



**METROPOLITAN**  
C O U N C I L



# VOLUME 10

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## TRAFFIC / LIGHTING

THE PROPOSED SOUTHWEST LRT PROJECT IS NOT FINAL BUT IS STILL UNDER ENVIRONMENTAL REVIEW AND THE PROJECT IS SUBJECT TO CHANGE. THESE PLANS ARE NOT FINAL.

THE COUNCIL, THROUGH THE DEVELOPMENT OF THESE PLANS, DOES NOT INTEND THAT THEY WILL PREJUDICE OR COMPROMISE ANY STATE OR FEDERAL ENVIRONMENTAL REVIEW OR OTHER LEGAL REQUIREMENTS. THESE PLANS DO NOT LIMIT THE PROJECT DESIGN ALTERNATIVES OR MITIGATIVE MEASURES THAT THE COUNCIL MAY UNDERTAKE IF THE PROPOSED SWLRT PROJECT PROCEEDS TO CONSTRUCTION.

THE COUNCIL WILL NOT TAKE FINAL ACTION ON THIS MATTER UNLESS THE COUNCIL PROCEEDS WITH THE PROJECT AFTER THE FTA'S RECORD OF DECISION AND THE COUNCIL'S DETERMINATION OF ADEQUACY.

WARNING: THIS RECORD MAY CONTAIN SENSITIVE SECURITY INFORMATION THAT IS CONTROLLED UNDER 49 CFR PARTS 15 AND 1520. NO PART OF THIS RECORD MAY BE DISCLOSED TO PERSONS WITHOUT A "NEED TO KNOW", AS DEFINED IN 49 CFR PARTS 15 AND 1520, EXCEPT WITH THE WRITTEN PERMISSION OF THE ADMINISTRATOR OF THE TRANSPORTATION SECURITY ADMINISTRATION OR THE SECRETARY OF TRANSPORTATION. UNAUTHORIZED RELEASE MAY RESULT IN CIVIL PENALTY OR OTHER ACTION. FOR U.S. GOVERNMENT AGENCIES, PUBLIC DISCLOSURE IS GOVERNED BY 5 U.S.C. 552 AND 49 CFR PARTS 15 AND 1520.

60% SUBMISSION  
DATE : 09/28/15

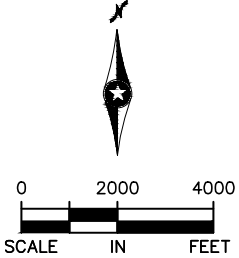
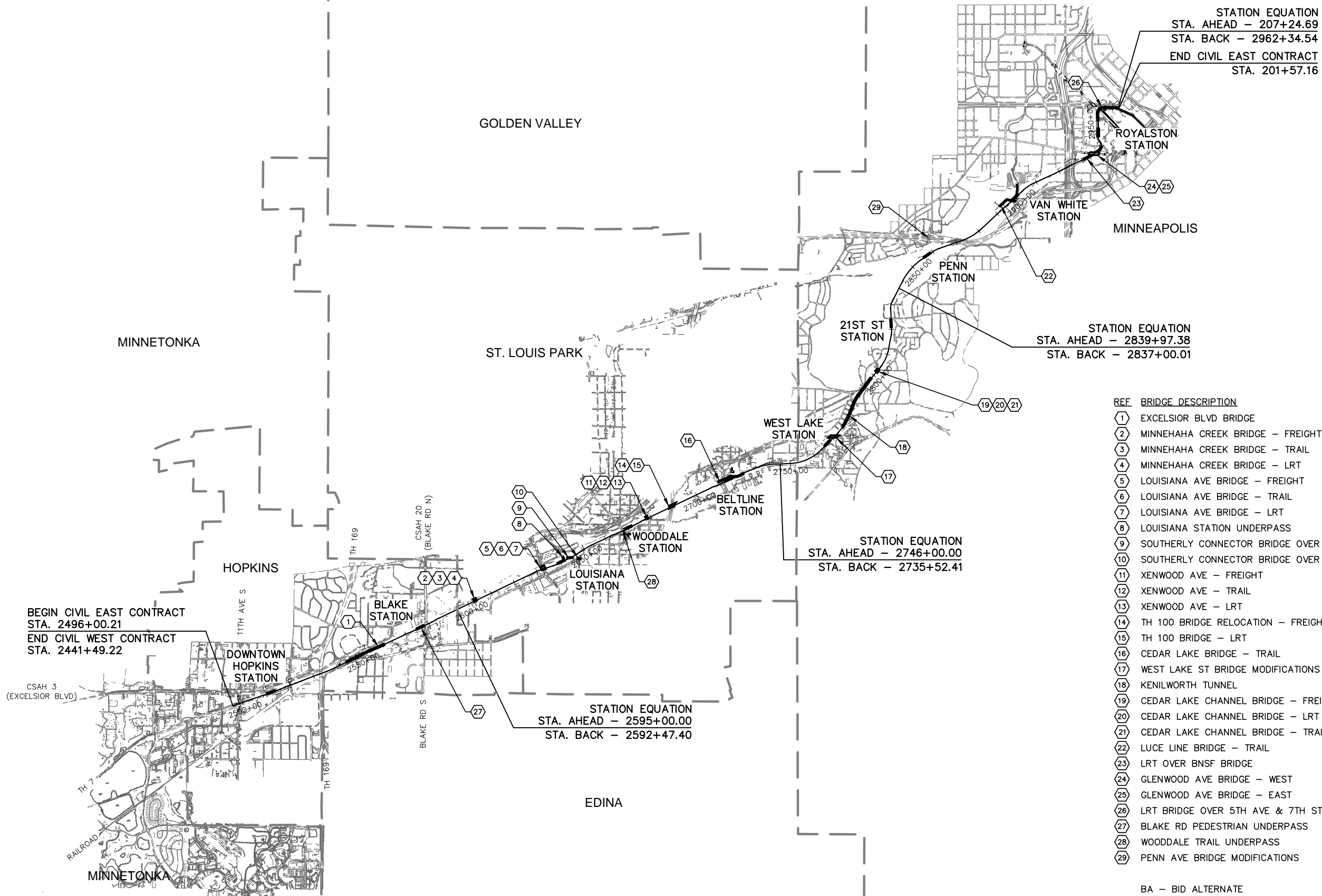
**AECOM**

CIVIL EAST						CIVIL EAST						CIVIL EAST											
SHT #	SHEET NAME		SHEET DESCRIPTION		STATION	STATION	REV	SHT #	SHEET NAME		SHEET DESCRIPTION		STATION	STATION	REV	SHT #	SHEET NAME		SHEET DESCRIPTION		STATION	STATION	REV
VOLUME 10 - TRAFFIC / LIGHTING																							
1	E0-TFC-CVR-001	COVER SHEET					69	E4-TFC-SIGN-STRIPE-012	CSAH 40 (GLENWOOD AVE) SIGNING AND STRIPING		5+00	11+50		141	EO-TFC-SIG-DTL-002	TRAFFIC SIGNAL MNDOT DETAIL SHEET 1							
2	E0-TFC-IDX-001	VOLUME INDEX OF PLAN SHEETS SHEET 1					70	E4-TFC-SIGN-STRIPE-013	ROYALSTON AVE N SIGNING AND STRIPING					142	EO-TFC-SIG-DTL-003	TRAFFIC SIGNAL MNDOT DETAIL SHEET 2							
3	E0-TFC-IDX-002	VOLUME INDEX OF PLAN SHEETS SHEET 2					71	E4-TFC-SIGN-STRIPE-014	ROYALSTON AVE N SIGNING AND STRIPING		4+50	11+00		143	EO-TFC-SIG-DTL-004	TRAFFIC SIGNAL MNDOT DETAIL SHEET 3							
4	EO-GEN-KEY-001	GENERAL KEY MAP					72	E4-TFC-SIGN-STRIPE-015	ROYALSTON AVE N SIGNING AND STRIPING		11+00	16+50		144	EO-TFC-SIG-DTL-005	TRAFFIC SIGNAL MNDOT DETAIL SHEET 4							
5	EO-GEN-NTS-001	LEGEND AND ABBREVIATIONS SHEET 1					73	E4-TFC-SIGN-STRIPE-016	ROYALSTON AVE N SIGNING AND STRIPING		16+50	21+54		145	EO-TFC-SIG-DTL-006	TRAFFIC SIGNAL HENNEPIN COUNTY DETAIL SHEET 1							
6	EO-GEN-NTS-002	LEGEND AND ABBREVIATIONS SHEET 2					74	E4-TFC-SIGN-STRIPE-017	HOLDEN AVE N SIGNING AND STRIPING		52+77	60+00		146	EO-TFC-SIG-DTL-007	TRAFFIC SIGNAL HENNEPIN COUNTY DETAIL SHEET 2							
7	EO-TFC-SIGN-STRP-DTL-01	SIGNING AND STRIPING MNDOT NOTES AND LEGEND					75	E4-TFC-SIGN-STRIPE-018	HOLDEN ST N AND BORDER AVE SIGNING AND STRIPING		60+00	67+50		147	EO-TFC-SIG-DTL-008	TRAFFIC SIGNAL HENNEPIN COUNTY DETAIL SHEET 3							
8	EO-TFC-SIGN-STRP-DTL-02	SIGNING AND STRIPING HENNEPIN COUNTY NOTES SHEET 1					76	E4-TFC-SIGN-STRIPE-019	BORDER AVE SIGNING AND STRIPING		67+50	73+25		149	EO-TFC-SIG-DTL-010	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 2							
9	EO-TFC-SIGN-STRP-DTL-03	SIGNING AND STRIPING HENNEPIN COUNTY NOTES SHEET 2					77	E4-TFC-SIGN-STRIPE-020	5TH AVE N SIGNING AND STRIPING					150	EO-TFC-SIG-DTL-011	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 3							
							78	E4-TFC-7TH-SIGN-STRIPE-001	7TH ST N PROTECTED BIKEWAY STRIPING					151	EO-TFC-SIG-DTL-012	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 4							
10	EO-TFC-SIGN-STRP-DTL-04	SIGNING AND STRIPING MNDOT DETAIL SHEET 1					79	E4-TFC-7TH-SIGN-STRIPE-002	7TH ST N PROTECTED BIKEWAY STRIPING					152	EO-TFC-SIG-DTL-013	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 5							
11	EO-TFC-SIGN-STRP-DTL-05	SIGNING AND STRIPING MNDOT DETAIL SHEET 2					80	E4-TFC-7TH-SIGN-STRIPE-003	7TH ST N PROTECTED BIKEWAY STRIPING					153	EO-TFC-SIG-DTL-014	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 6							
12	EO-TFC-SIGN-STRP-DTL-06	SIGNING AND STRIPING MNDOT DETAIL SHEET 3					81	E4-TFC-7TH-SIGN-STRIPE-004	10TH ST N PROTECTED BIKEWAY STRIPING					154	EO-TFC-SIG-DTL-015	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 7							
13	EO-TFC-SIGN-STRP-DTL-07	SIGNING AND STRIPING MINNEAPOLIS DETAIL					82	E1-TFC-TRL-SIGN-001	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		106+00	113+00		155	EO-TFC-SIG-DTL-016	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 8							
14	EO-TFC-SIGN-STRP-DTL-08	SIGNING AND STRIPING MNDOT DETAIL SHEET 1					83	E1-TFC-TRL-SIGN-002	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		113+00	119+50		156	EO-TFC-SIG-DTL-017	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 9							
15	EO-TFC-SIGN-STRP-DTL-09	SIGNING AND STRIPING MNDOT DETAIL SHEET 2					84	E1-TFC-TRL-SIGN-003	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		119+50	126+50		157	EO-TFC-SIG-DTL-018	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 10							
16	EO-TFC-SIGN-STRP-DTL-10	SIGNING AND STRIPING MNDOT DETAIL SHEET 3					85	E1-TFC-TRL-SIGN-004	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		126+50	133+50		158	EO-TFC-SIG-DTL-019	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 11							
17	EO-TFC-SIGN-STRP-DTL-11	SIGNING AND STRIPING MNDOT DETAIL SHEET 4					86	E1-TFC-TRL-SIGN-005	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		133+50	139+50		159	EO-TFC-SIG-DTL-020	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 12							
18	EO-TFC-SIGN-STRP-DTL-12	SIGNING AND STRIPING MNDOT DETAIL SHEET 5					87	E1-TFC-TRL-SIGN-006	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		139+50	146+00		160	EO-TFC-SIG-DTL-021	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 13							
19	EO-TFC-SIGN-STRP-DTL-13	SIGNING AND STRIPING MNDOT DETAIL SHEET 6					88	E1-TFC-TRL-SIGN-007	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		146+00	151+72		161	EO-TFC-SIG-DTL-022	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 14							
20	EO-TFC-SIGN-STRP-DTL-14	SIGNING AND STRIPING MNDOT DETAIL SHEET 7					89	E1-TFC-TRL-SIGN-008	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		160+00	166+00		162	EO-TFC-SIG-DTL-023	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 15							
21	EO-TFC-SIGN-STRP-DTL-15	SIGNING AND STRIPING HENNEPIN COUNTY DETAIL					90	E1-TFC-TRL-SIGN-009	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		166+00	173+00		163	EO-TFC-SIG-DTL-024	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 16							
22	EO-TFC-SIGN-STRP-DTL-16	SIGNING AND STRIPING MINNEAPOLIS DETAIL SHEET 1					91	E1-TFC-TRL-SIGN-010	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		173+00	180+00		164	EO-TFC-SIG-DTL-025	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 17							
23	EO-TFC-SIGN-STRP-DTL-17	SIGNING AND STRIPING MINNEAPOLIS DETAIL SHEET 2					92	E1-TFC-TRL-SIGN-011	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		180+00	187+00		165	EO-TFC-SIG-DTL-026	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 18							
24	EO-TFC-SIGN-STRP-DTL-18	SIGNING AND STRIPING MINNEAPOLIS DETAIL SHEET 3					93	E1-TFC-TRL-SIGN-012	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		187+00	194+00		166	EO-TFC-SIG-DTL-027	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 19							
25	E1-TFC-SIGN-STRIPE-001	11TH AVE S SIGNING AND STRIPING		11+00	18+00		94	E1-TFC-TRL-SIGN-013	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		194+00	200+30		167	EO-TFC-SIG-DTL-028	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 20							
26	E1-TFC-SIGN-STRIPE-002	8TH AVE S SIGNING AND STRIPING		1+00	7+00		95	E2-TFC-TRL-SIGN-001	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		200+30.62	206+00		168	EO-TFC-SIG-DTL-029	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 21							
27	E1-TFC-SIGN-STRIPE-003	WB CSAH 3 (EXCELSIOR BLVD) SIGNING AND STRIPING		197+00	206+50		96	E2-TFC-TRL-SIGN-002	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		206+00	213+00		169	EO-TFC-SIG-DTL-030	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 22							
28	E1-TFC-SIGN-STRIPE-004	EB CSAH 3 (EXCELSIOR BLVD) SIGNING AND STRIPING		100+00	107+50		97	E2-TFC-TRL-SIGN-003	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		213+00	220+00		170	EO-TFC-SIG-DTL-031	TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 23							
29	E1-TFC-SIGN-STRIPE-005	5TH AVE S SIGNING AND STRIPING		10+00	17+50		98	E2-TFC-TRL-SIGN-004	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		220+00	227+00		171	E1-TFC-SIG-INX-001	SIGNAL PLAN PLAN SHEET LAYOUT SHEET 1							
30	E1-TFC-SIGN-STRIPE-006	EB CSAH 3 (EXCELSIOR BLVD) SIGNING AND STRIPING		136+00	143+00		99	E2-TFC-TRL-SIGN-005	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		227+00	234+00		172	E2-TFC-SIG-INX-001	SIGNAL PLAN PLAN SHEET LAYOUT SHEET 2							
31	E1-TFC-SIGN-STRIPE-007	NB CSAH 20 (BLAKE RD) SIGNING AND STRIPING		10+00	18+00		100	E2-TFC-TRL-SIGN-006	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		234+00	241+00		173	E3-TFC-SIG-INX-001	SIGNAL PLAN PLAN SHEET LAYOUT SHEET 3							
32	E1-TFC-SIGN-STRIPE-008	PIERCE AVE N SIGNING AND STRIPING		10+00	17+00		101	E2-TFC-TRL-SIGN-007	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		241+00	248+00		174	E4-TFC-SIG-INX-001	SIGNAL PLAN PLAN SHEET LAYOUT SHEET 4							
33	E1-TFC-SIGN-STRIPE-009	PIERCE AVE N SIGNING AND STRIPING		17+00	24+00		102	E2-TFC-TRL-SIGN-008	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		248+00	255+00		175	E1-TFC-SIG-8TH-001	SIGNAL PLAN - SIGNAL SYSTEM "A" CSAH 3 (EXCELSIOR BLVD) AND 8TH AVE S							
34	E2-TFC-SIGN-STRIPE-001	LOUISIANA AVE S SIGNING AND STRIPING		10+00	14+50		103	E2-TFC-TRL-SIGN-009	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		255+00	262+00		176	E1-TFC-SIG-8TH-002	SIGNAL PLAN - SIGNAL SYSTEM "A" CSAH 3 (EXCELSIOR BLVD) EQUIPMENT SCHEDULE							
35	E2-TFC-SIGN-STRIPE-002	OXFORD ST SIGNING AND STRIPING		10+00	14+00		104	E2-TFC-TRL-SIGN-010	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		262+00	269+00				SIGNAL PLAN - SIGNAL SYSTEM "A" CSAH 3 (EXCELSIOR BLVD) AND 8TH AVE S FOR INFORMATION ONLY							
36	E2-TFC-SIGN-STRIPE-003	OXFORD ST SIGNING AND STRIPING		14+00	20+50		105	E2-TFC-TRL-SIGN-011	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		269+00	276+00		177	E1-TFC-SIG-8TH-003	SIGNAL PLAN - SIGNAL SYSTEM "A" CSAH 3 (EXCELSIOR BLVD) AND 8TH AVE S FOR INFORMATION ONLY							
37	E2-TFC-SIGN-STRIPE-004	OXFORD ST SIGNING AND STRIPING		20+50	27+00		106	E2-TFC-TRL-SIGN-012	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		276+00	283+00				SIGNAL PLAN - SIGNAL SYSTEM "B" CSAH 3 (EXCELSIOR BLVD) AND 5TH AVE S							
38	E2-TFC-SIGN-STRIPE-005	EDGEWOOD AVE SIGNING AND STRIPING		0+00.00	2+05.43		107	E2-TFC-TRL-SIGN-013	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		283+00	290+00		178	E1-TFC-SIG-5TH-001	SIGNAL PLAN - SIGNAL SYSTEM "B" CSAH 3 (EXCELSIOR BLVD) AND 5TH AVE S							
39	E2-TFC-SIGN-STRIPE-006	WOODDALE AVE S SIGNING AND STRIPING		10+00	17+50		108	E2-TFC-TRL-SIGN-014	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		290+00	297+00				SIGNAL PLAN - SIGNAL SYSTEM "B" CSAH 3 (EXCELSIOR BLVD) AND 5TH AVE S EQUIPMENT SCHEDULE							
40	E2-TFC-SIGN-STRIPE-006(A)	HWY 7 RAMP AT WOODDALE AVE S SIGNING AND STRIPING					109	E2-TFC-TRL-SIGN-015	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		297+00	304+00		179	E1-TFC-SIG-5TH-002	SIGNAL PLAN - SIGNAL SYSTEM "B" CSAH 3 (EXCELSIOR BLVD) AND 5TH AVE S EQUIPMENT SCHEDULE							
41	E2-TFC-SIGN-STRIPE-007	YOSEMITE AVE S SIGNING AND STRIPING		2+00.00	6+00.00		110	E2-TFC-TRL-SIGN-016	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		304+00	311+00				SIGNAL PLAN - SIGNAL SYSTEM "B" CSAH 3 (EXCELSIOR BLVD) AND 5TH AVE S FOR INFORMATION ONLY							
42	E2-TFC-SIGN-STRIPE-008	BELTLINE BLVD SIGNING AND STRIPING		112+00	118+00		111	E2-TFC-TRL-SIGN-017	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		311+00	318+00		180	E1-TFC-SIG-5TH-003	SIGNAL PLAN - SIGNAL SYSTEM "B" CSAH 3 (EXCELSIOR BLVD) AND 5TH AVE S FOR INFORMATION ONLY							
43	E2-TFC-SIGN-STRIPE-009	BELTLINE BLVD SIGNING AND STRIPING		118+00	121+38		112	E2-TFC-TRL-SIGN-018	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		318+00	325+00				SIGNAL PLAN - SIGNAL SYSTEM "C" CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N							
44	E3-TFC-SIGN-STRIPE-001	CHOWEN AVE S SIGNING AND STRIPING		3+35	9+50		113	E2-TFC-TRL-SIGN-019	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		325+00	332+00		181	E1-TFC-SIG-EXC-001	SIGNAL PLAN - SIGNAL SYSTEM "C" CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N							
45	E3-TFC-SIGN-STRIPE-002	CHOWEN AVE S / W 31ST ST SIGNING AND STRIPING		9+50	16+00		114	E2-TFC-TRL-SIGN-020	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		332+00	339+00				SIGNAL PLAN - SIGNAL SYSTEM "C" CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N EQUIPMENT SCHEDULE							
46	E3-TFC-SIGN-STRIPE-003	ABBOTT AVE S SIGNING AND STRIPING		16+00	21+46		115	E2-TFC-TRL-SIGN-021	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		339+00	340+51.85		182	E1-TFC-SIG-EXC-002	SIGNAL PLAN - SIGNAL SYSTEM "C" CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N EQUIPMENT SCHEDULE							
47	E3-TFC-SIGN-STRIPE-004	W 32ND ST SIGNING AND STRIPING		34+00	37+30.90		116	E3-TFC-TRL-SIGN-001	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		340+52.85	347+50				SIGNAL PLAN - SIGNAL SYSTEM "C" CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N FOR INFORMATION ONLY							
48	E3-TFC-SIGN-STRIPE-005	CSAH 25 (W LAKE ST) SIGNING AND STRIPING		0+00	6+00		117	E3-TFC-TRL-SIGN-002	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		347+50	354+50		183	E1-TFC-SIG-EXC-003	SIGNAL PLAN - SIGNAL SYSTEM "C" CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N FOR INFORMATION ONLY							
49	E3-TFC-SIGN-STRIPE-006	CSAH 25 (W LAKE ST) SIGNING AND STRIPING		6+00	13+00		118	E3-TFC-TRL-SIGN-003	CEDAR LAKE LRT REGIONAL TRAIL SIGNING		354+50	361+50				SIGNAL PLAN - SIGNAL SYSTEM "C" CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N FOR INFORMATION ONLY							
50	E3-TFC-SIGN-STRIPE-007	CSAH 25 (W LAKE ST) SIGNING AND STRIPING		13+00	16+00		119	E3-TFC-TRL-SIGN-004	KENILWORTH TRAIL SIGNING		361+50	368+50		184	E1-TFC-SIG-EXC-004	SIGNAL PLAN - SIGNAL SYSTEM "C" CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N FOR INFORMATION ONLY							
51	E3-TFC-SIGN-STRIPE-008	CSAH 3 (EXCELSIOR BLVD) SIGNING AND STRIPING		20+00	27+00		120	E3-TFC-TRL-SIGN-005	KENILWORTH TRAIL SIGNING		368+50	372+08.19				SIGNAL PLAN - SIGNAL SYSTEM "D" CSAH 3 (EXCELSIOR BLVD) AND PIERCE AVE							
52	E3-TFC-SIGN-STRIPE-009	CSAH 3 (EXCELSIOR BLVD) SIGNING AND STRIPING		27+00	34+00		121	E3-TFC-TRL-SIGN-006	KENILWORTH TRAIL SIGNING		380+00	387+00		185	E1-TFC-SIG-PRC-001	SIGNAL PLAN - SIGNAL SYSTEM "D" CSAH 3 (EXCELSIOR BLVD) AND PIERCE AVE EQUIPMENT SCHEDULE							
53	E3-TFC-SIGN-STRIPE-010	CEDAR LAKE PKWY SIGNING AND STRIPING		44+50	52+00		122	E3-TFC-TRL-SIGN-007	KENILWORTH TRAIL SIGNING		387+00	394+00				SIGNAL PLAN - SIGNAL SYSTEM "D" CSAH 3 (EXCELSIOR BLVD) AND PIERCE AVE EQUIPMENT SCHEDULE							
54	E3-TFC-SIGN-STRIPE-011	BURNHAM RD SIGNING AND STRIPING		147+00.00	152+00.00		123	E3-TFC-TRL-SIGN-008	KENILWORTH TRAIL SIGNING		394+00	401+00		186	E1-TFC-SIG-PRC-002	SIGNAL PLAN - SIGNAL SYSTEM "E" CSAH 20 (BLAKE RD N) AND 2ND ST NE							
55	E3-TFC-SIGN-STRIPE-012	W 21ST ST SIGNING AND STRIPING		11+00	16+50		124	E3-TFC-TRL-SIGN-009	KENILWORTH TRAIL SIGNING		401+00	408+00				SIGNAL PLAN - SIGNAL SYSTEM "E" CSAH 20 (BLAKE RD N) AND 2ND ST NE EQUIPMENT SCHEDULE							
56	E3-TFC-SIGN-STRIPE-013	W 24TH ST/THOMAS AVE S SIGNING AND STRIPING		20+00	26+67.59		125	E3-TFC-TRL-SIGN-010	KENILWORTH TRAIL SIGNING		408+00	415+00		187	E1-TFC-SIG-BLK-001	SIGNAL PLAN - SIGNAL SYSTEM "F" OXFORD ST AND LOUISIANA AVE S							
57	E3-TFC-SIGN-STRIPE-014	W 22ND ST/THOMAS AVE S SIGNING AND STRIPING					126	E3-TFC-TRL-SIGN-011	KENILWORTH TRAIL SIGNING		415+00	422+00				SIGNAL PLAN - SIGNAL SYSTEM "F" OXFORD ST AND LOUISIANA AVE S							
58	E4-TFC-SIGN-STRIPE-001	S WAYZATA BLVD SIGNING AND STRIPING		1+00	8+00		127	E3-TFC-TRL-SIGN-012	KENILWORTH TRAIL SIGNING		422+00	427+50		188	E1-TFC-SIG-BLK-002	SIGNAL PLAN - SIGNAL SYSTEM "F							



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VOLUME 10 - TRAFFIC / LIGHTING (cont'd)																						
192	E2-TFC-SIG-OXF-003	SIGNAL PLAN - SIGNAL SYSTEM "F" OXFORD ST AND LOUISIANA AVE S FOR INFORMATION ONLY															225	E3-TFC-SIG-EXC-009	SIGNAL PLAN - SIGNAL SYSTEM "Q" CSAH 3 (EXCELSIOR BLVD) AND MARKET PLAZA FOR INFORMATION ONLY			
193	E2-TFC-SIG-TH7W-001	SIGNAL PLAN - SIGNAL SYSTEM "G" TH 7 WB RAMPS AND WOODDALE AVE S															226	E3-TFC-SIG-CED-001	SIGNAL PLAN - FLASHER SYSTEM "R" CEDAR LAKE PKWY AND KENILWORTH TRAIL			
194	E2-TFC-SIG-TH7W-002	SIGNAL PLAN - SIGNAL SYSTEM "G" TH 7 WB RAMPS AND WOODDALE AVE S INTERSECTION NOTES															227	E3-TFC-SIG-CED-002	SIGNAL PLAN - FLASHER SYSTEM "R" CEDAR LAKE PKWY AND KENILWORTH TRAIL EQUIPMENT SCHEDULE			
195	E2-TFC-SIG-TH7W-003	SIGNAL PLAN - SIGNAL SYSTEM "G" TH 7 WB RAMPS AND WOODDALE AVE S TYPE "D" SIGN DETAILS															228	E4-TFC-SIG-ROY-001	SIGNAL PLAN - SIGNAL SYSTEM "S" ROYALSTON AVE AND HOLDEN ST			
196	E2-TFC-SIG-TH7W-004	SIGNAL PLAN - SIGNAL SYSTEM "G" & "H" TH 7 WB & EB RAMPS AND WOODDALE AVE S FOR INFORMATION ONLY															229	E4-TFC-SIG-ROY-002	SIGNAL PLAN - SIGNAL SYSTEM "S" ROYALSTON AVE AND HOLDEN ST EQUIPMENT SCHEDULE			
197	E2-TFC-SIG-TH7E-001	SIGNAL PLAN - SIGNAL SYSTEM "H" TH7 EB RAMPS AND WOODDALE AVE S															230	E4-TFC-SIG-7TH-001	SIGNAL PLAN - SIGNAL SYSTEM "T" 7TH ST N & 5TH AVE N			
198	E2-TFC-SIG-TH7E-002	SIGNAL PLAN - SIGNAL SYSTEM "H" TH7 EB RAMPS AND WOODDALE AVE S INTERSECTION NOTES															231	E4-TFC-SIG-7TH-002	SIGNAL PLAN - SIGNAL SYSTEM "T" 7TH ST N & 5TH AVE N EQUIPMENT SCHEDULE			
199	E2-TFC-SIG-TH7E-003	SIGNAL PLAN - SIGNAL SYSTEM "H" TH7 EB RAMPS AND WOODDALE AVE S TYPE "D" SIGN DETAILS															232	E4-TFC-SIG-DUN-001	SIGNAL PLAN - SIGNAL SYSTEM "U" DUNWOODY BLVD AND PARADE STADIUM DR			
200	E2-TFC-SIG-WDL-001	SIGNAL PLAN - SIGNAL SYSTEM "I" WOODDALE AVE S AND W 36TH ST															233	E4-TFC-SIG-DUN-002	SIGNAL PLAN - SIGNAL SYSTEM "U" DUNWOODY BLVD AND PARADE STADIUM DR EQUIPMENT SCHEDULE			
201	E2-TFC-SIG-WDL-002	SIGNAL PLAN - SIGNAL SYSTEM "I" WOODDALE AVE S AND W 36TH ST															234	E4-TFC-SIG-DUN-003	SIGNAL PLAN - SIGNAL SYSTEM "U" DUNWOODY BLVD AND PARADE STADIUM DR FOR INFORMATION ONLY			
202	E2-TFC-SIG-WDL-003	SIGNAL PLAN - SIGNAL SYSTEM "I" WOODDALE AVE S AND W 36TH ST FOR INFORMATION ONLY															235	E1-TFC-INT-01-001	INTERCONNECT PLAN			
203	E2-TFC-SIG-WDL-004	SIGNAL PLAN - SIGNAL SYSTEM "I" WOODDALE AVE S AND W 36TH ST FOR INFORMATION ONLY															236	E2-TFC-INT-01-001	INTERCONNECT PLAN			
204	E2-TFC-SIG-OTT-001	SIGNAL PLAN - SIGNAL SYSTEM "J" CSAH 25 AND BELTLINE BLVD/OTTAWA AVE															237	E2-TFC-INT-01-002	INTERCONNECT PLAN			
205	E2-TFC-SIG-OTT-002	SIGNAL PLAN - SIGNAL SYSTEM "J" CSAH 25 AND BELTLINE BLVD/OTTAWA AVE EQUIPMENT SCHEDULE															238	E4-TFC-INT-01-001	INTERCONNECT PLAN			
206	E2-TFC-SIG-OTT-003	SIGNAL PLAN - SIGNAL SYSTEM "J" CSAH 25 AND BELTLINE BLVD/OTTAWA AVE FOR INFORMATION ONLY															LIGHTING					
207	E2-TFC-SIG-BLT-001	SIGNAL PLAN - SIGNAL SYSTEM "K" BELTLINE BLVD AT TRACK CROSSING															239	E1-HOP-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 2)			
208	E2-TFC-SIG-BLT-002	SIGNAL PLAN - SIGNAL SYSTEM "K" BELTLINE BLVD AT TRACK CROSSING INTERSECTION NOTES															240	E1-HOP-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 2)			
209	E2-TFC-SIG-LYN-001	SIGNAL PLAN - SIGNAL SYSTEM "L" CSAH 25 AND LYNN AVE															241	E1-BLK-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 2)			
210	E2-TFC-SIG-LYN-002	SIGNAL PLAN - SIGNAL SYSTEM "L" CSAH 25 AND LYNN AVE EQUIPMENT SCHEDULE															242	E1-BLK-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 2)			
211	E3-TFC-SIG-WLK-001	SIGNAL PLAN - SIGNAL SYSTEM "M" CSAH 25 (W LAKE ST) AND DREW AVE S															243	E2-LOU-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 2)			
212	E3-TFC-SIG-WLK-002	SIGNAL PLAN - SIGNAL SYSTEM "M" CSAH 25 (W LAKE ST) AND DREW AVE S EQUIPMENT SCHEDULE															244	E2-LOU-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 2)			
213	E3-TFC-SIG-WLK-003	SIGNAL PLAN - SIGNAL SYSTEM "M" CSAH 25 (W LAKE ST) AND DREW AVE S FOR INFORMATION ONLY															245	E2-WDL-ELE-PLN-101	ELECTRICAL SITE PLAN			
214	E3-TFC-SIG-WLK-004	SIGNAL PLAN - SIGNAL SYSTEM "N" CSAH 25 (W LAKE ST) AND MARKET PLAZA															246	E2-BLT-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 3)			
215	E3-TFC-SIG-WLK-005	SIGNAL PLAN - SIGNAL SYSTEM "N" CSAH 25 (W LAKE ST) AND MARKET PLAZA EQUIPMENT SCHEDULE				247	E2-BLT-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 3)														
216	E3-TFC-SIG-WLK-006	SIGNAL PLAN - SIGNAL SYSTEM "N" CSAH 25 (W LAKE ST) AND MARKET PLAZA FOR INFORMATION ONLY				248	E2-BLT-ELE-PLN-103	ELECTRICAL SITE PLAN (3 OF 3)														
217	E3-TFC-SIG-EXC-001	SIGNAL PLAN - SIGNAL SYSTEM "O" CSAH 3 (EXCELSIOR BLVD) AND W 32ND ST				249	E3-WST-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 3)														
218	E3-TFC-SIG-EXC-002	SIGNAL PLAN - SIGNAL SYSTEM "O" CSAH 3 (EXCELSIOR BLVD) AND W 32ND ST EQUIPMENT SCHEDULE				250	E3-WST-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 3)														
219	E3-TFC-SIG-EXC-003	SIGNAL PLAN - SIGNAL SYSTEM "O" CSAH 3 (EXCELSIOR BLVD) AND W 32ND ST FOR INFORMATION ONLY				251	E3-WST-ELE-PLN-103	ELECTRICAL SITE PLAN (3 OF 3)														
220	E3-TFC-SIG-EXC-004	SIGNAL PLAN - SIGNAL SYSTEM "P" CSAH 3 (EXCELSIOR BLVD) AND WHOLE FOODS DRIVEWAY				252	E3-21S-ELE-PLN-101	ELECTRICAL SITE PLAN														
221	E3-TFC-SIG-EXC-005	SIGNAL PLAN - SIGNAL SYSTEM "P" CSAH 3 (EXCELSIOR BLVD) AND WHOLE FOODS DRIVEWAY EQUIPMENT SCHEDULE				253	E4-CHO-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 2)														
222	E3-TFC-SIG-EXC-006	SIGNAL PLAN - SIGNAL SYSTEM "P" CSAH 3 (EXCELSIOR BLVD) AND WHOLE FOODS DRIVEWAY FOR INFORMATION ONLY				254	E4-CHO-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 2)														
223	E3-TFC-SIG-EXC-007	SIGNAL PLAN - SIGNAL SYSTEM "Q" CSAH 3 (EXCELSIOR BLVD) AND MARKET PLAZA				255	E3-CED-ELE-PLN-101	ELECTRICAL SITE PLAN														
224	E3-TFC-SIG-EXC-008	SIGNAL PLAN - SIGNAL SYSTEM "Q" CSAH 3 (EXCELSIOR BLVD) AND MARKET PLAZA EQUIPMENT SCHEDULE				256	E4-PEN-ELE-PLN-101	ELECTRICAL SITE PLAN														
						257	E4-VWT-ELE-PLN-101	ELECTRICAL SITE PLAN														
						258	E4-WAY-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 2)														
						259	E4-WAY-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 2)														
						260	E4-FRE-ELE-PLN-101	ELECTRICAL SITE PLAN														
						261	E4-DUN-ELE-PLN-101	ELECTRICAL SITE PLAN														
						262	E4-GLN-ELE-PLN-101	ELECTRICAL SITE PLAN														
						263	E4-BOR-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 2)														
						264	E4-BOR-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 2)														
						265	E4-ROY-ELE-PLN-101	ELECTRICAL SITE PLAN (1 OF 2)														
						266	E4-ROY-ELE-PLN-102	ELECTRICAL SITE PLAN (2 OF 2)														
						266A	E4-TRH-ELE-PLN-101	ELECTRICAL SITE PLAN														
						266B	E0-ELE-SITE-SCH-501	ELECTRICAL LUMINAIRE SCHEDULE (1 OF 3)														
						266C	E0-ELE-SITE-SCH-502	ELECTRICAL LUMINAIRE SCHEDULE (2 OF 3)														
						266D	E0-ELE-SITE-SCH-503	ELECTRICAL LUMINAIRE SCHEDULE (3 OF 3)														

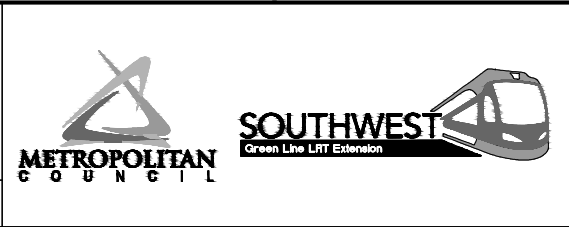
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CIVIL EAST - VOLUME 10 GENERAL KEY MAP	
DISCIPLINE: GENERAL	SHEET NAME: E0-GEN-KEY - 001

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TRACK LINETYPES

- ROADWAY
- TRACK (LRT)
- TRACK (FRT)
- RETAINING WALL
- BALLAST CURB
- TUNNEL WALL
- FENCE
- EX ROW
- PROP ROW
- PROP TCE
- PROP PE
- FENCE / RAILING
- ID ID INTRUSION DETECTION

CIVIL LINETYPES

- ROADWAY
- TRACK (LRT)
- TRACK (FRT)
- RETAINING WALL
- BALLAST CURB
- TUNNEL WALL
- CONCRETE CURB AND GUTTER
- TRAIL
- SIDEWALK
- DRIVEWAY
- BRIDGE
- SAWCUT
- FENCE
- DELINEATED WETLAND
- WATER EDGE
- EX ROW
- PROP ROW
- PROP TCE
- PROP PE
- CROSSWALK
- STOP BAR
- MEDIAN NOSE

TRACK SYMBOLS

- PROPOSED DIRECTIONAL LANE USE
- EXISTING DIRECTIONAL LANE USE
- PEDESTRIAN FLASHER
- AUTOMATIC GATE
- RAIL TURNOUT
- RAIL CROSSOVER (DOUBLE)
- RAIL CROSSOVER (SINGLE)
- POINT OF SWITCH (PS)
- OCS POLE FOUNDATION
- RAIL LUBRICATOR
- POINT OF INTERSECTION (PI) OF TURNOUT (TO)
- RAILROAD CURVE NUMBER

NOTE:  
ALL TURNOUTS AND CROSSOVERS TO BE EQUIPPED WITH POWER  
SWITCH MACHINES AND SWITCH HEATERS

CIVIL SYMBOLS

- ACCESSIBLE PEDESTRIAN CURB RAMP (DESIGN VARIES)
- PROPOSED DIRECTIONAL LANE USE
- EXISTING DIRECTIONAL LANE USE
- AUTOMATIC GATE
- HANDICAP PARKING STALL
- TACTILE WARNING STRIP
- TPSS BUILDING (TPSS-SW###)
- SIGNAL OR INTERMEDIATE OR PLATFORM OR XING OR TUNNEL HOUSE OR ANY COMBINATION OF THESE

SURVEY NOTES

- THE HORIZONTAL DATUM OF THIS MAP IS BASED ON THE HENNEPIN COUNTY COORDINATE SYSTEM WHICH IS RELATED TO THE MINNESOTA STATE PLANE COORDINATE SYSTEM NAD 83 (2007) ADJUSTMENT SOUTH ZONE.
- THE PLANIMETRIC FEATURES SHOWN ON THIS MAP ARE AS PREPARED BY AERO-METRIC, INC. FROM AERIAL DATA AND IMAGERY COLLECTED IN APRIL 2012, AS SUPPLEMENTED BY FIELD SURVEYS COMPLETED BY MFRA, INC.
- HORIZONTAL POSITIONAL ACCURACY: USING THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, THE DATA SET TESTED 0.14 FEET HORIZONTAL ACCURACY AT A 95% CONFIDENCE LEVEL.
- VERTICAL POSITIONAL ACCURACY: USING THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, THE DATA SET TESTED 0.10 FEET VERTICAL ACCURACY AT 95% CONFIDENCE LEVEL.

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CIVIL EAST - VOLUME 10  
GENERAL  
LEGEND AND ABBREVIATIONS  
SHEET 1

DISCIPLINE: GENERAL

SHEET NAME: E0-GEN-NTS - 001

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ABBREVIATIONS

AD	ALGEBRAIC DIFFERENCE
AVE	AVENUE
BGN	BEGIN
BP	BEGINNING POINT
BVCE	BEGINNING VERTICAL CURVE ELEVATION
BVCS	BEGINNING VERTICAL CURVE STATION
BLVD	BOULEVARD
BNSF	BURLINGTON NORTHERN SANTA FE RAILWAY
C&G	CURB AND GUTTER
☉	CENTERLINE
CIR	CIRCLE
CP	CANADIAN PACIFIC
CPRAIL	CANADIAN PACIFIC RAILWAY
CS	CURVE TO SPIRAL
CSAH	COUNTY STATE AID HIGHWAY
D&U	DRAINAGE AND UTILITY
DF	DIRECT FIXATION
DR	DRIVE
DTL	DETAIL
DWY	DRIVEWAY
E	EAST
Ea	ACTUAL SUPERELEVATION (INCHES)
EB	EAST BOUND
EL or ELEV	ELEVATION
EP	END POINT
ESMT	EASEMENT
Eu	UNBALANCED SUPERELEVATION (INCHES)
EVCE	ENDING VERTICAL CURVE ELEVATION
EVCS	ENDING VERTICAL CURVE STATION
EX	EXISTING
HCRRRA	HENNEPIN COUNTY REGIONAL RAILROAD AUTHORITY
LH	LEFT HAND
LN	LANE
LRT	LIGHT RAIL TRANSIT
Lc	CURVE LENGTH (FEET)
Ls	SPIRAL LENGTH (FEET)
MIN	MINIMUM
MPH	MILES PER HOUR
MPLS	CITY OF MINNEAPOLIS
MPRB	MINNEAPOLIS PARK AND RECREATION BOARD
N	NORTH
NB	NORTH BOUND
NIC	NOT IN CONTRACT
NO	NUMBER
OMF	OPERATIONS AND MAINTENANCE FACILITY
OCS	OVERHEAD CONTACT SYSTEM
OH	OVERHEAD
PC	POINT OF CURVE
PE	PERMANENT EASEMENT
PITO	POINT OF INTERSECTION OF TURNOUT
PKWY	PARKWAY
POT	POINT ON TANGENT
PROP	PROPOSED
PS	POINT OF SWITCH
PT	POINT OF TANGENT
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS (FEET)
RD	ROAD
RL	RAIL LUBRICATOR
r	RATE OF CHANGE VERTICAL CURVE
RH	RIGHT HAND
ROW	RIGHT OF WAY
S	SOUTH
SB	SOUTH BOUND
SC	SPIRAL TO CURVE
SIG-COMM	SIGNAL COMMUNICATION
ST	STREET
ST	SPIRAL TO TANGENT
STA	STATION
TCE	TEMPORARY CONSTRUCTION EASEMENT
TH	TRUNK HIGHWAY
THRU	THROUGH
TOR	TOP OF RAIL
TPSS	TRACTION POWER SUBSTATION
TRK	TRACK
TS	TANGENT TO SPIRAL
TYP	TYPICAL
UG	UNDERGROUND
V	DESIGN VELOCITY (MPH)
VC	VERTICAL CURVE
W	WEST
WB	WEST BOUND

TRAIL INDEX

ABBREVIATED NAME	FULL NAME / LOCATION
TRAIL 1	UNDER RED CIRCLE DR, LRT, AND YELLOW CIRCLE DR
TRAIL 2	FROM TRAIL 1 TO GREEN CIRCLE DR
TRAIL 3	OPUS STATION ACCESS FROM BREN RD E
TRAIL 4	FROM BREN RD W TO TRAIL 5
TRAIL 5	FROM OPUS STATION TO GREEN CIRCLE DR
TRAIL 6	FROM TRAIL 5 TO SMETANA RD
CEDAR LAKE TRAIL	CEDAR LAKE LRT REGIONAL TRAIL/FROM SHADY OAK STATION TO 11TH AVE
CEDAR LAKE TRAIL	CEDAR LAKE LRT REGIONAL TRAIL/WEST OF EXCELSIOR
CEDAR LAKE TRAIL	CEDAR LAKE LRT REGIONAL LRT TRAIL/BETWEEN EXCELSIOR AND KENILWORTH TRAIL CONNECTION
MIDTOWN GREENWAY	MIDTOWN GREENWAY/EAST OF KENILWORTH TRAIL CONNECTION
TRAIL A	KENILWORTH TRAIL (SECONDARY)/BETWEEN CEDAR-ISLES CHANNEL AND 21ST STREET STATION
TRAIL B	KENILWORTH TRAIL (SECONDARY)/BETWEEN 21ST STREET STATION AND PENN STATION
TRAIL B	CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL C	10' CONNECTOR TRAIL FROM CEDAR LAKE LRT REGIONAL TRAIL TO TYLER AVE.
TRAIL D	10' CONNECTOR TRAIL/BELTLINE STATION TO CEDAR LAKE LRT REGIONAL TRAIL
KENILWORTH TRAIL	KENILWORTH TRAIL (MAIN)/W LAKE ST TO PENN STATION
CEDAR LAKE TRAIL	CEDAR LAKE TRAIL (MAIN)/PENN STATION TO TH 394
TRAIL E	KENILWORTH TRAIL (SECONDARY)/EAST OF W LAKE ST
TRAIL F	KENILWORTH TRAIL (SECONDARY)/WEST OF CEDAR LAKE PKWY
TRAIL G	KENILWORTH TRAIL (SECONDARY)/WEST OF PENN STATION
TRAIL G	CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL H	10' CONNECTOR TRAIL/EAST OF PENN STATION TO KENWOOD PKWY
TRAIL I	NOT USED
CEDAR LAKE TRAIL	CEDAR LAKE TRAIL (MAIN)/AT-GRADE CROSSING AT PENN STATION
TRAIL J	CEDAR LAKE TRAIL (SECONDARY)/NORTHWEST OF PENN STATION
TRAIL K	CEDAR LAKE TRAIL (SECONDARY)/NORTHWEST OF PENN STATION
TRAIL L	CEDAR LAKE TRAIL (SECONDARY)/EAST OF PENN STATION
TRAIL M	NOT USED
TRAIL N	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO EDGEBROOK DRIVE
TRAIL O	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO W LAKE STREET
TRAIL P	8' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO LOUISIANA AVE
TRAIL Q	10' CONNECTOR TRAIL FROM CEDAR LAKE TRAIL TO TH 7 SERVICE ROAD
TRAIL R	20' CONNECTOR TRAIL FROM VAN WHITE STATION TO CEDAR LAKE TRAIL
TRAIL S	NOT USED
TRAIL T	8' CONNECTOR TRAIL FROM VAN WHITE STATION TO VAN WHITE MEMORIAL BLVD
TRAIL U	10' TRAIL PARALLEL TO CEDAR LAKE PKWY
LUCE LINE TRAIL	LUCE LINE REGIONAL TRAIL/ON BRIDGE OVER LIGHT RAIL
TRAIL V	CONNECTOR TRAIL TO LUCE LINE REGIONAL TRAIL WEST OF LIGHT RAIL
TRAIL W	CONNECTOR TRAIL TO LUCE LINE REGIONAL TRAIL WEST OF LIGHT RAIL

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CIVIL EAST - VOLUME 10  
GENERAL  
LEGEND AND ABBREVIATIONS  
SHEET 2

DISCIPLINE: GENERAL

SHEET NAME: E0-GEN-NTS - 002

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# PERMANENT PAVEMENT MARKING PLAN

## NOTES & GUIDELINES

### GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

FOR 20 MIL APPLICATIONS, GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 25 LB/GAL. THE "NO-TRACKING" CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE OF AT LEAST 25 LB/GAL.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

### POLY PREFORM INLAY APPLICATION:

MAT TEMPERATURE SHALL BE CHECKED USING A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE. THE TEMPERATURE SHOULD MEASURE BETWEEN 150° F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120° F. APPLICATION BELOW 120° F MAY NOT GET A PROPER INLAY. INLAYS ARE NOT RECOMMENDED AFTER SEPTEMBER 15th AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF THE YEAR.

NO PRIMERS ARE USED FOR INLAY APPLICATION. DO NOT INSTALL LANE LINES ON AN ASPHALT SEAM. ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE LAID. FOR CROSSWALKS AND STOP BARS, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS. OF WEIGHT.

USE COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR. IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER, MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.

### POLY PREFORM GROOVED APPLICATION:

CONCRETE PAVEMENT SURFACES AND BITUMINOUS PAVEMENT SURFACES WHERE PAVEMENT MARKINGS CANNOT BE INLAID IN THE HOT MAT, SHALL BE GROOVED FOR THE INSTALLATION OF DURABLE REFLECTORIZED PAVEMENT MARKINGS. SEE SPECIAL PROVISIONS.

### PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.


GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.


## SYMBOLS & MATERIALS LEGEND

 CROSSWALK BLOCK WHITE-PREFORM


 PAVEMENT MESSAGE (LEFT ARROW)  
POLY PREFORM

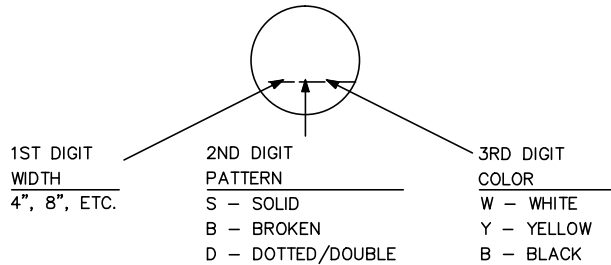
## STRIPING KEY


 CIRCLE-EPOXY

 SQUARE-POLY PREFORM

 TRIANGLE-PAINT

 PENTAGON-REMOVEABLE-PREFORMED  
PLASTIC MARKING



EXAMPLE:  = 4" SOLID LINE WHITE-EPOXY

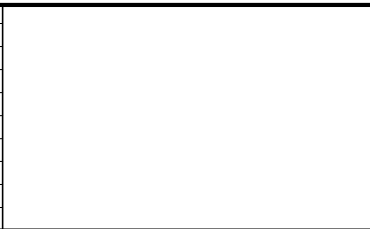
I HEREBY CERTIFY THAT SHEETS 000 THROUGH 000 OF THIS PLAN WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME:ENGR NAME HERE LICENSE #

DATE: \$!DATE!\$ SIGNATURE:\_\_\_\_\_

DESIGNER TECH NAME HERE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT NOTES AND LEGEND

DISCIPLINE: TRAFFIC SHEET NAME: E0-TFC-SIGN-STRP-DTL - 001

SHEET  
7  
OF  
266



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GENERAL

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE MNDOT "TRAFFIC ENGINEERING MANUAL" AND THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" WITH THE FOLLOWING EXCEPTIONS AND AS DIRECTED BY THE ENGINEER.

THESE GUIDELINES ARE TYPICAL. MODIFICATION MAY BE REQUIRED FOR UNUSUAL CONDITIONS OR TO CONFORM TO THE REQUIREMENTS OF OTHER AGENCIES.

ALL SIGNING, STRIPING AND PAVEMENT MARKINGS MAINTAINED BY THE CITY OF MINNEAPOLIS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF MINNEAPOLIS.

SIGNING TYPE C

ALL SIGNING SHALL USE DG3 SIGN SHEETING.

ALL SIGNS SHALL BE CONVENTIONAL ROAD SIZE AS SHOWN IN THE MN MUTCD APPENDIX C EXCEPT AS FOLLOWS:

- ALL STOP SIGNS (R1-1) SHALL BE A MINIMUM OF 36" X 36"
- ALL NO PARKING SIGNS (R8-3) SHALL BE 18" X 18"
- ALL PEDESTRIAN CROSSING SIGNS (W11-2) SHALL BE A MINIMUM OF 36" X 36"

ALL SIGNS SHALL HAVE HOLES PUNCHED ONLY FOR THE NUMBER OF POSTS REQUIRED.

ALL SIGN POSTS SHALL BE 3 POUNDS PER FOOT, GALVANIZED "U" POSTS.

NUMBER OF POSTS:

- SIGN WIDTH 35" OR LESS USE 1 POST
- SIGN WIDTH 36" - 70" USE 2 POSTS WITH BACK BRACE
- SIGN WIDTH OVER 70" PLACE A POST APPROXIMATELY EVERY 2' WITH BACK BRACE

LATERAL BRACES MAY BE USED AS A STIFFENER FOR SIGNS IF REQUIRED BY THE ENGINEER.

KNEE BRACES SHALL NOT BE USED UNLESS REQUIRED BY THE ENGINEER.

MOUNTING HEIGHT TO THE BOTTOM EDGE OF THE LOWEST SIGN SHALL BE 7.0' EXCEPT AS FOLLOWS:

- OBJECT MARKERS AND SNOW PLOW MARKERS 5.0'
- OBJECT MARKER IF MOUNTED BELOW A KEEP RIGHT 4.0'

ALL SIGNS MOUNTED IN CONCRETE OR LANDSCAPE PAVER SURFACING SHALL USE A SIGN SOCKET WHICH SHALL BE PLACED IN CONCRETE. ALL SIGN SOCKETS LOCATED ON RAISED ISLANDS SHALL USE DOUBLE SIGN SOCKETS. SEE TYPICAL SIGN SOCKET DETAIL.

ALL KEEP RIGHT SIGNS (R4-7) SHALL HAVE REAR DELINEATION AS SHOWN IN THE REAR DELINEATION DETAIL AND AN OM1-3 MOUNTED BELOW THE KEEP RIGHT SIGN.

NO PARKING SIGNS SHALL WHERE POSSIBLE BE GROUPED WITH OTHER SIGNS TO REDUCE THE NUMBER OF SIGN POSTS.

ADOPT A HIGHWAY SIGN (I-X1) SHALL NOT BE USED. IF REQUIRED 36" X 24" ADOPT A HIGHWAY SIGNS SHALL BE FURNISHED BY HENNEPIN COUNTY FOR INSTALLATION BY THE CONTRACTOR.

A SCHOOL CROSSING SIGN (S1-1) WITH AHEAD PLAQUE (W16-9P) MOUNTED BELOW THE SCHOOL CROSSING SIGN SHALL BE IN ADVANCE OF ALL SCHOOL CROSSING SIGNS (S1-1).

ALL SIGNS SHOWN IN THE MN MUTCD WITH OPTIONAL FLUORESCENT YELLOW-GREEN BACKGROUND COLOR SHALL USE THE FLUORESCENT YELLOW-GREEN BACKGROUND COLOR.

NO PASSING ZONE SIGN (W14-3) SHALL BE USED ON THE LEFT WITH A DO NOT PASS SIGN (R4-1) ON THE RIGHT.

MERGE WITH DEMOUNTABLE ARROW SIGN (W20-X3) SHALL NOT BE USED. A LANE ENDS MERGE SIGN (W9-2) FOLLOWED BY A LANE REDUCTION SIGN (W4-2) SHALL BE USED.

ALL INPLACE SIGNS WITHIN THE CONSTRUCTION LIMITS SHALL BE PROTECTED INPLACE, SALVAGED OR SALVAGED AND REINSTALLED AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. SALVAGED SIGNS SHALL NOT BE REINSTALLED UNLESS THEY ARE IN GOOD CONDITION, HAVE DG3 SIGN SHEETING AND ARE STILL APPLICABLE. ALL SALVAGED SIGNS NOT REINSTALLED SHALL BE COMPLETELY DISASSEMBLED BY THE CONTRACTOR AND BROKEN DOWN INTO THEIR BASIC COMPONENTS (SIGN PANELS, POST, NUTS AND BOLTS) WHICH SHALL BE RETURNED TO THEIR OWNERS.

PERMANENT STRIPING AND PAVEMENT MARKINGS

ALL LONGITUDINAL LINES SHALL BE 4" WIDE EPOXY GROUND IN (GROOVED) EXCEPT WHITE EDGE LINES WHICH SHALL BE 6", UNLESS NOTED.

A BROKEN LINE SHALL BE A 4" WIDE EPOXY GROUND IN (GROOVED) LINE AND SHALL HAVE A 10' LENGTH AND 30' GAP.

A DOTTED LINE (CAT TRACKS) SHALL BE A 4" WIDE THERMOPLASTIC GROUND IN (GROOVED) LINE AND SHALL HAVE A 2' LENGTH AND 6' GAP.

CROSSSHATCHING (HASH MARKS) SHALL BE 24" WIDE EPOXY GROUND IN (GROOVED) LINE. INSTALLED AT 45° WITH AN 20' PERPENDICULAR GAP. THEY SHALL ONLY BE PLACED WHEN AT LEAST 2 BARS OF MINIMUM 6' LENGTH CAN BE INSTALLED AT STANDARD SPACING.

ON BITUMINOUS PAVEMENTS LONGITUDINAL LINES SHALL NOT BE PLACED IMMEDIATELY ADJACENT (2' OR LESS FROM THE FACE OF CURB) TO CONCRETE CURB AND GUTTER, RAISED CONCRETE OR MONOLITHIC ISLANDS EXCEPT RIGHT TURN ISLANDS.

STOP LINES SHALL NOT BE PLACED EXCEPT AT RAILROAD CROSSINGS, SIGNALIZED INTERSECTION APPROACHES WITHOUT CROSSWALK MARKINGS AND AT "MINNEAPOLIS" STYLE CROSSWALK MARKINGS.

PERMANENT PAVEMENT MARKINGS, STRIPING AND MESSAGES SHALL NOT BE PLACED ONTO A CONCRETE GUTTER.

ALL PAVEMENT MESSAGES SHALL BE THERMOPLASTIC GROUND IN (GROOVED). ALL BIKE LANE AND SHARED LANE SYMBOLS SHALL HAVE A WHITE LEGEND CENTERED ON A BLACK RECTANGULAR BACKGROUND.

THE INSTALLERS OF ALL THERMOPLASTIC MATERIALS MUST CARRY A CARD CERTIFYING THAT THEY HAVE ATTENDED A TRAINING SESSION THAT ADDRESSES SURFACE PREPARATIONS AND ALL APPLICATION REQUIREMENTS AND TECHNIQUES NECESSARY FOR SUCCESSFUL APPLICATIONS.

IF THERMOPLASTIC MATERIAL IS TO BE INSTALLED ON CONCRETE PAVEMENT THE CONCRETE PAVEMENT SHALL HAVE A SEALER APPLIED THAT IS IN ACCORDANCE WITH ALL OF THE MANUFACTURE'S SPECIFICATIONS AFTER THE GROUND IN PROCESS (GROOVED) AND BEFORE ANY THERMOPLASTIC MATERIAL IS APPLIED, AS DIRECTED BY THE ENGINEER.

PAVEMENT MESSAGE SPECIAL SHALL NOT BE PLACED WITHIN ANY MARKED CROSSWALK.

PAVEMENT MESSAGE SPECIAL SHALL HAVE ALL THERMOPLASTIC MATERIAL OMITTED THAT WOULD BE PLACED ONTO A CONCRETE GUTTER, AS DIRECTED BY THE ENGINEER.

FULL WIDTH TURN LANES:




- UNDER 250' USE 1 ARROW PLACED AT THE CENTER OF THE TURN LANE.
- OVER 250' USE 2 ARROWS PLACED AS SHOWN IN THE MN/DOT "TRAFFIC ENGINEERING MANUAL"

PAVEMENT MESSAGE "ONLY" SHALL NOT BE USED.

CROSSWALK MARKINGS OUTSIDE THE CITY OF MINNEAPOLIS SHALL BE WHITE THERMOPLASTIC "ZEBRA" STYLE. THEY SHALL MATCH IN WIDTH THE FACILITY THAT ENTERS THE CROSSWALK MARKINGS WITH A MINIMUM WIDTH OF 6' OR AS DIRECTED BY THE ENGINEER. CROSSWALK MARKINGS WITHIN THE CITY OF MINNEAPOLIS AND THE UNIVERSITY OF MINNESOTA CAMPUS SHALL BE TWO PARALLEL 12" WIDE WHITE THERMOPLASTIC LINES GROUND IN (GROOVED) INSTALLED A MINIMUM OF 10' APART, WITH A 24" WHITE THERMOPLASTIC STOP LINE GROUND IN (GROOVED) INSTALLED WITH A 10' PERPENDICULAR GAP FROM THE NEAR SIDE CROSSWALK MARKING, ACROSS ALL LANES OF APPROACHING TRAFFIC. AS DIRECTED BY THE ENGINEER.

CROSSWALK MARKINGS SHALL WHERE POSSIBLE CONNECT PEDESTRIAN CURB RAMPS WITH A STRAIGHT LINE, AT 90° TO THE ROADWAY AND BE PLACED IN FRONT OF MEDIAN NOSES.

CROSSWALK MARKINGS SHALL NOT BE PLACED ACROSS FREE RIGHT TURN LANES, SLIP LANES OR AT SIGNED TRAIL CROSSING LOCATIONS.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL		<div></div>	<div>CIVIL EAST - VOLUME 10</div> <div>SIGNING AND STRIPING</div> <div>HENNEPIN COUNTY NOTES</div> <div>SHEET 1</div>		DISCIPLINE: <div>TRAFFIC</div>	SHEET NAME: <div>E0-TFC-SIGN-STRP-DTL - 002</div>	SHEET <div>8</div> <div>OF</div> <div>266</div>
60% SUBMISSION - 09/28/15												

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GENERAL INFORMATION:

THE ENGINEER’S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY ”SPOTTING” AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALK.

A TOLERANCE OF 1/4” UNDER OR 1/4” OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO 6” FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1” MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4 INCHES WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F OR GREATER.

DO NOT APPLY OVER INPLACE PAINT, INPLACE EPOXY OR INPLACE THERMOPLASTIC UNLESS VERY WELL WORN (AT LEAST 75% – 80% WORN AWAY) AND WELL ADHERED TO THE PAVEMENT. GRIND OR SANDBLAST OLD MARKINGS AND SWEEP OR BLOW AREA CLEAN.

THERMOPLASTIC AND POLY PREFORM

THE INSTALLERS OF THIS MATERIAL MUST CARRY A CARD CERTIFYING THAT THEY HAVE ATTENDED A TRAINING SESSION THAT ADDRESSES SURFACE PREPARATIONS AND ALL APPLICATION REQUIREMENTS AND TECHNIQUES NECESSARY FOR SUCCESSFUL APPLICATION.

ALL MARKINGS SHALL BE OF THE ”INLAY” METHOD UNLESS THE ”GROUND IN” (GROOVED) OR ”OVERLAY” PROCEDURE IS SPECIFIED.

GROOVE SPECIFICATIONS

THE PAVEMENT SURFACE SHALL BE GROUND (GROOVED) TO DIMENSIONS THAT ARE EQUAL OR GREATER THAN 1” LARGER (ALL DIRECTIONS) THAN THE DIMENSIONS OF THE MARKING TO BE INSTALLED (NOT TO EXCEED 2” GREATER THAN THE MARKING DIMENSIONS). THE DEPTH OF THE GROOVE SHALL BE 100 MILLS (+/- 10 MILLS). NOTE: 1000 MILLS = 1 INCH.

THE RECOMMENDED POSITION OF THE GROOVE EDGE IS A MINIMUM OF 2 INCHES FROM THE EDGE OF CONCRETE JOINTS OR ASPHALT SEAMS ALONG EDGE OR CENTERLINES.

INTERSECTION MARKINGS, LEGENDS, AND SYMBOLS MAY REQUIRE USE OF WIDER CUTTING HEADS TO REDUCE THE NUMBER OF RIDGES FORMED BY MULTIPLE PASSES WITH THE CUTTING HEAD. THE HEIGHT OF THE RIDGES SHOULD BE LESS THAN 20% OF THE GROOVE DEPTH. SMALLER EQUIPMENT MAY BE REQUIRED TO ACHIEVE A GROOVE AT THE RECOMMENDED DEPTH WHEN WORKING NEAR OBSTACLES SUCH AS CURBS OR MEDIANS.

NEW BITUMINOUS PAVEMENT SHOULD NOT BE GROOVED UNTIL AFTER 10 DAYS OF THE PLACEMENT OF THE FINAL COURSE OF PAVEMENT. INTERIM DEVICES (TEMP. TAPE, RAISED TABS, OR OTHER DELINEATION OR CHANNELIZATION DEVICES) SHALL DELINEATE THE PROPOSED MARKING AREAS IF THE ROADWAY IS OPEN TO TRAFFIC.

INLAY SPECIFICATIONS

MAT TEMPERATURE SHALL BE CHECKED USING A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE, THE TEMPERATURE SHOULD MEASURE BETWEEN 150 DEGREES F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120 DEGREES F, APPLICATION BELOW 120 DEGREES F MAY NOT GET A PROPER INLAY. INLAYS ARE NOT RECOMMENDED AFTER SEPTEMBER 15TH AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF YEAR.

NO PRIMERS ARE USED FOR INLAY APPLICATION, DO NOT INSTALL LANE LINES ON AN ASPHALT SEAM, ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE LAID. FOR CROSSWALKS AND STOP LINES, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS. OF WEIGHT.

USE COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR. IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER, MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.

OVERLAY SPECIFICATIONS

NEW CONCRETE (LESS THAN 3 MONTHS OLD):  
REMOVE CURING COMPOUND BY SANDBLASTING, HYDROBLASTING OR SHOT BLASTING WHERE TAPE IS TO BE APPLIED. HYDROBLASTING LEAVES SURFACE WET, TIME SHALL BE ALLOWED FOR PAVEMENT TO DRY. SWEEP OR BLOW THE BLASTED AREAS CLEAN. APPLY REQUIRED PRIMER (SEE MANUFACTURERS SPECIFICATIONS).

ASPHALT (0 – 3 DAYS OLD):  
SWEEP OR BLOW AREA CLEAN. NO PRIMER IS REQUIRED.

ASPHALT (4 DAYS OLD OR OLDER):  
SWEEP OR BLOW AREA CLEAN. APPLY REQUIRED PRIMER. (SEE MANUFACTURERS SPECIFICATIONS).

OLD CONCRETE:  
SWEEP OR BLOW AREA CLEAN. APPLY REQUIRED PRIMER (SEE MANUFACTURES SPECIFICATIONS).

OLD MARKINGS:  
DO NOT APPLY OVER PAINT, EPOXY OR THERMOPLASTIC UNLESS VERY WELL WORN (AT LEAST 75% – 80% WORN AWAY) AND WELL ADHERED TO THE PAVEMENT. GRIND OR SANDBLAST OLD MARKING AND SWEEP OR BLOW AREA CLEAN. APPLY REQUIRED PRIMER (SEE MANUFACTURERS SPECIFICATIONS).

WORN POLY PREFORM MARKINGS:  
OK TO APPLY NEW MATERIAL OVER WORN POLY PREFORM MARKINGS. REMOVE ALL LOOSE MATERIAL WITH SCRAPER OR KNIFE. SWEEP OR BLOW AREA CLEAN. APPLY REQUIRED PRIMER (SEE MANUFACTURES SPECIFICATIONS).

APPLICATION OF MARKING IN GROUND IN (GROOVED) PAVEMENT

THE GROOVE SHALL BE ALLOWED TO DRY A MINIMUM OF 24 HOURS AFTER GROOVE CLEANING, REMOVAL OF WATER, AND PRIOR TO PAVEMENT MARKING APPLICATION IF WATER IS USED IN THE GROOVING PROCESS. THE GROOVE MUST BE CLEAN AND DRY FOR PROPER APPLICATION OF THE PAVEMENT MARKING. CLEAN THE GROOVE COMPLETELY PRIOR TO PAVEMENT APPLICATION USING AN AIR COMPRESSOR WITH AT LEAST 185 CFM AIR FLOW AND 90 PSI AIR PRESSURE. ONE DRY PASS WITH A PICKUP SWEEPER WILL BE REQUIRED PRIOR TO AIRBLASTING THE GROOVE IF TRAFFIC IS PRESENT.

AIR TEMPERATURE SHALL BE A MINIMUM OF 40 DEGREES F.  
SURFACE TEMPERATURE SHALL BE A MINIMUM OF 40 DEGREES F.

A SURFACE PREPARATION ADHESIVE IS REQUIRED WHEN PAVEMENT MARKING APPLICATION OCCURS OUTSIDE OF THE SEASON BETWEEN JUNE 1 AND SEPTEMBER 1. SURFACE PREPARATION ADHESIVE SHALL BE APPLIED ACCORDING TO PRODUCT RECOMMENDATIONS.

PAVEMENT MARKING SHALL BE INSTALLED AND TAMPED AS PER MANUFACTURES RECOMMENDATIONS. USE TAMPER CARTS WITH A 200-POUND LOAD. PAVEMENT MARKING APPLICATION IN A GROOVE WILL REQUIRE TAMPING WITH A TAMPER CART ROLLER CUT TO FIT IN THE GROOVE. USE A MODIFIED TAMPER CART ROLLER IF NECESSARY. A TYPICAL MODIFIED ROLLER WILL HAVE A 4” WIDTH AND A 1/4” DEPTH. USE OF A VEHICLE TIRE TO TAMP TAPE IN A GROOVE IS ACCEPTABLE FOR WAFFLE PATTERN TYPES.

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60% SUBMISSION - 09/28/15

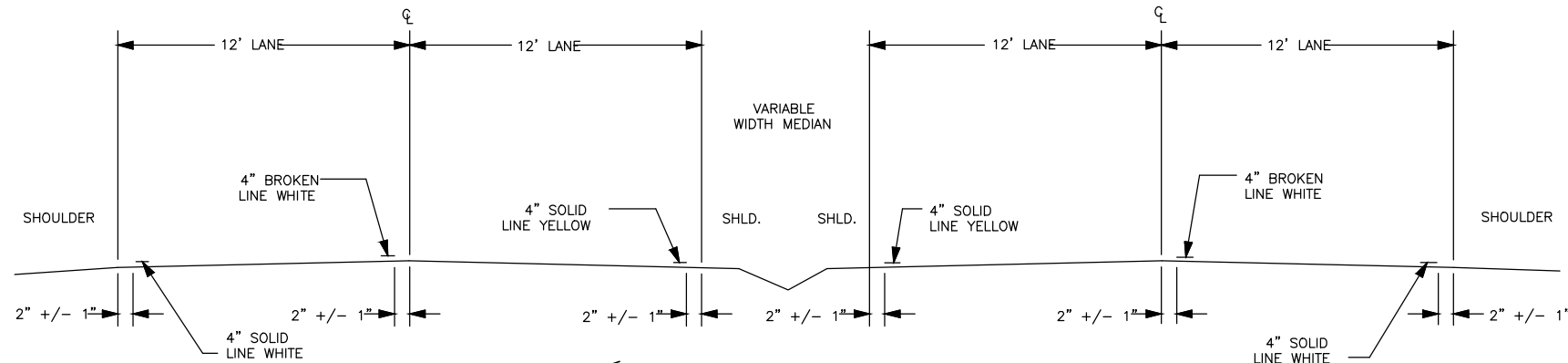


CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
HENNEPIN COUNTY NOTES  
SHEET 2

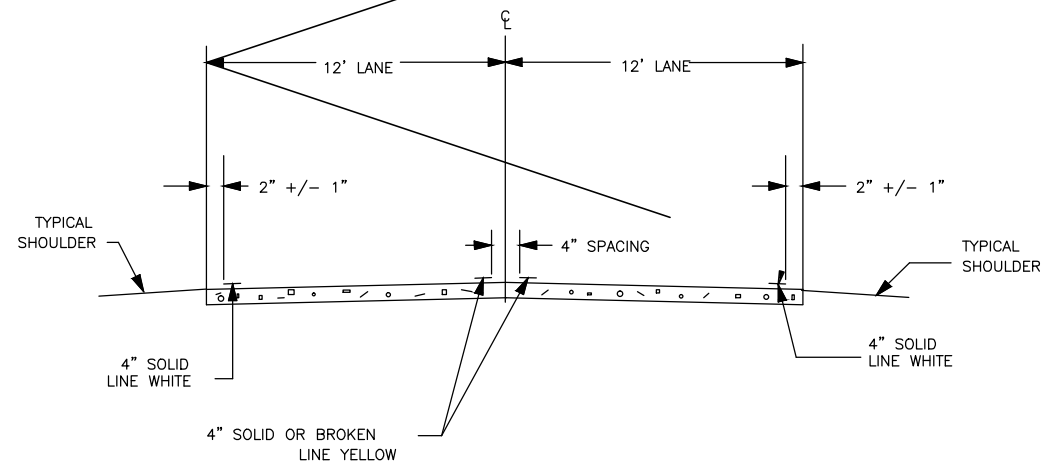
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SHEET 9 OF 266

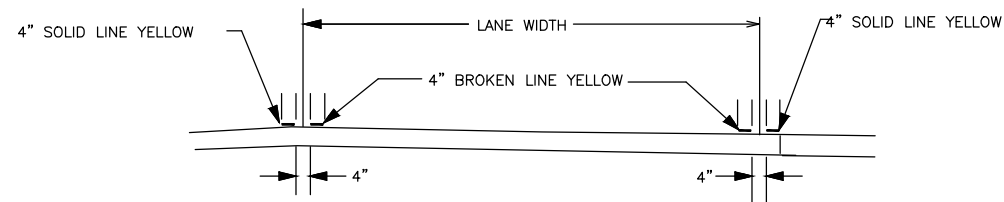
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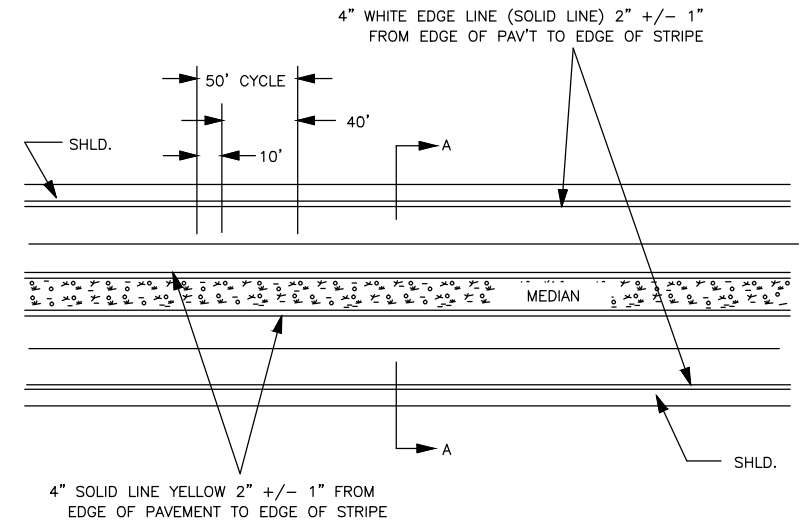
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FOUR LANES



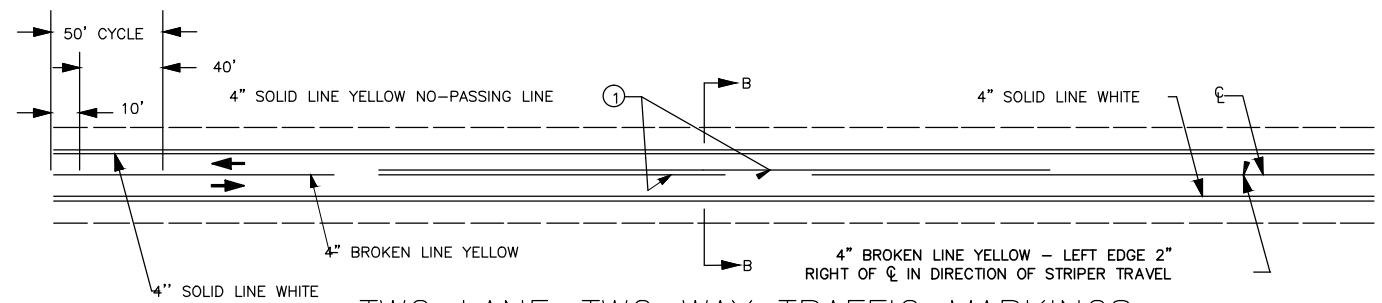
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SECTION C-C  
TWO WAY LEFT TURN LANE

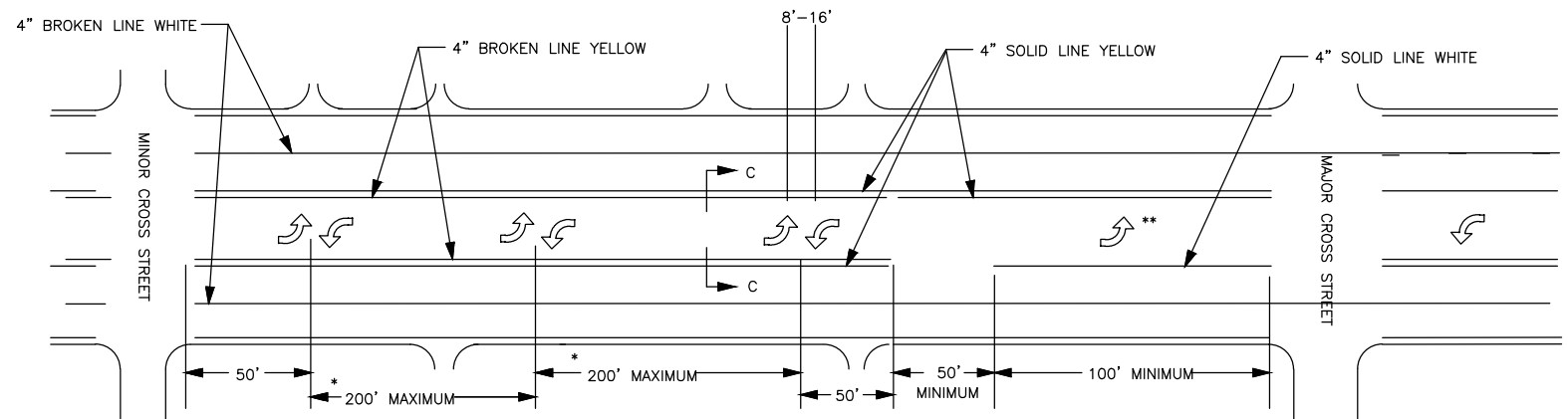


TYPICAL 4-LANE DIVIDED LANE MARKINGS



TWO LANE-TWO WAY TRAFFIC MARKINGS

1 CONTACT TRAFFIC ENGINEER FOR NO PASSING ZONE SURVEY.



TWO WAY LEFT TURN LANE

\* THESE DISTANCES SHOULD BE EQUAL. THE PAVEMENT ARROWS ARE PLACED TO SHOW THE OPERATION AND DO NOT HAVE TO LINE UP WITH ANY OF THE DRIVEWAYS.

NOTE:  
SINGLE-DIRECTION LEFT-TURN ARROWS SHALL NOT BE USED IN LANES BORDERED ON BOTH SIDES BY TWO-WAY LEFT-TURN LANE MARKINGS

\*\* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER AND PLACEMENT OF ARROWS.

REVISED: 20-NOV-2013

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT DETAIL  
SHEET 1**

DISCIPLINE:

**TRAFFIC**

SHEET NAME:

**E0-TFC-SIGN-STRP-DTL - 004**

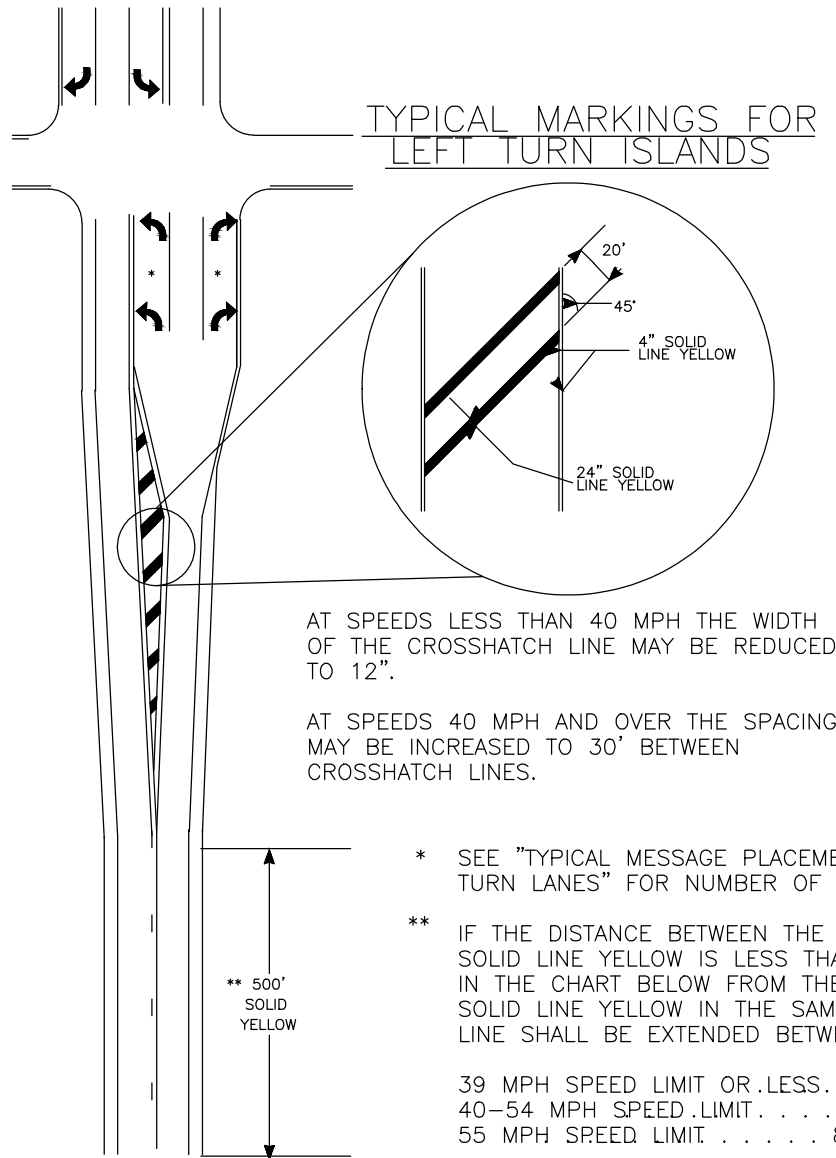
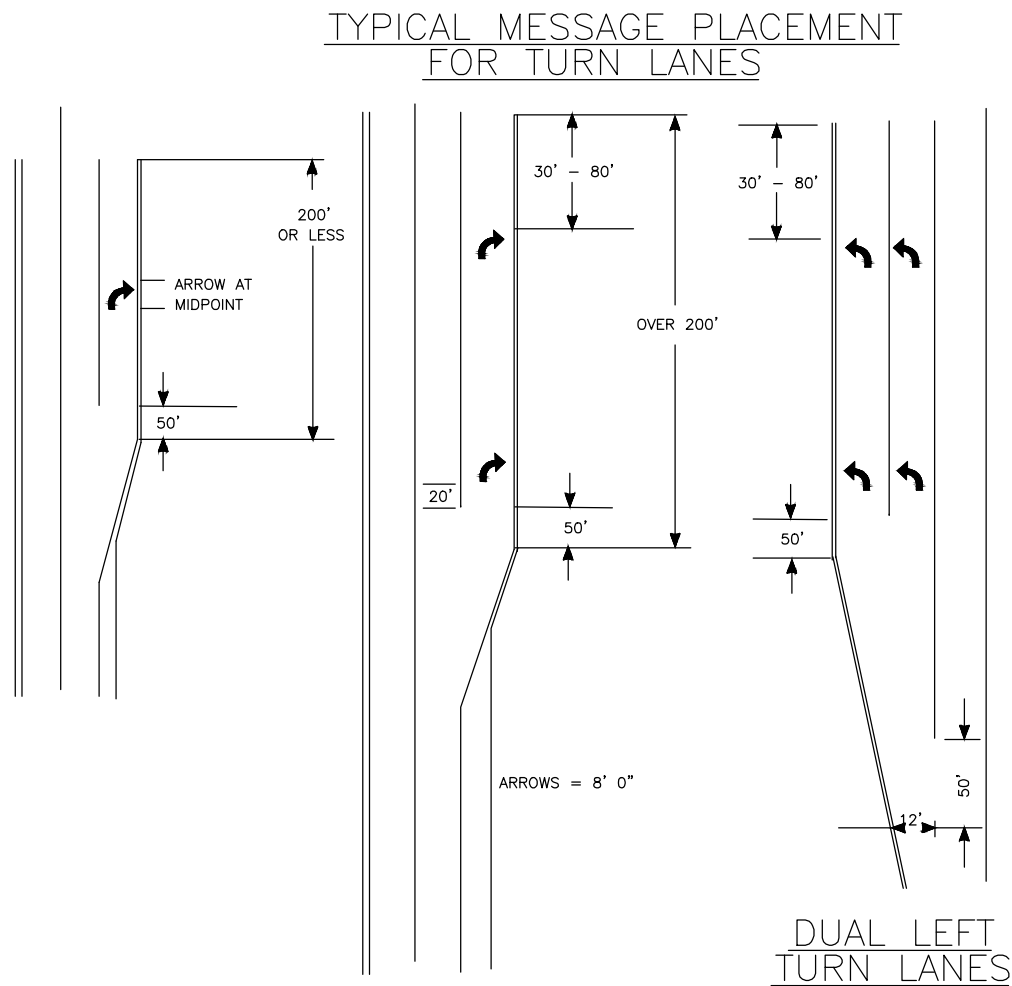
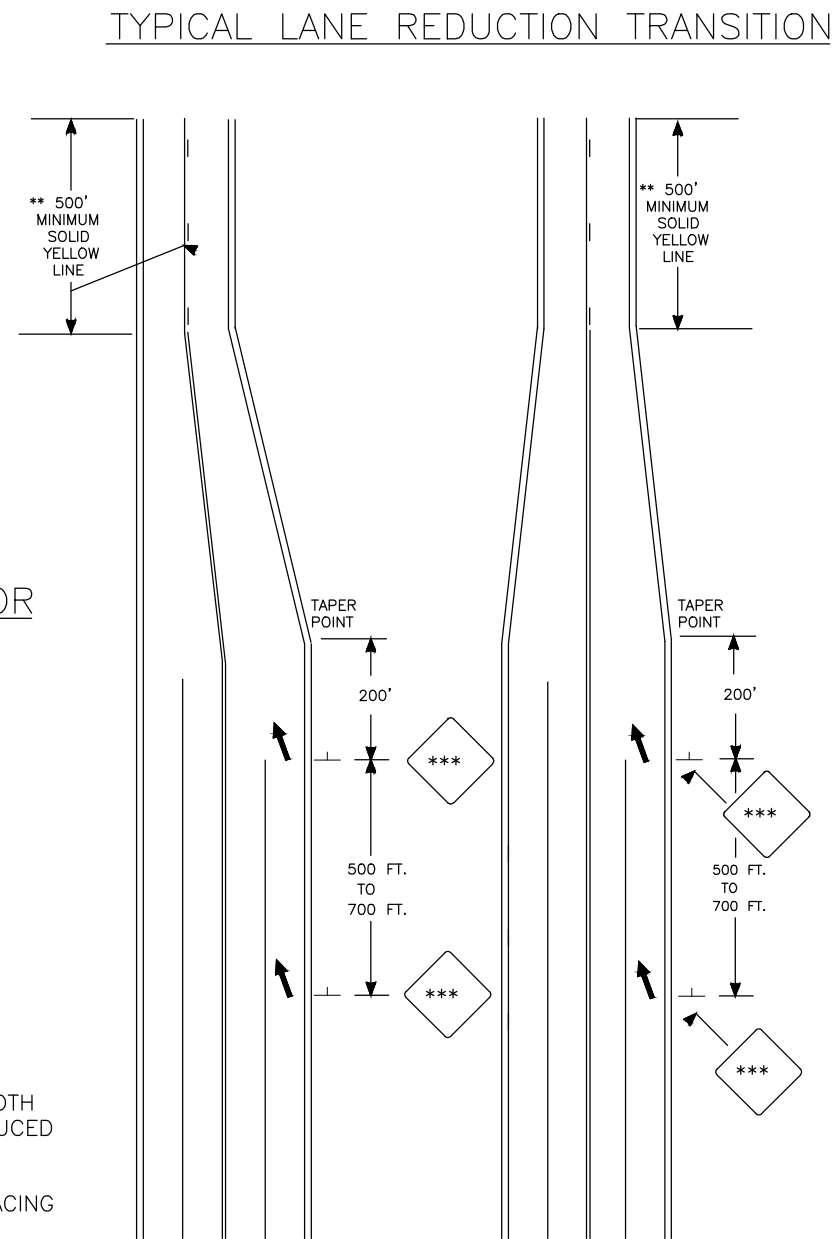
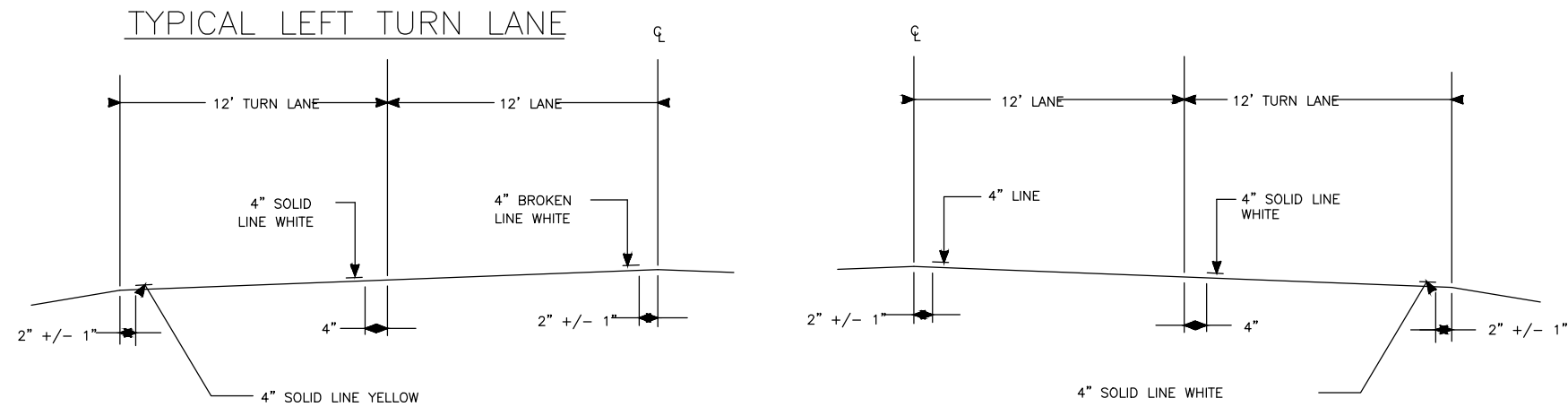
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AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 12".

AT SPEEDS 40 MPH AND OVER THE SPACING MAY BE INCREASED TO 30' BETWEEN CROSSHATCH LINES.

\* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER OF ARROWS.

\*\* IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

39 MPH SPEED LIMIT OR LESS. . 500'  
40-54 MPH SPEED LIMIT. . . . 650'  
55 MPH SPEED LIMIT. . . . . 800'

\*\*\* PLACE TRANSITION ARROWS ADJACENT TO LANE REDUCTION SIGNS. REFER TO SIGNING TYPICALS FOR SIGN DETAILS AND PLACEMENT.

\*\*\*\* LANE REDUCTION TRANSITION ARROWS ARE OPTIONAL FOR SPEEDS LESS THAN 45 MPH.

REVISED: 20-NOV-2013

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



CIVIL EAST - VOLUME 10 SIGNING AND STRIPING MNDOT DETAIL SHEET 2	
DISCIPLINE: TRAFFIC	SHEET NAME: E0-TFC-SIGN-STRP-DTL - 005

SHEET  
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## PLACEMENT FOR "STOP AHEAD" MARKINGS AND STOP LINES

[illegible]

1. DO NOT INSTALL A STOP AHEAD PAVEMENT MESSAGE IF THE INTERSECTION HAS ADEQUATE LIGHTING
2. INSTALL ONLY ONE SET OF STOP AHEAD PAVEMENT MESSAGES. IF A STOP AHEAD SIGN NEEDS TO BE INSTALLED MORE THAN 1000 FEET FROM THE STOP SIGN, CONTACT DISTRICT TRAFFIC ENGINEER TO DETERMINE IF, AND WHERE, A SECOND SET OF STOP AHEAD PAVEMENT MESSAGES SHOULD BE INSTALLED.
3. THE STOP LINE SHOULD ORDINARILY BE PLACED 4 FEET IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK LINE. IN THE ABSENCE OF A MARKED CROSSWALK, THE STOP LINE SHOULD BE PLACED AT THE DESIRED STOPPING POINT, AND IN NO CASE NO MORE THAN 30 FEET OR LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING CURB LINE OR THE NEAR EDGE OF THE THRU LANE.
4. IF A STOP LINE IS USED IN CONJUNCTION WITH A STOP SIGN, IT SHOULD ORDINARILY BE PLACED IN LINE WITH THE STOP SIGN. HOWEVER, IF THE SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP LINE SHOULD BE PLACED AT THE STOPPING POINT.
5. IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

## MARKINGS FOR RAILROAD CROSSINGS



- DOUBLE PAVEMENT MESSAGE AS SHOWN SHOULD BE INSTALLED WHENEVER  
THE STOP AHEAD SIGN IS PLACED A MINIMUM OF 1100' IN ADVANCE OF  
THE STOP SIGN

35 MPH SPEED LIMIT OR LESS . . . . .	500'
40-50 MPH SPEED LIMIT . . . . .	650'
55 MPH SPEED LIMIT . . . . .	800'

[illegible]

**METROPOLITAN**  
COUNCIL



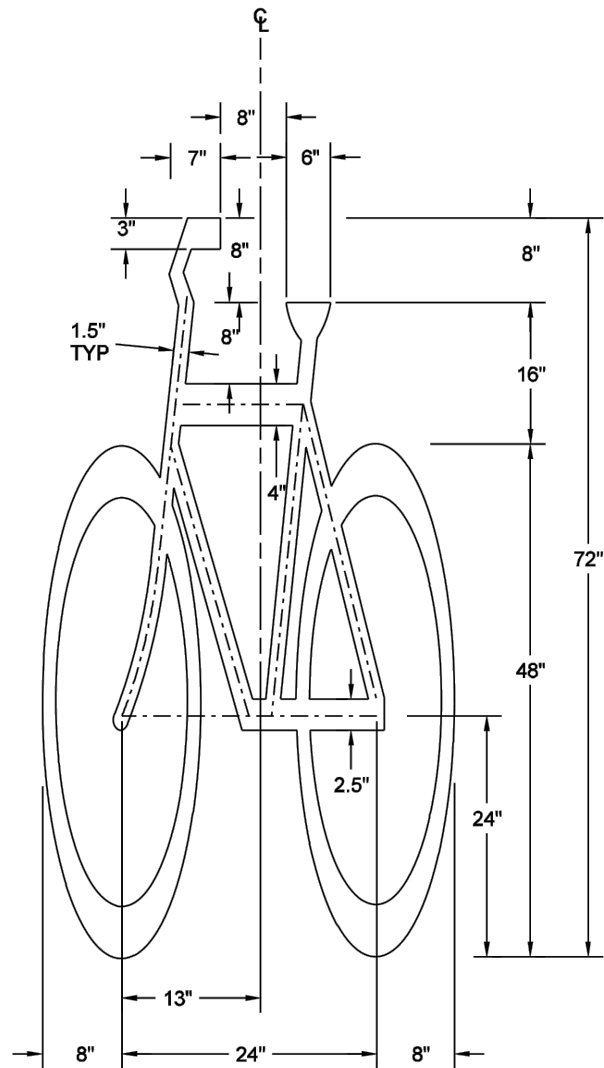
DISCIPLINE: **TRAFFIC**

SHEET NAME:	E0-TFC-SIGN-STRP-DTL - 006
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**SHEET**  
**12**  
**OF**  
**266**



Sep. 21 2015 06:37 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\DETAILS\E0-TFC-SIGN-STRP-DTL.dwg By: brian.villa



NO SCALE



**MINNEAPOLIS**  
DEPARTMENT OF PUBLIC WORKS

DRAWN: JWD

DATE: 9/08/11

APPROVED: DRP

DATE: 11/9/11

SYMBOLS - PAVEMENT MARKINGS

BIKE

STANDARD  
PLATE  
NO.  
TRAF-7652

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



**CIVIL EAST - VOLUME 10**  
**SIGNING AND STRIPING**  
**MINNEAPOLIS DETAIL**

DISCIPLINE:

TRAFFIC

SHEET NAME:

E0-TFC-SIGN-STRP-DTL - 007

SHEET

13

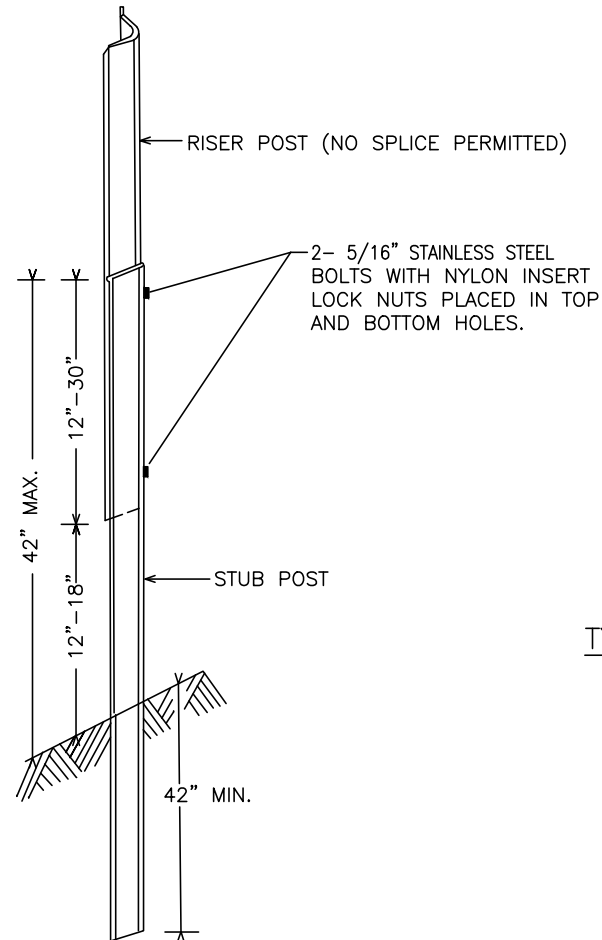
OF

266

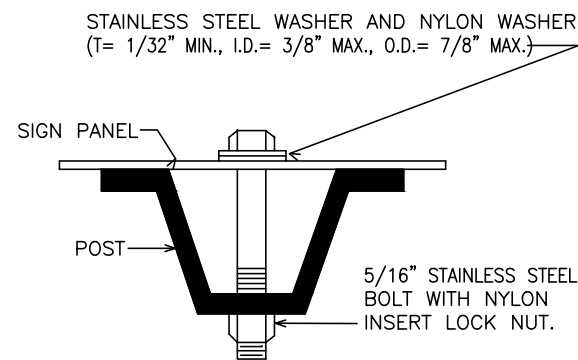
60% SUBMISSION - 09/28/15

Sep. 21 2015 06:37 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\DETAILS\E0-TFC-SIGN-STRP-DTL.dwg By: brian.villa

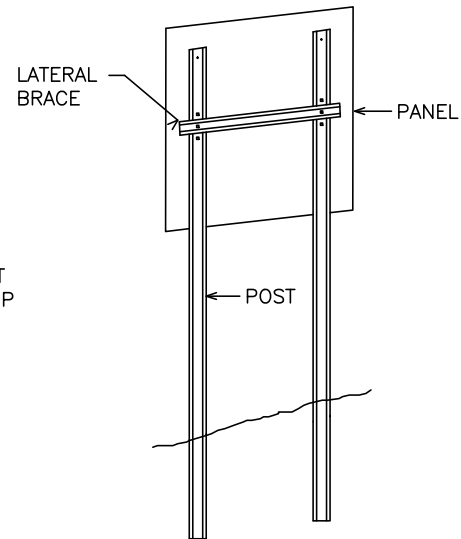
### TYPE C & D POST



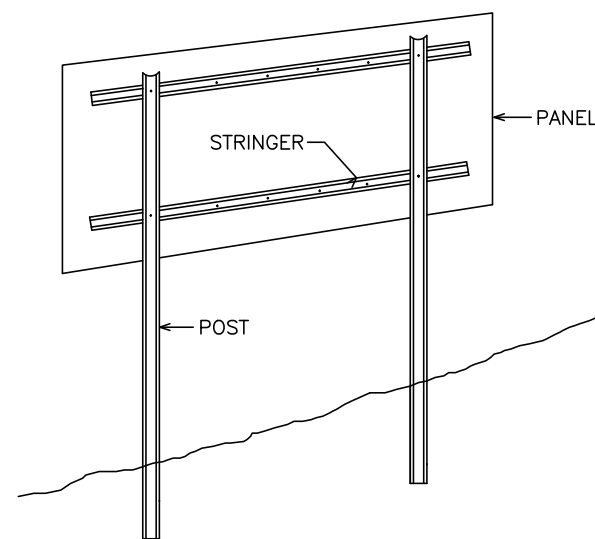
U POST BREAKAWAY SPLICE



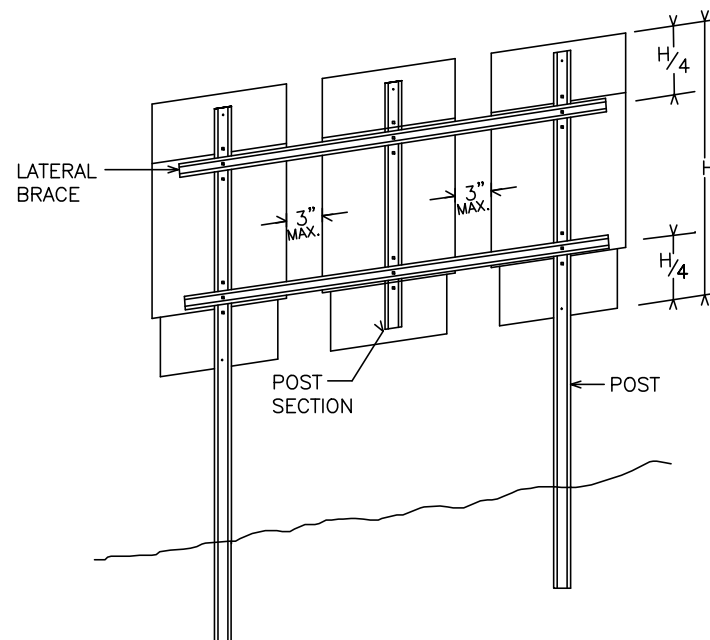
U POST MOUNTING  
TYPE C SIGNS



TYPICAL TYPE C INSTALLATION



TYPICAL TYPE D INSTALLATION



MODIFIED TYPE C INSTALLATION

1. USE 3 LB/FT STUB POSTS. SHALL CONFORM TO MNDOT 3401.
2. USE 2.5 LB/FT RISER POSTS, STRINGERS, KNEE BRACES AND LATERAL BRACES. ALL SHALL CONFORM TO MNDOT 3401.
3. SEE SIGN DATA SHEETS FOR NUMBER OF POSTS, KNEE BRACES, POST LENGTHS AND SPACINGS, AS DETERMINED FROM TEM CHARTS 6.3 AND 6.4.
4. IF MORE THAN TWO POSTS ARE NEEDED, THE MINIMUM SPACING SHALL BE 45" BETWEEN POSTS.
5. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
6. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
7. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
8. USE STAINLESS STEEL 5/16" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
9. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
10. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 42".
11. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MNDOT 3306 AND GALVANIZED IN ACCORDANCE WITH MNDOT 3394.
12. COLLARS SHALL BE USED TO SHIM OVERLAYS AND LEGEND COMPONENTS AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MNDOT 3352.2A6.
13. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
14. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
15. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

### TYPE C & D SIGN STRUCTURAL DETAILS

Sheet 1 of 3

REVISED: 3-7-2014

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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**CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT DETAIL  
SHEET 1**

DISCIPLINE:

**TRAFFIC**

SHEET NAME:

**E0-TFC-SIGN-STRP-DTL - 008**

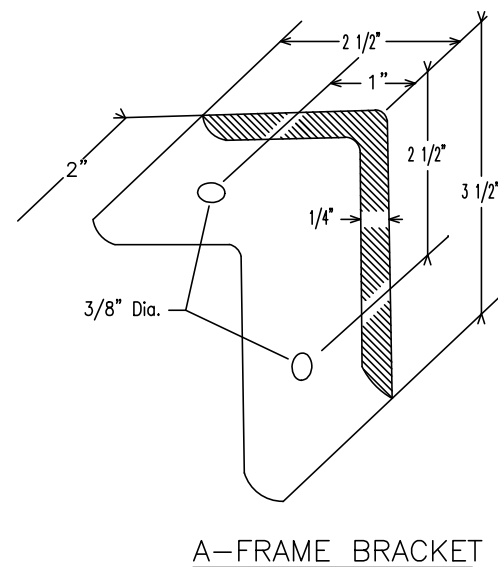
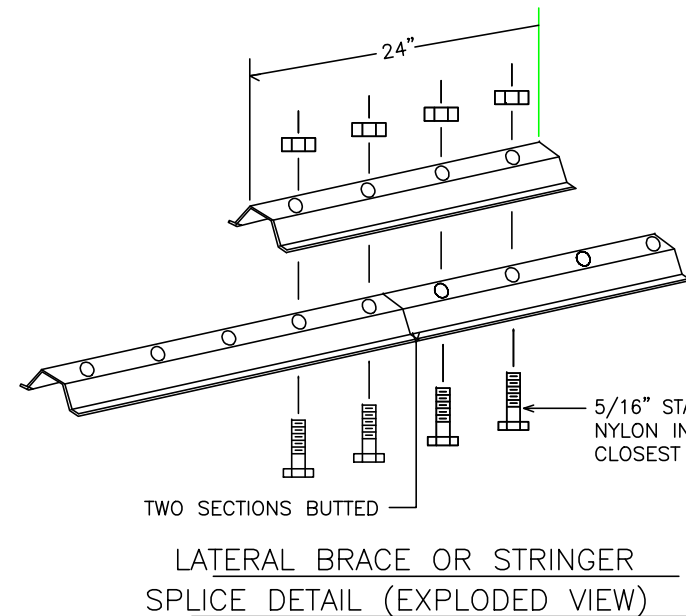
**SHEET**

**14**

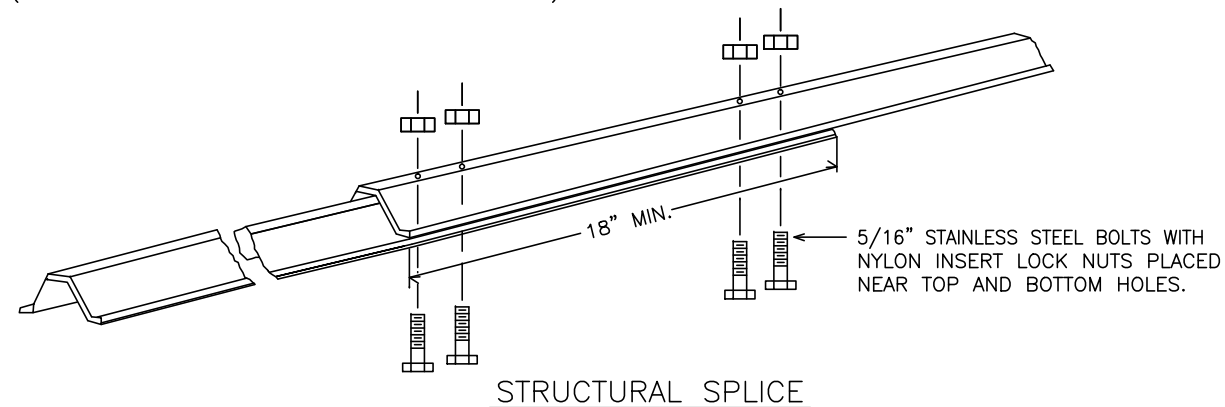
**OF**

**266**

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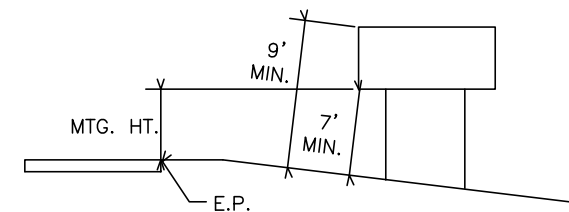
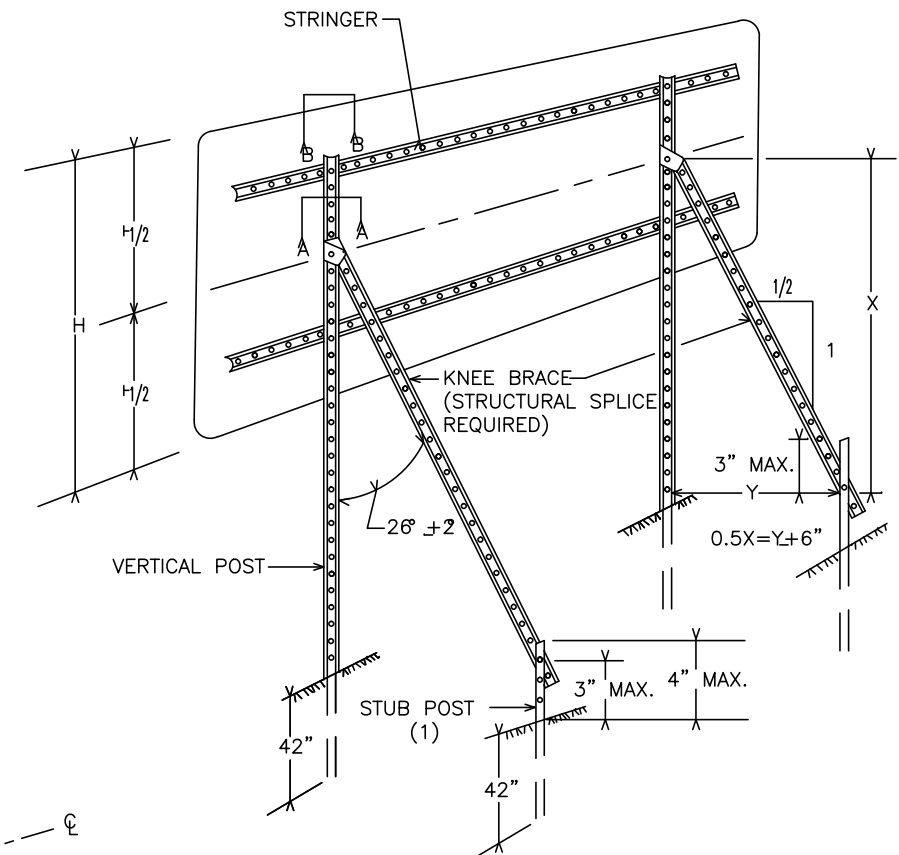
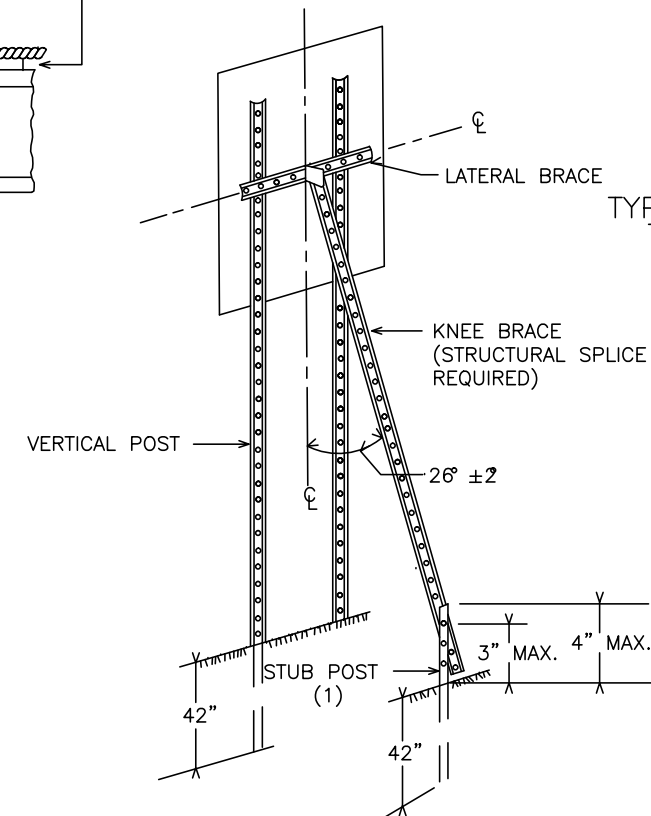
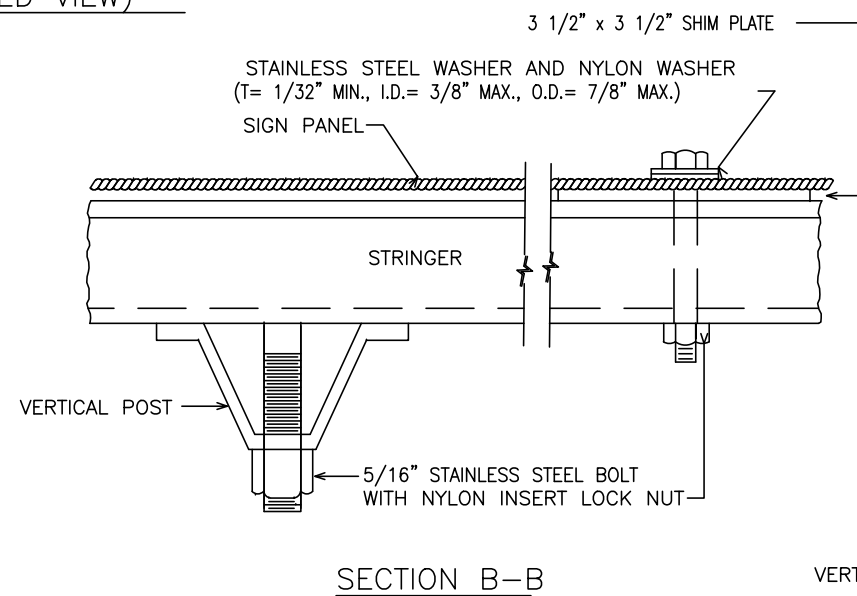
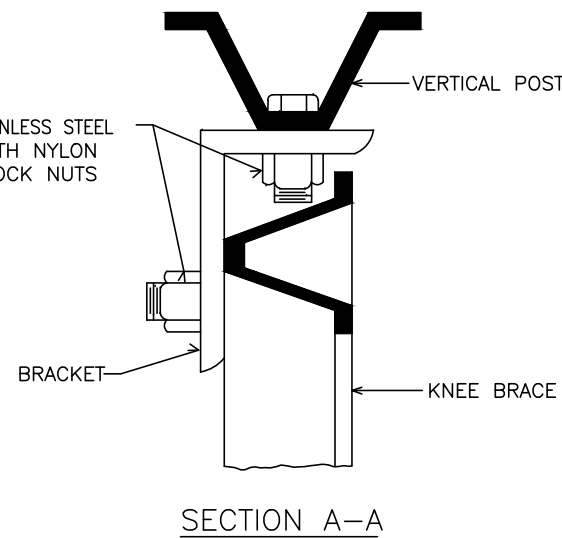


(STEEL MNDOT 3306 GALVANIZED PER MNDOT 3394)



(USE WHEN IT IS NECESSARY TO FABRICATE THE CORRECT LENGTH OF POST FROM TWO PIECES)

REVISED: 12-4-2013



(1) OFFSET STUB POST 1' TOWARD ROADWAY  
RELATIVE TO VERTICAL POST. ATTACH STUB  
POST AND KNEE BRACE BACK TO BACK.

## TYPE C & D SIGN STRUCTURAL DETAILS

Sheet 2 of 3

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

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**CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT DETAIL  
SHEET 2**

DISCIPLINE:

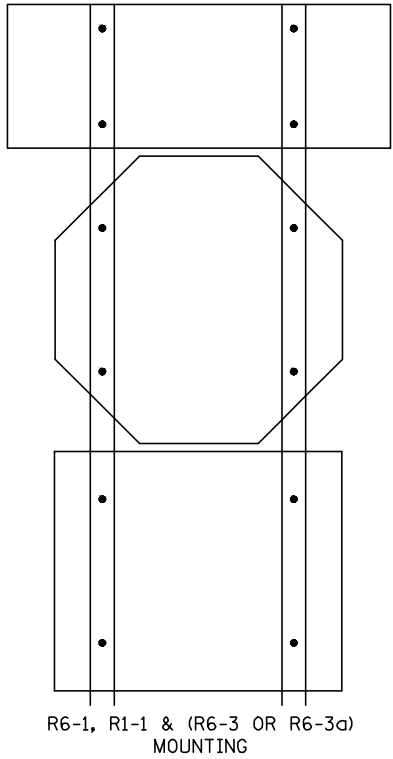
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SHEET NAME:

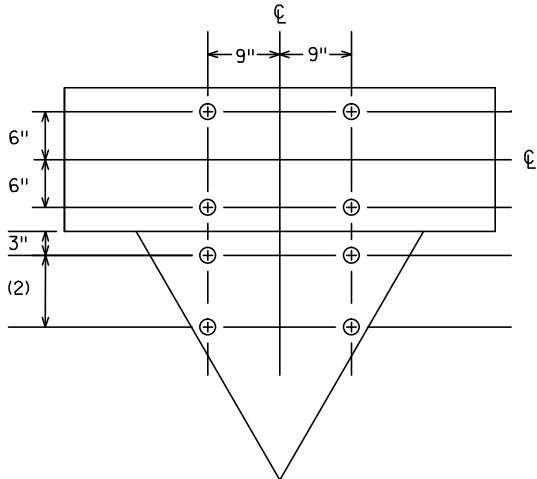
**E0-TFC-SIGN-STRP-DTL - 009**

**SHEET  
15  
OF  
266**

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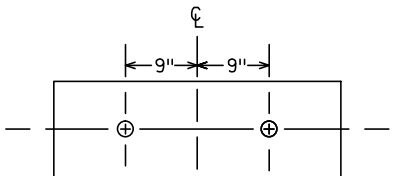


R6-1, R1-1 & (R6-3 OR R6-3a)  
MOUNTING

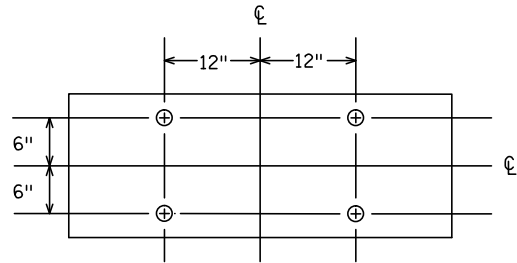


PUNCHING FOR R6-1 (54" x 18") AND  
R1-2 (36" x 36" x 36" OR 48" x 48" x 48")

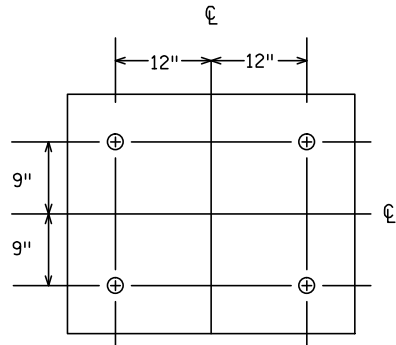
(2) 9" FOR 36" x 36" x 36"  
18" FOR 48" x 48" x 48"



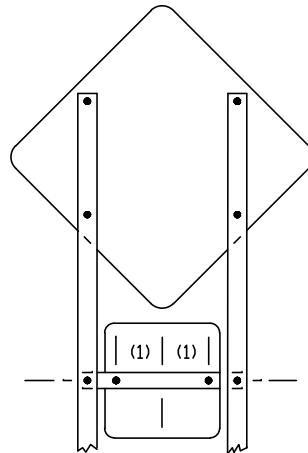
PUNCHING FOR R6-1 (36" x 12")



PUNCHING FOR R6-1 (54" x 18")

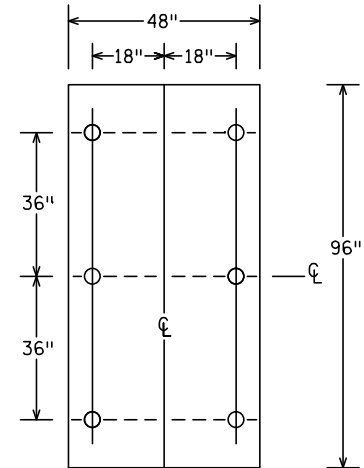


PUNCHING FOR R6-3 OR R6-3a (36" x 30")

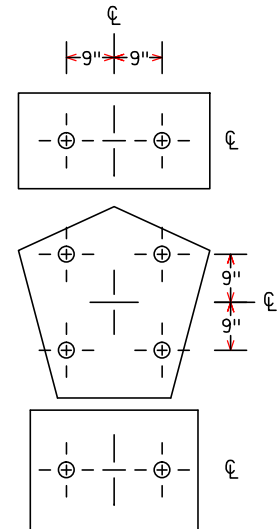


WARNING SIGN [30" x 30 OR 48" x 48"] AND  
WARNING PLAQUE [18" x 18" OR 30" x 30"]  
PUNCHING AND MOUNTING

(1) 6" FOR WARNING PLAQUE (18" x 18")  
12" FOR WARNING PLAQUE (30" x 30")



PUNCHING FOR R2-4b  
SPEED LIMIT



(M3-1A, M3-2A, M3-3A OR M3-4A) [36" x 18"] AND  
M1-6 [36" x 36"] AND  
(M5-1A, M5-2A, M6-1A, M6-2A, M6-3A M6-4A, M6-5A OR M6-6A) [30" x 24"]  
PUNCHING

## TYPE C & D SIGN STRUCTURAL DETAILS

Sheet 3 of 3

REVISED: 2-13-2015\_

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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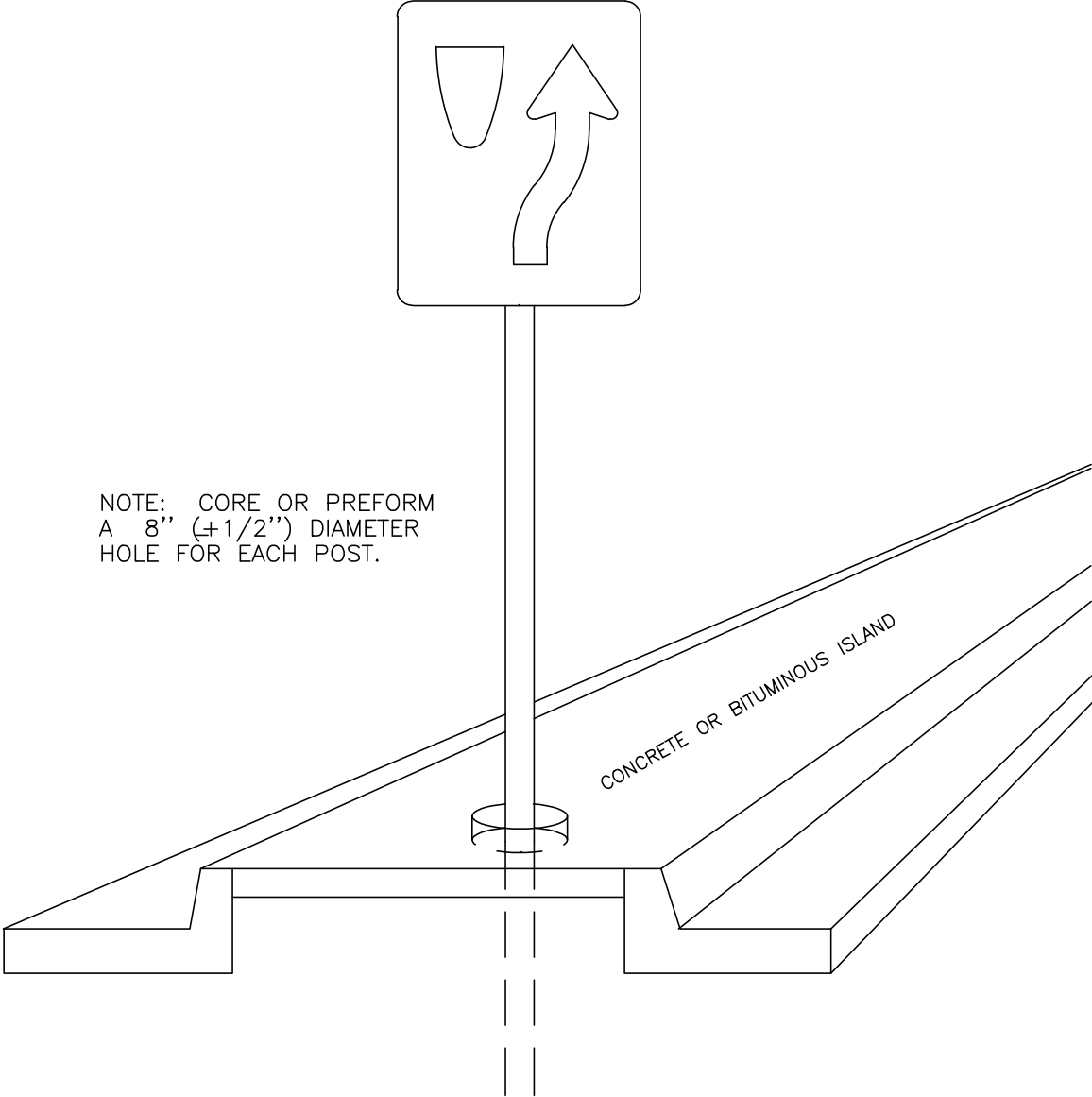
**CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT DETAIL  
SHEET 3**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E0-TFC-SIGN-STRP-DTL - 010**

**SHEET  
16  
OF  
266**

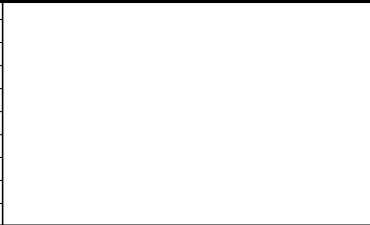
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FLANGED U-CHANNEL POST MOUNTED THROUGH CONCRETE  
MEDIAN OR SIDEWALK

REVISED: 5-28-2015

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



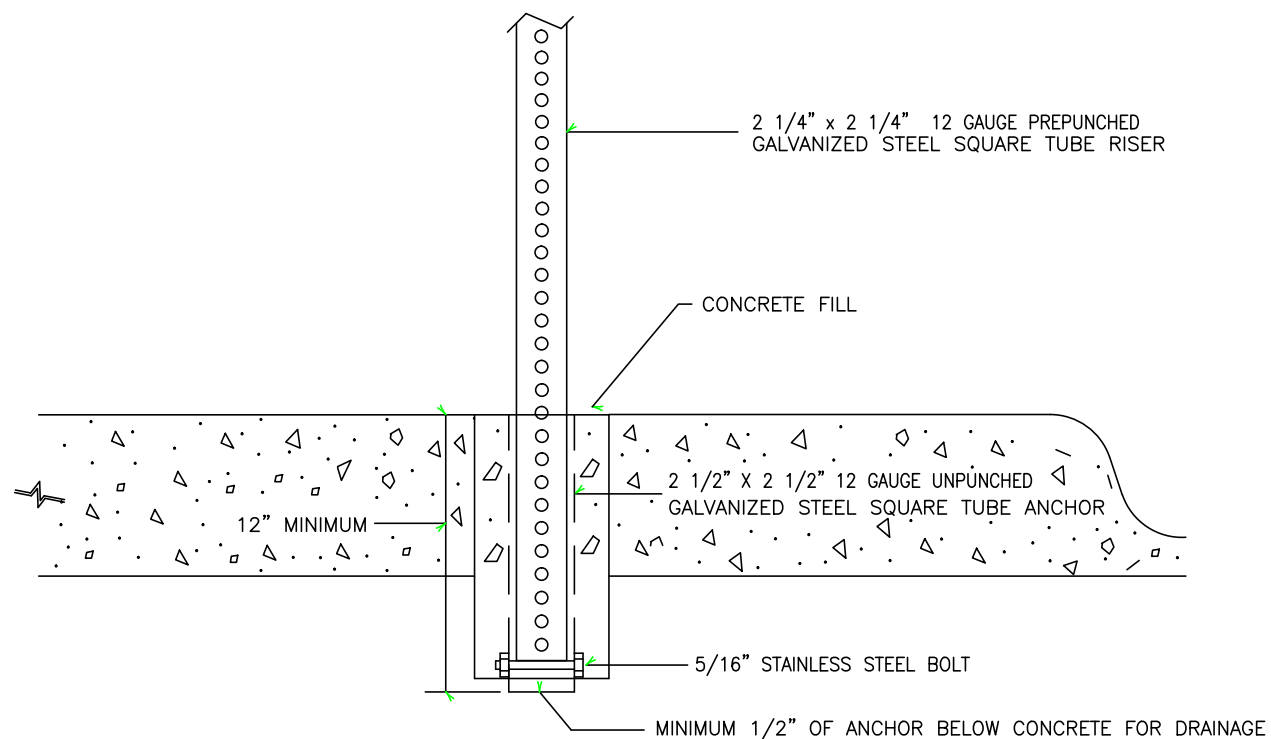
CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT DETAIL  
SHEET 4

DISCIPLINE: TRAFFIC  
SHEET NAME: E0-TFC-SIGN-STRP-DTL - 011

SHEET  
17  
OF  
266



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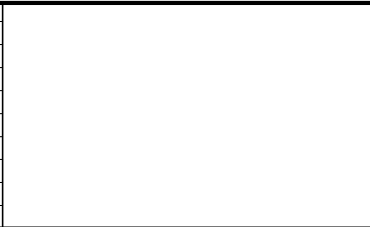


- NOTES;
- 1. DRILL AN 8" DIAMETER HOLE THE FULL DEPTH OF THE ANCHOR.
  - 2. DRILL 3/8" HOLES ON OPPOSITE SIDES OF THE UNPUNCHED GALVANIZED STEEL SQUARE TUBE ANCHOR APPROX. 1" FROM THE BOTTOM OF THE ANCHOR. INSERT A 5/16" STAINLESS STEEL BOLT THROUGH THE HOLES AND SECURE WITH A STAINLESS STEEL LOCK NUT WITH NYLON INSERT. THE PREPUNCHED GALVANIZED STEEL SQUARE TUBE RISER (TO BE INSERTED INSIDE THE UNPUNCHED GALVANIZED SQUARE TUBE ANCHOR) WILL REST ON BOLT.
  - 3. INSERT THE ANCHOR IN THE HOLE.
  - 4. AFTER INSTALLATION OF THE UNPUNCHED GALVANIZED STEEL SQUARE TUBE ANCHOR, FILL THE HOLE WITH A CONCRETE MIX APPROVED BY THE ENGINEER AND LEVEL OFF THE TOP OF CONCRETE.
  - 5. MAXIMUM SIGN PANEL SIZE IS 42" WIDE X 48" HIGH.
  - 6. SIGN PANEL TO BE MOUNTED 7 FT ABOVE THE GROUND.

