.1000e-004		0.0942	0.0942		0.0942	0.0942	0.0000	30.9708	30.9708	0.0312	0.0000	31.6263

6.2 Area by SubCategory
Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Architectural Coating	1.1969				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Consumer Products	8.8624				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5430	0.2024	17.3673	9.1000e-004	0.0942	0.0942	0.0942	0.0942	0.0942	0.0942		30.9708	30.9708	0.0312		31.6263
Total	10.6023	0.2024	17.3673	9.1000e-004	0.0942	0.0942	0.0942	0.0942	0.0942	0.0942	0.0000	30.9708	30.9708	0.0312	0.0000	31.6263

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Pedestrian Smart Growth Scorecard (From Sacramento Smart Growth Implementation Guide)

Section 1: Proximity

1.1: Walking distance to transit stop (Bus, Light Rail)	Assessment	Rating	Score:
On site/across the street	Excellent	4	3
up to 1325 feet (approx. 5 minute walk)	Good	3	
up to 2650 feet (approx. 10 minute walk)	Acceptable	2	
up to 3975 feet (approx. 15 minute walk)	Minimal	1	
Not applicable/transit not available		0	

1.2: Proximity to off-site restaurants, entertainment centers, retail shops, libraries, civic centers, parks services (bank, post office, barber and the like)	Assessment	Rating	Score:
Adjacent/across street	Excellent	4	2
up to 1325 feet (approx. 5 minute walk)	Good	3	
up to 2650 feet (approx. 10 minute walk)	Acceptable	2	
up to 3975 feet (approx. 15 minute walk)	Minimal	1	
Not applicable/none		0	

1.3: Residential development projects: proximity to grocery, convenience stores, household supplies	Assessment	Rating	Score:
On-site, adjacent/across street	Excellent	4	3
up to 1325 feet (approx. 5 minute walk)	Good	3	
up to 2650 feet (approx. 10 minute walk)	Acceptable	2	
up to 3975 feet (approx. 15 minute walk)	Minimal	1	
Not applicable		0	

1.4: Residential development projects: proximity to schools or day care	Assessment	Rating	Score:
On-site, adjacent/across street	Excellent	4	0
up to 1325 feet (approx. 5 minute walk)	Good	3	
up to 2650 feet (approx. 10 minute walk)	Acceptable	2	
up to 3975 feet (approx. 15 minute walk)	Minimal	1	
Not applicable		0	

1.5: Commercial development projects: proximity to residential, restaurant or retail shops services (bank, post office, barber, etc.)	Assessment	Rating	Score:
On-site	Excellent	4	0
Adjacent/across street	Very good	3	
up to 1325 feet (approx. 5 minute walk)	Acceptable	2	
up to 2650 feet (approx. 10 minute walk)	Minimal	1	
Not applicable		0	

Section 2: Site Optimization and Compactness

2.1: Location of building(s) relative to public sidewalk	Assessment	Rating	Score:
Adjacent	Excellent	4	4
Separated by open plaza or outdoor seating area	Good	3	
Separated by open landscaped area with connecting pathways	Acceptable	2	
Separated by fenced outdoor yard with connecting pathways	Minimal	1	
Not applicable		0	

2.2: Location of on-site parking relative to public sidewalk	Assessment	Rating	Score:
Located behind or within building	Excellent	4	2
Located to side of building	Good	3	
Adjacent with connecting pathways	Acceptable	2	
Adjacent with landscape screening	Minimal	1	
Not applicable		0	



Pedestrian Smart Growth Scorecard (Page 2)

Section 3: Accessibility and Mobility

3.1: Provide pedestrian amenities for transit	Assessment	Rating	Score:
Direct pathway to light rail transit station	Excellent	4	4
Direct pathway to bus shelter with seat, and schedule information	Good	3	
Adjacent to public sidewalk with loading area and seating	Acceptable	2	
Bus stop with signage	Minimal	1	
Not applicable		0	

3.2: Provide direct sidewalk connections	Assessment	Rating	Score:
Multiple entrances along all public sidewalks	Excellent	4	3
At least one entrance along a public sidewalks	Good	3	
Shaded, well marked pathway from public sidewalk	Acceptable	2	
Paved area from public sidewalk	Minimal	1	
Not applicable		0	

3.3: Relationship to automobile access	Assessment	Rating	Score:
Drive on access to rear of building(s) or alley access	Excellent	4	0
Driveway along public sidewalk with delineated pedestrian crossings	Good	2	
Driveway across public sidewalk	Minimal	1	
Not applicable		0	

3.4: Facilitate connections to public outdoor space	Assessment	Rating	Score:
Access to multi-use trails or pedestrian pathways	Yes	4	0
Not applicable		0	

Section 4: Street Network

4.1: Street pattern	Assessment	Rating	Score:
Entire street pattern is a grid	Excellent	4	4
Street pattern has mix of grid, loops and cul-de-sacs	Good	3	
Street pattern with loops and cul-de-sacs and pedestrian connections	Acceptable	2	
Street pattern with loops and cul-de-sacs	Minimal	1	
Not applicable		0	

4.2: Block lengths (long side)	Assessment	Rating	Score:
Less than 400 feet	Excellent	4	3
400-500 feet	Good	3	
501-600 feet	Acceptable	2	
Greater than 600 feet	Minimal	1	
Not applicable		0	

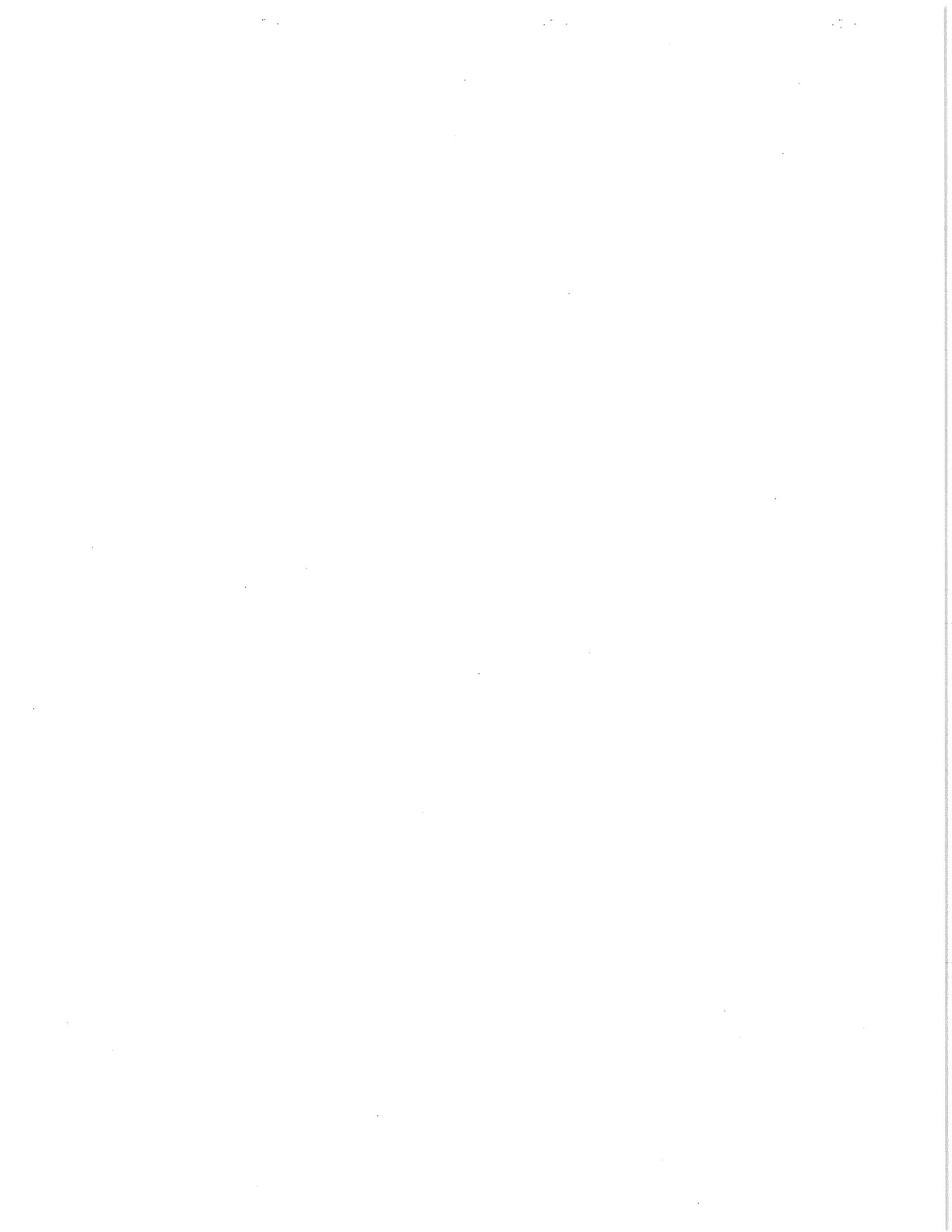
4.3: Continuation of existing neighborhood street pattern into new project	Assessment	Rating	Score:
	Yes	4	0
	No	1	
	Not applicable	0	

Overall Pedestrian Rating

(Total of all scores)/(number of measures scored>0) 28/9 = 3.11

- 4 = Excellent
- 3 = Good
- 2 = Moderate
- 1 = Poor





Appendix B

Ice Blocks Project Historical Resource Impact Analysis Report

HISTORICAL RESOURCE IMPACT ANALYSIS REPORT

Ice Blocks Project Crystal Ice – Block 1

Prepared for:

Environmental Science Associates (ESA)
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Prepared by:

JRP Historical Consulting, LLC
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April 2015

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APPENDICES

Appendix A: Maps

Appendix B: DPR 523 Form (PAR Environmental Services, Inc., 2009)

Appendix C: Project Plans / Photo-Simulations

1. EXECUTIVE SUMMARY

The Ice Blocks Project proposes to renovate and construct a mixed-use, transit-oriented residential, retail, and office project on three half-blocks located in the City of Sacramento’s Midtown neighborhood. The City of Sacramento is the lead agency responsible for California Environmental Quality Act (CEQA) compliance. This historical resource impacts analysis report was prepared for the Crystal Ice – Block 1 segment of the proposed Ice Blocks project that involves the renovation and adaptive reuse of the Crystal Ice and Cold Storage property at Assessor Parcel Number (APN) 009-0093-008 along R Street between 16th and 17th streets. The project location is depicted in Figure 1, **Appendix A**, and the project vicinity map is shown in Figure 2, **Appendix A**. Block 1 would involve the renovation and adaptive reuse of the property – which is a complex of multiple attached buildings (labeled Buildings 1, 2, 3, and 4 for this project) – for mixed use commercial office, retail, and restaurant uses. Environmental Science Associates (ESA) hired JRP Historical Consulting, LLC (JRP) to assist in the project’s CEQA compliance as it pertains to historical resources.

This historical resource impacts analysis report assesses the potential impact the proposed renovation and development on Block 1 may have on the Crystal Ice and Cold Storage property, which is a historical resource under CEQA. The Crystal Ice and Cold Storage property was formally determined eligible for listing in the National Register of Historic Places (NRHP) under Criteria A and C, significant at the local level. This determination was made based on the evaluation of the property presented on the DPR 523 form prepared by PAR Environmental Services, Inc. in 2009 that is in **Appendix B**. Based on this property’s formal determination of eligibility to be listed in the NRHP, the Crystal Ice and Cold Storage property is listed in the California Register of Historical Resources (CRHR). The property is not a City of Sacramento Landmark, and it has not been evaluated for the Sacramento Register of Historic and Cultural Resources (City of Sacramento Municipal Code, Chapter 17.604).

This report concludes that the Block 1 portion of the proposed project has the potential to cause a substantial adverse change in the significance of the historical resource, the Crystal Ice and Cold Storage property. This report proposes revisions to project plans for compliance with the Secretary of Interior Standards for Rehabilitation (SOI Standards) and describes mitigation measures that would help avoid or reduce impacts to the historical resource.

2. PROJECT DESCRIPTION¹

Introduction

The Ice Blocks project (proposed project) proposes to construct a mixed-use, transit-oriented residential, retail, and office space on three half-blocks located in the City of Sacramento's Midtown neighborhood. The City of Sacramento is the lead agency responsible for CEQA compliance. See **Appendix C** for project plans.

Project Background

The project site is located in an urbanized portion of the community, with many residential, office, retail, commercial and light industrial uses in the near vicinity. Development of the project site was accounted for in the City's 2035 General Plan, and Master Environmental Impact Report (Master EIR), and the proposed project would be consistent with the General Plan land use designation (Urban Corridor High), and would comply with the current zoning (Office Business Low-Rise Mixed-Use Zone – Special Planning District [OB-SPD] and Residential Mixed Use Zone – Special Planning District [RMX-SPD]).

The project site is located to the west of the R Street Market (located between 18th and 19th Streets) and contains several commercial businesses. Uses to the south include vacant land and office/commercial uses and two other office buildings. Uses to the west include the R Street Parking Plaza parking structure and office buildings containing various State of California offices, vacant land, office, and residential uses as well as Regional Transit (RT) light rail tracks are north of the project site. The RT 16th Street light rail station is located immediately northwest of the site, across 16th Street.

The proposed project would consist of approximately three blocks. Block 1 is bounded by 16th Street, R Street, 17th Street, and Rice Alley. Block 2 is bounded by 17th Street, R Street, 18th Street, and Rice Alley. Block 3 is bounded by 17th Street, R Street, the RT light rail tracks, and the parking lot for the R Street Market.

Block 1 is the site of the former Crystal Ice and Cold Storage Company plant, comprised of a variety of brick and concrete buildings that were constructed between 1920 and the late 1940s. Block 2 includes two buildings that were owned by Crystal Ice and were used for ice storage and warehousing. Block 3 is the site of the former Orchard Supply Company Pest Control Supply House, a brick and concrete building that was built in 1947 on the site of a former junkyard, and was substantially damaged by a fire in the 1990s that resulted in the near destruction of the building and the removal of the building's upper three stories.

¹ ESA provided this project description summary to JRP.

Project Description

In total, the Ice Blocks project proposes to develop up to 202 residential units in two phases, approximately 68,900 square feet (sf) of retail space, approximately 54,853 sf of office space, and up to 162 on-site parking spaces along with additional off-site parking prior to future development. **Table 1** provides a summary of land uses by block.

Table 1 Land Use Summary				
Block	Residential Units	Retail SF	Office SF	Off-Street Parking Spaces
Block 1		38,360	49,313	54*
Block 2	142	14,620		99
Block 3		10,920	5,540	9
Block 3 (Later Phase)	60	5,000		9**
Total	142	63,900	54,853	162
Total w/ Later Phase	202	68,900	54,853	162**
* - Includes 19 off-street and 35 on-street parking spaces included in Administrative Parking Application.				
** - Assumes that any additional parking required would be off-site.				
Source: Heller Pacific, 2014				

Block 1

Block 1 would involve the adaptive reuse of the historic Crystal Ice Cold Storage buildings that are currently present on the block. Currently, on the half block of the south side of R Street between 16th and 17th streets, there are seven abandoned structures, on one parcel, that comprise the original Crystal Ice Company (see **Plate 1**). The structures have been empty and in severe disrepair for decades. The proposed project involves a major renovation and adaptive reuse of the four most significant buildings of the ice operation fronting on R Street and the demolition of the three smaller structures that face the alley (Ice Chutes, Truck Storage, and Office). The larger structures that comprise the street wall along R Street would be renovated into mixed use commercial office, retail, and restaurant uses. The project anticipates restaurant and retail sales for the entire ground floor level.

The ground floor would be dedicated to retail uses, accommodating up to approximately 38,360 square feet, depending on the final configuration to meet the needs of tenants. The second and third floors would accommodate approximately 49,313 sf of office space. A total of 19 surface parking spaces would be provided at the rear/south portion of the project site, alongside Rice Alley. An additional 35 on-street parking spaces would be available on 16th Street, 17th Street, and R Street. Additional parking would be available for project patrons and employees at the R Street Parking Plaza, a public parking garage across 16th Street to the west.

All four of the buildings proposed to be retained sit on an elevated, dock-high slab. Portions of the slab that extend north beyond the north façade of the buildings is generally within the public Rights-of-Way (ROW.) The renovation would retain and extend the use of the loading dock as a street-facing pedestrian plaza that would extend and both terrace and ramp down to the R Street street-level (ROW) streetscape improvements currently underway by the City of Sacramento. The proposed project also would include a dock-high pedestrian walkway, as well as surface level parking on the south/alley side of the buildings.

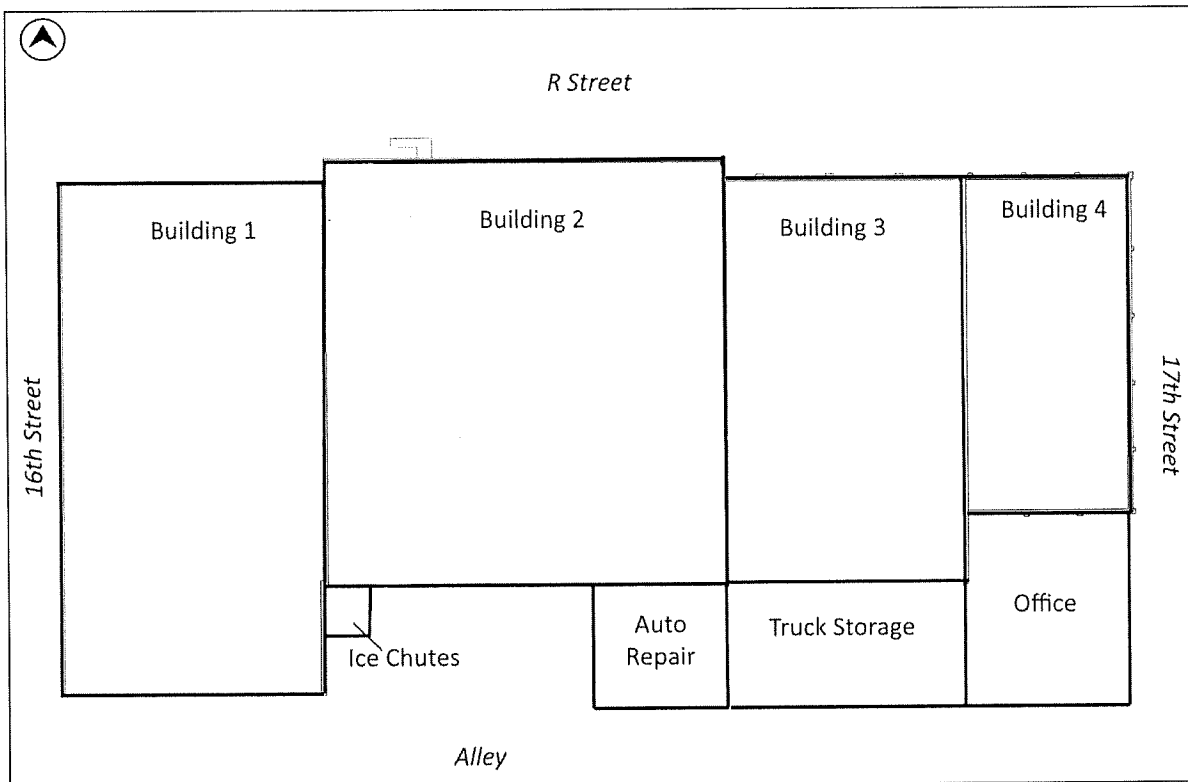


Plate 1: Sketch map of existing Crystal Ice and Cold Storage property, Building number designations labeled as presented in project description (JRP).

There are four significant buildings on this half-block numbered as Buildings 1, 2, 3, and 4 starting from the west end of the block. The renovation work for each building is discussed below.

Building 1

Due to the current poor condition of the collapsing roof, the proposed project would remove all roof and ceiling cladding, make structural repairs and seismic upgrades to the roof system and replace the roofing material. The exterior walls would be pressure washed to remove the paint scale, with limited paint touch up to cover the graffiti and black advertising signs. The walls would then be sealed with a waterproof clear penetrating sealer. Since these buildings originally

were built for ice storage, exterior walls have limited openings. New window openings would be cut into the existing walls and new glazing and decorative metal panels would be installed over portions of the traditional wall finish. Recycled wood from the old roof structures would be milled into decorative fins and applied as part of the window assemblies to add depth and shadow to the building walls. The main entrance and building lobby for the overall project would occur in the current location of the roll-up door on the eastern edge of the R Street side of this building. A large decorative raw steel form designed to mimic blocks of ice with corrugated infill panels is proposed to frame the entry as a project identity with signage. This frame also engages the roof of Building 2.

Building 2

Building 2 is the oldest building on the project site. The proposed project would remove most of the sheds, pipes and appendages that clutter the exterior elevations of the building; partially strip and pressure wash the exterior brick walls and restore/re-open the original arched door openings at the dock level. Then new openings would be added with raw steel frames for storefronts on the ground level and painted aluminum double hung windows to allow daylight for the office users on the second floor.² This building would also receive a clear penetrating waterproof sealer. The existing third floor /attic space would be opened to the second floor to provide a loft experience for the office users. Skylights would be added to the non-original roof structure to provide daylight the third floor. A new elevator would be placed in this building to provide access to all floors across all four buildings. Building 2 would also house common area restrooms, showers, and secured long term bicycle storage for the project. As shown in the project plans in Appendix C, a full-height external metal frame stair tower on the alley side of Building 2 with open sided floors is proposed to be constructed at the present location of the Ice Chutes building segment. The design of the tower will mimic the proposed frame entry on Building 1 with raw steel and corrugated infill panels.

Building 3

This building is currently a one story building which also has a collapsed roof. The proposed project would remove the entire existing roof structure and add in a new second floor to align with the existing second floor in Building 2. This would allow for use of a common elevator and stairs between all buildings. The new second floor window glazing would be continuous and sit on top of the existing façade's brick parapet wall. A new sloped roof would cantilever approximately four feet past the walls with painted steel brackets to shade the new windows. A

² The new window frames would consist of steel angles and channels that are mitered, welded, and clear coated. The flanges of the metal form a thin picture frame around the window opening. This design would be used brace the unreinforced brick wall where the opening occurs, allowing the frame to be bolted to similar frame piece on the inside of the brick wall. Steve Guest, Principal, RMW Architecture & Interiors (project architect), email to Christopher McMorris, JRP Partner / Architectural Historian, March 23, 2015.

rooftop mechanical enclosure would be provided on Building 3 for equipment to serve Buildings 2 and 3. Additional storefront openings would be added to the ground floor with steel frames similar to Building 2. This building would also receive a clear penetrating waterproof sealer.

Building 4

This one story building would receive roof improvements and a restored partial canopy on the R Street side. New openings would be cut into the concrete walls and in-filled with aluminum and glass storefronts. The exterior concrete would receive new paint. A new raised concrete deck would be constructed on the alley side to provide a pedestrian outdoor patio and ramp system to facilitate an accessible pathway along the alley-side raised dock.

Dock High Patios

Both the north and south sides of Block 1 have existing loading concrete docks. The proposed project would expand and augment these docks with steel framed extensions and new stair and ramp systems to create an active pedestrian experience facing both R Street to the north and Rice Alley to the south. The extended docks along R Street would not permanently obscure the historic R Street railroad tracks that front the project site.

3. IDENTIFIED HISTORICAL RESOURCES

As defined in Section 5024.1 of the California Public Resources Code, historical resources include properties that have been formally determined eligible for or listed in the National Register of Historic Places (NRHP). Properties listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR. Historical resources also include other locally identified buildings, structures, objects, sites, and districts. In Sacramento, historical resources include properties that are listed in or are eligible for listing in the Sacramento Register of Historic and Cultural Resources (Sacramento Register), under the City of Sacramento Municipal Code, Chapter 17.604.

As part of the process to identify historical resources within or near the study area, JRP reviewed the NRHP, CRHR, California Historical Landmarks and Points of Historical Interest lists, the Office of Historic Preservation (OHP) “Directory of Properties in the Historic Property Data Files” for Sacramento County (dated April 2012), and the *Sacramento Register of Historic & Cultural Resources* to identify previously evaluated historical resources within or near the study area. Review of these sources did not identify any previously inventoried historic resources in the study area. The Crystal Ice and Cold Storage property is located outside of the City of Sacramento R Street Historic District, which extends roughly from 10th to 12th streets.³

JRP also examined a previous historic resource inventory report provided by the City of Sacramento. PAR Environmental Services, Inc. (PAR) surveyed and evaluated the Crystal Ice and Cold Storage property in 2009 as part of the *Historical Resources Evaluation Report for the R Street Market Plaza Improvement Project: 16th-18th Streets, City of Sacramento*. The City worked in that case in conjunction with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) on the R Street Market Plaza Improvement Project, thus making it a federal undertaking requiring project compliance with Section 106 of the National Historic Preservation Act. PAR concluded that the Crystal Ice and Cold Storage property was eligible under NRHP Criteria A and C at the local level of significance for its importance in the industrial development of Sacramento and for its architecture as an ice plant.⁴ PAR identified the building’s period of significance from its construction in 1920 to 1950. The DPR 523 form with NRHP evaluation is in **Appendix B**. As part of the *R Street Market Plaza Improvement Project* Section 106 compliance, Caltrans (on behalf of FHWA) determined that the property was eligible for the NRHP based on PAR’s findings and received concurrence

³ City of Sacramento, *Sacramento Register of Historic & Cultural Resources* (December 2011); Sacramento Register, Sacramento City Code 17.604.210; California Office of Historic Preservation, “Directory of Properties in the Historic Property Data Files” for Sacramento County, dated September 2012.

⁴ California Historical Resource Status Code 3S: Appears eligible for National Register as an individual property through survey evaluation.

regarding this determination of eligibility from the State Historic Preservation Officer (SHPO) on November 25, 2009.

As part of the 2009 study, PAR also surveyed and evaluated The Crystal Ice Storage Annex at 1716 R Street (APN 009-0095-010), and the Orchard Supply Company Warehouse at 1731 17th Street (APN 006-0296-015). The evaluations of these other buildings concluded they were not eligible for listing in the NRHP because of their significant loss of integrity from fires and subsequent repairs. Thus, these individual adjacent properties are not considered historical resources for the purposes of CEQA. PAR also surveyed and evaluated the Southern Pacific Railroad (SPRR) R Street Track and Siding from 16th to 18th Streets, located in the project vicinity. The SPRR R Street Track and Siding was found not eligible as a discontinuous segment of track as the rails from 14th to 16th Streets and from 18th Street and beyond, have been removed; however, the track and siding were found to contribute to the setting of the Crystal Ice and Cold Storage property.⁵

⁵ PAR Environmental Services, Inc., *Historical Resources Evaluation Report for the R Street Market Plaza Improvement Project: 16th-18th Streets, City of Sacramento*, 2009; City of Sacramento, Resolution No. 2010-406, Adopted by the Sacramento City Council, July 13, 2010; City of Sacramento, Final Mitigated Negative Declaration, R Street Market Plaza Improvements Project, June 14, 2010, 30.

4. DESCRIPTION OF HISTORICAL RESOURCE⁶

The description of the Crystal Ice and Cold Storage property presented herein is derived from PAR's report: *Historical Resources Evaluation Report for the R Street Market Plaza Improvement Project: 16th-18th Streets, City of Sacramento* and the DPR 523 form that Mary Mainery of PAR prepared for this historical resource. The property encompasses the north half of the block bound by 16th and 17th streets to the east and west, and R Street and an alley to the north and south in the City of Sacramento. All the buildings that comprise the property are part of the historical resource, which has a period of significance of 1920 to 1950. The full form with description and evaluation is in **Appendix B**.

The Crystal Ice and Cold Storage property is a complex of multiple attached buildings constructed in five phases from 1920 to 1950, stretching over a one-half block area on the south side of R Street bound by 16th and 17th streets and the alley (known as Rice Alley) between R and S streets (**Photographs 1, 2, 3, and 4**). The property's north-side loading docks extend into the R Street ROW. The complex is situated in a former industrial corridor that flanked the SPRR line in R Street that is now abandoned. The central core of the plant is of brick masonry construction and represents the property's 1920-1921 initial construction. A one-story garage centered on the rear was constructed to house trucks in 1925. The west side of the building fronting 16th Street was added in 1944 and the eastern third of the property, including truck storage and an office addition, were added by 1949. PAR assigned numbers to the various buildings that comprise this property. PAR's building numbers are different than those being used in the current project plans. For the purposes of this report, building number designations will follow those assigned for this project (see **Plate 1**).

