Movement, Approach, & Intersection Results

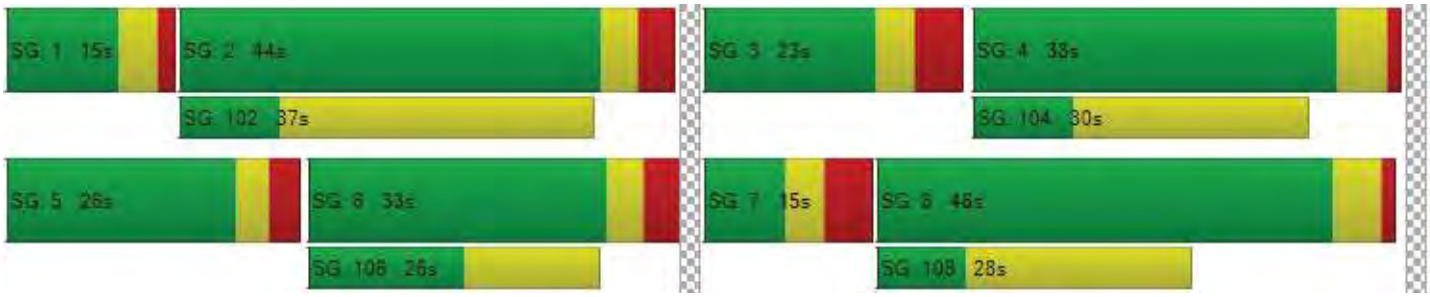
d_M, Delay for Movement [s/veh]	31.32	42.37	49.16	31.79	40.88	40.89	62.83	33.27	24.03	52.25	19.92	19.93
Movement LOS	C	D	D	C	D	D	E	C	C	D	B	B
d_A, Approach Delay [s/veh]	42.98			36.19			33.52			31.67		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	34.63											
Intersection LOS	C											
Intersection V/C	0.609											

Other Modes

g_Walk,mi, Effective Walk Time [s]	13.0	12.0	18.0	13.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	3883.06	7559.34	1061.45	804.92
d_p, Pedestrian Delay [s]	47.74	48.64	43.39	47.74
l_p,int, Pedestrian LOS Score for Intersectio	2.588	2.399	3.037	3.117
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	626	443	541	676
d_b, Bicycle Delay [s]	28.38	36.40	31.99	26.34
l_b,int, Bicycle LOS Score for Intersection	2.594	1.767	2.478	2.586
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	All-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	21	397	83	200	471	58	62	21	21	68	22	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-22	-63	0	0	0	-6	0	-13	-4	-37
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	397	61	137	471	58	62	15	21	55	18	114
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	112	17	38	132	16	17	4	6	15	5	32
Total Analysis Volume [veh/h]	24	446	69	154	529	65	70	17	24	62	20	128
Pedestrian Volume [ped/h]	4			2			4			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	465	496	508	480	515	526	439	488	441	504
Degree of Utilization, x	0.05	0.52	0.51	0.32	0.58	0.56	0.16	0.08	0.14	0.29

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.16	2.95	2.82	1.37	3.62	3.47	0.56	0.27	0.49	1.21
95th-Percentile Queue Length [ft]	4.07	73.71	70.50	34.23	90.38	86.76	14.05	6.84	12.14	30.32
Approach Delay [s/veh]	16.89			17.46			11.82		12.60	
Approach LOS	C			C			B		B	
Intersection Delay [s/veh]	16.24									
Intersection LOS	C									

Intersection Level Of Service Report
Intersection 3: Saliman Road / 5th Street

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.261

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	12.00	11.00	11.00	11.00	11.00	10.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	175.00	100.00	100.00	160.00	100.00	100.00	130.00	100.00	130.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	86	303	169	89	287	105	132	364	80	124	235	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-16	-16	0	-9	-4	-6	-7	0	-9	-4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	80	0	0	53	0	0	42	0	0	29
Total Hourly Volume [veh/h]	86	287	73	89	278	48	126	357	38	115	231	27
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	80	20	25	77	13	35	99	11	32	64	8
Total Analysis Volume [veh/h]	96	319	81	99	309	53	140	397	42	128	257	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	1			0			1			0		
v_co, Outbound Pedestrian Volume crossing	1			0			2			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			2			0			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	20	30	0	20	30	0	0	30	0	0	30	0
Amber [s]	3.2	4.1	0.0	3.2	4.1	0.0	0.0	3.7	0.0	0.0	3.7	0.0
All red [s]	2.4	2.4	0.0	2.3	2.4	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	1.8	0.0	2.0	1.8	0.0	0.0	2.0	0.0	0.0	1.8	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	12	0	0	17	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	4.5	0.0	3.5	4.5	0.0	0.0	3.9	0.0	0.0	3.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	50	50	50	50	50	50	50	50	50	50	50	50
L, Total Lost Time per Cycle [s]	6.05	6.50	6.50	6.00	6.50	6.50	5.90	5.90	5.90	5.90	5.90	5.90
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.50	4.50	0.00	4.50	4.50	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	22	12	12	23	12	12	16	16	16	16	16	16
g / C, Green / Cycle	0.45	0.24	0.24	0.45	0.24	0.24	0.32	0.32	0.32	0.32	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.07	0.11	0.11	0.07	0.10	0.10	0.13	0.12	0.12	0.13	0.14	0.02
s, saturation flow rate [veh/h]	1445	1885	1755	1440	1885	1788	1101	1885	1817	957	1885	1581
c, Capacity [veh/h]	594	450	419	586	461	437	334	607	585	324	607	509
d1, Uniform Delay [s]	12.55	16.27	16.30	13.01	15.83	15.86	19.62	13.03	13.05	19.04	13.31	11.71
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.27	0.30	0.05	0.21	0.23	0.31	0.14	0.14	0.29	0.17	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.46	0.46	0.17	0.40	0.41	0.42	0.37	0.37	0.40	0.42	0.06
d, Delay for Lane Group [s/veh]	12.60	16.53	16.60	13.06	16.04	16.08	19.93	13.17	13.19	19.33	13.48	11.73
Lane Group LOS	B	B	B	B	B	B	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	1.76	1.67	0.48	1.54	1.49	1.41	1.68	1.63	1.20	1.84	0.19
50th-Percentile Queue Length [ft/ln]	11.80	43.92	41.76	12.12	38.50	37.19	35.30	41.88	40.79	30.04	46.05	4.72
95th-Percentile Queue Length [veh/ln]	0.85	3.16	3.01	0.87	2.77	2.68	2.54	3.02	2.94	2.16	3.32	0.34
95th-Percentile Queue Length [ft/ln]	21.23	79.06	75.16	21.81	69.30	66.94	63.54	75.38	73.41	54.07	82.89	8.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.60	16.56	16.60	13.06	16.05	16.08	19.93	13.18	13.19	19.33	13.48	11.73
Movement LOS	B	B	B	B	B	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	15.80			15.42			14.81			15.16		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	15.28											
Intersection LOS	B											
Intersection V/C	0.261											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	8519.13	0.00	8330.98	17498.27
d_p, Pedestrian Delay [s]	15.27	15.27	15.27	15.27
l_p,int, Pedestrian LOS Score for Intersectio	2.812	2.776	2.524	2.700
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1197	1197	1197	1197
d_b, Bicycle Delay [s]	4.04	4.04	4.04	4.04
l_b,int, Bicycle LOS Score for Intersection	2.035	1.984	2.072	2.292
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Robinson Street / Matterhorn Lane

Control Type:	Roundabout	Delay (sec / veh):	3.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Base Volume Input [veh/h]	74	36	9	0	30	62	78	22	91	6	14	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	2.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-45	0	0	0	0	0	0	0	-56	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	36	9	0	30	62	78	22	35	6	14	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	10	3	0	8	17	22	6	10	2	4	0
Total Analysis Volume [veh/h]	32	40	10	0	33	69	87	24	39	7	16	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	112			56			40			161		
Exiting Flow Rate [veh/h]	80			128			118			35		
Demand Flow Rate [veh/h]	29	36	9	0	30	62	78	22	35	6	14	0
Adjusted Demand Flow Rate [veh/h]	32	40	10	0	33	69	87	24	39	7	16	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.99	0.99	0.99	0.98
Entry Flow Rate [veh/h]	83	104	152	24
Capacity of Entry and Bypass Lanes [veh/h]	1231	1304	1325	1172
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1217	1291	1309	1149
X, volume / capacity	0.07	0.08	0.11	0.02

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.22	0.26	0.39	0.06
95th-Percentile Queue Length [ft]	5.41	6.42	9.68	1.53
Approach Delay [s/veh]	3.51	3.42	3.68	3.30
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	3.54			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Lane

Control Type:	Signalized	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.325

Intersection Setup

Name				Matterhorn Ln			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Matterhorn Ln			5th St			5th St		
Base Volume Input [veh/h]	22	0	15	23	0	38	57	508	37	26	353	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	1.00	2.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	-8	0	-13	-23	0	0	0	0	-13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	13	0	0	19	0	0	12
Total Hourly Volume [veh/h]	22	0	7	15	0	12	34	508	18	26	353	12
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	2	4	0	3	9	141	5	7	98	3
Total Analysis Volume [veh/h]	24	0	8	17	0	13	38	564	20	29	392	13
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	20	30	0	20	30	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	0.0	1.5	0.0	0.0	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	28	28	28	28	28	28	28	28	28	28
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	1	1	1	1	17	11	11	17	10	10
g / C, Green / Cycle	0.04	0.04	0.04	0.04	0.60	0.39	0.39	0.60	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.02	0.01	0.01	0.01	0.03	0.30	0.01	0.03	0.21	0.01
s, saturation flow rate [veh/h]	1401	1589	1418	1589	1195	1885	1589	1059	1885	1602
c, Capacity [veh/h]	258	64	258	64	948	728	614	808	709	603
d1, Uniform Delay [s]	13.98	12.94	13.98	12.98	2.63	7.52	5.34	3.22	6.87	5.48
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	0.86	0.11	1.53	0.02	1.81	0.02	0.02	0.68	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.12	0.07	0.20	0.04	0.77	0.03	0.04	0.55	0.02
d, Delay for Lane Group [s/veh]	14.14	13.80	14.09	14.51	2.65	9.33	5.36	3.24	7.54	5.50
Lane Group LOS	B	B	B	B	A	A	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.13	0.05	0.10	0.09	0.00	1.51	0.03	0.00	0.87	0.02
50th-Percentile Queue Length [ft/ln]	3.24	1.30	2.38	2.25	0.11	37.76	0.81	0.10	21.86	0.55
95th-Percentile Queue Length [veh/ln]	0.23	0.09	0.17	0.16	0.01	2.72	0.06	0.01	1.57	0.04
95th-Percentile Queue Length [ft/ln]	5.84	2.33	4.28	4.04	0.20	67.97	1.46	0.18	39.35	0.99

Movement, Approach, & Intersection Results

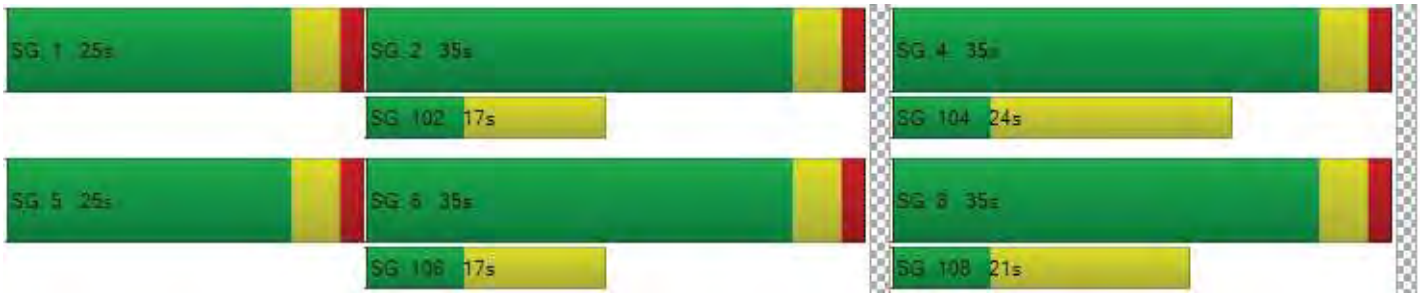
d_M, Delay for Movement [s/veh]	14.14	13.80	13.80	14.09	14.51	14.51	2.65	9.33	5.36	3.24	7.54	5.50
Movement LOS	B	B	B	B	B	B	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	14.05			14.27			8.79			7.19		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	8.47											
Intersection LOS	A											
Intersection V/C	0.325											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	5.11	5.11	5.11	5.11
l_p,int, Pedestrian LOS Score for Intersectio	1.928	1.934	2.565	2.434
Crosswalk LOS	A	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2153	2153	2153	2153
d_b, Bicycle Delay [s]	0.08	0.08	0.08	0.08
l_b,int, Bicycle LOS Score for Intersection	1.626	1.631	2.617	2.296
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	Signalized	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	21	397	83	200	471	58	62	21	21	68	22	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	-22	-63	0	0	0	-6	0	-13	-4	-37
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	30	0	0	11	0	0	34
Total Hourly Volume [veh/h]	21	397	29	137	471	28	62	15	10	55	18	80
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	112	8	38	132	8	17	4	3	15	5	22
Total Analysis Volume [veh/h]	24	446	33	154	529	31	70	17	11	62	20	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			2			1		
v_di, Inbound Pedestrian Volume crossing m	2			1			2			1		
v_co, Outbound Pedestrian Volume crossing	0			2			2			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			2			2			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0
Split [s]	30	37	0	34	41	0	15	34	0	15	34	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	22	0	0	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	40	40	40	40	40	40	40	40	40	40
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	1	8	8	5	12	12	3	4	3	4
g / C, Green / Cycle	0.03	0.21	0.21	0.13	0.31	0.31	0.07	0.11	0.06	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.14	0.14	0.10	0.17	0.17	0.04	0.02	0.04	0.07
s, saturation flow rate [veh/h]	1616	1696	1656	1616	1696	1662	1616	1579	1616	1475
c, Capacity [veh/h]	48	358	349	203	520	510	111	167	102	148
d1, Uniform Delay [s]	19.32	14.69	14.70	17.08	11.66	11.67	18.34	16.46	18.46	17.68
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.67	2.24	2.33	5.67	0.88	0.91	5.86	0.47	5.73	7.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.68	0.68	0.76	0.54	0.54	0.63	0.17	0.61	0.74
d, Delay for Lane Group [s/veh]	26.99	16.93	17.03	22.75	12.55	12.57	24.20	16.93	24.19	24.82
Lane Group LOS	C	B	B	C	B	B	C	B	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.31	2.09	2.06	1.61	2.01	1.98	0.78	0.24	0.70	1.23
50th-Percentile Queue Length [ft/ln]	7.84	52.24	51.51	40.25	50.29	49.48	19.52	6.10	17.39	30.70
95th-Percentile Queue Length [veh/ln]	0.56	3.76	3.71	2.90	3.62	3.56	1.41	0.44	1.25	2.21
95th-Percentile Queue Length [ft/ln]	14.11	94.03	92.72	72.44	90.53	89.07	35.14	10.98	31.30	55.25

Movement, Approach, & Intersection Results

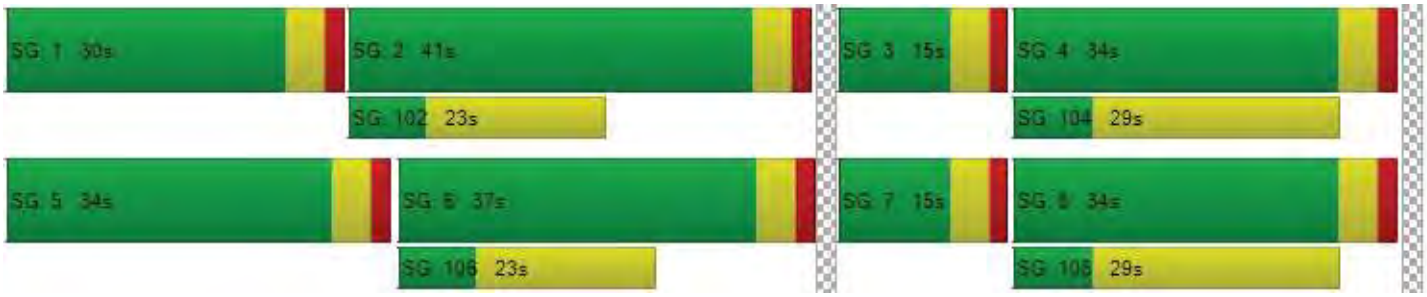
d_M, Delay for Movement [s/veh]	26.99	16.98	17.03	22.75	12.56	12.57	24.20	16.93	16.93	24.19	24.82	24.82
Movement LOS	C	B	B	C	B	B	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	17.46			14.76			22.12			24.59		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.29											
Intersection LOS	B											
Intersection V/C	0.357											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	5974.72	11448.93	5587.72	0.00
d_p, Pedestrian Delay [s]	10.63	10.63	10.63	10.63
l_p,int, Pedestrian LOS Score for Intersectio	2.409	2.430	1.943	2.012
Crosswalk LOS	B	B	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1590	1788	1441	1441
d_b, Bicycle Delay [s]	0.85	0.23	1.58	1.58
l_b,int, Bicycle LOS Score for Intersection	2.001	2.173	1.739	1.900
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Lane

Control Type:	Two-way stop	Delay (sec / veh):	20.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.068

Intersection Setup

Name	Matterhorn Ln		5th St		5th St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Matterhorn Ln		5th St		5th St	
Base Volume Input [veh/h]	23	38	57	508	353	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-8	-13	-23	0	0	-13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	25	34	508	353	24
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	7	9	141	98	7
Total Analysis Volume [veh/h]	17	28	38	564	392	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.04	0.03	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	20.42	10.71	8.25	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.13	0.10	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.42	3.32	2.57	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.38		0.52		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.90					
Intersection LOS	C					

Appendix D
2025 Plus Project LOS Calculations

Intersection Level Of Service Report
Intersection 1: William Street / Saliman Road

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Saliman Rd			Saliman Road			William Street			William Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	275.00	100.00	100.00	160.00	100.00	100.00	215.00	100.00	225.00	325.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Road			William Street			William Street		
Base Volume Input [veh/h]	256	86	414	40	172	21	15	360	207	361	833	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	26	0	0	0	0	0	4	9	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	132	0	0	11	0	0	110	0	0	16
Total Hourly Volume [veh/h]	267	86	308	40	172	10	15	360	101	370	833	14
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	25	89	11	49	3	4	103	29	106	239	4
Total Analysis Volume [veh/h]	307	99	354	46	198	11	17	414	116	425	957	16
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	4			11			8			45		
v_di, Inbound Pedestrian Volume crossing m	45			8			11			4		
v_co, Outbound Pedestrian Volume crossing	5			2			11			0		
v_ci, Inbound Pedestrian Volume crossing mi	11			0			5			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			4			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	37	0	5	5	0	5	30	0	5	10	0
Maximum Green [s]	40	40	0	40	42	0	20	35	0	26	35	0
Amber [s]	3.0	3.4	0.0	3.0	3.4	0.0	3.6	4.5	0.0	3.5	4.4	0.0
All red [s]	2.5	3.0	0.0	2.5	3.0	0.0	4.1	1.0	0.0	4.1	1.0	0.0
Split [s]	26	52	0	23	49	0	15	41	0	34	60	0
Vehicle Extension [s]	1.9	2.0	0.0	1.9	2.0	0.0	1.7	2.7	0.0	1.7	2.7	0.0
Walk [s]	0	9	0	0	14	0	0	9	0	0	8	0
Pedestrian Clearance [s]	0	28	0	0	28	0	0	21	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.5	4.4	0.0	3.5	4.4	0.0	5.7	3.5	0.0	5.6	3.4	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	117	117	117	117	117	117	117	117	117	117	117	117
L, Total Lost Time per Cycle [s]	6.40	6.40	6.40	6.40	6.40	6.40	7.70	5.50	5.50	7.60	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.40	4.40	0.00	4.40	4.40	5.70	3.50	3.50	5.60	3.40	3.40
g_i, Effective Green Time [s]	46	37	37	46	24	24	2	35	35	17	49	49
g / C, Green / Cycle	0.40	0.31	0.31	0.40	0.20	0.20	0.02	0.30	0.30	0.14	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.21	0.05	0.23	0.04	0.06	0.06	0.01	0.12	0.08	0.12	0.26	0.26
s, saturation flow rate [veh/h]	1444	1870	1515	1073	1870	1826	1781	3560	1542	3459	1870	1858
c, Capacity [veh/h]	606	589	477	480	377	368	33	1060	459	489	786	781
d1, Uniform Delay [s]	26.17	29.16	35.52	22.16	39.70	39.74	57.18	32.82	31.29	49.43	26.72	26.74
k, delay calibration	0.10	0.04	0.15	0.04	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.60	0.05	3.16	0.03	0.15	0.15	4.54	1.08	1.32	1.91	3.66	3.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.17	0.74	0.10	0.28	0.28	0.52	0.39	0.25	0.87	0.62	0.62
d, Delay for Lane Group [s/veh]	26.76	29.21	38.69	22.20	39.85	39.89	61.72	33.91	32.61	51.34	30.39	30.44
Lane Group LOS	C	C	D	C	D	D	E	C	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.60	2.11	9.60	0.81	2.62	2.60	0.53	4.75	2.62	6.11	11.07	11.04
50th-Percentile Queue Length [ft/ln]	165.08	52.86	239.90	20.27	65.39	64.91	13.36	118.64	65.46	152.83	276.87	275.90
95th-Percentile Queue Length [veh/ln]	10.82	3.81	14.68	1.46	4.71	4.67	0.96	8.32	4.71	10.17	16.53	16.48
95th-Percentile Queue Length [ft/ln]	270.44	95.15	366.90	36.49	117.70	116.84	24.04	207.95	117.82	254.21	413.31	412.10

Movement, Approach, & Intersection Results

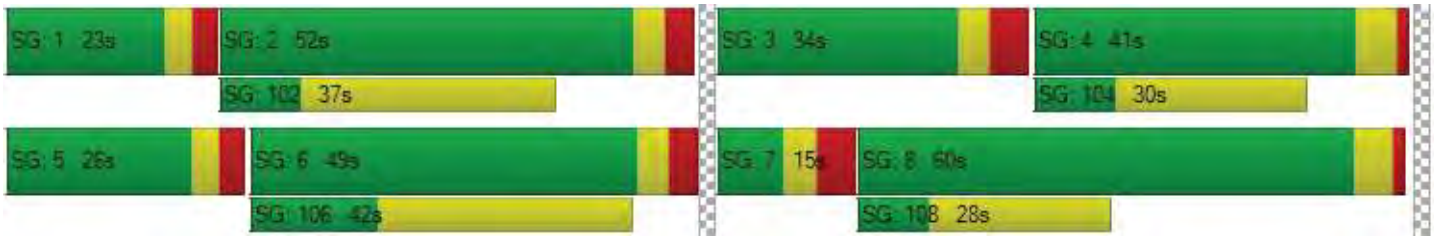
d_M, Delay for Movement [s/veh]	26.76	29.21	38.69	22.20	39.87	39.89	61.72	33.91	32.61	51.34	30.41	30.44
Movement LOS	C	C	D	C	D	D	E	C	C	D	C	C
d_A, Approach Delay [s/veh]	32.63			36.68			34.50			36.77		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	35.28											
Intersection LOS	D											
Intersection V/C	0.522											

Other Modes

g_Walk,mi, Effective Walk Time [s]	13.0	12.0	18.0	13.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	469.00	3907.88	610.18	121.05
d_p, Pedestrian Delay [s]	46.47	47.36	42.13	46.47
l_p,int, Pedestrian LOS Score for Intersectio	2.669	2.395	3.133	3.020
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	776	725	604	929
d_b, Bicycle Delay [s]	22.00	23.92	28.65	16.85
l_b,int, Bicycle LOS Score for Intersection	3.031	1.779	2.102	2.726
Bicycle LOS	C	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	All-way stop	Delay (sec / veh):	18.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.682

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	37	405	94	52	225	89	99	20	33	104	18	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	13	0	0	0	1	0	14	4	37
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	405	98	65	225	89	99	21	33	118	22	139
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	130	31	21	72	29	32	7	11	38	7	45
Total Analysis Volume [veh/h]	47	519	126	83	288	114	127	27	42	151	28	178
Pedestrian Volume [ped/h]	106			98			17			200		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	445	474	491	422	447	470	441	488	441	502
Degree of Utilization, x	0.11	0.68	0.66	0.20	0.45	0.43	0.29	0.14	0.34	0.41

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.35	5.06	4.71	0.72	2.28	2.11	1.18	0.49	1.50	1.98
95th-Percentile Queue Length [ft]	8.80	126.56	117.71	18.08	57.02	52.75	29.51	12.23	37.54	49.57
Approach Delay [s/veh]	23.23			16.01			13.15		14.90	
Approach LOS	C			C			B		B	
Intersection Delay [s/veh]	18.34									
Intersection LOS	C									

Intersection Level Of Service Report
Intersection 3: Saliman Road / 5th Street

Control Type:	Signalized	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.320

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	12.00	11.00	11.00	11.00	11.00	10.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	175.00	100.00	100.00	160.00	100.00	100.00	130.00	100.00	130.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	75	249	53	99	209	100	74	155	82	171	319	127
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	3	0	10	4	1	1	0	9	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	29	0	0	54	0	0	43	0	0	66
Total Hourly Volume [veh/h]	75	252	27	99	219	50	75	156	39	180	323	61
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	77	8	30	67	15	23	48	12	55	98	19
Total Analysis Volume [veh/h]	91	307	33	121	267	61	91	190	48	220	394	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			4			3			0		
v_di, Inbound Pedestrian Volume crossing m	3			0			0			4		
v_co, Outbound Pedestrian Volume crossing	7			1			1			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			1			1			7		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	4			1			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	20	30	0	20	30	0	0	30	0	0	30	0
Amber [s]	3.2	4.1	0.0	3.2	4.1	0.0	0.0	3.7	0.0	0.0	3.7	0.0
All red [s]	2.4	2.4	0.0	2.3	2.4	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	1.8	0.0	2.0	1.8	0.0	0.0	2.0	0.0	0.0	1.8	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	12	0	0	17	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	4.5	0.0	3.5	4.5	0.0	0.0	3.9	0.0	0.0	3.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	53	53	53	53	53	53	53	53	53	53	53	53
L, Total Lost Time per Cycle [s]	6.05	6.50	6.50	6.00	6.50	6.50	5.90	5.90	5.90	5.90	5.90	5.90
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.50	4.50	0.00	4.50	4.50	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	23	13	13	23	13	13	19	19	19	19	19	19
g / C, Green / Cycle	0.43	0.24	0.24	0.44	0.24	0.24	0.35	0.35	0.35	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.09	0.09	0.08	0.09	0.09	0.10	0.06	0.07	0.19	0.21	0.05
s, saturation flow rate [veh/h]	1435	1870	1797	1444	1870	1733	924	1870	1741	1140	1870	1563
c, Capacity [veh/h]	575	441	424	580	456	423	260	653	609	435	653	546
d1, Uniform Delay [s]	13.40	17.16	17.19	13.87	16.76	16.81	22.15	12.08	12.11	17.97	14.31	11.85
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.21	0.22	0.07	0.18	0.21	0.30	0.05	0.06	0.34	0.33	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.39	0.40	0.21	0.37	0.38	0.35	0.19	0.19	0.51	0.60	0.14
d, Delay for Lane Group [s/veh]	13.44	17.37	17.41	13.94	16.95	17.02	22.45	12.13	12.17	18.31	14.65	11.89
Lane Group LOS	B	B	B	B	B	B	C	B	B	B	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.51	1.59	1.55	0.69	1.52	1.46	1.02	0.89	0.85	2.11	3.21	0.50
50th-Percentile Queue Length [ft/ln]	12.87	39.64	38.81	17.35	38.07	36.50	25.61	22.15	21.35	52.72	80.17	12.39
95th-Percentile Queue Length [veh/ln]	0.93	2.85	2.79	1.25	2.74	2.63	1.84	1.60	1.54	3.80	5.77	0.89
95th-Percentile Queue Length [ft/ln]	23.17	71.36	69.86	31.22	68.53	65.70	46.11	39.88	38.43	94.89	144.31	22.30

Movement, Approach, & Intersection Results

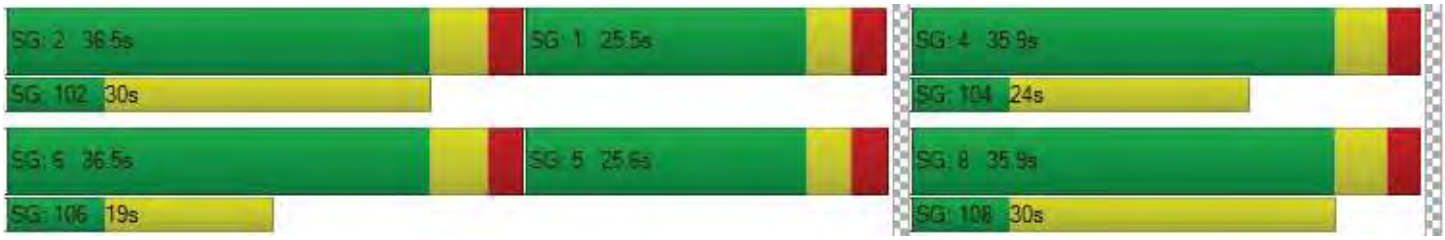
d_M, Delay for Movement [s/veh]	13.44	17.39	17.41	13.94	16.97	17.02	22.45	12.14	12.17	18.31	14.65	11.89
Movement LOS	B	B	B	B	B	B	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	16.56			16.16			15.00			15.52		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	15.82											
Intersection LOS	B											
Intersection V/C	0.320											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	4853.45	4099.92	7707.28	2377.64
d_p, Pedestrian Delay [s]	16.86	16.86	16.86	16.86
l_p,int, Pedestrian LOS Score for Intersectio	2.861	2.714	2.500	2.789
Crosswalk LOS	C	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1122	1122	1122	1122
d_b, Bicycle Delay [s]	5.16	5.15	5.15	5.15
l_b,int, Bicycle LOS Score for Intersection	1.939	1.975	1.867	2.804
Bicycle LOS	A	A	A	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Robinson St / Matterhorn Ln

Control Type:	Roundabout	Delay (sec / veh):	3.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Base Volume Input [veh/h]	78	0	0	0	0	0	0	0	50	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	1	0	17	44	14	4	0	4	11	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	78	6	1	0	17	44	14	4	50	4	11	0
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	2	0	0	5	14	4	1	16	1	3	0
Total Analysis Volume [veh/h]	98	8	1	0	21	55	18	5	63	5	14	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	23			119			27			126		
Exiting Flow Rate [veh/h]	91			27			170			6		
Demand Flow Rate [veh/h]	78	6	1	0	17	44	14	4	50	4	11	0
Adjusted Demand Flow Rate [veh/h]	98	8	1	0	21	55	18	5	63	5	14	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	110	78	88	20
Capacity of Entry and Bypass Lanes [veh/h]	1348	1222	1344	1213
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1321	1198	1317	1190
X, volume / capacity	0.08	0.06	0.07	0.02

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.26	0.20	0.21	0.05
95th-Percentile Queue Length [ft]	6.60	5.07	5.23	1.22
Approach Delay [s/veh]	3.37	3.53	3.25	3.16
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	3.36			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Ln

Control Type:	Two-way stop	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.149

Intersection Setup

Name	Matterhorn Ln		5th Street		5th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Matterhorn Ln		5th Street		5th Street	
Base Volume Input [veh/h]	21	30	11	299	560	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	13	4	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	43	15	299	560	10
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	13	5	91	171	3
Total Analysis Volume [veh/h]	35	52	18	365	683	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.12	0.02	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	22.96	14.06	9.08	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.39	0.06	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.84	9.74	1.53	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.64		0.43		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.46					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: William Street / Saliman Road

Control Type:	Signalized	Delay (sec / veh):	39.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

Intersection Setup

Name	Saliman Rd			Saliman Road			William Street			William Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	275.00	100.00	100.00	160.00	100.00	100.00	215.00	100.00	225.00	325.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Road			William Street			William Street		
Base Volume Input [veh/h]	190	118	335	101	70	22	45	704	116	335	626	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	12	0	0	0	0	0	10	22	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	104	0	0	11	0	0	66	0	0	29
Total Hourly Volume [veh/h]	196	118	243	101	70	11	45	704	60	357	626	27
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	36	73	30	21	3	14	212	18	108	189	8
Total Analysis Volume [veh/h]	236	142	293	122	84	13	54	848	72	430	754	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	39			2			20			1		
v_di, Inbound Pedestrian Volume crossing m	1			20			2			39		
v_co, Outbound Pedestrian Volume crossing	31			3			3			0		
v_ci, Inbound Pedestrian Volume crossing mi	3			0			31			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			3			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	37	0	5	5	0	5	30	0	5	10	0
Maximum Green [s]	40	40	0	40	42	0	20	35	0	26	35	0
Amber [s]	3.0	3.4	0.0	3.0	3.4	0.0	3.6	4.5	0.0	3.5	4.4	0.0
All red [s]	2.5	3.0	0.0	2.5	3.0	0.0	4.1	1.0	0.0	4.1	1.0	0.0
Split [s]	26	52	0	23	49	0	15	41	0	34	60	0
Vehicle Extension [s]	1.9	2.0	0.0	3.0	2.0	0.0	1.7	2.7	0.0	1.7	2.7	0.0
Walk [s]	0	9	0	0	14	0	0	9	0	0	8	0
Pedestrian Clearance [s]	0	28	0	0	28	0	0	21	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.5	4.4	0.0	3.5	4.4	0.0	5.7	3.5	0.0	5.6	3.4	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	6.40	6.40	6.40	6.40	6.40	6.40	7.70	5.50	5.50	7.60	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.40	4.40	0.00	4.40	4.40	5.70	3.50	3.50	5.60	3.40	3.40
g_i, Effective Green Time [s]	50	37	37	50	31	31	5	35	35	17	47	47
g / C, Green / Cycle	0.41	0.30	0.30	0.41	0.26	0.26	0.04	0.29	0.29	0.14	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.16	0.08	0.19	0.11	0.03	0.03	0.03	0.24	0.05	0.12	0.21	0.21
s, saturation flow rate [veh/h]	1472	1885	1520	1145	1885	1777	1795	3589	1526	3486	1885	1857
c, Capacity [veh/h]	667	573	462	504	484	456	71	1031	438	494	733	722
d1, Uniform Delay [s]	24.36	31.92	36.12	22.90	34.55	34.58	57.90	40.51	32.39	51.20	28.78	28.79
k, delay calibration	0.04	0.04	0.07	0.11	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.08	0.90	0.25	0.03	0.04	5.91	7.40	0.80	1.91	2.84	2.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.25	0.63	0.24	0.10	0.11	0.76	0.82	0.16	0.87	0.54	0.54
d, Delay for Lane Group [s/veh]	24.48	32.00	37.02	23.14	34.58	34.62	63.80	47.90	33.20	53.10	31.63	31.68
Lane Group LOS	C	C	D	C	C	C	E	D	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.83	3.28	7.75	2.29	1.13	1.11	1.74	12.57	1.66	6.43	9.25	9.14
50th-Percentile Queue Length [ft/ln]	120.76	82.09	193.79	57.30	28.31	27.82	43.46	314.15	41.51	160.73	231.36	228.47
95th-Percentile Queue Length [veh/ln]	8.43	5.91	12.32	4.13	2.04	2.00	3.13	18.38	2.99	10.59	14.24	14.10
95th-Percentile Queue Length [ft/ln]	210.87	147.77	307.94	103.14	50.96	50.07	78.23	459.48	74.72	264.69	356.09	352.42

Movement, Approach, & Intersection Results

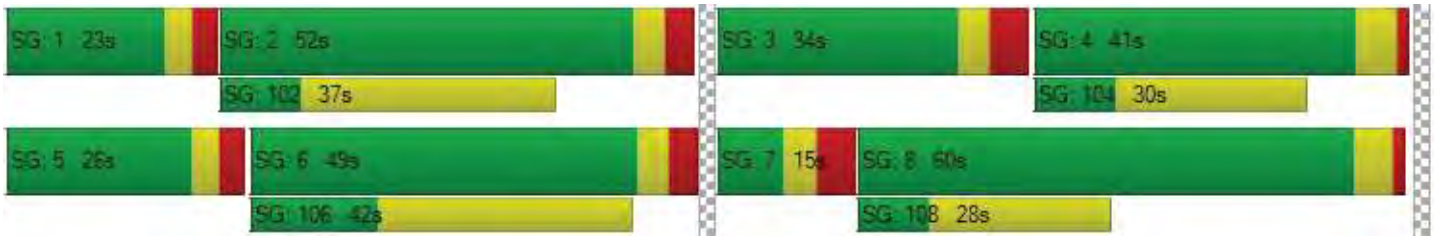
d_M, Delay for Movement [s/veh]	24.48	32.00	37.02	23.14	34.60	34.62	63.80	47.90	33.20	53.10	31.65	31.68
Movement LOS	C	C	D	C	C	C	E	D	C	D	C	C
d_A, Approach Delay [s/veh]	31.54			28.22			47.70			39.23		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	39.45											
Intersection LOS	D											
Intersection V/C	0.599											

Other Modes

g_Walk,mi, Effective Walk Time [s]	13.0	12.0	18.0	13.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	223.45	2459.71	507.51	148.00
d_p, Pedestrian Delay [s]	48.51	49.41	44.15	48.51
l_p,int, Pedestrian LOS Score for Intersectio	2.600	2.409	3.093	3.129
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	750	700	584	898
d_b, Bicycle Delay [s]	23.77	25.71	30.51	18.47
l_b,int, Bicycle LOS Score for Intersection	2.838	1.749	2.418	2.588
Bicycle LOS	C	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	All-way stop	Delay (sec / veh):	18.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	27	274	50	88	382	77	45	20	37	68	25	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	11	32	0	0	0	3	0	7	2	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	274	61	120	382	77	45	23	37	75	27	92
Peak Hour Factor	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	99	22	43	138	28	16	8	13	27	10	33
Total Analysis Volume [veh/h]	39	397	88	174	554	112	65	33	54	109	39	133
Pedestrian Volume [ped/h]	6			154			50			79		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	431	457	472	456	486	502	430	476	431	486
Degree of Utilization, x	0.09	0.53	0.51	0.38	0.68	0.66	0.15	0.18	0.25	0.35

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.30	3.04	2.88	1.76	5.14	4.81	0.53	0.66	0.99	1.58
95th-Percentile Queue Length [ft]	7.43	76.09	72.01	44.08	128.49	120.37	13.20	16.53	24.76	39.54
Approach Delay [s/veh]	18.11			22.05			12.20		14.02	
Approach LOS	C			C			B		B	
Intersection Delay [s/veh]	18.81									
Intersection LOS	C									

Intersection Level Of Service Report
Intersection 3: Saliman Road / 5th Street

Control Type:	Signalized	Delay (sec / veh):	14.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.227

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	12.00	11.00	11.00	11.00	11.00	10.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	175.00	100.00	100.00	160.00	100.00	100.00	130.00	100.00	130.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	63	214	74	103	260	114	80	206	67	103	185	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	8	0	5	2	3	3	0	5	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	43	0	0	60	0	0	35	0	0	25
Total Hourly Volume [veh/h]	63	222	39	103	265	56	83	209	32	108	187	24
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	62	11	29	74	16	23	59	9	30	53	7
Total Analysis Volume [veh/h]	71	249	44	116	298	63	93	235	36	121	210	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	7			1			3			11		
v_di, Inbound Pedestrian Volume crossing m	3			11			7			1		
v_co, Outbound Pedestrian Volume crossing	2			1			33			12		
v_ci, Inbound Pedestrian Volume crossing mi	12			33			1			2		
v_ab, Corner Pedestrian Volume [ped/h]	1			4			0			1		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	20	30	0	20	30	0	0	30	0	0	30	0
Amber [s]	3.2	4.1	0.0	3.2	4.1	0.0	0.0	3.7	0.0	0.0	3.7	0.0
All red [s]	2.4	2.4	0.0	2.3	2.4	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	1.8	0.0	2.0	1.8	0.0	0.0	2.0	0.0	0.0	1.8	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	12	0	0	17	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	4.5	0.0	3.5	4.5	0.0	0.0	3.9	0.0	0.0	3.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	47	47	47	47	47	47	47	47	47	47	47	47
L, Total Lost Time per Cycle [s]	6.05	6.50	6.50	6.00	6.50	6.50	5.90	5.90	5.90	5.90	5.90	5.90
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.50	4.50	0.00	4.50	4.50	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	22	12	12	22	13	13	13	13	13	13	13	13
g / C, Green / Cycle	0.48	0.26	0.26	0.48	0.27	0.27	0.28	0.28	0.28	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.05	0.08	0.08	0.08	0.10	0.10	0.08	0.07	0.08	0.11	0.11	0.02
s, saturation flow rate [veh/h]	1413	1855	1750	1458	1855	1699	1126	1855	1765	1093	1855	1556
c, Capacity [veh/h]	619	475	449	656	492	451	313	518	493	345	518	435
d1, Uniform Delay [s]	10.78	14.11	14.15	10.52	14.06	14.13	18.83	13.16	13.18	17.96	13.74	12.40
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.14	0.15	0.05	0.18	0.20	0.19	0.10	0.11	0.23	0.19	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.31	0.32	0.18	0.37	0.39	0.30	0.27	0.27	0.35	0.41	0.06
d, Delay for Lane Group [s/veh]	10.81	14.25	14.30	10.57	14.24	14.34	19.02	13.26	13.29	18.19	13.93	12.42
Lane Group LOS	B	B	B	B	B	B	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.28	1.09	1.06	0.47	1.35	1.30	0.86	0.98	0.96	1.03	1.47	0.17
50th-Percentile Queue Length [ft/ln]	7.07	27.22	26.45	11.78	33.87	32.59	21.51	24.59	23.96	25.84	36.65	4.24
95th-Percentile Queue Length [veh/ln]	0.51	1.96	1.90	0.85	2.44	2.35	1.55	1.77	1.73	1.86	2.64	0.31
95th-Percentile Queue Length [ft/ln]	12.73	49.00	47.61	21.21	60.97	58.65	38.72	44.27	43.13	46.52	65.98	7.63