TYPE C SIGNS, DELINEATORS &  
MARKERS IN CONCRETE

REVISED: 5-28-2015

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15

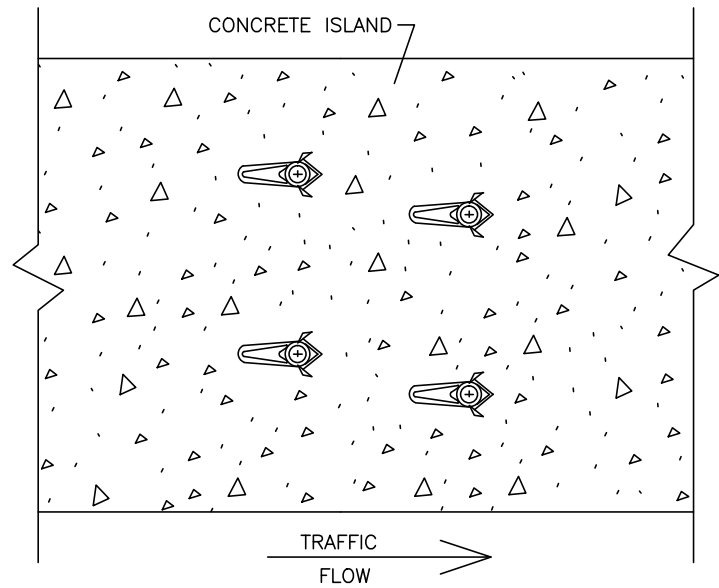


CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT DETAIL  
SHEET 5

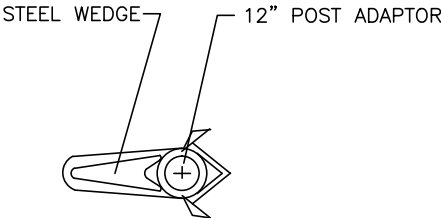
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SHEET NAME: E0-TFC-SIGN-STRP-DTL - 012

SHEET  
18  
OF  
266

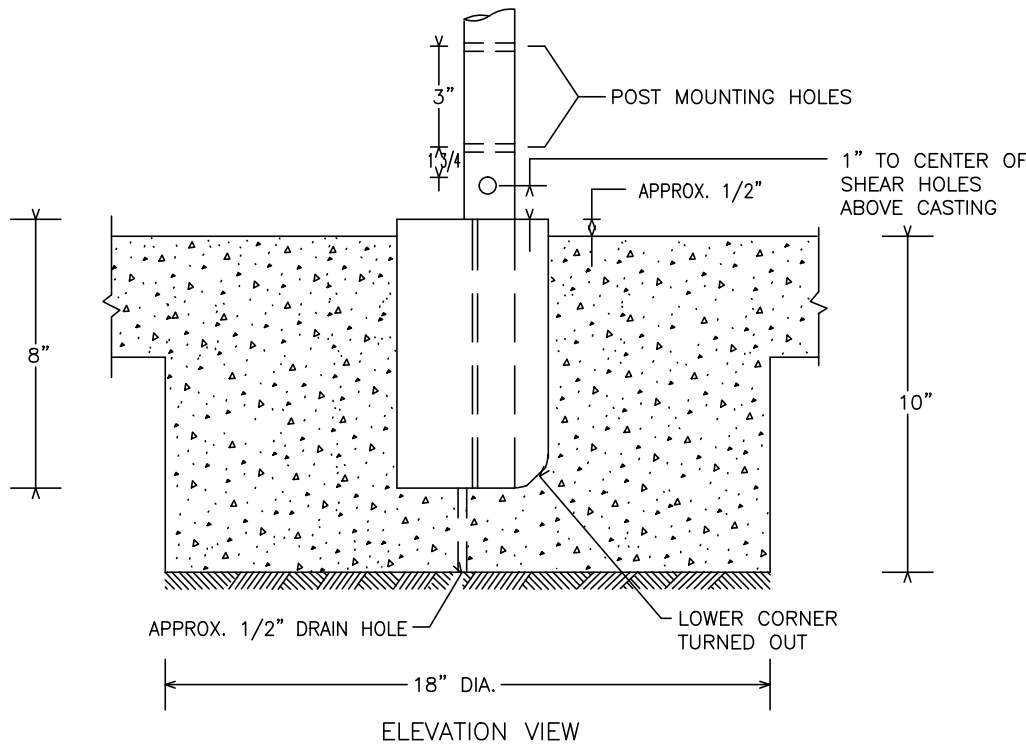
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TOP VIEW  
2 POSTS SIGN WITH 2 KNEE BRACES



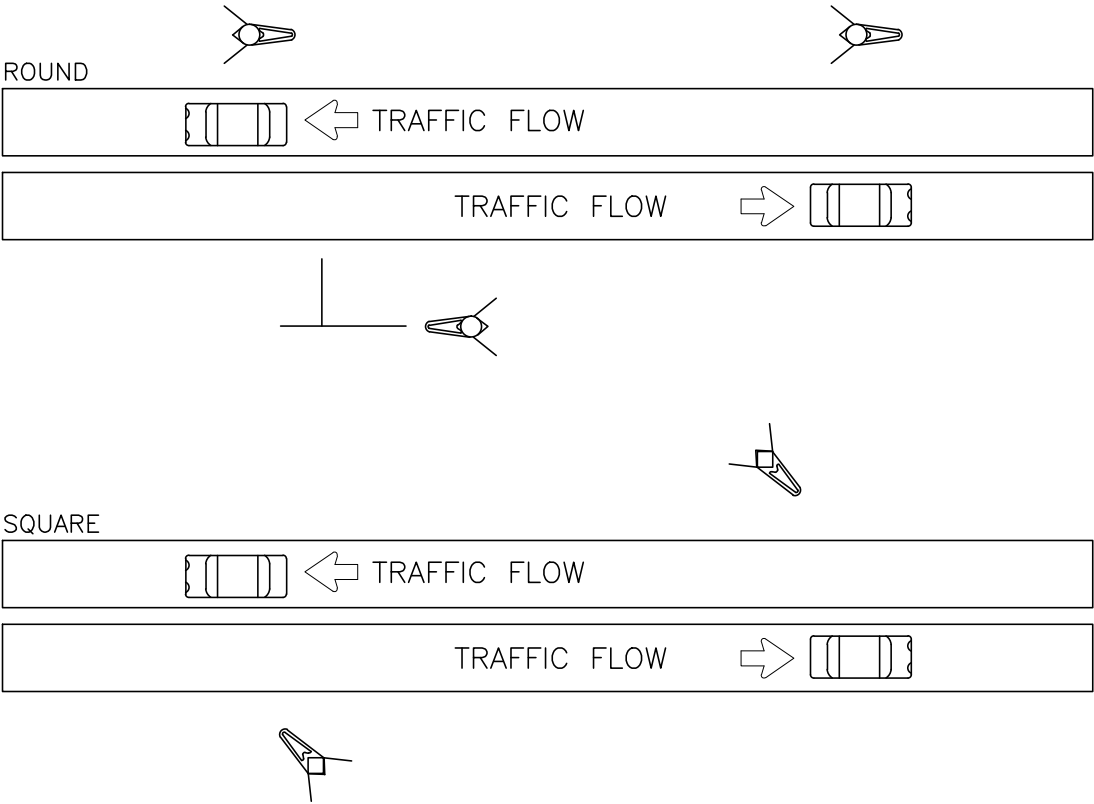
TOP VIEW - LOCKING DEVICE



REVISED: 10-2-2013

ROADSIDE OR MEDIAN PLACEMENT  
FOR ROUND AND U CHANNEL SOCKETS

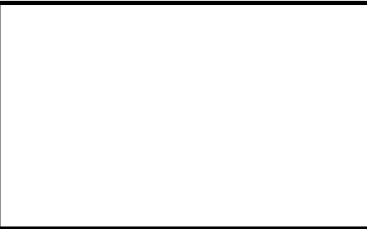
THE AXIS OF THE SIGNPOST SUPPORT WEDGE SHOULD ALIGN PARALLEL TO THE ROAD  
FOR MAXIMUM RESISTANCE TO IMPACT AS SHOWN BELOW:



- GENERAL NOTES:
1. SEAL BOTTOM OF SIGNPOST SUPPORT WITH DUCT TAPE BEFORE INSTALLATION IN NEW CONCRETE.
  2. SIGNPOST SUPPORTS SHALL BE INSTALLED PLUMB AND APPROXIMATELY 1/2" ABOVE THE TOP OF THE CONCRETE SURFACE.

SIGNPOST SUPPORT IN CONCRETE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT DETAIL  
SHEET 6

DISCIPLINE: TRAFFIC  
SHEET NAME: E0-TFC-SIGN-STRP-DTL - 013

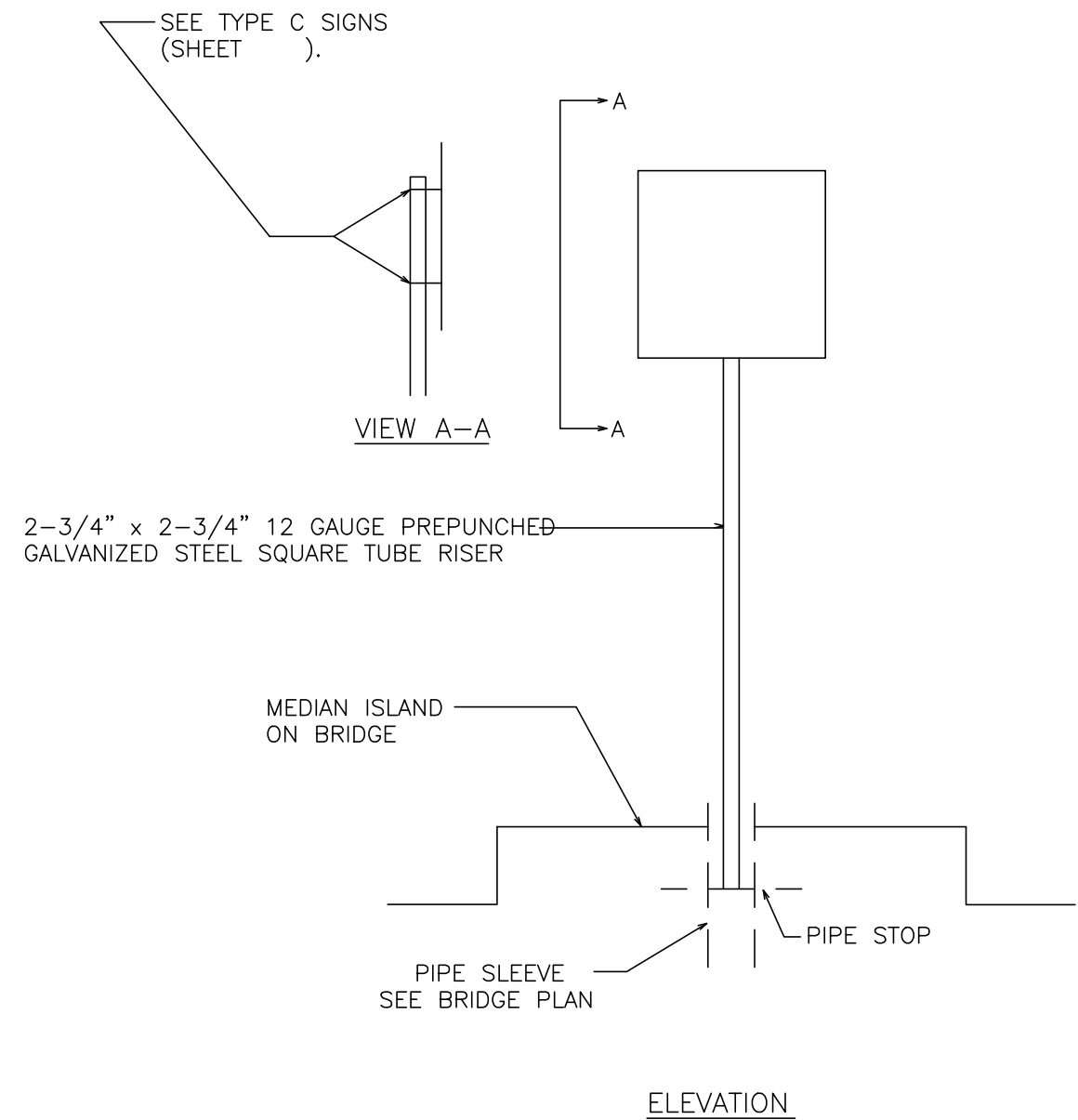
SHEET

19

OF

266

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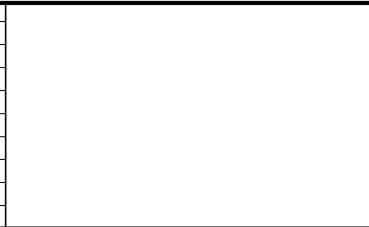


SEE TYPE C & D SIGN DETAILS  
FOR NOTES AND DETAILS NOT SHOWN.

TYPE C SIGNS MOUNTED ON  
BRIDGE MEDIAN ISLAND

REVISED: 10-2-2013

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MNDOT DETAIL  
SHEET 7

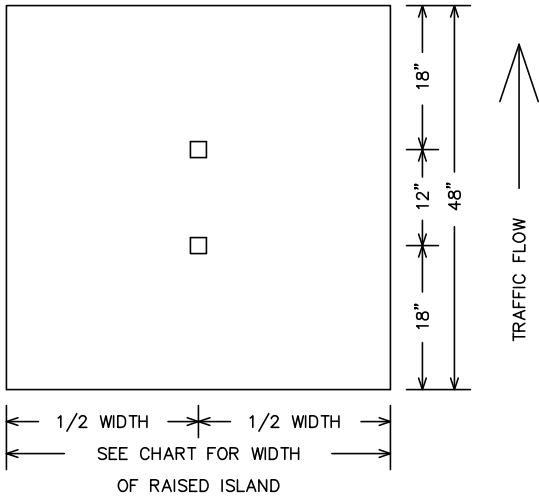
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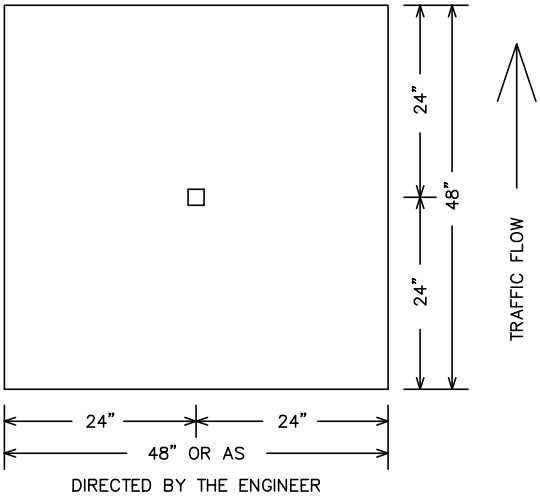
SHEET  
20  
OF  
266

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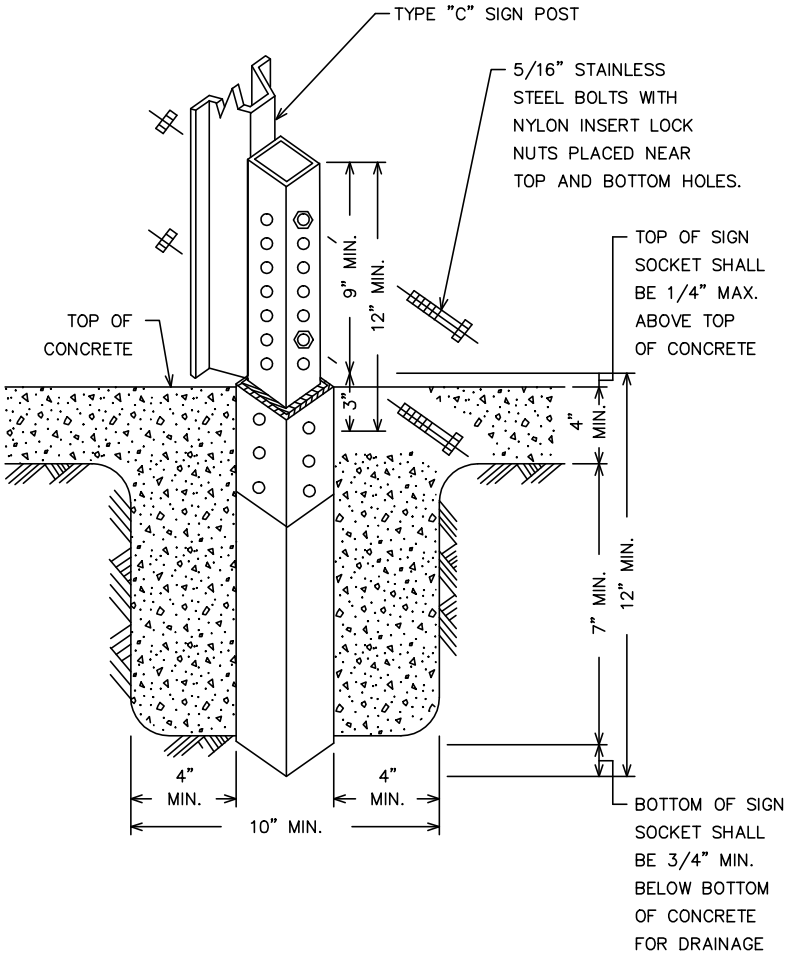
CONCRETE PAD FOR DOUBLE SIGN SOCKETS  
WHEN LOCATED ON RAISED ISLANDS  
WITH LANDSCAPE PAVER SURFACING  
(NO SCALE)



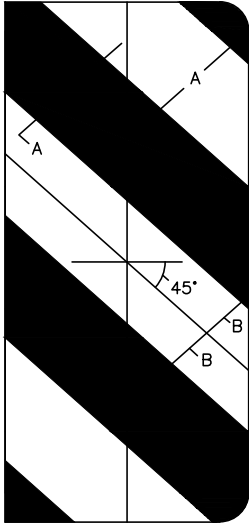
CONCRETE PAD FOR SIGN SOCKETS  
IN ALL OTHER LOCATIONS  
WITH LANDSCAPE PAVER SURFACING  
(NO SCALE)



TYPICAL SIGN SOCKET DETAIL  
(NO SCALE)

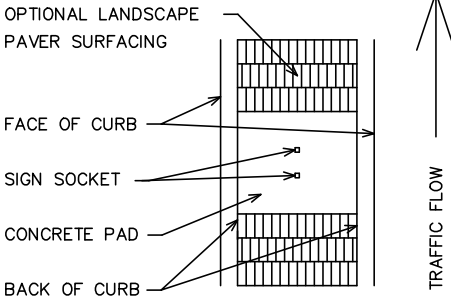


REAR DELINEATION FOR R4-7  
(NO SCALE)



CONCRETE PAD FOR SIGN SOCKETS	
WIDTH OF RAISED ISLAND (*)	WIDTH OF CONCRETE PAD REQUIRED
LESS THAN 12'	VARIABLE (**)
12' OR MORE	48" (***)

- (\*) AS MEASURED FROM FACE OF CURB TO FACE OF CURB.  
(\*\*) THE CONCRETE SHALL BE PLACED FROM BACK OF CURB TO BACK OF CURB, OR AS DIRECTED BY THE ENGINEER.  
(\*\*\*) OR AS DIRECTED BY THE ENGINEER.



- NOTES:
- ALL SIGNS LOCATED WITHIN CONCRETE OR LANDSCAPE PAVER SURFACING SHALL BE INSTALLED WITH A SIGN SOCKET, AS DIRECTED BY THE ENGINEER.
  - ALL SIGNS LOCATED WITHIN CONCRETE OR LANDSCAPE PAVER SURFACING AND ON A RAISED ISLAND SHALL BE INSTALLED WITH TWO SIGN SOCKETS PLACED 12" APART ON CENTER, AS DIRECTED BY THE ENGINEER.
  - SIGN SOCKETS AND SIGN SOCKET CAPS SHALL BE FURNISHED BY HENNEPIN COUNTY AT NO COST TO THE CONTRACTOR. THE CONTRACTOR SHALL INSTALL THE SIGN SOCKETS, SIGN SOCKET CAPS AND ALL REQUIRED CONCRETE, AS DIRECTED BY THE ENGINEER UNDER THE PAY ITEM INSTALL SIGN SOCKET.
  - THE TOP OF THE CONCRETE SHALL BE FORMED IN A NEAT MANNER TO ALLOW WATER TO DRAIN AWAY FROM THE SIGN SOCKET, AS DIRECTED BY THE ENGINEER.
  - SAWING AND/OR DRILLING OF CONCRETE SURFACING WHICH MAY BE REQUIRED SHALL BE INCIDENTAL TO THE INSTALLATION OF THE SIGN SOCKET, AS DIRECTED BY THE ENGINEER.
  - WHEN DOUBLE SIGN SOCKETS ARE INSTALLED ONE SHALL BE A SPARE FOR FUTURE USE, AS DIRECTED BY THE ENGINEER.

REAR DELNEATION FOR R4-7 DIMENSIONS			
SIZE	12"x 30"	15"x 36"	18"x 48"
MOUNT ON	24"x 30"	30"x 36"	36"x 48"
RADIUS	1.50"	1.88"	2.25"
A	5.00"	6.00"	6.00"
B	2.50"	3.00"	3.00"

COLOR: YELLOW & BLACK DG3 SIGN SHEETING ONLY.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



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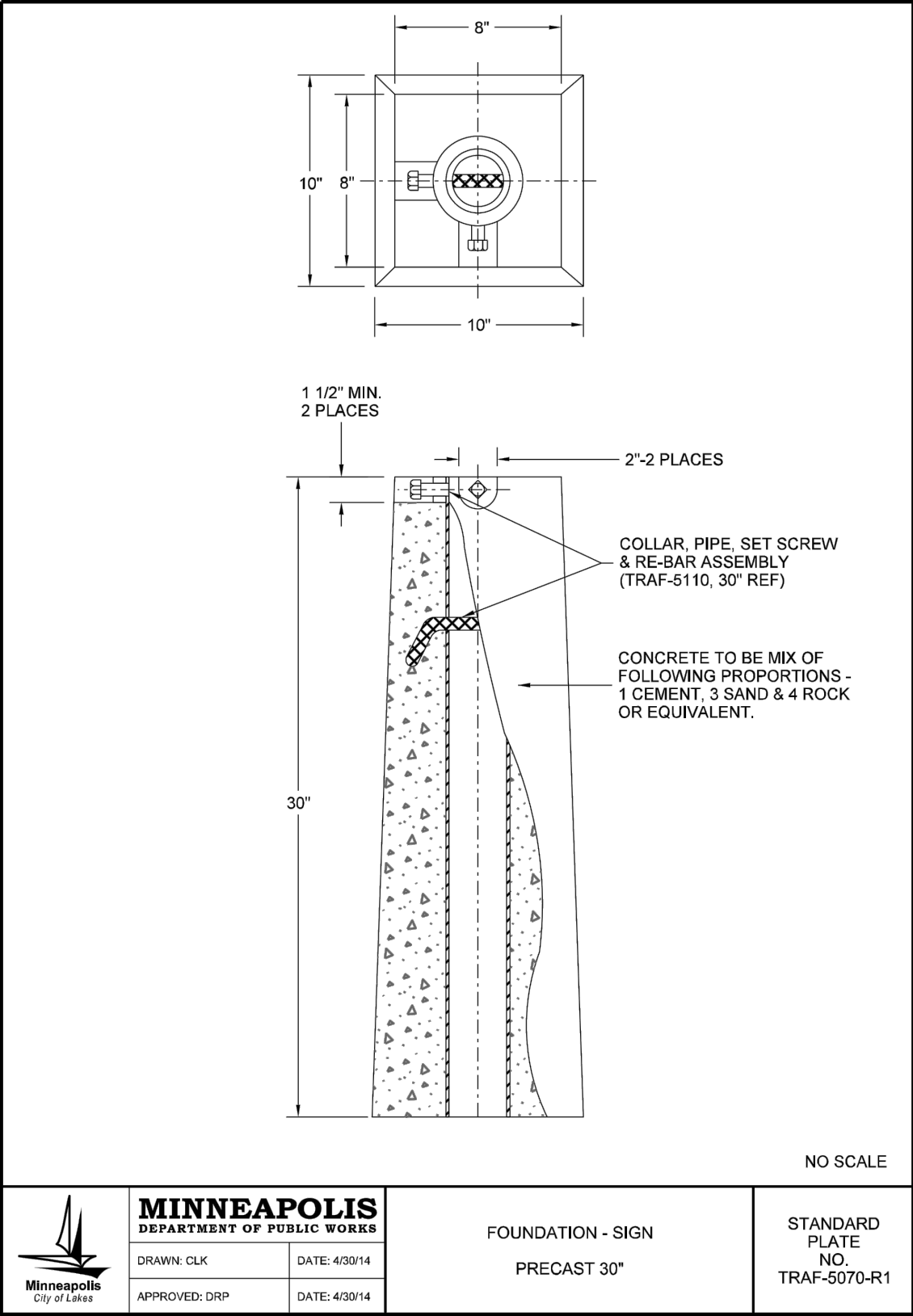
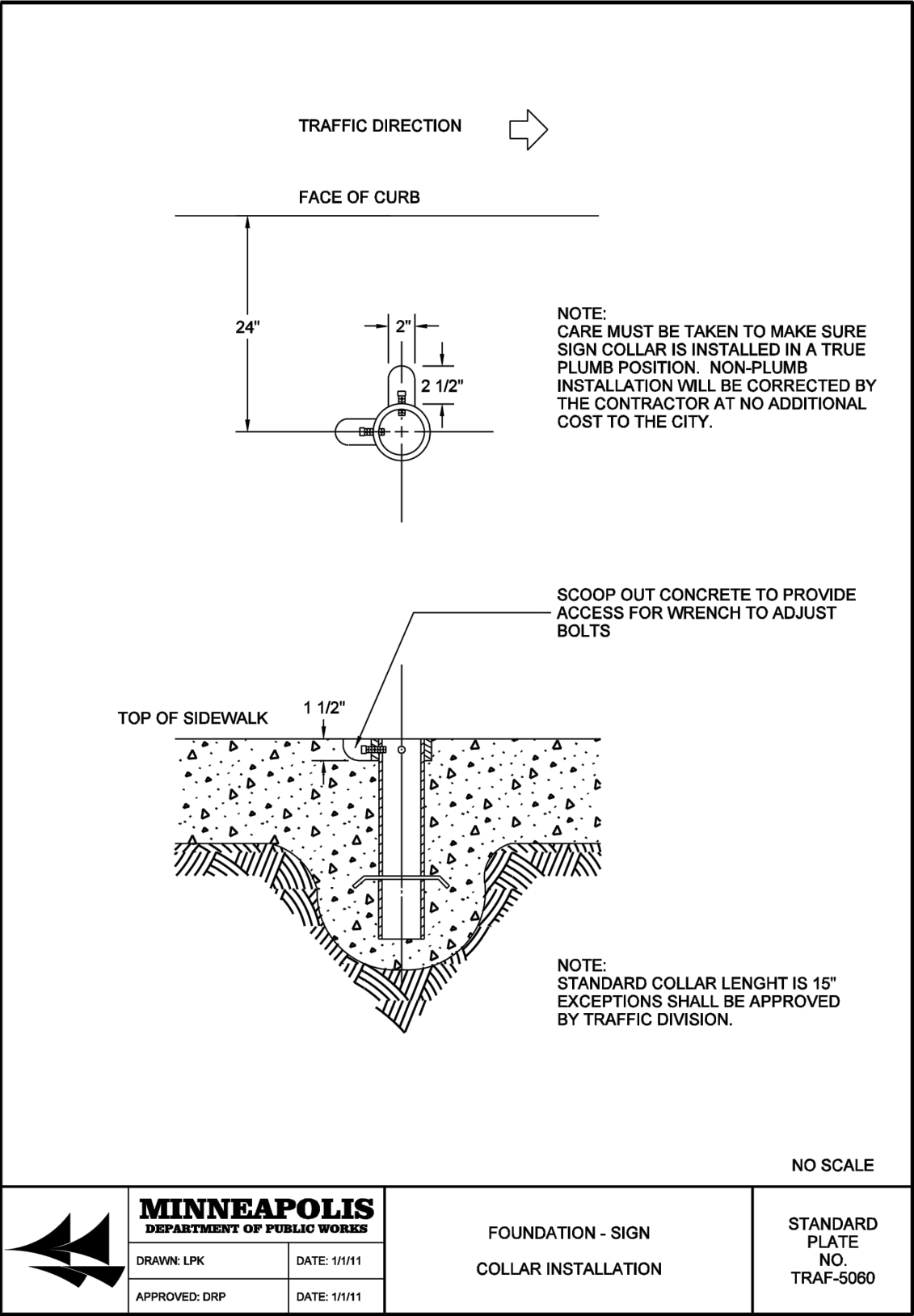
**CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
HENNEPIN COUNTY DETAIL**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E0-TFC-SIGN-STRP-DTL - 015**

**SHEET**  
**21**  
**OF**  
**266**

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



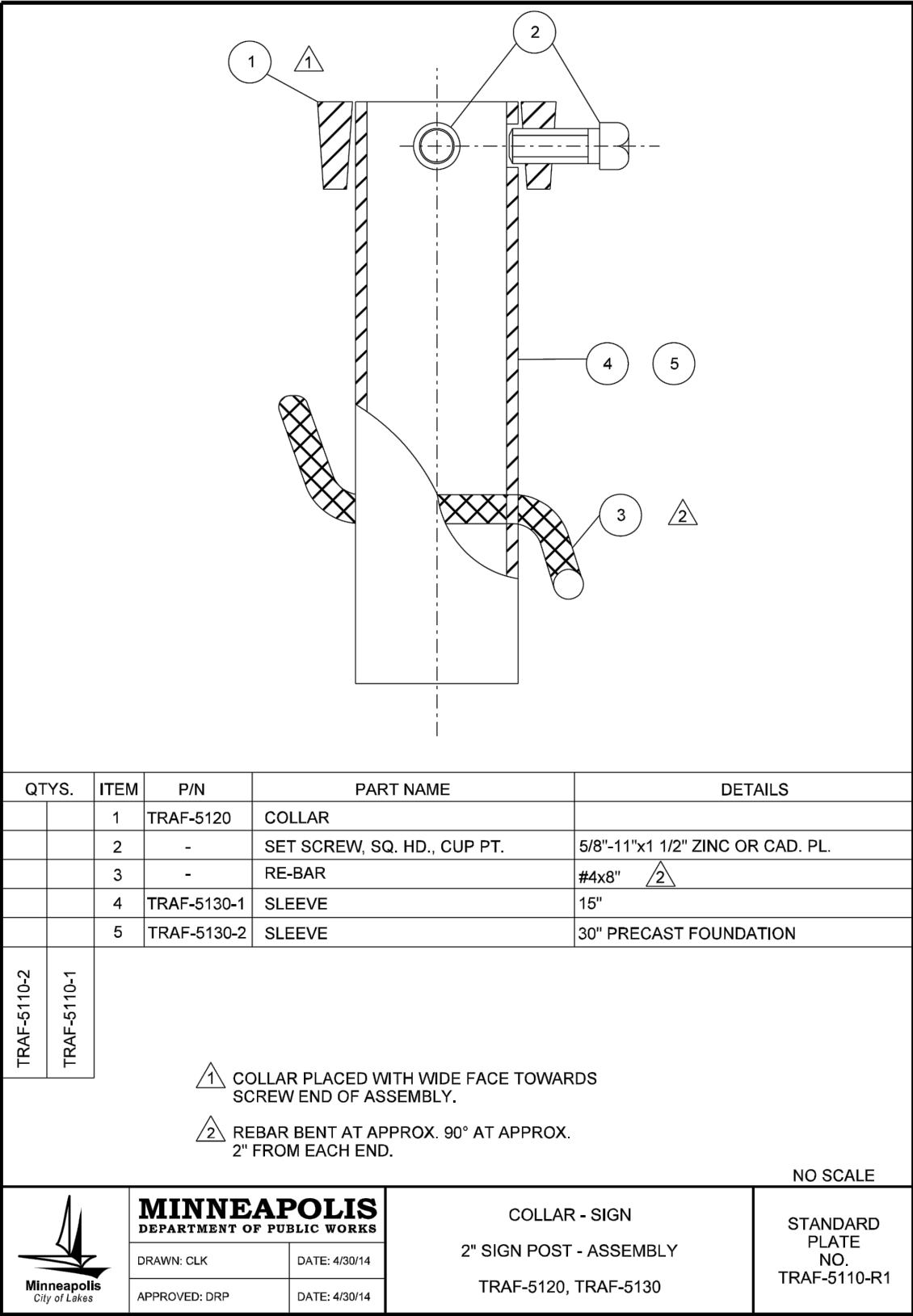
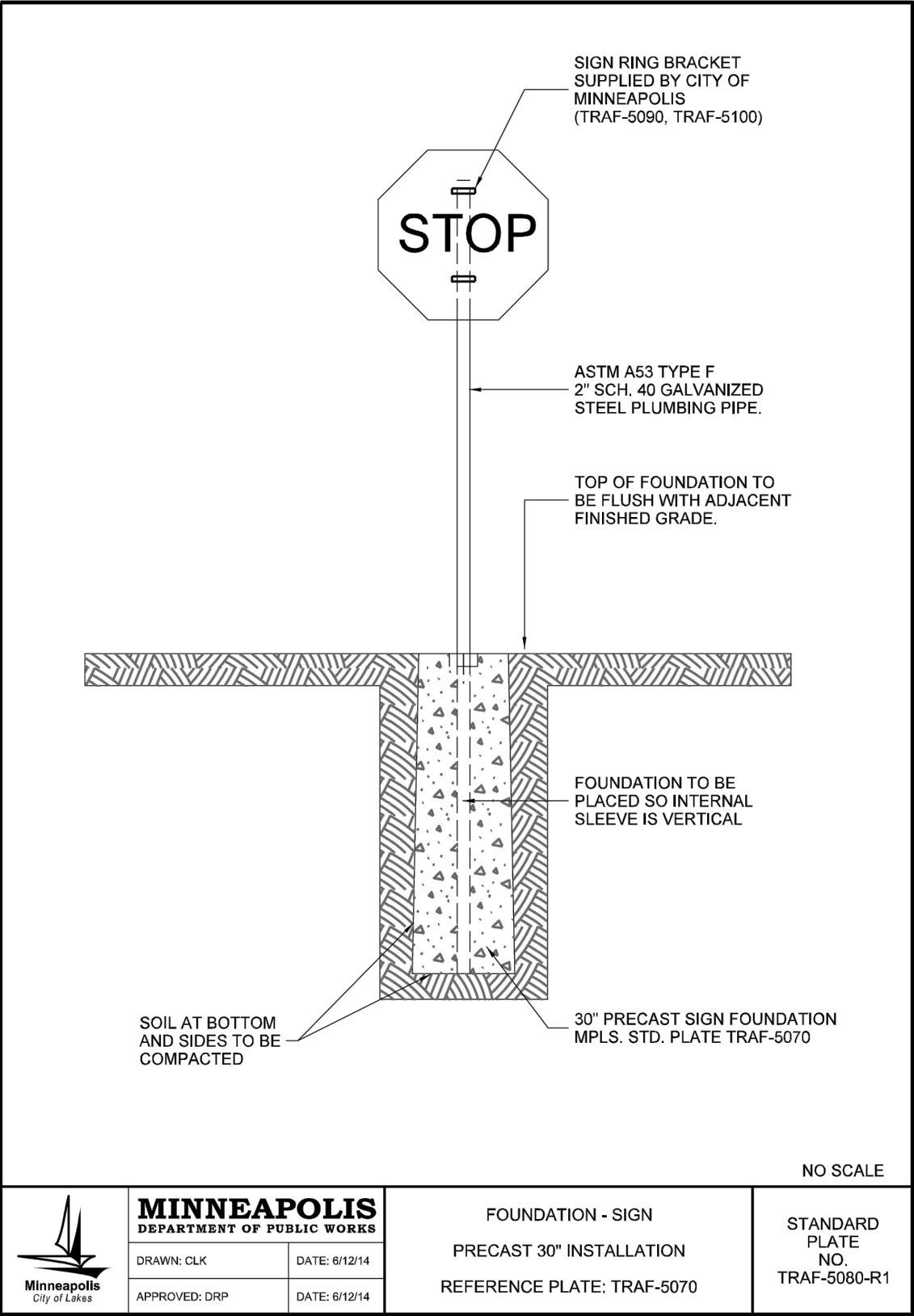
**CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MINNEAPOLIS DETAIL  
SHEET 1**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E0-TFC-SIGN-STRP-DTL - 016**

**SHEET  
22  
OF  
266**



Sep. 21 2015 06:37 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\DETAILS\E0-TFC-SIGN-STRP-DTL.dwg By: brian.villa



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

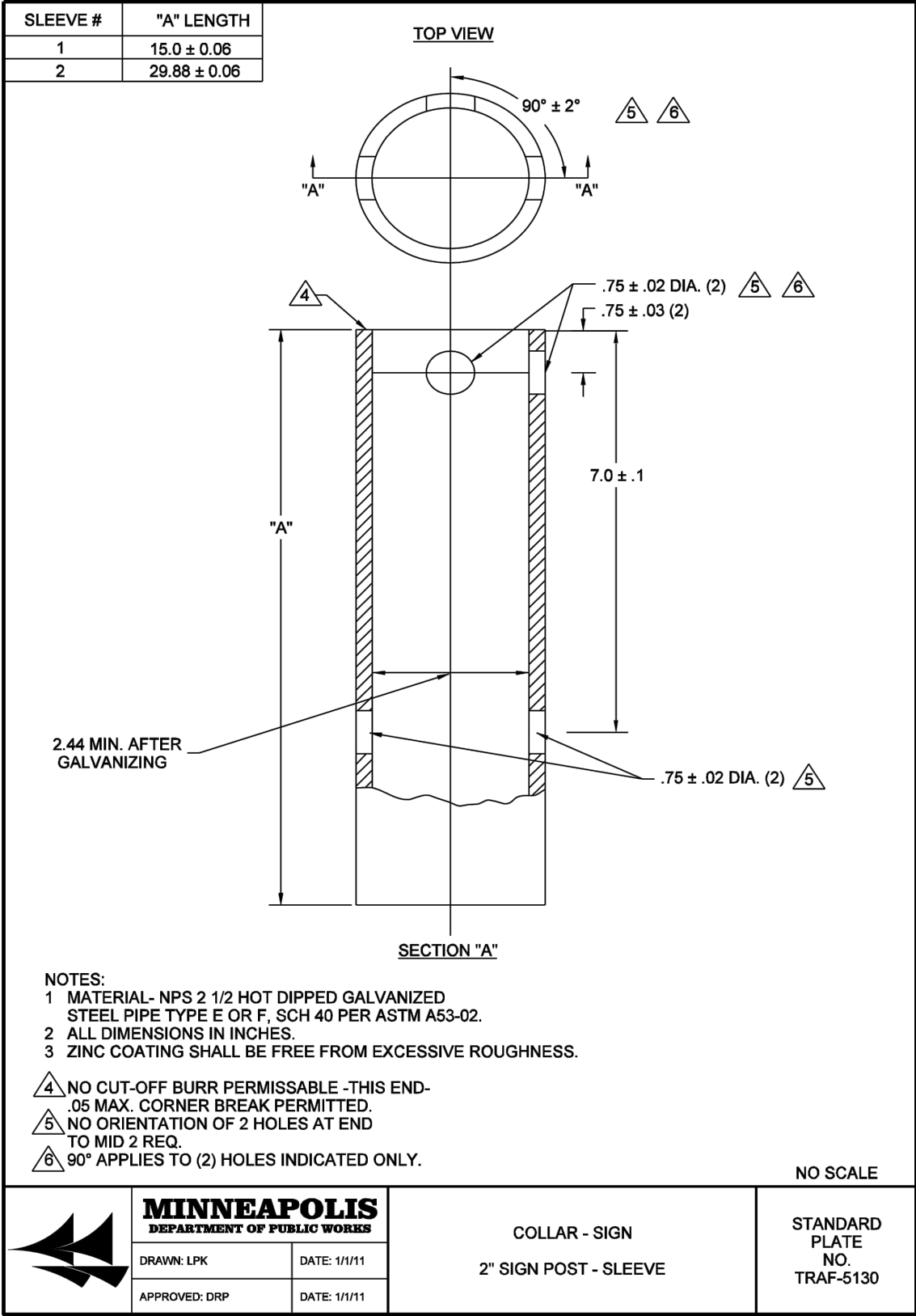
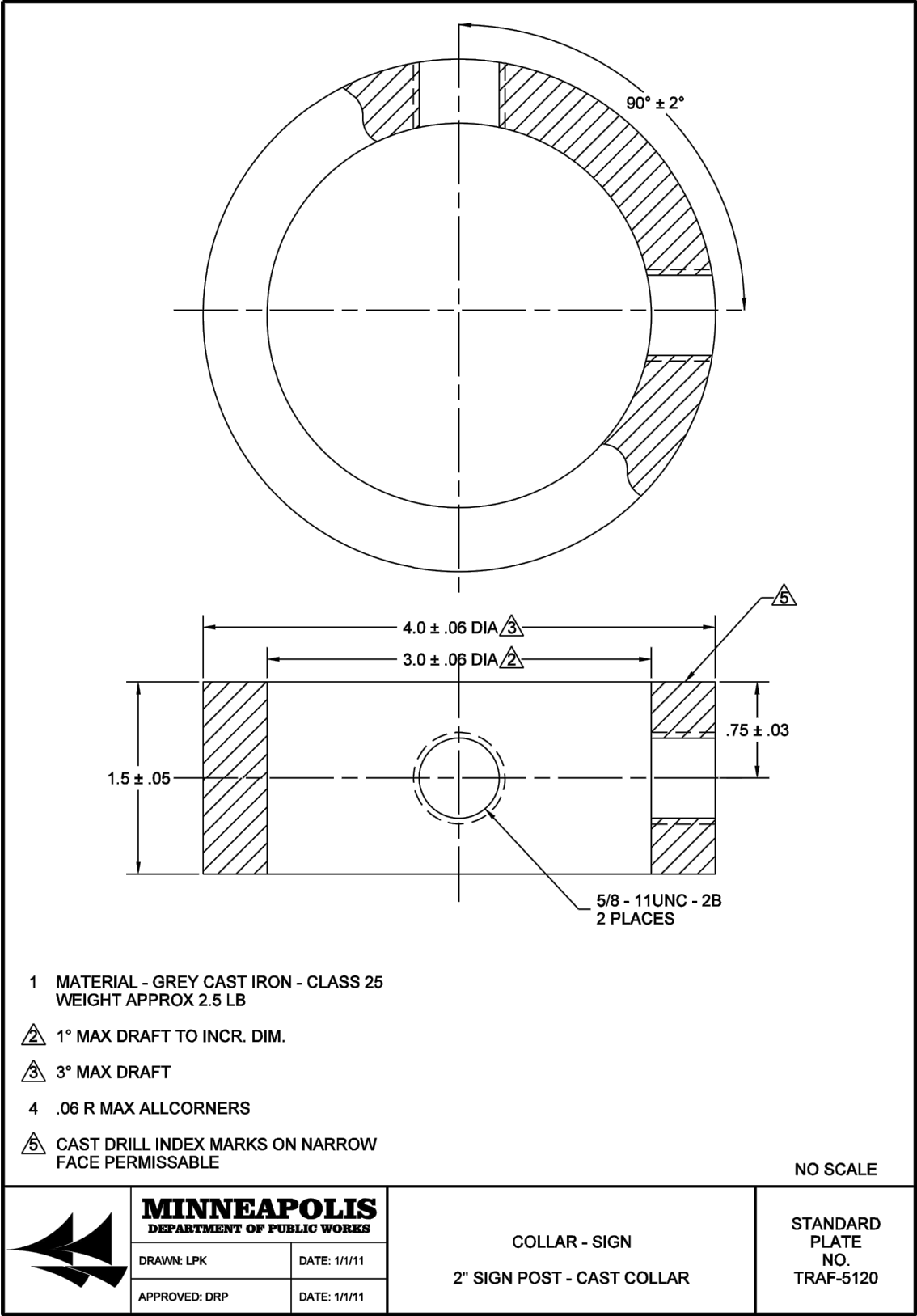


CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MINNEAPOLIS DETAIL  
SHEET 2

DISCIPLINE: TRAFFIC SHEET NAME: E0-TFC-SIGN-STRP-DTL - 017

SHEET  
23  
OF  
266

Sep. 21 2015 06:37 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\DETAILS\E0-TFC-SIGN-STRP-DTL.dwg By: brian.villa



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



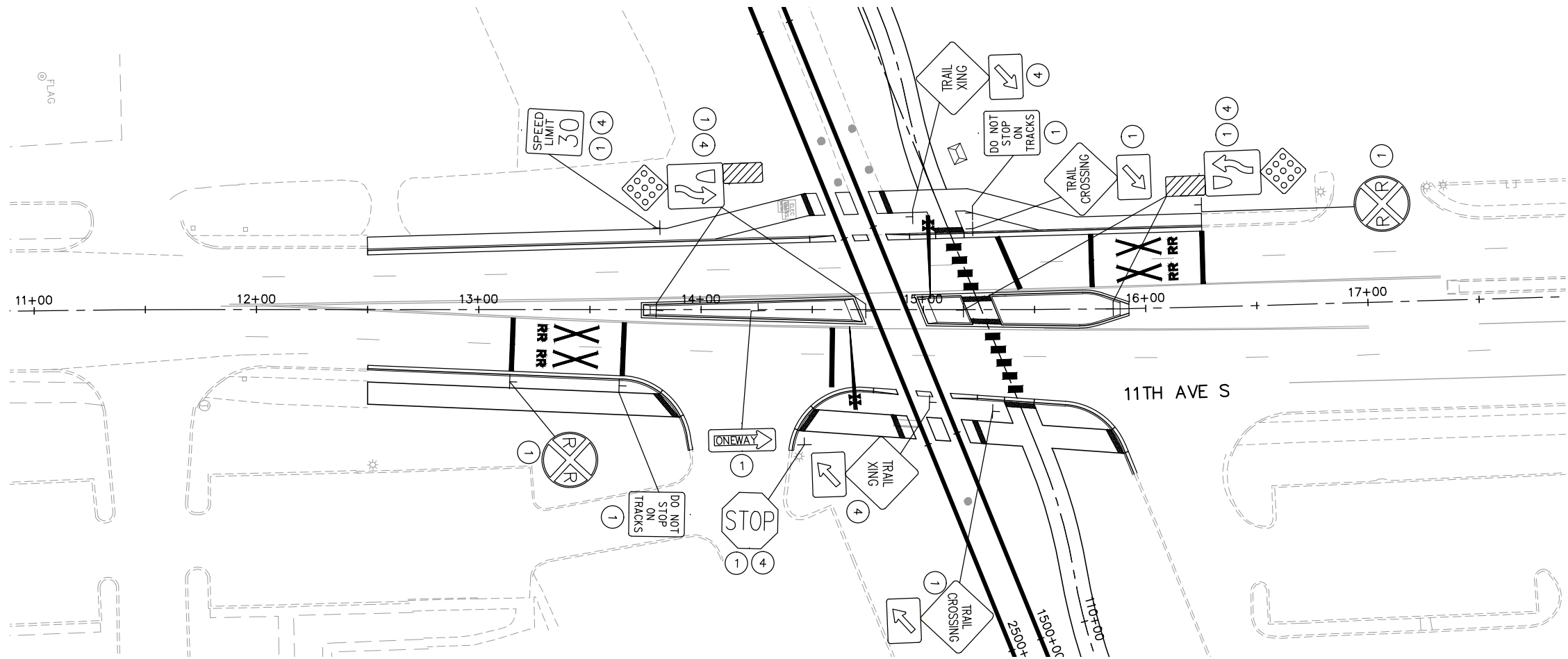
CIVIL EAST - VOLUME 10  
SIGNING AND STRIPING  
MINNEAPOLIS DETAIL  
SHEET 3

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E0-TFC-SIGN-STRP-DTL - 018

SHEET  
24  
OF  
266



Sep. 21 2015 07:43 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-SIGN-STRIPE.dwg By: catlin.wotruba





NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





60% SUBMISSION - 09/28/15

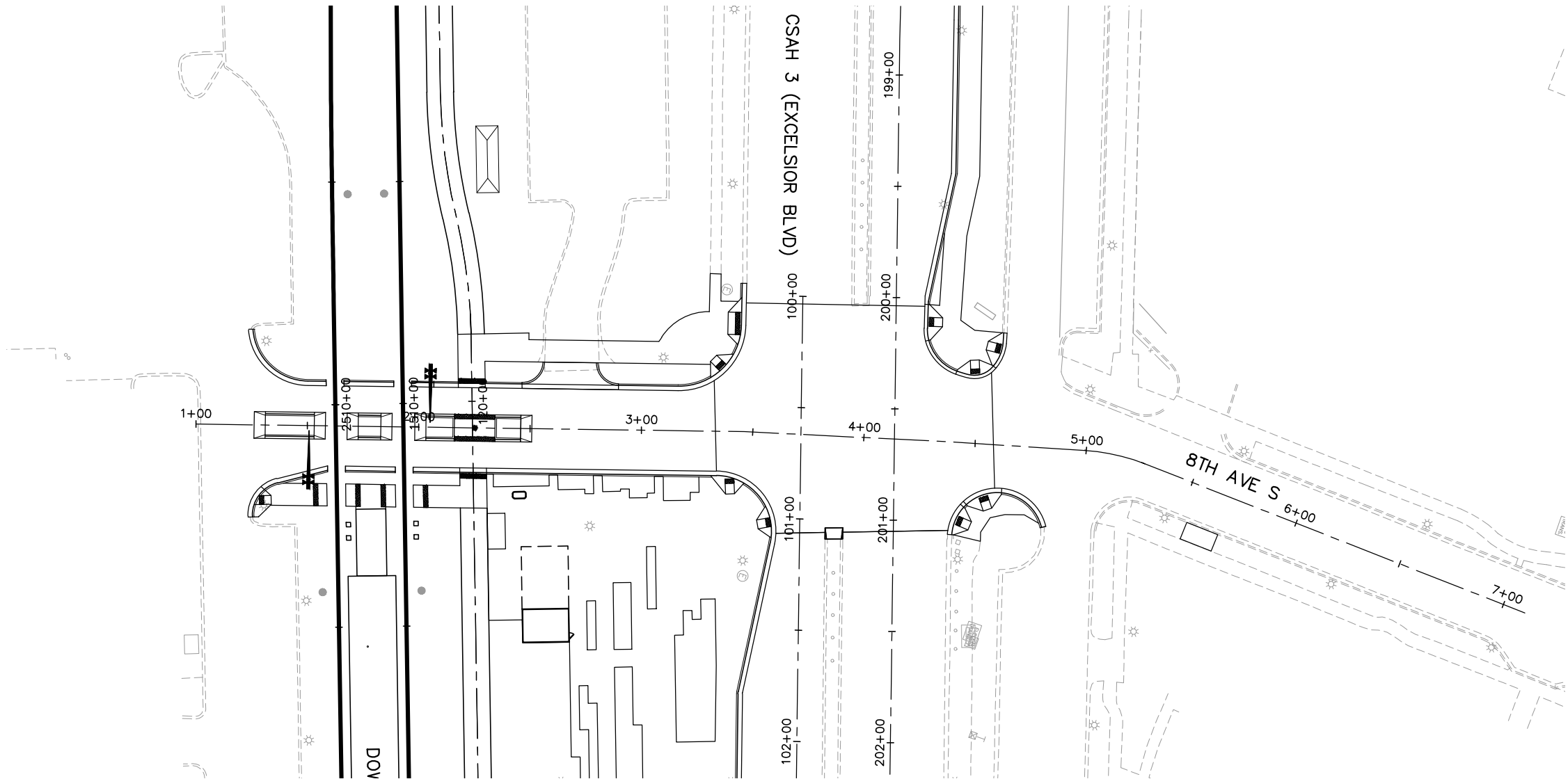
CIVIL EAST - VOLUME 10  
11TH AVE S  
SIGNING AND STRIPING  
STA. 11+00 TO STA. 18+00

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E1-TFC-SIGN-STRIPE - 001

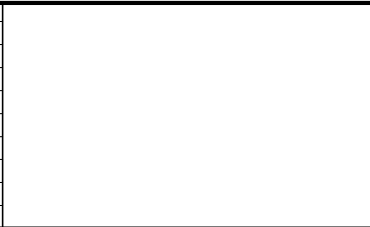
SHEET  
25  
OF  
266

Sep. 21 2015 07:43 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-SIGN-STRIPE.dwg By: catlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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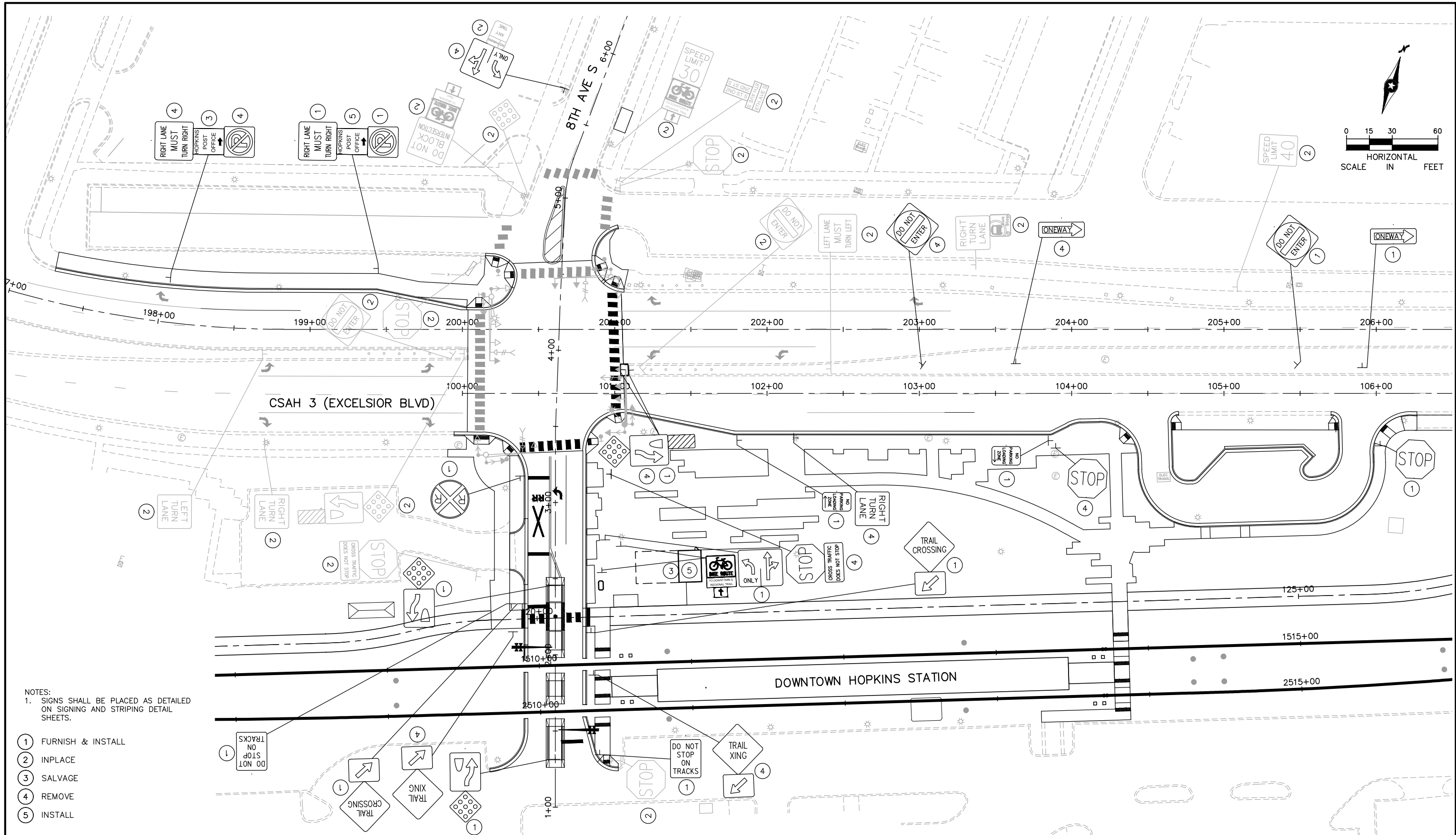
CIVIL EAST - VOLUME 10  
8TH AVE S  
SIGNING AND STRIPING  
STA. 1+00 TO STA. 7+00

DISCIPLINE: TRAFFIC

SHEET NAME: E1-TFC-SIGN-STRIPE - 002

SHEET  
26  
OF  
266

Sep. 21 2015 07:43 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-SIGN-STRIPE.dwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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CIVIL EAST - VOLUME 10  
WB CSAH 3 (EXCELSIOR BLVD)  
SIGNING AND STRIPING  
STA. 197+00 TO STA. 206+50

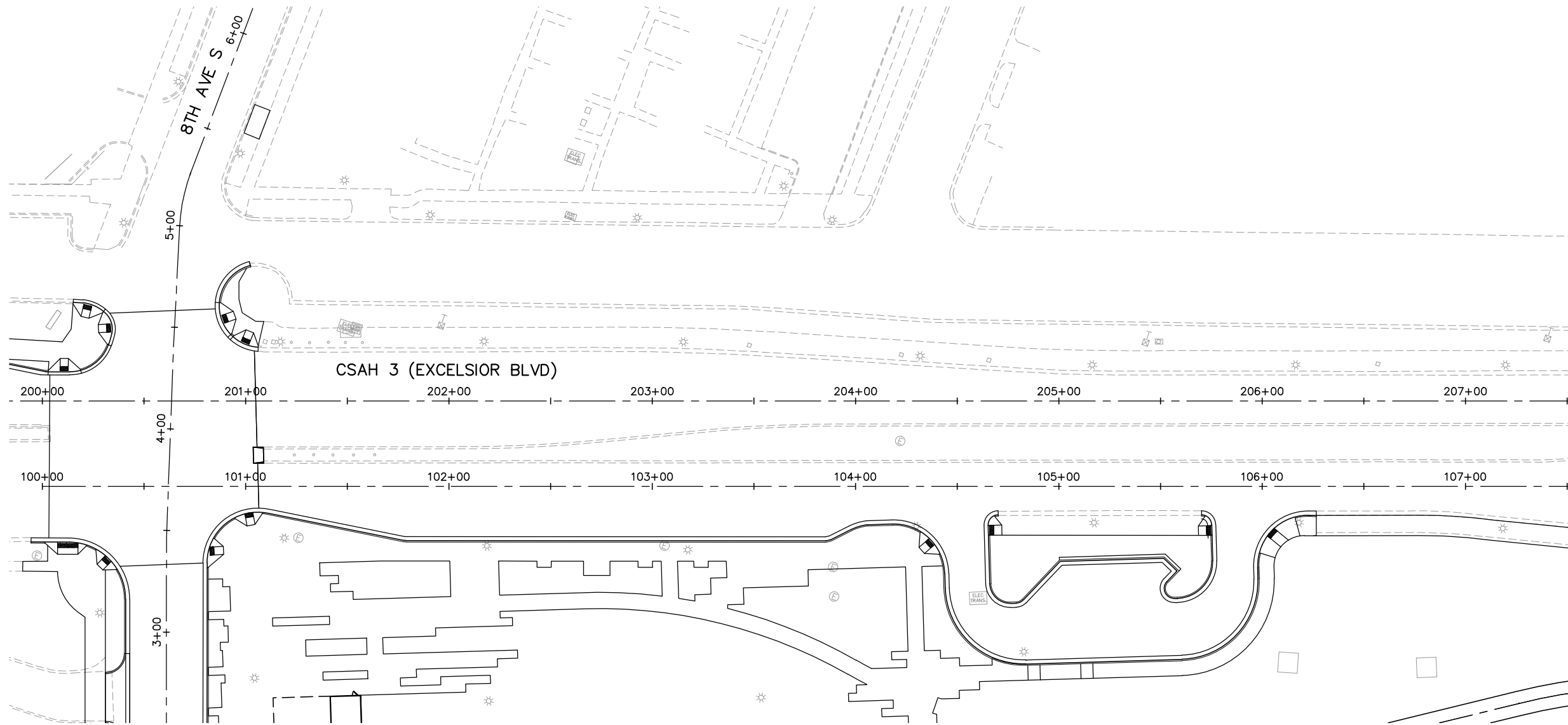
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E1-TFC-SIGN-STRIPE - 003

SHEET  
27  
OF  
266

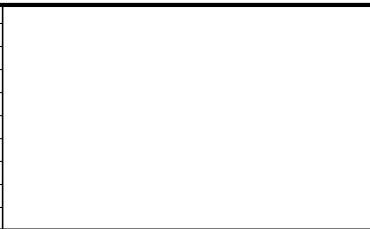


Sep. 21 2015 07:43 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-SIGN-STRIPE.dwg By: catlin.wotruba



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60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**EB CSAH 3 (EXCELSIOR BLVD)**  
**SIGNING AND STRIPING**  
**STA. 100+00 TO STA. 107+50**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E1-TFC-SIGN-STRIPE - 004**

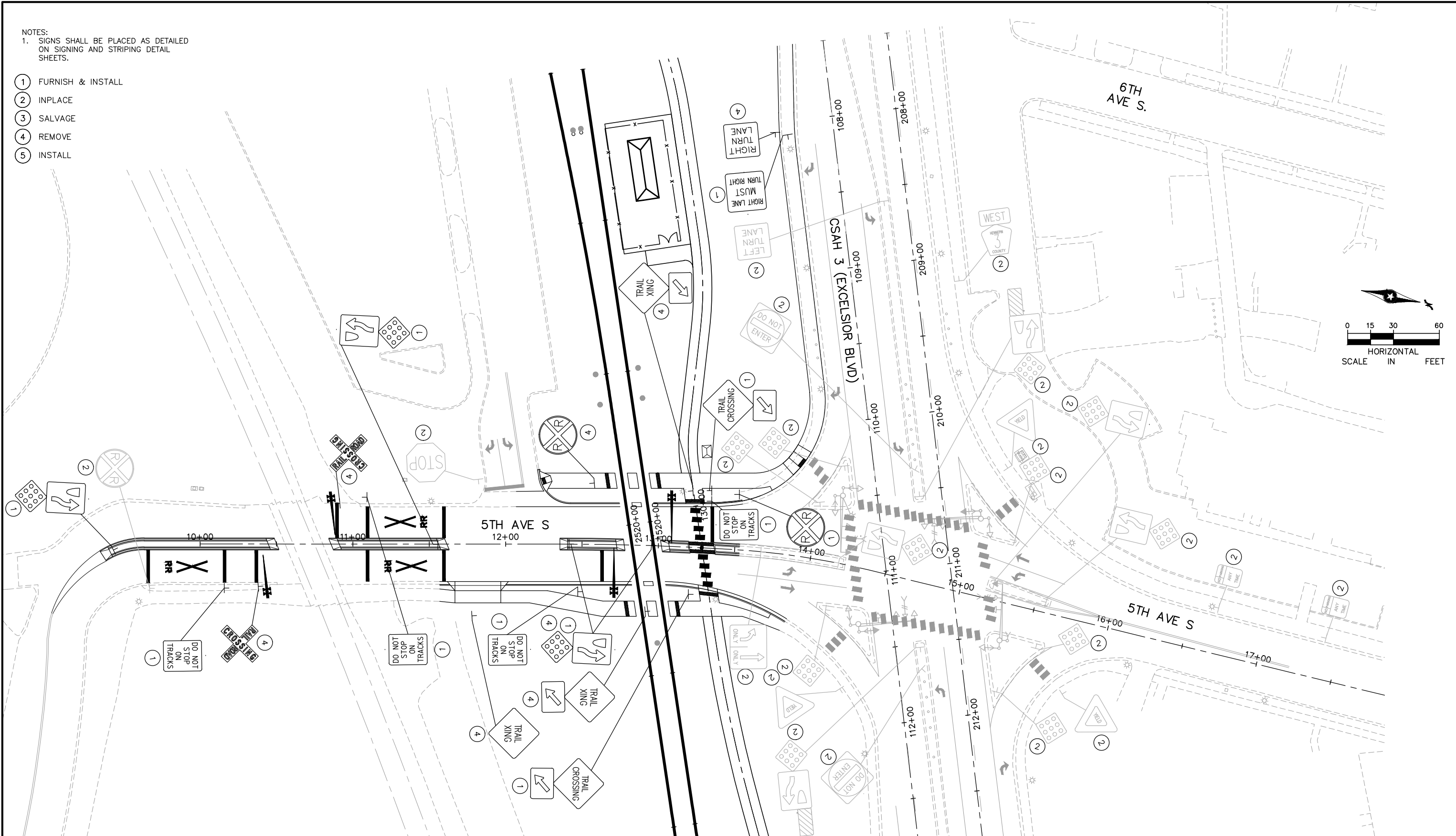
**SHEET**  
**28**  
**OF**  
**266**



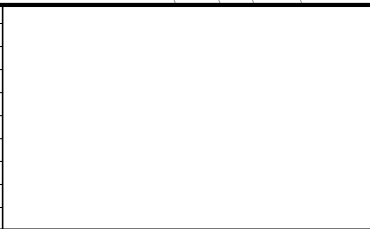
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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
5TH AVE S  
SIGNING AND STRIPING  
STA. 10+00 TO STA. 17+50

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E1-TFC-SIGN-STRIPE - 005

SHEET  
29  
OF  
266

Sep. 21 2015 07:44 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-SIGN-STRIPES.dwg By: catlin.wotruba

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn



SOUTHWEST  
Green Line LRT Extension



60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
EB CSAH 3 (EXCELSIOR BLVD)  
SIGNING AND STRIPING  
STA. 136+00 TO STA. 143+00

DISCIPLINE:

TRAFFIC

SHEET NAME:

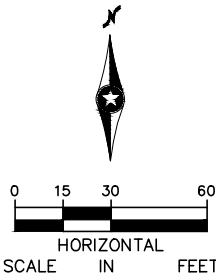
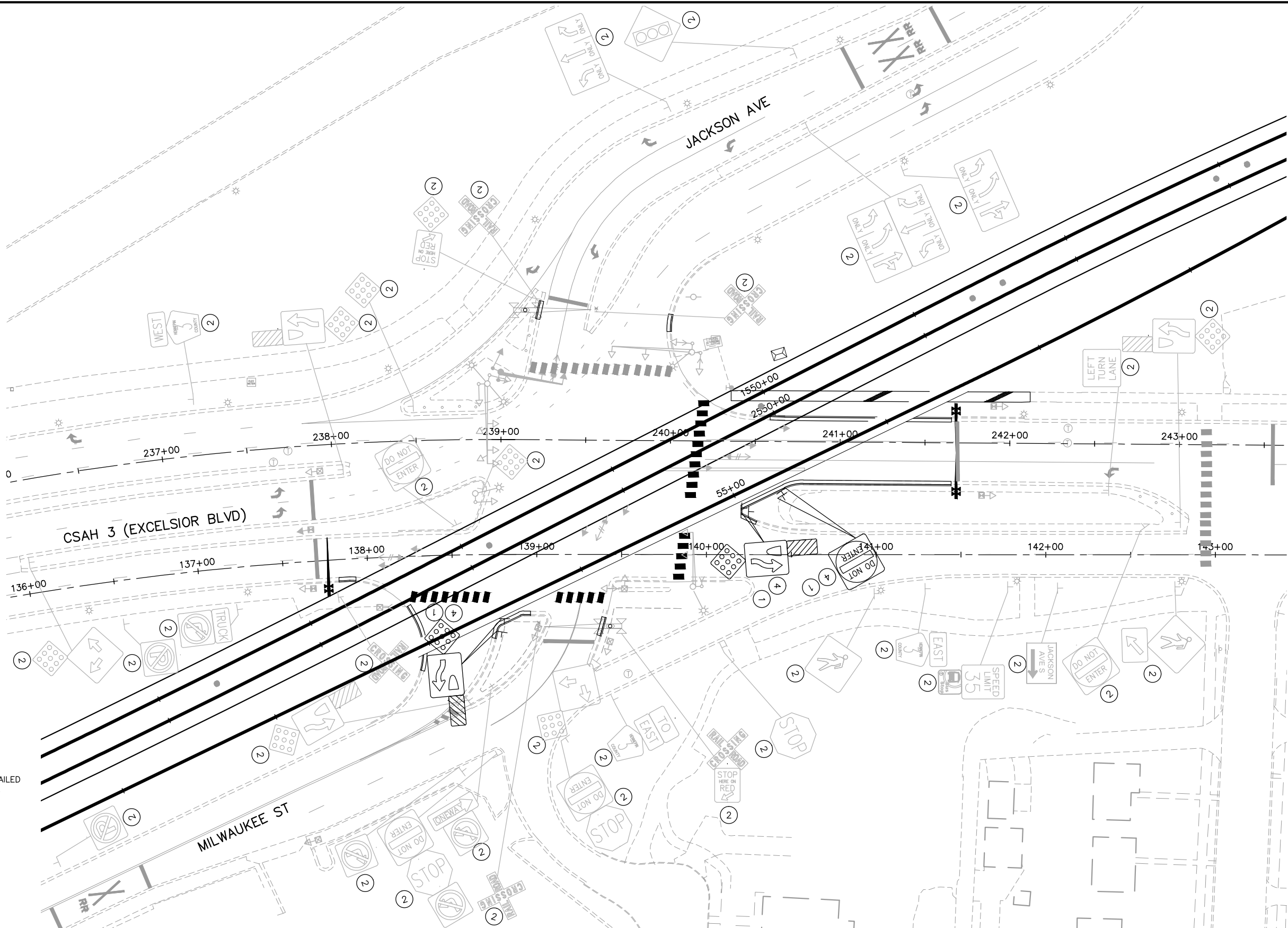
E1-TFC-SIGN-STRIPES - 006

SHEET

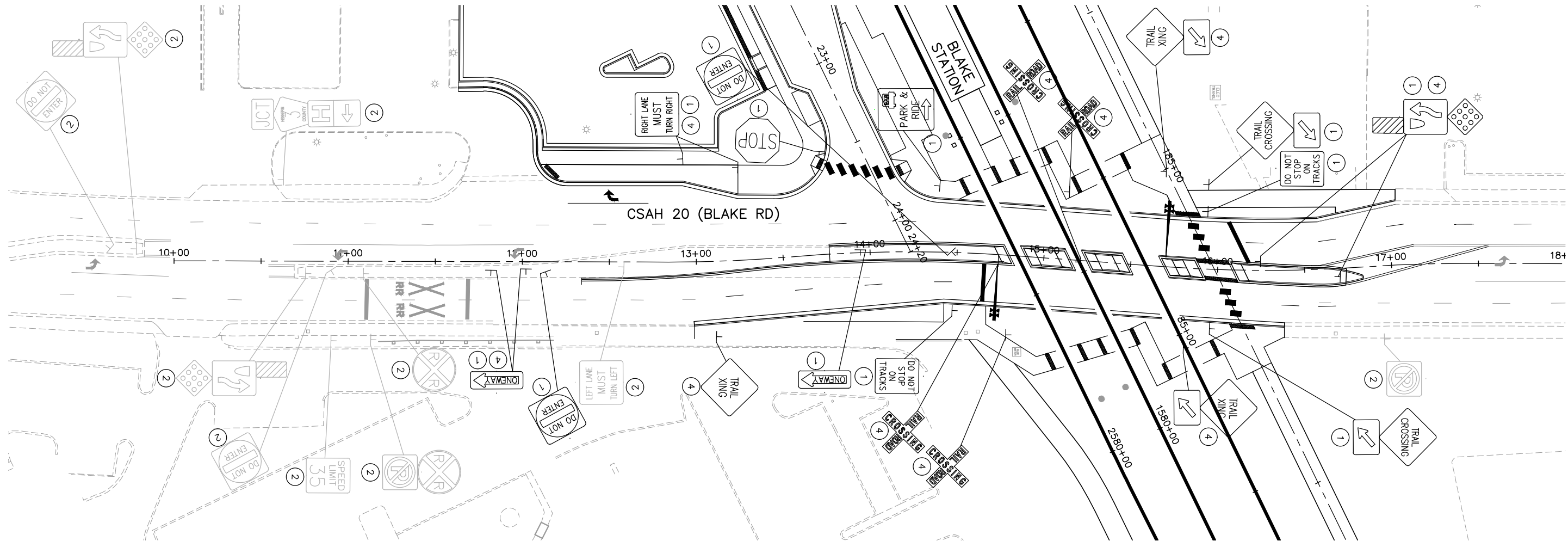
30

OF

266

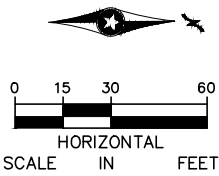


Sep. 21 2015 07:44 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-SIGN-STRIPE.dwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

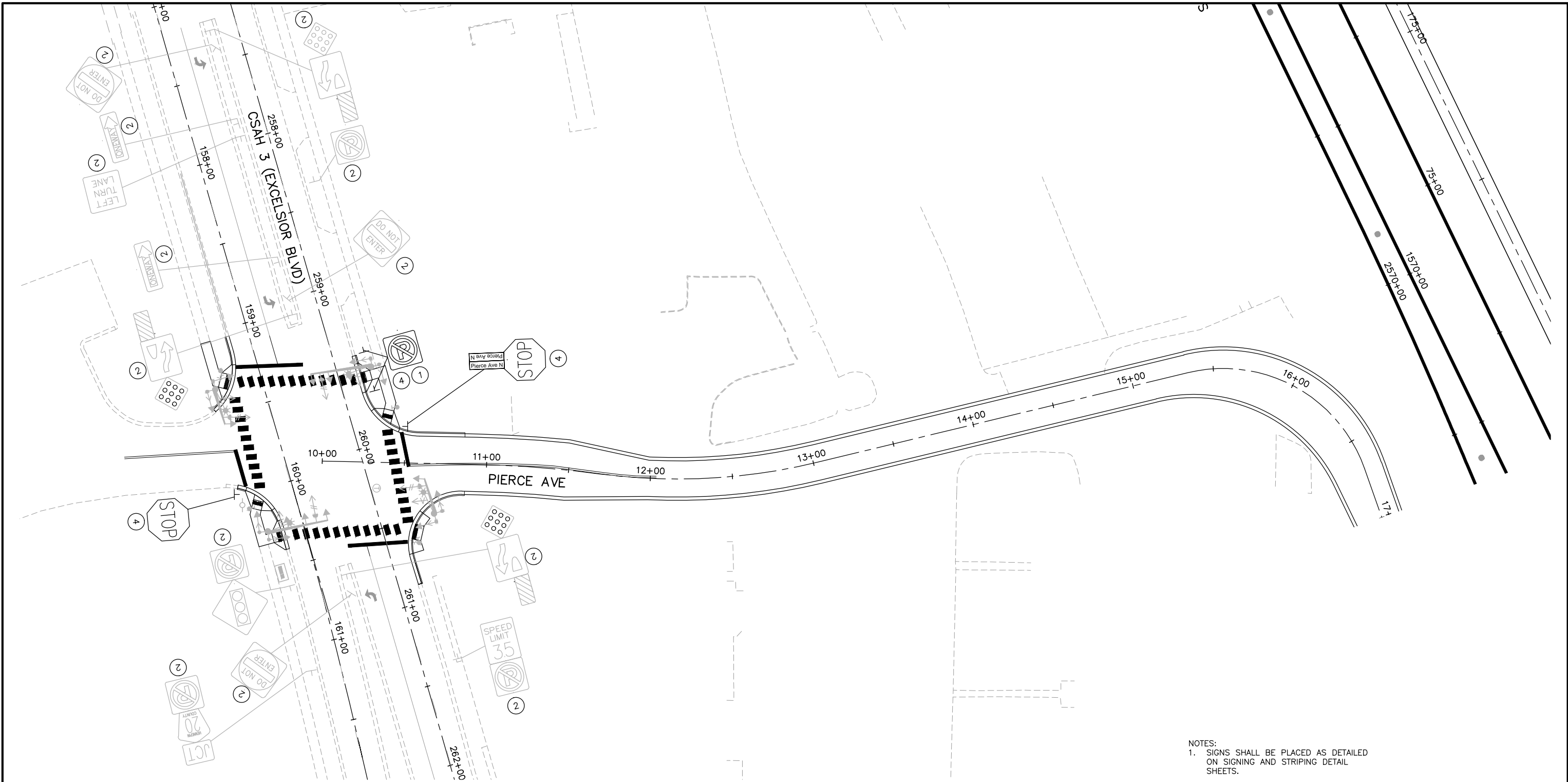


NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

		 		<b>CIVIL EAST - VOLUME 10</b> <b>NB CSAH 20 (BLAKE RD)</b> <b>SIGNING AND STRIPING</b> <b>STA. 10+00 TO STA. 18+00</b>	<b>SHEET</b> <b>31</b> <b>OF</b> <b>266</b>
60% SUBMISSION - 09/28/15		DISCIPLINE: TRAFFIC		SHEET NAME: E1-TFC-SIGN-STRIPE - 007	

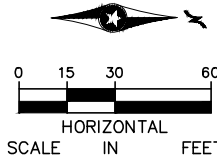


Sep. 21 2015 07:44 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-SIGN-STRIPE.dwg By: catlin.wotruba

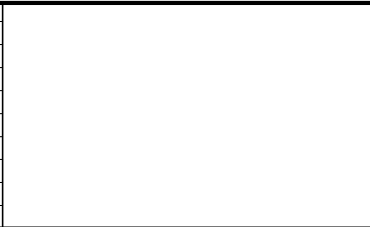


NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





60% SUBMISSION - 09/28/15



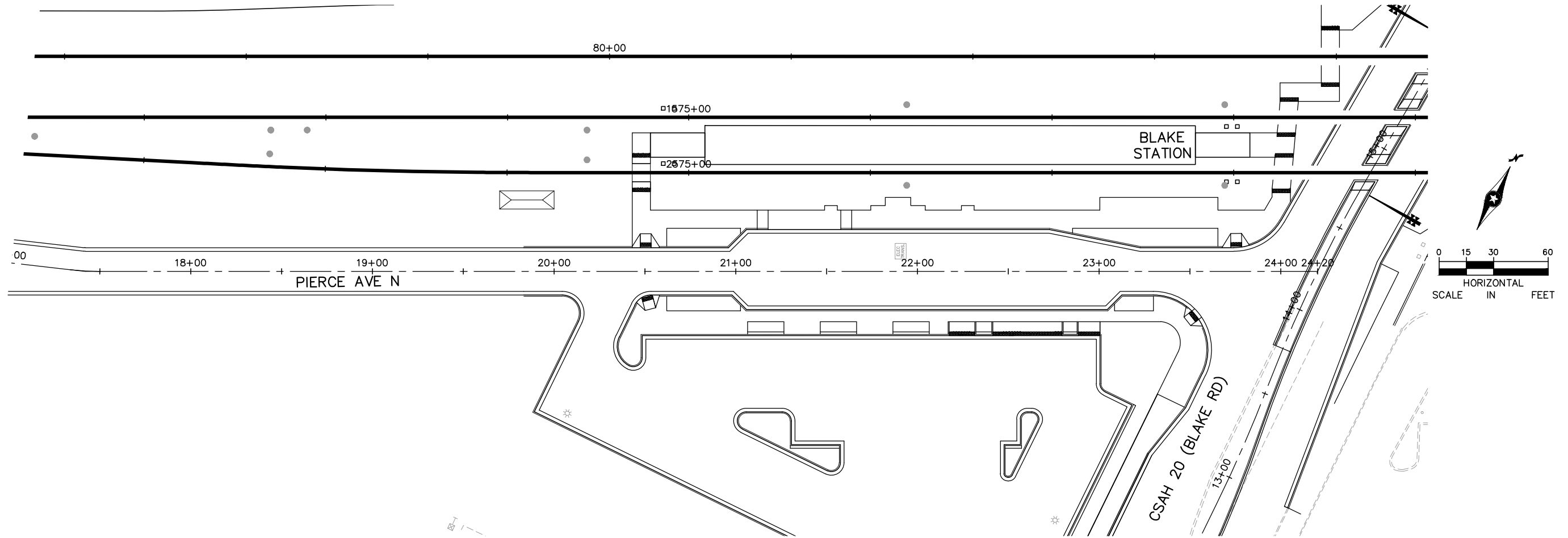
CIVIL EAST - VOLUME 10  
PIERCE AVE N  
SIGNING AND STRIPING  
STA. 10+00 TO STA. 17+00

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E1-TFC-SIGN-STRIPE - 008

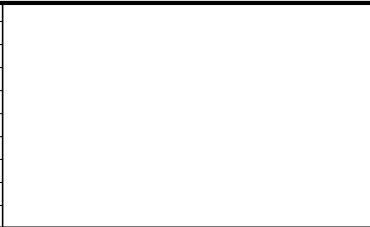
SHEET  
32  
OF  
266

Sep. 21 2015 07:45 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-SIGN-STRIP.dwg By: catlin.wotruba



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**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**PIERCE AVE N**  
**SIGNING AND STRIPING**  
**STA. 17+00 TO STA. 24+00**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E1-TFC-SIGN-STRIP - 009**

**SHEET**  
**33**  
**OF**  
**266**

Sep. 21 2015 08:05 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: catlin.wotruba

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn

60% SUBMISSION - 09/28/15

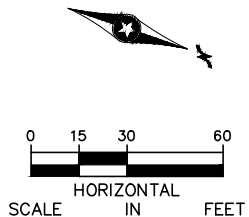
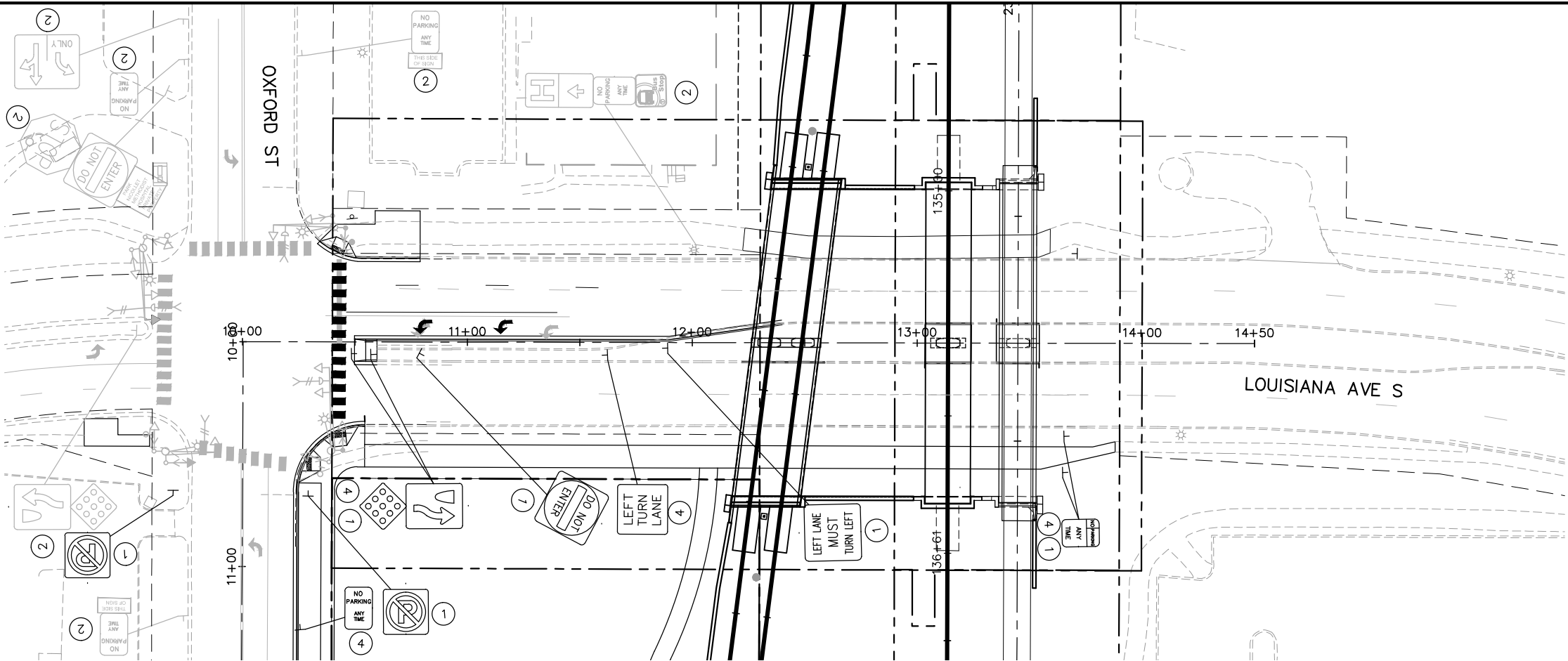


CIVIL EAST - VOLUME 10  
LOUISIANA AVE S  
SIGNING AND STRIPING  
STA. 10+00 TO STA. 14+50

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E2-TFC-SIGN-STRIPE - 001

SHEET  
34  
OF  
266



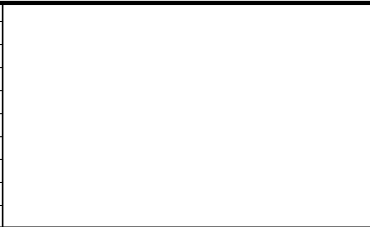


Sep. 21 2015 08:05 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: catlin.wotruba

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



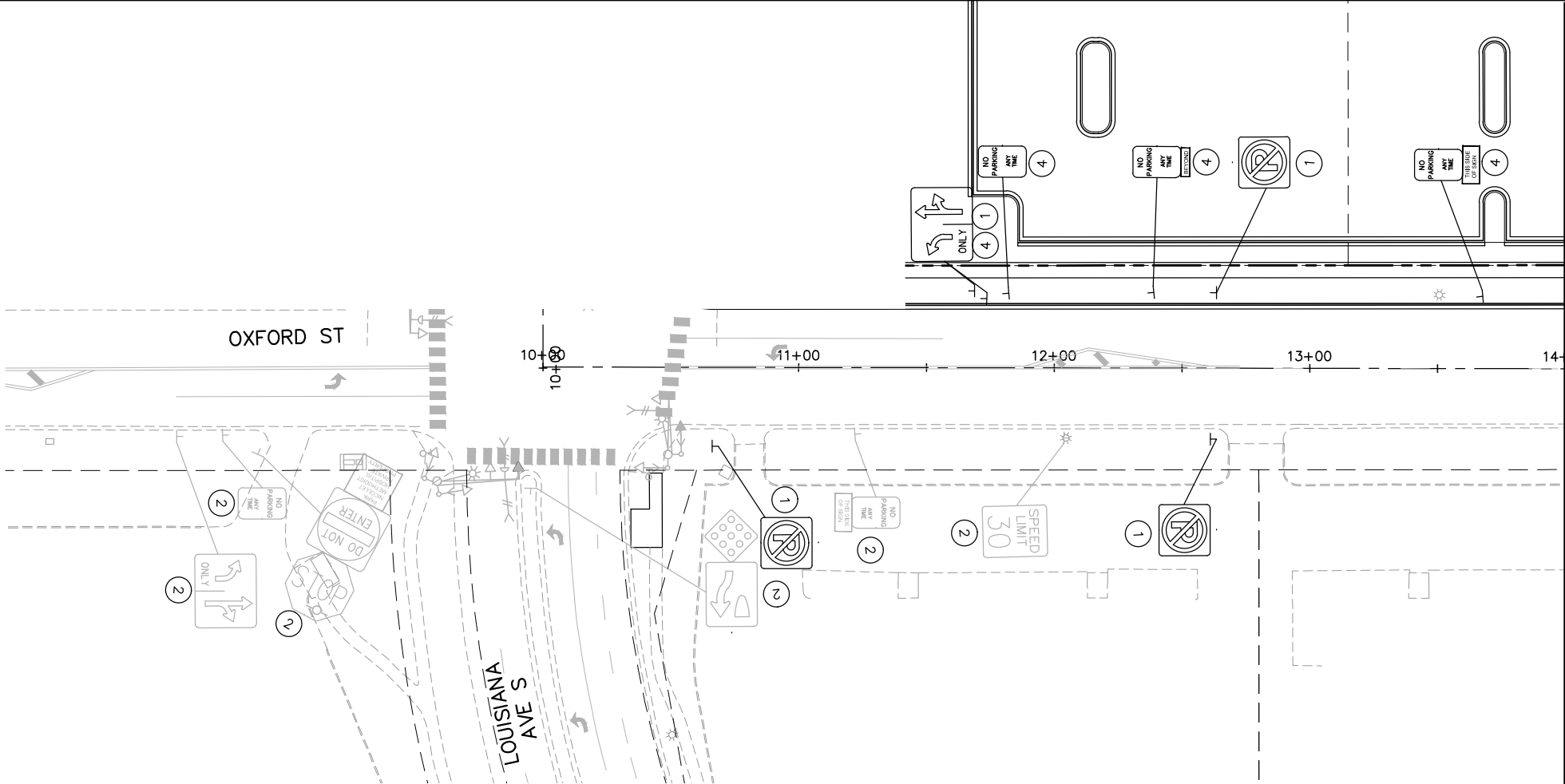
  
60% SUBMISSION - 09/28/15



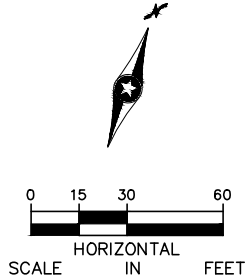
CIVIL EAST - VOLUME 10  
OXFORD ST  
SIGNING AND STRIPING  
STA. 10+00 TO STA. 14+00

DISCIPLINE: TRAFFIC  
SHEET NAME: E2-TFC-SIGN-STRIPE - 002

SHEET  
35  
OF  
266



MATCH LINE - STA. 14+00



Sep. 21 2015 08:05 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: catlin.wotruba

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn

60% SUBMISSION - 09/28/15



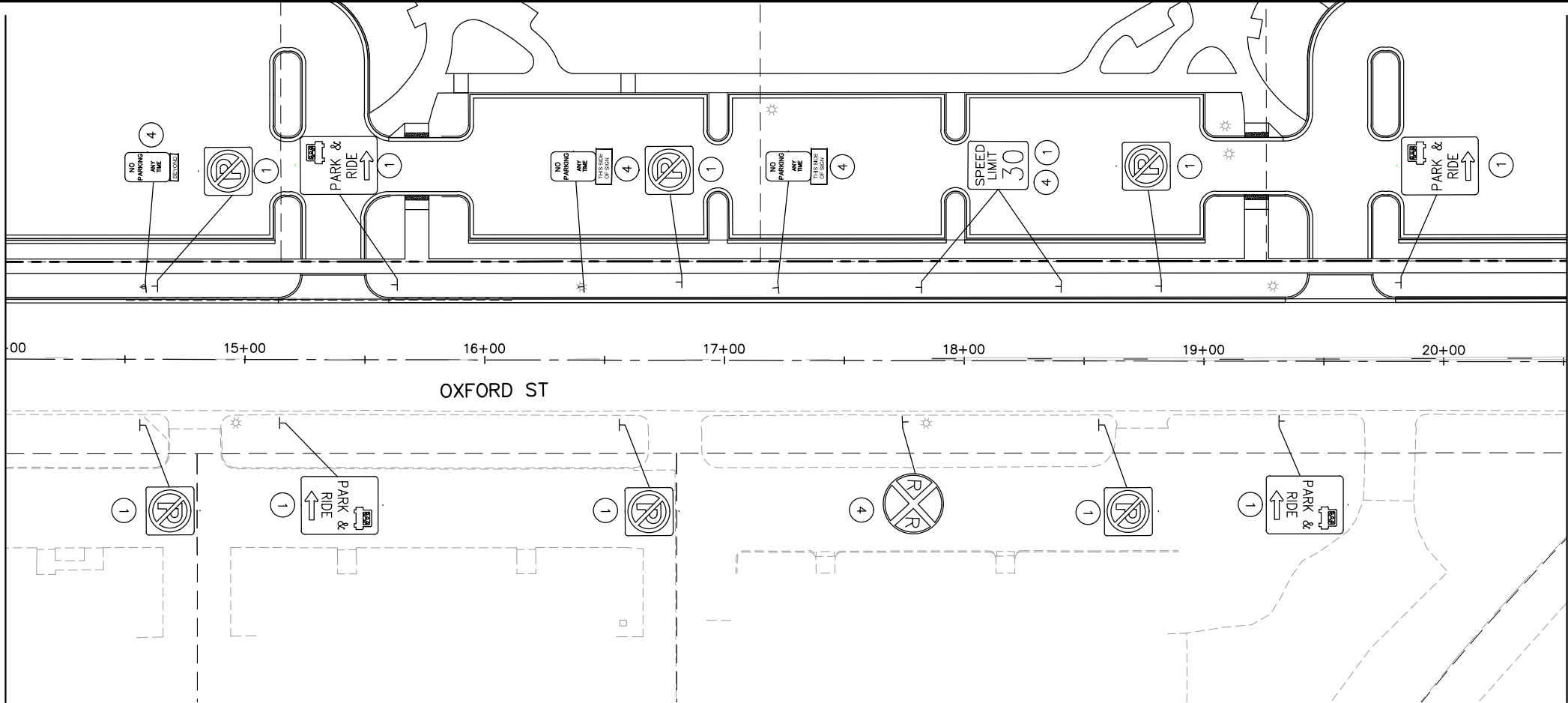
CIVIL EAST - VOLUME 10  
OXFORD ST  
SIGNING AND STRIPING  
STA. 14+00 TO STA. 20+50

DISCIPLINE:  
TRAFFIC

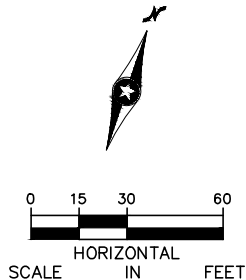
SHEET NAME:  
E2-TFC-SIGN-STRIPE - 003

SHEET  
36  
OF  
266

MATCH LINE - STA. 14+00

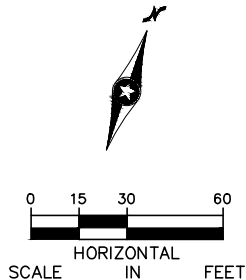
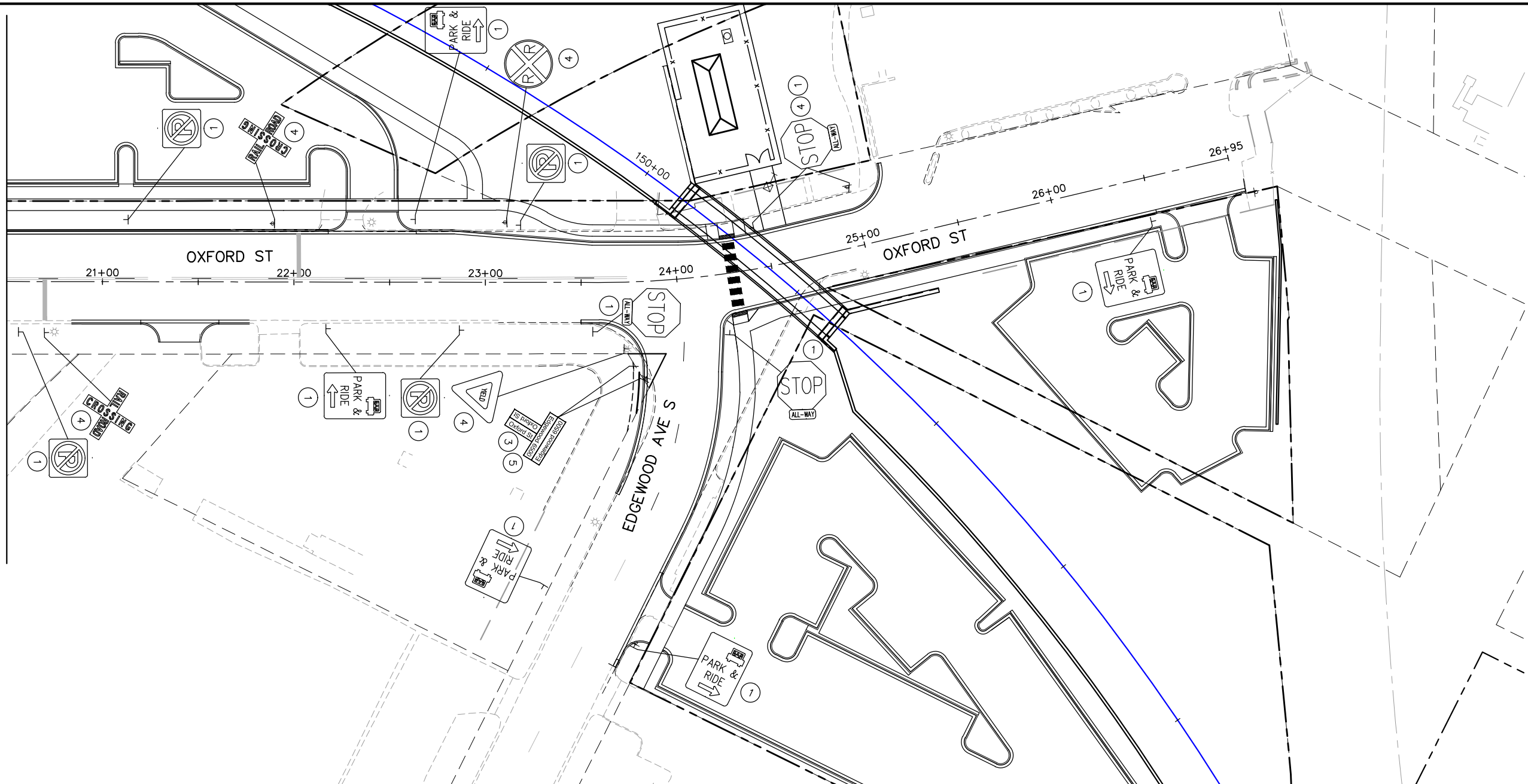


MATCH LINE - STA. 20+50



Sep. 21 2015 09:52 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: brian.villa

MATCH LINE - STA. 20+50



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
OXFORD ST  
SIGNING AND STRIPING  
STA. 20+50 TO STA. 27+00

DISCIPLINE:

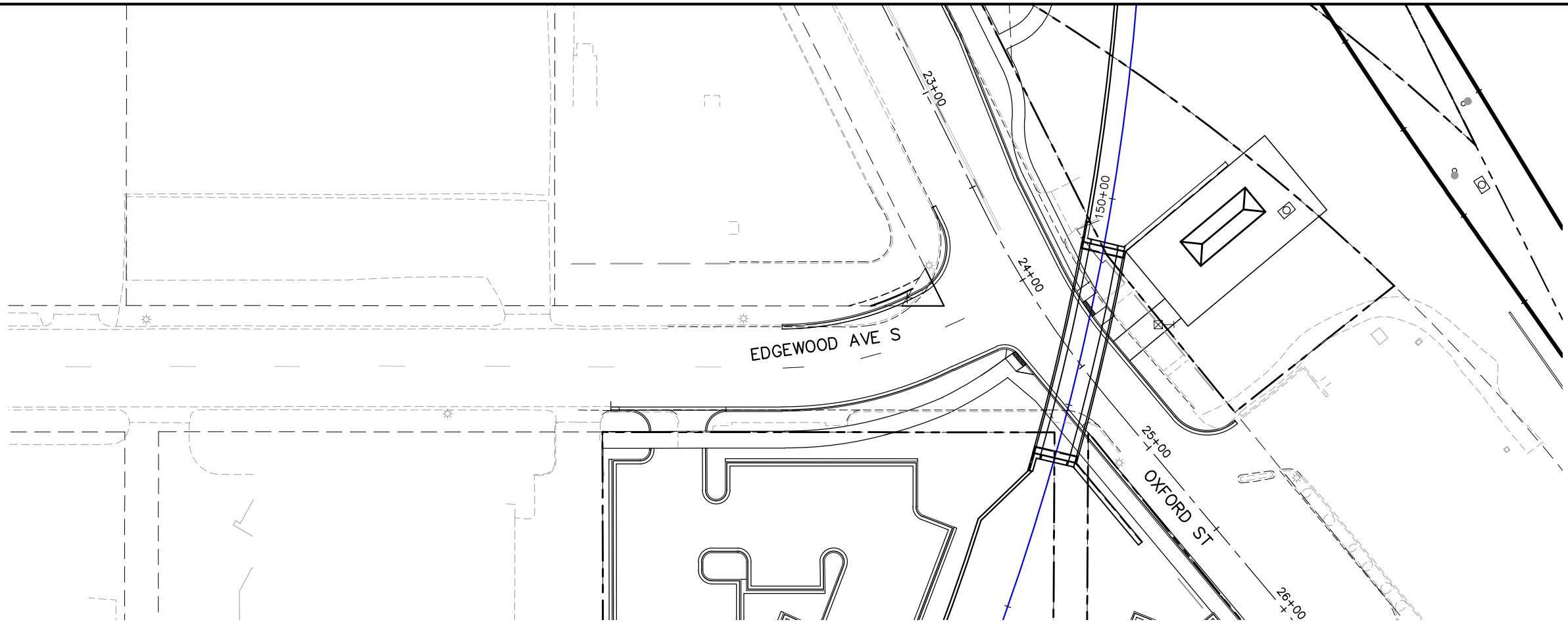
TRAFFIC

SHEET NAME:

E2-TFC-SIGN-STRIPE - 004

SHEET  
37  
OF  
266

Sep. 21 2015 08:07 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: caitlin.wotruba



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

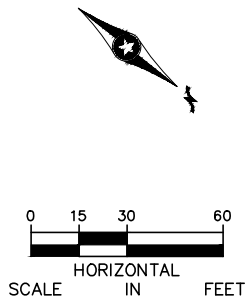
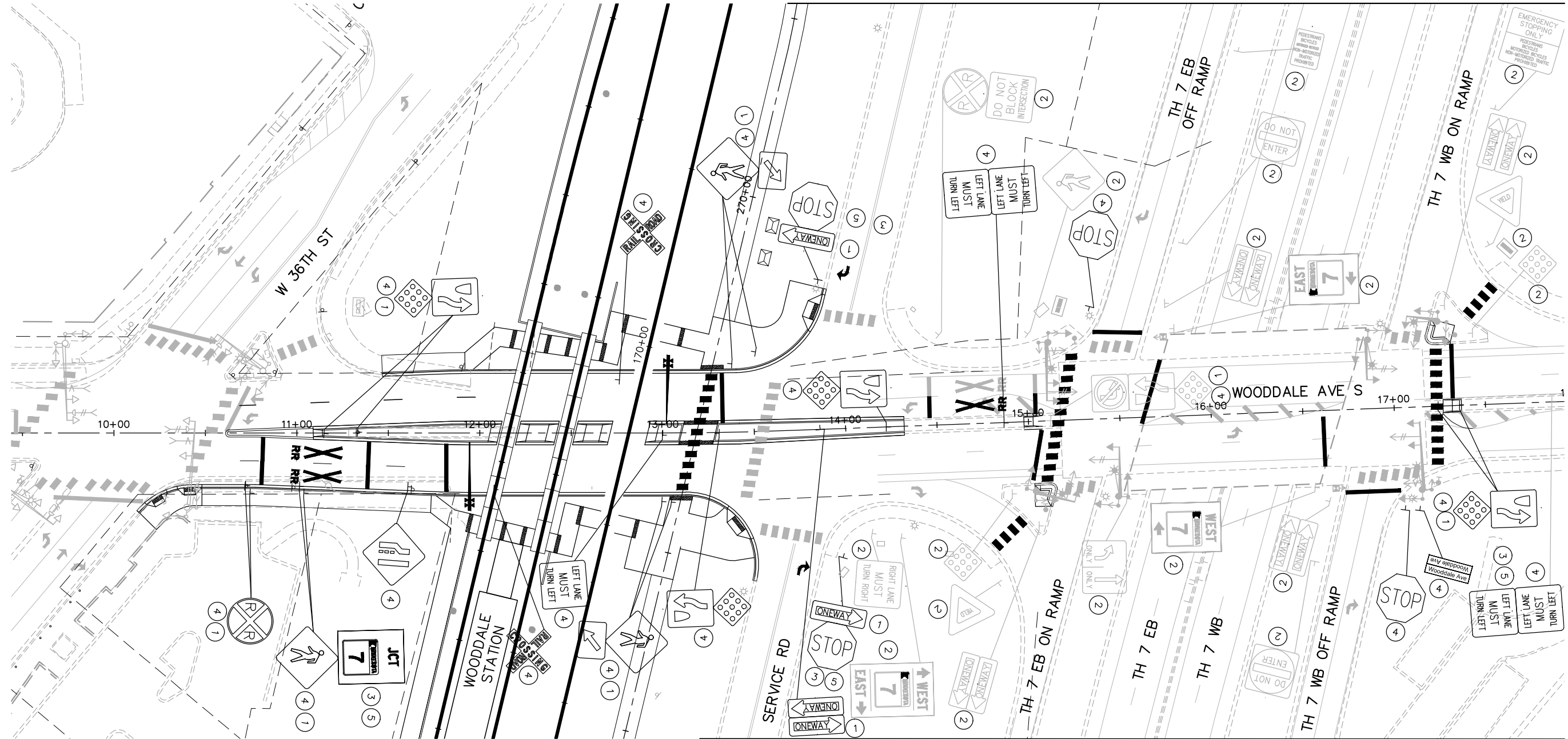
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10 EDGEWOOD AVE SIGNING AND STRIPING STA. 0+00.00 TO STA. 2+05.43	
DISCIPLINE: TRAFFIC	SHEET NAME: E2-TFC-SIGN-STRIPE - 005

SHEET  
38  
OF  
266

Sep. 21 2015 08:08 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIP.dwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10

WOODDALE AVE S

SIGNING AND STRIPING

STA. 10+00 TO STA. 17+50

DISCIPLINE:

TRAFFIC

SHEET NAME:

E2-TFC-SIGN-STRIP - 006

SHEET

39

OF

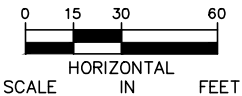
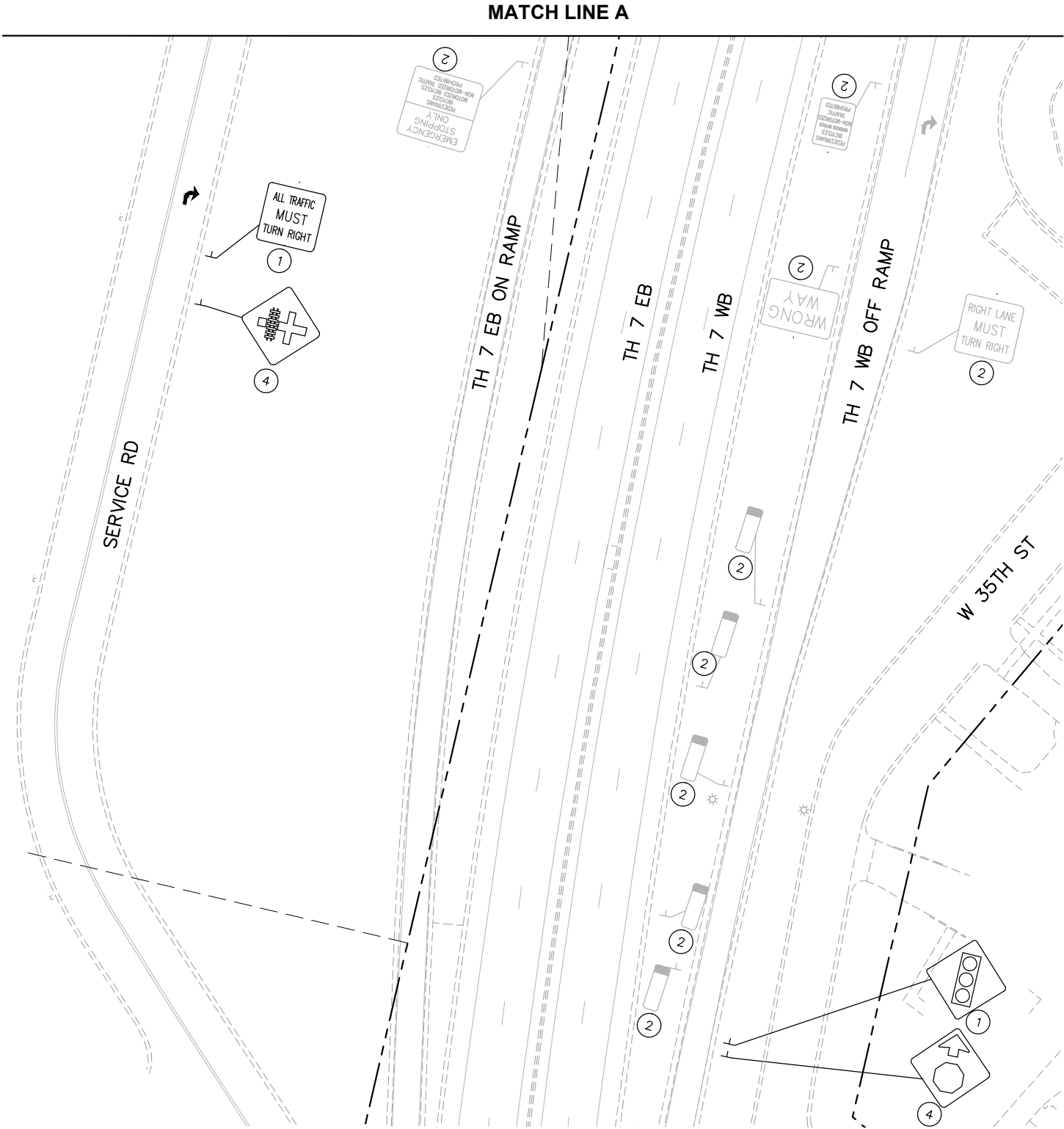
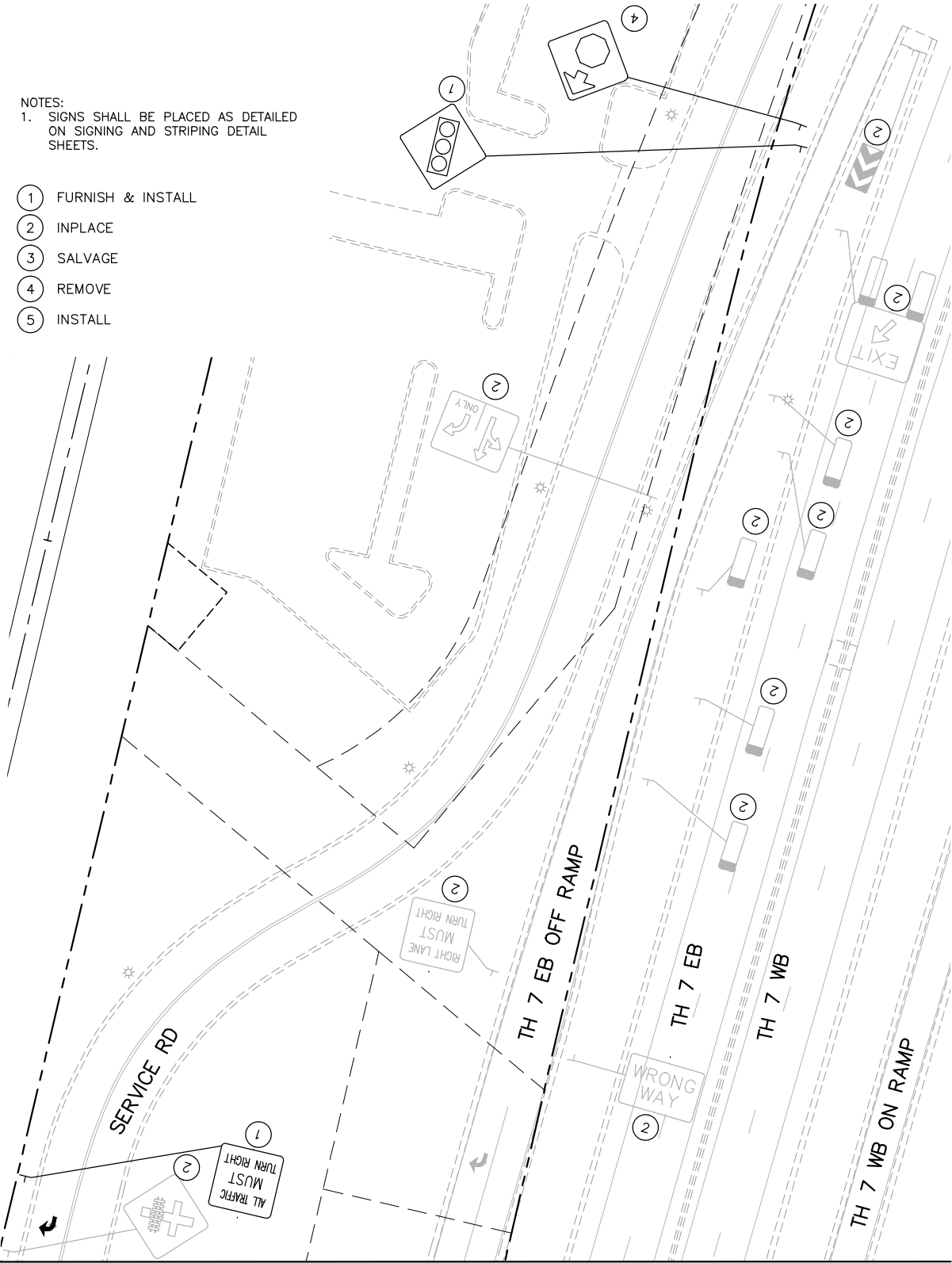
266



Sep. 21 2015 09:49 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: brian.villa

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**HWY 7 RAMPS AT WOODDALE AVE S**  
**SIGNING AND STRIPING**

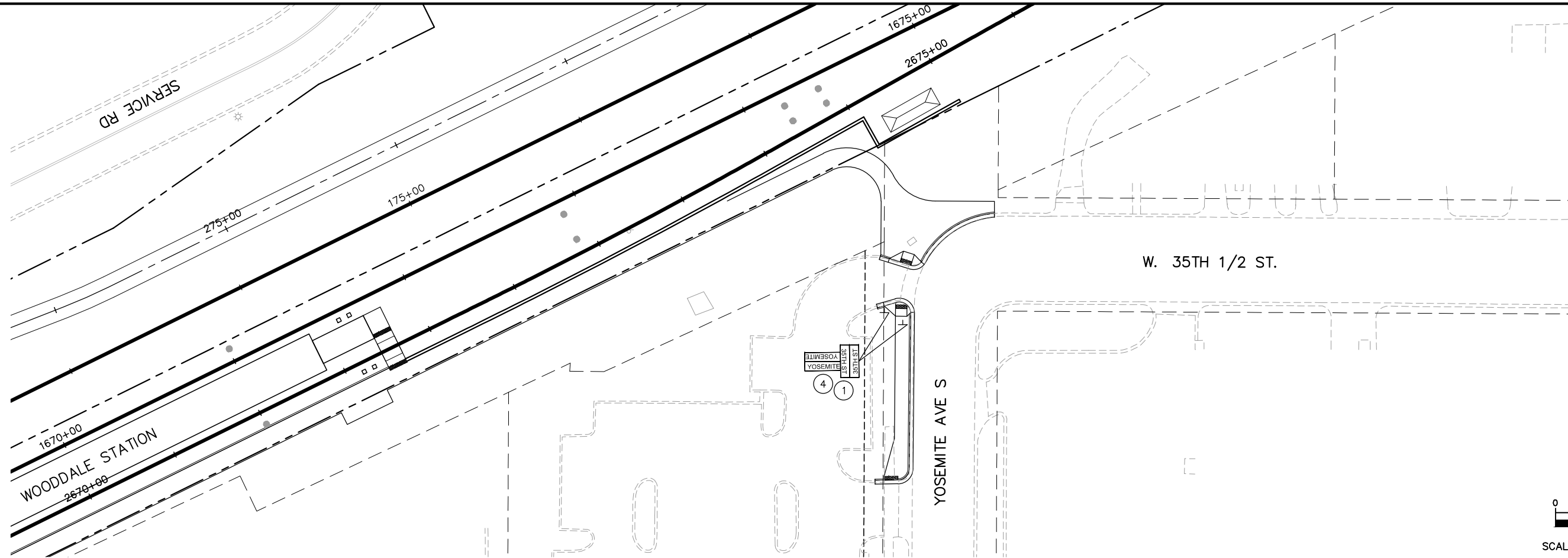
DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E2-TFC-SIGN-STRIPE - 006 (A)**

**SHEET**  
**40**  
**OF**  
**266**




Sep. 21 2015 08:09 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: catlin.wotruba





NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

  
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
YOSEMITE AVE S  
SIGNING AND STRIPING  
STA. 2+00.00 TO STA. 6+00.00

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E2-TFC-SIGN-STRIPE - 007

SHEET  
41  
OF  
266

Sep. 21 2015 08:09 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: catlin.wotruba

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
BELTLINE BLVD  
SIGNING AND STRIPING  
STA. 112+00 TO STA. 118+00

DISCIPLINE:

TRAFFIC

SHEET NAME:

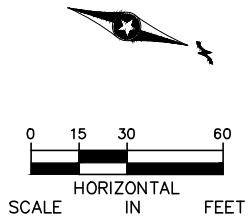
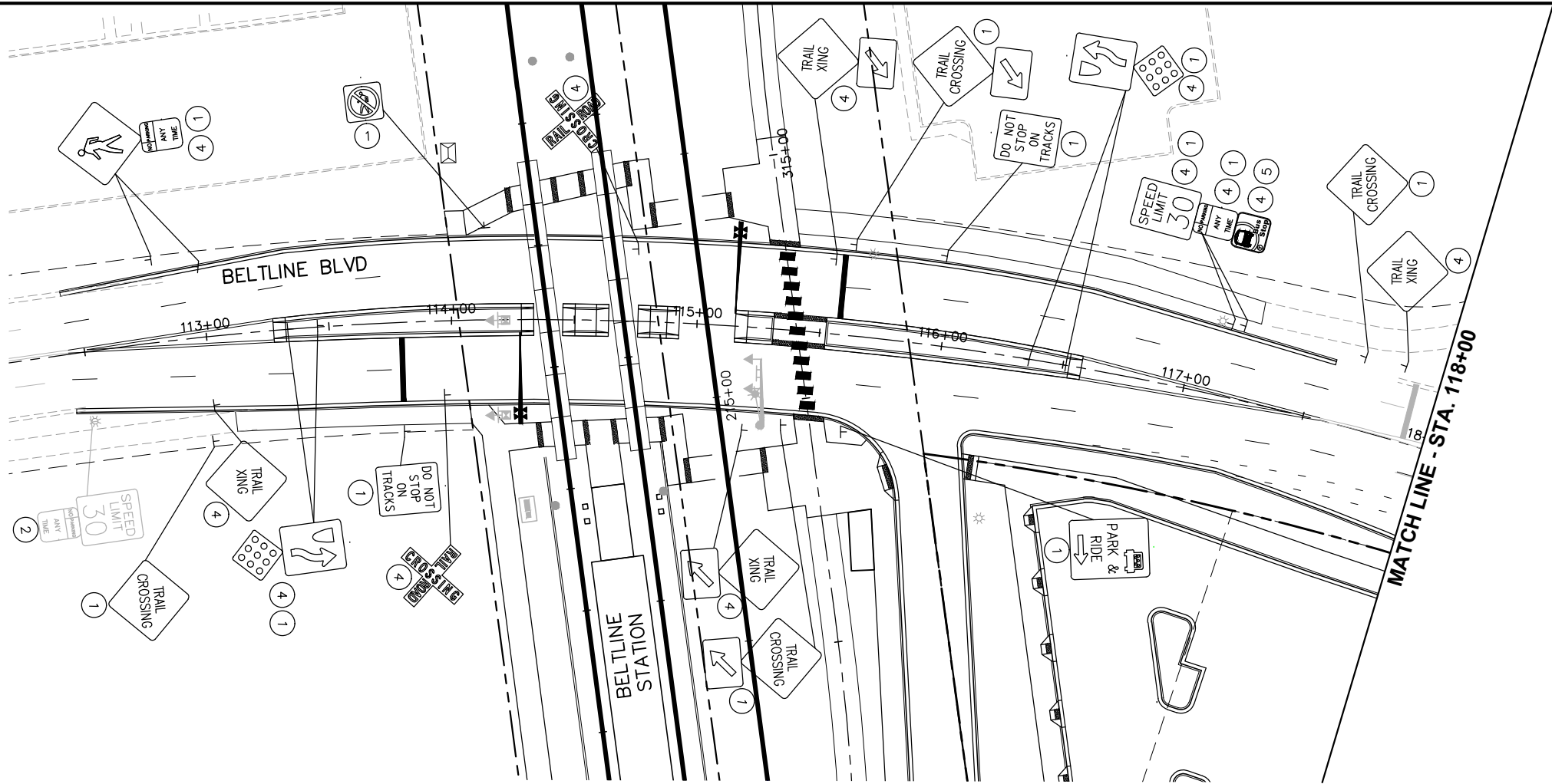
E2-TFC-SIGN-STRIPE - 008

SHEET

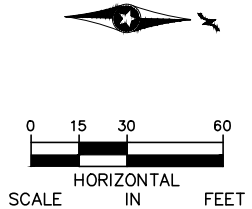
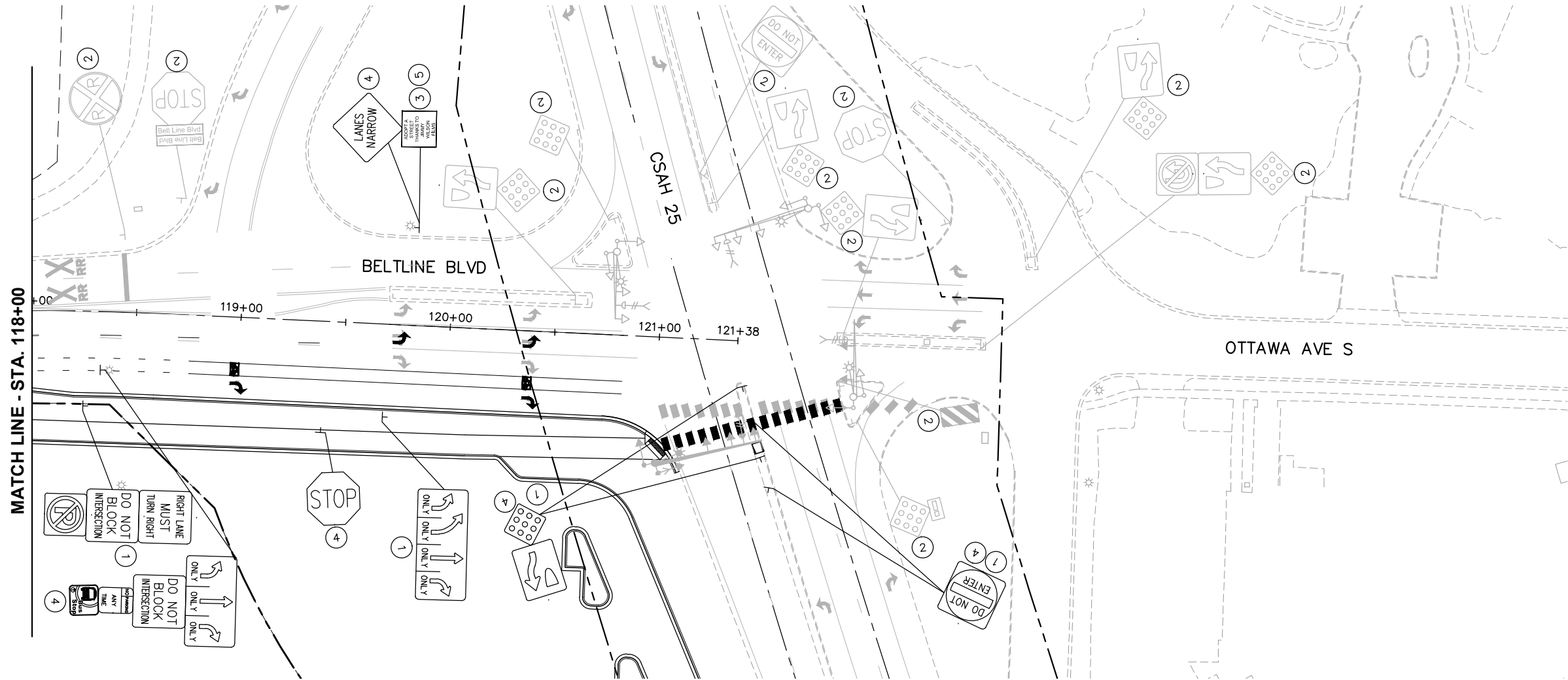
42

OF

266



Sep. 21 2015 08:09 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-SIGN-STRIPE.dwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

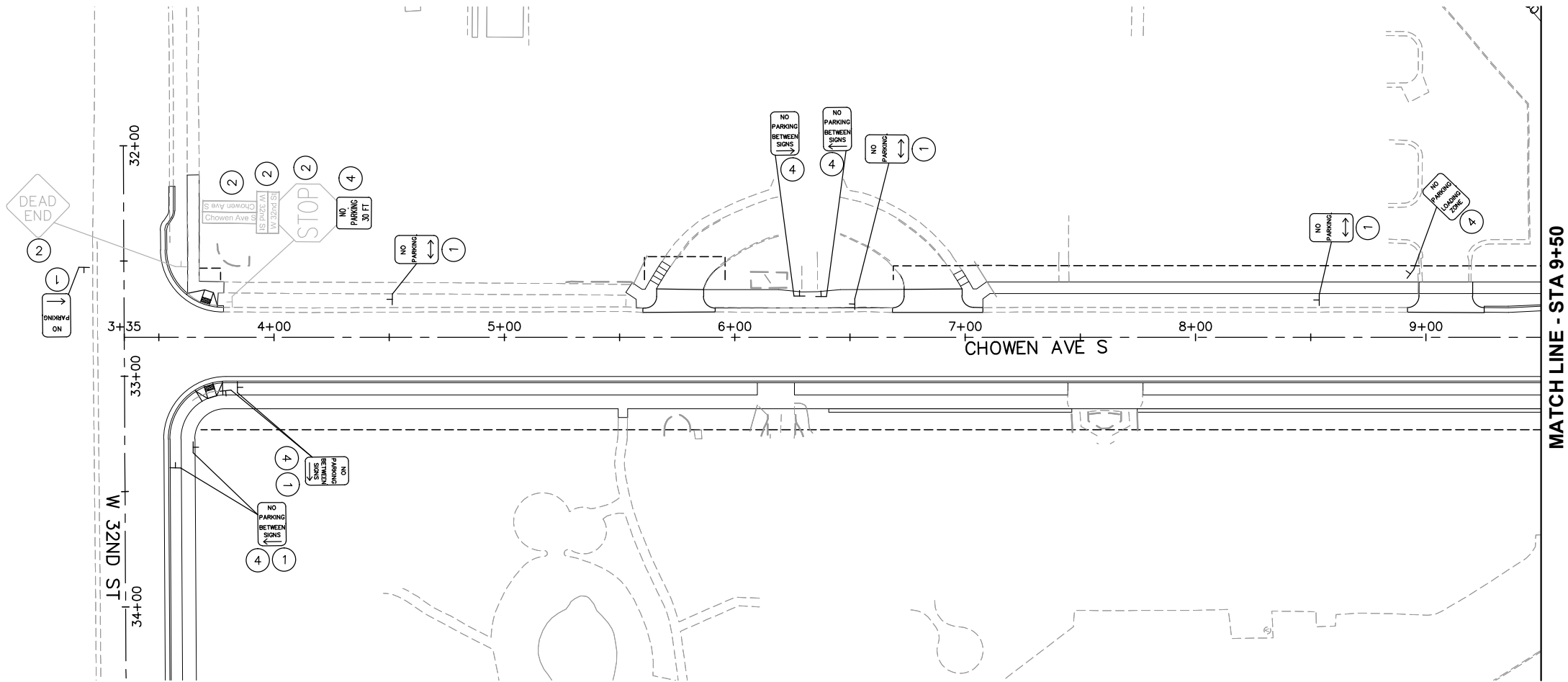
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10 BELTLINE BLVD SIGNING AND STRIPING STA. 118+00 TO STA. 121+38	
DISCIPLINE: TRAFFIC	SHEET NAME: E2-TFC-SIGN-STRIPE - 009

SHEET  
43  
OF  
266

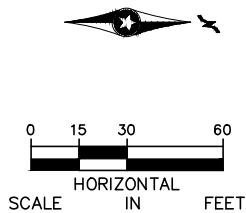
Sep. 21 2015 08:13 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIPES.dwg By: catlin.wotruba



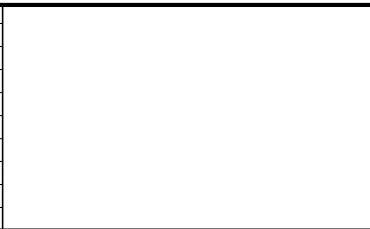
NOTES:

1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

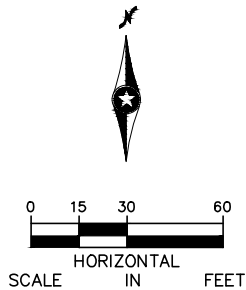
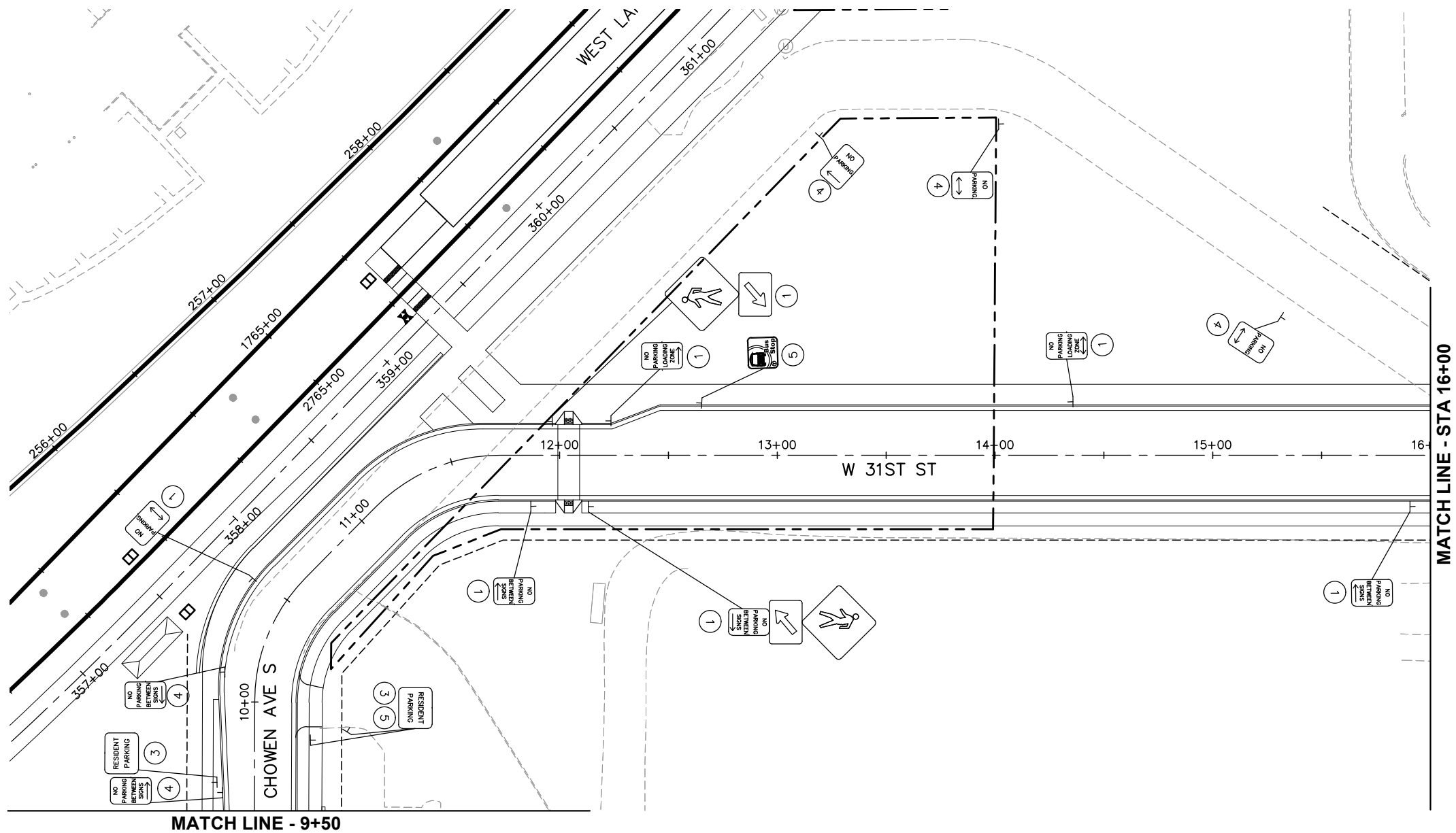
**CIVIL EAST - VOLUME 10**  
**CHOWEN AVE S**  
**SIGNING AND STRIPING**  
**STA. 3+35 TO STA. 9+50**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIGN-STRIPES - 001**

**SHEET**  
**44**  
**OF**  
**266**

Sep. 21 2015 08:14 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIPE.dwg By: catlin.wotruba



NOTES:

1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



60% SUBMISSION - 09/28/15

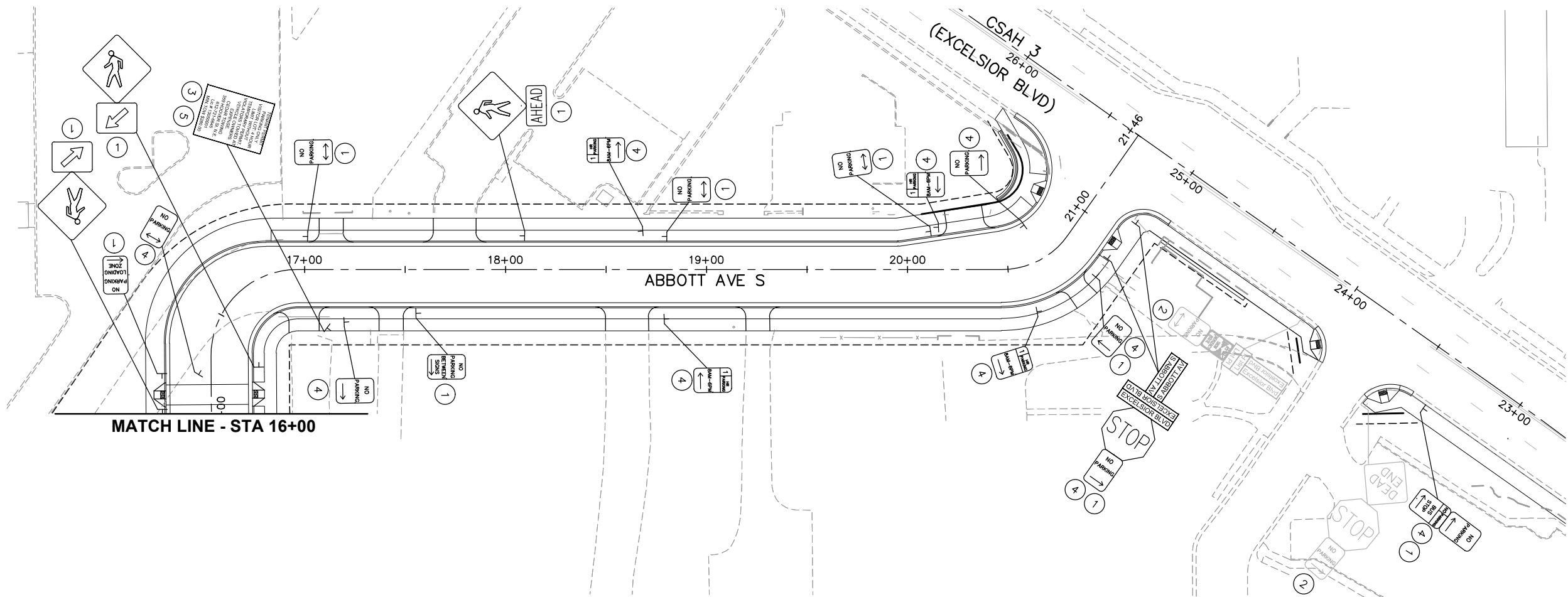
**CIVIL EAST - VOLUME 10**  
**CHOWEN AVE S / W 31ST ST**  
**SIGNING AND STRIPING**  
**STA. 9+50 TO STA. 16+00**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E3-TFC-SIGN-STRIPE - 002**