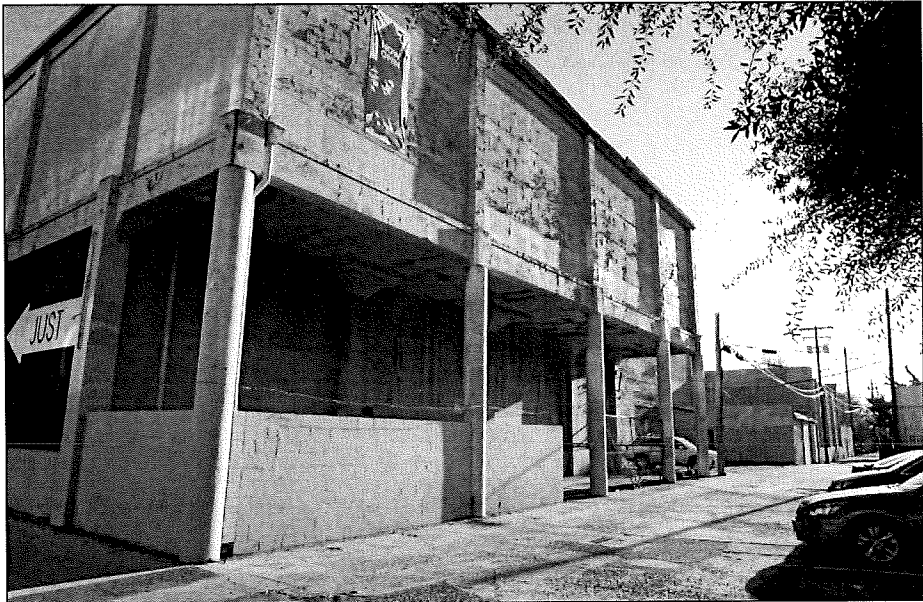
⁶ Description is from the "Crystal Ice and Cold Storage (Map Reference #1)" DPR 523 form prepared by Mary L. Mainery (PAR Environmental Services, Inc.), April 5, 2009 for the *Historical Resources Evaluation Report for the R Street Market Plaza Improvement Project: 16th-18th Streets, City of Sacramento*, by PAR Environmental Services, Inc., 2009.



Photograph 1: Crystal Ice and Cold Storage property, north and west sides along R and 16th streets, camera facing southeast, February 27, 2015.



Photograph 2: Crystal Ice and Cold Storage property, north side along R Street, camera facing south, February 27, 2015.



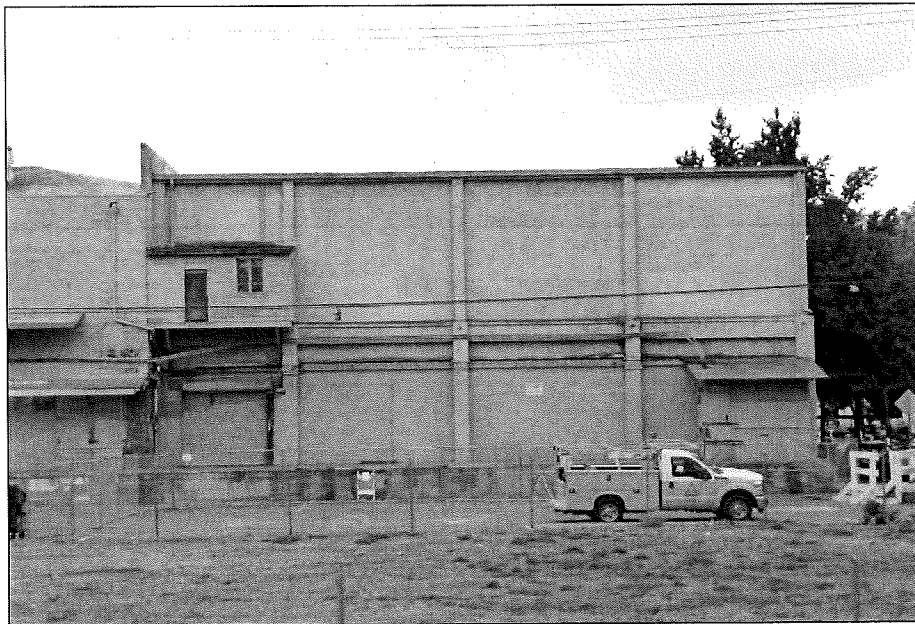
Photograph 3: Crystal Ice and Cold Storage property, south side along Rice Alley, camera facing northeast, February 27, 2015.



Photograph 4: Crystal Ice and Cold Storage property, east side along 17th Street, camera facing west, February 27, 2015.

Building 1

Building 1 is bounded by 16th Street on the west, R Street on the north and the alley on the south. The 1951 Sanborn Map labeled this area as “Cold Storage” and noted that it was built in 1944. The structure is concrete frame with poured-concrete and concrete block. A concrete cornice with a slight overhang extends around the top. External concrete framing (which PAR refers to as pilasters) is present on the north and west sides. The north side fronts on R Street and has a roll up metal bay entry on the east and a decorative concrete band with incised grooves dividing the north side (**Photograph 5**).



Photograph 5: North side of Building 1, camera facing south, October 30, 2014.

A metal shed roof canopy, suspended on cables, protects the loading dock and entry bay. Newer additions include a horizontal board small room supported by knee braces on the upper story at the east end. This room has a metal-clad shed roof, a pedestrian door, and a metal sash casement window. The stairs that accessed the door are missing. The west end of the platform has a small enclosed area under the canopy with board and batten plywood siding, few metal sash windows and an access door; all are now boarded over. The west side of Building 1 is about 150 feet long and fronts on the sidewalk of 16th Street (**Photograph 6**).

This side’s concrete framing tapers from 21 inches wide on the lower story to 15 inches wide on the upper. A deeply incised groove is present on the belly band and the side is topped with a concrete cornice. The south (rear) side of Building 1 has a recessed first floor protected by the overhanging upper story. The upper story is supported by round tapered columns. A concrete block encloses a portion of the open space between the columns. Five square concrete pilasters with decorative tapered square capitals provide relief to the exterior concrete wall.



Photograph 6: West side of Building 1, camera facing east, February 27, 2015.

Building 1 character-defining features:

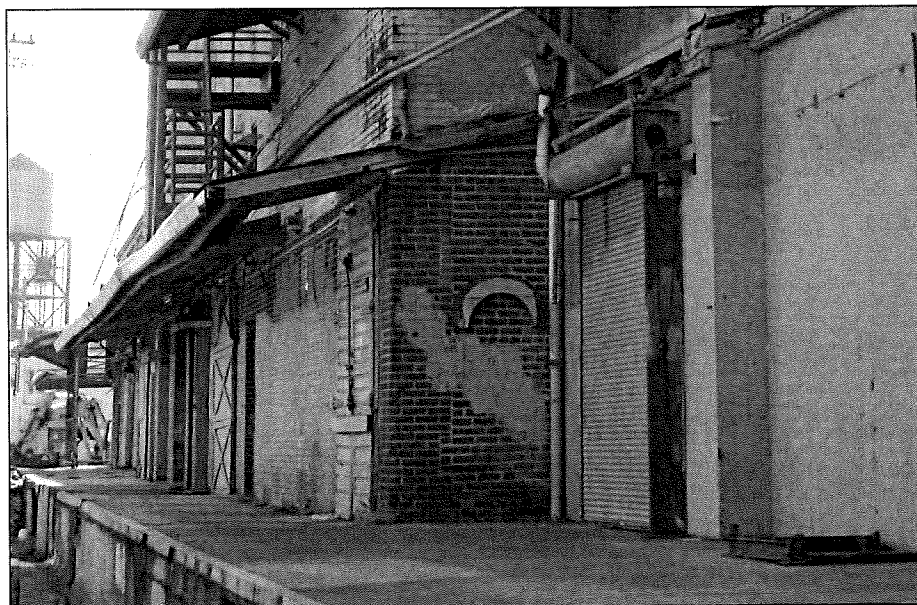
- Concrete construction, including framing and cornice
- Decorative concrete banding
- Loading dock

Building 2

Building 2 represents the central and original core of the building (**Photograph 7**). Originally one story, the core area was expanded to two stories in 1920-21. It is constructed of brick. The front detailing includes four large openings with arched brick pediments, three to the east of a central door and one to the west. A historic photograph of this same section depicts three of the four arched openings with lites in the pediment and one bricked in. Today the openings have been removed or boarded over. Original windows were metal sash, large multi pane lites; they are now boarded over, but remain in place. Loading dock-level fenestration is symmetrical and includes the four arched openings, a central recessed entry (original), and two additional doors west of the westernmost arched window (all original). A metal canopy, supported by cables, along the length of the north side was added after 1928. A double-hung window, original to the 1921 building, is present on the second floor level. The elevated concrete loading dock along the front of Building 2 is original, although it has been extended to the east (**Photograph 8**).



Photograph 7: North side of Building 2, camera facing southeast, February 27, 2015.



Photograph 8: Elevated concrete loading dock along front (R Street) side of Building 2, camera facing east, February 27, 2015.

Newer additions to this side include a pedestrian door with landing and fire steps on the upper floor and wood frame structures on the roof to house condensing and cooling equipment. These do not detract from the overall mass and design apparent in this section. Originally metal letters were mounted across the upper face of the structure and stated “CRYSTAL ICE & COLD STORAGE CO.” These had previously been removed. The south side of Building 2

characterizes the industrial nature of the business. It includes board-form concrete loading dock accessed by five-riser concrete stairs on the west and east ends, four symmetrically placed pedestrian or bay doors, some with heavy wood coverings and one bricked in (**Photographs 9 and 10**).



Photograph 9: South side of Building 2, camera facing northeast, February 27, 2015.

Building 2 character-defining features:

- Unreinforced brick masonry construction
- Large openings with arched brick pediments (R Street side)
- Two original doors west of westernmost arched window
- Double-hung window dating to 1921 second floor level (R Street side)
- Elevated concrete loading dock original on north and south sides

Ice Chutes

A small, one-story, 16-foot-square brick building which appears to date the original 1920-1921 central building core, is present on the alley side of Building 2 (**Photograph 10**). It has five ice dispenser openings, four retaining the original catch baskets, with openings that originally contained coin slots to serve customers buying blocks of ice (**Photograph 11**).

Ice Chutes character-defining features:

- Unreinforced brick masonry construction
- Five ice block dispensers and openings that originally contained coin slots



Photograph 10: Ice Chute located at alley (left), camera facing northwest, October 30, 2014



Photograph 8: Detail view of ice dispensers, camera facing northeast, February 27, 2015

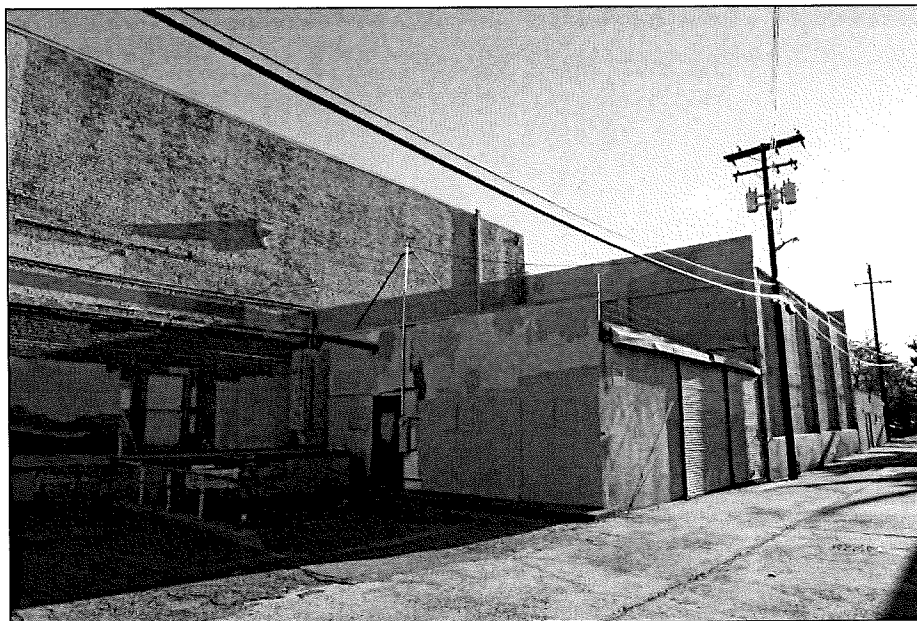
Auto Repair

The one-story building attached to the rear of the main 1920s plant (Building 2) was built in 1925 as truck storage/auto repair (**Photograph 12**).

It is a frame building and has two corrugated metal-door bays on the south side. A parapet present on the east wall separates it from the Truck Storage addition at the south end of Building 3.

Auto Repair character-defining features:

- One story structure with south facing garage openings



Photograph 9: One-story Auto Repair, Truck Storage, and Office along alley, camera facing northeast, February 27, 2015

Building 3

Building 3 is immediately to the west of Section 1 and consists of a 1.5-story-high brick addition constructed in 1925. The north side is recessed three feet from Building 3 and has a concrete loading dock along the side that continues along Building 2 and 4 (**Photograph 13**).



Photograph 10: North side of Building 3, camera facing south, October 30, 2014.

Character-defining elements of Building 3 includes three brick piers (which PAR refers to as partial pilasters) symmetrically placed along the north face and a double swing-open entry door, made of horizontal boards with iron hinges, at the west end. There are no windows. A north/south trending brick parapet wall separated Building 3 from Building 4 and extends about 2 feet above the roof line. The 1951 Sanborn Map labeled this section as “Cold Storage” and noted that it had a wood truss roof supported by wood posts with four cork-lined, insulated rooms.

Building 3 character-defining features:

- Unreinforced brick masonry construction
- Three brick piers symmetrically placed along the north face
- Double swing entry door made of horizontal boards with iron hinges at the west end
- Loading dock (north side)

Truck Storage

The south side of Building 3 fronts on the alley and appears to be an extension to the brick building that was added in 1944. This section is listed as “Truck Storage” on the 1951 Sanborn and is also 1.5 stories in height (**Photograph 14**). The structure is of reinforced board-form concrete. The building’s concrete frame symmetrically divides the south-facing wall.



Photograph 11: South side of Building 3 Truck Storage addition, camera facing northeast, February 27, 2015

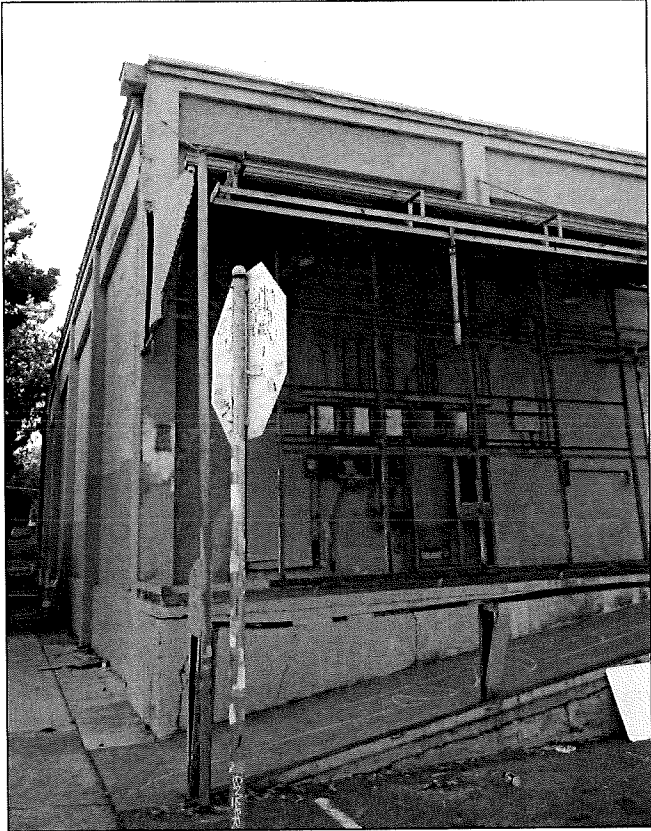
Truck Storage character-defining features:

- Concrete construction, including framing on south side

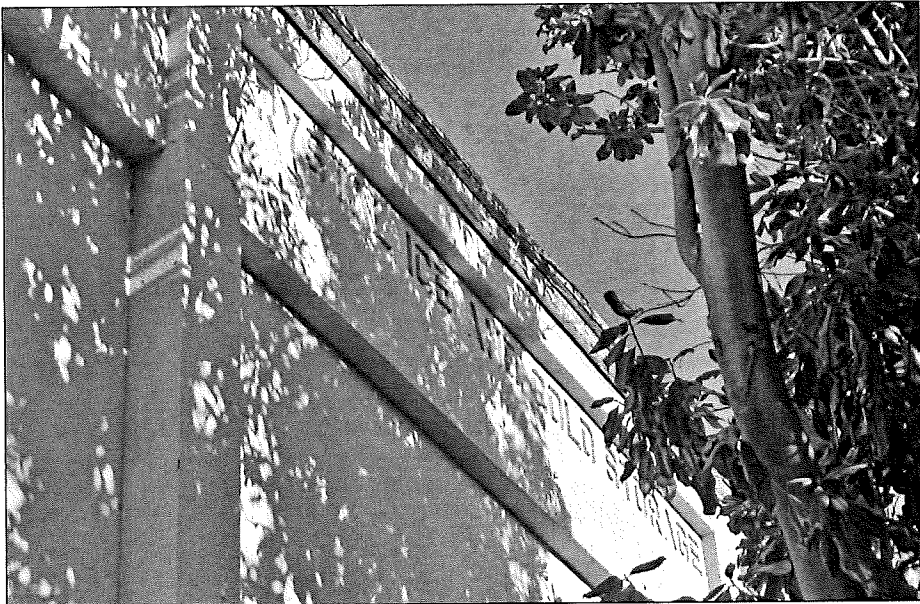
Building 4

The easternmost section, Building 4, is about 40 feet wide and 160 feet long. The 1951 Sanborn map labels this area as “crate storage.” It was built in two sections by 1949 and has not been altered. The northern two thirds of the building fronts on R Street, is 1.5 stories high and is built of reinforced concrete (**Photograph 15**).

The north side is characterized by its concrete frames, a near flat roofline that slants slightly east and a concrete cornice. There is a double metal sliding door, suspended on a track, on the right (west) side. A metal canopy structure protects refrigeration control panels on the east end. The entry door is accessed by a concrete ramp and a concrete loading dock extends along the length of this section of the building. The east side of Building 4 is windowless and is defined by five concrete frames and a concrete cornice. The letters “CRYSTAL ICE AND COLD STORAGE” are incised in the concrete along the upper 1/3 of the wall near the north end (**Photograph 16**).



Photograph 15: North side of Building 4, camera facing southwest, October 30, 2014.



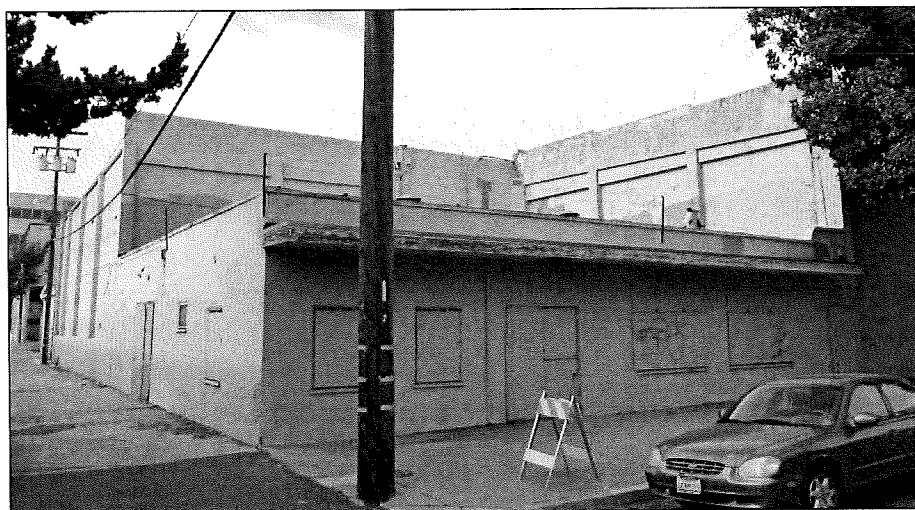
Photograph 16: "CRYSTAL ICE AND COLD STORAGE" letters incised in concrete along the upper portion of the wall near the north end of Building 4, camera facing northwest, February 27, 2015.

Building 4 character-defining features:

- Concrete construction, including framing
- Flat roof with slant toward east
- Concrete ramp loading dock
- Concrete cornice
- “CRYSTAL ICE AND COLD STORAGE” incised on concrete on east side along 17th Street

Office

At the south end of Building 4 is one story, flat roof office addition (**Photograph 17**).



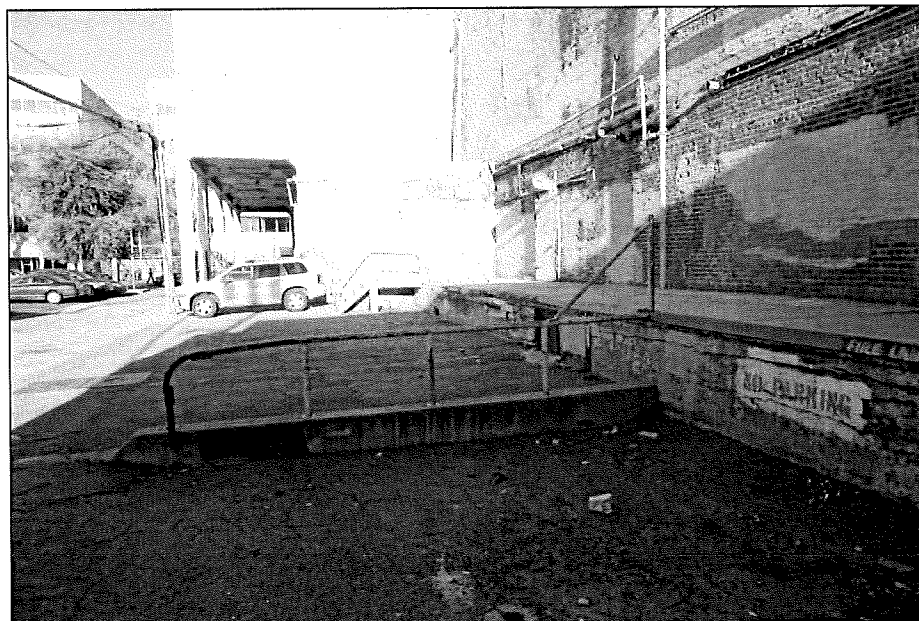
Photograph 17: Southeast corner of Office along 16th Street and alley, camera facing northwest, October 30, 2014.

It has a single wood pedestrian entry on 17th street flanked by two eight-lite multi-pane, metal sash casement windows to the south, two larger 16-lite (8-lites in each vertical window side) windows to the north and another small pedestrian door to the north of the large windows. Fenestration, now boarded over, is symmetrical and all windows have concrete sills and lintels. A flat metal canopy hangs by cables along the front of this side. The south-facing side of the office has a double wooden bay door on the west, a three-pane, metal sash casement window protected by an iron grille in the center, and a metal sash multi-pane casement window, identical to the east side, on the east.

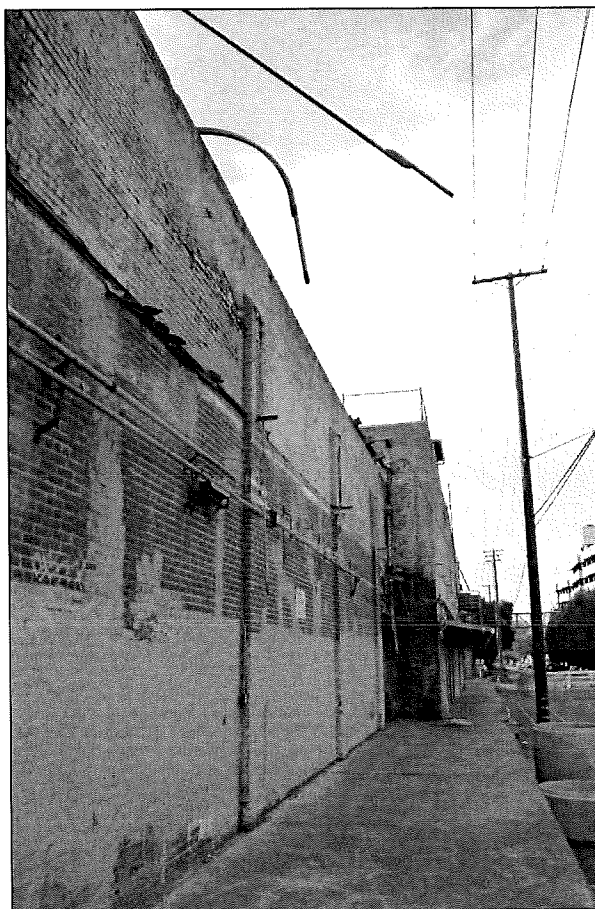
Office character-defining features:

- One story construction
- Steel casement windows
- wooden and metal frame doors
- Overhang along 17th Street

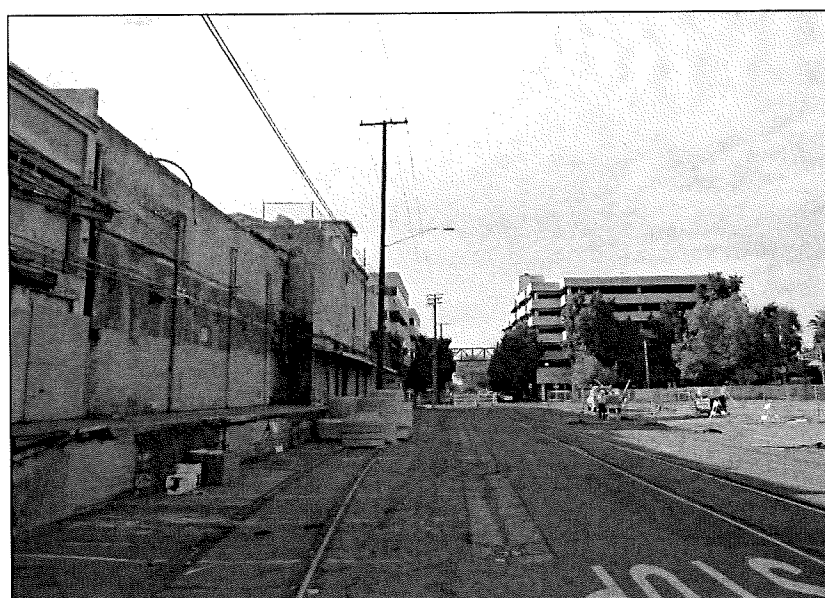
There are additional character-defining features of the Crystal Ice and Cold Storage property. The PAR DPR 523 form generally mentions some interior elements that add to the property's overall significance. While not specifically defined in the form, these elements include cold storage lockers, water pipe works, and equipment. Thus, such features are generally considered character-defining features. Also, the loading docks on the south side of Building 2 and across the entire north side of Buildings 1, 2, 3, and 4 are character defining (**Photographs 18 and 19**) and the form calls out the SPRR track, siding, switch box, and cobbles from 16th-17th streets along R Street as contributing to the property's setting; these features are considered character defining (**Photograph 20**). Furthermore, the generally solid block exterior with a lack of fenestration for the ice plant building – although not listed in the PAR form – is also a character-defining feature of this property type. Similar to other industrial structures of the era, the various different buildings in the complex were constructed for specific functions, added to and altered over time, and not necessarily developed with a master plan or based upon a specific design aesthetic.



Photograph 12: Loading dock along south side of Building 2, camera facing west, February 27, 2015.



Photograph 19: Loading dock along north side, camera facing west, October 30, 2014.



Photograph 20: SPRR track and siding along R Street, camera facing west, October 30, 2014.

5. ANALYSIS OF IMPACTS TO HISTORICAL RESOURCES

The assessment provided herein identifies potential impacts of the proposed Ice Blocks- Block 1 project to the historical resource, the Crystal Ice and Cold Storage property, and analyzes whether these impacts would constitute a “substantial adverse change” to the historical resource, as per CEQA Guidelines Section 15064.5(b)(1)-(2). A substantial adverse change would be an impact such that the significance of the Crystal Ice and Cold Storage property would be materially impaired. This impairment would occur if the project demolishes or alters in an adverse manner the property’s physical characteristics that convey its historical significance and justify its inclusion in the CRHR. The Crystal Ice and Cold Storage property was determined eligible under NRHP Criteria A and C at the local level for its significance in the industrial development of Sacramento and for its architecture as an ice plant, with a period of significance from 1920 to 1950. The property was formally determined eligible for listing in the NRHP and was thus automatically listed in the CRHR. Assessment of whether proposed project actions or activities, individually or combined, would materially impair the Crystal Ice and Cold Storage property is based on an examination of how the project may affect the historical resource’s historic integrity.