Movement, Approach, & Intersection Results

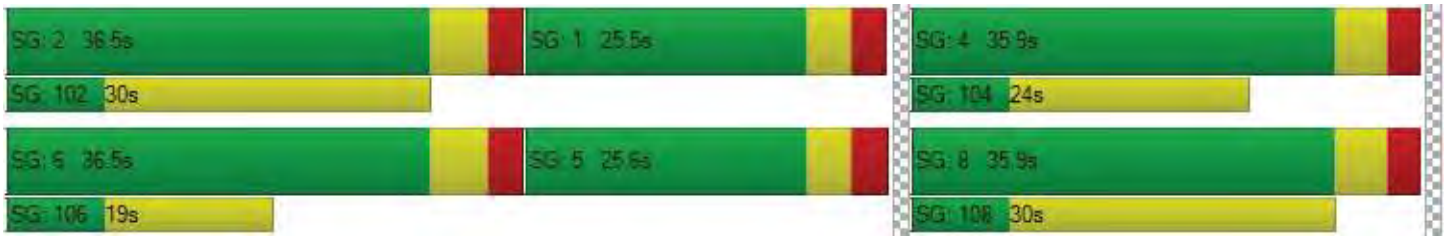
d_M, Delay for Movement [s/veh]	10.81	14.27	14.30	10.57	14.28	14.34	19.02	13.27	13.29	18.19	13.93	12.42
Movement LOS	B	B	B	B	B	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	13.60			13.38			14.74			15.25		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	14.18											
Intersection LOS	B											
Intersection V/C	0.227											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	1842.68	1614.99	527.38	1359.65
d_p, Pedestrian Delay [s]	13.84	13.84	13.84	13.84
l_p,int, Pedestrian LOS Score for Intersectio	2.700	2.692	2.415	2.633
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1274	1274	1274	1274
d_b, Bicycle Delay [s]	3.11	3.11	3.11	3.11
l_b,int, Bicycle LOS Score for Intersection	1.895	2.003	1.889	2.192
Bicycle LOS	A	B	A	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Robinson St / Matterhorn Ln

Control Type:	Roundabout	Delay (sec / veh):	3.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Base Volume Input [veh/h]	56	0	0	0	0	0	0	0	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	4	0	9	22	37	9	0	2	5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	14	4	0	9	22	37	9	70	2	5	0
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	4	1	0	3	7	12	3	22	1	2	0
Total Analysis Volume [veh/h]	70	18	5	0	11	28	46	11	88	3	6	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	58			81			14			137		
Exiting Flow Rate [veh/h]	104			65			106			16		
Demand Flow Rate [veh/h]	56	14	4	0	9	22	37	9	70	2	5	0
Adjusted Demand Flow Rate [veh/h]	70	18	5	0	11	28	46	11	88	3	6	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	95	40	148	10
Capacity of Entry and Bypass Lanes [veh/h]	1301	1272	1361	1201
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1276	1247	1334	1177
X, volume / capacity	0.07	0.03	0.11	0.01

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.24	0.10	0.37	0.02
95th-Percentile Queue Length [ft]	5.89	2.42	9.13	0.58
Approach Delay [s/veh]	3.41	3.14	3.57	3.12
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	3.45			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Ln

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	Matterhorn Ln		5th Street		5th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Matterhorn Ln		5th Street		5th Street	
Base Volume Input [veh/h]	11	15	25	340	318	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	7	11	0	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	22	36	340	318	25
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	6	10	96	89	7
Total Analysis Volume [veh/h]	17	25	40	382	357	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.04	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	16.43	10.46	8.19	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.11	0.11	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.03	2.84	2.66	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.87		0.78		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.02					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: William Street / Saliman Road

Control Type:	Signalized	Delay (sec / veh):	34.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.583

Intersection Setup

Name	Saliman Rd			Saliman Road			William Street			William Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	275.00	100.00	100.00	160.00	100.00	100.00	215.00	100.00	225.00	325.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Road			William Street			William Street		
Base Volume Input [veh/h]	110	117	317	107	94	13	26	802	133	390	641	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	17	0	0	0	0	0	13	30	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	100	0	0	7	0	0	76	0	0	23
Total Hourly Volume [veh/h]	118	117	234	107	94	6	26	802	70	420	641	21
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	31	63	29	25	2	7	216	19	113	172	6
Total Analysis Volume [veh/h]	127	126	252	115	101	6	28	862	75	452	689	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	8			6			5			0		
v_di, Inbound Pedestrian Volume crossing m	0			5			6			8		
v_co, Outbound Pedestrian Volume crossing	1			0			1			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			1			1			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	4			1			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	10	0	5	10	0
Maximum Green [s]	40	40	0	40	40	0	20	35	0	26	35	0
Amber [s]	3.0	3.4	0.0	3.0	3.4	0.0	3.6	4.5	0.0	3.5	4.4	0.0
All red [s]	2.5	3.0	0.0	2.5	3.0	0.0	4.1	1.0	0.0	4.1	1.0	0.0
Split [s]	26	35	0	20	29	0	16	40	0	25	49	0
Vehicle Extension [s]	1.9	2.0	0.0	1.9	2.0	0.0	1.7	2.7	0.0	1.7	2.7	0.0
Walk [s]	0	9	0	0	14	0	0	9	0	0	8	0
Pedestrian Clearance [s]	0	19	0	0	8	0	0	21	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.5	4.4	0.0	3.5	4.4	0.0	5.7	3.5	0.0	5.6	3.4	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.40	6.40	6.40	6.40	6.40	6.40	7.70	5.50	5.50	7.60	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.40	4.40	0.00	4.40	4.40	5.70	3.50	3.50	5.60	3.40	3.40
g_i, Effective Green Time [s]	35	22	22	35	21	21	3	48	48	18	62	62
g / C, Green / Cycle	0.29	0.18	0.18	0.29	0.18	0.18	0.03	0.40	0.40	0.15	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.09	0.07	0.16	0.09	0.03	0.03	0.02	0.24	0.05	0.13	0.19	0.19
s, saturation flow rate [veh/h]	1467	1885	1555	1264	1885	1840	1795	3589	1578	3486	1885	1862
c, Capacity [veh/h]	492	344	284	404	334	326	46	1423	626	515	977	965
d1, Uniform Delay [s]	32.29	43.01	47.62	32.24	41.89	41.91	57.94	28.80	22.96	50.15	17.20	17.21
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.24	3.73	0.14	0.08	0.09	4.74	1.92	0.39	1.95	1.06	1.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.37	0.89	0.28	0.16	0.16	0.61	0.61	0.12	0.88	0.37	0.37
d, Delay for Lane Group [s/veh]	32.39	43.25	51.35	32.38	41.97	42.00	62.69	30.73	23.35	52.10	18.26	18.28
Lane Group LOS	C	D	D	C	D	D	E	C	C	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.94	3.41	7.79	2.59	1.38	1.37	0.89	9.89	1.39	6.66	5.90	5.84
50th-Percentile Queue Length [ft/ln]	73.39	85.20	194.75	64.68	34.48	34.23	22.26	247.18	34.67	166.46	147.46	146.00
95th-Percentile Queue Length [veh/ln]	5.28	6.13	12.37	4.66	2.48	2.46	1.60	15.04	2.50	10.89	9.88	9.80
95th-Percentile Queue Length [ft/ln]	132.10	153.35	309.18	116.43	62.07	61.62	40.06	376.09	62.40	272.26	247.04	245.08

Movement, Approach, & Intersection Results

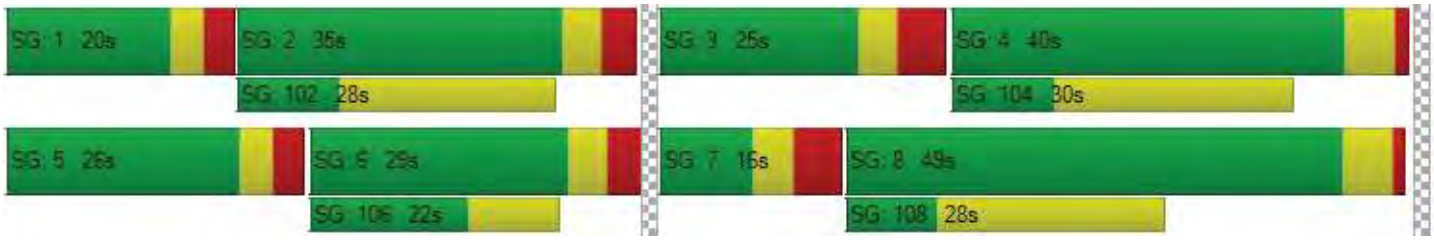
d_M, Delay for Movement [s/veh]	32.39	43.25	51.35	32.38	41.98	42.00	62.69	30.73	23.35	52.10	18.27	18.28
Movement LOS	C	D	D	C	D	D	E	C	C	D	B	B
d_A, Approach Delay [s/veh]	44.56			37.01			31.08			31.41		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	34.06											
Intersection LOS	C											
Intersection V/C	0.583											

Other Modes

g_Walk,mi, Effective Walk Time [s]	13.0	12.0	18.0	13.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	3863.78	7578.61	1064.23	813.17
d_p, Pedestrian Delay [s]	47.74	48.64	43.39	47.74
I_p,int, Pedestrian LOS Score for Intersectio	2.582	2.393	3.010	3.076
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	476	376	575	726
d_b, Bicycle Delay [s]	34.91	39.59	30.54	24.39
I_b,int, Bicycle LOS Score for Intersection	2.558	1.749	2.418	2.539
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	All-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	19	369	59	135	439	54	57	15	19	50	16	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	15	43	0	0	0	4	0	10	3	25
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	369	74	178	439	54	57	19	19	60	19	127
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	104	21	50	123	15	16	5	5	17	5	36
Total Analysis Volume [veh/h]	21	415	83	200	493	61	64	21	21	67	21	143
Pedestrian Volume [ped/h]	4			2			4			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	461	493	508	479	513	525	440	485	443	508
Degree of Utilization, x	0.05	0.51	0.49	0.42	0.54	0.53	0.15	0.09	0.15	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.14	2.81	2.66	2.03	3.17	3.05	0.51	0.28	0.53	1.39
95th-Percentile Queue Length [ft]	3.57	70.25	66.55	50.73	79.35	76.29	12.65	7.08	13.22	34.73
Approach Delay [s/veh]	16.58			16.81			11.71		12.90	
Approach LOS	C			C			B		B	
Intersection Delay [s/veh]	15.84									
Intersection LOS	C									

Intersection Level Of Service Report
Intersection 3: Saliman Road / 5th Street

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.250

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	12.00	11.00	11.00	11.00	11.00	10.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	175.00	100.00	100.00	160.00	100.00	100.00	130.00	100.00	130.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	79	268	146	83	256	94	118	331	74	106	214	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	10	0	7	3	4	4	0	6	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	81	0	0	50	0	0	38	0	0	27
Total Hourly Volume [veh/h]	79	279	75	83	263	47	122	335	36	112	216	24
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	78	21	23	73	13	34	93	10	31	60	7
Total Analysis Volume [veh/h]	88	310	83	92	292	52	136	372	40	124	240	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	1			0			1			0		
v_co, Outbound Pedestrian Volume crossing	1			0			2			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			2			0			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	20	30	0	20	30	0	0	30	0	0	30	0
Amber [s]	3.2	4.1	0.0	3.2	4.1	0.0	0.0	3.7	0.0	0.0	3.7	0.0
All red [s]	2.4	2.4	0.0	2.3	2.4	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	1.8	0.0	2.0	1.8	0.0	0.0	2.0	0.0	0.0	1.8	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	12	0	0	17	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	4.5	0.0	3.5	4.5	0.0	0.0	3.9	0.0	0.0	3.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	48	48	48	48	48	48	48	48	48	48	48	48
L, Total Lost Time per Cycle [s]	6.05	6.50	6.50	6.00	6.50	6.50	5.90	5.90	5.90	5.90	5.90	5.90
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.50	4.50	0.00	4.50	4.50	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	21	11	11	21	11	11	15	15	15	15	15	15
g / C, Green / Cycle	0.44	0.23	0.23	0.45	0.24	0.24	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.06	0.11	0.11	0.06	0.09	0.09	0.12	0.11	0.11	0.13	0.13	0.02
s, saturation flow rate [veh/h]	1468	1885	1750	1456	1885	1785	1121	1885	1816	981	1885	1581
c, Capacity [veh/h]	602	438	407	590	445	421	341	591	569	331	591	496
d1, Uniform Delay [s]	11.90	15.70	15.73	12.42	15.31	15.34	18.69	12.61	12.62	18.19	12.84	11.40
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.28	0.31	0.05	0.21	0.23	0.28	0.13	0.14	0.26	0.17	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	0.46	0.47	0.16	0.39	0.40	0.40	0.35	0.36	0.38	0.41	0.05
d, Delay for Lane Group [s/veh]	11.94	15.98	16.05	12.46	15.52	15.56	18.98	12.74	12.76	18.45	13.01	11.42
Lane Group LOS	B	B	B	B	B	B	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.40	1.63	1.55	0.42	1.38	1.33	1.28	1.48	1.44	1.09	1.61	0.16
50th-Percentile Queue Length [ft/ln]	9.98	40.70	38.66	10.40	34.45	33.30	32.06	36.98	36.04	27.14	40.22	4.01
95th-Percentile Queue Length [veh/ln]	0.72	2.93	2.78	0.75	2.48	2.40	2.31	2.66	2.59	1.95	2.90	0.29
95th-Percentile Queue Length [ft/ln]	17.97	73.25	69.59	18.72	62.01	59.94	57.71	66.56	64.86	48.86	72.40	7.21

Movement, Approach, & Intersection Results

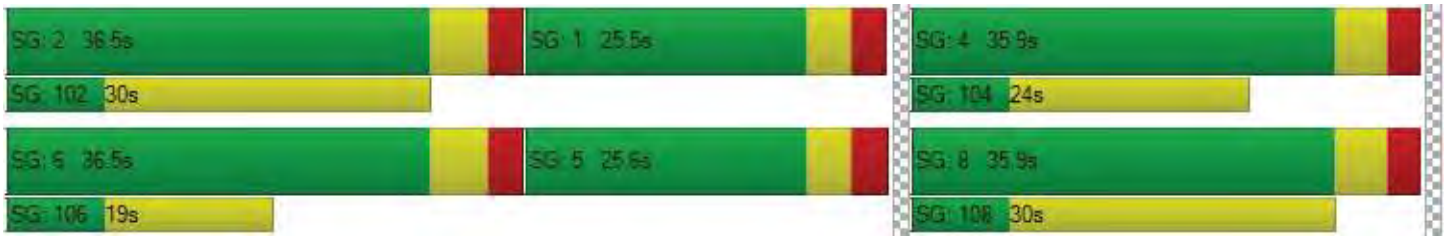
d_M, Delay for Movement [s/veh]	11.94	16.00	16.05	12.46	15.54	15.56	18.98	12.75	12.76	18.45	13.01	11.42
Movement LOS	B	B	B	B	B	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	15.27			14.89			14.30			14.63		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	14.76											
Intersection LOS	B											
Intersection V/C	0.250											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	9049.21	0.00	8867.10	18534.80
d_p, Pedestrian Delay [s]	14.11	14.11	14.11	14.11
l_p,int, Pedestrian LOS Score for Intersectio	2.795	2.752	2.490	2.671
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1258	1258	1258	1258
d_b, Bicycle Delay [s]	3.28	3.28	3.28	3.28
l_b,int, Bicycle LOS Score for Intersection	2.023	1.961	2.043	2.249
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Robinson St / Matterhorn Ln

Control Type:	Roundabout	Delay (sec / veh):	3.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Base Volume Input [veh/h]	74	0	0	0	0	0	0	0	91	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	2.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	5	0	11	30	49	13	0	2	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	18	5	0	11	30	49	13	91	2	8	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	5	1	0	3	8	14	4	25	1	2	0
Total Analysis Volume [veh/h]	82	20	6	0	12	33	54	14	101	2	9	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	69			94			14			158		
Exiting Flow Rate [veh/h]	116			75			125			20		
Demand Flow Rate [veh/h]	74	18	5	0	11	30	49	13	91	2	8	0
Adjusted Demand Flow Rate [veh/h]	82	20	6	0	12	33	54	14	101	2	9	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.99	0.99	0.99	0.98
Entry Flow Rate [veh/h]	110	46	171	12
Capacity of Entry and Bypass Lanes [veh/h]	1287	1254	1361	1176
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1274	1242	1346	1153
X, volume / capacity	0.08	0.04	0.13	0.01

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.28	0.11	0.43	0.03
95th-Percentile Queue Length [ft]	6.94	2.82	10.74	0.72
Approach Delay [s/veh]	3.51	3.19	3.69	3.20
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	3.55			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Ln

Control Type:	Two-way stop	Delay (sec / veh):	21.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name	Matterhorn Ln		5th Street		5th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Matterhorn Ln		5th Street		5th Street	
Base Volume Input [veh/h]	14	20	34	503	347	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	8	14	0	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	28	48	503	347	33
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	8	13	140	96	9
Total Analysis Volume [veh/h]	21	31	53	559	386	37
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.05	0.05	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	21.39	10.69	8.31	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.28	0.15	0.15	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.10	3.67	3.65	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.01		0.72		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.12					
Intersection LOS	C					

Appendix E

Future Year Plus Project LOS Calculations

Intersection Level Of Service Report
Intersection 1: William Street / Saliman Road

Control Type:	Signalized	Delay (sec / veh):	39.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	Saliman Rd			Saliman Rd			William St			William St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	275.00	100.00	100.00	160.00	100.00	100.00	215.00	100.00	225.00	325.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			William St			William St		
Base Volume Input [veh/h]	274	94	439	44	187	23	17	392	224	390	907	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	86	0	0	0	0	0	36	83	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	158	0	0	12	0	0	135	0	0	17
Total Hourly Volume [veh/h]	310	94	367	44	187	11	17	392	125	473	907	16
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	27	105	13	54	3	5	113	36	136	261	5
Total Analysis Volume [veh/h]	356	108	422	51	215	13	20	451	144	544	1043	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	4			11			8			45		
v_di, Inbound Pedestrian Volume crossing m	45			8			11			4		
v_co, Outbound Pedestrian Volume crossing	5			2			11			0		
v_ci, Inbound Pedestrian Volume crossing mi	11			0			5			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			4			3			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	37	0	5	5	0	5	30	0	5	10	0
Maximum Green [s]	40	40	0	30	42	0	20	35	0	26	35	0
Amber [s]	3.0	3.4	0.0	3.5	3.4	0.0	3.6	4.5	0.0	3.5	4.4	0.0
All red [s]	2.5	3.0	0.0	1.5	3.0	0.0	4.1	1.0	0.0	4.1	1.0	0.0
Split [s]	26	60	0	15	49	0	15	41	0	34	60	0
Vehicle Extension [s]	1.9	2.0	0.0	3.0	2.0	0.0	1.7	2.7	0.0	1.7	2.7	0.0
Walk [s]	0	9	0	0	14	0	0	9	0	0	8	0
Pedestrian Clearance [s]	0	28	0	0	28	0	0	21	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.5	4.4	0.0	3.0	4.4	0.0	5.7	3.5	0.0	5.6	3.4	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	122	122	122	122	122	122	122	122	122	122	122	122
L, Total Lost Time per Cycle [s]	6.40	6.40	6.40	6.40	6.40	6.40	7.70	5.50	5.50	7.60	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.40	4.40	0.00	4.40	4.40	5.70	3.50	3.50	5.60	3.40	3.40
g_i, Effective Green Time [s]	46	37	37	46	19	19	2	35	35	21	54	54
g / C, Green / Cycle	0.38	0.30	0.30	0.38	0.16	0.16	0.02	0.29	0.29	0.17	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.24	0.06	0.28	0.05	0.06	0.06	0.01	0.13	0.09	0.16	0.28	0.29
s, saturation flow rate [veh/h]	1492	1870	1513	1014	1870	1820	1781	3560	1541	3459	1870	1858
c, Capacity [veh/h]	590	568	459	436	295	287	37	1021	442	604	824	819
d1, Uniform Delay [s]	29.70	31.41	40.30	24.36	46.11	46.16	59.21	35.55	34.14	49.33	26.66	26.69
k, delay calibration	0.18	0.04	0.29	0.11	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.69	0.06	17.24	0.12	0.31	0.33	4.60	1.39	1.96	2.06	3.87	3.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.19	0.92	0.12	0.39	0.39	0.55	0.44	0.33	0.90	0.64	0.65
d, Delay for Lane Group [s/veh]	31.39	31.47	57.53	24.47	46.42	46.49	63.81	36.94	36.10	51.39	30.53	30.62
Lane Group LOS	C	C	E	C	D	D	E	D	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.66	2.46	14.48	0.98	3.18	3.15	0.65	5.57	3.54	8.12	12.46	12.45
50th-Percentile Queue Length [ft/ln]	216.40	61.48	361.97	24.49	79.51	78.85	16.26	139.24	88.38	203.05	311.62	311.16
95th-Percentile Queue Length [veh/ln]	13.48	4.43	20.72	1.76	5.72	5.68	1.17	9.44	6.36	12.80	18.25	18.23
95th-Percentile Queue Length [ft/ln]	337.03	110.66	517.98	44.08	143.12	141.92	29.27	236.00	159.08	319.90	456.37	455.81

Movement, Approach, & Intersection Results

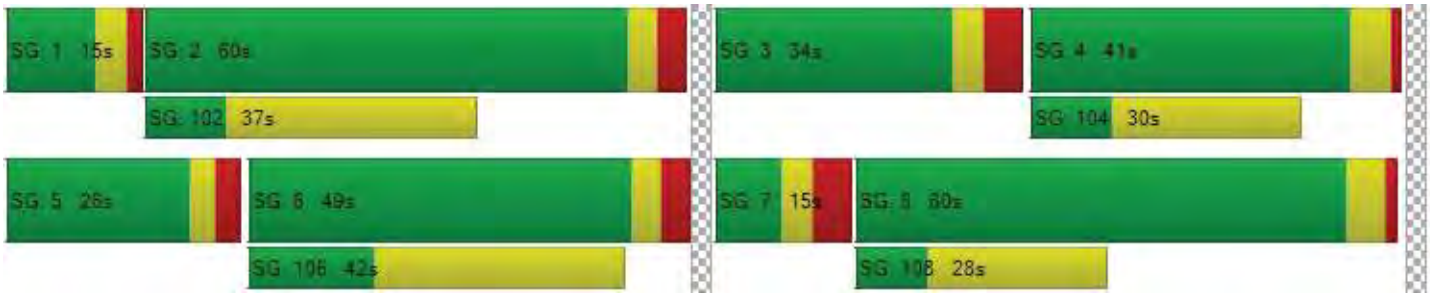
d_M, Delay for Movement [s/veh]	31.39	31.47	57.53	24.47	46.45	46.49	63.81	36.94	36.10	51.39	30.57	30.62
Movement LOS	C	C	E	C	D	D	E	D	D	D	C	C
d_A, Approach Delay [s/veh]	43.85			42.44			37.62			37.63		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	39.65											
Intersection LOS	D											
Intersection V/C	0.595											

Other Modes

g_Walk,mi, Effective Walk Time [s]	13.0	12.0	18.0	13.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	432.56	3753.41	588.07	103.75
d_p, Pedestrian Delay [s]	48.66	49.55	44.29	48.66
l_p,int, Pedestrian LOS Score for Intersectio	2.741	2.405	3.214	3.099
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	879	699	582	896
d_b, Bicycle Delay [s]	19.14	25.86	30.68	18.61
l_b,int, Bicycle LOS Score for Intersection	3.282	1.800	2.178	2.898
Bicycle LOS	C	A	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	All-way stop	Delay (sec / veh):	35.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.926

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	41	433	101	54	242	97	108	22	36	110	19	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	42	119	0	0	0	12	0	43	12	122
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	433	143	173	242	97	108	34	36	153	31	225
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	139	46	55	78	31	35	11	12	49	10	72
Total Analysis Volume [veh/h]	53	555	183	222	310	124	138	44	46	196	40	288
Pedestrian Volume [ped/h]	106			98			17			200		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	379	399	414	354	373	389	362	391	373	417
Degree of Utilization, x	0.14	0.93	0.89	0.63	0.58	0.56	0.38	0.23	0.53	0.79

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.48	10.06	9.29	4.04	3.54	3.29	1.74	0.88	2.93	6.86
95th-Percentile Queue Length [ft]	12.06	251.45	232.35	101.10	88.46	82.17	43.50	21.90	73.27	171.45
Approach Delay [s/veh]	52.03			25.52			17.06		31.36	
Approach LOS	F			D			C		D	
Intersection Delay [s/veh]	35.57									
Intersection LOS	E									

Intersection Level Of Service Report
Intersection 3: Saliman Road / 5th Street

Control Type:	Signalized	Delay (sec / veh):	17.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.365

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	12.00	11.00	11.00	11.00	11.00	10.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	175.00	100.00	100.00	160.00	100.00	100.00	130.00	100.00	130.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	81	270	56	107	223	107	79	168	89	182	346	138
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	29	0	31	12	12	12	0	30	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	44	0	0	62	0	0	46	0	0	72
Total Hourly Volume [veh/h]	81	300	41	107	254	57	91	180	43	212	358	66
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	91	13	33	77	17	28	55	13	65	109	20
Total Analysis Volume [veh/h]	99	366	50	130	310	70	111	220	52	259	437	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			4			3			0		
v_di, Inbound Pedestrian Volume crossing m	3			0			0			4		
v_co, Outbound Pedestrian Volume crossing	7			1			1			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			1			1			7		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	4			1			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	20	30	0	20	30	0	0	30	0	0	30	0
Amber [s]	3.2	4.1	0.0	3.2	4.1	0.0	0.0	3.7	0.0	0.0	3.7	0.0
All red [s]	2.4	2.4	0.0	2.3	2.4	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	1.8	0.0	2.0	1.8	0.0	0.0	2.0	0.0	0.0	1.8	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	12	0	0	17	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	4.5	0.0	3.5	4.5	0.0	0.0	3.9	0.0	0.0	3.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	61	61	61	61	61	61	61	61	61	61	61	61
L, Total Lost Time per Cycle [s]	6.05	6.50	6.50	6.00	6.50	6.50	5.90	5.90	5.90	5.90	5.90	5.90
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.50	4.50	0.00	4.50	4.50	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	26	15	15	26	16	16	23	23	23	23	23	23
g / C, Green / Cycle	0.43	0.25	0.25	0.43	0.26	0.26	0.38	0.38	0.38	0.38	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.07	0.11	0.11	0.09	0.10	0.11	0.13	0.07	0.08	0.23	0.23	0.05
s, saturation flow rate [veh/h]	1373	1870	1781	1375	1870	1734	883	1870	1748	1105	1870	1564
c, Capacity [veh/h]	533	467	445	531	485	450	256	710	664	445	710	594
d1, Uniform Delay [s]	16.03	19.41	19.45	16.99	18.73	18.79	24.88	12.71	12.74	19.81	15.36	12.39
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.26	0.27	0.09	0.20	0.22	0.43	0.05	0.05	0.45	0.32	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.45	0.46	0.24	0.40	0.41	0.43	0.20	0.20	0.58	0.62	0.13
d, Delay for Lane Group [s/veh]	16.09	19.66	19.72	17.07	18.93	19.01	25.31	12.76	12.80	20.26	15.68	12.43
Lane Group LOS	B	B	B	B	B	B	C	B	B	C	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.70	2.33	2.26	0.93	2.09	2.00	1.48	1.15	1.11	2.97	4.16	0.61
50th-Percentile Queue Length [ft/ln]	17.43	58.32	56.59	23.24	52.32	49.96	37.02	28.87	27.74	74.14	103.93	15.27
95th-Percentile Queue Length [veh/ln]	1.26	4.20	4.07	1.67	3.77	3.60	2.67	2.08	2.00	5.34	7.48	1.10
95th-Percentile Queue Length [ft/ln]	31.38	104.98	101.87	41.83	94.18	89.93	66.63	51.97	49.93	133.46	187.07	27.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.09	19.69	19.72	17.07	18.96	19.01	25.31	12.78	12.80	20.26	15.68	12.43
Movement LOS	B	B	B	B	B	B	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	19.00			18.49			16.41			16.88		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	17.67											
Intersection LOS	B											
Intersection V/C	0.365											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	3906.97	3445.15	6465.17	2002.27
d_p, Pedestrian Delay [s]	20.58	20.58	20.58	20.58
l_p,int, Pedestrian LOS Score for Intersectio	2.988	2.798	2.554	2.862
Crosswalk LOS	C	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	981	981	981	981
d_b, Bicycle Delay [s]	7.96	7.95	7.95	7.96
l_b,int, Bicycle LOS Score for Intersection	2.021	2.032	1.914	2.959
Bicycle LOS	B	B	A	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Robinson Street / Matterhorn Lane

Control Type:	Roundabout	Delay (sec / veh):	5.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Base Volume Input [veh/h]	78	0	0	0	0	0	0	0	50	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	82	1	0	81	185	188	4	0	4	11	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	78	82	1	0	81	185	188	4	50	4	11	0
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	26	0	0	25	58	59	1	16	1	3	0
Total Analysis Volume [veh/h]	98	103	1	0	101	231	235	5	63	5	14	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	245			119			108			445		
Exiting Flow Rate [veh/h]	172			345			350			6		
Demand Flow Rate [veh/h]	78	82	1	0	81	185	188	4	50	4	11	0
Adjusted Demand Flow Rate [veh/h]	98	103	1	0	101	231	235	5	63	5	14	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	207	339	310	20
Capacity of Entry and Bypass Lanes [veh/h]	1076	1222	1236	877
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1054	1198	1212	860
X, volume / capacity	0.19	0.28	0.25	0.02

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.71	1.14	0.99	0.07
95th-Percentile Queue Length [ft]	17.66	28.46	24.79	1.69
Approach Delay [s/veh]	5.18	5.54	5.21	4.39
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.31			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Lane

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	South Lompa Access			Matterhorn Ln			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	150.00	100.00	100.00	150.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	South Lompa Access			Matterhorn Ln			5th St			5th St		
Base Volume Input [veh/h]	32	0	24	21	0	30	11	312	11	8	577	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	24	0	49	49	0	0	0	0	23
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	12	0	0	41	0	0	6	0	0	16
Total Hourly Volume [veh/h]	32	0	12	45	0	38	60	312	5	8	577	14
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	4	14	0	12	18	95	2	2	176	4
Total Analysis Volume [veh/h]	39	0	15	55	0	46	73	380	6	10	704	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	20	30	0	20	30	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	45	45	45	45	45	45	45	45	45	45
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00
g_i, Effective Green Time [s]	5	5	5	5	28	22	22	28	19	19
g / C, Green / Cycle	0.10	0.10	0.10	0.10	0.63	0.48	0.48	0.63	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.03	0.01	0.08	0.03	0.07	0.20	0.00	0.01	0.38	0.01
s, saturation flow rate [veh/h]	1360	1589	656	1589	993	1870	1589	1125	1870	1589
c, Capacity [veh/h]	162	164	229	164	615	900	765	822	799	680
d1, Uniform Delay [s]	22.40	18.18	21.11	18.54	6.11	7.56	6.05	3.47	11.77	7.42
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.76	0.24	0.54	0.92	0.09	0.32	0.00	0.01	3.38	0.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.24	0.09	0.24	0.28	0.12	0.42	0.01	0.01	0.88	0.03
d, Delay for Lane Group [s/veh]	23.16	18.41	21.64	19.46	6.19	7.88	6.05	3.47	15.15	7.44
Lane Group LOS	C	B	C	B	A	A	A	A	B	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.43	0.14	0.56	0.44	0.11	1.57	0.02	0.01	5.04	0.07
50th-Percentile Queue Length [ft/ln]	10.66	3.49	13.99	11.10	2.84	39.30	0.49	0.36	125.98	1.70
95th-Percentile Queue Length [veh/ln]	0.77	0.25	1.01	0.80	0.20	2.83	0.04	0.03	8.72	0.12
95th-Percentile Queue Length [ft/ln]	19.19	6.27	25.18	19.99	5.11	70.75	0.89	0.65	218.02	3.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.16	18.41	18.41	21.64	21.64	19.46	6.19	7.88	6.05	3.47	15.15	7.44
Movement LOS	C	B	B	C	C	B	A	A	A	A	B	A
d_A, Approach Delay [s/veh]	21.84			20.65			7.59			14.81		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	13.07											
Intersection LOS	B											
Intersection V/C	0.482											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	12.77	12.77	12.77	12.77
l_p,int, Pedestrian LOS Score for Intersectio	1.948	2.074	2.660	2.584
Crosswalk LOS	A	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1338	1338	1338	1338
d_b, Bicycle Delay [s]	2.45	2.45	2.45	2.45
l_b,int, Bicycle LOS Score for Intersection	1.669	1.794	2.327	2.792
Bicycle LOS	A	A	B	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	Signalized	Delay (sec / veh):	36.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	41	433	101	54	242	97	108	22	36	110	19	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	42	119	0	0	0	12	0	43	12	122
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	74	0	0	50	0	0	19	0	0	68
Total Hourly Volume [veh/h]	41	433	69	173	242	47	108	34	17	153	31	157
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	139	22	55	78	15	35	11	5	49	10	50
Total Analysis Volume [veh/h]	53	555	88	222	310	60	138	44	22	196	40	201
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	53			49			53			49		
v_di, Inbound Pedestrian Volume crossing m	53			49			53			49		
v_co, Outbound Pedestrian Volume crossing	100			8			9			100		
v_ci, Inbound Pedestrian Volume crossing mi	100			9			8			100		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0
Split [s]	15	40	0	24	49	0	17	34	0	22	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	22	0	0	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	92	92	92	92	92	92	92	92	92	92
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	4	23	23	14	33	33	9	23	12	26
g / C, Green / Cycle	0.04	0.25	0.25	0.15	0.36	0.36	0.10	0.25	0.13	0.28
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.22	0.13	0.10	0.10	0.08	0.04	0.11	0.17
s, saturation flow rate [veh/h]	1752	1840	1449	1752	1840	1723	1752	1648	1752	1459
c, Capacity [veh/h]	71	459	362	264	662	619	174	409	237	414
d1, Uniform Delay [s]	43.78	31.63	33.17	38.10	21.09	21.13	40.59	27.18	38.84	28.36
k, delay calibration	0.11	0.11	0.19	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.29	2.10	10.73	7.10	0.24	0.26	7.79	0.18	7.20	1.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.72	0.87	0.84	0.29	0.29	0.79	0.16	0.83	0.58
d, Delay for Lane Group [s/veh]	58.07	33.73	43.91	45.21	21.33	21.39	48.38	27.36	46.04	29.66
Lane Group LOS	E	C	D	D	C	C	D	C	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.50	7.06	7.89	5.48	3.04	2.90	3.50	1.19	4.87	4.80
50th-Percentile Queue Length [ft/ln]	37.56	176.53	197.36	137.09	75.92	72.55	87.43	29.79	121.72	120.06
95th-Percentile Queue Length [veh/ln]	2.70	11.42	12.50	9.32	5.47	5.22	6.29	2.14	8.49	8.40
95th-Percentile Queue Length [ft/ln]	67.61	285.48	312.56	233.10	136.66	130.59	157.37	53.62	212.19	209.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	58.07	37.88	43.91	45.21	21.35	21.39	48.38	27.36	27.36	46.04	29.66	29.66
Movement LOS	E	D	D	D	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	40.18			30.30			41.58			37.01		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	36.58											
Intersection LOS	D											
Intersection V/C	0.587											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	95.33	80.29	527.41	41.26
d_p, Pedestrian Delay [s]	35.69	35.69	35.69	35.69
l_p,int, Pedestrian LOS Score for Intersectio	2.534	2.528	2.037	2.189
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	760	956	630	739
d_b, Bicycle Delay [s]	17.69	12.55	21.60	18.31
l_b,int, Bicycle LOS Score for Intersection	2.195	2.089	1.928	2.393
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Lane

Control Type:	Two-way stop	Delay (sec / veh):	33.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.306

Intersection Setup

Name	Matterhorn Ln		5th St		5th St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Matterhorn Ln		5th St		5th St	
Base Volume Input [veh/h]	21	30	11	312	577	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	49	49	0	0	23
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	79	60	312	577	30
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	24	18	95	176	9
Total Analysis Volume [veh/h]	55	96	73	380	704	37
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.31	0.22	0.08	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	33.66	15.54	9.54	0.00	0.00	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.23	0.83	0.28	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	30.69	20.71	6.89	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.14		1.54		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1: William Street / Saliman Road

Control Type:	Signalized	Delay (sec / veh):	43.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.677

Intersection Setup

Name	Saliman Rd			Saliman Rd			William St			William St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	275.00	100.00	100.00	160.00	100.00	100.00	215.00	100.00	225.00	325.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			William St			William St		
Base Volume Input [veh/h]	204	129	359	110	76	24	50	766	122	356	682	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	0	49	0	0	0	0	0	23	53	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	122	0	0	12	0	0	75	0	0	32
Total Hourly Volume [veh/h]	225	129	286	110	76	12	50	766	70	409	682	29
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	39	86	33	23	4	15	231	21	123	205	9
Total Analysis Volume [veh/h]	271	155	345	133	92	14	60	923	84	493	822	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	39			2			20			1		
v_di, Inbound Pedestrian Volume crossing m	1			20			2			39		
v_co, Outbound Pedestrian Volume crossing	31			3			3			0		
v_ci, Inbound Pedestrian Volume crossing mi	3			0			31			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			3			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	37	0	5	5	0	5	30	0	5	10	0
Maximum Green [s]	40	40	0	30	42	0	20	35	0	26	35	0
Amber [s]	3.0	3.4	0.0	3.5	3.4	0.0	3.6	4.5	0.0	3.5	4.4	0.0
All red [s]	2.5	3.0	0.0	1.5	3.0	0.0	4.1	1.0	0.0	4.1	1.0	0.0
Split [s]	26	60	0	15	49	0	15	40	0	35	60	0
Vehicle Extension [s]	1.9	2.0	0.0	3.0	2.0	0.0	1.7	2.7	0.0	1.7	2.7	0.0
Walk [s]	0	9	0	0	14	0	0	9	0	0	8	0
Pedestrian Clearance [s]	0	28	0	0	28	0	0	21	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.5	4.4	0.0	3.0	4.4	0.0	5.7	3.5	0.0	5.6	3.4	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	124	124	124	124	124	124	124	124	124	124	124	124
L, Total Lost Time per Cycle [s]	6.40	6.40	6.40	6.40	6.40	6.40	7.70	5.50	5.50	7.60	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.40	4.40	0.00	4.40	4.40	5.70	3.50	3.50	5.60	3.40	3.40
g_i, Effective Green Time [s]	50	37	37	50	29	29	5	35	35	20	49	49
g / C, Green / Cycle	0.40	0.30	0.30	0.40	0.23	0.23	0.04	0.28	0.28	0.16	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.18	0.08	0.23	0.12	0.03	0.03	0.03	0.26	0.06	0.14	0.23	0.23
s, saturation flow rate [veh/h]	1488	1885	1519	1104	1885	1777	1795	3589	1525	3486	1885	1858
c, Capacity [veh/h]	658	560	452	476	441	415	79	1008	428	554	746	735
d1, Uniform Delay [s]	26.14	33.53	39.22	24.21	37.67	37.71	58.93	43.40	34.02	51.34	29.49	29.52
k, delay calibration	0.05	0.04	0.17	0.11	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.19	0.10	4.15	0.32	0.05	0.05	5.48	14.15	1.02	2.00	3.25	3.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.28	0.76	0.28	0.12	0.13	0.76	0.92	0.20	0.89	0.58	0.58
d, Delay for Lane Group [s/veh]	26.33	33.63	43.36	24.53	37.71	37.76	64.41	57.55	35.04	53.34	32.74	32.83
Lane Group LOS	C	C	D	C	D	D	E	E	D	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.91	3.74	10.23	2.62	1.32	1.29	1.97	15.34	2.03	7.55	10.48	10.37
50th-Percentile Queue Length [ft/ln]	147.79	93.59	255.65	65.54	32.95	32.34	49.14	383.62	50.71	188.69	261.90	259.17
95th-Percentile Queue Length [veh/ln]	9.90	6.74	15.47	4.72	2.37	2.33	3.54	21.77	3.65	12.05	15.78	15.65
95th-Percentile Queue Length [ft/ln]	247.48	168.46	386.77	117.98	59.31	58.21	88.44	544.22	91.28	301.33	394.60	391.18