**SHEET**  
**45**  
**OF**  
**266**

Sep. 21 2015 08:15 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIPE.dwg By: catlin.wotruba



- NOTES:
- 1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
- ① FURNISH & INSTALL  
② INPLACE  
③ SALVAGE  
④ REMOVE  
⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



**SOUTHWEST**  
Green Line LRT Extension



**CIVIL EAST - VOLUME 10**  
**ABBOTT AVE S**  
**SIGNING AND STRIPING**  
**STA. 16+00 TO STA. 21+46**

DISCIPLINE:

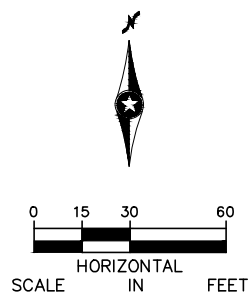
TRAFFIC

SHEET NAME:

E3-TFC-SIGN-STRIPE - 003

**SHEET**  
**46**  
**OF**  
**266**





1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

[illegible]

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



## SOUTHWEST

### Green Line LRT Extension

**CIVIL EAST - VOLUME 10  
W 32ND ST  
SIGNING AND STRIPING  
STA. 34+00 TO STA. 37+30.90**

DISCIPLINE:

## TRAFFIC

<b>SHEET NAME:</b>
--------------------

**E3-TFC-SIGN-STRIFE - 004**

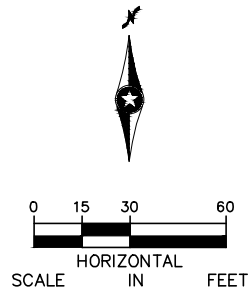
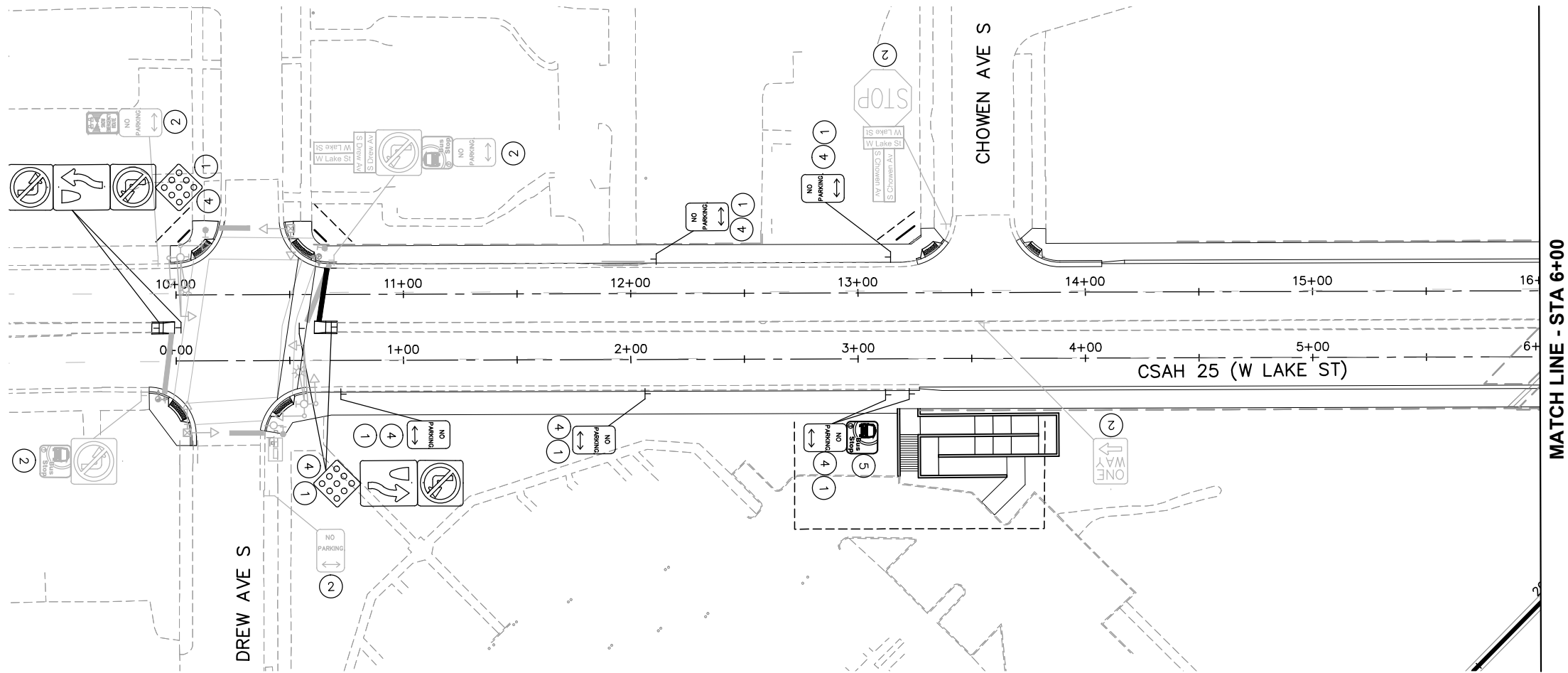
<b>SHEET</b>
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47

**OF**

266

Sep. 21 2015 08:17 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPE\E3-TFC-SIGN-STRIPE.dwg By: catlin.wotruba






NOTES:

1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

  
60% SUBMISSION - 09/28/15

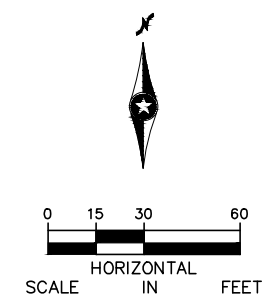


CIVIL EAST - VOLUME 10  
CSAH 25 (W LAKE ST)  
SIGNING AND STRIPING  
STA. 0+00 TO STA. 6+00

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E3-TFC-SIGN-STRIPE - 005

SHEET  
48  
OF  
266



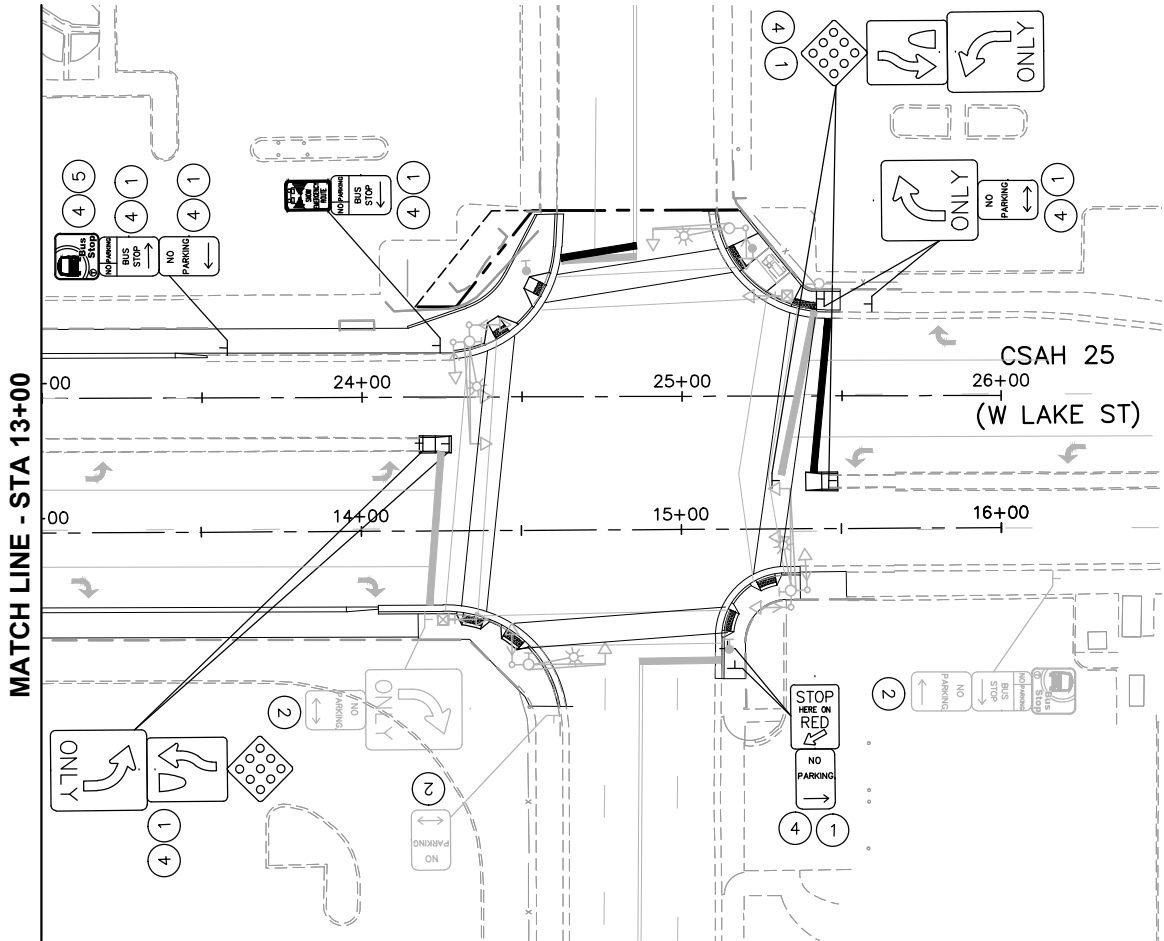
- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

[illegible]

**SOUTHWEST**  
Green Line LRT Extension

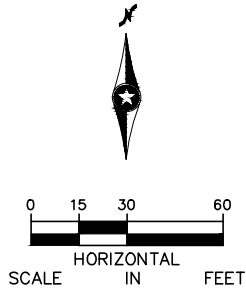
SHEET NAME:	E3-TFC-SIGN-STRIBE - 006
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Sep. 21 2015 08:19 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIPEDwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
CSAH 25 (W LAKE ST)  
SIGNING AND STRIPING  
STA. 13+00 TO STA. 16+00

DISCIPLINE:

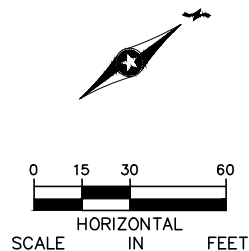
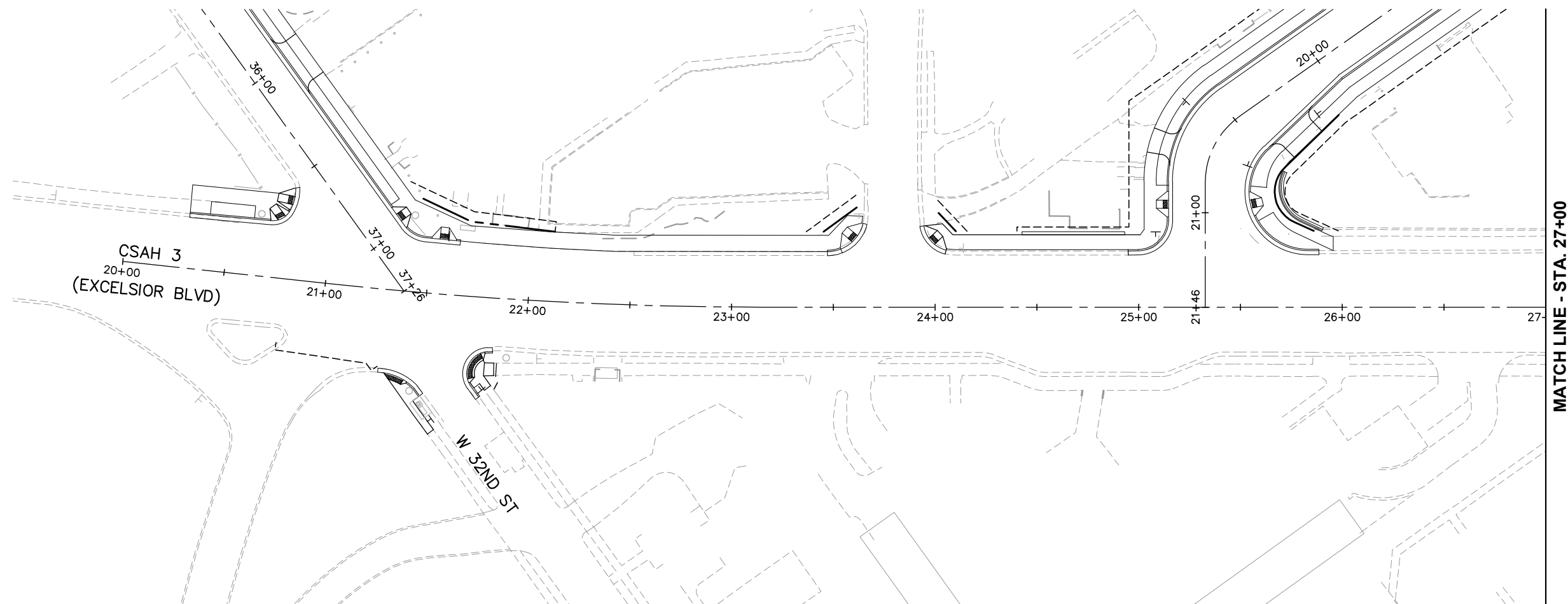
TRAFFIC

SHEET NAME:

E3-TFC-SIGN-STRIPED - 007

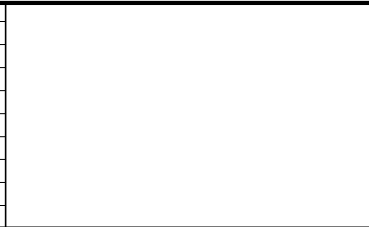
SHEET  
50  
OF  
266

Sep. 21 2015 08:19 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIPE.dwg By: catlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**CSAH 3 (EXCELSIOR BLVD)**  
**SIGNING AND STRIPING**  
**STA. 20+00 TO STA. 27+00**

DISCIPLINE: **TRAFFIC**

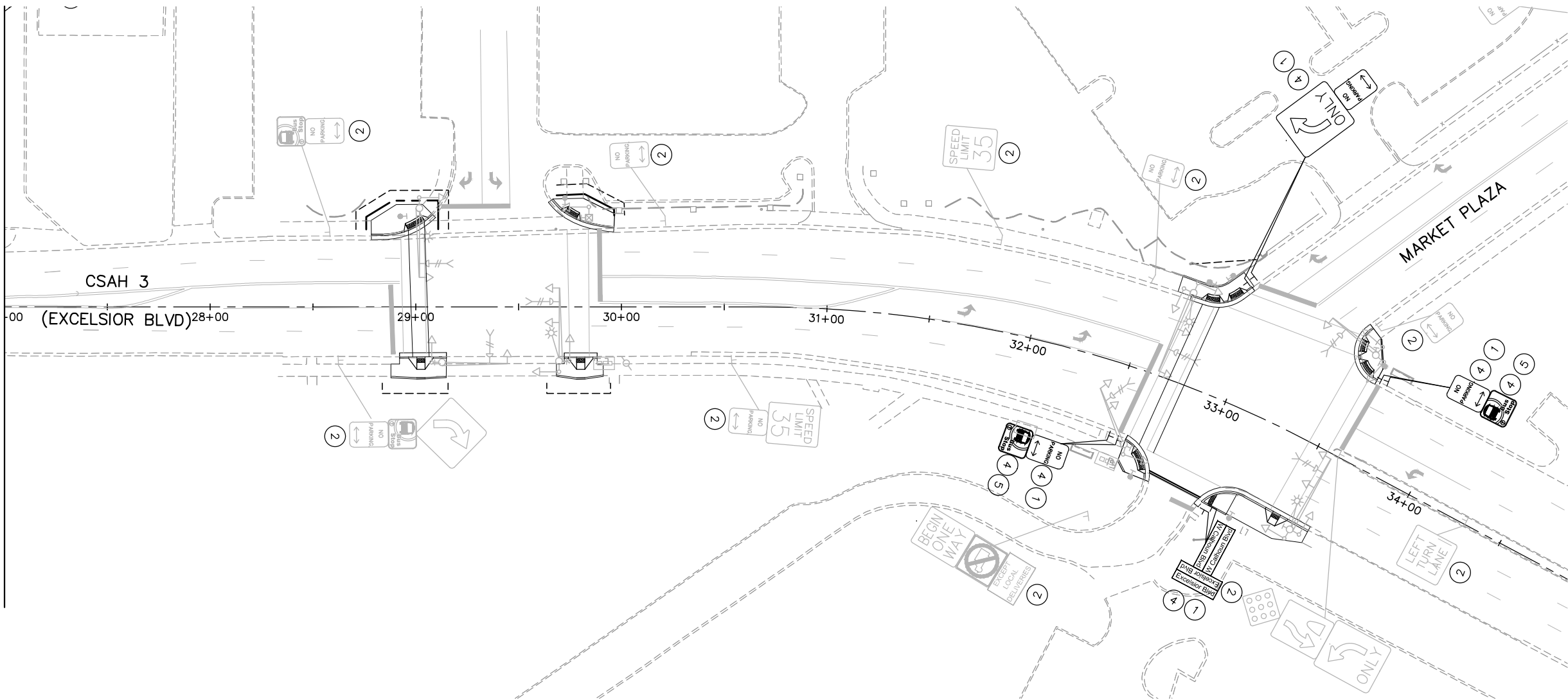
SHEET NAME: **E3-TFC-SIGN-STRIPE - 008**

**SHEET**  
**51**  
**OF**  
**266**



Sep. 21 2015 08:20 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIP.dwg By: catlin.wotruba

MATCH LINE - STA. 27+00



NOTES:

1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



**SOUTHWEST**  
Green Line LRT Extension



**CIVIL EAST - VOLUME 10**  
**CSAH 3 (EXCELSIOR BLVD)**  
**SIGNING AND STRIPING**  
**STA. 27+00 TO STA. 34+00**

DISCIPLINE:

TRAFFIC

SHEET NAME:

E3-TFC-SIGN-STRIP - 009

SHEET

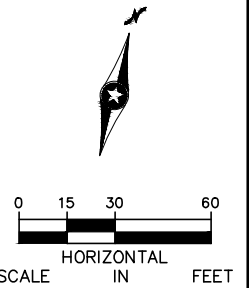
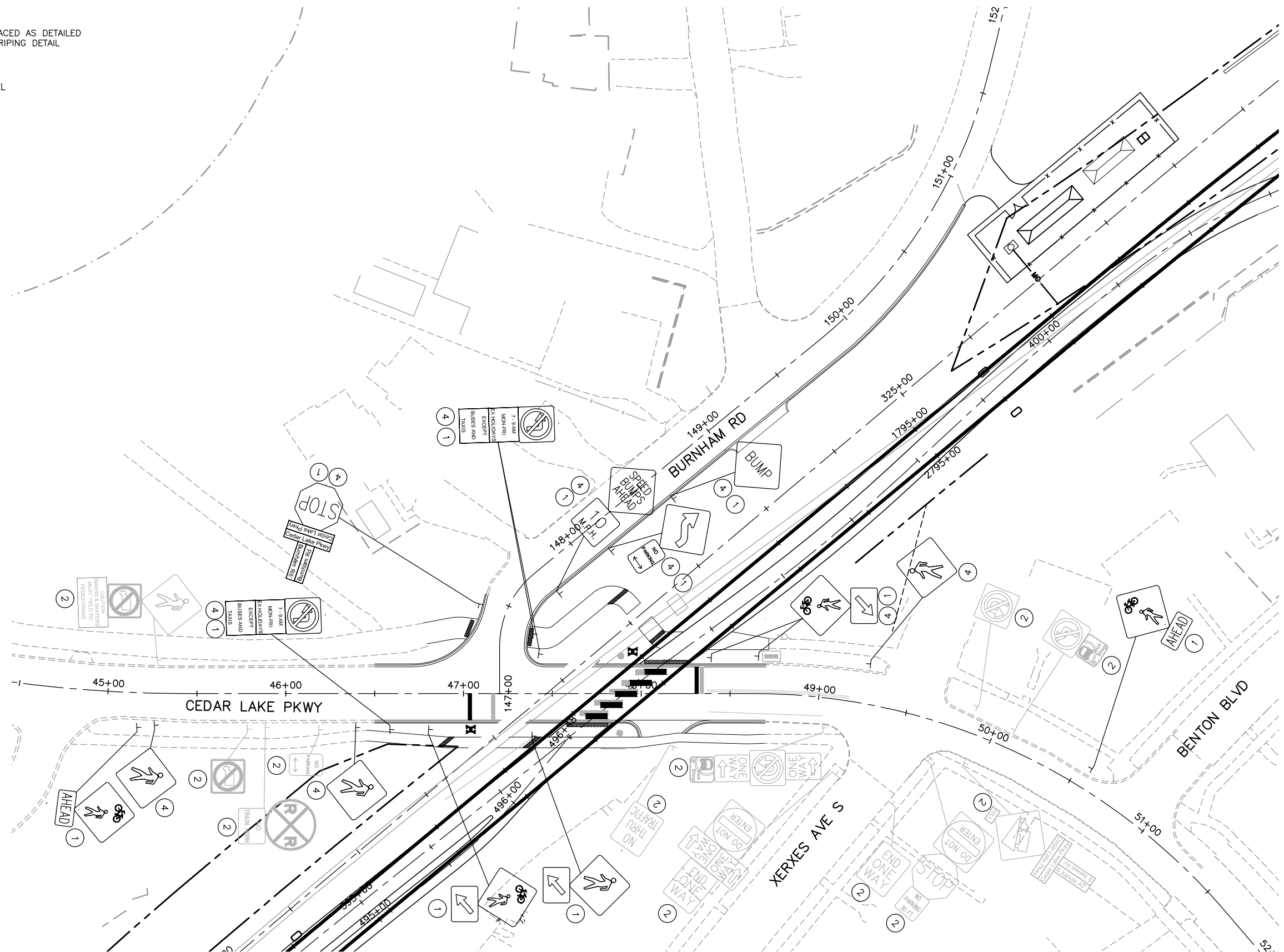
52

OF

266

1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

[illegible]

60% SUBMISSION - 09/28/15



## SOUTHWEST

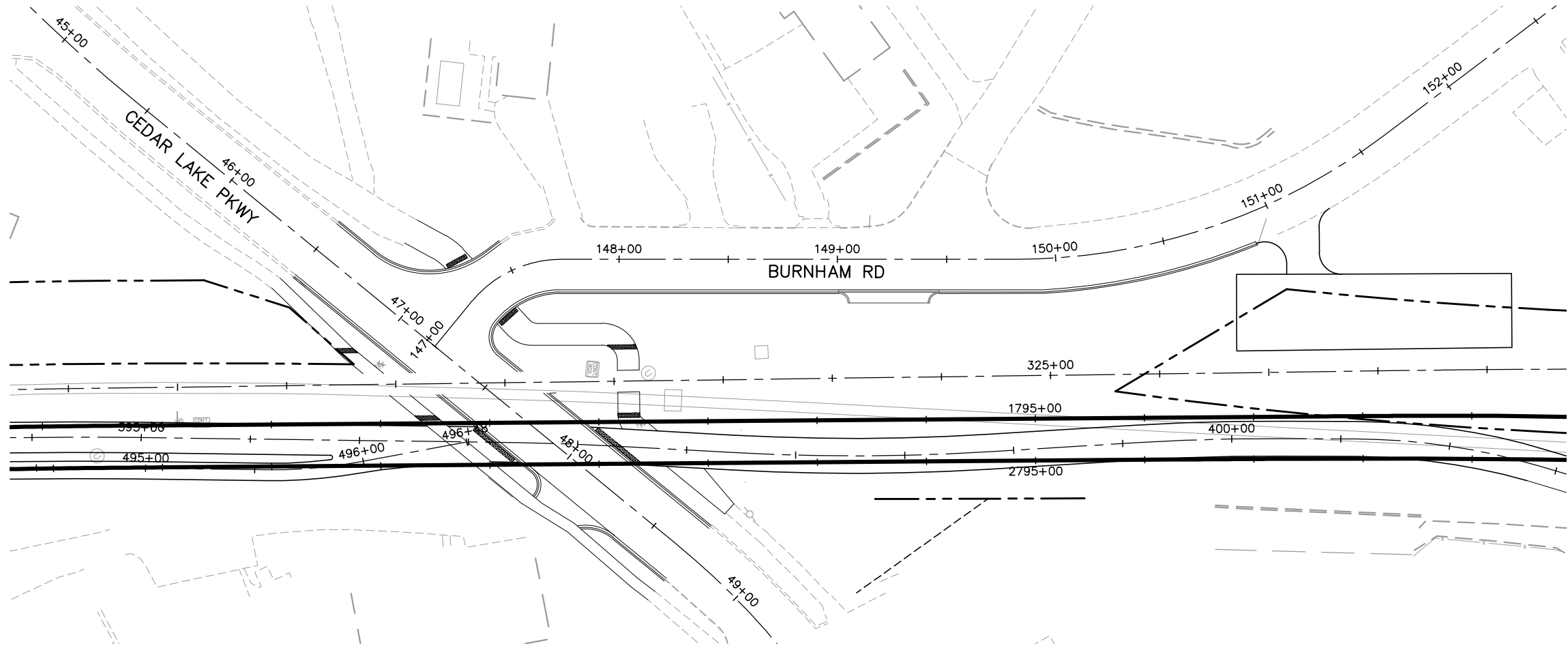
**CIVIL EAST - VOLUME 10  
CEDAR LAKE PKWY  
SIGNING AND STRIPING  
STA. 44+50 TO STA. 52+00**

DISCIPLINE:	TRAFFIC
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SHEET NAME:	E3-TFC-SIGN-STRIFE - 010
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**SHEET**  
**53**  
**OF**  
**266**

Sep. 21 2015 08:23 am K:\TWC\_Transit\SouthWest LRT Corridor\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIPE.dwg By: caitlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
BURNHAM RD  
SIGNING AND STRIPING  
STA. 147+00.00 TO STA. 152+00.00

DISCIPLINE:

TRAFFIC

SHEET NAME:

E3-TFC-SIGN-STRIPE - 011

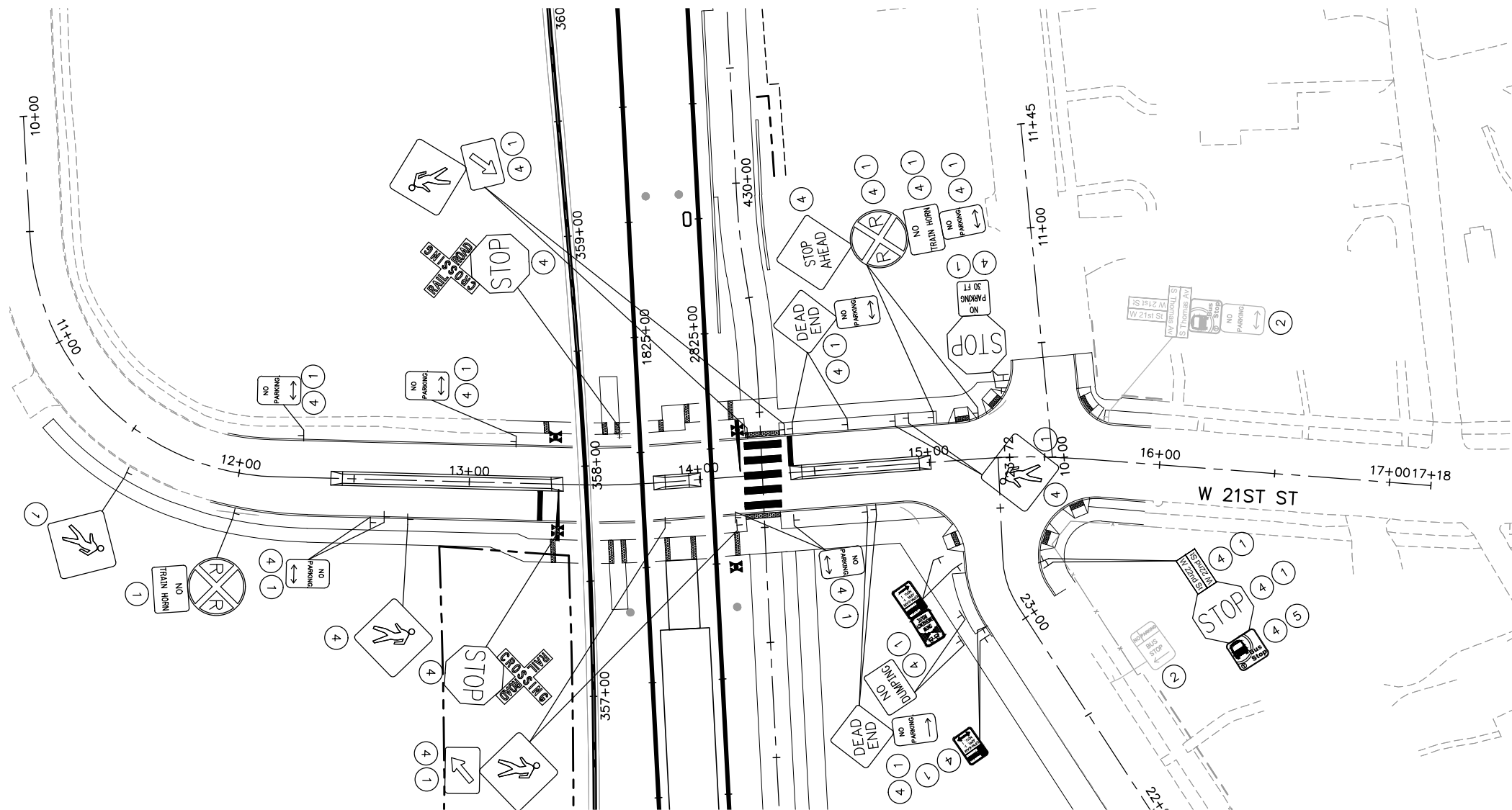
SHEET

54

OF

266

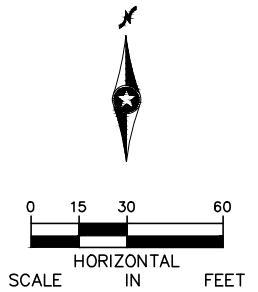
Sep. 21 2015 08:25 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIP.dwg By: catlin.wotruba



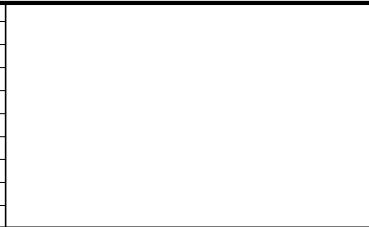
NOTES:

1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



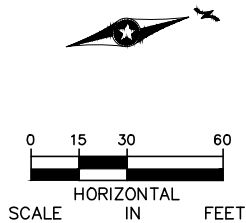
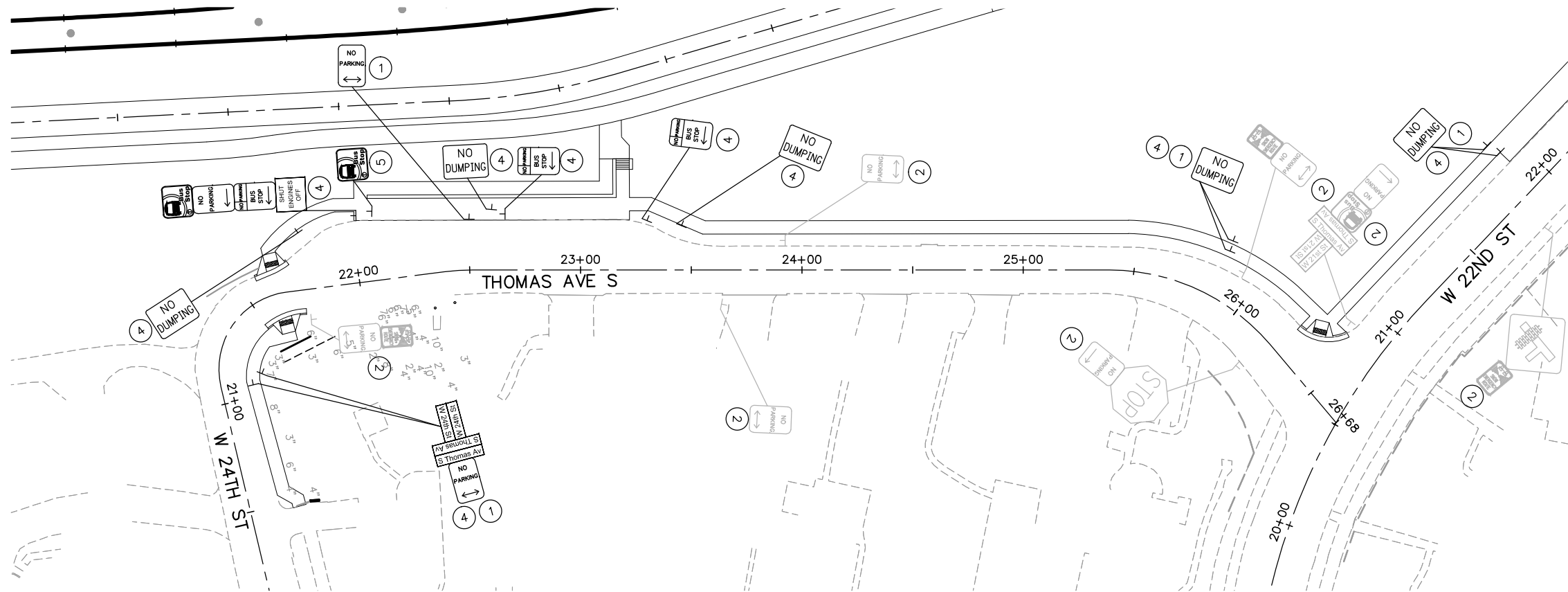
CIVIL EAST - VOLUME 10  
W 21ST ST  
SIGNING AND STRIPING  
STA. 11+00 TO STA. 16+50

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIGN-STRIP - 012

SHEET  
55  
OF  
266

Sep. 21 2015 08:26 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIPEDwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

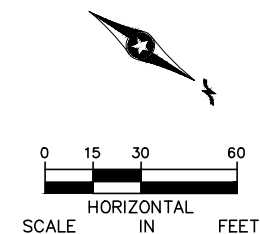
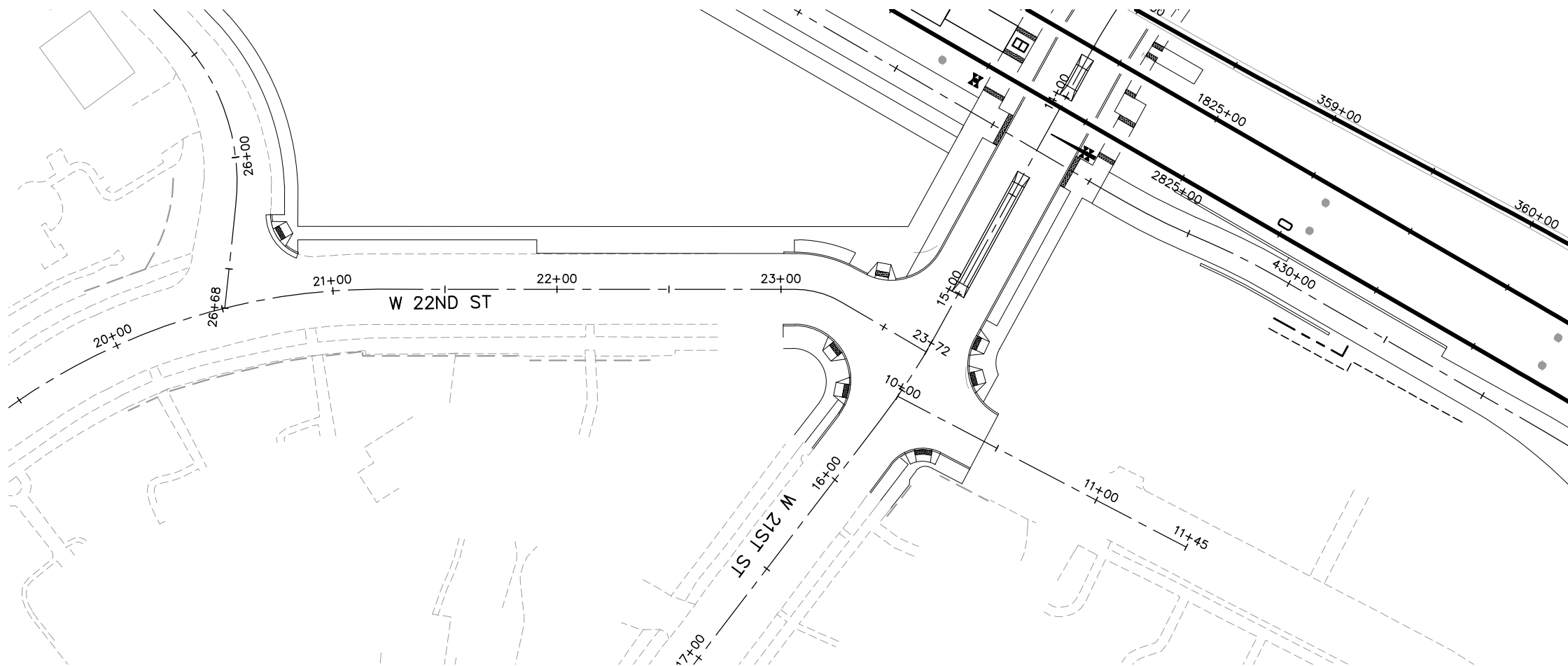
- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

<div style="display: flex; justify-content: space-around; align-items: center;"><div style="text-align: center;"><b>AECOM</b> Kimley»Horn</div><div style="text-align: center;"> METROPOLITAN COUNCIL</div><div style="text-align: center;"> SOUTHWEST Green Line LRT Extension</div></div>		<b>CIVIL EAST - VOLUME 10</b> <b>W 24TH ST / THOMAS AVE S</b> <b>SIGNING AND STRIPING</b> <b>STA. 20+00 TO STA. 26+67.59</b>		<b>SHEET</b>  56  OF  266
		DISCIPLINE: <b>TRAFFIC</b>	SHEET NAME: <b>E3-TFC-SIGN-STRIPED - 013</b>	
<b>60% SUBMISSION - 09/28/15</b>				



Sep. 21 2015 08:26 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-SIGN-STRIP.dwg By: catlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

  
60% SUBMISSION - 09/28/15



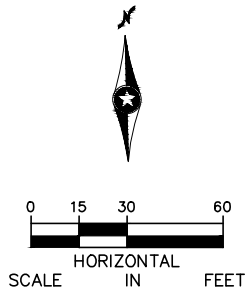
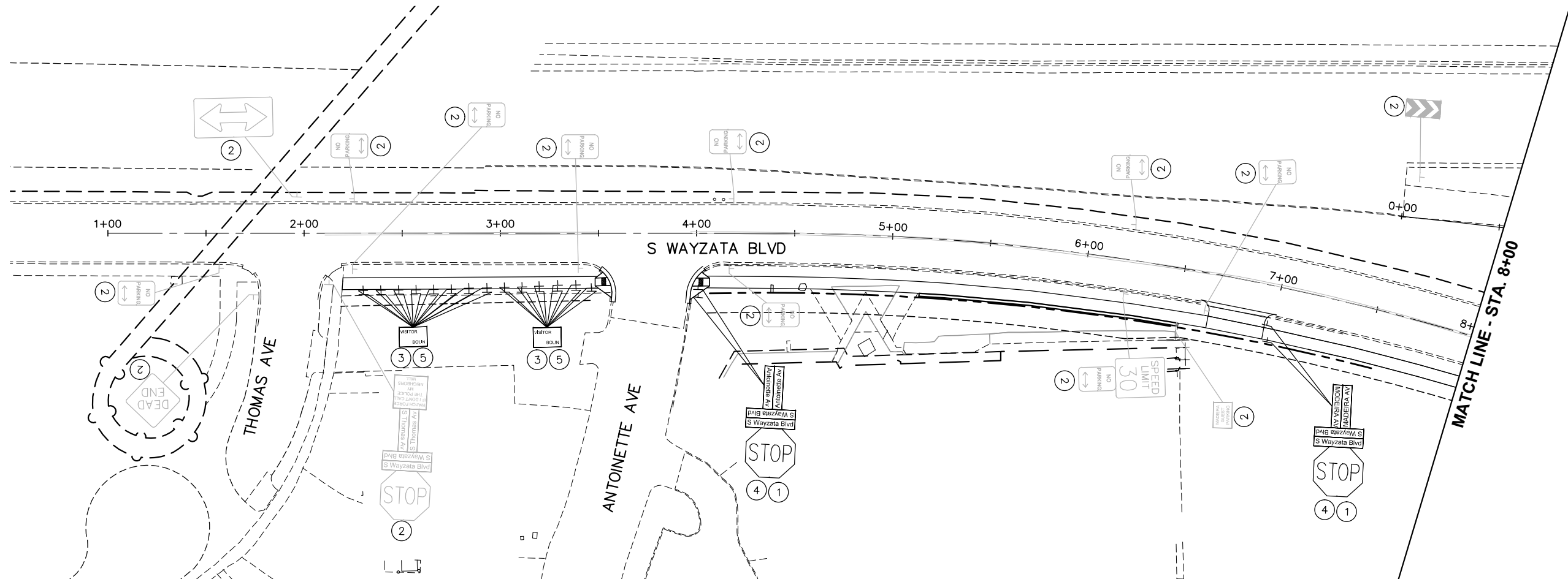
CIVIL EAST - VOLUME 10  
W 22ND ST / THOMAS AVE S  
SIGNING AND STRIPING

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIGN-STRIP - 014

SHEET  
57  
OF  
266

Sep. 21 2015 08:29 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIP.dwg By: catlin.wotruba





NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

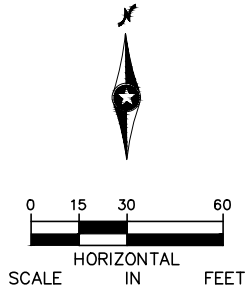
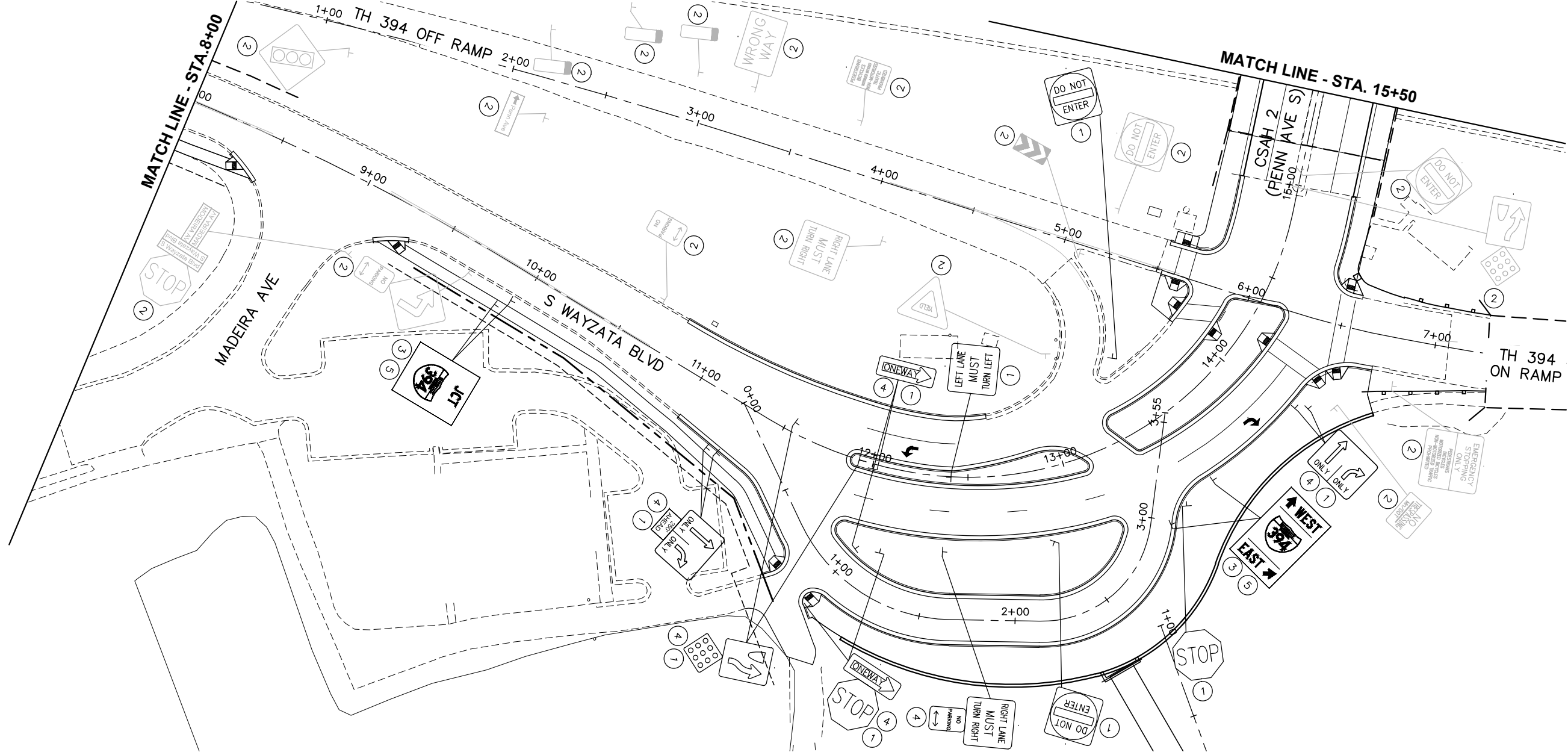


**CIVIL EAST - VOLUME 10**  
**S WAYZATA BLVD**  
**SIGNING AND STRIPING**  
**STA. 1+00 TO STA. 8+00**

DISCIPLINE: **TRAFFIC**  
SHEET NAME: **E4-TFC-SIGN-STRIP - 001**

**SHEET**  
**58**  
**OF**  
**266**

Sep. 21 2015 08:29 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIPEDWG By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



**SOUTHWEST**  
Green Line LRT Extension



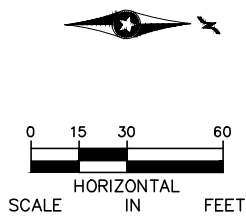
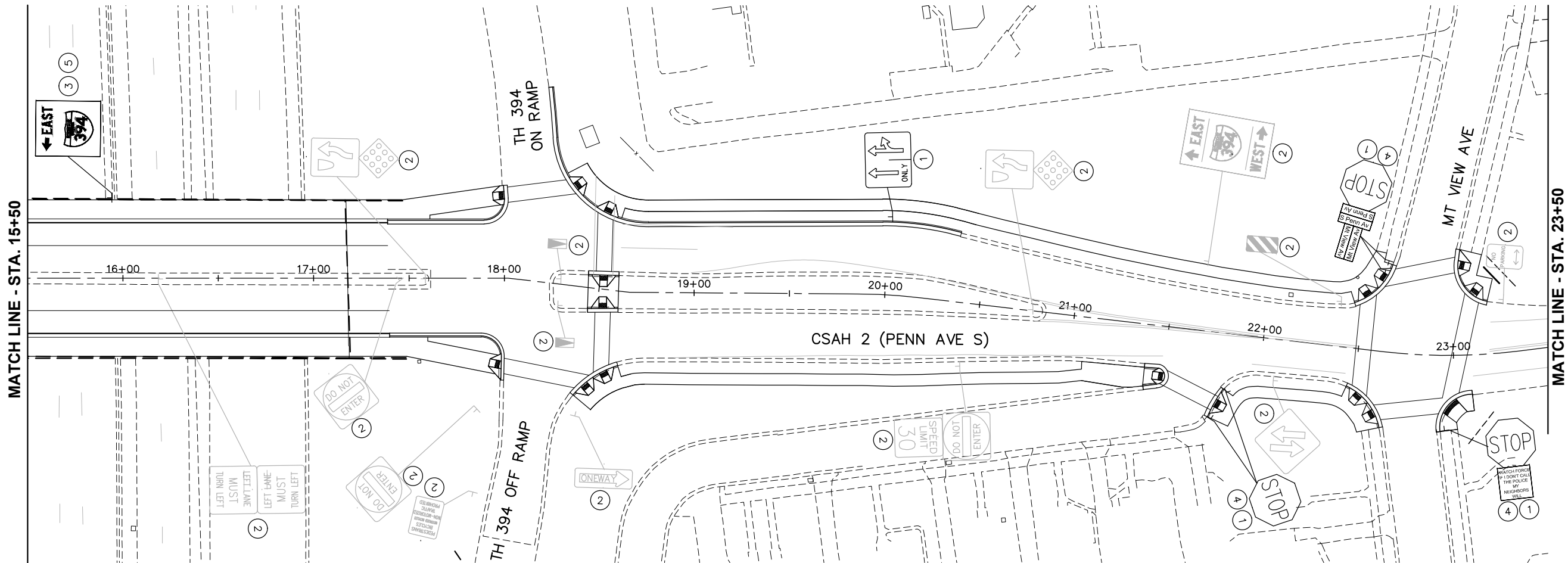
**CIVIL EAST - VOLUME 10**  
**S WAYZATA BLVD / CSAH 2 (PENN AVE S)**  
**SIGNING AND STRIPING**  
**STA. 8+00 TO STA. 15+50**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E4-TFC-SIGN-STRIPEDWG**

**SHEET**  
**59**  
**OF**  
**266**

Sep. 21 2015 08:30 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIPE.dwg By: catlin.wotruba





NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

**METROPOLITAN**  
COUNCIL

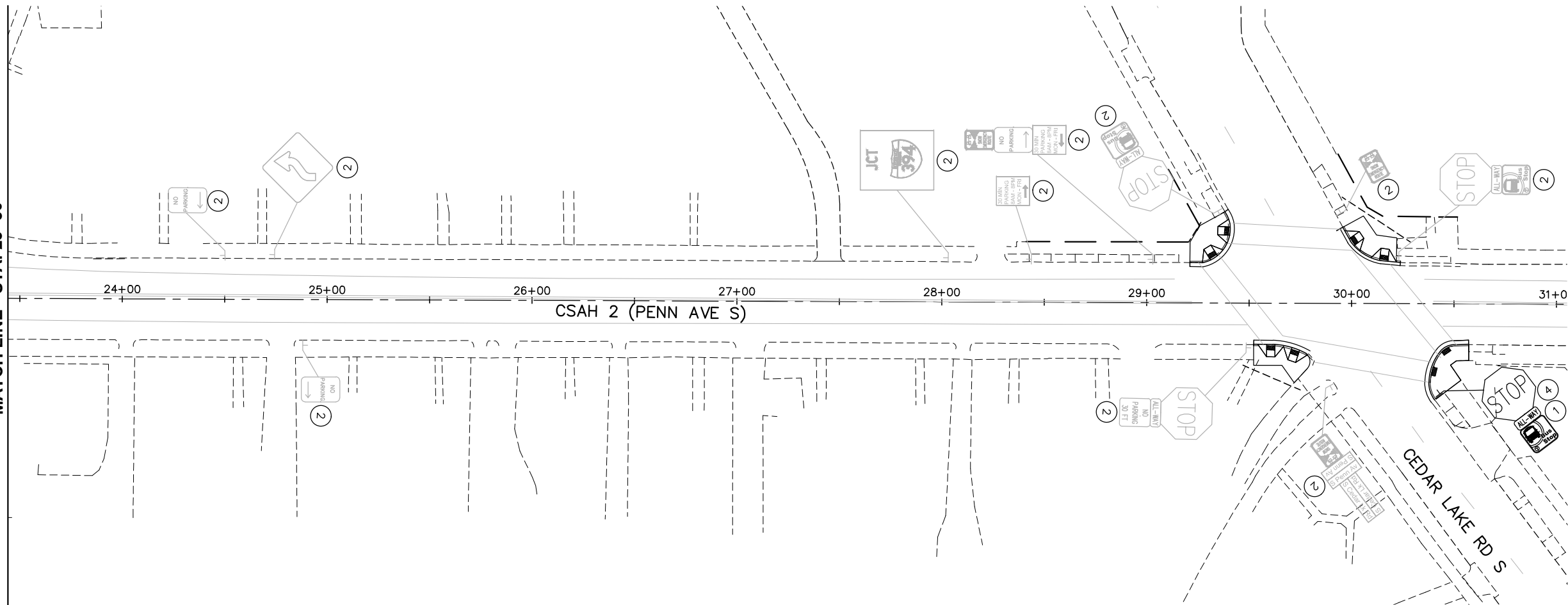
**SOUTHWEST**  
Green Line LRT Extension

60% SUBMISSION - 09/28/15

<b>CIVIL EAST - VOLUME 10</b> <b>CSAH 2 (PENN AVE S)</b> <b>SIGNING AND STRIPING</b> <b>STA. 15+50 TO STA. 23+50</b>		<b>SHEET</b>  60 OF 266
DISCIPLINE: TRAFFIC	SHEET NAME: E4-TFC-SIGN-STRIPE - 003	

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MATCH LINE - STA. 23+50



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



60% SUBMISSION - 09/28/15

**CIVIL EAST - VOLUME 10**  
**CSAH 2 (PENN AVE S)**  
**SIGNING AND STRIPING**  
**STA. 23+50 TO STA. 30+50**

DISCIPLINE:

TRAFFIC

SHEET NAME:

E4-TFC-SIGN-STRIPE - 004

SHEET

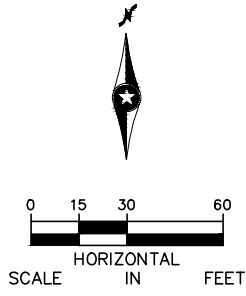
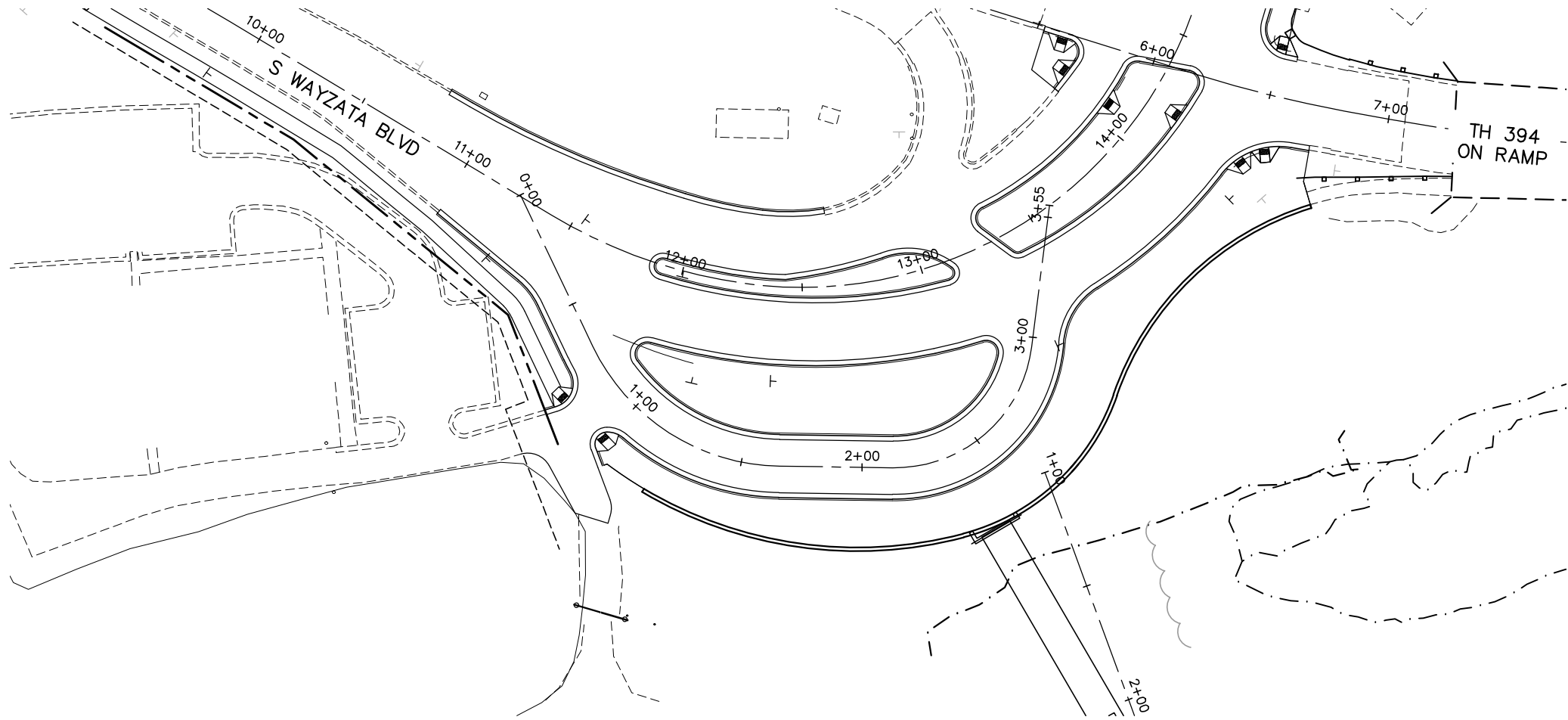
61

OF

266

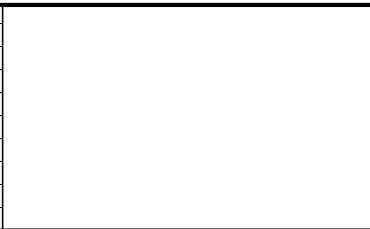


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60% SUBMISSION - 09/28/15



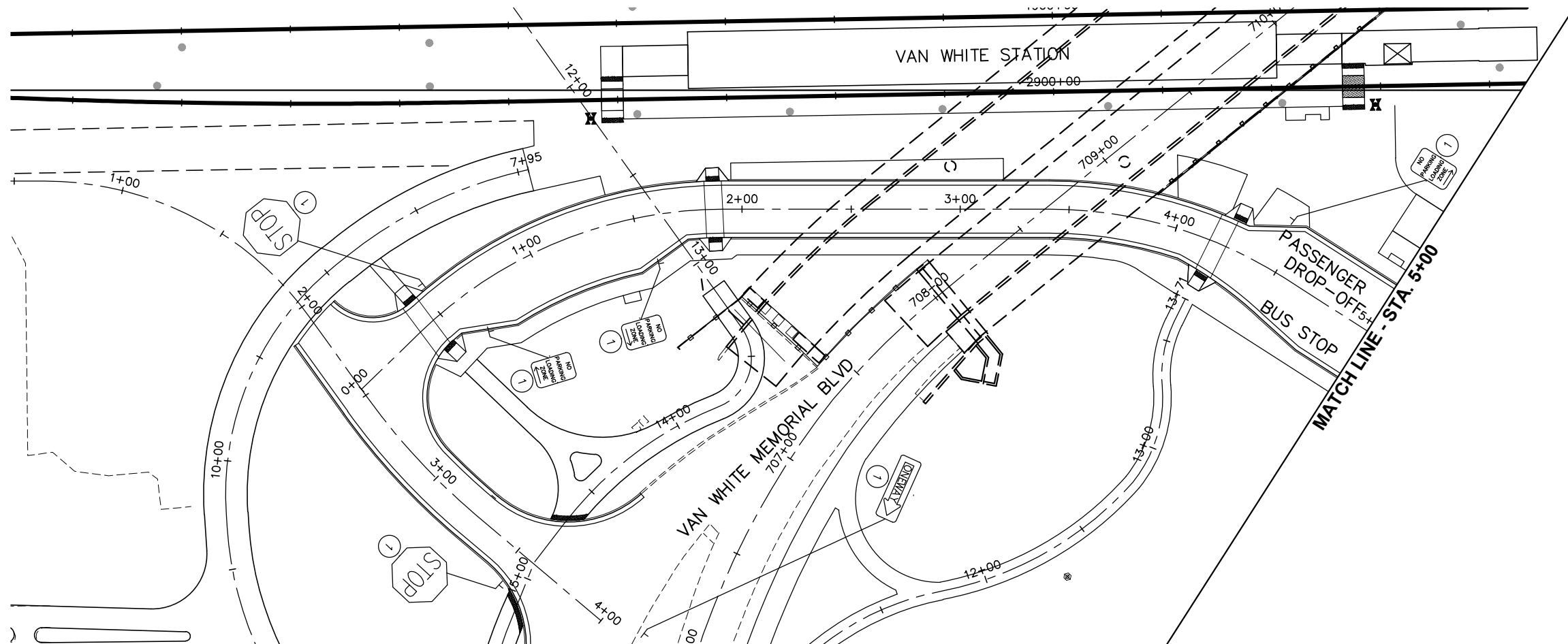
CIVIL EAST - VOLUME 10  
PENN STATION KISS AND RIDE  
SIGNING AND STRIPING

DISCIPLINE: TRAFFIC

SHEET NAME: E4-TFC-SIGN-STRIP - 005

SHEET  
62  
OF  
266

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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



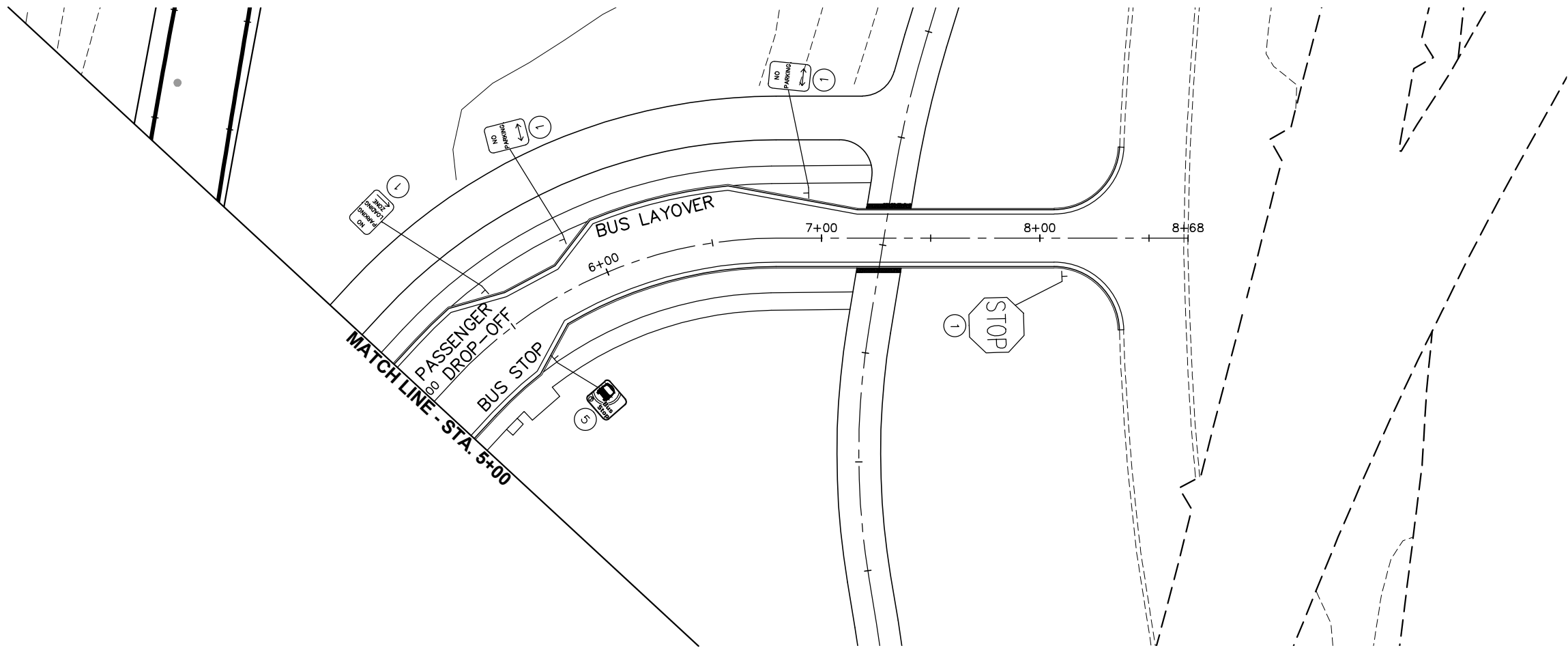
60% SUBMISSION - 09/28/15

**CIVIL EAST - VOLUME 10**  
**VAN WHITE STATION ACCESS**  
**SIGNING AND STRIPING**  
**STA. 0+00 TO STA. 5+00**

DISCIPLINE: **TRAFFIC**  
SHEET NAME: **E4-TFC-SIGN-STRIPE - 006**

**SHEET**  
**63**  
**OF**  
**266**

Sep. 21 2015 08:31 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIPEDwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

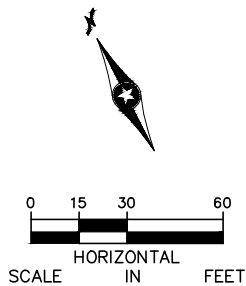
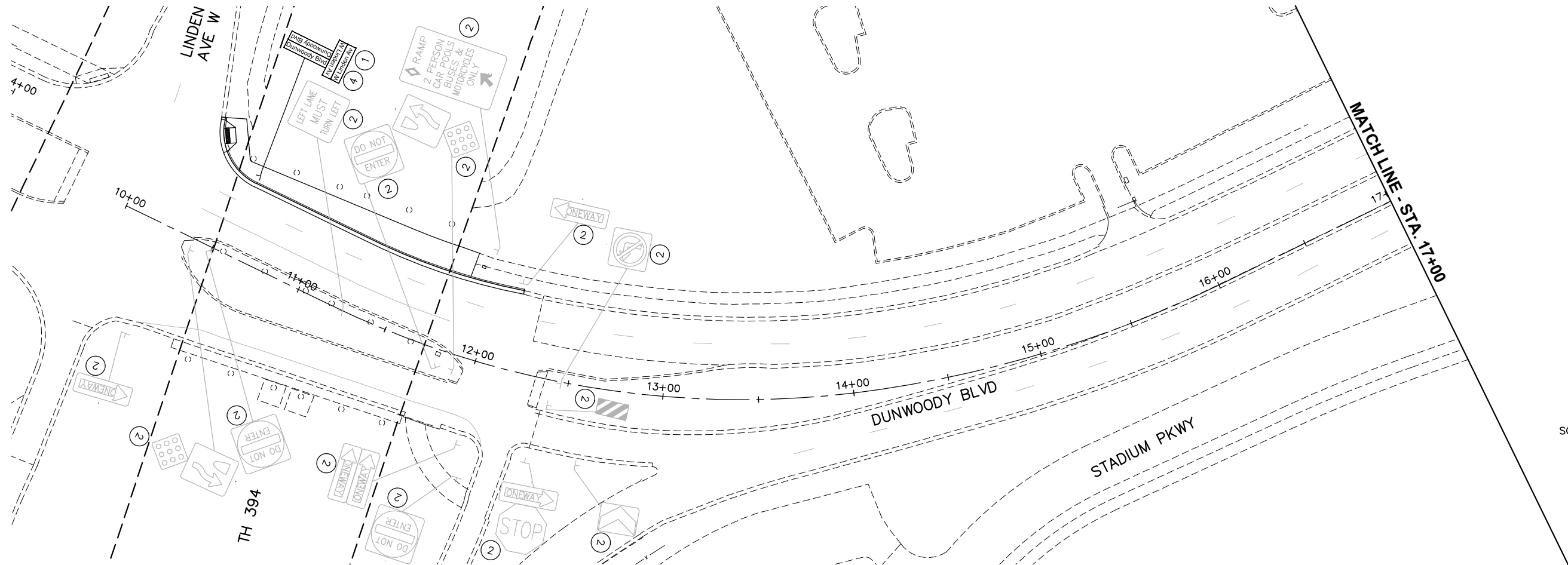
**CIVIL EAST - VOLUME 10**  
**VAN WHITE STATION ACCESS**  
**SIGNING AND STRIPING**  
**STA. 5+00 TO STA. 8+68**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E4-TFC-SIGN-STRIPED - 007**

**SHEET**  
**64**  
**OF**  
**266**

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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



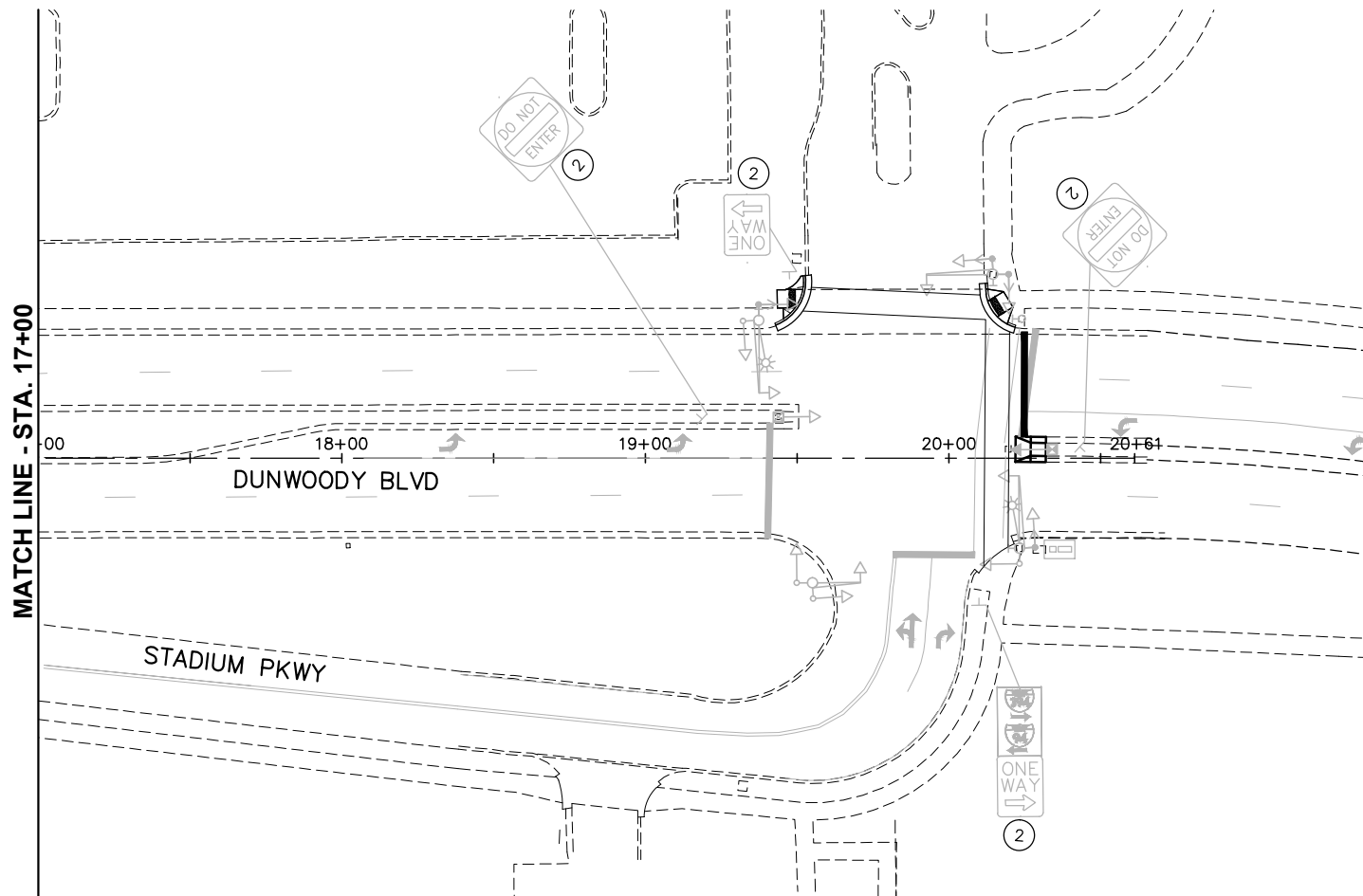
**CIVIL EAST - VOLUME 10  
DUNWOODY BLVD  
SIGNING AND STRIPING  
STA. 10+00 TO STA. 17+00**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E4-TFC-SIGN-STRIPED - 008**

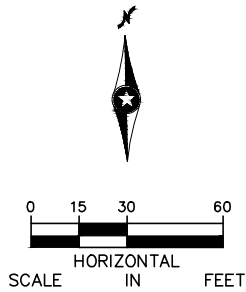
**SHEET  
65  
OF  
266**

Sep. 21 2015 08:32 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIP.dwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

  
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
DUNWOODY BLVD  
SIGNING AND STRIPING  
STA. 17+00 TO STA. 21+61

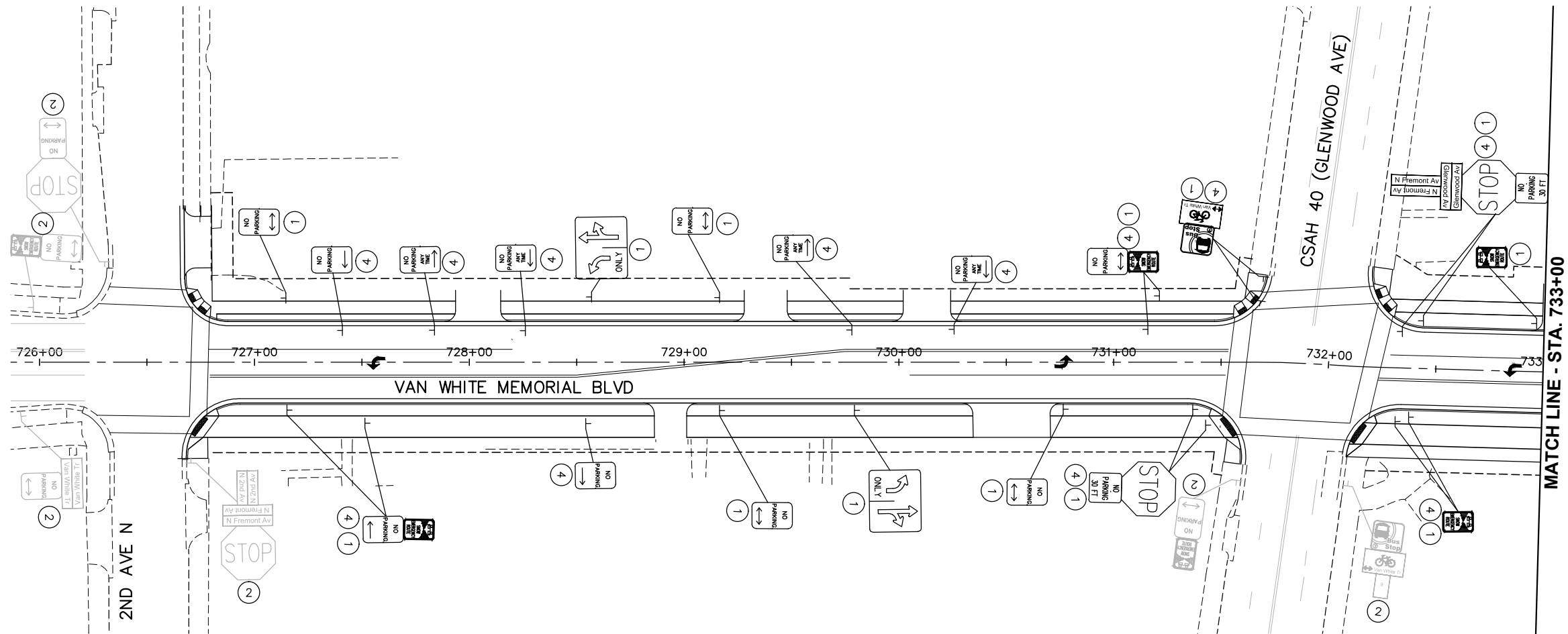
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E4-TFC-SIGN-STRIP - 009

SHEET  
66  
OF  
266



Sep. 21 2015 08:32 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIPES.dwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

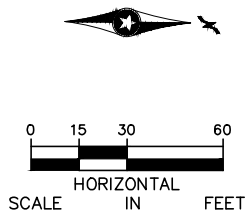


**CIVIL EAST - VOLUME 10**  
**VAN WHITE MEMORIAL BLVD**  
**SIGNING AND STRIPING**  
**STA. 726+00 TO STA. 733+00**

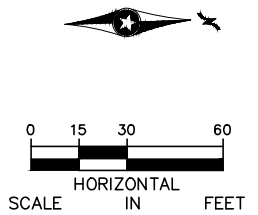
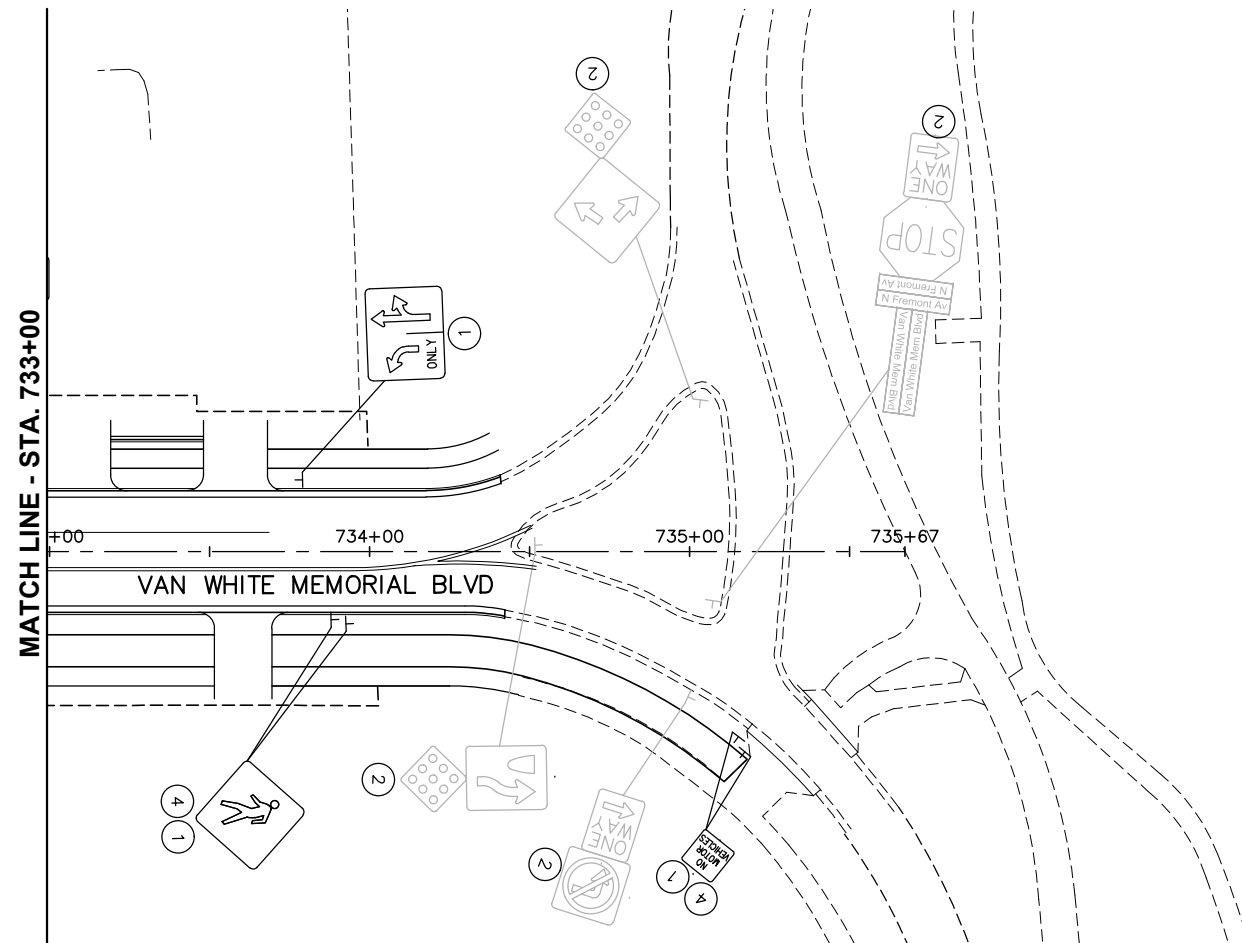
DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E4-TFC-SIGN-STRIPES - 010**

**SHEET**  
**67**  
**OF**  
**266**



- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

[illegible]

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10  
VAN WHITE MEMORIAL BLVD  
SIGNING AND STRIPING  
STA. 733+00 TO STA. 735+00**

DISCIPLINE:

## TRAFFIC

SHEET NAME:
-------------

**E4-TFC-SIGN-STRIFE - 011**

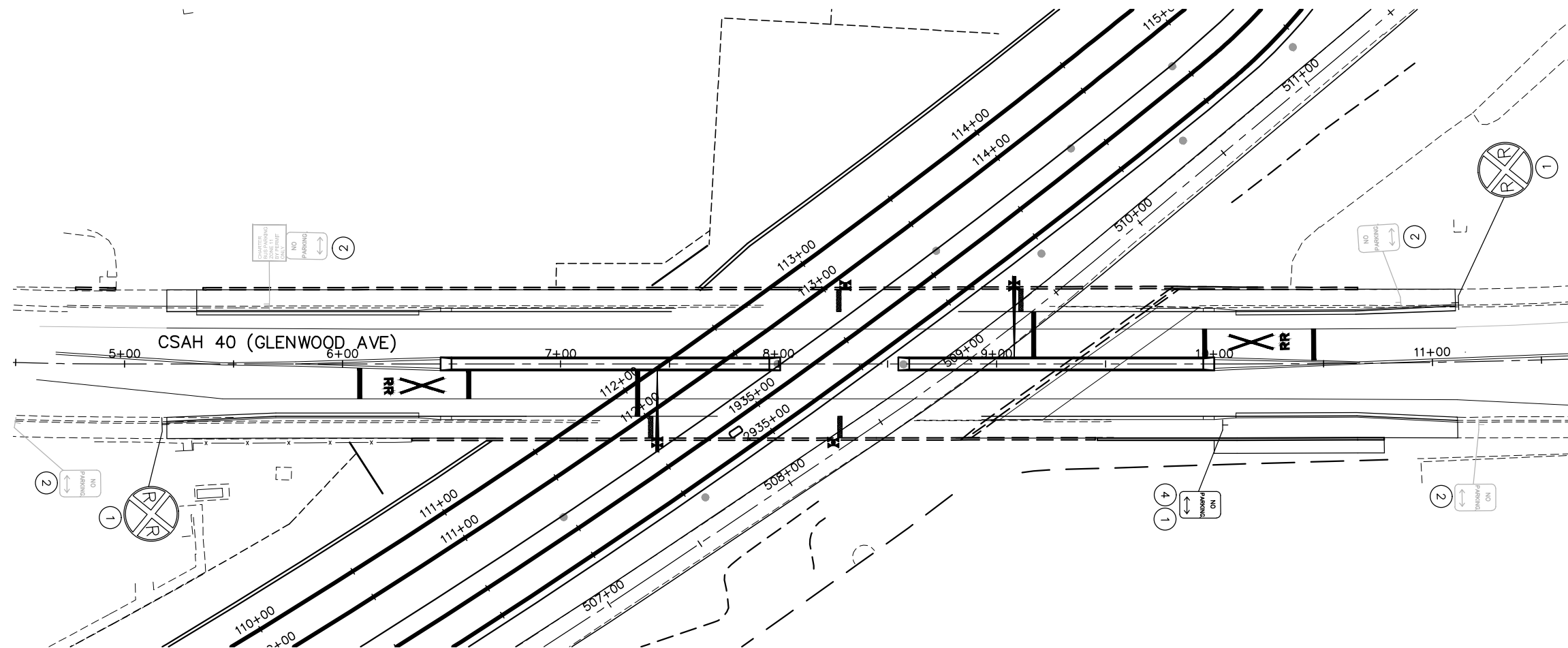
SHEET

58

OF

66

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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

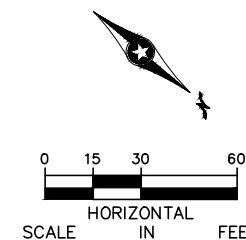
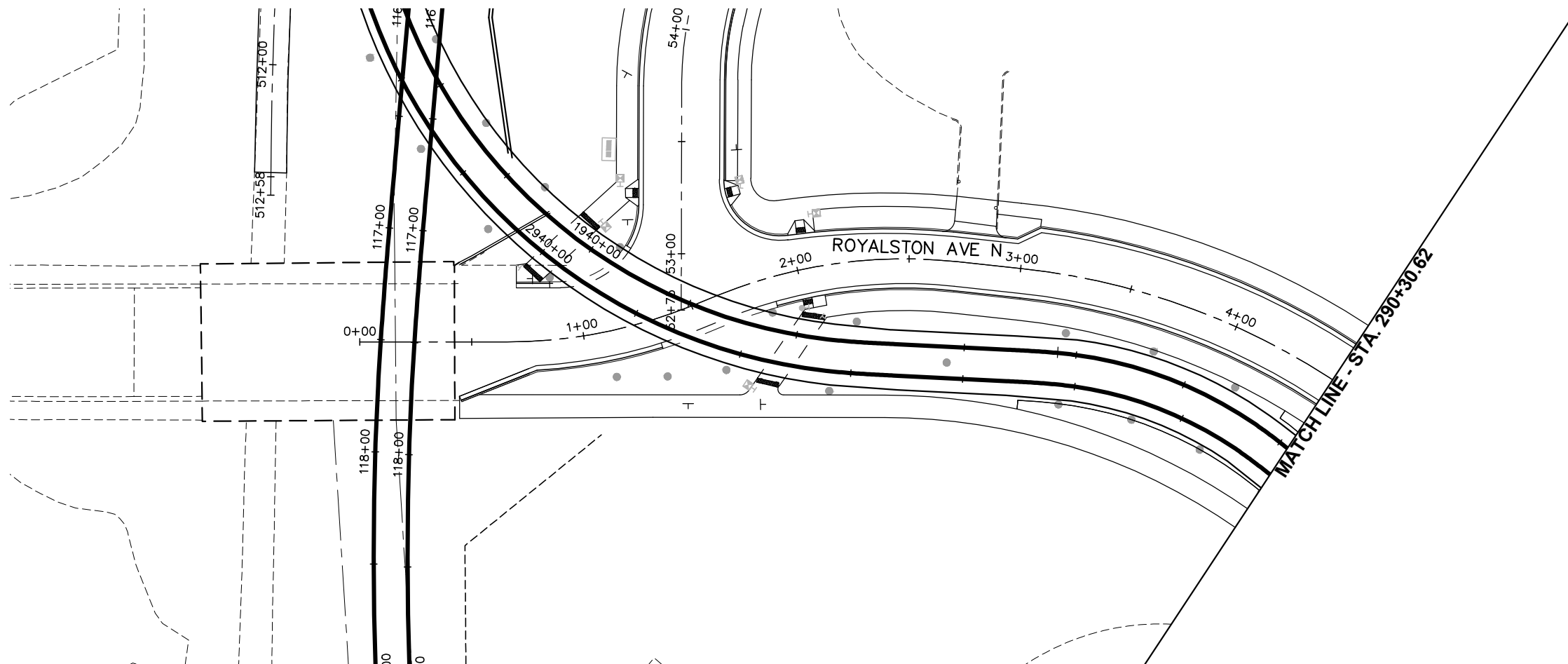
**CIVIL EAST - VOLUME 10**  
**CSAH 40 (GLENWOOD AVE)**  
**SIGNING AND STRIPING**  
**STA. 5+00 TO STA. 11+50**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E4-TFC-SIGN-STRIP - 012**

**SHEET**  
**69**  
**OF**  
**266**


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**AECOM** Kimley»Horn

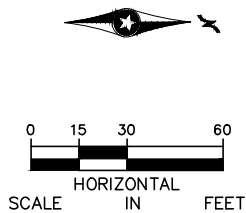
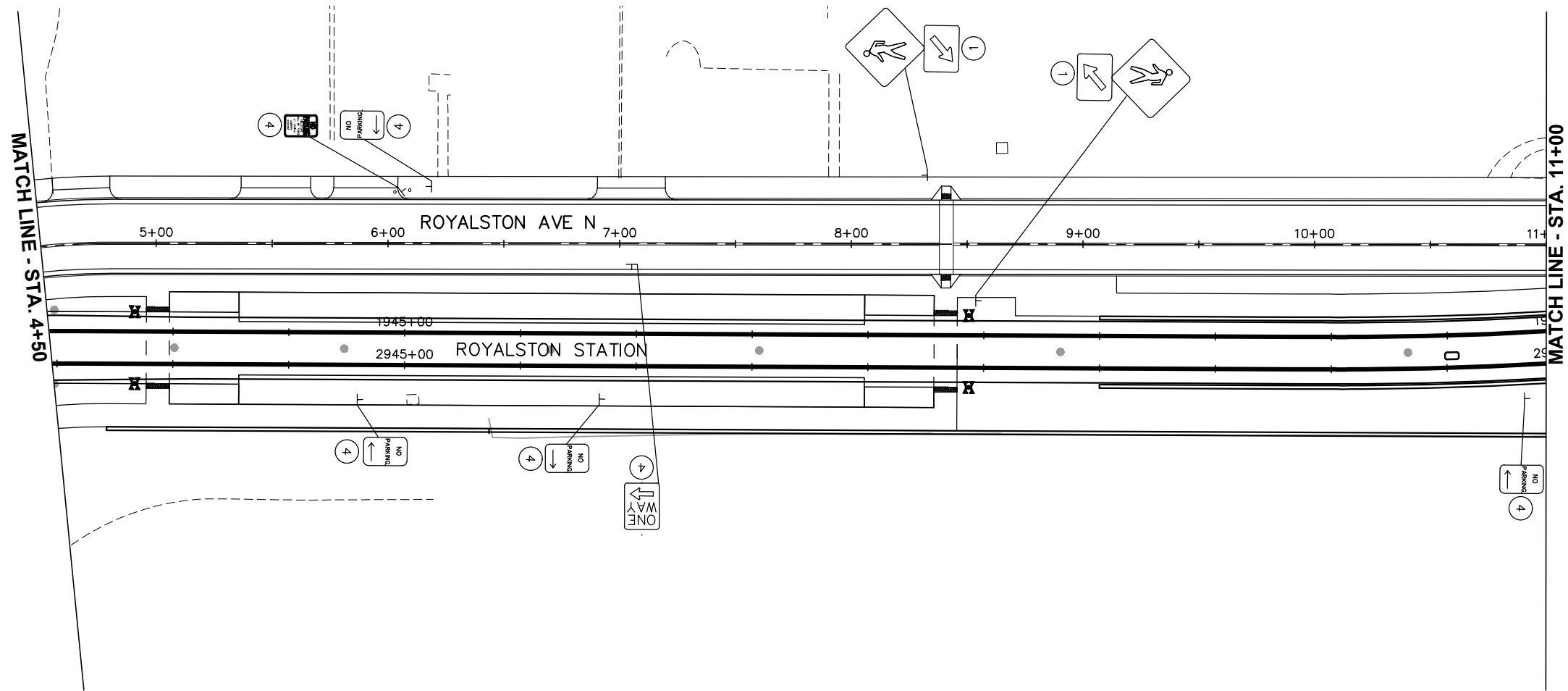
**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

60% SUBMISSION - 09/28/15

<b>CIVIL EAST - VOLUME 10</b>		<b>SHEET</b>  <b>70</b>  <b>OF</b>  <b>266</b>
<b>ROYALSTON AVE N</b>		
<b>SIGNING AND STRIPING</b>		
<b>DISCIPLINE:</b>	<b>SHEET NAME:</b>	
<b>TRAFFIC</b>	<b>E4-TFC-SIGN-STRIPE - 013</b>	

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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

60% SUBMISSION - 09/28/15

**CIVIL EAST - VOLUME 10**  
**ROYALSTON AVE N**  
**SIGNING AND STRIPING**  
**STA. 4+50 TO STA. 11+00**

DISCIPLINE: **TRAFFIC**  
SHEET NAME: **E4-TFC-SIGN-STRIPE - 014**

**SHEET**  
**71**  
**OF**  
**266**

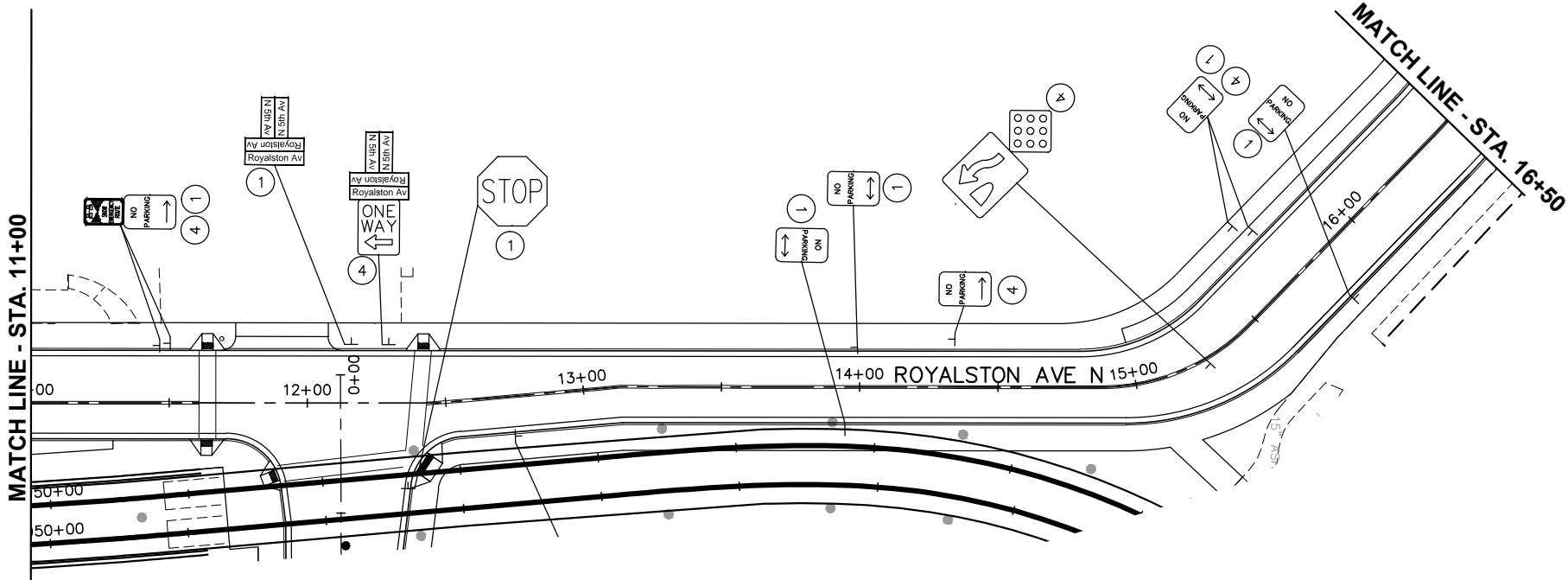


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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn



60% SUBMISSION - 09/28/15

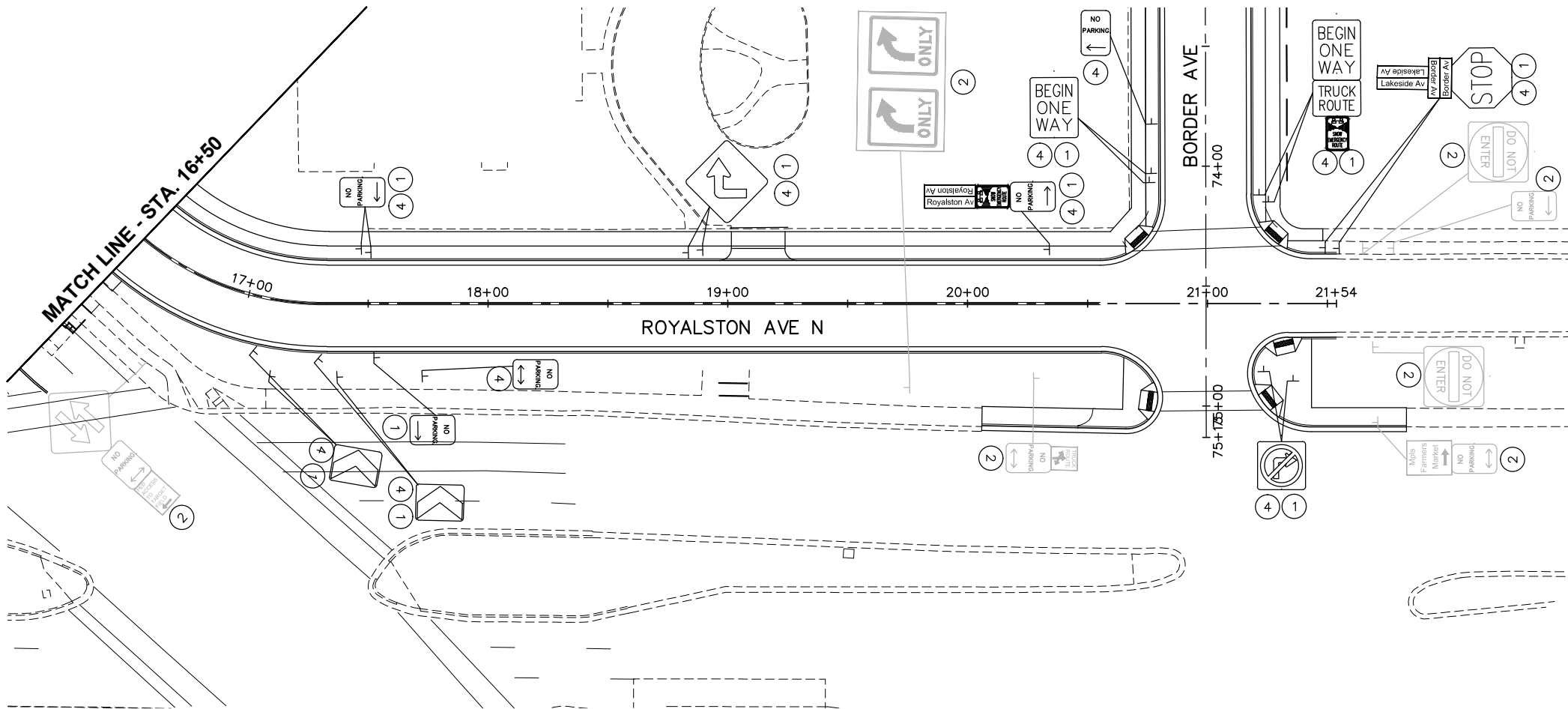
CIVIL EAST - VOLUME 10  
ROYALSTON AVE N  
SIGNING AND STRIPING  
STA. 11+00 TO STA. 16+50

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E4-TFC-SIGN-STRIPE - 015

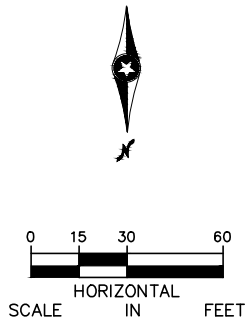
SHEET  
72  
OF  
266

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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



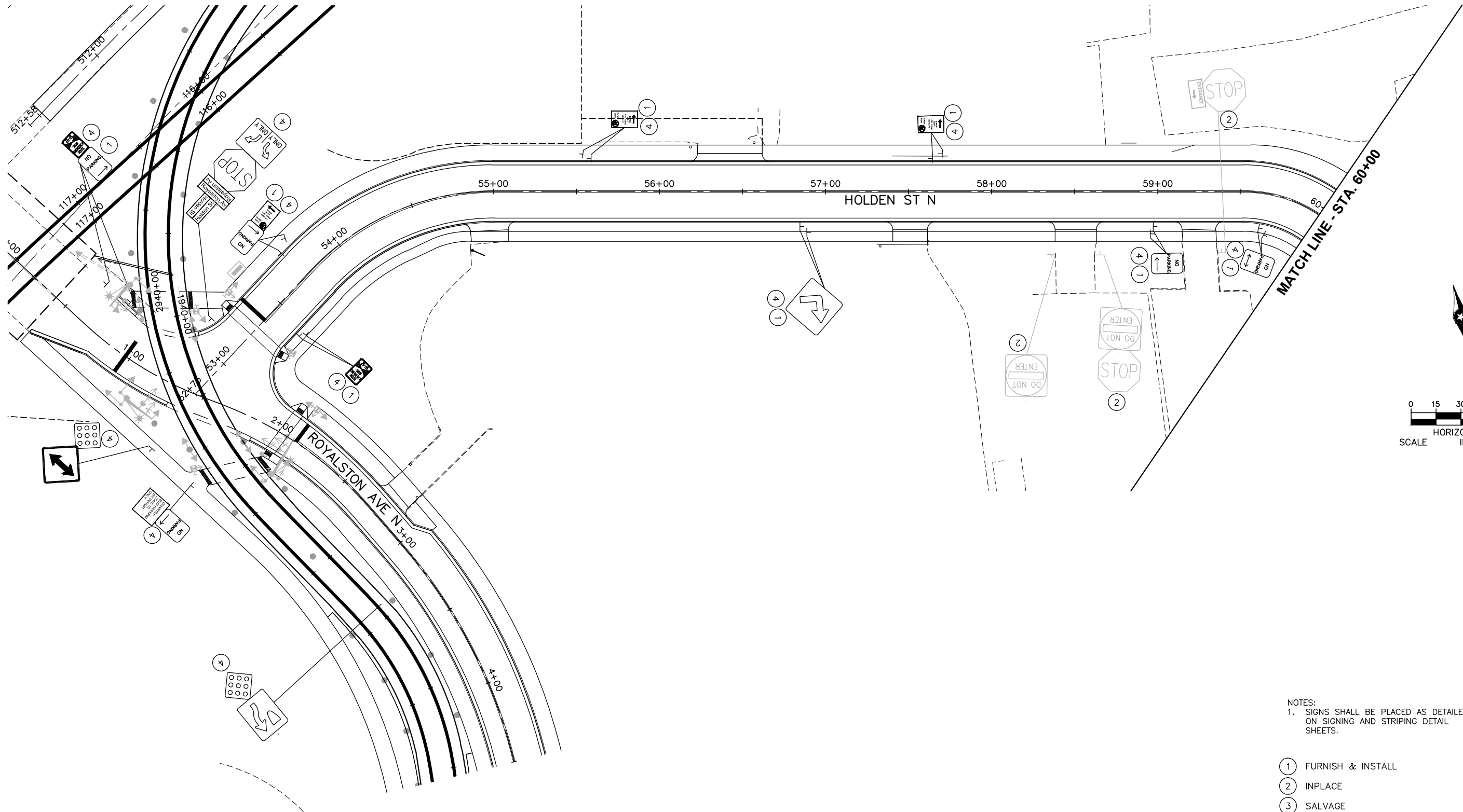
**CIVIL EAST - VOLUME 10**  
**ROYALSTON AVE N**  
**SIGNING AND STRIPING**  
**STA. 16+50 TO STA. 21+54**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E4-TFC-SIGN-STRIPE - 016**

**SHEET**  
**73**  
**OF**  
**266**

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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

60% SUBMISSION - 09/28/15

**CIVIL EAST - VOLUME 10**  
**HOLDEN AVE N**  
**SIGNING AND STRIPING**  
**STA. 52+77 TO STA. 60+00**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E4-TFC-SIGN-STRIPE - 017**

**SHEET**  
**74**  
**OF**  
**266**

Sep. 21 2015 08:35 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIPE.dwg By: catlin.wotruba

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn

60% SUBMISSION - 09/28/15



SOUTHWEST  
Green Line LRT Extension



CIVIL EAST - VOLUME 10  
HOLDEN ST N AND BORDER AVE  
SIGNING AND STRIPING  
STA. 60+00 TO STA. 67+50

DISCIPLINE:

TRAFFIC

SHEET NAME:

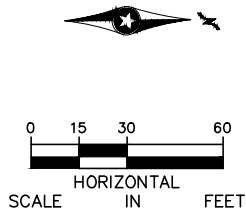
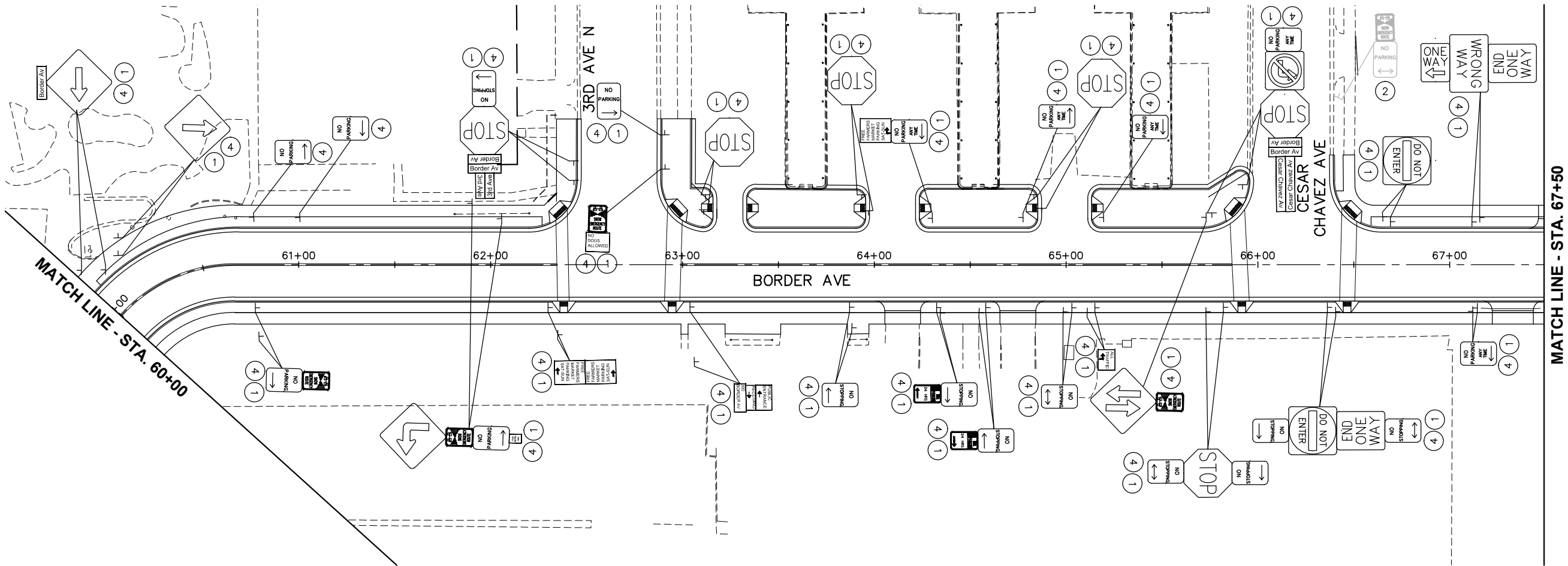
E4-TFC-SIGN-STRIPE - 018

SHEET

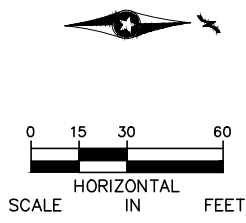
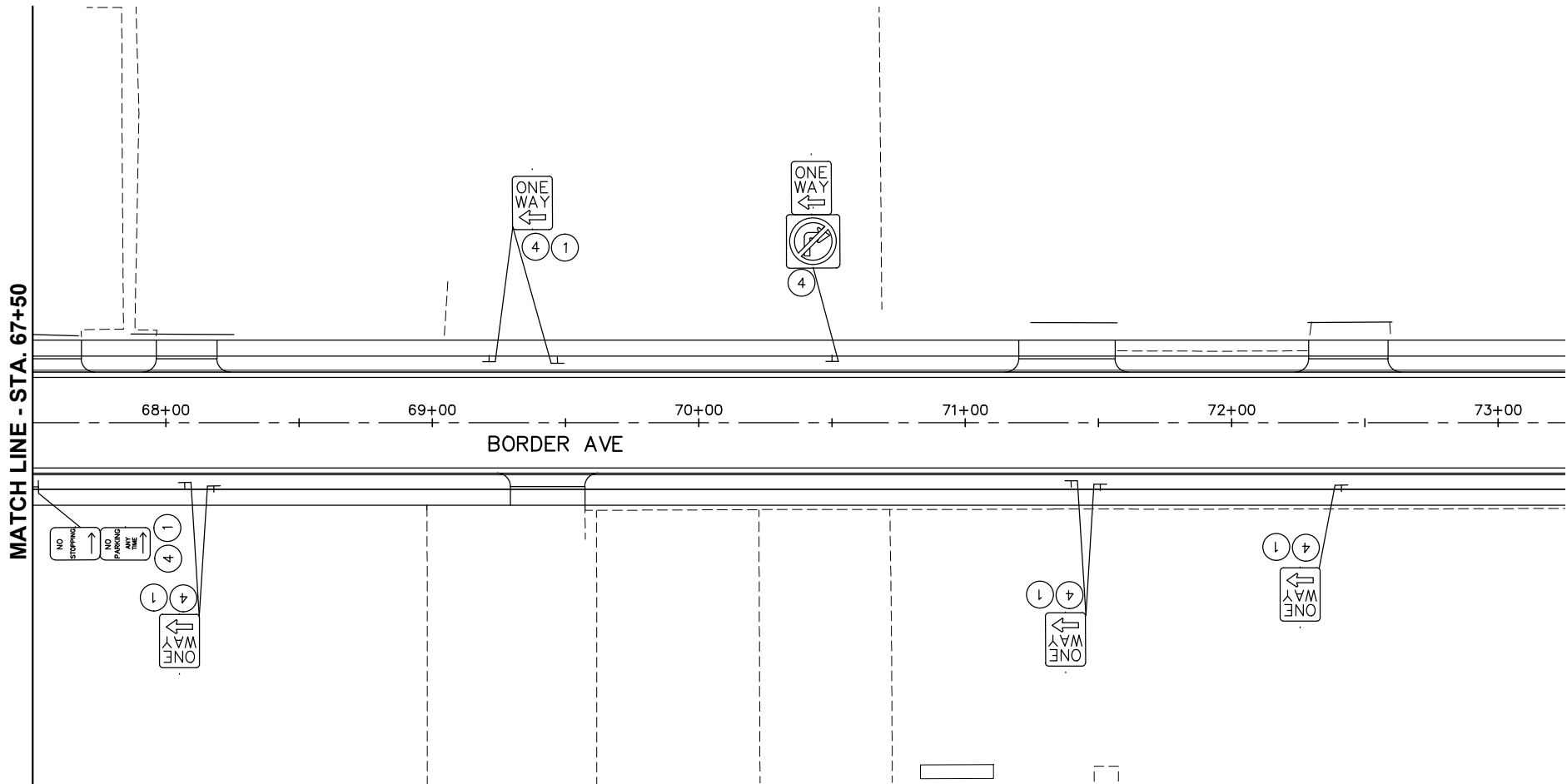
75

OF

266



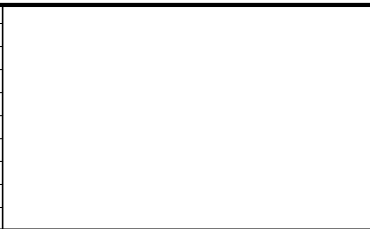
Sep. 21 2015 08:35 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIP.dwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





60% SUBMISSION - 09/28/15

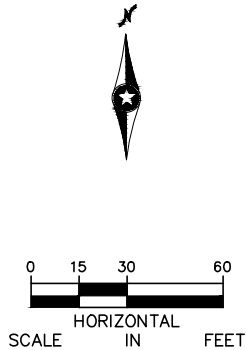
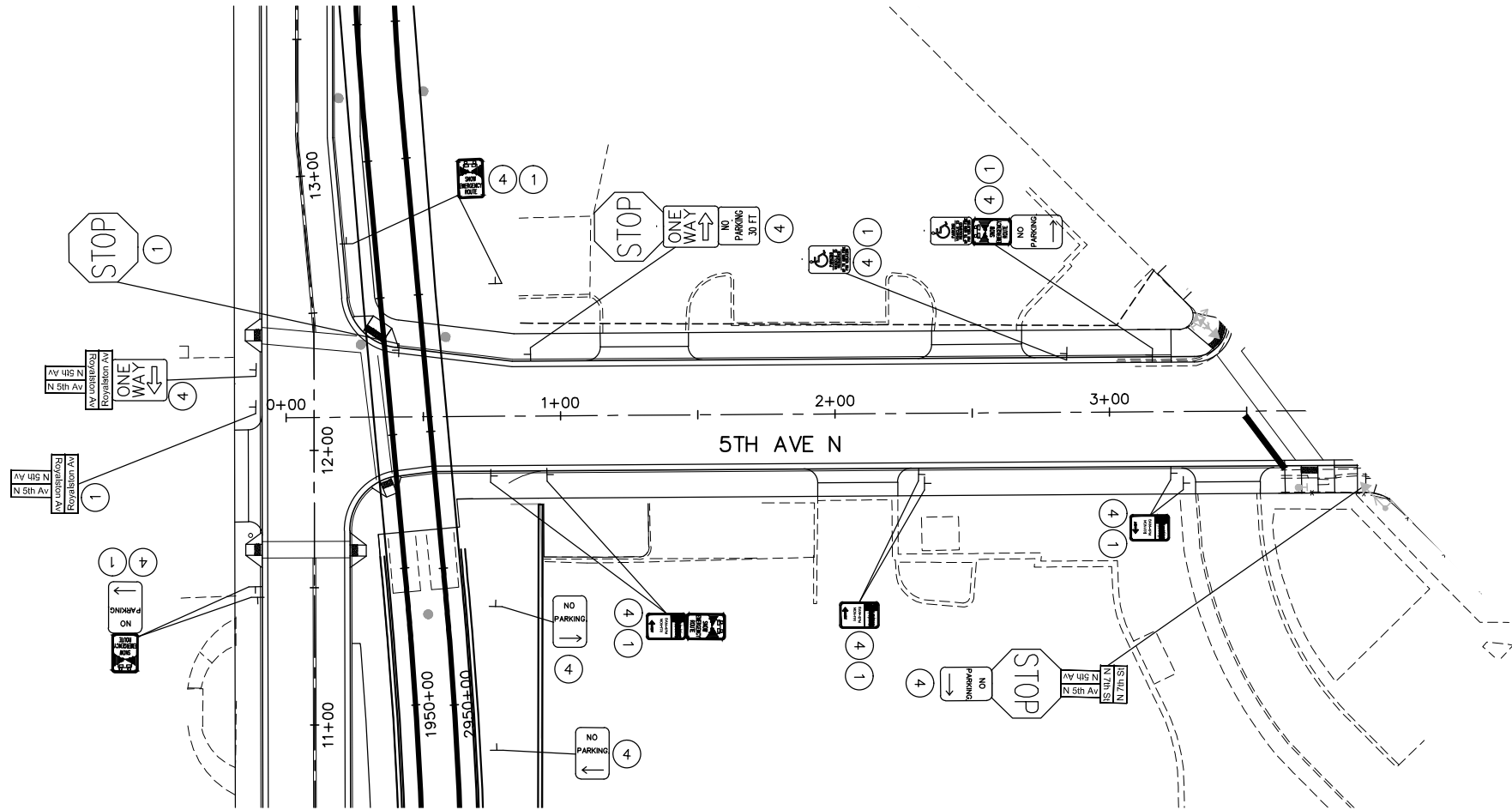


CIVIL EAST - VOLUME 10 BORDER AVE SIGNING AND STRIPING STA. 67+50 TO STA. 73+25	
DISCIPLINE: TRAFFIC	SHEET NAME: E4-TFC-SIGN-STRIP - 019

SHEET  
76  
OF  
266



Sep. 21 2015 08:36 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-SIGN-STRIP.dwg By: catlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



60% SUBMISSION - 09/28/15

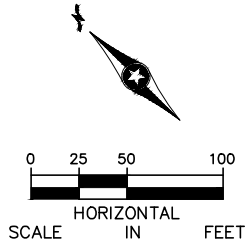
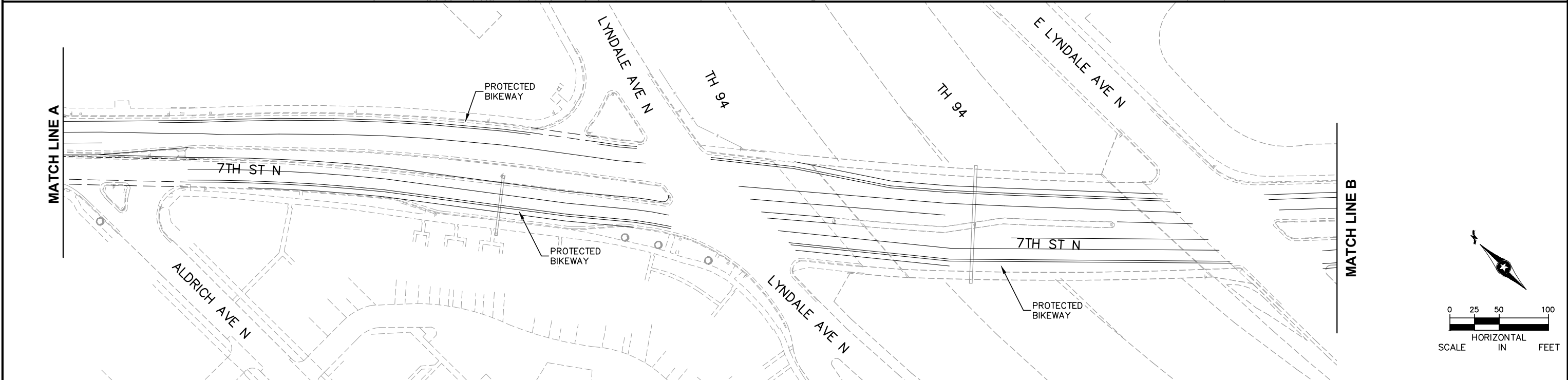
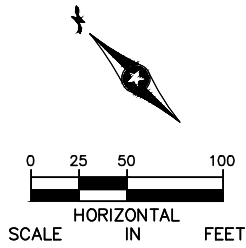
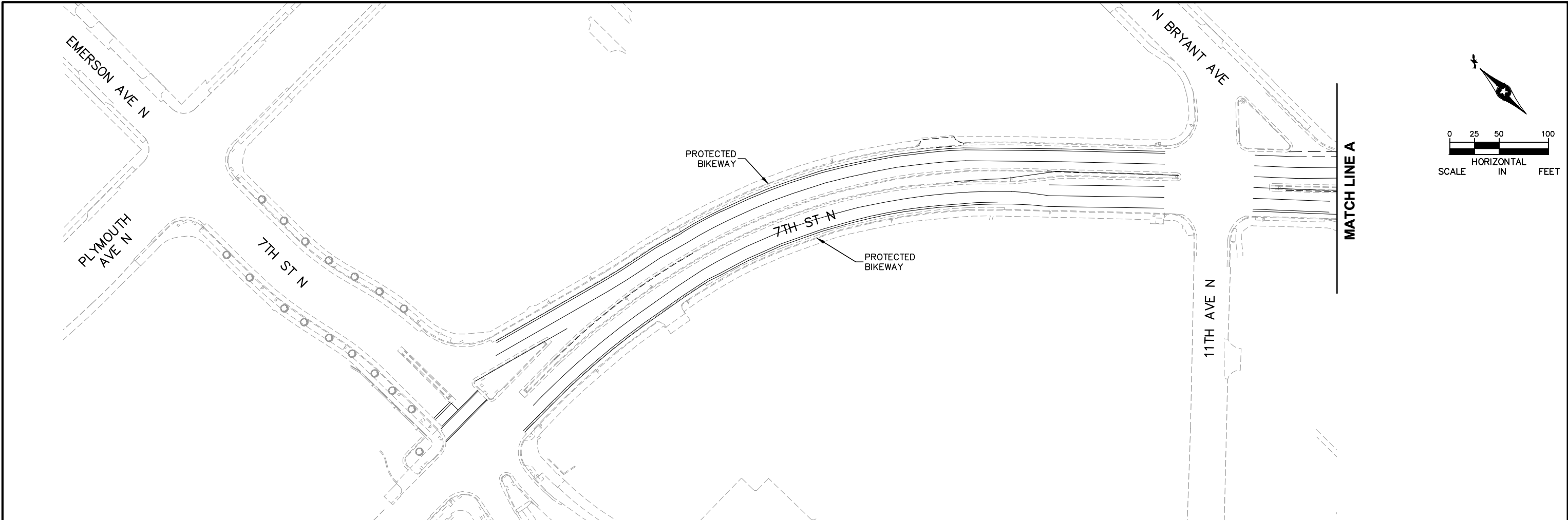
CIVIL EAST - VOLUME 10  
5TH AVE N  
SIGNING AND STRIPING

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E4-TFC-SIGN-STRIP - 020

SHEET  
77  
OF  
266

Sep. 21 2015 08:43 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-7TH-SIGN-STRIPE.dwg By: brian.villa



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





60% SUBMISSION - 09/28/15



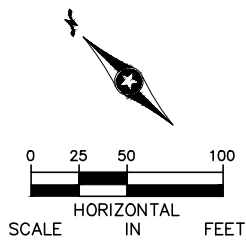
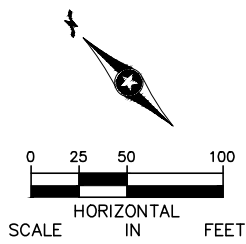
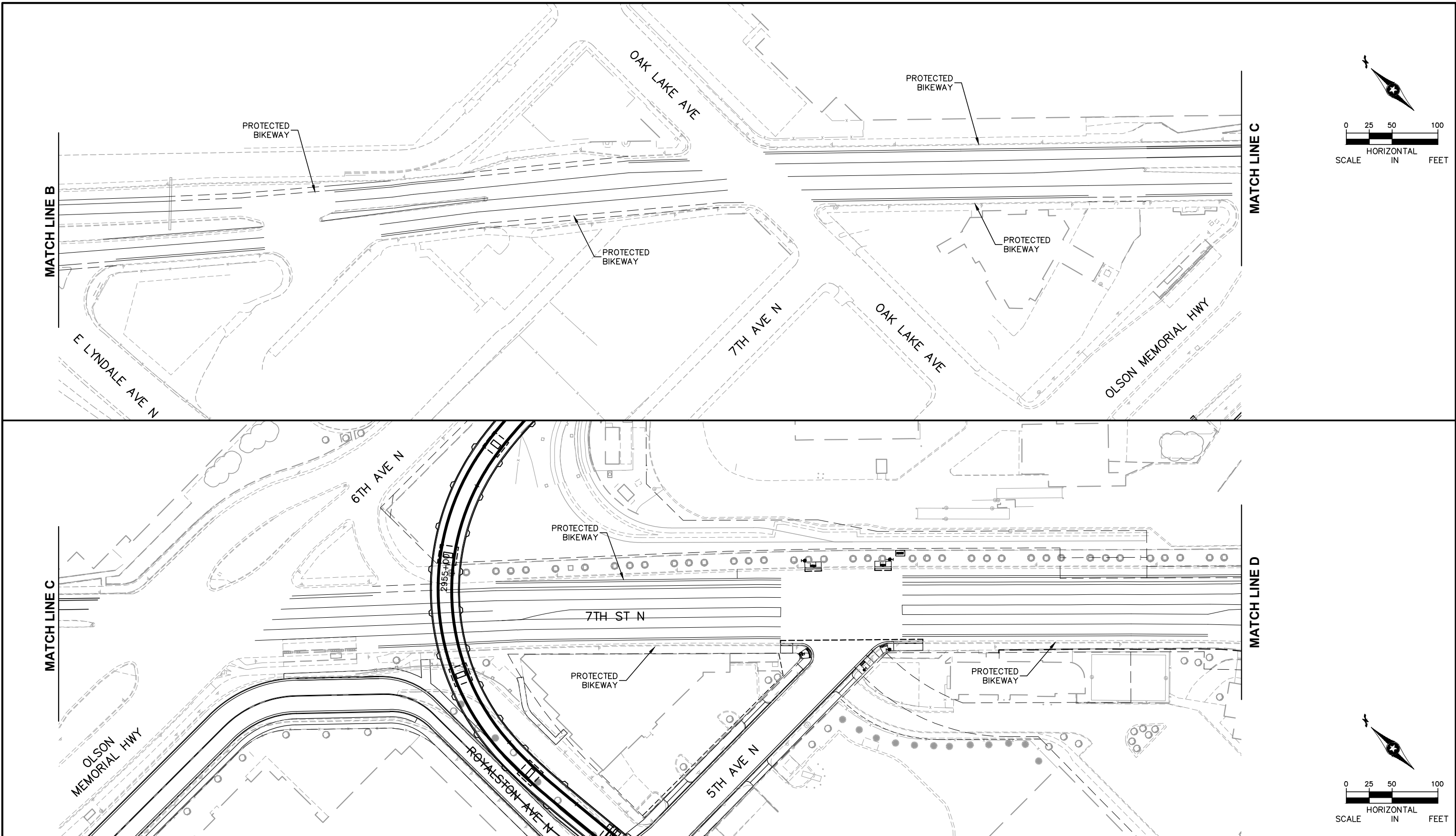
CIVIL EAST - VOLUME 10  
7TH ST N  
PROTECTED BIKEWAY STRIPING

DISCIPLINE: TRAFFIC

SHEET NAME:  
E4-TFC-7TH-SIGN-STRIPE - 001

SHEET  
78  
OF  
266

Sep. 21 2015 08:44 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-7TH-SIGN-STRIPE.dwg By: brian.villa



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



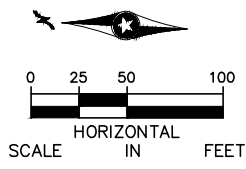
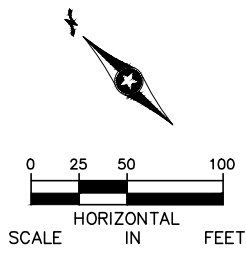
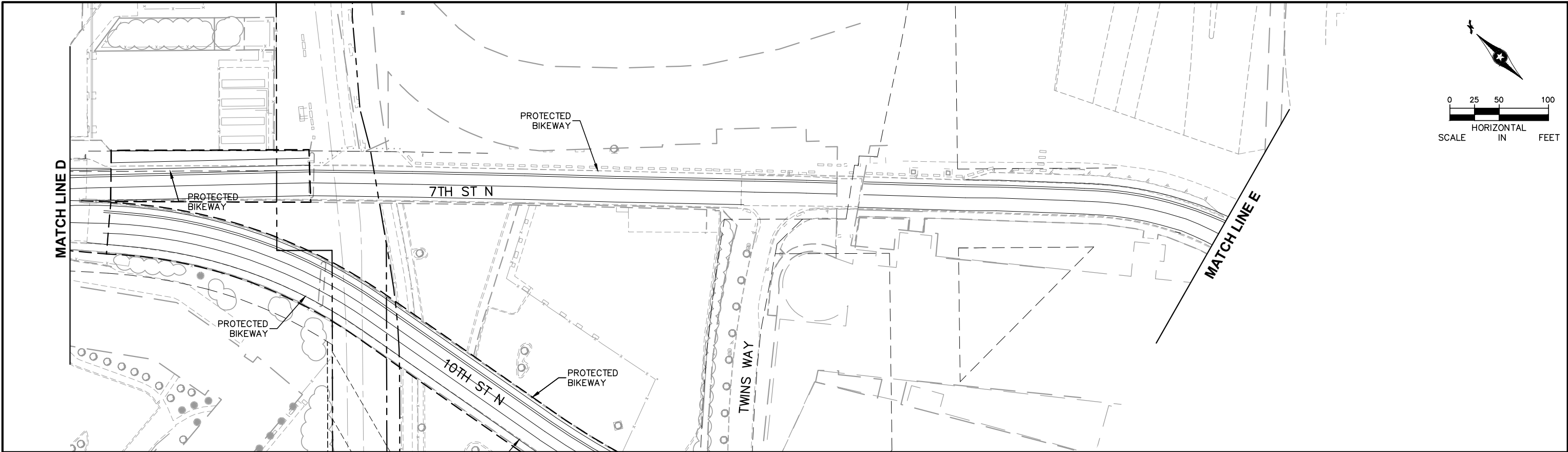
CIVIL EAST - VOLUME 10  
7TH ST N  
PROTECTED BIKEWAY STRIPING

DISCIPLINE: TRAFFIC

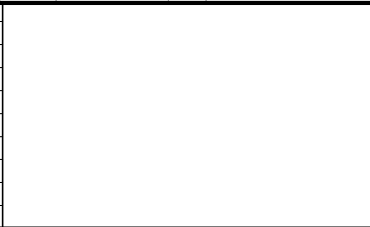
SHEET NAME:  
E4-TFC-7TH-SIGN-STRIPE - 002

SHEET  
79  
OF  
266

Sep. 21 2015 08:45 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-7TH-SIGN-STRIPE.dwg By: brian.villa



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**7TH ST N**  
**PROTECTED BIKEWAY STRIPING**

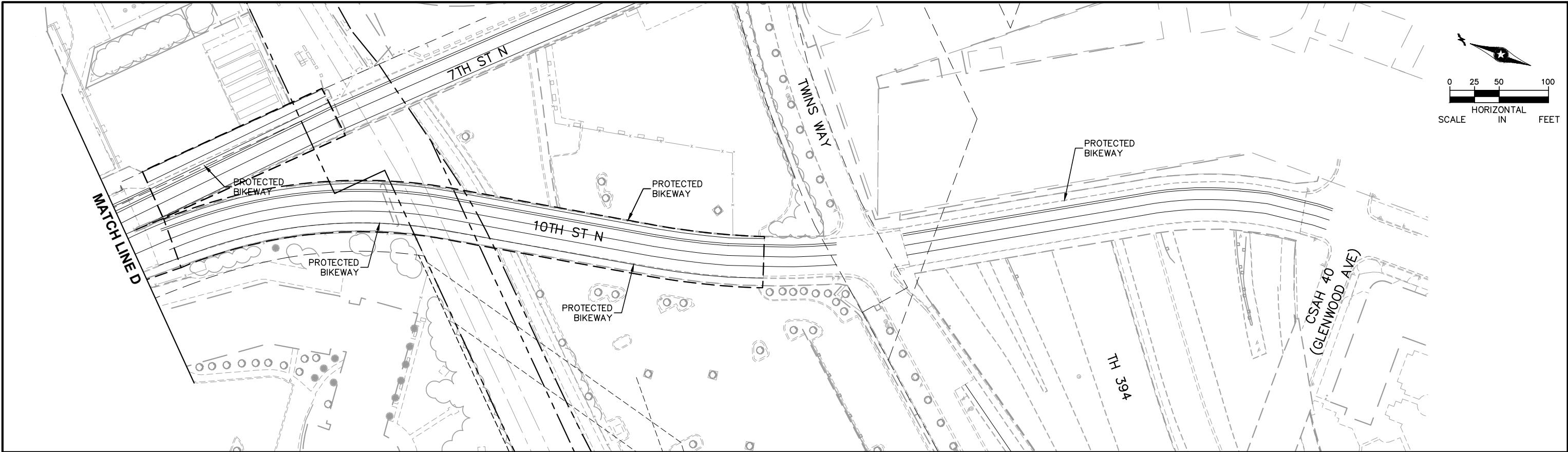
DISCIPLINE: **TRAFFIC**

SHEET NAME: **E4-TFC-7TH-SIGN-STRIPE - 003**

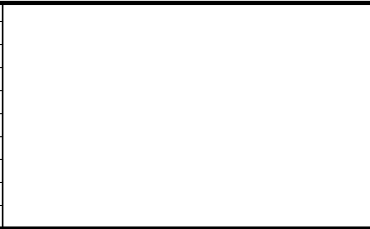
**SHEET**  
**80**  
**OF**  
**266**



Sep. 21 2015 08:45 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-7TH-SIGN-STRIPE.dwg By: brian.villa



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
10TH ST N  
PROTECTED BIKEWAY STRIPING