5.1. CEQA Criteria

The guidelines for determining significant impacts to historical resources are in the CEQA Guidelines Section 15064.5(b):

- (b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.
 - 1. Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
 - 2. The significance of an historical resource is materially impaired when a project:
 - a. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or
 - b. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resource Code, or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency

- reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- c. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.
3. Generally, a project that follows the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995), Weeks and Grimmer, shall be considered as mitigated to a level of a less than significant impact on the historical resource.
 4. A lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures.⁷

5.2. Secretary of Interior Standards for Rehabilitation

CEQA Guidelines Section 15064.5(b)(3) states that generally a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties, including the Rehabilitation Standards and Guidelines for Rehabilitating Historic Buildings (SOI Standards), shall be considered as mitigated to a level of a less than significant impact on the historical resource. Rehabilitation is defined as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values," and it is the appropriate treatment for adaptively reusing the Crystal Ice and Cold Storage property.⁸

The SOI Standards for Rehabilitation are as follows:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

⁷ CEQA Guidelines 15064.5(b)(1)-(4). Section 15064.5(b)(5) is regarding projects that will affect state-owned historical resources and is not applicable for this project.

⁸ National Park Service, *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings* (Washington DC: National Parks Service, 1997), v.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

5.3. Impacts Analysis

This section assesses the impacts the proposed project would have on the historical resource, the Crystal Ice and Cold Storage property. Impacts could be direct, indirect, and/or cumulative. In evaluating the significance of the environmental effect of the project, the City of Sacramento (as CEQA Lead Agency) is required to consider direct physical changes in the environment that may be caused by the project and reasonably foreseeable indirect physical changes in the environment that may be caused by the project. Direct impacts are those that would result in the physical destruction or material alteration of historical resources. Indirect impacts are physical changes in the environment that are not immediately related to the project, but which are caused indirectly

by the project, such as noise and vibration (usually by activities undertaken adjacent to a historical resource) (CEQA Guidelines Sections 15064(c) and (d)(2), and 15358(a)(2)). Cumulative impacts are two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time (CEQA Guidelines Section 15355).

The proposed Ice Blocks Project, Crystal Ice – Block 1, has the potential to have a direct impact on a historical resource, based on its possible effect that would diminish the historic integrity of the Crystal Ice and Cold Storage property. The project as proposed would not result in actions that would indirectly impact known historical resources as the proposed changes to the Crystal Ice and Cold Storage property would be on the plant itself and other elements of the Ice Blocks Project would not impact the property. The project as proposed also would not pose potential cumulative impacts, which would occur with changes this project may have on the historical resource taken together with past projects and those in the foreseeable future. There are no known past projects that have impacted the Crystal Ice and Cold Storage property and the other components of the Ice Blocks Project would not compound or increase potential impacts of the proposed project on this historical resource.

Under the NRHP and CRHR, a property's historic integrity is evaluated according to seven aspects: Location, Design, Setting, Materials, Workmanship, Feeling, and Association. These seven can be roughly grouped into three types of integrity considerations. Location and setting relate to the relationship between the property and its environment. Design, materials, and workmanship, as they apply to historic buildings, relate to construction methods and architectural details. Feeling and association are the least objective of the seven criteria and pertain to the overall ability of the property to convey a sense of the historical time and place in which it was constructed.⁹

As currently proposed, the project as proposed would not diminish the property's historic integrity of *location* and *setting*. The *location* of the property would not change, and the *setting* of the Crystal Ice and Cold Storage property has been altered through time through the demolition of buildings on adjacent properties, construction of new commercial and residential buildings in the vicinity, and the construction of the light rail line and station stop at 16th Street. These changes have transformed the former rail- and trucking-oriented industrial corridor in which the property once was situated into mixed-use neighborhood. The proposed retention of the SPRR track and siding along the Crystal Ice and Cold Storage property's R Street frontage, which was identified as a contributing element to the historical resource setting, helps to retain the industrial setting of the property.

⁹ National Park Service, *Guidelines for Applying the National Register Criteria for Evaluation*, National Register Bulletin 15 (Washington D.C.: U.S. Government Printing Office, 1991).

Renovation and adaptive reuse of the Crystal Ice and Cold Storage property is desirable over its demolition. However, as proposed the project would affect the property's historic integrity of *design, materials, workmanship, feeling, and association*. The *design, materials, and workmanship* of the building would be diminished through various elements of the project and the combined effect of these actions. These three aspects of integrity would be diminished by the following elements of the project:

- Demolition of buildings along the alley (as labeled on **Plate 1**) – Ice Chutes building; Auto Repair; Truck Storage; and Office.
- Addition of continuous second floor window glazing sitting on top of existing brick parapet walls at Building 3 with sloped roof, supported on steel brackets, cantilevering approximately four feet past the walls. The same design is also present at the top of the west, east, and south sides of Building 2.
- Addition of the large open stair tower on the alley (south) side of Building 2, the size and massing of which is not compatible with the historic character of the building.
- Addition of concrete docks (raised concrete deck / patio) at the south side of Buildings 3 and 4 where no docks were present during the period of significance.
- Addition of recycled wood from the old roof structures milled into decorative fins and applied as part of the window assemblies on Buildings 1 and 4 to add depth and shadow to the building walls. These fins would diminish the overall quality of the stark concrete walls that distinguish the historic industrial character of the property.
- Addition of multiple new window and door openings with steel and aluminum frames installed throughout the property, including fixed storefront windows and doors added at the main/dock level and windows at the second story where there were none historically.

The proposed project plans to adaptively reuse the buildings of the Crystal Ice and Cold Storage property for commercial / office uses that are feasible today. This reuse proposes adaptation of the property's particular industrial architectural form as an ice plant – with its various buildings constructed to manufacture and store ice without many exterior openings – into a property that can accommodate shoppers and commercial / office uses that requires exterior openings and sufficient access / egress. The proposed alterations, especially the new openings, are considered by the project applicant to be essential to adaptively reusing this property; however, it is the magnitude of the combined alterations that would cause them to diminish the property's integrity of *design, materials, and workmanship*. This would occur because these proposed project elements would decrease comprehension of the property's historic function, spaces, scale, and building materials as an ice plant. The integrity of property's historic *materials* also could be

diminished if sandblasting or other harsh physical and/or chemical applications are used to remove paint and organic build up.

Furthermore, the property's historic integrity of *feeling and association* as an early twentieth century industrial ice manufacturing / storage property would be diminished with the combination of proposed project alterations, including the demolitions of the smaller structures along the alley and the introduction of new elements listed above.

Some of these project components discussed above would not, by themselves, materially impair the historical resources, but together their combined effect has the potential to demolish and alter in an adverse manner the physical characteristics that convey their significance and justify the Crystal Ice and Cold Storage property's eligibility for listing in the CRHR.

The addition of new windows and doors has the potential to diminish the historic integrity of the Crystal Ice and Cold Storage property, but their addition is inherently necessary to adaptively reuse this property and for creating an efficient contemporary use. The addition of these new elements needs to be balanced with efforts to ensure the historical resource retains sufficient historic character. The SOI Standards Guidance for Rehabilitation acknowledges that alterations may include cutting new entrances or windows. National Park Service publications such as *ITS Number 14: New Openings in Secondary Elevations or Introducing New Windows in Blank Walls* and *ITS Number 21: Adding New Openings on Secondary Elevations*, provide guidance that emphasizes adding new windows and doors on secondary elevations. The R Street side is now considered the front of the building and the primary elevation. Historically, however, the activity and use of this building would have occurred on multiple sides of the building, with activities along the alley, such as commercial sale of ice blocks at the ice chutes, and at the office on 17th Street. Thus, during its period of significance this property likely had less emphasis on a primary side than other industrial or commercial properties. There is no set formula for the number of new openings that can be added to a historic building, but the number of new windows and doors should be limited or configured in such a way that enough mass remains to keep the walls' sense of solidity (also referred to as the glass-to-mass ratio) and differentiated such that the new openings are clearly not original openings. This issue needs to be taken into account in relationship to other design changes and technical issues.

The proposed new openings along the concrete and brick walls fall into two general categories. Along the concrete walls of Buildings 1 and 4 the proposed openings would be very plain, with just cut outs in the wall and minimal trim / surrounds. While installation of new windows requires loss of some historic material (concrete that would be removed), the design of these windows generally would have modest impact to one's comprehension of the austere industrial character of the walls in which they would be installed, at the same time they would not create a false sense of history. (The metal panels proposed for installation around the new windows on

Buildings 1 and 4 are discussed below.) On the brick walls of Buildings 2 and 3, the new openings would be more pronounced and again would require the loss of some historic material (bricks that would be removed). The new second floor windows in Building 2 (on both the R Street and alley sides), where historically there were solid walls, would include proposed window frames that are intended to be differentiated from the single historic plain wooden frame double hung north facing window. The new windows would be designed to appear to be placed on top of the existing brick surface rather than recessed and thus would not create a false sense of history as they would be clearly contemporary. They would consist of steel angles and channels that are mitered, welded, and clear coated. The stature of these new window frames is intended to brace the unreinforced masonry walls by bolting the new frame through the cut opening in the brick with a similar frame piece on the inside.

While the project diminishes the historic integrity of the Crystal Ice and Cold Storage property, as presented herein, there are some proposed changes to the property that would have little potential to cause a substantial adverse change to the significance of the historical resource. Taken individually and in combination with project components as a whole, these project elements, with some caveats, include:

- Elements of the proposed design that would retain original elements of the Crystal Ice and Cold Storage property:
 1. Rebuilding the collapsing roof structures on Buildings 1 and 3 to ensure the buildings, particularly their exterior walls, remain standing.
 2. Re-opening original door openings, including the original arched openings on the R Street side of Building 2.
 3. Retention of the original second story one-over-one wood window on the R Street side of Building 2.
 4. Preservation of the concrete framing at Buildings 1 and 4 (character-defining feature).
 5. Retention of the “CRYSTAL ICE AND COLD STORAGE” incised lettering on the east side of Building 4.
 6. Retention of brick piers on R Street side of Building 3.
 7. Salvage and reuse of ice chutes, which are to be relocated on the south side of Building 2.
 8. Salvage and reuse of the metal fire escape on the north side of Building 2 and “crows nest” office on the north side of Building 1. Although not identified as character-defining features, these elements add to the industrial feeling of the property’s north side.
 9. Salvage and reuse of two character-defining doors on the north elevation of Buildings 2 and 3 and salvage and reuse of door track on the north side of Building 4.

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10. Interior structural and mechanical enhancements and alterations that include salvage of some materials and retention of some large spaces.
- Construction of new standing seam metal roofs and roof structures, as proposed, including installation of skylights.
 - Removal and replacement of rooftop mechanical equipment.
 - Removal of organic build up, paint, and graffiti from the exterior of the building by using gentlest means possible (no sandblasting).
 - Exterior sealing, assuming that appropriate repairs occur to masonry, such as repointing brick where necessary.
 - Installation of floating decorative metal panels around new window and door cuts on Building 1 and 4, and the large decorative raw steel form proposed to frame the R Street entry as a project identity. The installation of the panels and signage would not destroy historic materials, features, or spatial relationships that characterize the property. The new work would be differentiated from the old and would be compatible with historic materials, features, sizes, scale, and proportion. Their installation would be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property would be unimpaired.
 - Removal of the existing metal canopy on the north side of Building 1, which was not identified as a character-defining feature.
 - Retention of the concrete docks and their expansion and augmentation with steel framed extensions and new stair and ramp systems on north side of Buildings 1, 2, 3, and 4. The extensions would be constructed in a manner that differentiates the historic docks from the additions and would be built in a manner that if removed in the future the integrity of the historic feature would remain intact. Furthermore, the proposed steel extended docks along R Street would not permanently obscure the historic R Street railroad tracks and would be open underneath the decking such that the tracks would visually be seen going under the new decking.
 - Removal of the post-1950 concrete-block wall at alley side of Building 1, which was not identified as a character-defining feature.
 - Construction of new concrete ramp and dock at location of demolished post-1950 concrete block wall at alley side of Building 1. The work would be differentiated from the old and constructed in such a manner that if removed in the future, the essential form and integrity of the historic property would be unimpaired.
 - Replacement of the partial canopy on the R Street side of Building 4, matching as much as possible the design, color, texture, and where possible, materials of the original canopy it would replace.

-
- Construction of a new trash enclosure south of Building 4 would be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property would be unimpaired.

6. CONCLUSION

In consideration of the regulations, policies, and guidelines discussed above, this impacts analysis concludes that the proposed renovation and adaptive reuse of the Crystal Ice and Cold Storage property has the potential to materially alter in an adverse manner those physical characteristics of the historical resource that convey its historical significance and that justifies its eligibility for inclusion in the CRHR. Incorporation of measures to avoid and mitigate those effects would reduce project impacts.

6.1. Compliance with the SOI Standards

To reduce the project's potential impact to the historical resource, the project proponent shall modify the project design for consistency with the SOI Standards. Suggested design changes to include the following:

- Revise the design of the addition of continuous second floor window glazing sitting on top of the existing brick parapet wall at Buildings 2 and 3 with sloped roof, supported on steel brackets, cantilevering approximately four feet past the walls to include a larger setback from the exterior historic wall and/or tilted glazing, with minimal or no roof overhang, to provide less potential impact to the character of the property's exterior walls and the spatial relationships of the building's original design.
- The stair tower addition on the south side is located on a secondary elevation and designed so that it is clearly different than the historic building, as suggested by the SOI Rehabilitation guidelines, but its size and scale makes it highly visible and diminishes the viewer's understanding of the building's historic character. Revise the design of the stair tower to reduce the overall scale and massing to be more compatible with historic character of the building. While meeting building code standards, changes should include designing the stairwell closer to the building, reducing the size of the landings, and lowering the slope of the proposed third story stair entry to be more in line with the new roof slope of Building 2, to the extent feasible.¹⁰
- Differentiate materials used for the proposed addition of new stair and ramp systems on the south side of Buildings 3 and 4 from the historic loading dock on the south side of Building 2. The new docks could be steel, similar to the proposed new dock structures on the north side of the property. Like other additions to a historical resource, the SOI Standards also note that such additions shall be built in a manner that if removed in the future the essential form and integrity of the historic property will be unimpaired.

¹⁰ National Park Service, *ITS Number 10: Exterior Stair/Elevations Tower Additions*, July 1999.

- Remove the applied recycled wood decorative fins as part of the window assemblies on Buildings 1 and 4 to reduce shadowing on the historically plain elevations.
- Sandblasting, harsh chemical treatments, or other methods that can cause damage to historic materials shall not be used to remove paint from the exterior. Graffiti, peeling paint, and organic buildup shall be removed using the gentlest effective means possible.

6.2. Additional Measures to Reduce Potential Impacts

The following discussion provides information regarding additional mitigation measures that would reduce potential impacts to Block 1.

6.2.1. Documentation / Recordation and Dissemination

Prior to any structural demolition and removal activities, the project applicant shall retain a professional who meets the Secretary of the Interior's Standards for Architectural History to prepare written and photograph documentation of the Crystal Ice and Cold Storage building.

The documentation for the property shall be prepared based on the National Park Services' (NPS) Historic American Building Survey (HABS) Historical Report Guidelines. The documentation prepared for the Crystal Ice and Cold Storage building shall not be reviewed by NPS or transmitted to the Library of Congress and therefore, does not need to be a full-definition dataset. This type of documentation is based on HABS/HAER Level II standards and HABS/HAER/HALS Photography Guidelines.¹¹ The HABS document will include historical narrative, large format archival quality photographs, reproductions of original plans and plans of alterations, and reproduction of historical photographs. The written data shall be accompanied by a sketch plan of the property. Efforts should also be made to locate original construction drawings or plans of the property during the period of significance. If located, these drawings should be photographed or reproduced, and included in the dataset.

Photograph views for the dataset shall include: a) contextual views; b) views of each side of each building and interior views, where possible; c) oblique views of buildings; and d) detail views of character-defining features. The size and complexity of this property would require up to 10 contextual views, 40 exterior and interior building views, and 10 detail views. All views shall be referenced on a photographic key. This photograph key

¹¹ National Parks Service, "Federal Register, Vol. 68, No. 139, Monday July 21, 2003 Notices, Department of the Interior, National Park Service Guidelines for Architectural and Engineering Documentation," http://www.nps.gov/history/hdp/standards/standards_regs.pdf (accessed February 2015); National Parks Service, "Heritage Documentation Programs HABS/HAER/HALS Photography Guidelines, November 2011," Standards and Guidelines, http://www.cr.nps.gov/hdp/standards/PhotoGuidelines_Nov2011.pdf (accessed February 2015).

shall be on a map of the property and shall show the photograph number with an arrow indicate the direction of the view. Historic photographs shall also be collected, reproduced, and included in the dataset.

All written and photograph documentation of the Crystal Ice and Cold Storage building shall be approved by the City Preservation Director prior to any demolition and removal activities.

The HABS documentation for the Crystal Ice and Cold Storage building shall be disseminated to multiple repositories, including (but not limited to) the Sacramento Public Library's Sacramento Room, the Center for Sacramento History (CSH), the California State Library in Sacramento, and other local repositories determined appropriate by the City Preservation Director. Two copies of the report will be full archival sets with archival photograph prints and the report printed on archive quality paper. These archival copies will be offered first to Sacramento Public Library's Sacramento Room and the Center for Sacramento History. Other copies will be electronic provided on an archival gold CD or DVD.

6.2.2. Permanent Interpretive Displays/Signage/Plaques

Measures shall be implemented to interpret the property's historic significance for the public. All costs associated with interpretation of the property shall be borne by the project applicant. Interpretive and/or educational exhibits shall include, but are not necessarily limited to the items discussed below.

The applicant shall install a minimum of two interpretive displays within the project that provide information to visitors regarding the history of the Crystal Ice and Cold Storage within the context of Sacramento industry. These displays shall be integrated into the design of the public areas, such as lobbies in the interiors of the building or other circulation areas. The displays shall include historical data taken from the HABS documentation, or other cited archival sources, and shall also include historic photographs. Displayed photographs shall include information about the subject, the date of the photograph, and photo credit / photo collection credit.

Interpretive displays and the signage/plaques installed on the exterior of the property shall be sufficiently durable to withstand typical Sacramento weather conditions for at least ten years, like fiber-glass embedment panels, that meet National Park Service signage standards.¹² Displays and signage/plaques shall be lighted, installed at pedestrian-

¹² National Park Service, "Wayside Exhibits: A Guide to Developing Outdoor Interpretive Exhibits, October 2009," Harpers Ferry Center Wayside Exhibits, <http://www.nps.gov/hfc/pdf/waysides/wayside-guide-first-edition.pdf> (accessed February 2015).

friendly locations, and be of adequate size to attract the interested pedestrian. Maintenance of displays and signage/plaques shall be included in the management of the common area maintenance program on the property.

6.2.3. Salvage and Reuse of Property Elements

To convey the industrial nature of the building's history, the project proponent shall identify elements of the property for potential salvage and reuse from the exterior and interior of the Crystal Ice and Cold Storage property that would serve as important artifacts and physical reminders of the complex's material existence and importance. Potential items include reusing old interior signs as decor in future lobby space, salvage and reuse of additional historic-period doors as future entries to interior office tenants space, and showcasing historic industrial equipment either as outdoor sculpture or in ground-level tenant occupied areas or in circulations areas. The project proponent plans to remove the character-defining exterior ice chutes from the rear of Building 2 before the demolition of the small structure that encloses them. These chutes will be relocated to a prominent location, in consultation with the City's Preservation Director, so the chutes can be interpreted and remain a cultural artifact of the project in a context that is consistent with their function and add to the overall character of the project.

Elements of the structure, including the one-over-one wood window on the R Street side of Building 2 and original exterior doors identified for re-use in the interior, that are to be used in the final design of the building, need to be retained and preserved. The identified elements should be protected and maintained. If such elements are found to be in need of repair, the repair will be made with materials that are like and in kind with the original. If any of the identified elements are found to be too deteriorated to repair, they should be replaced in kind with the same configuration and materials.

6.2.4. Oral Histories/Interviews

Prior to any structural demolition and removal activities, the project proponent shall determine if an appropriate number of persons knowledgeable about the Crystal Ice and Cold Storage company and its operations in the buildings on this site during the property's period of significance (1920 to 1950) or until its circa 1992 closure, are available and willing to participate in an oral history project.¹³

The oral history project shall consist of interviews conducted in the Sacramento region, preferably at the Crystal Ice and Cold Storage property. The aim of these interviews shall be to record information about company operations as they were carried out in these buildings. In general, the goal will be to synthesize information gathered from individuals

¹³ "Developers Smell Growth on R Street – Latest Proposal Calls for Tower to Replace Aging Ice House," *Sacramento Bee*, November 8, 1992, Newsbank.com (accessed February 2015).

who worked at the ice plant, including personal insights and recollections of the company, its management, innovations, and the day-to-day operation of the plant. Potential formats of the interview could include digital video recording or digital voice recording. Information from the interviews could be used in interpretive signage or displays. Edited recordings of the interviews should be disseminated to multiple repositories, including (but not limited to) the Sacramento Public Library’s Sacramento Room, the Center for Sacramento History (CSH), the California State Library in Sacramento, and any other local repositories determined appropriate by the City Preservation Director.

7. REFERENCES

- California Office of Historic Preservation. “Directory of Properties in the Historic Property Data Files” for Sacramento County. Dated September 2012.
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- City of Sacramento. Building Permits accessed via <http://portal.cityofsacramento.org/Community-Development/Building> (November 2014).
- _____. *Sacramento Register of Historic & Cultural Resources*. December 2011.
- Deering, Roberta, City of Sacramento, Preservation Director, Community Development Department. Communication with JRP Partner / Architectural Historian Christopher McMorris, February and March 2015.
- Guest, Steve, Principal, RMW Architecture & Interiors. Communication with JRP Partner / Architectural Historian Christopher McMorris, March 23, 2015.
- National Parks Service, U.S. Department of the Interior. *ITS Number 10: Exterior Stair/Elevations Tower Additions*, July 1999.
- _____. *ITS Number 14: New Openings in Secondary Elevations or Introducing New Windows in Blank Walls*, September 2000.
- _____. *ITS Number 21: Adding New Openings on Secondary Elevations*, October 2001.
- _____. *ITS Number 22: Adding New Entrances to Historic Buildings*, October 2001.
- _____. *ITS Number 55: Retaining Historic Character in Historic Buildings*, November 2009.
- _____. *National Register Bulletin 15: Guidelines for Applying the National Register Criteria for Evaluation*. Washington D.C.: US Government Printing, 1991, revised 1995 through 2002.
- _____. *The Secretary of the Interior’s Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings*. Washington DC: National Parks Service, 1997.
- _____. “Wayside Exhibits: A Guide to Developing Outdoor Interpretive Exhibits, October 2009.” Harpers Ferry Center Wayside Exhibits, <http://www.nps.gov/hfc/pdf/waysides/wayside-guide-first-edition.pdf> (accessed February 2015).
- Sacramento Register [Sacramento City Code, Chapter 17.134.170(A)(1)(a)-(A)(2)(e)].
- Newspapers
- Sacramento Bee*.
- Archival Materials
- Sacramento Room Photograph Collection, Sacramento Room, Sacramento Central Branch Library, Sacramento, California.

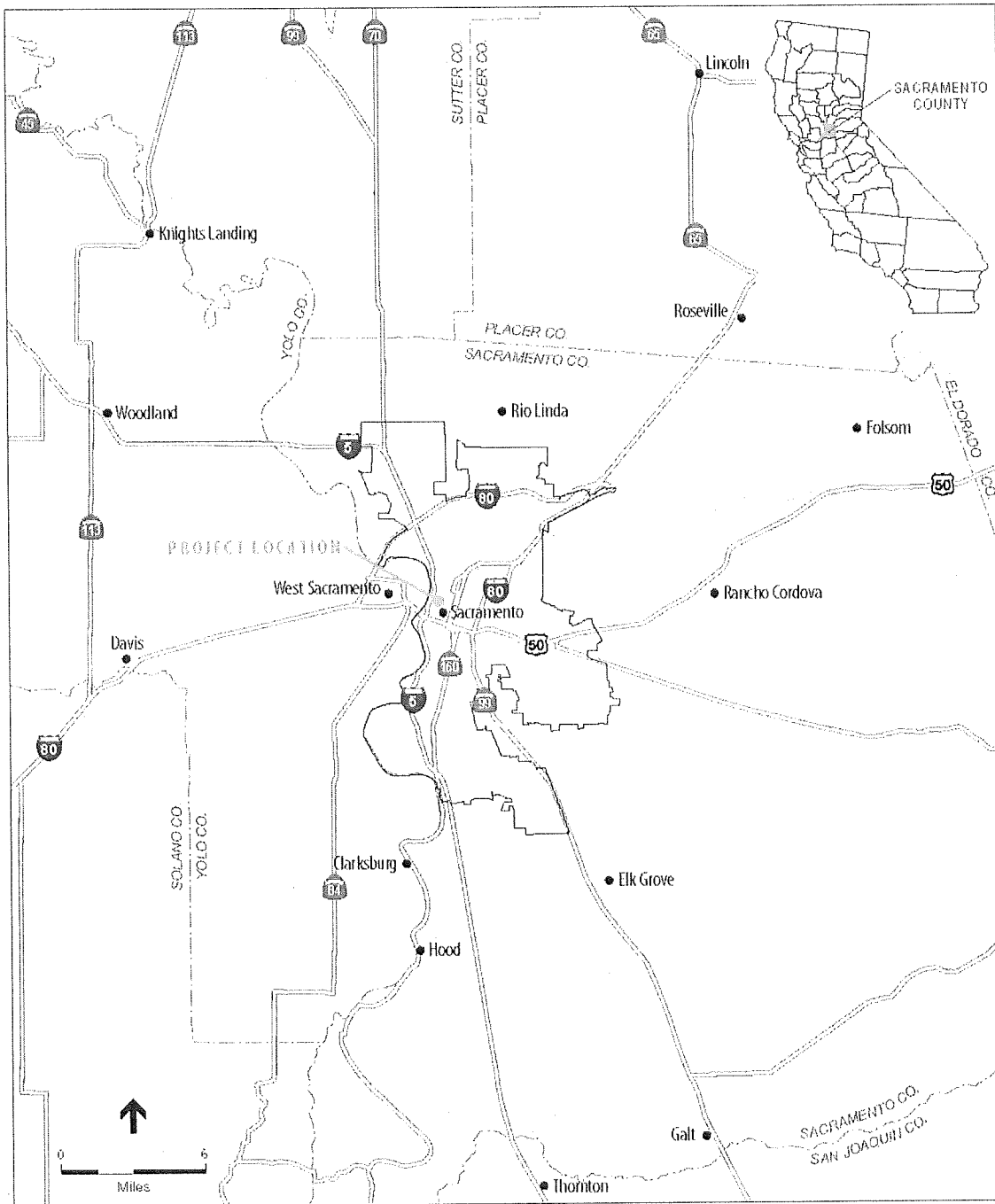
8. PREPARERS' QUALIFICATIONS

JRP Partner Christopher McMorris (MS in Historic Preservation, Columbia University, New York) provided overall project direction and guidance, closely coordinated with ESA and the City of Sacramento in the preparation of this document, and reviewed and edited this report. Mr. McMorris has more than sixteen years experience working as a consulting historian and architectural historian on a wide variety of historical research and cultural resources management projects, as a researcher, writer, and project manager. Based on his level of experience and education, Mr. McMorris qualifies as an architectural historian and historian under the Secretary of the Interior's Professional Qualification Standards (as defined in 36 CFR Part 61).

Staff Historian Chandra Miller (M.A., Public History, California State University, Sacramento) prepared this report. Ms. Miller has been with JRP since 2009 and based on her education and experience qualifies as a historian/architectural historian under the United States Secretary of the Interior's Professional Qualification Standards (as defined in 36 CFR Part 61).