Movement, Approach, & Intersection Results

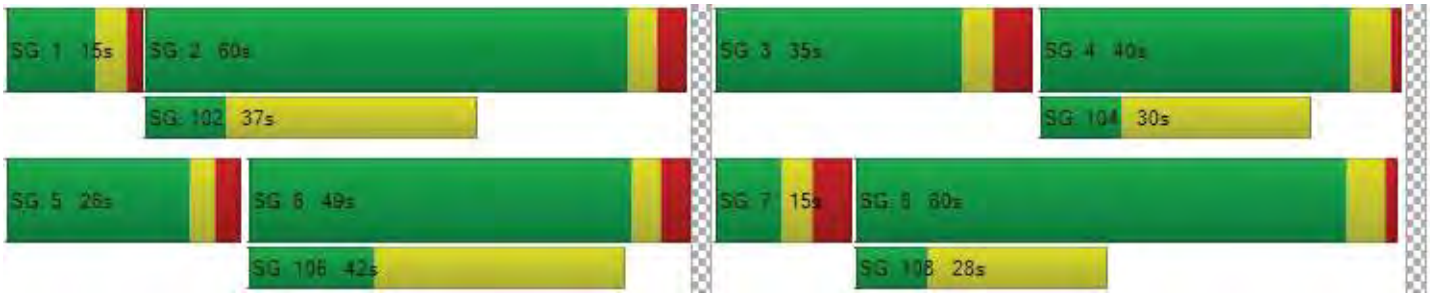
d_M, Delay for Movement [s/veh]	26.33	33.63	43.36	24.53	37.73	37.76	64.41	57.55	35.04	53.34	32.78	32.83
Movement LOS	C	C	D	C	D	D	E	E	D	D	C	C
d_A, Approach Delay [s/veh]	35.42			30.38			56.16			40.29		
Approach LOS	D			C			E			D		
d_I, Intersection Delay [s/veh]	43.45											
Intersection LOS	D											
Intersection V/C	0.677											

Other Modes

g_Walk,mi, Effective Walk Time [s]	13.0	12.0	18.0	13.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	214.51	2395.04	493.87	132.74
d_p, Pedestrian Delay [s]	49.90	50.80	45.53	49.90
l_p,int, Pedestrian LOS Score for Intersectio	2.647	2.418	3.156	3.201
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	861	685	554	877
d_b, Bicycle Delay [s]	20.18	26.96	32.52	19.60
l_b,int, Bicycle LOS Score for Intersection	3.033	1.767	2.502	2.700
Bicycle LOS	C	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	All-way stop	Delay (sec / veh):	27.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	30	295	52	89	410	84	50	21	41	73	27	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	28	76	0	0	0	7	0	24	7	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	295	80	165	410	84	50	28	41	97	34	147
Peak Hour Factor	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	107	29	60	149	30	18	10	15	35	12	53
Total Analysis Volume [veh/h]	43	428	116	239	594	122	72	41	59	141	49	213
Pedestrian Volume [ped/h]	10			179			50			79		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	381	401	415	409	434	447	384	419	385	429
Degree of Utilization, x	0.11	0.68	0.66	0.58	0.82	0.80	0.19	0.24	0.37	0.61

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.38	4.85	4.55	3.59	7.77	7.31	0.68	0.92	1.64	3.95
95th-Percentile Queue Length [ft]	9.47	121.33	113.84	89.84	194.34	182.65	17.01	23.00	41.07	98.63
Approach Delay [s/veh]	26.47			34.19			14.08		21.22	
Approach LOS	D			D			B		C	
Intersection Delay [s/veh]	27.95									
Intersection LOS	D									

Intersection Level Of Service Report
Intersection 3: Saliman Road / 5th Street

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.263

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	12.00	11.00	11.00	11.00	11.00	10.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	175.00	100.00	100.00	160.00	100.00	100.00	130.00	100.00	130.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	68	229	77	112	281	122	85	223	73	110	200	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	18	0	17	7	8	7	0	18	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	67	0	0	38	0	0	28
Total Hourly Volume [veh/h]	68	249	46	112	298	62	93	230	35	128	207	25
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	70	13	31	84	17	26	65	10	36	58	7
Total Analysis Volume [veh/h]	76	280	52	126	335	70	104	258	39	144	233	28
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	7			1			3			11		
v_di, Inbound Pedestrian Volume crossing m	3			11			7			1		
v_co, Outbound Pedestrian Volume crossing	2			1			33			12		
v_ci, Inbound Pedestrian Volume crossing mi	12			33			1			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			4			0			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	20	30	0	20	30	0	0	30	0	0	30	0
Amber [s]	3.2	4.1	0.0	3.2	4.1	0.0	0.0	3.7	0.0	0.0	3.7	0.0
All red [s]	2.4	2.4	0.0	2.3	2.4	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	1.8	0.0	2.0	1.8	0.0	0.0	2.0	0.0	0.0	1.8	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	12	0	0	17	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	4.5	0.0	3.5	4.5	0.0	0.0	3.9	0.0	0.0	3.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	51	51	51	51	51	51	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	6.05	6.50	6.50	6.00	6.50	6.50	5.90	5.90	5.90	5.90	5.90	5.90
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.50	4.50	0.00	4.50	4.50	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	24	14	14	24	14	14	15	15	15	15	15	15
g / C, Green / Cycle	0.47	0.27	0.27	0.48	0.27	0.27	0.30	0.30	0.30	0.30	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.06	0.09	0.09	0.09	0.11	0.12	0.09	0.08	0.08	0.13	0.13	0.02
s, saturation flow rate [veh/h]	1375	1855	1738	1418	1855	1684	1102	1855	1766	1067	1855	1538
c, Capacity [veh/h]	592	497	465	629	507	460	314	555	528	349	555	460
d1, Uniform Delay [s]	12.09	15.01	15.06	11.79	15.13	15.23	19.99	13.61	13.64	19.11	14.30	12.73
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.15	0.17	0.06	0.20	0.24	0.23	0.10	0.10	0.29	0.19	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.34	0.35	0.20	0.41	0.43	0.33	0.27	0.28	0.41	0.42	0.06
d, Delay for Lane Group [s/veh]	12.12	15.16	15.22	11.85	15.33	15.46	20.22	13.71	13.74	19.40	14.49	12.75
Lane Group LOS	B	B	B	B	B	B	C	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.35	1.37	1.33	0.59	1.71	1.64	1.06	1.17	1.14	1.37	1.79	0.19
50th-Percentile Queue Length [ft/ln]	8.75	34.30	33.20	14.86	42.63	40.96	26.50	29.27	28.47	34.31	44.63	4.76
95th-Percentile Queue Length [veh/ln]	0.63	2.47	2.39	1.07	3.07	2.95	1.91	2.11	2.05	2.47	3.21	0.34
95th-Percentile Queue Length [ft/ln]	15.75	61.75	59.77	26.74	76.73	73.72	47.70	52.69	51.24	61.75	80.34	8.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.12	15.19	15.22	11.85	15.38	15.46	20.22	13.72	13.74	19.40	14.49	12.75
Movement LOS	B	B	B	B	B	B	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	14.62			14.55			15.41			16.12		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	15.13											
Intersection LOS	B											
Intersection V/C	0.263											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	1651.00	1469.70	477.01	1230.78
d_p, Pedestrian Delay [s]	15.71	15.71	15.71	15.71
l_p,int, Pedestrian LOS Score for Intersectio	2.773	2.747	2.451	2.681
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1175	1175	1175	1175
d_b, Bicycle Delay [s]	4.34	4.35	4.34	4.34
l_b,int, Bicycle LOS Score for Intersection	1.937	2.053	1.922	2.274
Bicycle LOS	A	B	A	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Robinson Street / Matterhorn Lane

Control Type:	Roundabout	Delay (sec / veh):	4.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Base Volume Input [veh/h]	56	0	0	0	0	0	0	0	70	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	49	8	0	49	108	110	18	0	6	11	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	49	8	0	49	108	110	18	70	6	11	0
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	15	3	0	15	34	34	6	22	2	3	0
Total Analysis Volume [veh/h]	70	61	10	0	61	135	138	23	88	8	14	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	164			94			70			274		
Exiting Flow Rate [veh/h]	160			203			223			34		
Demand Flow Rate [veh/h]	56	49	8	0	49	108	110	18	70	6	11	0
Adjusted Demand Flow Rate [veh/h]	70	61	10	0	61	135	138	23	88	8	14	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.98	0.98	0.98
Entry Flow Rate [veh/h]	144	200	254	23
Capacity of Entry and Bypass Lanes [veh/h]	1168	1255	1285	1044
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1145	1230	1260	1023
X, volume / capacity	0.12	0.16	0.20	0.02

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.42	0.57	0.74	0.07
95th-Percentile Queue Length [ft]	10.51	14.16	18.38	1.65
Approach Delay [s/veh]	4.20	4.28	4.55	3.71
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	4.35			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Lane

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name				Matterhorn Ln			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	150.00	100.00	100.00	150.00	100.00	100.00	150.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Matterhorn Ln			5th St			5th St		
Base Volume Input [veh/h]	17	0	11	11	0	15	25	337	28	20	327	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	0	30	29	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	23	0	0	15	0	0	17
Total Hourly Volume [veh/h]	17	0	5	25	0	22	54	337	13	20	327	16
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	1	7	0	6	15	95	4	6	92	4
Total Analysis Volume [veh/h]	19	0	6	28	0	25	61	379	15	22	367	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	20	30	0	20	30	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	0.0	2.5	0.0	0.0	2.5	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.0	0.0	0.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	30	30	30	30	30	30	30	30	30	30
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	4.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00
g_i, Effective Green Time [s]	2	2	2	2	16	9	9	16	8	8
g / C, Green / Cycle	0.06	0.06	0.06	0.06	0.54	0.31	0.31	0.54	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.02	0.02	0.05	0.20	0.01	0.02	0.20	0.01
s, saturation flow rate [veh/h]	1386	1589	1398	1589	1281	1855	1589	1229	1855	1577
c, Capacity [veh/h]	242	98	243	98	874	574	492	850	501	426
d1, Uniform Delay [s]	14.99	13.26	14.99	13.42	3.80	8.99	7.22	3.69	9.96	8.08
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	0.26	0.21	1.37	0.03	1.31	0.02	0.01	2.09	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.06	0.12	0.26	0.07	0.66	0.03	0.03	0.73	0.04
d, Delay for Lane Group [s/veh]	15.13	13.52	15.20	14.79	3.83	10.30	7.25	3.70	12.05	8.12
Lane Group LOS	B	B	B	B	A	B	A	A	B	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.11	0.04	0.17	0.17	0.04	1.35	0.04	0.01	1.54	0.05
50th-Percentile Queue Length [ft/ln]	2.83	0.92	4.37	4.18	0.99	33.83	0.99	0.35	38.46	1.36
95th-Percentile Queue Length [veh/ln]	0.20	0.07	0.31	0.30	0.07	2.44	0.07	0.03	2.77	0.10
95th-Percentile Queue Length [ft/ln]	5.10	1.65	7.87	7.53	1.78	60.89	1.79	0.63	69.23	2.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.13	13.52	13.52	15.20	14.79	14.79	3.83	10.30	7.25	3.70	12.05	8.12
Movement LOS	B	B	B	B	B	B	A	B	A	A	B	A
d_A, Approach Delay [s/veh]	14.74			15.00			9.33			11.42		
Approach LOS	B			B			A			B		
d_I, Intersection Delay [s/veh]	10.70											
Intersection LOS	B											
Intersection V/C	0.241											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	5.95	5.95	5.95	5.95
l_p,int, Pedestrian LOS Score for Intersectio	1.916	1.977	2.512	2.398
Crosswalk LOS	A	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2010	2010	2010	2010
d_b, Bicycle Delay [s]	0.00	0.00	0.00	0.00
l_b,int, Bicycle LOS Score for Intersection	1.611	1.685	2.335	2.259
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	30	295	52	89	410	84	50	21	41	73	27	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	28	76	0	0	0	7	0	24	7	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	42	0	0	44	0	0	21	0	0	44
Total Hourly Volume [veh/h]	30	295	38	165	410	40	50	28	20	97	34	103
Peak Hour Factor	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900	0.6900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	107	14	60	149	14	18	10	7	35	12	37
Total Analysis Volume [veh/h]	43	428	55	239	594	58	72	41	29	141	49	149
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	5			90			5			89		
v_di, Inbound Pedestrian Volume crossing m	5			89			5			90		
v_co, Outbound Pedestrian Volume crossing	39			25			25			40		
v_ci, Inbound Pedestrian Volume crossing mi	40			25			25			39		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0
Split [s]	24	33	0	32	41	0	13	34	0	21	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	22	0	0	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	3	19	19	14	30	30	5	23	9	27
g / C, Green / Cycle	0.04	0.23	0.23	0.16	0.35	0.35	0.05	0.27	0.10	0.32
(v / s)_i Volume / Saturation Flow Rate	0.02	0.13	0.14	0.14	0.18	0.18	0.04	0.04	0.08	0.14
s, saturation flow rate [veh/h]	1767	1855	1691	1767	1855	1770	1767	1720	1767	1414
c, Capacity [veh/h]	67	427	389	285	656	626	95	466	180	451
d1, Uniform Delay [s]	40.26	28.99	29.27	34.51	21.59	21.66	39.59	23.51	37.19	22.89
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.81	1.22	1.56	6.49	0.60	0.65	11.40	0.15	7.24	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.57	0.61	0.84	0.50	0.51	0.76	0.15	0.78	0.44
d, Delay for Lane Group [s/veh]	50.07	30.21	30.83	41.00	22.19	22.31	51.00	23.66	44.43	23.56
Lane Group LOS	D	C	C	D	C	C	D	C	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.08	4.64	4.57	5.36	5.35	5.21	1.81	1.11	3.26	3.27
50th-Percentile Queue Length [ft/ln]	27.08	116.10	114.23	134.01	133.84	130.35	45.19	27.74	81.59	81.64
95th-Percentile Queue Length [veh/ln]	1.95	8.18	8.07	9.16	9.15	8.96	3.25	2.00	5.87	5.88
95th-Percentile Queue Length [ft/ln]	48.75	204.46	201.87	228.94	228.71	223.97	81.35	49.93	146.85	146.94

Movement, Approach, & Intersection Results

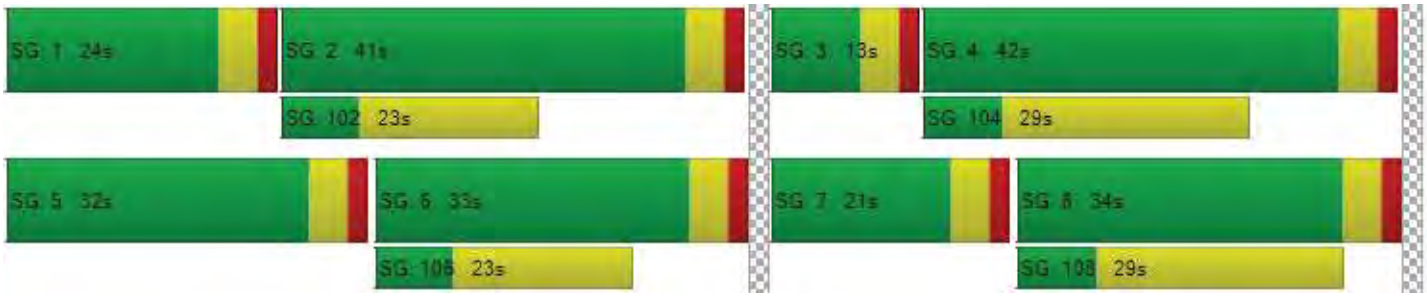
d_M, Delay for Movement [s/veh]	50.07	30.48	30.83	41.00	22.24	22.31	51.00	23.66	23.66	44.43	23.56	23.56
Movement LOS	D	C	C	D	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	32.11			27.28			37.52			32.24		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	30.27											
Intersection LOS	C											
Intersection V/C	0.457											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	1104.49	52.23	196.40	124.42
d_p, Pedestrian Delay [s]	32.08	32.08	32.08	32.08
l_p,int, Pedestrian LOS Score for Intersectio	2.488	2.518	2.024	2.123
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	661	850	685	873
d_b, Bicycle Delay [s]	18.99	14.01	18.33	13.44
l_b,int, Bicycle LOS Score for Intersection	2.028	2.331	1.829	2.192
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Lane

Control Type:	Two-way stop	Delay (sec / veh):	18.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

Name	Matterhorn Ln		5th St		5th St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Matterhorn Ln		5th St		5th St	
Base Volume Input [veh/h]	11	15	25	337	327	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	3.00	3.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	30	29	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	45	54	337	327	33
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	13	15	95	92	9
Total Analysis Volume [veh/h]	28	51	61	379	367	37
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.08	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	18.02	10.76	8.31	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.30	0.24	0.17	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.53	6.10	4.20	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.33		1.15		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.69					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: William Street / Saliman Road

Control Type:	Signalized	Delay (sec / veh):	35.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.635

Intersection Setup

Name	Saliman Rd			Saliman Rd			William St			William St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	2	0	0
Entry Pocket Length [ft]	275.00	100.00	100.00	160.00	100.00	100.00	215.00	100.00	225.00	325.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			William St			William St		
Base Volume Input [veh/h]	117	128	338	117	102	14	29	873	139	413	698	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	0	30	0	0	0	0	0	18	43	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	110	0	0	7	0	0	82	0	0	25
Total Hourly Volume [veh/h]	131	128	258	117	102	7	29	873	75	456	698	23
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	34	69	31	27	2	8	235	20	123	188	6
Total Analysis Volume [veh/h]	141	138	277	126	110	8	31	939	81	490	751	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	8			6			5			0		
v_di, Inbound Pedestrian Volume crossing m	0			5			6			8		
v_co, Outbound Pedestrian Volume crossing	1			0			1			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			1			1			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	4			1			3			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	10	0	5	10	0
Maximum Green [s]	40	40	0	30	40	0	20	35	0	26	35	0
Amber [s]	3.0	3.4	0.0	3.5	3.4	0.0	3.6	4.5	0.0	3.5	4.4	0.0
All red [s]	2.5	3.0	0.0	1.5	3.0	0.0	4.1	1.0	0.0	4.1	1.0	0.0
Split [s]	26	44	0	15	33	0	15	38	0	23	46	0
Vehicle Extension [s]	1.9	2.0	0.0	3.0	2.0	0.0	1.7	2.7	0.0	1.7	2.7	0.0
Walk [s]	0	9	0	0	14	0	0	9	0	0	8	0
Pedestrian Clearance [s]	0	28	0	0	12	0	0	21	0	0	20	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.5	4.4	0.0	3.0	4.4	0.0	5.7	3.5	0.0	5.6	3.4	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	Yes		No	Yes	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.40	6.40	6.40	6.40	6.40	6.40	7.70	5.50	5.50	7.60	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.40	4.40	0.00	4.40	4.40	5.70	3.50	3.50	5.60	3.40	3.40
g_i, Effective Green Time [s]	38	25	25	38	23	23	3	44	44	19	59	59
g / C, Green / Cycle	0.32	0.20	0.20	0.32	0.19	0.19	0.03	0.36	0.36	0.16	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.10	0.07	0.18	0.10	0.03	0.03	0.02	0.26	0.05	0.14	0.21	0.21
s, saturation flow rate [veh/h]	1454	1885	1558	1224	1885	1832	1795	3589	1577	3486	1885	1862
c, Capacity [veh/h]	518	386	319	418	367	356	49	1303	573	552	932	920
d1, Uniform Delay [s]	30.53	41.00	45.94	30.46	40.25	40.27	57.86	33.00	25.66	49.51	19.36	19.37
k, delay calibration	0.04	0.04	0.04	0.11	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.10	0.21	2.85	0.40	0.08	0.08	5.01	3.46	0.52	1.98	1.38	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.36	0.87	0.30	0.16	0.16	0.64	0.72	0.14	0.89	0.42	0.42
d, Delay for Lane Group [s/veh]	30.64	41.21	48.79	30.86	40.33	40.35	62.86	36.46	26.18	51.49	20.75	20.78
Lane Group LOS	C	D	D	C	D	D	E	D	C	D	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.17	3.65	8.40	2.78	1.49	1.48	0.99	11.99	1.61	7.21	7.00	6.93
50th-Percentile Queue Length [ft/ln]	79.27	91.14	210.06	69.51	37.28	36.91	24.66	299.77	40.17	180.15	174.94	173.35
95th-Percentile Queue Length [veh/ln]	5.71	6.56	13.16	5.00	2.68	2.66	1.78	17.67	2.89	11.61	11.34	11.25
95th-Percentile Queue Length [ft/ln]	142.69	164.05	328.90	125.12	67.10	66.45	44.38	441.75	72.31	290.21	283.39	281.31

Movement, Approach, & Intersection Results

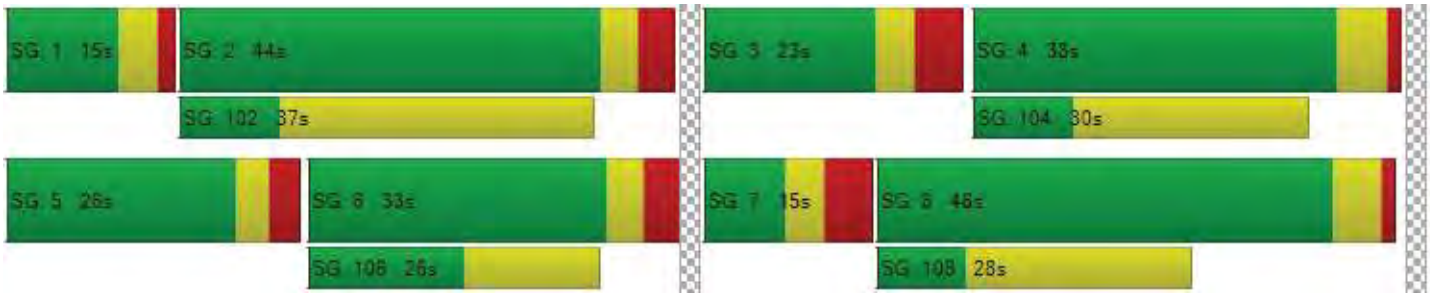
d_M, Delay for Movement [s/veh]	30.64	41.21	48.79	30.86	40.34	40.35	62.86	36.46	26.18	51.49	20.76	20.78
Movement LOS	C	D	D	C	D	D	E	D	C	D	C	C
d_A, Approach Delay [s/veh]	42.31			35.45			36.45			32.66		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	35.87											
Intersection LOS	D											
Intersection V/C	0.635											

Other Modes

g_Walk,mi, Effective Walk Time [s]	13.0	12.0	18.0	13.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	3834.88	7559.34	1059.20	784.36
d_p, Pedestrian Delay [s]	47.74	48.64	43.39	47.74
l_p,int, Pedestrian LOS Score for Intersectio	2.608	2.399	3.062	3.135
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	626	443	541	676
d_b, Bicycle Delay [s]	28.38	36.40	31.99	26.34
l_b,int, Bicycle LOS Score for Intersection	2.659	1.767	2.494	2.625
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	All-way stop	Delay (sec / veh):	18.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.610

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	21	397	61	139	471	58	62	15	21	52	17	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	22	61	0	0	0	6	0	16	5	44
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	397	83	200	471	58	62	21	21	68	22	151
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	112	23	56	132	16	17	6	6	19	6	42
Total Analysis Volume [veh/h]	24	446	93	225	529	65	70	24	24	76	25	170
Pedestrian Volume [ped/h]	4			2			4			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	439	466	481	457	487	498	421	461	425	483
Degree of Utilization, x	0.05	0.58	0.56	0.49	0.61	0.60	0.17	0.10	0.18	0.40

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.17	3.59	3.39	2.67	4.01	3.85	0.59	0.35	0.64	1.93
95th-Percentile Queue Length [ft]	4.33	89.67	84.72	66.74	100.25	96.35	14.79	8.66	16.11	48.27
Approach Delay [s/veh]	19.52			19.84			12.34		14.54	
Approach LOS	C			C			B		B	
Intersection Delay [s/veh]	18.43									
Intersection LOS	C									

Intersection Level Of Service Report
Intersection 3: Saliman Road / 5th Street

Control Type:	Signalized	Delay (sec / veh):	15.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.277

Intersection Setup

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	10.00	10.00	12.00	11.00	11.00	11.00	11.00	10.00	11.00	11.00	10.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	175.00	100.00	100.00	160.00	100.00	100.00	130.00	100.00	130.00	150.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			35.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			5th St			5th St		
Base Volume Input [veh/h]	86	287	154	89	276	100	126	358	80	112	231	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	15	0	11	5	6	6	0	12	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	88	0	0	55	0	0	42	0	0	29
Total Hourly Volume [veh/h]	86	303	81	89	287	50	132	364	38	124	235	27
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	84	23	25	80	14	37	101	11	34	65	8
Total Analysis Volume [veh/h]	96	337	90	99	319	56	147	404	42	138	261	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	1			0			1			0		
v_co, Outbound Pedestrian Volume crossing	1			0			2			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			2			0			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			1			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	20	30	0	20	30	0	0	30	0	0	30	0
Amber [s]	3.2	4.1	0.0	3.2	4.1	0.0	0.0	3.7	0.0	0.0	3.7	0.0
All red [s]	2.4	2.4	0.0	2.3	2.4	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.0	1.8	0.0	2.0	1.8	0.0	0.0	2.0	0.0	0.0	1.8	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	23	0	0	12	0	0	17	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.6	4.5	0.0	3.5	4.5	0.0	0.0	3.9	0.0	0.0	3.9	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	R
C, Cycle Length [s]	51	51	51	51	51	51	51	51	51	51	51	51
L, Total Lost Time per Cycle [s]	6.05	6.50	6.50	6.00	6.50	6.50	5.90	5.90	5.90	5.90	5.90	5.90
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.50	4.50	0.00	4.50	4.50	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	23	12	12	23	13	13	17	17	17	17	17	17
g / C, Green / Cycle	0.45	0.24	0.24	0.45	0.25	0.25	0.33	0.33	0.33	0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.12	0.12	0.07	0.10	0.10	0.13	0.12	0.12	0.15	0.14	0.02
s, saturation flow rate [veh/h]	1431	1885	1750	1425	1885	1786	1097	1885	1818	951	1885	1581
c, Capacity [veh/h]	588	454	421	576	468	444	335	616	594	324	616	516
d1, Uniform Delay [s]	12.84	16.69	16.73	13.51	16.08	16.10	20.00	13.17	13.19	19.50	13.46	11.81
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.30	0.33	0.05	0.21	0.23	0.34	0.14	0.14	0.33	0.17	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.48	0.49	0.17	0.41	0.41	0.44	0.37	0.37	0.43	0.42	0.06
d, Delay for Lane Group [s/veh]	12.89	16.99	17.06	13.56	16.29	16.33	20.34	13.31	13.33	19.83	13.63	11.83
Lane Group LOS	B	B	B	B	B	B	C	B	B	B	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.49	1.95	1.85	0.50	1.64	1.58	1.53	1.74	1.69	1.34	1.91	0.19
50th-Percentile Queue Length [ft/ln]	12.24	48.73	46.13	12.58	41.06	39.60	38.14	43.46	42.32	33.53	47.85	4.82
95th-Percentile Queue Length [veh/ln]	0.88	3.51	3.32	0.91	2.96	2.85	2.75	3.13	3.05	2.41	3.45	0.35
95th-Percentile Queue Length [ft/ln]	22.03	87.71	83.04	22.64	73.91	71.29	68.65	78.23	76.18	60.36	86.13	8.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	12.89	17.02	17.06	13.56	16.31	16.33	20.34	13.32	13.33	19.83	13.63	11.83
Movement LOS	B	B	B	B	B	B	C	B	B	B	B	B
d_A, Approach Delay [s/veh]	16.27			15.73			15.06			15.50		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	15.62											
Intersection LOS	B											
Intersection V/C	0.277											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	8248.55	0.00	8104.96	16969.63
d_p, Pedestrian Delay [s]	15.79	15.79	15.79	15.79
l_p,int, Pedestrian LOS Score for Intersectio	2.851	2.799	2.532	2.711
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1172	1172	1172	1172
d_b, Bicycle Delay [s]	4.39	4.39	4.40	4.40
l_b,int, Bicycle LOS Score for Intersection	2.064	1.996	2.083	2.315
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Robinson Street / Matterhorn Lane

Control Type:	Roundabout	Delay (sec / veh):	3.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Matterhorn Ln			Matterhorn Ln			Robinson St			Robinson St		
Base Volume Input [veh/h]	84	0	0	0	0	0	0	0	91	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	2.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	9	0	30	62	78	22	0	6	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	36	9	0	30	62	78	22	91	6	14	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	10	3	0	8	17	22	6	25	2	4	0
Total Analysis Volume [veh/h]	93	40	10	0	33	69	87	24	101	7	16	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	112			117			40			222		
Exiting Flow Rate [veh/h]	142			128			180			35		
Demand Flow Rate [veh/h]	84	36	9	0	30	62	78	22	91	6	14	0
Adjusted Demand Flow Rate [veh/h]	93	40	10	0	33	69	87	24	101	7	16	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.99	0.99	0.99	0.98
Entry Flow Rate [veh/h]	145	104	215	24
Capacity of Entry and Bypass Lanes [veh/h]	1231	1225	1325	1101
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1218	1213	1310	1079
X, volume / capacity	0.12	0.08	0.16	0.02

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.40	0.28	0.58	0.07
95th-Percentile Queue Length [ft]	9.95	6.88	14.43	1.63
Approach Delay [s/veh]	3.94	3.66	4.09	3.52
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	3.93			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Lane

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

Intersection Setup

Name				Matterhorn Ln			5th St			5th St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Matterhorn Ln			5th St			5th St		
Base Volume Input [veh/h]	22	0	15	14	0	20	34	508	37	26	353	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	1.00	2.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	9	0	18	23	0	0	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	20	0	0	19	0	0	19
Total Hourly Volume [veh/h]	22	0	7	23	0	18	57	508	18	26	353	18
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	2	6	0	5	16	141	5	7	98	5
Total Analysis Volume [veh/h]	24	0	8	26	0	20	63	564	20	29	392	20
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	20	30	0	20	30	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	0.0	1.5	0.0	0.0	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	14	0	0	17	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	C	R	L	C	R
C, Cycle Length [s]	29	29	29	29	29	29	29	29	29	29
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	2	2	2	2	17	11	11	17	10	10
g / C, Green / Cycle	0.05	0.05	0.05	0.05	0.60	0.38	0.38	0.60	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.02	0.01	0.02	0.01	0.05	0.30	0.01	0.03	0.21	0.01
s, saturation flow rate [veh/h]	1392	1589	1418	1589	1220	1885	1589	1056	1885	1602
c, Capacity [veh/h]	252	87	252	87	941	727	613	790	664	565
d1, Uniform Delay [s]	14.35	12.89	14.35	12.98	2.84	7.73	5.49	3.37	7.60	6.10
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.16	0.45	0.18	1.33	0.03	1.82	0.02	0.02	0.84	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.09	0.10	0.23	0.07	0.78	0.03	0.04	0.59	0.04
d, Delay for Lane Group [s/veh]	14.51	13.34	14.53	14.31	2.87	9.55	5.51	3.39	8.44	6.12
Lane Group LOS	B	B	B	B	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.13	0.05	0.15	0.13	0.01	1.62	0.04	0.00	1.05	0.04
50th-Percentile Queue Length [ft/ln]	3.37	1.20	3.81	3.26	0.19	40.39	0.88	0.10	26.33	1.02
95th-Percentile Queue Length [veh/ln]	0.24	0.09	0.27	0.23	0.01	2.91	0.06	0.01	1.90	0.07
95th-Percentile Queue Length [ft/ln]	6.07	2.17	6.86	5.87	0.35	72.70	1.58	0.19	47.39	1.83

Movement, Approach, & Intersection Results

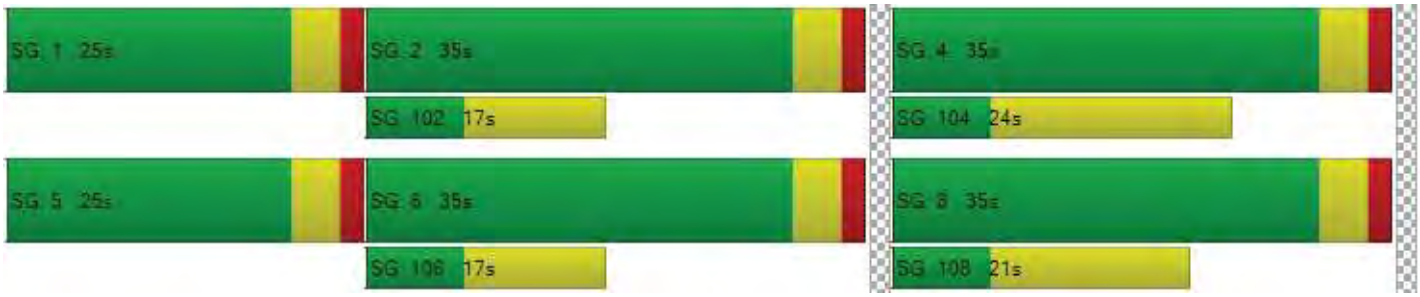
d_M, Delay for Movement [s/veh]	14.51	13.34	13.34	14.53	14.31	14.31	2.87	9.55	5.51	3.39	8.44	6.12
Movement LOS	B	B	B	B	B	B	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	14.22			14.43			8.77			8.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	8.85											
Intersection LOS	A											
Intersection V/C	0.326											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	5.42	5.42	5.42	5.42
l_p,int, Pedestrian LOS Score for Intersectio	1.930	1.977	2.578	2.467
Crosswalk LOS	A	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2098	2098	2098	2098
d_b, Bicycle Delay [s]	0.03	0.03	0.03	0.03
l_b,int, Bicycle LOS Score for Intersection	1.626	1.669	2.659	2.319
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Saliman Road / Robinson Street

Control Type:	Signalized	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

Intersection Setup

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	150.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00			15.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Saliman Rd			Saliman Rd			Robinson St			Robinson St		
Base Volume Input [veh/h]	21	397	61	139	471	58	62	15	21	52	17	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	22	61	0	0	0	6	0	16	5	44
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	43	0	0	30	0	0	11	0	0	45
Total Hourly Volume [veh/h]	21	397	40	200	471	28	62	21	10	68	22	106
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	112	11	56	132	8	17	6	3	19	6	30
Total Analysis Volume [veh/h]	24	446	45	225	529	31	70	24	11	76	25	119
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			2			1		
v_di, Inbound Pedestrian Volume crossing m	2			1			2			1		
v_co, Outbound Pedestrian Volume crossing	0			2			2			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			2			2			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5	1.5	0.0
Split [s]	30	37	0	34	41	0	15	34	0	15	34	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	16	0	0	16	0	0	22	0	0	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	L	C
C, Cycle Length [s]	44	44	44	44	44	44	44	44	44	44
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
g_i, Effective Green Time [s]	1	9	9	7	15	15	3	5	3	5
g / C, Green / Cycle	0.03	0.19	0.19	0.17	0.33	0.33	0.07	0.12	0.07	0.12
(v / s)_i Volume / Saturation Flow Rate	0.01	0.13	0.13	0.13	0.15	0.15	0.04	0.02	0.04	0.09
s, saturation flow rate [veh/h]	1795	1885	1825	1795	1885	1847	1795	1780	1795	1638
c, Capacity [veh/h]	53	368	356	300	627	615	118	212	124	201
d1, Uniform Delay [s]	21.24	16.59	16.61	17.65	11.65	11.65	20.20	17.60	20.12	18.77
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.07	2.17	2.29	3.79	0.51	0.52	4.68	0.36	4.82	4.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.68	0.68	0.75	0.45	0.45	0.59	0.17	0.61	0.72
d, Delay for Lane Group [s/veh]	27.31	18.76	18.90	21.44	12.15	12.17	24.88	17.96	24.94	23.51
Lane Group LOS	C	B	B	C	B	B	C	B	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.33	2.43	2.38	2.39	2.09	2.05	0.83	0.33	0.90	1.62
50th-Percentile Queue Length [ft/ln]	8.14	60.73	59.53	59.72	52.23	51.32	20.78	8.25	22.52	40.57
95th-Percentile Queue Length [veh/ln]	0.59	4.37	4.29	4.30	3.76	3.70	1.50	0.59	1.62	2.92
95th-Percentile Queue Length [ft/ln]	14.66	109.31	107.16	107.49	94.02	92.38	37.40	14.85	40.54	73.03

Movement, Approach, & Intersection Results

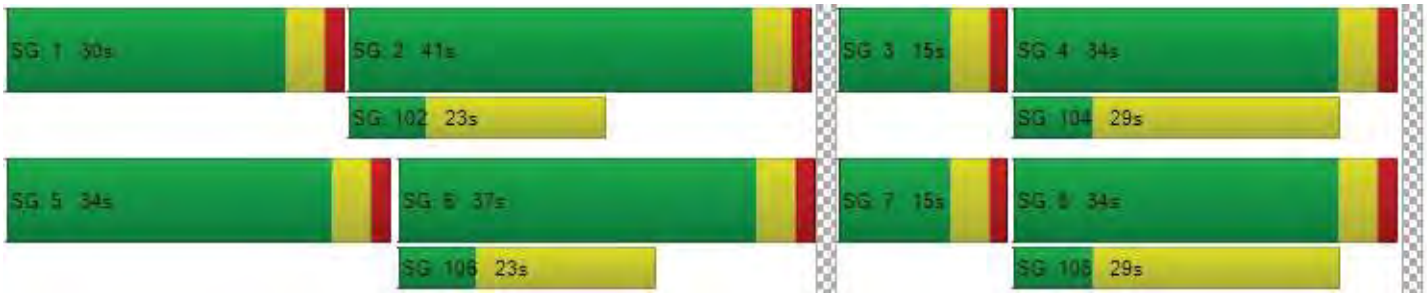
d_M, Delay for Movement [s/veh]	27.31	18.82	18.90	21.44	12.16	12.17	24.88	17.96	17.96	24.94	23.51	23.51
Movement LOS	C	B	B	C	B	B	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	19.22			14.82			22.58			24.01		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.96											
Intersection LOS	B											
Intersection V/C	0.385											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	5421.38	10158.18	5061.12	0.00
d_p, Pedestrian Delay [s]	12.54	12.54	12.54	12.54
l_p,int, Pedestrian LOS Score for Intersectio	2.435	2.447	1.951	2.061
Crosswalk LOS	B	B	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1443	1624	1308	1308
d_b, Bicycle Delay [s]	1.72	0.78	2.65	2.65
l_b,int, Bicycle LOS Score for Intersection	2.020	2.232	1.751	1.997
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: 5th Street / Matterhorn Lane

Control Type:	Two-way stop	Delay (sec / veh):	22.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.114

Intersection Setup

Name	Matterhorn Ln		5th St		5th St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	100.00	100.00	150.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Matterhorn Ln		5th St		5th St	
Base Volume Input [veh/h]	14	20	34	508	353	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	18	23	0	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	38	57	508	353	37
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	11	16	141	98	10
Total Analysis Volume [veh/h]	26	42	63	564	392	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.06	0.06	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	22.78	10.84	8.37	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.38	0.20	0.18	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	9.49	5.09	4.41	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.40		0.84		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.40					
Intersection LOS	C					