DISCIPLINE:  
TRAFFIC

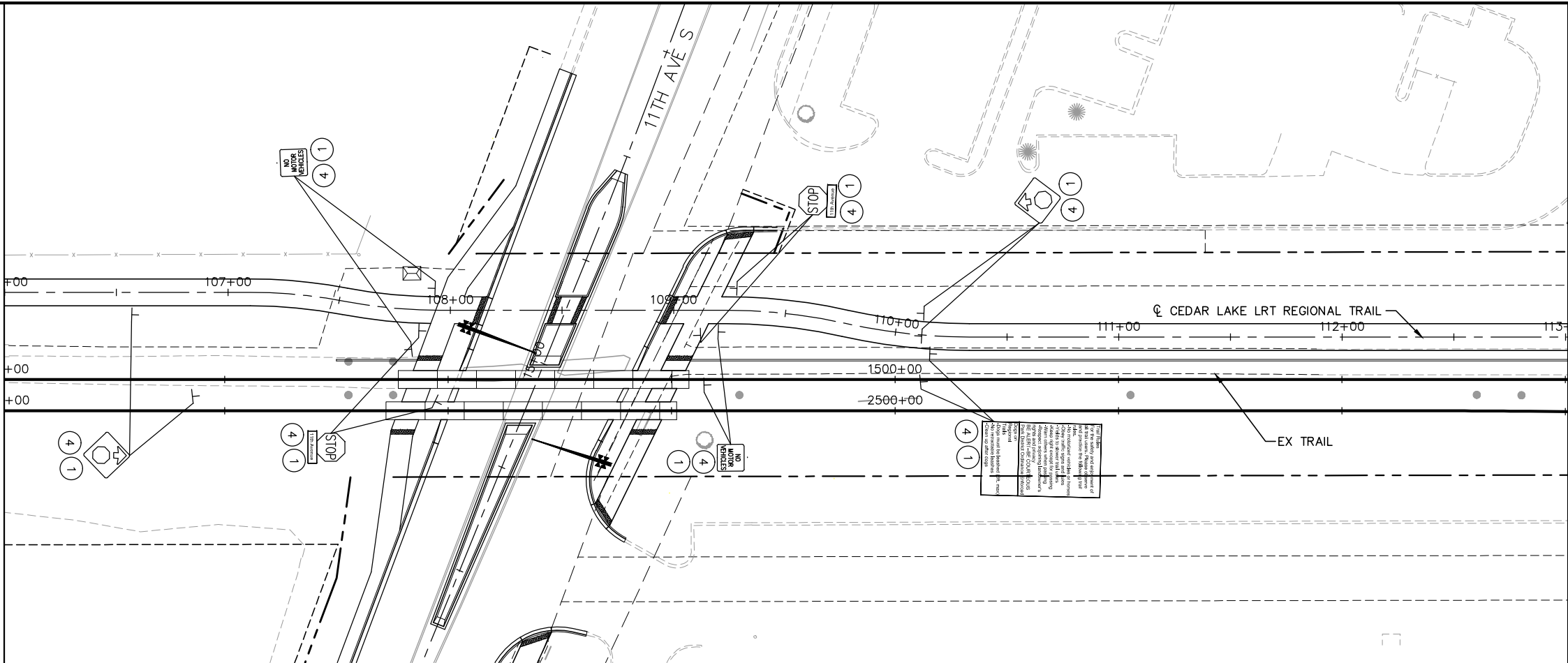
SHEET NAME:  
E4-TFC-7TH-SIGN-STRIPE - 004

SHEET  
81  
OF  
266



Sep. 21 2015 07:49 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattlin.wotruba

END CIVIL WEST - STA 105+62  
BEGIN CIVIL EAST - STA 106+00

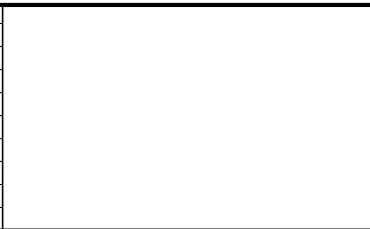


MATCH LINE - STA 113+00

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 106+00 TO STA 113+00**

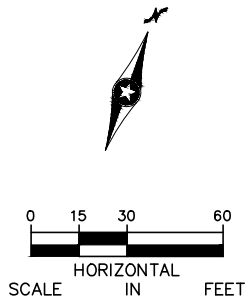
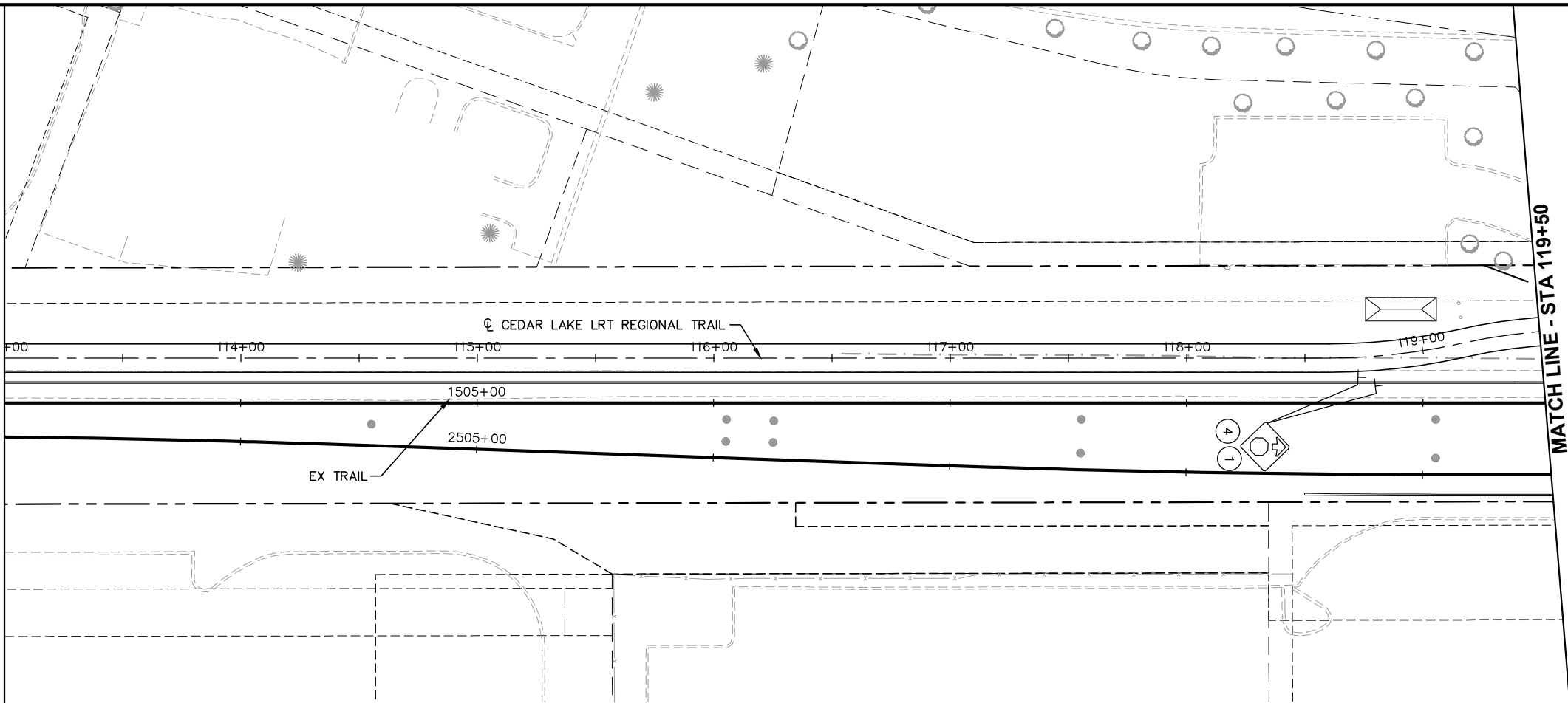
DISCIPLINE: **TRAFFIC**

SHEET NAME: **E1-TFC-TRL-SIGN - 001**

SHEET  
82  
OF  
266

Sep. 21 2015 07:50 am V:\3400\_ADC\CAD\CAD\_00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattlin.wotruba

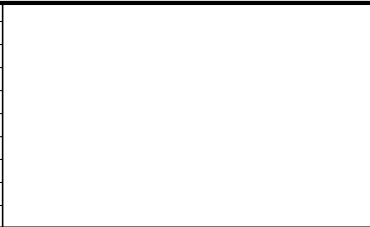
MATCH LINE - STA 113+00



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15

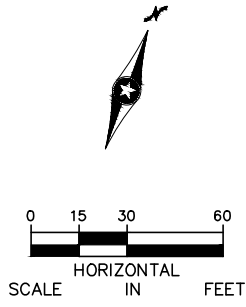
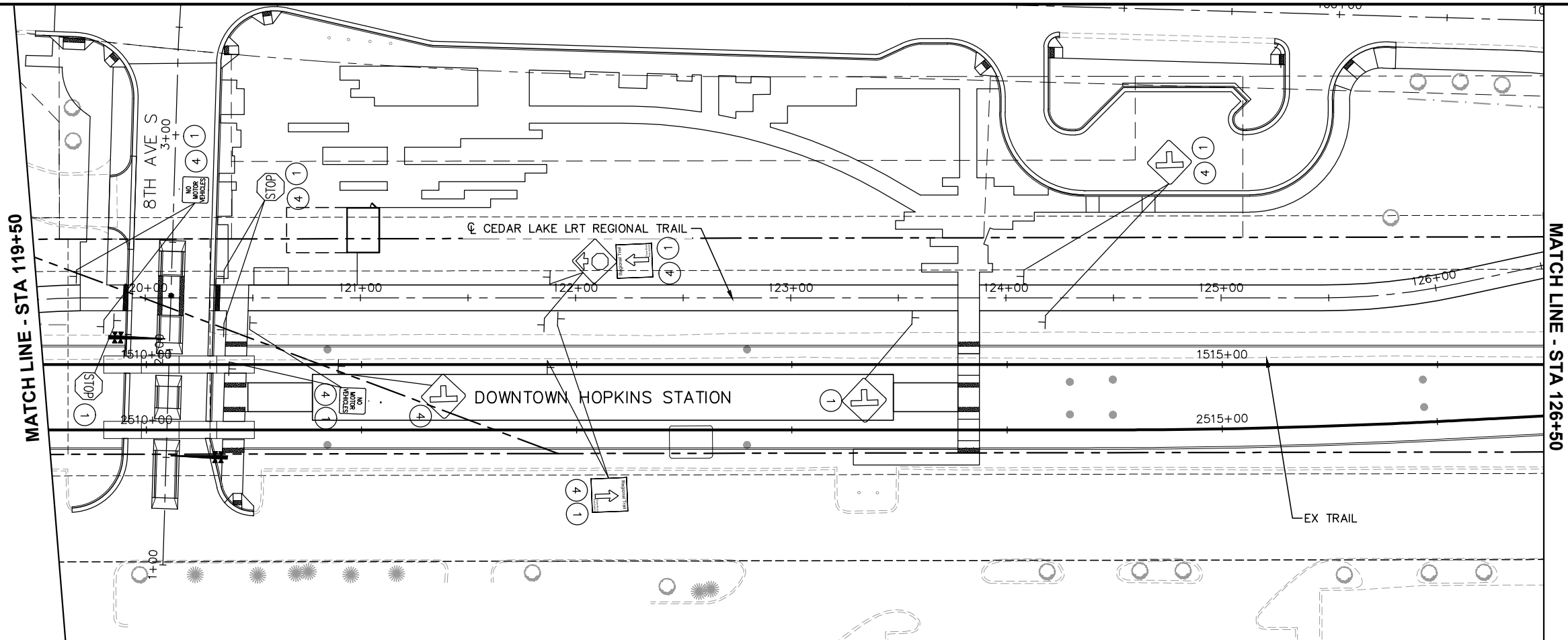


CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 113+00 TO STA 119+50

DISCIPLINE: TRAFFIC	SHEET NAME: E1-TFC-TRL-SIGN - 002
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SHEET  
83  
OF  
266

Sep. 21 2015 07:51 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

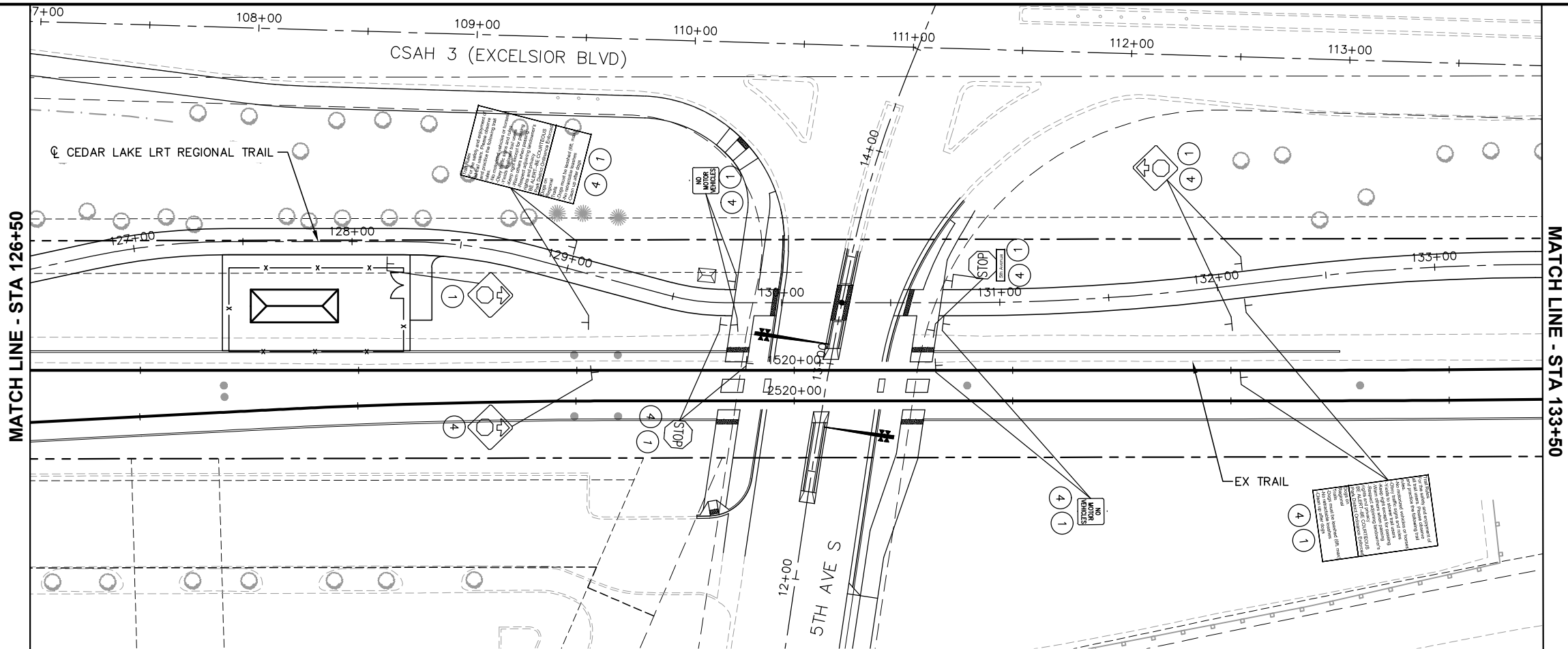
- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

<div> </div>	<b>CIVIL EAST - VOLUME 10 CEDAR LAKE LRT REGIONAL TRAIL SIGNING STA 119+50 TO STA 126+50</b>		<b>SHEET 84 OF 266</b>
	DISCIPLINE: <b>TRAFFIC</b>	SHEET NAME: <b>E1-TFC-TRL-SIGN - 003</b>	

60% SUBMISSION - 09/28/15

Sep. 21 2015 07:53 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 126+50 TO STA 133+50**

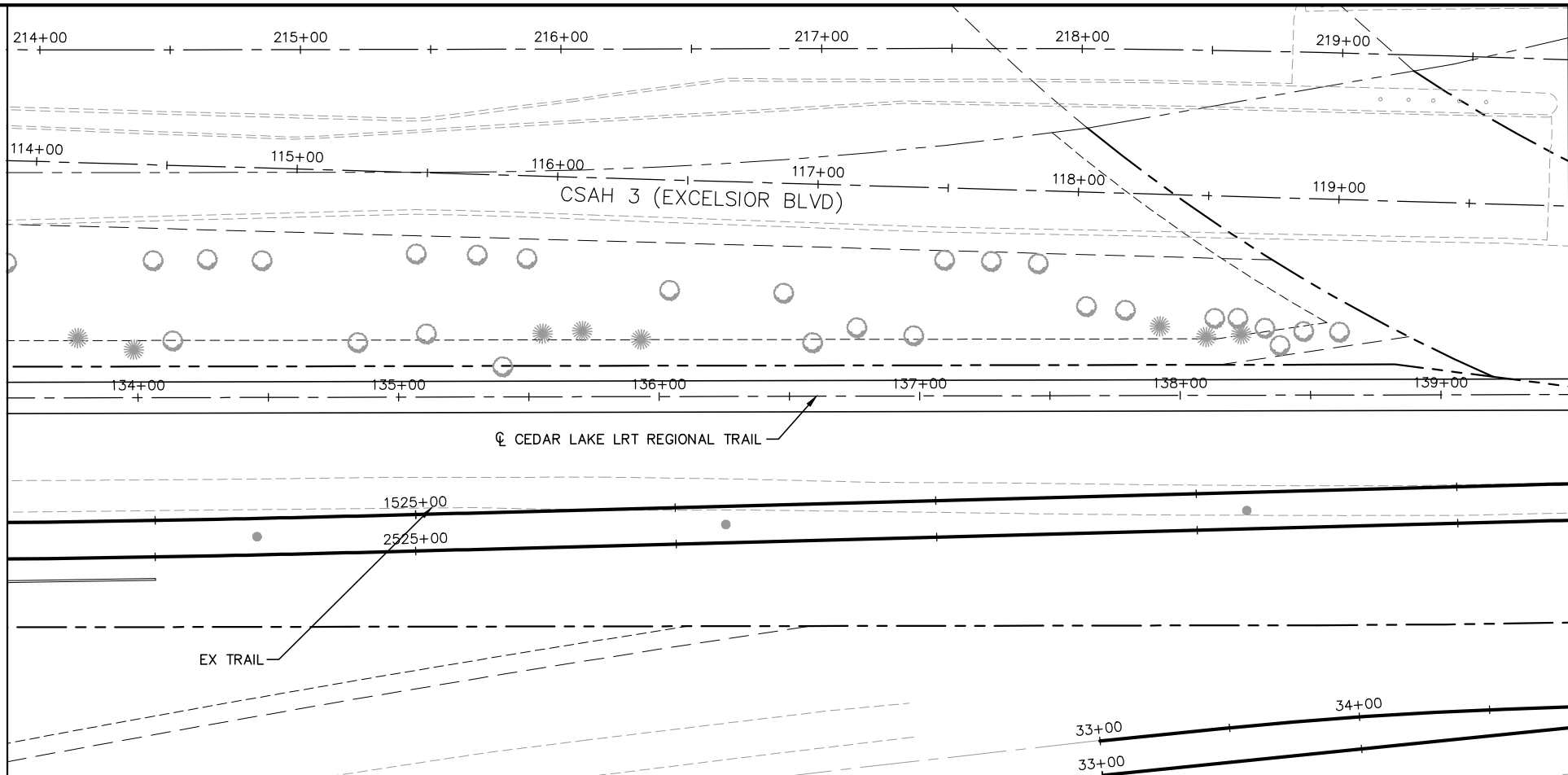
DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E1-TFC-TRL-SIGN - 004**

**SHEET**  
**85**  
**OF**  
**266**

Sep. 21 2015 07:53 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattlin.wotruba

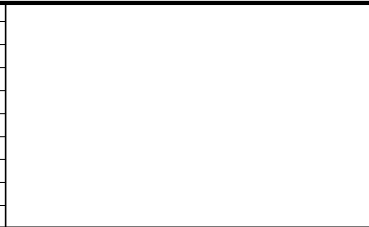
MATCH LINE - STA 133+50



MATCH LINE - STA 139+50

FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 133+50 TO STA 139+50

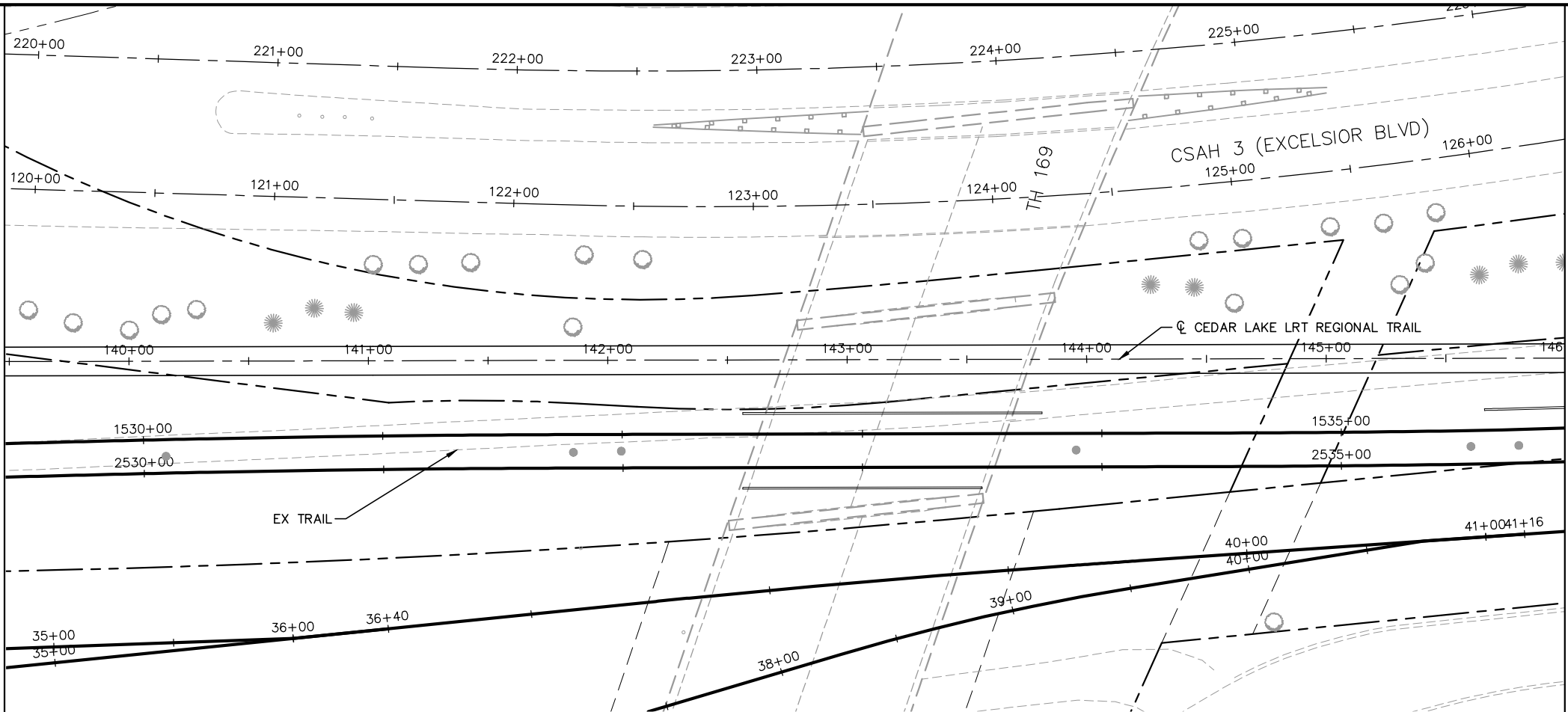
DISCIPLINE: TRAFFIC  
SHEET NAME: E1-TFC-TRL-SIGN - 005

SHEET  
86  
OF  
266



Sep. 21 2015 07:54 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattlin.wotruba

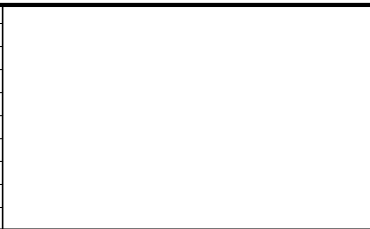
MATCH LINE - STA 139+50



MATCH LINE - STA 146+00

FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

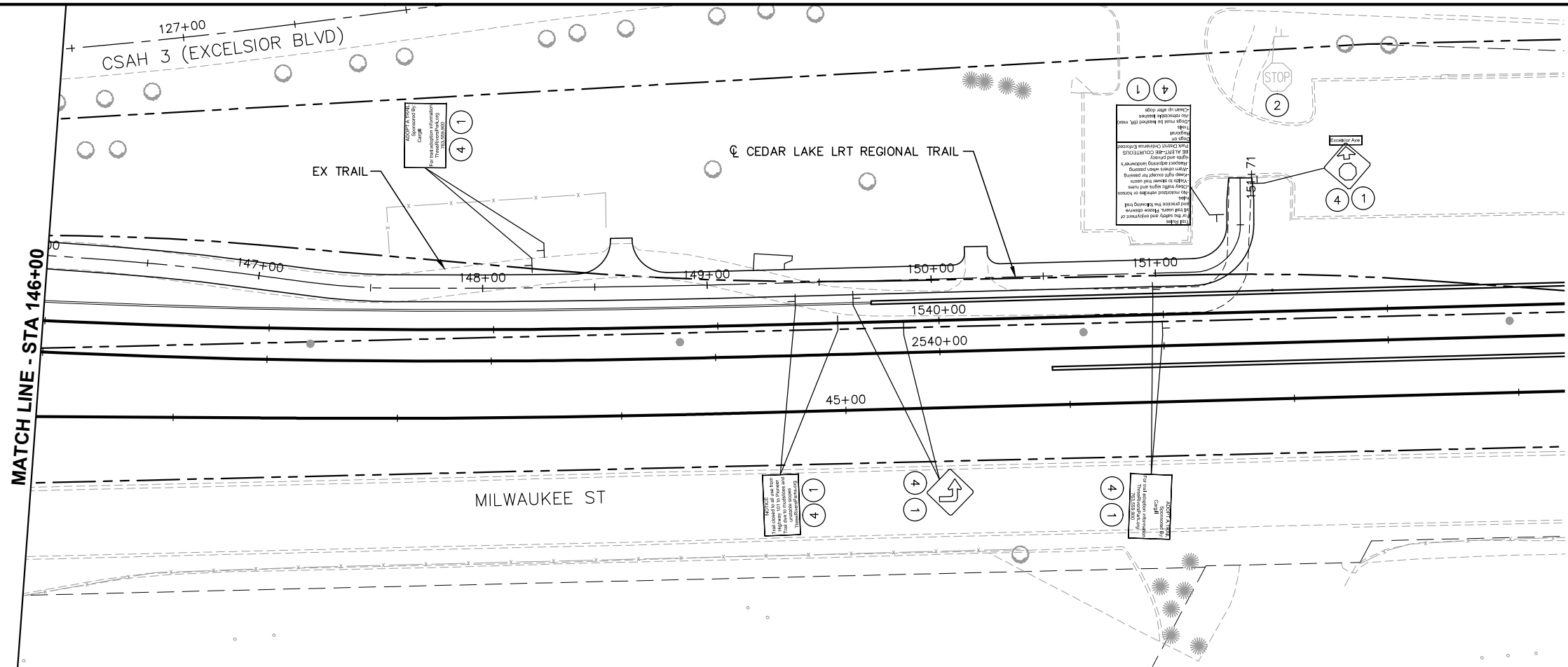
**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 139+50 TO STA 146+00**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E1-TFC-TRL-SIGN - 006**

**SHEET**  
**87**  
**OF**  
**266**

Sep. 21 2015 07:55 am v:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- 1 FURNISH & INSTALL
- 2 INPLACE
- 3 SALVAGE
- 4 REMOVE
- 5 INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

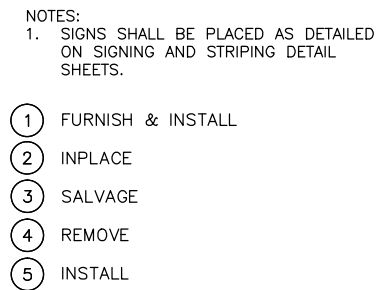
**SOUTHWEST**  
Green Line LRT Extension



**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 146+00 TO STA 151+72**

DISCIPLINE: **TRAFFIC**

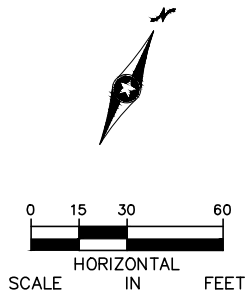
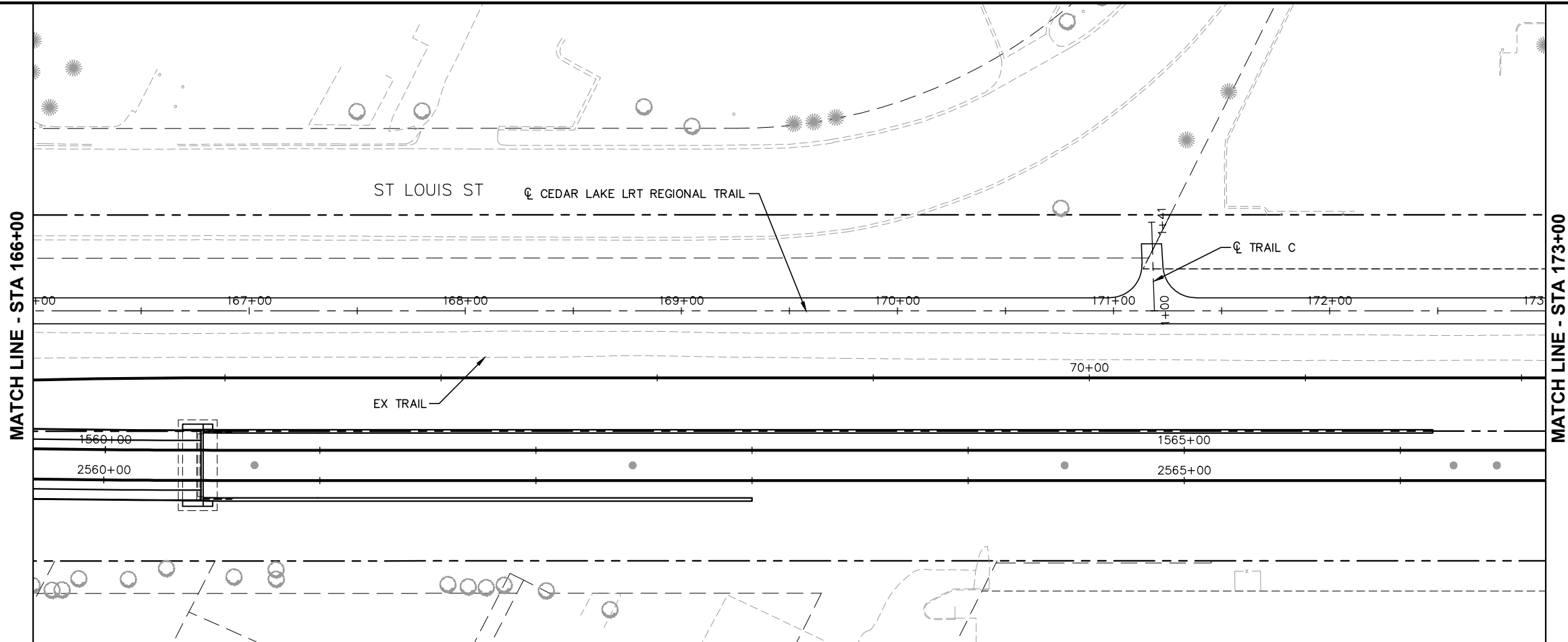
SHEET NAME: **E1-TFC-TRL-SIGN - 007**

**SHEET**  
**88**  
**OF**  
**266**



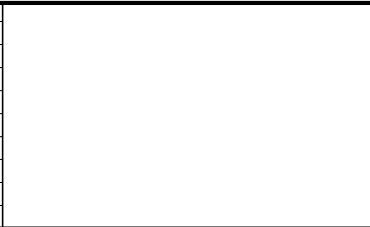
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	<div><div></div><div></div></div>	<div>CIVIL EAST - VOLUME 10 CEDAR LAKE LRT REGIONAL TRAIL SIGNING STA 160+00 TO STA 166+00</div>		<div>SHEET 89 OF 266</div>
60% SUBMISSION - 09/28/15							DISCIPLINE: TRAFFIC	SHEET NAME: E1-TFC-TRL-SIGN - 008	

Sep. 21 2015 07:57 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 166+00 TO STA 173+00

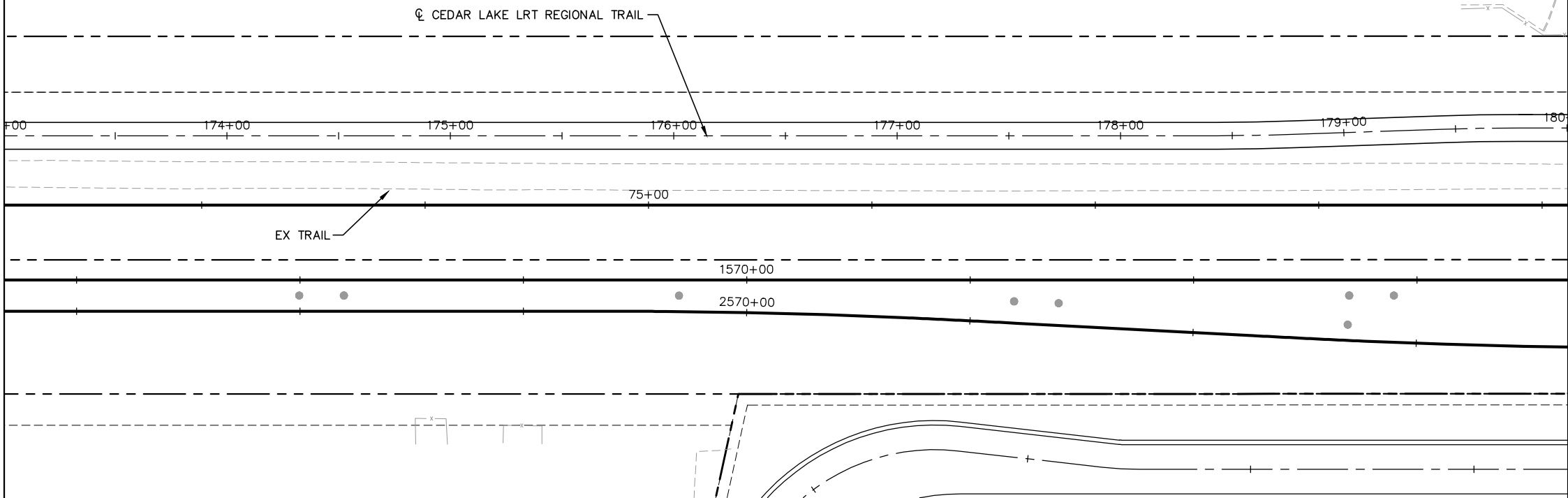
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E1-TFC-TRL-SIGN - 009

SHEET  
90  
OF  
266

Sep. 21 2015 07:58 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattlin.wotruba

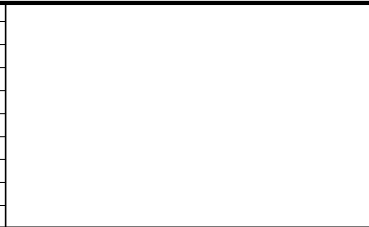
MATCH LINE - STA 173+00



MATCH LINE - STA 180+00

FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 173+00 TO STA 180+00

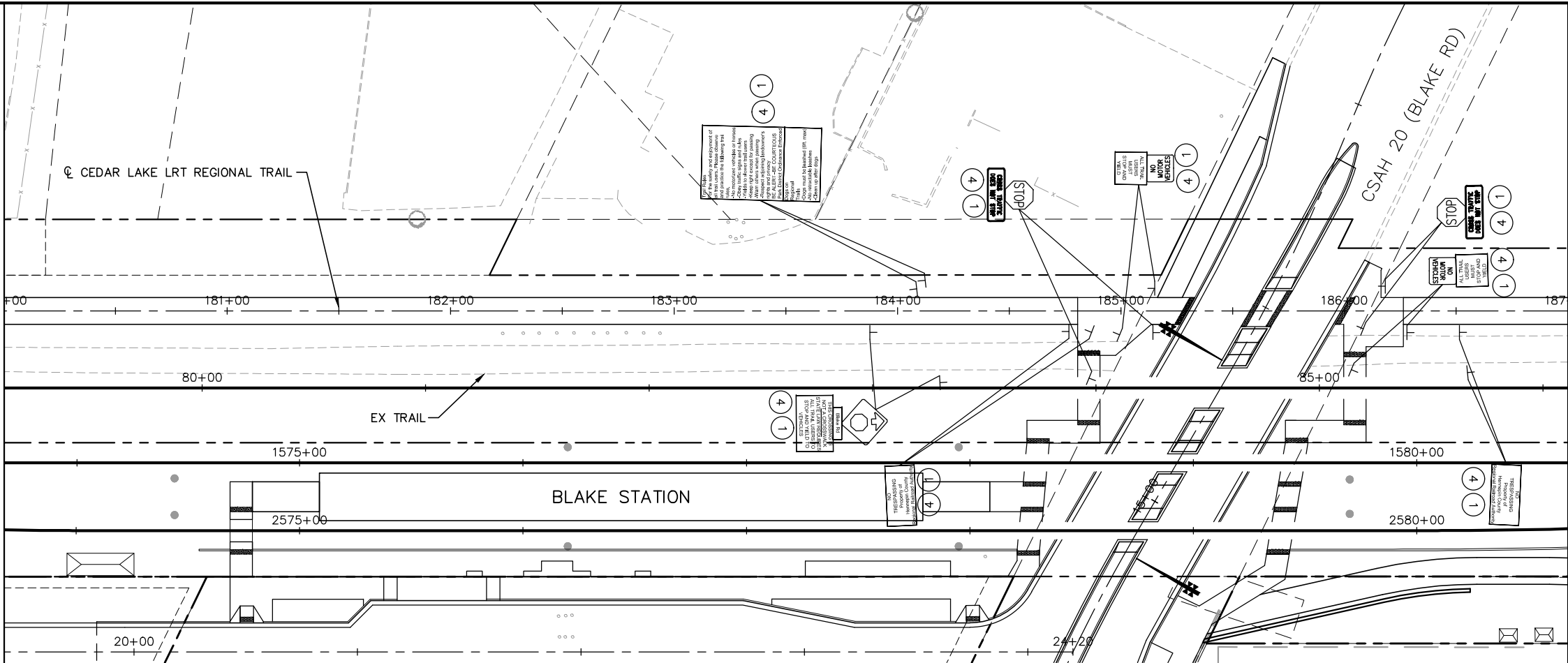
DISCIPLINE: TRAFFIC

SHEET NAME: E1-TFC-TRL-SIGN - 010

SHEET  
91  
OF  
266

Sep. 21 2015 07:59 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattin.wotruba

MATCH LINE - STA 180+00

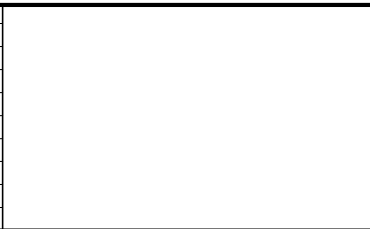


MATCH LINE - STA 187+00

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

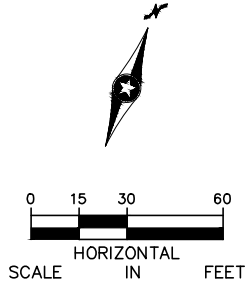
**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 180+00 TO STA 187+00**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E1-TFC-TRL-SIGN - 011**

**SHEET**  
**92**  
**OF**  
**266**

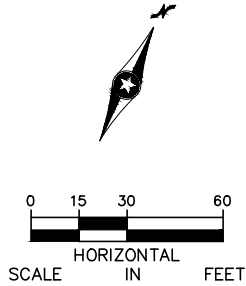
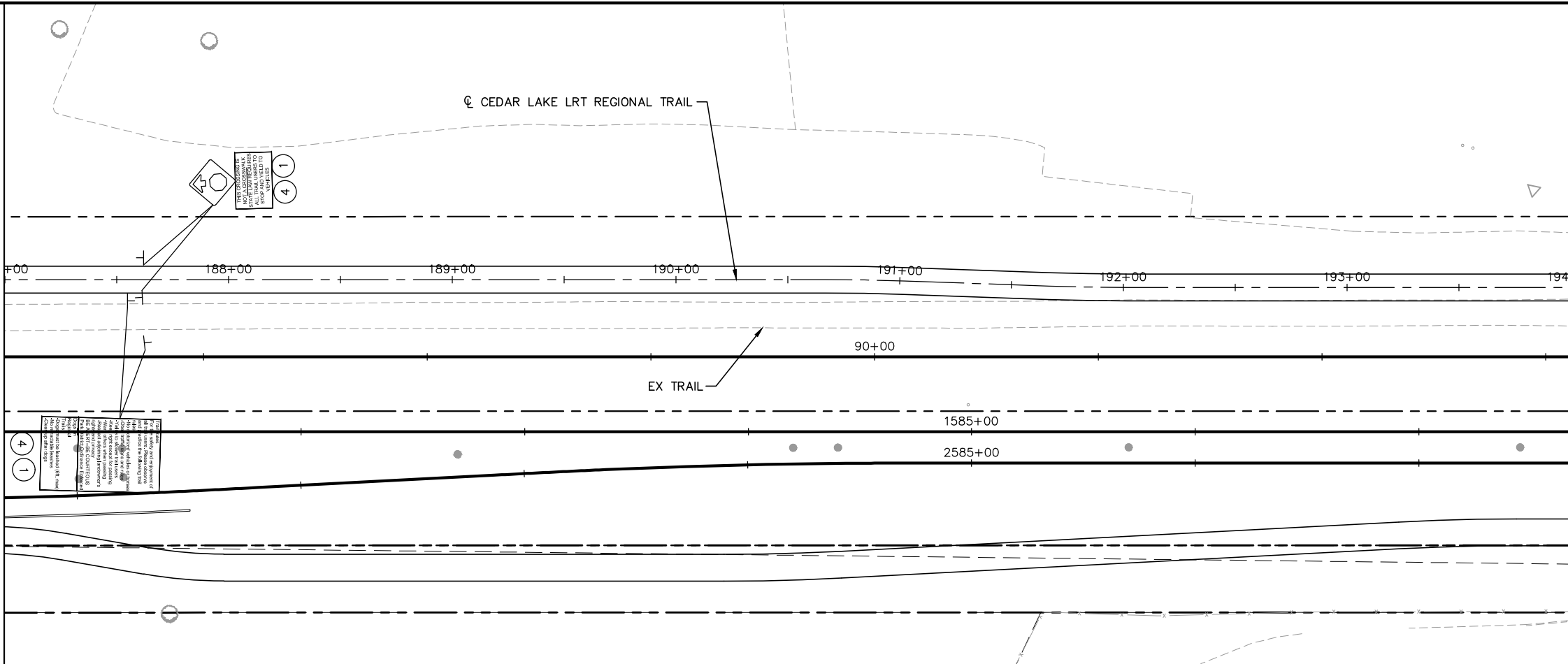




Sep. 21 2015 08:01 am V:\3400\_ADC\CAD\CAD\_00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattin.wotruba

MATCH LINE - STA 187+00

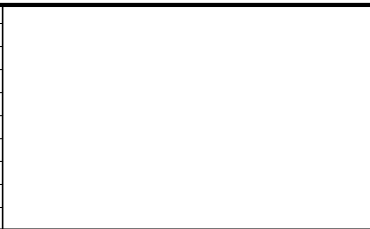
MATCH LINE - STA 194+00



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

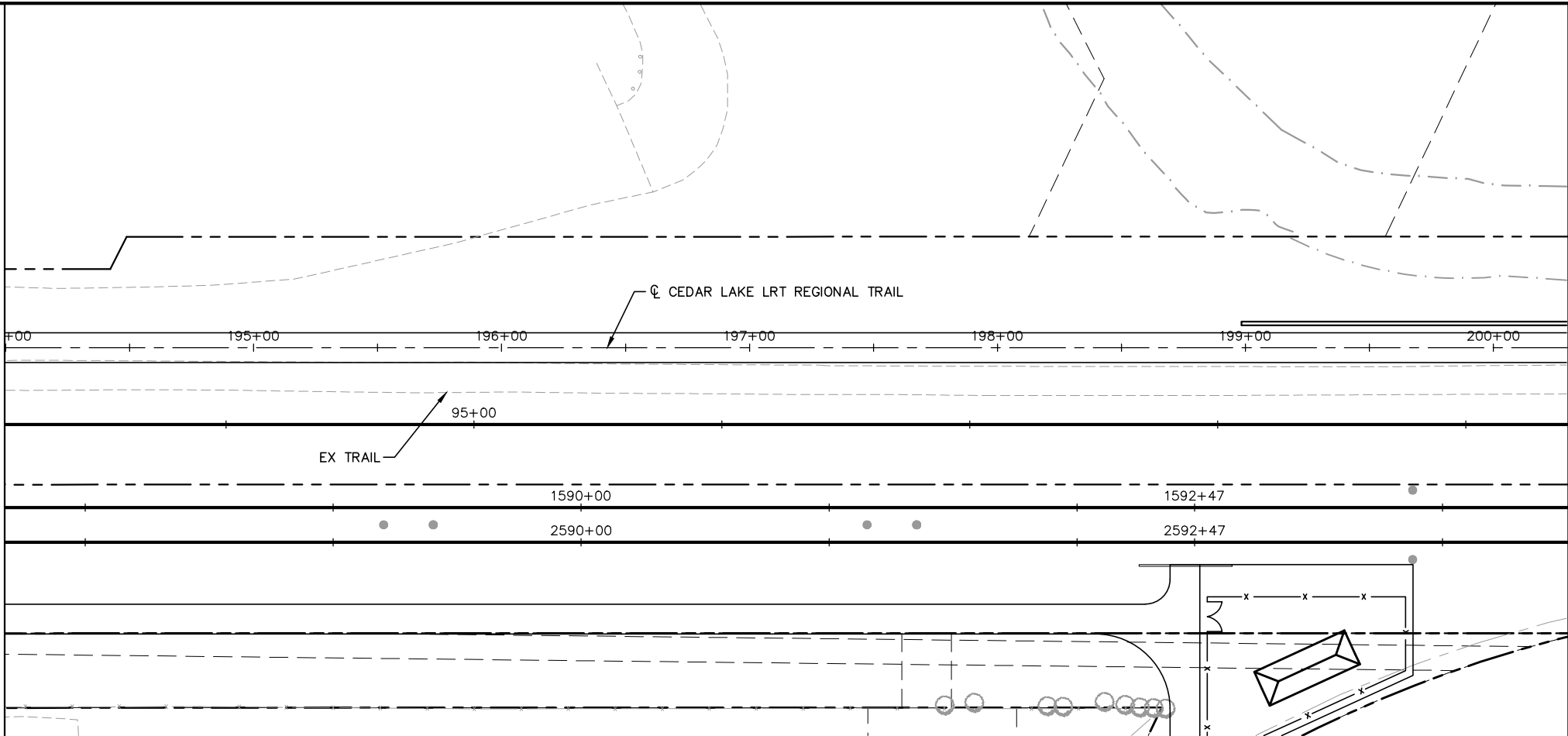


CIVIL EAST - VOLUME 10 CEDAR LAKE LRT REGIONAL TRAIL SIGNING STA 187+00 TO STA 194+00	
DISCIPLINE: TRAFFIC	SHEET NAME: E1-TFC-TRL-SIGN - 012

SHEET  
93  
OF  
266

Sep. 21 2015 08:02 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E1-TFC-TRL-SIGN.dwg By: cattlin.wotruba

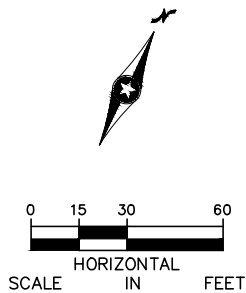
MATCH LINE - STA 194+00



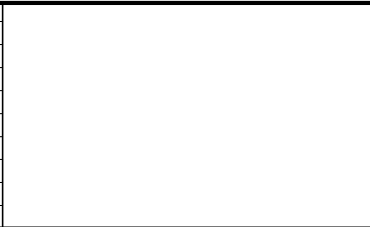
MATCH LINE - STA 200+30

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 194+00 TO STA 200+30**

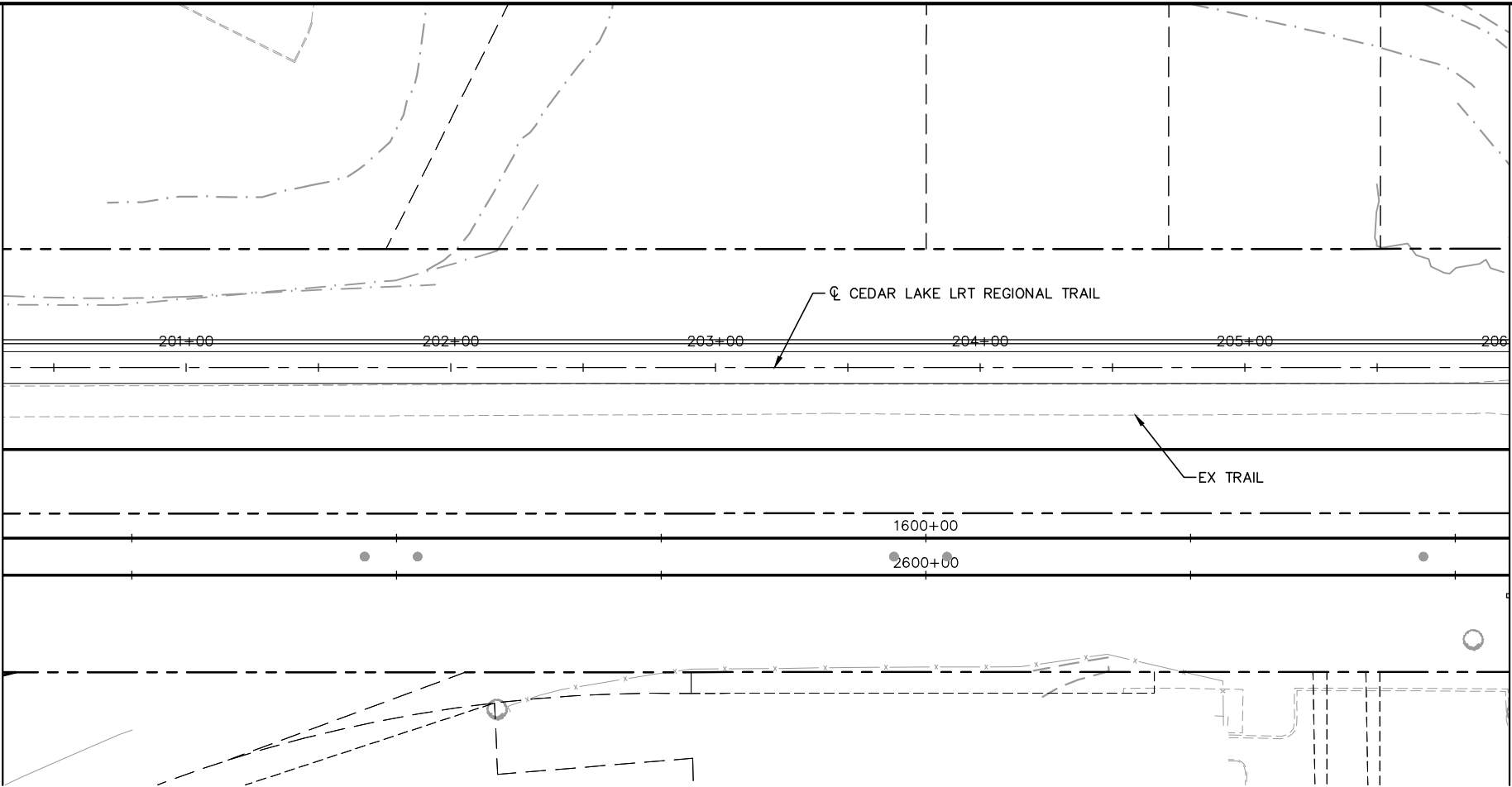
DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E1-TFC-TRL-SIGN - 013**

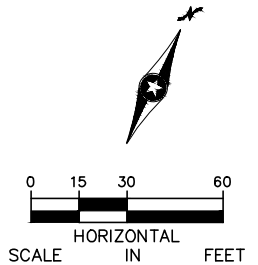
**SHEET**  
**94**  
**OF**  
**266**

Sep. 21 2015 08:39 am V:\3400\_ADC\CAD\CAD\_00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caitlin.wotruba

MATCH LINE - STA 200+30.62

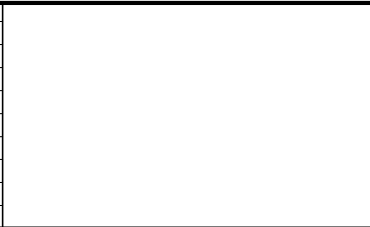


MATCH LINE - STA 206+00



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 200+30.62 TO STA 206+00**

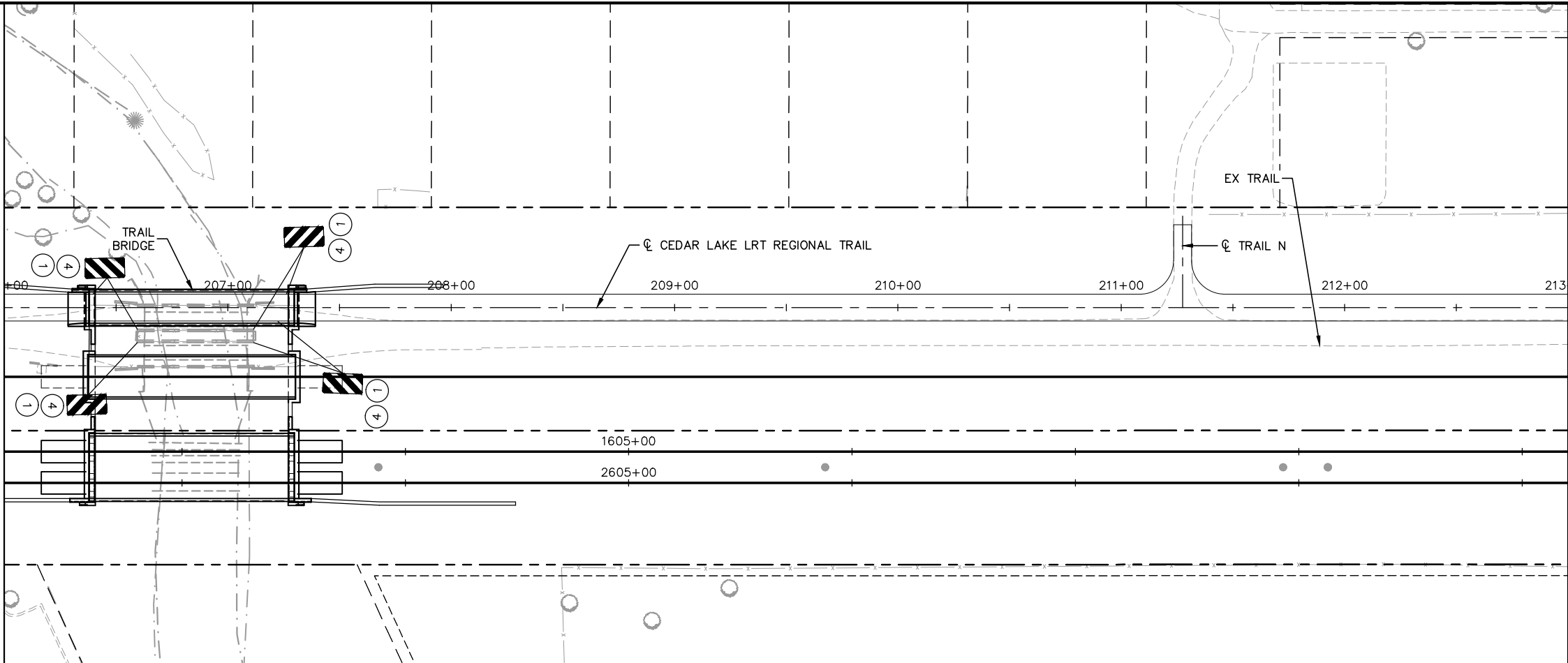
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E2-TFC-TRL-SIGN - 001

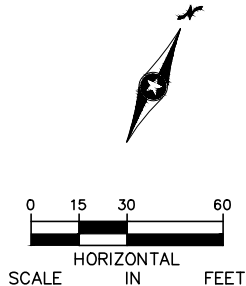
SHEET  
95  
OF  
266

Sep. 21 2015 08:39 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2\_TFC-TRL-SIGN.dwg By: caittin.wotruba

MATCH LINE - STA 206+00



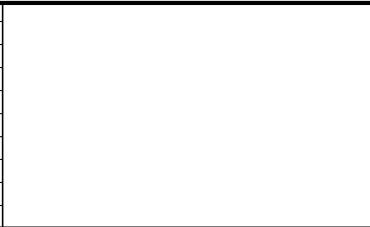
MATCH LINE - STA 213+00



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 206+00 TO STA 213+00**

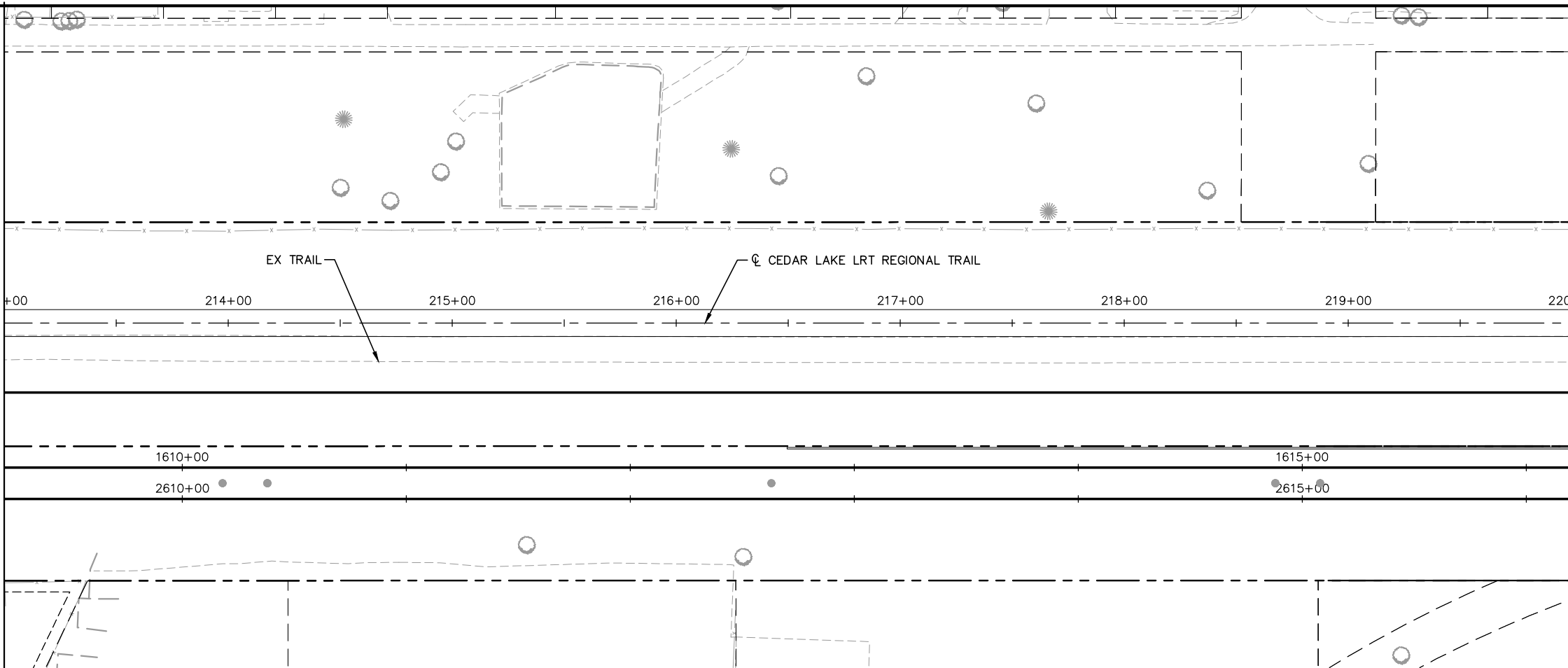
DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E2-TFC-TRL-SIGN - 002**

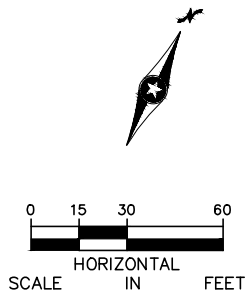
**SHEET**  
**96**  
**OF**  
**266**

Sep. 21 2015 08:40 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: cattlin.wotruba

MATCH LINE - STA 213+00

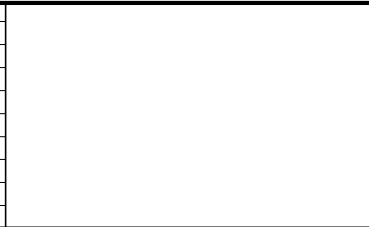


MATCH LINE - STA 220+00



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 213+00 TO STA 220+00

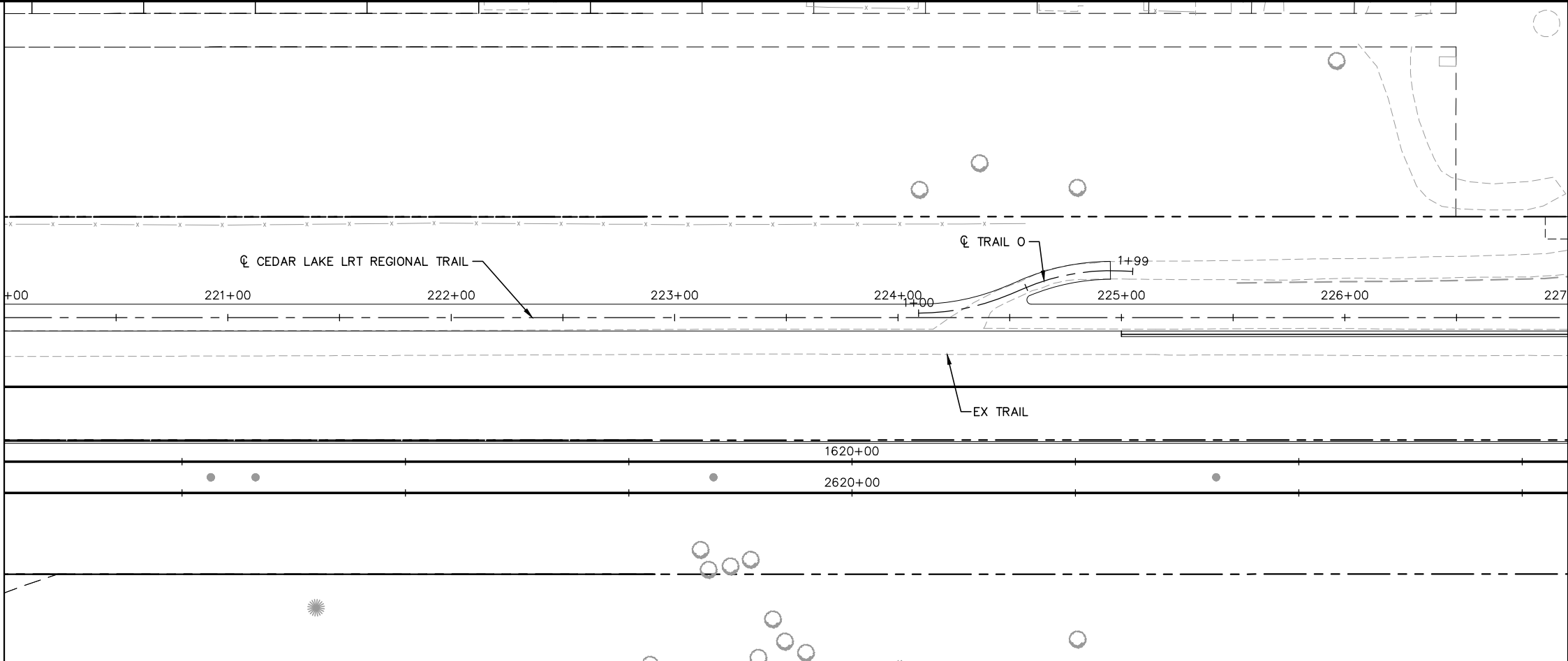
DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-TRL-SIGN - 003

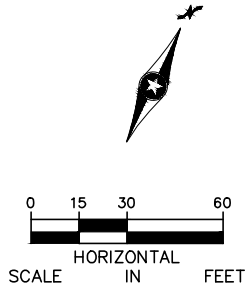
SHEET  
97  
OF  
266

Sep. 21 2015 08:40 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: cattlin.wotruba

MATCH LINE - STA 220+00

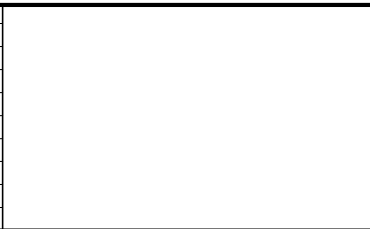


MATCH LINE - STA 227+00



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 220+00 TO STA 227+00**

DISCIPLINE: **TRAFFIC**

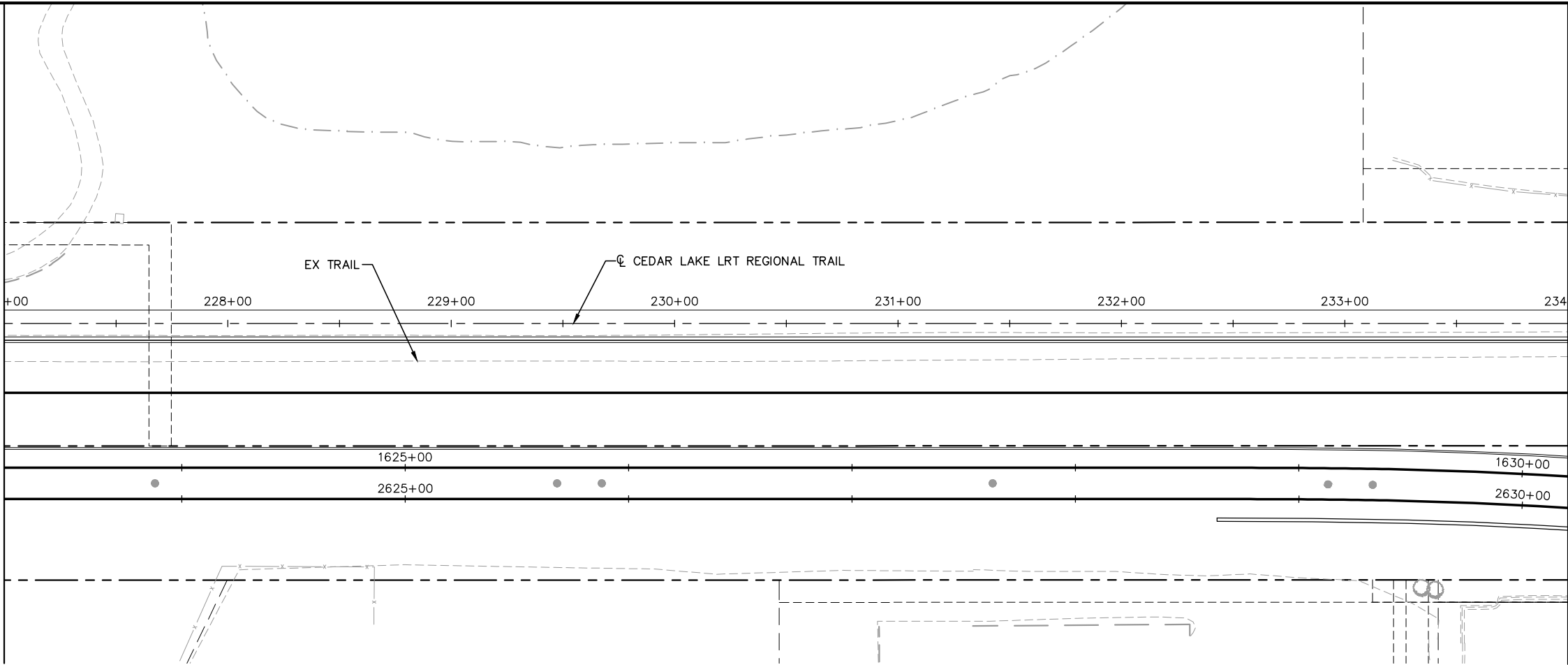
SHEET NAME: **E2-TFC-TRL-SIGN - 004**

SHEET  
98  
OF  
266

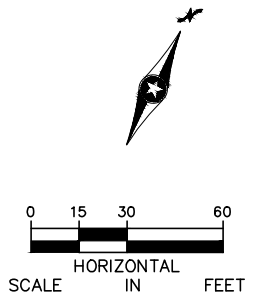


Sep. 21 2015 08:41 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: cattlin.wotruba

MATCH LINE - STA 227+00

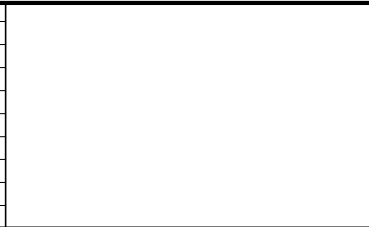


MATCH LINE - STA 234+00



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 227+00 TO STA 234+00

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-TRL-SIGN - 005

SHEET  
99  
OF  
266

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

[illegible]

**AECOM Kimley»Horn**

**60% SUBMISSION - 09/28/15**



**CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 234+00 TO STA 241+00**

DISCIPLINE:

## TRAFFIC

SHEET NAME:
-------------

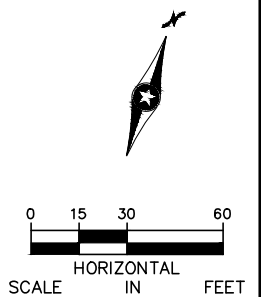
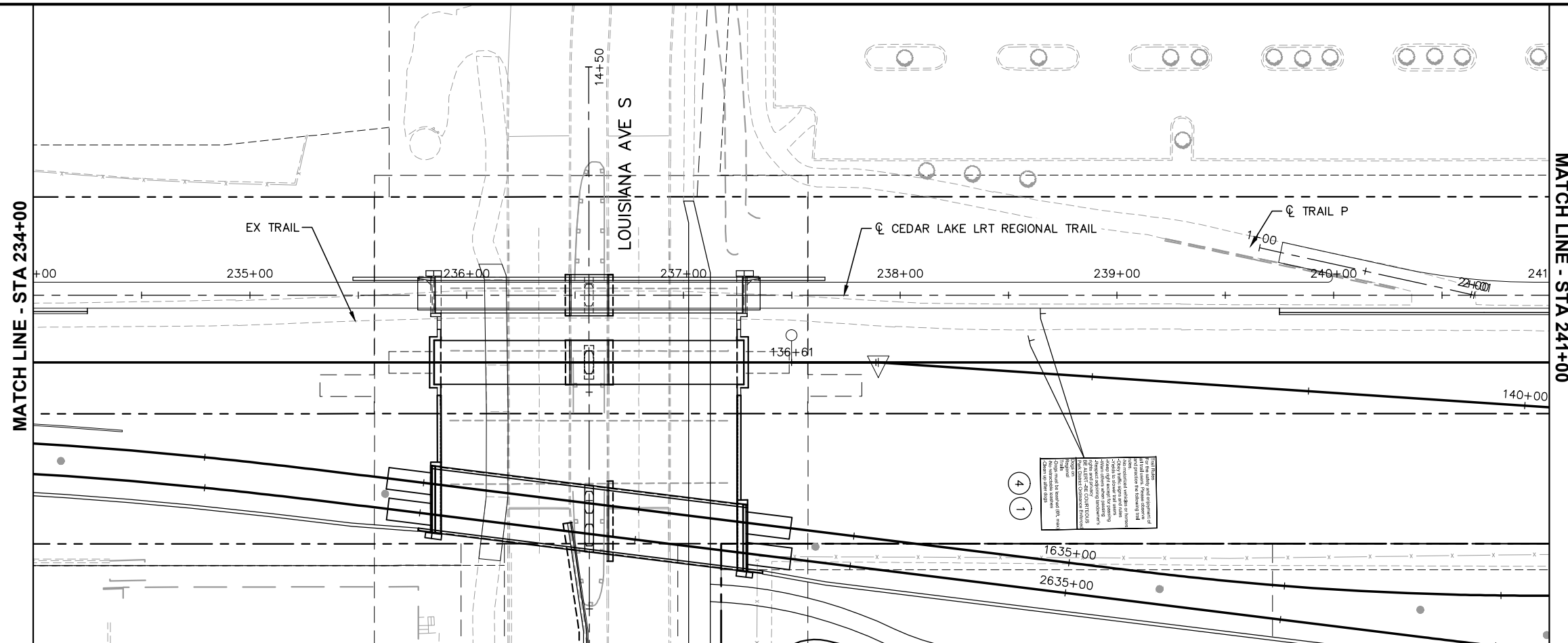
E2-TFC-TRL-SIGN - 006

SHEET

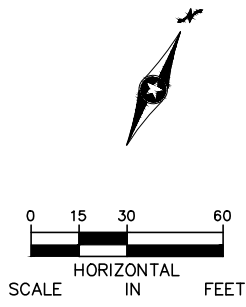
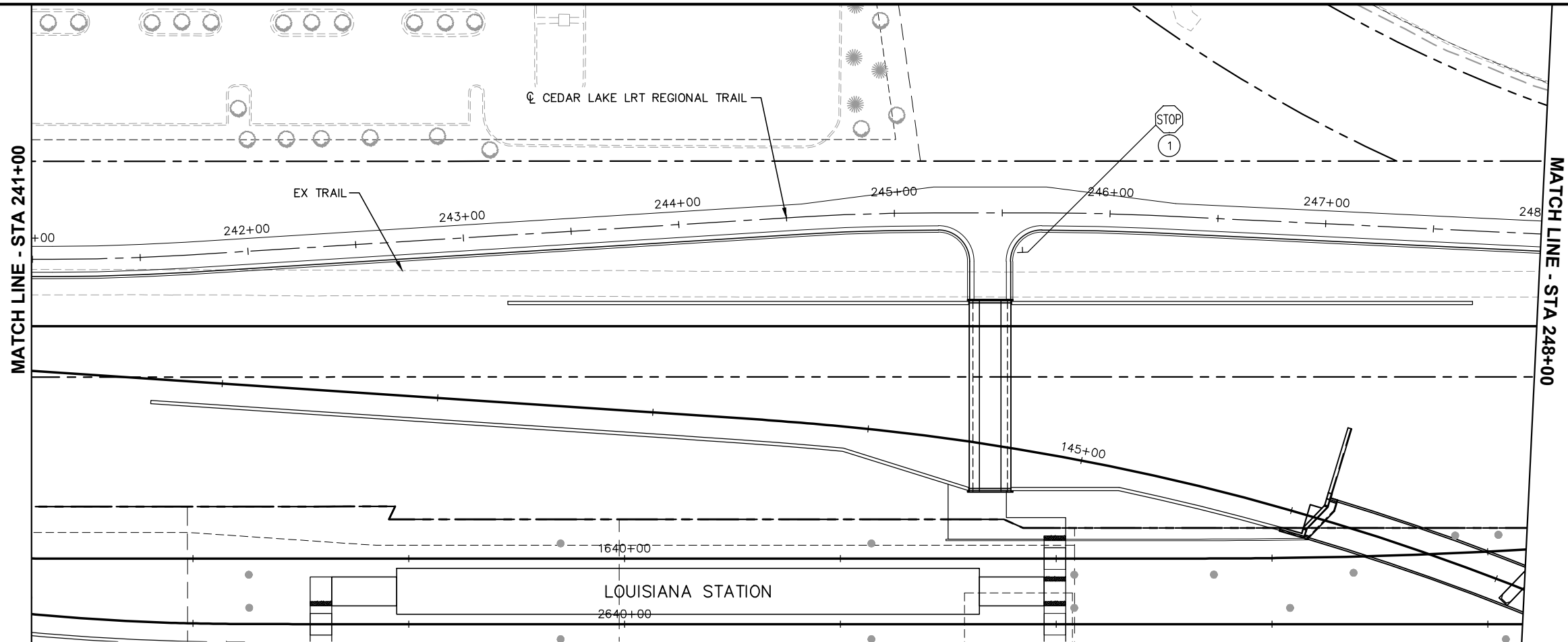
100 |

OF

266 |



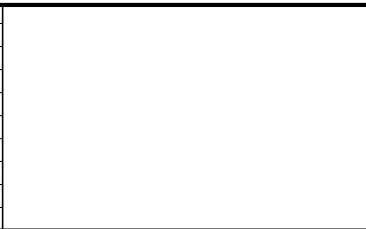
Sep. 21 2015 08:42 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2\_TFC-TRL-SIGN.dwg By: caitlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



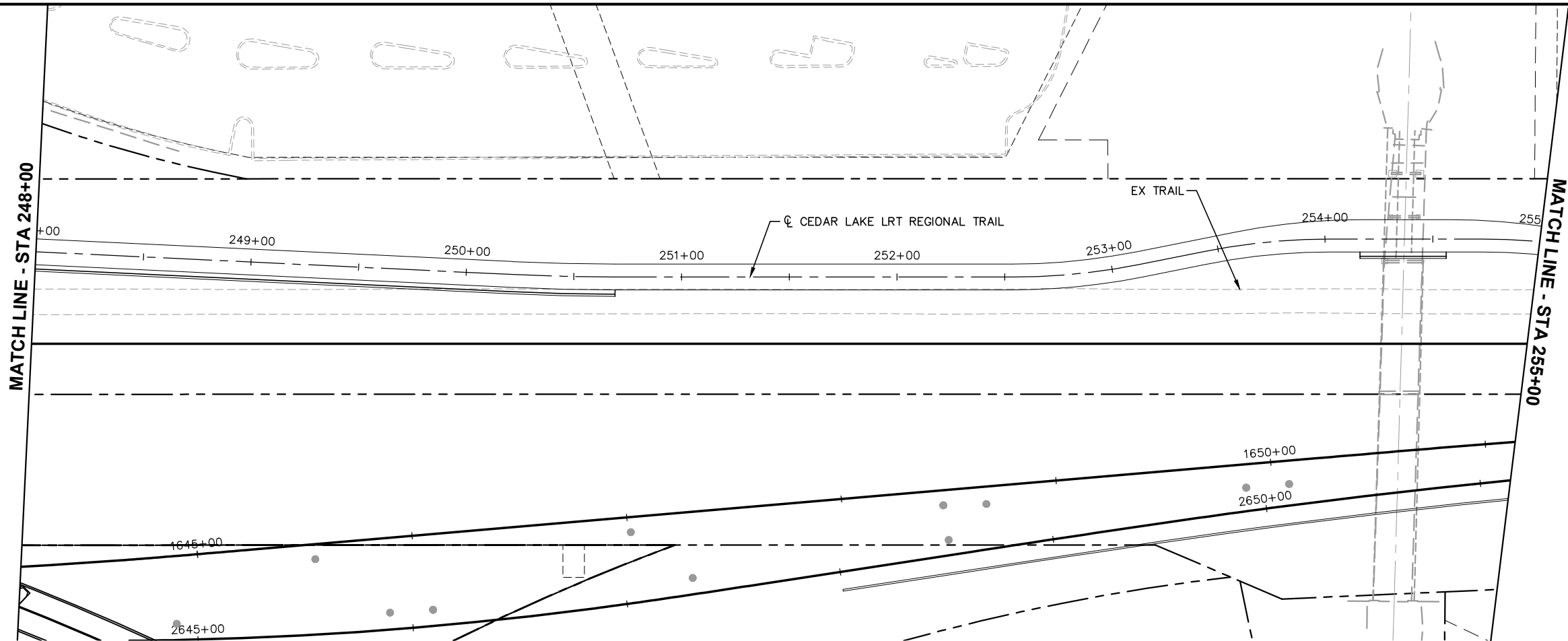
CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 241+00 TO STA 248+00

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-TRL-SIGN - 007

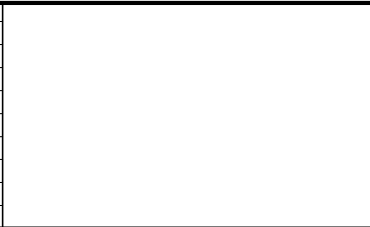
SHEET  
101  
OF  
266

Sep. 21 2015 08:43 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caittin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



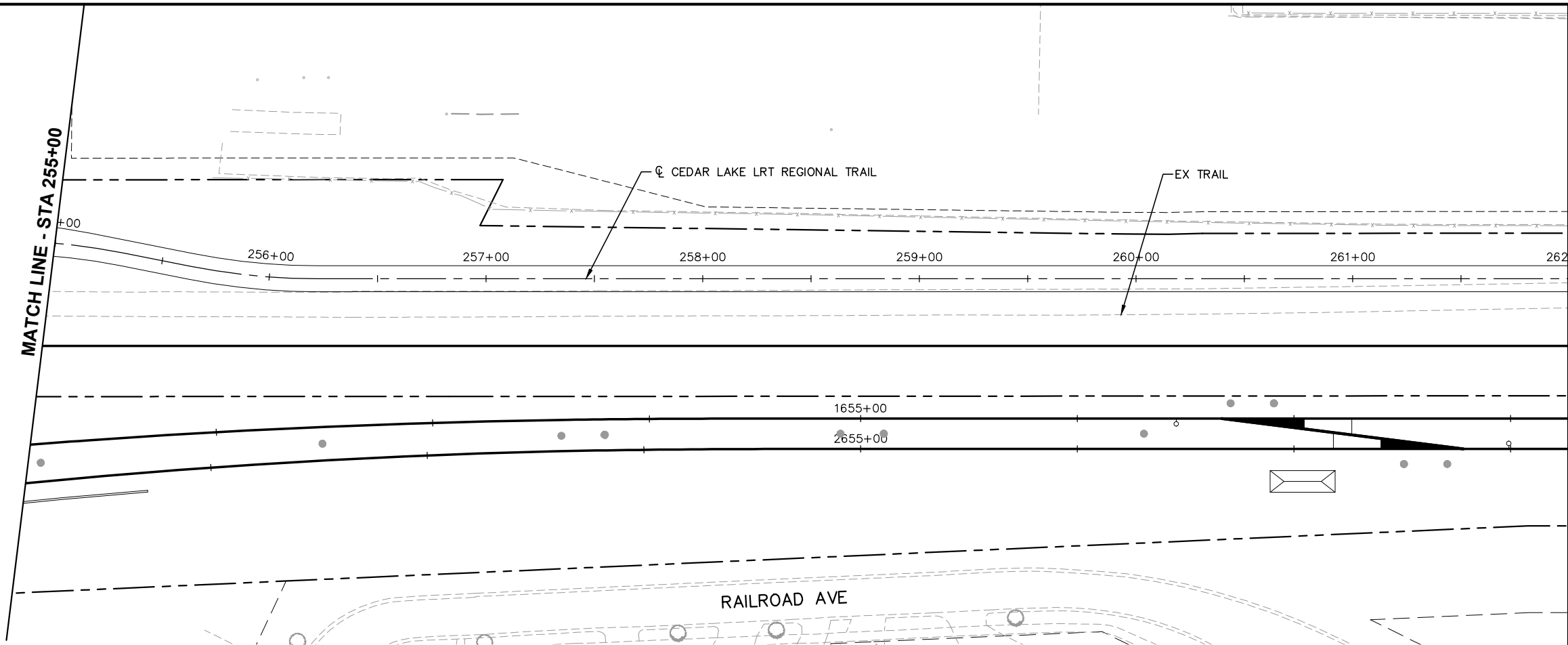
**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 248+00 TO STA 255+00**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E2-TFC-TRL-SIGN - 008**

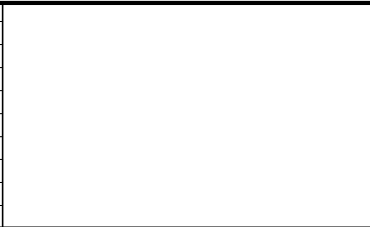
**SHEET**  
**102**  
**OF**  
**266**

Sep. 21 2015 08:43 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caitlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



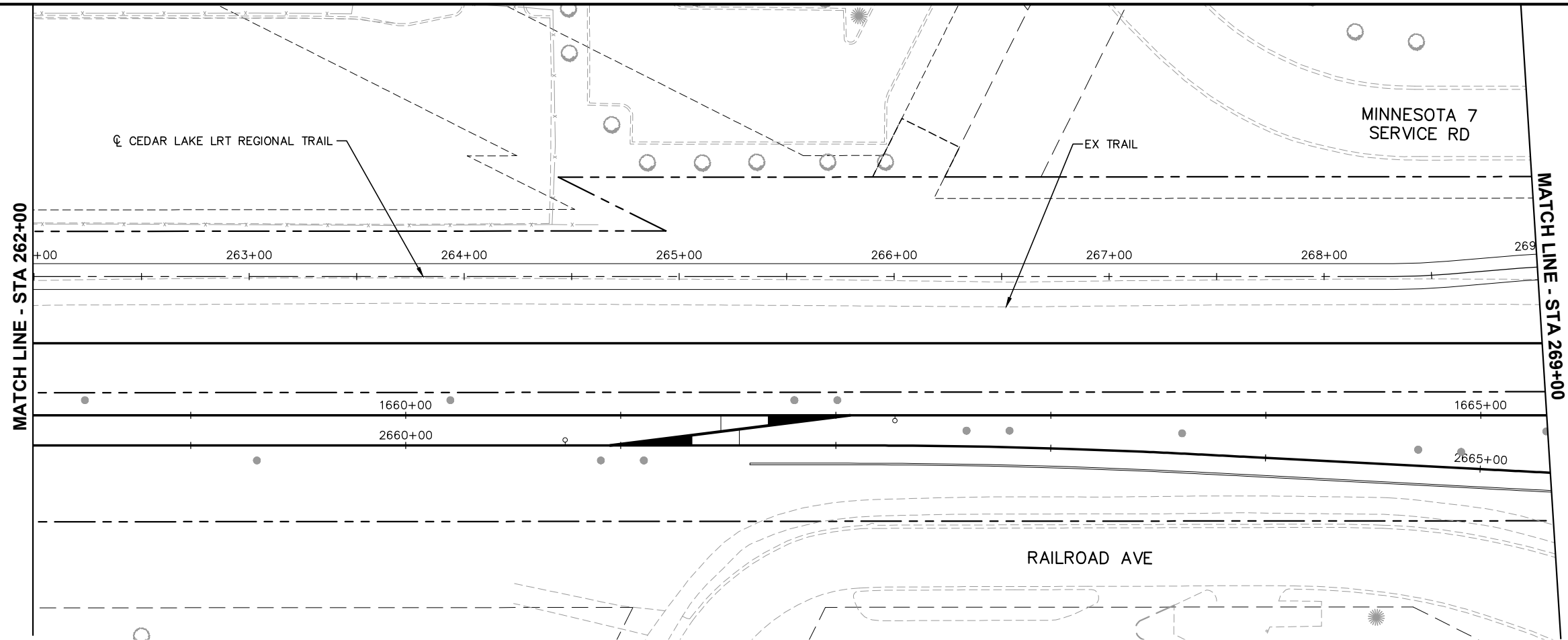
CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 255+00 TO STA 262+00

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-TRL-SIGN - 009

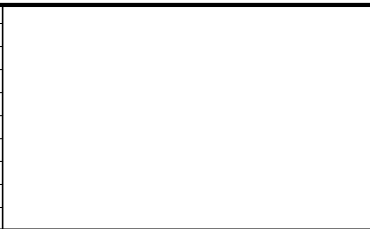
SHEET  
103  
OF  
266

Sep. 21 2015 08:44 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: cattlin.wotruba



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 262+00 TO STA 269+00**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E2-TFC-TRL-SIGN - 010**

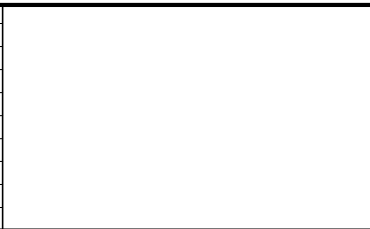
**SHEET**  
**104**  
**OF**  
**266**



Sep. 21 2015 08:44 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2\_TFC-TRL-SIGN.dwg By: caitlin.wotruba

- NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
- ① FURNISH & INSTALL  
② INPLACE  
③ SALVAGE  
④ REMOVE  
⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

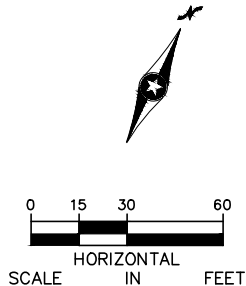
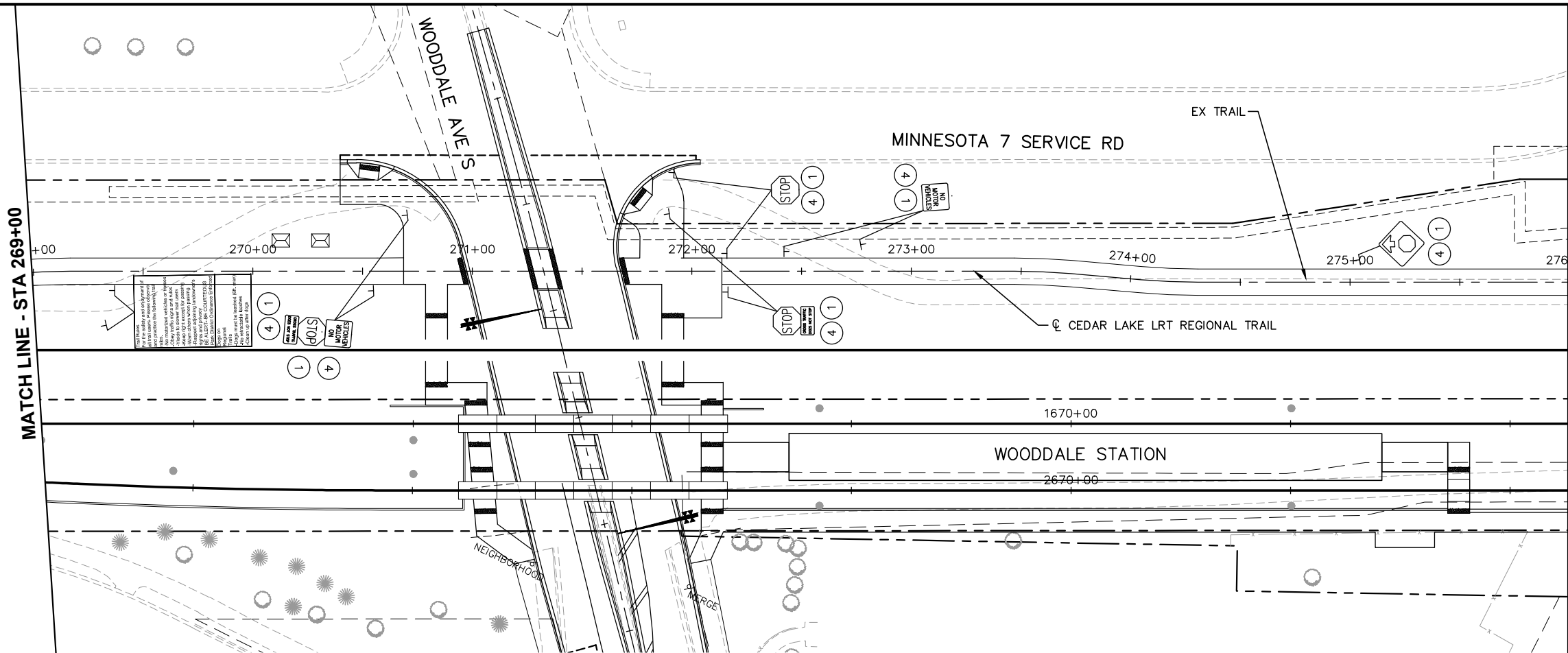
**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 269+00 TO STA 276+00**

DISCIPLINE:  
**TRAFFIC**

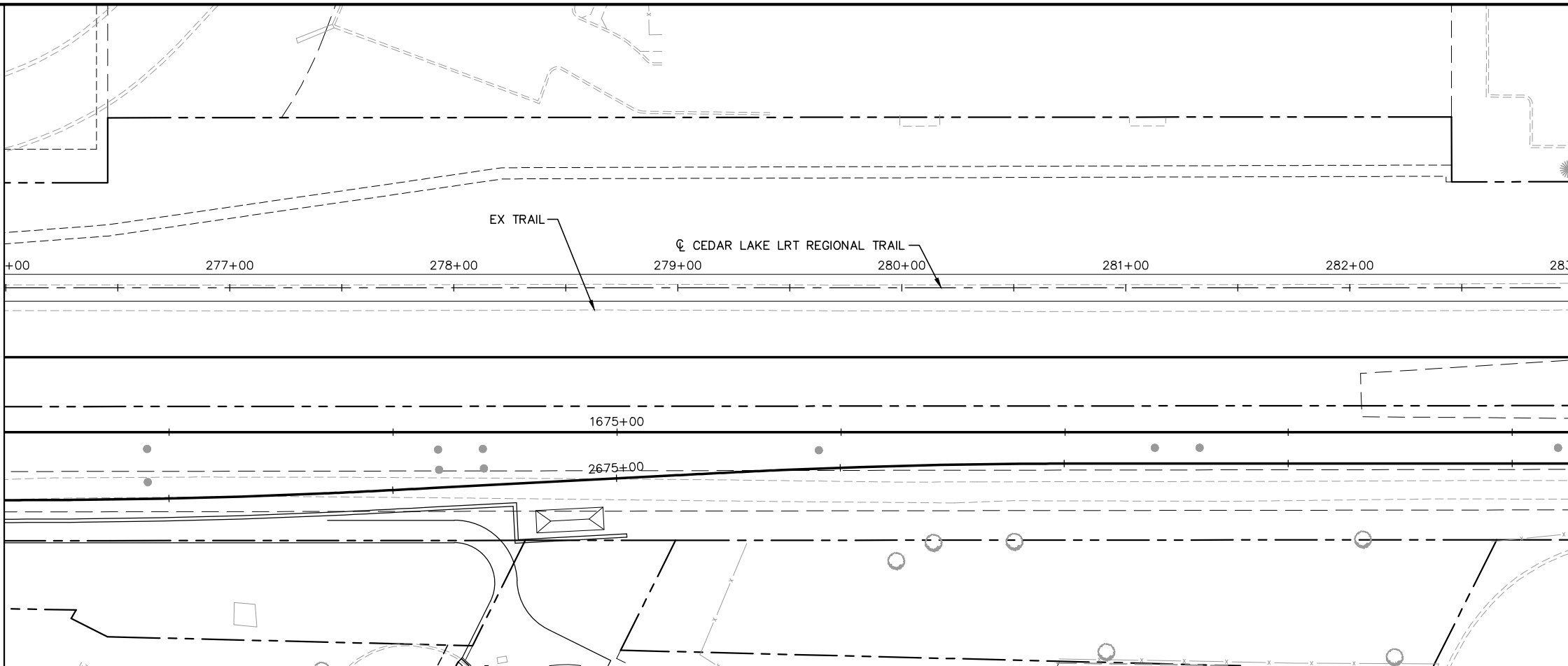
SHEET NAME:  
**E2-TFC-TRL-SIGN - 011**

**SHEET**  
**105**  
**OF**  
**266**

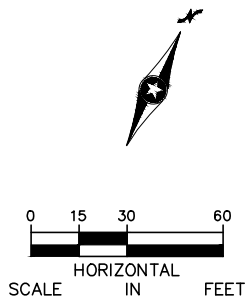


Sep. 21 2015 08:45 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: cattlin.wotruba

MATCH LINE - STA 276+00

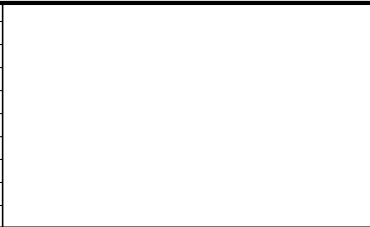


MATCH LINE - STA 283+00



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



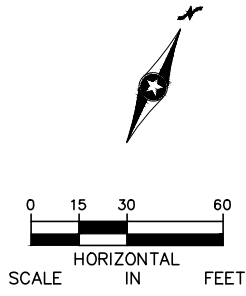
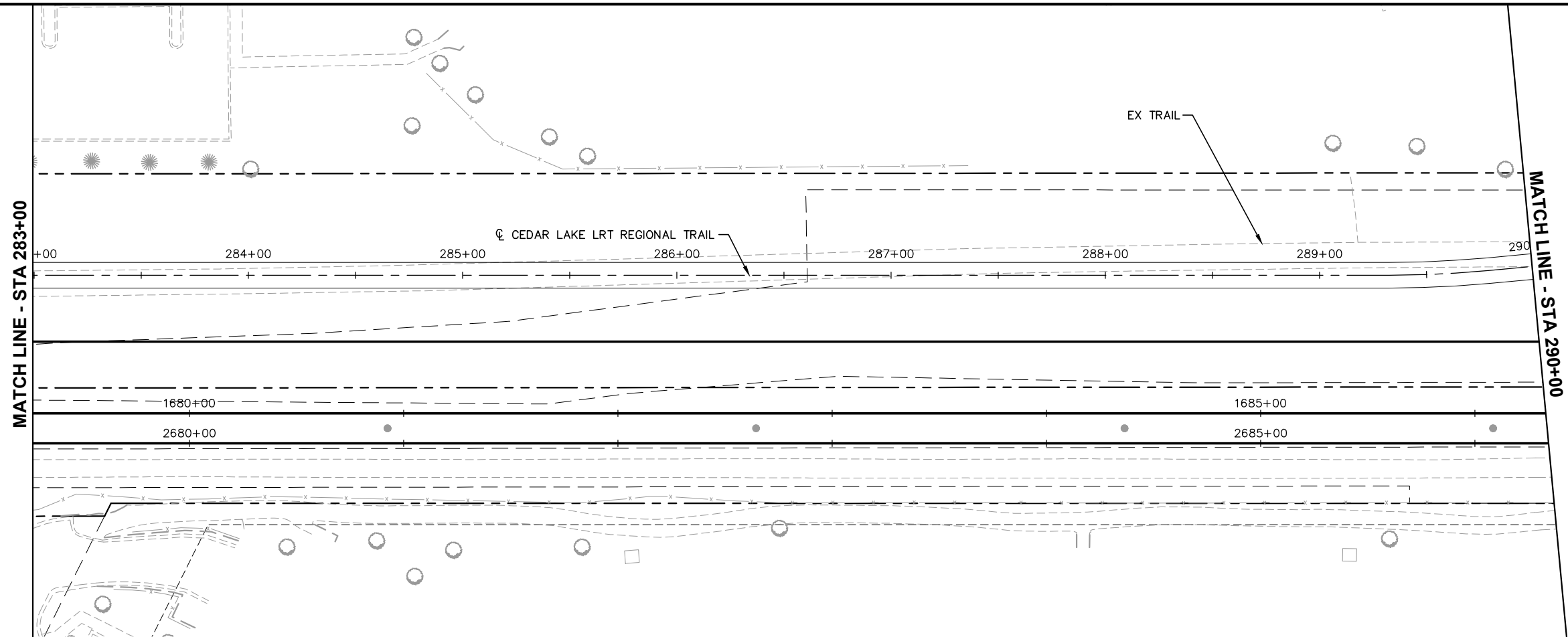
CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 276+00 TO STA 283+00

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-TRL-SIGN - 012

SHEET  
106  
OF  
266

Sep. 21 2015 08:46 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: cattlin.wotruba





FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



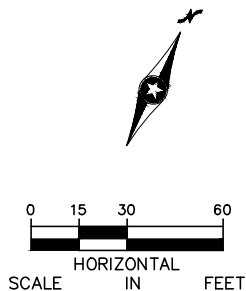
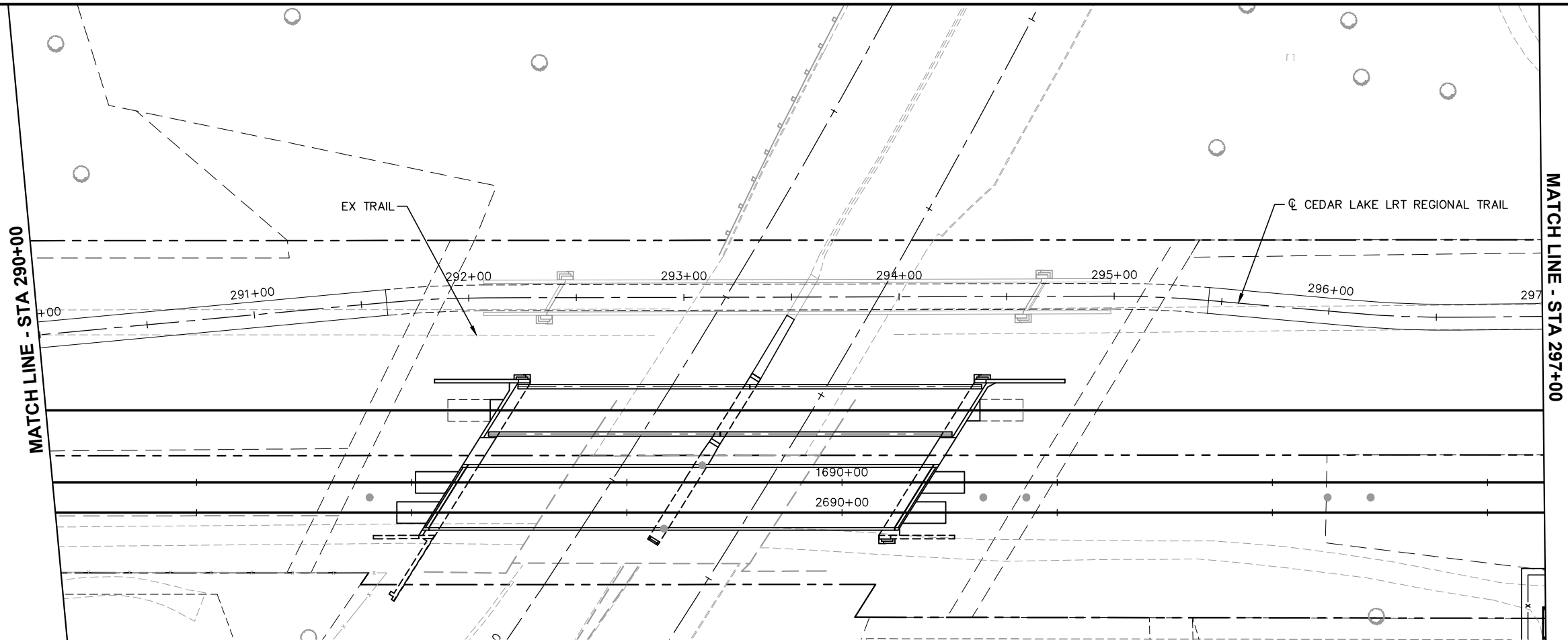
CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 283+00 TO STA 290+00

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E2-TFC-TRL-SIGN - 013

SHEET  
107  
OF  
266

Sep. 21 2015 08:46 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caitlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

  
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 290+00 TO STA 297+00

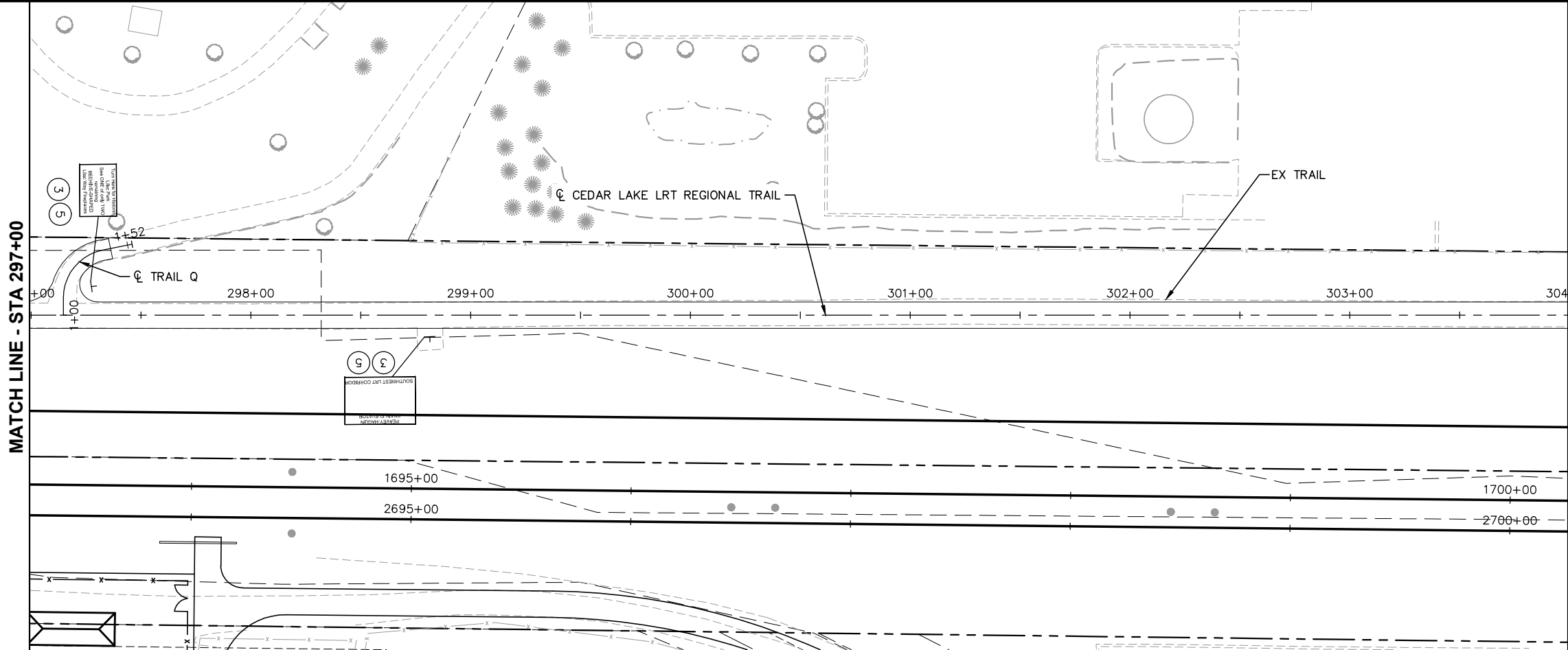
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E2-TFC-TRL-SIGN - 014

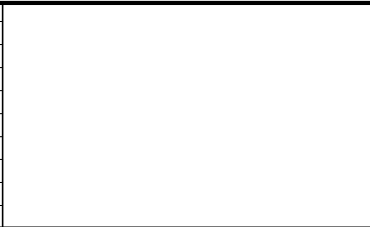
SHEET  
108  
OF  
266

Sep. 21 2015 08:47 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caittin.wotruba

- NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
- ① FURNISH & INSTALL  
② INPLACE  
③ SALVAGE  
④ REMOVE  
⑤ INSTALL



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL







60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 297+00 TO STA 304+00

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-TRL-SIGN - 015

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	 	<b>CIVIL EAST - VOLUME 10</b> <b>CEDAR LAKE LRT REGIONAL TRAIL</b> <b>SIGNING</b> <b>STA 304+00 TO STA 311+00</b>		<b>SHEET</b>  <b>110</b>  <b>OF</b>  <b>266</b>
							DISCIPLINE:	SHEET NAME:	
							TRAFFIC	E2-TFC-TRL-SIGN - 016	
60% SUBMISSION - 09/28/15									

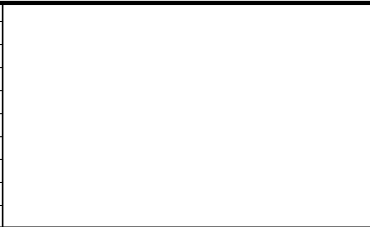


Sep. 21 2015 08:48 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caittin.wotruba

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15

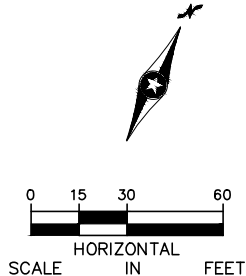
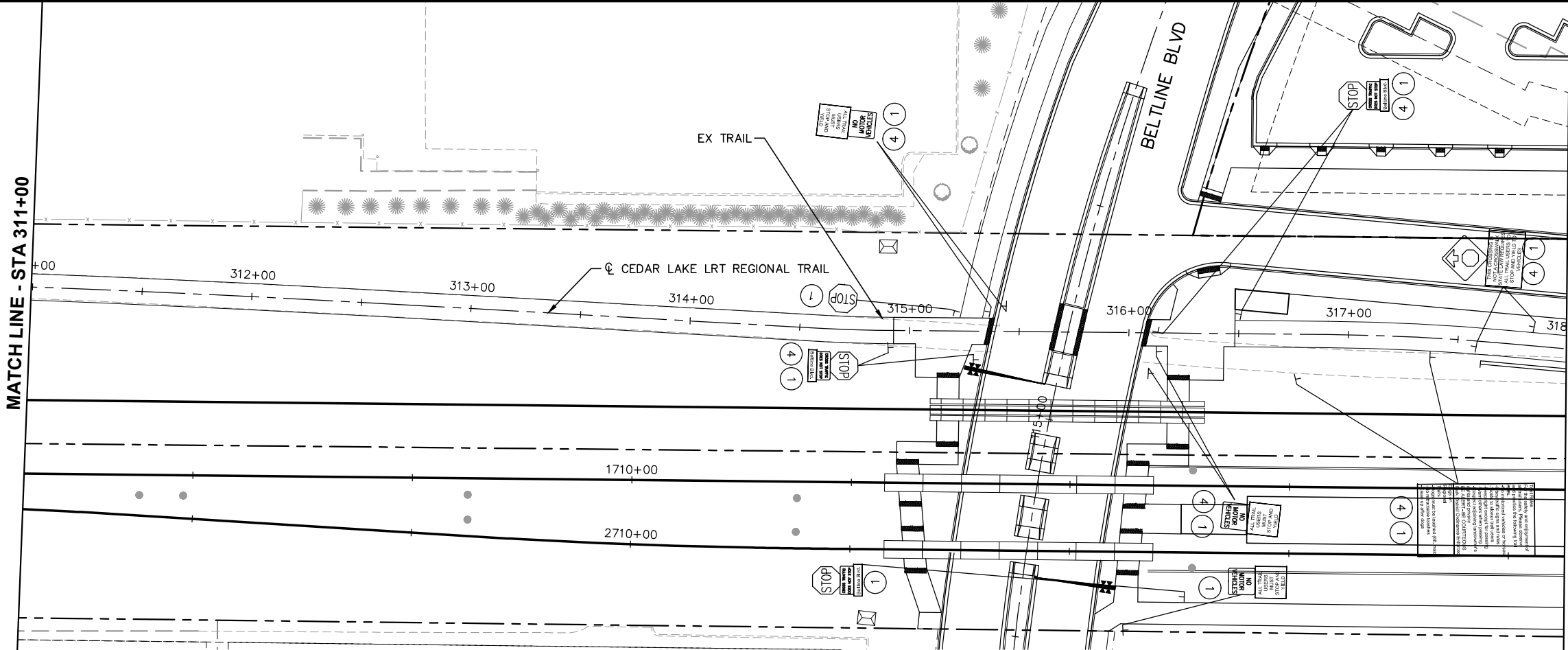


CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 311+00 TO STA 318+00

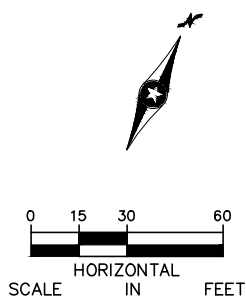
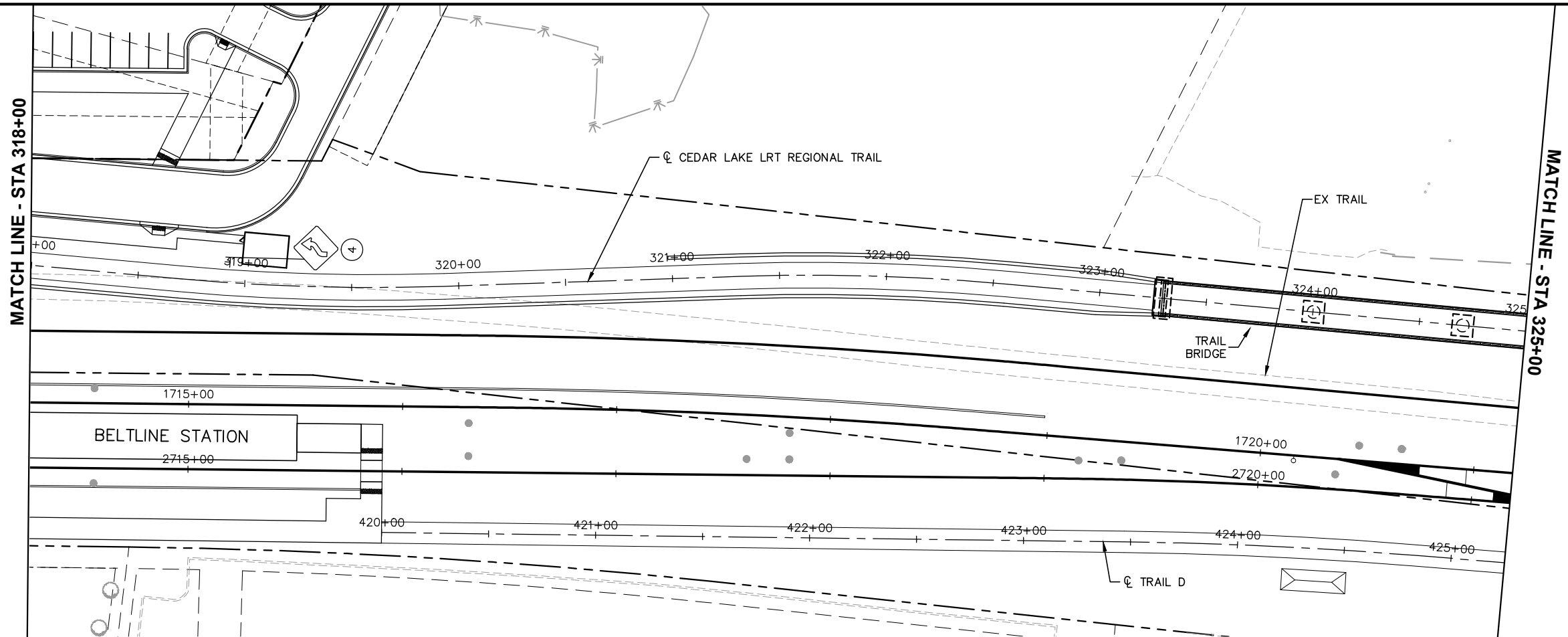
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E2-TFC-TRL-SIGN - 017

SHEET  
111  
OF  
266



Sep. 21 2015 08:49 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caitlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 318+00 TO STA 325+00**

DISCIPLINE:  
**TRAFFIC**

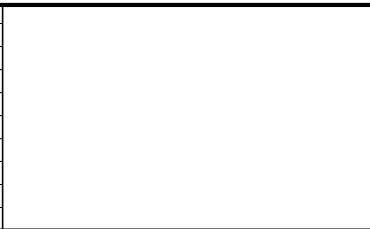
SHEET NAME:  
**E2-TFC-TRL-SIGN - 018**

**SHEET**  
**112**  
**OF**  
**266**

Sep. 21 2015 08:49 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caittin.wotruba

- NOTES:
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.
- ① FURNISH & INSTALL  
② INPLACE  
③ SALVAGE  
④ REMOVE  
⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

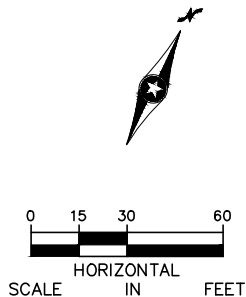
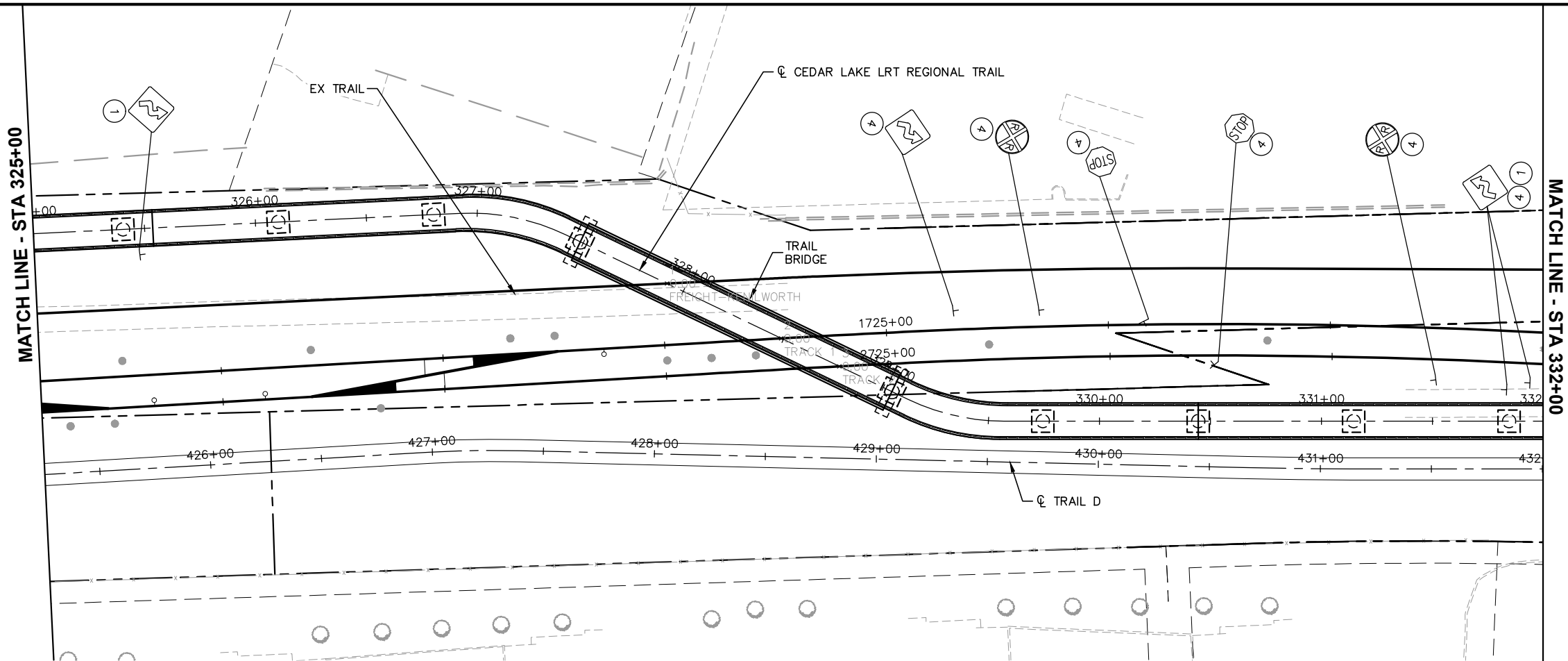
**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 325+00 TO STA 332+00**

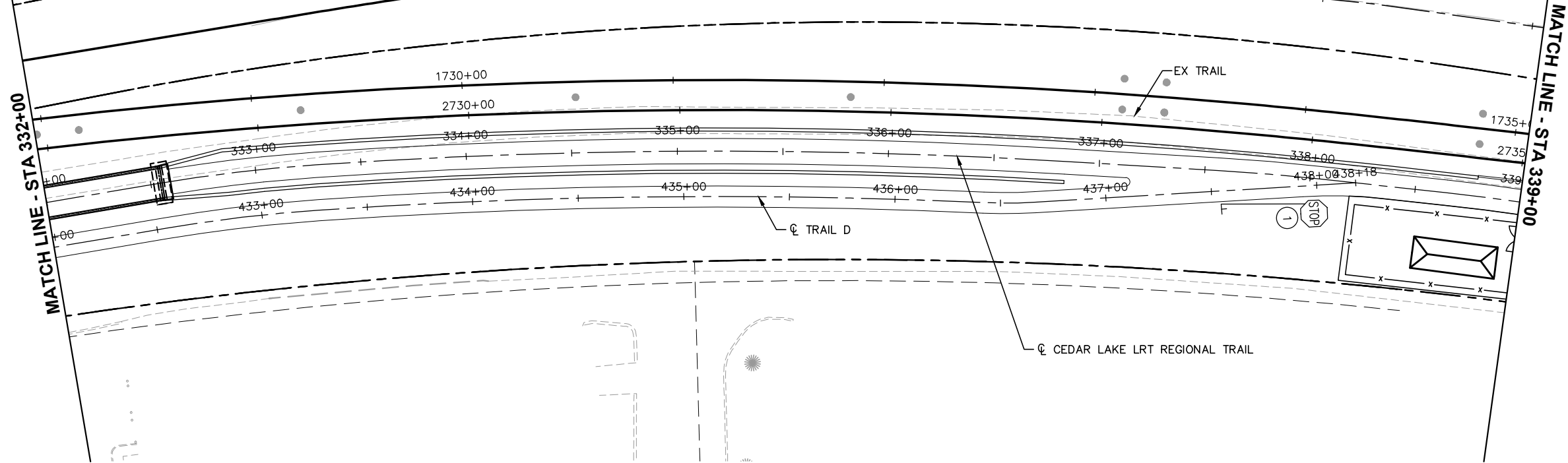
DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E2-TFC-TRL-SIGN - 019**

**SHEET**  
**113**  
**OF**  
**266**



Sep. 21 2015 08:50 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: caittin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



60% SUBMISSION - 09/28/15



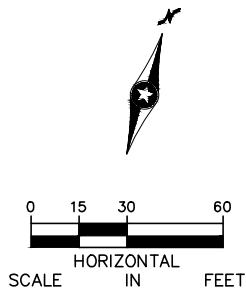
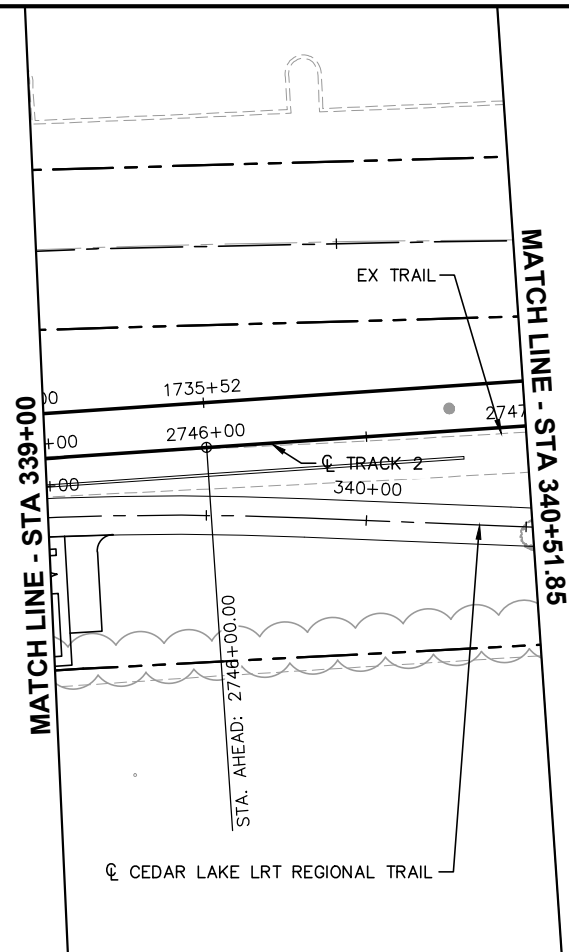
CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 332+00 TO STA 339+00

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-TRL-SIGN - 020

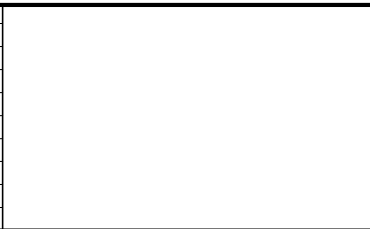
SHEET 114 OF 266

Sep. 21 2015 08:51 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E2-TFC-TRL-SIGN.dwg By: cattlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

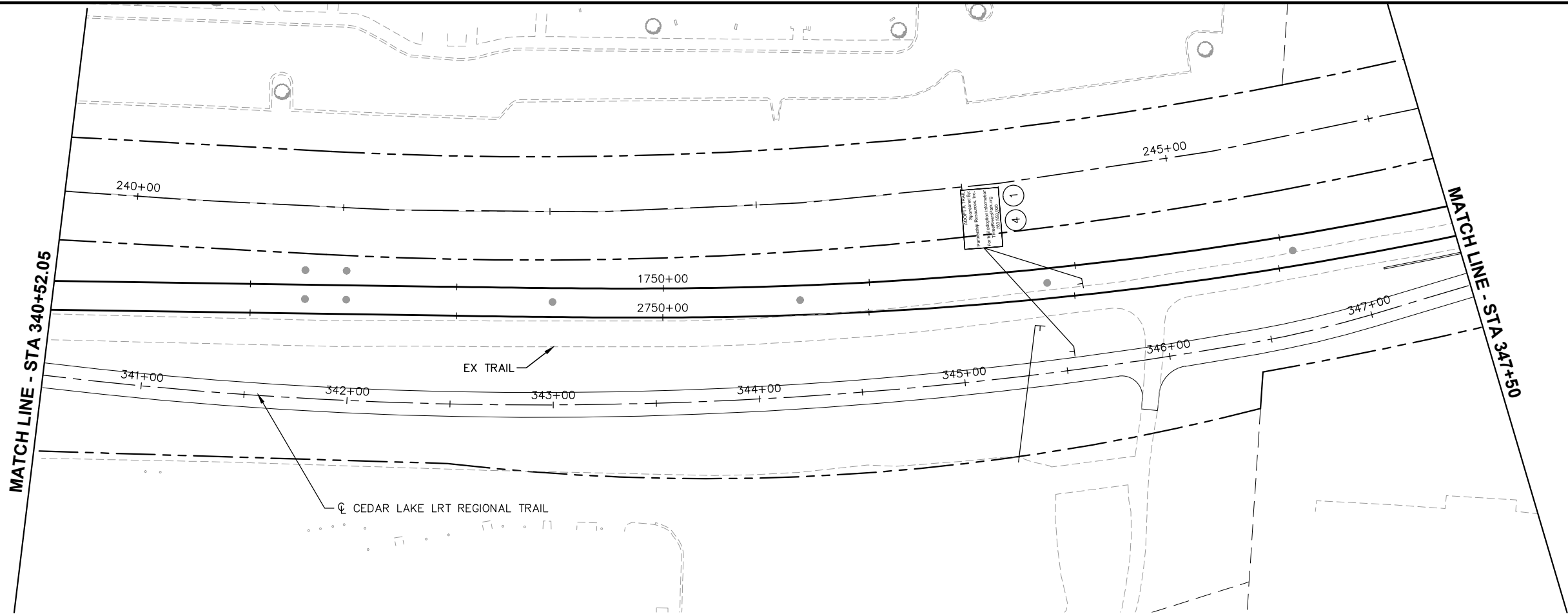
**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 339+00 TO STA 340+51.85**

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E2-TFC-TRL-SIGN - 021

SHEET  
115  
OF  
266

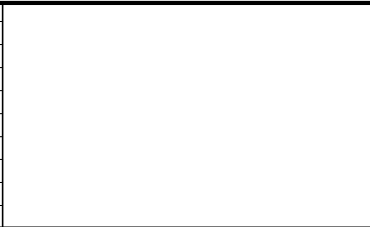
Sep. 21 2015 08:55 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caitlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





60% SUBMISSION - 09/28/15



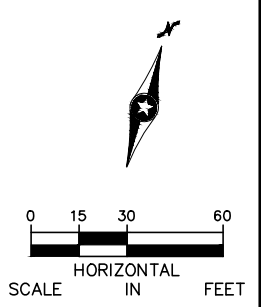
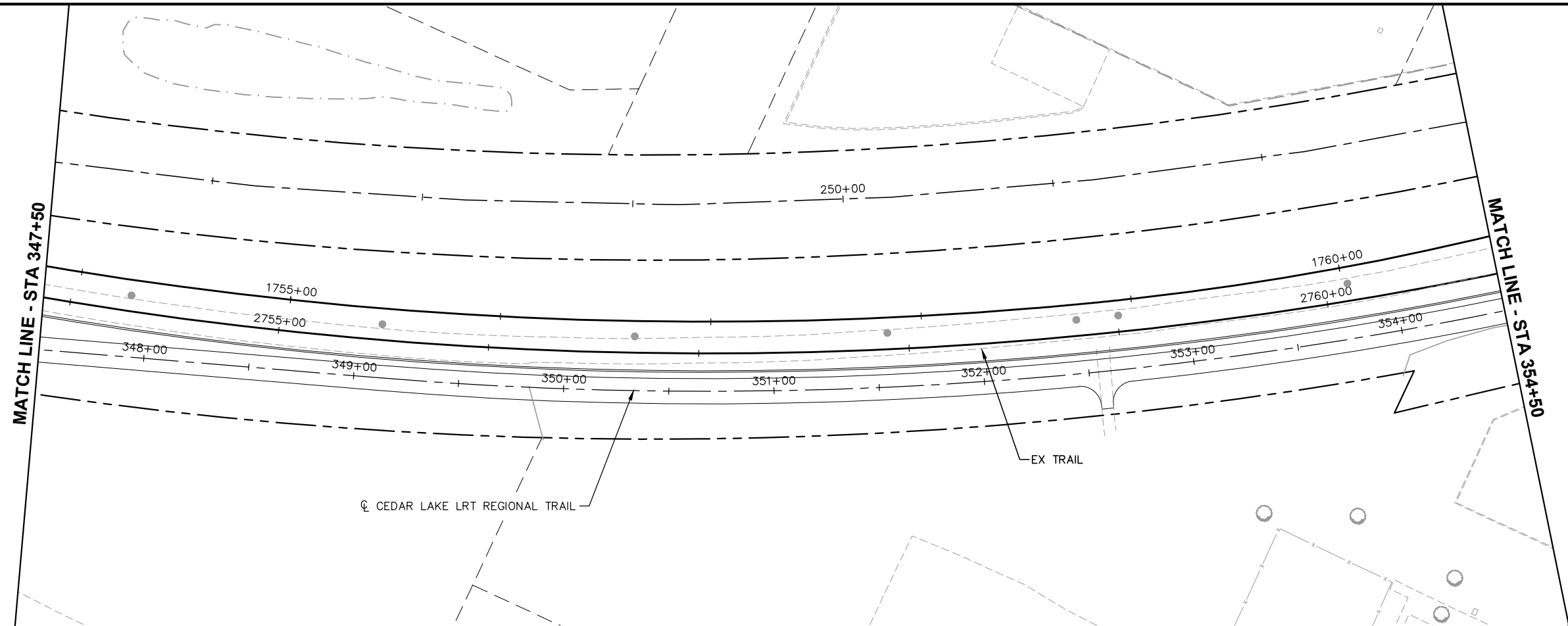
CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 340+52.05 TO STA 347+50

DISCIPLINE: TRAFFIC	SHEET NAME: E3-TFC-TRL-SIGN - 001
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SHEET  
116  
OF  
266

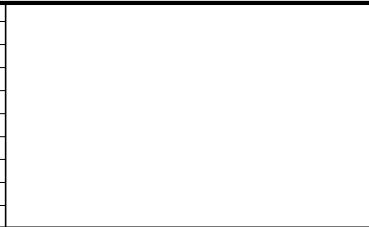


Sep. 21 2015 08:55 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caitlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE LRT REGIONAL TRAIL**  
**SIGNING**  
**STA 347+50 TO STA 354+50**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E3-TFC-TRL-SIGN - 002**

**SHEET**  
**117**  
**OF**  
**266**



**MATCH LINE - STA 361+50**

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

[illegible]

**60% SUBMISSION - 09/28/15**

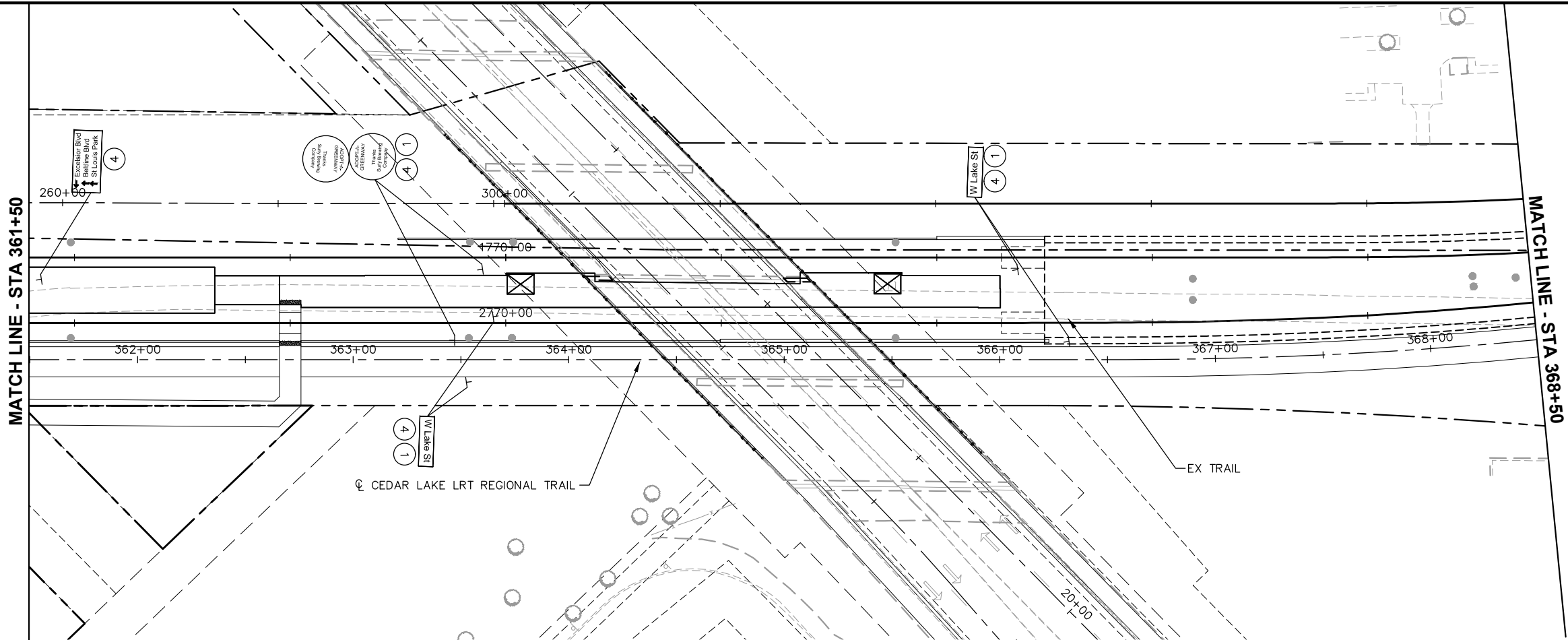


DISCIPLINE:	TRAFFIC
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SHEET NAME:	E3-TFC-TRL-SIGN - 003
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**SHEET**  
**118**  
**OF**  
**266**