APPENDIX A

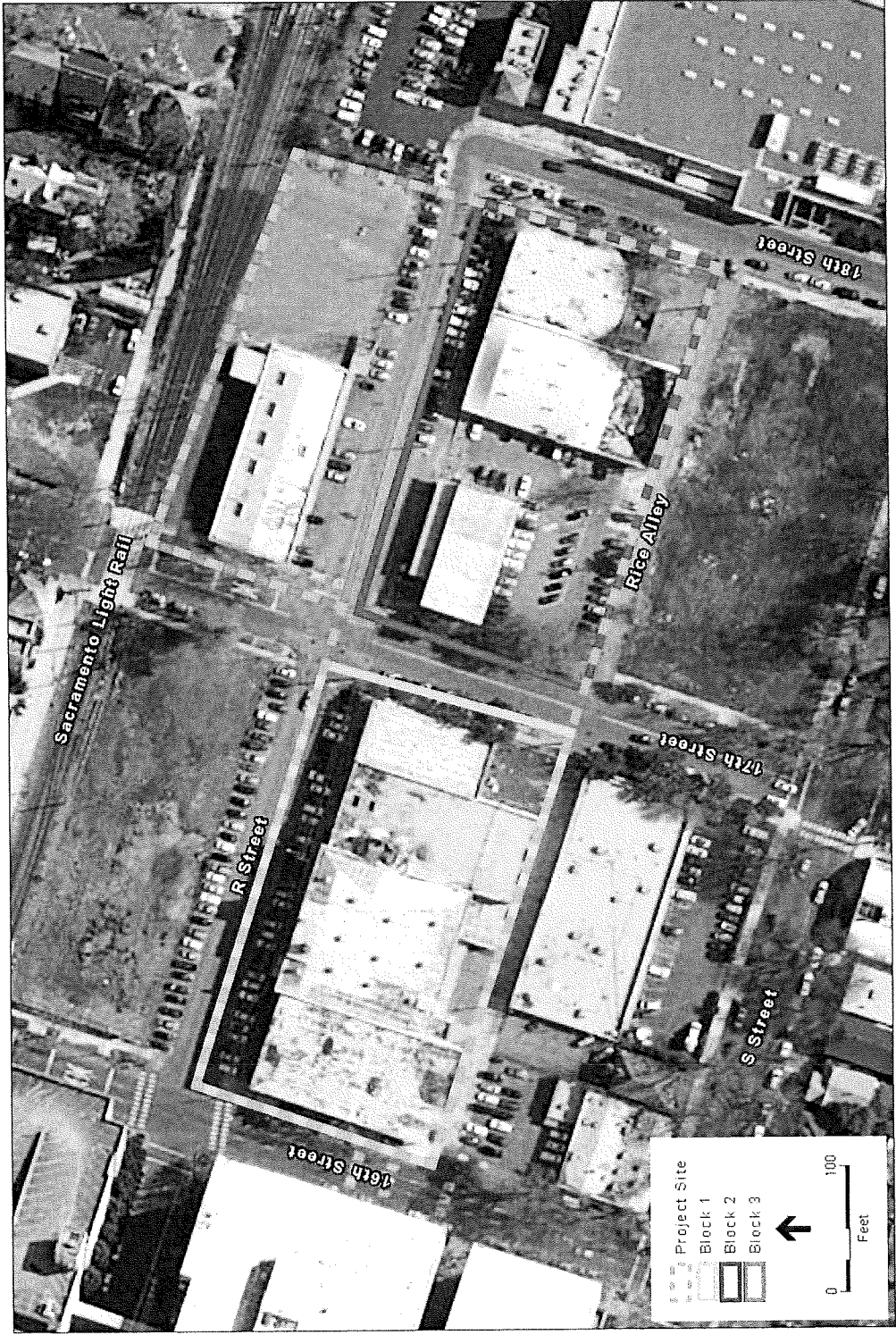
Maps



SOURCE: CaSIL, 2013

Ice Blocks . 140629 00

Figure 1
Regional Location Map



Ice Blocks . 140629_00
Figure 2
Blocks 1, 2, and 3

SOURCE: Microsoft, 2012

APPENDIX B

DPR 523 Form

**PAR Environmental Services, Inc.
(2009)**

APPENDIX C

Project Plans / Photo-Simulations

APPENDIX B

DPR 523 Form

**PAR Environmental Services, Inc.
(2009)**

State of California - The Resources Agency		Primary #	_____
DEPARTMENT OF PARKS AND RECREATION		HRI#	_____
PRIMARY RECORD		Trinomial	_____
		NRHP Status Code	3S
Other Listings	_____	Reviewer	_____
Review Code	_____	Date	_____

Page 1 of 14 *Resource Name or #: (Assigned by recorder) Crystal Ice and Cold Storage (Map Reference #1)

P1. Other Identifier: Carstensen's Crystal Ice and Cold Storage

*P2. Location: Not for Publication Unrestricted *a. County Sacramento
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Sacramento East Date 1992 T 8N R; 4E of Sec. 20; MDM

c. Address R Street, 16th to 17th streets City Sacramento Zip 95814

d. UTM: (Give more than one for large and/or linear resources) Zone 10 ; _____ mE/ _____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

APN # 009-0093-008. Crystal Ice and Cold Storage plant stretches over the north half of a block bound by 16th and 17th streets to the west and east, and the alley and R Street to the south and north.

*P3a. Description: (Describe resource and its major elements. Include design, materials condition, alterations, size, setting and boundaries)
The Crystal Ice and Cold Storage plant is a large rectangular building stretching over a one-half block area (eight city lots) on the south side of R Street bound by 16th and 17th streets and the alley between R and S streets.. It is situated in an industrial corridor centered on the Southern Pacific Railroad. The warehouse was built in five phases. The central core of the building is of brick masonry construction and represents the original 1920 initial construction. The west side of the building fronting on 16th Street was added to the main structure in 1944 and the east 1/3 by 1949. A one-story garage centered on the rear of the building was constructed to house the trucks in 1925. The numbered sections are described from east to west. (continued). Integrity and condition of each section is included in the section descriptions.

*P3b. Resource Attributes: (List attributes and codes) HP6: 1-3 story commercial; HP8: Industrial

*P4. Resources Present: Building Structure Object Site District Element of District Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures and objects.)



P5b. Description of Photo: (View, date, accession #) 4-05-09

View southwest of Crystal Ice north and east, façades from 17/R intersection.

Acc. 08-8007-DIG-2-020

*P6. Date Constructed/Age and Sources: Historic Prehistoric Both
1920, 1945, 1947

*P7. Owner and Address:
Mark Friedman
1530 J Street Suite 200
Sacramento, CA 95814

*P8. Recorded by: (Name, affiliation and address)
Mary L. Maniery
PAR Environmental Service
1906 21st Street
Sacramento CA, 95816

*P9. Date Recorded: 02-24-09

*P10. Survey Type: (Describe)
Cultural resources inventory and Evaluation

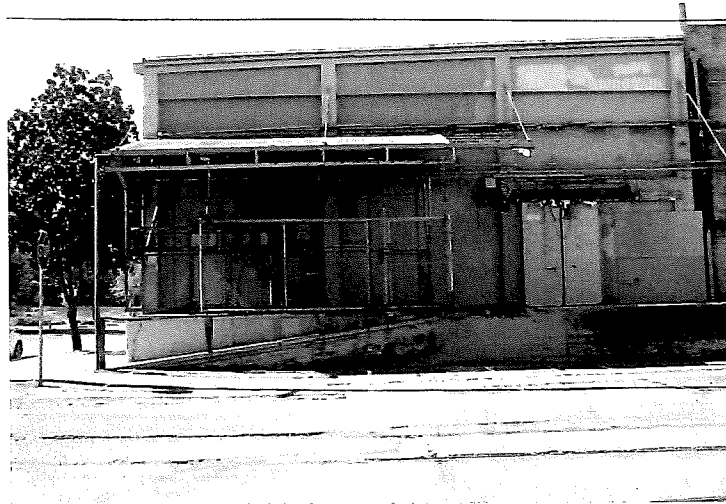
*P11. Report Citation: (Cite survey report and other sources, or enter "None")

Historical Resources Evaluation Report for the R Street Market Plaza Improvement Project: 16th-18th Streets, City of Sacramento.
PAR Environmental Services, Inc. 2009.

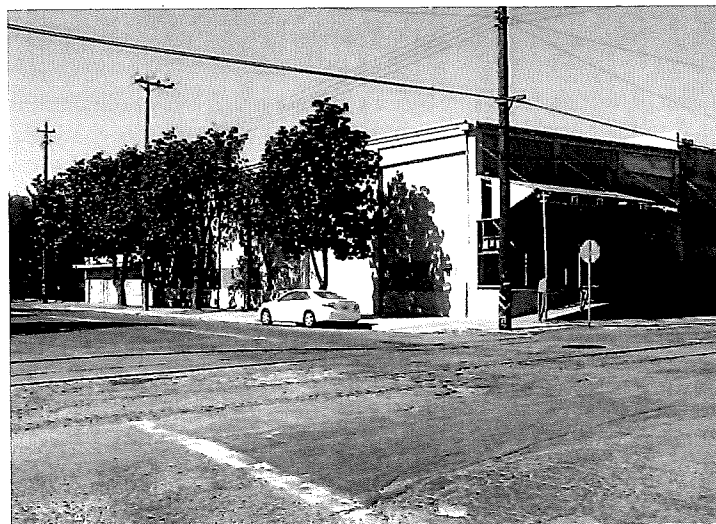
*Attachments: NONE Location Map Sketch Map Continuation Sheet Building, Structure and Object Record
 Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record
 Artifact Record Photograph Record Other (List)

SECTION 1

The easternmost section, No. 1, is about 40 feet wide and 160 feet long. The 1951 Sanborn map labels this area as "crate storage." It was built in two sections by 1949 and has not been altered. The north 2/3 of the structure fronts on R Street, is 1.5 stories high and is built of reinforced concrete. The north façade is characterized by four concrete pilasters, a near flat roofline that slants slightly east and a concrete cornice. There is a double metal sliding door, suspended on a track, on the right (west) side of the façade. A metal canopy structure protects refrigeration control panels on the east end of the façade. The entry door is accessed by a concrete ramp and a concrete loading dock extends along the length of this section of the building.



View south of north façade, section 1 (note siding track)
(Accession 08-8007-Dig 2-027, April 5, 2009)



View northwest of Section 1 north and east façade with office at far left (note siding track)
(Accession 08-8007-Dig 2-023, April 5, 2009)

The east façade of Section 1 is windowless and is defined by five concrete pilasters and a concrete cornice. The letters "CRYSTAL ICE AND COLD STORAGE" are incised in the concrete along the upper 1/3 of the façade near the north end. The south 1/3 of Section 1 is

Page 3 of 14 *Resource Name or #: (Assigned by recorder) Crystal Ice and Cold Storage, 1600 Block R St., Sacramento
 P1. Other Identifier: Carstensen's Crystal Ice and Cold Storage

one story in height with a flat, asphalt roof. It served as the office for the facility. It has a single wood pedestrian entry on 17th street flanked by two eight-lite multi-pane, metal sash casement windows to the south, two larger 16-lite (8-lites in each vertical window side) windows to the north and another small pedestrian door to the north of the large windows. Fenestration is symmetrical and all windows have concrete sills and lintels. A flat metal canopy hangs by cables along the front of this façade. The south-facing façade of the office has a double wooden bay door on the west, a three-pane, metal sash casement window protected by an iron grille in the center, and a metal sash multi-pane casement window, identical to the east façade, on the east.



View southwest of one-story office addition fronting on 17th Street.
 Accession 08-8007-DIG 2-025, 04/05/09

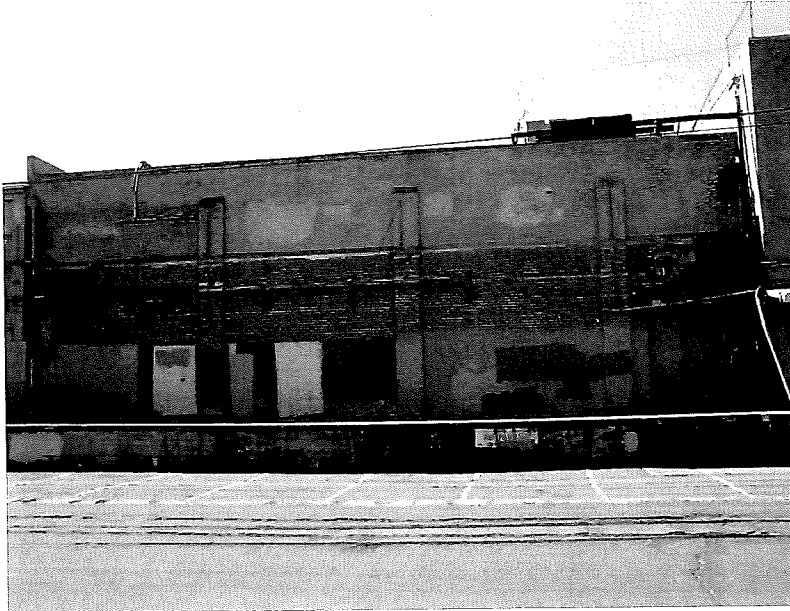
SECTION 2

Section 2 is immediately to the west of Section 1 and consists of a 1.5-story-high brick addition constructed in 1925. The north façade is recessed three feet from Section 3 and has a concrete loading dock along the façade that continues along Sections 1 and 3. Character-defining elements of the Section 2 façade includes three partial brick pilasters symmetrically placed along the north face and a double swing-open entry door, made of horizontal boards with iron hinges, at the west end. There are no windows. A north/south trending brick parapet wall separated Section 2 from Section 1 and extends about 2 feet above the roof line. The 1951 Sanborn Map labeled this section as “Cold Storage” and noted that it had a wood truss roof supported by wood posts with four cork-lined, insulated rooms.

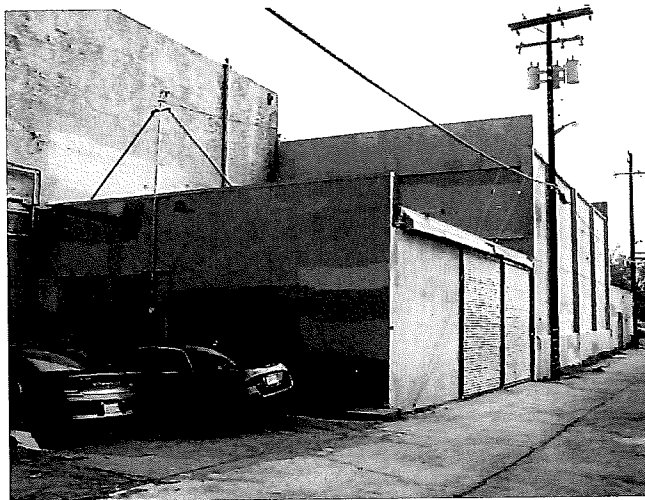
The south façade of Section 2 fronts on the alley and appears to be an extension to the brick building that was added in 1944. This section is listed as “Truck Storage” on the 1951 Sanborn and is also 1.5 stories in height. The structure is of reinforced board-form concrete. Five concrete pilasters are symmetrically placed along the south façade.

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P1. Other Identifier:

*Resource Name or #: (Assigned by recorder) Crystal Ice and Cold Storage, 1600 Block R St., Sacramento
Carstensen's Crystal Ice and Cold Storage



View south of Section 2's north façade
(Accession 08-8007-DIG-2-031, April 5, 2009)

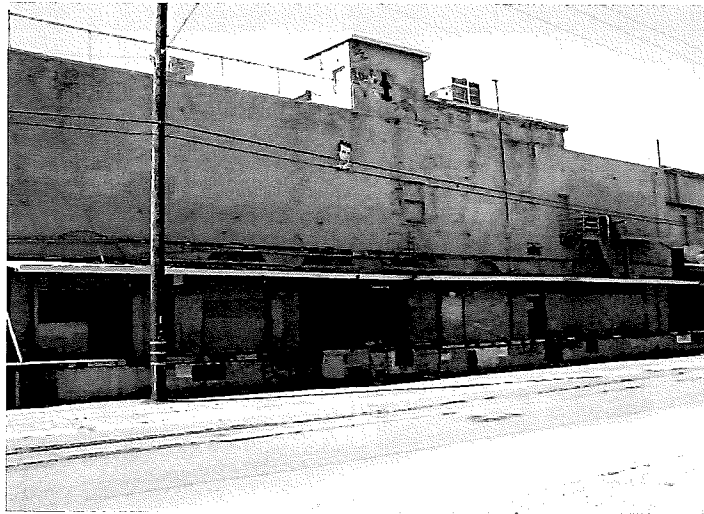


View east of Section 5 (foreground) and the south façade of Section 2
(2-story building in background)
(Accession 08-8007-DIG-1-034, Feb. 24, 2009)

SECTION 3

Section 3 represents the central and original core of the building. Originally one story, the core area was expanded to two stories in 1920-21. It is constructed of brick. The front detailing includes four large windows with arched brick pediments, three to the east of a central door and one to the west. A historic photograph of this same section depicts three of the four arched windows with lites in the pediment and one bricked in. Today the windows have been removed or boarded over. Original windows were metal sash, large multi pane lites; they are now boarded over, but remain in place (Friedmann 2008). Fenestration is symmetrical and includes the four arched windows, a central recessed entry (original), and two additional doors west of the westernmost arched window (all original). A metal canopy, supported by cables, runs the length of the façade and was added after 1928. A double-hung window, original to the 1921 building, is present on the second floor level. The elevated concrete loading dock along the front of Section 3 is original, although it has been extended to the east. Newer additions to this façade include a pedestrian door with landing and fire steps on the upper floor and wood frame structures on the roof to house condensing and cooling equipment. These do not detract from the overall mass and design apparent in this section.

Originally metal letters were mounted across the upper face of the structure and stated "CRYSTAL ICE & COLD STORAGE CO." These have been removed.



View southwest of Section 3. Note brick pediments above metal canopy (Accession 08-8007-DIG-2-xx, April 5, 2009)



View southwest of Section 3, 1920s (www.sacramentohistory.org)

Page 6 of 14
P1. Other Identifier: _____

*Resource Name or #: (Assigned by recorder) Crystal Ice and Cold Storage, 1600 Block R St., Sacramento
Carstensen's Crystal Ice and Cold Storage

The south façade of Section 3 characterizes the industrial nature of the business. It includes board-form concrete loading dock accessed by five-riser concrete stairs on the west and east ends, four symmetrically placed pedestrian or bay doors, some with heavy wood coverings and one bricked in. A small, one-story, 16-foot-square brick building is present on the west end of this Section, just west of the west set of stairs. It has five ice dispenser openings, four retaining the original catch baskets, with coin slots to serve customers buying blocks of ice.



View northwest of Section 3 south façade
(Accession 08-8007-DIG-1-31, Feb. 24, 2009)

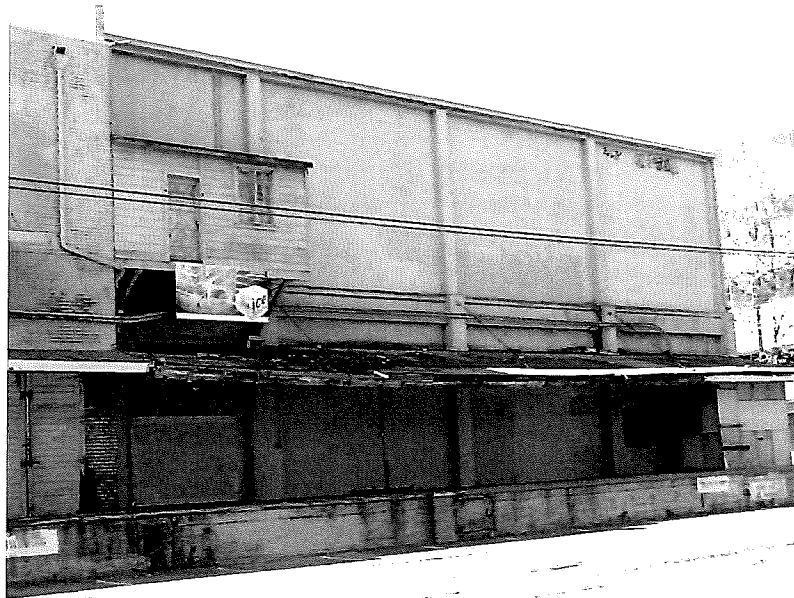


View northeast of south façade of ice dispensing facility
(Accession 08-8007-DIG-1-21, Feb. 24, 2009)

Page 7 of 14 *Resource Name or #: (Assigned by recorder) Crystal Ice and Cold Storage, 1600 Block R St., Sacramento
 P1. Other Identifier: Carstensen's Crystal Ice and Cold Storage

SECTION 4

Section 4 includes all of one city block and is bounded by 16th Street on the west, R Street on the north and the alley on the south. The 1951 Sanborn Map labeled this area as "Cold Storage" and noted that it was built in 1944. The structure is of board-form concrete on the lower half with board-form concrete placed to give the appearance of bricks on the upper half. A concrete cornice with a slight overhang extends around the top. Concrete pilasters are present on the north and west facades. The north façade fronts on R Street and has three pilasters, a roll-up metal bay entry on the east and a decorative concrete band with incised grooves dividing the front façade. A metal shed roof canopy, suspended on cables, protects the loading dock and entry bay. Newer additions include a horizontal board small room supported by knee braces on the upper story at the east end. This room has a metal-clad shed roof, a pedestrian door and a metal sash casement window. The stairs that accessed the door are missing. The west end of the platform has a small enclosed area under the canopy with board and batten plywood siding, few metal sash windows and an access door; all are now boarded over. Its function and date of construction are unknown.



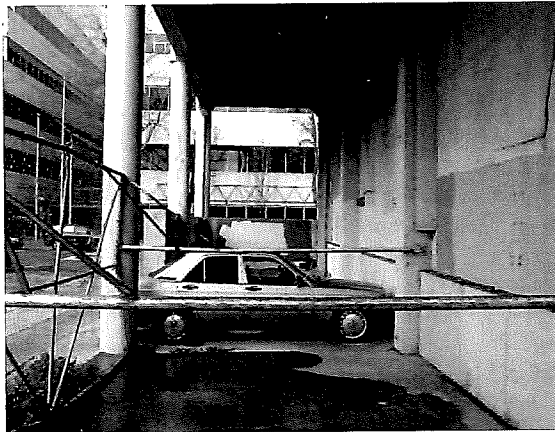
View southwest of north façade, Section 4 (note railroad siding in front of dock)
 Accession 08-8007-DIG-2-034, April 5, 2009

The west façade is about 150 feet long and fronts on the sidewalk of 16th Street. This façade has nine symmetrically placed pilasters that taper from 21 inches wide on the lower story to 15 inches wide on the upper. A deeply incised groove is present on the belly band and the façade is topped with a concrete cornice. There are seven square recessed panels along the entire west façade on the lower story between each pilaster.

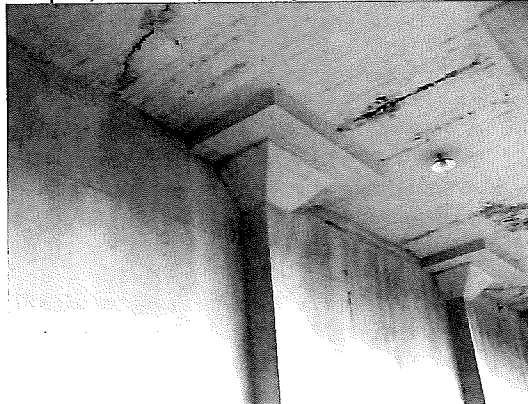


View southeast of north and west façades, Section 4 (Accession 08-8007-DIG-1-003, Feb. 24, 2009)

The south (rear) façade of this section has a recessed carport on the lower floor protected by the overhanging upper story. The upper story is supported by round tapered columns. Concrete blocks have been used to in-fill a portion of the open space between the columns. Five square concrete pilasters with decorative tapered square capitals provide relief to the exterior concrete wall.



View west of overhang and carport, Section 4, south façade (Accession 08-8007-DIG-1-20, Feb 24, 2009)



Detail of capitals, Section 2 carport (Accession 08-8007-DIG-1-11, Feb. 24, 2009)

State of California - The Resources Agency DEPARTMENT OF PARKS AND RECREATION CONTINUATION SHEET	Primary # _____
	HRI# _____
	Trinomial _____

Page 9 of 14 *Resource Name or #: (Assigned by recorder) Crystal Ice and Cold Storage, 1600 Block R St., Sacramento
 P1. Other Identifier: Carstensen's Crystal Ice and Cold Storage

SECTION 5

Section 5 is attached to the rear of the main 1920s plant and was built in 1925 as truck storage/auto repair. It is a frame building and has two corrugated metal-door bays on the south façade. A parapet present on the east wall separates it from the south end of Section 2.



View east of Section 5, with Section 3 loading dock to left
 (Accession 08-8007-DIG-1-29, Feb. 24, 2009)

INTERIOR

The interior of the plant, especially Section 3 (the manufacturing area) reflects the layout and design of the original ice plant. Insulated cold storage lockers, thick walls, pipes and tubing necessary to transport water to the manufacturing areas, and equipment are still in place. As a whole, the plant reflects the peak of the ice-producing industry in the late 1940s and has been altered very little since that time.

RAILROAD CONTRIBUTING ELEMENTS

The Southern Pacific Railroad mainline track extends from the east side of the intersection at R and 16th streets to the east side of the intersection at R and 17th streets. These tracks are part of a larger system of tracks that ran down the center of R Street from the Sacramento waterfront on Front Street to Alhambra Boulevard. Segments of this line have been removed (between 14th and 15th streets), some segments have been paved, and others remain visible. A siding track is located approximately 20 feet south of the mainline. The siding abuts the Crystal Ice and Cold Storage facility loading dock.

Between 16th and 17th streets, almost the entire rail section is visible and devoid of asphalt covering. Siding track in front of the Crystal Ice and Cold Storage Facility parallels the mainline track, beginning at the east side of the intersection of R and 16th streets. The west end of siding track near Crystal Ice is capped by a metal bumper, used to prevent railroad cars from sliding off the tracks. The siding track extends approximately 400 feet eastward along the north side of the Crystal Ice and Cold Storage facility. The siding track joins with the mainline approximately 60 feet east of the R and 17th streets intersection.

State of California - The Resources Agency DEPARTMENT OF PARKS AND RECREATION CONTINUATION SHEET	Primary # _____
	HRI# _____
	Trinomial _____

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P1. Other Identifier: Carstensen's Crystal Ice and Cold Storage

Granite cobbles abut the mainline and siding rails on both the inside and outside at the R and 17th streets intersection. Historically these cobbles were used to support and protect the rail from cross traffic at the intersections.

A switching box is located on R Street between 16th and 17th streets in front of Crystal Ice. The box is 70 feet east of the start of the mainline track at the R and 16th street intersection. The switching box is approximately 3.5 feet long and 2 feet wide, and is located on the south side of the mainline rails.



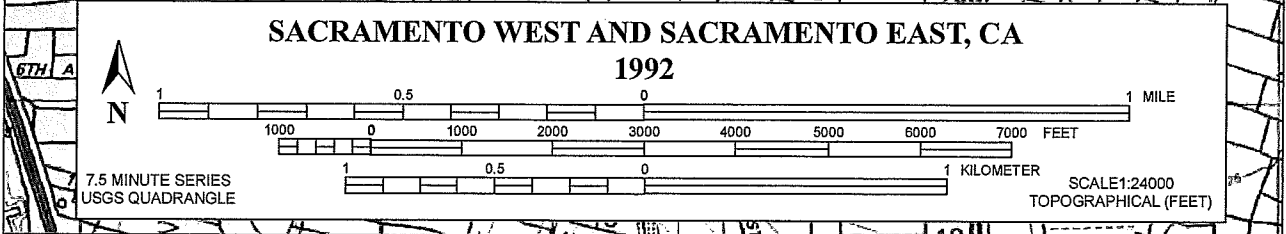
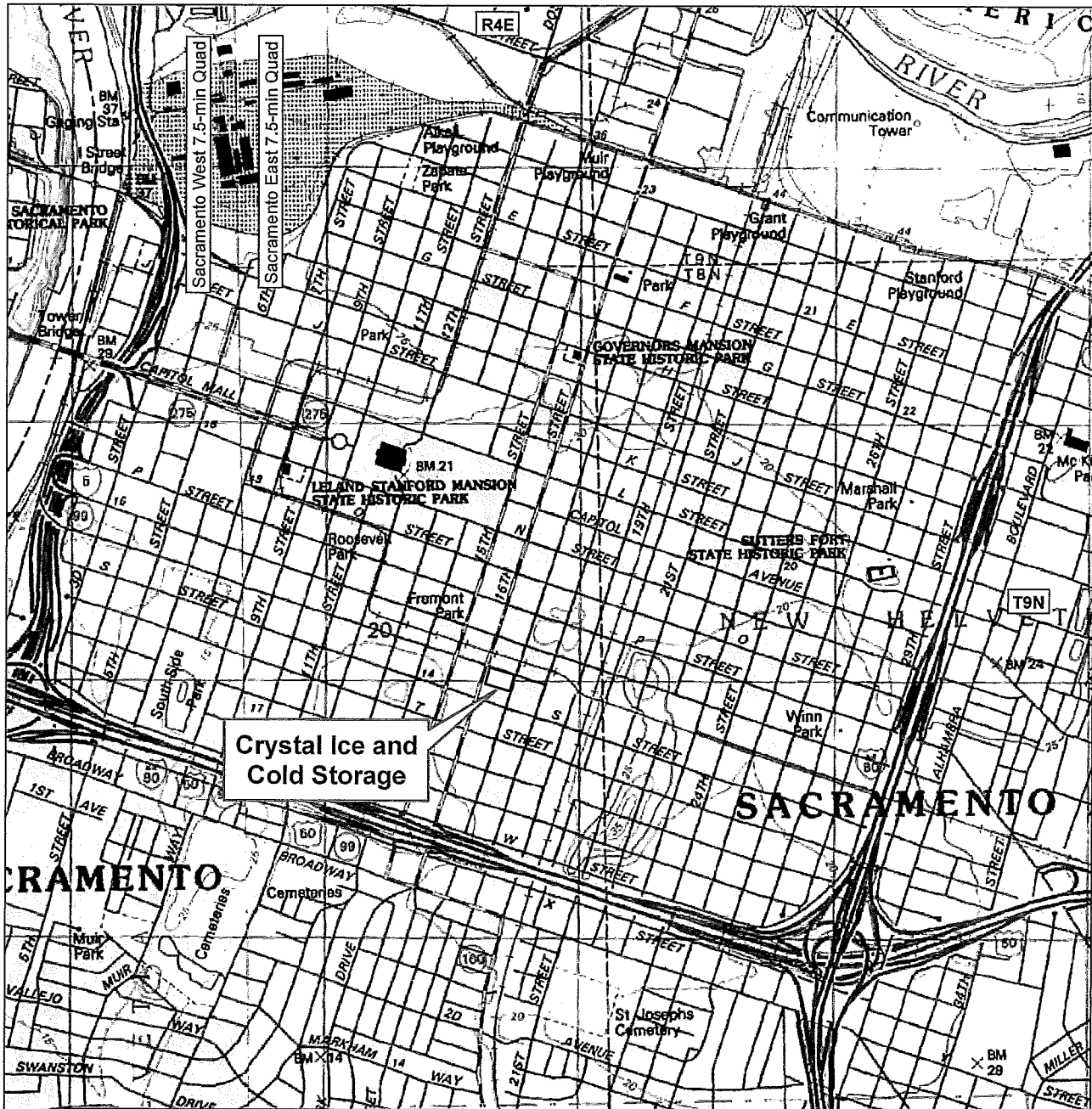
View of mainline track on R Street between 16th and 17th street, view facing west, with Crystal Ice to the left.
April 5, 2009.