Carson City Property Inquiry

Property Information

Parcel ID	010-041-40	**Parcel Acreage**	58.5200
Tax Year	2023		
Land Use Group	VAC	**Assessed Value**	843,125
Land Use	120 - Vacant - Single Family Residential	**Tax Rate**	0.0000
		Total Tax	$0.00
Zoning	A	**Fiscal Year (2023 - 2024)**	
Tax District	024		
Site Address	2230 E FIFTH ST	**Total Unpaid All Years**	$0.00
Neighborhood	Book 10, Lompa Ranch East		Pay Taxes

No Sketches or Photos

Assessments

Taxable Value	Land	Building	Per. Property	Totals
Residential	2,408,929	0	0	**2,408,929**
Com / Ind.	0	0	0	**0**
Agricultural	0	0	0	**0**
Exempt	0	0	0	**0**
Pers. Exempt				**0**
Total	**2,408,929**	**0**	**0**	**2,408,929**

Assessed Value	Land	Building	Per. Property	Totals
Residential	843,125	0	0	**843,125**
Com / Ind.	0	0	0	**0**
Agricultural	0	0	0	**0**
Exempt	0	0	0	**0**
Pers. Exempt				**0**
Total	**843,125**	**0**	**0**	**843,125**

	New Land	New Const.	New P.P.
Residential	0	0	0
Com / Ind.	0	0	0
Agricultural	0	0	0
Exempt	0	0	0
Totals	0	0	0

Assessor Descriptions

Year	Assessor Descriptions	Subdivision	Section	Township	Range	Block & Lot
Current Year 2023						
2023	B1, R/S 3007, DOC # 516791		16	15N	20E	

No Personal Exemptions

No Billing Information

Payment History

	Fiscal Year	Total Due	Total Paid	Amount Unpaid
⊕	(2022 - 2023)	$31,494.68	$31,494.68	$0.00
⊕	(2021 - 2022)	$30,877.19	$30,877.19	$0.00

Related Names

CURRENT OWNER FOR 2023 (2023 - 2024)
Name RD LOMPA LLC
Mailing Address
Status Current
Account

CURRENT Mail To FOR 2023 (2023 - 2024)
Name RD LOMPA LLC
Mailing Address ATTN: STEVE THOMSEN
985 DAMONTE RANCH PKWY, SUITE 140
RENO, NV, 89521
Status Current
Account

No Structure Information

Sales History

DISCLAIMER: SOME DOCUMENTS MAY NOT BE SHOWN

Year	Document #	Document Type	Sale Date	Sold By	Sold To	Price
2023	536845	EASEMENT DEED	11/21/2022			$0
2022	528362	EASEMENT DEED	12/27/2021			$0
2021	519867	GRANT BARGAIN SALE DEED	4/30/2021	MYERS FAMILY EXEMPT TR 3/16/17 JOSHUA MYERS	RD LOMPA LLC	$7,752,000
2021	516791	BOUNDARY LINE ADJUSTMENT	2/19/2021			$0
2021	516792	RECORD OF SURVEY	2/19/2021			$0

Parcel Genealogy

Relationship	Parcel Number	Action	Year	Change Effective Year	Completed
Parent Parcel	01004171	A	2021	2021	Yes

No Taxing Entity Information

TENTATIVE SUBDIVISION MAP
for
BLACKSTONE RANCH PHASE 2

CARSON CITY, NEVADA

DEVELOPMENT INFORMATION

OWNER: RD LOMPA, LLC
CONTACT: STEVE THOMSEN
985 DAMONTE RANCH PARKWAY, STE, 140
RENO, NV 89521
(775) 823-3788

DEVELOPER: RYDER HOMES
CONTACT: STEVE THOMSEN
985 DAMONTE RANCH PARKWAY, STE, 140
RENO, NV 89521
(775) 823-3788

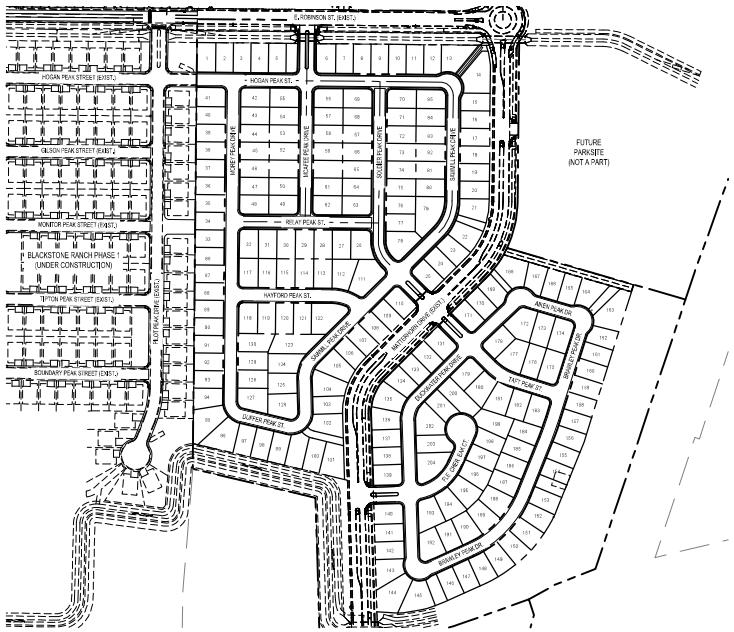
CIVIL ENGINEER: JK ARCHITECTURE ENGINEERING
CONTACT: KEN ANDERSON
1311 N. McCarran Blvd., STE, 103
SPARKS, NV 89434
(775) 507-7008

LANDSCAPE ARCHITECT: L.A. STUDIO NEVADA
CONTACT: RYAN HANSEN
1552 C STREET
SPARKS, NV 89431
(775) 325-2223

PROJECT DATA

ASSESSOR PARCEL NUMBER	10-041-40
LAND USE DESIGNATION	MEDIUM DENSITY RESIDENTIAL
CURRENT ZONING	A (AGRICULTURAL)
TOTAL PROJECT AREA	±58.52 ACRES
TOTAL UNITS	204 SINGLE-FAMILY HOMES
TOTAL LOT AREA	±31.41 ACRES
RIGHT-OF-WAY AREA	±16.91 ACRES
COMMON AREA/OPEN SPACE	±10.20 ACRES
PROJECT DENSITY	3.49 DWELLING UNITS/ACRE
MINIMUM LOT SIZE	±6,000 SF
MAXIMUM LOT SIZE	±10,924 SF
AVERAGE LOT SIZE	±6,706 SF

VICINITY MAP
SCALE: NTS



SITE LAYOUT
SCALE: 1" = 200'

SHEET INDEX

LANDSCAPE SHEET INDEX

ABBREVIATIONS

AC	---	ASPHALTIC CONCRETE	LF	---	LINEAL FEET
AP	---	ANGLE POINT	LP	---	LOW POINT
BC	---	BEGIN CURVE	LS	---	LIGHT STANDARD
BFC	---	BACK FACE CURB	LT	---	LEFT
BSW	---	BACK OF SIDEWALK	MH	---	MANHOLE
BVC	---	BEGIN VERTICAL CURVE	P	---	PAD ELEVATION
CB	---	CATCH BASIN	PI	---	POINT OF INTERSECTION
CH	---	CHORD	PO	---	PUSH ON
CL	---	CENTERLINE	PRC	---	POINT OF REVERSE CURVATURE
CMP	---	CORRUGATED METAL PIPE	POT	---	POINT OF TANGENT
CONC	---	CONCRETE	PVC	---	POLYVINYL CHLORIDE PIPE
CONST	---	CONSTRUCT	PL	---	PROPERTY LINE
CP	---	CONCRETE PIPE	(R)	---	RADIAL
DET	---	DETAILS	R	---	RADIUS
DI	---	DROP INLET / DUCTILE IRON	RCP	---	REINFORCED CONCRETE PIPE
DWY	---	DRIVEWAY	RE	---	RECLAIMED EFFLUENT WATER
EC	---	END OF CURVE	REF	---	REFERENCE
EG	---	EXISTING GRADE	RET	---	RETURN
ELEV	---	ELEVATION	RT	---	RIGHT
EP	---	EDGE OF PAVEMENT	R/W	---	RIGHT OF WAY
EVC	---	END VERTICAL CURVE	SD	---	STORM DRAIN
EXIST	---	EXISTING	SDCO	---	STORM DRAIN CLEAN OUT
FF	---	FINISH FLOOR	SHT.	---	SHEET
FFC	---	FRONT FACE CURB	SS	---	SANITARY SEWER
FG	---	FINISH GRADE	SSCO	---	SANITARY SEWER CLEAN OUT
FH	---	FIRE HYDRANT	SW	---	SIDEWALK
FL	---	FLOW LINE	SS	---	SANITARY SEWER
FLG	---	FLANGE	STA	---	STATION
FVA	---	FLUSH VALVE ASSEMBLY	T	---	TANGENT
G	---	GAS	TC	---	TOP OF CURB
GB	---	GRADE BREAK	TP	---	TOP OF PAVEMENT
GV	---	GATE VALVE	TYP	---	TYPICAL
HORIZ	---	HORIZONTAL	VC	---	VERTICAL CURVE
HP	---	HIGH POINT	VERT	---	VERTICAL
IE	---	INVERT ELEVATION	VPI	---	VERTICAL POINT OF INTERSECTION
INT	---	INTERSECTION	W	---	WATER
L	---	LENGTH	WSE	---	WATER SURFACE ELEVATION

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS PROJECT IS NEVADA COORDINATE SYSTEM OF 1983, WEST ZONE. (NAD 83/94), CARSON CITY DATUM. DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC018 HAVE AN ELEVATION OF 4642.237

FLOOD ZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 3200010111H DATED JUNE 20, 2019, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSON CITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

ENGINEER'S CERTIFICATE

I KENNETH W. ANDERSON, DO HEREBY CERTIFY THAT THIS MAP HAS BEEN PREPARED BY ME, OR UNDER MY SUPERVISION AND WAS COMPLETED ON THIS 9TH DAY OF FEBRUARY, 2023.

KENNETH W. ANDERSON
Exp 12-31-24
CIVIL
No. 15598
STATE OF NEVADA

02.09.2023

KENNETH W. ANDERSON — P.E. #15598

JK ARCHITECTURE ENGINEERING
AUBURN | TAHOE CITY | RENO | SAN JOSE
www.jkaedesign.com

Drawn By: KP
Checked By: KA
Project No.: 21-200
Date: 2/9/2023

NO.	DATE	ISSUE

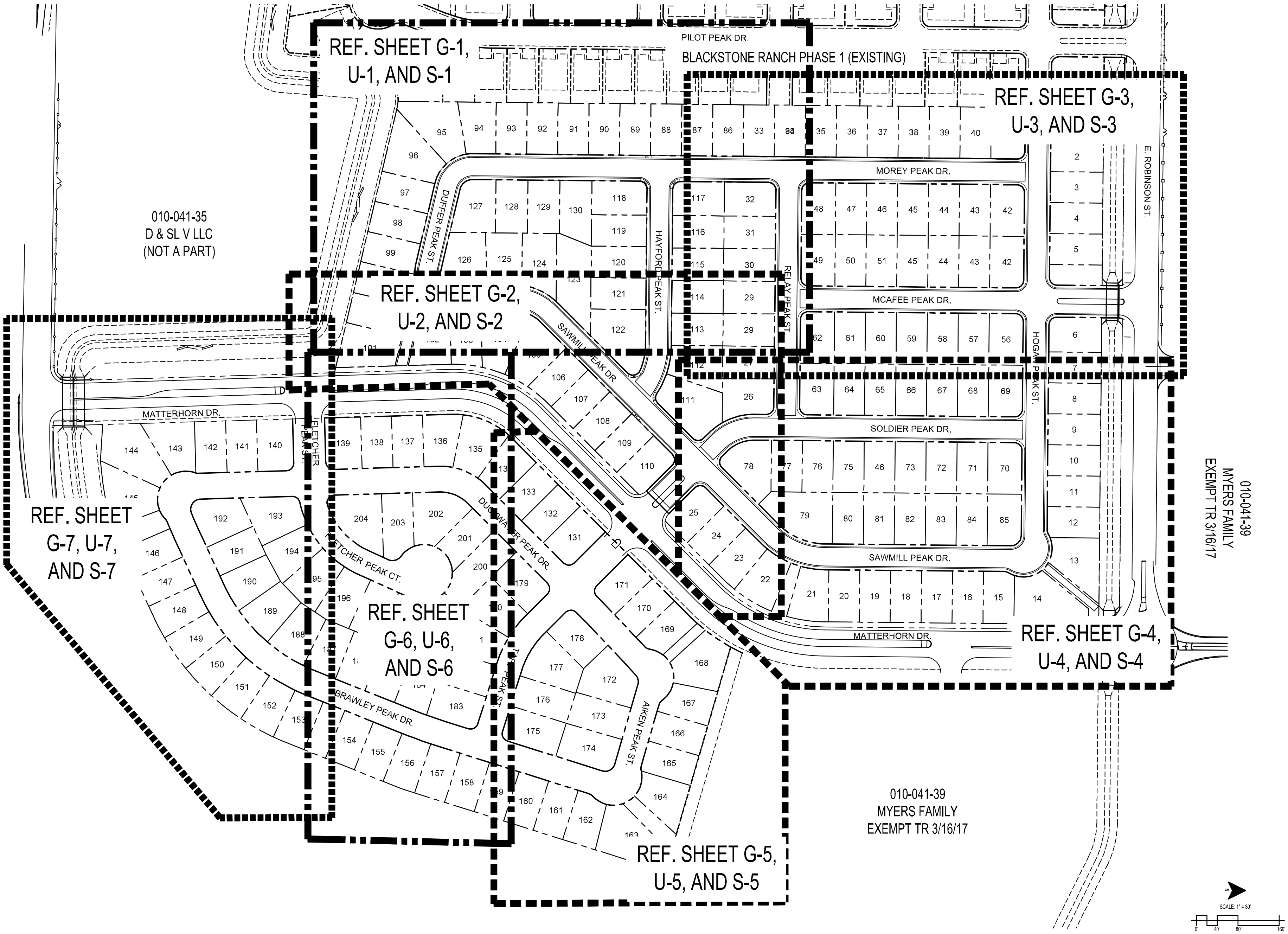
Seal

Drawing Title: TITLE SHEET

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

T-1

1 OF 24



JK ARCHITECTURE ENGINEERING
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Drawn By: KP
Checked By: KA
Project No.: 21-200
Date: 2/8/2023

NO.	DATE	ISSUE

Seal: PROFESSIONAL ENGINEER · STATE OF NEVADA · KENNETH W. ANDERSON · Exp 12-31-24 · CIVIL · No. 15596 · 02.09.2023

Drawing Title: **OVERALL SITE**

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

S-0
2 OF 24

SITE NOTES

1. FOR ALL PAVEMENT MARKING AND TEXT, REFERENCE DETAIL SHEETS. PAVEMENT MARKINGS SHALL CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
2. ALL SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009 ADDITION.
3. PAINT USED IN ALL STRIPING AND CURB MARKINGS SHALL CONFORM TO CARSON CITY PUBLIC WORKS STANDARDS.
4. COMMON AREA "B" WILL REQUIRES A PUBLIC ACCESS AND UTILITY EASEMENT WITH THE RECORDATION OF A FINAL MAP.
5. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%.

STRIPING MATERIALS

ALL LONGITUDINAL PAVEMENT STRIPING SHALL CONSIST OF TRAFFIC-RATED PAINT AS SPECIFIED IN SECTION 214 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OR AN APPROVED EQUIVALENT. TRANSVERSE STRIPING, LETTERS, AND SYMBOLS SHALL BE INSTALLED WITH PREFORMED THERMOPLASTIC MATERIAL WITH A MINIMUM THICKNESS OF 0.125 INCH. ALL STRIPING MATERIALS ARE TO BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4643.03'

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 3200010111H DATED JUNE 20, 2019, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSONCITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

811 Know what's below. Call before you dig.

SCALE: 1" = 30'

LEGEND

- PROPERTY LINE / RIGHT OF WAY (ROW)
- ROAD CENTER LINE
- 6' GOOD NEIGHBOR FENCE
- SIGN
- ASPHALT PAVEMENT
- ASPHALT PAVEMENT (EXISTING)
- CONCRETE
- STREET LIGHT

JK ARCHITECTURE ENGINEERING
AUBURN | TAHOE CITY | RENO | SAN JOSE
www.jkaedesign.com

Drawn By	KP
Checked By	KA
Project No.	21-200
Date	2/9/2023

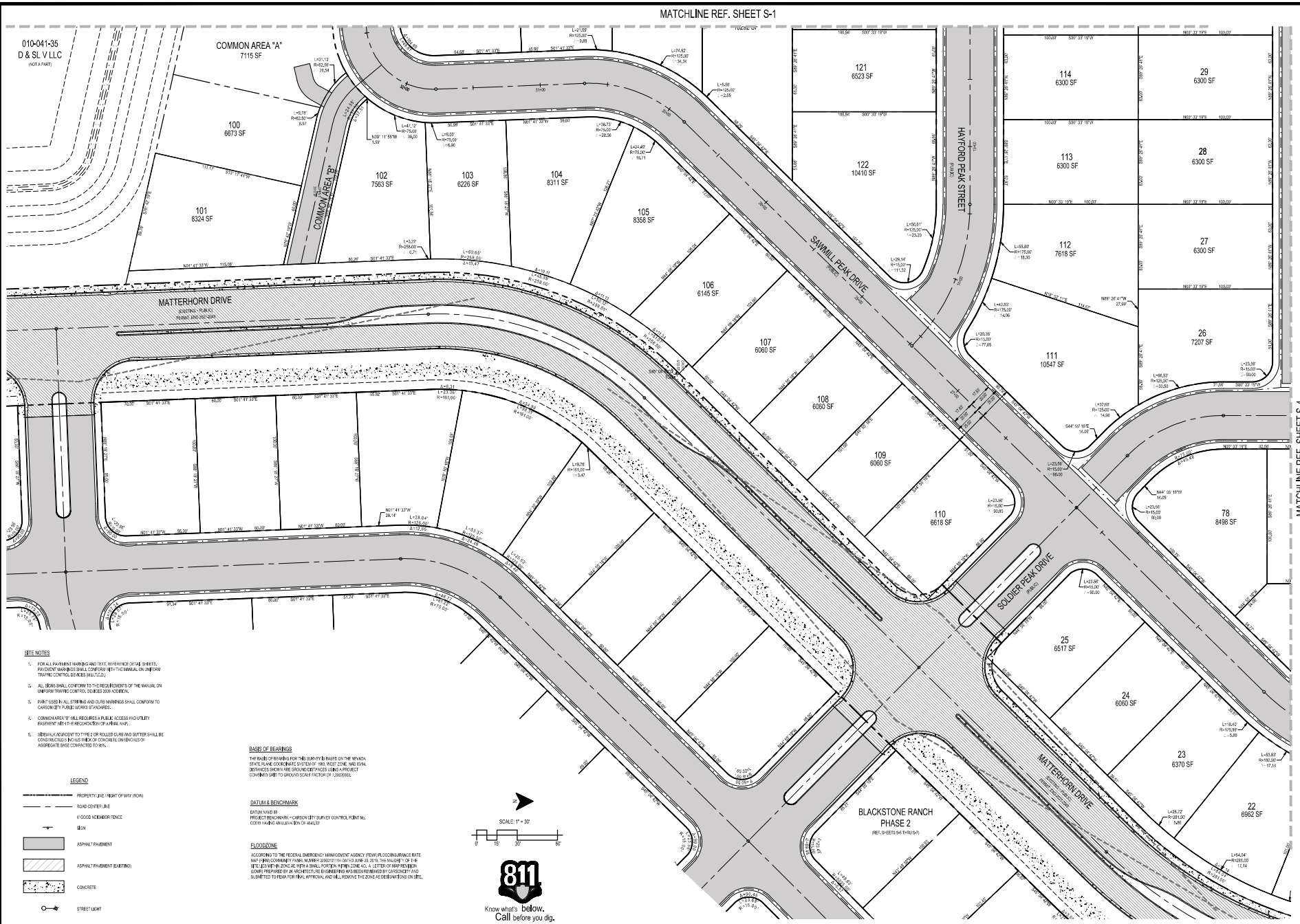
NO.	DATE	ISSUE

Seal
PROFESSIONAL ENGINEER · STATE OF NEVADA · KENNETH W. ANDERSON · Exp 12-31-24 · CIVIL · No. 15596
02.09.2023

Drawing Title
SITE PLAN

Project
TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

S-1
3 OF 24



SITE NOTES

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LEGEND

- PROPERTY LINE / RIGHT OF WAY (ROW)
- ROAD CENTER LINE
- 6' GOOD NEIGHBOR FENCE
- SIGN
- ASPHALT PAVEMENT
- ASPHALT PAVEMENT (EXISTING)
- CONCRETE
- STREET LIGHT

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM NAVD 88
PROJECT BENCHMARK - CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4643.87

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 32009C1211 H, DATED JUNE 20, 2018, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSON CITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

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Project No.: 21-200
Date: 2/6/2023

NO.	DATE	ISSUE

Seal

NEVADA REGISTERED PROFESSIONAL ENGINEER KENNETH W. ANDERSON Exp 12-31-24 CIVIL

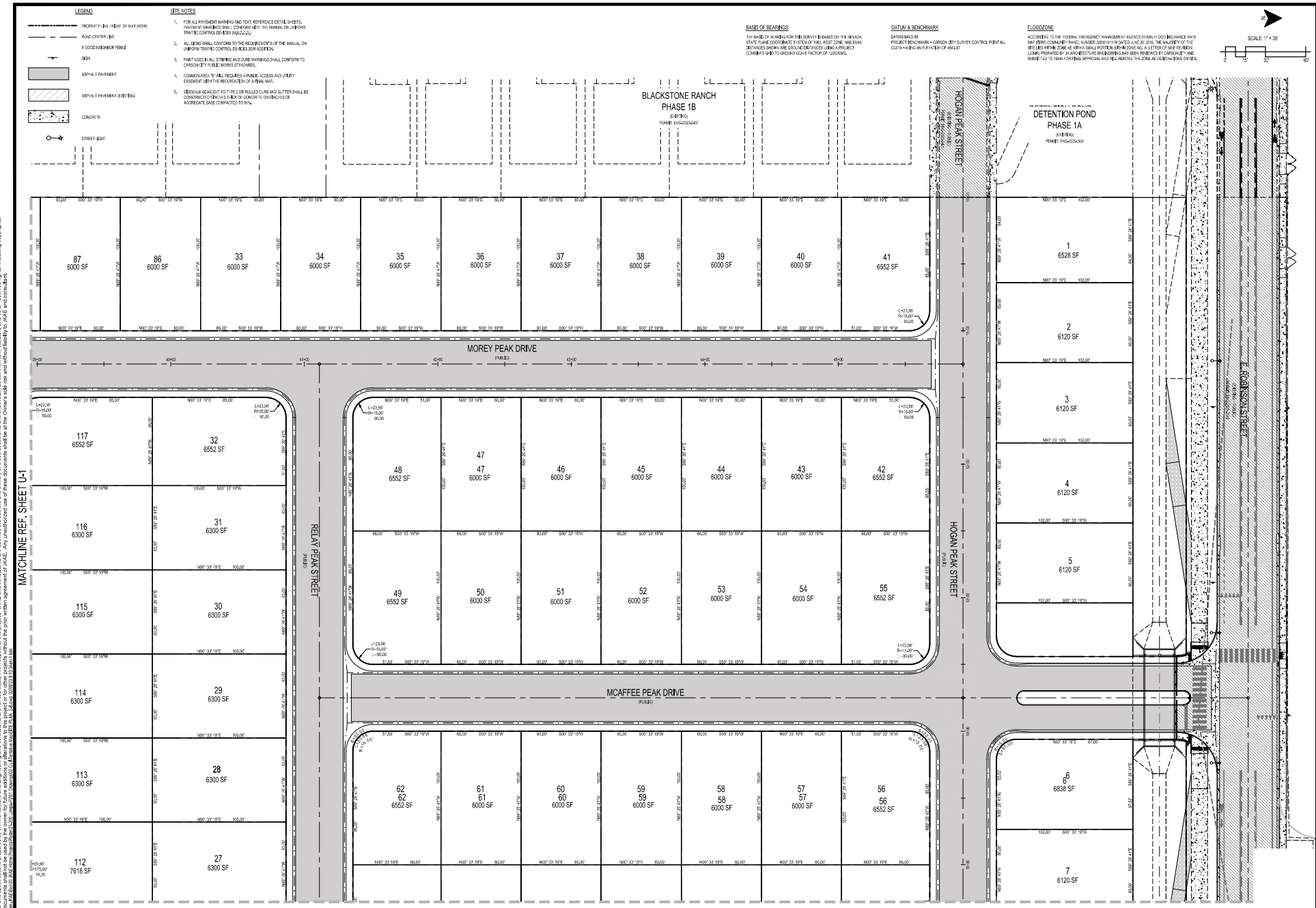
02.09.2023

Drawing Title
SITE PLAN

Project
TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

S-2

4 OF 24



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Seal
KENNETH W. ANDERSON
Exp 12-31-24
CIVIL
02.09.2023

Drawing Title
SITE PLAN

Project
TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

S-3
5 OF 24

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94. DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.000289000.

DATUM & BENCHMARK

DATUM NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4543.03'

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 32001I0119 DATED JUNE 20, 2018, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN RANDERED BY CARSON CITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

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Date: 2/6/2023

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Seal: NEVADA LICENSED ENGINEER - STATE OF NEVADA - KENNETH W. ANDERSON - Exp 12-31-24 - CIVIL

02.09.2023

Drawing Title: SITE PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

S-4

6 OF 24

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Seal
KENNETH W. ANDERSON
Exp 6-30-24
CIVIL
STATE OF NEVADA
No. 15899
02.09.2023

Drawing Title
SITE PLAN

Project
TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

S-5
7 OF 24

MATCHLINE REF. SHEET S-5

MATCHLINE REF. SHEET S-7

LEGEND

- PROPERTY LINE / RIGHT OF WAY (ROW)
- ROAD CENTER LINE
- 6' GOOD NEIGHBOR FENCE
- SIGN
- ASPHALT PAVEMENT
- ASPHALT PAVEMENT (EXISTING)
- CONCRETE
- STREET LIGHT

SITE NOTES

1. FOR ALL PAVEMENT MARKING AND TEXT, REFERENCE DETAIL SHEETS. PAVEMENT MARKINGS SHALL CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
2. ALL SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009 ADDITION.
3. PAINT USED IN ALL STRIPING AND CURB MARKINGS SHALL CONFORM TO CARSON CITY PUBLIC WORKS STANDARDS.
4. COMMON AREA "B" WILL REQUIRES A PUBLIC ACCESS AND UTILITY EASEMENT WITH THE RECORDATION OF A FINAL MAP.
5. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%.

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4643.03'

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 3200010111H DATED JUNE 20, 2019, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSONCITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

N
SCALE: 1" = 30'
0' 15' 30' 60'

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Date: 2/9/2023

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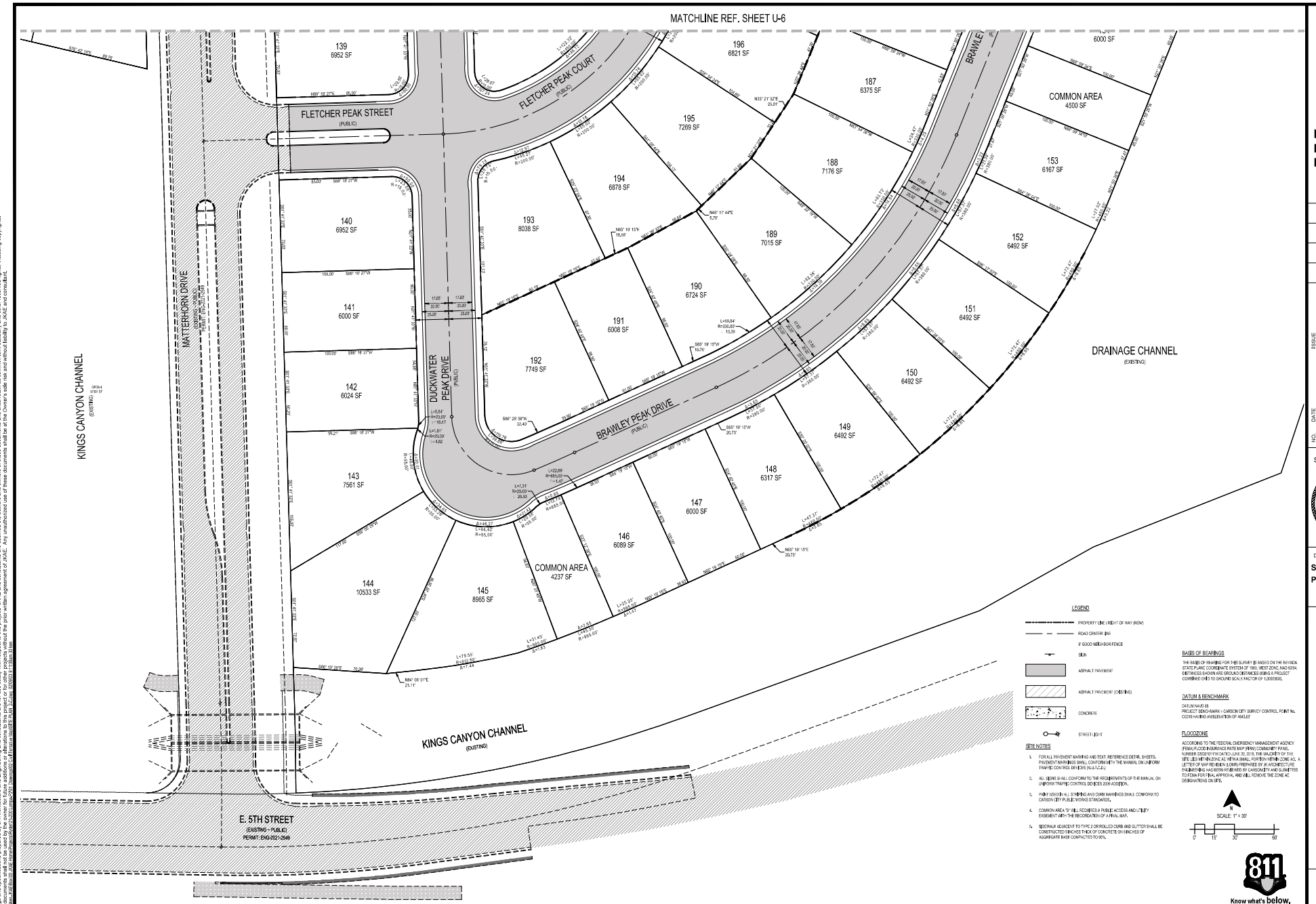
Seal: KENNETH W. ANDERSON, Exp 12-31-24, CIVIL, No. 15598, PROFESSIONAL ENGINEER - STATE OF NEVADA, 02.09.2023

Drawing Title: SITE PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY, NEVADA

S-6



LEGEND

- PROPERTY LINE (RIGHT OF WAY (ROW))
- ROAD CENTER LINE
- 6' GOOD NEIGHBOR FENCE
- SIGN
- ASPHALT PAVEMENT
- ASPHALT PAVEMENT (EXISTING)
- CONCRETE
- STREET LIGHT

SITE NOTES

1. FOR ALL PAVEMENT MARKING AND TEXT, REFERENCE DETAIL SHEETS. PAVEMENT MARKINGS SHALL CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. ALL SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009 EDITION.
3. PAINT USED IN ALL STRIPING AND CURB MARKINGS SHALL CONFORM TO CARSON CITY PUBLIC WORKS STANDARDS.
4. COMMON AREA "D" WILL RECEIVE A PUBLIC ACCESS AND UTILITY EASEMENT WITH THE RECORDATION OF A FINAL MAP.
5. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%.

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94. DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00030000.

DATUM & BENCHMARK

DATUM NAD 83
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC015 HAVING AN ELEVATION OF 4643.67

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 32001C0719H DATED JUNE 20, 2018, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSON CITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

SCALE: 1" = 30'

0 15' 30' 60'

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Seal

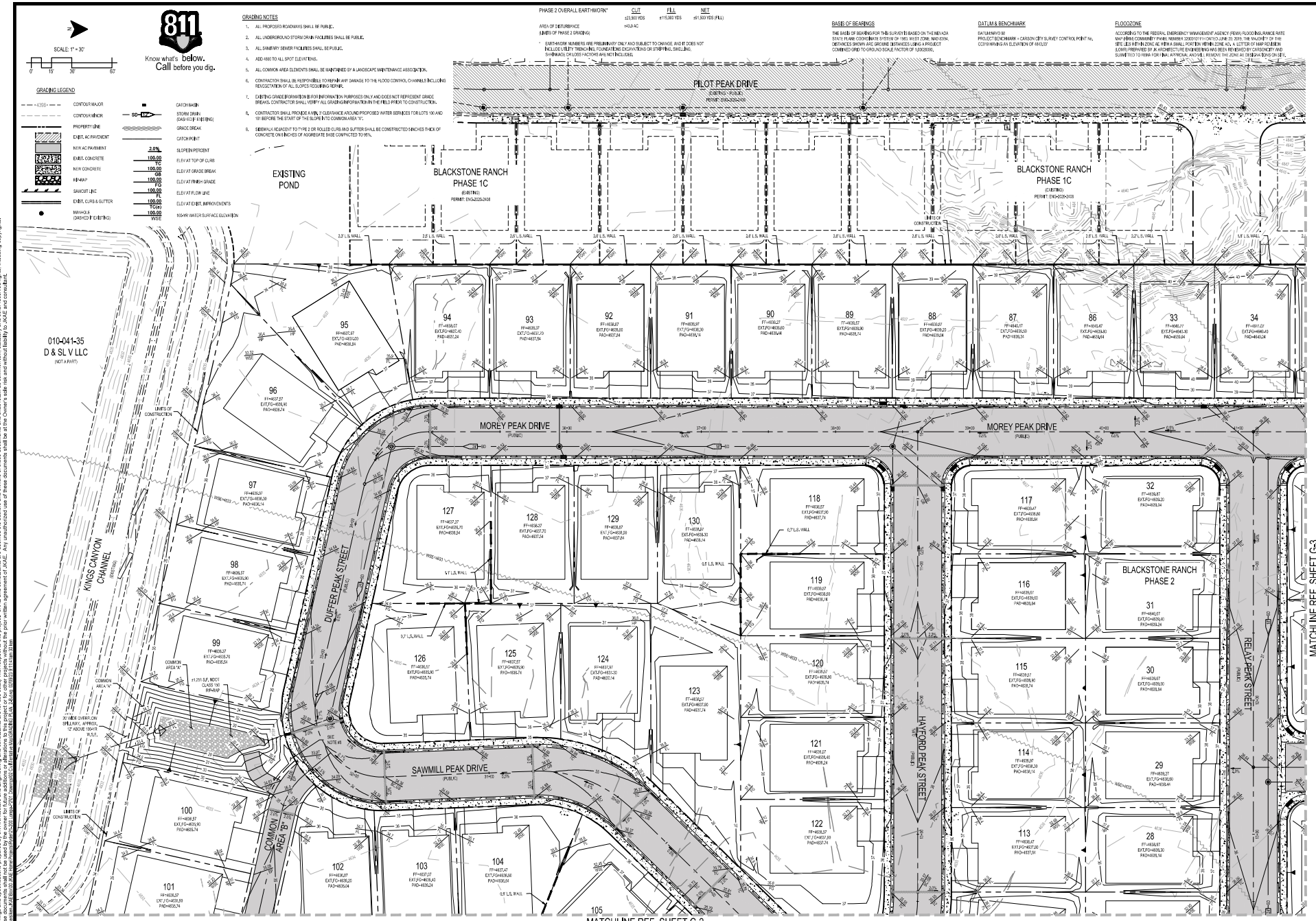
KENNETH W. ANDERSON
Exp 12-31-24
CIVIL
No. 18899
STATE OF NEVADA
02.09.2023

Drawing Title
SITE PLAN

Project
TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

S-7

9 OF 24



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Seal
KENNETH W. ANDERSON
Exp 12-31-24
CIVIL
02.09.2023

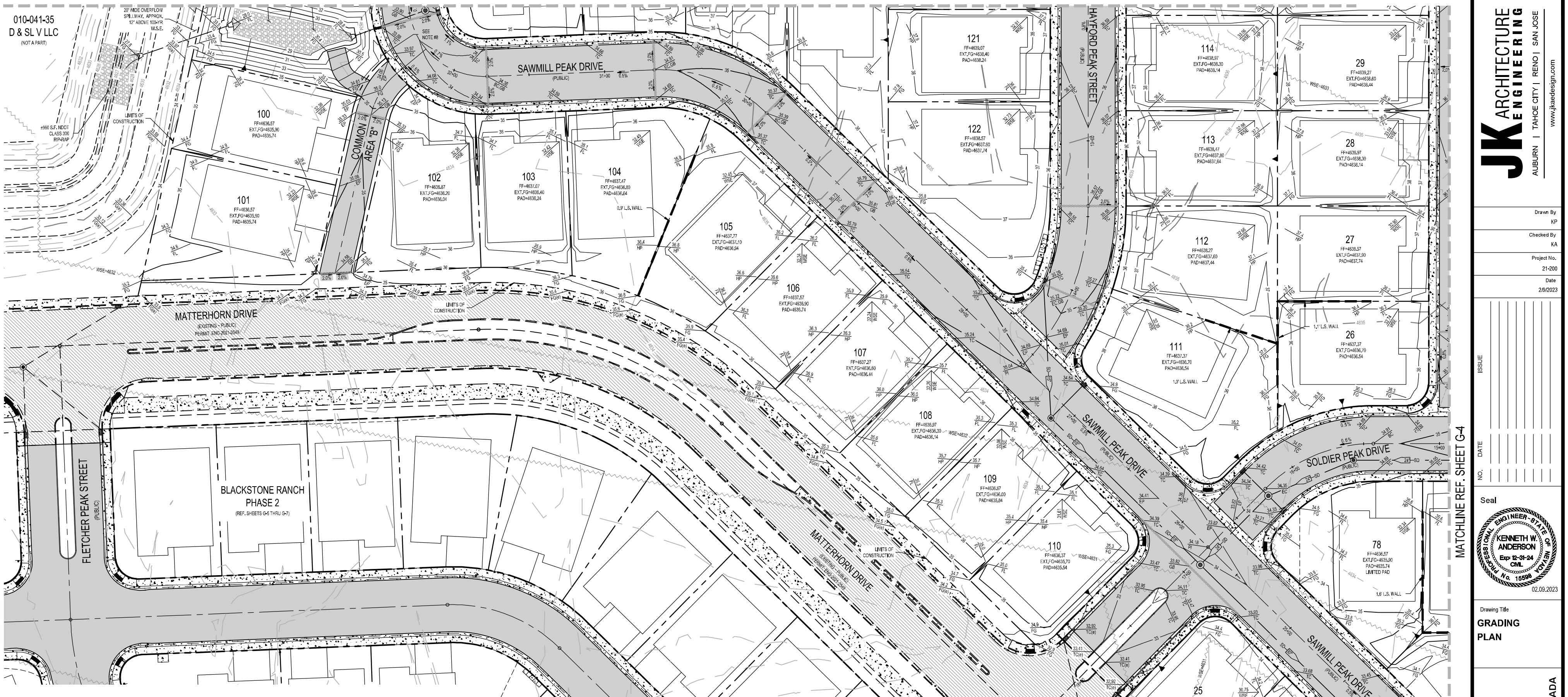
Drawing Title
GRADING PLAN

Project
TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

G-1

10 OF 24

MATCHLINE REF. SHEET G-1



GRADING NOTES

1. ALL PROPOSED ROADWAYS SHALL BE PUBLIC.
2. ALL UNDERGROUND STORM DRAIN FACILITIES SHALL BE PUBLIC.
3. ALL SANITARY SEWER FACILITIES SHALL BE PUBLIC.
4. ADD 4600 TO ALL SPOT ELEVATIONS.
5. ALL COMMON AREA ELEMENTS SHALL BE MAINTAINED BY A LANDSCAPE MAINTENANCE ASSOCIATION.
6. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO THE FLOOD CONTROL CHANNELS INCLUDING REVEGETATION OF ALL SLOPES REQUIRING REPAIR.
7. EXISTING GRADE IFORMATION IS FOR INFORMATION PURPOSES ONLY AND DOES NOT REPRESENT GRADE BREAKS. CONTRACTOR SHALL VERIFY ALL GRADING INFORMATION IN THE FIELD PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL PROVIDE A MIN. 3' CLEARANCE AROUND PROPOSED WATER SERVICES FOR LOTS 100 AND 101 BEFORE THE START OF THE SLOPE INTO COMMON AREA "A".
9. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%.