Sep. 21 2015 08:56 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caittin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 361+50 TO STA 368+50

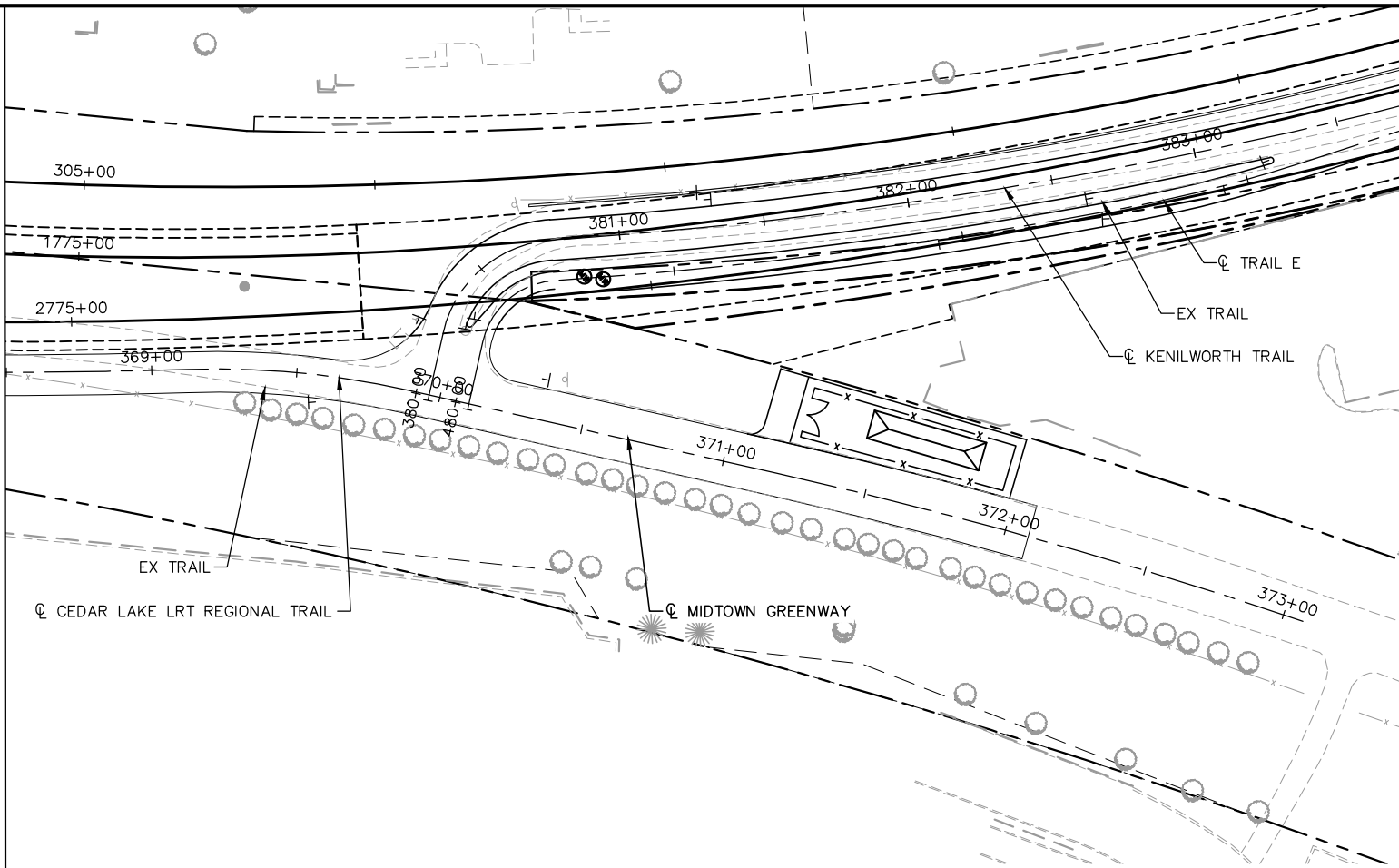
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E3-TFC-TRL-SIGN - 004

SHEET  
119  
OF  
266

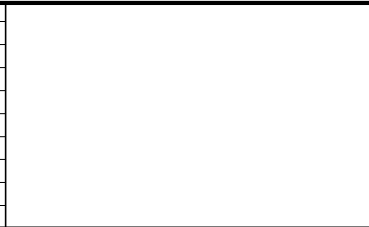
Sep. 21 2015 08:57 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caitlin.wotruba

MATCH LINE - STA 368+50



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

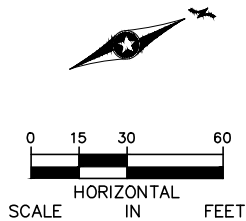
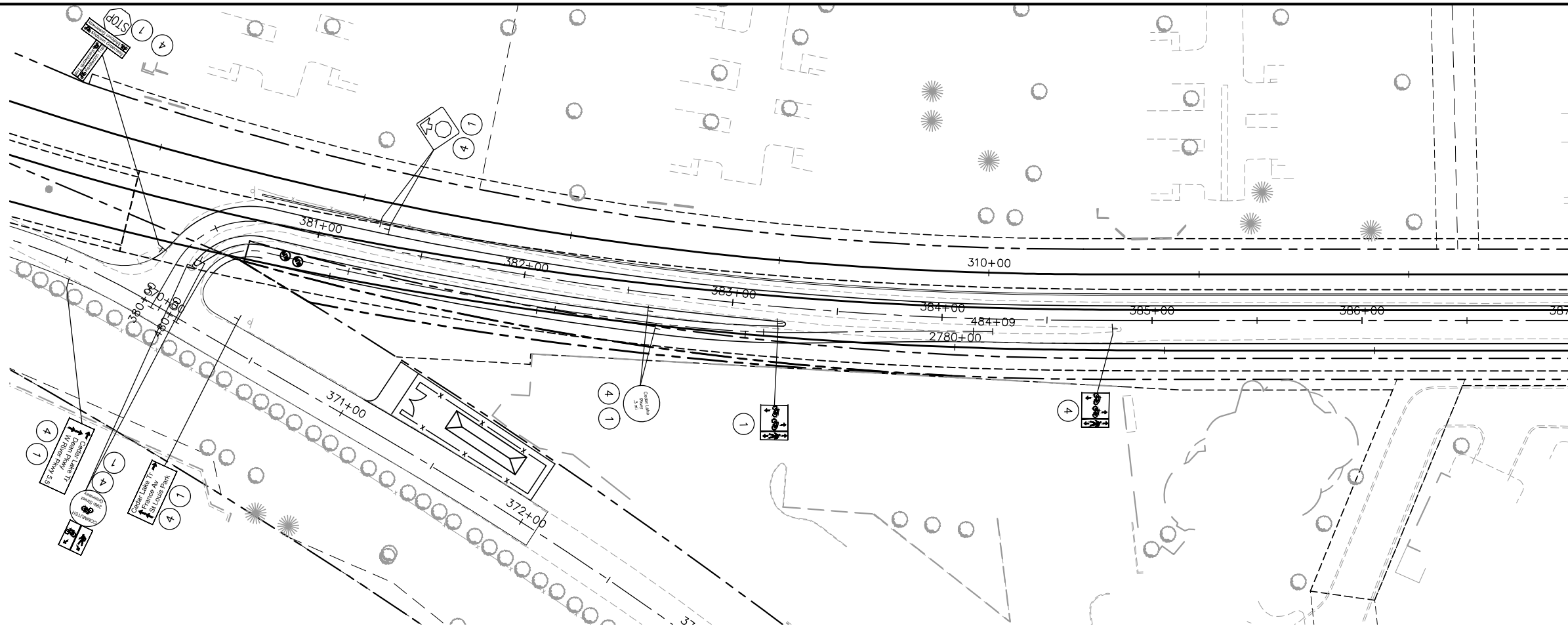


CIVIL EAST - VOLUME 10  
CEDAR LAKE LRT REGIONAL TRAIL  
SIGNING  
STA 368+50 TO STA 372+08.19

DISCIPLINE: TRAFFIC  
SHEET NAME: E3-TFC-TRL-SIGN - 005

SHEET  
120  
OF  
266

Sep. 21 2015 08:57 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caittin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

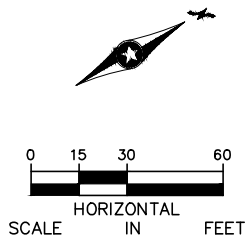
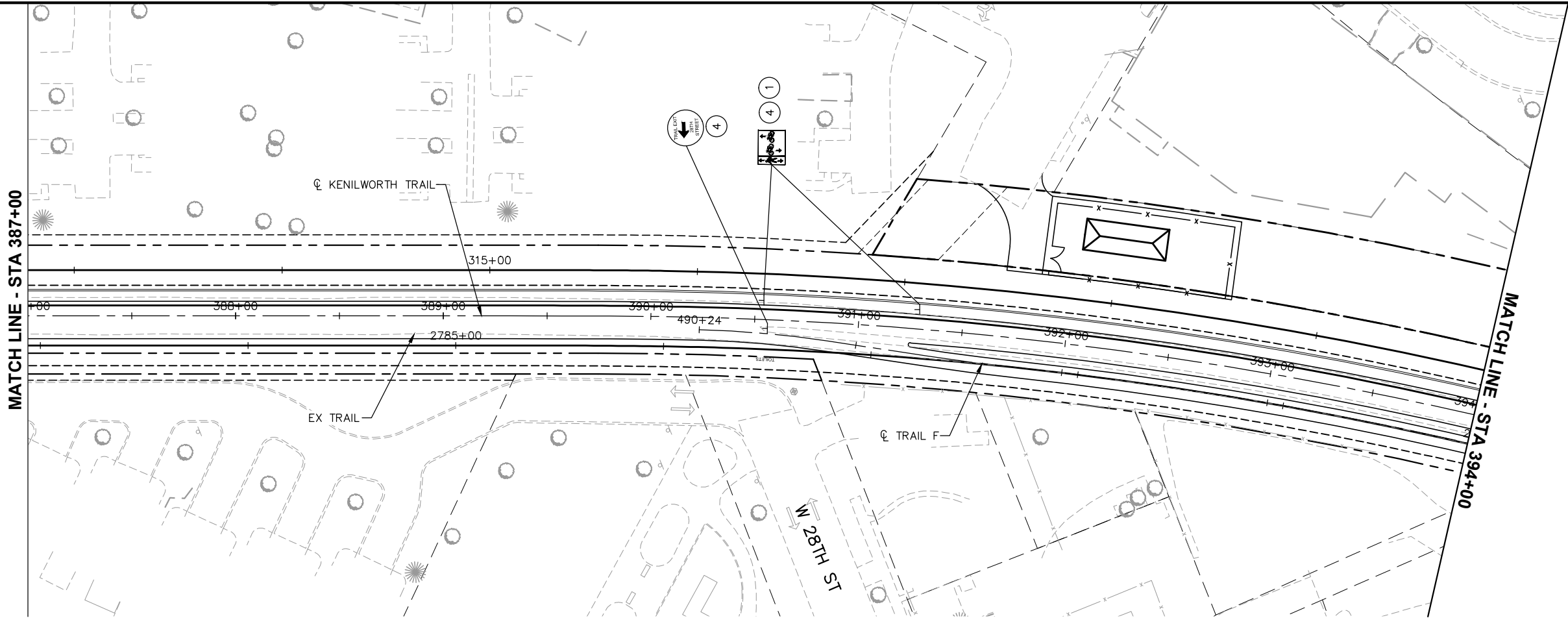
**CIVIL EAST - VOLUME 10**  
**KENILWORTH TRAIL**  
**SIGNING**  
**STA 380+00 TO STA 387+00**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-TRL-SIGN - 006**

**SHEET**  
**121**  
**OF**  
**266**

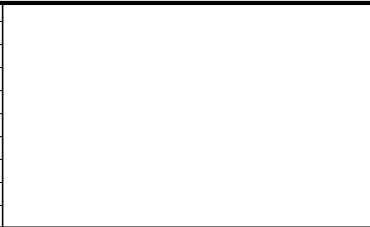
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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
KENILWORTH TRAIL  
SIGNING  
STA 387+00 TO STA 394+00

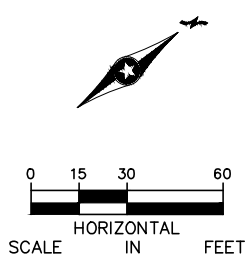
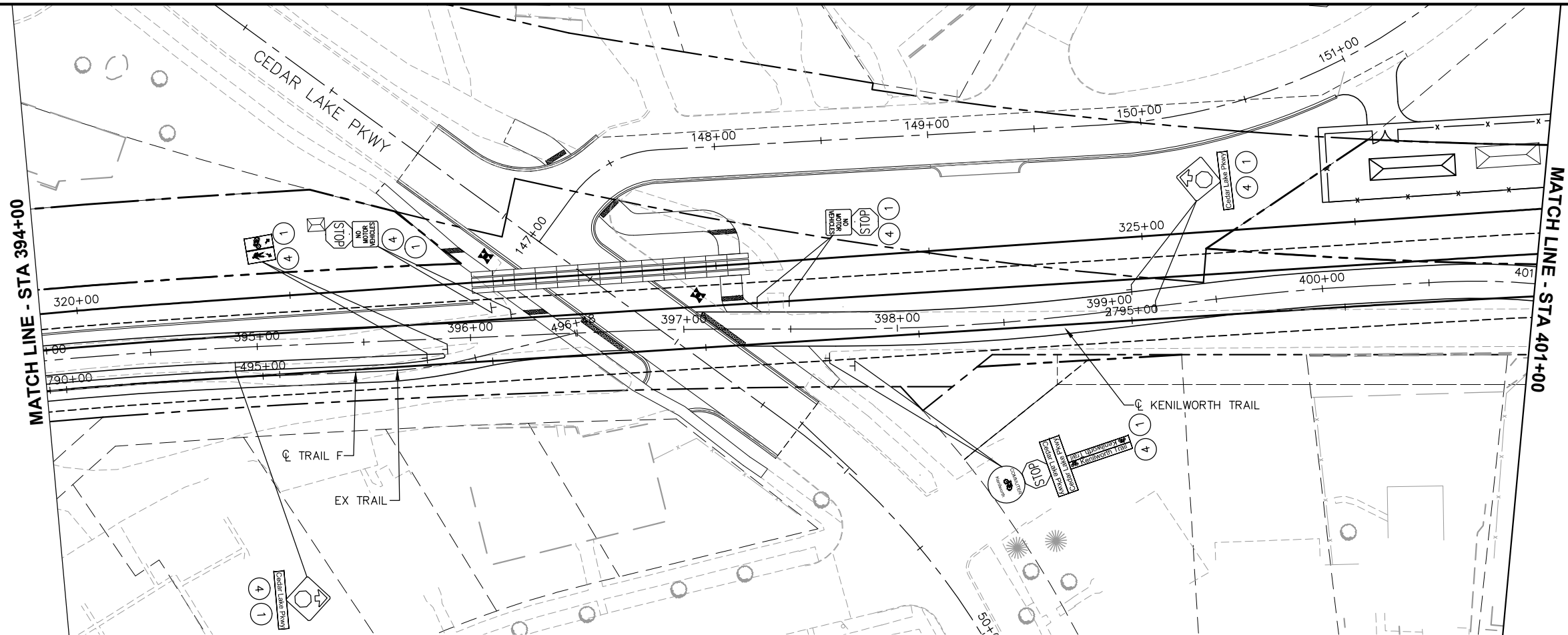
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E3-TFC-TRL-SIGN - 007

SHEET  
122  
OF  
266



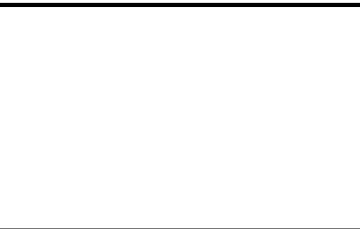
Sep. 21 2015 08:58 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caittin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



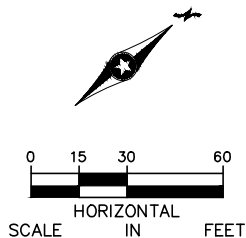
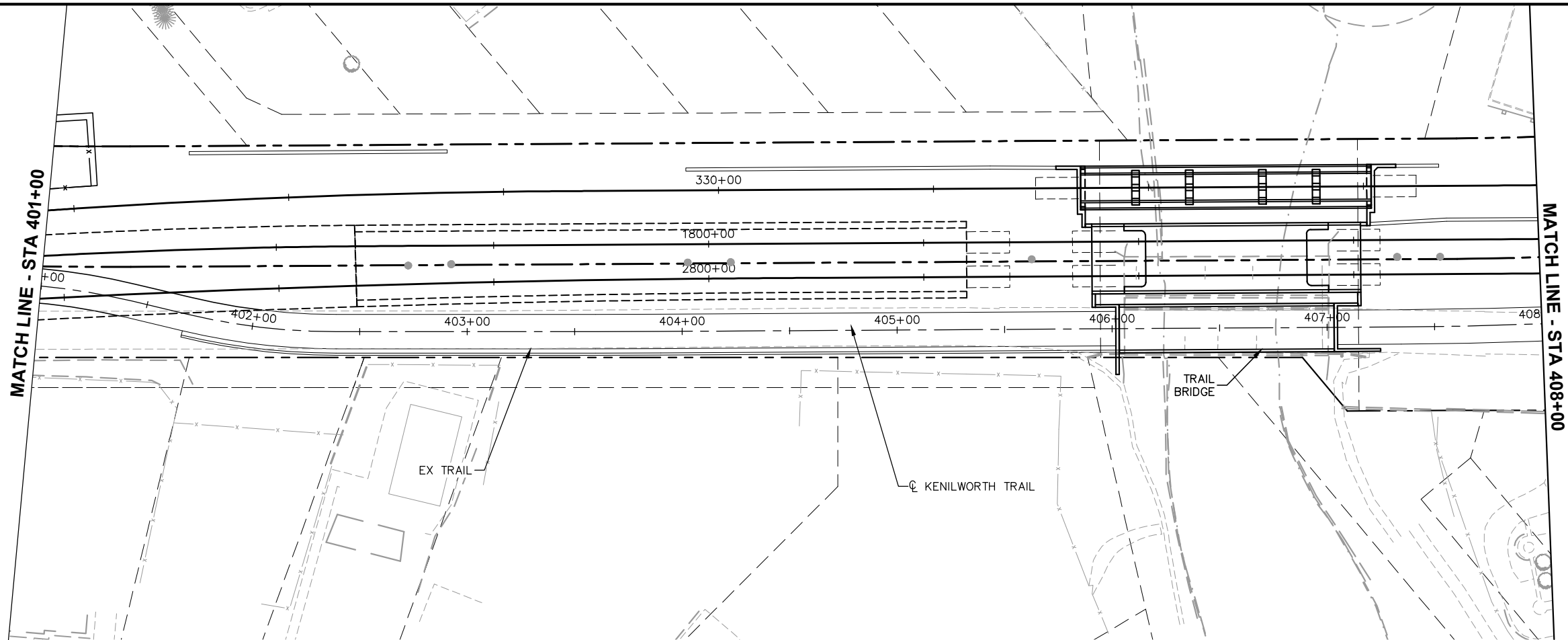
CIVIL EAST - VOLUME 10  
KENILWORTH TRAIL  
SIGNING  
STA 394+00 TO STA 401+00

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
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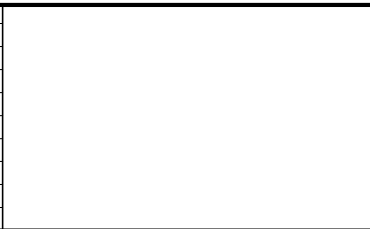
SHEET  
123  
OF  
266

Sep. 21 2015 08:58 am V:\3400\_ADC\CAD\CAD\_00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caittin.wotruba



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



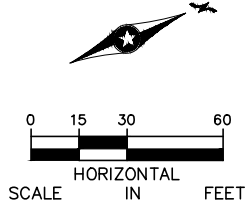
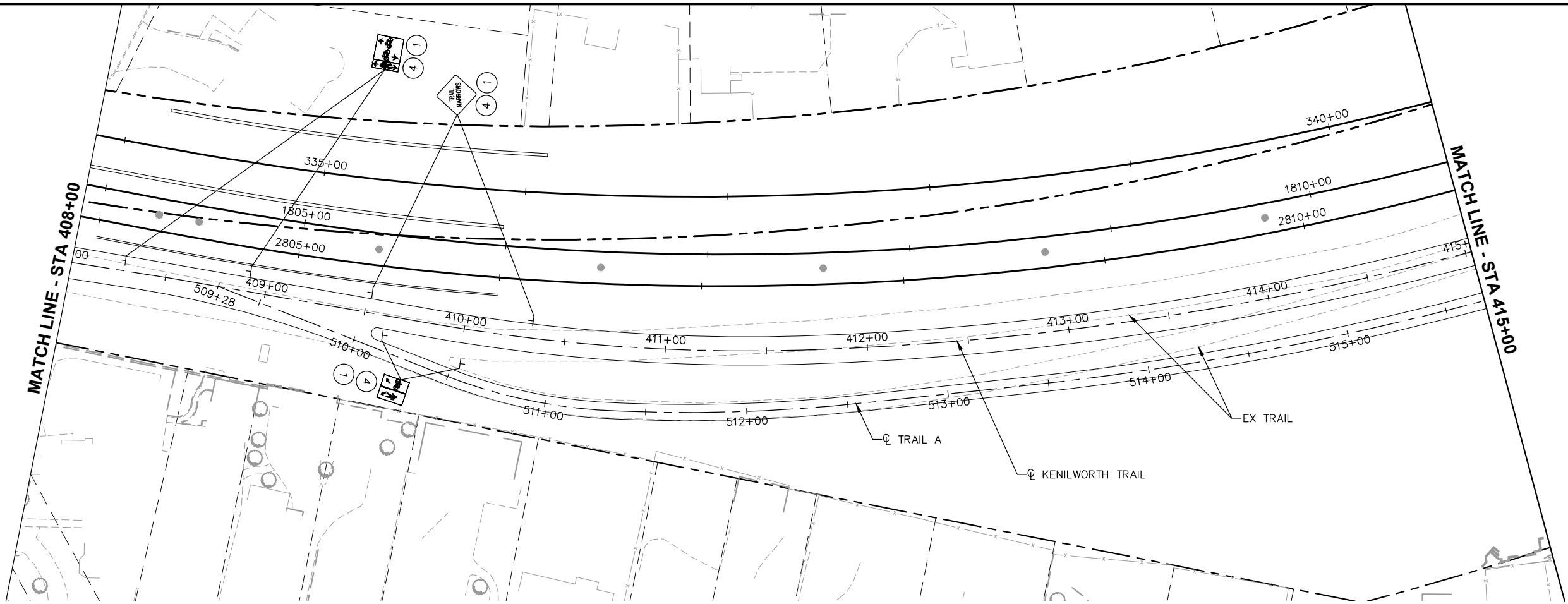
CIVIL EAST - VOLUME 10  
KENILWORTH TRAIL  
SIGNING  
STA 401+00 TO STA 408+00

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-TRL-SIGN - 009

SHEET  
124  
OF  
266

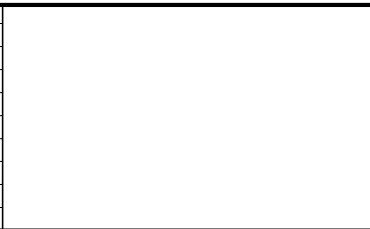
Sep. 21 2015 08:59 am v:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caitlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

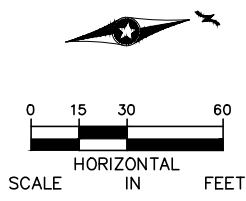
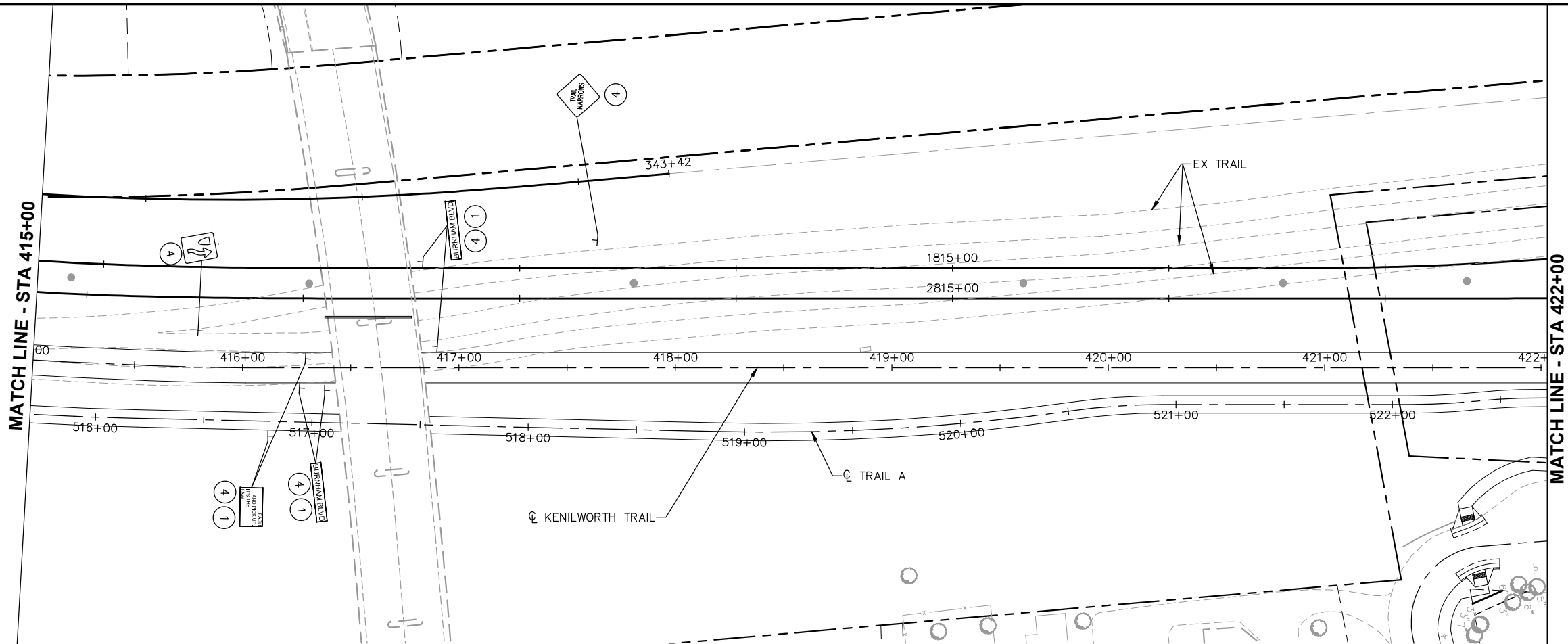
**CIVIL EAST - VOLUME 10**  
**KENILWORTH TRAIL**  
**SIGNING**  
**STA 408+00 TO STA 415+00**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E3-TFC-TRL-SIGN - 010**

**SHEET**  
**125**  
**OF**  
**266**

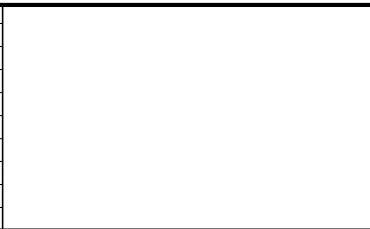
Sep. 21 2015 08:59 am v:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caitlin.wotruba



NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

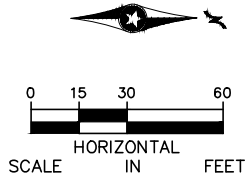
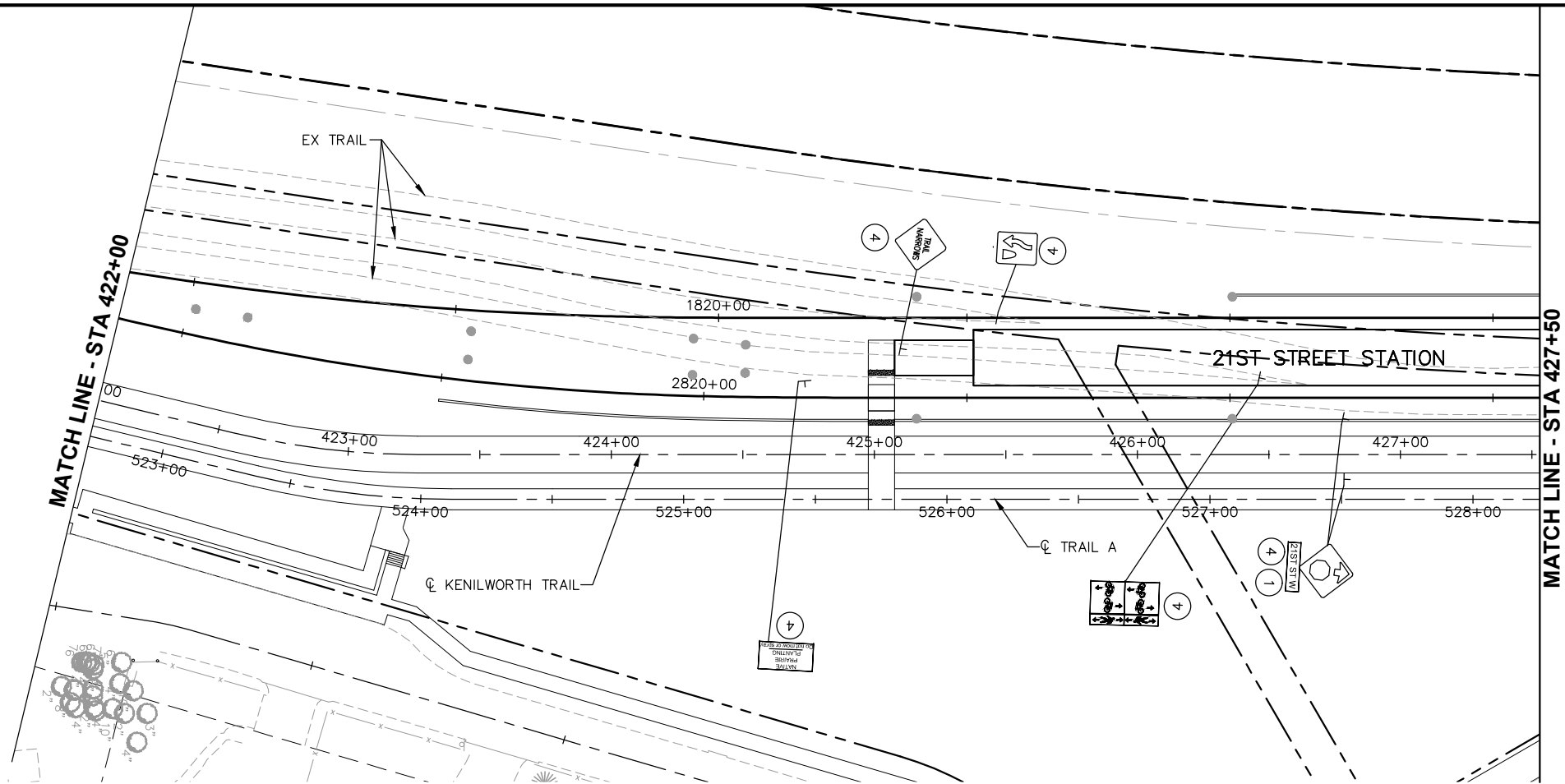
**CIVIL EAST - VOLUME 10**  
**KENILWORTH TRAIL**  
**SIGNING**  
**STA 415+00 TO STA 422+00**

DISCIPLINE:  
**TRAFFIC**

SHEET NAME:  
**E3-TFC-TRL-SIGN - 011**

**SHEET**  
126  
OF  
266

Sep. 21 2015 09:00 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caitlin.wotruba




NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.


- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**KENILWORTH TRAIL**  
**SIGNING**  
**STA 422+00 TO STA 427+50**

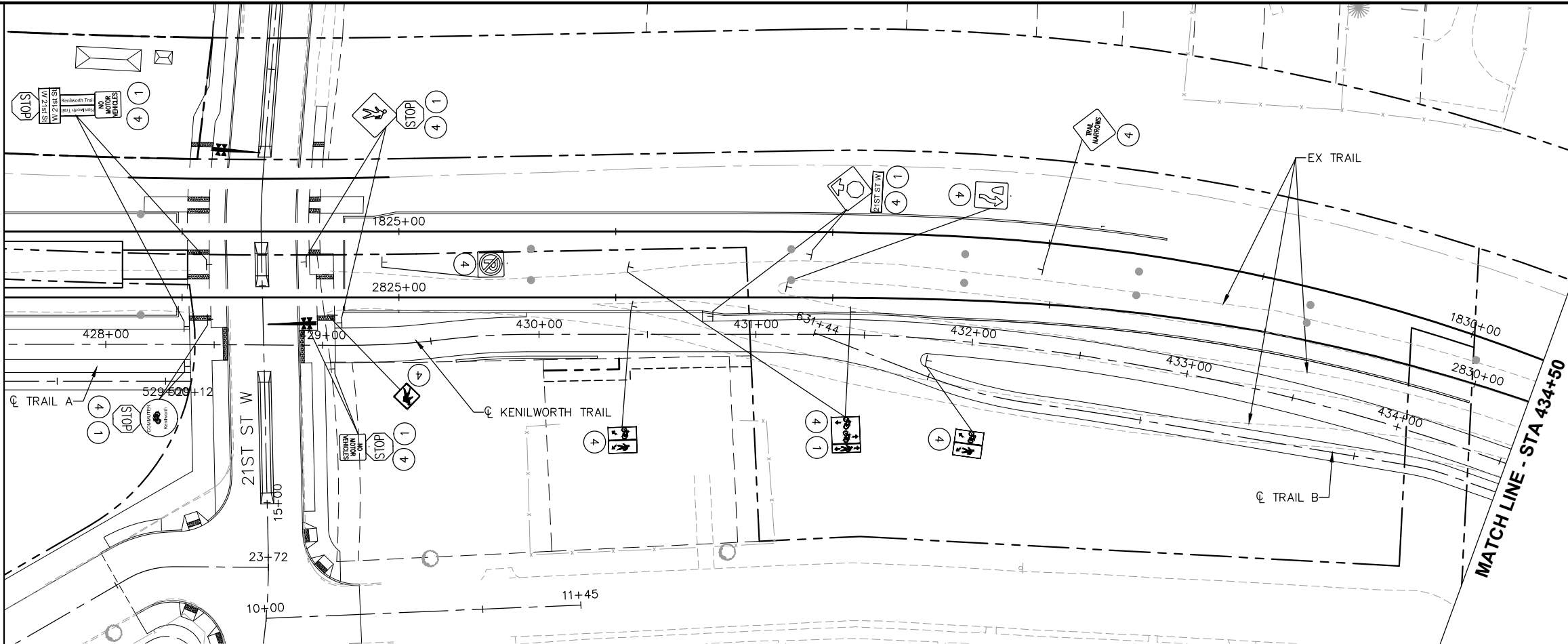
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**TRAFFIC**

SHEET NAME:  
**E3-TFC-TRL-SIGN - 012**

**SHEET**  
**127**  
**OF**  
**266**

Sep. 21 2015 09:00 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: caittin.wotruba

MATCH LINE - STA 427+50



MATCH LINE - STA 434+50

NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn

60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
KENILWORTH TRAIL  
SIGNING  
STA 427+50 TO STA 434+50

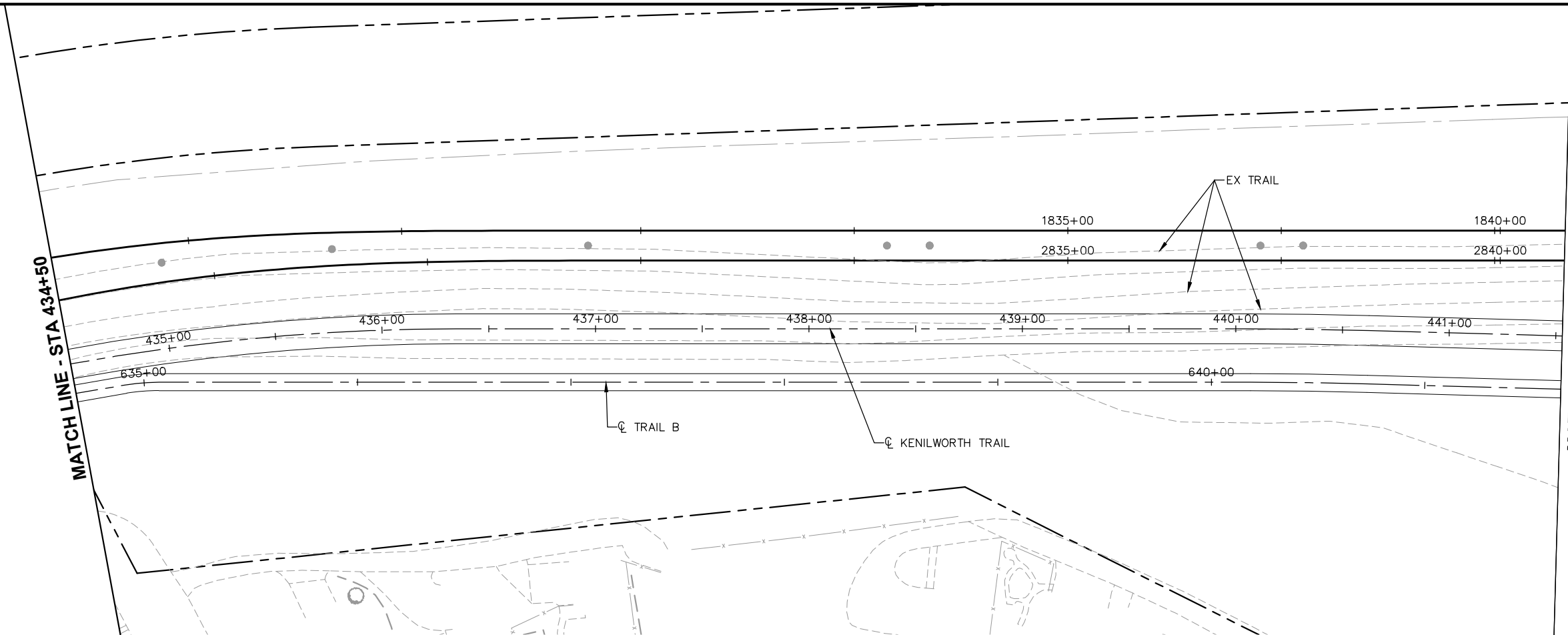
DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E3-TFC-TRL-SIGN - 013

SHEET  
128  
OF  
266

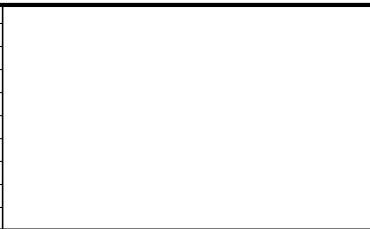


Sep. 21 2015 09:01 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: cattlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

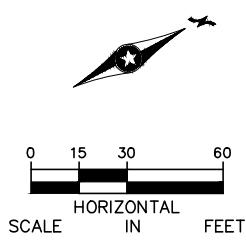
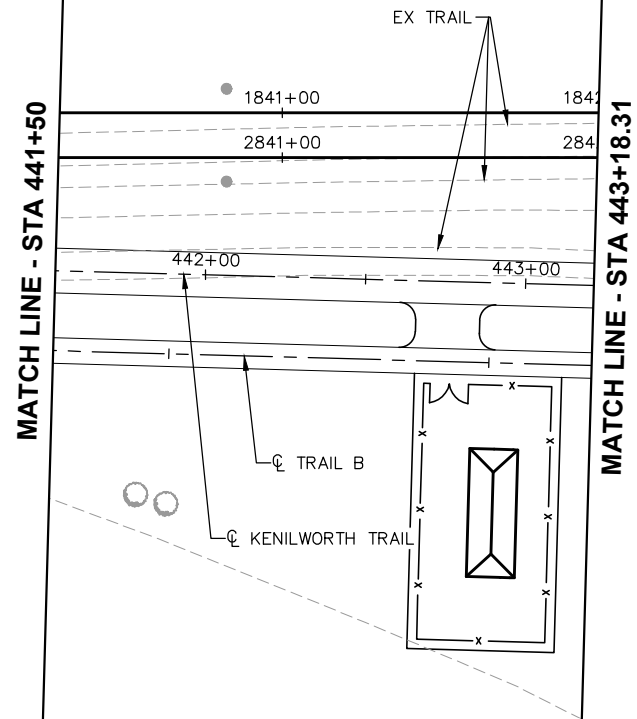
CIVIL EAST - VOLUME 10  
KENILWORTH TRAIL  
SIGNING  
STA 434+50 TO STA 441+50

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-TRL-SIGN - 014

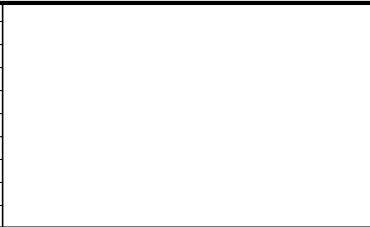
SHEET  
129  
OF  
266

Sep. 21 2015 09:01 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E3-TFC-TRL-SIGN.dwg By: cattlin.wotruba



FOR REFERENCE ONLY

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

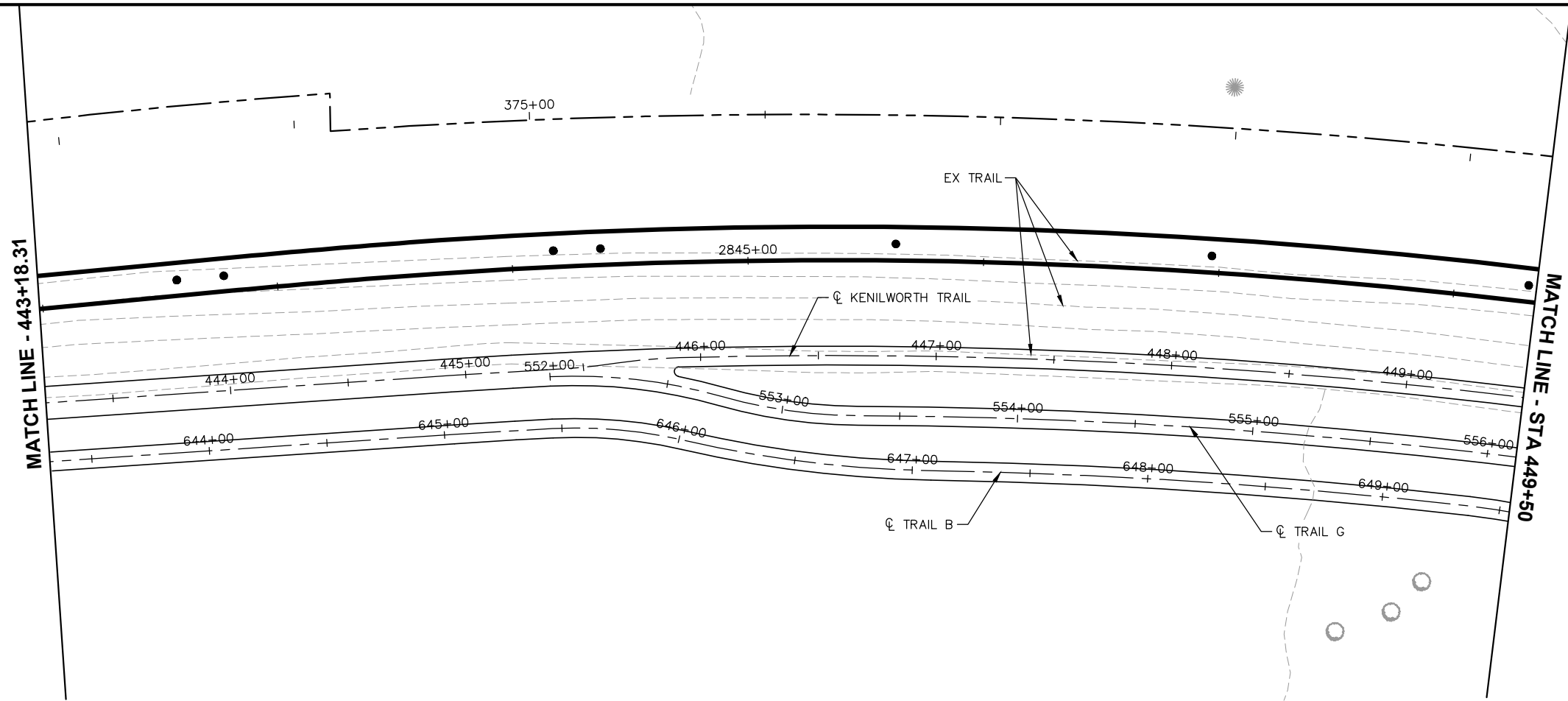
**CIVIL EAST - VOLUME 10**  
**KENILWORTH TRAIL**  
**SIGNING**  
**STA 441+50 TO STA 443+18.31**

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E3-TFC-TRL-SIGN - 015

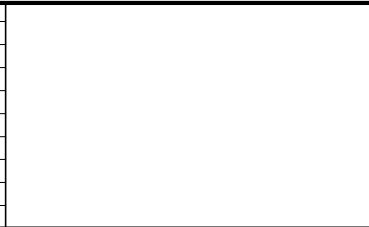
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130  
OF  
266

Sep. 21 2015 08:49 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-TRL-SIGN.dwg By: brian.villa



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METROPOLITAN COUNCIL

SOUTHWEST Green Line LRT Extension

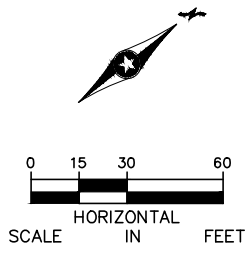
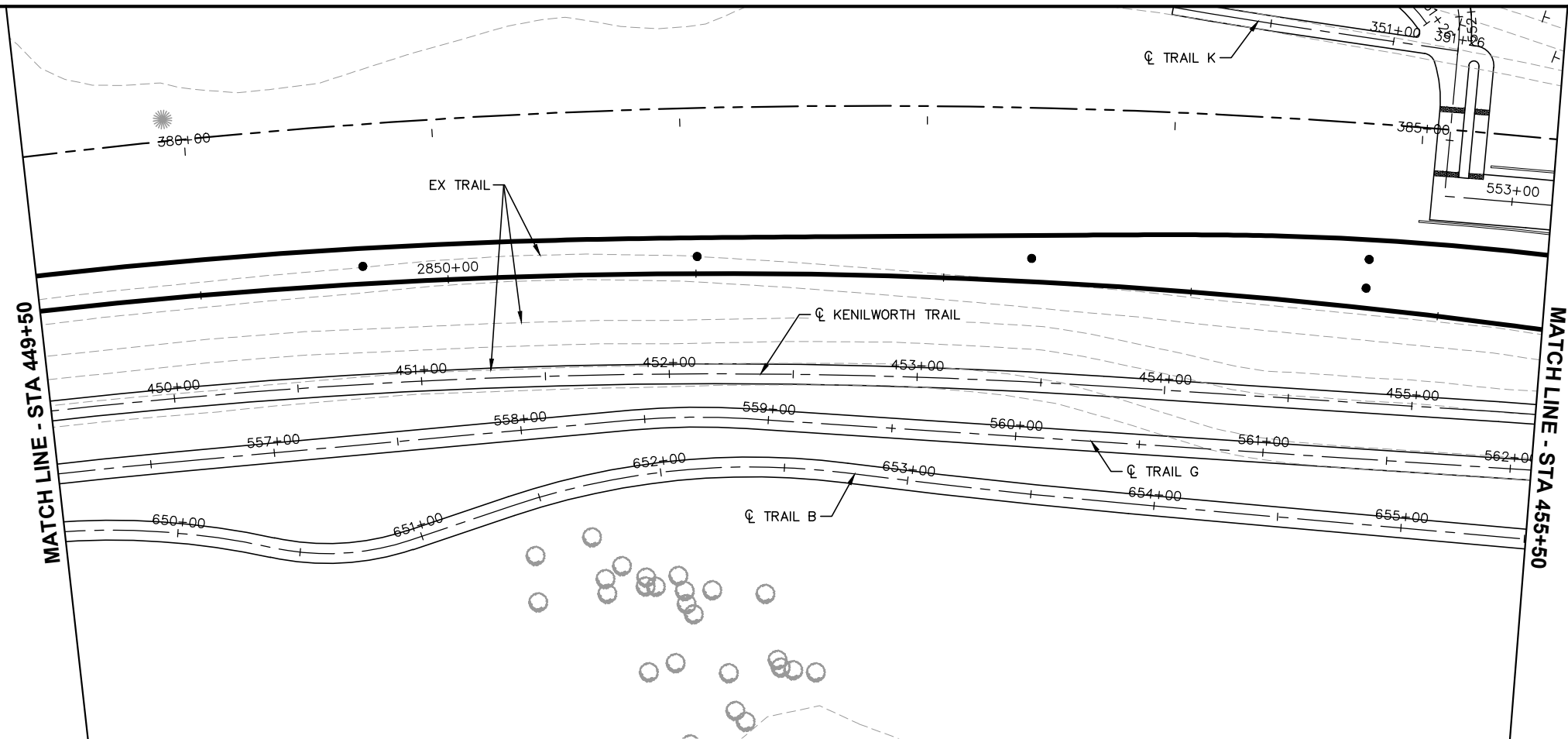
CIVIL EAST - VOLUME 10  
KENILWORTH TRAIL  
SIGNING  
STA 443+18.31 TO STA 449+50

DISCIPLINE: TRAFFIC

SHEET NAME: E4-TFC-TRL-SIGN - 001

SHEET  
131  
OF  
266

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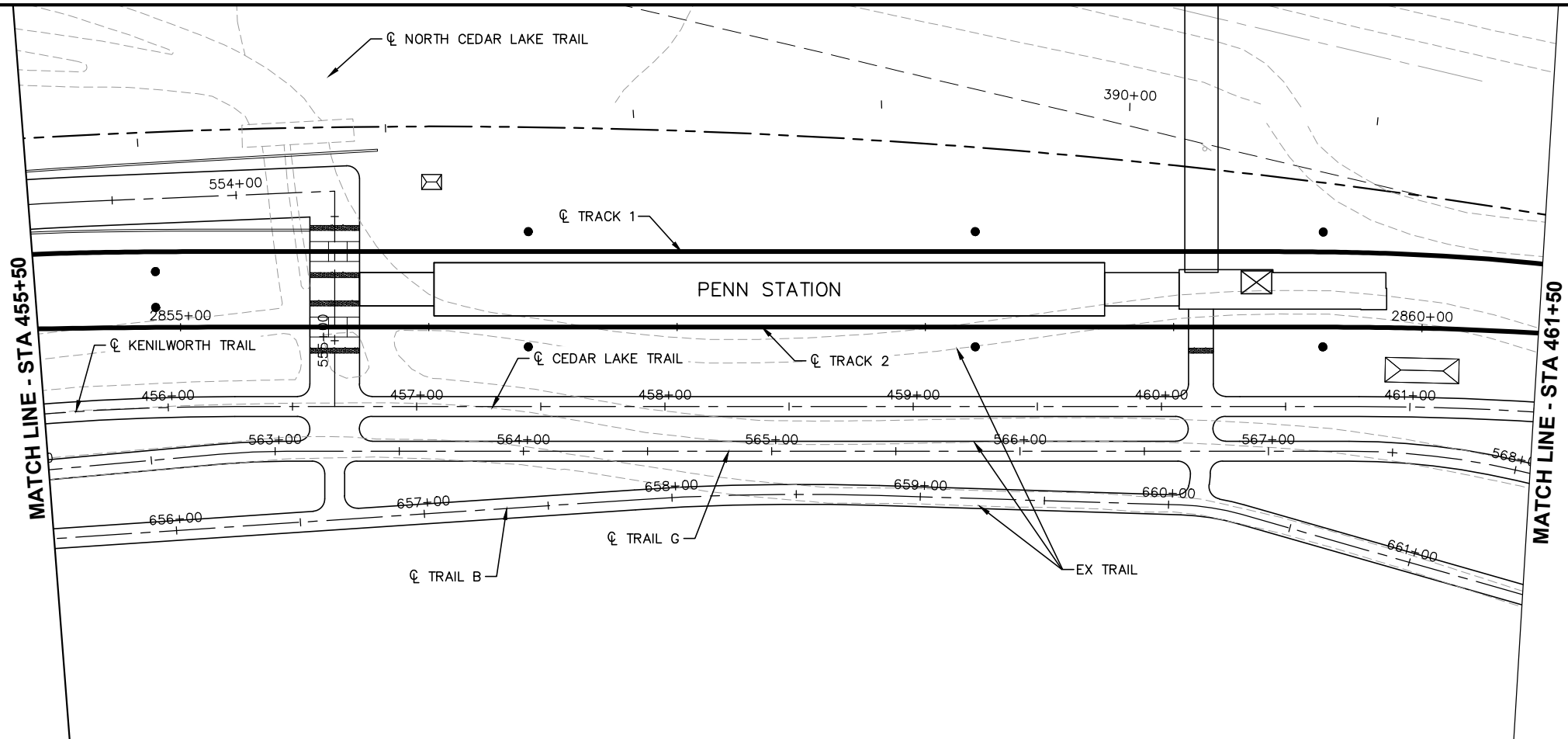


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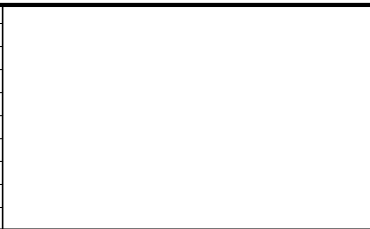
 <b>60% SUBMISSION - 09/28/15</b>	 <b>SOUTHWEST</b> <small>Green Line LRT Extension</small>	<b>CIVIL EAST - VOLUME 10</b> <b>KENILWORTH TRAIL</b> <b>SIGNING</b> <b>STA 449+50 TO STA 455+50</b>		<b>SHEET</b> <b>132</b> <b>OF</b> <b>266</b>
		<small>DISCIPLINE:</small> <b>TRAFFIC</b>	<small>SHEET NAME:</small> <b>E4-TFC-TRL-SIGN - 002</b>	

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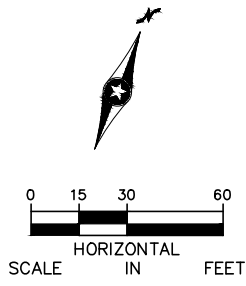
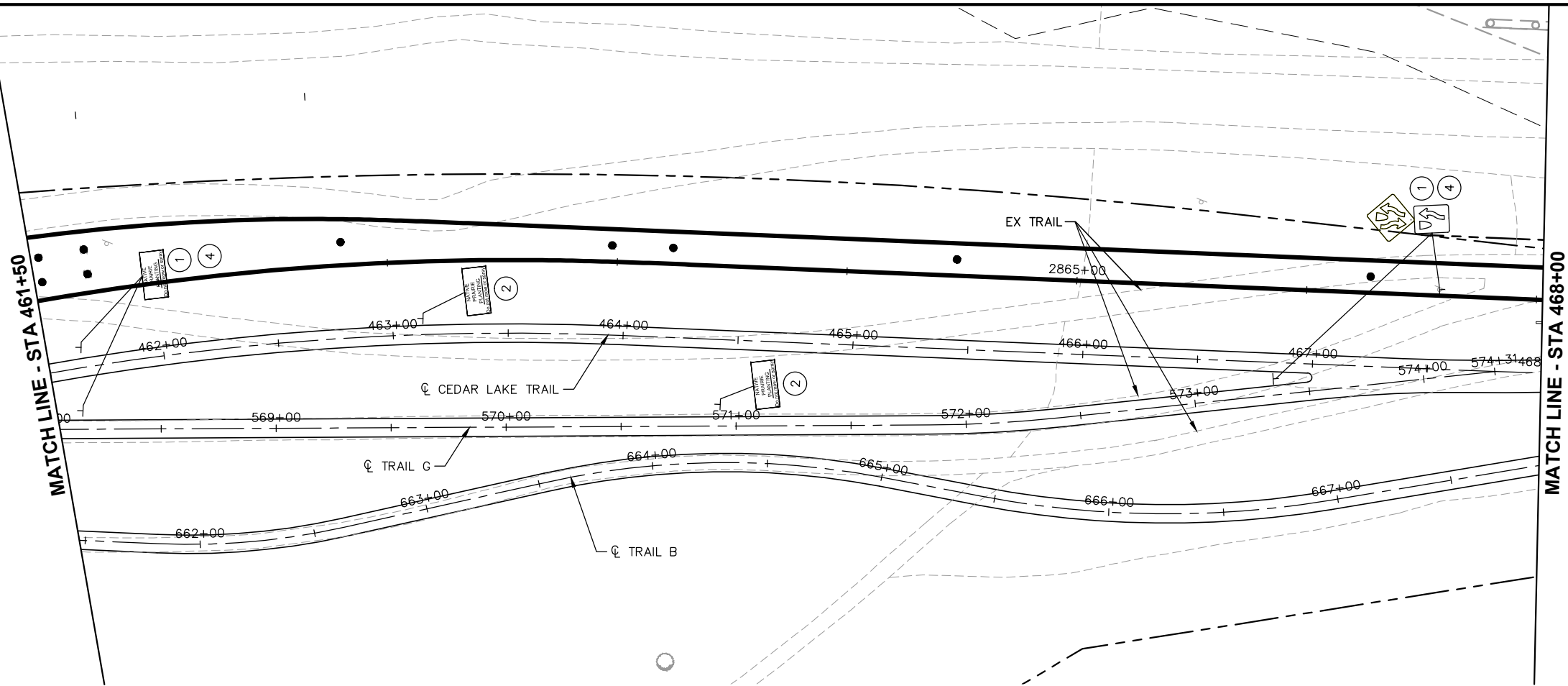
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**KENILWORTH TRAIL/CEDAR LAKE TRAIL**  
**SIGNING**  
**STA 455+50 TO STA 461+50**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E4-TFC-TRL-SIGN - 003**

**SHEET**  
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**OF**  
**266**

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NOTES:  
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ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

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**AECOM** Kimley»Horn

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

60% SUBMISSION - 09/28/15

**CIVIL EAST - VOLUME 10**  
**CEDAR LAKE TRAIL**  
**SIGNING**  
**STA 461+50 TO STA 468+00**

DISCIPLINE:  
**TRAFFIC**

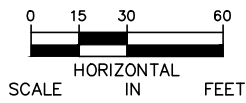
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**134**  
**OF**  
**266**





**MATCH LINE - STA 474+50**



NOTES:

1. SIGNS SHALL BE PLACED AS DETAILED ON SIGNING AND STRIPING DETAIL SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

[illegible]

**AECOM Kimley»Horn**

**60% SUBMISSION - 09/28/15**



# SOUTHWEST

Green Line LRT Extension



**CIVIL EAST - VOLUME 10  
CEDAR LAKE TRAIL  
SIGNING  
STA 468+00 TO STA 474+50**

DISCIPLINE:

## TRAFFIC

SHEET NAME:
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E4-TFC-TRL-SIGN - 005

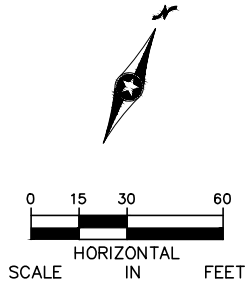
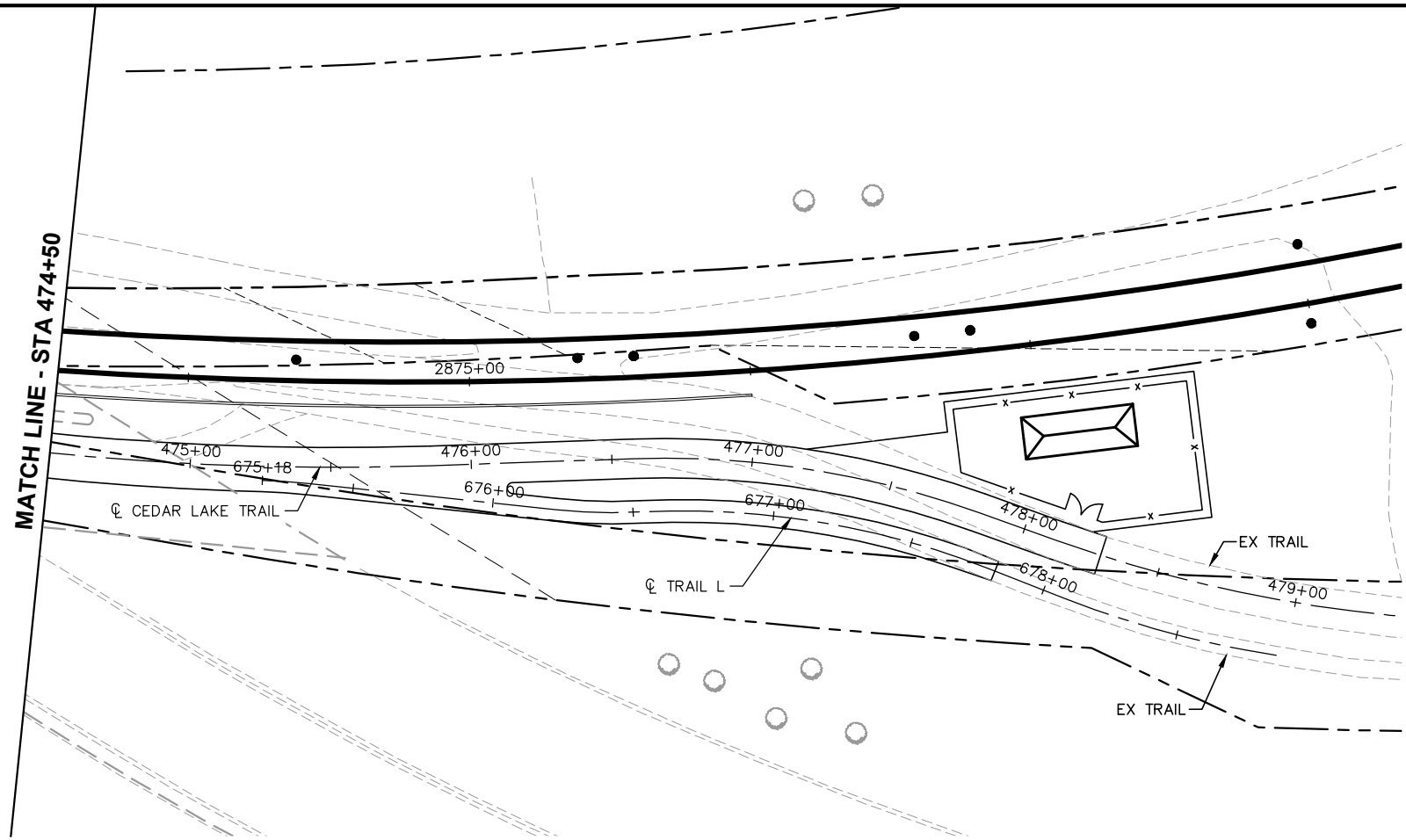
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135

OF

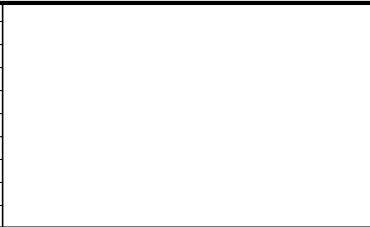
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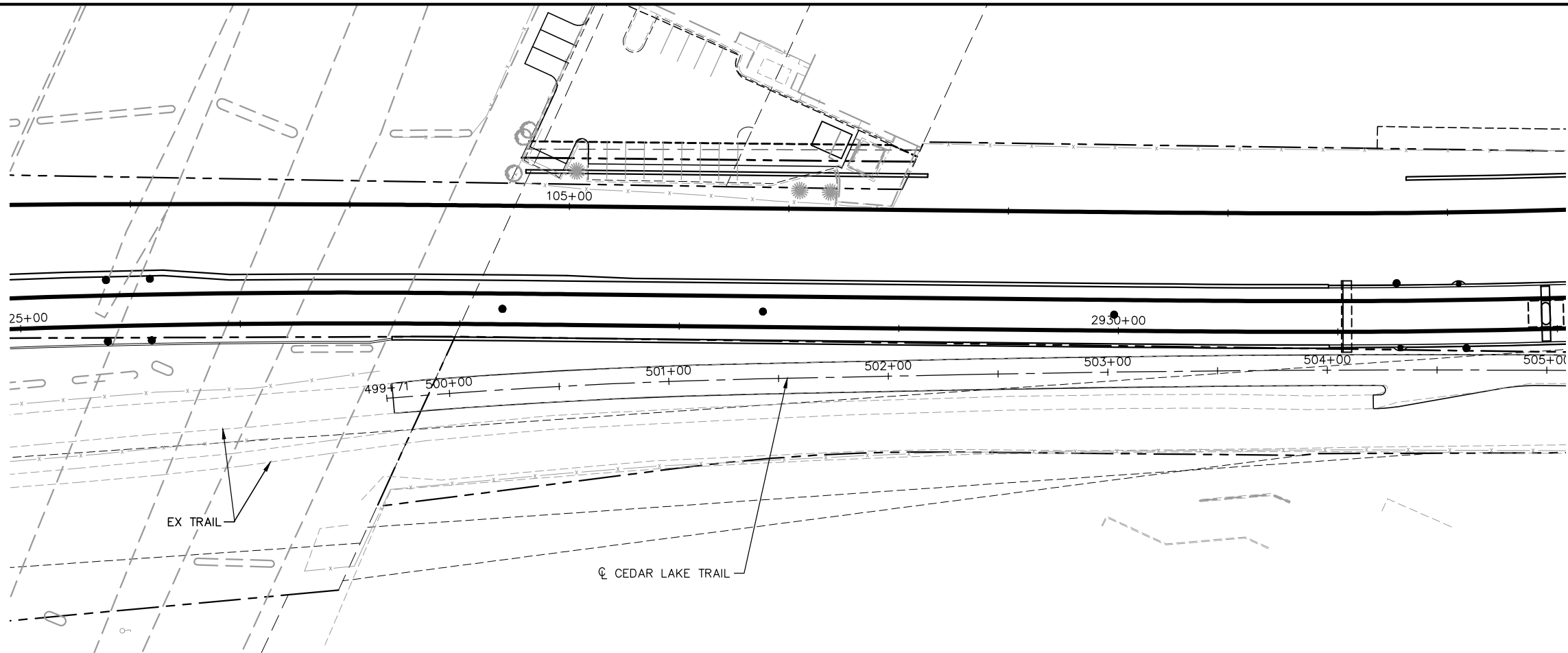


CIVIL EAST - VOLUME 10  
CEDAR LAKE TRAIL  
SIGNING  
STA 474+50 TO STA 478+20.24

DISCIPLINE: TRAFFIC  
SHEET NAME: E4-TFC-TRL-SIGN - 006

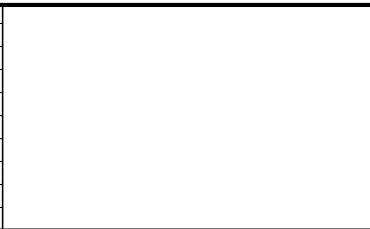
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136  
OF  
266

Sep. 21 2015 08:52 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\SIGNING\_STRIPING\E4-TFC-TRL-SIGN.dwg By: brian.villa



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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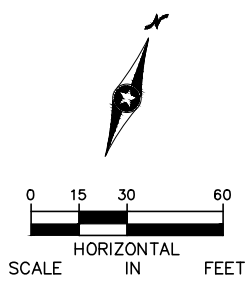
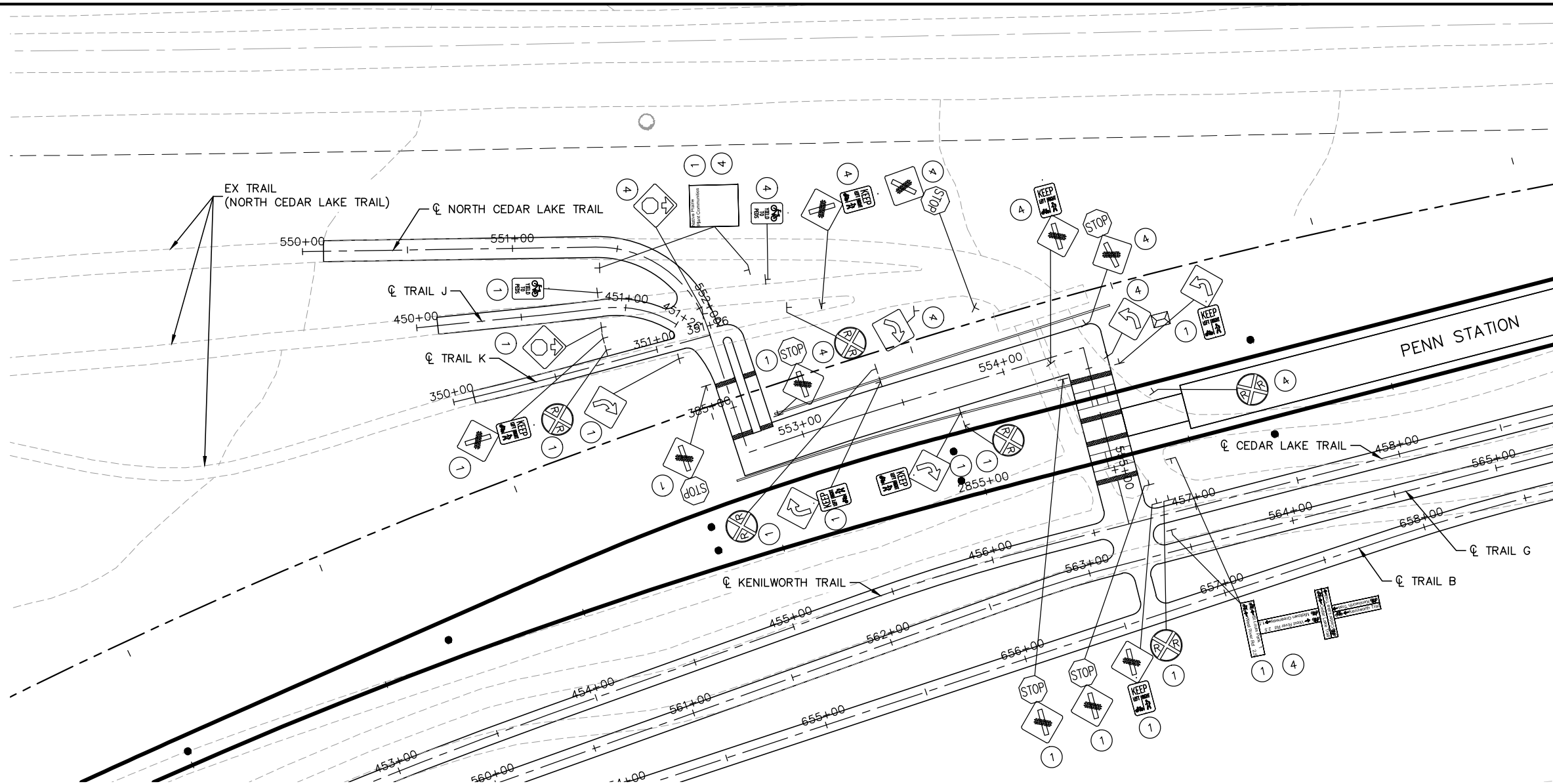


**CIVIL EAST - VOLUME 10  
CEDAR LAKE TRAIL  
SIGNING  
STA 449+71 TO STA 504+26**

DISCIPLINE: **TRAFFIC**      SHEET NAME: **E4-TFC-TRL-SIGN - 007**

**SHEET**  
137  
OF  
266

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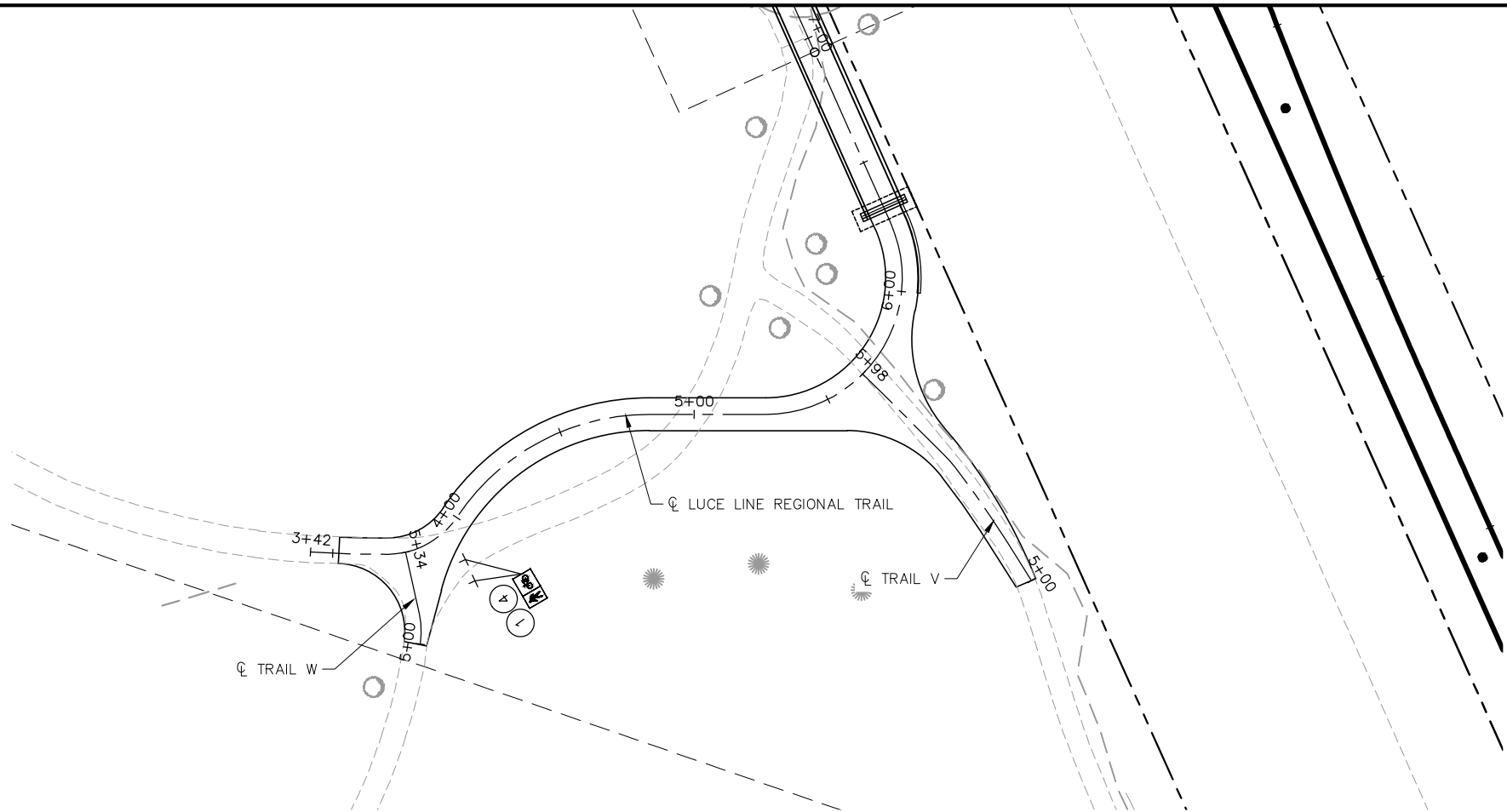
NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

<div style="display: flex; justify-content: space-around; align-items: center;"><div><b>AECOM</b> Kimley»Horn</div><div> METROPOLITAN COUNCIL</div><div> SOUTHWEST Green Line LRT Extension</div></div>		<b>CIVIL EAST - VOLUME 10</b> <b>NORTH CEDAR LAKE TRAIL</b> <b>SIGNING</b> <b>STA 550+10 TO STA 555+11.31</b>		<b>SHEET</b> <b>138</b> <b>OF</b> <b>266</b>
		<div>DISCIPLINE: <b>TRAFFIC</b></div> <div>SHEET NAME: <b>E4-TFC-TRL-SIGN - 008</b></div>		
<b>60% SUBMISSION - 09/28/15</b>				

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NOTES:  
1. SIGNS SHALL BE PLACED AS DETAILED  
ON SIGNING AND STRIPING DETAIL  
SHEETS.

- ① FURNISH & INSTALL
- ② INPLACE
- ③ SALVAGE
- ④ REMOVE
- ⑤ INSTALL

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**LUCE LINE REGIONAL TRAIL**  
**SIGNING**  
**STA 3+42 TO STA 6+26**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E4-TFC-TRL-SIGN - 009**

**SHEET**  
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**OF**  
**266**

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TRAFFIC LEGEND

INPLACE

- POWER POLE
- PUSHBUTTON PEDESTAL
- LUMINAIRE
- SIG. POLE W/MASTARM
- PEDESTAL POLE
- SIGNAL FACE
- WARNING FLASHER
- TRAFFIC PAD W/CONTROLLER AND CABINET, AND SERVICE PANEL W/METER AND DISCONNECT
- PEDESTRIAN INDICATION
- PUSHBUTTON
- EVP CONFIRMATORY LIGHT
- EVP DETECTOR
- EVP DETECTOR AND CONFIRMATORY LIGHT
- RAIL AUTOMATIC GATE
- LOOP DETECTOR WIRE
- NMC CONDUIT
- POST-MOUNTED SIGN
- POST-MOUNTED SIGNS - BACK TO BACK
- HANDHOLE
- LOOP DETECTOR
- TRAFFIC FLOW ARROW
- ARROW PAVEMENT MARKING

FURNISH & INSTALL

- POWER POLE
- PUSHBUTTON PEDESTAL
- LUMINAIRE
- SIG. POLE W/MASTARM
- PEDESTAL POLE
- SIGNAL FACE W/BACKSHIELD
- WARNING FLASHER
- VIDEO DETECTOR
- INFRARED DETECTOR
- TRAFFIC PAD W/CONTROLLER AND CABINET, AND SERVICE PANEL W/METER AND DISCONNECT
- PEDESTRIAN INDICATION
- PUSHBUTTON
- EVP CONFIRMATORY LIGHT
- EVP DETECTOR
- EVP DETECTOR AND CONFIRMATORY LIGHT
- RAIL AUTOMATIC GATE
- RAIL CROSSING FLASHER
- LOOP DETECTOR WIRE
- NMC CONDUIT
- POST-MOUNTED SIGN
- POST-MOUNTED SIGNS - BACK TO BACK
- HANDHOLE
- VIDEO DETECTION ZONE
- LOOP DETECTOR
- TRAFFIC FLOW ARROW
- ARROW PAVEMENT MARKING

INPLACE EQUIPMENT LABELS

MNDOT AND CITY OF MINNEAPOLIS

- SIGNAL BASE NO.
- SIGNAL HEAD NO./FLASHER HEAD NO.
- LUMINAIRE NO.
- CONTROLLER CABINET
- SIGNAL SERVICE CABINET
- SOURCE OF POWER

HENNEPIN COUNTY

- CONTROLLER AND CABINET
- SERVICE PANEL WITH METER AND DISCONNECT
- MAST ARM
- PEDESTAL POLE
- DETECTOR LOOP
- PUSHBUTTON STATION
- HANDHOLE

FURNISH AND INSTALL EQUIPMENT LABELS

MNDOT AND CITY OF MINNEAPOLIS

- SIGNAL BASE NO.
- SIGNAL HEAD NO./FLASHER HEAD NO.
- LUMINAIRE NO.
- CONTROLLER CABINET
- SIGNAL SERVICE CABINET
- SOURCE OF POWER

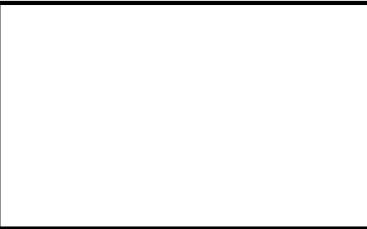
HENNEPIN COUNTY

- CONTROLLER AND CABINET
- SERVICE PANEL WITH METER AND DISCONNECT
- MAST ARM
- PEDESTAL POLE
- DETECTOR LOOP
- PUSHBUTTON STATION
- HANDHOLE

ABBREVIATIONS

- 3-2 (EG) SIGNAL HEAD NUMBER (PHASE 3, NO. 2)
- AWF ADVANCE WARNING FLASHER
- EVP EMERGENCY VEHICLE PRE-EMPTION
- FYA FLASHING YELLOW ARROW
- GRN GREEN INDICATION
- GR. RD. GROUND ROD
- IP INPLACE
- INS. GR. INSULATED GROUND
- LED LIGHT EMITTING DIODE
- LUM LUMINAIRE
- P1-1 (EG) PEDESTRIAN HEAD (PHASE 1, NO. 1)
- PB2-1 (EG) PUSHBUTTON (PHASE 2, NO. 1)
- PED PEDESTRIAN
- SOP SOURCE OF POWER
- STA STATION
- WLK WALK INDICATION
- YEL YELLOW INDICATION
- RED RED INDICATION
- F&I FURNISH AND INSTALL
- ø2 SIGNAL PHASE NUMBER
- HH-2 (EG) HANDHOLE NUMBER (NO. 2)
- D2-1 (EG) DETECTION ZONE (PHASE 2, NO. 1)
- NMC NON METALLIC CONDUIT
- C.D. COUNTDOWN

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
NOTES AND LEGEND

DISCIPLINE: TRAFFIC

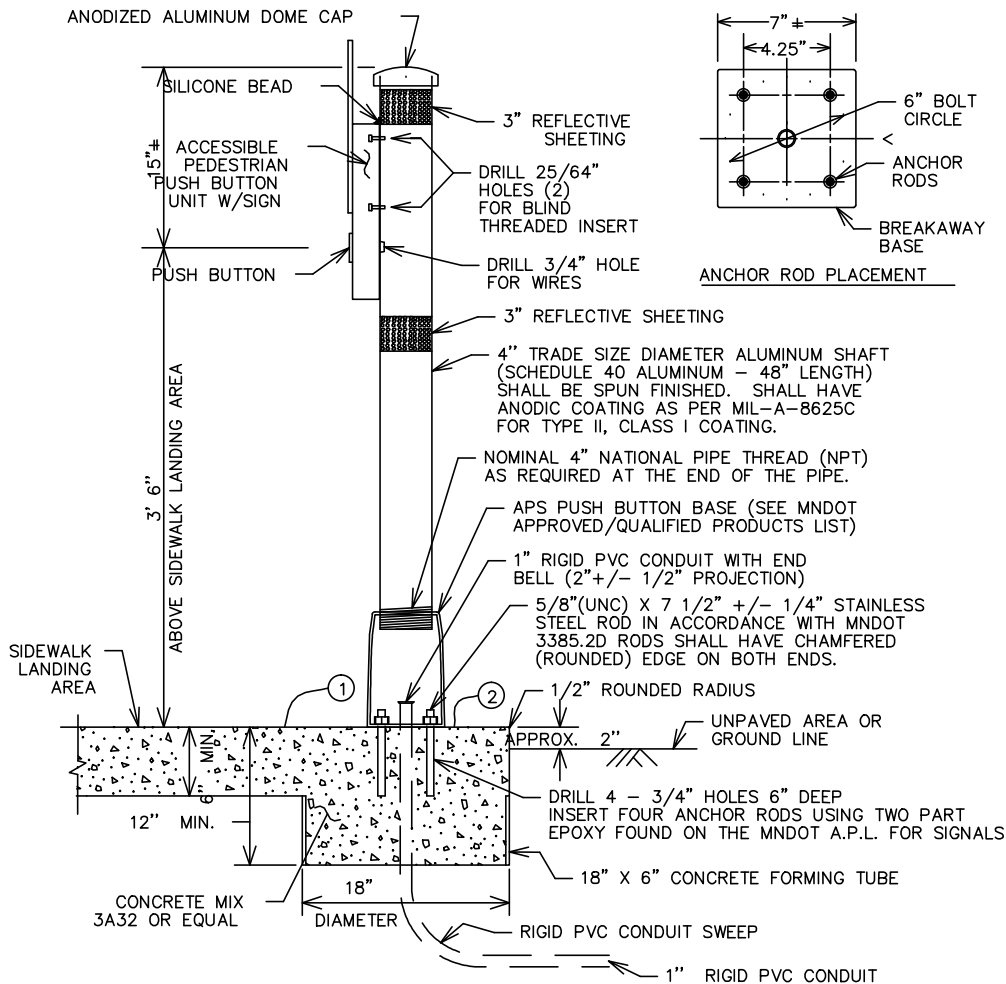
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APS PUSH BUTTON STATION



NOTES:

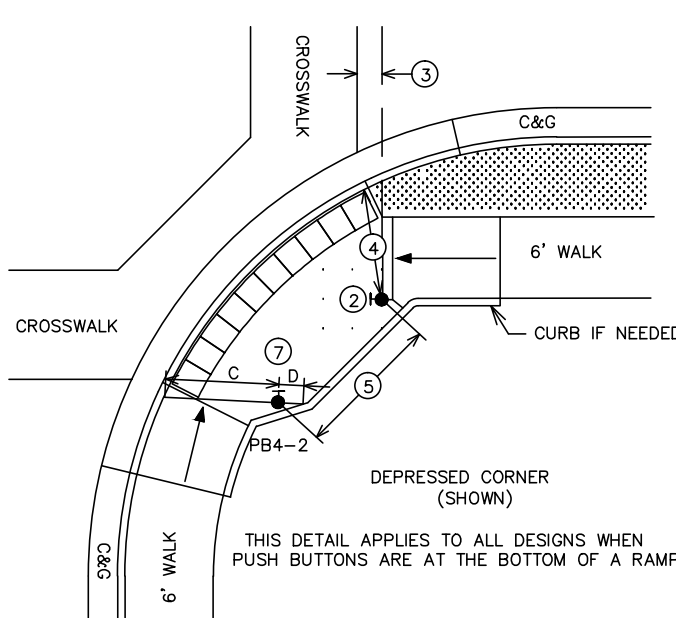
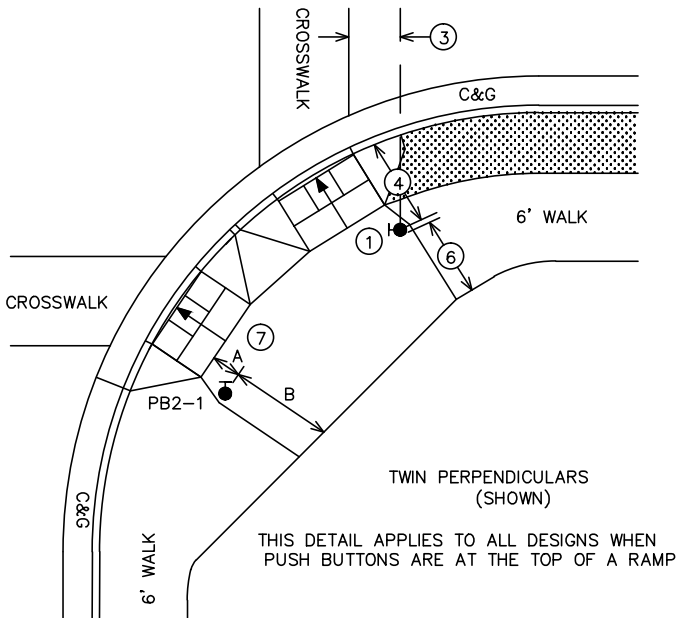
- PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN POST TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE POST.
  - ORIENT ACCESS OPENING ON THE BREAKAWAY PEDESTAL DIRECTLY BELOW THE APS BUTTON.
  - PLUMB THE PUSH BUTTON STATION WITH LEVELING SHIMS IN ACCORDANCE WITH STANDARD PLATE 8129.
  - BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSERTION TOOL. NO OTHER METHOD IS ACCEPTABLE.
  - BLIND THREADED INSERTS SHALL BE ZINC PLATED STEEL WITH 1/4 - 20 UNC THREADS. INSERT SHALL BE SUITABLE FOR USE ON A MOUNTING SURFACE WALL THICKNESS OF .337". APPROVED BLIND THREADED INSERTS CAN BE FOUND ON THE MN/DOT QUALIFIED PRODUCTS LIST FOR SIGNALS.
  - A.P.S. MOUNTING BOLTS SHALL BE 1/4 - 20 STAINLESS STEEL. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.
  - APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" POST.
  - THE REFLECTIVE SHEETING SHALL BE WHITE AT INTERSECTION CORNERS AND SHALL BE YELLOW WHEN USED IN CENTER MEDIANS. SEE MN/DOT SIGNING QUALIFIED PRODUCTS LIST (QPL) FOR APPROVED TUBE DELINEATOR SHEETING.
  - ANTI-SEIZE COMPOUND MUST BE USED ON ALL THREADED BOLTS WHEN ASSEMBLING PEDESTRIAN PUSH BUTTON STATIONS.
- ① THE PUSH BUTTON STATION FOUNDATION IS CONSTRUCTED AS PART OF THE SIDEWALK. INCREASE THE SIDEWALK THICKNESS TO 12" THICK (MIN.) TO PROVIDE FOR THE PUSH BUTTON STATION FOUNDATION.
- ② ALL JOINTS SHALL BE A MINIMUM OF 9" FROM THE CENTER OF THE PUSH BUTTON FOUNDATION.

TYPICAL APS PEDESTRIAN PUSH BUTTON LOCATION

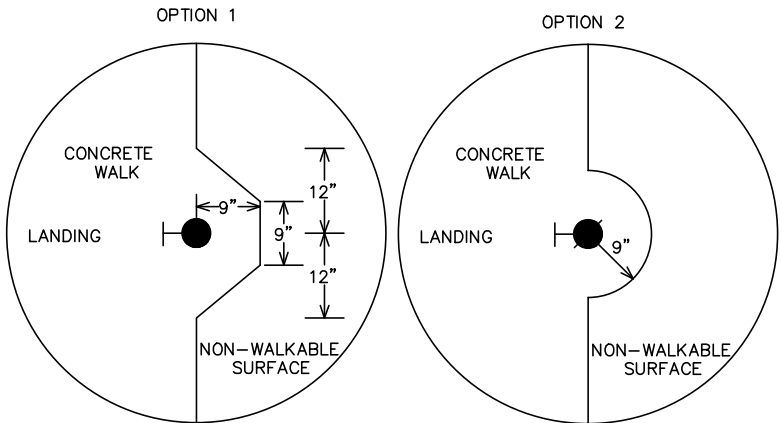
THIS IS A GENERAL DETAIL INTENDED TO SHOW THE REQUIREMENTS OF APS PUSH BUTTON LOCATION. FOR PROJECT SPECIFIC INFORMATION REGARDING PEDESTRIAN RAMP LAYOUT AND PUSH BUTTON LOCATIONS, SEE THE PLAN.

SUPPLEMENTAL GUIDANCE FOR CONSTRUCTING COMPLIANT APS PUSH BUTTONS:

- THE FACE OF THE BUTTON SHALL BE PARALLEL WITH THE OUTSIDE EDGE OF CROSSWALK.
- A MINIMUM 4 FT X 4 FT LANDING AREA SHALL BE PROVIDED ADJACENT TO EACH BUTTON, WITH A 2 PERCENT MAXIMUM SLOPE IN ALL DIRECTIONS.
- BUTTONS SHALL BE WITHIN 5 FT OF THE OUTSIDE EDGE OF THE CROSSWALK.
- BUTTONS SHALL BE BETWEEN 1.5 FT AND 10 FT FROM THE BACK OF CURB OR EDGE OF ROADWAY, MEASURED IN THE DIRECTION OF TRAVEL. STANDALONE PUSH BUTTON STATIONS SHOULD BE 4' MINIMUM FROM THE BACK OF CURB TO AVOID KNOCKDOWNS.
- BUTTONS SHALL BE AT LEAST 10 FT APART.
- PROVIDE A MAINTENANCE ACCESS ROUTE (MAR) WHEREVER POSSIBLE FOR SNOW REMOVAL PURPOSES. A MAR REQUIRES A 6 FT MINIMUM CLEAR DISTANCE BETWEEN A PUSH BUTTON AND ANY OBSTRUCTIONS, INCLUDING BUILDINGS, V-CURB, ELECTRICAL FOUNDATIONS, SIGNAL CABINETS, OR ANOTHER PUSH BUTTON.
- BUTTON SHOULD BE 2 FT MINIMUM FROM RAMP GRADE BREAK AND BACK OF WALK.



CONTRACTOR MUST USE OPTION 1 OR 2 WHEN THE APS PUSH BUTTON IS SHOWN AT THE EDGE OF WALK. OPTION USED (OR SELECTED) MUST BE THE SAME THROUGHOUT THE ENTIRE PROJECT.



SIGNAL CONTROL POINTS			DISTANCE TO FRONT OF LANDING (FT)	DISTANCE TO BACK OF LANDING (FT)
SIGNAL NO.	X	Y		
PB2-1	-	-	A	B
PB4-2	-	-	C	D

- A - DISTANCE MEASURED FROM THE PUSH BUTTON TO THE FRONT OF LANDING/TOP OF RAMP
- B - CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE BACK OF LANDING/EDGE OF WALK
- C - CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE OUTSIDE EDGE OF DOMES IN THE DIRECTION OF TRAVEL
- D - CLEAR DISTANCE FROM THE PUSH BUTTON TO THE BACK OF LANDING MEASURED IN THE OPPOSITE DIRECTION OF TRAVEL

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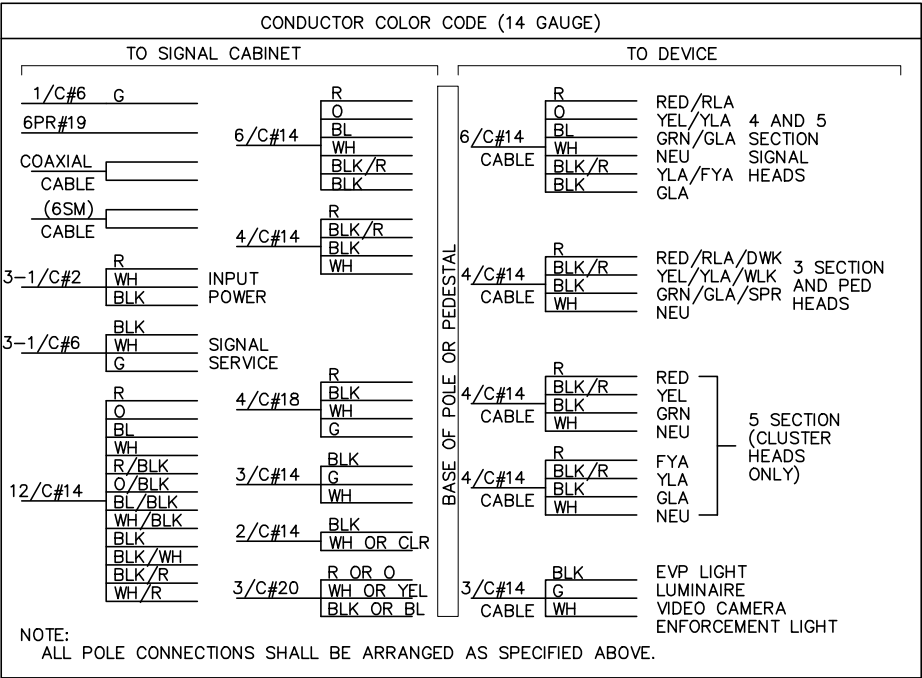
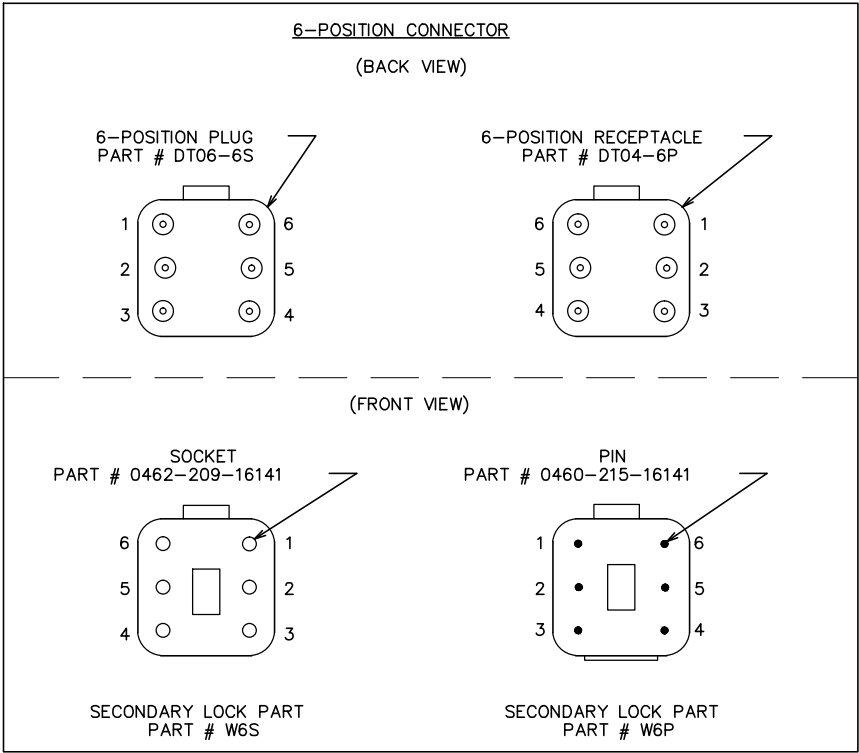
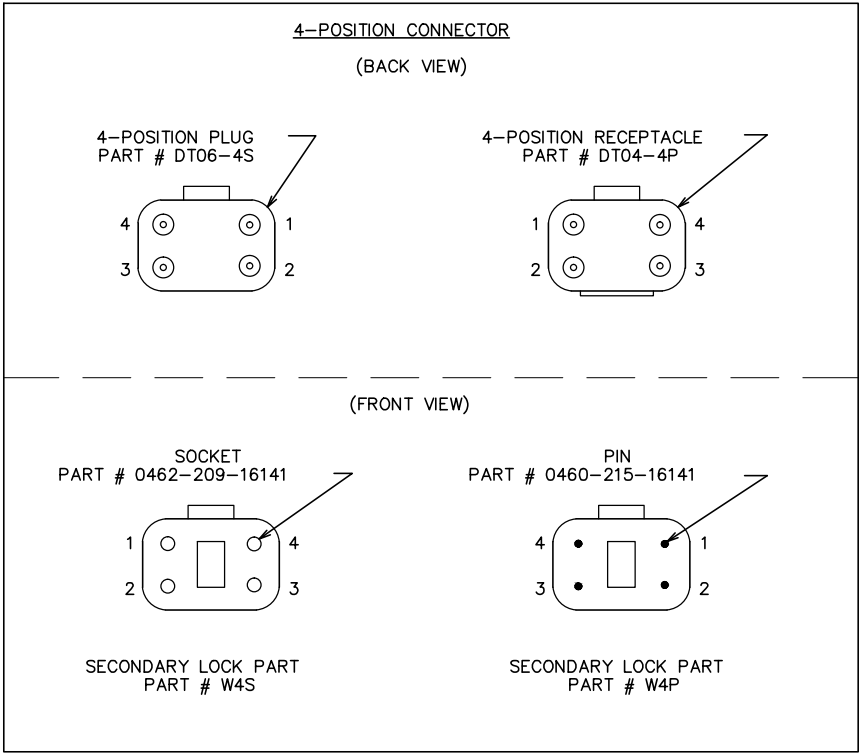
60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
MNDOT DETAIL  
SHEET 2

DISCIPLINE: TRAFFIC  
SHEET NAME: E0-TFC-SIG-DTL - 003

SHEET  
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OF  
266

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4 Position DT Connector		(3 Section Head/DWK/WLK)	
Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R or R/BLK or BLK	1	R	RED or DWK
O or O/BLK or BLK/WH or BLK	2	BLK/R	YEL or WLK
BL or BL/BLK or BLK/R or BLK	3	BLK	GRN or SPR
WH or WH/BLK or WH/R	4	WH	NEU

4 Position DT Connector		(EVP LHT/LUM/ VID CAM/ENF LHT)	
Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
BLK	1	BLK	EVP LHT or LUM or RED or YEL or VID CAM or ENF LHT
(Not Used)	2	(Not Used)	(Not Used) (See Note #8)
G	3	G	EQ.G
WH	4	WH	NEU

4 Position DT Connectors			
(Use Two Connectors for 5 Section FYA Cluster Heads)			
12 Conductor Wire to Control Cabinet	Connector pin #	4 Conductor to Signal Indication	Signal Indication
R	1	R	RED
O	2	BLK/R	YEL
BL	3	BLK	GRN
WH	4	WH	NEU
R/BLK	1	R	FYA
O/BLK	2	BLK/R	YLA
BL/BLK	3	BLK	GLA
WH/BLK	4	WH	NEU

6 Position DT Connector		(4 and 5 Section Heads)	
Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R	1	R	RED
O	2	O	YEL
BL	3	BL	GRN
WH	4	WH	NEU
O/BLK or BLK/R (6/C)	5	BLK/R	YLA or FYLA
BL/BLK or BLK (6/C)	6	BLK	GLA

WIRE COLOR CODE KEY	
R	Red
O	Orange
BL	Blue
WH	White
BLK	Black
BRN	Brown
CL	Clear
G	Green
R/BLK	Red with Black Stripe
O/BLK	Orange with Black Stripe
BL/BLK	Blue with Black Stripe
WH/BLK	White with Black Stripe
WH/R	White with Red Stripe
BLK/WH	Black with White Stripe
BLK/R	Black with Red Stripe

WIRE SPECIFICATION CHART		
Type	Name	Specification Number
1/C#2	Power Conductors	3815.2B.1
1/C#6	Power Conductors	3815.2B.1
1/C#6 INS.GR.	Grounding Conductors	3815.2B.5
2/C#14	Loop Detector Lead-In Cable	3815.2C.4
3/C#14	Signal Control Cable	3815.2C.3
4/C#14	Signal Control Cable	3815.2C.3
6/C#14	Signal Control Cable	3815.2C.3
12/C#14	Signal Control Cable	3815.2C.3
6PR#19	Telephone Cables Outdoor	3815.2C.6.b
3/C#20	EVP Detector Cable	3815.2C.5

NOTES:

- DT04-P RECEPTACLE SHALL BE TERMINATED TO THE WIRING HARNESS RUNNING FROM THE BASE/JUNCTION BOX OF THE POLE TO SIGNAL INDICATIONS.
- DT06-S PLUG SHALL BE TERMINATED TO THE CABLES RUNNING FROM THE TRAFFIC SIGNAL CABINET TO THE BASE/JUNCTION BOX OF THE POLE.
- THERE SHALL BE A MINIMUM OF 24 INCHES OF SLACK ON EACH CABLE IN EVERY POLE BASE /JUNCTION BOX.
- STRIP A MAXIMUM OF 6 INCHES OF THE OUTER JACKET OF EACH SIGNAL CABLE.
- STRIP .250 INCHES OF INSULATION FROM EACH INDIVIDUAL CONDUCTOR.
- CRIMP PINS OR SOCKETS USING RATCHETING TYPE CRIMPING TOOL HDT-48-00. NO OTHER CRIMPING TOOL WILL BE ALLOWED.
- WIRES MUST BE TERMINATED AS DETAILED IN TABLES DEPENDING ON WIRE COUNT.
- ANY UNUSED PIN MUST HAVE A SEALING PLUG PLACED IN BOTH THE PLUG & RECEPTACLE (PART # 114017).
- LABEL EACH HALF OF THE CONNECTOR (PLUG AND RECEPTACLE) WITH THE DEVICE DESIGNATION (AS INDICATED IN THE WIRING DIAGRAM) USING A PERMANENT BLACK MARKER.

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**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MNDOT DETAIL**  
**SHEET 3**

DISCIPLINE:

**TRAFFIC**

SHEET NAME:

**E0-TFC-SIG-DTL - 004**

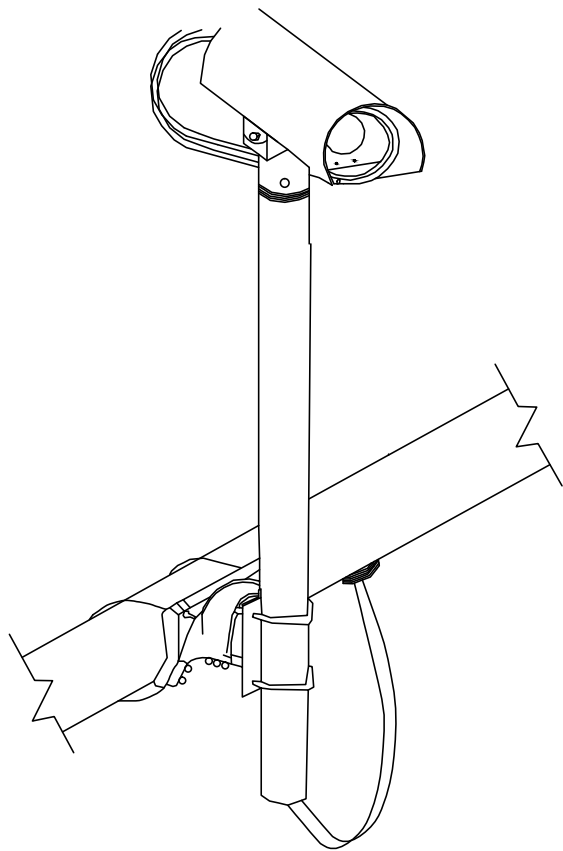
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**143**

**OF**

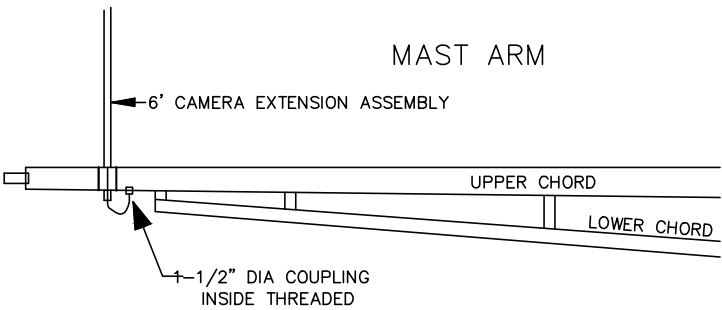
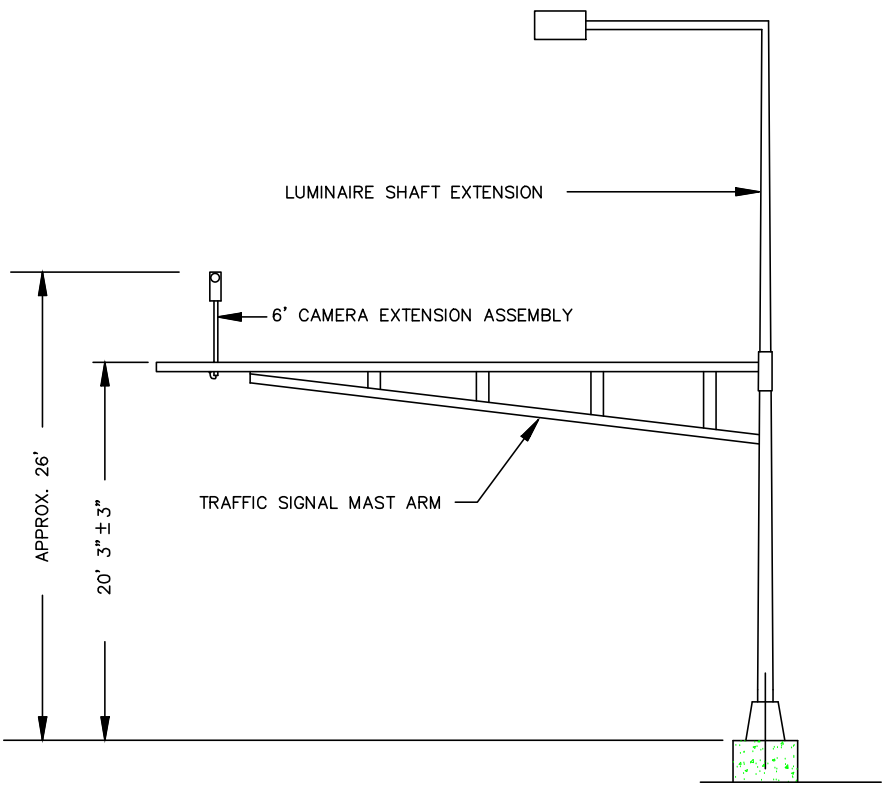
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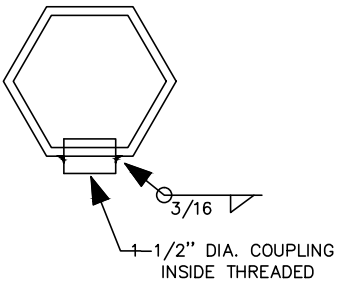


MAST ARM CAMERA INSTALLATION

TYPICAL MAST ARM CAMERA MOUNTING DETAILS

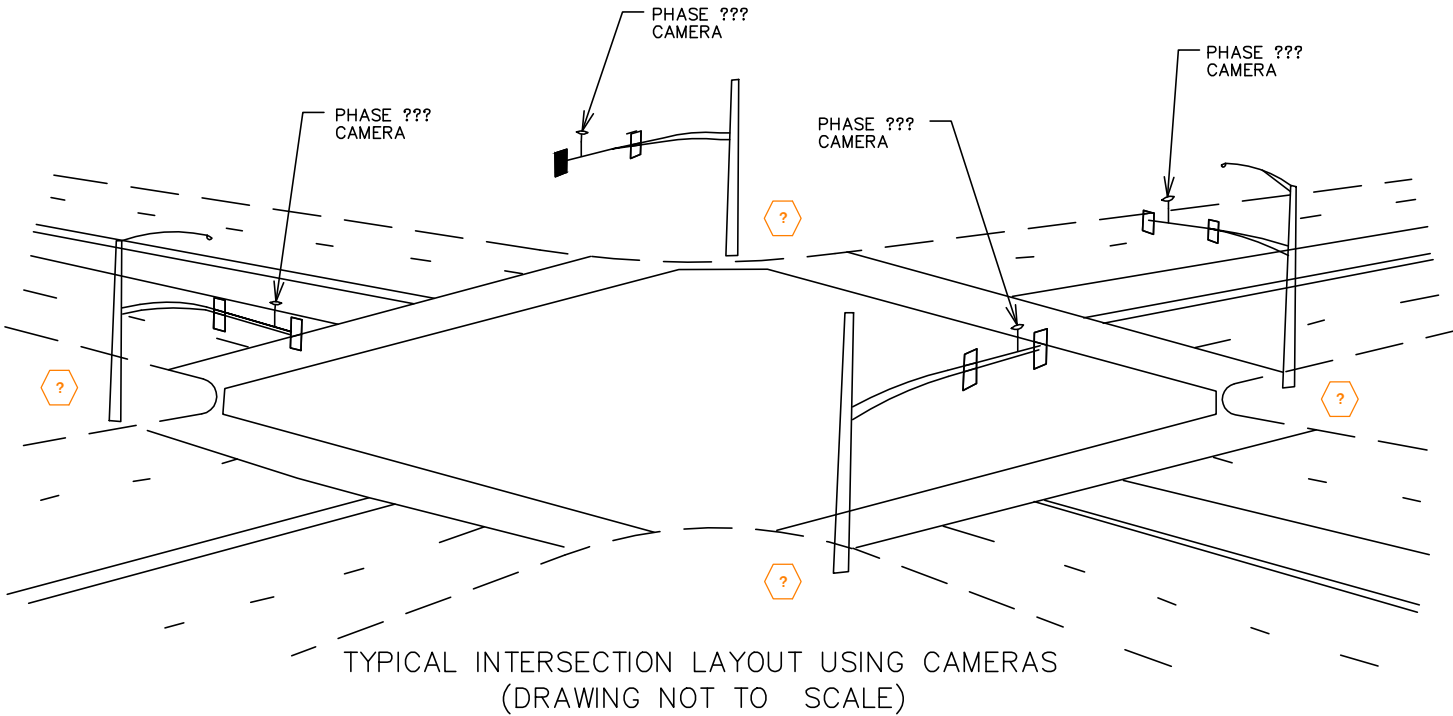


UPPER CHORD SECTION



NOTES:

- 1) ALL CAMERA DETECTION EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.
- 2) IT IS DESIRABLE FOR CABLES BETWEEN THE CAMERA AND THE TRAFFIC SIGNAL CONTROL CABINET TO BE CONTINUOUS, HOWEVER, A SPLICE (APPROVED FOR OUTDOOR USE) WILL BE ALLOWED IN THE TRANSFORMER BASE OF THE SIGNAL POLE.
- 3) CAMERA DETECTOR CABLES SHALL BE RUN THROUGHOUT INSIDE OF POLE AND MAST ARM OVER TO CAMERA (NO SPLICE).
- 4) CABLES FOR CAMERA OPERATION SHALL BE AS INDICATED IN THE SPECIAL PROVISIONS AND SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE MANUFACTURER OF THE VIDEO DETECTION SYSTEM USED.
- 5) WHERE THE CABLES ARE ROUTED THROUGH THE MAST ARM, PROVIDE BUSHINGS TO PROTECT THE CABLES.
- 6) THE 6-FOOT CAMERA MOUNTING EXTENSION ASSEMBLY SHALL CONSIST OF A MAST ARM MOUNTING BRACKET THAT IS CONSTRUCTED OF CAST ALUMINUM. THE MAST ARM MOUNTING BRACKET SHALL BE ATTACHED TO THE MAST ARM WITH STAINLESS STEEL STRAPS, USING STAINLESS STEEL MOUNTING HARDWARE.
- 7) A 1 1/2" HALF COUPLING, 1 1/2" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR CAMERA CABLES SHALL BE F&I ON THE UNDER SIDE OF MAST ARM SEE SIGNAL LAYOUT FOR LOCATION OF HUB.



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**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MNDOT DETAIL**  
**SHEET 4**

DISCIPLINE: **TRAFFIC**

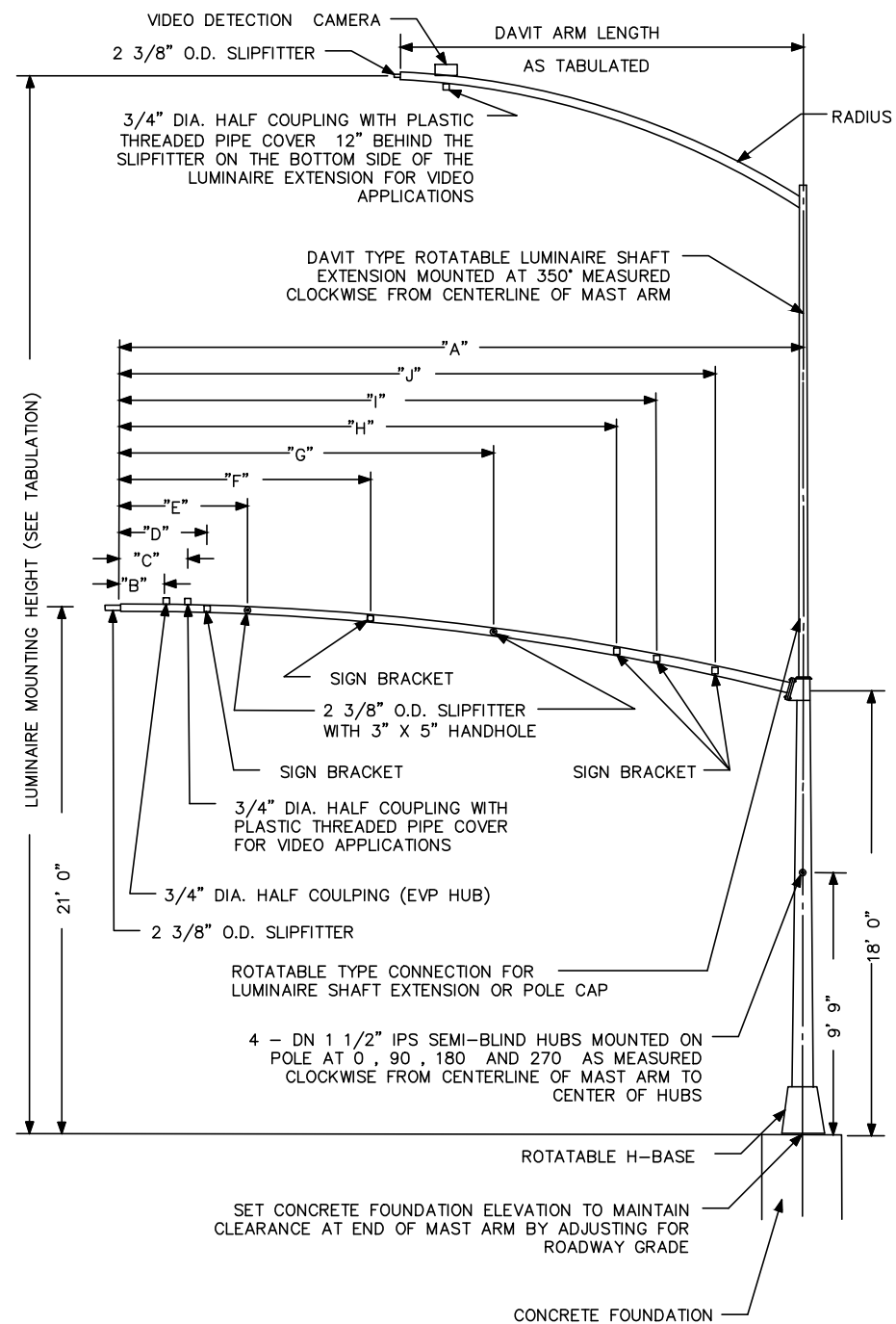
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**144**  
**OF**  
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CLASSIC HEAVY MAST ARM SIGNAL POLE AND  
ROTATABLE LUMINAIRE SHAFT EXTENSION  
(NO SCALE, SEE SPECIAL PROVISIONS)



NOTES:

- 1.) POLE SHAFT SHALL BE BACK RAKED TO SET PLUMB UNDER NORMAL LOAD.
- 2.) SEE SPECIAL PROVISIONS FOR PAINTING AND GALVANIZING REQUIREMENTS OF MAST ARM SIGNAL POLES.

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CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
HENNEPIN COUNTY DETAIL  
SHEET 1

DISCIPLINE: TRAFFIC

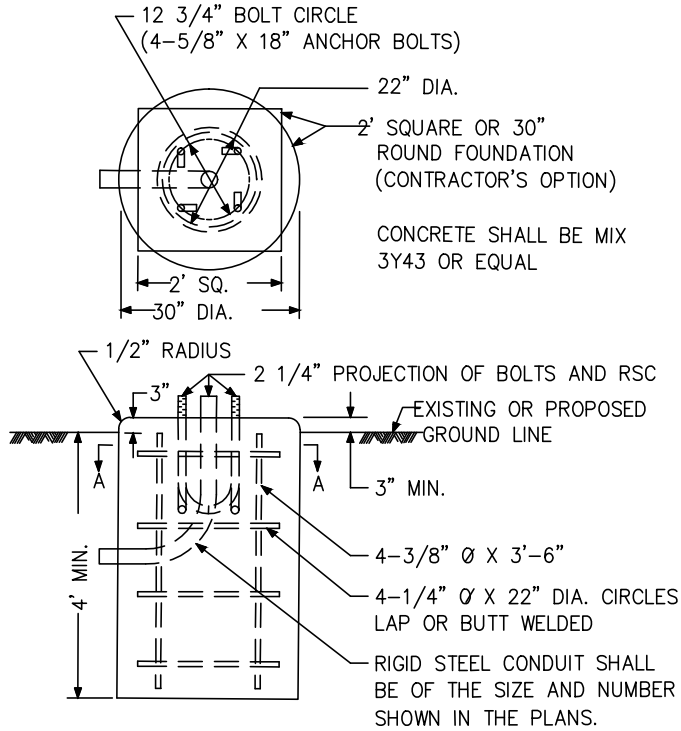
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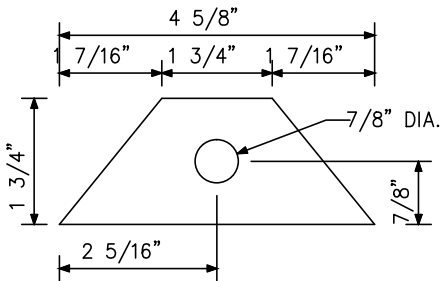
SIGNAL ASSEMBLY FOUNDATION  
(NO SCALE)

SEC. A-A



NOTE:  
STEEL REINFORCEMENT SHALL BE DEFORMED BARS.  
THE REINFORCEMENT SHALL BE SECURELY  
FASTENED OR WELDED TOGETHER.

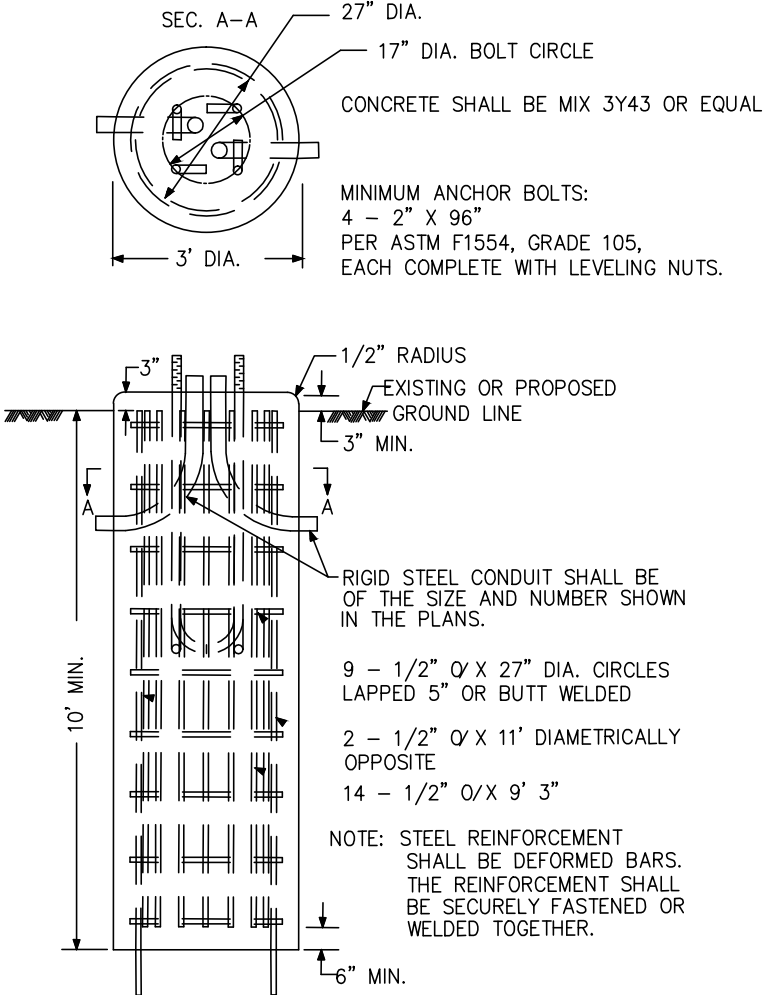
SIGNAL ASSEMBLY FLAT WASHER TYPICAL  
(NO SCALE)



NOTE:  
FLAT WASHERS SHALL BE 1/4" THICK A36  
GALVANIZED STEEL.

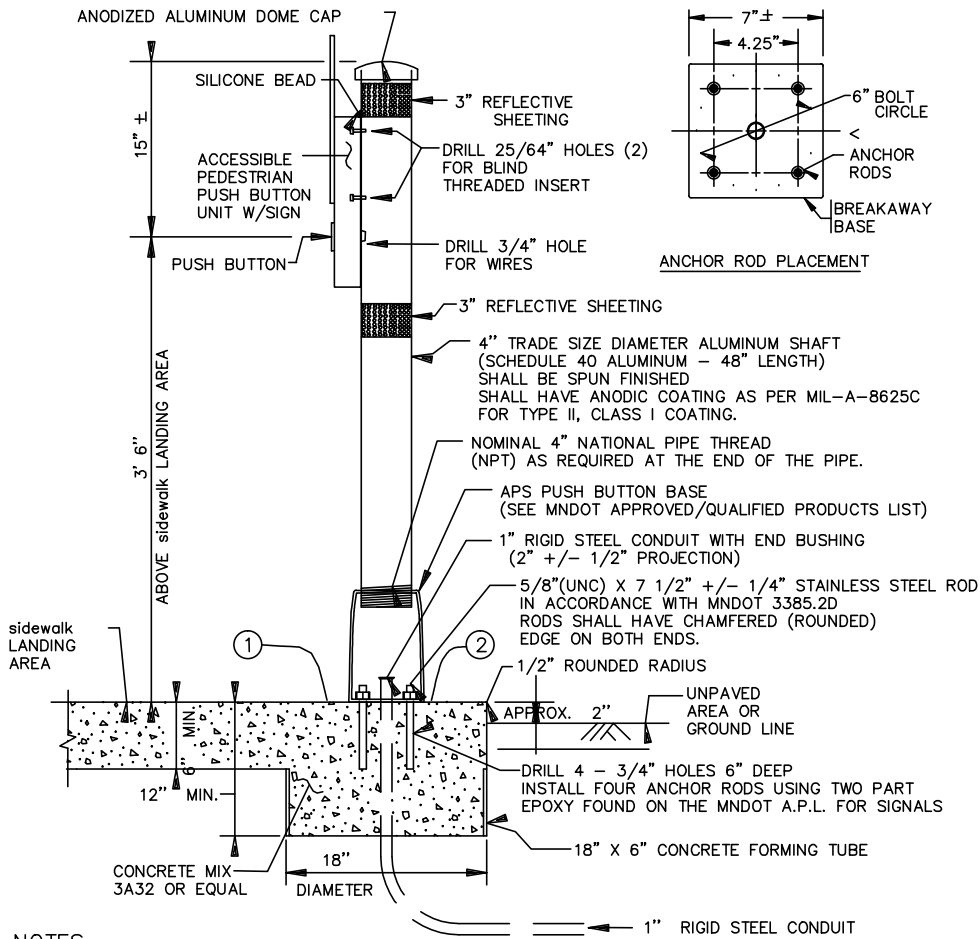
MAST ARM SIGNAL POLE FOUNDATION  
(NO SCALE)

SEC. A-A



NOTE: STEEL REINFORCEMENT  
SHALL BE DEFORMED BARS.  
THE REINFORCEMENT SHALL  
BE SECURELY FASTENED OR  
WELDED TOGETHER.

APS PUSH BUTTON STATION  
(NO SCALE)



- NOTES:
- PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN POST TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE POST.
  - ORIENT ACCESS OPENING ON THE BREAKAWAY PEDESTAL DIRECTLY BELOW THE APS BUTTON.
  - PLUMB THE PUSH BUTTON STATION WITH LEVELING SHIMS IN ACCORDANCE WITH STANDARD PLATE 8129.
  - BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
  - BLIND THREADED INSERTS SHALL BE ZINC PLATED STEEL WITH 1/4 - 20 UNC THREADS. INSERT SHALL BE SUITABLE FOR USE ON A MOUNTING SURFACE WALL THICKNESS OF .337". APPROVED BLIND THREADED INSERTS CAN BE FOUND ON THE MN/DOT QUALIFIED PRODUCTS LIST FOR SIGNALS.
  - A.P.S. MOUNTING BOLTS SHALL BE 1/4 - 20 STAINLESS STEEL. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.
  - APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" POST.
  - THE REFLECTIVE SHEETING SHALL BE WHITE AT INTERSECTION CORNERS AND SHALL BE YELLOW WHEN USED IN CENTER MEDIANS. SEE MN/DOT SIGNING QUALIFIED PRODUCTS LIST (QPL) FOR APPROVED TUBE DELINEATOR SHEETING.
  - ANTI-SEIZE COMPOUND MUST BE USED ON ALL THREADED BOLTS WHEN INSTALLING PEDESTRIAN PUSH BUTTON STATIONS.

- ① THE PUSH BUTTON STATION FOUNDATION IS CONSTRUCTED AS PART OF THE SIDEWALK. INCREASE THE SIDEWALK THICKNESS TO 12" THICK (MIN.) TO PROVIDE FOR THE PUSH BUTTON STATION FOUNDATION.
- ② ALL JOINTS SHALL BE A MINIMUM OF 9" FROM THE CENTER OF THE PUSH BUTTON FOUNDATION.