LOCATION MAP

Page 11 of 14

*Resource Name or # (Assigned By Recorder) Crystal Ice and Cold Storage

Map Name Sacramento West and East 7.5-Min Quad *Scale 1:24000 *Date of Map 1992



*NRHP Status Code 3S

Crystal Ice and Cold Storage Plant, 1600
 Block R St., Sacramento

Page 12 of 14

*Resource Name or #: (Assigned by recorder)

B1. Historic Name: Carstensen's Crystal Ice and Cold Storage
 B2. Common Name: Crystal Ice
 B3. Original Use: Ice Manufacturing Factory B4. Present Use: Abandoned and vacant
 *B5. Architectural Style: Industrial

*B6. Construction History: (Construction date, alterations, and date of alterations)
 The 1915 Sanborn Fire Insurance map depicts a few dwellings on this half-block, but no industrial buildings. The original one-story brick building built around late 1919-early 1920. A second story was added beginning in the summer of 1920 (Sacramento Building Permits 1921). A west side addition expanded the original building in 1921-22. A brick addition was built to the east of the main plant in around 1926 and a garage was added to the rear of the main building in 1925. The garage was frame construction with sheet iron siding and measured 26 feet by 32 feet (Sacramento Building Permits 1925). In 1944-45 the company added to the west side of the building for a cold storage warehouse and to the rear (south) of the 1925 brick addition. The building's east side addition and office were built soon after. The plant has been changed little since 1949, when the east addition was complete.
 *B7. Moved? No Yes Unknown Date: _____ Original Location: same

*B8. Related Features:
 Southern Pacific Railroad main line and siding

B9a. Architect: Unknown b. Builder Rasmus Carstensen

*B10. Significance: Theme Industrial Development of Sacramento/
 Ice Plant architecture Area Sacramento City, local

Period of Significance 1920-1950 Property Type Ice Plant/Industrial Applicable Criteria A and C
 (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity).

The Crystal Ice Company was founded around 1911 by Rasmus Carstensen, a German emigrant and Sacramento businessman who, at the time of founding the ice company, owned the Golden Gate Saloon and Terminus Café in Sacramento. Carstensen's Crystal Ice was originally located on Park between 35th and 36th Streets (Sacramento City Directory 1912) and depended on the purchase of natural blocks of ice harvested in the Truckee region. In the 1910s the allotment of natural ice blocks was controlled by a regional "Ice Trust." As ice boxes gained in popularity in the early twentieth century, the demand for blocks far outnumbered the supply. This supply and demand issue reached crisis point during the summer of 1919. At that time the demand for ice in Sacramento had grown to the point that there was an insufficient supply to meet Sacramento's needs. Carstensen was accused of withholding ice from household consumers in favor of providing ice to saloons, breweries and restaurants. He responded to this accusation in the *Sacramento Bee* by noting that the Ice Trust, controlled by one of his competitors, Ike Trainor, did not provide him with natural ice in adequate numbers to serve the city's communities. He vowed to build a new ice plant that could produce ice in adequate quantities to supply all consumers and eliminate the dependency of natural ice (*Sacramento Bee* September 23, 1919). To this end he purchased three vacant lots centered on R Street between 16th and 17th streets.

Carstensen's Crystal Ice and Cold Storage Co. on R Street first appeared in the Sacramento City Directory in 1920 (Sacramento City Directory 1920:48). The building was located at 1622-28 R St. In his new building, instead of buying natural ice, Carstensen could make more of his own (*Sacramento Bee* August 6, 1921).

It appears that he quickly outgrew his space. A building permit was issued in May 1920 to Carstensen for a second floor addition to the "brick factory." The structure measured 127 feet by 120 feet with outside walls 12 feet high and 13 inches thick. The interior finish work was completed in March, 1921.

Carstensen continued to expand his business with his acquisition of John Menke's adjoining property (two city lots) to the west by August 1921. The 80- by 160-foot lot was purchased for \$16,500 with plans to erect a two or three-story ice making and storage house (*Sacramento Bee* August 6, 1921:21). The address for the business then changed to 1618-20 R St and the name simplified to Crystal Ice and Cold Storage Plant. A historic photograph taken soon after shows a brick warehouse with arched pediment windows on the lower, original façade and a smooth face on the upper story.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI# _____

*NRHP Status Code 3S

Page 13 of 14

*Resource Name or #: (Assigned by recorder)

Crystal Ice and Cold Storage Plant, 1600
Block R St., Sacramento

In 1923, he remodeled the building for the brick, two-story ice plant, including installed a 120-gallon gas tank. In 1925, he added a 26-foot by 32-foot metal garage for his delivery trucks and a brick addition to the east side of the cold storage plant. In 1930, he added a 550-gallon gas tank and pump at the garage. During this period, the plant made up to 500 tons of ice daily during the summer to cool the citizens of Sacramento (*Sacramento Bee* July 16, 1927).

During the Depression years, Carstensen maintained the building by keeping the roof in good condition, but otherwise made no additions. In 1933, he died on a visit to Los Angeles, leaving his son, August R. Carstensen, as the new owner and manager of the company. Tax assessment records indicate that Carstensen's son continued to expand between 1935 and 1940 with the purchase of the parcel on the east of his building from W .S. Kendall. With this acquisition, Carstensen then owned the entire half block between 16th and 17th Street, south of R Street. In 1944, he constructed a concrete addition to the east side of the cold storage building at a cost of \$37,000. In 1949 Crystal Ice and Cold Storage Company had changed its physical address to 1812 17th Street, likely because of an office space at a new (and last) addition facing 17th Street at the eastern end of the building. Crystal Ice and Cold Storage remained in business into the 1980s. Today the plant retains its circa 1950s appearance with a few modest additions (metal canopy, fire escape). Many of the interior design elements and industrial features that define an ice manufacturing plant (cold storage lockers, water pipe works, etc.) remain intact and add to the overall significance.

The Crystal Ice and Cold Storage facility stretches between 16th and 17th streets on the south side of R Street. As the primary manufacturer of ice in the City, this company played an important role in the Sacramento area between 1920, when the facility was completed, to 1950, when the use of electric refrigerators replaced the ice box; as such, it is eligible for listing in the NRHP at a local level of significance under Criterion A. The factory embodies distinctive characteristics of an early twentieth century industrial ice plant and meets Criterion C. The property is eligible at a local level with a period of significance from 1920, when initial construction was complete, to 1950, when the last addition was finished.

The integrity of the building's design has been somewhat compromised by alterations in fenestration and the addition of canopies over the entrances of the center and western sections. The transoms above the window openings appear to be painted over, but remain in place. The ice plant retains its character defining features, such as loading docks, ice block dispensers, cold storage lockers, and has integrity of location, setting, design, workmanship, feeling and association. The association with the railroad mainline and siding contributes to the overall sense of time and place. The property also was evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resource Code, and is considered an historical resource for the purposes of CEQA.

The SPRR track, siding, switch box and cobbles contribute to setting of the Crystal Ice and Cold Storage facility. The route is associated with the early twentieth century industrial development of the ice plant facility in the City of Sacramento and played an important role in its location, setting and design. The relationship between the ice plant and the rails is clearly evident, resulting in a strong sense of time and place. The rail features extend from the east side of 16th/R intersection to 60 feet east of the east side of the 17th/R intersection, where the ice plant siding reconnects with the mainline. The remaining track and sidings between 17th and 18th are not contributing elements.

B11. Additional Resource Attributes: (List attributes and codes) N/A

*B12. References:

Sacramento, City of

1920-1944 City of Sacramento Building Permits file, 1920-1944. On file, Sacramento Archives and Museum Collection Center, Sacramento, CA.

Sacramento Directory Co.

1920-1950 City Directories. On file, Sacramento Room, Sacramento Central Library, CA.

Sanborn Fire Insurance Company

1915 Fire Insurance Maps. On file, California History Room, California State Library. Sacramento, CA.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary # _____
HRI# _____

*NRHP Status Code 3S
Crystal Ice and Cold Storage Plant, 1600
Block R St., Sacramento

Page 14 of 14 *Resource Name or #: (Assigned by recorder)

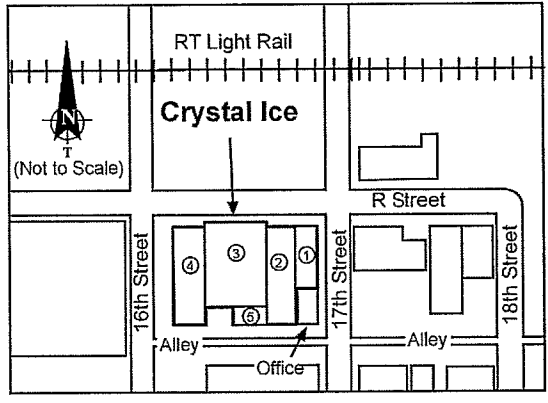
- 1951 Fire Insurance Maps. On file, California History Room, California State Library. Sacramento, CA.
- 1965 Fire Insurance Maps. On file, California History Room, California State Library. Sacramento, CA.

B13. Remarks: N/A

*B14. Evaluator: Mary L. Maniery, M.A.
PAR Environmental Services, Inc.
1906 21st Street
Sacramento, CA 95816
Date of Evaluation: April 5, 2009

(Sketch Map with north arrow required.)

(This space reserved for official comments.)



APPENDIX C

Project Plans / Photo-Simulations

Appendix C
Ice Blocks Project
Transportation Analysis

The Ice Blocks Transportation Analysis

Technical Report

Prepared for

City of Sacramento

By

DKS Associates

8950 Cal Center Drive, Suite 340

Sacramento, California

(916) 368-2000

February 6, 2015

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INTRODUCTION

PURPOSE

This transportation analysis addresses transportation and circulation associated with a proposed project known as “The Ice Blocks”. The Ice Blocks project is proposed as a mixed-use, transit oriented neighborhood in the R Street Corridor in Downtown Sacramento. The project would include:

- 208 apartment units
- 54,853 square feet of office space
- 69,680 square feet of retail space.

The potential off-site traffic impacts of the project are analyzed under existing and cumulative conditions. Impacts to transit, bicycle, and pedestrian circulation are also evaluated. Access to the project site is analyzed for all modes of travel. Temporary impacts during project construction are also evaluated.

The cumulative impacts on roadway segments, freeway segments, transit, bicycle facilities, and pedestrian circulation from development associated with the 2030 General Plan were identified and analyzed in the Master EIR, and this study reviews such issues on a project-specific basis only. Project impacts on intersections were included in the traffic study to determine the conformity of the project with the Mobility Element of the 2030 General Plan and to confirm that no substantial new or additional information shows that the impacts on the roadway system are more significant than as described in the Master EIR. The proposed project qualifies as a Transit Priority Project (TPP) under Senate Bill (SB) 375. TPPs may be reviewed through a Sustainable Communities Environmental Assessment (SCEA), which eliminates the need for certain environmental reviews including analysis of the regional transportation network. Therefore, effects on the regional transportation system (such as the freeway system) were not reviewed in this analysis.

PROJECT DESCRIPTION

As illustrated in Figure 1, the project is located on three City half-blocks along R Street between 16th Street and 18th Street.

- Block 1, located on the south side of R Street between 16th and 17th Streets, would involve the reuse of the historic Crystal Ice Cold Storage buildings located on the block. Block 1 would include 38,360 square feet of retail space, and 49,313 square feet of office.
- Block 2, located on the south side of R Street between 17th and 18th Streets, would involve the demolition of existing buildings on the block and construction of 148 residential units and 15,400 square feet of retail space.

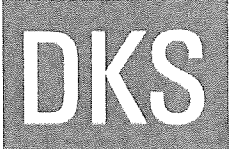
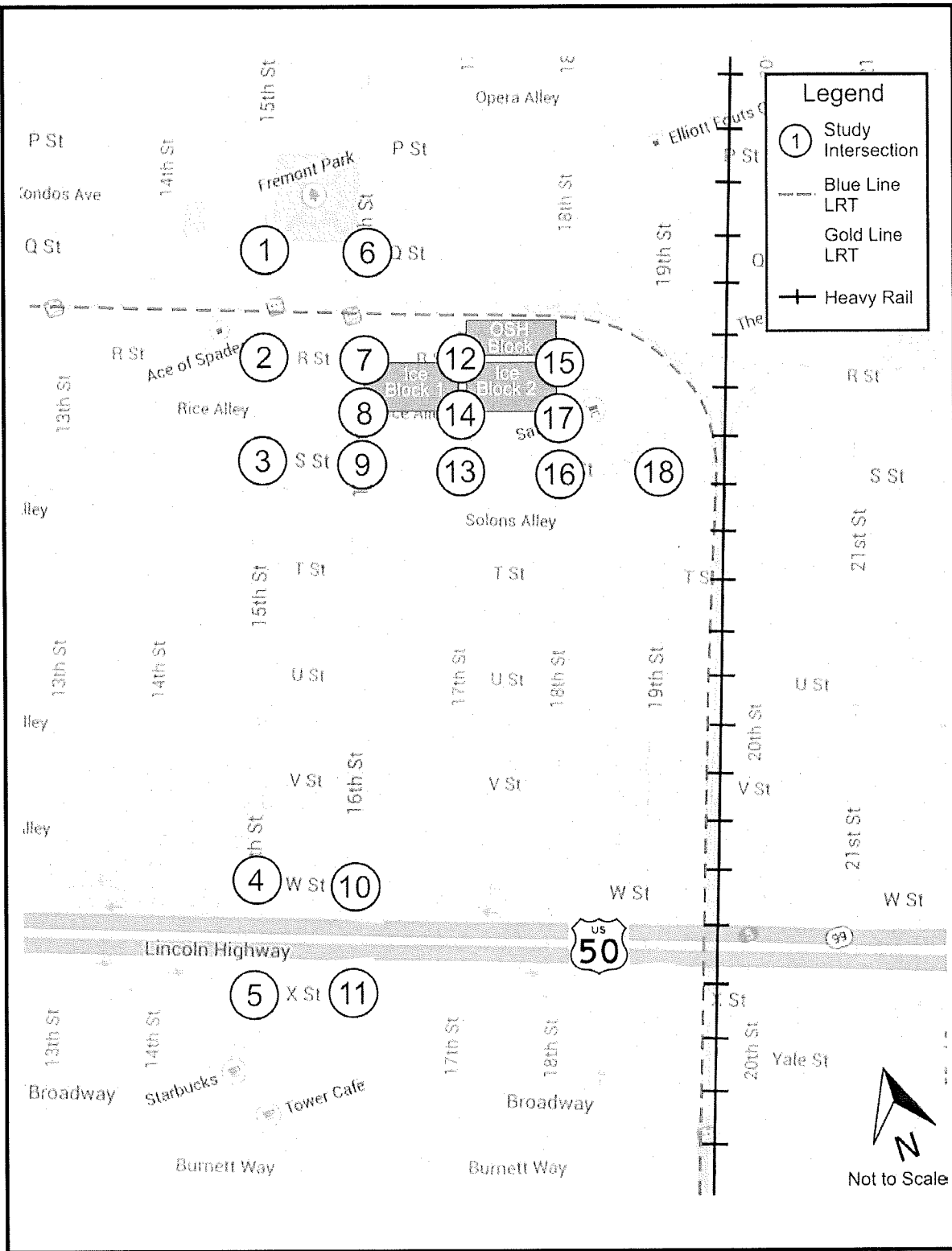


Figure 1
Project Location

- The OSH Block, located on the north side of R Street between 17th and 18th Streets, would involve the demolition of existing buildings on the site and the construction of 60 residential units, 15,920 square feet of retail space, and 5,540 square feet of office space.

Figure 2 illustrates the site plans. Block 1 would include parking along Rice Alley. Block 2 would include on-site parking, with access from Rice Alley. The OSH Block would include on-site parking with access from R Street.

STUDY AREA

For traffic analysis purposes, a set of intersections was selected based upon the anticipated volume of project traffic, the distributional patterns of project traffic, and known locations of operational difficulty. The following locations, shown in Figure 1, were identified:

- Intersections
 1. 15th and Q Streets (signalized)
 2. 15th and R Streets (unsignalized)
 3. 15th and S Streets (signalized)
 4. 15th and W Streets (signalized)
 5. 15th and X Streets (signalized)
 6. 16th and Q Streets (signalized)
 7. 16th and R Streets (unsignalized)
 8. 16th Street and Rice Alley (unsignalized)
 9. 16th and S Streets (signalized)
 10. 16th and W Streets (signalized)
 11. 16th and X Streets (signalized)
 12. 17th and R Streets (unsignalized)
 13. 17th and S Streets (unsignalized)
 14. 17th Street and Rice Alley (unsignalized)
 15. 18th and R Streets (unsignalized)
 16. 18th and S Streets (unsignalized)
 17. 18th Street and Rice Alley (unsignalized)
 18. 19th and S Streets (signalized)

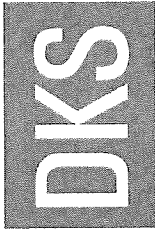
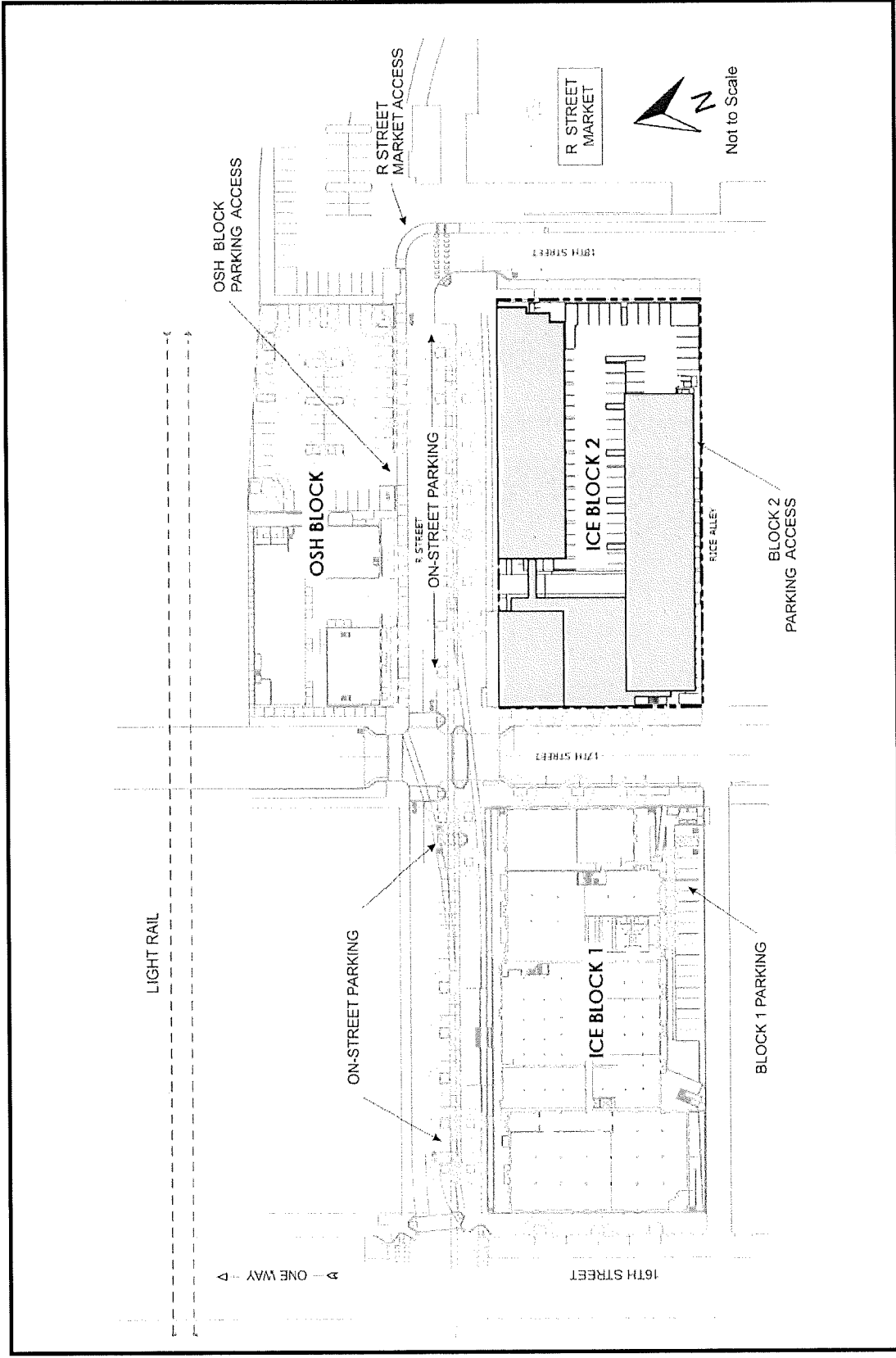


Figure 2
Site Plans – Block 1, Block 2, and OSH Block

ENVIRONMENTAL SETTING

The existing roadway, transit, bicycle, and pedestrian transportation systems within the study area are described below. Figure 1 illustrates the roadway system near the project site.

ROADWAY SYSTEM - REGIONAL ACCESS

Regional automobile access to the site is provided by the freeway system. U.S. Highway 50 (US 50) is an east-west freeway that extends from the Interstate 80 (I-80) junction in West Sacramento to Canal Street in the City of Placerville, where it continues as a highway across the Sierra Nevada to South Lake Tahoe and Nevada.

In the vicinity of the project, US 50 is an eight-lane freeway. Primary access to US 50 is via a split diamond interchange with 15th Street / 16th Street about 0.4 miles south of the site. To the west, US 50 provides access to I-5, West Sacramento, and I-80. To the east, US 50 provides access to SR 99, eastern Sacramento County, the cities of Rancho Cordova and Folsom, and El Dorado County.

ROADWAY SYSTEM - LOCAL ACCESS

Primary access to the site is provided via 16th Street, 17 Street, 18th Street, R Street, and Rice Alley.

15th Street and **16th Street** are north-south arterial streets in the Central City of Sacramento that form a one-way couplet. 15th Street is southbound, while 16th Street is northbound. The couplet extends from D Street to the north to Broadway to the south. South of Broadway, 16th Street becomes Land Park Drive, and extends as a two-way facility through South Sacramento. North of the Central City, 16th Street becomes North 16th Street and extends as a one-way facility into the Richards Area. At Richards Boulevard just south of the American River, North 16th Street and North 12th Street join to form the North Sacramento Freeway (SR 160).

Both 15th and 16th Streets are approximately 48 feet wide. Each street accommodates parking along each curb and three through travel lanes.

17th Street is a local two-way north-south street in the Central City of Sacramento. 17th Street is continuous from F Street to the north to W Street to the south. The street accommodates parking along both curbs, and one through travel lane in each direction.

18th Street is a local two-way north-south street in the Central City of Sacramento. Adjacent to the project site, 18th Street begins at R Street and continues southerly south of US 50 into the Land Park neighborhood. The street accommodates parking along both curbs, bike lanes on each side, and one through travel lane in each direction.

19th Street and **21st Street** are north-south arterial streets in the Central City of Sacramento that form a one-way couplet. 19th Street is southbound, while 21st Street is northbound. The couplet extends from I Street to the north to W Street to the south. South of Broadway, 19th Street

continues as Freeport Boulevard. Near the site, each street accommodates parking along each curb, bike lanes on each side, and two through travel lanes.

P Street and **Q Street** are east-west arterial streets in the Central City of Sacramento that form a one-way couplet. P Street is westbound, while Q Street is eastbound. The couplet extends from I-5 to the west to Alhambra Boulevard to the east.

Both P and Q Streets are approximately 48 feet wide. West of 15th Street, each street accommodates parking along each curb and three through travel lanes. East of 15th Street, each street accommodates parking along each curb, bike lanes on each side, and two through travel lanes.

R Street is a local two-way east-west street in the Central City of Sacramento. Adjacent to the project site, R Street begins at 18th Street and continues westerly to 2nd Street. Originally an industrial street with freight rail tracks that served manufacturing and warehouse uses, R Street has been upgraded over time to serve the changing land use in the corridor.

R Street between 16th and 18th Streets is currently being reconstructed to include new pavement, one travel lane in each direction, sidewalks, curb ramps, trees, street lighting, and upgrades to the storm drainage system.¹ As illustrated in Figure 2, the street will include perpendicular parking along the south curb adjacent to Blocks 1 and 2 of the project.

Rice Alley is a two-way, east-west alleyway serving adjacent properties. It is located south of R Street and north of S Street. Adjacent to the project site, it extends from 16th to 18th Streets.

S Street is a local two-way east-west street in the Central City of Sacramento. It extends from 2nd Street to the west to 34th Street to the east. The street accommodates parking along both curbs, one through lane in each direction, and a two-way-left-turn-lane.

PEDESTRIAN SYSTEM

Throughout the Central City, sidewalks are provided on both sides of most streets.

The City of Sacramento recently approved the R Street Streetscape Improvement Project to improve the R Street Corridor between 16th and 18th Streets. With the completion of the R Street Improvement Project, continuous sidewalks will be provided along the 16th Street, 17th Street, 18th Street, and R Street frontages of the project site. These pedestrian improvements will facilitate access to destinations throughout the Central City, including transit access. The improvements will provide uninterrupted pedestrian paths from the project to the 16th Street Light Rail Station, via new sidewalks and crosswalks.

The R Street Streetscape Improvement Project includes:

¹ "R Street between 16th and 18th Streets getting a makeover", Press Release, City of Sacramento Department of Public Works, November 10, 2014.

- New sidewalks on both the north and south sides of R Street from 16th Street to 18th Street.
- New marked crosswalks at the R Street intersections with 16th Street, 17th Street, and 18th Street.
- All-way stop control at the intersection of R Street and 17th Street.

BICYCLE SYSTEM

The City's Bikeway Master Plan is intended to create and maintain a safe, comprehensive, and integrated bicycle system and support facilities throughout the City. Figure 3 illustrates existing and bikeways in the vicinity of the site. Existing bikeways include:

- P Street and Q Street east of 15th Street
- 18th Street
- 19th and 21st Streets

TRANSIT SYSTEM

The Sacramento Regional Transit District (RT) operates 67 bus routes and 38.6 miles of light rail covering a 418 square-mile service area. Buses and light rail run 365 days a year using 76 light rail vehicles, 182 buses (with an additional 30 buses in reserve) powered by compressed natural gas (CNG) and 11 shuttle vans. Buses operate daily from 5 a.m. to 11 p.m. every 12 to 75 minutes, depending on the route. Light rail trains begin operation at 4 a.m. with service every 15 minutes during the day and every 30 minutes in the evening and on weekends. Blue Line and Gold Line trains operate until 12:30 a.m. and the Gold Line to Folsom operates until 7 p.m. Green Line trains operate every 30 minutes Monday through Friday.