GRADING LEGEND

Symbol	Description	Symbol	Description
4398	CONTOUR MAJOR		CATCH BASIN
	CONTOUR MINOR	SD 12"	STORM DRAIN (DASHED IF EXISTING)
	PROPERTY LINE		GRADE BREAK
	EXIST. AC PAVEMENT		CATCH POINT
	NEW AC PAVEMENT	2.0%	SLOPE IN PERCENT
	EXIST. CONCRETE	100.00 TC	ELEV AT TOP OF CURB
	NEW CONCRETE	100.00 GB	ELEV AT GRADE BREAK
	RIP-RAP	100.00 FG	ELEV AT FINISH GRADE
	SAWCUT LINE	100.00 FL	ELEV AT FLOW LINE
	EXIST. CURB & GUTTER	100.00 TC(e)	ELEV AT EXIST. IMPROVEMENTS
	MANHOLE (DASHED IF EXISTING)	100.00 WSE	100-YR WATER SURFACE ELEVATION

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4643.03'

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 3200010111H DATED JUNE 20, 2019, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSONCITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

PHASE 2 OVERALL EARTHWORK*	CUT	FILL	NET
	±23,500 YDS	±115,000 YDS	±91,500 YDS (FILL)
AREA OF DISTURBANCE (LIMITS OF PHASE 2 GRADING)	±43.9 AC		

* EARTHWORK NUMBERS ARE PRELIMINARY ONLY AND SUBJECT TO CHANGE, AND IT DOES NOT INCLUDE UTILITY TRENCHING, FOUNDATIONS EXCAVATIONS OR STRIPPING. SWELLING, SHRINKAGE OR LOSS FACTORS ARE NOT INCLUDED.

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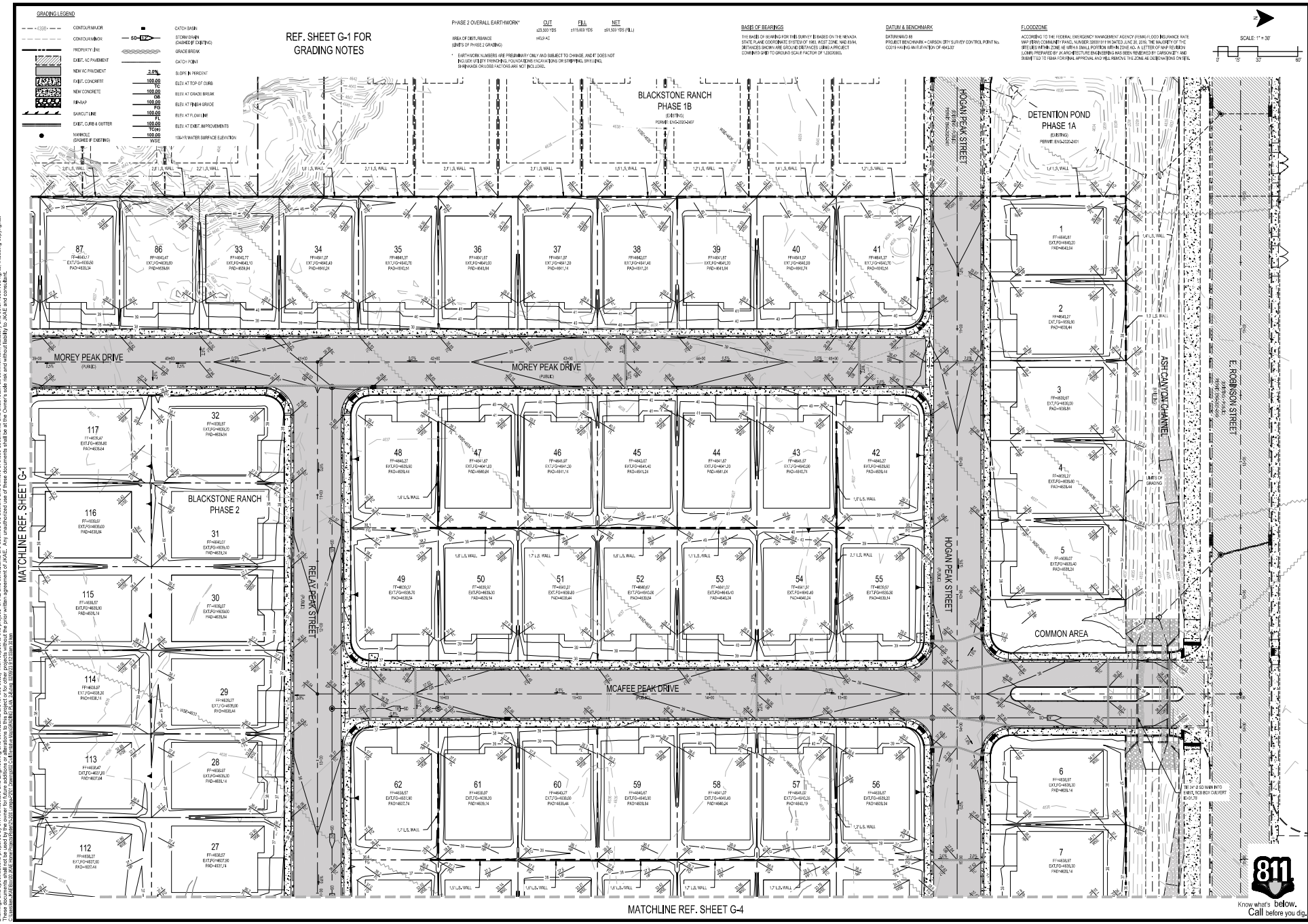
ISSUE / NO. / DATE

Seal: PROFESSIONAL ENGINEER - STATE OF NEVADA - KENNETH W. ANDERSON - Exp 12-31-24 - CIVIL - No. 15598 - 02.09.2023

Drawing Title: GRADING PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY
NEVADA

G-2



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Date: 2/6/2023

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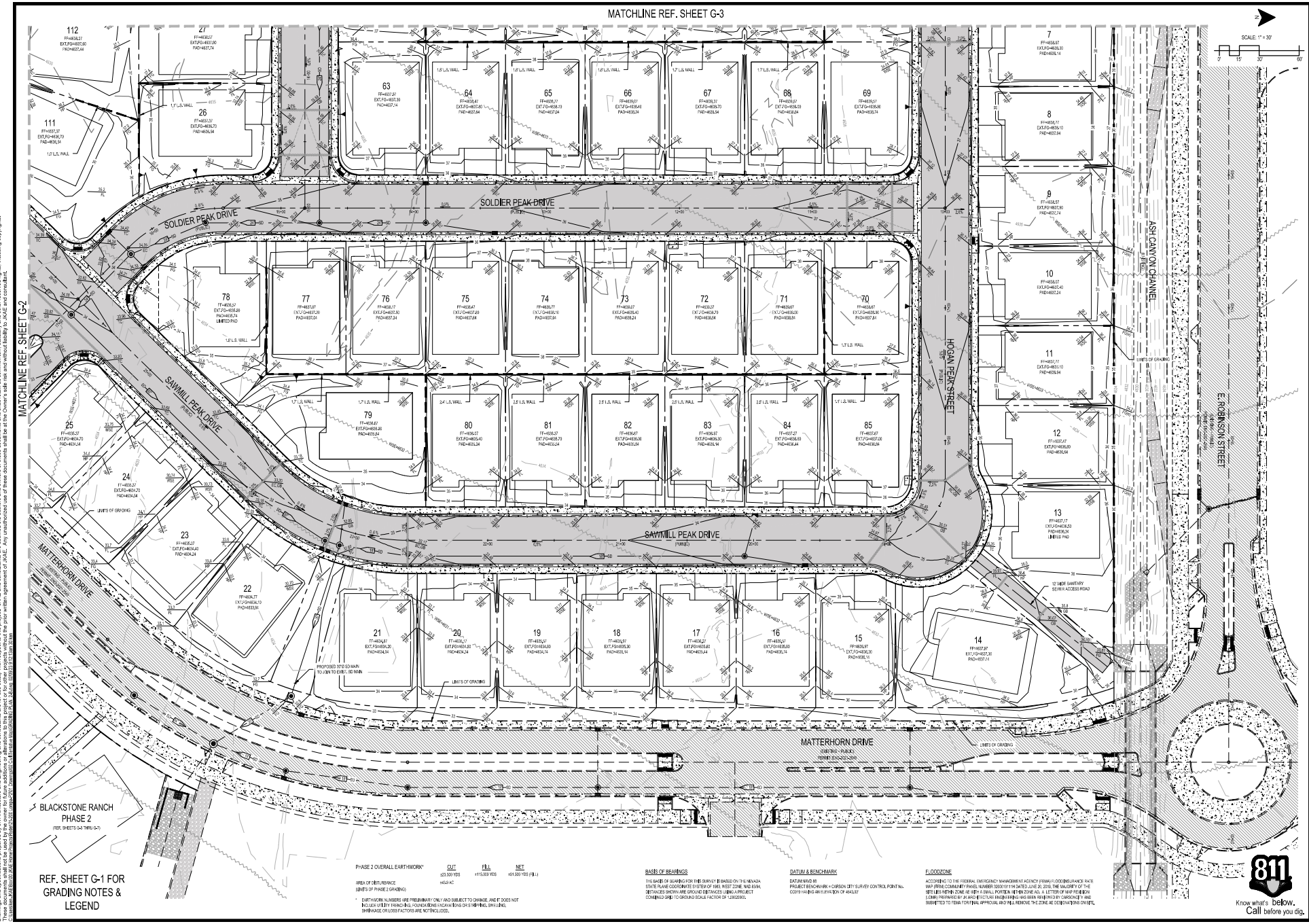
Seal: KENNETH W. ANDERSON, Exp 12-31-24, CIVIL, STATE OF NEVADA
02.09.2023

Drawing Title: GRADING PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

G-3
12 OF 24



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02.09.2023

Drawing Title: GRADING PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

G-4
13 OF 24

GRADING LEGEND

Symbol	Description	Symbol	Description
- - 4398 - -	CONTOUR MAJOR	▪	CATCH BASIN
- - - - - -	CONTOUR MINOR	SD 12"	STORM DRAIN (DASHED IF EXISTING)
——— - - ———	PROPERTY LINE		GRADE BREAK
	EXIST. AC PAVEMENT	- - - - - -	CATCH POINT
	NEW AC PAVEMENT	2.0%	SLOPE IN PERCENT
	EXIST. CONCRETE	100.00 / TC	ELEV AT TOP OF CURB
	NEW CONCRETE	100.00 / GB	ELEV AT GRADE BREAK
	RIP-RAP	100.00 / FG	ELEV AT FINISH GRADE
	SAWCUT LINE	100.00 / FL	ELEV AT FLOW LINE
	EXIST. CURB & GUTTER	100.00 / TC(e)	ELEV AT EXIST. IMPROVEMENTS
●	MANHOLE (DASHED IF EXISTING)	100.00 / WSE	100-YR WATER SURFACE ELEVATION

GRADING NOTES

1. ALL PROPOSED ROADWAYS SHALL BE PUBLIC.
2. ALL UNDERGROUND STORM DRAIN FACILITIES SHALL BE PUBLIC.
3. ALL SANITARY SEWER FACILITIES SHALL BE PUBLIC.
4. ADD 4600 TO ALL SPOT ELEVATIONS.
5. ALL COMMON AREA ELEMENTS SHALL BE MAINTAINED BY A LANDSCAPE MAINTENANCE ASSOCIATION.
6. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO THE FLOOD CONTROL CHANNELS INCLUDING REVEGETATION OF ALL SLOPES REQUIRING REPAIR.
7. EXISTING GRADE IFORMATION IS FOR INFORMATION PURPOSES ONLY AND DOES NOT REPRESENT GRADE BREAKS. CONTRACTOR SHALL VERIFY ALL GRADING INFORMATION IN THE FIELD PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL PROVIDE A MIN. 3' CLEARANCE AROUND PROPOSED WATER SERVICES FOR LOTS 100 AND 101 BEFORE THE START OF THE SLOPE INTO COMMON AREA "A".
9. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%.

PHASE 2 OVERALL EARTHWORK*

	CUT	FILL	NET
	±23,500 YDS	±115,000 YDS	±91,500 YDS (FILL)
AREA OF DISTURBANCE (LIMITS OF PHASE 2 GRADING)	±43.9 AC		

* EARTHWORK NUMBERS ARE PRELIMINARY ONLY AND SUBJECT TO CHANGE, AND IT DOES NOT INCLUDE UTILITY TRENCHING, FOUNDATIONS EXCAVATIONS OR STRIPPING, SWELLING, SHRINKAGE OR LOSS FACTORS ARE NOT INCLUDED.

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4643.03'

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 3200010111H DATED JUNE 20, 2019. THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSONCITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

N
SCALE: 1" = 30'
0' 15' 30' 60'

Know what's below. Call before you dig.

Drawn By: KP
Checked By: KA
Project No.: 21-200
Date: 2/9/2023

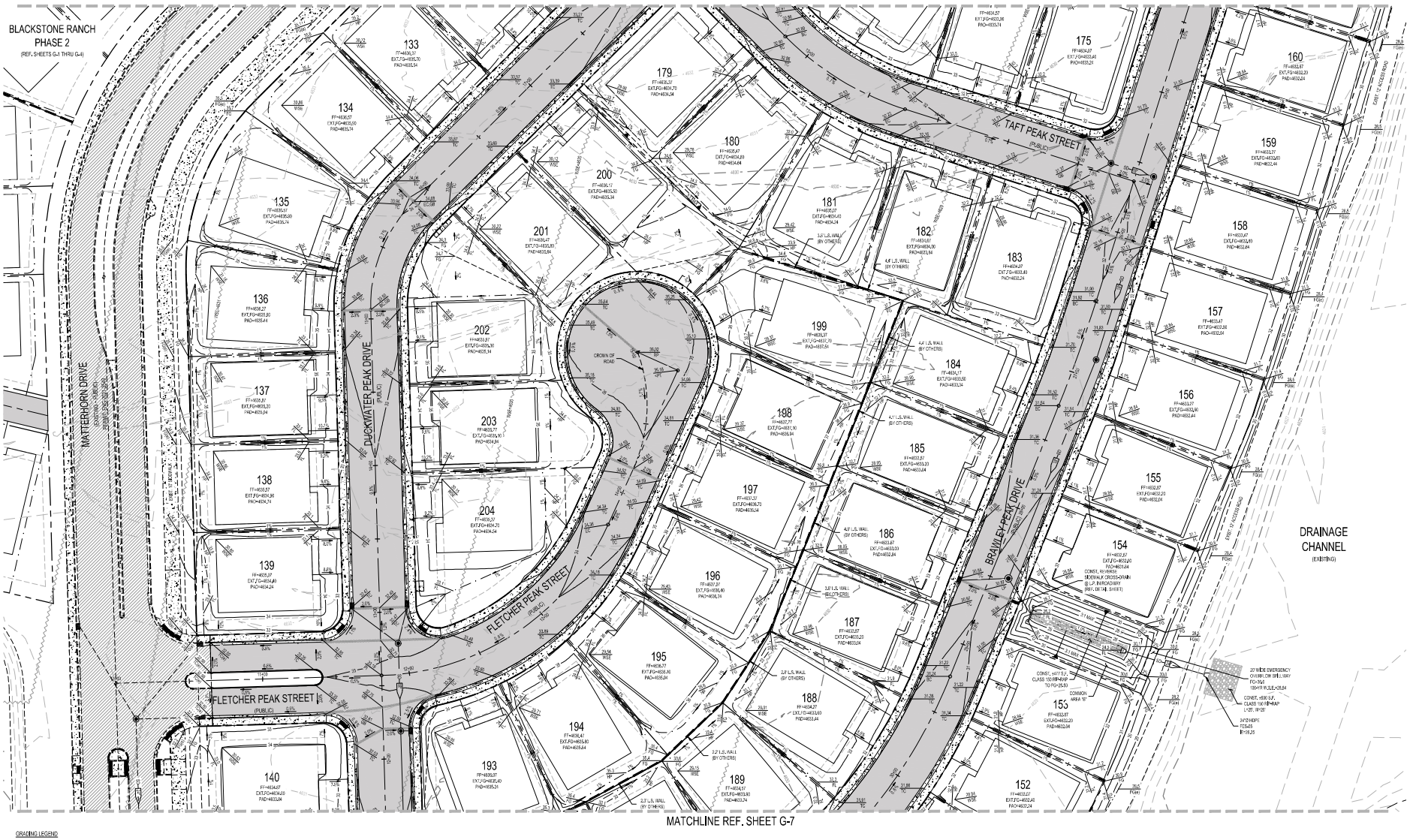
NO. DATE ISSUE

Seal
KENNETH W. ANDERSON
Exp 12-31-24
CIVIL
No. 15598
PROFESSIONAL ENGINEER - STATE OF NEVADA
02.09.2023

Drawing Title: GRADING PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

G-5



GRADING LEGEND

4386	CONTOUR MAJOR		CATCH BASIN
	CONTOUR MINOR	SD 12"	STORM DRAIN (DASHED IF EXISTING)
	PROPERTY LINE		GRADE BREAK
	EXIST. AC PAVEMENT		CATCH POINT
	NEW AC PAVEMENT	2.0%	SLOPE IN PERCENT
	EXIST. CONCRETE	100.00 TC	ELEV AT TOP OF CURB
	NEW CONCRETE	100.00 GB	ELEV AT GRADE BREAK
	RIP-RAP	100.00 FG	ELEV AT FINISH GRADE
	SAWCUT LINE	100.00 FL	ELEV AT FLOW LINE
	EXIST. CURB & GUTTER	100.00 TC(e)	ELEV AT EXIST. IMPROVEMENTS
	MANHOLE (DASHED IF EXISTING)	100.00 WSE	100-YR WATER SURFACE ELEVATION

GRADING NOTES

1. ALL PROPOSED ROADWAYS SHALL BE PUBLIC.
2. ALL UNDERGROUND STORMDRAIN FACILITIES SHALL BE PUBLIC.
3. ALL SANITARY SEWER FACILITIES SHALL BE PUBLIC.
4. ADD 4600 TO ALL SPOT ELEVATIONS.
5. ALL COMMON AREA ELEMENTS SHALL BE MAINTAINED BY A LANDSCAPE MAINTENANCE ASSOCIATION.
6. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO THE FLOOD CONTROL CHANNELS INCLUDING REVEGETATION OF ALL SLOPES REQUIRING REPAIR.
7. EXISTING GRADE FORMATIONS FOR INFORMATION PURPOSES ONLY AND DOES NOT REPRESENT GRADE BREAKS. CONTRACTOR SHALL VERIFY ALL GRADING INFORMATION IN THE FIELD PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL PROVIDE A MIN. 5' CLEARANCE AROUND PROPOSED WATER SERVICES FOR LOTS 100 AND 101 BEFORE THE START OF THE SLOPE INTO COMMON AREA 'A'.
9. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%.

PHASE 2 OVERALL EARTHWORK*

	CUT	FILL	NET
	±25,940 YDS	±170,000 YDS	±91,300 YDS (FILL)

AREA OF DISTURBANCE (LIMITS OF PHASE 2 GRADING): ±53.9 AC

* EARTHWORK NUMBERS ARE PRELIMINARY ONLY AND SUBJECT TO CHANGE, AND IT DOES NOT INCLUDE UTILITY TRENCHING, FOUNDATIONS EXCAVATIONS OR STRIPPING, SWELLING, SHRINKAGE OR LOSS FACTORS ARE NOT INCLUDED.

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94. DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.000300035.

DATUM & BENCHMARK

DATUM NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC015 HAVING AN ELEVATION OF 4640.02

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 32009C0111G DATED JUNE 20, 2018, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSON CITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

SCALE: 1" = 30'

0' 15' 30' 60'

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Checked By: KA
Project No.: 21-200
Date: 2/6/2023

NO. | DATE | ISSUE

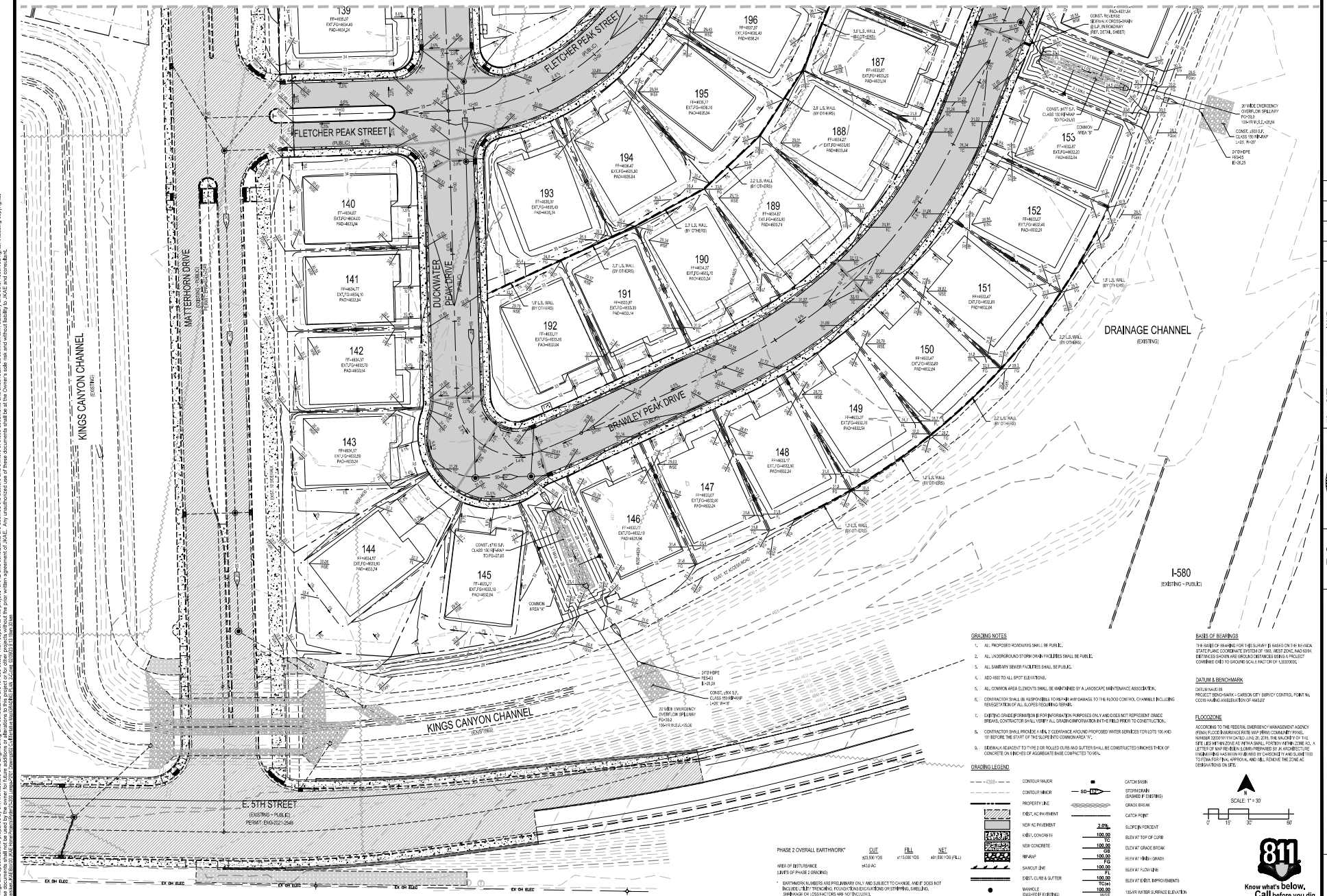
Seal: KENNETH W. ANDERSON, Exp 12-31-24, CIVIL, STATE OF NEVADA, PROFESSIONAL ENGINEER
02.09.2023

Drawing Title: GRADING PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

G-6

15 OF 24



GRADING NOTES

1. ALL PROPOSED ROADWAYS SHALL BE PUBLIC.
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4. ADD 4600 TO ALL SPOT ELEVATIONS.
5. ALL COMMON AREA ELEMENTS SHALL BE MAINTAINED BY A LANDSCAPE MAINTENANCE ASSOCIATION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR ANY DAMAGE TO THE FLOOD CONTROL CHANNELS INCLUDING REVEGETATION OF ALL SLOPES REQUIRING REPAIR.
7. EXISTING GRADE INFORMATION IS FOR INFORMATION PURPOSES ONLY AND DOES NOT REPRESENT GRADE BREAKS. CONTRACTOR SHALL VERIFY ALL GRADING INFORMATION IN THE FIELD PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL PROVIDE A MIN. 3' CLEARANCE AROUND PROPOSED WATER SERVICES FOR LOTS 100 AND 101 BEFORE THE START OF THE SLOPE INTO COMMON AREA 'A'.
9. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 5 INCHES OF AGGREGATE BASE COMPACTED TO 95%.

GRADING LEGEND

4398	CONTOUR MAJOR		CATCH BASIN
	CONTOUR MINOR	SD-DP	STORM DRAIN (DASHED IF EXISTING)
	PROPERTY LINE		GRADE BREAK
	EXIST. AC PAVEMENT		CATCH POINT
	NEW AC PAVEMENT	2.0%	SLOPE IN PERCENT
	EXIST. CONCRETE	100.00 TC	ELEV AT TOP OF CURB
	NEW CONCRETE	100.00 GB	ELEV AT GRADE BREAK
	RIP-RAP	100.00 FG	ELEV AT FINISH GRADE
	SAWCUT LINE	100.00 FL	ELEV AT FLOW LINE
	EXIST. CURB & GUTTER	100.00 TC(e)	ELEV AT EXIST. IMPROVEMENTS
	MANHOLE (DASHED IF EXISTING)	100.00 WSE	100-YR WATER SURFACE ELEVATION

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94. DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00008000.

DATUM & BENCHMARK

DATUM NAVD 88.
PROJECT BENCHMARK - CARSON CITY SURVEY CONTROL POINT No. CC015 HAVING AN ELEVATION OF 4643.67

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 32001911 7H DATED JUNE 20, 2018, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE, WITHIN SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSON CITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

SCALE: 1" = 30'

0 15' 30' 60

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PHASE 2 OVERALL EARTHWORK*

	CUT	FILL	NET
	±23,500 YDS	±115,000 YDS	±91,500 YDS (FILL)

AREA OF DISTURBANCE (LIMITS OF PHASE 2 GRADING): ±43.0 AC

* EARTHWORK NUMBERS ARE PRELIMINARY ONLY AND SUBJECT TO CHANGE, AND IT DOES NOT INCLUDE UTILITY TRENCHING, FOUNDATIONS EXCAVATIONS OR STRIPPING, SWELLING, SHRINKAGE OR LOSS FACTORS ARE NOT INCLUDED.

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Project No.: 21-200
Date: 2/6/2023

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Seal: PROFESSIONAL ENGINEER - STATE OF NEVADA - KENNETH W. ANDERSON - Exp 12-31-24 - CIVIL

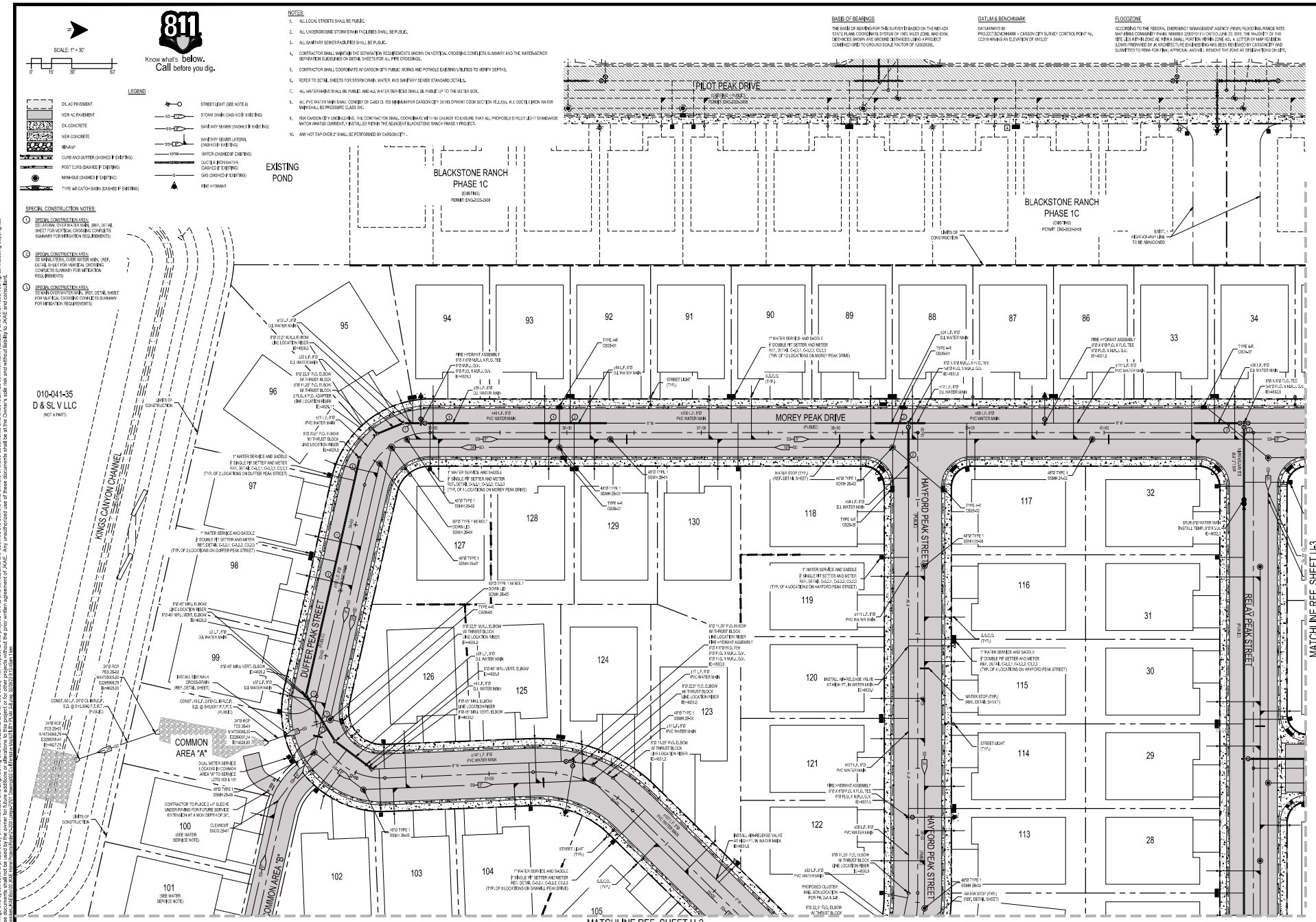
02.09.2023

Drawing Title: GRADING PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

G-7

16 OF 24



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Project No.: 21-200
Date: 2/6/2023

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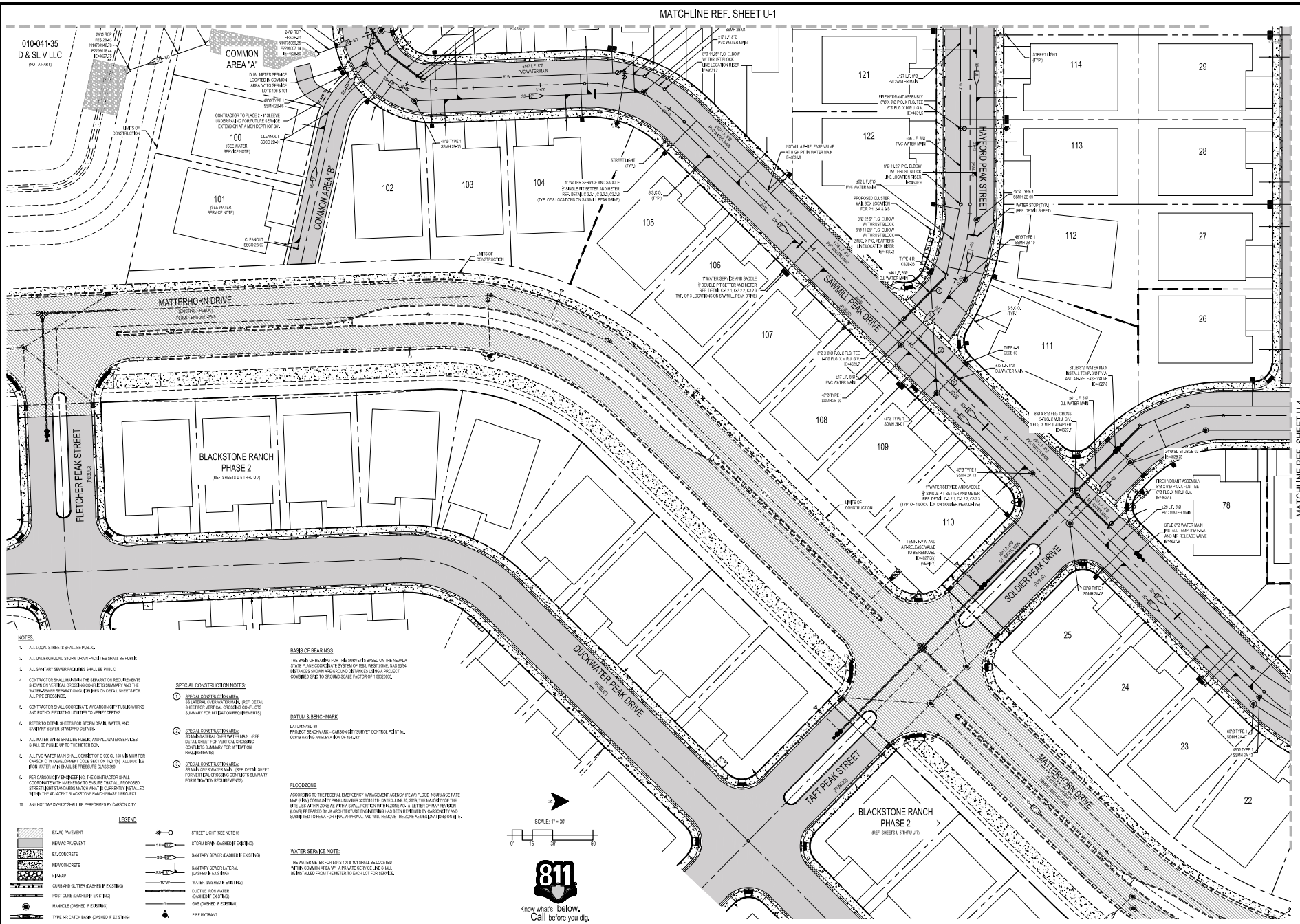
Seal
PROFESSIONAL ENGINEER - STATE OF NEVADA
KENNETH W. ANDERSON
Exp 12-31-24
CIVIL
02.09.2023

Drawing Title
GRADING PLAN

Project
TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY
NEVADA

U-1
17 OF 24



NOTES:

1. ALL LOCAL STREETS SHALL BE PUBLIC.
2. ALL UNDERGROUND STORM DRAIN FACILITIES SHALL BE PUBLIC.
3. ALL SANITARY SEWER FACILITIES SHALL BE PUBLIC.
4. CONTRACTOR SHALL MAINTAIN THE SEPARATION REQUIREMENTS SHOWN ON VERTICAL CROSSING CONFLICTS SUMMARY AND THE WATER-SEWER SEPARATION GUIDELINES ON DETAIL SHEETS FOR ALL PIPE CROSSINGS.
5. CONTRACTOR SHALL COORDINATE W/ CARSON CITY PUBLIC WORKS AND POT-HOLE EXISTING UTILITIES TO VERIFY DEPTHS.
6. REFER TO DETAIL SHEETS FOR STORM DRAIN, WATER, AND SANITARY SEWER STANDARD DETAILS.
7. ALL WATER MAINS SHALL BE PUBLIC, AND ALL WATER SERVICES SHALL BE PUBLIC UP TO THE METER BOX.
8. ALL PVC WATER MAIN SHALL CONSIST OF C-900 CL 150 MINIMUM PER CARSON CITY DEVELOPMENT CODE SECTION 15.3.1(5). ALL DUCTILE IRON WATER MAIN SHALL BE PRESSURE CLASS 350.
9. PER CARSON CITY ENGINEERING, THE CONTRACTOR SHALL COORDINATE WITH NV ENERGY TO ENSURE THAT ALL PROPOSED STREET LIGHT STANDARDS MATCH WHAT IS CURRENTLY INSTALLED WITHIN THE ADJACENT BLACKSTONE RANCH PHASE 1 PROJECT.
10. ANY HOT TAP OVER 2" SHALL BE PERFORMED BY CARSON CITY.

LEGEND

- EX. AC PAVEMENT
- NEW AC PAVEMENT
- EX. CONCRETE
- NEW CONCRETE
- RIP-RAP
- CURB AND GUTTER (DASHED IF EXISTING)
- POST CURB (DASHED IF EXISTING)
- MANHOLE (DASHED IF EXISTING)
- TYPE 4-R CATCH BASIN (DASHED IF EXISTING)
- STREET LIGHT (SEE NOTE 9)
- STORM DRAIN (DASHED IF EXISTING)
- SANITARY SEWER (DASHED IF EXISTING)
- SANITARY SEWER LATERAL (DASHED IF EXISTING)
- WATER (DASHED IF EXISTING)
- DUCTILE IRON WATER (DASHED IF EXISTING)
- GAS (DASHED IF EXISTING)
- FIRE HYDRANT

SPECIAL CONSTRUCTION NOTES:

1. SPECIAL CONSTRUCTION AREA: SEWER/STORM OVER WATER MAIN, (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
2. SPECIAL CONSTRUCTION AREA: STORM MATERIAL OVER WATER MAIN, (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
3. SPECIAL CONSTRUCTION AREA: SS MAIN OVER WATER MAIN, (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94. DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4642.37

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 32510778 H DATED JUNE 20, 2018, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN SUBMITTED BY CARSONCITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

WATER SERVICE NOTE:

THE WATER METER FOR LOTS 100 & 101 SHALL BE LOCATED WITHIN COMMON AREA "A". A PRIVATE SERVICE LINE SHALL BE INSTALLED FROM THE METER TO EACH LOT FOR SERVICE.