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CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
HENNEPIN COUNTY DETAIL  
SHEET 2

DISCIPLINE: TRAFFIC

SHEET NAME: E0-TFC-SIG-DTL - 007

SHEET

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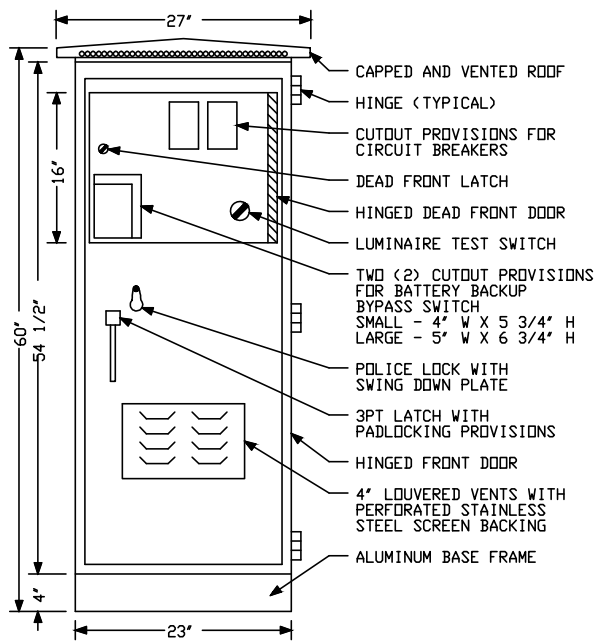
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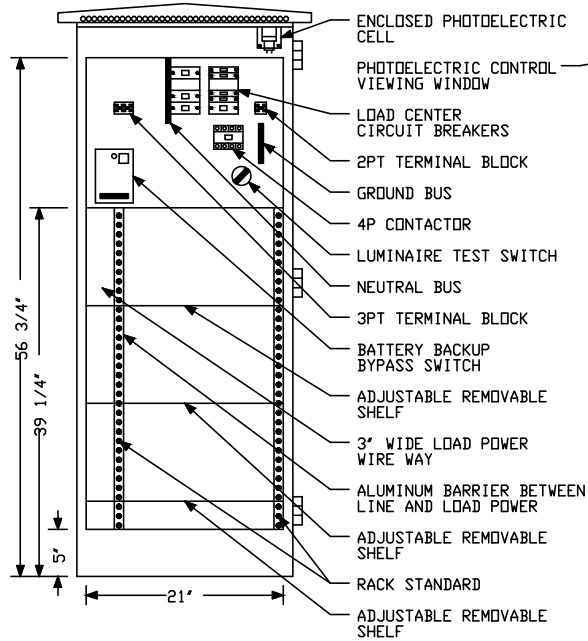


TYPICAL SERVICE CABINET DETAILS

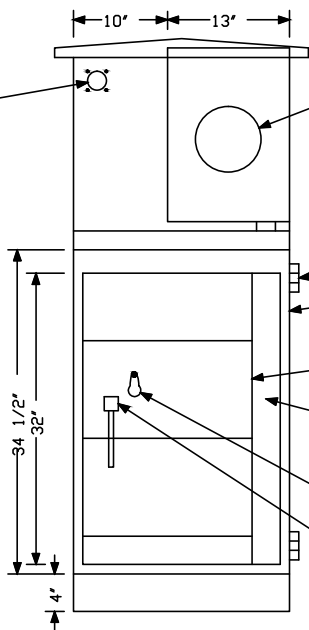
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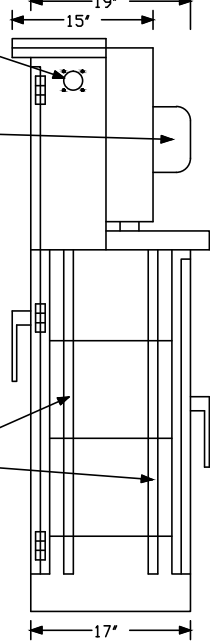
FRONT ELEVATION  
(DOOR REMOVED)



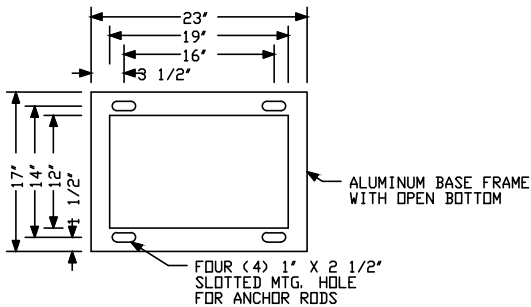
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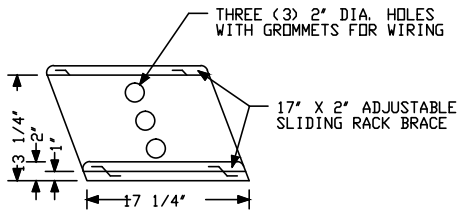
RIGHT SIDE ELEVATION



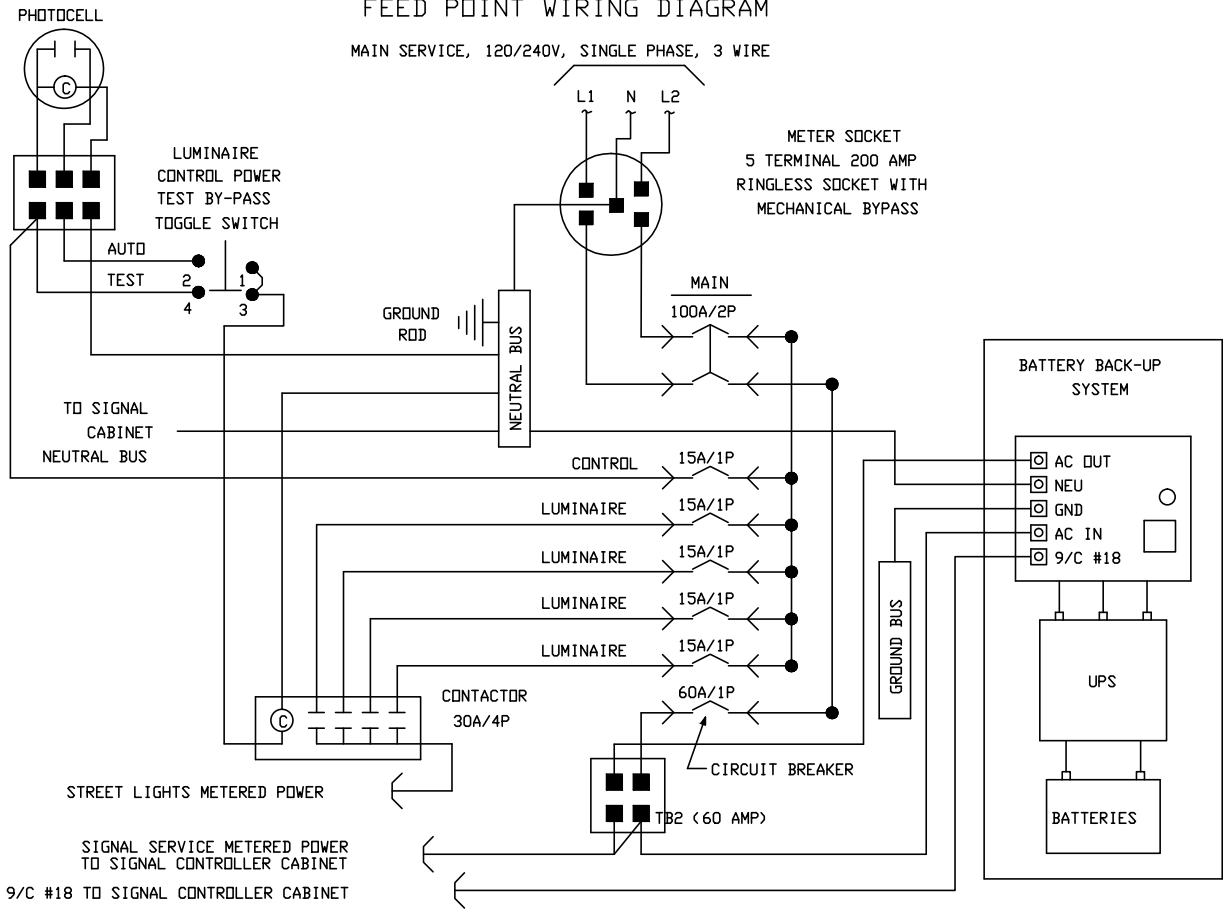
SERVICE CABINET BASE DETAILS



SERVICE CABINET SHELF DETAILS



FEED POINT WIRING DIAGRAM



CONSTRUCTION NOTES

1. EACH SERVICE CABINET SHALL BE FABRICATED FROM 1/8" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE. AFTER FABRICATION, THE SERVICE CABINET, BOTH INSIDE AND OUTSIDE, SHALL BE PROTECTED WITH AN EXTERNAL THIRTY (30) MINUTE CLEAR ANODIZED FINISH.
2. ALL HINGES, HINGE PINS AND LOCKS SHALL BE OF NON-CORRODING CONSTRUCTION.
3. THE SERVICE CABINET DOORS SHALL BE ATTACHED TO THE ENCLOSURE WITH NON-CORRODING TAMPERPROOF CARRIAGE BOLTS AND SECURED WITH A STANDARD POLICE LOCK COMPLETE WITH A NUMBER 2 KEY AND SWING DOWN PLATE. PROVIDE ONE (1) KEY.
4. BOTH DOOR OPENINGS SHALL BE PROVIDED WITH A NEOPRENE GASKET TO FORM A COMPLETE SEAL WITH THE ENCLOSURE.
5. PROVIDE A 2" DIA. WEATHERPROOF AND VANDAL RESISTANT CLEAR PLASTIC PHOTOELECTRIC CONTROL VIEWING WINDOW. LOCATED IN THE TOP SECTION OF THE CABINET AND ON THE LEFT OR RIGHT SIDE OF THE CABINET, ORIENTED TO ELIMINATE INTERFERENCE BY MANMADE LIGHT SOURCES AND SHALL NORMALLY FACE NORTH OR EAST.
6. THE CIRCUIT BREAKERS SHALL BE 120/240 VOLT AC, 60 HZ, AND SHALL BE CLEARLY MARKED WITH THE 'ON' AND 'OFF' POSITIONS AND IDENTIFIED WITH THE LOAD WHICH IT IS CARRYING (E.G. 'SIGNALS', 'LUMINAIRE WITH NUMBER' OR 'FUTURE'). ALL CIRCUIT BREAKERS SHALL BE CLEARLY MARKED IN A MANNER THAT WILL NOT DETERIORATE WITH MOISTURE OR AGE.
7. SHORT CIRCUIT RATING - 10,000 AIC SYMMETRICAL.
8. PROVIDE A PHOTOELECTRIC CONTROL CELL AND LUMINAIRE TEST SWITCH WITHIN THE CABINET.
9. PROVIDE CLEARANCE TO INSTALL OR REMOVE THE PHOTOELECTRIC CONTROL CELL.
10. ALL CONDUIT ENTERING THE FOUNDATION SHALL BE SEALED WITH AN APPROVED DUCT SEAL.
11. EACH SERVICE CABINET SHALL BE U.L. LISTED AND LABELED AS 'SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT' AND APPROVED FOR OUTDOOR USE.
12. EACH SERVICE CABINET SHALL BE WELDED TO THE BASE IN ACCORDANCE WITH U.L. STANDARDS.
13. SEE THE INTERSECTION LAYOUT FOR THE REQUIRED NUMBER OF LUMINAIRES AT EACH INTERSECTION.
14. A 1/2" THICK SOLID BUTYL RUBBER GASKET SHALL BE PROVIDED BETWEEN THE CONCRETE FOUNDATION AND THE SERVICE CABINET. THE GASKET SHALL CONSIST OF FOUR (4) STRIPS, SIZED TO FIT THE BASE INCLUDING CORNER HOLE/SLOTS TO ACCOMMODATE THE ANCHOR RODS. PROVIDE A 1/2" GAP FOR DRAINAGE.
15. UNISTRUT RAILS (#A400EA OR EQUIVALENT) USED FOR SHELF SUPPORTS FOR THREE (3) ADJUSTABLE AND REMOVABLE SHELVES SHALL BE MOUNTED TO THE SIDES OF THE SERVICE CABINET.
16. THE 19" RACK IN THE BASE OF THE CABINET SHALL BE CONSTRUCTED TO TIA/EIA 3100 STANDARDS.
17. SEE THE EQUIPMENT PAD DETAIL SHEET FOR TYPICAL ANCHOR ROD DETAILS.
18. THE SERVICE PANEL SHALL BE SUPPLIED AND INSTALLED WITH BATTERY BACK-UP EQUIPMENT.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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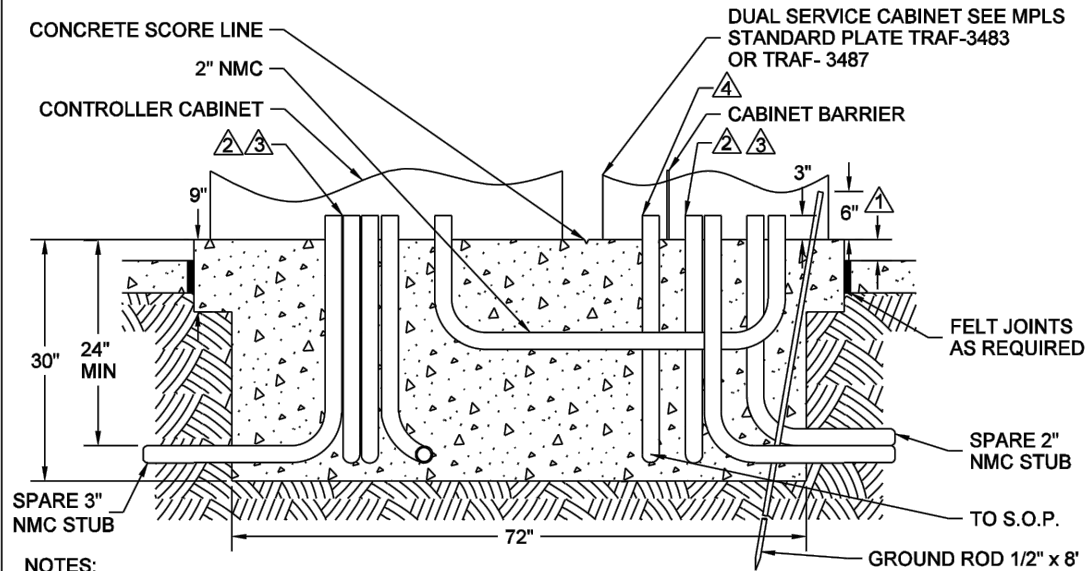
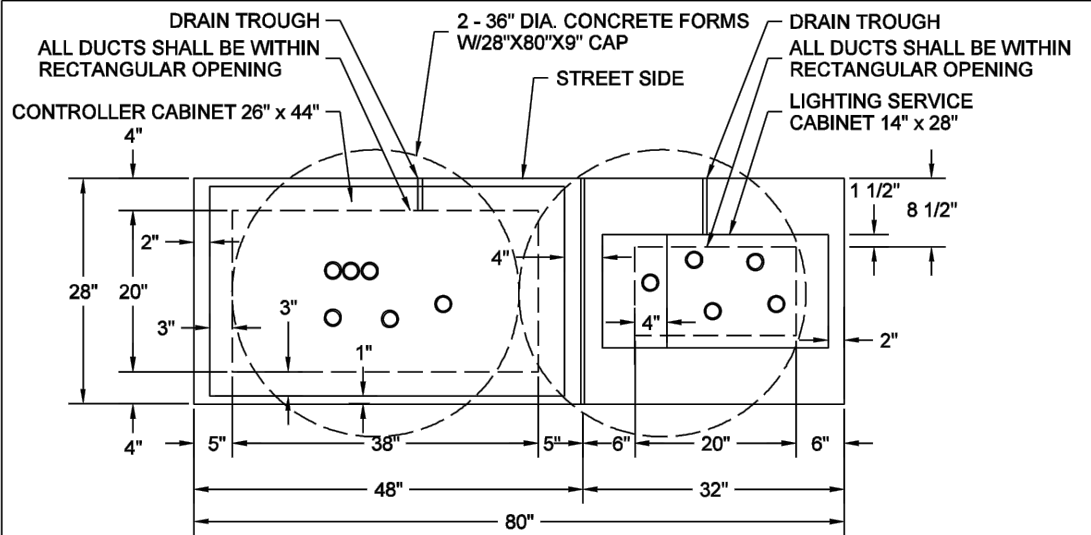
**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**HENNEPIN COUNTY DETAIL**  
**SHEET 3**

DISCIPLINE: **TRAFFIC**

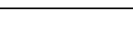
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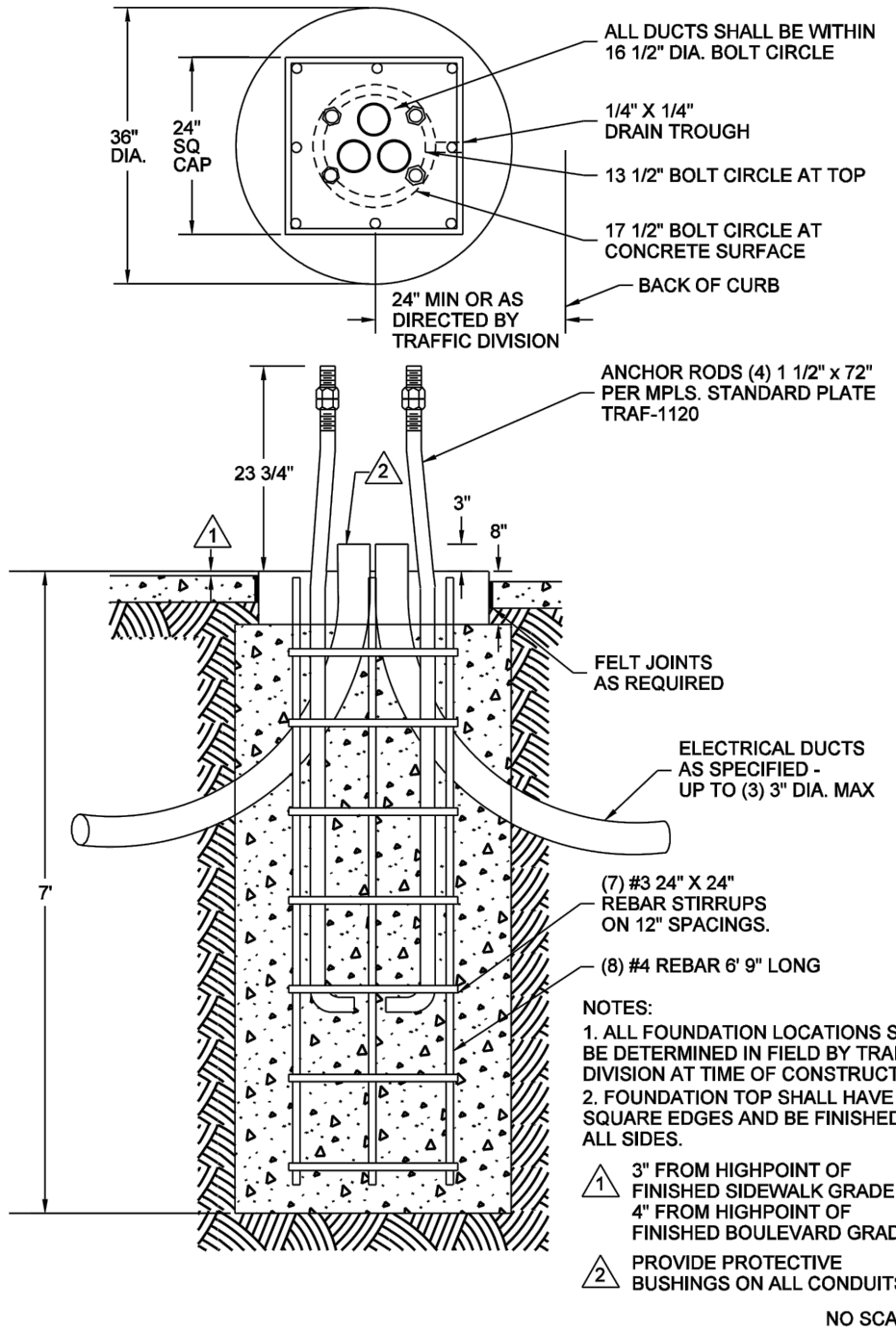
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**147**  
**OF**  
**266**

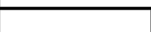
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- NOTES:
1. ALL FOUNDATION LOCATIONS SHALL BE DETERMINED IN FIELD BY TRAFFIC DIVISION AT TIME OF CONSTRUCTION.
  2. FOUNDATION TOP SHALL HAVE SQUARE EDGES AND BE FINISHED ON ALL SIDES.
  3. CABINET ANCHORS ARE WEDGE ANCHORS, 4 PER CABINET, 1/2" X 4 1/2" STAINLESS STEEL (#304) FULL THREADED.
- 1 3" FROM HIGHPOINT OF FINISHED SIDEWALK GRADE,  
4" FROM HIGHPOINT OF FINISHED BOULEVARD GRADE.
- 2 PROVIDE PROTECTIVE BUSHINGS ON ALL CONDUITS
- 3 ELECTRICAL CONDUITS AS SPECIFIED
- 4 KEEP SERVICE FEED TO LEFT OF BARRIER
- NO SCALE

	<b>MINNEAPOLIS</b> DEPARTMENT OF PUBLIC WORKS		FOUNDATION - SIGNAL	STANDARD PLATE NO. TRAF-1071-R1
	DRAWN: CLK	DATE: 9/14/12	CONTROLLER CABINET TYPE "P" AND ST. LIGHT / DUAL SERVICE CABINET	
	APPROVED: DRP	DATE: 9/14/12	REFERENCE PLATE: TRAF-3483, TRAF-3487	



	<b>MINNEAPOLIS</b> DEPARTMENT OF PUBLIC WORKS		FOUNDATION - SIGNAL	STANDARD PLATE NO. TRAF-1072-R1
	DRAWN: CLK	DATE: 9/7/12	OVERHEAD - MASTARM 10'-26' TYPE "A"	
	APPROVED: DRP	DATE: 9/7/12	REFERENCE PLATE: TRAF-1120	

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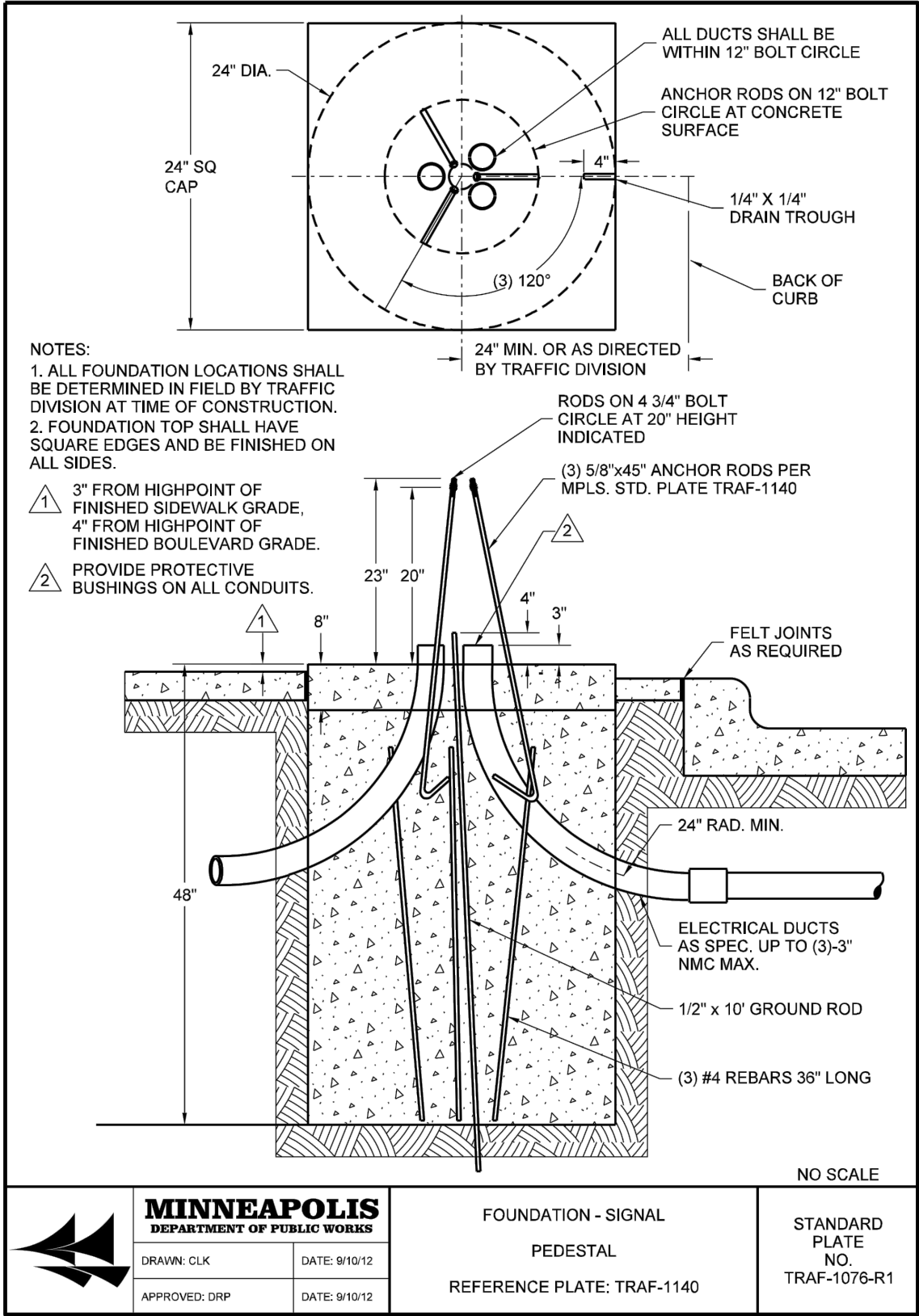
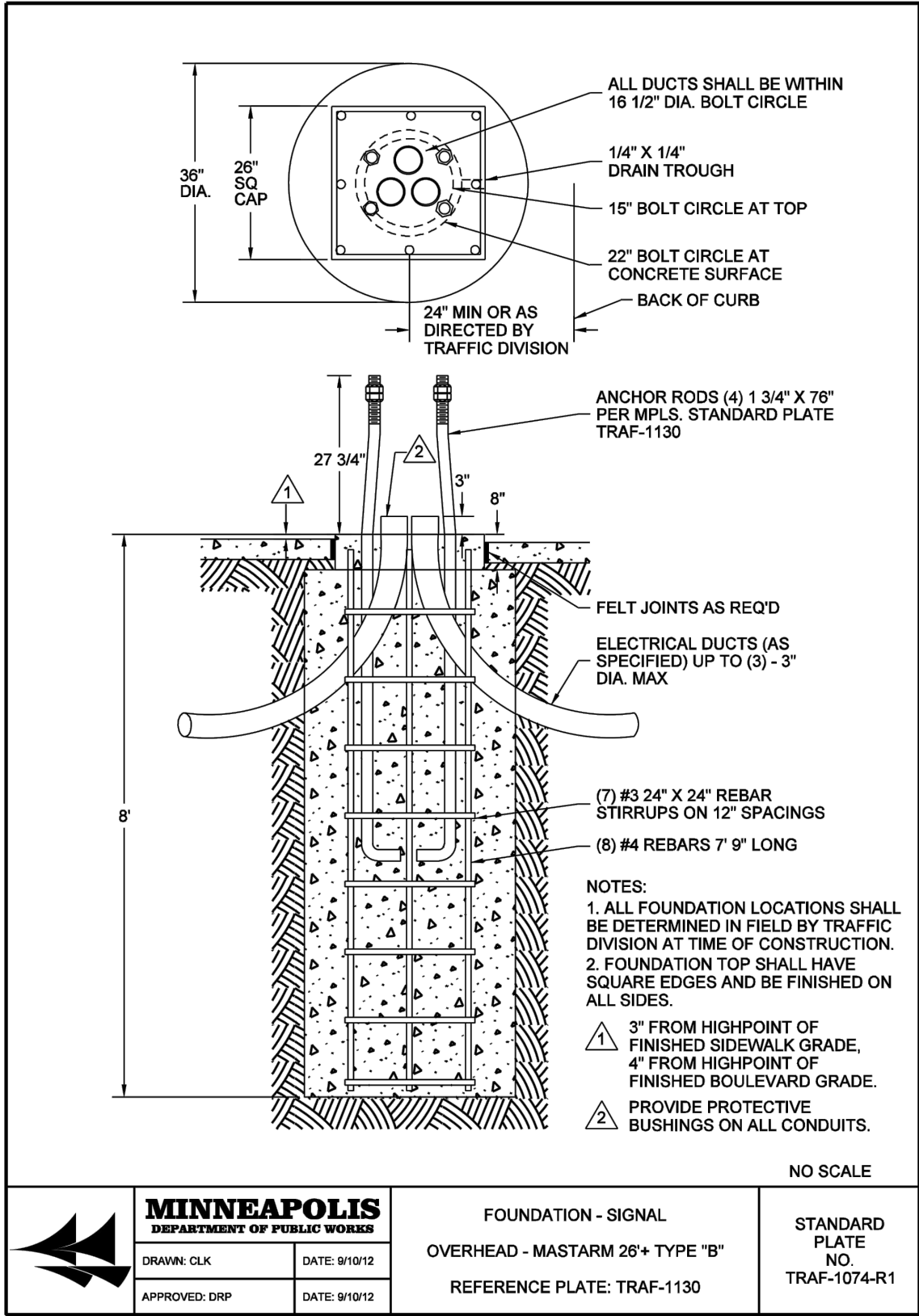
**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 1**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E0-TFC-SIG-DTL - 009**

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**SHEET**  
**148**  
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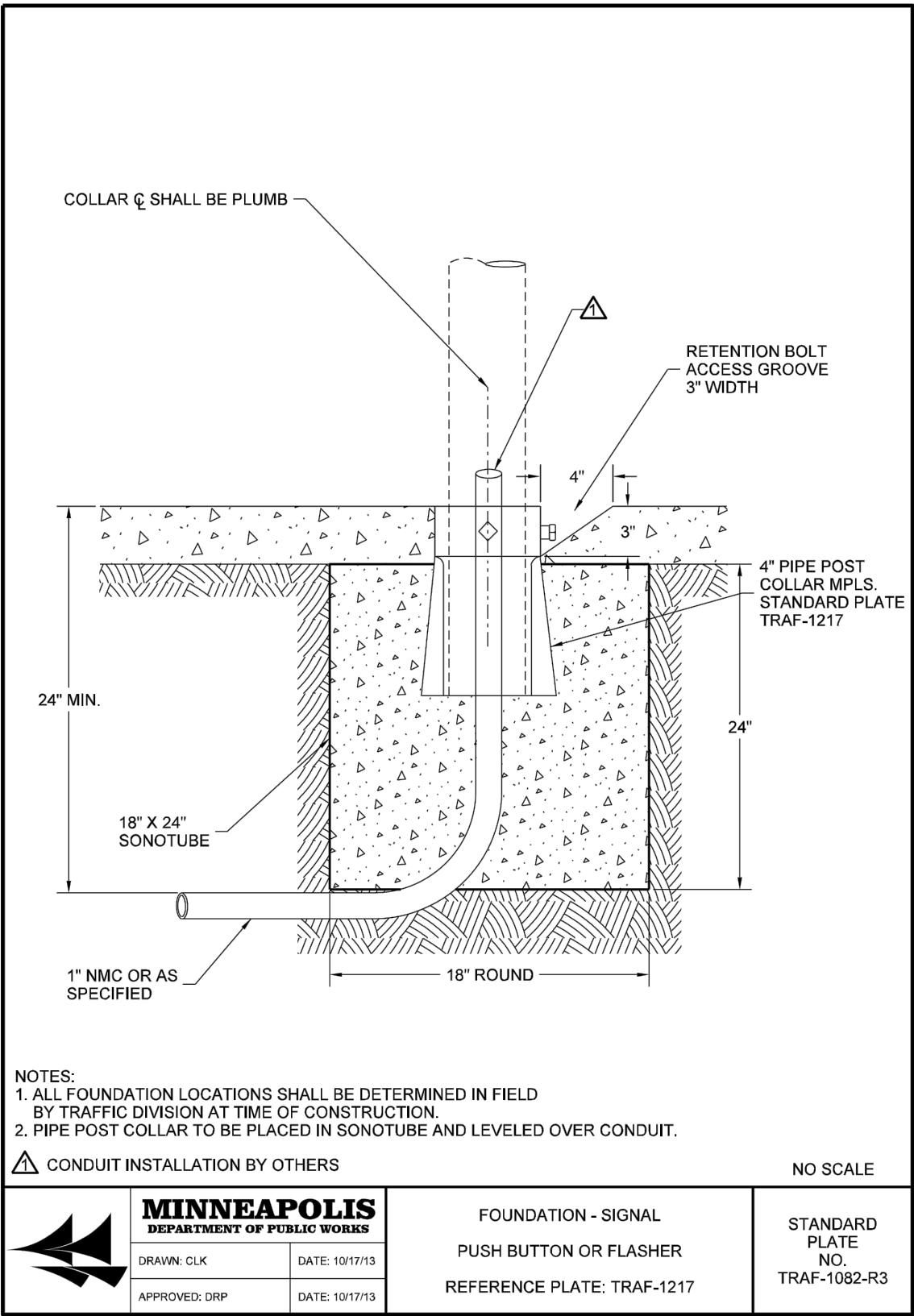
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**MINNEAPOLIS DETAIL**  
**SHEET 2**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E0-TFC-SIG-DTL - 010**

**SHEET**  
**149**  
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SHALLOW FOUNDATION DETAIL  
TO BE INCLUDED IN 90% SUBMITTAL

FOR INFORMATION ONLY

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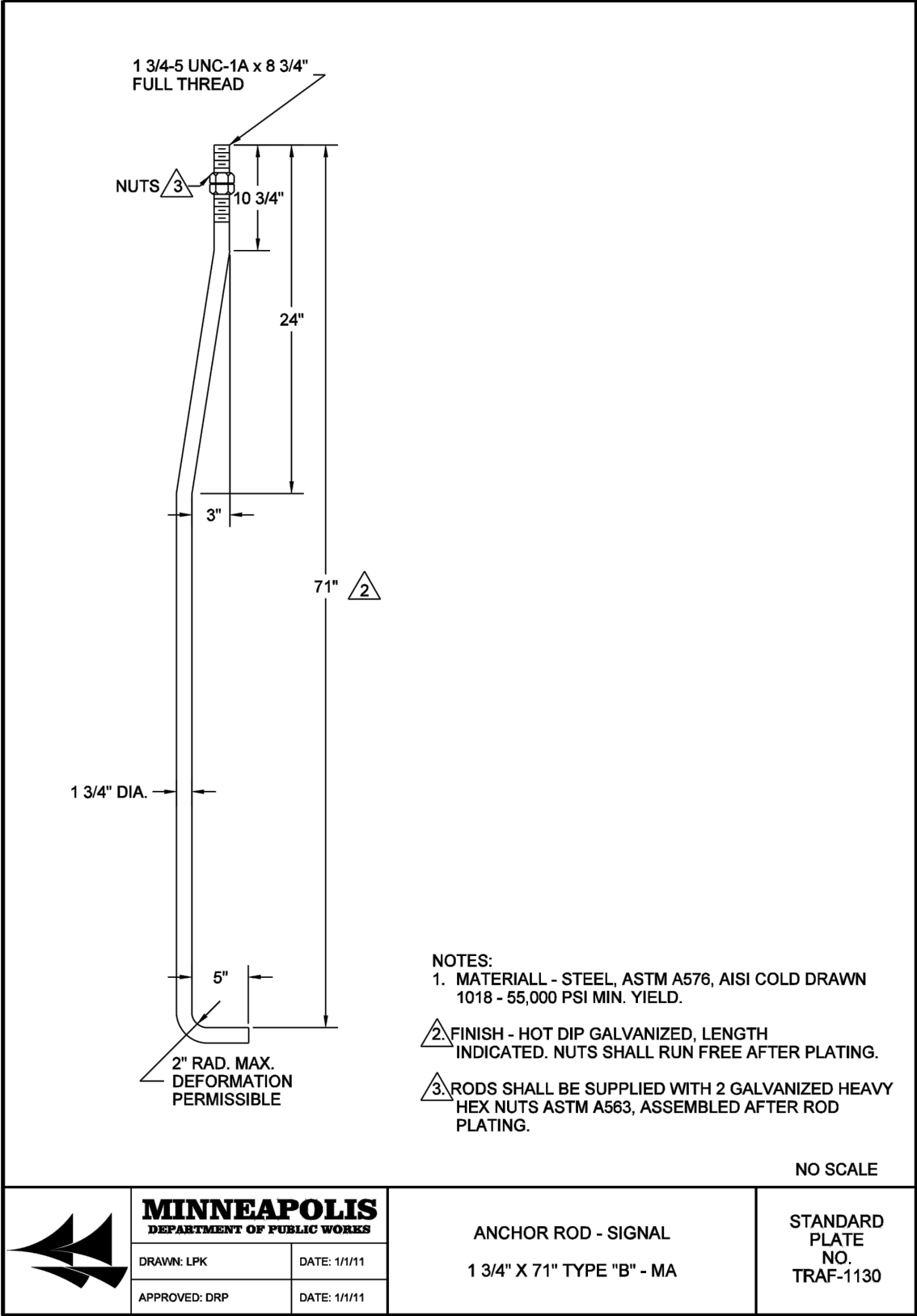
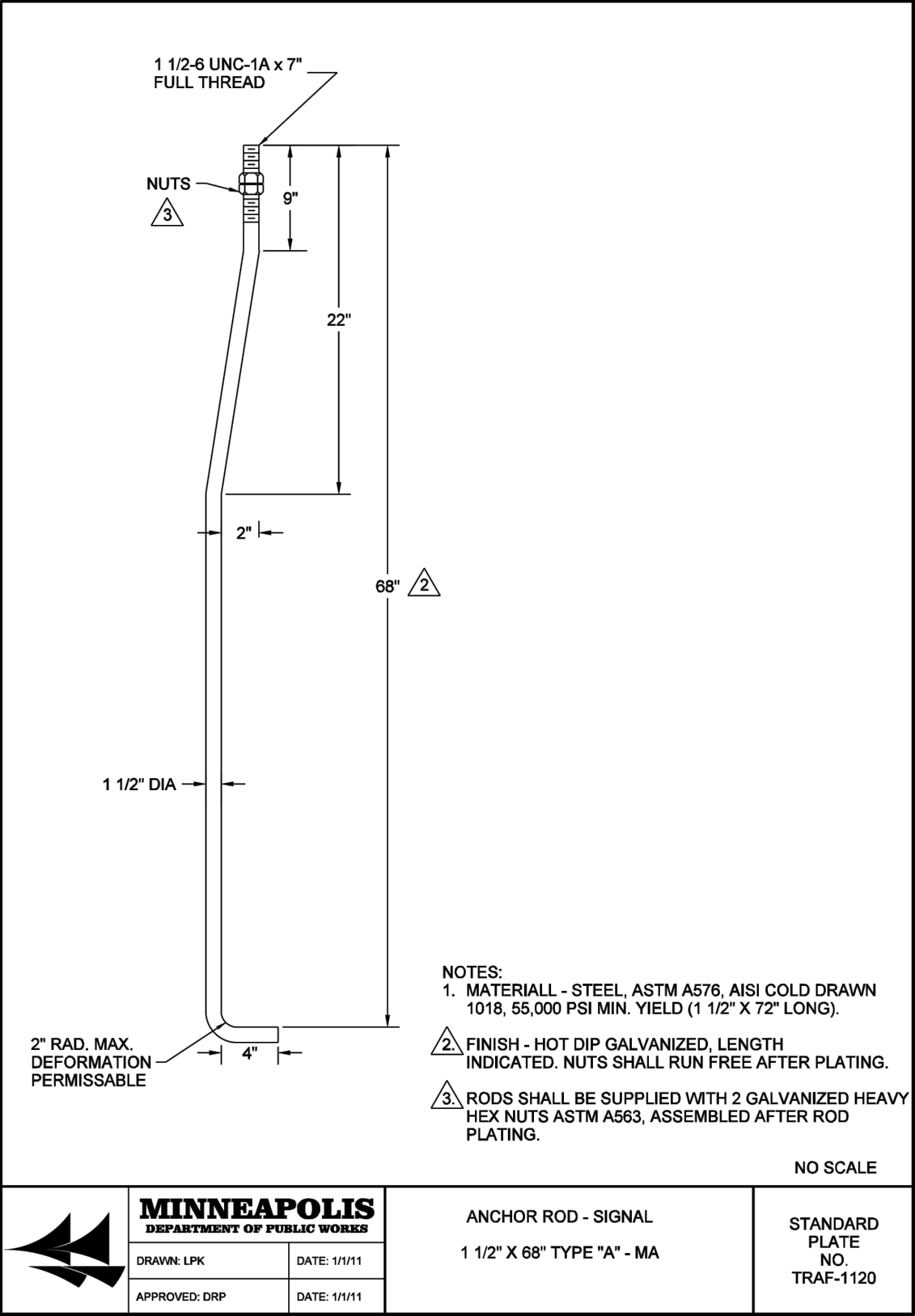

  
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CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
MINNEAPOLIS DETAIL  
SHEET 3

DISCIPLINE: TRAFFIC  
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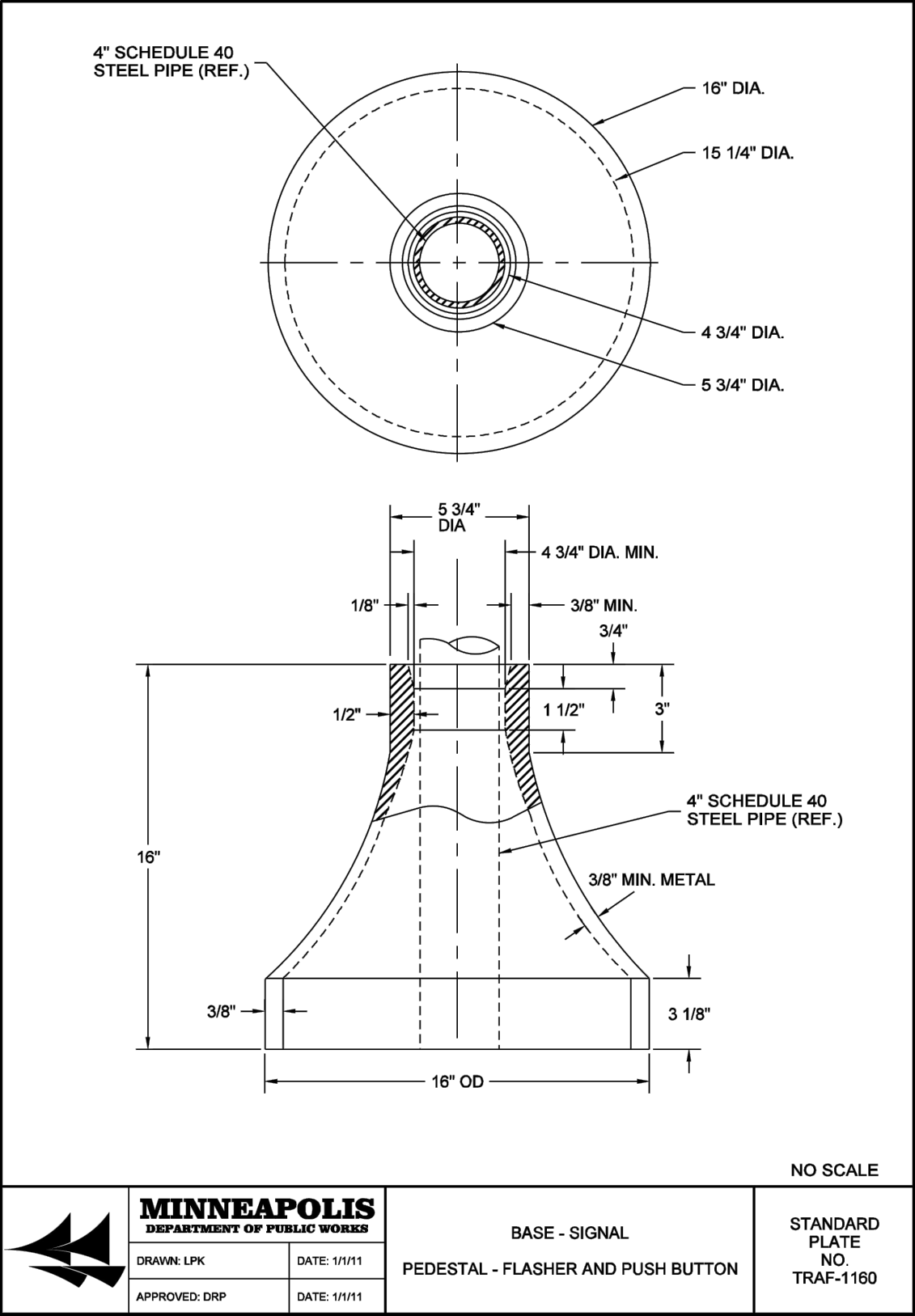
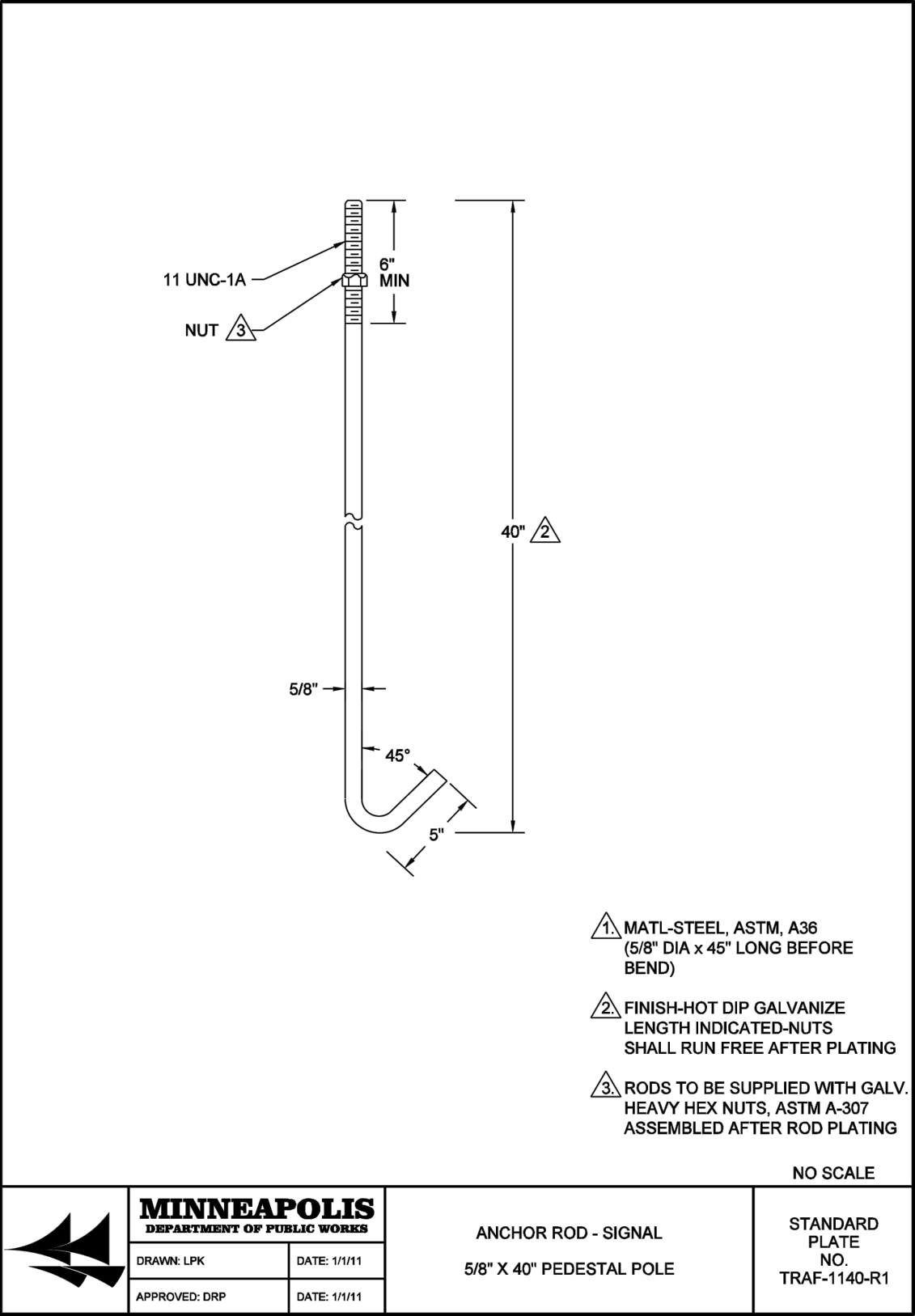


**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 4**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E0-TFC-SIG-DTL - 012**

**SHEET**  
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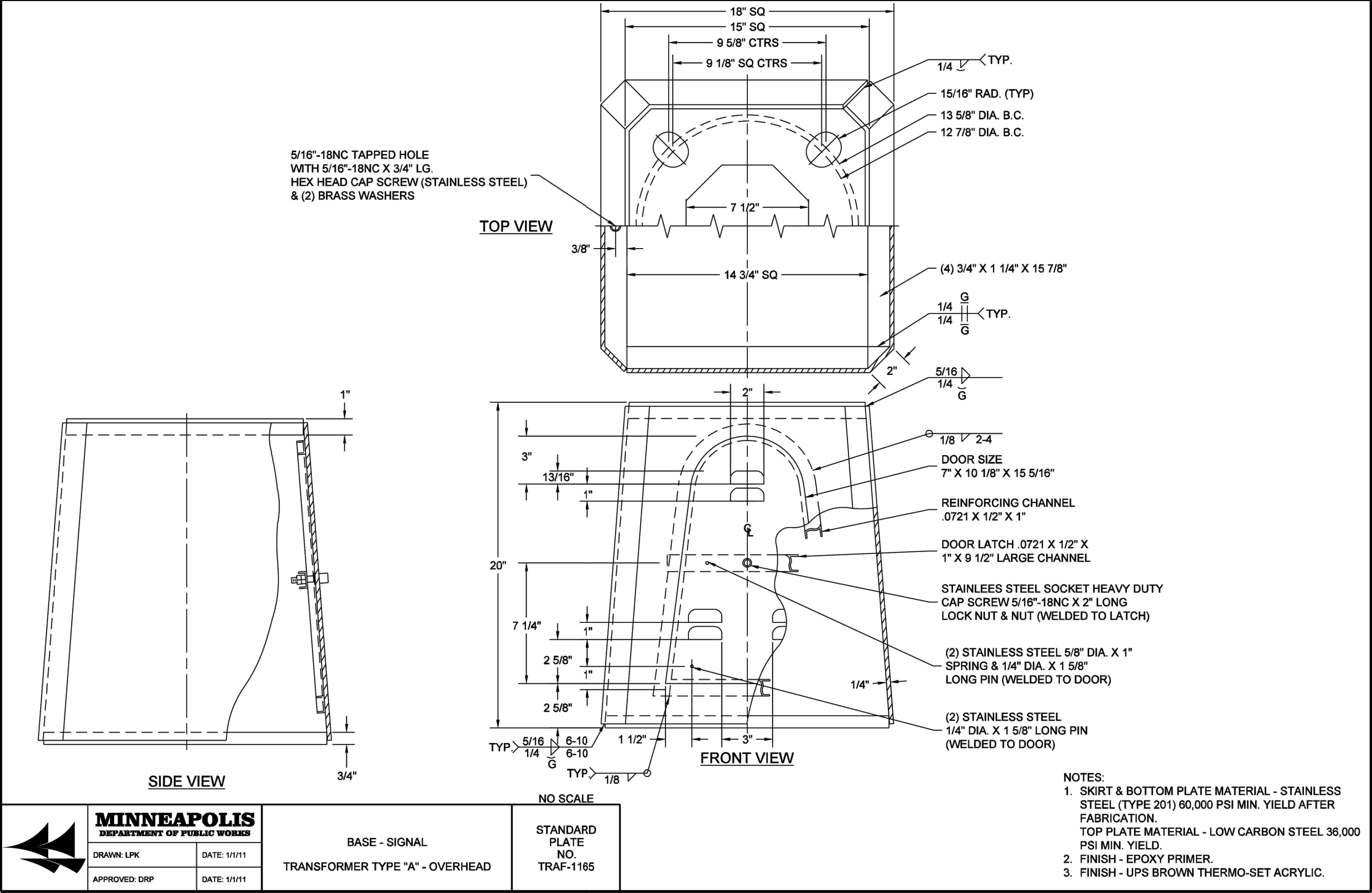
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**MINNEAPOLIS DETAIL**  
**SHEET 5**

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**OF**  
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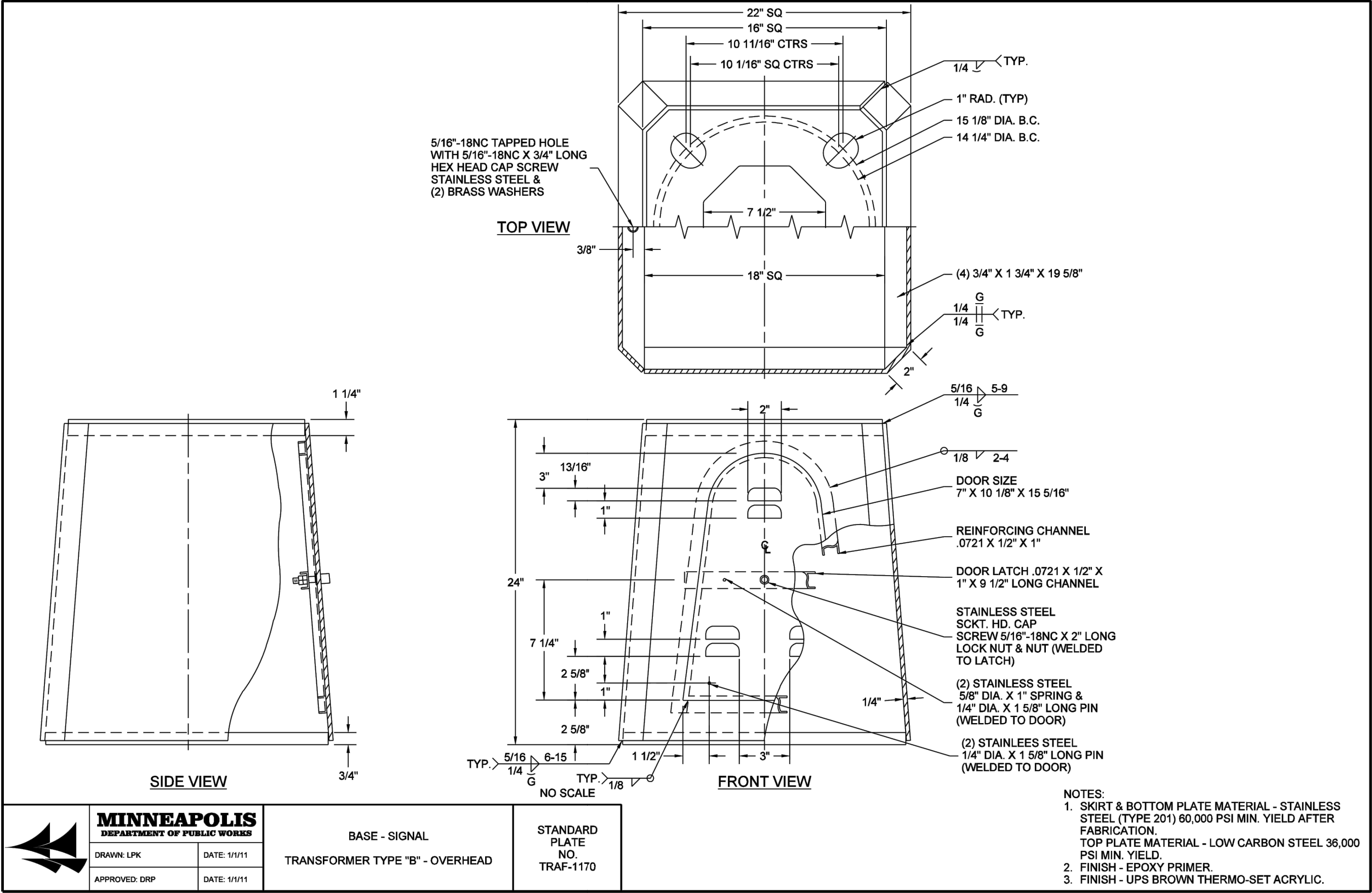
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TRAFFIC SIGNAL  
MINNEAPOLIS DETAIL  
SHEET 6

DISCIPLINE: TRAFFIC

SHEET NAME: E0-TFC-SIG-DTL - 014

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OF  
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60% SUBMISSION - 09/28/15

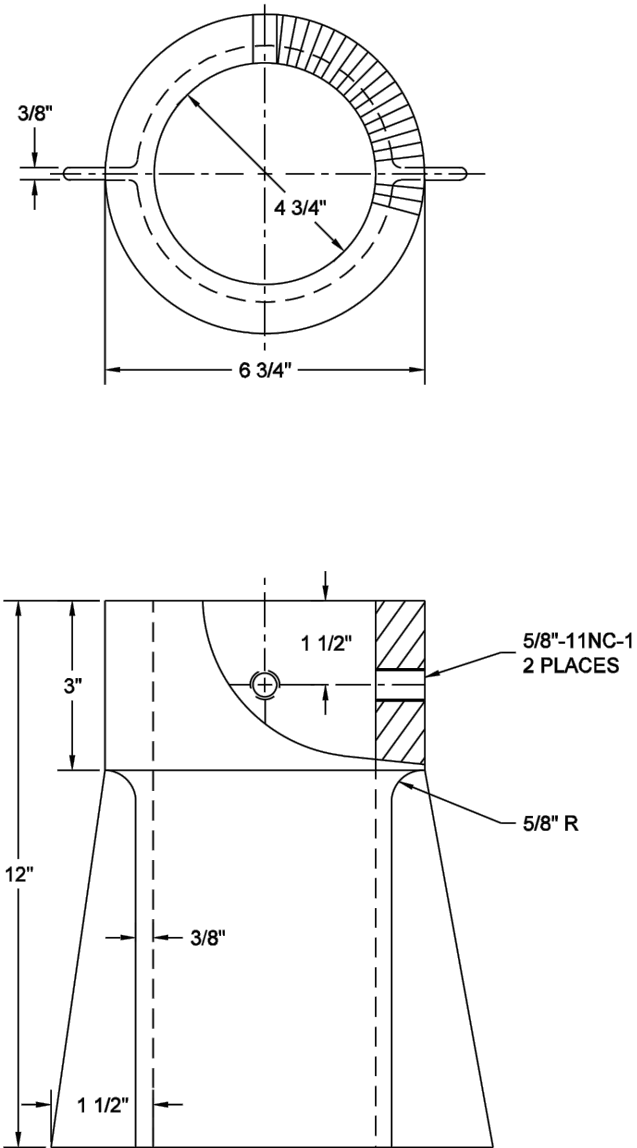
**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 7**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E0-TFC-SIG-DTL - 015**

**SHEET**  
**154**  
**OF**  
**266**

Sep. 21 2015 06:38 am V:\3400\_ADC\CAD\00\_EAST\PLANSHEETS\TRAFFIC\DETAILS\E0-TFC-SIG-DTL.dwg By: brian.villa



NOTES:  
1 - MATERIAL, GREY CAST IRON, 25000 PSI  
2 - APPROX. WT. 29 LBS  
3 - PATTERN AVAILABLE FROM  
TRAFFIC DIVISION

NO SCALE

	<b>MINNEAPOLIS</b> DEPARTMENT OF PUBLIC WORKS		POLE - SIGNAL BUMPER POST COLLAR	STANDARD PLATE NO. TRAF-1217
	DRAWN: LPK	DATE: 1/1/11		
	APPROVED: DRP	DATE: 1/1/11		

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

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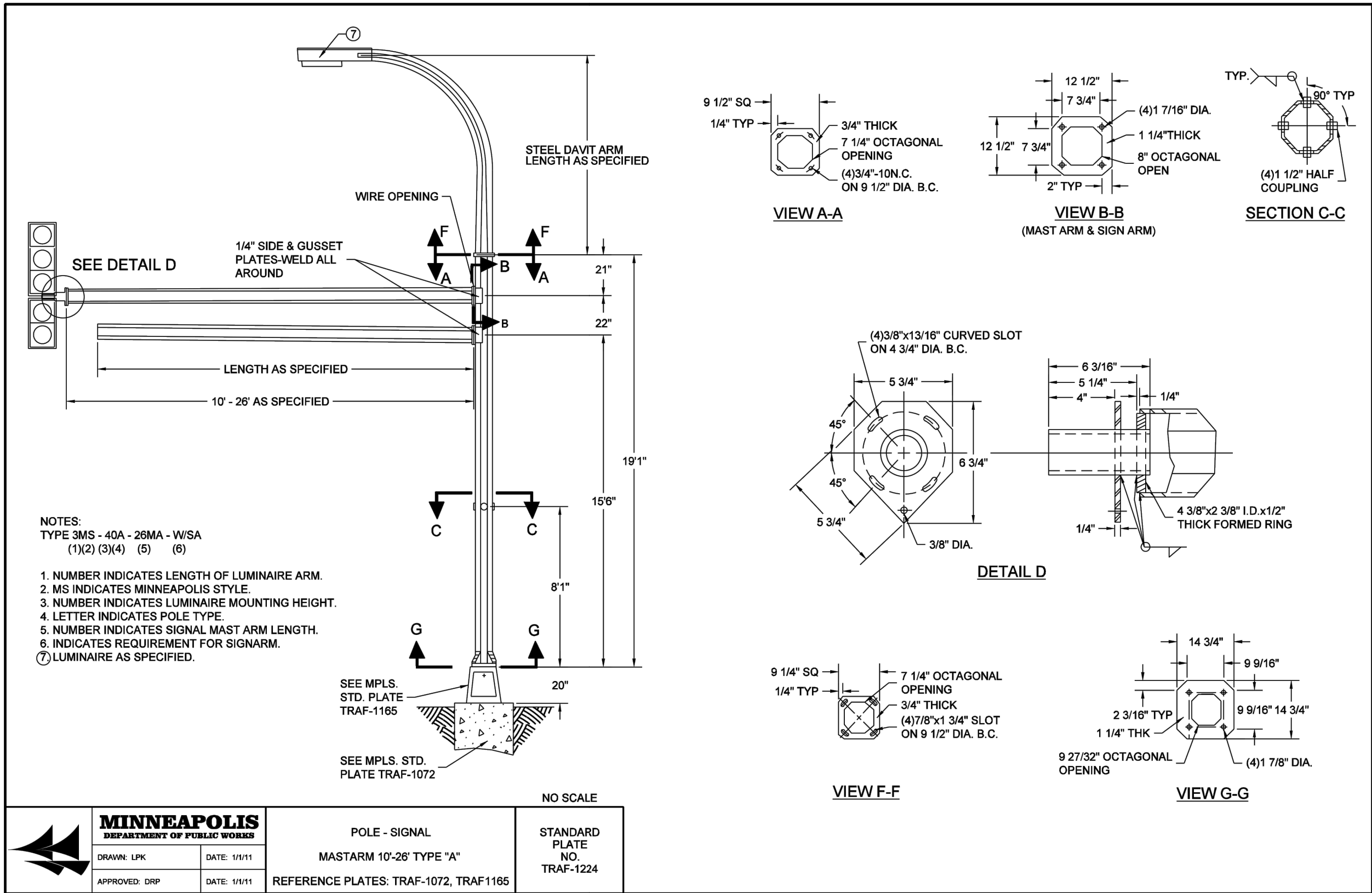


CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
MINNEAPOLIS DETAIL  
SHEET 8

DISCIPLINE: TRAFFIC  
SHEET NAME: E0-TFC-SIG-DTL - 016

SHEET  
155  
OF  
266

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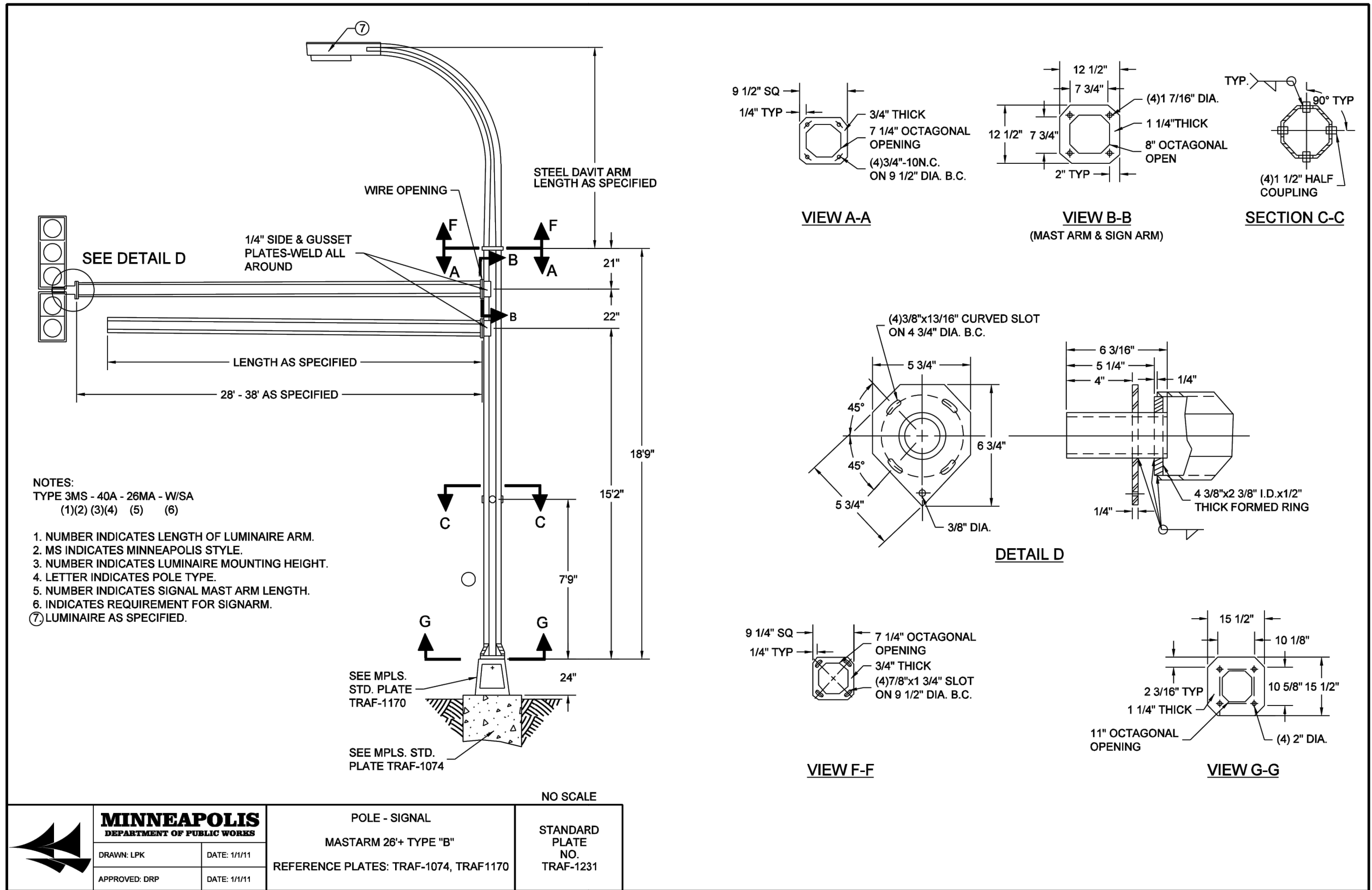
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL


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CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
MINNEAPOLIS DETAIL  
SHEET 9

DISCIPLINE: TRAFFIC  
SHEET NAME: E0-TFC-SIG-DTL - 017

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**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 10**

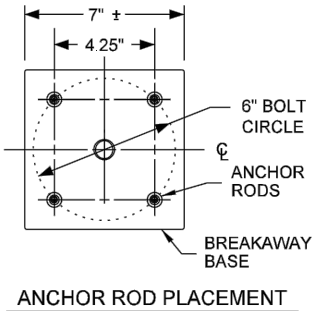
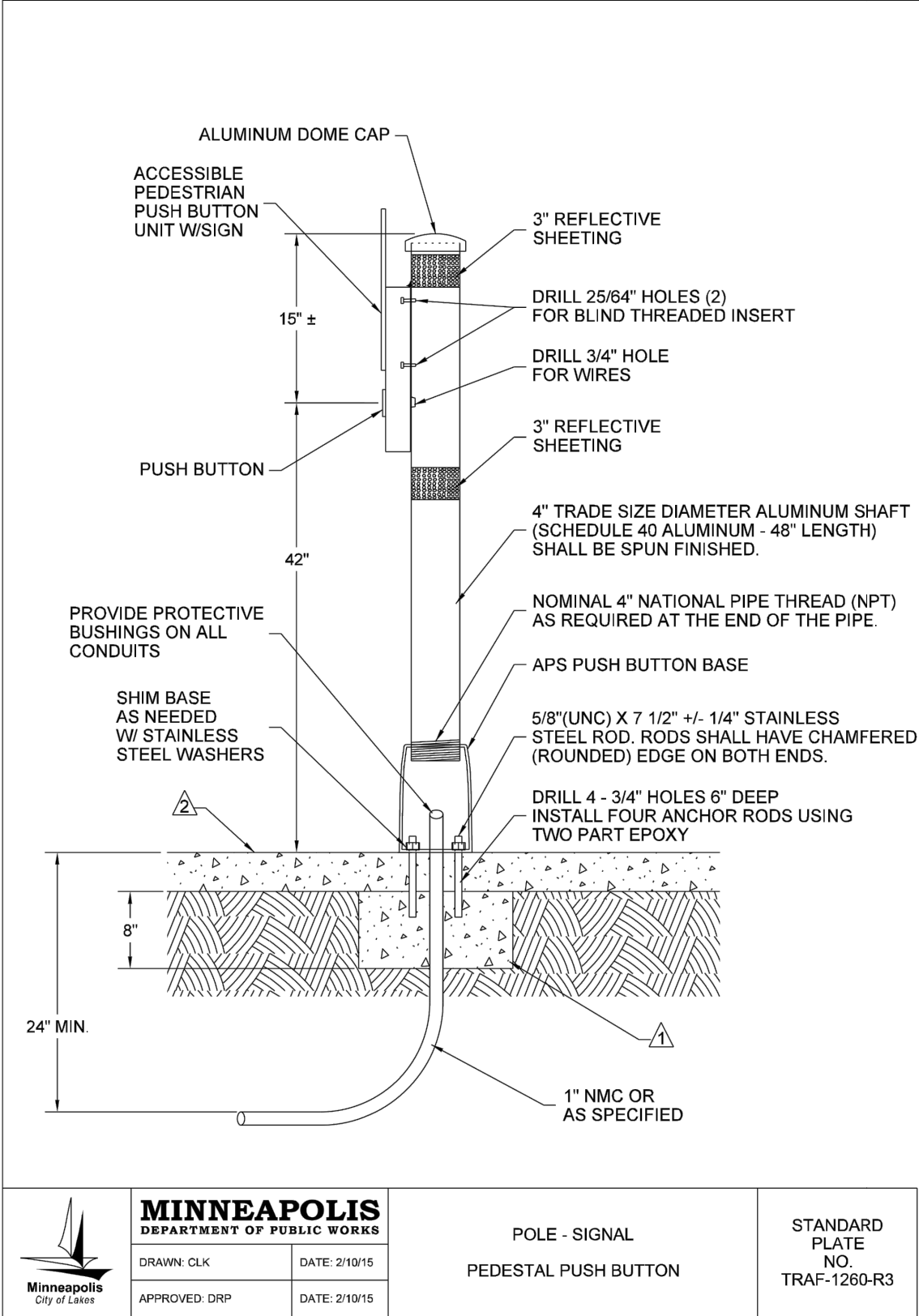
DISCIPLINE: **TRAFFIC**

SHEET NAME: **E0-TFC-SIG-DTL - 018**

**SHEET**  
**157**  
**OF**  
**266**



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- NOTES:
- PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN POST TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE POST.
  - ORIENT ACCESS OPENING ON THE BREAKAWAY PEDESTAL DIRECTLY BELOW THE APS BUTTON.
  - PLUMB THE PUSH BUTTON STATION WITH LEVELING SHIMS.
  - BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
  - BLIND THREADED INSERTS SHALL BE ZINC PLATED STEEL WITH 1/4 - 20 UNC THREADS. INSERT SHALL BE SUITABLE FOR USE ON A MOUNTING SURFACE WALL THICKNESS OF .337".
  - A.P.S. MOUNTING BOLTS SHALL BE 1/4 - 20 STAINLESS STEEL. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.
  - APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" POST.
  - THE REFLECTIVE SHEETING SHALL BE WHITE AT INTERSECTION CORNERS AND SHALL BE YELLOW WHEN USED IN CENTER MEDIANS. FOR WHITE SHEETING USE 3M HIGH INTENSITY PRISMATIC SERIES 3930 OR EQUAL. FOR YELLOW SEETING USE 3M HIGH INTENSITY PRISMATIC SERIES 3931 OR EQUAL.
  - ANTI-SEIZE COMPOUND MUST BE USED ON ALL THREADED BOLTS WHEN INSTALLING PEDESTRIAN PUSH BUTTON STATIONS.
- 1 THE PUSH BUTTON STATION FOUNDATION IS CONSTRUCTED PRIOR TO THE SIDEWALK INSTALLATION. USE 8" X 18" SONOTUBE TO INCREASE THE SIDEWALK THICKNESS TO 12" THICK (MIN.) TO PROVIDE FOR THE PUSH BUTTON STATION FOUNDATION.
- 2 ALL JOINTS SHALL BE A MINIMUM OF 9" FROM THE CENTER OF THE PUSH BUTTON FOUNDATION

	<b>MINNEAPOLIS</b> DEPARTMENT OF PUBLIC WORKS		POLE - SIGNAL PEDESTAL PUSH BUTTON	STANDARD PLATE NO. TRAF-1260-R3
	DRAWN: CLK	DATE: 2/10/15		
	APPROVED: DRP	DATE: 2/10/15		

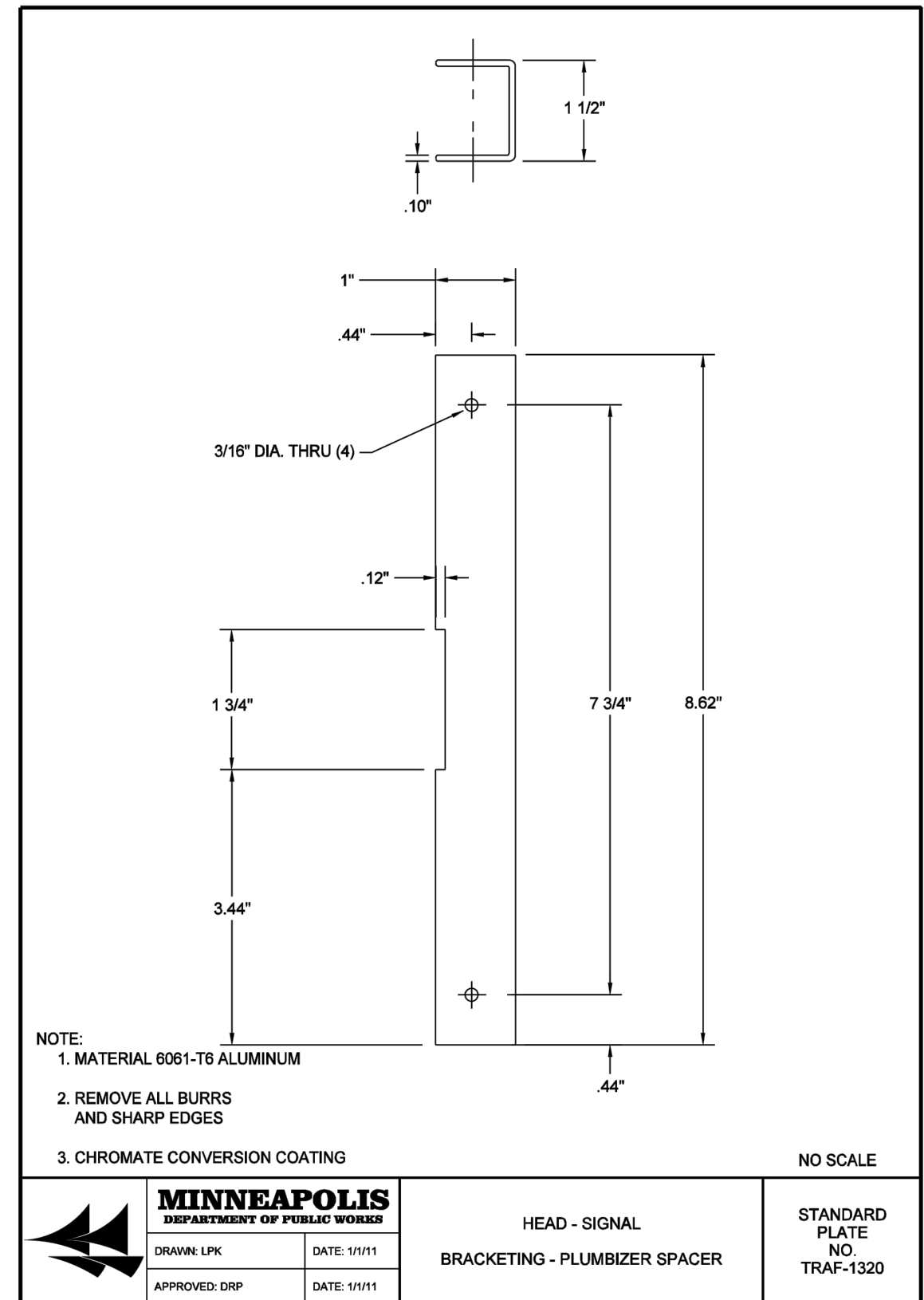
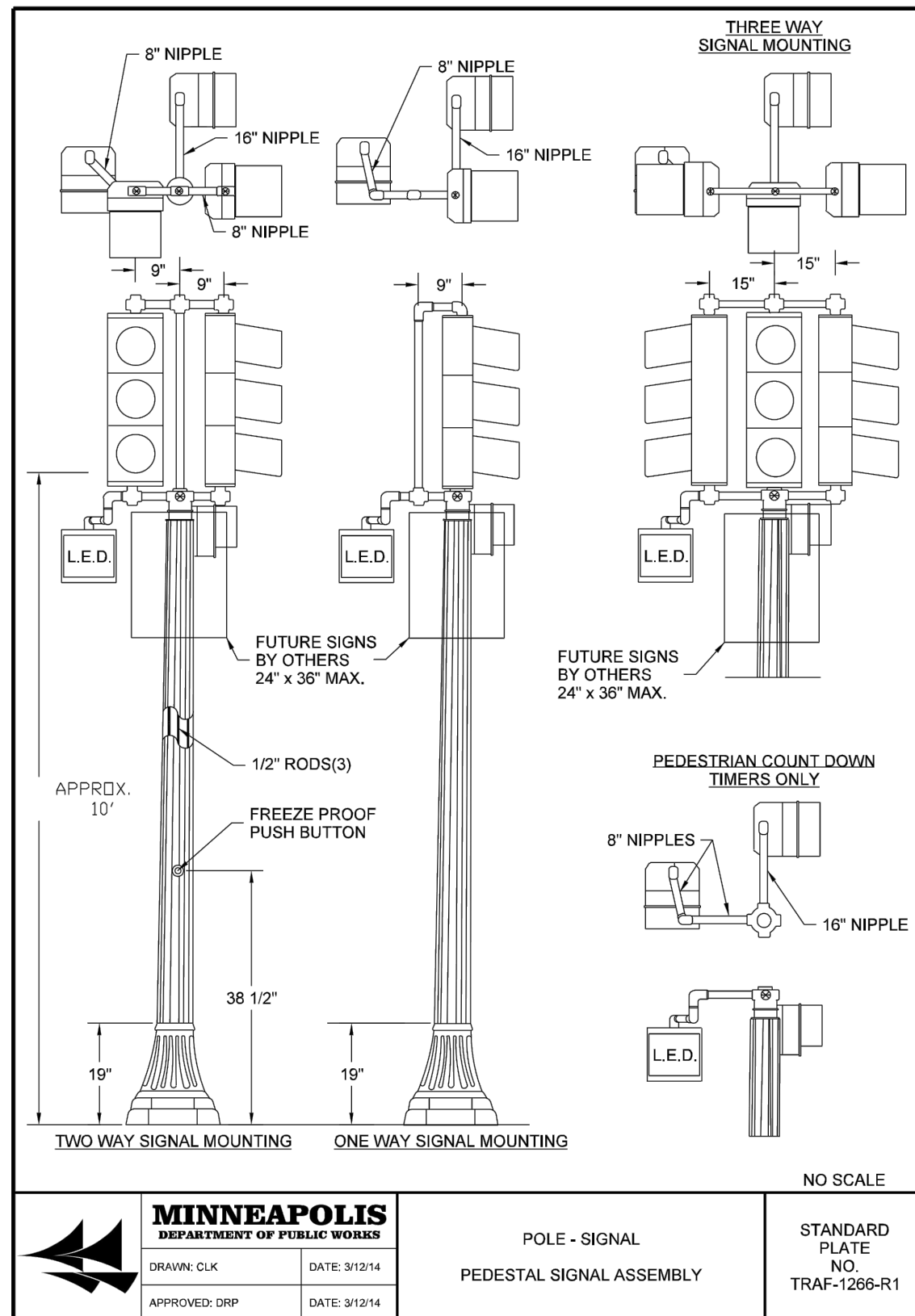
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL


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CIVIL EAST - VOLUME 10 TRAFFIC SIGNAL MINNEAPOLIS DETAIL SHEET 11	
DISCIPLINE: TRAFFIC	SHEET NAME: E0-TFC-SIG-DTL - 019

SHEET
158
OF
266



[illegible]

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**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 12**

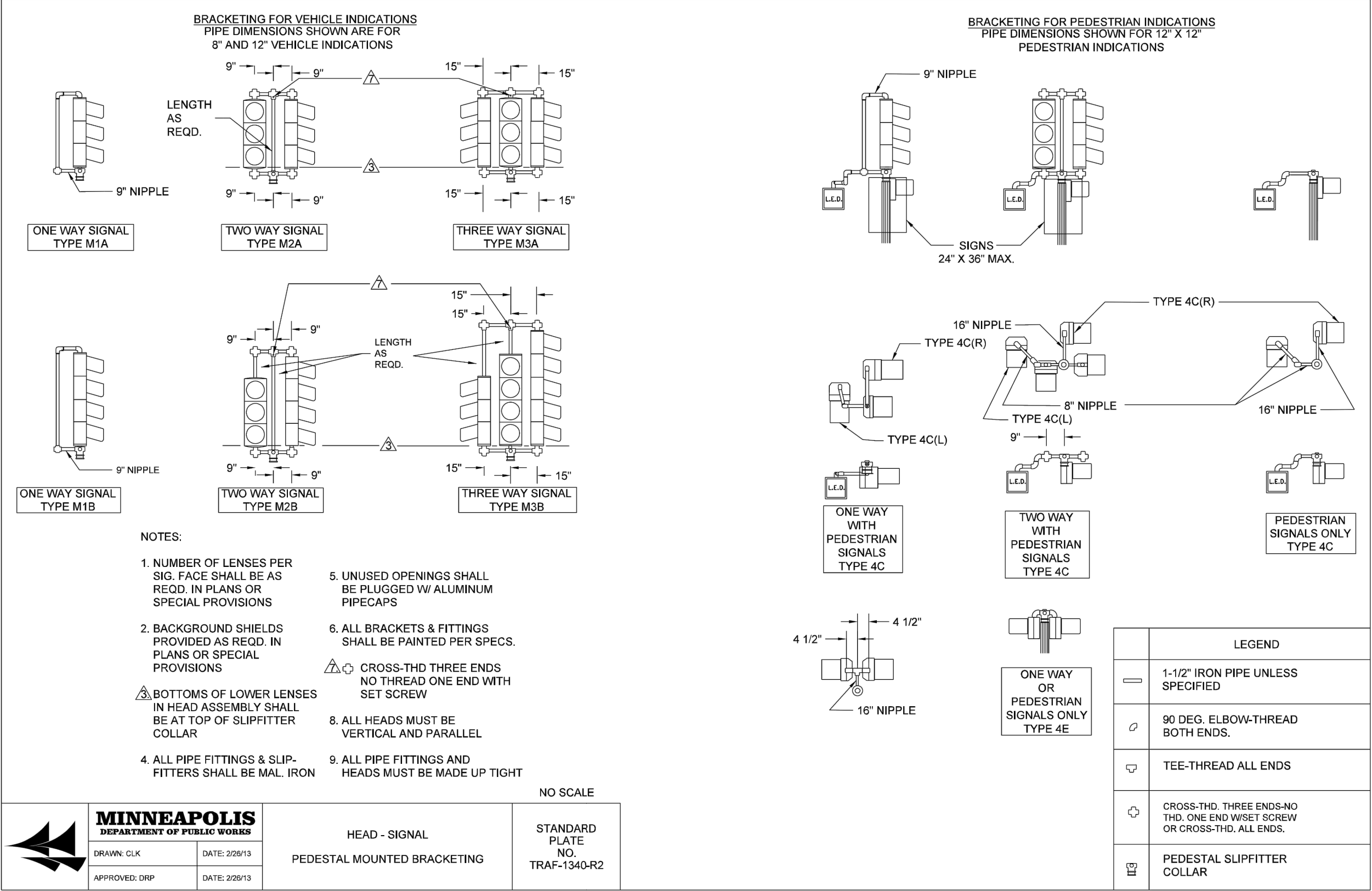
DISCIPLINE:	TRAFFIC
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SHEET NAME:	E0-TFC-SIG-DTL - 020
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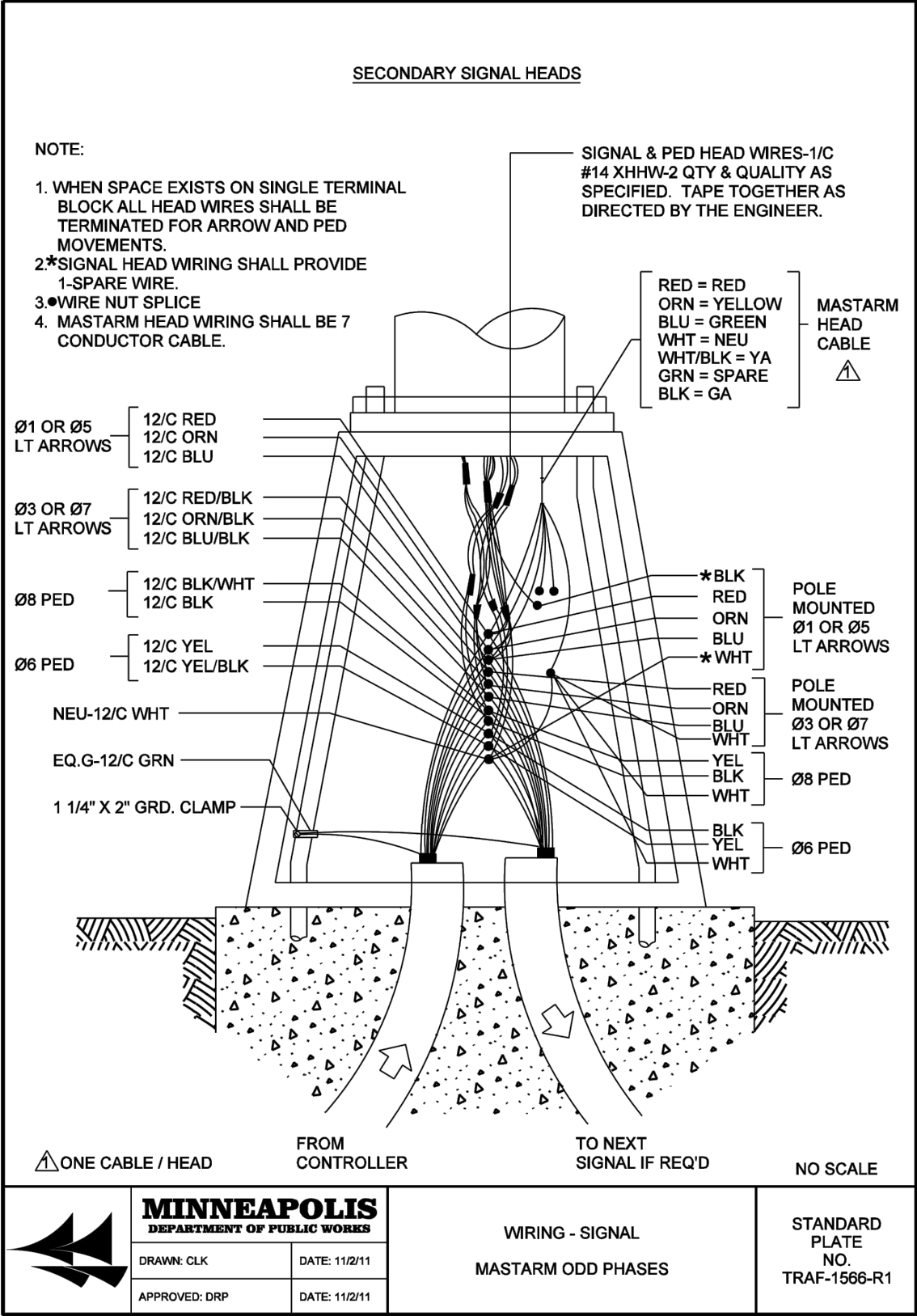
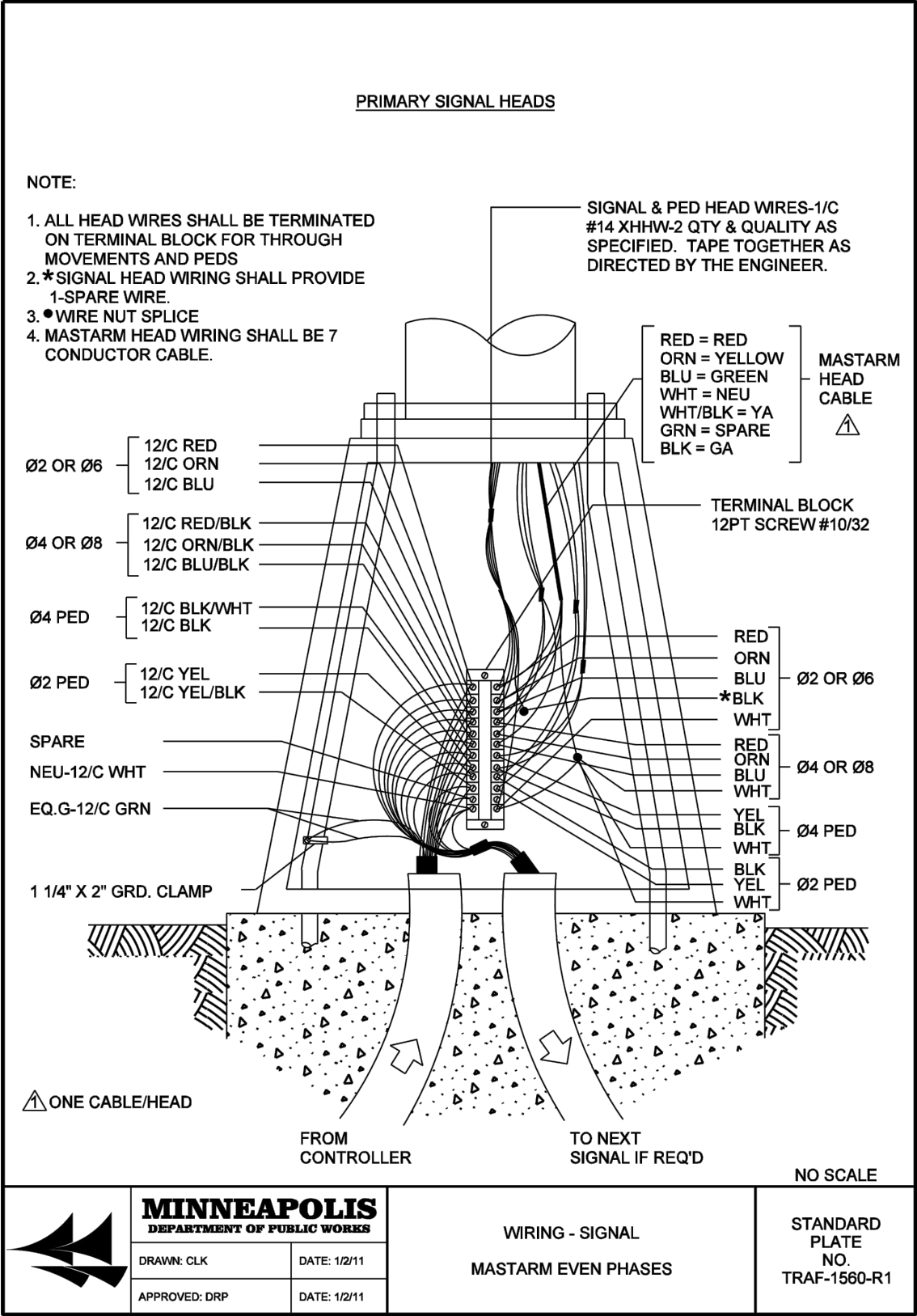
**SHEET**  
**159**  
**OF**  
**266**



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**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 15**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E0-TFC-SIG-DTL - 023**

**SHEET**  
**162**  
**OF**  
**266**

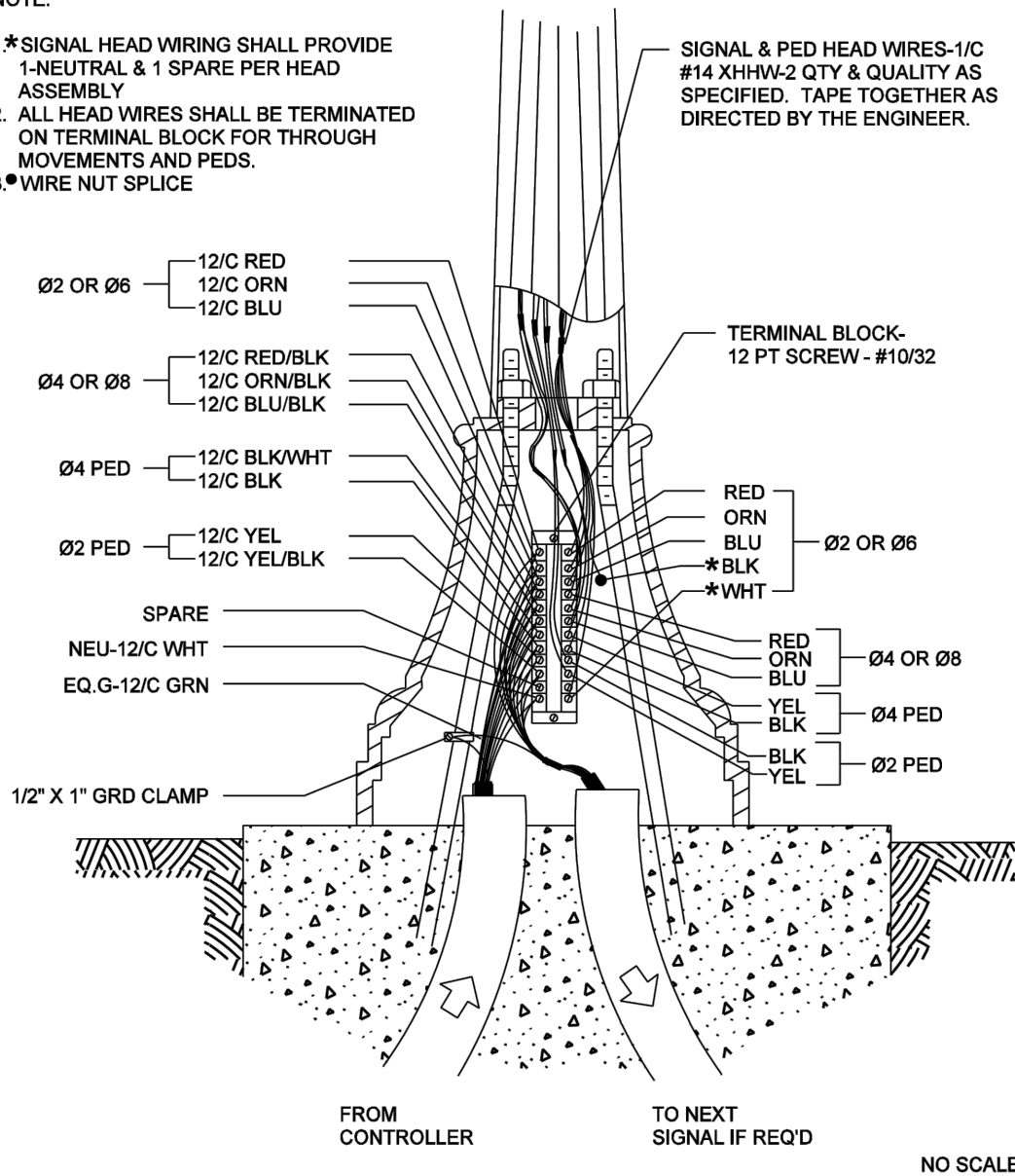


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### PRIMARY SIGNAL HEADS

#### NOTE:

- 1.\*SIGNAL HEAD WIRING SHALL PROVIDE  
1-NEUTRAL & 1 SPARE PER HEAD  
ASSEMBLY
2. ALL HEAD WIRES SHALL BE TERMINATED  
ON TERMINAL BLOCK FOR THROUGH  
MOVEMENTS AND PEDS.
- 3.●WIRE NUT SPLICE

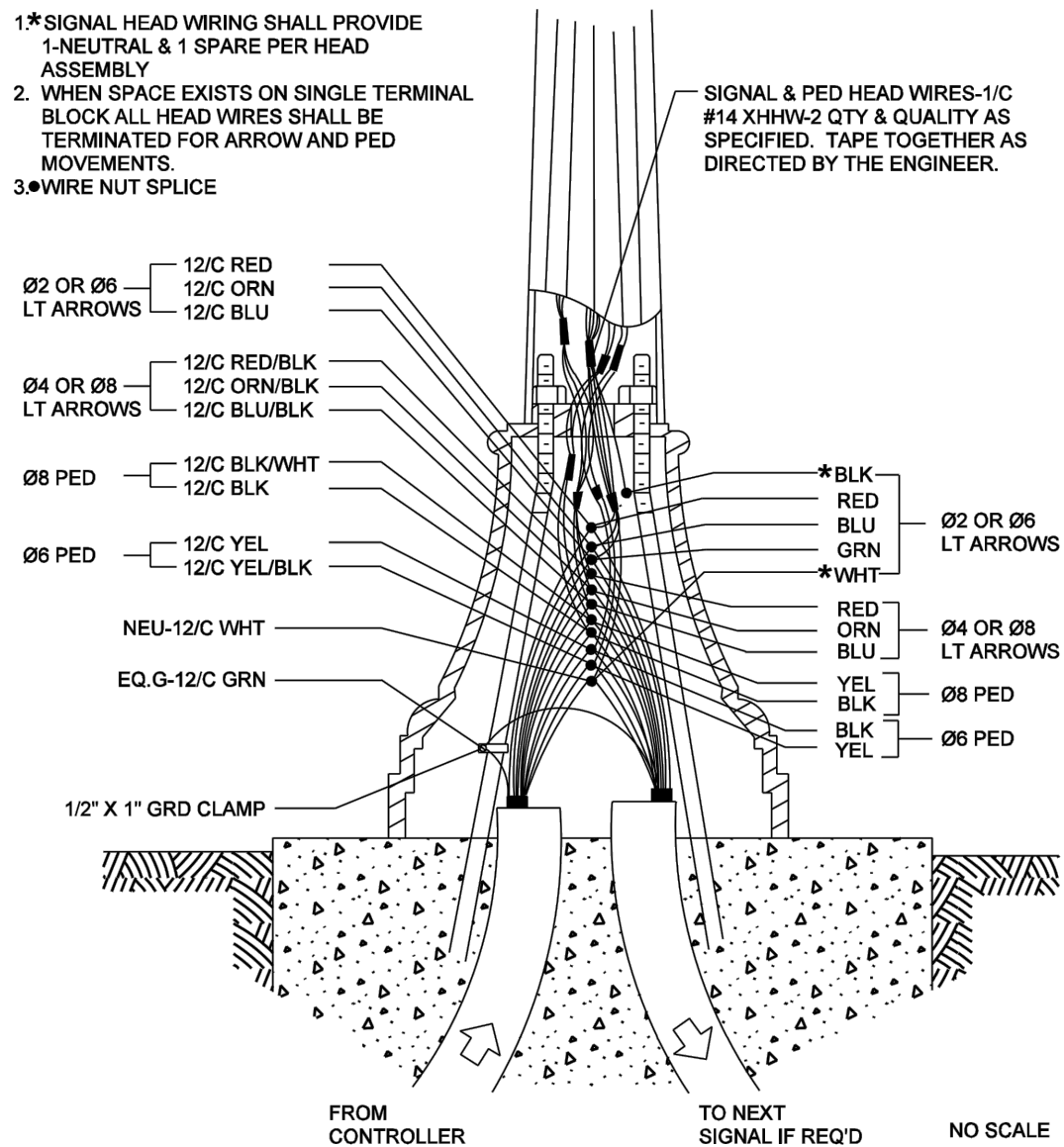


	<b>MINNEAPOLIS</b> DEPARTMENT OF PUBLIC WORKS		WIRING - SIGNAL PEDESTAL - EVEN PHASES	STANDARD PLATE NO. TRAF-1578
	DRAWN: LPK	DATE: 1/1/11		
	APPROVED: DRP	DATE: 1/1/11		

### SECONDARY SIGNAL HEADS

#### NOTES:

- 1.\*SIGNAL HEAD WIRING SHALL PROVIDE  
1-NEUTRAL & 1 SPARE PER HEAD  
ASSEMBLY
2. WHEN SPACE EXISTS ON SINGLE TERMINAL  
BLOCK ALL HEAD WIRES SHALL BE  
TERMINATED FOR ARROW AND PED  
MOVEMENTS.
- 3.●WIRE NUT SPLICE



	<b>MINNEAPOLIS</b> DEPARTMENT OF PUBLIC WORKS		WIRING - SIGNAL PEDESTAL - ODD PHASES	STANDARD PLATE NO. TRAF-1584
	DRAWN: LPK	DATE: 1/1/11		
	APPROVED: DRP	DATE: 1/1/11		

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**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 16**

DISCIPLINE:

**TRAFFIC**

SHEET NAME:

**E0-TFC-SIG-DTL - 024**

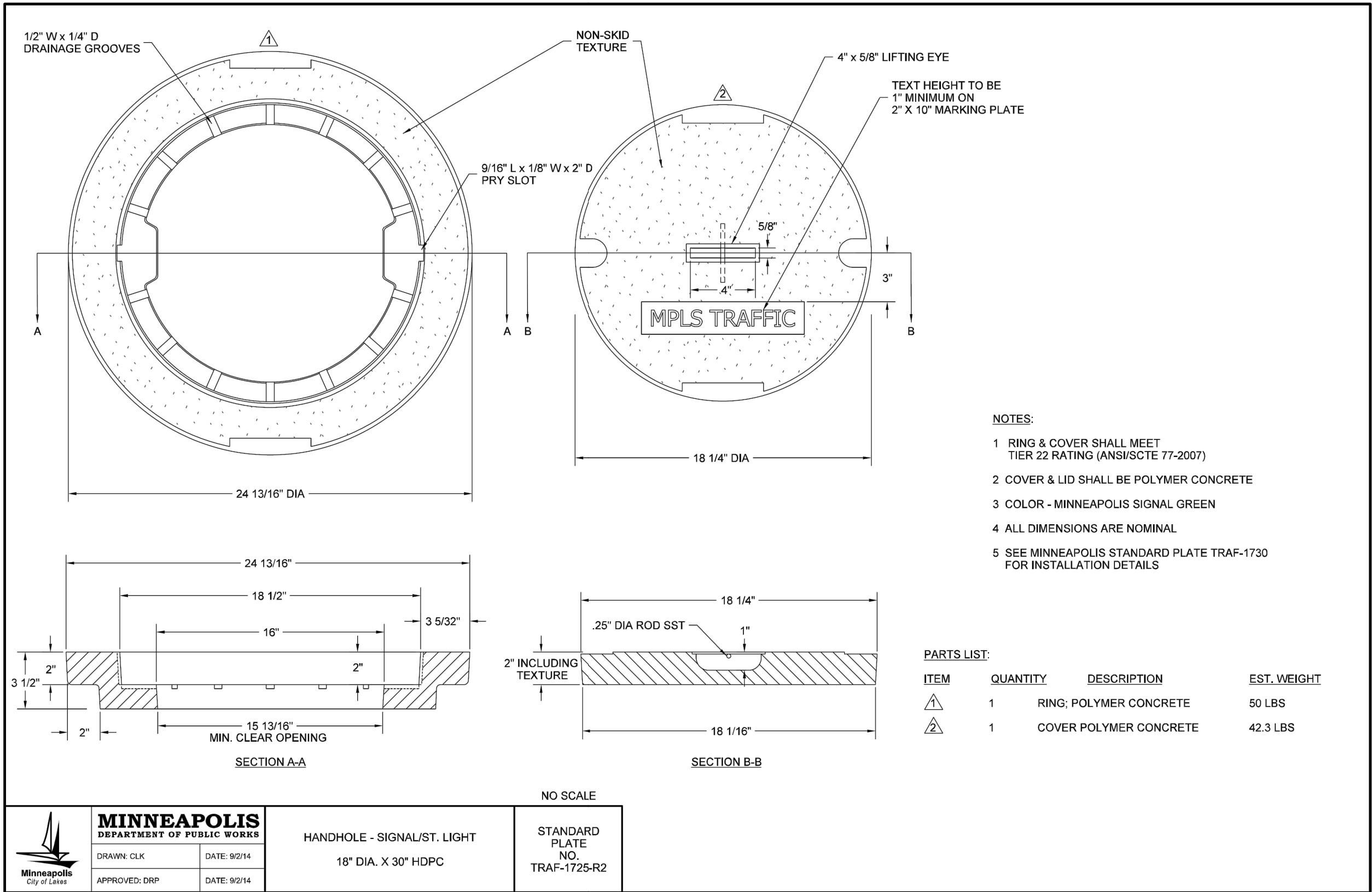
**SHEET**

**163**

**OF**

**266**

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**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 17**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E0-TFC-SIG-DTL - 025**

SHEET

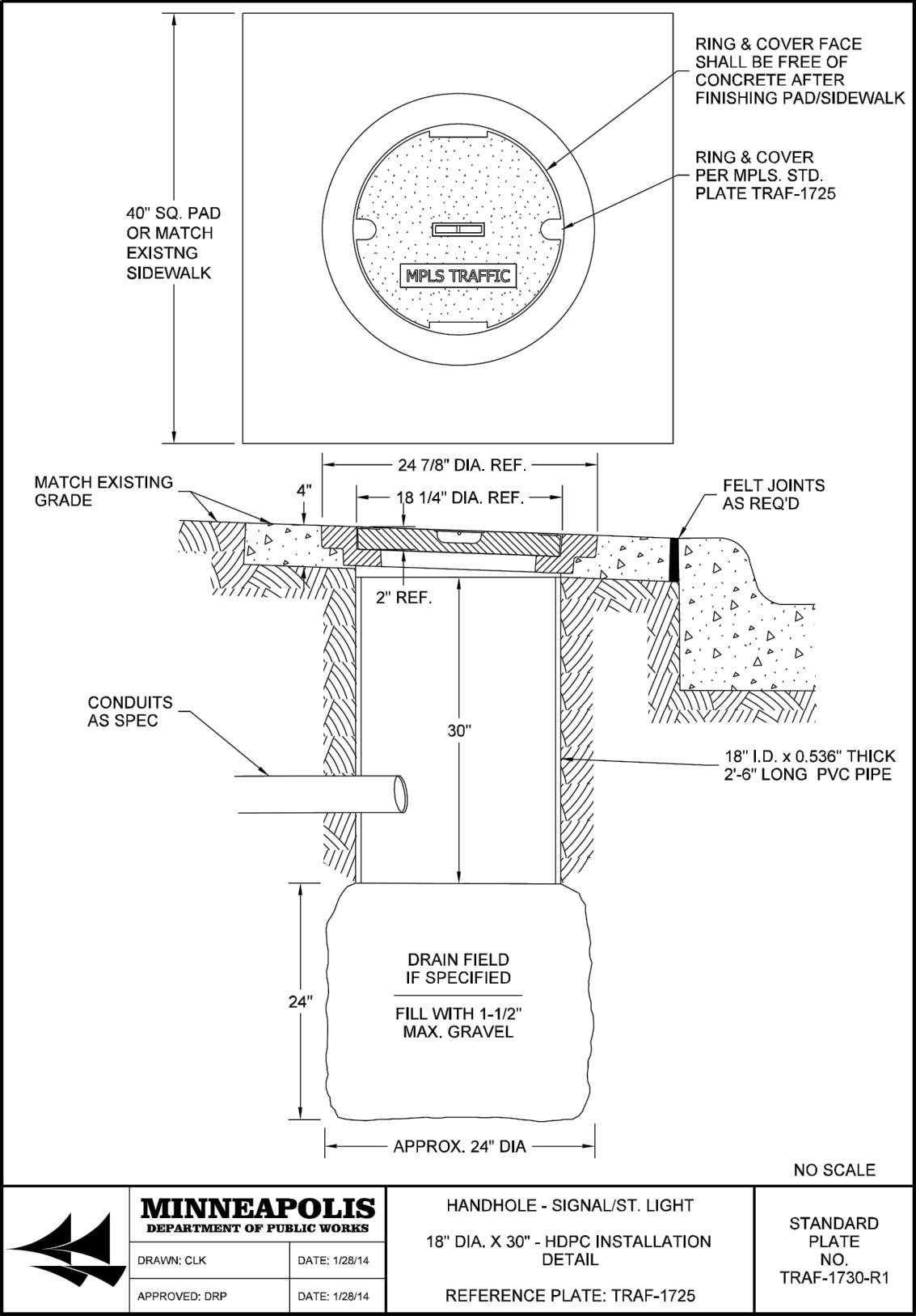
164

OF

266



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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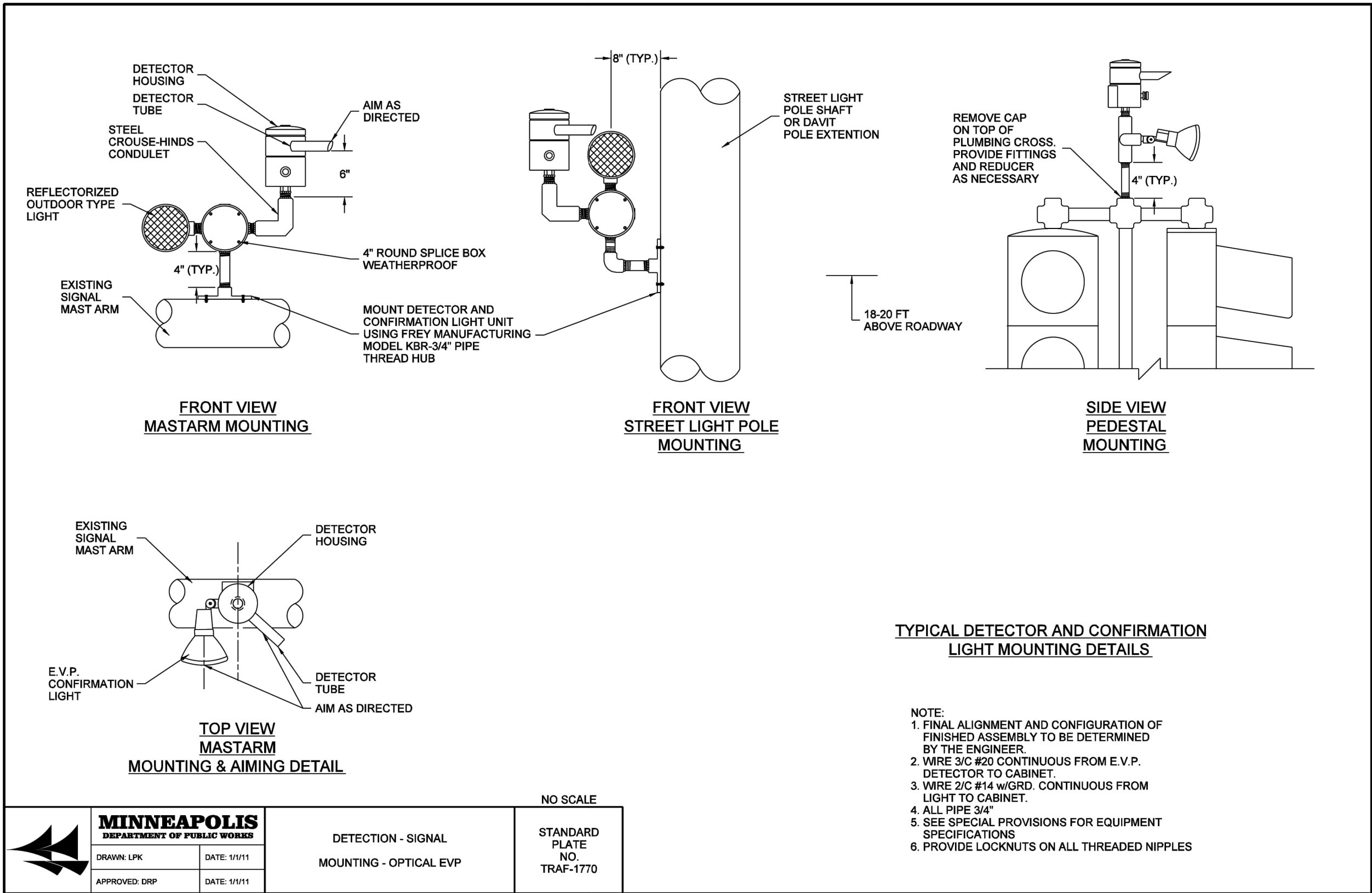
CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
MINNEAPOLIS DETAIL  
SHEET 18

DISCIPLINE: TRAFFIC  
SHEET NAME: E0-TFC-SIG-DTL - 026

SHEET  
165  
OF  
266

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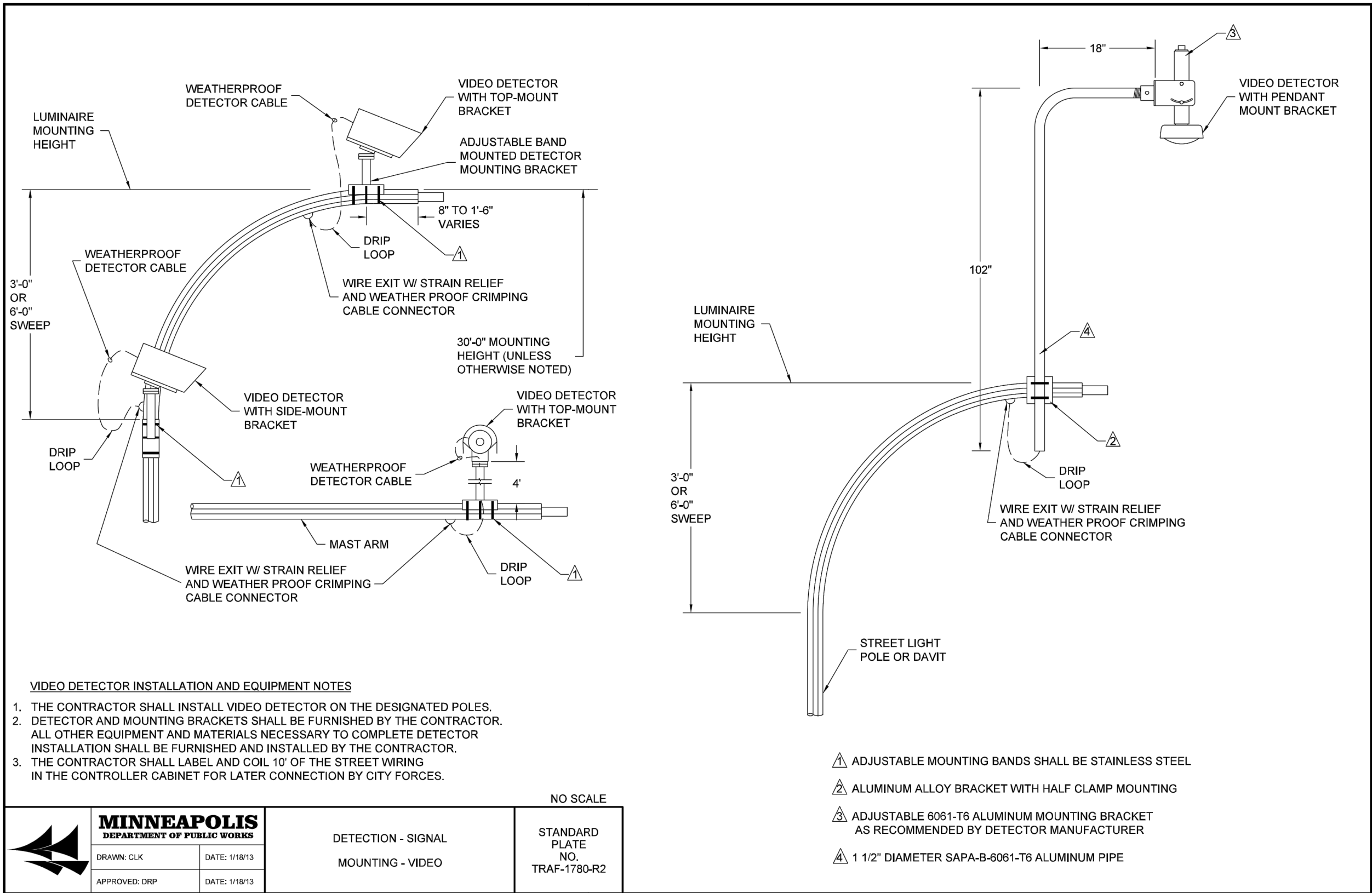
**CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
MINNEAPOLIS DETAIL  
SHEET 19**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E0-TFC-SIG-DTL - 027**

**SHEET  
166  
OF  
266**

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**CIVIL EAST - VOLUME 10**  
**TRAFFIC SIGNAL**  
**MINNEAPOLIS DETAIL**  
**SHEET 20**

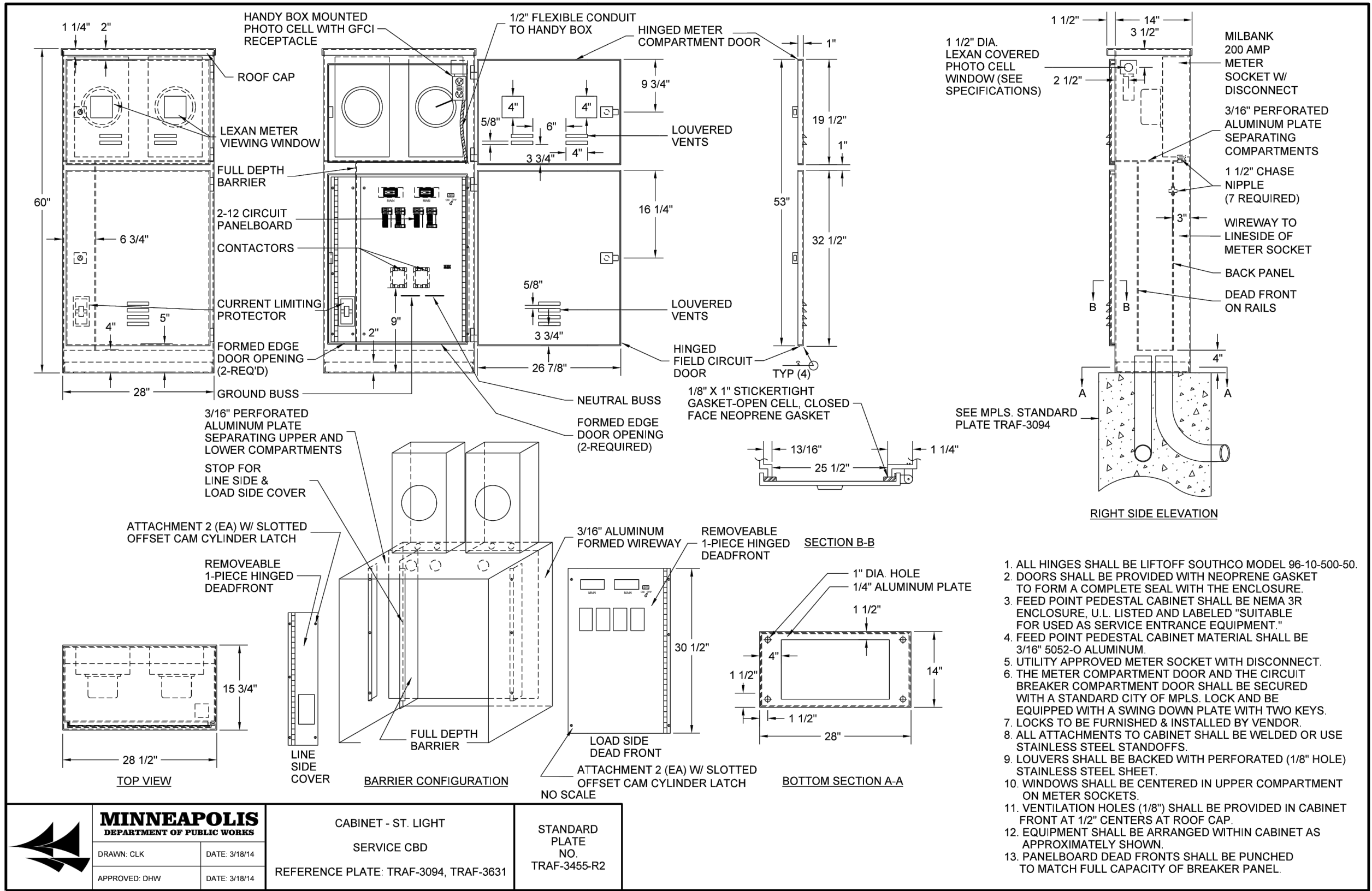
DISCIPLINE: **TRAFFIC**

SHEET NAME: **E0-TFC-SIG-DTL - 028**

**SHEET**  
**167**  
**OF**  
**266**



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**AECOM Kimley»Horn**



**SOUTHWEST**  
Green Line LRT Extension



**CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
MINNEAPOLIS DETAIL  
SHEET 22**

DISCIPLINE:

**TRAFFIC**

SHEET NAME:

**E0-TFC-SIG-DTL - 030**

**SHEET**

**169**

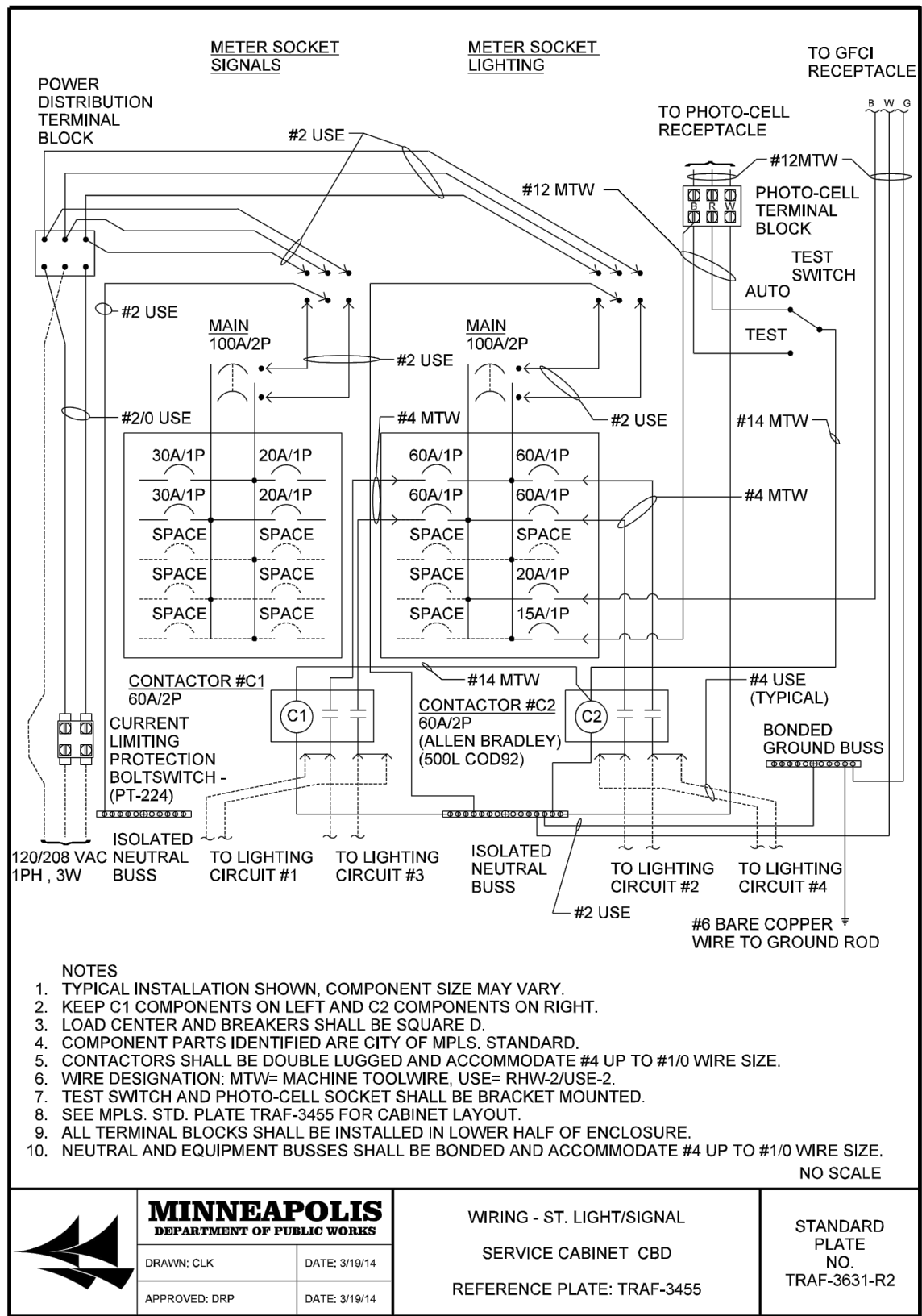
**OF**

**266**

**60% SUBMISSION - 09/28/15**



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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CIVIL EAST - VOLUME 10  
TRAFFIC SIGNAL  
MINNEAPOLIS DETAIL  
SHEET 23

DISCIPLINE:

TRAFFIC

SHEET NAME:

E0-TFC-SIG-DTL - 031

SHEET

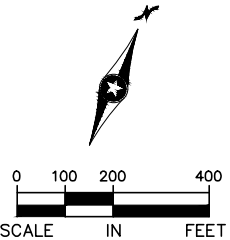
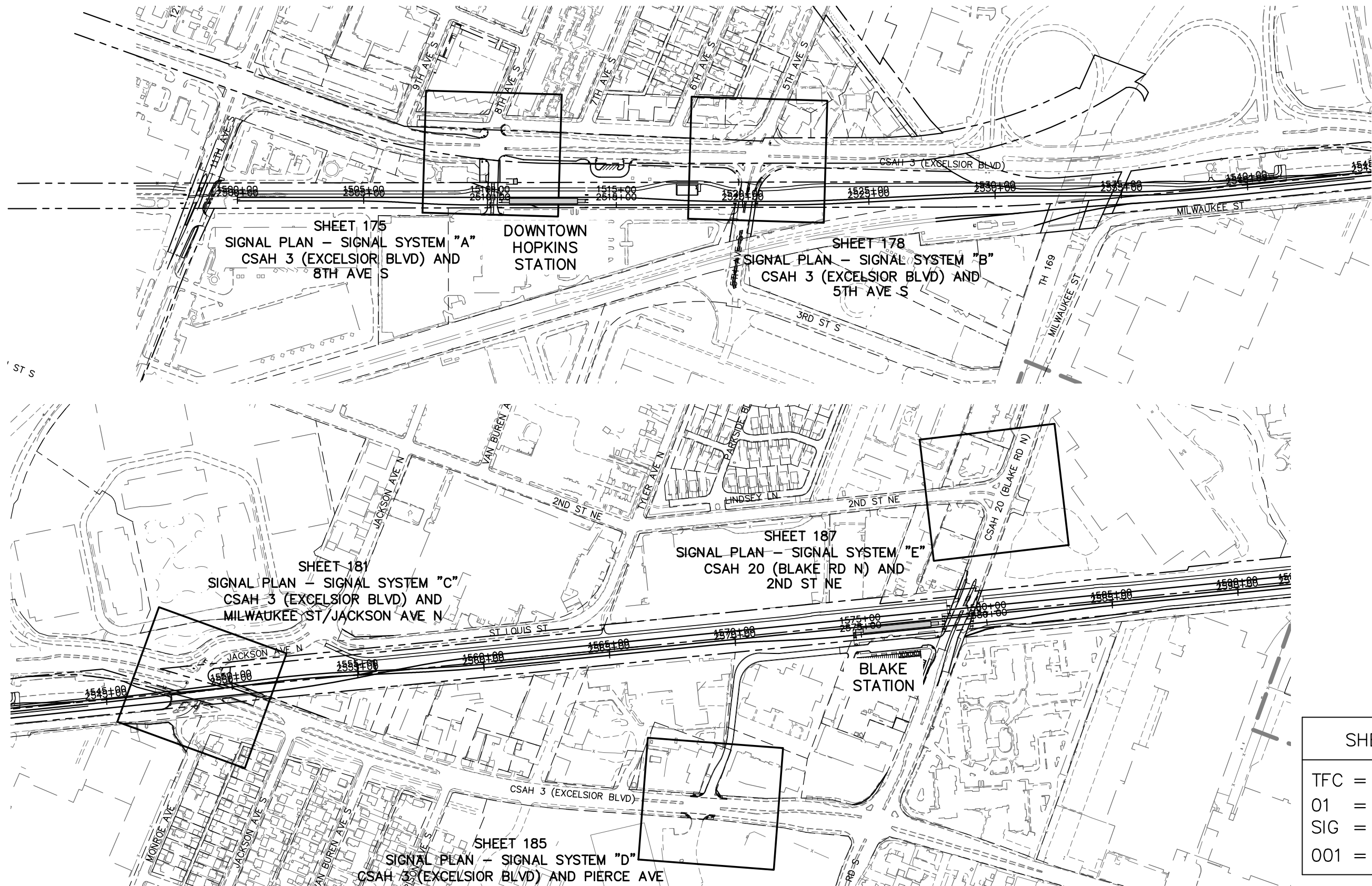
170

OF

266



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SHEET NAME LEGEND	
TFC	= TRAFFIC
01	= SEGMENT 1
SIG	= SIGNAL PLAN SHEETS
001	= SEQUENCE NUMBER

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL




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CIVIL EAST - VOLUME 10  
SIGNAL PLAN  
PLAN SHEET LAYOUT  
SHEET 1

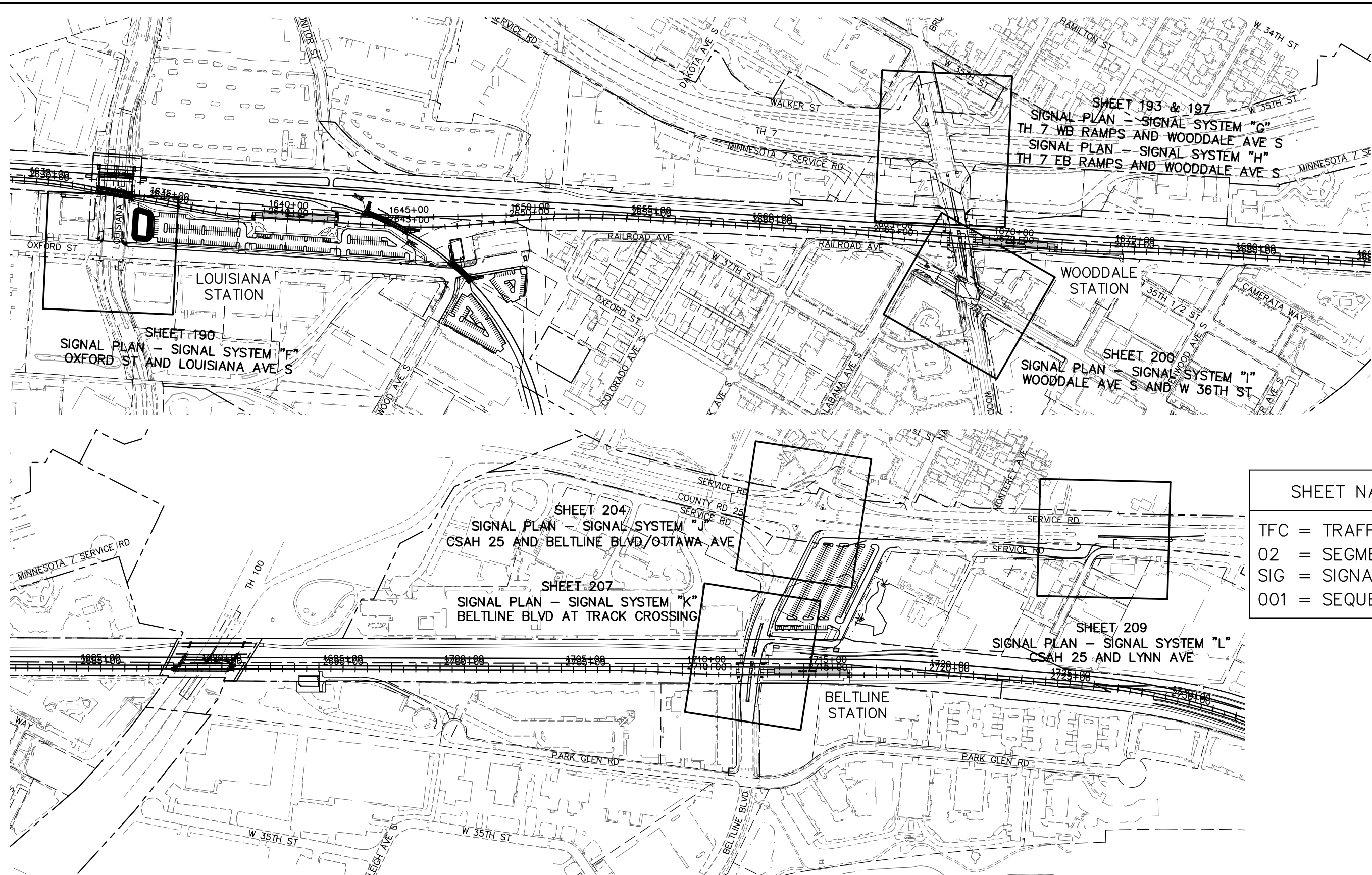
DISCIPLINE: **TRAFFIC**

SHEET NAME:  
**E1-TFC-SIG-IDX-001**

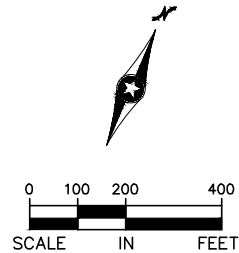
SHEET  
171  
OF  
266



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SHEET NAME LEGEND	
TFC	= TRAFFIC
02	= SEGMENT 2
SIG	= SIGNAL PLAN SHEETS
001	= SEQUENCE NUMBER

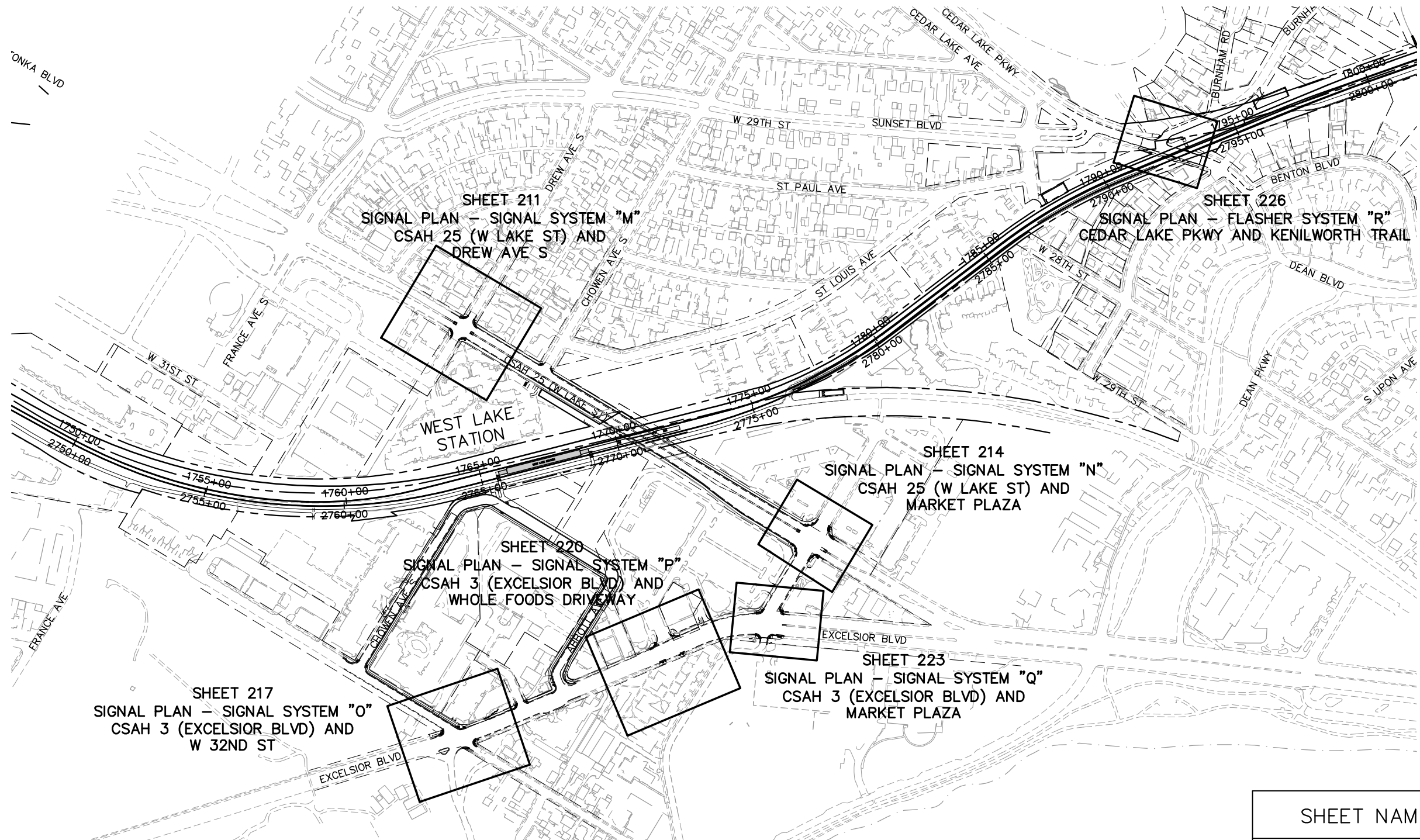


NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

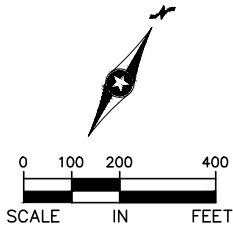
						<b>CIVIL EAST - VOLUME 10</b> <b>SIGNAL PLAN</b> <b>PLAN SHEET LAYOUT</b> <b>SHEET 2</b>		<b>SHEET</b> <b>172</b> <b>OF</b> <b>266</b>
60% SUBMISSION - 09/28/15				DISCIPLINE: <b>TRAFFIC</b>		SHEET NAME: <b>E2-TFC-SIG-IDX-001</b>		



Sep. 21 2015 06:50 am V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\TRAFFIC\E3-TFC-SIG-IDX.dwg By: brian.villa



SHEET NAME LEGEND	
TFC	= TRAFFIC
03	= SEGMENT 3
SIG	= SIGNAL PLAN SHEETS
001	= SEQUENCE NUMBER



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL




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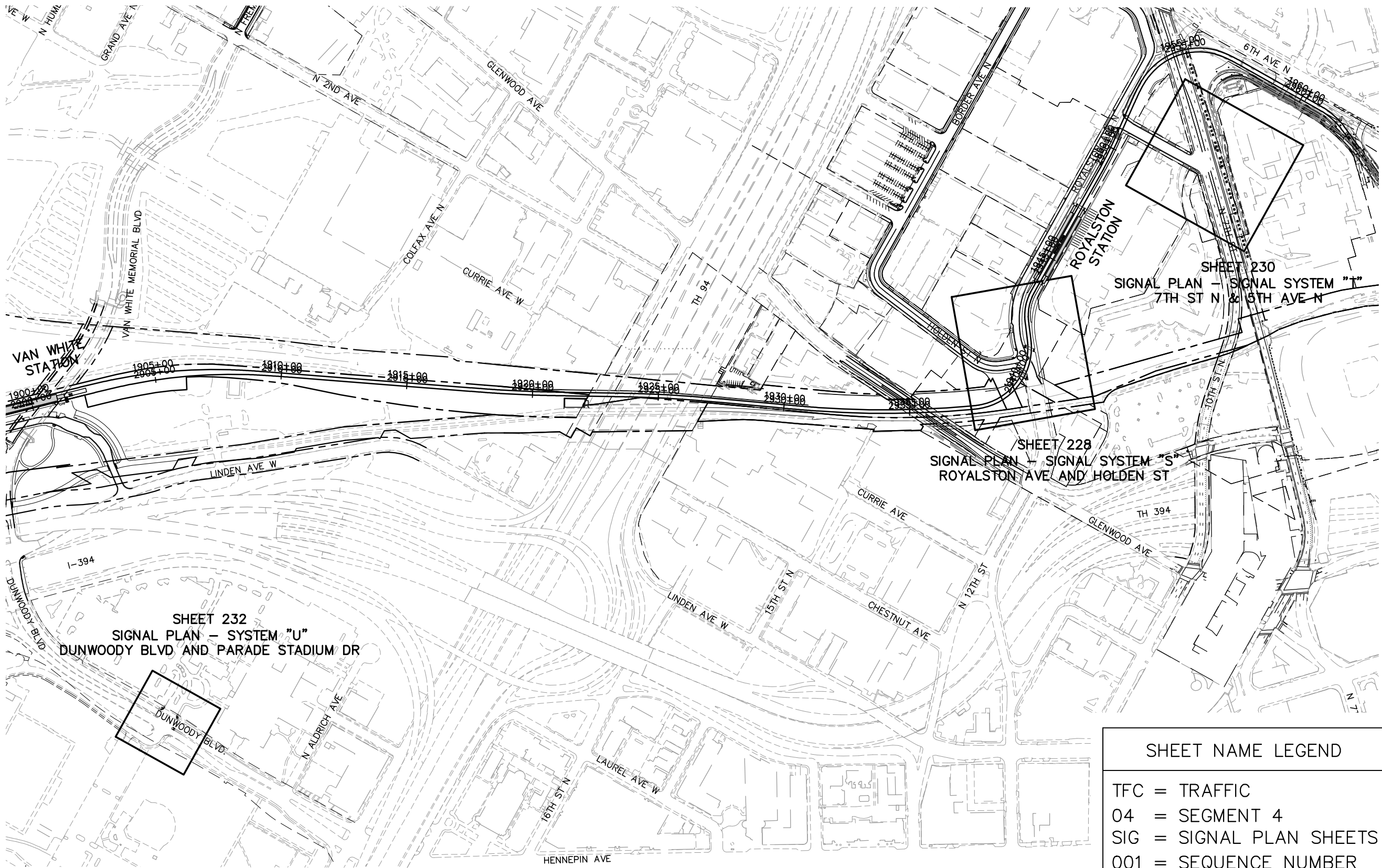


CIVIL EAST - VOLUME 10 SIGNAL PLAN PLAN SHEET LAYOUT SHEET 3	
DISCIPLINE: TRAFFIC	SHEET NAME: E3-TFC-SIG-IDX - 001

SHEET  
173  
OF  
266



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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN**  
**PLAN SHEET LAYOUT**  
**SHEET 4**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E4-TFC-SIG-IDX-001**

**SHEET**  
**174**  
**OF**  
**266**

- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM, ACCESSIBLE PEDESTRIAN SIGNAL (APS), AND FIBER OPTIC COMMUNICATION EQUIPMENT.
- 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON MA-1, MA-2, AND MA-3 AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
- 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
- 4.) ONE LED LUMINAIRE SHALL BE INSTALLED ON MA-2 LUMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
- 5.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
- 6.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R10-X12 SIGN (36"x42") ON THE MAST ARM OF MA-1, MA-2, AND MA-3 AND MOUNTED TO SIGN BRACKET "D" AS DIRECTED BY THE ENGINEER.
- 7.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
- 8.) ALL COSTS FOR ANY REQUIRED RELOCATION OF THE EVP DETECTORS SHALL BE INCIDENTAL.
- 9.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
- 10.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD.
- 11.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD CONDUITS UNDER THE ROADWAY REQUIRE BORING.
- 12.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
- 13.) THE CONTRACTOR SHALL PLUG AND SEAL HOLES IN POLES AT OLD PUSH BUTTON LOCATIONS AND REMOVE INPLACE 2/C #12 (SHLD) PER THE PLAN.
- 14.) OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL.
- 15.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
- 16.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.
- 17.) THE CONTRACTOR SHALL INSTALL A 5 FT MAST ARM EXTENSION ON MA-1.
- 18.) THE CONTRACTOR SHALL SALVAGE AND INSTALL THE TYPE "D" SIGN ON MA-2.