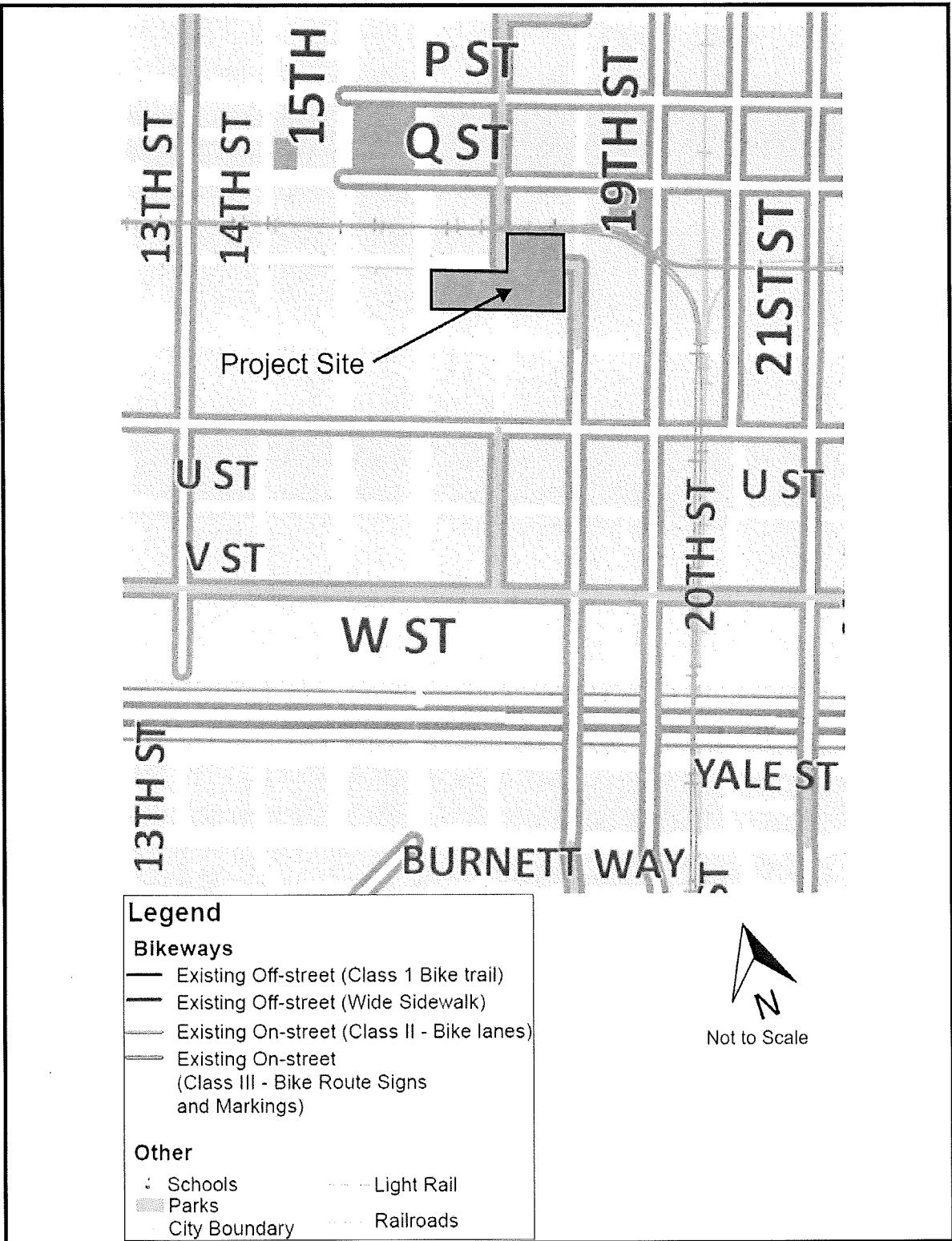
Passenger amenities include 50 light rail stops or stations, 31 bus and light rail transfer centers and 18 park-and-ride lots. RT also serves over 3,300 bus stops throughout Sacramento County.²

Figure 4 illustrates Regional Transit routes in the Central City. The proposed project is well served by transit, as it is located less than one block from the 16th Street Light Rail Station. Access to both Gold Line and Blue Line trains are available at this station. The Gold Line extends from Folsom to the Sacramento Valley Station in Downtown. The Blue Line extends from Meadowview through Downtown to the Watt / I-80 station. Also, Regional Transit Bus Route 6 (Land Park) operates on 15th and 16th Streets from the Pocket Area through Land Park to Downtown.

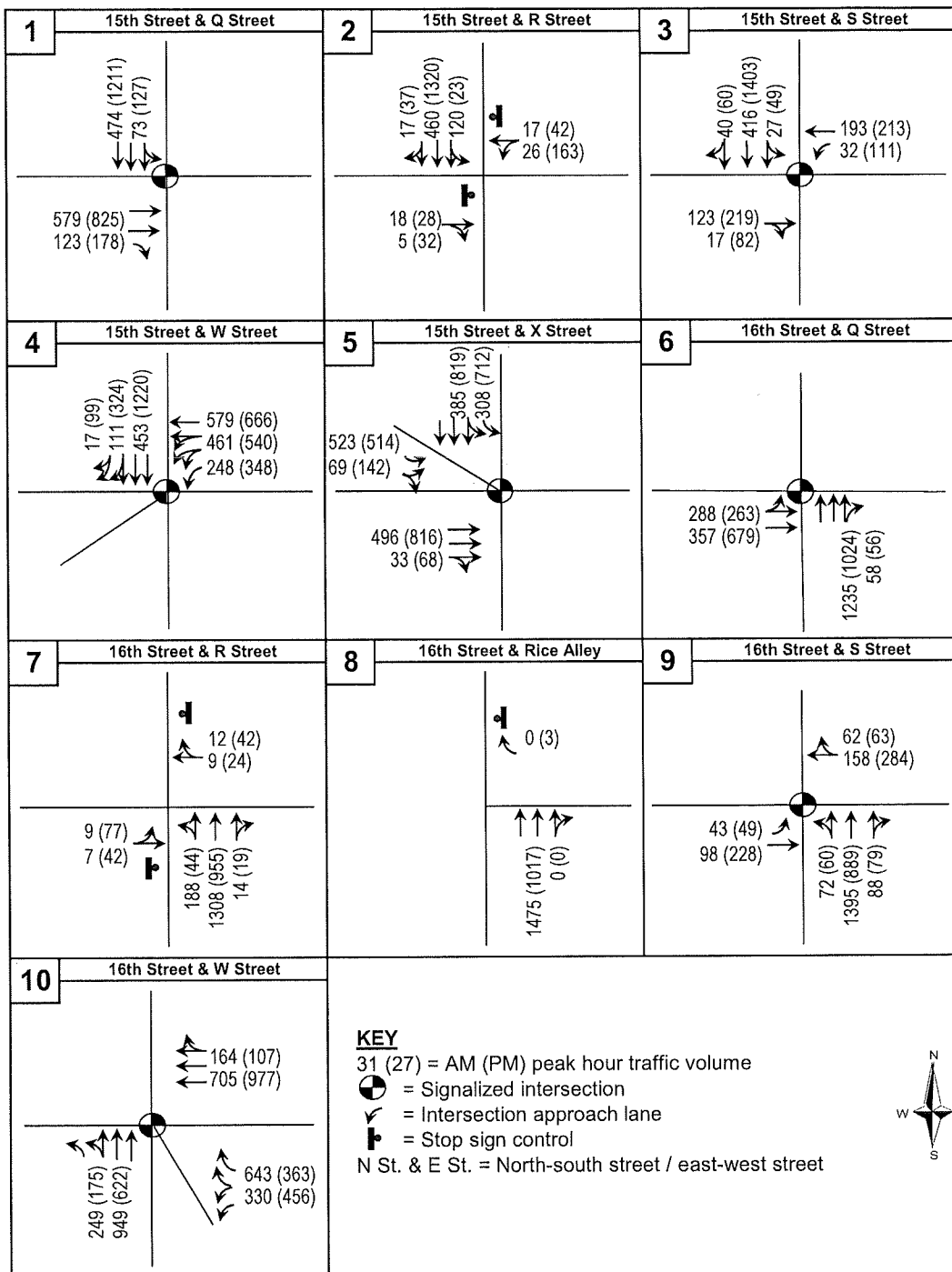
EXISTING INTERSECTION GEOMETRY

Existing intersection geometry (number of approach lanes and traffic control) is illustrated in Figure 5.

² www.sacrt.com, accessed January 13, 2015.

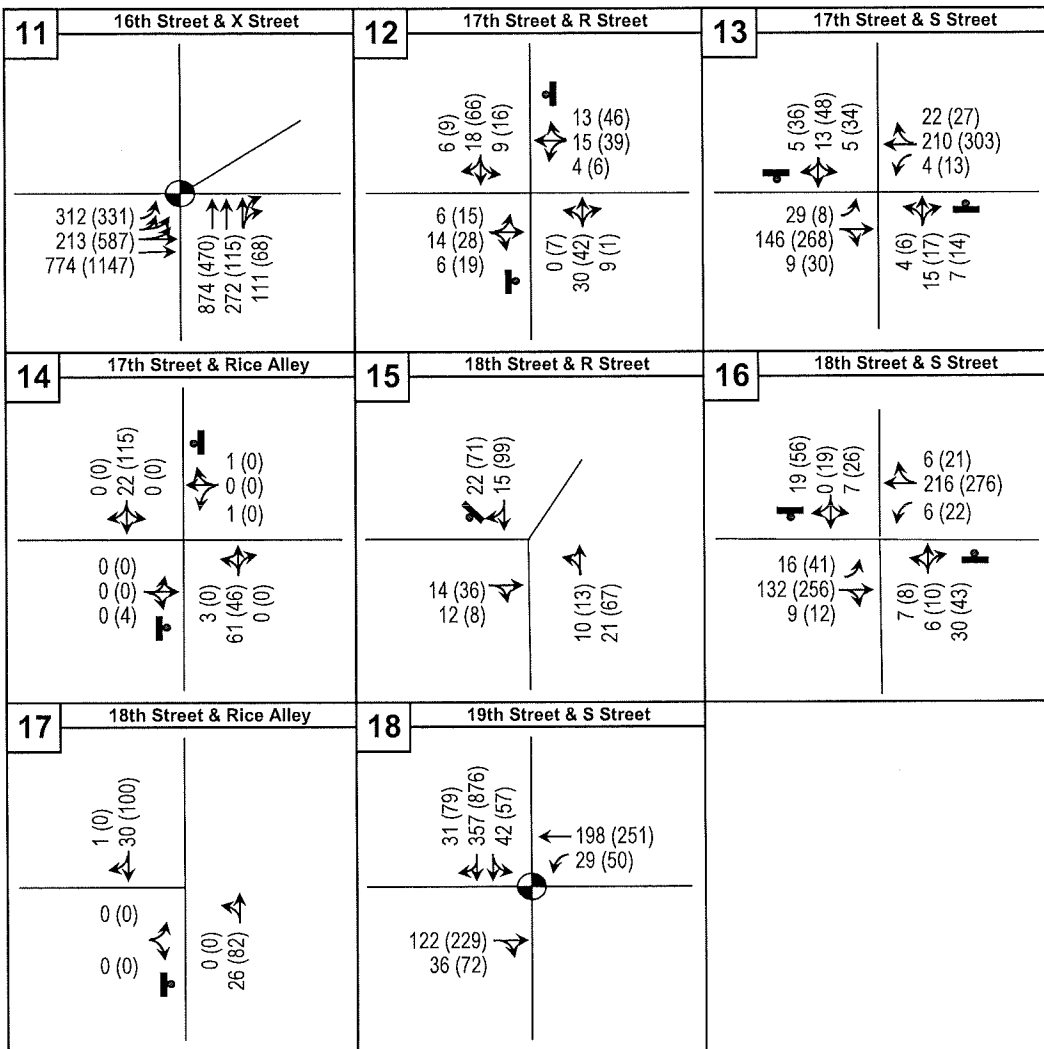


**Figure 3
Bikeways**



The Ice Blocks

Figure 5 - Sheet 1 of 2
**EXISTING PEAK HOUR TRAFFIC VOLUMES,
 LANES, AND TRAFFIC CONTROLS**



KEY

31 (27) = AM (PM) peak hour traffic volume

= Signalized intersection

= Intersection approach lane

= Stop sign control

N St. & E St. = North-south street / east-west street

The Ice Blocks

**Figure 5 - Sheet 2 of 2
EXISTING PEAK HOUR TRAFFIC VOLUMES,
LANES, AND TRAFFIC CONTROLS**

EXISTING TRAFFIC VOLUMES

Intersection turning movement counts were collected to coincide with the a.m. and p.m. peak time periods of commuter traffic. Counts at intersections 4, 5, 10, and 11 were collected on Wednesday, September 17, 2014. Counts at the other intersections were collected on Wednesday, October 15, 2014. All counts were collected before the R Street reconstruction between 16th and 18th Streets commenced. The a.m. peak hour varied from 7:30 to 8:30 a.m. to 8:00 to 9:00 a.m. The p.m. peak hour varied from 4:15 to 5:15 p.m. to 5:00 to 6:00 p.m. The peak hour at each individual intersection is utilized in the traffic analysis.

The peak hour volumes are shown on Figure 5. Detailed intersection traffic count data is contained in the appendix.

REGULATORY SETTING

Roadway operations are regulated by agencies with jurisdiction of the particular roadway. Study area roadways are under the jurisdiction of the City of Sacramento and Caltrans.

METHODOLOGY

Field reconnaissance was undertaken to ascertain the traffic control characteristics of each of the study area intersections and roadway segments. Determination of roadway operating conditions is based upon comparison of known or projected traffic volumes during peak hours to roadway capacity.

In an urban setting, roadway capacity is generally governed by intersection characteristics, and intersection delay is used to determine “levels of service.” Levels of service describe roadway operating conditions. Level of service is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, delay, and operating costs. Levels of service are designated A through F from best to worst, which cover the entire range of traffic operations that might occur. Levels of Service (LOS) A through E generally represent traffic volumes at less than roadway capacity, while LOS F represents over capacity and / or forced flow conditions.

City of Sacramento

The Mobility Element of the City of Sacramento 2030 General Plan outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The City of Sacramento has the following level of service policy relevant to this study:

Policy M 1.2.2 **LOS Standard.** *The City shall allow for flexible Level of Service (LOS) standards, which will permit increased densities and mix of uses to increase transit ridership, biking, and walking, which decreases auto travel, thereby reducing air pollution, energy consumption, and greenhouse gas emissions.*

- a. **Core Area Level of Service Exemption** – LOS F conditions are acceptable during peak hours in the Core Area bounded by C Street, the Sacramento River, 30th Street, and X Street. If a Traffic Study is prepared and identifies a LOS impact that would otherwise be considered significant to a roadway or intersection that is in the Core Area as described above, the project would not be required in that particular instance to widen roadways in order for the City to find project conformance with the General Plan. Instead, General Plan conformance could still be found if the project provides improvements to other parts of the citywide transportation system in order to improve transportation-system-wide roadway capacity, to make intersection improvements, or to enhance non-auto travel modes in furtherance of the General Plan goals. The improvements would be required within the project site vicinity or within the area affected by the project's vehicular traffic impacts. With the provision of such other transportation infrastructure improvements, the project would not be required to provide any mitigation for vehicular traffic impacts to road segments in order to conform to the General Plan. This exemption does not affect the implementation of previously approved roadway and intersection improvements identified for the Railyards or River District planning areas.
- b. **Level of Service Standard for Multi-Modal Districts** – The City shall seek to maintain the following standards in the Central Business District, in areas within ½ mile walking distance of light rail stations, and in areas designated for urban scale development (Urban Centers, Urban Corridors, and Urban Neighborhoods as designated in the Land Use and Urban Form Diagram). These areas are characterized by frequent transit service, enhanced pedestrian and bicycle systems, a mix of uses, and higher density development.
- Maintain operations on all roadways and intersections at LOS A-E at all times, including peak travel times, unless maintaining this LOS would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. LOS F conditions may be acceptable, provided that provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project.
- c. **Base Level of Service Standard** – the City shall seek to maintain the following standards for all areas outside of multi-modal districts.
- Maintain operations on all roadways and intersections at LOS A-D at all times, including peak travel times, unless maintaining this LOS would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. LOS E or F conditions may be accepted, provided that provisions are made to improve the overall system and/or promote non-vehicular transportation as part of a development project or a City-initiated project.

d. **Roadways Exempt from Level of Service Standard** – The above LOS standards shall apply to all roads, intersections, or interchanges within the City except as specified below. If a Traffic Study is prepared and identifies a significant LOS impact to a roadway or intersection that is located within one of the roadway corridors described below, the project would not be required in that particular instance to widen roadways in order for the City to find project conformance with the General Plan. Instead, General Plan conformance could still be found if the project provides improvements to other parts of the city wide transportation system in order to improve transportation-system-wide roadway capacity, to make intersection improvements, or to enhance non-auto travel modes in furtherance of the General Plan goals. The improvements would be required within the project site vicinity or within the area affected by the project's vehicular traffic impacts. With the provision of such other transportation infrastructure improvements, the project would not be required to provide any mitigation for vehicular traffic impacts to the listed road segment in order to conform to the General Plan.

- 12th/14th Avenue: State Route 99 to 36th Street
- 24th Street: Meadowview Road to Delta Shores Circle
- 65th Street: Folsom Boulevard to 14th Avenue
- Alhambra Boulevard: Folsom Boulevard to P Street
- Arcade Boulevard: Marysville Boulevard to Del Paso Boulevard
- Arden Way: Capital City Freeway to Ethan Way
- Blair Avenue/47th Avenue: S. Land Park Drive to Freeport Boulevard
- Broadway: 15th Street to Franklin Boulevard
- Broadway: 58th to 65th Streets
- El Camino Avenue: Stonecreek Drive to Marysville Boulevard
- El Camino Avenue: Capitol City Freeway to Howe Avenue
- Elder Creek Road: 65th Street to Power Inn Road
- Florin Perkins Road: 14th Avenue to Elder Creek Road
- Florin Road: Greenhaven Drive to I-5; 24th Street to Franklin Boulevard
- Folsom Boulevard: 34th Street to Watt Avenue
- Freeport Boulevard: Broadway to Seamas Avenue
- Fruitridge Road: Franklin Boulevard to SR 99
- Garden Highway: Truxel Road to Northgate Boulevard
- Howe Avenue: American River Drive to Folsom Boulevard
- J Street: 43rd Street to 56th Street
- Mack Road: Meadowview Road to Stockton Boulevard
- Martin Luther King Boulevard: Broadway to 12th Avenue
- Marysville Boulevard: I-80 to Arcade Boulevard
- Northgate Boulevard: Del Paso Road to SR 160
- Raley Boulevard: Bell Avenue to I-80
- Roseville Road: Marconi Avenue to I-80
- Royal Oaks Drive: SR 160 to Arden Way
- Truxel Road: I-80 to Gateway Park

e. *Modify LOS Policies for Five Special Study Segments - The City shall exempt the following five special study segments, in the event that the Street Classification diagram is modified to reduce the number of lanes on those segments from four lanes to two lanes.*

- *24th Street: Meadowview Road to Cosumnes River Boulevard*
- *Capitol Mall: 3rd Street to 5th Street*
- *Folsom Boulevard: 34th Street to 47th Street and 59th Street to 65th Street*
- *Garden Highway: Truxel Road to Northgate Boulevard*
- *J Street: 43rd Street to 56th Street³*

All of the study area intersections are located within the Core Area, where LOS F conditions are acceptable in the peak hours.

2035 General Plan Update

On February 10, the City Council will conduct a public hearing to consider adoption of the proposed Sacramento 2035 General Plan and associated Final MEIR

The current traffic LOS standard typically requires mitigation that results in increases in road size inconsistent with urban land uses. In infill areas, wider roads may not be appropriate or desirable. Wider roads increase capital costs and costs of operations and maintenance (O&M).

The 2035 General Plan includes a policy shift that would maximize the efficiency of the roadway network for all transportation modes while minimizing potential negative impacts. These objectives would be balanced by maintaining citywide traffic expectations at LOS D while identifying areas and streets where other community values are more important than maximizing traffic flow. These new areas include Priority Investment Areas, where transit use, walking and biking are prioritized and where there is not sufficient space to widen roadways. Additionally, streets projected to have LOS E or F by 2035 will not be required to operate at LOS D.

Intersection Analysis

Intersection analyses were conducted using a methodology outlined in the Transportation Research Board's *Highway Capacity Manual 2000*. The methodology utilized is known as "operational analysis." This procedure calculates an average control delay per vehicle at an intersection, and assigns a level of service designation based upon the delay. Table 1 presents the level of service criteria for signalized and unsignalized intersections.

RESULTS OF EXISTING CONDITIONS ANALYSIS

Intersection operations were evaluated for weekday a.m. and p.m. commuter peak hours.

³ Sacramento 2030 General Plan, Master Environmental Impact Report, Certified March 3, 2009.

TABLE 1 INTERSECTION LEVEL OF SERVICE CRITERIA		
Level of Service (LOS)	Total Delay Per Vehicle (seconds)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Source: Highway Capacity Manual 2000, Transportation Research Board.

Intersection Operations

Table 2 summarizes the existing peak hour operating conditions at the study area intersections. At unsignalized intersections, the average intersection level of service is utilized to determine conformity with the City's goal. Individual movements may operate at worse levels of service. All of the intersections operate at LOS C or better.

TABLE 2 EXISTING INTERSECTION OPERATING CONDITIONS				
Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)
1. 15th and Q Streets (signalized)	A	8.5	B	12.0
2. 15th and R Streets (unsignalized)	A	2.9	A	2.6
- Eastbound	C	15.0	B	14.8
- Westbound	B	15.0	C	15.6
3. 15th and S Streets (signalized)	A	7.4	A	8.5
4. 15th and W Streets (signalized)	B	10.2	B	17.0
5. 15th and W Streets (signalized)	C	21.8	C	26.4
6. 16th and Q Streets (signalized)	A	3.7	A	6.2

**TABLE 2
EXISTING INTERSECTION OPERATING CONDITIONS**

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)
7. 16th and R Streets (unsignalized)	A	1.5	A	2.3
- Eastbound	C	16.6	B	13.8
- Westbound	C	15.9	B	12.1
8. 16th Street and Rice Alley (unsignalized)	A	0.0	A	0.0
- Westbound	A	0.0	A	8.8
9. 16th and S Streets (signalized)	B	13.1	B	10.9
10. 16th and W Streets (signalized)	C	20.2	C	24.7
11. 16th and X Streets (signalized)	A	8.5	B	18.2
12. 17th and R Streets (unsignalized)	A	4.6	A	5.7
- Northbound Left	A	0.0	A	1.1
- Southbound Left	A	2.0	A	1.4
- Eastbound	A	9.3	B	10.1
- Westbound	A	9.2	A	9.8
13. 17th and S Streets (unsignalized)	A	1.6	A	2.6
- Northbound	B	10.5	B	11.4
- Southbound	B	10.6	B	12.6
- Eastbound Left	A	1.2	A	0.2
- Westbound Left	A	0.1	A	0.3
14. 17th Street and Rice Alley (unsignalized)	A	0.5	A	0.2
- Northbound Left	A	0.4	A	0.0
- Southbound Left	A	0.0	A	0.0
- Eastbound	A	0.0	A	8.9
- Westbound	A	8.8	A	0.0

**TABLE 2
EXISTING INTERSECTION OPERATING CONDITIONS**

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)
15. 18th and R Streets (unsignalized)	A	4.5	A	6.6
- Driveway	A	8.7	A	9.8
- Eastbound Left	A	4.0	A	6.1
16. 18th and S Streets (unsignalized)	A	1.8	A	3.0
- Northbound	A	9.6	B	11.0
- Southbound	A	9.7	B	11.9
- Eastbound Left	A	0.8	A	1.1
- Westbound Left	A	0.2	A	0.5
17. 18th Street and Rice Alley (unsignalized)	A	0.0	A	0.0
- Driveway	A	0.0	A	0.0
- Eastbound Left	A	0.0	A	0.0
18. 19th and S Streets (signalized)	B	17.6	C	32.2

Source: DKS Associates, 2015.

INTRODUCTION TO ANALYSIS

PROJECT LAND USE AND CIRCULATION

Land Use

Project

The Ice Blocks project is proposed as a mixed-use, transit oriented neighborhood in the R Street Corridor in Downtown Sacramento. The project would include residential, retail, and office uses.

As illustrated in Figure 1, the project is located on three City half-blocks along R Street between 16th Street and 18th Street. Block 1, located on the south side of R Street between 16th and 17th Streets, would involve the reuse of the historic Crystal Ice Cold Storage buildings located on the block. Block 1 would include 38,360 square feet of retail space, and 49,313 square feet of office. Block 2, located on the south side of R Street between 17th and 18th Streets, would involve

the demolition of existing buildings on the block and construction of 148 residential units and 15,400 square feet of retail space. The OSH Block, located on the south side of R Street between 17th and 18th Streets, would involve the demolition of existing buildings on the site and the construction of 60 residential units, 15,920 square feet of retail space, and 5,540 square feet of office space.

Access

Figure 2 illustrates the site plans. Block 1 would include parking along Rice Alley. Block 2 would include on-site parking, with access from Rice Alley. The OSH Block would include on-site parking with access from R Street.

Trip Generation

Vehicular trip generation of the project was estimated based upon data from *ITE Trip Generation, Ninth Edition*. As most of the data utilized in ITE Trip Generation has been collected in suburban locations with predominant automobile access, the estimated number of trips was adjusted to reflect walk, bicycle, and transit access in the project's urban setting. SACOG's regional SACSIM travel model was used to predict project mode choice. The SACSIM model also estimated internal trips within the project that would not otherwise utilize the roadway network.

ITE Trip Generation Estimates

Table 3 presents the unadjusted vehicular trip generation for the proposed project based upon the ITE data.

SACSIM Travel Model Mode Choice Information

SACOG's SACSIM Travel Model was utilized to predict mode choice and internal trip information for the project for both existing and cumulative (2035) scenarios. The model results indicate very similar mode choice characteristics in each scenario, reflecting the existing urban environment (and high level of transit service) that currently exists and will continue into the future. Therefore, one set of adjustments was established for both existing and cumulative scenarios. Table 4 presents the mode choice and internal trip information by land use type and time of day. On a daily basis, the resultant trip reductions (compared to an auto-oriented suburban environment) have been established:

- Apartment – 55 percent
- General Office Building – 25 percent
- Shopping Center – 30 percent

Ice Block Vehicular Trip Generation Estimates

Table 5 presents the vehicular trip generation estimates for the Ice Blocks project that reflects the urban environment. Additional information on trip generation is included in the technical appendix.

**TABLE 3
UNADJUSTED ITE VEHICULAR TRIP GENERATION ESTIMATES**

Land Use	ITE Code	Size	Vehicle Trips						
			Daily	A.M. Peak Hour (Adjacent Street Traffic)			P.M. Peak Hour (Adjacent Street Traffic)		
				Entering	Exiting	Total	Entering	Exiting	Total
Apartment	220	208 Units	1,384	21	85	106	86	46	132
General Office Building	710	54,853 Square Feet	832	104	14	118	24	116	140
Shopping Center	820	69,680 Square Feet	5,370	78	47	125	226	244	470
Total			7,586	203	146	349	336	406	742
Source: ITE Trip Generation, Ninth Edition, 2012.									

TABLE 4
ESTIMATED MODE CHOICE AND TRIP INTERNALIZATION

Land Use	Mode	Percentage of Person Trips				
		Daily	A.M. Peak Hour (Adjacent Street Traffic)		P.M. Peak Hour (Adjacent Street Traffic)	
			Entering	Exiting	Entering	Exiting
Apartment	Transit	16%	25%	22%	16%	11%
	Auto	32%	28%	33%	28%	31%
	Bicycle	10%	9%	10%	10%	11%
	Walk / Internal Trips	42%	38%	35%	46%	47%
General Office Building	Transit	10%	13%	12%	9%	11%
	Auto	68%	72%	54%	66%	68%
	Bicycle	2%	3%	5%	2%	2%
	Walk / Internal Trips	20%	12%	29%	23%	19%
Retail Center	Transit	11%	14%	11%	9%	12%
	Auto	62%	64%	56%	60%	60%
	Bicycle	3%	5%	5%	4%	2%
	Walk / Internal Trips	24%	17%	28%	27%	26%

Source: DKS Associates, 2014.

**TABLE 5
ICE BLOCK VEHICULAR TRIP GENERATION ESTIMATES**

Land Use	Size	Vehicle Trips						
		Daily	A.M. Peak Hour (Adjacent Street Traffic)			P.M. Peak Hour (Adjacent Street Traffic)		
			Entering	Exiting	Total	Entering	Exiting	Total
Apartment	208 Units	630	9	40	49	33	18	51
General Office Building	54,853 Square Feet	622	78	9	87	17	86	103
Retail Center	69,680 Square Feet	3,775	54	32	86	159	171	330
Total		5,027	141	81	222	209	275	484

Source: DKS Associates, 2014

Trip Distribution

The distribution of vehicular trips associated with the proposed project was estimated by SACOG's regional SACSIM travel model. Distributions were stratified by land use type (residential, office, retail), time of day (a.m. peak hour, p.m. peak hour), direction of travel (inbound, outbound) and time horizon (existing, cumulative). Figures 6 through 9 present the composite inbound and outbound trip distributions for the existing and cumulative scenarios.