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Checked By: KA
Project No.: 21-200
Date: 2/6/2023

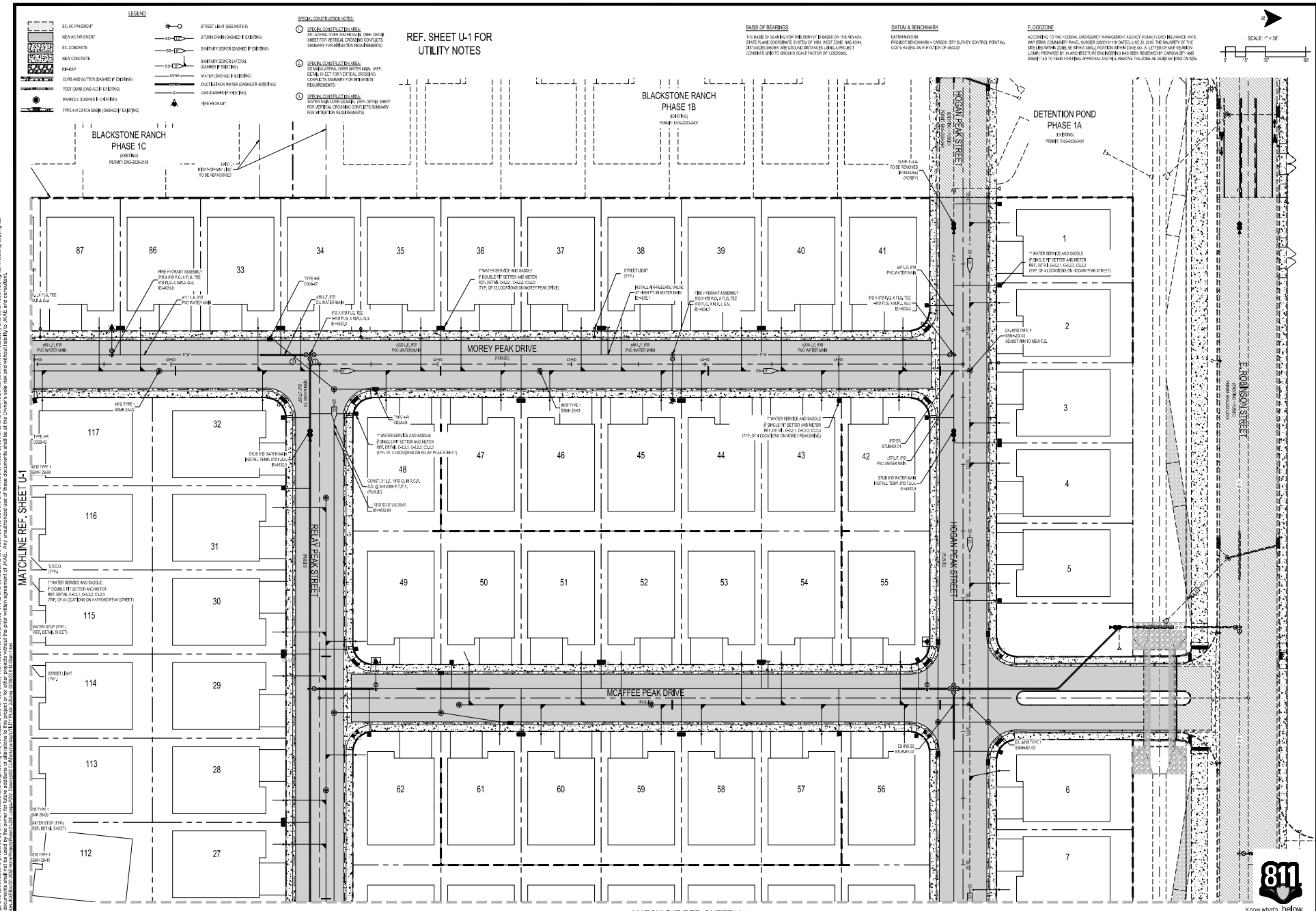
NO. | DATE | ISSUE

Seal: KENNETH W. ANDERSON, Exp 12-31-24, CIVIL, STATE OF NEVADA
02.09.2023

Drawing Title: UTILITY PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

U-2
18 OF 24



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Drawn By: KP
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Project No.: 21-200
Date: 2/6/2023

NO. | DATE | ISSUE

Seal: KENNETH W. ANDERSON, Exp 12-31-24, CIVIL, STATE OF NEVADA
02.09.2023

Drawing Title: UTILITY PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY | NEVADA

U-3
19 OF 24

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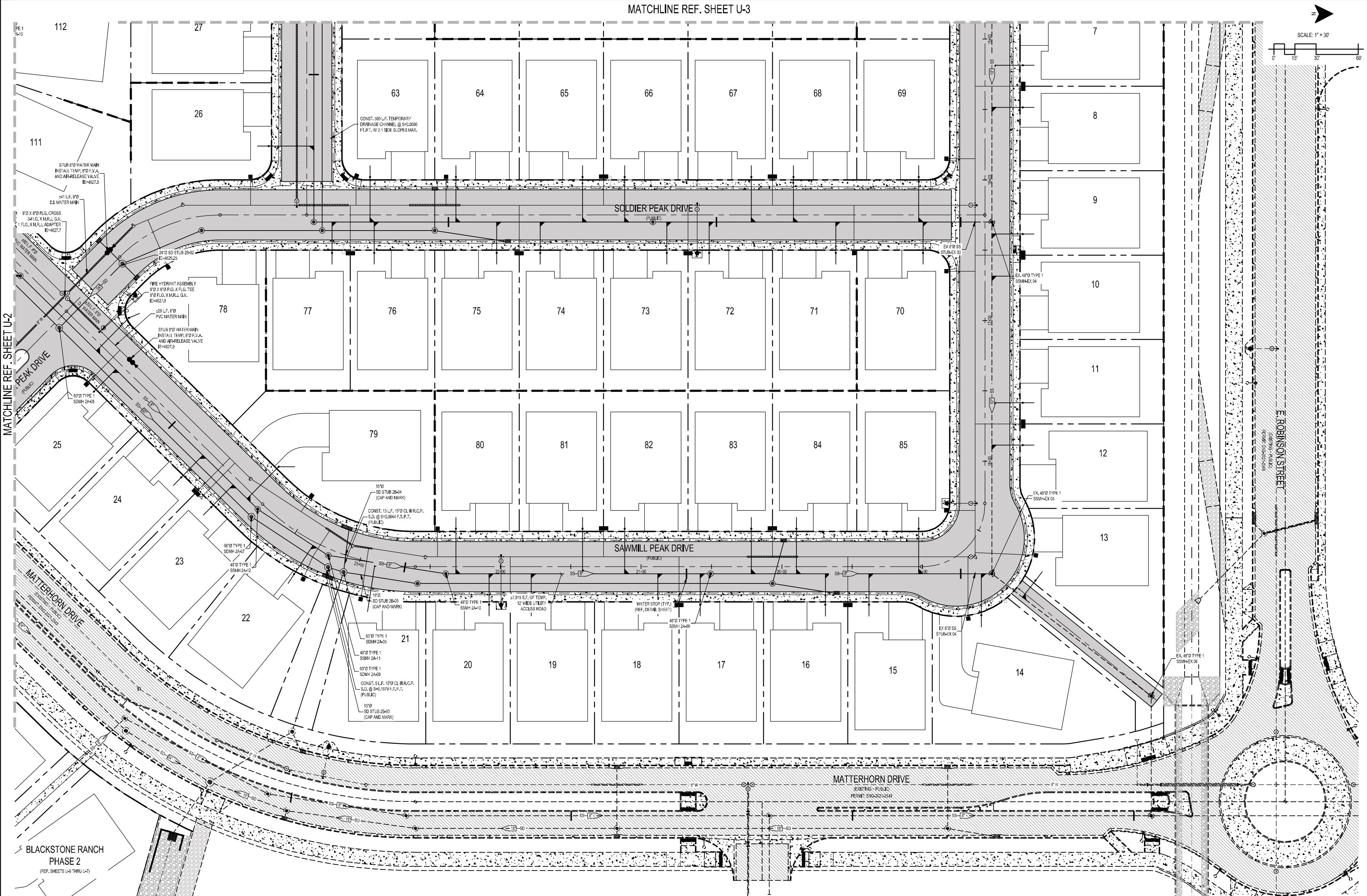

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4643.03'

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 3200010111H DATED JUNE 20, 2019, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSONCITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

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Drawn By: KP
Checked By: KA
Project No.: 21-200
Date: 2/9/2023

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Seal: PROFESSIONAL ENGINEER - STATE OF NEVADA - KENNETH W. ANDERSON - Exp 12-31-24 - CIVIL - No. 15598 - 02.09.2023

Drawing Title: UTILITY PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

U-4
20 OF 24

NOTES:

1. ALL LOCAL STREETS SHALL BE PUBLIC.
2. ALL UNDERGROUND STORM DRAIN FACILITIES SHALL BE PUBLIC.
3. ALL SANITARY SEWER FACILITIES SHALL BE PUBLIC.
4. CONTRACTOR SHALL MAINTAIN THE SEPARATION REQUIREMENTS SHOWN ON VERTICAL CROSSING CONFLICTS SUMMARY AND THE WATER-SEWER SEPARATION GUIDELINES ON DETAIL SHEETS FOR ALL PIPE CROSSINGS.
5. CONTRACTOR SHALL COORDINATE W/ CARSON CITY PUBLIC WORKS AND POTHOLE EXISTING UTILITIES TO VERIFY DEPTHS.
6. REFER TO DETAIL SHEETS FOR STORM DRAIN, WATER, AND SANITARY SEWER STANDARD DETAILS.
7. ALL WATER MAINS SHALL BE PUBLIC, AND ALL WATER SERVICES SHALL BE PUBLIC UP TO THE METER BOX.
8. ALL PVC WATER MAIN SHALL CONSIST OF C-900 CL 150 MINIMUM PER CARSON CITY DEVELOPMENT CODE SECTION 15.3.1(b). ALL DUCTILE IRON WATER MAIN SHALL BE PRESSURE CLASS 350.
9. PER CARSON CITY ENGINEERING, THE CONTRACTOR SHALL COORDINATE WITH NV ENERGY TO ENSURE THAT ALL PROPOSED STREET LIGHT STANDARDS MATCH WHAT IS CURRENTLY INSTALLED WITHIN THE ADJACENT BLACKSTONE RANCH PHASE 1 PROJECT.
10. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%.
11. SANITARY SEWER LATERALS NOT CONSTRUCTED PERPENDICULAR TO THE MAIN SHALL HAVE TRACER WIRE INSTALLED.

LEGEND

EX. AC PAVEMENT	TYPE 3 CATCH BASIN (DASHED IF EXISTING)
NEW AC PAVEMENT	STREET LIGHT (SEE NOTE 8)
EX. CONCRETE	STORM DRAIN (DASHED IF EXISTING)
NEW CONCRETE	SANITARY SEWER (DASHED IF EXISTING)
RIP-RAP	SANITARY SEWER LATERAL (DASHED IF EXISTING)
CURB AND GUTTER (DASHED IF EXISTING)	WATER (DASHED IF EXISTING)
POST CURB (DASHED IF EXISTING)	GAS (DASHED IF EXISTING)
MANHOLE (DASHED IF EXISTING)	FIRE HYDRANT
TYPE 4-R CATCH BASIN (DASHED IF EXISTING)	

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4643.03'

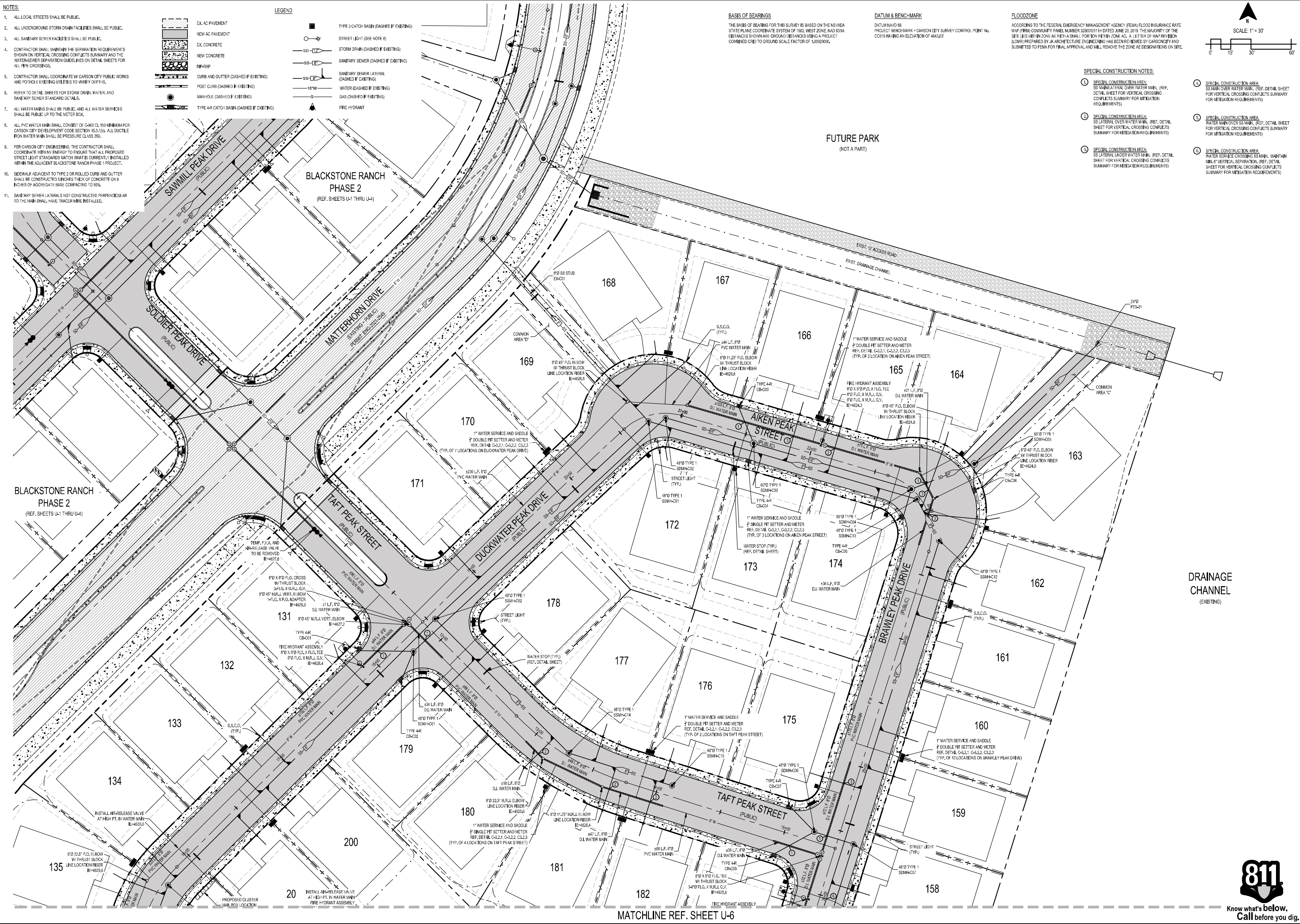
FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 3200010111H DATED JUNE 20, 2019, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSONCITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

SCALE: 1" = 30'

SPECIAL CONSTRUCTION NOTES:

1. SPECIAL CONSTRUCTION AREA: SD MAIN/LATERAL OVER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
2. SPECIAL CONSTRUCTION AREA: SS LATERAL OVER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
3. SPECIAL CONSTRUCTION AREA: SS LATERAL UNDER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
4. SPECIAL CONSTRUCTION AREA: SS MAIN OVER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
5. SPECIAL CONSTRUCTION AREA: WATER MAIN OVER SS MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
6. SPECIAL CONSTRUCTION AREA: WATER SERVICE CROSSING SS MAIN. MAINTAIN MIN. 6" VERTICAL SEPARATION. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)



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NO.	DATE	ISSUE

Seal: KENNETH W. ANDERSON, CIVIL, No. 15596, Exp 12-31-24, PROFESSIONAL ENGINEER - STATE OF NEVADA, 02.09.2023

Drawing Title: UTILITY PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

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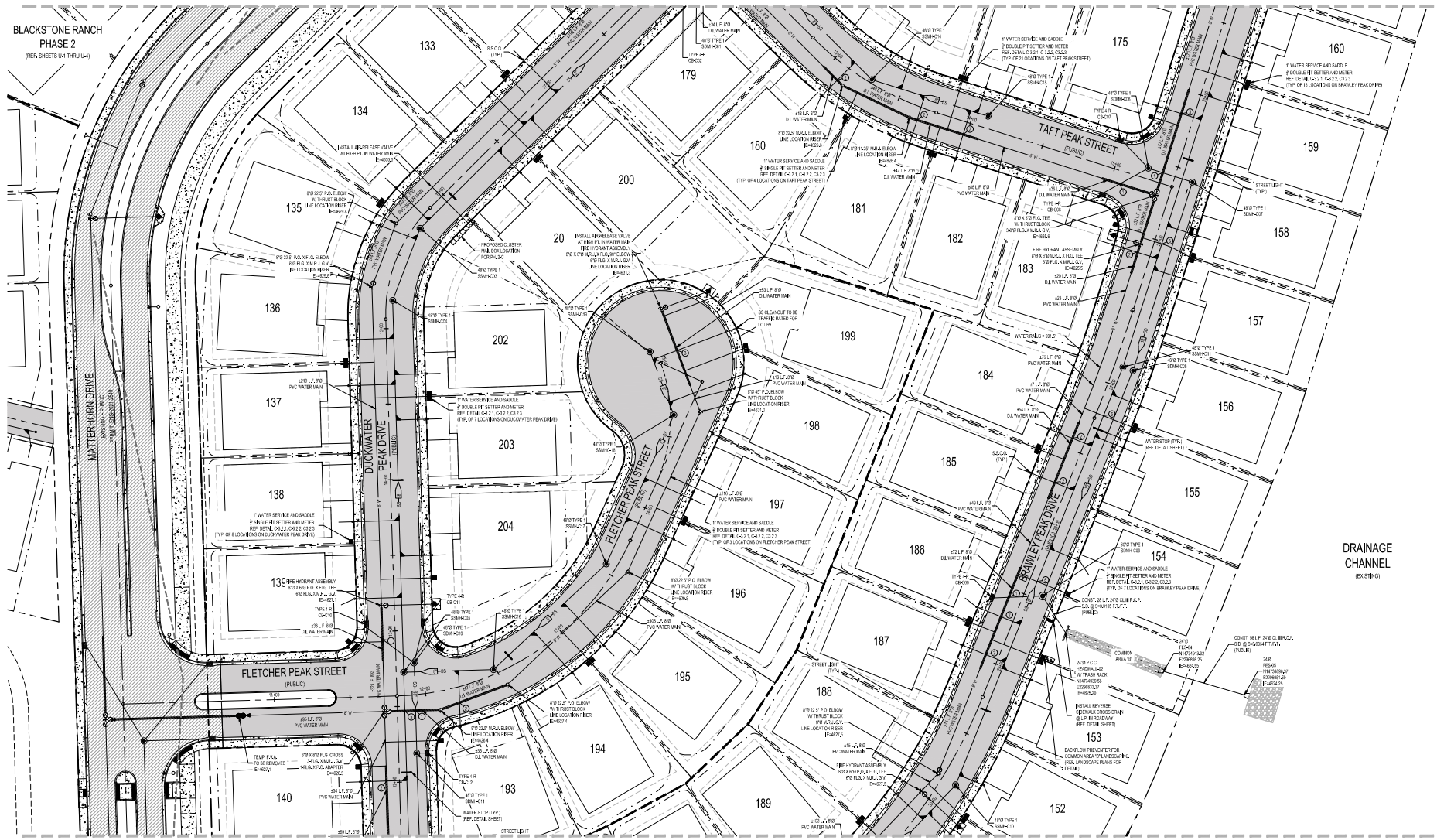

LEGEND

- EX. AC PAVEMENT
- NEW AC PAVEMENT
- EX. CONCRETE
- NEW CONCRETE
- RIPRAP
- CURB AND GUTTER (DASHED IF EXISTING)
- POST CURB (DASHED IF EXISTING)
- MANHOLE (DASHED IF EXISTING)
- TYPE 4-R CATCH BASIN (DASHED IF EXISTING)
- TYPE 3 CATCH BASIN (DASHED IF EXISTING)
- STREET LIGHT (SEE NOTE 9)
- STORM DRAIN (DASHED IF EXISTING)
- SANITARY SEWER (DASHED IF EXISTING)
- SANITARY SEWER LATERAL (DASHED IF EXISTING)
- WATER (DASHED IF EXISTING)
- GAS (DASHED IF EXISTING)
- FIRE HYDRANT

NOTES:

1. ALL LOCAL STREETS SHALL BE PUBLIC.
2. ALL UNDERGROUND STORM DRAIN FACILITIES SHALL BE PUBLIC.
3. ALL SANITARY SEWER FACILITIES SHALL BE PUBLIC.
4. CONTRACTOR SHALL MAINTAIN THE SEPARATION REQUIREMENTS SHOWN ON VERTICAL CROSSING CONFLICTS SUMMARY AND THE WATER-SEWER SEPARATION GUIDELINES ON DETAIL SHEETS FOR ALL PIPE CROSSINGS.
5. CONTRACTOR SHALL COORDINATE W CARSON CITY PUBLIC WORKS AND POTHOLE EXISTING UTILITIES TO VERIFY DEPTHS.
6. REFER TO DETAIL SHEETS FOR STORM DRAIN, WATER, AND SANITARY SEWER STANDARD DETAILS.
7. ALL WATER MAINS SHALL BE PUBLIC AND ALL WATER SERVICES SHALL BE PUBLIC UP TO THE METER BOX.
8. ALL PVC WATER MAIN SHALL CONSIST OF C-900 DI, 150 MINIMUM PER CARSON CITY DEVELOPMENT CODE SECTION 15.3.10.5. ALL DUCTILE IRON WATER MAIN SHALL BE PRESSURE CLASS 350.
9. PER CARSON CITY ENGINEERING THE CONTRACTOR SHALL COORDINATE WITH NV ENERGY TO ENSURE THAT ALL PROPOSED STREET LIGHT STANDARDS MATCH WHAT IS CURRENTLY INSTALLED WITHIN THE ADJACENT BLACKSTONE RANCH PHASE 1 PROJECT.
10. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 5 INCHES OF AGGREGATE BASE COMPACTED TO 95%.
11. SANITARY SEWER LATERALS NOT CONSTRUCTED PERPENDICULAR TO THE MAIN SHALL HAVE TRACER WIRE INSTALLED.

SPECIAL CONSTRUCTION NOTES:

1. SPECIAL CONSTRUCTION AREA: SD MAIN CROSSING OVER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
2. SPECIAL CONSTRUCTION AREA: SS LATERAL OVER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
3. SPECIAL CONSTRUCTION AREA: SS LATERAL UNDER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
4. SPECIAL CONSTRUCTION AREA: SD MAIN OVER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
5. SPECIAL CONSTRUCTION AREA: WATER MAIN OVER SS MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
6. SPECIAL CONSTRUCTION AREA: WATER SERVICE CROSSING SD MAIN. MAINTAIN MIN. 6" VERTICAL SEPARATION. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94. DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.000200900.

DATUM & BENCHMARK

DATUM: NAD 83
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC010 HAVING AN ELEVATION OF 4643.07

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 32009C0711G DATED JUNE 20, 2018, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSON CITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

SCALE: 1" = 30'

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Drawn By: KP
Checked By: KA
Project No.: 21-200
Date: 2/6/2023

NO. | DATE | ISSUE

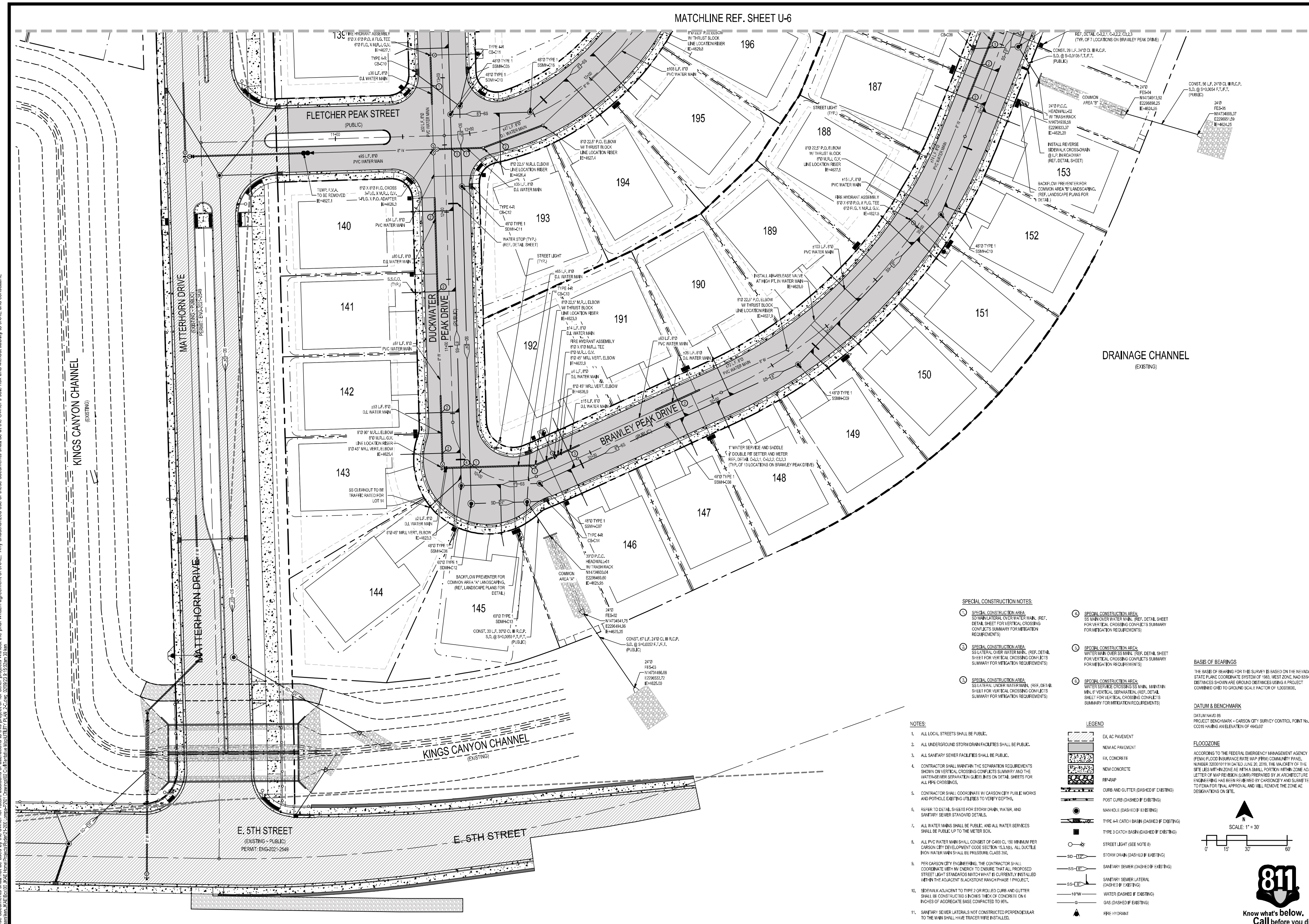
Seal: KENNETH W. ANDERSON, Exp 12-31-24, CIVIL, STATE OF NEVADA, PROFESSIONAL ENGINEER
02.09.2023

Drawing Title: UTILITY PLAN

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY NEVADA

U-6

22 OF 24



SPECIAL CONSTRUCTION NOTES:

1. SPECIAL CONSTRUCTION AREA: SD MAIN/LATERAL OVER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
2. SPECIAL CONSTRUCTION AREA: SS LATERAL OVER WATER MAIN. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)
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6. SPECIAL CONSTRUCTION AREA: WATER SERVICE CROSSING SS MAIN. MAINTAIN MIN. 6" VERTICAL SEPARATION. (REF. DETAIL SHEET FOR VERTICAL CROSSING CONFLICTS SUMMARY FOR MITIGATION REQUIREMENTS)

NOTES:

1. ALL LOCAL STREETS SHALL BE PUBLIC.
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11. SANITARY SEWER LATERALS NOT CONSTRUCTED PERPENDICULAR TO THE MAIN SHALL HAVE TRACER WIRE INSTALLED.

LEGEND

EX. AC PAVEMENT
NEW AC PAVEMENT
EX. CONCRETE
NEW CONCRETE
RIP-RAP
CURB AND GUTTER (DASHED IF EXISTING)
POST CURB (DASHED IF EXISTING)
MANHOLE (DASHED IF EXISTING)
TYPE 4-R CATCH BASIN (DASHED IF EXISTING)
TYPE 3 CATCH BASIN (DASHED IF EXISTING)
STREET LIGHT (SEE NOTE 8)
SD 12" STORM DRAIN (DASHED IF EXISTING)
SS 8" SANITARY SEWER (DASHED IF EXISTING)
SS 8" SANITARY SEWER LATERAL (DASHED IF EXISTING)
10"W WATER (DASHED IF EXISTING)
G GAS (DASHED IF EXISTING)
FIRE HYDRANT

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.00020000.

DATUM & BENCHMARK

DATUM:NAVD 88
PROJECT BENCHMARK = CARSON CITY SURVEY CONTROL POINT No. CC019 HAVING AN ELEVATION OF 4643.03'

FLOODZONE

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER 3200010111H DATED JUNE 20, 2019, THE MAJORITY OF THE SITE LIES WITHIN ZONE AE WITH A SMALL PORTION WITHIN ZONE AO. A LETTER OF MAP REVISION (LOMR) PREPARED BY JK ARCHITECTURE ENGINEERING HAS BEEN REVIEWED BY CARSONCITY AND SUBMITTED TO FEMA FOR FINAL APPROVAL AND WILL REMOVE THE ZONE AE DESIGNATIONS ON SITE.

N
SCALE: 1" = 30'
0' 15' 30' 60'

811 Know what's below. Call before you dig.

JK ARCHITECTURE ENGINEERING
AUBURN | TAHOE CITY | RENO | SAN JOSE
www.jkaedesign.com

Drawn By: KP
Checked By: KA
Project No.: 21-200
Date: 2/9/2023

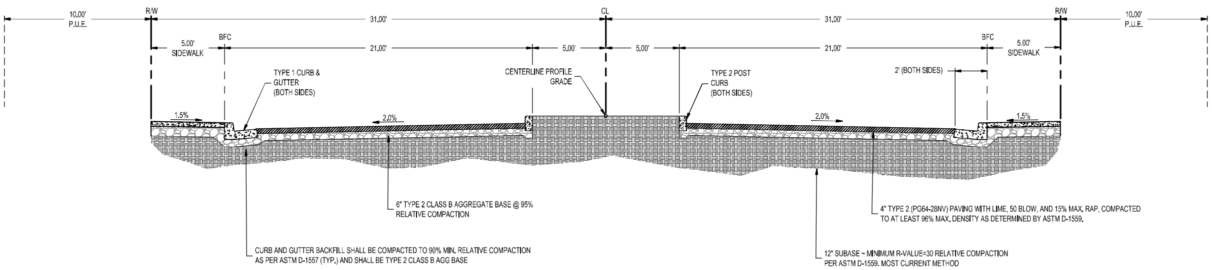
NO.	DATE	ISSUE

Seal
KENNETH W. ANDERSON
Exp 12-31-24
CIVIL
No. 15596
PROFESSIONAL ENGINEER - STATE OF NEVADA
02.09.2023

Drawing Title
UTILITY PLAN

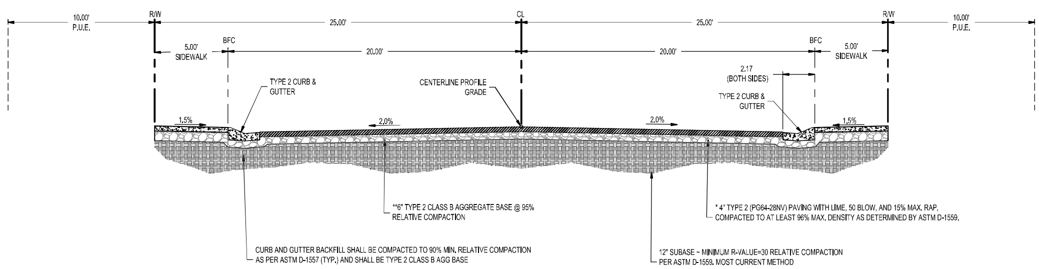
Project
TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY
NEVADA

U-7
23 OF 24



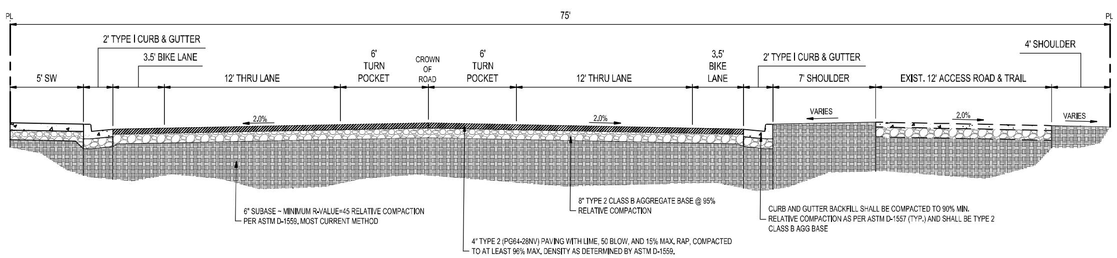
TYPE I STREET IMPROVEMENT SECTION

(LOCAL STREET W/ LANDSCAPE ISLAND AND NO PARKING ALLOWED)



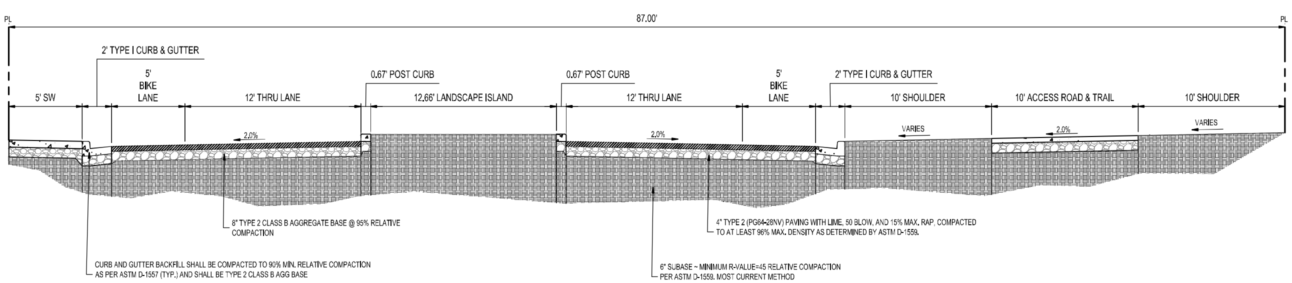
TYPE II STREET IMPROVEMENT SECTION

(LOCAL STREET WITH PARKING ON BOTH SIDES)



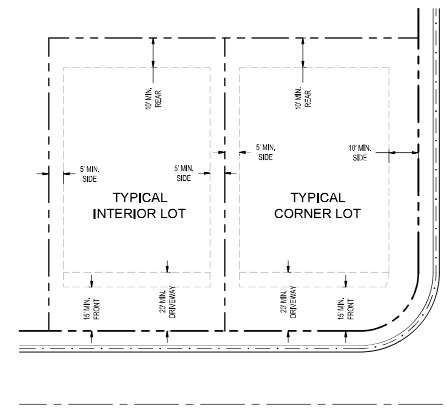
ROBINSON STREET IMPROVEMENT SECTION

(3 LANE ROAD W/ BIKE LANES AND NO PARKING)

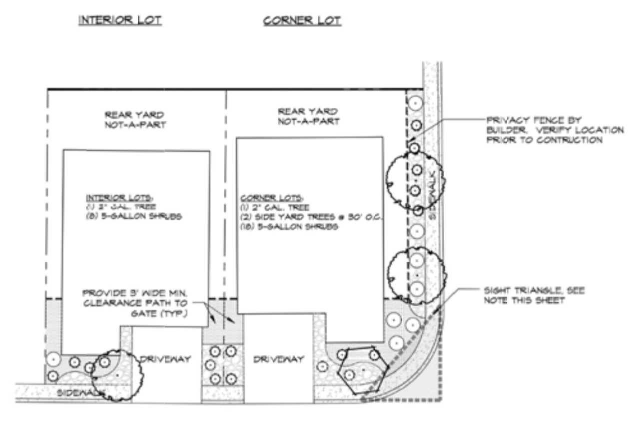


MATTERHORN DRIVE IMPROVEMENT SECTION

(FORMERLY KNOWN AS THE SPINE ROAD)
(2 LANE ROAD W/ BIKE LANES AND NO PARKING)



TYPICAL LOT SETBACKS



TYPICAL LOT SETBACKS

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Drawn By: KP
Checked By: KA
Project No.: 21-200
Date: 2/9/2023

NO. | DATE | ISSUE

Seal: PROFESSIONAL ENGINEER - STATE OF NEVADA, KENNETH W. ANDERSON, Exp 12-31-24, CIVIL, No. 15596, 02.09.2023

Drawing Title: CROSS SECTIONS

Project: TENTATIVE SUBDIVISION MAP
BLACKSTONE RANCH PHASE 2
CARSON CITY, NEVADA

X-1
24 OF 24

LANDSCAPE SPECIFICATIONS

GENERAL

1. PLAN IS DIAGRAMMATIC ONLY. ALL LOCAL GOVERNING CODES SHALL BE MET. EXACT LOCATION OF TREES AND SHRUBS SHALL BE DETERMINED IN THE FIELD (INSTALL AS PER DETAILS) AND APPROVED BY THE OWNER'S REPRESENTATIVE.

2. A MINIMUM OF TWO WORKING DAYS BEFORE PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRIC CABLES, TELEPHONE CABLES, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND PROTECTION OF ALL UTILITIES AND REPAIR OF ANY DAMAGE RESULTING FROM HIS WORK AT NO ADDITIONAL COST TO THE OWNER.

3. DAMAGES: CONTRACTOR SHALL PROMPTLY REPAIR ALL DAMAGES TO EXISTING SITE AT NO COST TO OWNER.

4. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES (I.E., PAVING, PLUMBING, ELECTRICAL, ETC.)

5. THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION AND TO NOTIFY THE OWNER'S REPRESENTATIVE SHOULD CONDITIONS EXIST WHICH PREVENT CONSTRUCTION AS PER THESE PLANS. COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE OF CONDITIONS AND RESPONSIBILITY FOR CORRECTIONS.

6. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE OWNER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT.

PLANTING

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINISH GRADING THROUGHOUT ALL LANDSCAPE AREAS SUCH THAT THERE ARE NO HUMPS OR DEPRESSIONS AND POSITIVE DRAINAGE OCCURS THROUGHOUT. THE TOP (8") OF ALL PLANTING BEDS SHALL BE CLEAN NATIVE SOIL FREE OF ALL CONSTRUCTION DEBRIS AND NATIVE ROCKS OVER 1" IN DIAMETER. THE CONTRACTOR SHALL AMEND THE PLANTING BED OR PLANTING HOLES PER PLANS AND SPECIFICATIONS. FINAL GRADE OF ALL PLANTERS (I.E. MULCH SURFACE) SHALL BE FLUSH WITH ADJACENT HARDSCAPE SURFACES.

8. SOIL TEST: CONTRACTOR SHALL PROVIDE SOIL TEST RESULTS FOR EXISTING SITE SOIL AS FOLLOWS:

- ANALYSIS PACKAGE LTP-4 BY SUNLAND ANALYTICAL (916)852-8557 (OAE).
- TEST RESULTS SHALL INCLUDE SOIL SATURATION PERCENT, SOIL TEXTURE, INFILTRATION RATE, pH, CONDUCTIVITY, TOTAL DISSOLVED SALTS, CATION EXCHANGE CAPACITY, POTASSIUM, SODIUM, CALCIUM, MAGNESIUM, NITRATE & PHOSPHORUS, SULFUR, CHLORIDE, BORON, COPPER, IRON, MANGANESE, ZINC & LIME REQUIREMENT OR GYPSUM REQUIREMENT, SODIUM ABSORPTION RATIO, EXCHANGEABLE SODIUM PERCENT & ORGANIC MATTER ALONG WITH RECOMMENDATIONS FOR SOIL AMENDMENT BASED ON ANALYSIS RESULTS.
- CONTRACTOR SHALL FOLLOW RECOMMENDATIONS OF SOIL TEST.

9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TOTAL AND CONFIRM ALL MATERIAL QUANTITIES. ITEMS QUANTIFIED BY AN AREA (I.E. SQUARE FEET - SF, SQUARE YARD - SY) OR VOLUME (CUBIC FEET - CU FT, CUBIC YARD - CU YD) SHALL BE CALCULATED AND CONFIRMED BY THE CONTRACTOR. THE QUANTITIES LISTED ON THE PLANT LIST ARE ESTIMATED. IN THE EVENT OF A DISCREPANCY BETWEEN THE TOTALS LISTED ON THE PLANT LIST AND THE QUANTITY OF GRAPHIC PLANT SYMBOLS DEPICTED ON THE DRAWINGS, THE GRAPHIC SYMBOLS ON THE PLANS SHALL GOVERN. THE ACTUAL TOTAL QUANTITIES SHALL BE DETERMINED BY THE CONTRACTOR.

10. SOIL AMENDMENT: UNLESS OTHERWISE INDICATED BY THE SOIL TEST, SOIL AMENDMENT SHALL BE HUMUS COMPOSED OF TOPSOIL, BARK HUMUS, AND COMPOST. SUBMIT TO OWNER'S REPRESENTATIVE FOR APPROVAL.

11. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIAL PER SYMBOLS AND SPACING INDICATED ON PLAN. SYMBOLS PREVAIL OVER NUMBERS ON PLANT LIST. NO SUBSTITUTIONS WILL BE ACCEPTED WITHOUT EXPRESSED WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE. SEE SUBMITTALS.

12. ALL PLANTS NOT MEETING OR EXCEEDING REQUIREMENTS AND RECOMMENDATIONS OF THE LATEST EDITION OF THE ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN SHALL BE REJECTED. CONTRACTOR SHALL RECEIVE ON-SITE APPROVAL OF PLANT MATERIAL BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. FAILURE TO RECEIVE PRIOR APPROVAL MAY RESULT IN REJECTION OF PLANT MATERIAL FOLLOWING INSTALLATION. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND EVALUATE PLANT MATERIAL THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PERIOD.

13. ALL PLANTING BEDS SHALL RECEIVE TOPDRESSING OF MULCH AS FOLLOWS:

- PARTIALLY COMPOSTED BARK MULCH (BM) - INSTALL 4" MIN. DEPTH OF PARTIALLY COMPOSTED BARK MULCH FROM FULL CIRCLE COMPOST (OAE) - DO NOT INSTALL WEED FABRIC UNDER BARK MULCH.
- FRACTURED ROCK - INSTALL 4" MIN. DEPTH OF 2" X 3" FRACTURED ROCK OVER LANDSCAPE FABRIC.
- 4" MINUS RIVER ROCK - INSTALL 4" MIN. DEPTH OF 4" MINUS RIVER ROCK OVER LANDSCAPE FABRIC.
- BARK MULCH - INSTALL WALK-ON BARK MULCH (OAE) IN TREE AND SHRUB WATERING WELLS LOCATED WITHIN ROCK MULCH AREAS. - DO NOT INSTALL LANDSCAPE FABRIC UNDER BARK.
- LANDSCAPE FABRIC - DEWITT PRO-5 WEED BARRIER (OAE). INSTALL IN ACCORDANCE WITH MFG'S SPECIFICATIONS.
- GRANULAR PRE-EMERGENT HERBICIDE - APPLY RONSTAR TURF & ORNAMENTAL HERBICIDE (OAE) TO ALL PLANTING BEDS PER MFG'S SPECIFICATIONS.