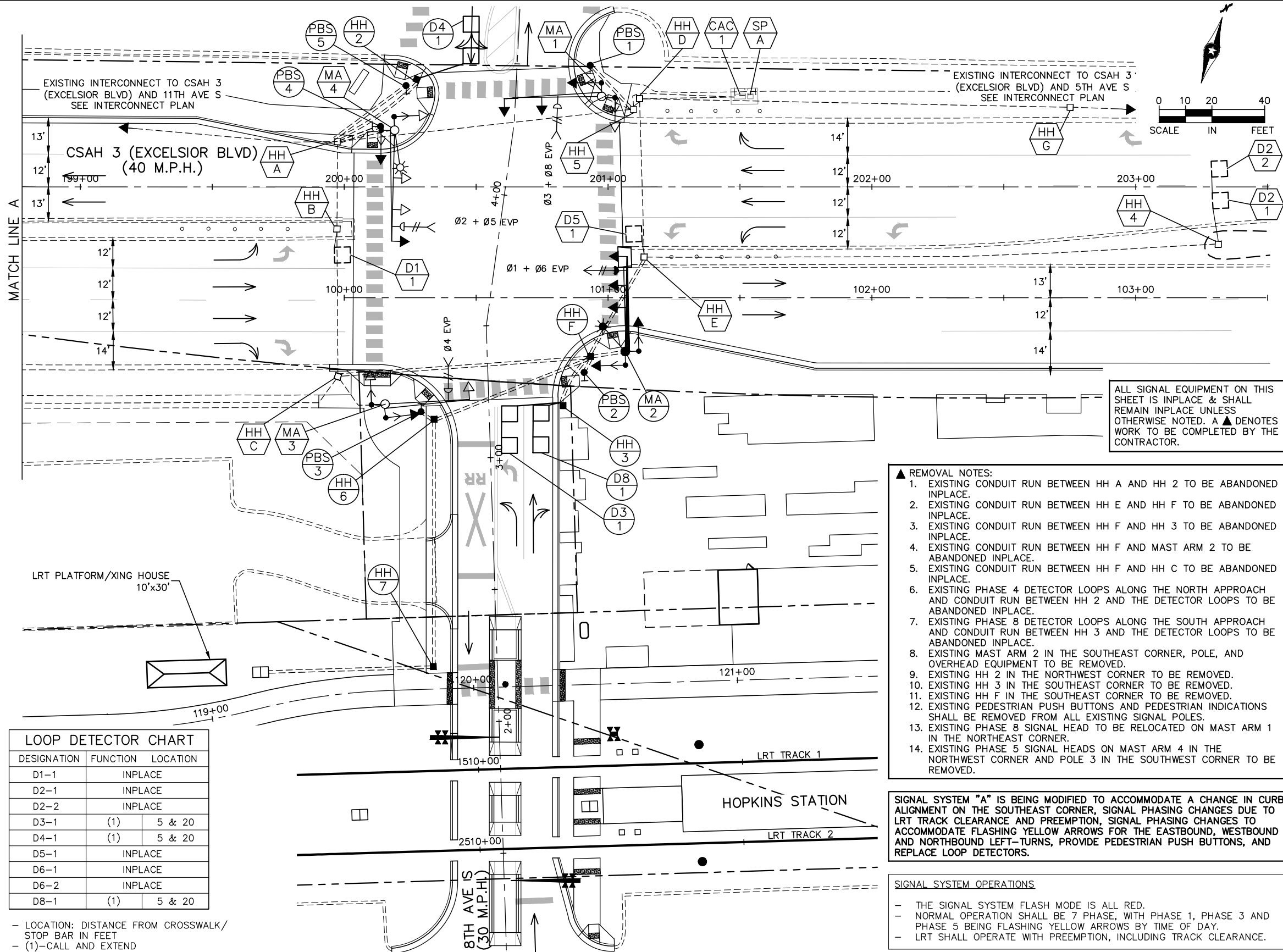
PHASE 2 = A  
PHASE 4 = B  
PHASE 6 = C  
PHASE 8 = D

Diagram illustrating the intersection of 8th Ave S and Excelsior Blvd (CSAH 3). The diagram shows various traffic signs and lane markings:

- Northbound (8th Ave S):**
  - Signs: PB2-2 (A-2), PB4-1 (B-1), PB2-1 (A-1).
  - Lane Markings: Ø2 WALK, Ø8 WALK.
- Southbound (8th Ave S):**
  - Signs: PB4-2 (B-2), PB6-1 (C-1), PB6-2 (C-2).
  - Lane Markings: Ø2 WALK, Ø8 WALK.
- Eastbound (Excelsior Blvd):**
  - Signs: PB8-2 (D-2), PB8-1 (D-1).
  - Lane Markings: Ø2, Ø5.
- Westbound (Excelsior Blvd):**
  - Signs: PB4-1 (B-1), PB4-2 (B-2).
  - Lane Markings: Ø1, Ø6.
- Other Features:**
  - CSAH 3 (EXCELSIOR BLVD) label.
  - MA 1, MA 2, MA 3, MA 4 signs.
  - PBS 1, PBS 2, PBS 3, PBS 4 signs.
  - Ø1, Ø2, Ø3, Ø4, Ø5, Ø6, Ø8 lane markings.
  - Ø2 WALK, Ø8 WALK signs.
  - NO SCALE note.

DESIGNATION	FUNCTION	LOCATION
D1-1	INPLACE	
D2-1	INPLACE	
D2-2	INPLACE	
D3-1	(1)	5 & 20
D4-1	(1)	5 & 20
D5-1	INPLACE	
D6-1	INPLACE	
D6-2	INPLACE	
D8-1	(1)	5 & 20

- LOCATION: DISTANCE FROM CROSSWALK/  
STOP BAR IN FEET
- (1)-CALL AND EXTEND

[illegible]

**AECOM Kimley»Horn**

**60% SUBMISSION - 09/28/15**



**CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "A"  
CSAH 3 (EXCELSIOR BLVD) AND 8TH AVE S**

DISCIPLINE:	TRAFFIC
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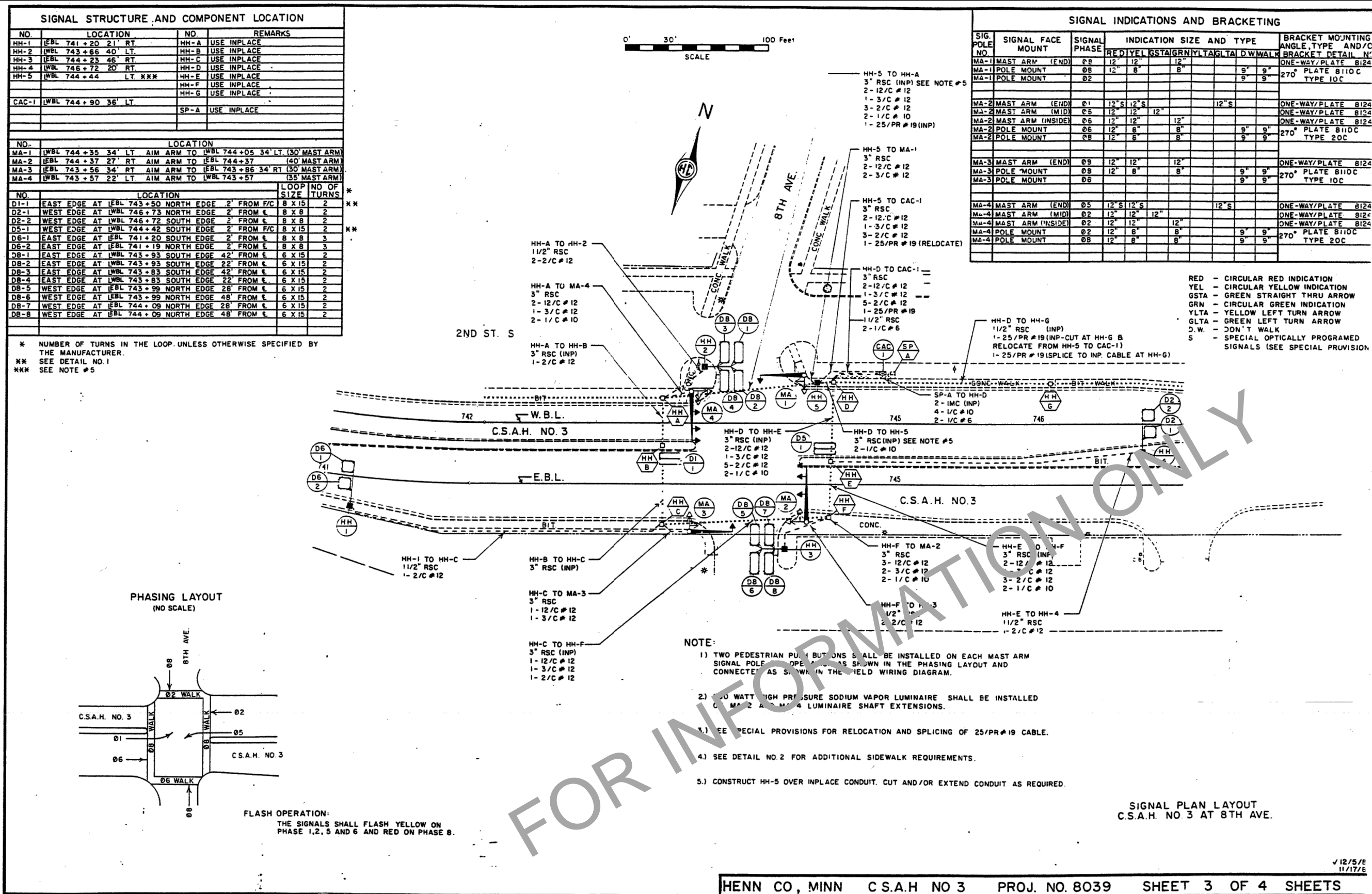
SHEET NAME:	E1-TFC-SIG-8TH-001
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**SHEET**  
**175**  
**OF**  
**266**







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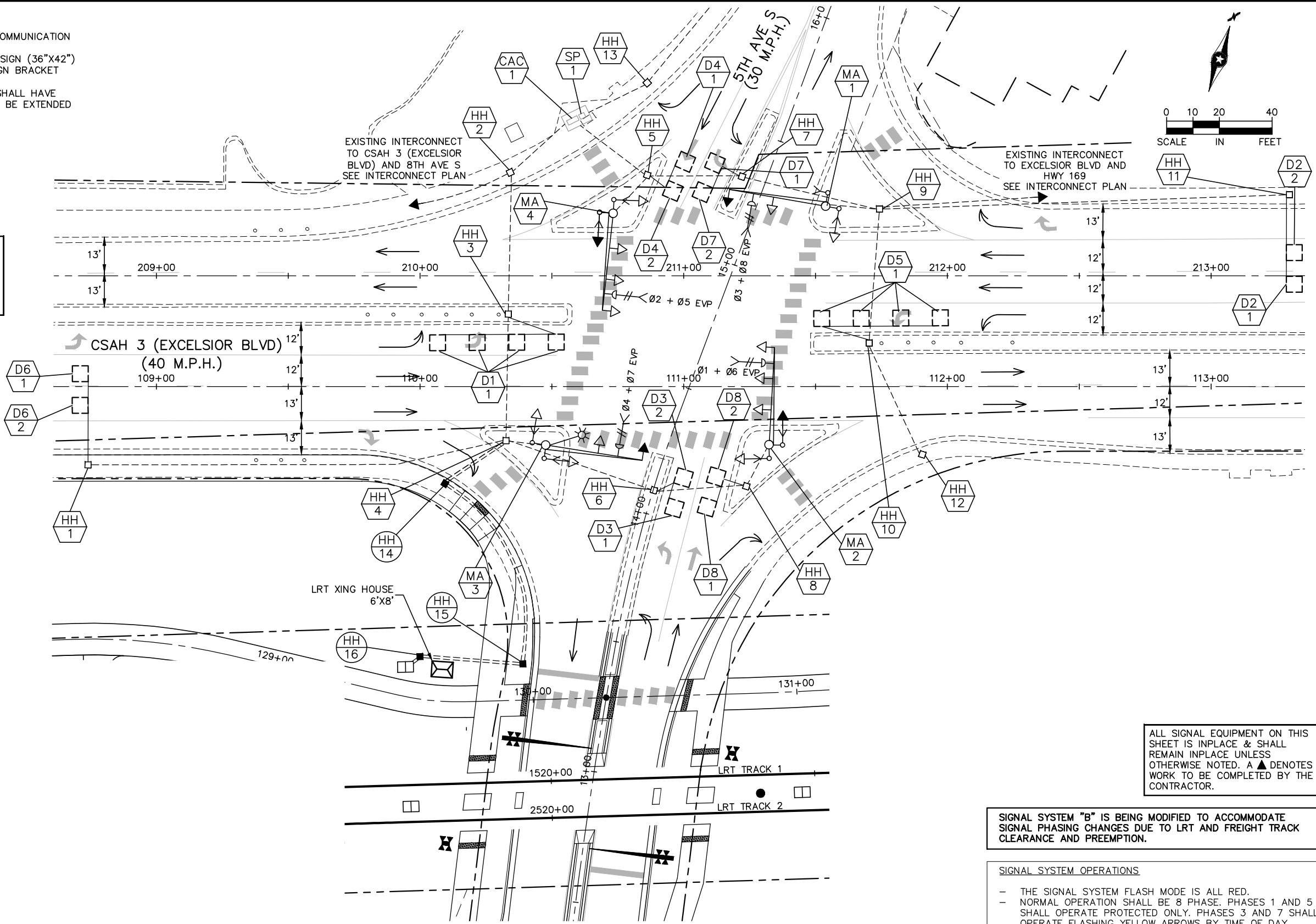
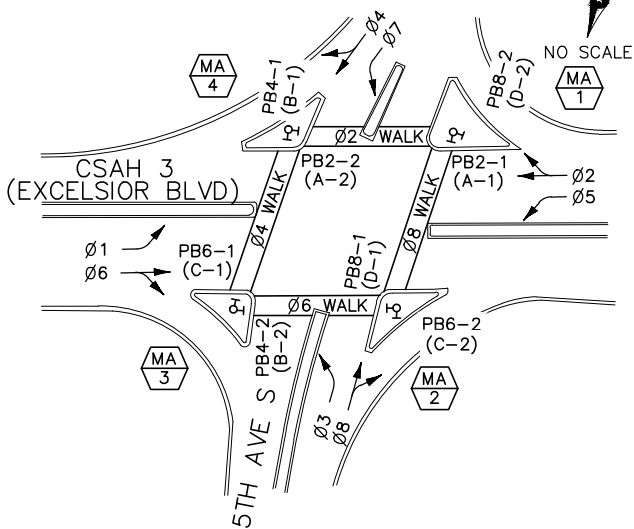
- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR FIBER OPTIC COMMUNICATION EQUIPMENT.
  - 2.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R10-X12 SIGN (36"x42") ON THE MAST ARM OF MA-1 AND MA-3 AND MOUNTED TO SIGN BRACKET "D" AS DIRECTED BY THE ENGINEER.
  - 3.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 4.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
  - 5.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.

- ▲ REMOVAL NOTES:
1. EXISTING PHASE 3 SIGNAL HEADS ON MAST ARM 1 ON THE NORTHEAST CORNER AND POLE 4 ON THE NORTHWEST CORNER TO BE REMOVED.
  2. EXISTING PHASE 7 SIGNAL HEADS ON MAST ARM 3 ON THE SOUTHWEST CORNER AND POLE 2 ON THE SOUTHEAST CORNER TO BE REMOVED.

APS ADDRESS LABELING:

PHASE 2 = A  
PHASE 4 = B  
PHASE 6 = C  
PHASE 8 = D

CONTROLLER PHASING LAYOUT



SIGNAL SYSTEM "B" IS BEING MODIFIED TO ACCOMMODATE SIGNAL PHASING CHANGES DUE TO LRT AND FREIGHT TRACK CLEARANCE AND PREEMPTION.

- SIGNAL SYSTEM OPERATIONS
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
  - NORMAL OPERATION SHALL BE 8 PHASE. PHASES 1 AND 5 SHALL OPERATE PROTECTED ONLY. PHASES 3 AND 7 SHALL OPERATE FLASHING YELLOW ARROWS BY TIME OF DAY.
  - LRT AND FREIGHT SHALL OPERATE WITH PREEMPTION, INCLUDING TRACK CLEARANCE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn



SOUTHWEST  
Green Line LRT Extension

60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "B"  
CSAH 3 (EXCELSIOR BLVD) AND 5TH AVE S

DISCIPLINE: TRAFFIC

SHEET NAME: E1-TFC-SIG-5TH-001

SHEET  
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- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM, ACCESSIBLE PEDESTRIAN SIGNAL (APS), AND FIBER OPTIC COMMUNICATION EQUIPMENT.
- 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON MA-5 AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
- 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
- 4.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
- 5.) ALL COSTS FOR ANY REQUIRED RELOCATION OF THE EVP DETECTORS SHALL BE INCIDENTAL.
- 6.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
- 7.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 8.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
- 9.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
- 10.) A 3/4 INCH HALF COUPLING, 3/4 INCH PIPE NIPPLE, AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE FURNISHED AND MOUNTED 6-FT FROM THE END OF MAST ARM 5. SEE SIGNAL DETAILS FOR INSTALLATION OF EMERGENCY VEHICLE PREEMPTION EQUIPMENT.
- 11.) THE CONTRACTOR SHALL PLUG AND SEAL HOLES IN POLES AT OLD PUSH BUTTON LOCATIONS AND REMOVE INPLACE 2/C #12 (SHLD) PER THE PLAN.
- 12.) OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL. FOR TYPE "D" SIGN SEE EQUIPMENT SCHEDULE SHEETS.
- 13.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
- 14.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.
- 15.) THE CONTRACTOR SHALL SALVAGE THE TYPE "D" SIGN ON MAST ARM 4 AND REINSTALL ON MAST ARM 5.
- 16.) THE CONTRACTOR SHALL INSTALL AN OPTICALLY PROGRAMMABLE SIGNAL HEAD ON PEDESTAL POLE 9.
- 17.) CONTRACTOR SHALL MOUNT PROPOSED SIGNAL HEADS AND EVP ON THE BRIDGE STRUCTURE AS SHOWN IN INTERSECTION LAYOUT.

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

NO SCALE

MA 5

ø4  
ø7

JACKSON AVE

MA 1

PB6-2 (C-2)

ø6 WALK

PB8-3 (D-3)

PB6-1 (C-1)

PB8-2 (D-2)

CSAH 3 (EXCELSIOR BLVD)

ø5, ø9

ø2

PB2-1 (A-1)

ø2 WALK

SA 3

PB2-2 (A-2)

ø8 WALK

MA 2

PB8-1 (D-1)

MILWAUKEE ST

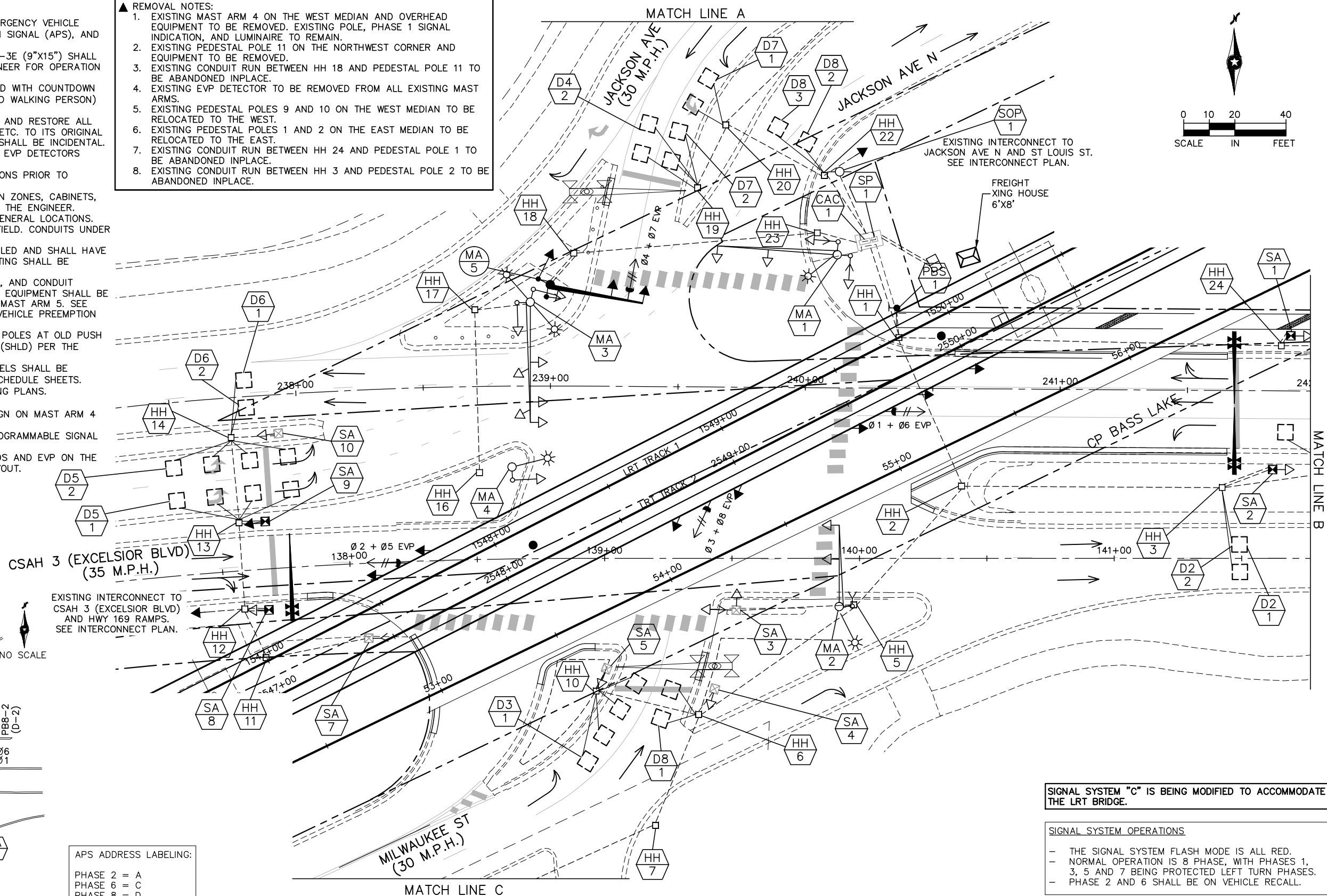
ø3  
ø8

SA 7

APS ADDRESS LABELING:

PHASE 2 = A  
PHASE 6 = C  
PHASE 8 = D

1. EXISTING MAST ARM 4 ON THE WEST MEDIAN AND OVERHEAD EQUIPMENT TO BE REMOVED. EXISTING POLE, PHASE 1 SIGNAL INDICATION, AND LUMINAIRE TO REMAIN.
2. EXISTING PEDESTAL POLE 11 ON THE NORTHWEST CORNER AND EQUIPMENT TO BE REMOVED.
3. EXISTING CONDUIT RUN BETWEEN HH 18 AND PEDESTAL POLE 11 TO BE ABANDONED INPLACE.
4. EXISTING EVP DETECTOR TO BE REMOVED FROM ALL EXISTING MAST ARMS.
5. EXISTING PEDESTAL POLES 9 AND 10 ON THE WEST MEDIAN TO BE RELOCATED TO THE WEST.
6. EXISTING PEDESTAL POLES 1 AND 2 ON THE EAST MEDIAN TO BE RELOCATED TO THE EAST.
7. EXISTING CONDUIT RUN BETWEEN HH 24 AND PEDESTAL POLE 1 TO BE ABANDONED INPLACE.
8. EXISTING CONDUIT RUN BETWEEN HH 3 AND PEDESTAL POLE 2 TO BE ABANDONED INPLACE.



SIGNAL SYSTEM "C" IS BEING MODIFIED TO ACCOMMODATE THE LRT BRIDGE.

## SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING PROTECTED LEFT TURN PHASES.
- PHASE 2 AND 6 SHALL BE ON VEHICLE RECALL.

[illegible]

**AECOM Kimley»Horn**

**60% SUBMISSION - 09/28/15**

## SOUTHWEST



**CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "C"  
CSAH 3 (EXCELSIOR BLVD) AND  
MILWAUKEE ST/JACKSON AVE N**

DISCIPLINE: **TRAFFIC**

SHEET NAME:	E1-TFC-SIG-EXC-001
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<b>SHEET</b>
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OF

266



Sep. 21 2015 07:25 am V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\TRAFFIC\E1-TFC-SIG-EXC.dwg By: brian.villa

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

### SIGNAL STRUCTURE LOCATIONS

NO.	LOCATION (1)	NO.	LOCATION (1)
HH-14			
HH-15			
HH-16			
NO.	LOCATION		MAST ARM
	FOUNDATION (1)	AIM ARM TO	
MA-5			XX'
SA-1			N/A
SA-2			N/A
SA-8			N/A
SA-9			N/A

(1) TO THE CENTER OF THE HANDHOLE OR CONCRETE FOUNDATION.

### INPLACE STRUCTURES

NO.	REMARKS	NO.	REMARKS
MA-1	REMAIN INPLACE	HH-16	REMAIN INPLACE
MA-2	REMAIN INPLACE	HH-17	REMAIN INPLACE
MA-3	REMAIN INPLACE	HH-18	REMAIN INPLACE
CAC-1	REMAIN INPLACE	HH-19	REMAIN INPLACE
SP-1	REMAIN INPLACE	HH-20	REMAIN INPLACE
HH-1	REMAIN INPLACE	HH-21	REMAIN INPLACE
HH-2	REMAIN INPLACE	HH-22	REMAIN INPLACE
HH-3	REMAIN INPLACE	HH-23	REMAIN INPLACE
HH-4	REMAIN INPLACE	SA-1	RELOCATE
HH-5	REMAIN INPLACE	SA-2	RELOCATE
HH-6	REMAIN INPLACE	SA-3	REMAIN INPLACE
HH-7	REMAIN INPLACE	SA-4	REMAIN INPLACE
HH-8	REMAIN INPLACE	SA-5	REMAIN INPLACE
HH-9	REMAIN INPLACE	SA-6	REMAIN INPLACE
HH-10	REMAIN INPLACE	SA-7	REMAIN INPLACE
HH-11	REMAIN INPLACE	SA-8	RELOCATE
HH-12	REMAIN INPLACE	SA-9	RELOCATE
HH-13	REMAIN INPLACE	SA-10	REMAIN INPLACE
HH-14	REMAIN INPLACE	SA-11	REMAIN INPLACE
HH-15	REMAIN INPLACE	PBS-1	REMAIN INPLACE

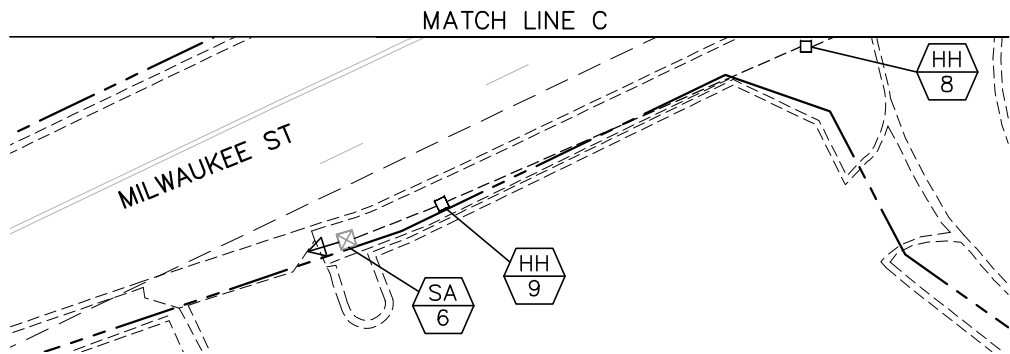
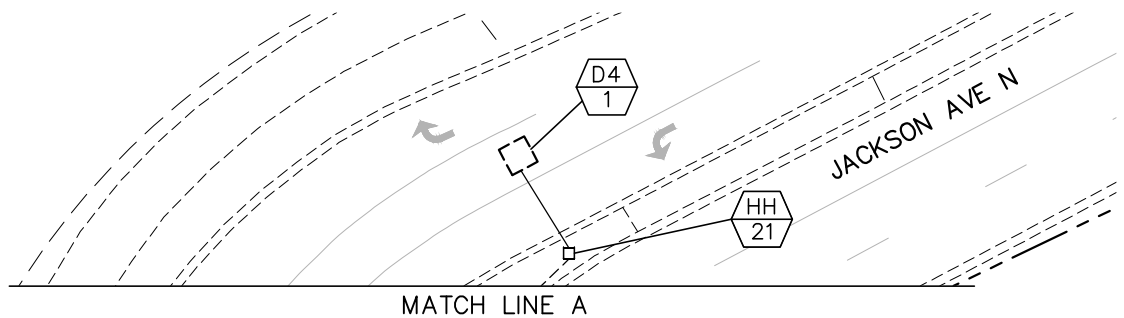
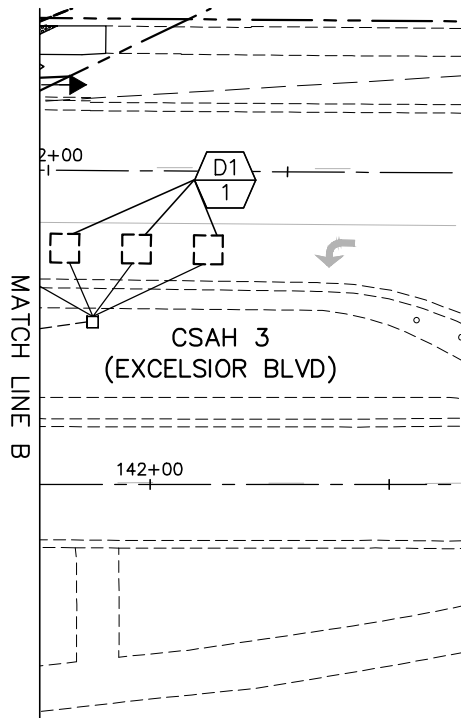
### SIGNAL INDICATIONS AND BRACKETING

SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS				PED SYM.	BRACKET MOUNTING ANGLE, TYPE, AND STANDARD PLATE NO.
				12" INDICATIONS					
				RED	YEL	FYA	GRN		
MA-1	3-1	MAST ARM (END)	3	◄	◄		◄		INPLACE
	8-2	MAST ARM (INSIDE)	8	○	○		○		INPLACE
	8-1	POLE MOUNT	8	○	○		○	*	INPLACE
	5-4	POLE MOUNT	5	◄	◄		◄	*	INPLACE
MA-2	2-3	MAST ARM (END)	2	○	○		○		INPLACE
	2-2	MAST ARM (INSIDE)	2	○	○		○		INPLACE
	---	POLE MOUNT	8					*	INPLACE
MA-3	1-1	MAST ARM (END)	1	◄	◄		◄		INPLACE
	6-3	MAST AM (MID)	6	○	○		○		INPLACE
	6-2	MAST ARM (INSIDE)	6	○	○		○		INPLACE
	5-1	MAST ARM (BACK)	5	◄	◄		◄		INPLACE
	5-2	MAST ARM (BACK)	5	◄	◄		◄		INPLACE
	6-1	POLE MOUNT	6	○	○		○		INPLACE
	3-2	POLE MOUNT	3	◄	◄		◄		INPLACE
MA-4	1-2	POLE MOUNT	1	◄	◄		◄		INPLACE
MA-5	7-1	MAST ARM (END)	7	◄	◄		◄		**
	4-2	MAST ARM (INSIDE)	4	●	●		●		**
	4-1	POLE MOUNT	4	●	●		●		180° PLATE 8110E, TYPE 10B
	---	POLE MOUNT	6					*	90° PLATE 8110E, TYPE 10B
SA-1	6-4	PEDESTAL MOUNT	6	○	○		○		RELOCATE
SA-2	1-3	PEDESTAL MOUNT	1	◄	◄		◄		RELOCATE
SA-3	7-2	POLE MOUNT	7	◄	◄		◄		INPLACE
	2-1	POLE MOUNT	2	○	○		○	*	INPLACE
SA-4	8-3	PEDESTAL MOUNT	8	○	○		○		INPLACE
SA-5	3-3	PEDESTAL MOUNT	3	◄	◄		◄		INPLACE
SA-6	---	PEDESTAL MOUNT							INPLACE FLASHER
SA-7	---	PEDESTAL MOUNT	2					*	INPLACE
SA-8	2-4	PEDESTAL MOUNT	2	○	○		○		RELOCATE
SA-9	5-4	PEDESTAL MOUNT	5	◄	◄		◄		90° PLATE 8111E, TYPE 4A
SA-10	5-5	PEDESTAL MOUNT	5	◄	◄		◄		INPLACE

\* PEDESTRIAN INDICATIONS SHALL BE INTERNATIONAL SYMBOLS IN A DUAL FACE SINGLE HOUSING WITH PEDESTRIAN COUNTDOWN TIMER.

\*\* STRAIGHT MOUNT PLUMBIZER, SEE SPECIAL PROVISIONS.

EXISTING INTERCONNECT TO CSAH 3 (EXCELSIOR BLVD) AND TYLER AVE. SEE INTERCONNECT PLAN.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**SOUTHWEST**  
Green Line LRT Extension



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "C"**  
**CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N - EQUIPMENT SCHEDULE**

DISCIPLINE: **TRAFFIC**

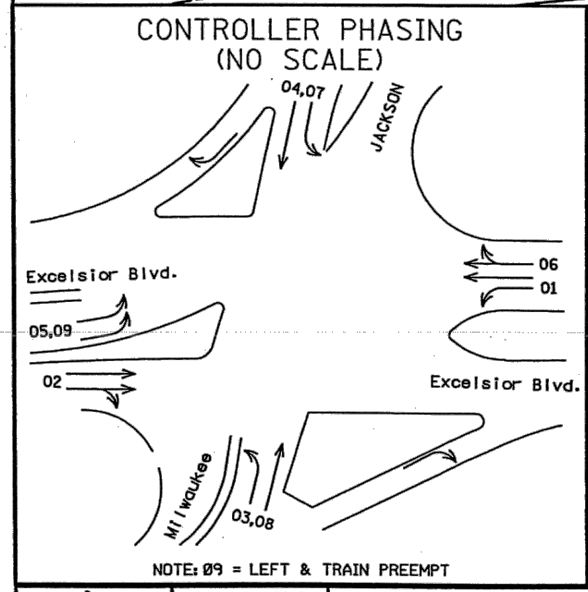
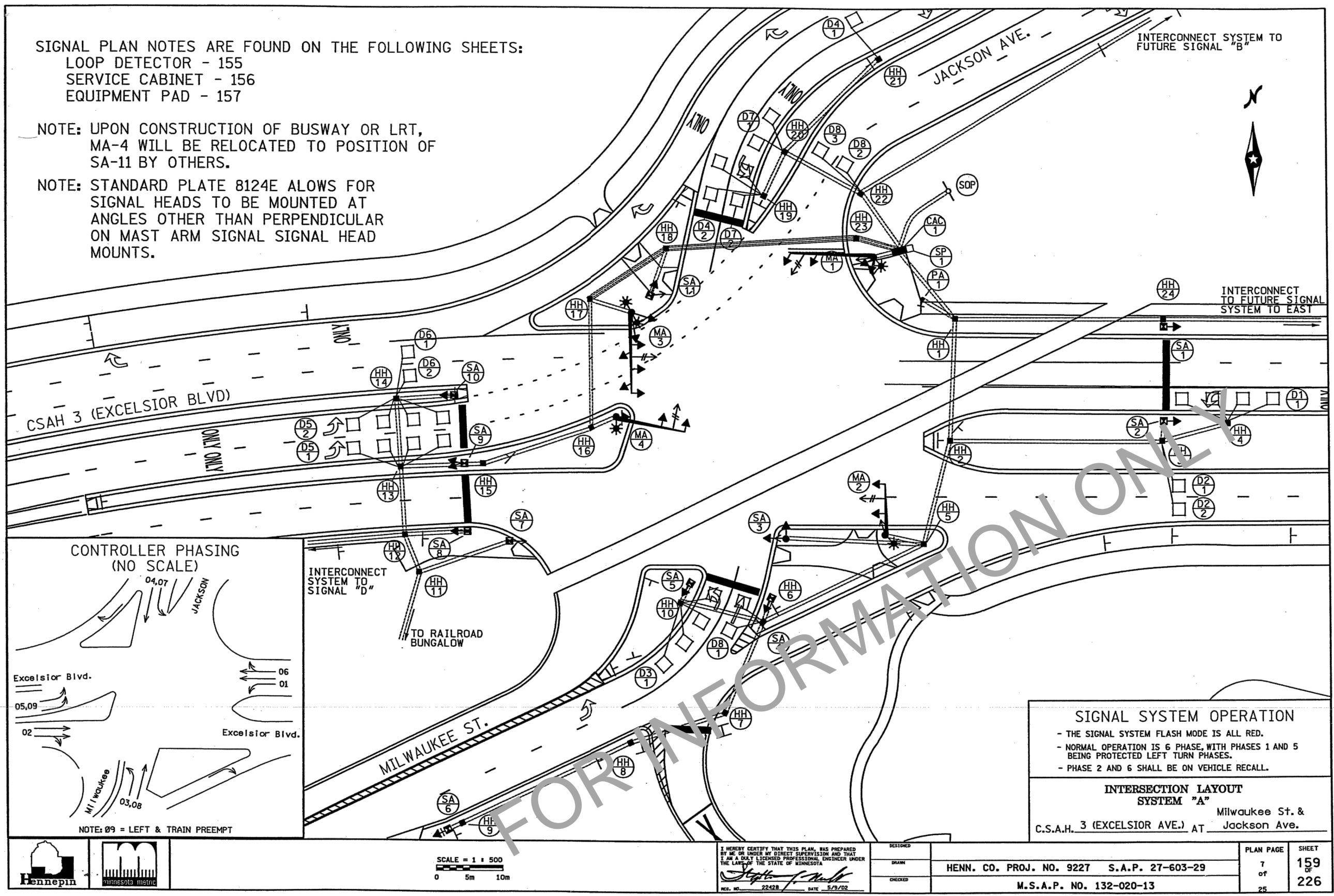
SHEET NAME: **E1-TFC-SIG-EXC - 002**

**SHEET**  
**182**  
**OF**  
**266**

SIGNAL PLAN NOTES ARE FOUND ON THE FOLLOWING SHEETS:  
LOOP DETECTOR - 155  
SERVICE CABINET - 156  
EQUIPMENT PAD - 157

NOTE: UPON CONSTRUCTION OF BUSWAY OR LRT,  
MA-4 WILL BE RELOCATED TO POSITION OF  
SA-11 BY OTHERS.

NOTE: STANDARD PLATE 8124E ALLOWS FOR  
SIGNAL HEADS TO BE MOUNTED AT  
ANGLES OTHER THAN PERPENDICULAR  
ON MAST ARM SIGNAL SIGNAL HEAD  
MOUNTS.



**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- PHASE 2 AND 6 SHALL BE ON VEHICLE RECALL.

**INTERSECTION LAYOUT SYSTEM "A"**

Milwaukee St. & C.S.A.H. 3 (EXCELSIOR AVE.) AT Jackson Ave.



SCALE = 1 : 500  
0 5m 10m

I HEREBY CERTIFY THAT THIS PLAN, WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

22428 5/9/02

DESIGNED	HENN. CO. PROJ. NO. 9227	S.A.P. 27-603-29	PLAN PAGE	SHEET
DRAWN			7 of 25	159 of 226
CHECKED		M.S.A.P. NO. 132-020-13		

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "C"**  
**CSAH 3 (EXCELSIOR BLVD) AND MILWAUKEE ST/JACKSON AVE N-FOR INFORMATION ONLY**

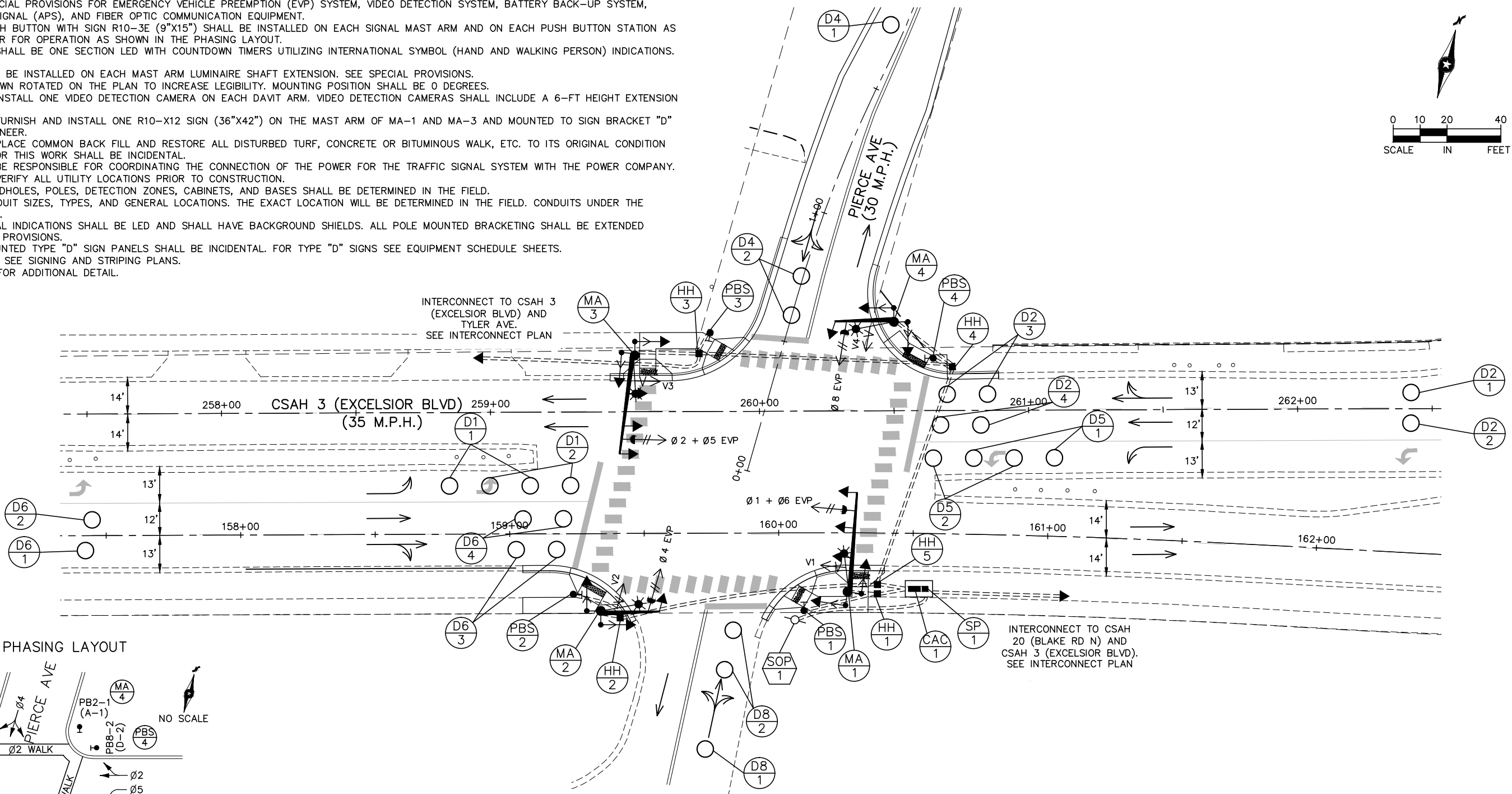
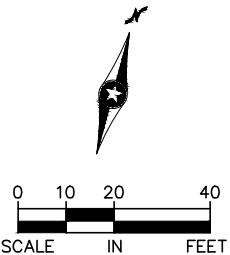
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**SHEET**  
**183**  
**OF**  
**266**



HEET  
184  
OF  
266

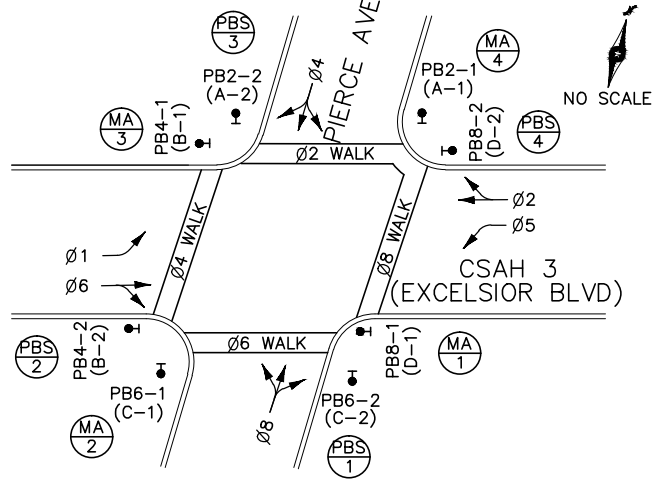
- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM, VIDEO DETECTION SYSTEM, BATTERY BACK-UP SYSTEM, ACCESSIBLE PEDESTRIAN SIGNAL (APS), AND FIBER OPTIC COMMUNICATION EQUIPMENT.
  - 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON EACH SIGNAL MAST ARM AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
  - 4.) ONE LED LUMINAIRE SHALL BE INSTALLED ON EACH MAST ARM LUMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
  - 5.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
  - 6.) THE CONTRACTOR SHALL INSTALL ONE VIDEO DETECTION CAMERA ON EACH DAVIT ARM. VIDEO DETECTION CAMERAS SHALL INCLUDE A 6-FT HEIGHT EXTENSION BRACKET.
  - 7.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R10-X12 SIGN (36"x42") ON THE MAST ARM OF MA-1 AND MA-3 AND MOUNTED TO SIGN BRACKET "D" AS DIRECTED BY THE ENGINEER.
  - 8.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 9.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
  - 10.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 11.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD.
  - 12.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 13.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 14.) OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL. FOR TYPE "D" SIGNS SEE EQUIPMENT SCHEDULE SHEETS.
  - 15.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
  - 16.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.



APS ADDRESS LABELING:

PHASE 2 = A  
PHASE 4 = B  
PHASE 6 = C  
PHASE 8 = D

CONTROLLER PHASING LAYOUT



SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 AND 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- SIGNAL SYSTEM SHALL BE FULLY ACTUATED.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10

SIGNAL PLAN - SIGNAL SYSTEM "D"

CSAH 3 (EXCELSIOR BLVD) AND PIERCE AVE

DISCIPLINE: TRAFFIC

SHEET NAME: E1-TFC-SIG-PRC-001

SHEET

185

OF

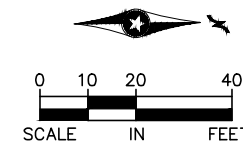
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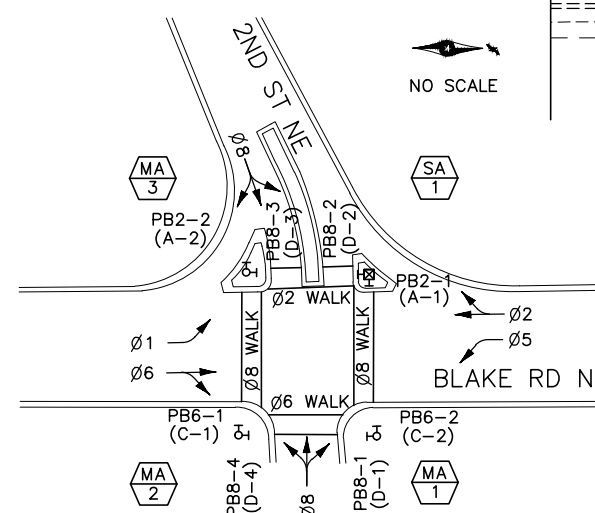


NOTE:  
1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR FIBER OPTIC COMMUNICATION EQUIPMENT.

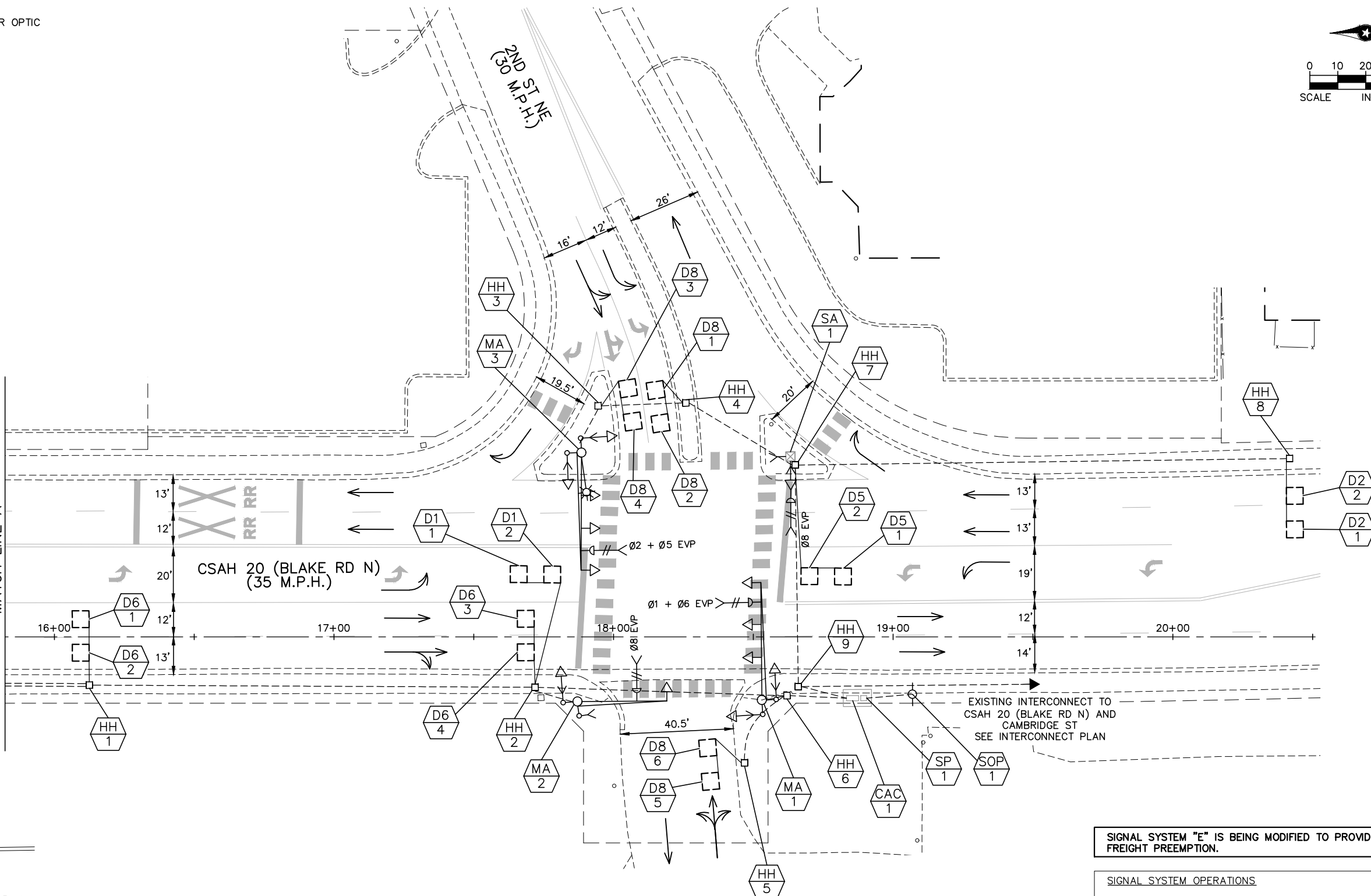


APS ADDRESS LABELING:  
PHASE 2 = A  
PHASE 4 = B  
PHASE 6 = C  
PHASE 8 = D

### CONTROLLER PHASING LAYOUT



MATCH LINE A



SIGNAL SYSTEM "E" IS BEING MODIFIED TO PROVIDE LRT AND FREIGHT PREEMPTION.

### SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 5 PHASE. PHASE 1 AND 5 OPERATE PROTECTED ONLY.
- SIGNAL SYSTEM IS FULLY ACTUATED.
- LRT AND FREIGHT RAIL SHALL OPERATE WITH PREEMPTION, INCLUDING TRACK CLEARANCE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



60% SUBMISSION - 09/28/15

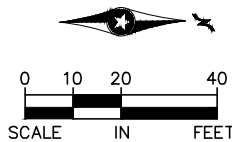
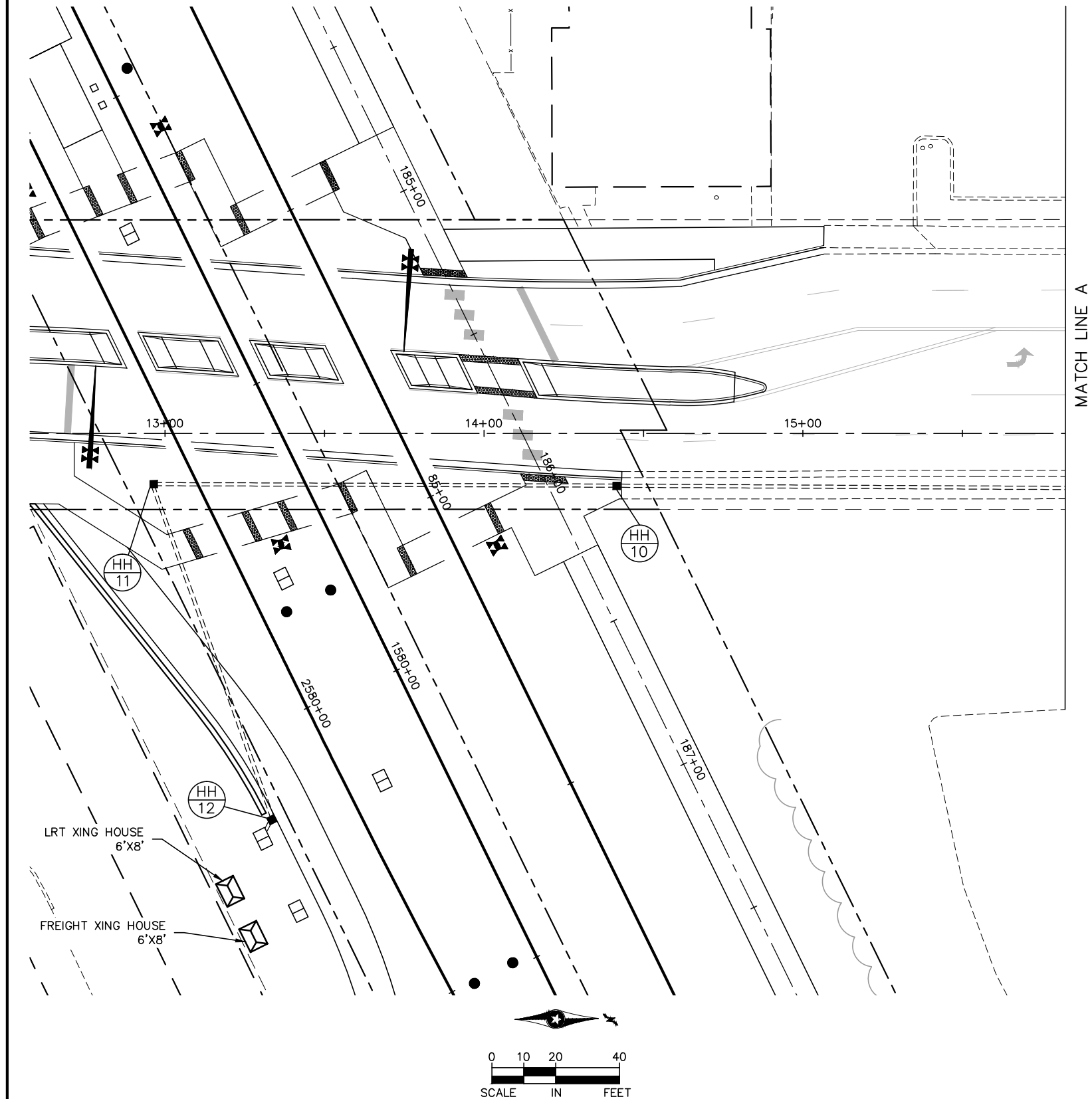
**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "E"**  
**CSAH 20 (BLAKE RD N) AND 2ND ST NE**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E1-TFC-SIG-BLK-001**

**SHEET**  
**187**  
**OF**  
**266**

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MATCH LINE A

SIGNAL INDICATIONS AND BRACKETING

SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS					PED SYM.	BRACKET MOUNTING ANGLE, TYPE, AND STANDARD PLATE NO.
				12" INDICATIONS						
				RED	YEL	FYA	GRN			
MA-1	1-1	MAST ARM (END)	1	←	←		←		INPLACE	
	6-3	MAST ARM (MID)	6	○	○		○		INPLACE	
	6-2	MAST ARM (INSIDE)	6	○	○		○		INPLACE	
	6-1	POLE MOUNT	6	○	○		○	*	INPLACE	
	8-5	POLE MOUNT	8					*	INPLACE	
MA-2	8-4	MAST ARM (END)	8	○	○		○		INPLACE	
	8-3	POLE MOUNT	8	○	○		○	*	INPLACE	
	—	POLE MOUNT	6						INPLACE	
MA-3	5-1	MAST ARM (END)	5	←	←		←		INPLACE	
	2-3	MAST ARM (MID)	2	○	○		○		INPLACE	
	2-2	MAST ARM (INSIDE)	2	○	○		○		INPLACE	
	2-1	POLE MOUNT	2	○	○		○	*	INPLACE	
	8-2	POLE MOUNT	8	○	○		○	*	INPLACE	
SA-1	8-1	POLE MOUNT	8	○	○		○	*	INPLACE	
	—	POLE MOUNT	2					*	INPLACE	

\* EXISTING PEDESTRIAN INDICATIONS SHALL REMAIN INPLACE.

SIGNAL STRUCTURE LOCATIONS

NO.	LOCATION (1)	NO.	LOCATION (1)
HH-10			
HH-11			
HH-12			
NO.	LOCATION		MAST ARM
	FOUNDATION (1)	AIM ARM TO	

(1) TO THE CENTER OF THE HANDHOLE OR CONCRETE FOUNDATION.

INPLACE STRUCTURES

NO.	REMARKS	NO.	REMARKS
MA-1	REMAIN INPLACE	HH-3	REMAIN INPLACE
MA-2	REMAIN INPLACE	HH-4	REMAIN INPLACE
MA-3	REMAIN INPLACE	HH-5	REMAIN INPLACE
SA-4	REMAIN INPLACE	HH-6	REMAIN INPLACE
CAC-1	REMAIN INPLACE	HH-7	REMAIN INPLACE
SP-1	REMAIN INPLACE	HH-8	REMAIN INPLACE
HH-1	REMAIN INPLACE	HH-9	REMAIN INPLACE
HH-2	REMAIN INPLACE	SOP-1	REMAIN INPLACE

LOOP DETECTOR CHART

DESIGNATION	FUNCTION	LOCATION
D1-1	INPLACE	
D1-2	INPLACE	
D2-1	INPLACE	
D2-2	INPLACE	
D5-1	INPLACE	
D5-2	INPLACE	
D6-1	INPLACE	
D6-2	INPLACE	
D6-3	INPLACE	
D6-4	INPLACE	
D8-1	INPLACE	
D8-2	INPLACE	
D8-3	INPLACE	
D8-4	INPLACE	
D8-5	INPLACE	
D8-6	INPLACE	

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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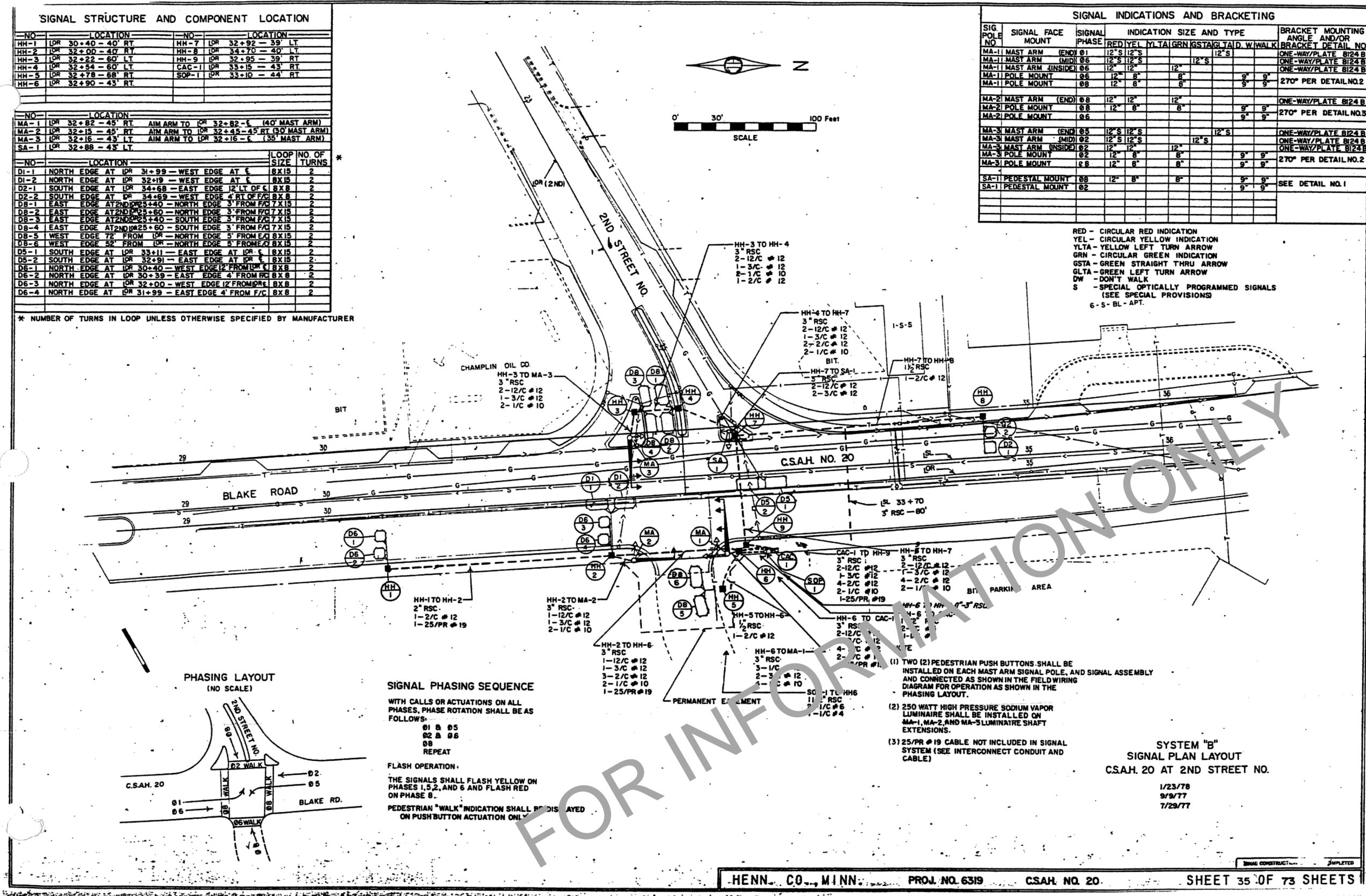
CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "E"  
CSAH 20 (BLAKE RD N) AND 2ND ST NE  
EQUIPMENT SCHEDULE

DISCIPLINE: TRAFFIC

SHEET NAME: E1-TFC-SIG-BLK - 002

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**CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "E"  
CSAH 20 (BLAKE RD N) AND 2ND ST NE  
FOR INFORMATION ONLY**

DISCIPLINE:

## TRAFFIC

SHEET NAME:
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AME:  
**E1-TFC-SIG-BLK-003**

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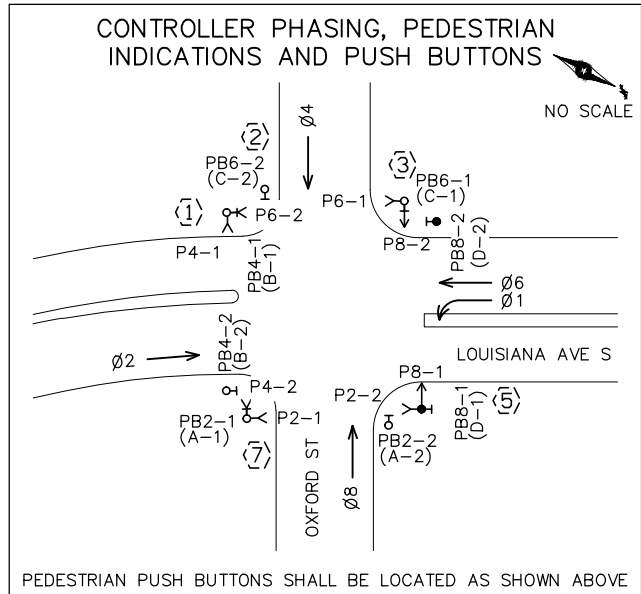
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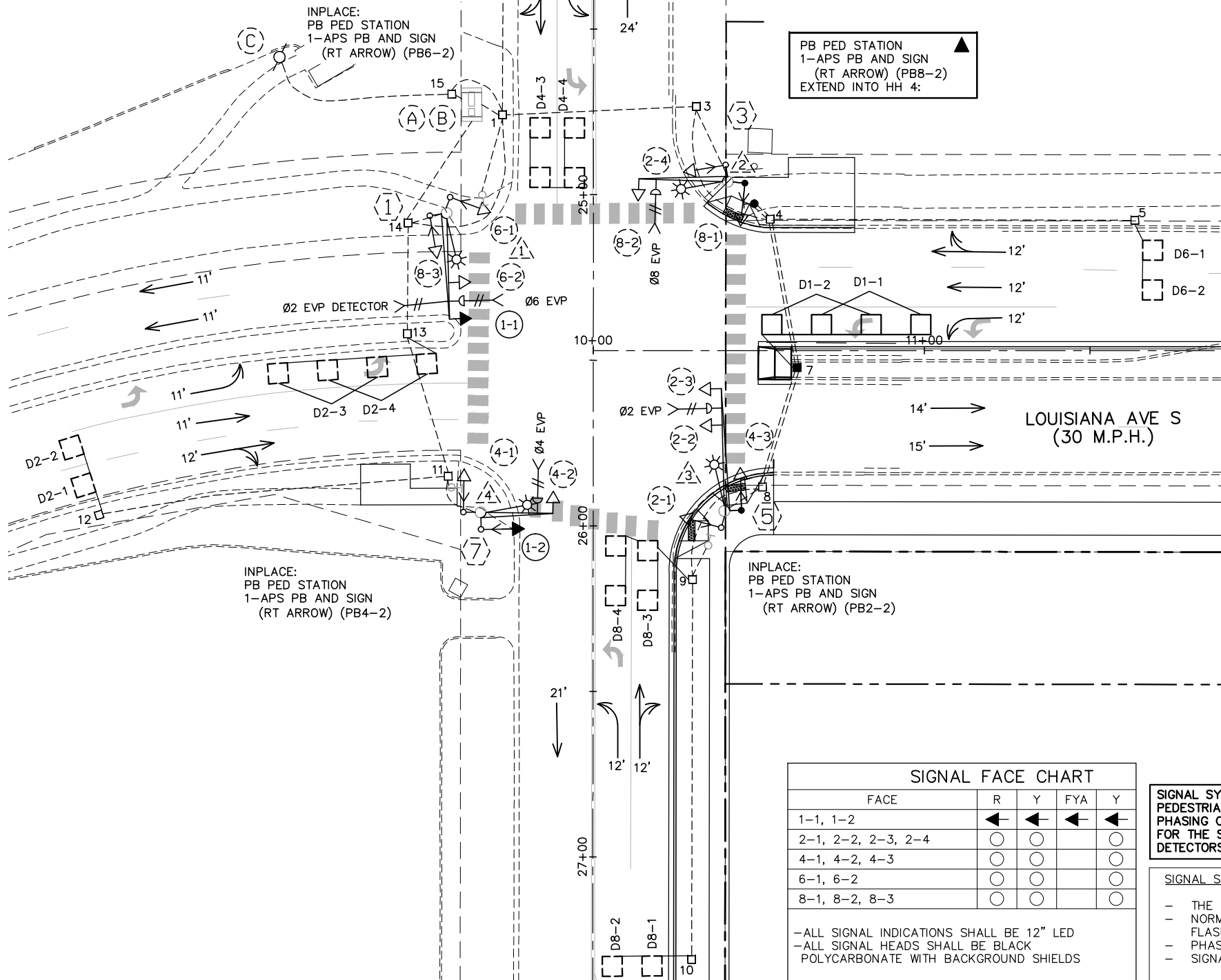
- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR ACCESSIBLE PEDESTRIAN SIGNAL (APS).
  - 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON MA-5 AND ON PUSH BUTTON STATION 4 AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
  - 4.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R10-X12 SIGN (36"x42") ON THE MAST ARM OF MA-1.
  - 5.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 6.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 7.) EXACT LOCATIONS OF HANDHOLES, POLES, AND BASES SHALL BE DETERMINED IN THE FIELD.
  - 8.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 9.) ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR.
  - 10.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 11.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1	2-6X6	20 & 50
D1-2	2-6X6	5 & 35
D2-1, D2-2	1-6X6	INPLACE
D2-3	2-6X6	INPLACE
D2-4	2-6X6	INPLACE
D4-1, D4-2	1-6X6	INPLACE
D4-3, D4-4	2-6X6	INPLACE
D6-1, D6-2	1-6X6	INPLACE
D8-1, D8-2	1-6X6	INPLACE
D8-3, D8-4	2-6X6	INPLACE

- ALL LOOP DETECTORS SHALL BE PVC UNLESS OTHERWISE NOTED  
- LOCATION: DISTANCE FROM CROSSWALK/ STOP BAR IN FEET



- ▲ REMOVAL NOTES:
1. EXISTING R9-3 SIGNS TO BE REMOVED FROM MAST ARM 3 POLE AND MAST ARM 5 POLE.
  2. EXISTING DETECTOR LOOPS 6-3 AND 6-4, CONDUIT RUN AND CABLE BETWEEN HH 7 AND THE DETECTOR LOOPS TO BE ABANDONED INPLACE.
  3. EXISTING HH 7 SHALL BE REMOVED.
  4. EXISTING CONDUIT RUN BETWEEN HH 4 AND HH 7 TO BE ABANDONED INPLACE. EXISTING CONDUIT TO BE REMOVED AT HH 4 AS NECESSARY TO PROVIDE NEW CONDUIT CONNECTION.
  5. EXISTING CONDUIT RUN BETWEEN HH 7 AND HH 8 TO BE ABANDONED INPLACE. EXISTING CONDUIT TO BE REMOVED AT HH 8 AS NECESSARY TO PROVIDE A NEW CONDUIT CONNECTION.
  6. EXISTING SIGNAL HEAD 6-3 AND 6-4 TO BE REMOVED.



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CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "F"  
OXFORD ST AND LOUISIANA AVE S

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-SIG-OXF-001

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INTERSECTION NOTES

(1) INPLACE:  
PA90 POLE FOUNDATION  
TYPE PA90-A-30-D40-9  
(DAVIT AT 350 DEG)  
2-ONE-WAY SIGNALS OVERHEAD  
(0' AND 11' FROM END OF MAST ARM)  
2-POLE MOUNTED ONE-WAY SIGNALS AT  
45 DEG AND 225 DEG  
2-POLE MOUNTED PEDESTRIAN INDICATIONS AT  
45 DEG AND 225 DEG  
1-ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE 6)  
1-ONE-WAY EVP DETECTOR (PHASE 2)  
LUMINAIRE-250 WATT HPS  
1-APS PUSH BUTTON AND SIGN (LT ARROW)  
TYPE D SIGN

REMOVE:  
1-ONE-WAY SIGNAL OVERHEAD  
(0' FROM END OF MAST ARM)  
▲ F&I:  
1-ONE-WAY SIGNAL OVERHEAD  
(0' FROM END OF MAST ARM)  
1-SIGN R10-X12 SIGN ADJACENT TO HEAD (1-1)  
3" CONDUIT INTO HH14 W/:

(3) INPLACE:  
PA90 POLE FOUNDATION  
TYPE PA90-A-25-D40-9  
(DAVIT AT 350 DEG)  
1-ONE-WAY SIGNAL OVERHEAD  
(0' FROM END OF MAST ARM)  
2-POLE MOUNTED ONE-WAY SIGNALS AT  
45 DEG AND 225 DEG  
1-POLE MOUNTED PEDESTRIAN INDICATION AT 45 DEG  
1-ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE 8)  
LUMINAIRE-250 WATT HPS  
1-APS PUSH BUTTON AND SIGN (LT ARROW)  
TYPE D SIGN

REMOVE:  
1-SIGN R9-3A FACING POLE 5  
▲ F & I:  
1-POLE MOUNTED PEDESTRIAN INDICATION AT 225 DEG  
3" CONDUIT INTO HH3 W/:

(C) INPLACE:  
SOURCE OF POWER

(5) INPLACE:  
PA90 POLE FOUNDATION  
TYPE PA90-A-35-D40-9  
(DAVIT AT 350 DEG)  
2-ONE-WAY SIGNALS OVERHEAD  
(0' AND 11' FROM END OF MAST ARM)  
2-POLE MOUNTED ONE-WAY SIGNALS AT  
45 DEG AND 225 DEG  
1-POLE MOUNTED PEDESTRIAN INDICATION AT 225 DEG  
1-ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE 2)  
LUMINAIRE-250 WATT HPS  
TYPE D SIGN

REMOVE:  
1-SIGN R9-3A FACING POLE 3  
▲ F & I:  
1-POLE MOUNTED PEDESTRIAN INDICATION AT 45 DEG  
1-APS PB AND SIGN (RT ARROW) (PB8-1)  
3" CONDUIT INTO HH8 W/:

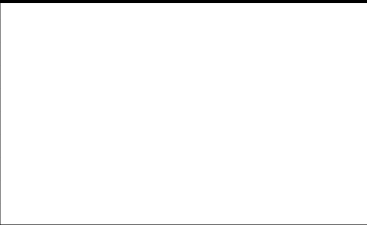
(7) INPLACE:  
PA85 POLE FOUNDATION  
TYPE PA85-A-20-D40-9  
(DAVIT AT 350 DEG)  
1-ONE-WAY SIGNAL OVERHEAD  
(0' FROM END OF MAST ARM)  
2-POLE MOUNTED ONE-WAY SIGNALS AT  
45 DEG AND 225 DEG  
2-POLE MOUNTED PEDESTRIAN INDICATION AT  
45 DEG AND 225 DEG  
1-ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE 4)  
LUMINAIRE-250 WATT HPS  
1-APS PUSH BUTTON AND SIGN (LT ARROW)  
TYPE D SIGN

REMOVE:  
1-POLE MOUNTED ONE-WAY SIGNAL AT 45 DEG  
▲ F&I:  
1-POLE MOUNTED ONE-WAY SIGNAL AT 45 DEG  
3" CONDUIT INTO HH11 W/:

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

(A)(B) INPLACE:  
EQUIPMENT PAD  
CONTROLLER AND CABINET  
MASTER CONTROLLER  
SIGNAL SERVICE CABINET

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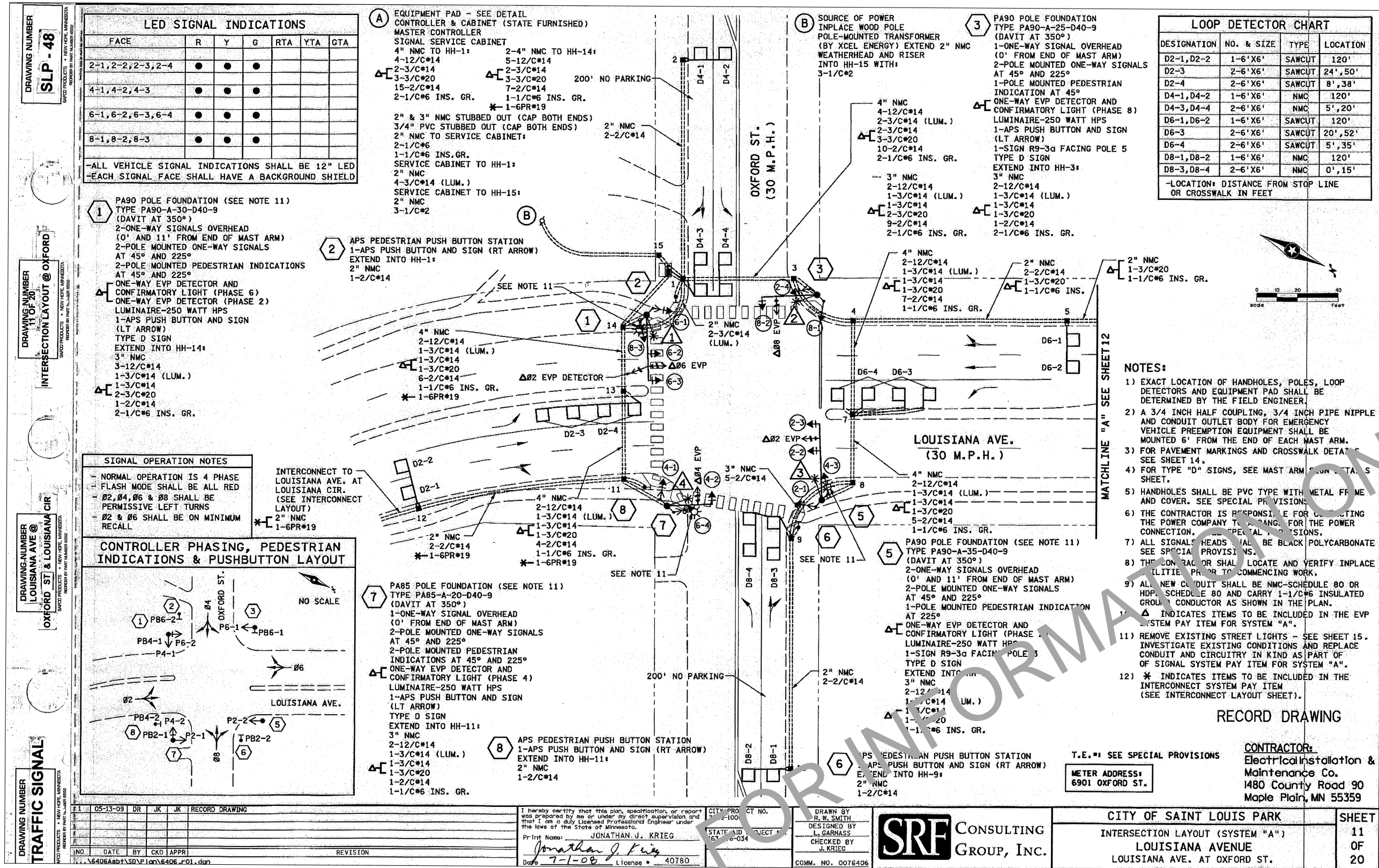
CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "F"  
INTERSECTION NOTES

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-SIG-OXF - 002



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VIDEO DETECTOR CHART			
DESIGNATION	NO.	FUNCTION	LOCATION
D2-1	VIDEO (V-1)	(1)	80
D5-1	VIDEO (V-1)	(1)	20 & 50
D5-2	VIDEO (V-1)	(1)	5 & 35

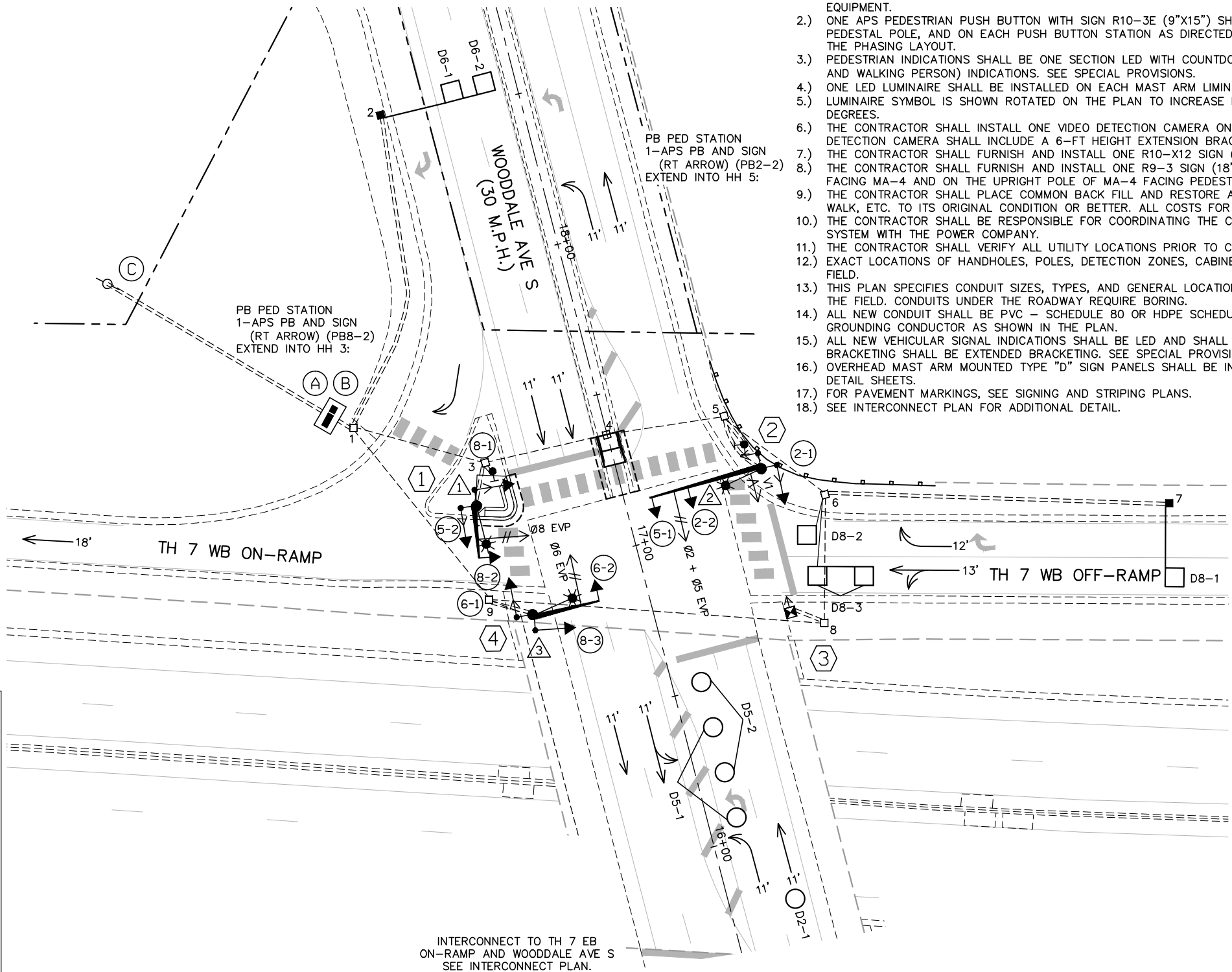
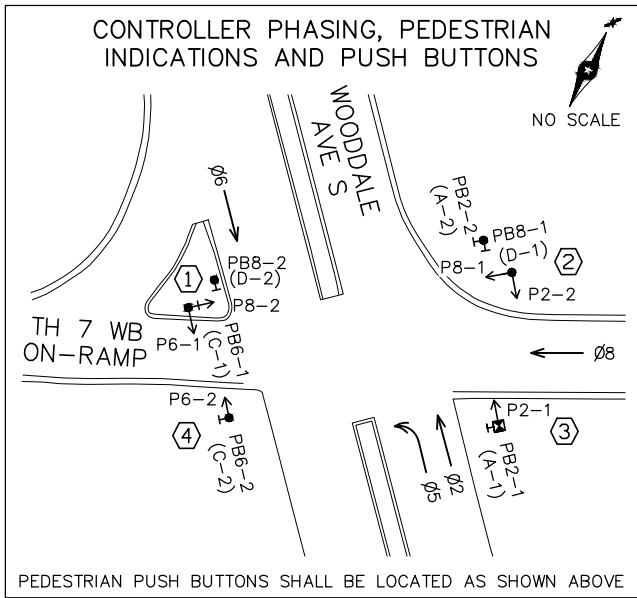
- LOCATION: DISTANCE FROM CROSSWALK/  
STOP BAR IN FEET  
- (1)-CALL AND EXTEND

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D6-1	6X6	120
D6-2	6X6	120
D8-1	6X6	120
D8-2	6X6	5
D8-3	2-6X6	5 & 20

- ALL LOOP DETECTORS SHALL BE PVC  
UNLESS OTHERWISE NOTED  
- LOCATION: DISTANCE FROM CROSSWALK/  
STOP BAR IN FEET

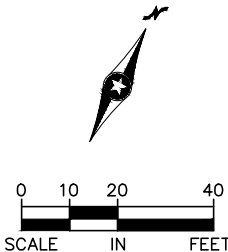
SIGNAL FACE CHART				
FACE	R	Y	FYA	G
2-1, 2-2	●	●		●
5-1, 5-2	←	←	←	←
6-1, 6-2	●	●		●
8-1, 8-2, 8-3	●	●		●

- ALL SIGNAL INDICATIONS SHALL BE 12" LED  
- ALL SIGNAL HEADS SHALL BE BLACK  
POLYCARBONATE WITH BACKGROUND SHIELDS  
- FYA DENOTES FLASHING YELLOW ARROW



NOTES:

- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM, VIDEO DETECTION SYSTEM, BATTERY BACK-UP SYSTEM, ACCESSIBLE PEDESTRIAN SIGNAL (APS), AND FIBER OPTIC COMMUNICATION EQUIPMENT.
- 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON EACH SIGNAL MAST ARM, PEDESTAL POLE, AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
- 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
- 4.) ONE LED LUMINAIRE SHALL BE INSTALLED ON EACH MAST ARM LUMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
- 5.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
- 6.) THE CONTRACTOR SHALL INSTALL ONE VIDEO DETECTION CAMERA ON THE MAST ARM MA-2 DAVIT ARM. VIDEO DETECTION CAMERA SHALL INCLUDE A 6-FT HEIGHT EXTENSION BRACKET.
- 7.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R10-X12 SIGN (36"x42") ON THE MAST ARM OF MA-2.
- 8.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R9-3 SIGN (18"x18") ON THE UPRIGHT POLE OF PEDESTAL POLE 3 FACING MA-4 AND ON THE UPRIGHT POLE OF MA-4 FACING PEDESTAL POLE 3 AS DIRECTED BY THE ENGINEER.
- 9.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
- 10.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
- 11.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
- 12.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD.
- 13.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
- 14.) ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
- 15.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
- 16.) OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL. FOR TYPE "D" SIGNS SEE TYPE "D" SIGN DETAIL SHEETS.
- 17.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
- 18.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.



SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION SHALL BE 4 PHASE, WITH PHASE 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- SIGNAL SYSTEM SHALL BE FULLY ACTUATED.

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**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "G"**  
**TH 7 WB RAMPS AND WOODDALE AVE S**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E2-TFC-SIG-TH7W-001**

**SHEET**  
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INTERSECTION NOTES

① PA85 POLE FOUNDATION  
TYPE PA85-A-15 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG  
1-APS PB AND SIGN (LT ARROW) (PB6-1)  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)  
X" CONDUIT TO HH 3:

② PA90 POLE FOUNDATION  
TYPE PA90-A-35 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'  
1-ANGLE MOUNT SIGNAL AT 180 DEG  
2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2 & 5)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-VIDEO DETECTOR (MOUNTED ON DAVIT ARM)  
1-R10-X12 SIGN ADJACENT TO HEAD (5-1)  
1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)  
X" CONDUIT TO HH 5:

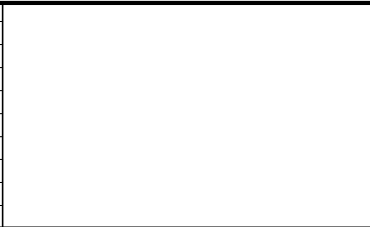
③ PEDESTAL FOUNDATION  
10' PEDESTAL POLE PLUS BASE  
1-STRAIGHT MOUNT C.D. PED HEAD AT 0 DEG  
1-APS PB AND SIGN (LT ARROW) (PB2-1)  
1-R9-3 SIGN FACING POLE 4  
X" CONDUIT TO HH 8:

④ PA85 POLE FOUNDATION  
TYPE PA85-A-20 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
1-ANGLE MOUNT C.D. PED HEAD AT 180 DEG  
1-APS PB AND SIGN (LT ARROW) (PB6-2)  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)  
1-R9-3 SIGN FACING POLE 3  
X" CONDUIT TO HH 9:

Ⓐ Ⓑ EQUIPMENT PAD (SEE DETAIL SHEET)  
SERVICE CABINET (SSB)  
CONTROLLER AND CABINET  
X" CONDUIT TO HH 1:

Ⓒ SOP-POLE MOUNTED  
TRANSFORMER (XCEL ENERGY)  
X" CONDUIT INTO SERVICE CABINET:

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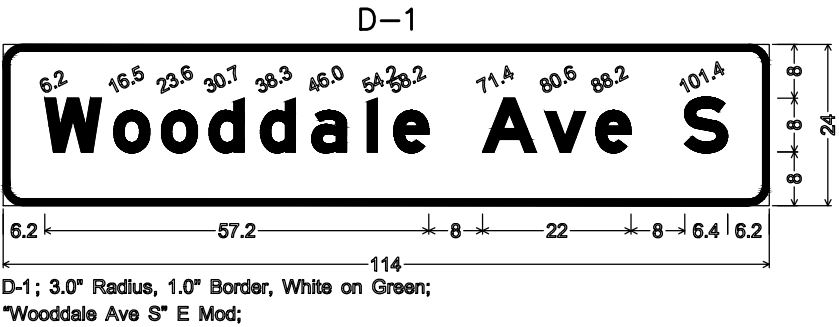
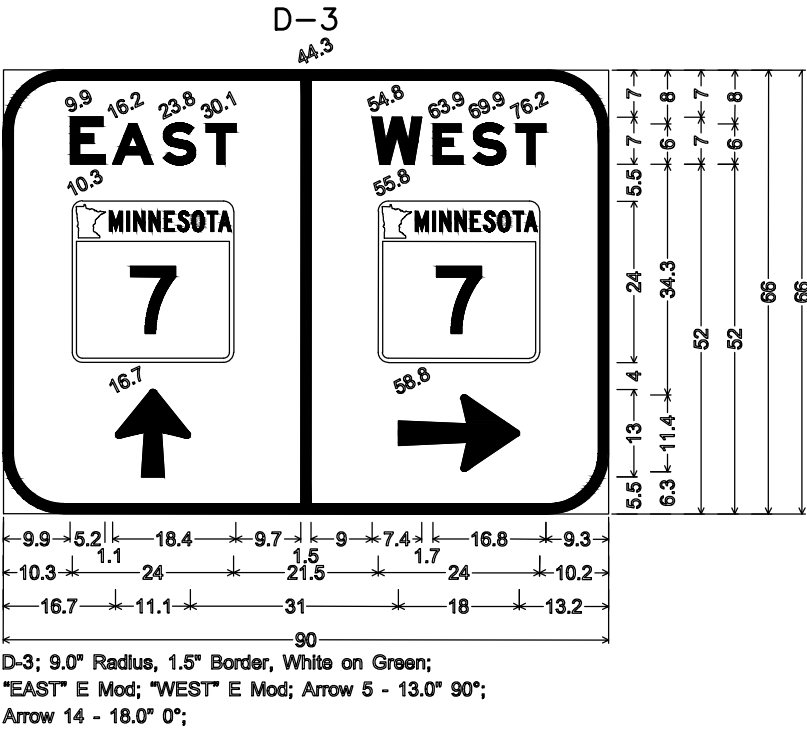
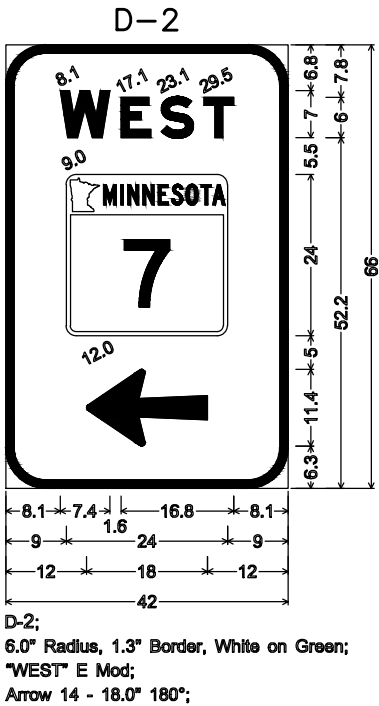
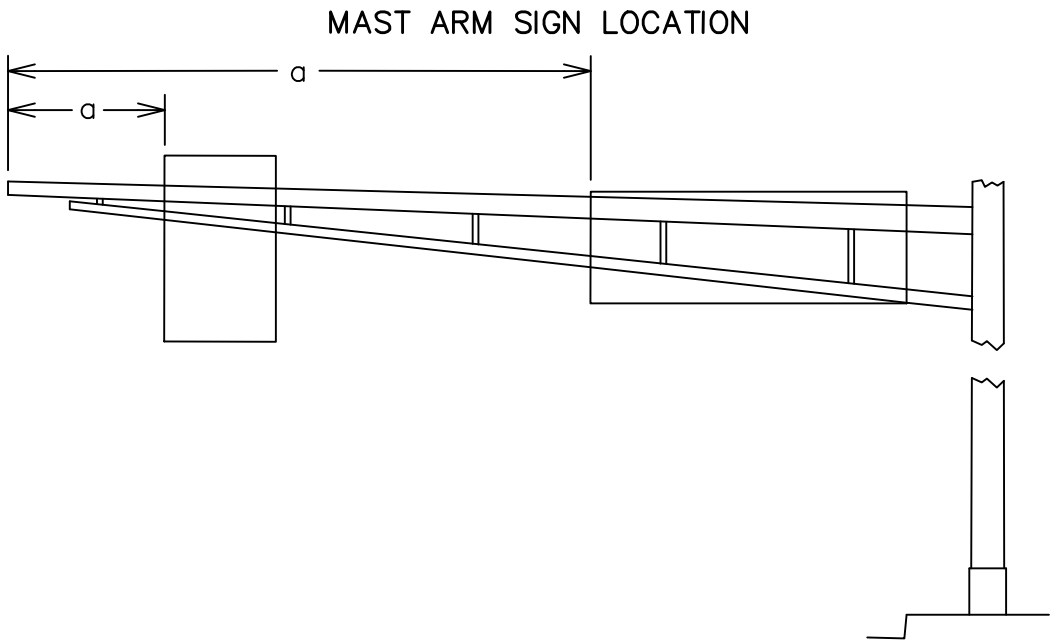
CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "G"  
TH 7 WB RAMPS AND WOODDALE AVE S  
INTERSECTION NOTES

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-SIG-TH7W - 002

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SIGN DETAILS



MAST ARM MOUNTED SIGNS											
SIGN NO	POLE NO	QTY	a	PANEL				MOUNTING		PANEL LEGEND	
				SIZE		AREA	TOTAL AREA	NUMBER	SPACING		
			FEET	INCH		SQ FT	SQ FT				
D-1	1	1	2	114	x	24	19.00	19.00	4	36	WOODDALE AVE S
D-2	2	1	6	42	x	66	19.25	19.25	2	36	WEST MN 7 LEFT ARROW
D-3	4	1	2	90	x	66	41.25	41.25	5	36	EAST MN 7 UP ARROW, WEST MN 7 RIGHT ARROW

SPECIFIC NOTES:  
(1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED.  
SEE STANDARD SIGNS MANUAL, PAGE 105A FOR BRACKET SPACING REQUIREMENTS.

GENERAL NOTES:  
1. CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.  
2. TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.  
3. FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE STANDARD SIGN MANUAL, PAGE 105A.  
4. FOR TYPE D STRINGER AND PANEL JOINT DETAILS SEE STANDARD SIGNS MANUAL, PAGE 105.  
5. THE MAST ARM MOUNTED SIGNS ARE INCIDENTAL.

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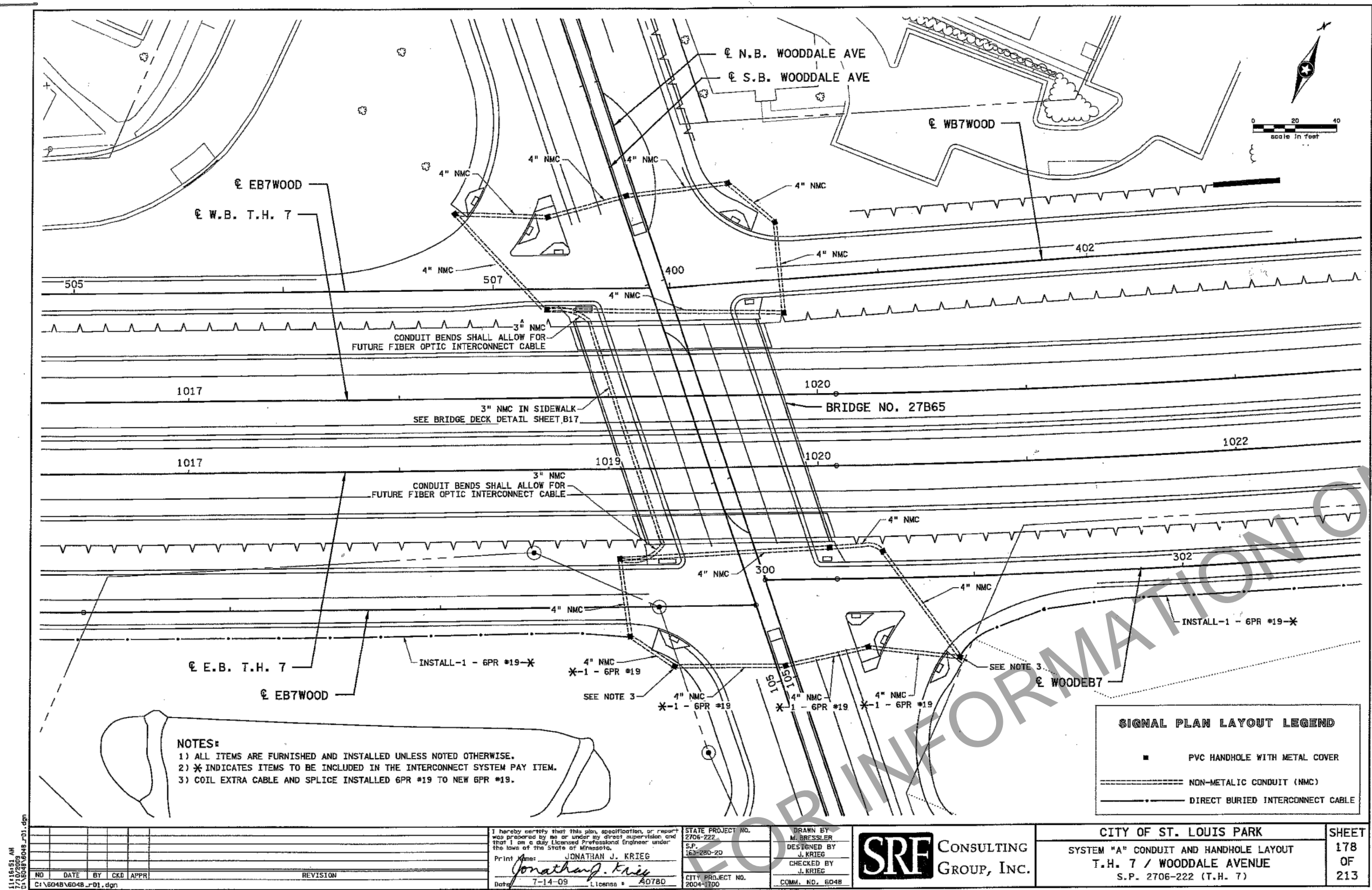
CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "G"  
TH 7 WB RAMPS AND WOODDALE AVE S  
TYPE "D" SIGN DETAILS

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-SIG-TH7W - 003

SHEET  
195  
OF  
266

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**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEMS "G" & "H"**  
**TH 7 WB & EB RAMP AND WOODDALE AVE S**  
**FOR INFORMATION ONLY**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E2-TFC-SIG-TH7W - 004**

**SHEET 196 OF 266**





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INTERSECTION NOTES

① PA85 POLE FOUNDATION  
TYPE PA85-A-30 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'  
1-ANGLE MOUNT SIGNAL AT 180 DEG  
2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG  
1-APS PB AND SIGN (LT ARROW) (PB4-1)  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASES 1 & 6)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-VIDEO DETECTOR (MOUNTED ON DAVIT ARM)  
1-R10-12 SIGN ADJACENT TO HEAD (1-1)  
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)  
X" CONDUIT TO HH 10:

② PEDESTAL FOUNDATION  
10' PEDESTAL POLE PLUS BASE  
1-STRAIGHT MOUNT C.D. PED HEAD AT 0 DEG  
1-APS PB AND SIGN (LT ARROW) (PB6-1)  
1-R9-3 SIGN FACING POLE 3  
X" CONDUIT TO HH 3:

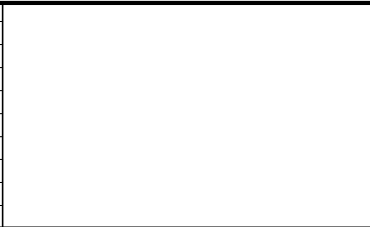
③ PA85 POLE FOUNDATION  
TYPE PA85-A-25 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
1-ANGLE MOUNT C.D. PED HEAD AT 180 DEG  
1-APS PB AND SIGN (RT ARROW) (PB2-2)  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE 2)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)  
1-R9-3 SIGN FACING POLE 2  
X" CONDUIT TO HH 4:

④ PA85 POLE FOUNDATION  
TYPE PA85-A-20 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG  
1-APS PB AND SIGN (RT ARROW) (PB4-2)  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT  
(PHASE 4)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)  
X" CONDUIT TO HH 8:

Ⓐ Ⓑ EQUIPMENT PAD (SEE DETAIL SHEET)  
SERVICE CABINET (SSB)  
CONTROLLER AND CABINET  
X" CONDUIT TO HH 10:

Ⓒ SOP-GROUND MOUNTED  
TRANSFORMER (XCEL ENERGY)  
X" CONDUIT TO HH 9:

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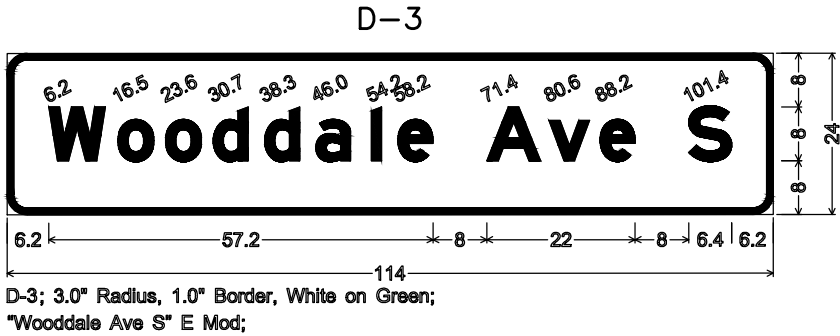
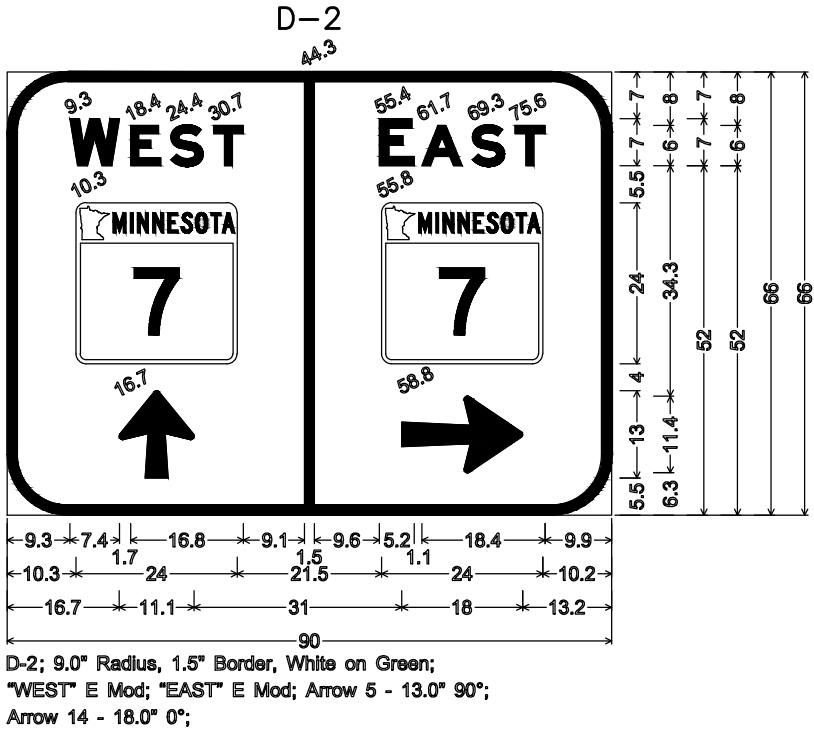
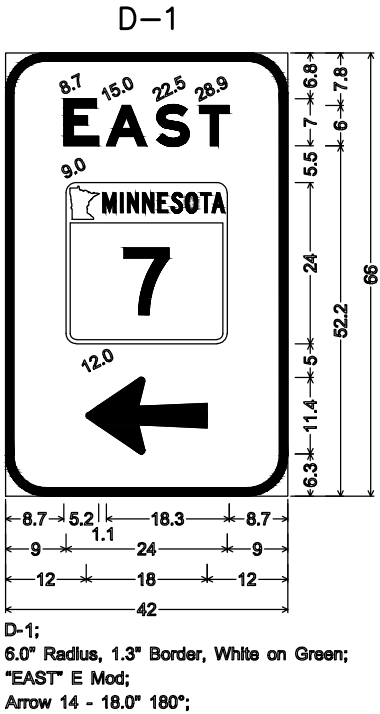
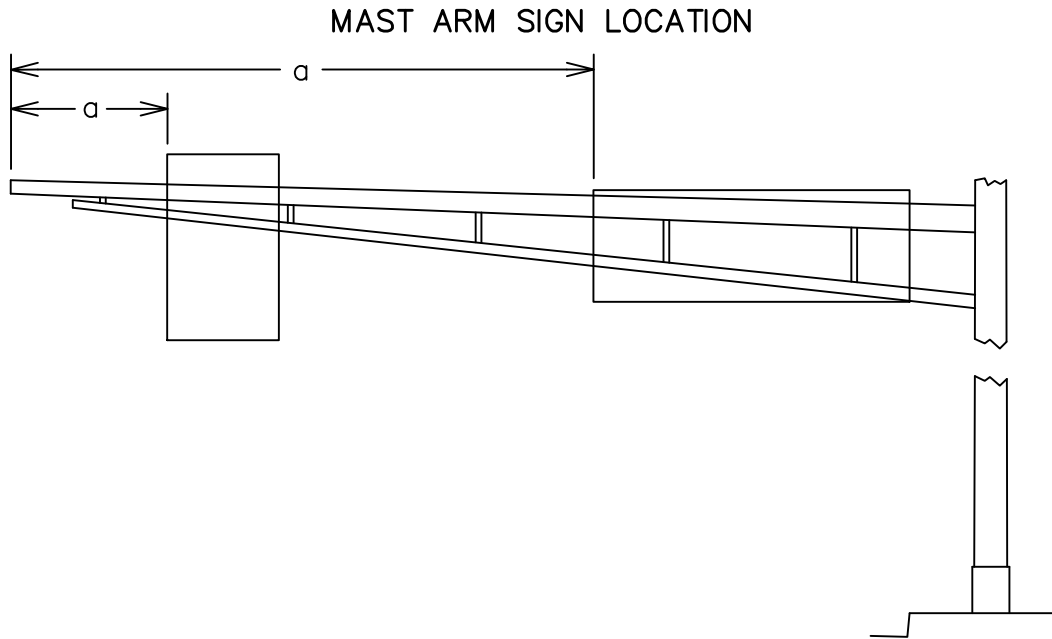
CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "H"  
TH 7 EB RAMPS AND WOODDALE AVE S  
INTERSECTION NOTES

DISCIPLINE: TRAFFIC

SHEET NAME: E2-TFC-SIG-TH7E - 002

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SIGN DETAILS



MAST ARM MOUNTED SIGNS										
SIGN NO	POLE NO	QTY	a	PANEL			MOUNTING		PANEL LEGEND	
				SIZE	AREA	TOTAL AREA	NUMBER	SPACING (1)		
			FEET	INCH	SQ FT	SQ FT				
D-1	1	1	6	42 x 66	19.25	19.25	2	36	EAST MN 7 LEFT ARROW	
D-2	3	1	2	90 x 66	41.25	41.25	5	36	WEST MN 7 UP ARROW, EAST MN 7 RIGHT ARROW	
D-3	4	1	2	114 x 24	19.00	19.00	4	36	WOODDALE AVE S	

SPECIFIC NOTES:  
(1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED.  
SEE STANDARD SIGNS MANUAL, PAGE 105A FOR BRACKET SPACING REQUIREMENTS.

GENERAL NOTES:  
1. CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.  
2. TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.  
3. FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE STANDARD SIGN MANUAL, PAGE 105A.  
4. FOR TYPE D STRINGER AND PANEL JOINT DETAILS SEE STANDARD SIGNS MANUAL, PAGE 105.  
5. THE MAST ARM MOUNTED SIGNS ARE INCIDENTAL.

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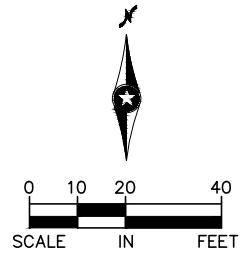

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CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "H"  
TH 7 EB RAMPS AND WOODDALE AVE S  
TYPE "D" SIGN DETAILS

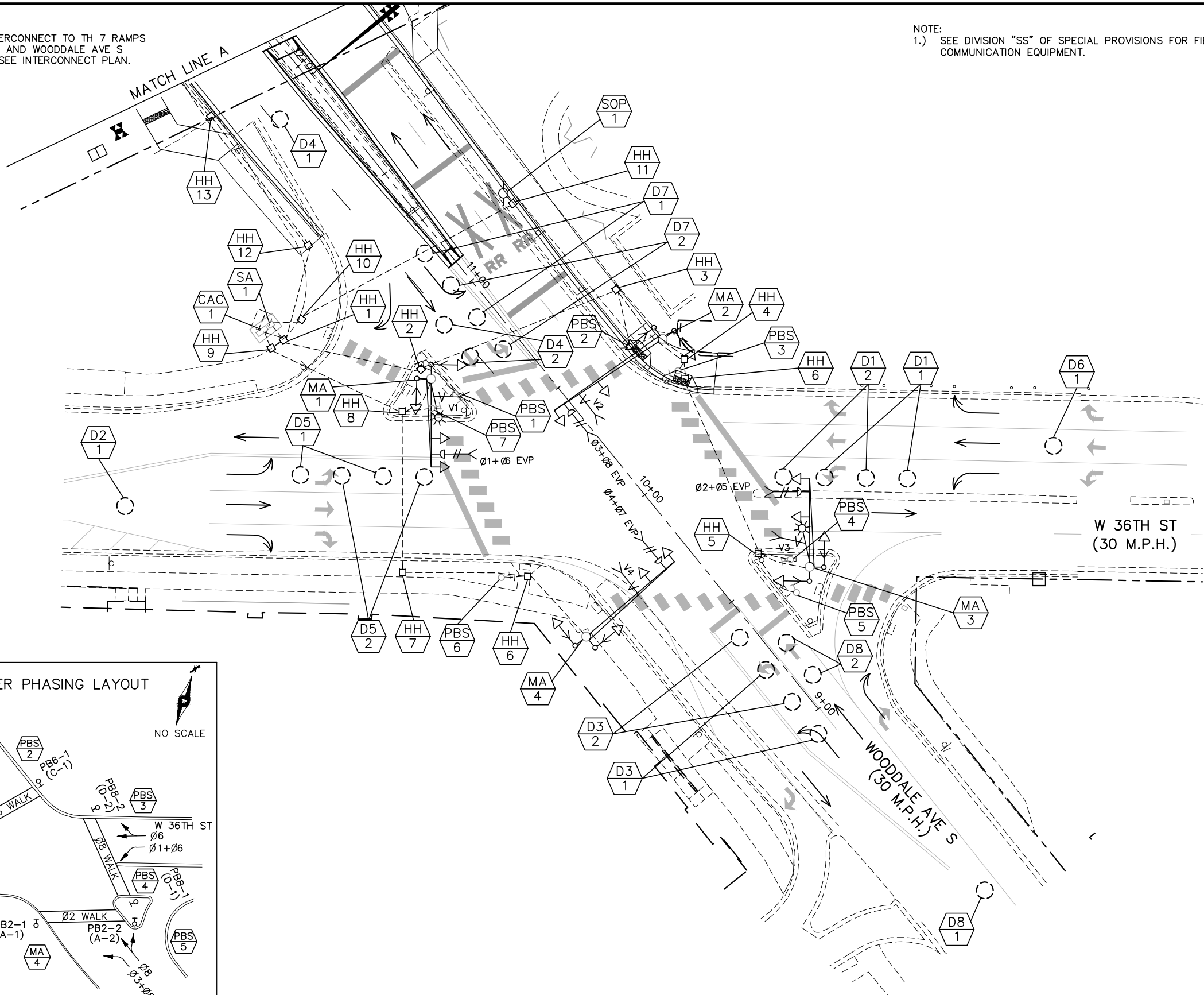
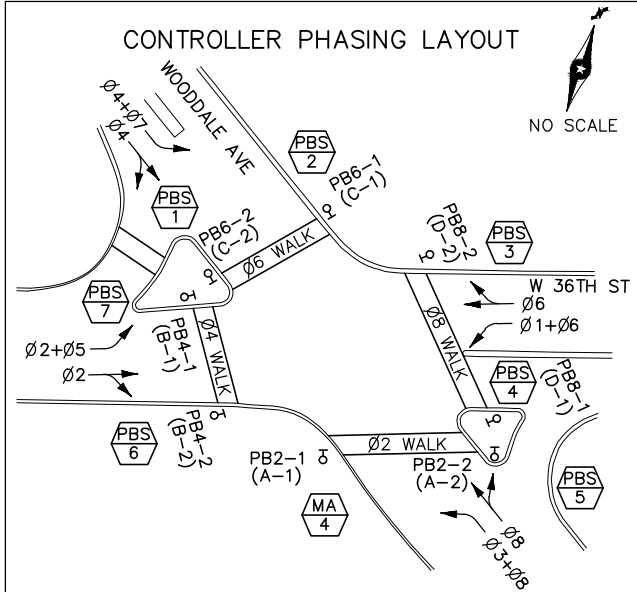
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INTERCONNECT TO TH 7 RAMP  
AND WOODDALE AVE S  
SEE INTERCONNECT PLAN.

NOTE:  
1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR FIBER OPTIC  
COMMUNICATION EQUIPMENT.



APS ADDRESS LABELING:  
PHASE 2 = A  
PHASE 4 = B  
PHASE 6 = C  
PHASE 8 = D



VIDEO DETECTOR CHART			
DESIGNATION	NO.	FUNCTION	LOCATION
D1-1		INPLACE	
D1-2		INPLACE	
D2-1		INPLACE	
D3-1		INPLACE	
D3-2		INPLACE	
D4-1		INPLACE	
D4-2		INPLACE	
D5-1		INPLACE	
D5-2		INPLACE	
D6-1		INPLACE	
D7-1		INPLACE	
D7-2		INPLACE	
D8-1		INPLACE	
D8-2		INPLACE	

SIGNAL SYSTEM "I" IS BEING MODIFIED TO PROVIDE LRT  
PREEMPTION IN ADDITION TO EXISTING FREIGHT PREEMPTION.

- SIGNAL SYSTEM OPERATIONS
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
  - NORMAL OPERATION SHALL BE 8 PHASE WITH PHASES 1, 3, 5, AND 7 BEING PROTECTED-PERMISSIVE, WITH FLASHING YELLOW ARROWS.
  - PHASES 2 AND 6 ARE ON VEHICLE SOFT RECALL.
  - SIGNAL SYSTEM SHALL BE FULLY ACTUATED.
  - LRT AND FREIGHT RAIL SHALL OPERATE WITH PREEMPTION, INCLUDING TRACK CLEARANCE.

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**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "I"**  
**WOODDALE AVE S AND W 36TH ST**

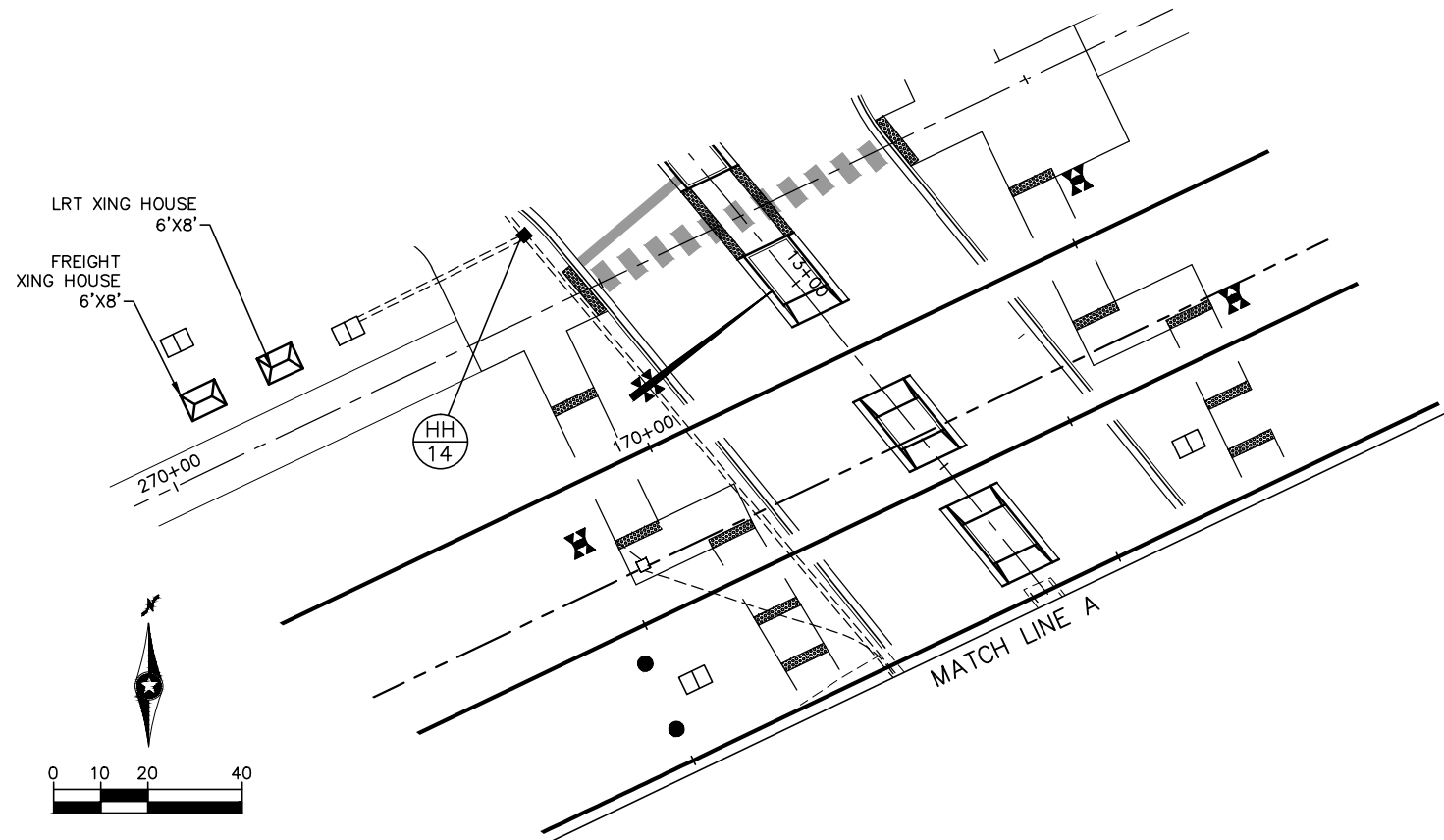
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DISCIPLINE:	TRAFFIC	SHEET NAME:	E2-TFC-SIG-WDL-001
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SIGNAL INDICATIONS AND BRACKETING

SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS					BRACKET MOUNTING ANGLE, TYPE, AND STANDARD PLATE NO.
				12" INDICATIONS				PED SYM.	
				RED	YEL	FYA	GRN		
MA-1	1-1	MAST ARM (END)	1	←	←		←		INPLACE
			2			←			
	6-2	MAST ARM (MID)	6	○	○		○		INPLACE
	6-1	POLE MOUNT	6	○	○		○	*	INPLACE
	3-2	POLE MOUNT	3	←	←		←		INPLACE
			4			←			
			4					*	
MA-2	3-1	MAST ARM (END)	3	←	←		←		INPLACE
			4			←			
	8-2	MAST ARM (MID)	8	○	○		○		INPLACE
	8-1	POLE MOUNT	8	○	○		○	*	INPLACE
	5-2	POLE MOUNT	5	←	←		←		INPLACE
			6			←			
			6					*	
MA-3	5-1	MAST ARM (END)	5	←	←		←		INPLACE
			6			←			
	2-2	MAST ARM (MID)	2	○	○		○		INPLACE
	2-1	POLE MOUNT	2	○	○		○	*	INPLACE
	7-2	POLE MOUNT	7	←	←		←		INPLACE
			8			←			
			8					*	
MA-4	7-1	MAST ARM (END)	7	←	←		←		INPLACE
			8			←			
	4-2	MAST ARM (MID)	4	○	○		○		INPLACE
	4-1	POLE MOUNT	4	○	○		○	*	INPLACE
	1-2	POLE MOUNT	1	←	←		←		INPLACE
			2			←			
			2					*	

\* EXISTING PEDESTRIAN INDICATIONS SHALL REMAIN INPLACE.