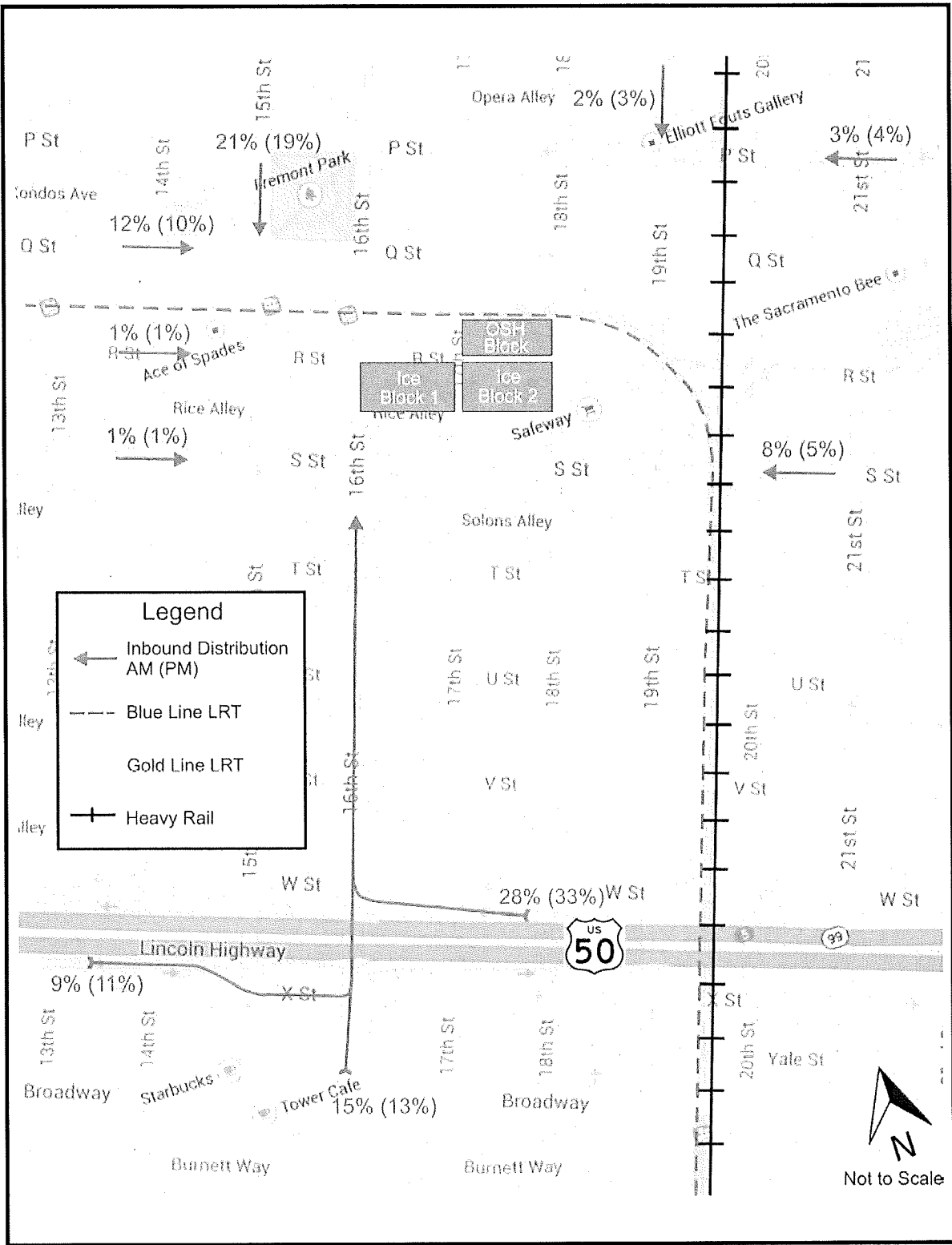


Figure 6
Existing Scenario Inbound Trip Distribution

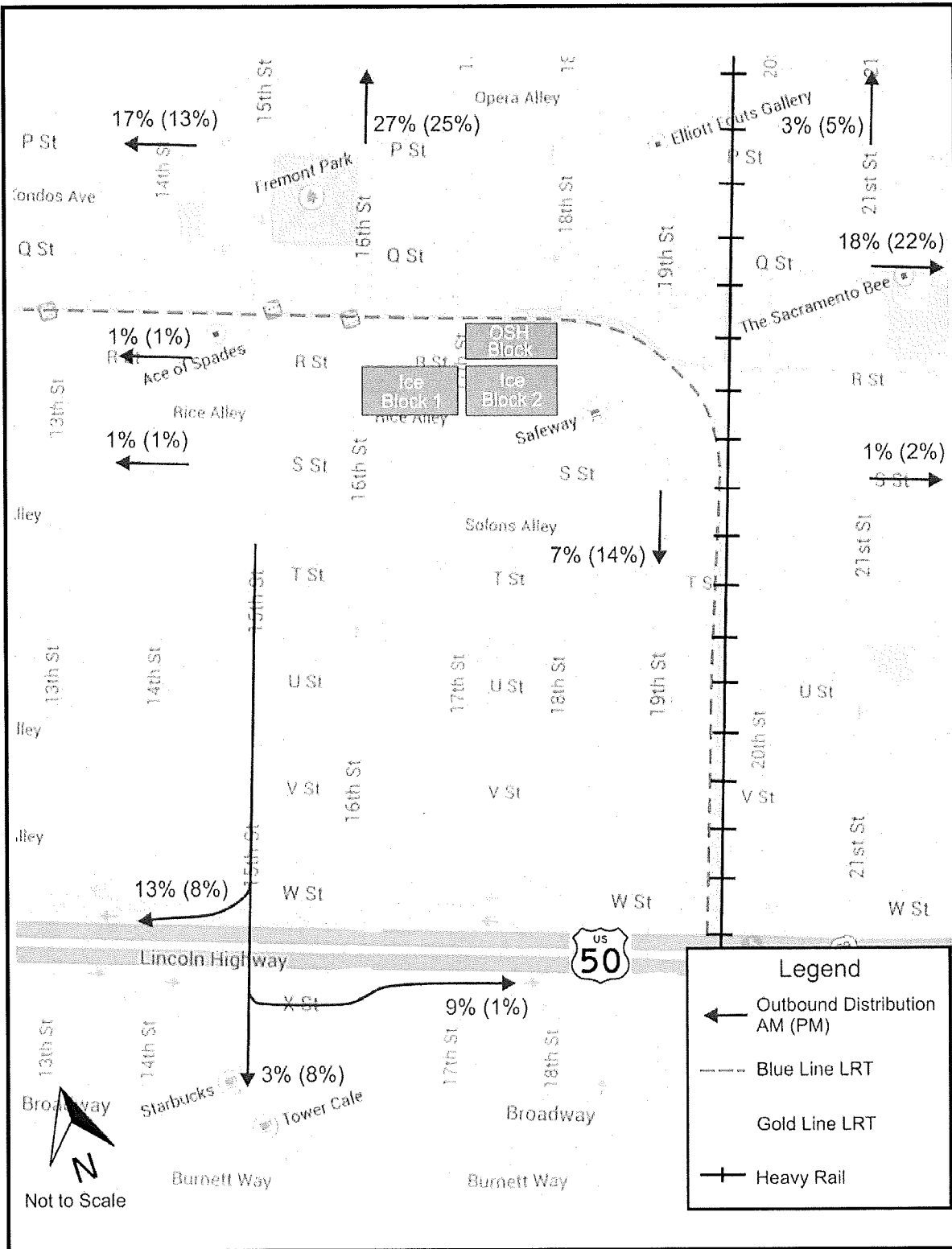


Figure 7
Existing Scenario Outbound Trip Distribution

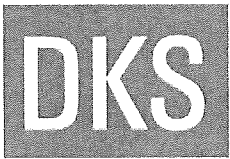
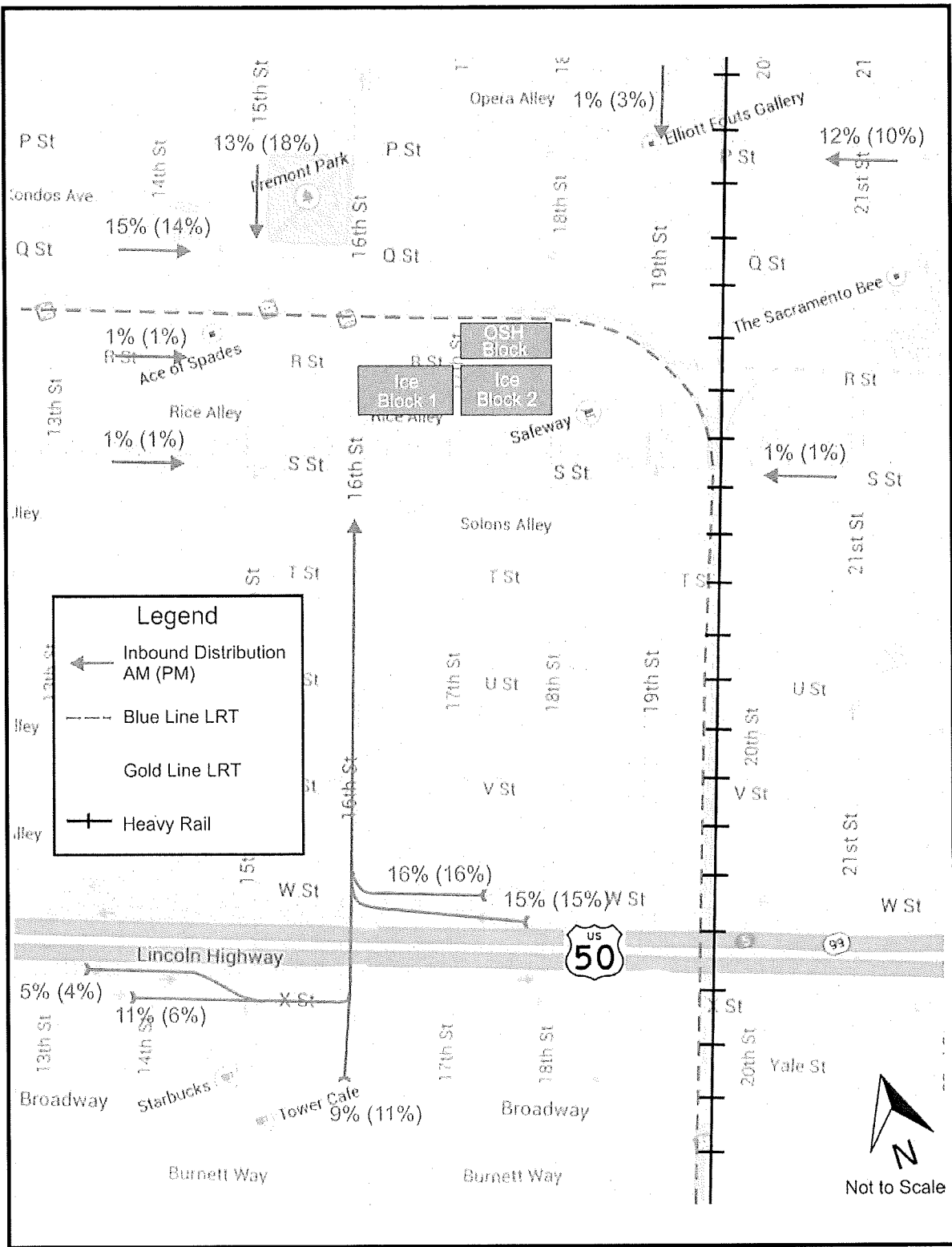


Figure 8
Cumulative Scenario Inbound Trip Distribution

IMPACTS AND MITIGATION

METHOD OF ANALYSIS

Traffic generated by the project was added to existing traffic volumes. In this manner, the traffic and impacts associated with the project can be directly compared to known and measured conditions. Impacts are determined by comparing traffic operating conditions associated with the project scenarios to traffic operating conditions without the project.

For the cumulative scenarios, traffic associated with full development of the project has been added to future year traffic on the roadway system. The future year forecasts were developed through use of the SACSIM model with SACOG's year 2035 projections. The regional travel model encompasses the entire Sacramento region, and forecasts peak hour and daily traffic volumes based upon projections of future land use and transportation networks throughout the region.

Cumulative impacts are determined by comparing the traffic operating conditions associated with the project and alternative with the traffic operating conditions associated with the cumulative (no project) scenario.

THRESHOLDS OF SIGNIFICANCE

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. For purposes of this analysis, an impact is considered significant if implementation of the project would have the effects described below.

The standards of significance in this analysis are based upon current practice of the City of Sacramento. Standards defined in the City's *Traffic Impact Analysis Guidelines* (City of Sacramento, February, 1996) have been used, updated with the adopted LOS policies of the 2030 General Plan.

Intersections

Impacts to the roadway system are considered significant if:

- The traffic generated by the project degrades LOS from acceptable (without the project) to unacceptable (with the project);
- The LOS (without project) is already (or projected to be) unacceptable and project generated traffic increases the average vehicle delay by 5 seconds or more.

As the project is located in the Core Area, LOS F is acceptable.

Transit

Impacts to the transit system are considered significant if the proposed project would:

- Adversely affect public transit operations; or,
- Fail to adequately provide access to transit.

Bicycle Facilities

Impacts to bicycle facilities are considered significant if the proposed project would:

- Adversely affect existing or planned bicycle facilities; or,
- Fail to adequately provide for access by bicycle.

Pedestrian Circulation

Impacts to pedestrian circulation are considered significant if the proposed project would:

- Adversely affect existing or planned pedestrian facilities; or,
- Fail to adequately provide for access by pedestrians.

Construction-Related Traffic Impacts

The project would have a temporarily significant impact during construction if it would:

- Degrade an intersection or roadway to an unacceptable level of service;
- Cause inconveniences to motorists due to prolonged road closures; or,
- Result in increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists.

TRAFFIC VOLUMES

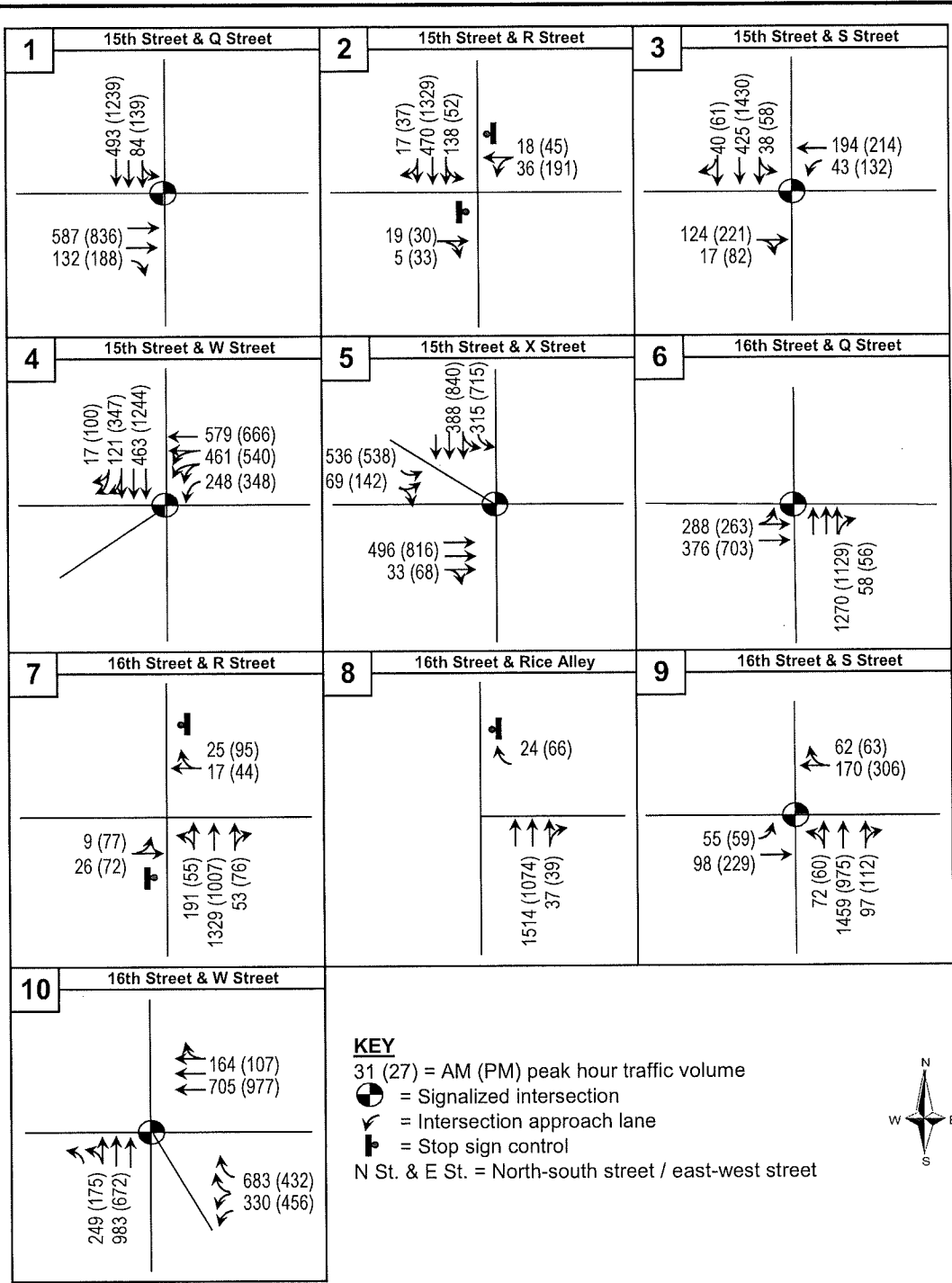
Existing Plus Project

Figure 10 illustrates a.m. and p.m. peak hour traffic volumes associated with the Existing Plus Project scenario.

INTERSECTION GEOMETRY

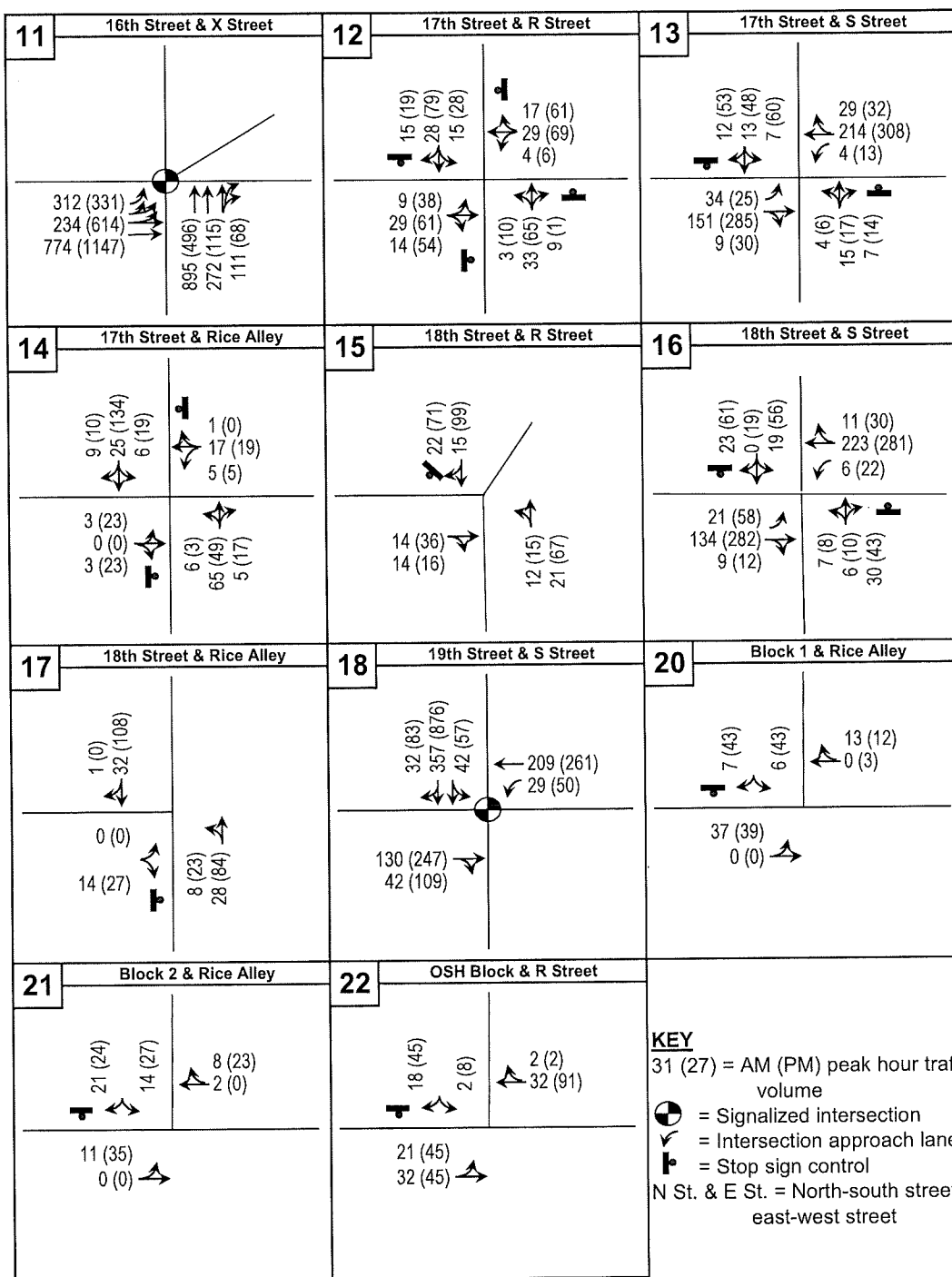
Existing Plus Project

Figure 10 illustrates Existing Plus Project intersection geometry (number of approach lanes and traffic control). As part of the reconstruction of R Street between 16th and 18th Streets, the intersection of 17th and R Streets is converted to all-way stop control. There are no changes to traffic control at the other study area intersections.



The Ice Blocks

Figure 10 - Sheet 1 of 2
 EXISTING PLUS PROJECT PEAK HOUR TRAFFIC
 VOLUMES, LANES, AND TRAFFIC CONTROLS



The Ice Blocks

Figure 10 - Sheet 2 of 2
 EXISTING PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES, LANES, AND TRAFFIC CONTROLS

INTERSECTION OPERATIONS

Existing Plus Project Analysis

Table 6 summarizes peak hour intersection operations for the Existing Plus Project scenario.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES (EXISTING PLUS PROJECT)

Impact 1 **Intersections**

The project would increase traffic volumes at study area intersections. All study area intersections are expected meet the City's level of service goal for the study area. All study area intersections are expected to operate at LOS C or better during the weekday commuter peak hours. The impacts of the project would be *less than significant*.

Mitigation Measure

None required.

Impact 2 **Pedestrian and Bicycle Circulation Impacts**

The project would not remove any existing or planned pedestrian facility. The project would not remove any existing bicycle facility or any facility that is planned in the City of Sacramento Bikeway Master Plan. The project would add pedestrian and bicycle demands within the project site and to and from nearby land uses.

Associated with both the project and the ongoing reconstruction of R Street, there will be continuous sidewalks along the project frontage, and marked crosswalks at many nearby intersections. These sidewalks provide access to major nearby destinations, including the 16th Street light rail station. There are existing bikeways on 17th Street, 18th Street, 19th Street, 21st Street, P Street, and Q Streets near the site providing access to destinations throughout the City. The impacts of the project would be *less than significant*.

Mitigation Measure

None required.

Impact 3 **Transit Impacts**

The project would not adversely affect existing or planned transit operations. Transit access is provided by the Regional Transit light rail system located within one-half block of the project site. The project would add transit demands, which are anticipated to be adequately accommodated by the transit system. The impacts of the project would be *less than significant*.

**TABLE 6
EXISTING PLUS PROJECT INTERSECTION OPERATING CONDITIONS**

Intersection	A.M. Peak Hour				P.M. Peak Hour			
	Existing		Existing Plus Project		Existing		Existing Plus Project	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
1. 15th and Q Streets (signalized)	A	8.5	A	8.6	B	12.0	B	11.4
2. 15th and R Streets (unsignalized)	A	2.9	A	3.3	A	2.6	A	3.3
- Eastbound	C	15.0	C	15.9	B	14.8	C	15.8
- Westbound	B	15.0	C	16.0	C	15.6	C	17.5
3. 15th and S Streets (signalized)	A	7.4	A	7.6	A	8.5	A	8.9
4. 15th and W Streets (signalized)	B	10.2	B	10.3	B	17.0	B	17.8
5. 15th and W Streets (signalized)	C	21.8	C	21.8	C	26.4	C	27.0
6. 16th and Q Streets (signalized)	A	3.7	A	4.0	A	6.2	A	6.9
7. 16th and R Streets (unsignalized)	A	1.5	A	2.0	A	2.3	A	3.7
- Eastbound	C	16.6	C	23.7	B	13.8	C	19.4
- Westbound	C	15.9	C	16.4	B	12.1	B	13.4
8. 16th Street and Rice Alley (unsignalized)	A	0.0	A	0.1	A	0.0	A	0.5
- Westbound	A	0.0	A	9.6	A	8.8	A	9.2
9. 16th and S Streets (signalized)	B	13.1	B	13.6	B	10.9	B	11.3
10. 16th and W Streets (signalized)	C	20.2	C	21.0	C	24.7	C	20.8

TABLE 6

EXISTING PLUS PROJECT INTERSECTION OPERATING CONDITIONS

Intersection	A.M. Peak Hour				P.M. Peak Hour			
	Existing		Existing Plus Project		Existing		Existing Plus Project	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
11. 16th and X Streets (signalized)	A	8.5	A	8.7	B	18.2	B	16.9
12. 17th and R Streets (unsignalized)	A	4.6	A	7.3	A	5.7	A	8.4
- Northbound Left	A	0.0	-	-	A	1.1	-	-
- Southbound Left	A	2.0	-	-	A	1.4	-	-
- Eastbound	A	9.3	-	-	B	10.1	-	-
- Westbound	A	9.2	-	-	A	9.8	-	-
13. 17th and S Streets (unsignalized)	A	1.6	A	1.8	A	2.6	A	3.3
- Northbound	B	10.5	B	10.7	B	11.4	B	11.8
- Southbound	B	10.6	B	10.5	B	12.6	B	13.8
- Eastbound Left	A	1.2	A	1.4	A	0.2	A	0.6
- Westbound Left	A	0.1	A	0.1	A	0.3	A	0.3

TABLE 6

EXISTING PLUS PROJECT INTERSECTION OPERATING CONDITIONS

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	Existing		Existing Plus Project	Existing		Existing Plus Project
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
14. 17th Street and Rice Alley (unsignalized)	A	0.5	A	2.5	A	0.2
- Northbound Left	A	0.4	A	0.6	A	0.0
- Southbound Left	A	0.0	A	1.1	A	0.0
- Eastbound	A	0.0	A	8.9	A	8.9
- Westbound	A	8.8	A	9.7	A	0.0
15. 18th and R Streets (unsignalized)	A	4.5	A	4.3	A	6.6
- Driveway	A	8.7	A	8.7	A	9.8
- Eastbound Left	A	4.0	A	3.7	A	6.1
16. 18th and S Streets (unsignalized)	A	1.8	A	2.1	A	3.0
- Northbound	A	9.6	A	9.7	B	11.0
- Southbound	A	9.7	B	10.1	B	11.9
- Eastbound Left	A	0.8	A	1.0	A	1.1
- Westbound Left	A	0.2	A	0.2	A	0.5

TABLE 6

EXISTING PLUS PROJECT INTERSECTION OPERATING CONDITIONS

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	Existing		Existing Plus Project	Existing		Existing Plus Project
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
17. 18th Street and Rice Alley (unsignalized)	A	0.0	A	2.2	A	0.0
- Driveway	A	0.0	A	1.6	A	0.0
- Eastbound Left	A	0.0	A	8.5	A	0.0
18. 19th and S Streets (signalized)	B	17.6	B	17.6	C	32.2
20. Block 1 and Rice Alley (unsignalized)	-	-	A	6.1	-	-
- Driveway	-	-	A	8.7	-	-
- Eastbound Left	-	-	A	7.3	-	-
21. Block 2 and Rice Alley (unsignalized)	-	-	A	6.8	-	-
- Driveway	-	-	A	8.6	-	-
- Eastbound Left	-	-	A	7.3	-	-
22. OSH Block and R Street (unsignalized)	-	-	A	3.1	-	-
- Driveway	-	-	A	8.6	-	-
- Eastbound Left	-	-	A	3.0	-	-

Source: DKS Associates, 2015.

Mitigation Measure

None required.