NOTE: DIGITAL PHOTOS OF ALL MULCH SAMPLES SHALL BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL MIN. 48 HOURS PRIOR TO START OF ANY LANDSCAPE OR IRRIGATION WORK. IF UNACCEPTABLE MULCH IS INSTALLED WITHOUT APPROVAL IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT THE ISSUES AT HIS EXPENSE.

OBSERVATIONS/APPROVALS/SUBMITTALS

14. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING OWNER'S REPRESENTATIVE A MINIMUM OF 48 HOURS IN ADVANCE FOR THE FOLLOWING SITE OBSERVATIONS AND/OR MEETINGS:

A. PRECONSTRUCTION MEETING WITH ALL PARTIES
B. PLANT MATERIAL ON SITE PRIOR TO INSTALLATION
C. FINAL PROJECT WALK-THROUGH
D. ADDITIONAL SITE OBSERVATIONS AS DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE AND/OR CONTRACTOR.

15. SUBMIT AMENDMENT AND MULCH SAMPLES TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION. FAILURE TO COMPLY MAY RESULT IN REJECTION OF MULCH OR AMENDMENT PRIOR TO OR FOLLOWING INSTALLATION.

16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROVIDE PLANT MATERIAL AS SPECIFIED ON THE PLAN. THE CONTRACTOR MAY SUBMIT A REQUEST TO PROVIDE SUBSTITUTIONS FOR THE SPECIFIED PLANT MATERIAL UNDER THE FOLLOWING CONDITIONS:

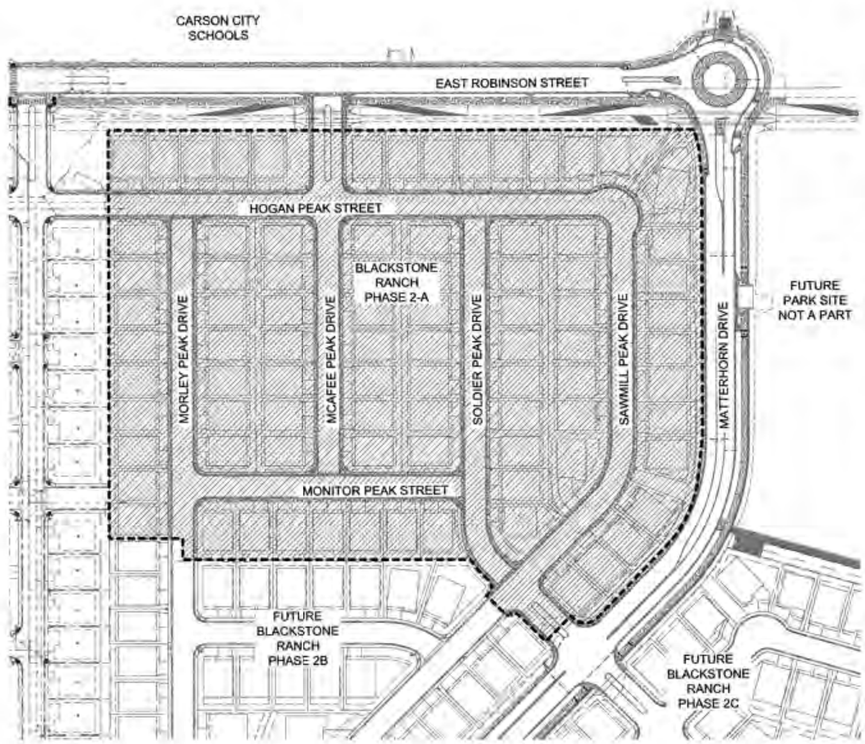
A. ANY SUBSTITUTIONS PROPOSED SHALL BE SUBMITTED TO THE PROJECT OWNER'S REPRESENTATIVE WITHIN TWO WEEKS OF THE AWARD OF CONTRACT. SUBSTITUTIONS MUST MEET EQUIVALENT DESIGN AND FUNCTIONAL GOALS OF THE ORIGINAL MATERIALS AS DETERMINED BY THE OWNER'S REPRESENTATIVE. ANY CHANGES MUST HAVE THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
B. THE REQUEST WILL BE ACCOMPANIED BY AT LEAST THREE NOTICES FROM PLANT MATERIAL SUPPLIERS THAT THE PLANT MATERIAL SPECIFIED IS NOT AVAILABLE AND WILL NOT BE AVAILABLE PRIOR TO CONSTRUCTION.

17. SUBMIT REQUIRED SOIL REPORT, AND SAMPLE OF PROPOSED SOIL AMENDMENTS TO OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

18. RECORD (AS-BUILT) DRAWINGS: FOLLOWING COMPLETION OF PROJECT INSTALLATION, AND PRIOR TO FINAL APPROVAL, CONTRACTOR SHALL PREPARE AND SUBMIT RECORD DRAWINGS DEPICTING A COMPLETE LANDSCAPE AND IRRIGATION INSTALLATION. PROCURE FROM OWNER DIGITAL COPIES OF CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE PROJECT SITE AT ALL TIMES DURING INSTALLATION. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF TREES AND SHRUB BEDS, IRRIGATION VALVES, AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES SUCH AS BUILDING, CURBS, FENCES, WALKS, OR PROPERTY LINES. DRAWINGS SHALL SHOW MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. THE RECORD COPIES SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE.

GUARANTEE/WARRANTY

20. ALL PLANTED AREAS SHALL BE MAINTAINED FOR A PERIOD OF SIXTY DAYS FOLLOWING WRITTEN ACCEPTANCE BY OWNER'S REPRESENTATIVE. LANDSCAPE CONTRACTOR WILL GUARANTEE ALL PLANT MATERIAL (INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, GROUNDCOVER, AND GRASSES) FOR A PERIOD OF ONE FULL YEAR FOLLOWING FINAL ACCEPTANCE OF THE LANDSCAPE INSTALLATION BY THE OWNER'S AUTHORIZED REPRESENTATIVE. IN BIDDING AND INSTALLING THE PLANT MATERIAL SPECIFIED ON THESE PLANS, THE LANDSCAPE CONTRACTOR AGREES THAT THE PLANT MATERIAL SPECIFIED IS SUITABLE TO THE PROJECT SITE. FURTHERMORE, THE LANDSCAPE CONTRACTOR AGREES TO HONOR THE WARRANTY AND, IF NECESSARY, REPLACE SPECIES WITH A MORE HARDY PLANT TYPE IF DEEMED NECESSARY DUE TO EXCESSIVE DIE OUT. IF THE LANDSCAPE CONTRACTOR DOES NOT BELIEVE CERTAIN PLANT MATERIAL IS SUITABLE FOR THE SITE AND/OR ITS MICRO-CLIMATES, THE LANDSCAPE CONTRACTOR SHALL REQUEST TO MAKE PLANT MATERIAL SUBSTITUTIONS IN WRITING TO THE LANDSCAPE ARCHITECT PRIOR TO THE START OF INSTALLATION. PROPOSED SUBSTITUTIONS WILL RESULT IN NO ADDED COST.



LANDSCAPE DATA

SITE AREA: 17.4 ACRES
ZONING: SF6 (SINGLE-FAMILY 6,000)
JURISDICTION: CARSON CITY

PROPOSED COMMON AREA LANDSCAPE = 19,001 SQ FT

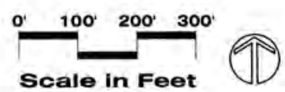
REQUIRED COMMON AREA TREES = 48
- 1 TREE PER 400 SQ FT OF COMMON AREA LANDSCAPE = 48

INCLUDES
- 1 TREE PER 30 LN FT ALONG MATTERHORN DRIVE (902 LN FT) = 30

REQUIRED COMMON AREA SHRUBS = 288
- 6 SHRUBS PER REQUIRED TREE

PROVIDED SHRUBS = 288

FRONT YARD TREES
1 TREE PER FRONT YARD - SEE TYPICAL FRONT YARD LANDSCAPE PLAN SHT L4



IRRIGATION SPECIFICATIONS

GENERAL

1. PLAN IS DIAGRAMMATIC ONLY. FINAL LOCATION OF LINES AND HEADS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE. LINES SHALL BE IN A COMMON TRENCH WHEREVER POSSIBLE. THE POINT-OF-CONNECTION SHALL BE AS INDICATED ON THE PLAN.

2. THE CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS AND ENSURE THAT ALL LOCAL CODES ARE MET.

3. THE CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS REQUIRED FOR INSTALLATION OF THE IRRIGATION SYSTEM AS DEPICTED ON THESE PLANS.

4. CONTRACTOR SHALL VERIFY AVAILABLE FLOW AND PRESSURE DOWNSTREAM FROM THE POINT-OF-CONNECTION PRIOR TO SYSTEM INSTALLATION. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IF AVAILABLE FLOW IS LESS THAN REQUIRED TO RUN THE LARGEST ZONE. CONTRACTOR SHALL NOT PROCEED ANY FURTHER WITH INSTALLATION OF THE SYSTEM UNTIL NECESSARY DESIGN REVISIONS HAVE BEEN DETERMINED BY OWNER'S REPRESENTATIVE.

5. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR DIFFERENCES IN DIMENSIONS EXIST THAT MIGHT HAVE BEEN UNKNOWN DURING ENGINEERING. SUCH OBSTRUCTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO OWNER.

6. ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

7. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL IRRIGATION MATERIAL, INCLUDING PIPE, WITH THE LANDSCAPE DRAWINGS TO AVOID INTERFERING WITH THE PLANTING OF TREES, SHRUBS OR OTHER PLANTINGS.

8. ALL VALVES ARE TO BE LOCATED IN PLANTING AREAS WHEREVER POSSIBLE.

9. ALL ELECTRICAL WIRE FROM CONTROLLER TO VALVES SHALL BE 12 GAUGE UL DIRECT BURIAL OR LARGER AS REQUIRED BY LENGTH PER MANUFACTURER'S SPECIFICATIONS.

10. BACKFILL FOR TRENCHING SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO THE UNDISTURBED ADJACENT SOIL AND SHALL CONFORM TO ADJACENT GRADES WITHOUT DIPS, HUMPS, OR OTHER IRREGULARITIES.

11. A MINIMUM OF TWO WORKING DAYS PRIOR TO PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600 FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRICAL CABLES, TELEPHONE CABLES, ETC.

12. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.

13. INSTALL ALL PIPE AND CONTROL WIRES IN LANDSCAPE BEDS AND IN COMMON TRENCHES WHEREVER POSSIBLE.

14. INSTALL ALL PIPE AND CONTROL WIRE WHICH RUNS UNDER PAVING WITHIN SCH. 40 PVC SLEEVES 4" DIA. MINIMUM SIZE AS REQUIRED TO ALLOW INSTALLATION WITHOUT BINDING. PROVIDE (1) SLEEVE FOR PIPE. PROVIDE SEPARATE SLEEVES FOR CONTROL WIRE.

15. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR COMPLETE DRAINAGE OF THE MAINLINES BY INSTALLING MANUAL DRAINS AS INDICATED ON PLAN AND AT ALL SYSTEM LOW POINTS.

FLUSHING AND TESTING

16. PIPING SHALL BE COMPLETELY FLUSHED OF FOREIGN PARTICLES BEFORE ATTACHING IRRIGATION COMPONENTS AND DRAIN VALVES.

17. AFTER FLUSHING AND WHEN ALL VALVES AND QUICK COUPLERS ARE IN PLACE, ALL MAIN SUPPLY LINES SHALL BE TESTED AT 100 POUNDS PER SQUARE INCH (100 PSI) WITH VALVES CLOSED. MAINTAIN PRESSURE FOR A PERIOD OF NOT LESS THAN (4) CONSECUTIVE HOURS. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE, AND TESTED.

18. OPERATIONAL TESTING: PERFORM OPERATIONAL TESTING AFTER HYDROSTATIC TESTING IS COMPLETED. DEMONSTRATE TO THE OWNER'S REPRESENTATIVE THAT THE SYSTEM MEETS COVERAGE REQUIREMENTS (100%) AND THAT AUTOMATIC CONTROLS FUNCTION PROPERLY.

SUBMITTALS

19. MATERIALS LIST: WITHIN (15) DAYS AFTER AWARD OF CONTRACT, SUBMIT TO OWNER'S REPRESENTATIVE (3) COPIES OF A COMPLETE MATERIAL LIST (PARTIAL LIST NOT ACCEPTABLE) OF ALL MATERIALS TO BE USED ON THE PROJECT, SPECIFYING MANUFACTURER, GRADE, TRADE NAME, CATALOG NUMBER, SIZE, ETC. THIS SHALL IN NO WAY BE CONSTRUED AS ALLOWING A SUBSTITUTION FOR ANY ITEM SPECIFIED ON THE PLANS. EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE MAY BE REJECTED AND THE CONTRACTOR REQUIRED TO REMOVE THE MATERIALS AT HIS OWN EXPENSE.

INSTALLATION AND PERFORMANCE OF APPROVED SUBSTITUTIONS ARE THE CONTRACTOR'S RESPONSIBILITY. ANY CHANGES REQUIRED FOR INSTALLATION OF ANY APPROVED SUBSTITUTION MUST BE MADE TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE WITHOUT ADDITIONAL COST TO OWNER.

20. PRIOR TO SYSTEM INSTALLATION CONTRACTOR SHALL VERIFY AND SUBMIT TO OWNER'S REPRESENTATIVE IN WRITING AVAILABLE FLOW AND PRESSURE AT POINT-OF-CONNECTION AS DESCRIBED IN SPECIFICATION #4 ABOVE.

21. COMPLETE WARRANTY CARDS FOR AUTOMATIC CONTROLLER AND OTHER IRRIGATION MATERIAL (CONTROLLER KEYS, ETC.) SHALL BE DELIVERED TO OWNER.

22. CONTRACTOR SHALL PREPARE AND ISSUE TO THE OWNER (AT COMPLETION OF THE INSTALLATION) AN ANNUAL CHART INDICATING LOCATION, OPERATING DATES, CYCLES, AND TIME FOR EACH ZONE.

23. ASBUILT IRRIGATION DRAWINGS: CONTRACTOR SHALL FURNISH ASBUILTS OF THE COMPLETE IRRIGATION SYSTEM. PROCURE FROM OWNER'S REPRESENTATIVE DIGITAL COPIES OF CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES WHILE THE IRRIGATION SYSTEM IS BEING INSTALLED. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF VALVES AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES SUCH AS BUILDINGS, CURBS, FENCES, WALKS OR PROPERTY LINES. DRAWINGS SHALL SHOW APPROVED MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE AND ALL INDICATIONS SHALL BE NEAT. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. THE RECORD COPIES SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE AT OR BEFORE FINAL ACCEPTANCE/APPROVAL OF THE PROJECT.

GUARANTEE/FINAL ACCEPTANCE

24. CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE THE IRRIGATION SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. MANUFACTURER WARRANTIES SHALL ONLY EXCEED THIS GUARANTEE AND CONTRACTOR SHALL BE LIABLE FOR REPAIRS/REPLACEMENT OF FAILED MATERIAL/WORKMANSHIP.

MAINTENANCE

25. AFTER SYSTEM IS INSTALLED AND APPROVED, INSTRUCT OWNER'S DESIGNATED PERSONNEL IN COMPLETE OPERATION AND MAINTENANCE PROCEDURES. DRAIN ENTIRE SYSTEM AT END OF FIRST WATERING SEASON FOLLOWING INSTALLATION. TRAIN OWNER'S DESIGNATED PERSONNEL BY HAVING THEM ASSIST IN WINTERIZING PROCEDURE.

L.A. StudioNevada
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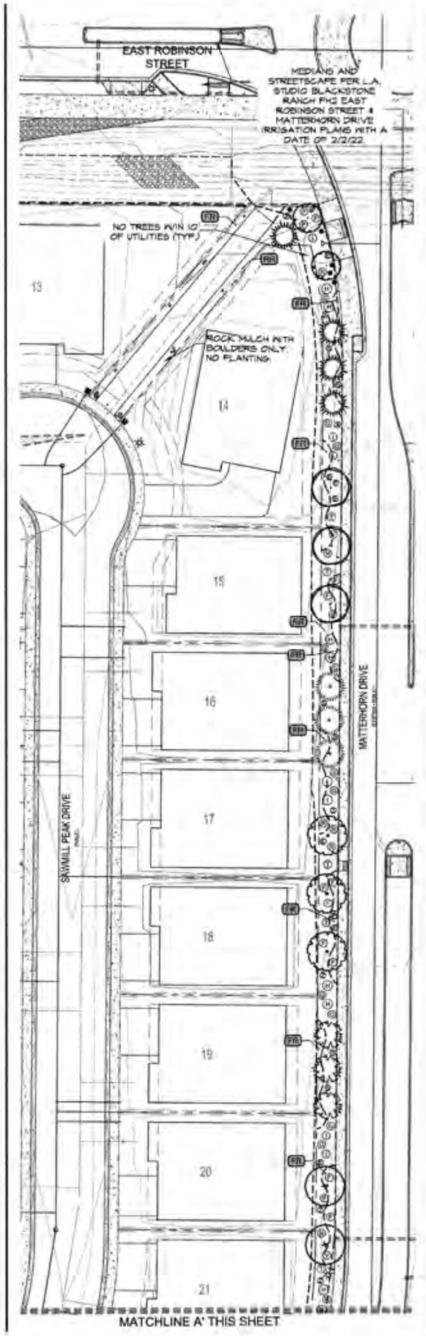
www.lastudionevada.com

Landscape Cover Sheet
BLACKSTONE RANCH
PHASE 2A
Carson City

No.	Revision Date

LA No.	056-BAN-20-22
Designed:	KRD
Drawn:	KRD
Checked:	RAH
Date:	3/4/22

Sheet L1 of 6



PLANT LIST

TREE AND SHRUB SIZES ARE LISTED AT CARSON CITY CODE MINIMUM. ANY PLANT MATERIALS INSTALLED AT LESS THAN CODE MINIMUM SHALL BE REPLACED AT CONTRACTOR'S EXPENSE

SYM.	QNT.	BOTANICAL NAME/COMMON NAME	MIN. SIZE
		DECIDUOUS TREES	
	5	MALUS 'PRAIRIFIRE'/PRAIRIFIRE CRAB (FRUITLESS)*	2" CAL.
	3	PLATANUS X ACCERIFOLIA 'BLOODGOOD'/LONDON PLANE TREE	2" CAL.
	6	QUERCUS COCCINEA/SCARLET OAK	2" CAL.
	4	SORBUS AMERICANA'DWARFCROWN'/RED CASCADE MOUNTAIN ASH*	2" CAL.
	8	TILIA AMERICAN 'McKSETNTRY'/AMERICAN SENTRY LINDEN*	2" CAL.
	6	ZELKOVA SERRATA/SAWLEAF ZELCOVA*	2" CAL.
		EVERGREEN TREES	
	6	CALOCEDRUS DECURRENS/INCENSE CEDAR	6' HT.
	8	CEDRUS ATLANTICA/ATLAS CEDAR	6' HT.
	4	PICEA PUNGENS/COLORADO BLUE SPRUCE	6' HT.
		SHRUBS (50% POLLINATOR FRIENDLY SHRUBS REQ'D. 72% PROVIDED)	
B	21	BERBERIS X GLADWYNENSIS 'WILLIAM PENN'/WILLIAM PENN BARBERRY*	5 GAL.
F	28	FORSYTHIA X 'COURTASOL'/GOLD TIDE FORSYTHIA*	5 GAL.
H	21	HIBISCUS SYRIACUS 'NOTWOODONE'/LAVENDER CHIFFON ROSE OF SHARON*	5 GAL.
I	20	ILEX GLABRA/INKBERRY HOLLY*	5 GAL.
S	14	PEROVSKIA ATRIPLICIFOLIA 'LACEY BLUE'/LACEY BLUE RUSSIAN SAGE (DWARF)*	5 GAL.
N	14	PHYSOCARPUS OPULIFOLIUS 'DONNA MAY'/LITTLE DEVIL NINEBARK*	5 GAL.
P	16	PRUNUS BESSEYII 'PAWNEE BUTTES'/PAWNEE BUTTES SAND CHERRY*	5 GAL.
G	17	RHUS AROMATICA 'GRO-LOW'/GRO-LOW FRAGRANT SUMAC*	5 GAL.
R	21	ROSA 'MEIRYEZZA'/GRACE 'N' GRIT PINK BI-COLOR SHRUB ROSE*	5 GAL.
T	11	THUJA OCCIDENTALIS 'GOLDEN GLOBE'/GOLDEN GLOBE ARBORVITAE	5 GAL.
V	4	VIBURNUM NUDUM 'BULK'/BRANDYWINE VIBURNUM*	5 GAL.
		PERENNIALS, GROUNDCOVER & ORNAMENTAL GRASSES	
X	12	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'/FEATHER REED GRASS	1 GAL.
E	20	EUONYMUS FORTUNEI 'COLORATUS'/PURPLELEAF WINTERCREEPER*	1 GAL.
Y	15	PANICUM VIRGATUM 'CHEYENNE SKY'/CHEYENNE SKY SWITCH GRASS	1 GAL.
Z	23	PENNISETUM ORIENTALE 'KARLEY ROSE'/KARLEY ROSE SWITCH GRASS	1 GAL.
•	55	TEUCRIUM CHAMAEDRYS/WALL GERMANDER*	1 GAL.

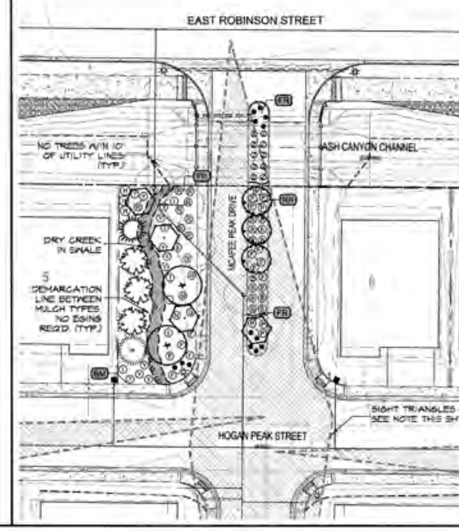
MULCH LEGEND

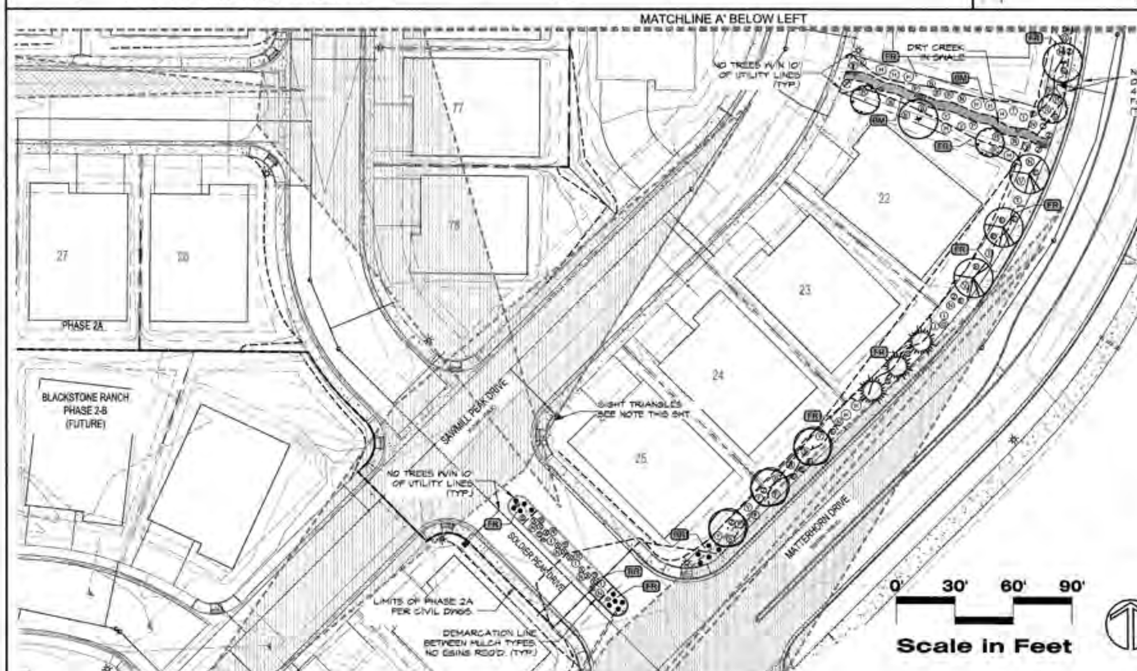
SEE LANDSCAPE SPECIFICATION PER SHEET L1

- BM — PARTIALLY COMPOSTED BARK MULCH
- RC — RIVER COBBLE
- FR — FRACTURED ROCK
- DRY CREEK
- 50 +/- — LANDSCAPE BOULDERS - TO BE RANDOMLY PLACED THROUGHOUT THE LANDSCAPE AS INDICATED PER PLAN. SIZE TO VARY, 24" DIA. MIN. OPTIONAL BY OWNER.

NOTE:
ANY STREET TREE SUBSTITUTION REQUESTS SHALL BE DIRECTED TO THE CARSON CITY PLANNING DEPARTMENT FOR CONSIDERATION. STREET TREES SELECTIONS SHALL BE FROM THE CARSON CITY TREE LIST FOR COMMERCIAL PROJECTS.

*DENOTES POLLINATOR FRIENDLY PLANT MATERIALS





VISION (SIGHT) TRIANGLES

- STREET VISION TRIANGLE IS DEFINED BY THE MOST RECENT EDITION OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS HIGHWAYS AND STREETS POLICY AND DESIGN MANUAL.
- NO FENCE, WALL, SCREEN, SIGN, OR FOLIAGE SHALL BE ERECTED, PLANTED OR MAINTAINED IN SUCH A MANNER AS TO OBSTRUCT OR INTERFERE WITH A CLEAR LINE OF SIGHT FOR THE DRIVERS OF APPROACHING VEHICLES WITHIN THE VISION TRIANGLE BETWEEN TWO AND ONE-HALF FEET (30 INCHES) AND EIGHT FEET ABOVE THE AVERAGE GRADE OF THE CURB. THIS SHALL NOT BE INTERPRETED TO PROHIBIT TRAFFIC SIGN POSTS, UTILITY POLES OR TREE TRUNKS WITHIN THE VISION TRIANGLE AREA.

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Nevada

Common Area Landscape Plan
BLACKSTONE RANCH
PHASE 2A
Carson City

Ryder Homes

No.	Revision Date

LA No: 058-S41-C0-22
Designed: KRD
Drawn: KRD
Checked: RWH
Date: 5/4/22

Sheet: L2 of 6

LANDSCAPE SPECIFICATIONS

GENERAL

1. PLAN IS DIAGRAMMATIC ONLY. ALL LOCAL GOVERNING CODES SHALL BE MET. EXACT LOCATION OF TREES AND SHRUBS SHALL BE DETERMINED IN THE FIELD (INSTALL AS PER DETAILS) AND APPROVED BY THE OWNER'S REPRESENTATIVE.

2. A MINIMUM OF TWO WORKING DAYS BEFORE PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRIC CABLES, TELEPHONE CABLES, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND PROTECTION OF ALL UTILITIES, AND REPAIR OF ANY DAMAGE RESULTING FROM HIS WORK AT NO ADDITIONAL COST TO THE OWNER.

3. DAMAGES: CONTRACTOR SHALL PROMPTLY REPAIR ALL DAMAGES TO EXISTING SITE AT NO COST TO OWNER.

4. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES (I.E. PAVING, PLUMBING, ELECTRICAL, ETC.)

5. THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION AND TO NOTIFY THE OWNER'S REPRESENTATIVE SHOULD CONDITIONS EXIST WHICH PREVENT CONSTRUCTION AS PER THESE PLANS. COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE OF CONDITIONS AND RESPONSIBILITY FOR CORRECTIONS.

6. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE OWNER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT.

PLANTING

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINISH GRADING THROUGHOUT ALL LANDSCAPE AREAS SUCH THAT THERE ARE NO HUMPS OR DEPRESSIONS AND POSITIVE DRAINAGE OCCURS THROUGHOUT. THE TOP 18" OF ALL PLANTING BEDS SHALL BE CLEAN NATIVE SOIL, FREE OF ALL CONSTRUCTION DEBRIS AND NATIVE ROCKS OVER 1" IN DIAMETER. THE CONTRACTOR SHALL AMEND THE PLANTING BED OR PLANTING HOLES PER PLANS AND SPECIFICATIONS. FINAL GRADE OF ALL PLANTERS (I.E. MULCH SURFACE) SHALL BE FLUSH WITH ADJACENT HARDSCAPE SURFACES.

8. SOIL TEST: CONTRACTOR SHALL PROVIDE SOIL TEST RESULTS FOR EXISTING SITE SOIL AS FOLLOWS:
- ANALYSIS PACKAGE LTP-4 BY SUNLAND ANALYTICAL (916)852-8557 (OAE).
- TEST RESULTS SHALL INCLUDE SOIL SATURATION PERCENT, SOIL TEXTURE, INFILTRATION RATE, pH, CONDUCTIVITY, TOTAL DISSOLVED SALTS, CATION EXCHANGE CAPACITY, POTASSIUM, SODIUM, CALCIUM, MAGNESIUM, NITRATE & PHOSPHORUS, SULFUR, CHLORIDE, BORON, COPPER, IRON, MANGANESE, ZINC & LIME REQUIREMENT OR GYPSUM REQUIREMENT, SODIUM ABSORPTION RATIO, EXCHANGEABLE SODIUM PERCENT & ORGANIC MATTER, ALONG WITH RECOMMENDATIONS FOR SOIL AMENDMENT BASED ON ANALYSIS RESULTS.
- CONTRACTOR SHALL FOLLOW RECOMMENDATIONS OF SOIL TEST.

9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TOTAL AND CONFIRM ALL MATERIAL QUANTITIES. ITEMS QUANTIFIED BY AN AREA (I.E. SQUARE FEET - SF, SQUARE YARD - SY) OR VOLUME (CUBIC FEET - CU FT, CUBIC YARD - CU YD) SHALL BE CALCULATED AND CONFIRMED BY THE CONTRACTOR. THE QUANTITIES LISTED ON THE PLANT LIST ARE ESTIMATED. IN THE EVENT OF A DISCREPANCY BETWEEN THE TOTALS LISTED ON THE PLANT LIST AND THE QUANTITY OF GRAPHIC PLANT SYMBOLS DEPICTED ON THE DRAWINGS, THE GRAPHIC SYMBOLS ON THE PLANS SHALL GOVERN. THE ACTUAL TOTAL QUANTITIES SHALL BE DETERMINED BY THE CONTRACTOR.

10. SOIL AMENDMENT: UNLESS OTHERWISE INDICATED BY THE SOIL TEST, SOIL AMENDMENT SHALL BE HUMUS COMPOSED OF TOPSOIL, DARK HUMUS, AND COMPOST. SUBMIT TO OWNER'S REPRESENTATIVE FOR APPROVAL.

11. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIAL PER SYMBOLS AND SPACING INDICATED ON PLAN. SYMBOLS PREVAIL OVER NUMBERS ON PLANT LIST. NO SUBSTITUTIONS WILL BE ACCEPTED WITHOUT EXPRESSED WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE. SEE SUBMITTALS.

12. ALL PLANTS NOT MEETING OR EXCEEDING REQUIREMENTS AND RECOMMENDATIONS OF THE LATEST EDITION OF THE ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN SHALL BE REJECTED. CONTRACTOR SHALL RECEIVE ON-SITE APPROVAL OF PLANT MATERIAL BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. FAILURE TO RECEIVE PRIOR APPROVAL MAY RESULT IN REJECTION OF PLANT MATERIAL FOLLOWING INSTALLATION. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND EVALUATE PLANT MATERIAL THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PERIOD.

13. ALL PLANTING BEDS SHALL RECEIVE TOP-DRESSING OF MULCH AS FOLLOWS:

- FRACTURED ROCK - INSTALL 4" MIN. DEPTH OF 2" X 3" FRACTURED ROCK OVER LANDSCAPE FABRIC.
- 4" MINUS RIVER ROCK - INSTALL 4" MIN. DEPTH OF 4" MINUS RIVER ROCK OVER LANDSCAPE FABRIC.
- BARK MULCH - INSTALL WALK-ON BARK MULCH (OAE) IN TREE AND SHRUB WATERING WELLS LOCATED WITHIN ROCK MULCH AREAS. - DO NOT INSTALL LANDSCAPE FABRIC UNDER BARK.
- LANDSCAPE FABRIC - DEWITT PRO-5 WEED BARRIER (OAE). INSTALL IN ACCORDANCE WITH MFG'S SPECIFICATIONS.
- GRANULAR PRE-EMERGENT HERBICIDE - APPLY RONSTAR TURF & ORNAMENTAL HERBICIDE (OAE) TO ALL PLANTING BEDS PER MFG'S SPECIFICATIONS.
-

NOTE: DIGITAL PHOTOS OF ALL MULCH SAMPLES SHALL BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL MIN. 48 HOURS PRIOR TO START OF ANY LANDSCAPE OR IRRIGATION WORK. IF UNACCEPTABLE MULCH IS INSTALLED WITHOUT APPROVAL, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT THE ISSUES AT HIS EXPENSE.

OBSERVATIONS/APPROVALS/SUBMITTALS

14. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING OWNER'S REPRESENTATIVE, A MINIMUM OF 48 HOURS IN ADVANCE, FOR THE FOLLOWING SITE OBSERVATIONS AND/OR MEETINGS:

A. PRECONSTRUCTION MEETING WITH ALL PARTIES
B. PLANT MATERIAL ON SITE, PRIOR TO INSTALLATION
C. FINAL PROJECT WALK-THROUGH
D. ADDITIONAL SITE OBSERVATIONS AS DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE AND/OR CONTRACTOR.

15. SUBMIT AMENDMENT AND MULCH SAMPLES TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION. FAILURE TO COMPLY MAY RESULT IN REJECTION OF MULCH OR AMENDMENT PRIOR TO OR FOLLOWING INSTALLATION.

16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROVIDE PLANT MATERIAL AS SPECIFIED ON THIS PLAN. THE CONTRACTOR MAY SUBMIT A REQUEST TO PROVIDE SUBSTITUTIONS FOR THE SPECIFIED PLANT MATERIAL UNDER THE FOLLOWING CONDITIONS:

A. ANY SUBSTITUTIONS PROPOSED SHALL BE SUBMITTED TO THE PROJECT OWNER'S REPRESENTATIVE WITHIN TWO WEEKS OF THE AWARD OF CONTRACT. SUBSTITUTIONS MUST MEET EQUIVALENT DESIGN AND FUNCTIONAL GOALS OF THE ORIGINAL MATERIALS AS DETERMINED BY THE OWNER'S REPRESENTATIVE. ANY CHANGES MUST HAVE THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
B. THE REQUEST WILL BE ACCOMPANIED BY AT LEAST THREE NOTICES FROM PLANT MATERIAL SUPPLIERS THAT THE PLANT MATERIAL SPECIFIED IS NOT AVAILABLE AND WILL NOT BE AVAILABLE PRIOR TO CONSTRUCTION.

17. SUBMIT REQUIRED SOIL REPORT, AND SAMPLE OF PROPOSED SOIL AMENDMENTS TO OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

18. RECORD (AS-BUILT) DRAWINGS: FOLLOWING COMPLETION OF PROJECT INSTALLATION, AND PRIOR TO FINAL APPROVAL, CONTRACTOR SHALL PREPARE AND SUBMIT RECORD DRAWINGS DEPICTING A COMPLETE LANDSCAPE AND IRRIGATION INSTALLATION. PROCURE FROM OWNER DIGITAL COPIES OF CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE PROJECT SITE AT ALL TIMES DURING INSTALLATION. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF TREES AND SHRUB BEDS, IRRIGATION VALVES, AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES, SUCH AS BUILDING, CURBS, FENCES, WALKS, OR PROPERTY LINES. DRAWINGS SHALL SHOW MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. THE RECORD COPIES SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE.

GUARANTEES/WARRANTY

20. ALL PLANTED AREAS SHALL BE MAINTAINED FOR A PERIOD OF SIXTY DAYS FOLLOWING WRITTEN ACCEPTANCE BY OWNER'S REPRESENTATIVE. LANDSCAPE CONTRACTOR WILL GUARANTEE ALL PLANT MATERIAL (INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, GROUNDCOVER, AND GRASSES) FOR A PERIOD OF ONE FULL YEAR FOLLOWING FINAL ACCEPTANCE OF THE LANDSCAPE INSTALLATION BY THE OWNER'S AUTHORIZED REPRESENTATIVE. IN BIDDING AND INSTALLING THE PLANT MATERIAL SPECIFIED ON THESE PLANS, THE LANDSCAPE CONTRACTOR AGREES THAT THE PLANT MATERIAL SPECIFIED IS SUITABLE TO THE PROJECT SITE. FURTHERMORE, THE LANDSCAPE CONTRACTOR AGREES TO HONOR THE WARRANTY AND, IF NECESSARY, REPLACE SPECIES WITH A MORE HARDY PLANT TYPE IF DEEMED NECESSARY DUE TO EXCESSIVE DIE OUT. IF THE LANDSCAPE CONTRACTOR DOES NOT BELIEVE CERTAIN PLANT MATERIAL IS SUITABLE FOR THE SITE AND/OR ITS MICRO-CLIMATES, THE LANDSCAPE CONTRACTOR SHALL REQUEST TO MAKE PLANT MATERIAL SUBSTITUTIONS IN WRITING TO THE LANDSCAPE ARCHITECT PRIOR TO THE START OF INSTALLATION. PROPOSED SUBSTITUTIONS WILL RESULT IN NO ADDED COST.

LANDSCAPE DATA

SITE AREA: 9.8 ACRES
ZONING: SF6 (SINGLE-FAMILY 6,000)
JURISDICTION: CARSON CITY

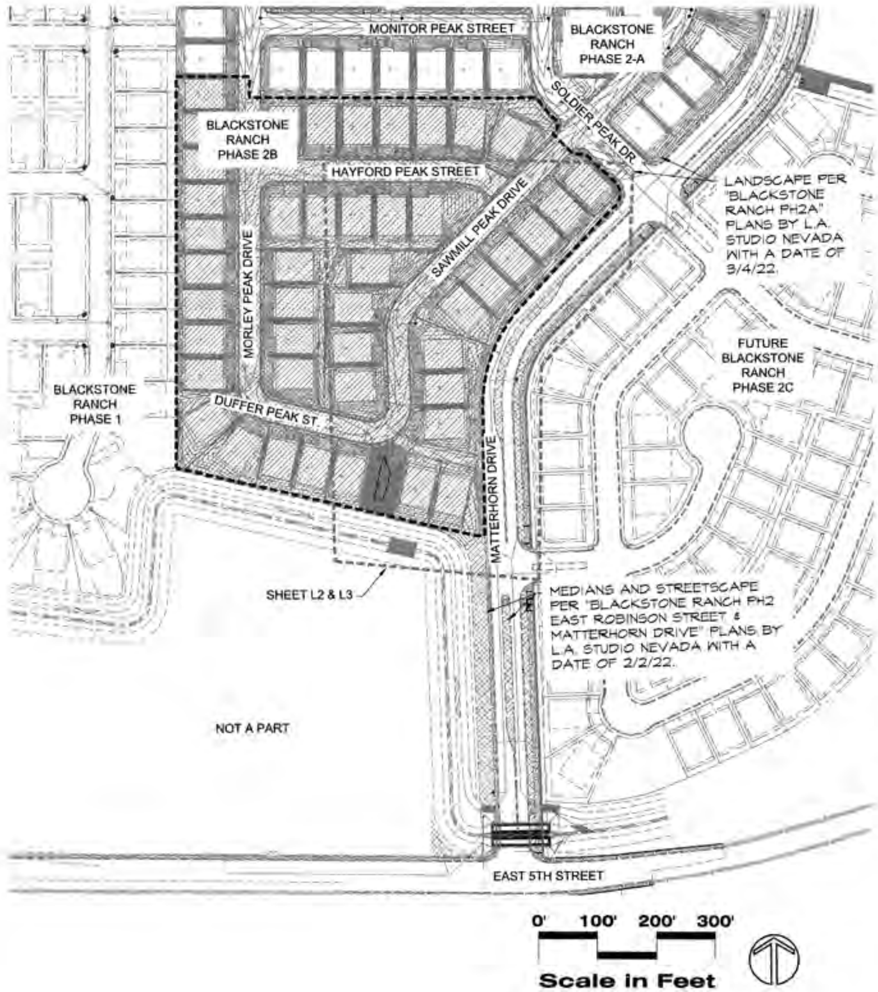
PROPOSED COMMON AREA LANDSCAPE = 8368 SQ FT

REQUIRED COMMON AREA TREES = 22
- 1 TREE PER 30 LN FT ALONG MATTERHORN DRIVE (658 LN FT) = 22 INCLUDED
- 1 TREE PER 400 SQ FT OF COMMON AREA LANDSCAPE = 20

PROVIDED TREES = 25

REQUIRED/PROVIDED COMMON AREA SHRUBS = 132
- 6 SHRUBS PER REQUIRED TREE

FRONT YARD TREES
1 TREE PER FRONT YARD - SEE TYPICAL FRONT YARD LANDSCAPE PLAN SHT. L4.