Impact 4 **Construction Impacts**

Construction may potentially include disruptions to the transportation network near the site, including the possibility of temporary lane closures, street closures, sidewalk closures, and bikeway closures. Pedestrian, bicycle, and transit access may be disrupted. Heavy vehicles will access the site and may need to be staged for construction. These activities could result in degraded roadway operating conditions

As required by City Code (City Code 12.20.030), the project is required to prepare a construction traffic and parking management plan prior to beginning of construction, to the satisfaction of the City Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained. At a minimum, the plan shall include:

- The number of truck trips, time, and day of street closures.
- Time of day of arrival and departure of trucks.
- Limitations on the size and type of trucks, provision of a staging area with a limitation on the number of trucks that can be waiting.
- Provision of a truck circulation pattern
- Provision of driveway access plan so that save vehicular, pedestrian, and bicycle movements are maintained (e.g., steel plates, minimum distances of open trenches, and private vehicle pick up and drop off areas).
- Maintain safe and efficient access routes for emergency vehicles.
- Manual traffic control when necessary.
- Proper advance warning and posted signage concerning street closures.
- Provisions for pedestrian safety.

A copy of the construction traffic management plan shall be submitted to local emergency response agencies and these agencies shall be notified at least 14 days before the commencement of construction that would partially or fully obstruct roadways. With the implementation of the traffic control plan, the impact of the project would be less than significant.

Mitigation Measure

None required.

CUMULATIVE ANALYSIS

Cumulative

Figure 11 illustrates a.m. peak hour and p.m. peak hour traffic volumes associated with the cumulative (no project) scenario.

Cumulative Plus Project

Figure 12 illustrates a.m. peak hour and p.m. peak hour traffic volumes associated with the cumulative plus project scenario.

Intersection Geometry

Cumulative

Figure 11 illustrates cumulative intersection geometry. Compared to existing conditions, the only change in traffic control is at the intersection of 17th and R Streets, where all-way stop control has been assumed.

Cumulative Plus Project

Figure 12 illustrates cumulative plus project geometry. This geometry is identical to the cumulative geometry, with the exception of the addition of the site elements.

Cumulative Analysis

Intersection Operations

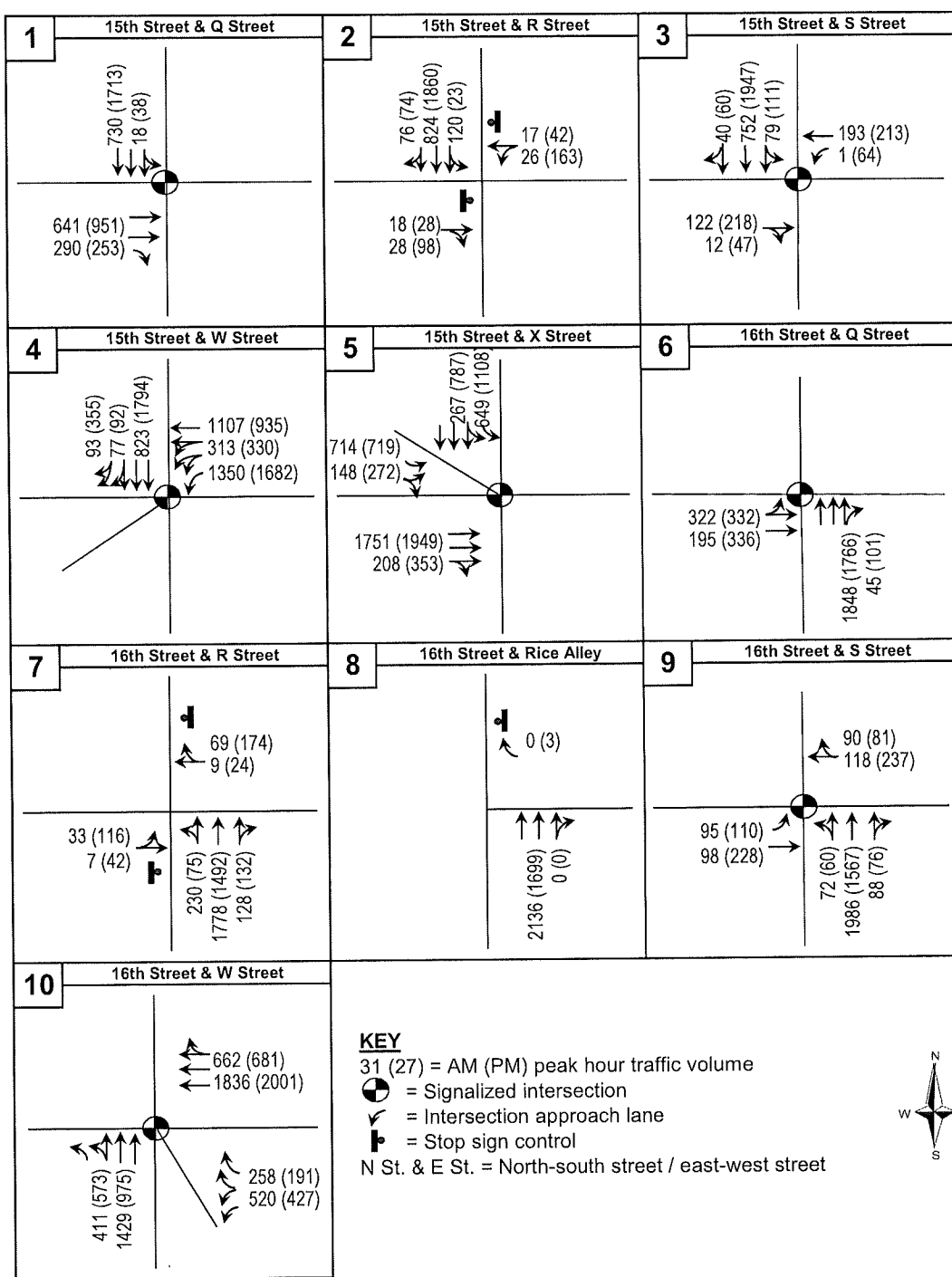
Table 7 summarizes a.m. and p.m. peak hour intersection operations for cumulative scenarios.

CUMULATIVE IMPACTS AND MITIGATION MEASURES (CUMULATIVE PLUS PROJECT)

The cumulative impact analysis focuses on intersection operations. Pedestrian, bicycle, and transit impacts are the same as the impacts associated with the existing plus project scenario.

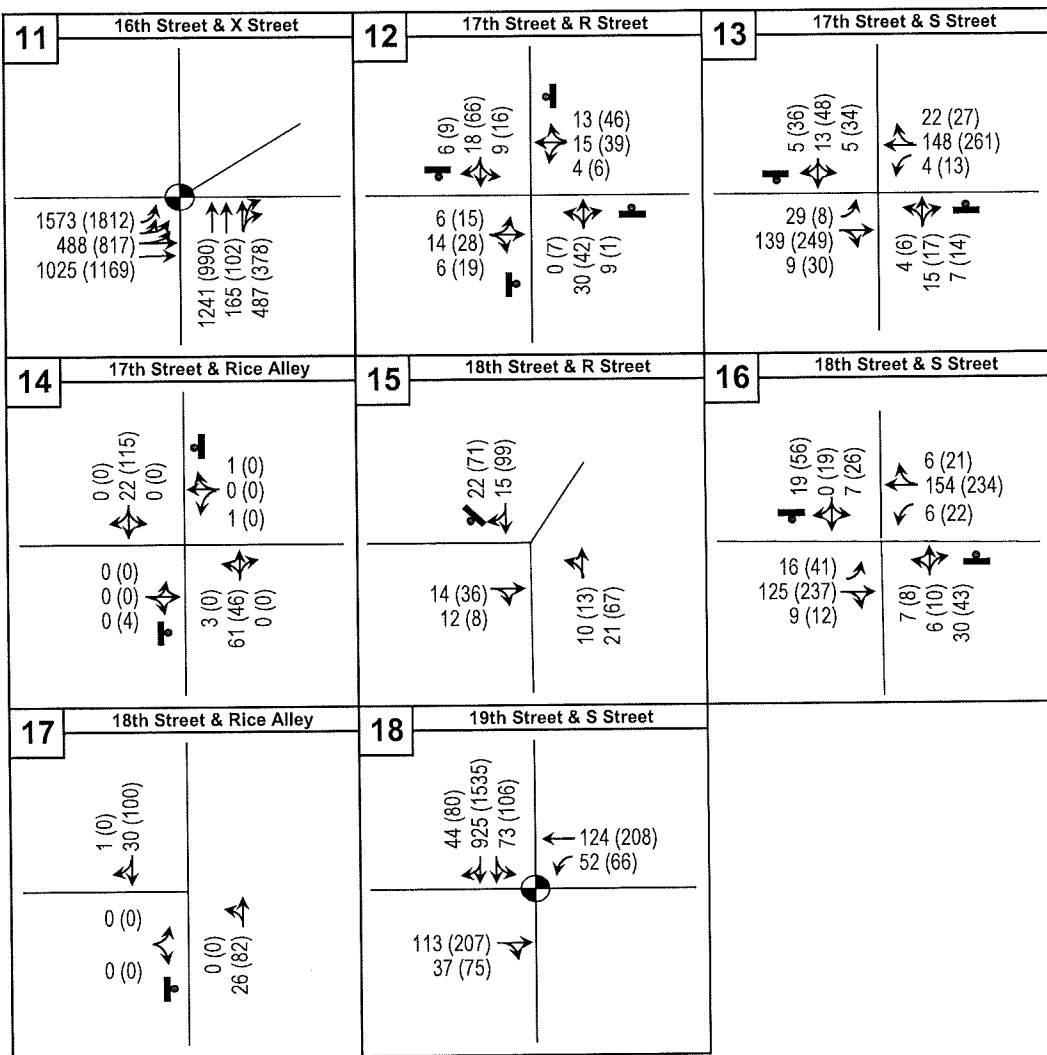
Impact 5 Intersections

The project would increase traffic volumes at study area intersections. While three intersections are anticipated to operate at LOS F with or without the project, the addition of project traffic does not meet the City's threshold of significance for intersection operations. The impacts of the project would be *less than significant*.



The Ice Blocks

Figure 11 - Sheet 1 of 2
 CUMULATIVE PEAK HOUR TRAFFIC VOLUMES,
 LANES, AND TRAFFIC CONTROLS



KEY

31 (27) = AM (PM) peak hour traffic volume

● = Signalized intersection

✓ = Intersection approach lane

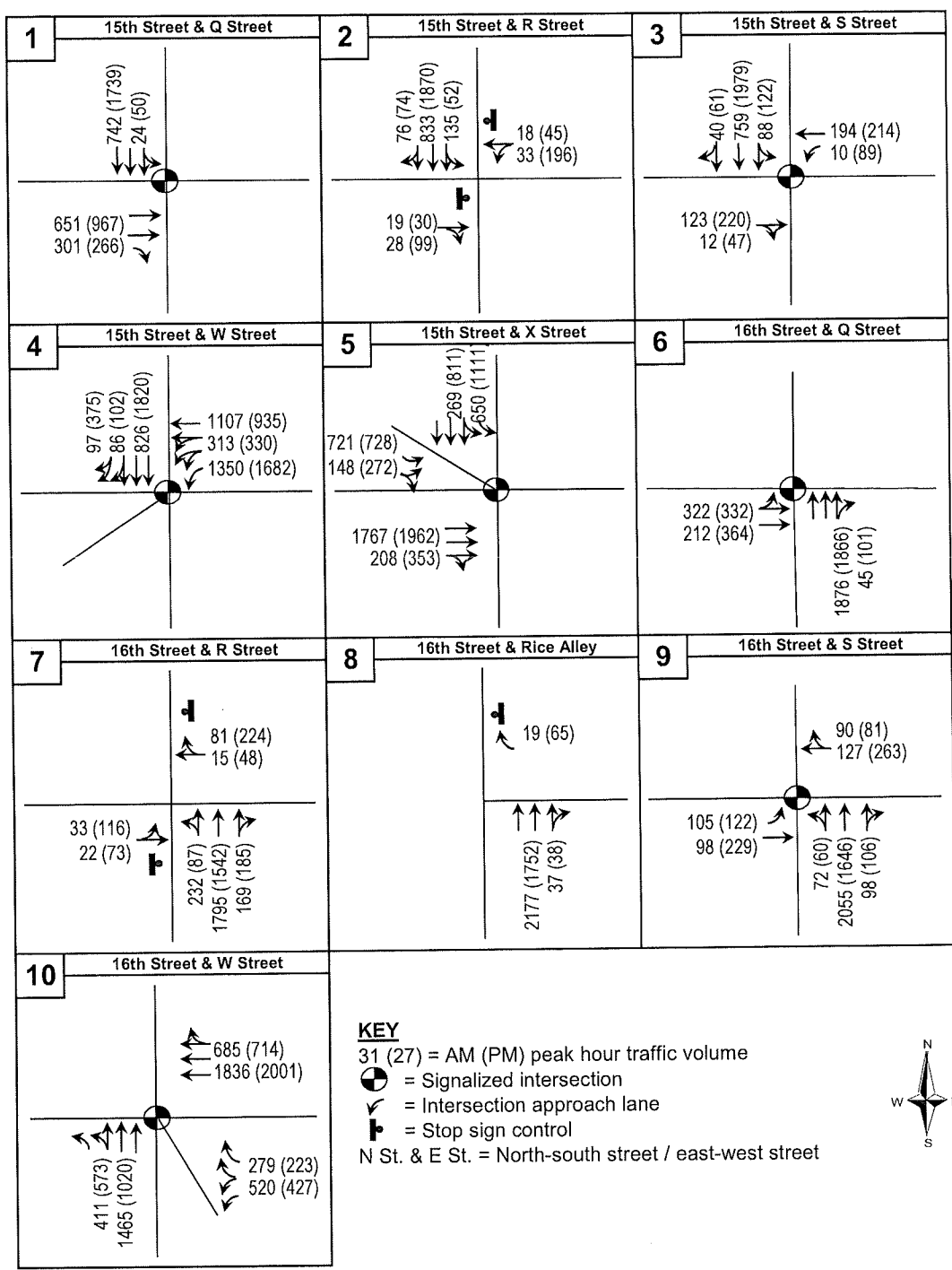
⊥ = Stop sign control

N St. & E St. = North-south street / east-west street



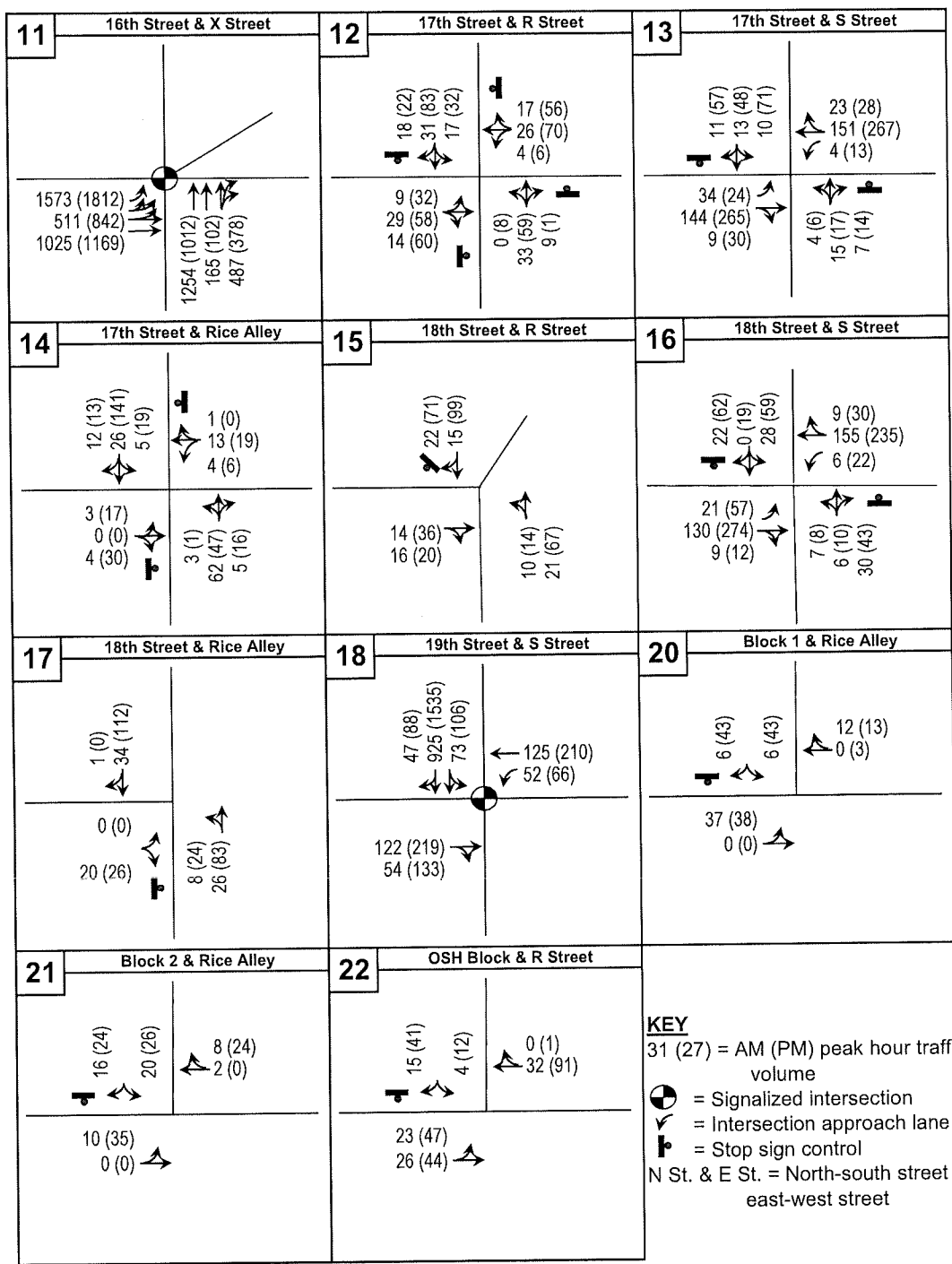
The Ice Blocks

**Figure 11 - Sheet 2 of 2
CUMULATIVE PEAK HOUR TRAFFIC VOLUMES,
LANES, AND TRAFFIC CONTROLS**



The Ice Blocks

Figure 12 - Sheet 1 of 2
 CUMULATIVE PLUS PROJECT PEAK HOUR TRAFFIC
 VOLUMES, LANES, AND TRAFFIC CONTROLS



The Ice Blocks

Figure 12 - Sheet 2 of 2
 CUMULATIVE PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES, LANES, AND TRAFFIC CONTROLS

**TABLE 7
CUMULATIVE PLUS PROJECT INTERSECTION OPERATING CONDITIONS**

Intersection	A.M. Peak Hour				P.M. Peak Hour			
	Cumulative		Cumulative Plus Project		Cumulative		Cumulative Plus Project	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
1. 15th and Q Streets (signalized)	A	9.7	A	9.9	B	13.9	B	13.7
2. 15th and R Streets (unsignalized)	A	2.2	A	2.4	C	3.2	A	4.4
- Eastbound	B	14.1	B	14.7	C	16.0	C	17.4
- Westbound	C	17.1	C	17.7	C	24.7	D	31.9
3. 15th and S Streets (signalized)	A	7.6	A	7.8	B	11.5	B	12.5
4. 15th and W Streets (signalized)	B	13.7	B	11.4	D	45.4	D	48.7
5. 15th and W Streets (signalized)	E	57.5	E	59.9	F	129.3	F	134.0
6. 16th and Q Streets (signalized)	A	4.8	A	5.0	A	7.4	A	9.1
7. 16th and R Streets (unsignalized)	A	1.9	A	2.4	A	3.2	A	5.5
- Eastbound	C	17.9	D	29.5	C	20.4	E	36.2
- Westbound	B	14.2	C	16.5	B	13.2	C	17.6
8. 16th Street and Rice Alley (unsignalized)	A	0.0	A	0.1	A	0.0	A	0.4
- Westbound	A	0.0	B	10.8	A	9.6	B	10.3
9. 16th and S Streets (signalized)	C	28.7	D	37.0	B	14.3	B	15.5
10. 16th and W Streets (signalized)	F	157.8	F	161.2	F	197.5	F	199.5

**TABLE 7
CUMULATIVE PLUS PROJECT INTERSECTION OPERATING CONDITIONS**

Intersection	A.M. Peak Hour				P.M. Peak Hour			
	Cumulative		Cumulative Plus Project		Cumulative		Cumulative Plus Project	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
11. 16th and X Streets (signalized)	E	55.6	E	57.7	F	125.8	F	126.8
12. 17th and R Streets (unsignalized)	A	7.1	A	7.3	A	7.6	A	8.4
13. 17th and S Streets (unsignalized)	A	1.9	A	2.1	A	2.7	A	3.7
- Northbound	B	10.3	B	10.4	B	11.1	B	11.5
- Southbound	B	10.3	B	10.3	B	12.1	B	13.5
- Eastbound Left	A	1.2	A	1.4	A	0.2	A	0.6
- Westbound Left	A	0.2	A	0.2	A	0.3	A	0.3
14. 17th Street and Rice Alley (unsignalized)	A	0.5	A	2.1	A	0.2	A	2.9
- Northbound Left	A	0.4	A	0.3	A	0.0	A	0.1
- Southbound Left	A	0.0	A	0.9	A	0.0	A	0.9
- Eastbound	A	0.0	A	8.8	A	8.9	A	9.8
- Westbound	A	8.8	A	9.6	A	0.0	B	10.8
15. 18th and R Streets (unsignalized)	A	4.5	A	4.3	A	6.6	A	6.4
- Driveway	A	8.7	A	8.7	A	9.8	A	9.9
- Eastbound Left	A	4.0	A	3.4	A	6.1	A	4.8

TABLE 7

CUMULATIVE PLUS PROJECT INTERSECTION OPERATING CONDITIONS

Intersection	A.M. Peak Hour				P.M. Peak Hour			
	Cumulative		Cumulative Plus Project		Cumulative		Cumulative Plus Project	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
16. 18th and S Streets (unsignalized)	A	2.1	A	2.6	A	3.2	A	3.8
- Northbound	A	9.5	A	9.6	B	10.7	B	11.1
- Southbound	A	9.5	B	10.1	B	11.4	B	13.1
- Eastbound Left	A	0.8	A	1.0	A	1.1	A	1.3
- Westbound Left	A	0.3	A	0.3	A	0.6	A	0.6
17. 18th Street and Rice Alley (unsignalized)	A	0.0	A	2.6	A	0.0	A	1.7
- Driveway	A	0.0	A	1.7	A	0.0	A	1.8
- Eastbound Left	A	0.0	A	8.5	A	0.0	A	8.9
18. 19th and S Streets (signalized)	D	38.9	D	39.0	C	31.7	D	39.0
20. Block 1 and Rice Alley (unsignalized)	-	-	A	6.1	-	-	A	7.5
- Driveway	-	-	A	8.7	-	-	A	9.0
- Eastbound Left	-	-	A	7.3	-	-	A	7.3

TABLE 7 CUMULATIVE PLUS PROJECT INTERSECTION OPERATING CONDITIONS									
Intersection	A.M. Peak Hour				P.M. Peak Hour				
	Cumulative		Cumulative Plus Project		Cumulative		Cumulative Plus Project		
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)	
21. Block 2 and Rice Alley (unsignalized)	-	-	A	6.9	-	-	A	-	6.4
- Driveway	-	-	A	8.6	-	-	A	-	8.9
- Eastbound Left	-	-	A	7.3	-	-	A	-	7.3
22. OSH Block and R Street (unsignalized)	-	-	A	3.4	-	-	A	-	3.6
- Driveway	-	-	A	8.7	-	-	A	-	9.2
- Eastbound Left	-	-	A	3.5	-	-	A	-	4.0

Source: DKS Associates, 2015.

Mitigation Measure

None required.

US 50 FREEWAY INTERCHANGE AT 15TH STREET / 16TH STREET

For informational purposes, exit ramp queue lengths at the US 50 Interchange with 15th Street / 16th Street were evaluated.

Table 8 summarizes a.m. and p.m. peak hour freeway ramp intersection queuing. None of the queues extend onto the freeway mainline.

TABLE 8 PEAK HOUR US 50 FREEWAY RAMP TERMINI QUEUING				
Exit Ramp Direction	Intersection Approach Movement	Available Storage Length (feet / lane)¹	Maximum Queue Length (feet / lane)	
			AM Peak Hour	PM Peak Hour
Existing				
Eastbound to 15th Street	All Lanes	695	153	172
Westbound to 16th Street	Left	560	177	148
	Right	560	261	181
Existing Plus Project				
Eastbound to 15th Street	All Lanes	695	157	179
Westbound to 16th Street	Left	560	184	162
	Right	560	285	200
Cumulative				
Eastbound to 15th Street	All Lanes	695	325	404
Westbound to 16th Street	Left	560	160	130
	Right	560	203	134
Cumulative Plus Project				
Eastbound to 15th Street	All Lanes	695	329	409
Westbound to 16th Street	Left	560	166	130
	Right	560	235	156
<p>1. Measured to end of double lane markings. Source: DKS Associates, 2015.</p>				

VMT ANALYSIS

The project is situated within the green area of Exhibit 1 of the City’s Climate Action Plan (CAP).⁴ Projects located within the green area are known to generate 35 percent less Vehicle Miles of Travel (VMT) per capita when compared to the statewide average, which is one of the conditions that must be met to conclude that the project is consistent with the City’s CAP. Although the project is located within the green area, analysis of VMT is presented in this report for informational purposes.

The VMT calculations are based upon the daily number of vehicle trips determined in the trip generation analysis (see Table 5) and the average vehicle trip length predicted by the SACSIM travel model. Table 9 presents the results of the analysis.

Land Use	Existing Plus Project			Cumulative Plus Project		
	Average Vehicle Trip Length (miles)	Daily Vehicle Trips	VMT per Day	Average Vehicle Trip Length (miles)	Daily Vehicle Trips	VMT per Day
Residential	11.04	630	6,952	8.46	630	5,332
Retail	8.44	3,775	31,859	7.30	3,775	27,571
Office	8.79	622	5,466	8.07	622	5,018
<i>Total</i>	<i>8.81</i>	<i>5,027</i>	<i>44,277</i>	<i>7.54</i>	<i>5,027</i>	<i>37,921</i>

Source: DKS Associates, 2015.

While vehicular trip generation is not expected to change substantially between the existing and cumulative scenarios, the estimated average trip length declines somewhat. This is anticipated due to further intensification and diversity of land use in the travel area (providing more nearby trip origins and destinations), as well as increased vehicular congestion over time (which reduces the number of longer trips).

Comparison of these VMT results to regional averages must be done carefully, as project level VMT calculation differs substantially from the methodology utilized in regional analysis. The VMT results above only include trips directly originating in or destined to the project, and do not include indirect trips. Regional VMT “per capita” averages are based upon distance travelled in all regional trips to and from all regional land uses divided by the total number of people in the region. Thus, most composite regional averages are not land use specific.

⁴ “Climate Action Plan – Consistency Review Checklist”. City of Sacramento, Community Development. June 27, 2013.

However, it can be stated that the project VMT results are substantially lower than a typical or “average” similar project in the region, and below the statewide average. This is primarily due to the better than average mode split for the project (lower percentage of trips by vehicle).

PROJECT LOCAL CIRCULATION

In addition to the analysis of project intersection impacts in conjunction with the City’s standards of significance, an analysis of site access and vehicle circulation was also conducted. Tables 6 and 7, presented previously, confirm that intersection operations at the project driveways will operate at LOS A during the weekday commuter peak hours.

BLOCK 1

As illustrated in Figure 2, Block 1 is proposed to be served by on-street perpendicular parking along R Street, and by perpendicular parking spaces along Rice Alley.

Both the reconstructed R Street and Rice Alley are expected to be relatively low volume, low speed facilities. Accordingly, perpendicular parking can operate efficiently in this setting. The perpendicular parking does not extend to the adjacent intersections, providing a buffer between the parking and the pedestrian crosswalks.

BLOCK 2

As illustrated in Figure 2, Block 2 is also proposed to be served by on-street perpendicular parking along R Street. In addition, 99 parking spaces (at grade) are proposed on-site, to be accessed via a driveway from Rice Alley.

As noted previously, reconstructed R Street is expected to be a relatively low volume, low speed facility. Accordingly, perpendicular parking can operate efficiently in this setting. The perpendicular parking does not extend to the adjacent intersections, providing a buffer between the parking and the pedestrian crosswalks.

Entry to the at-grade parking is provided via a 24-foot wide driveway, located about 105 feet west of 18th Street. This separation from 18th Street ensures that driveway operations are not compromised by queuing at the intersection. Given the anticipated low volumes, anticipated 95th percentile queues at the driveway and at the intersection are estimated to be one vehicle or less.

OSH BLOCK

51 at grade parking spaces are proposed on the OSH Block. These spaces would be accessed via a 24-foot wide driveway located about 120 feet west of 18th Street. This separation from 18th Street ensures that driveway operations are not compromised by queuing at the intersection. Given the anticipated low volumes, anticipated 95th percentile queues at the driveway and at the intersection are estimated to be one vehicle or less.