IRRIGATION SPECIFICATIONS

GENERAL

1. PLAN IS DIAGRAMMATIC ONLY. FINAL LOCATION OF LINES AND HEADS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE. LINES SHALL BE IN A COMMON TRENCH WHEREVER POSSIBLE. THE POINT-OF-CONNECTION SHALL BE AS INDICATED ON THE PLAN.

2. THE CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS AND ENSURE THAT ALL LOCAL CODES ARE MET.

3. THE CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS REQUIRED FOR INSTALLATION OF THE IRRIGATION SYSTEM AS DEPICTED ON THESE PLANS.

4. CONTRACTOR SHALL VERIFY AVAILABLE FLOW AND PRESSURE DOWNSTREAM FROM THE POINT-OF-CONNECTION PRIOR TO SYSTEM INSTALLATION. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IF AVAILABLE FLOW IS LESS THAN REQUIRED TO RUN THE LARGEST ZONE. CONTRACTOR SHALL NOT PROCEED ANY FURTHER WITH INSTALLATION OF THE SYSTEM UNTIL NECESSARY DESIGN REVISIONS HAVE BEEN DETERMINED BY OWNER'S REPRESENTATIVE.

5. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR DIFFERENCES IN DIMENSIONS EXIST THAT MIGHT HAVE BEEN UNKNOWN DURING ENGINEERING. SUCH OBSTRUCTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO OWNER.

6. ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

7. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL IRRIGATION MATERIAL, INCLUDING PIPE, WITH THE LANDSCAPE DRAWINGS TO AVOID INTERFERING WITH THE PLANTING OF TREES, SHRUBS OR OTHER PLANTINGS.

8. ALL VALVES ARE TO BE LOCATED IN PLANTING AREAS WHEREVER POSSIBLE.

9. ALL ELECTRICAL WIRE FROM CONTROLLER TO VALVES SHALL BE 12 GAUGE UL DIRECT BURIAL OR LARGER AS REQUIRED BY LENGTH PER MANUFACTURER'S SPECIFICATIONS.

10. BACKFILL FOR TRENCHING SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO THE UNDISTURBED ADJACENT SOIL AND SHALL CONFORM TO ADJACENT GRADES WITHOUT DIPS, HUMPS, OR OTHER IRREGULARITIES.

11. A MINIMUM OF TWO WORKING DAYS PRIOR TO PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600 FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRICAL CABLES, TELEPHONE CABLES, ETC.

12. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.

13. INSTALL ALL PIPE AND CONTROL WIRES IN LANDSCAPE BEDS AND IN COMMON TRENCHES WHEREVER POSSIBLE.

14. INSTALL ALL PIPE AND CONTROL WIRE, WHICH RUNS UNDER PAVING, WITHIN SCH. 40 PVC SLEEVES 4" DIA. MINIMUM SIZE AS REQUIRED TO ALLOW INSTALLATION WITHOUT BINDING. PROVIDE (1) SLEEVE PER PIPE. PROVIDE SEPARATE SLEEVES FOR CONTROL WIRE.

15. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR COMPLETE DRAINAGE OF THE MAINLINES BY INSTALLING MANUAL DRAINS AS INDICATED ON PLAN AND AT ALL SYSTEM LOW POINTS.

FLUSHING AND TESTING

16. PIPING SHALL BE COMPLETELY FLUSHED OF FOREIGN PARTICLES BEFORE ATTACHING IRRIGATION COMPONENTS AND DRAIN VALVES.

17. AFTER FLUSHING, AND WHEN ALL VALVES AND QUICK COUPLERS ARE IN PLACE, ALL MAIN SUPPLY LINES SHALL BE TESTED AT 100 POUNDS PER SQUARE INCH (100 PSI) WITH VALVES CLOSED. MAINTAIN PRESSURE FOR A PERIOD OF NOT LESS THAN (4) CONSECUTIVE HOURS. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE, AND TESTED.

18. OPERATIONAL TESTING: PERFORM OPERATIONAL TESTING AFTER HYDROSTATIC TESTING IS COMPLETED. DEMONSTRATE TO THE OWNER'S REPRESENTATIVE THAT THE SYSTEM MEETS COVERAGE REQUIREMENTS (100%) AND THAT AUTOMATIC CONTROLS FUNCTION PROPERLY.

SUBMITTALS

19. MATERIALS LIST: WITHIN (15) DAYS AFTER AWARD OF CONTRACT, SUBMIT TO OWNER'S REPRESENTATIVE (3) COPIES OF A COMPLETE MATERIAL LIST (PARTIAL LIST NOT ACCEPTABLE) OF ALL MATERIALS TO BE USED ON THE PROJECT, SPECIFYING MANUFACTURER, GRADE, TRADE NAME, CATALOG NUMBER, SIZE, ETC. THIS SHALL IN NO WAY BE CONSTRUED AS ALLOWING A SUBSTITUTION FOR ANY ITEM SPECIFIED ON THE PLANS. EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE MAY BE REJECTED AND THE CONTRACTOR REQUIRED TO REMOVE THE MATERIALS AT HIS OWN EXPENSE.

INSTALLATION AND PERFORMANCE OF APPROVED SUBSTITUTIONS ARE THE CONTRACTOR'S RESPONSIBILITY. ANY CHANGES REQUIRED FOR INSTALLATION OF ANY APPROVED SUBSTITUTION MUST BE MADE TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE WITHOUT ADDITIONAL COST TO OWNER.

20. PRIOR TO SYSTEM INSTALLATION CONTRACTOR SHALL VERIFY AND SUBMIT TO OWNER'S REPRESENTATIVE IN WRITING AVAILABLE FLOW AND PRESSURE AT POINT-OF-CONNECTION AS DESCRIBED IN SPECIFICATION #4 ABOVE.

21. COMPLETE WARRANTY CARDS FOR AUTOMATIC CONTROLLER AND OTHER IRRIGATION MATERIAL (CONTROLLER KEYS, ETC.) SHALL BE DELIVERED TO OWNER.

22. CONTRACTOR SHALL PREPARE AND ISSUE TO THE OWNER (AT COMPLETION OF THE INSTALLATION) AN ANNUAL CHART INDICATING LOCATION, OPERATING DATES, CYCLES, AND TIME FOR EACH ZONE.

23. ASBUILT IRRIGATION DRAWINGS: CONTRACTOR SHALL FURNISH ASBUILTS OF THE COMPLETE IRRIGATION SYSTEM. PROCURE FROM OWNER'S REPRESENTATIVE DIGITAL COPIES OF CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES WHILE THE IRRIGATION SYSTEM IS BEING INSTALLED. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF VALVES AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES, SUCH AS BUILDINGS, CURBS, FENCES, WALKS OR PROPERTY LINES. DRAWINGS SHALL SHOW APPROVED MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE AND ALL INDICATIONS SHALL BE NEAT. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. THE RECORD COPIES SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE AT OR BEFORE FINAL ACCEPTANCE/APPROVAL OF THE PROJECT.

GUARANTEE/FINAL ACCEPTANCE

24. CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE THE IRRIGATION SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. MANUFACTURER WARRANTIES SHALL ONLY EXCEED THIS GUARANTEE AND CONTRACTOR SHALL BE LIABLE FOR REPAIRS/REPLACEMENT OF FAILED MATERIAL/WORKMANSHIP.

MAINTENANCE

25. AFTER SYSTEM IS INSTALLED AND APPROVED, INSTRUCT OWNER'S DESIGNATED PERSONNEL IN COMPLETE OPERATION AND MAINTENANCE PROCEDURES. DRAIN ENTIRE SYSTEM AT END OF FIRST WATERING SEASON FOLLOWING INSTALLATION. TRAIN OWNER'S DESIGNATED PERSONNEL BY HAVING THEM ASSIST IN WINTERIZING PROCEDURE.

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Landscape Cover Sheet
BLACKSTONE RANCH
PHASE 2A
Carson City
Nevada
Ryder Homes

No.	Revision Date

LA No.: 056-850-02-22
Designed: KRD
Drawn: KRD
Checked: RAH
Date: 3/15/22

Sheet L3 of 6

PLANT LIST

TREE AND SHRUB SIZES ARE LISTED AT CARSON CITY CODE MINIMUM. ANY PLANT MATERIALS INSTALLED AT LESS THAN CODE MINIMUM SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

SYM.	QNT.	BOTANICAL NAME/COMMON NAME	MIN. SIZE
		DECIDUOUS TREES	
	5	PLATANUS X ACCERIFOLIA 'BLOODGOOD'/LONDON PLANE TREE	2" CAL.
	4	QUERCUS COCCINEA/SCARLET OAK	2" CAL.
	7	TILIA AMERICAN 'McKSETNTRY'/AMERICAN SENTRY LINDEN*	2" CAL.
		EVERGREEN TREES	
	7	CALOCEDRUS DECURRENS/INCENSE CEDAR	6' HT.
	6	CEDRUS ATLANTICA/ATLAS CEDAR	6' HT.
	5	PICEA PUNGENS/COLORADO BLUE SPRUCE	6' HT.
		SHRUBS 50% POLLINATOR FRIENDLY SHRUBS REQ'D 57% PROVIDED	
b	8	BERBERIS X GLADWYNENSIS 'WILLIAM PENN'/WILLIAM PENN BARBERRY*	5 GAL.
F	6	FORSYTHIA X 'COURTASOL'/GOLD TIDE FORSYTHIA*	5 GAL.
h	5	HIBISCUS SYRIACUS 'NOTWOODONE'/LAVENDER CHIFFON ROSE OF SHARON*	5 GAL.
I	4	ILEX GLABRA/INKBERRY HOLLY*	5 GAL.
N	2	PHYSOCARPUS OPULIFOLIUS 'DONNA MAY'/LITTLE DEVIL NINEBARK*	5 GAL.
P	19	PRUNUS BESSEYII 'PAWNEE BUTTES'/PAWNEE BUTTES SAND CHERRY*	5 GAL.
			5 GAL.
Q	14	RHUS AROMATICA 'GRO-LOW'/GRO-LOW FRAGRANT SUMAC*	
R	17	ROSA 'MEIRYEZZA'/GRACE 'N' GRIT PINK BI-COLOR SHRUB ROSE*	5 GAL.
V	4	THUJA OCCIDENTALIS 'GOLDEN GLOBE'/GOLDEN GLOBE ARBORVITAE	5 GAL.
			5 GAL.
		PERENNIALS, GROUNDCOVER & ORNAMENTAL GRASSES	
K	12	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'/FEATHER REED GRASS	1 GAL.
E	8	EUONYMUS FORTUNEI 'COLORATUS'/PURPLELEAF WINTERCREEPER*	1 GAL.
Y	20	PANICUM VIRGATUM 'CHEYENNE SKY'/CHEYENNE SKY SWITCH GRASS	1 GAL.
8	19	PENNISETUM ORIENTALE 'KARLEY ROSE'/KARLEY ROSE SWITCH GRASS	1 GAL.
Z	24	PEROVSKIA ATRIPLICIFOLIA 'LACEY BLUE'/LACEY BLUE RUSSIAN SAGE (DWARF)*	1 GAL.
•	10	TEUCRIUM CHAMAEDRYS/WALL GERMANDER*	1 GAL.

*DENOTES POLLINATOR FRIENDLY PLANT MATERIALS

NOTE:
ANY STREET TREE SUBSTITUTION REQUESTS SHALL BE DIRECTED TO THE CARSON CITY PLANNING DEPARTMENT FOR CONSIDERATION. STREET TREE SELECTIONS SHALL BE FROM THE CARSON CITY TREE LIST FOR COMMERCIAL PROJECTS.

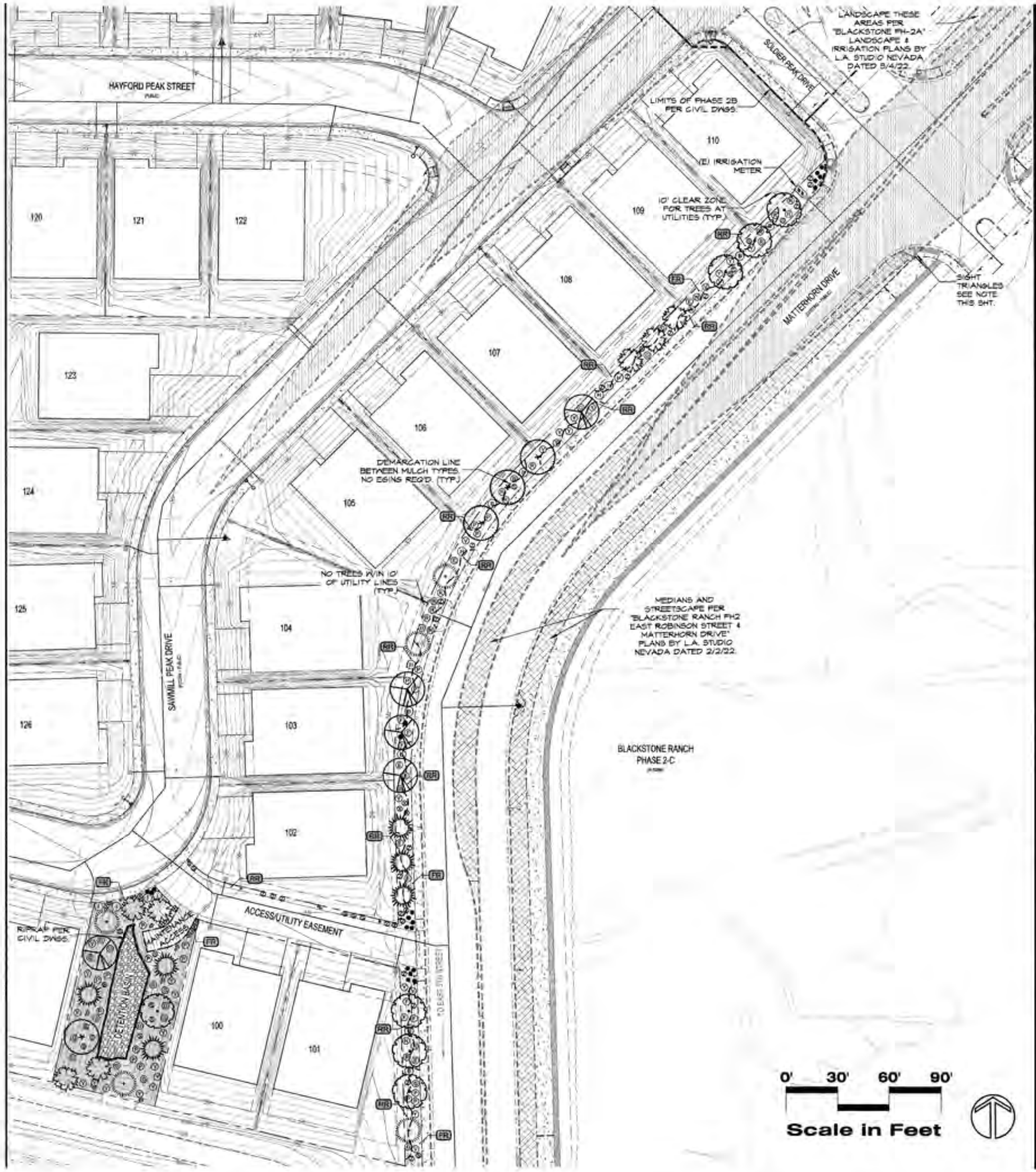
MULCH LEGEND

SEE LANDSCAPE SPECIFICATION #13 SHEET L1

- RR — RIVER COBBLE
- FR — FRACTURED ROCK
- BLACKSTONE PH 2
- BLACKSTONE PH 2A
- LANDSCAPE BOULDERS – TO BE RANDOMLY PLACED THROUGHOUT THE LANDSCAPE AS INDICATED PER PLAN. SIZE TO VARY, 24" DIA. MIN. OPTIONAL BY OWNER.

VISION (SIGHT) TRIANGLES

- STREET VISION TRIANGLE IS DEFINED BY THE MOST RECENT EDITION OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS HIGHWAYS AND STREETS POLICY AND DESIGN MANUAL.
- NO FENCE, WALL, SCREEN, SIGN, OR FOLIAGE SHALL BE ERECTED, PLANTED OR MAINTAINED IN SUCH A MANNER AS TO OBSTRUCT OR INTERFERE WITH A CLEAR LINE OF SIGHT FOR THE DRIVERS OF APPROACHING VEHICLES WITHIN THE VISION TRIANGLE BETWEEN TWO AND ONE-HALF FEET (30 INCHES) AND EIGHT FEET ABOVE THE AVERAGE GRADE OF THE CURB. THIS SHALL NOT BE INTERPRETED TO PROHIBIT TRAFFIC SIGN POSTS, UTILITY POLES OR TREE TRUNKS WITHIN THE VISION TRIANGLE AREA.



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Nevada

Common Area Landscape Plan
BLACKSTONE RANCH
PHASE 2B
Carson City

Ryder Homes

No.	Revision Date

LA No: 058-050-02-22
Designed: KRD
Drawn: KRD
Checked: RAH
Date: 5/15/22

Sheet L4 of 6

LANDSCAPE SPECIFICATIONS

GENERAL

1. PLAN IS DIAGRAMMATIC ONLY. ALL LOCAL GOVERNING CODES SHALL BE MET. EXACT LOCATION OF TREES AND SHRUBS SHALL BE DETERMINED IN THE FIELD (INSTALL AS PER DETAILS) AND APPROVED BY THE OWNER'S REPRESENTATIVE.

2. A MINIMUM OF TWO WORKING DAYS BEFORE PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRIC CABLES, TELEPHONE CABLES, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND PROTECTION OF ALL UTILITIES, AND REPAIR OF ANY DAMAGE RESULTING FROM HIS WORK AT NO ADDITIONAL COST TO THE OWNER.

3. DAMAGES: CONTRACTOR SHALL PROMPTLY REPAIR ALL DAMAGES TO EXISTING SITE AT NO COST TO OWNER.

4. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES (I.E. PAVING, PLUMBING, ELECTRICAL, ETC.)

5. THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION AND TO NOTIFY THE OWNER'S REPRESENTATIVE SHOULD CONDITIONS EXIST WHICH PREVENT CONSTRUCTION AS PER THESE PLANS. COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE OF CONDITIONS AND RESPONSIBILITY FOR CORRECTIONS.

6. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE OWNER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT.

PLANTING

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINISH GRADING THROUGHOUT ALL LANDSCAPE AREAS SUCH THAT THERE ARE NO HUMPS OR DEPRESSIONS AND POSITIVE DRAINAGE OCCURS THROUGHOUT. THE TOP 18" OF ALL PLANTING BEDS SHALL BE CLEAN NATIVE SOIL, FREE OF ALL CONSTRUCTION DEBRIS AND NATIVE ROCKS OVER 1" IN DIAMETER. THE CONTRACTOR SHALL AMEND THE PLANTING BED OR PLANTING HOLES PER PLANS AND SPECIFICATIONS. FINAL GRADE OF ALL PLANTERS (I.E. MULCH SURFACE) SHALL BE FLUSH WITH ADJACENT HARDSCAPE SURFACES.

8. SOIL TEST: CONTRACTOR SHALL PROVIDE SOIL TEST RESULTS FOR EXISTING SITE SOIL AS FOLLOWS:

- ANALYSIS PACKAGE LT#4 BY SUNLAND ANALYTICAL (916)852-8557 (OAE)
- TEST RESULTS SHALL INCLUDE SOIL SATURATION PERCENT, SOIL TEXTURE, INFILTRATION RATE, pH, CONDUCTIVITY, TOTAL DISSOLVED SALTS, CATION EXCHANGE CAPACITY, POTASSIUM, SODIUM, CALCIUM, MAGNESIUM, NITRATE & PHOSPHORUS, SULFUR, CHLORIDE, BORON, COPPER, IRON, MANGANESE, ZINC & LIME REQUIREMENT OR GYPSUM REQUIREMENT, SODIUM ABSORPTION RATIO, EXCHANGEABLE SODIUM PERCENT & ORGANIC MATTER, ALONG WITH RECOMMENDATIONS FOR SOIL AMENDMENT BASED ON ANALYSIS RESULTS.
- CONTRACTOR SHALL FOLLOW RECOMMENDATIONS OF SOIL TEST.

9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TOTAL AND CONFIRM ALL MATERIAL QUANTITIES. ITEMS QUANTIFIED BY AN AREA (I.E. SQUARE FEET - SF, SQUARE YARD - SY) OR VOLUME (CUBIC FEET - CU FT, CUBIC YARD - CU YD) SHALL BE CALCULATED AND CONFIRMED BY THE CONTRACTOR. THE QUANTITIES LISTED ON THE PLANT LIST ARE ESTIMATED. IN THE EVENT OF A DISCREPANCY BETWEEN THE TOTALS LISTED ON THE PLANT LIST AND THE QUANTITY OF GRAPHIC PLANT SYMBOLS DEPICTED ON THE DRAWINGS, THE GRAPHIC SYMBOLS ON THE PLANS SHALL GOVERN. THE ACTUAL TOTAL QUANTITIES SHALL BE DETERMINED BY THE CONTRACTOR.

10. SOIL AMENDMENT: UNLESS OTHERWISE INDICATED BY THE SOIL TEST, SOIL AMENDMENT SHALL BE HUMUS COMPOSED OF TOPSOIL, BARK HUMUS, AND COMPOST. SUBMIT TO OWNER'S REPRESENTATIVE FOR APPROVAL.

11. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIAL PER SYMBOLS AND SPACING INDICATED ON PLAN. SYMBOLS PREVAIL OVER NUMBERS ON PLANT LIST. NO SUBSTITUTIONS WILL BE ACCEPTED WITHOUT EXPRESSED WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE. SEE SUBMITTALS.

12. ALL PLANTS NOT MEETING OR EXCEEDING REQUIREMENTS AND RECOMMENDATIONS OF THE LATEST EDITION OF THE ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN SHALL BE REJECTED. CONTRACTOR SHALL RECEIVE ON-SITE APPROVAL OF PLANT MATERIAL BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. FAILURE TO RECEIVE PRIOR APPROVAL MAY RESULT IN REJECTION OF PLANT MATERIAL FOLLOWING INSTALLATION. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND EVALUATE PLANT MATERIAL THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PERIOD.

13. ALL PLANTING BEDS SHALL RECEIVE TOP-DRESSING OF MULCH AS FOLLOWS:

- FRACTURED ROCK - INSTALL 4" MIN. DEPTH OF 2" X 3" FRACTURED ROCK OVER LANDSCAPE FABRIC.
- 4" MINUS RIVER ROCK - INSTALL 4" MIN. DEPTH OF 4" MINUS RIVER ROCK OVER LANDSCAPE FABRIC.
- LANDSCAPE FABRIC - DEWITT PRO-5 WEED BARRIER (OAE), INSTALL IN ACCORDANCE WITH MFG'S SPECIFICATIONS.
- GRANULAR PRE-EMERGENT HERBICIDE - APPLY RONSTAR TURF & ORNAMENTAL HERBICIDE (OAE) TO ALL PLANTING BEDS PER MFG'S SPECIFICATIONS.

NOTE: DIGITAL PHOTOS OF ALL MULCH SAMPLES SHALL BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL MIN. 48 HOURS PRIOR TO START OF ANY LANDSCAPE OR IRRIGATION WORK. IF UNACCEPTABLE MULCH IS INSTALLED WITHOUT APPROVAL IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT THE ISSUES AT HIS EXPENSE.

OBSERVATIONS/APPROVALS/SUBMITTALS

14. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING OWNER'S REPRESENTATIVE, A MINIMUM OF 48 HOURS IN ADVANCE, FOR THE FOLLOWING SITE OBSERVATIONS AND/OR MEETINGS:

A. PRECONSTRUCTION MEETING WITH ALL PARTIES
B. PLANT MATERIAL ON SITE, PRIOR TO INSTALLATION
C. FINAL PROJECT WALK-THROUGH
D. ADDITIONAL SITE OBSERVATIONS AS DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE AND/OR CONTRACTOR.

15. SUBMIT AMENDMENT AND MULCH SAMPLES TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION. FAILURE TO COMPLY MAY RESULT IN REJECTION OF MULCH OR AMENDMENT PRIOR TO OR FOLLOWING INSTALLATION.

16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROVIDE PLANT MATERIAL AS SPECIFIED ON THIS PLAN. THE CONTRACTOR MAY SUBMIT A REQUEST TO PROVIDE SUBSTITUTIONS FOR THE SPECIFIED PLANT MATERIAL UNDER THE FOLLOWING CONDITIONS:

A. ANY SUBSTITUTIONS PROPOSED SHALL BE SUBMITTED TO THE PROJECT OWNER'S REPRESENTATIVE WITHIN TWO WEEKS OF THE AWARD OF CONTRACT. SUBSTITUTIONS MUST MEET EQUIVALENT DESIGN AND FUNCTIONAL GOALS OF THE ORIGINAL MATERIALS AS DETERMINED BY THE OWNER'S REPRESENTATIVE. ANY CHANGES MUST HAVE THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
B. THE REQUEST WILL BE ACCOMPANIED BY AT LEAST THREE NOTICES FROM PLANT MATERIAL SUPPLIERS THAT THE PLANT MATERIAL SPECIFIED IS NOT AVAILABLE AND WILL NOT BE AVAILABLE PRIOR TO CONSTRUCTION.

17. SUBMIT REQUIRED SOIL REPORT, AND SAMPLE OF PROPOSED SOIL AMENDMENTS TO OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

18. RECORD (AS-BUILT) DRAWINGS: FOLLOWING COMPLETION OF PROJECT INSTALLATION, AND PRIOR TO FINAL APPROVAL, CONTRACTOR SHALL PREPARE AND SUBMIT RECORD DRAWINGS DEPICTING A COMPLETE LANDSCAPE AND IRRIGATION INSTALLATION. PROCURE FROM OWNER DIGITAL COPIES OF CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE PROJECT SITE AT ALL TIMES DURING INSTALLATION. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF TREES AND SHRUB BEDS, IRRIGATION VALVES, AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES, SUCH AS BUILDING, CURBS, FENCES, WALKS, OR PROPERTY LINES. DRAWINGS SHALL SHOW MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. THE RECORD COPIES SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE.

GUARANTEES/WARRANTY

20. ALL PLANTED AREAS SHALL BE MAINTAINED FOR A PERIOD OF SIXTY DAYS FOLLOWING WRITTEN ACCEPTANCE BY OWNER'S REPRESENTATIVE. LANDSCAPE CONTRACTOR WILL GUARANTEE ALL PLANT MATERIAL (INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, GROUNDCOVER, AND GRASSES) FOR A PERIOD OF ONE FULL YEAR FOLLOWING FINAL ACCEPTANCE OF THE LANDSCAPE INSTALLATION BY THE OWNER'S AUTHORIZED REPRESENTATIVE. IN BIDDING AND INSTALLING THE PLANT MATERIAL SPECIFIED ON THESE PLANS, THE LANDSCAPE CONTRACTOR AGREES THAT THE PLANT MATERIAL SPECIFIED IS SUITABLE TO THE PROJECT SITE. FURTHERMORE, THE LANDSCAPE CONTRACTOR AGREES TO HONOR THE WARRANTY AND, IF NECESSARY, REPLACE SPECIES WITH A MORE HARDY PLANT TYPE IF DEEMED NECESSARY DUE TO EXCESSIVE DIE OUT. IF THE LANDSCAPE CONTRACTOR DOES NOT BELIEVE CERTAIN PLANT MATERIAL IS SUITABLE FOR THE SITE AND/OR ITS MICRO-CLIMATES, THE LANDSCAPE CONTRACTOR SHALL REQUEST TO MAKE PLANT MATERIAL SUBSTITUTIONS IN WRITING TO THE LANDSCAPE ARCHITECT PRIOR TO THE START OF INSTALLATION. PROPOSED SUBSTITUTIONS WILL RESULT IN NO ADDED COST.

SEE CARSON CITY SPECIFIC NOTES, SHEET L8

LANDSCAPE DATA

SITE AREA: 16.9 ACRES
ZONING: SF6 (SINGLE-FAMILY 6,000)
JURISDICTION: CARSON CITY

PROPOSED COMMON AREA LANDSCAPE = 25,845 SQ FT

REQUIRED COMMON AREA TREES = 65
- 1 TREE PER 400 SQ FT OF COMMON AREA LANDSCAPE = 65

INCLUDES:
- 1 TREE PER 30 LN FT ALONG MATTERHORN DRIVE (655 LN FT) = 22

PROVIDED TREES = 65 TREES (IN COMMON AREA LANDSCAPE)

COMMON AREA SHRUBS = 390 REQUIRED/ 405 PROVIDED
- 6 SHRUBS PER REQUIRED TREE

IRRIGATION SPECIFICATIONS

GENERAL

1. PLAN IS DIAGRAMMATIC ONLY. FINAL LOCATION OF LINES AND HEADS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE. LINES SHALL BE IN A COMMON TRENCH WHEREVER POSSIBLE. THE POINT-OF-CONNECTION SHALL BE AS INDICATED ON THE PLAN.

2. THE CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS AND ENSURE THAT ALL LOCAL CODES ARE MET.

3. THE CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS REQUIRED FOR INSTALLATION OF THE IRRIGATION SYSTEM AS DEPICTED ON THESE PLANS.

4. CONTRACTOR SHALL VERIFY AVAILABLE FLOW AND PRESSURE DOWNSTREAM FROM THE POINT-OF-CONNECTION PRIOR TO SYSTEM INSTALLATION. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IF AVAILABLE FLOW IS LESS THAN REQUIRED TO RUN THE LARGEST ZONE. CONTRACTOR SHALL NOT PROCEED ANY FURTHER WITH INSTALLATION OF THE SYSTEM UNTIL NECESSARY DESIGN REVISIONS HAVE BEEN DETERMINED BY OWNER'S REPRESENTATIVE.

5. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR DIFFERENCES IN DIMENSIONS EXIST THAT MIGHT HAVE BEEN UNKNOWN DURING ENGINEERING. SUCH OBSTRUCTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO OWNER.

6. ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

7. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL IRRIGATION MATERIAL, INCLUDING PIPE, WITH THE LANDSCAPE DRAWINGS TO AVOID INTERFERING WITH THE PLANTING OF TREES, SHRUBS, OR OTHER PLANTINGS.

8. ALL VALVES ARE TO BE LOCATED IN PLANTING AREAS WHEREVER POSSIBLE.

9. ALL ELECTRICAL WIRE FROM CONTROLLER TO VALVES SHALL BE 12 GAUGE UL DIRECT BURIAL OR LARGER AS REQUIRED BY LENGTH PER MANUFACTURER'S SPECIFICATIONS.

10. BACKFILL FOR TRENCHING SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO THE UNDISTURBED ADJACENT SOIL, AND SHALL CONFORM TO ADJACENT GRADES WITHOUT DIPS, HUMPS, OR OTHER IRREGULARITIES.

11. A MINIMUM OF TWO WORKING DAYS PRIOR TO PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600 FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRICAL CABLES, TELEPHONE CABLES, ETC.

12. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.

13. INSTALL ALL PIPE AND CONTROL WIRES IN LANDSCAPE BEDS AND IN COMMON TRENCHES WHEREVER POSSIBLE.

14. INSTALL ALL PIPE AND CONTROL WIRE, WHICH RUNS UNDER PAVING, WITHIN SCH. 40 PVC SLEEVES 4" DIA. MINIMUM SIZE AS REQUIRED TO ALLOW INSTALLATION WITHOUT BINDING. PROVIDE (1) SLEEVE FOR PIPE. PROVIDE SEPARATE SLEEVES FOR CONTROL WIRE.

15. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR COMPLETE DRAINAGE OF THE MAINLINES BY INSTALLING MANUAL DRAINS AS INDICATED ON PLAN AND AT ALL SYSTEM LOW POINTS.

FLUSHING AND TESTING

16. PIPING SHALL BE COMPLETELY FLUSHED OF FOREIGN PARTICLES BEFORE ATTACHING IRRIGATION COMPONENTS AND DRAIN VALVES.

17. AFTER FLUSHING, AND WHEN ALL VALVES AND QUICK COUPLERS ARE IN PLACE, ALL MAIN SUPPLY LINES SHALL BE TESTED AT 100 POUNDS PER SQUARE INCH (100 PSI) WITH VALVES CLOSED. MAINTAIN PRESSURE FOR A PERIOD OF NOT LESS THAN (4) CONSECUTIVE HOURS. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE, AND TESTED.

18. OPERATIONAL TESTING: PERFORM OPERATIONAL TESTING AFTER HYDROSTATIC TESTING IS COMPLETED. DEMONSTRATE TO THE OWNER'S REPRESENTATIVE THAT THE SYSTEM MEETS COVERAGE REQUIREMENTS (100%) AND THAT AUTOMATIC CONTROLS FUNCTION PROPERLY.

SUBMITTALS

19. MATERIALS LIST: WITHIN (15) DAYS AFTER AWARD OF CONTRACT, SUBMIT TO OWNER'S REPRESENTATIVE (3) COPIES OF A COMPLETE MATERIAL LIST (PARTIAL LIST NOT ACCEPTABLE) OF ALL MATERIALS TO BE USED ON THE PROJECT, SPECIFYING MANUFACTURER, GRADE, TRADE NAME, CATALOG NUMBER, SIZE, ETC. THIS SHALL IN NO WAY BE CONSTRUED AS ALLOWING A SUBSTITUTION FOR ANY ITEM SPECIFIED ON THE PLANS. EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE MAY BE REJECTED AND THE CONTRACTOR REQUIRED TO REMOVE THE MATERIALS AT HIS OWN EXPENSE.

INSTALLATION AND PERFORMANCE OF APPROVED SUBSTITUTIONS ARE THE CONTRACTOR'S RESPONSIBILITY. ANY CHANGES REQUIRED FOR INSTALLATION OF ANY APPROVED SUBSTITUTION MUST BE MADE TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE WITHOUT ADDITIONAL COST TO OWNER.

20. PRIOR TO SYSTEM INSTALLATION CONTRACTOR SHALL VERIFY AND SUBMIT TO OWNER'S REPRESENTATIVE IN WRITING AVAILABLE FLOW AND PRESSURE AT POINT-OF-CONNECTION AS DESCRIBED IN SPECIFICATION #4 ABOVE.

21. COMPLETE WARRANTY CARDS FOR AUTOMATIC CONTROLLER AND OTHER IRRIGATION MATERIAL (CONTROLLER KEYS, ETC.) SHALL BE DELIVERED TO OWNER.

22. CONTRACTOR SHALL PREPARE AND ISSUE TO THE OWNER (AT COMPLETION OF THE INSTALLATION) AN ANNUAL CHART INDICATING LOCATION, OPERATING DATES, CYCLES, AND TIME FOR EACH ZONE.

23. ASBUILT IRRIGATION DRAWINGS: CONTRACTOR SHALL FURNISH ASBUILTS OF THE COMPLETE IRRIGATION SYSTEM. PROCURE FROM OWNER'S REPRESENTATIVE DIGITAL COPIES OF CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES WHILE THE IRRIGATION SYSTEM IS BEING INSTALLED. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF VALVES AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES, SUCH AS BUILDINGS, CURBS, FENCES, WALKS OR PROPERTY LINES. DRAWINGS SHALL SHOW APPROVED MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE AND ALL INDICATIONS SHALL BE NEAT. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. THE RECORD COPIES SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE AT OR BEFORE FINAL ACCEPTANCE/APPROVAL OF THE PROJECT.

GUARANTEE/FINAL ACCEPTANCE

24. CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE THE IRRIGATION SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. MANUFACTURER WARRANTIES SHALL ONLY EXCEED THIS GUARANTEE AND CONTRACTOR SHALL BE LIABLE FOR REPAIRS/REPLACEMENT OF FAILED MATERIAL/WORKMANSHIP.

MAINTENANCE

25. AFTER SYSTEM IS INSTALLED AND APPROVED, INSTRUCT OWNER'S DESIGNATED PERSONNEL IN COMPLETE OPERATION AND MAINTENANCE PROCEDURES. DRAIN ENTIRE SYSTEM AT END OF FIRST WATERING SEASON FOLLOWING INSTALLATION. TRAIN OWNER'S DESIGNATED PERSONNEL BY HAVING THEM ASSIST IN WINTERIZING PROCEDURE.

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Landscape Cover Sheet
BLACKSTONE RANCH
PHASE 2C
Carson City

Ryder Homes

No.	Revision Date

LA No:	098-BR-05-22
Designed:	AR
Drawn:	AR
Checked:	MAC
Date:	8/8/22

Sheet L5 of 6

PLANT LIST

TREE AND SHRUB SIZES ARE LISTED AT CARSON CITY CODE MINIMUM. ANY PLANT MATERIALS INSTALLED AT LESS THAN CODE MINIMUM SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

SYM.	QNT.	BOTANICAL NAME/COMMON NAME	MIN. SIZE
		DECIDUOUS TREES	
	13	PLATANUS X ACCERIFOLIA 'BLOODGOOD'/LONDON PLANE TREE	2" CAL.
	11	QUERCUS COCCINEA/SCARLET OAK	2" CAL.
	6	TILIA AMERICAN 'McKSENTRY'/AMERICAN SENTRY LINDEN*	2" CAL.
	4	ZELKOVA SERRATA/SAWLEAF ZELKOVA*	2" CAL.
		EVERGREEN TREES	
	13	CALOCEDRUS DECURRENS/INCENSE CEDAR	6' HT.
	4	CEDRUS ATLANTICA/ATLAS CEDAR	6' HT.
	7	PICEA PUNGENS/COLORADO BLUE SPRUCE	6' HT.
		SHRUBS	
B	15	BERBERIS X SLADWYNENSIS 'WILLIAM PENN'/WILLIAM PENN BARBERRY*	5 GAL.
F	88	FORSYTHIA X 'COURTASOL'/GOLD TIDE FORSYTHIA*	5 GAL.
		ILEX GLABRA/INKBERRY HOLLY*	5 GAL.
	94		
M	24	PHYSOCARPUS OPULIFOLIUS 'DONNA MAY'/LITTLE DEVIL NINEBARK*	5 GAL.
P	36	PRUNUS BESSEYII 'PAWNEE BUTTES'/PAWNEE BUTTES SAND CHERRY*	5 GAL.
R	51	ROSA MEIRYEZZA/GRACE 'N GRIT PINK BI-COLOR SHRUB ROSE*	5 GAL.
V	23	THUJA OCCIDENTALIS 'GOLDEN GLOBE'/GOLDEN GLOBE ARBORVITAE	5 GAL.
		PERENNIALS, GROUNDCOVER & ORNAMENTAL GRASSES	
A	41	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'/FEATHER REED GRASS	1 GAL.
E	8	EUONYMUS FORTUNEI 'COLORATUS'/PURPLELEAF WINTERCREEPER*	1 GAL.
Y	30	PANICUM VIRGATUM 'CHEYENNE SKY'/CHEYENNE SKY SWITCH GRASS	1 GAL.
			1 GAL.
O	41	PENNISETUM ORIENTALE 'KARLEY ROSE'/KARLEY ROSE SWITCH GRASS	1 GAL.
▲	56	PEROVSKIA ATRIPLICIFOLIA 'LACEY BLUE'/LACEY BLUE RUSSIAN SAGE (DWARF)*	1 GAL.
●	20	TEUCRIUM CHAMAEDRYS/WALL GERMANDER*	

*DENOTES POLLINATOR FRIENDLY PLANT MATERIALS = 248 (62%)

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MULCH LEGEND

SEE LANDSCAPE SPECIFICATION #13 SHEET L1

- SR — SILVER ROCK
- FR — FRACTURED ROCK
- BLACKSTONE – EXISTING BLACKSTONE RANCH LANDSCAPE
- 25 +/- LANDSCAPE BOULDERS – TO BE RANDOMLY PLACED THROUGHOUT THE LANDSCAPE AS INDICATED PER PLAN. SIZE TO VARY, 24" DIA. MIN. OPTIONAL BY OWNER.

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0' 30' 60' 90'

Scale in Feet

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Nevada

Common Area Landscape Plan
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LA No.	056-BSH-06-22
Designed:	AR
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Sheet L6 of 6