INPLACE STRUCTURES

NO.	REMARKS	NO.	REMARKS
MA-1	REMAIN INPLACE	HH-2	REMAIN INPLACE
MA-2	REMAIN INPLACE	HH-3	REMAIN INPLACE
MA-3	REMAIN INPLACE	HH-4	REMAIN INPLACE
MA-4	REMAIN INPLACE	HH-5	REMAIN INPLACE
CAC-1	REMAIN INPLACE	HH-6	REMAIN INPLACE
PBS-1	REMAIN INPLACE	HH-7	REMAIN INPLACE
PBS-2	REMAIN INPLACE	HH-8	REMAIN INPLACE
PBS-3	REMAIN INPLACE	HH-9	REMAIN INPLACE
PBS-4	REMAIN INPLACE	HH-10	REMAIN INPLACE
PBS-5	REMAIN INPLACE	HH-11	REMAIN INPLACE
PBS-6	REMAIN INPLACE	HH-12	REMAIN INPLACE
PBS-7	REMAIN INPLACE	HH-13	REMAIN INPLACE
HH-1	REMAIN INPLACE		

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "I"  
WOODDALE AVE S AND W 36TH ST

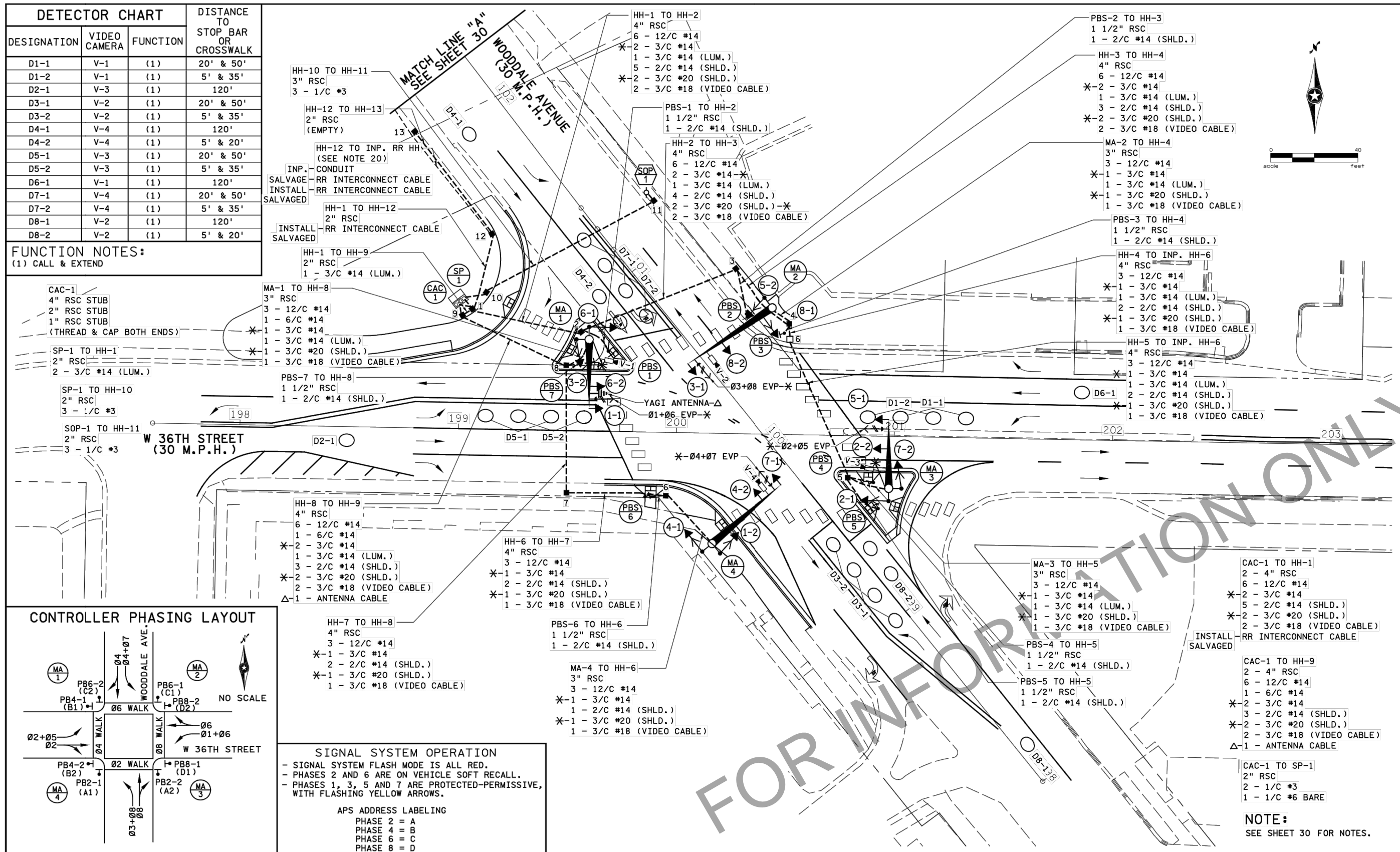
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SHEET NAME: E2-TFC-SIG-WDL - 002

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**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "I"**  
**WOODDALE AVE S AND W 36TH ST**  
**FOR INFORMATION ONLY**

DISCIPLINE:

**TRAFFIC**

SHEET NAME:

**E2-TFC-SIG-WDL-003**

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**SHEET**

**202**

**OF**

**266**

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INPLACE SIGNAL STRUCTURES			
NO.	REMARKS	NO.	REMARKS
HH-1	REMOVE	CAC-1	REMOVE FOUNDATION
HH-2	REMOVE	SP-1	
HH-3	REMOVE, SEE NOTE 19		
HH-4	REMOVE	SOP-1	OK AS IS
HH-5	REMOVE		
HH-6	OK AS IS	MA-1	REMOVE FOUNDATION
HH-7	OK AS IS	MA-2	REMOVE FOUNDATION
HH-8	OK AS IS	MA-3	REMOVE FOUNDATION
HH-9	OK AS IS	MA-4	REMOVE FOUNDATION
HH-10	REMOVE		
HH-11	OK AS IS		
HH-12	OK AS IS		
HH-13	REMOVE		

COORDINATES ARE HENNEPIN COUNTY GROUND FEET, BASED ON THE MINNESOTA COORDINATE SYSTEM, SOUTHERN ZONE, NAD83 1986 (NON-HARN VALUES)

SIGNAL STRUCTURE LOCATIONS			
NO.	LOCATION (1)	NO.	LOCATION (1)
HH- 1	199+05.44 - 54.98' LT	HH-13	198+77.61 - 135.76' LT
HH- 2	199+55.49 - 45.34' LT		
HH- 3	200+25.83 - 75.61' LT		
HH- 4	200+50.94 - 50.74' LT		
HH- 5	200+79.04 - 19.27' RT		
HH- 6	199+95.61 - 29.05' RT		
HH- 7	199+50.11 - 28.50' RT	CAC-1	198+98.99 - 59.50' LT
HH- 8	199+48.99 - 29.96' LT	SP-1	NORTH SIDE OF CAC-1 FOUNDATION
HH- 9	199+01.00 - 52.02' LT		
HH-10	199+11.74 - 62.70' LT		
HH-11	199+87.71 - 106.07' LT	SOP-1	BY OTHERS
HH-12	199+13.81 - 89.52' LT		
PBS-1	198+68.12 - 36.74' LT		
PBS-2	200+31.07 - 54.93' LT		
PBS-3	200+48.79 - 46.43' LT		
PBS-4	200+90.83 - 21.28' RT		
PBS-5	200+93.20 - 33.20' RT		
PBS-6	199+86.04 - 29.72' RT		
PBS-7	198+59.64 - 31.26' LT		
NO.	LOCATION		MAST ARM
	FOUNDATION (1)	AIM ARM TO	
MA-1	199+59.21 - 41.91' LT	199+59.78 - 10.41' LT	30'
MA-2	200+42.97 - 57.95' LT	200+04.66 - 31.60' LT	45'
MA-3	200+97.86 - 23.84' RT	200+97.29 - 7.66' LT	30'
MA-4	200+17.20 - 50.61' RT	200+48.42 - 23.11' RT	40'

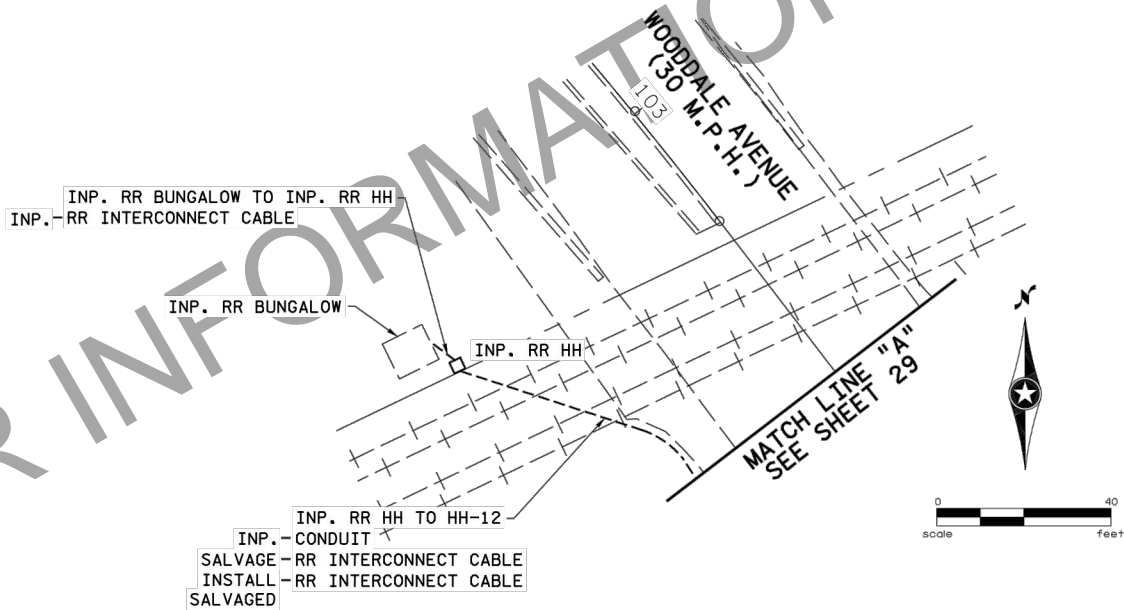
(1) TO THE CENTER OF THE HANDHOLE OR CONCRETE FOUNDATION.  
ALL STATIONS AND OFFSETS ARE REFERENCED FROM W. 36TH ST ALIGNMENT.

NOTES:

- LED LUMINAIRES SHALL BE INSTALLED ON LUMINAIRE SHAFT EXTENSIONS ON MAST ARMS 1 AND 3. (SEE MAST ARM & POLE DETAILS AND SPECIAL PROVISIONS).
- ALL HANDHOLES SHALL BE PVC TYPE WITH METAL FRAMES AND COVERS (SEE SPECIAL PROVISIONS).
- ALL PEDESTRIAN PUSHBUTTONS SHALL BE APS PUSHBUTTONS WITH SIGNS (SEE SPECIAL PROVISIONS). ONE APS PUSHBUTTON AND SIGN (LT ARROW) SHALL BE FURNISHED AND INSTALLED ON PS-2,4,7 & MA-4. ONE APS PUSHBUTTON AND SIGN (RT ARROW) SHALL BE FURNISHED AND INSTALLED ON PS-1,3,5 & 6.
- INTERNATIONAL SYMBOLS SHALL BE USED FOR ALL PEDESTRIAN INDICATIONS (HAND AND WALKING PERSON). ALL PEDESTRIAN INDICATIONS SHALL HAVE COUNTDOWN TIMERS (SEE SPECIAL PROVISIONS).
- ALL VEHICULAR AND PEDESTRIAN INDICATIONS SHALL USE LED TECHNOLOGY (SEE SPECIAL PROVISIONS).
- THE ENGINEER SHALL LOCATE ALL POLES AND HANDHOLES PRIOR TO ANY CONSTRUCTION.
- ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS.
- THE CONTRACTOR SHALL INSTALL COUNTY FURNISHED VIDEO CAMERAS. VIDEO CAMERAS 1 AND 3 SHALL BE MOUNTED ON THE LUMINIAIRE EXTENSIONS. VIDEO CAMERAS 2 AND 4 SHALL BE MOUNTED ON EXTENSION POLES MOUNTED ON THE MAST ARMS (SEE SPECIAL PROVISIONS).
- THE CONTRACTOR SHALL RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER (SEE SPECIAL PROVISIONS).
- SEE SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PRE-EMPTION (EVP) SYSTEM, VIDEO DETECTION SYSTEM AND BATTERY BACK-UP SIGNAL SERVICE CABINET.
- COMMON BACK FILL AT SIGNAL STRUCTURES AS DIRECTED BY THE ENGINEER SHALL BE INCIDENTAL TO THE SIGNAL SYSTEM.
- OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL TO SIGNAL SYSTEM. (SEE SPECIAL PROVISIONS).
- ALL ITEMS SHOWN ARE FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL INSTALL COUNTY FURNISHED CONTROLLER AND CABINET.
- THE CONTRACTOR SHALL FURNISH AND INSTALL SIGNAL SERVICE CABINET.
- THE CONTRACTOR SHALL FURNISH AND INSTALL 4 - R10-X12 (36"X42") SIGNS ADJACENT TO SIGNAL INDICATIONS 1-1,3-1,5-1 AND 7-1.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
- \* INDICATES ITEMS TO BE INCLUDED IN THE EVP SYSTEM PAY ITEM.
- △ INDICATES ITEMS TO BE INCLUDED IN THE INTERCONNECT SYSTEM PAY ITEM.
- HANDHOLE 12 SHALL BE INSTALLED TO INTERCEPT INPLACE CONDUIT BETWEEN INPLACE HANDHOLE 3 AND INPLACE RAILROAD HANDHOLE. INPLACE RAILROAD INTERCONNECT CABLE SHALL BE COILED AND PROTECTED IN INPLACE RAILROAD HANDHOLE WHILE HANDHOLE 12 IS INSTALLED. ONCE COMPLETE, RAILROAD INTERCONNECT CABLE SHALL BE RE-INSTALLED INTO THE NEW CABINET VIA HANDHOLE 12 AS SHOWN IN THE PLANS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL 1 YAGI ANTENNA ON MAST ARM 1 AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH AND INSTALL 1 ENCOM RADIO 5100 AND POLYPHASER LIGHTNING PROTECTION (IS-B50-HN-C2) IN THE CONTROLLER CABINET (SEE SPECIAL PROVISIONS).

SIGNAL INDICATIONS AND BRACKETING									
SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS				BRACKET MOUNTING ANGLE, TYPE, AND STANDARD PLATE NO.	
				12" INDICATIONS					PED SYM.
				RED	YEL	FYEL	GRN		
MA-1	1-1	MAST ARM (END)	1	←	←		←		**
			2			←			
	6-2	MAST ARM (MID)	6	●	●		●		**
	6-1	POLE MOUNT	6	●	●		●	*	180° PLATE 8110E TYPE 10B
	3-2	POLE MOUNT	3	←	←		←		90° PLATE 8110E TYPE 10B
			4			←			
			4					*	
MA-2	3-1	MAST ARM (END)	3	←	←		←		**
			4			←			
	8-2	MAST ARM (MID)	8	●	●		●		**
	8-1	POLE MOUNT	8	●	●		●	*	0° PLATE 8110E TYPE 10B
	5-2	POLE MOUNT	5	←	←		←		90° PLATE 8110E TYPE 10B
			6			←			
			6					*	
MA-3	5-1	MAST ARM (END)	5	←	←		←		**
			6			←			
	2-2	MAST ARM (MID)	2	●	●		●		**
	2-1	POLE MOUNT	2	●	●		●	*	180° PLATE 8110E TYPE 10B
	7-2	POLE MOUNT	7	←	←		←		90° PLATE 8110E TYPE 10B
			8			←			
			8					*	
MA-4	7-1	MAST ARM (END)	7	←	←		←		**
			8			←			
	4-2	MAST ARM (MID)	4	●	●		●		**
	4-1	POLE MOUNT	4	●	●		●	*	180° PLATE 8110E TYPE 10B
	1-2	POLE MOUNT	1	←	←		←		90° PLATE 8110E TYPE 10B
			2			←			
			2					*	

\* PEDESTRIAN INDICATIONS SHALL BE INTERNATIONAL SYMBOLS IN A DUAL FACE SINGLE HOUSING WITH PEDESTRIAN COUNTDOWN TIMER.  
\*\* STRAIGHT MOUNT PLUMBIZER, SEE SPECIAL PROVISIONS.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "I"**  
**WOODDALE AVE S AND W 36TH ST**  
**FOR INFORMATION ONLY**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E2-TFC-SIG-WDL - 004**

**SHEET**  
**203**  
**OF**  
**266**

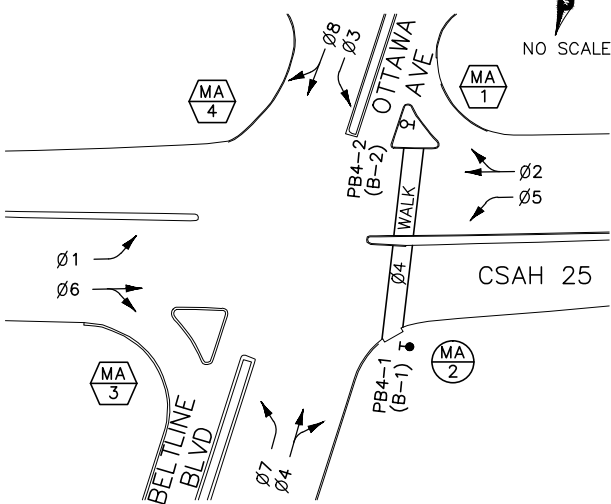


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- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR ACCESSIBLE PEDESTRIAN SIGNAL (APS) AND FIBER OPTIC COMMUNICATION EQUIPMENT.
  - 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON MA-2 AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - 3.) NEW PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
  - 4.) ONE LED LUMINAIRE SHALL BE INSTALLED ON MA-2 LUMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
  - 5.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
  - 6.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 7.) ALL COSTS FOR ANY REQUIRED RELOCATION OF THE EVP DETECTORS SHALL BE INCIDENTAL.
  - 8.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 9.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD.
  - 10.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 11.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 12.) OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL. FOR TYPE "D" SIGNS SEE EQUIPMENT SCHEDULE SHEETS.
  - 13.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
  - 14.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.
  - 15.) THE CONTRACTOR SHALL SALVAGE AND REINSTALL THE TYPE "D" SIGN ON MA-2.

- ▲ REMOVAL NOTES:
1. EXISTING CONDUIT RUN BETWEEN HH 3 AND HH 4 TO BE ABANDONED INPLACE.
  2. EXISTING CONDUIT RUN BETWEEN HH 4 AND HH 5 TO BE ABANDONED INPLACE.
  3. EXISTING CONDUIT RUN BETWEEN HH 5 AND HH 6 TO BE ABANDONED INPLACE.
  4. EXISTING CONDUIT RUN BETWEEN HH 5 AND HH 7 TO BE ABANDONED INPLACE.
  5. EXISTING CONDUIT RUN BETWEEN HH 4 AND MAST ARM 2 TO BE ABANDONED INPLACE.
  6. EXISTING PHASE 4 DETECTOR LOOPS AND CONDUIT RUNS BETWEEN HH 5, HH 6, AND THE DETECTOR LOOPS TO BE ABANDONED INPLACE.
  7. EXISTING PHASE 7 DETECTOR LOOPS AND CONDUIT RUNS BETWEEN HH 5 AND THE DETECTOR LOOPS TO BE ABANDONED INPLACE.
  8. EXISTING PHASE 5 DETECTOR LOOPS AND CONDUIT RUNS BETWEEN HH 3 AND THE DETECTOR LOOPS TO BE ABANDONED INPLACE.
  9. EXISTING MAST ARM 2, POLE, AND OVERHEAD EQUIPMENT TO BE REMOVED.
  10. EXISTING HH 4, 5, AND 6 TO BE REMOVED.
  11. EXISTING SIGNAL HEAD 7-1 TO BE RELOCATED ON MAST ARM 1 TO BE ALIGNED ON LEFT-TURN LANE LINE.
  12. EXISTING SIGNAL HEAD 4-2 TO BE RELOCATED ON MAST ARM 1 TO BE CENTERED ON THRU LANE.

#### CONTROLLER PHASING LAYOUT



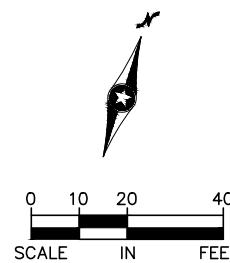
APS ADDRESS LABELING:  
PHASE 4 = B

MATCH LINE C

MATCH LINE B

MATCH LINE D

MATCH LINE A



ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

SIGNAL SYSTEM "J" IS BEING MODIFIED TO ACCOMMODATE AN ADDITIONAL LEFT TURN LANE ON THE NORTHBOUND APPROACH.

#### SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE. PHASES 1, 3, 5, AND 7 SHALL OPERATE PROTECTED ONLY.
- SIGNAL SYSTEM SHALL BE FULLY ACTUATED.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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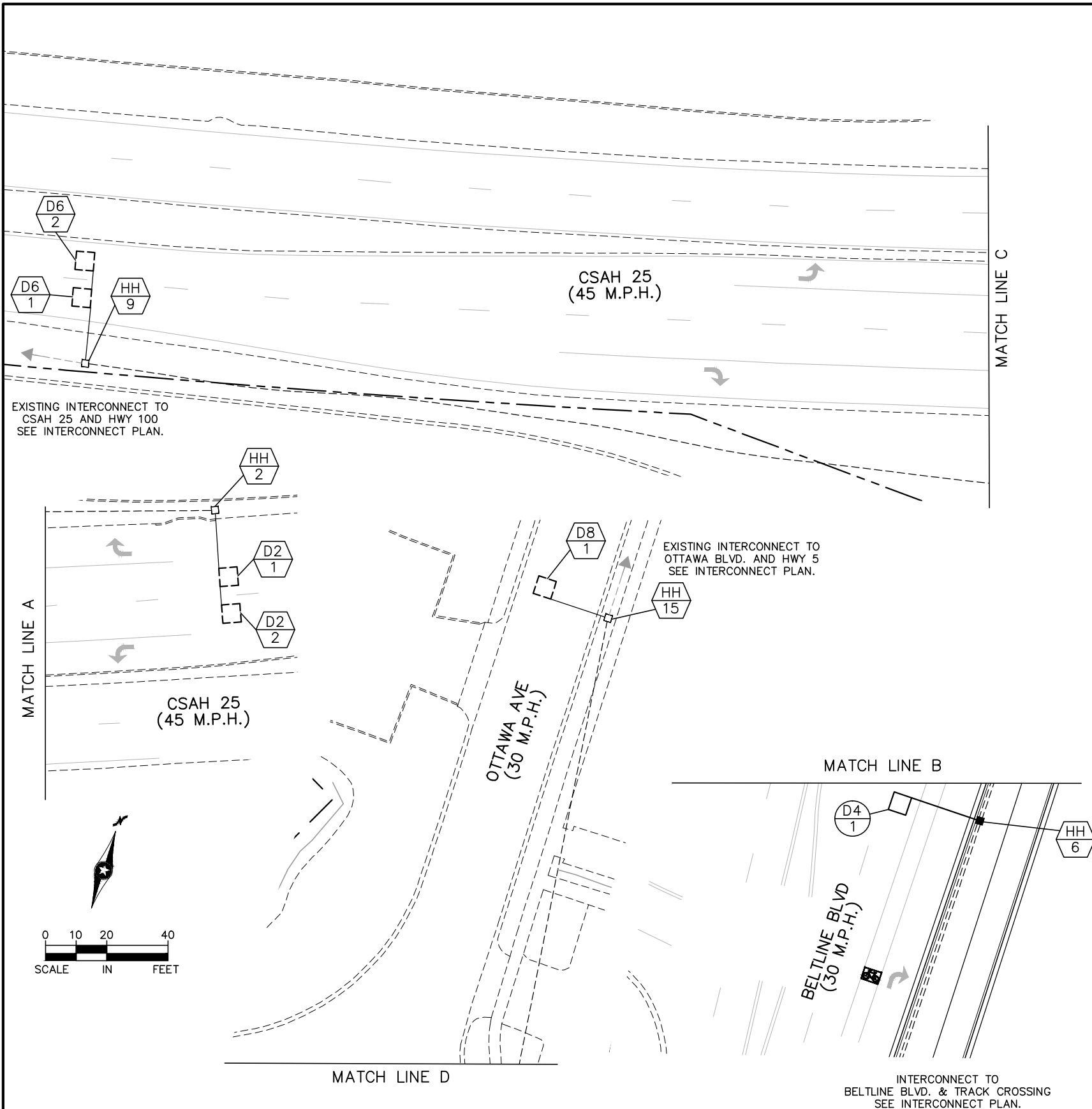
**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "J"**  
**CSAH 25 AND BELTLINE BLVD/OTTAWA AVE**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E2-TFC-SIG-OTT-001**

**SHEET**  
**204**  
**OF**  
**266**

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**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "J"**  
**CSAH 25 AND BELTLINE BLVD/OTTAWA AVE**  
**EQUIPMENT SCHEDULE**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E2-TFC-SIG-OTT - 002**

**SHEET**  
**205**  
**OF**  
**266**

SIGNAL INDICATIONS AND BRACKETING									
SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS				PED SYM.	BRACKET MOUNTING ANGLE, TYPE, AND STANDARD PLATE NO.
				12" INDICATIONS					
				RED	YEL	FYA	GRN		
MA-1	7-1	MAST ARM (INSIDE)	7	◄	◄		◄		**
	4-2	MAST ARM (INSIDE)	4	○	○		○		**
	4-1	POLE MOUNT	4	○	○		○	*	INPLACE
	1-2	POLE MOUNT	1	◄	◄		◄		INPLACE
MA-2	1-1	MAST ARM (END)	1	◄	◄		◄		**
	6-3	MAST ARM (MID)	6	●	●		●		**
	6-2	MAST ARM (INSIDE)	6	●	●		●		**
	6-1	POLE MOUNT	6	●	●		●		180° PLATE 8110E, TYPE 10A
	3-2	POLE MOUNT	3	◄	◄		◄		90° PLATE 8110E, TYPE 10B
	-	POLE MOUNT	4					*	
MA-3	3-1	MAST ARM (END)	3	◄	◄		◄		INPLACE
	8-2	MAST ARM (INSIDE)	8	○	○		○		INPLACE
	8-1	POLE MOUNT	8	○	○		○		INPLACE
	5-2	POLE MOUNT	5	◄	◄		◄		INPLACE
MA-4	5-1	MAST ARM (END)	5	◄	◄		◄		INPLACE
	2-3	MAST ARM (MID)	2	○	○		○		INPLACE
	2-2	MAST ARM (INSIDE)	2	○	○		○		INPLACE
	2-1	POLE MOUNT	2	○	○		○		INPLACE
	7-2	POLE MOUNT	7	◄	◄		◄		INPLACE

\*\* STRAIGHT MOUNT PLUMBIZER, SEE SPECIAL PROVISIONS.

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

LOOP DETECTOR CHART		
DESIGNATION	FUNCTION	LOCATION
D1-1		INPLACE
D2-1		INPLACE
D2-2		INPLACE
D3-1		INPLACE
D4-1	(1)	120
D4-2	(1)	5 & 20
D4-3	(1)	5 & 20
D5-1	(1)	20 & 50
D5-2	(1)	5 & 35
D6-1		INPLACE
D6-2		INPLACE
D7-1	(1)	20 & 50
D7-2	(1)	5 & 35
D7-3	(1)	20 & 50
D7-4	(1)	5 & 35
D8-1		INPLACE
D8-2		INPLACE
D8-3		INPLACE

- LOCATION: DISTANCE FROM CROSSWALK/ STOP BAR IN FEET  
- (1)-CALL AND EXTEND

SIGNAL STRUCTURE LOCATIONS			
NO.	LOCATION (1)	NO.	LOCATION (1)
HH-4			
HH-5			
HH-6			
NO.	LOCATION		MAST ARM 50'
	FOUNDATION (1)	AIM ARM TO	
MA-2			

(1) TO THE CENTER OF THE HANDHOLE OR CONCRETE FOUNDATION.

INPLACE STRUCTURES			
NO.	REMARKS	NO.	REMARKS
MA-1	REMAIN INPLACE	HH-6	REMOVE
MA-2	REMOVE	HH-7	REMAIN INPLACE
MA-3	REMAIN INPLACE	HH-8	REMAIN INPLACE
MA-4	REMAIN INPLACE	HH-9	REMAIN INPLACE
CAC-1	REMAIN INPLACE	HH-10	REMAIN INPLACE
SP-1	REMAIN INPLACE	HH-11	REMAIN INPLACE
HH-1	REMAIN INPLACE	HH-12	REMAIN INPLACE
HH-2	REMAIN INPLACE	HH-13	REMAIN INPLACE
HH-3	REMAIN INPLACE	HH-14	REMAIN INPLACE
HH-4	REMOVE	HH-15	REMAIN INPLACE
HH-5	REMOVE		

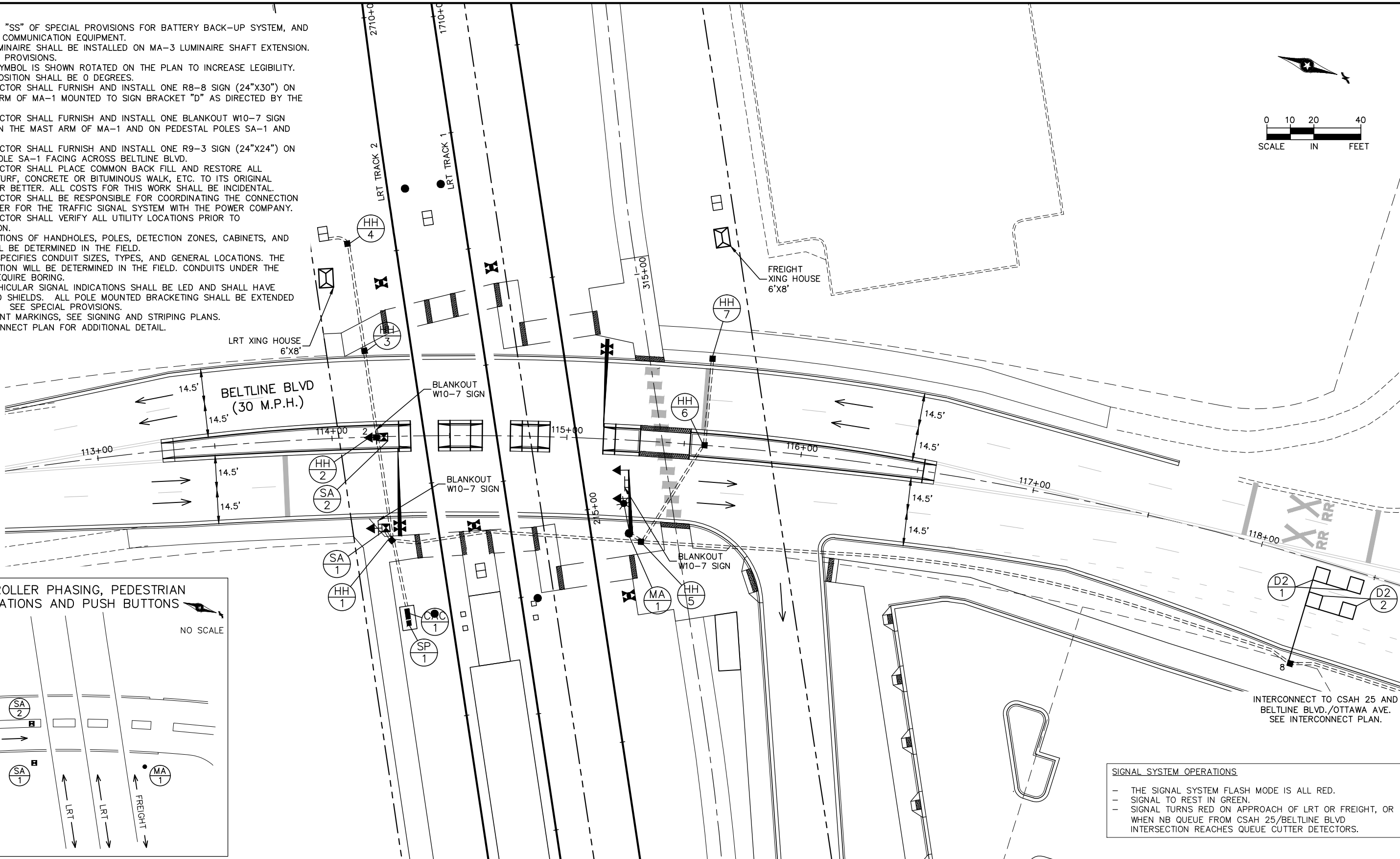
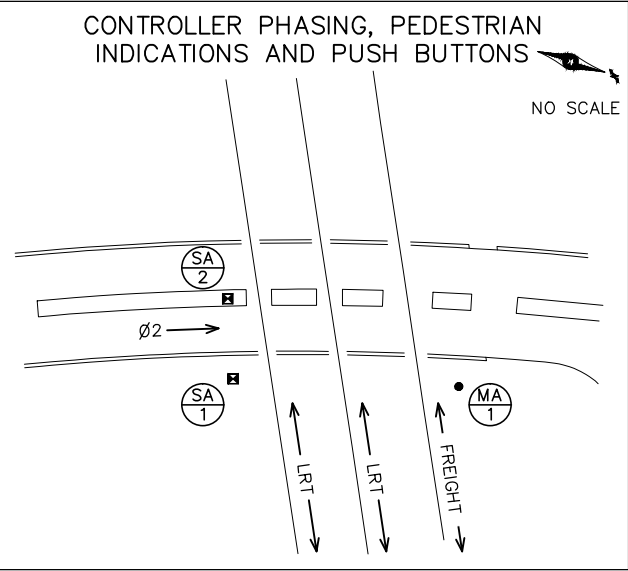
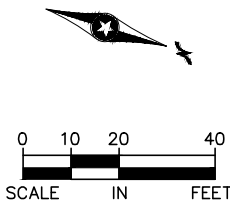






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- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR BATTERY BACK-UP SYSTEM, AND FIBER OPTIC COMMUNICATION EQUIPMENT.
  - 2.) ONE LED LUMINAIRE SHALL BE INSTALLED ON MA-3 LUMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
  - 3.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
  - 4.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R8-8 SIGN (24"x30") ON THE MAST ARM OF MA-1 MOUNTED TO SIGN BRACKET "D" AS DIRECTED BY THE ENGINEER.
  - 5.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE BLANKOUT W10-7 SIGN (24"x24") ON THE MAST ARM OF MA-1 AND ON PEDESTAL POLES SA-1 AND SA-2.
  - 6.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R9-3 SIGN (24"x24") ON PEDESTAL POLE SA-1 FACING ACROSS BELTLINE BLVD.
  - 7.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 8.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
  - 9.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 10.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD.
  - 11.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 12.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 13.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
  - 14.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.



- SIGNAL SYSTEM OPERATIONS
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
  - SIGNAL TO REST IN GREEN.
  - SIGNAL TURNS RED ON APPROACH OF LRT OR FREIGHT, OR WHEN NB QUEUE FROM CSAH 25/BELTLINE BLVD INTERSECTION REACHES QUEUE CUTTER DETECTORS.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



60% SUBMISSION - 09/28/15

**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "K"**  
**BELTLINE BLVD AT TRACK CROSSING**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E2-TFC-SIG-BLT-001**




**SHEET**  
**207**  
**OF**  
**266**

SIGNAL STRUCTURE LOCATIONS			
NO.	LOCATION (1)	NO.	LOCATION (1)
HH-1		SP-1	
HH-2		CAC-1	
HH-3			
HH-4			
HH-5			
HH-6			
HH-7			
NO.	LOCATION		MAST ARM
	FOUNDATION (1)	AIM ARM TO	
MA-1			XX'
SA-1			N/A
SA-2			N/A

(1) TO THE CENTER OF THE HANDHOLE OR CONCRETE FOUNDATION.

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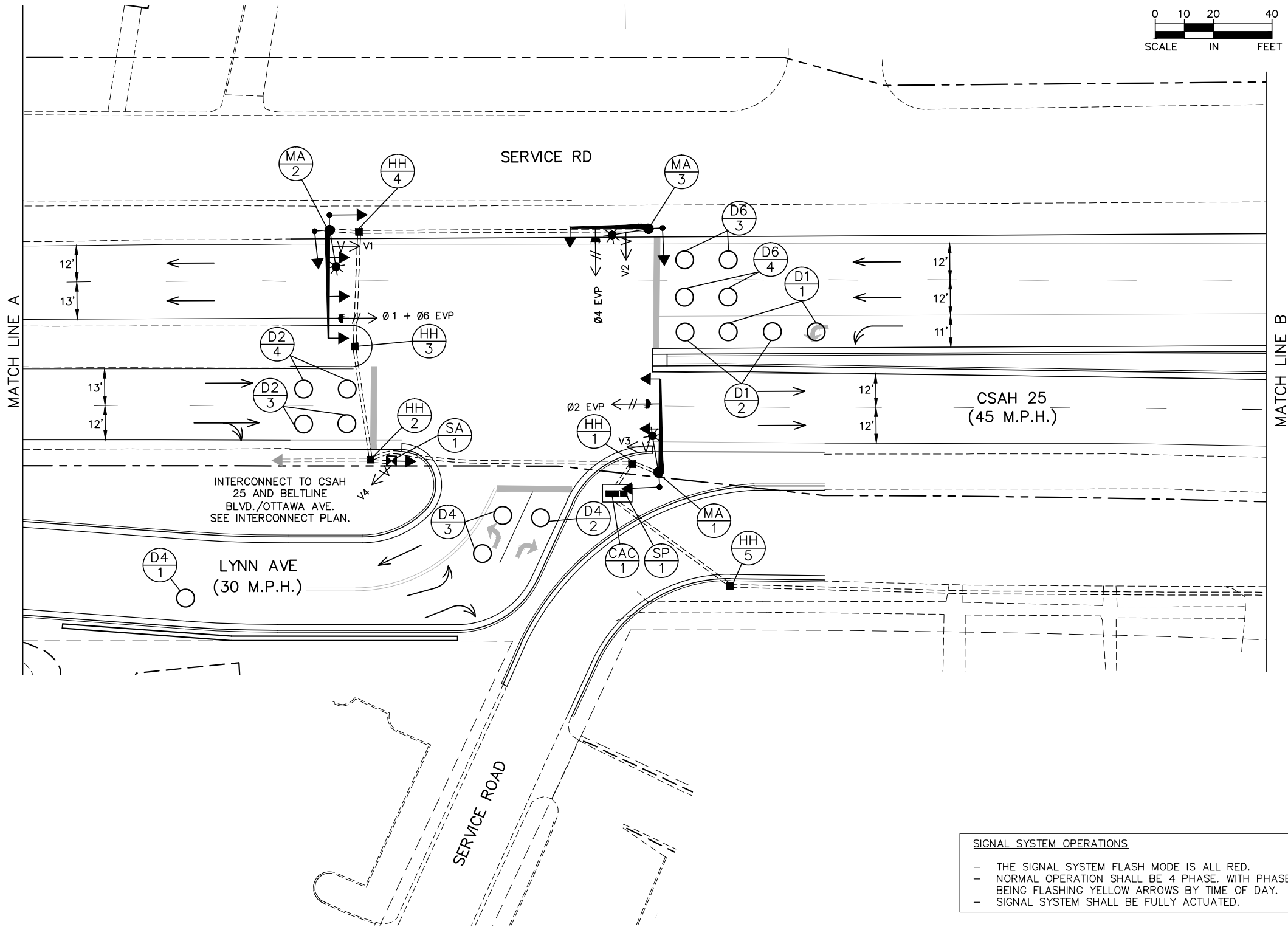
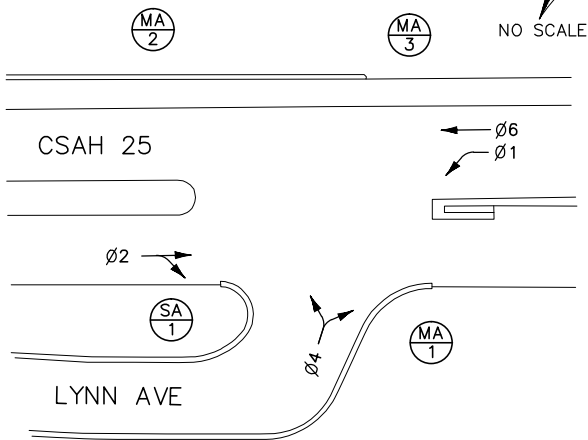
\* STRAIGHT MOUNT PLUMBIZER, SEE SPECIAL PROVISIONS.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	  	<b>CIVIL EAST - VOLUME 10</b> <b>SIGNAL PLAN - SIGNAL SYSTEM "K"</b> <b>BELTLINE BLVD AT TRACK CROSSING</b> <b>INTERSECTION NOTES</b>	<b>SHEET</b>  208  OF  266
60% SUBMISSION - 09/28/15						DISCIPLINE: <b>TRAFFIC</b>	SHEET NAME: <b>E2-TFC-SIG-BLT - 002</b>	

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- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM, VIDEO DETECTION SYSTEM, BATTERY BACK-UP SYSTEM, AND FIBER OPTIC COMMUNICATION EQUIPMENT.
  - 2.) ONE LED LUMINAIRE SHALL BE INSTALLED ON EACH MAST ARM LIMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
  - 3.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
  - 4.) THE CONTRACTOR SHALL INSTALL ONE VIDEO DETECTION CAMERA ON EACH DAVIT ARM AND ON SA-1. VIDEO DETECTION CAMERAS SHALL INCLUDE A 6-FT HEIGHT EXTENSION BRACKET.
  - 5.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R10-X12 SIGN (36"x42") ON THE MAST ARM OF MA-2 AND MOUNTED TO SIGN BRACKET "D" AS DIRECTED BY THE ENGINEER.
  - 6.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R9-3 SIGN (18"x18") ON THE UPRIGHT POLE OF MA-3 FACING MA-1, MA-1 FACING MA-3, MA-1 FACING SA-1, SA-1 FACING MA-1, SA-1 FACING MA-2, AND ON THE UPRIGHT POLE OF MA-2 FACING SA-1 AS DIRECTED BY THE ENGINEER.
  - 7.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 8.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
  - 9.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 10.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - 11.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 12.) ALL NEW VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 13.) OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL. FOR TYPE "D" SIGNS SEE EQUIPMENT SCHEDULE SHEETS.
  - 14.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
  - 15.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.

CONTROLLER PHASING LAYOUT



SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION SHALL BE 4 PHASE. WITH PHASE 1 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- SIGNAL SYSTEM SHALL BE FULLY ACTUATED.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



**SOUTHWEST**  
Green Line LRT Extension



60% SUBMISSION - 09/28/15

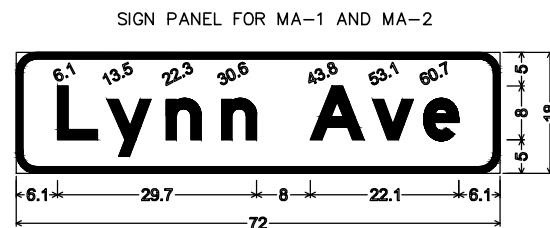
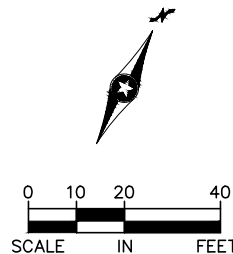
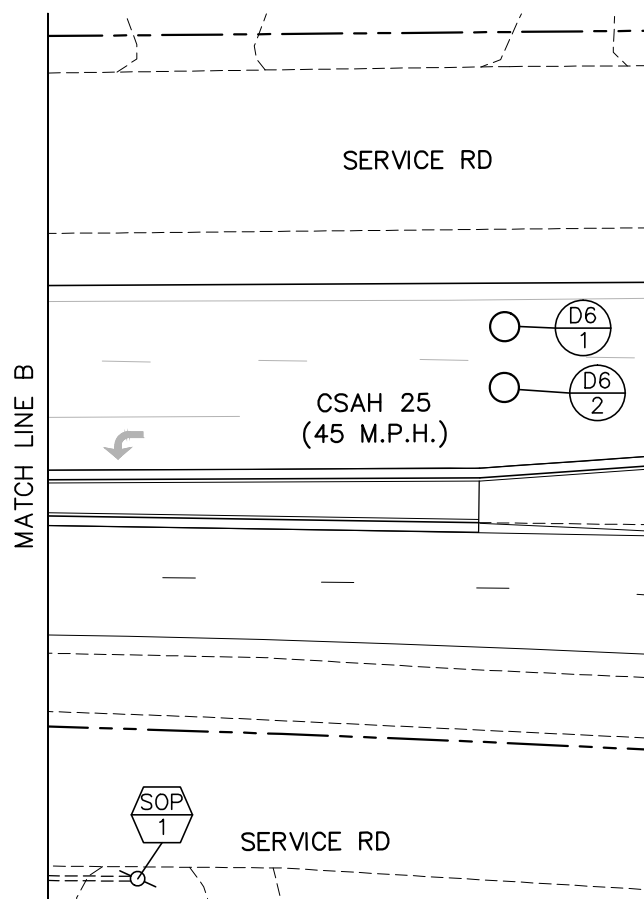
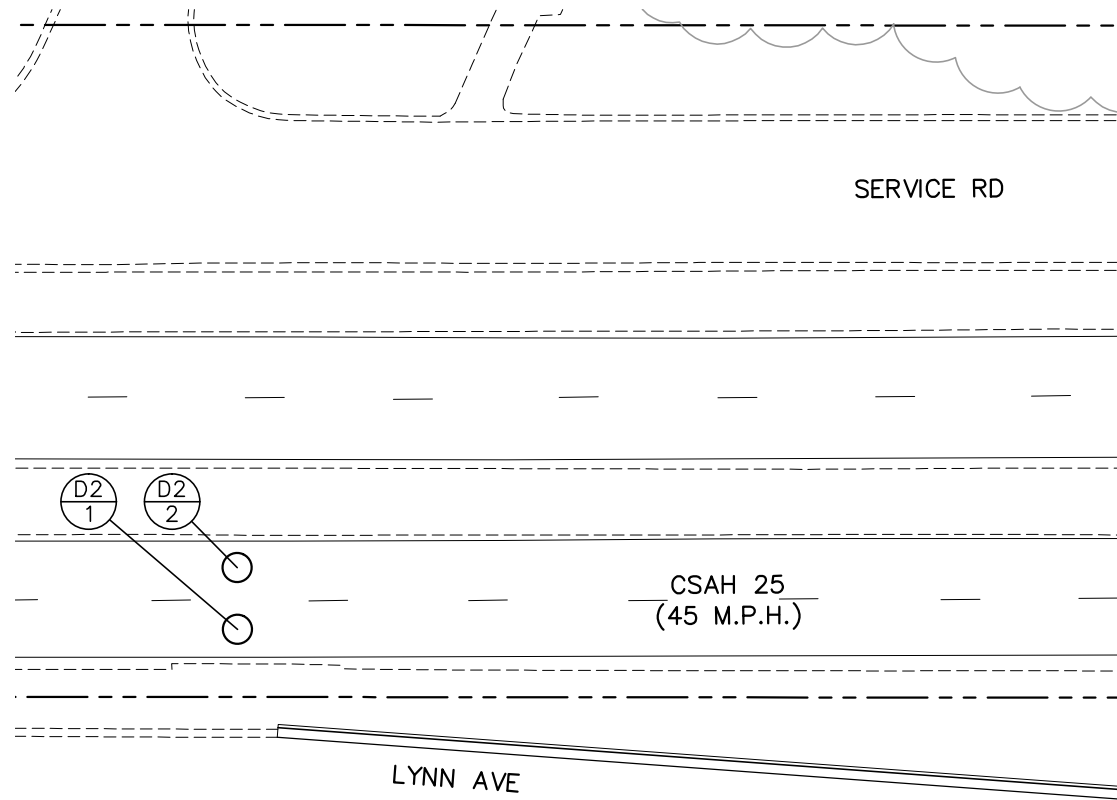
**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "L"**  
**CSAH 25 AND LYNN AVE**

DISCIPLINE: **TRAFFIC**

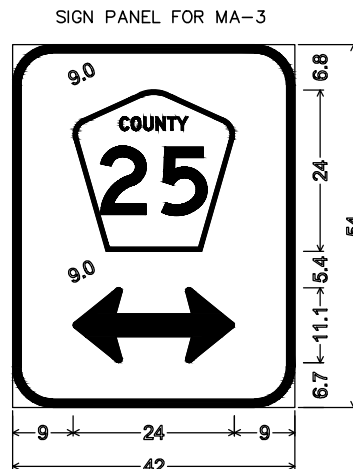
SHEET NAME: **E2-TFC-SIG-LYN-001**

**SHEET**  
**209**  
**OF**  
**266**

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D-X; 3.0" Radius, 1.0" Border, White on Green;  
"Lynn Ave" E Mod;



D-X;  
6.0" Radius, 1.3" Border, White on Green;  
Double Headed Arrow 5 - 24.0" 0°;

- NOTES:
- SEE SIGNAL MAST ARM DETAIL SHEET FOR SIGN MOUNTING PLATE LOCATIONS.
  - COLOR - WHITE LEGEND AND BORDER ON GREEN BACKGROUND. ALL SIGNING SHALL USE DG3 SIGN SHEETING.
  - ALL COSTS TO PROVIDE AND INSTALL MAST ARM MOUNTED SIGN PANELS SHALL BE INCIDENTAL.

### SIGNAL INDICATIONS AND BRACKETING

SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS				PED SYM.	BRACKET MOUNTING ANGLE, TYPE, AND STANDARD PLATE NO.
				12" INDICATIONS					
				RED	YEL	FYA	GRN		
MA-1	2-3	MAST ARM (END)	2	●	●		●		**
	2-2	MAST ARM (INSIDE)	2	●	●		●		**
	2-1	POLE MOUNT	2	●	●		●		180° PLATE 8110E, TYPE 10A
SA-1	1-2	POLE MOUNT	1	←	←		←		90° PLATE 8111E, TYPE 1A
			2			←			
MA-2	1-1	MAST ARM (END)	1	←	←		←		**
			2			←			
	6-3	MAST ARM (MID)	6	●	●		●		**
	6-2	MAST ARM (INSIDE)	6	●	●		●		**
	6-1	POLE MOUNT	6	●	●		●		180° PLATE 8110E, TYPE 10A
4-3	POLE MOUNT	4	●	●		●		90° PLATE 8110E, TYPE 10A	
MA-3	4-2	MAST ARM (END)	4	●	●		●		**
	4-1	POLE MOUNT	4	●	●		●		180° PLATE 8110E, TYPE 10A

\*\* STRAIGHT MOUNT PLUMBIZER, SEE SPECIAL PROVISIONS.

### SIGNAL STRUCTURE LOCATIONS

NO.	LOCATION (1)	NO.	LOCATION (1)
HH-1		SA-1	
HH-2			
HH-3			
HH-4			
HH-5			
NO.	LOCATION		MAST ARM
	FOUNDATION (1)	AIM ARM TO	
MA-1			XX'
MA-2			XX'
MA-3			XX'

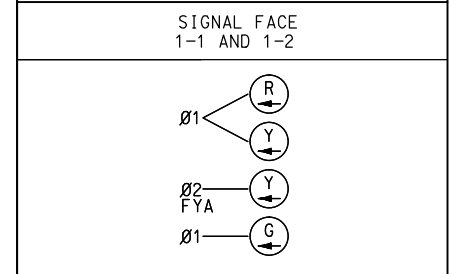
(1) TO THE CENTER OF THE HANDHOLE OR CONCRETE FOUNDATION.

### VIDEO DETECTOR CHART

DESIGNATION	NO.	FUNCTION	LOCATION
D1-1	VIDEO (V-1)	(1)	20 & 50
D1-2	VIDEO (V-1)	(1)	5 & 35
D2-1, D2-2	VIDEO (V-3)	(1)	300
D2-3, D2-4	VIDEO (V-3)	(1)	5 & 20
D4-1	VIDEO (V-2)	(1)	120
D4-2	VIDEO (V-2)	(1)	5
D4-3	VIDEO (V-2)	(1)	5 & 20
D6-1, D6-2	VIDEO (V-1)	(1)	300
D6-3, D6-4	VIDEO (V-1)	(1)	5 & 20

- LOCATION: DISTANCE FROM CROSSWALK/  
STOP BAR IN FEET  
- (1)-CALL AND EXTEND

### TYPICAL 4-SECTION SIGNAL HEAD PHASING WITH FLASHING YELLOW ARROW



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "L"**  
**CSAH 25 AND LYNN AVE**  
**EQUIPMENT SCHEDULE**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E2-TFC-SIG-LYN - 002**

**SHEET**  
**210**  
**OF**  
**266**

**60% SUBMISSION - 09/28/15**



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- (A) INPLACE:  
CONTROLLER CABINET — SEE EQUIPMENT SCHEDULE  
CONTROLLER CABINET TO HH-1:  
X" NMC W/
- (B) INPLACE:  
SERVICE CABINET — SEE EQUIPMENT SCHEDULE  
SERVICE CABINET TO SOURCE OF POWER:  
X" NMC W/
- (C) INPLACE:  
SOURCE OF POWER  
X" NMC TO SERVICE CABINET W/
- (1) INPLACE:  
MAST ARM POLE — SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-1 W/

- ▲ (2) PUSHBUTTON PEDESTAL — SEE EQUIPMENT SCHEDULE  
F&d:  
X" NMC TO HH-1 W/
- (3) INPLACE:  
PEDESTAL POLE — SEE EQUIPMENT SCHEDULE  
X" NMC TO CONTROLLER CABINET W/  
▲ F&d:  
X" NMC TO HH-3 W/
- (4) INPLACE:  
PUSHBUTTON PEDESTAL — SEE EQUIPMENT SCHEDULE  
▲ F&d:  
X" NMC TO HH-3 W/
- (5) INPLACE:  
MAST ARM POLE — SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-5 W/  
▲ F&d:  
X" NMC TO HH-4 W/
- ▲ (6) PUSHBUTTON PEDESTAL — SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-5 W/

- (7) INPLACE:  
PEDESTAL POLE — SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-5 W/  
X" NMC TO POLE BASE 1

- ▲ (8) PUSHBUTTON PEDESTAL — SEE EQUIPMENT SCHEDULE  
F&d:  
X" NMC TO POLE BASE 7 W/

LOOP DETECTOR CHART		
DESIGNATION	FUNCTION	LOCATION
D4-1	IP	IP
D4-2	IP	IP
D4-3	IP	IP
D4-4	IP	IP

SIGNAL FACE CHART				
FACE	R	Y	G	
2-1, 2-2, 2-3, 2-4, 2-5, 2-6	○	○	○	
4-1, 4-2, 4-3, 4-4	○	○	○	

- NOTES:
- SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR ACCESSIBLE PEDESTRIAN SIGNAL (APS).
  - ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON EACH SIGNAL MAST ARM AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
  - THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - EXACT LOCATIONS OF POLES AND BASES SHALL BE DETERMINED IN THE FIELD.
  - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - ALL NEW CONDUIT SHALL BE PVC — SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
  - FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.

- ▲ REMOVAL NOTES:
- EXISTING PUSHBUTTON PEDESTAL 8 IN NORTHWEST CORNER TO BE REMOVED.
  - EXISTING PEDESTRIAN SIGNAL HEADS ON MAST ARM 1 AND 5 AND PEDESTAL POLE 3 AND 7 TO BE REMOVED.
  - EXISTING PEDESTRIAN PUSHBUTTONS ON MAST ARM 1 AND 5 AND PEDESTAL POLE 4 TO BE REMOVED.
  - EXISTING HH 3 IN SOUTHWEST CORNER TO BE REMOVED.
  - EXISTING CONDUIT RUN BETWEEN HH 3 AND PUSHBUTTON PEDESTAL 4 TO BE REMOVED.
  - EXISTING CONDUIT RUN BETWEEN HH 3 AND HH 4 TO BE ABANDONED INPLACE.
  - EXISTING CONDUIT RUN BETWEEN HH 3 AND MAST ARM 5 TO BE REMOVED AS NEEDED TO MAKE NEW CONDUIT CONNECTION TO MAST ARM 5.
  - EXISTING CONDUIT RUN BETWEEN PEDESTAL POLE 7 AND PUSHBUTTON PEDESTAL 8 TO BE REMOVED.

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

SIGNAL SYSTEM "M" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 2 PHASE.

CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "M"  
CSAH 25 (W LAKE ST) AND DREW AVE S

DISCIPLINE:

TRAFFIC

SHEET NAME:

E3-TFC-SIG-WLK - 001

SHEET

211

OF

266

AECOM Kimley»Horn



SOUTHWEST  
Green Line LRT Extension



60% SUBMISSION - 09/28/15



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ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

EQUIPMENT SCHEDULE																
STRUCTURE				SIGNAL M.A.		LUMINAIRE				SIGNAL HEAD BRACKETING		APS PUSH BUTTON		SIGN TYPE	EVP	
NO.	TYPE	STD PLATE	FDN TYPE STD PLATE	LENGTH	HEAD LOCATION	HT	M.A. LENGTH	MTD POSITION	FIXTURE	TYPE	MTD POSITION	NO.	MTD POSITION			
①	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	270°	R10-3e	▲	-
②	PUSHBUTTON PEDESTAL	1260	1082	-	-	-	-	-	-	-	-	1	0°	R10-3e	-	▲
③	PEDESTAL POLE	IP	IP	-	-	-	-	-	-	IP	IP	1	270°	R10-3e	▲	-
④	PUSHBUTTON PEDESTAL	IP	IP	-	-	-	-	-	-	-	-	1	0°	R10-3e	▲	-
⑤	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	270°	R10-3e	▲	-
⑥	PUSHBUTTON PEDESTAL	1260	1082	-	-	-	-	-	-	-	-	1	0°	R10-3e	-	▲
⑦	PEDESTAL POLE	IP	IP	-	-	-	-	-	-	IP	IP	1	270°	R10-3e	▲	-
⑧	PUSHBUTTON PEDESTAL	1260	1082	-	-	-	-	-	-	-	-	1	0°	R10-3e	-	▲
⑨	CABINET	IP	IP													
⑩	SERVICE CABINET	IP	IP													
⑪	SOURCE OF POWER	IP	IP													

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL




60% SUBMISSION - 09/28/15

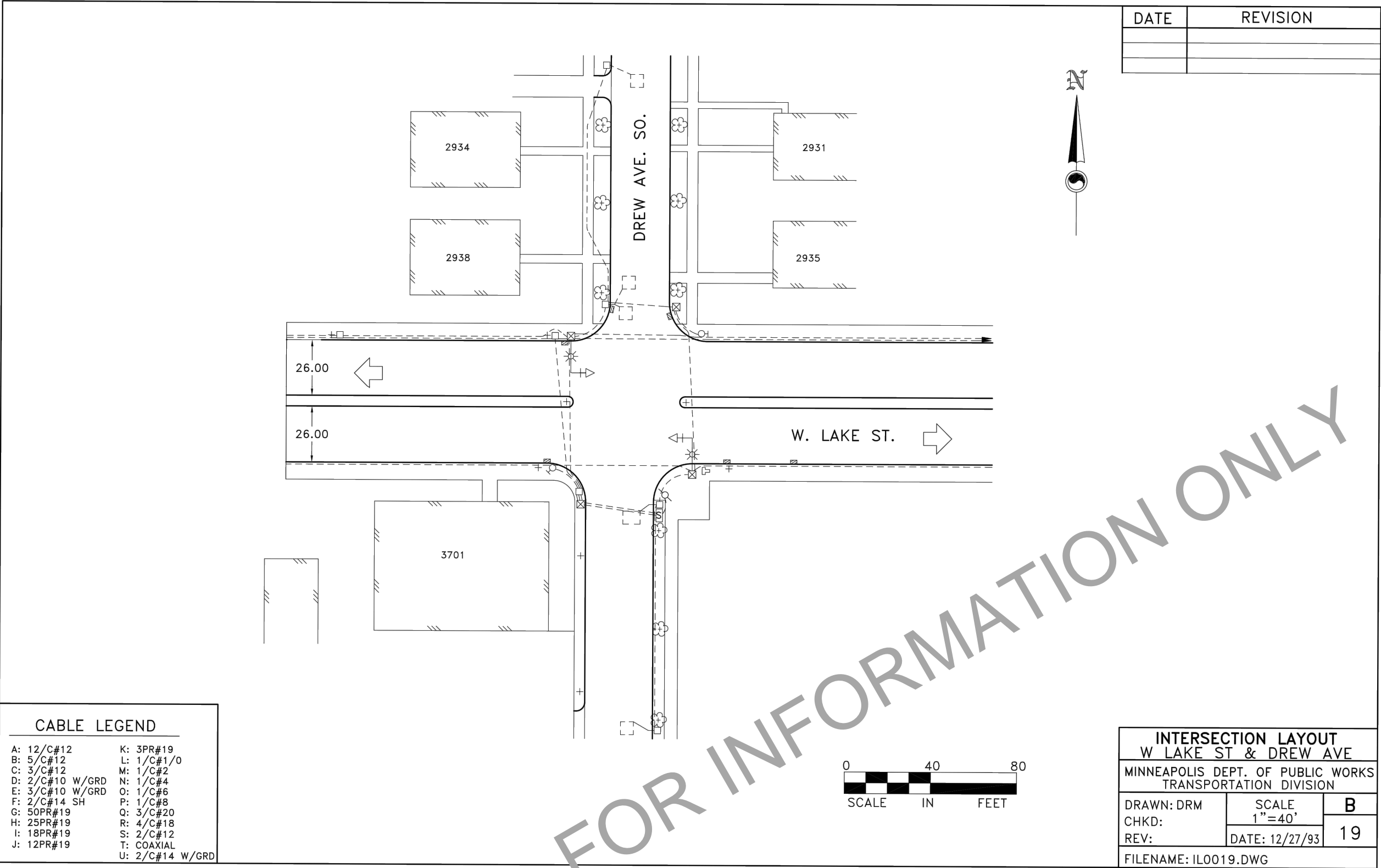


CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "M"  
CSAH 25 (W LAKE ST) AND DREW AVE S  
EQUIPMENT SCHEDULE

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIG-WLK - 002

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60% SUBMISSION - 09/28/15



DISCIPLINE: **TRAFFIC**

CIVIL EAST - VOLUME 10

SIGNAL PLAN - SIGNAL SYSTEM "M"

CSAH 25 (W LAKE ST) AND DREW AVE S

FOR INFORMATION ONLY

SHEET NAME: **E3-TFC-SIG-WLK - 003**

SHEET

213

OF

266

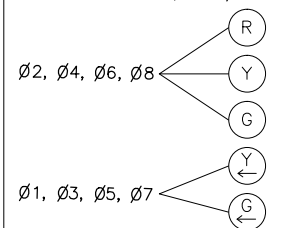
Sep. 21 2015 08:06 am v:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\TRAFFIC\E3-TFC-SIG-WLK.dwg By: brian.villa

- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR ACCESSIBLE PEDESTRIAN SIGNAL (APS).
  - 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON EACH SIGNAL MAST ARM AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - 3.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 4.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 5.) EXACT LOCATIONS OF POLES AND BASES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - 6.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 7.) ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
  - 8.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.

- ▲ REMOVAL NOTES:
1. EXISTING PEDESTRIAN PUSHBUTTONS ON MAST ARM 4 AND 8 AND PEDESTAL POLE 3 AND 7 TO BE REMOVED.
  2. EXISTING CONDUIT RUN BETWEEN HH 7 AND EXISTING LOOP DETECTORS TO BE ABANDONED IN PLACE.
  3. EXISTING HH 7 IN THE EAST MEDIAN TO BE REMOVED.
  4. EXISTING HH 11 IN THE WEST MEDIAN TO BE REMOVED.

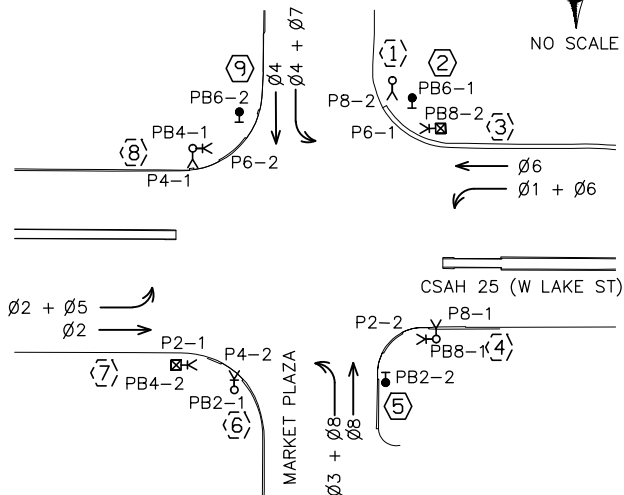
#### SIGNAL HEAD PHASING

HEADS 2-3, 2-4, 4-2, 4-3  
6-3, 6-4, 8-2, 8-3



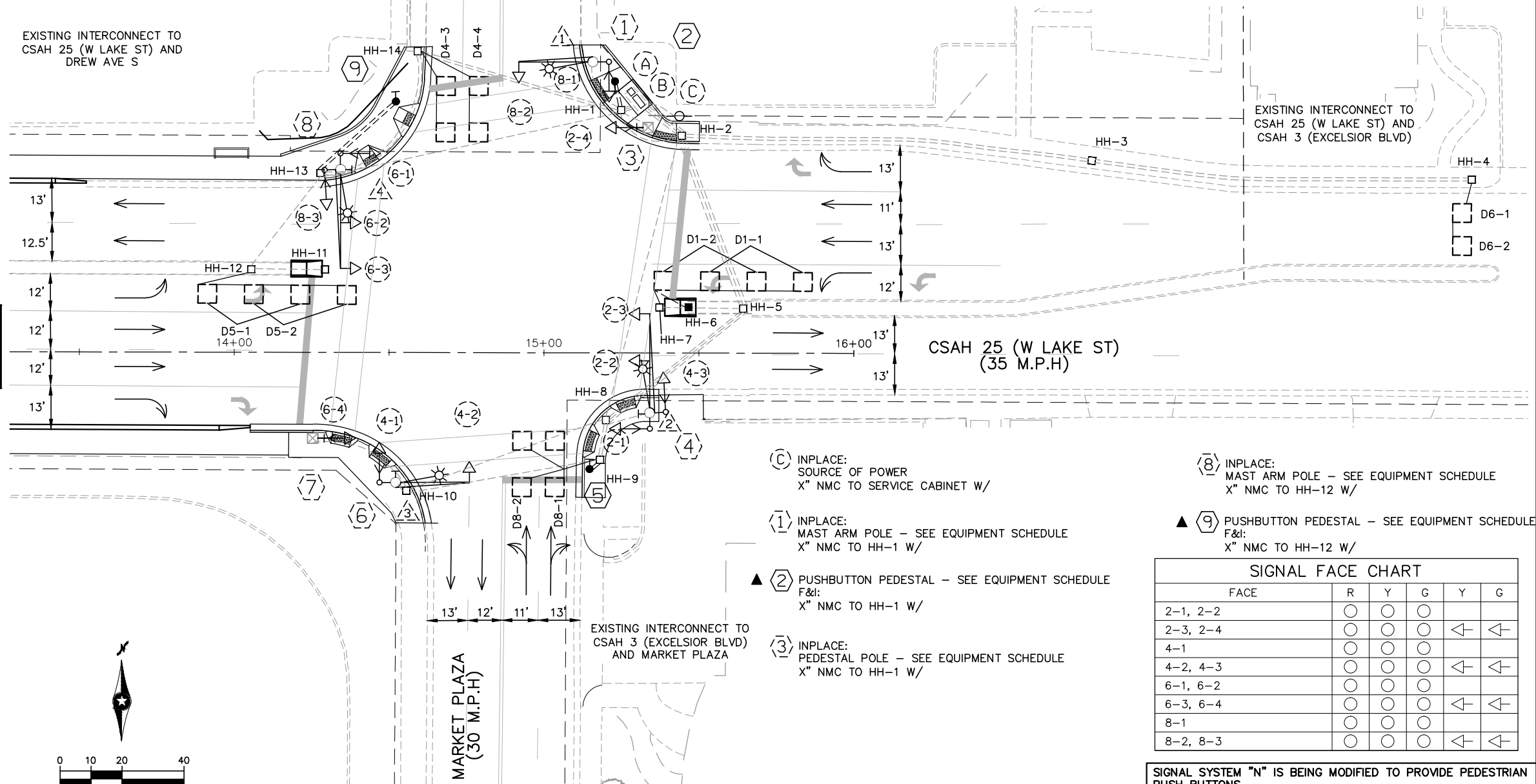
ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

#### CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

EXISTING INTERCONNECT TO  
CSAH 25 (W LAKE ST) AND  
DREW AVE S



(A) INPLACE:  
CONTROLLER CABINET - SEE EQUIPMENT SCHEDULE

CONTROLLER CABINET TO HH-1:  
X" NMC W/

CONTROLLER CABINET TO HH-2:  
X" NMC W/

(B) INPLACE:  
SERVICE CABINET - SEE EQUIPMENT SCHEDULE  
SERVICE CABINET TO SOURCE OF POWER:  
X" NMC W/

(4) INPLACE:  
MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-7 W/

▲ (5) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
F&l:  
X" NMC TO HH-8 W/

(6) INPLACE:  
MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-9 W/

(7) INPLACE:  
PEDESTAL POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-9 W/

EXISTING INTERCONNECT TO  
CSAH 25 (W LAKE ST) AND  
CSAH 3 (EXCELSIOR BLVD)

(C) INPLACE:  
SOURCE OF POWER  
X" NMC TO SERVICE CABINET W/

(1) INPLACE:  
MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-1 W/

▲ (2) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
F&l:  
X" NMC TO HH-1 W/

(3) INPLACE:  
PEDESTAL POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-1 W/

(8) INPLACE:  
MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-12 W/

▲ (9) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
F&l:  
X" NMC TO HH-12 W/

#### SIGNAL FACE CHART

FACE	R	Y	G	Y	G
2-1, 2-2	○	○	○		
2-3, 2-4	○	○	○	◁	◁
4-1	○	○	○		
4-2, 4-3	○	○	○	◁	◁
6-1, 6-2	○	○	○		
6-3, 6-4	○	○	○	◁	◁
8-1	○	○	○		
8-2, 8-3	○	○	○	◁	◁

SIGNAL SYSTEM "N" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS.

#### SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

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**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "N"**  
**CSAH 25 (W LAKE ST) AND MARKET PLAZA**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-WLK - 004**

**SHEET**  
**214**  
**OF**  
**266**

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LOOP DETECTOR CHART		
DESIGNATION	FUNCTION	LOCATION
D1-1	IP	IP
D1-2	IP	IP
D4-1	IP	IP
D4-2	IP	IP
D4-3	IP	IP
D4-4	IP	IP
D5-1	IP	IP
D5-2	IP	IP
D6-1	IP	IP
D6-2	IP	IP
D8-1	IP	IP
D8-2	IP	IP

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

EQUIPMENT SCHEDULE															
STRUCTURE				SIGNAL M.A.		LUMINAIRE				SIGNAL HEAD BRACKETING		APS PUSH BUTTON		SIGN TYPE	EVP
NO.	TYPE	STD PLATE	FDN TYPE STD PLATE	LENGTH	HEAD LOCATION	HT	M.A. LENGTH	MTD POSITION	FIXTURE	TYPE	MTD POSITION	NO.	MTD POSITION		
①	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	—	—	—	—
②	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	270°	R10-3e	—▲
③	PEDESTAL POLE	IP	IP	—	—	—	—	—	—	—	—	▲1	0°	R10-3e	—
④	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	▲1	270°	R10-3e	—
⑤	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	0°	R10-3e	—▲
⑥	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	▲1	270°	R10-3e	—
⑦	PEDESTAL POLE	IP	IP	—	—	—	—	—	—	—	—	▲1	0°	R10-3e	—
⑧	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	▲1	270°	R10-3e	—
⑨	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	0°	R10-3e	—▲
Ⓐ	CABINET	IP	IP												
Ⓑ	SERVICE CABINET	IP	IP												
Ⓒ	SOURCE OF POWER	IP	IP												

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL




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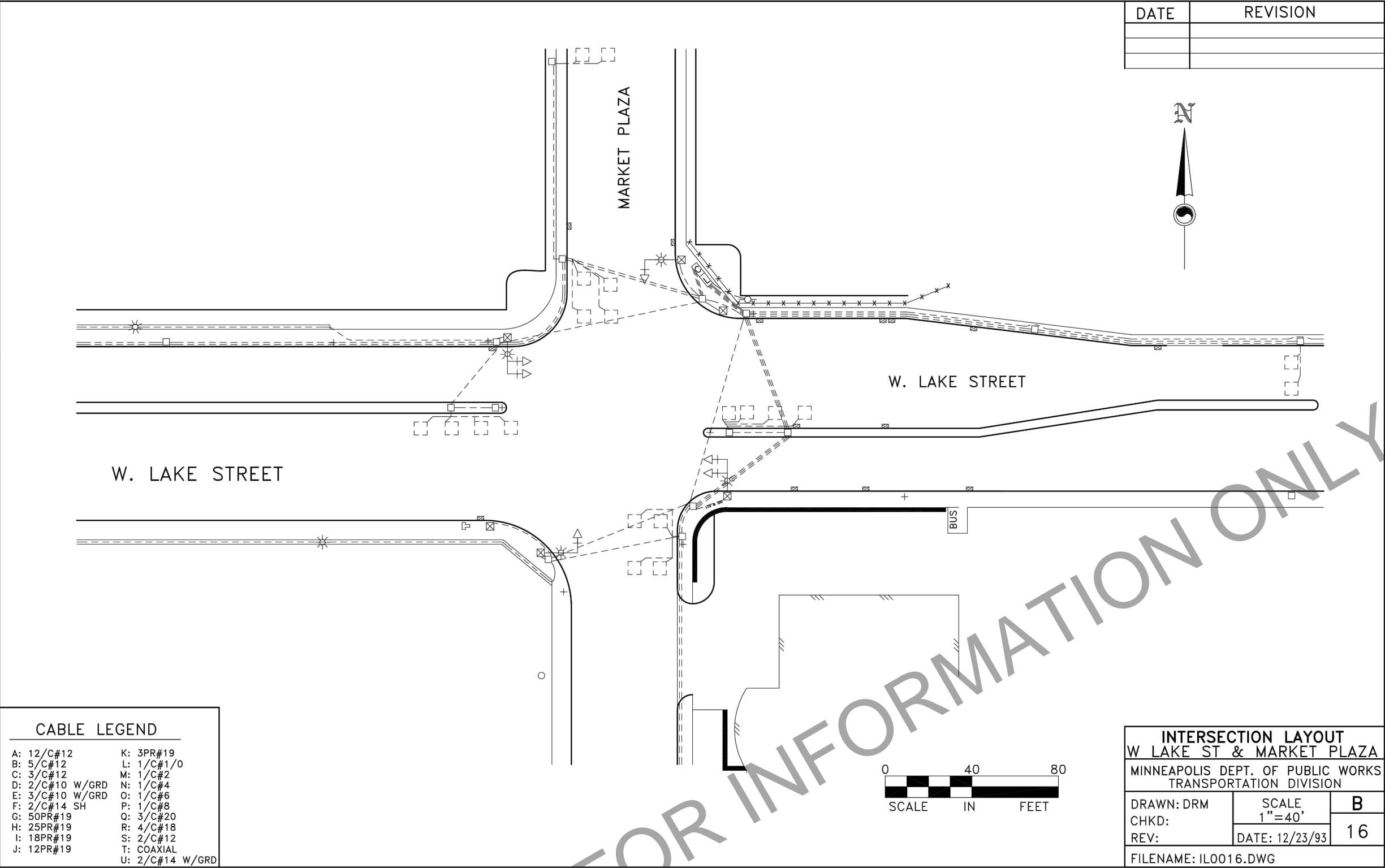


CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "N"  
CSAH 25 (W LAKE ST) AND MARKET PLAZA  
EQUIPMENT SCHEDULE

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIG-WLK - 005

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CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "N"  
CSAH 25 (W LAKE ST) AND MARKET PLAZA  
FOR INFORMATION ONLY

DISCIPLINE:  
TRAFFIC

SHEET NAME:  
E3-TFC-SIG-WLK - 006

SHEET  
216  
OF  
266



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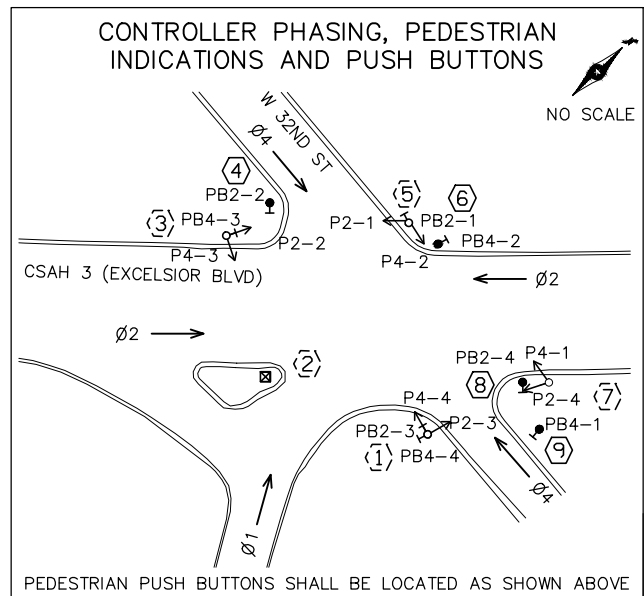
- (A) INPLACE:  
CONTROLLER CABINET – SEE EQUIPMENT SCHEDULE  
CONTROLLER CABINET TO HH-10:  
X" NMC W/
- (B) INPLACE:  
SERVICE CABINET – SEE EQUIPMENT SCHEDULE  
SERVICE CABINET TO SOURCE OF POWER:  
X" NMC W/
- (C) INPLACE:  
SOURCE OF POWER  
X" NMC TO SERVICE CABINET W/
- (1) INPLACE:  
MAST ARM POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO CONTROLLER CABINET W/  
X" NMC TO HH-1 W/
- (2) INPLACE:  
PEDESTAL POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-1 W/  
X" NMC TO HH-2 W/

- (3) INPLACE:  
MAST ARM POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-4 W/  
X" NMC TO POLE BASE 5
- (4) PUSHBUTTON PEDESTAL – SEE EQUIPMENT SCHEDULE  
F&l:  
X" NMC TO HH-4 W/
- (5) INPLACE:  
MAST ARM POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-5 W/
- (6) PUSHBUTTON PEDESTAL – SEE EQUIPMENT SCHEDULE  
F&l:  
X" NMC TO POLE BASE 5 W/
- (7) INPLACE:  
MAST ARM POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-8 W/  
X" NMC TO HH-9 W/
- (8) PUSHBUTTON PEDESTAL – SEE EQUIPMENT SCHEDULE  
F&l:  
X" NMC TO HH-9 W/

- (9) PUSHBUTTON PEDESTAL – SEE EQUIPMENT SCHEDULE  
F&l:  
X" NMC TO HH-9 W/
- (10) PUSHBUTTON PEDESTAL – SEE EQUIPMENT SCHEDULE  
F&l:  
X" NMC TO HH-9 W/

- NOTES:
- SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR ACCESSIBLE PEDESTRIAN SIGNAL (APS).
  - ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON EACH SIGNAL MAST ARM AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
  - THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - EXACT LOCATIONS OF POLES AND BASES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - ALL NEW CONDUIT SHALL BE PVC – SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
  - FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.

- ▲ REMOVAL NOTES:
- EXISTING PEDESTRIAN SIGNAL HEADS ON MAST ARM 1, 3, 5 AND 7 AND ON PEDESTAL POLE 2 TO BE REMOVED.
  - EXISTING PEDESTRIAN PUSHBUTTONS ON MAST ARM 3 AND 7 AND ON PEDESTAL POLE 2 TO BE REMOVED
  - EXISTING PEDESTAL POLE 6 IN NORTHEAST CORNER TO BE REMOVED.
  - EXISTING CONDUIT RUN BETWEEN PEDESTAL POLE 6 AND MAST ARM 5 TO BE REMOVED.



LOOP DETECTOR CHART		
DESIGNATION	FUNCTION	LOCATION
D1-1	IP	IP
D1-2	IP	IP
D2-1	IP	IP
D2-2	IP	IP
D2-3	IP	IP
D2-4	IP	IP
D4-1	IP	IP
D4-2	IP	IP
D4-3	IP	IP
D4-4	IP	IP

SIGNAL FACE CHART			
FACE	R	Y	G
1-1, 1-2	○	○	○
2-1, 2-2, 2-3, 2-4, 2-5, 2-6	○	○	○
4-1, 4-2, 4-3, 4-4, 4-5	○	○	○

SIGNAL SYSTEM "O" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.	
SIGNAL SYSTEM OPERATIONS	
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.	
- NORMAL OPERATION IS 3 PHASE.	

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**SOUTHWEST**  
Green Line LRT Extension



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "O"**  
**CSAH 3 (EXCELSIOR BLVD) AND W 32ND ST**




DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-EXC - 001**

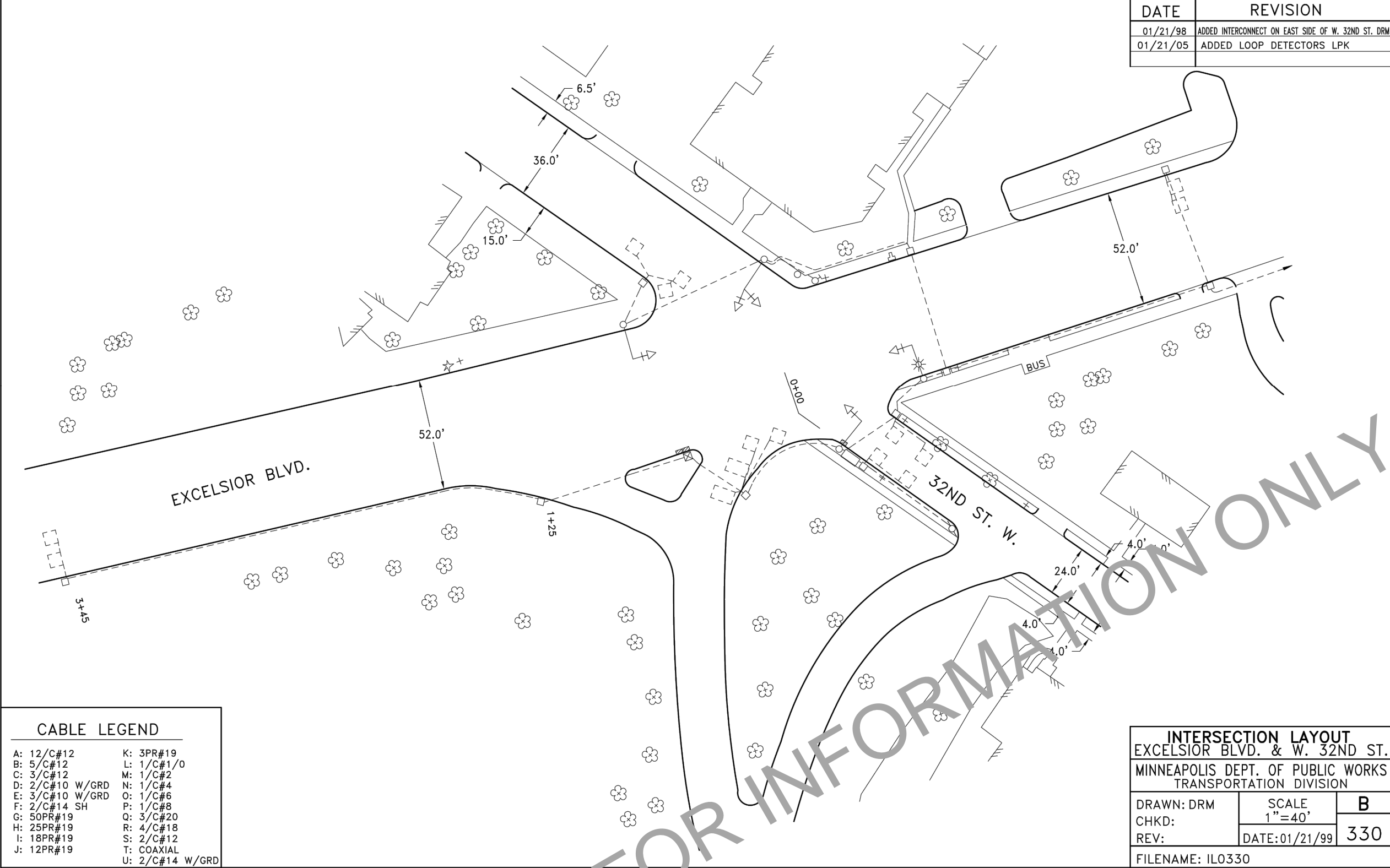
**SHEET**  
**217**  
**OF**  
**266**

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL		 	CIVIL EAST - VOLUME 10 SIGNAL PLAN - SIGNAL SYSTEM "O" CSAH 3 (EXCELSIOR BLVD) AND W 32ND ST EQUIPMENT SCHEDULE		SHEET 218 OF 266
60% SUBMISSION - 09/28/15						DISCIPLINE: TRAFFIC		SHEET NAME: E3-TFC-SIG-EXC - 002		

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**SOUTHWEST**  
Green Line LRT Extension



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "O"**  
**CSAH 3 (EXCELSIOR BLVD) AND W 32ND ST**  
**FOR INFORMATION ONLY**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-EXC - 003**

**SHEET**  
**219**  
**OF**  
**266**

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(A) INPLACE:  
CONTROLLER CABINET – SEE EQUIPMENT SCHEDULE  
CONTROLLER CABINET TO HH-1:  
X" NMC W/  
CONTROLLER CABINET TO HH-5:  
X" NMC W/

(B) INPLACE:  
SERVICE CABINET – SEE EQUIPMENT SCHEDULE  
SERVICE CABINET TO SOURCE OF POWER:  
X" NMC W/

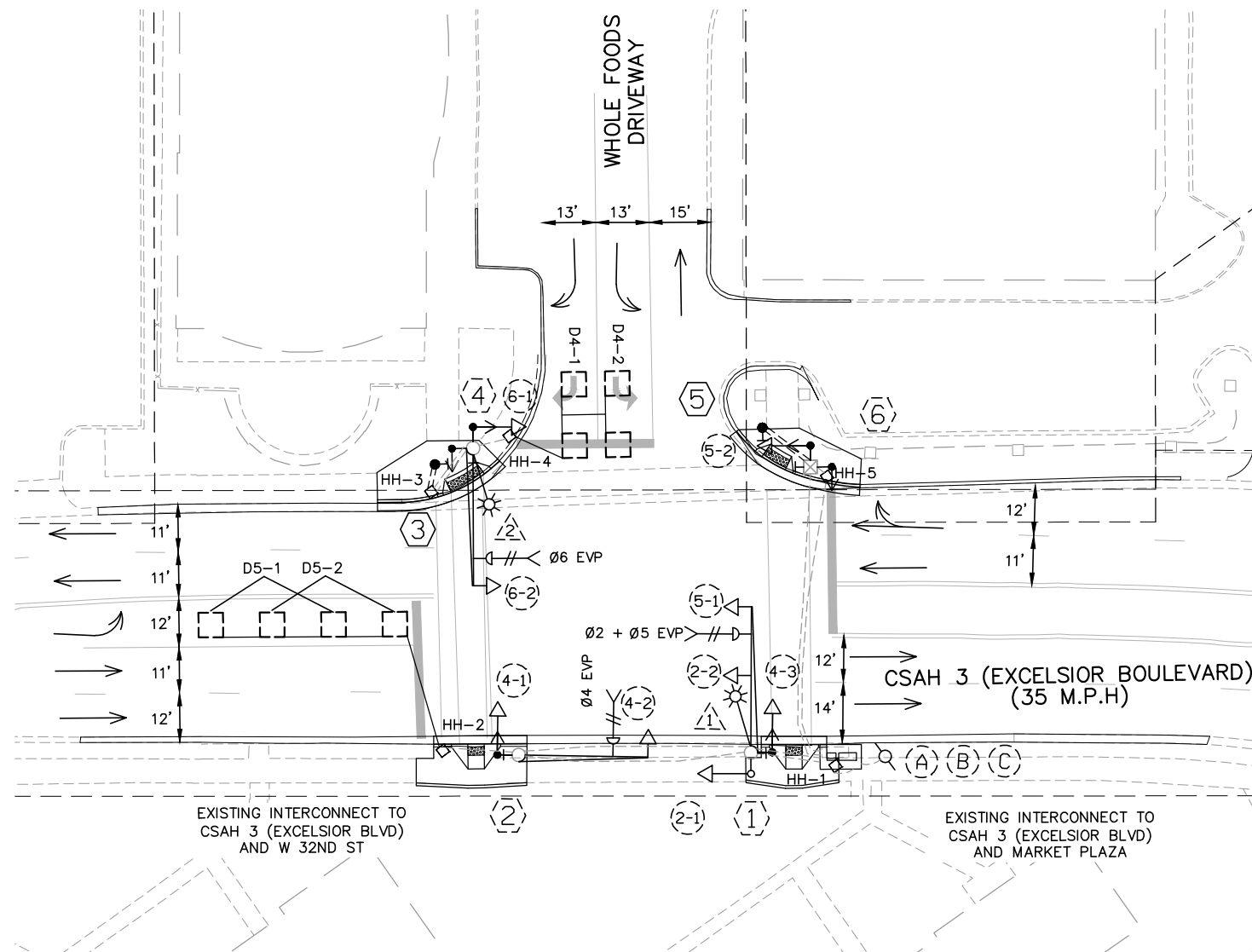
(C) INPLACE:  
SOURCE OF POWER  
X" NMC TO SERVICE CABINET W/

(1) INPLACE:  
MAST ARM POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO CONTROLLER CABINET W/  
X" NMC TO POLE BASE 2 W/

(2) INPLACE:  
MAST ARM POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-2 W/

▲ (3) PUSHBUTTON PEDESTAL – SEE EQUIPMENT SCHEDULE  
F&I:  
X" NMC TO HH-3 W/

(4) INPLACE:  
MAST ARM POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-3 W/  
X" NMC TO HH-4 W/



NOTES:

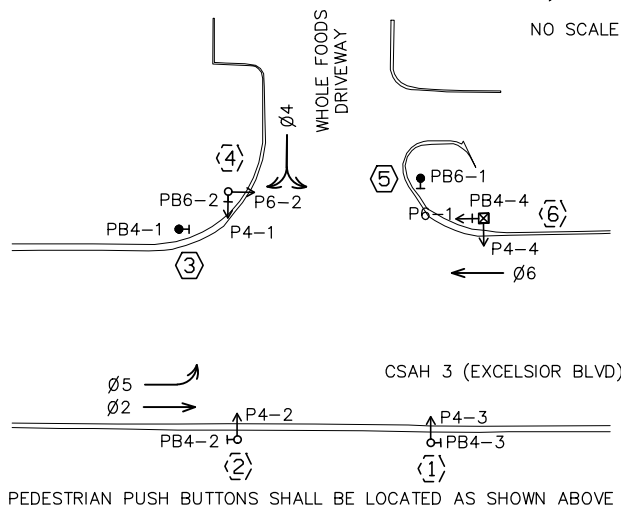
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR ACCESSIBLE PEDESTRIAN SIGNAL (APS).
- 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON EACH SIGNAL MAST ARM AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
- 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
- 4.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
- 5.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
- 6.) EXACT LOCATIONS OF POLES AND BASES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 7.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
- 8.) ALL NEW CONDUIT SHALL BE PVC – SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
- 9.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.

▲ REMOVAL NOTES:

1. EXISTING PEDESTRIAN SIGNAL HEADS ON MAST ARM 1, 2, AND 4 AND PEDESTAL POLE 6 TO BE REMOVED.
2. EXISTING PEDESTRIAN PUSHBUTTONS ON MAST ARM 1, 2, AND 4 AND PEDESTAL POLE 6 TO BE REMOVED.

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



▲ (5) PUSHBUTTON PEDESTAL – SEE EQUIPMENT SCHEDULE  
F&I:  
X" NMC TO POLE BASE 6 W/

(6) INPLACE:  
PEDESTAL POLE – SEE EQUIPMENT SCHEDULE  
X" NMC TO CONTROLLER CABINET W/  
X" NMC TO HH-5 W/

LOOP DETECTOR CHART

DESIGNATION	FUNCTION	LOCATION
D4-1	IP	IP
D4-2	IP	IP
D5-1	IP	IP
D5-2	IP	IP

SIGNAL FACE CHART

FACE	R	Y	G
2-1, 2-2	○	○	○
4-1, 4-2, 4-3	○	○	○
5-1, 5-2	◁	◁	◁
6-1, 6-2	○	○	○

SIGNAL SYSTEM "P" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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SOUTHWEST  
Green Line LRT Extension

60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "P"  
CSAH 3 (EXCELSIOR BLVD) AND  
WHOLE FOODS DRIVEWAY

DISCIPLINE:

TRAFFIC

SHEET NAME:

E3-TFC-SIG-EXC - 004

SHEET  
220  
OF  
266

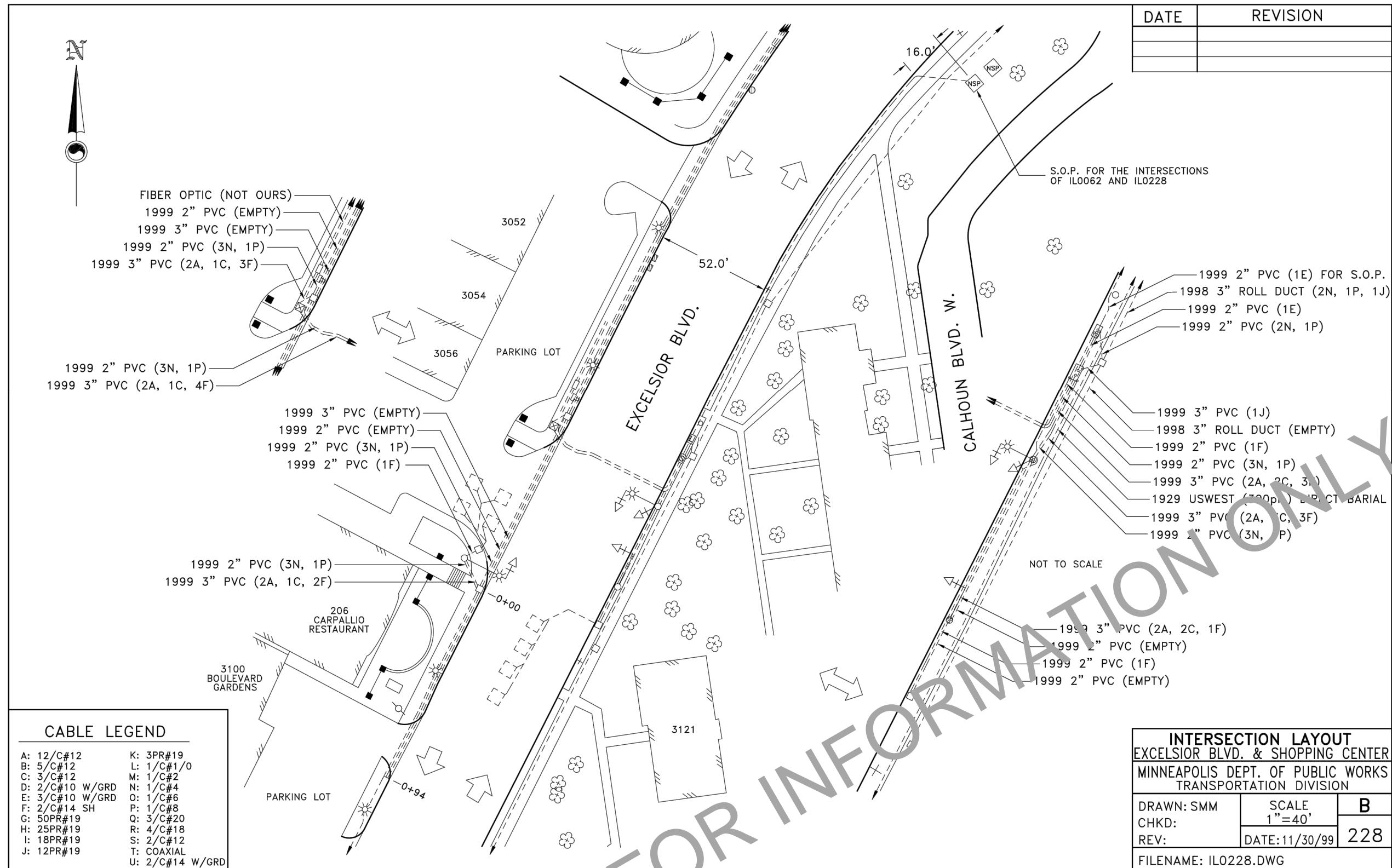
ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

EQUIPMENT SCHEDULE																
STRUCTURE				SIGNAL M.A.		LUMINAIRE				SIGNAL HEAD BRACKETING		APS PUSH BUTTON		SIGN TYPE	EVP	
NO.	TYPE	STD PLATE	FDN TYPE STD PLATE	LENGTH	HEAD LOCATION	HT	M.A. LENGTH	MTD POSITION	FIXTURE	TYPE	MTD POSITION	NO.	MTD POSITION			
①	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	90°	R10-3e	▲	IP
②	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	180°	R10-3e	▲	IP
③	PUSHBUTTON PEDESTAL	1260	1082	-	-	-	-	-	-	-	-	1	270°	R10-3e	-	▲
④	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	0°	R10-3e	▲	IP
⑤	PUSHBUTTON PEDESTAL	1260	1082	-	-	-	-	-	-	-	-	1	270°	R10-3e	-	▲
⑥	PEDESTAL POLE	IP	IP	-	-	-	-	-	-	IP	IP	1	0°	R10-3e	▲	-
Ⓐ	CABINET	IP	IP													
Ⓑ	SERVICE CABINET	IP	IP													
Ⓒ	SOURCE OF POWER	IP	IP													

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NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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60% SUBMISSION - 09/28/15



SOUTHWEST  
Green Line LRT Extension



<b>CIVIL EAST - VOLUME 10</b>		<b>SHEET 222 OF 266</b>
<b>SIGNAL PLAN - SIGNAL SYSTEM "P"</b>		
<b>CSAH 3 (EXCELSIOR BLVD) AND WHOLE FOODS DRIVEWAY - FOR INFORMATION ONLY</b>		
<b>DISCIPLINE: TRAFFIC</b>	<b>SHEET NAME: E3-TFC-SIG-EXC - 006</b>	

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(A) INPLACE:  
CONTROLLER CABINET - SEE EQUIPMENT SCHEDULE  
CONTROLLER CABINET TO HH-1:  
X" NMC W/  
CONTROLLER CABINET TO HH-2:  
X" NMC W/  
CONTROLLER CABINET TO HH-8:  
X" NMC W/

(B) INPLACE:  
SERVICE CABINET - SEE EQUIPMENT SCHEDULE  
SERVICE CABINET TO SOURCE OF POWER:  
X" NMC W/

(C) INPLACE:  
SOURCE OF POWER  
X" NMC TO SERVICE CABINET W/

▲ (1) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
F&I:  
X" NMC TO POLE BASE 2 W/

(2) INPLACE:  
MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO CONTROLLER CABINET W/

(3) INPLACE:  
MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO CONTROLLER CABINET W/

▲ (4) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
F&I:  
X" NMC TO HH-3 W/

▲ (5) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
F&I:  
X" NMC TO HH-3 W/

(6) INPLACE:  
MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-5 W/

▲ (7) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
F&I:  
X" NMC TO POLE BASE 6 W/

(8) INPLACE:  
MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-8 W/

▲ (9) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
F&I:  
X" NMC TO POLE BASE 8 W/

#### NOTES:

- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR ACCESSIBLE PEDESTRIAN SIGNAL (APS).
- 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON SIGNAL MAST ARM 2, 3, AND 8 AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
- 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
- 4.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
- 5.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
- 6.) EXACT LOCATIONS OF POLES AND BASES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 7.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
- 8.) ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
- 9.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.

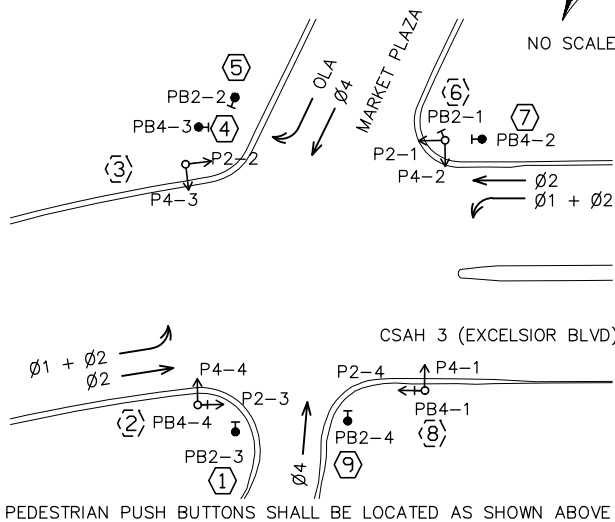
▲ REMOVAL NOTES:  
1. EXISTING PEDESTRIAN SIGNAL HEADS ON MAST ARM 2, 3, 6, AND 8 TO BE REMOVED.  
2. EXISTING PEDESTRIAN PUSHBUTTONS ON MAST ARM 2, 3, 6, AND 8 TO BE REMOVED.

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

0 10 20 40  
SCALE IN FEET

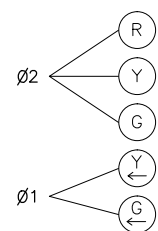
#### CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

NO SCALE



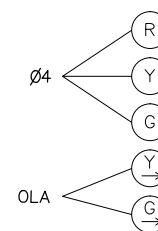
#### SIGNAL HEAD PHASING

HEADS 2-3, 2-4, 2-7, 2-8



#### SIGNAL HEAD PHASING

HEAD 4-4



#### SIGNAL FACE CHART

FACE	R	Y	G	Y	G
2-1, 2-2, 2-5, 2-6	○	○	○		
2-3, 2-4, 2-7, 2-8	○	○	○	◀	◀
4-1, 4-2, 4-3, 4-5, 4-6	○	○	○		
4-4	○	○	○	▶	▶

SIGNAL SYSTEM "Q" IS BEING MODIFIED TO PROVIDE PEDESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.

#### SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 3 PHASE.

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CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "Q"  
CSAH 3 (EXCELSIOR BLVD) AND  
MARKET PLAZA

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIG-EXC - 007

SHEET  
223  
OF  
266

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LOOP DETECTOR CHART		
DESIGNATION	FUNCTION	LOCATION
D1-1	IP	IP
D1-2	IP	IP
D1-3	IP	IP
D1-4	IP	IP
D4-1	IP	IP
D4-2	IP	IP
D4-3	IP	IP
D4-4	IP	IP
D4-5	IP	IP


ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

EQUIPMENT SCHEDULE																	
STRUCTURE				SIGNAL M.A.		LUMINAIRE				SIGNAL HEAD BRACKETING		APS PUSH BUTTON		SIGN TYPE	EVP		
NO.	TYPE	STD PLATE	FDN TYPE STD PLATE	LENGTH	HEAD LOCATION	HT	M.A. LENGTH	MTD POSITION	FIXTURE	TYPE	MTD POSITION	NO.	MTD POSITION				
①	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	270°	R10—3e	—	▲	
②	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	90°	R10—3e	▲		IP
③	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	270°	R10—3e	▲		IP
④	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	180°	R10—3e	—	▲	
⑤	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	270°	R10—3e	—	▲	
⑥	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	—	—	—	IP		
⑦	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	0°	R10—3e	—	▲	
⑧	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	270°	R10—3e	▲	IP	
⑨	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	0°	R10—3e	—	▲	
Ⓐ	CABINET	IP	IP													▲	
Ⓑ	SERVICE CABINET	IP	IP														
Ⓒ	SOURCE OF POWER	IP	IP														

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL




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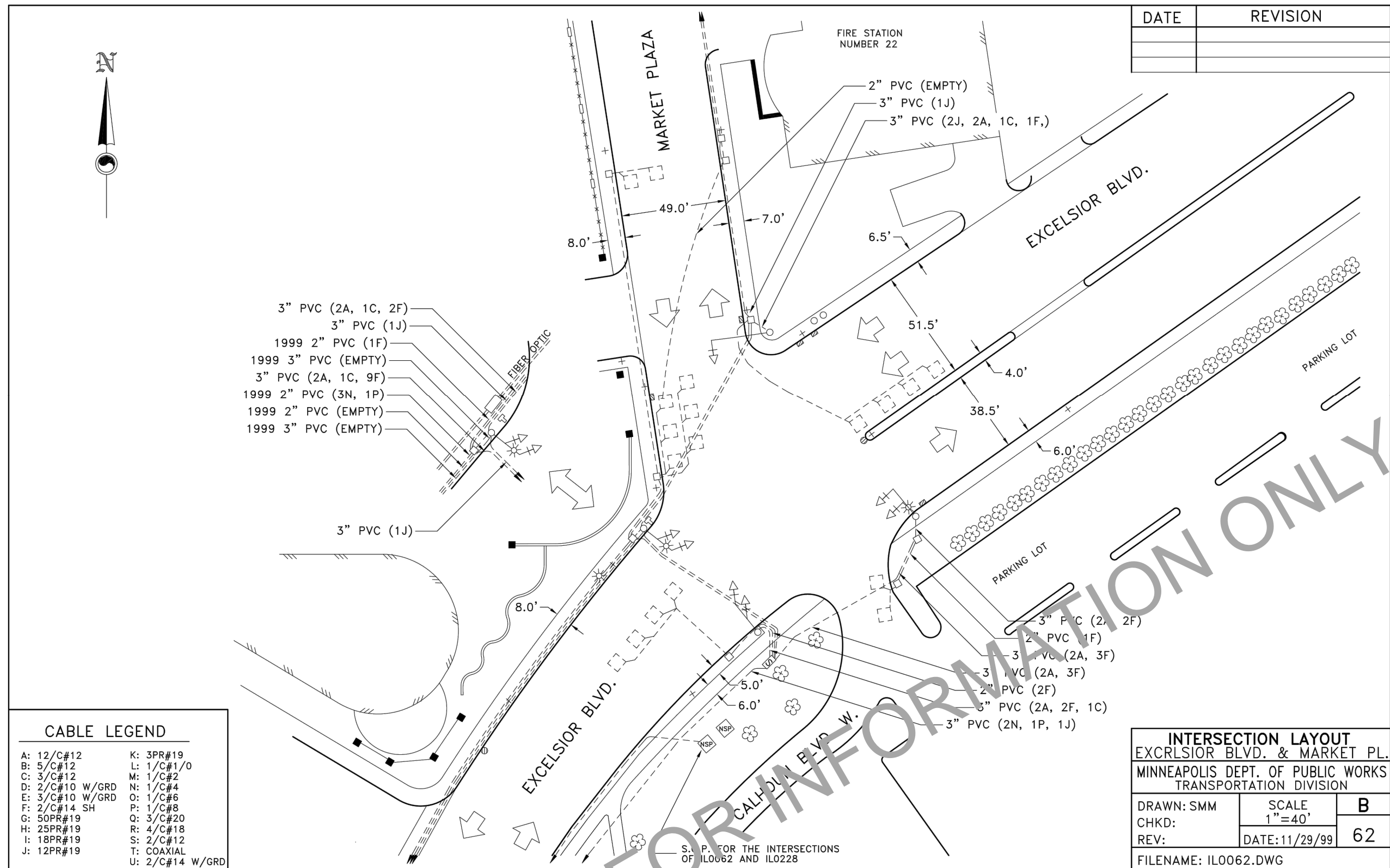


CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "Q"  
CSAH 3 (EXCELSIOR BLVD) AND MARKET PLAZA - EQUIPMENT SCHEDULE

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIG-EXC - 008

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**SOUTHWEST**  
Green Line LRT Extension



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "Q"**  
**CSAH 3 (EXCELSIOR BLVD) & MARKET PLAZA**  
**FOR INFORMATION ONLY**

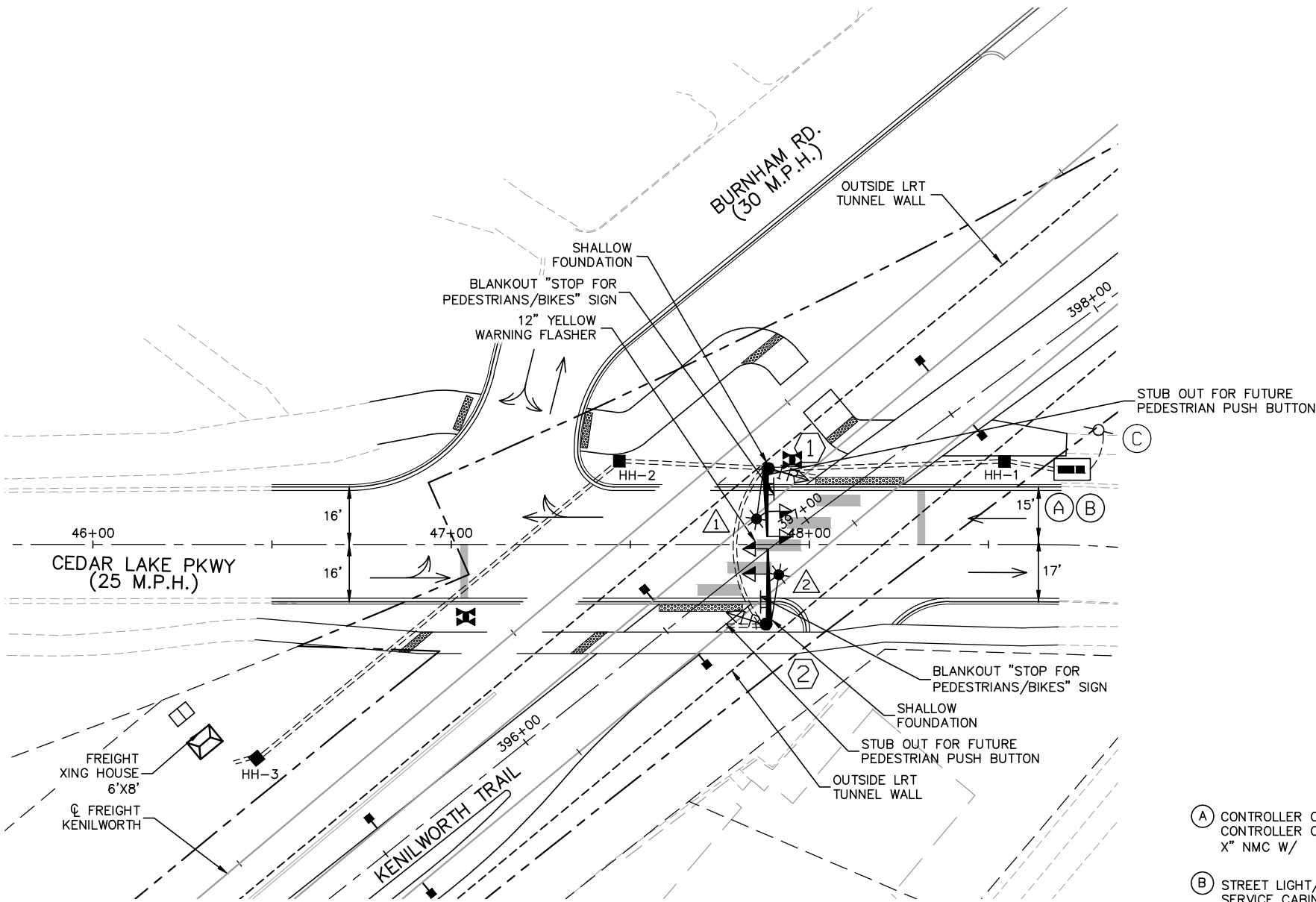
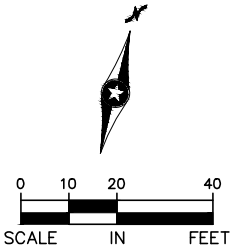
DISCIPLINE: **TRAFFIC** SHEET NAME: **E3-TFC-SIG-EXC - 009**

**SHEET**  
**225**  
**OF**  
**266**



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- NOTES:
- 1.) TRAIL CROSSING WILL INCLUDE PASSIVE DETECTION FOR BICYCLES AND PEDESTRIANS. CONDUIT STUB OUTS FOR FUTURE PEDESTRIAN PUSH BUTTONS SHALL BE INSTALLED.
  - 2.) ONE LED LUMINAIRE SHALL BE INSTALLED ON EACH MAST ARM LUMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
  - 3.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
  - 4.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE BLANKOUT "STOP FOR PEDESTRIANS/BIKES" SIGN (24"x 24") ON THE MAST ARM OF MA-1 AND MA-2.
  - 5.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 6.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
  - 7.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 8.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD.
  - 9.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD.
  - 10.) ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
  - 11.) YELLOW WARNING FLASHER SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 12.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.



- (A) CONTROLLER CABINET - SEE EQUIPMENT SCHEDULE  
CONTROLLER CABINET TO HH-1:  
X" NMC W/
- (B) STREET LIGHT/SIGNAL CABINET - SEE EQUIPMENT SCHEDULE  
SERVICE CABINET TO SOURCE OF POWER:  
X" NMC W/
- (C) SOURCE OF POWER  
X" NMC TO SERVICE CABINET W/
- (1) MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-1 W/
- (2) MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO POLE BASE 1 W/

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - FLASHER SYSTEM "R"**  
**CEDAR LAKE PKWY AND KENILWORTH TRAIL**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E3-TFC-SIG-CED - 001**

**SHEET**  
**226**  
**OF**  
**266**



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EQUIPMENT SCHEDULE															
STRUCTURE				SIGNAL M.A.		LUMINAIRE				SIGNAL HEAD BRACKETING		APS PUSH BUTTON		SIGN TYPE	EVP
NO.	TYPE	STD PLATE	FDN TYPE STD PLATE	LENGTH	HEAD LOCATION	HT	M.A. LENGTH	MTD POSITION	FIXTURE	TYPE	MTD POSITION	NO.	MTD POSITION		
①	MAST ARM POLE	1224	SEE DETAIL	18'	0',7'	30'	0'	0'	LED	—	—	—	—	—	—
②	MAST ARM POLE	1224	SEE DETAIL	20'	0',7'	30'	0'	0'	LED	—	—	—	—	—	—
Ⓐ	CABINET	P	1071	—	—	—	—	—	—	—	—	—	—	—	—
Ⓑ	SERVICE CABINET	3487		—	—	—	—	—	—	—	—	—	—	—	—
Ⓒ	SOURCE OF POWER	—	XCEL POLE	—	—	—	—	—	—	—	—	—	—	—	—

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



  
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10  
SIGNAL PLAN - FLASHER SYSTEM "R"  
CEDAR LAKE PKWY AND KENILWORTH TRAIL  
EQUIPMENT SCHEDULE

DISCIPLINE: TRAFFIC

SHEET NAME: E3-TFC-SIG-CED - 002

SHEET

227

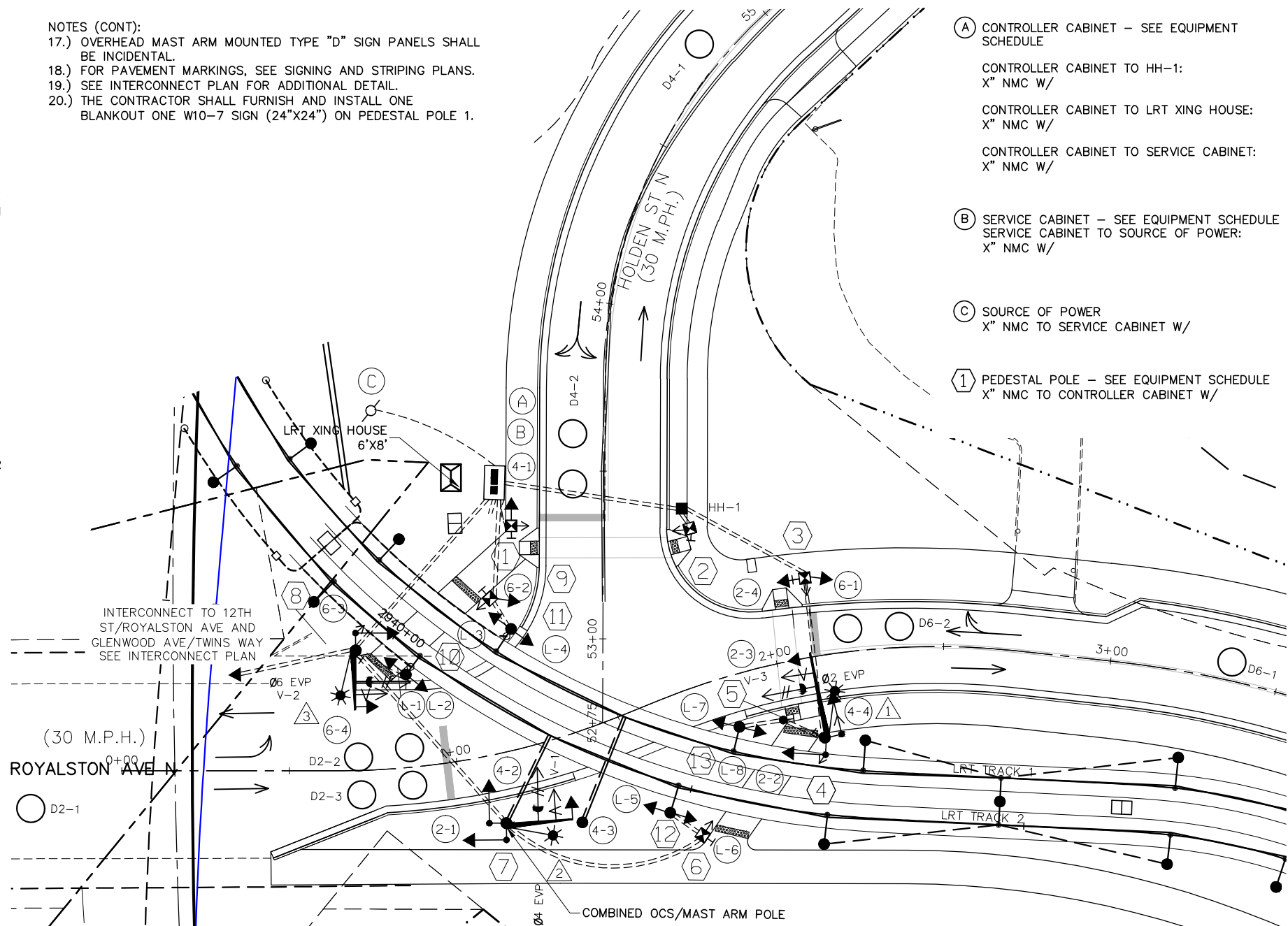
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266

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- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM, VIDEO DETECTION SYSTEM, BATTERY BACK-UP SYSTEM, ACCESSIBLE PEDESTRIAN SIGNAL (APS), AND FIBER OPTIC COMMUNICATION EQUIPMENT.
  - 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON SIGNAL MAST ARM POLE 4, EACH PEDESTAL POLE, AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
  - 4.) ONE LED LUMINAIRE SHALL BE INSTALLED ON EACH MAST ARM LUMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
  - 5.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
  - 6.) THE CONTRACTOR SHALL INSTALL ONE VIDEO DETECTION CAMERA ON EACH DAVIT ARM. VIDEO DETECTION CAMERAS SHALL INCLUDE A 6-FT HEIGHT EXTENSION BRACKET.
  - 7.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R10-12 SIGN (36"x42") ON POLE 1 AND THE MAST ARMS OF MA-4 AND MA-7.
  - 8.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 9.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
  - 10.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 11.) EXACT LOCATIONS OF HAND HOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD.
  - 12.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 13.) ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
  - 14.) ALL VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 15.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R9-3A SIGN (18"x18") ON POLES 7, 8, AND 9 FACING ROYALSTON AVE. N.
  - 16.) A 3/4 INCH HALF COUPLING, 3/4 INCH PIPE NIPPLE, AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE FURNISHED AND MOUNTED 6-FT FROM THE END OF EACH MAST ARM. SEE SIGNAL DETAILS FOR INSTALLATION OF EMERGENCY VEHICLE PREEMPTION EQUIPMENT.

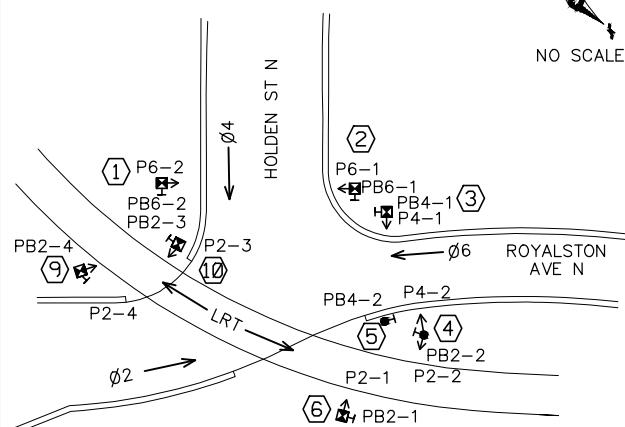
- NOTES (CONT):
- 17.) OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL.
  - 18.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
  - 19.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.
  - 20.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE BLANKOUT ONE W10-7 SIGN (24"x24") ON PEDESTAL POLE 1.



- (A) CONTROLLER CABINET - SEE EQUIPMENT SCHEDULE  
X" NMC W/  
CONTROLLER CABINET TO HH-1:  
X" NMC W/  
CONTROLLER CABINET TO LRT XING HOUSE:  
X" NMC W/  
CONTROLLER CABINET TO SERVICE CABINET:  
X" NMC W/  
(B) SERVICE CABINET - SEE EQUIPMENT SCHEDULE  
SERVICE CABINET TO SOURCE OF POWER:  
X" NMC W/  
(C) SOURCE OF POWER  
X" NMC TO SERVICE CABINET W/  
(1) PEDESTAL POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO CONTROLLER CABINET W/

- (2) PEDESTAL POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-1 W/  
(3) PEDESTAL POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-1 W/  
(4) MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
1-ONE WAY SINGLE CHANNEL EVP DETECTOR WITH INDICATOR LIGHT  
1-VIDEO DETECTOR  
X" NMC TO POLE BASE 3 W/  
(5) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
X" NMC TO POLE BASE 4 W/  
(6) PEDESTAL POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO POLE BASE 7 W/  
(7) COMBINED OCS/MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
1-ONE WAY SINGLE CHANNEL EVP DETECTOR WITH INDICATOR LIGHT  
1-VIDEO DETECTOR  
X" NMC TO POLE BASE 8 W/  
(8) MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
1-ONE WAY SINGLE CHANNEL EVP DETECTOR WITH INDICATOR LIGHT  
1-VIDEO DETECTOR  
X" NMC TO CONTROLLER CABINET W/  
(9) PEDESTAL POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO CONTROLLER CABINET W/  
(10) OCS POLE E294009 (SEE SYSTEM PLAN)  
2-LRT SIGNALS (L-1 & L-2)-POLE MOUNTED  
X" CONDUIT TO POLE BASE 9 W/  
(11) OCS POLE E294028 (SEE SYSTEM PLAN)  
2-LRT SIGNALS (L-3 & L-4)-POLE MOUNTED  
X" CONDUIT TO POLE BASE 9 W/  
(12) OCS POLE E294096 (SEE SYSTEM PLAN)  
2-LRT SIGNALS (L-5 & L-6)-POLE MOUNTED  
X" CONDUIT TO POLE BASE 6 W/  
(13) OCS POLE E294110 (SEE SYSTEM PLAN)  
2-LRT SIGNALS (L-7 & L-8)-POLE MOUNTED  
X" CONDUIT TO POLE BASE 5 W/

### CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

### SIGNAL FACE CHART

FACE	R	Y	G	LRT STOP	LRT PTS	LRT GO
2-1, 2-2, 2-3, 2-4	●	●	●			
4-1, 4-2, 4-3, 4-4	●	●	●			
6-1, 6-2, 6-3, 6-4	●	●	●			
L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8				⊖	⓪ (1)	⓪

- (1) FLASHING LRT SIGNAL. PTS = PREPARE TO STOP  
- ALL SIGNAL INDICATIONS SHALL BE 12" LED  
- ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

### SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION SHALL BE 3 PHASE.
- SIGNAL SYSTEM SHALL BE FULLY ACTUATED.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SIGNAL SYSTEM "S"**  
**ROYALSTON AVE AND HOLDEN ST**

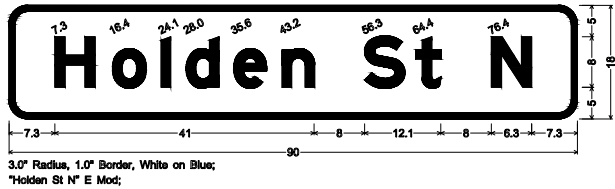
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SHEET NAME: **E4-TFC-SIG-ROY-001**

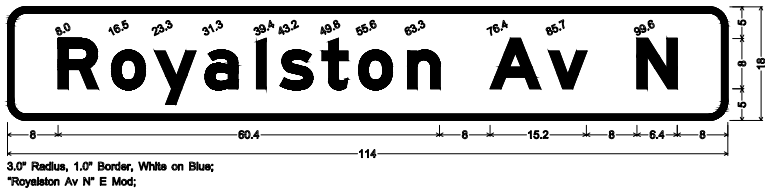
**SHEET**  
**228**  
**OF**  
**266**

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SIGN PANEL FOR MA-4 AND MA-8



SIGN PANEL FOR MA-7



- NOTES:
- 1.) SIGNS SHALL BE MOUNTED TO THE MAST ARM WITH STAINLESS BANDS AS DIRECTED BY THE ENGINEER.
  - 2.) ALL SIGNING SHALL USE DG3 SHEETING.
  - 3.) SIGN PANELS SHALL BE INCIDENTAL.

EQUIPMENT SCHEDULE

STRUCTURE				SIGNAL M.A.		LUMINAIRE				SIGNAL HEAD BRACKETING		APS PUSH BUTTON		SIGN TYPE	EVP	
NO.	TYPE	STD PLATE	FDN TYPE STD PLATE	LENGTH	HEAD LOCATION	HT	M.A. LENGTH	MTD POSITION	FIXTURE	TYPE	MTD POSITION	NO.	MTD POSITION			
①	PEDESTAL POLE	1266	1076	—	—	—	—	—	—	10B	180°	1	0°	R10—3e	—	
②	PEDESTAL POLE	1266	1076	—	—	—	—	—	—	30A(L)	90°	1	270°	R10—3e	—	
③	PEDESTAL POLE	1266	1076	—	—	—	—	—	—	10A 10B	0° 180°	1	0°	R10—3e	—	
④	MAST ARM POLE	1224	1072	24'	1.3'	30'	0'	0'	LED	10B 10B	90° 180°	1	270°	R10—3e	1—1 CHANNEL W/ INDICATOR LIGHT	
⑤	PUSHBUTTON PEDESTAL	1260	1082	—	—	—	—	—	—	—	—	1	90°	R10—3e	—	
⑥	PEDESTAL POLE	1266	1076	—	—	—	—	—	—	30A(R)	270°	1	90°	R10—3e	—	
⑦	COMBINED OCS/MAST ARM POLE	SEE SYSTEM PLAN	SEE SYSTEM PLAN	18'	0'	30'	0'	0'	LED	10A 10A	90° 180°	—	—	R9—3a	1—1 CHANNEL W/ INDICATOR LIGHT	
⑧	MAST ARM POLE	1224	1072	16'	0'	30'	0'	0'	LED	10B	180°	1	0°	R9—3a R10—3e	1—1 CHANNEL W/ INDICATOR LIGHT	
⑨	PEDESTAL POLE	1266	1076	—	—	—	—	—	—	10B	0°	1	90°	R9—3a R10—3e	—	
Ⓐ	CABINET	P	1071													
Ⓑ	SERVICE CABINET	3487														
Ⓒ	SOURCE OF POWER	—		XCEL POLE												

ITERIS VIDEO DETECTOR CHART  
VIDEO CAMERA 1

DESIGNATION	NO.	FUNCTION	LOCATION
D2-1	VIDEO (V-3)	(1)	120'
D2-2	VIDEO (V-3)	(1)	5' & 20'
D2-3	VIDEO (V-3)	(1)	5' & 20'
D4-1	VIDEO (V-1)	(1)	120'
D4-2	VIDEO (V-1)	(1)	5' & 20'
D6-1	VIDEO (V-2)	(1)	120'
D6-2	VIDEO (V-2)	(1)	5' & 20'

LOCATION OF DETECTION ZONE:  
DISTANCE FROM CROSSWALK/STOP BAR IN FEET

- (1) CALL AND EXTEND
- (2) DELAY CALL AND IMMEDIATE EXTEND
- (3) SYSTEM

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL


60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "S"  
ROYALSTON AVE AND HOLDEN ST  
EQUIPMENT SCHEDULE

DISCIPLINE: TRAFFIC

SHEET NAME: E4-TFC-SIG-ROY - 002

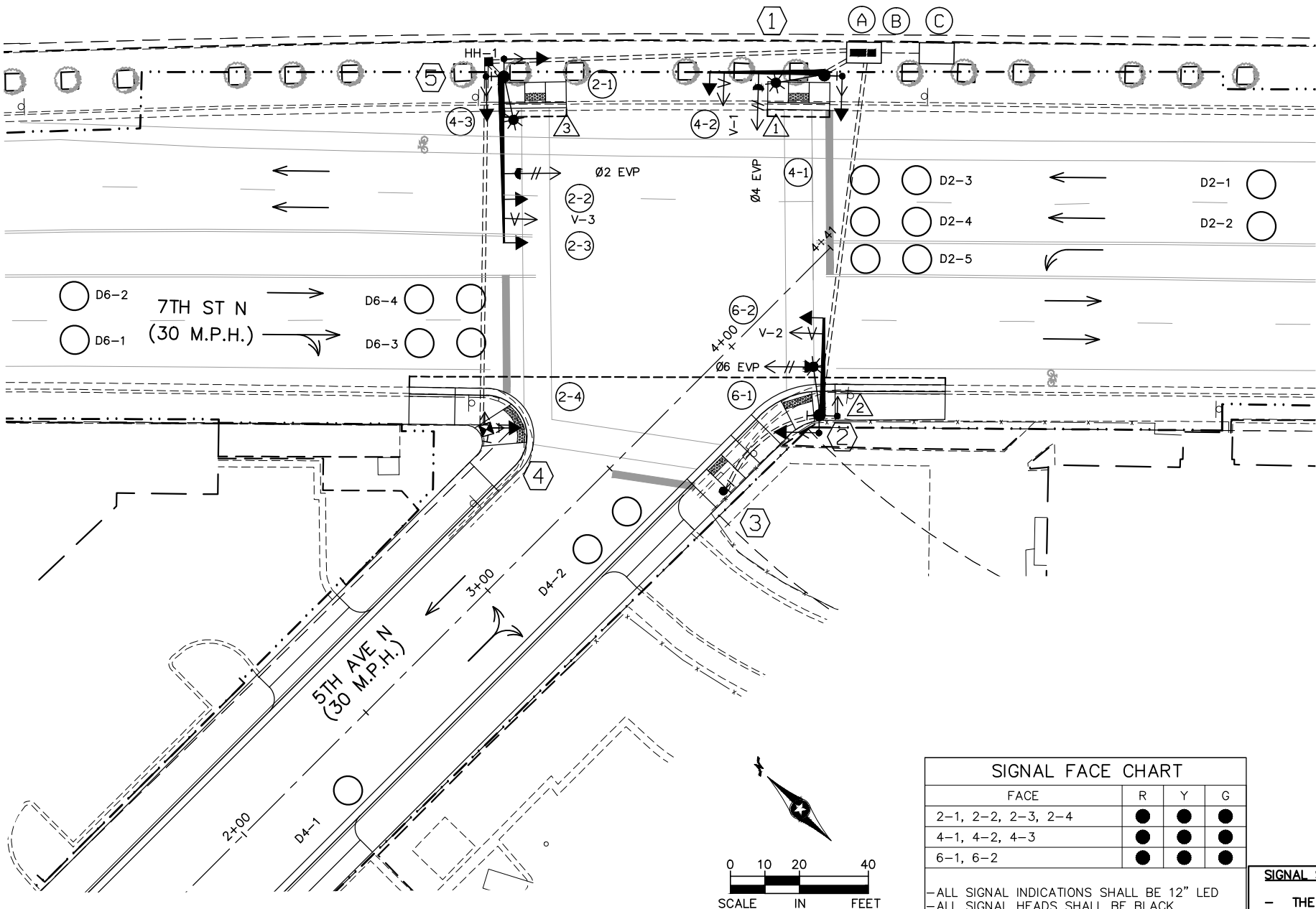
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- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM, VIDEO DETECTION SYSTEM, BATTERY BACK-UP SYSTEM, ACCESSIBLE PEDESTRIAN SIGNAL (APS), FIBER OPTIC COMMUNICATION EQUIPMENT, AND MATERIALS PROVIDED BY THE CITY OF MINNEAPOLIS.
  - 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON EACH SIGNAL MAST ARM AND PEDESTAL POLE AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
  - 4.) ONE LED LUMINAIRE SHALL BE INSTALLED ON EACH MAST ARM LUMINAIRE SHAFT EXTENSION. SEE SPECIAL PROVISIONS.
  - 5.) LUMINAIRE SYMBOL IS SHOWN ROTATED ON THE PLAN TO INCREASE LEGIBILITY. MOUNTING POSITION SHALL BE 0 DEGREES.
  - 6.) THE CONTRACTOR SHALL INSTALL ONE VIDEO DETECTION CAMERA ON EACH DAVIT ARM. VIDEO DETECTION CAMERAS SHALL INCLUDE A 6-FT HEIGHT EXTENSION BRACKET.
  - 7.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R10-12 SIGN (36"x42") ON THE MAST ARM OF MA-6 AND MOUNTED TO SIGN BRACKET "D" AS DIRECTED BY THE ENGINEER.
  - 8.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 9.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
  - 10.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 11.) EXACT LOCATIONS OF HAND HOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - 12.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 13.) ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
  - 14.) ALL VEHICULAR SIGNAL INDICATIONS SHALL BE LED AND SHALL HAVE BACKGROUND SHIELDS. ALL POLE MOUNTED BRACKETING SHALL BE EXTENDED BRACKETING. SEE SPECIAL PROVISIONS.
  - 15.) A 3/4 INCH HALF COUPLING, 3/4 INCH PIPE NIPPLE, AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE FURNISHED AND MOUNTED 6-FT FROM THE END OF EACH MAST ARM. SEE SIGNAL DETAILS FOR INSTALLATION OF EMERGENCY VEHICLE PREEMPTION EQUIPMENT.
  - 16.) OVERHEAD MAST ARM MOUNTED TYPE "D" SIGN PANELS SHALL BE INCIDENTAL.
  - 17.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
  - 18.) SEE INTERCONNECT PLAN FOR ADDITIONAL DETAIL.

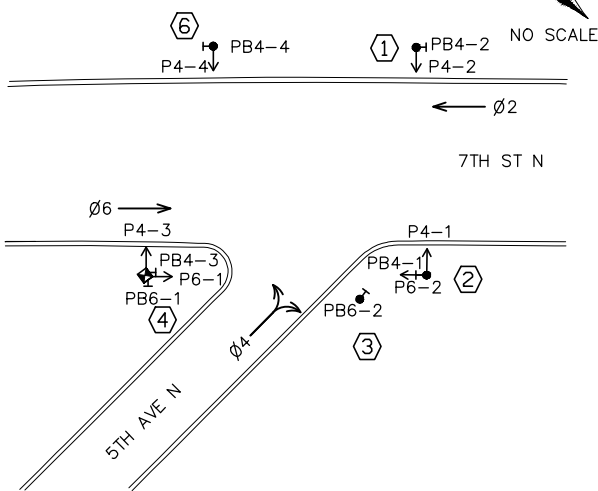
- (A) CONTROLLER CABINET - SEE EQUIPMENT SCHEDULE  
CONTROLLER CABINET TO HH-1:  
X" NMC W/
- (B) SERVICE CABINET - SEE EQUIPMENT SCHEDULE  
SERVICE CABINET TO SOURCE OF POWER:  
X" NMC W/
- (C) SOURCE OF POWER  
X" NMC TO SERVICE CABINET W/

- (1) MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
1-ONE WAY SINGLE CHANNEL EVP DETECTOR  
WITH INDICATOR LIGHT  
1-ONE VIDEO DETECTOR  
X" NMC TO CONTROLLER CABINET W/
- (2) MAST ARM POLE - SEE EQUIPMENT SCHEDULE  
1-ONE WAY SINGLE CHANNEL EVP DETECTOR  
WITH INDICATOR LIGHT  
1-ONE VIDEO DETECTOR  
X" NMC TO CONTROLLER CABINET W/
- (3) PUSHBUTTON PEDESTAL - SEE EQUIPMENT SCHEDULE  
X" NMC TO POLE BASE 2 W/

- (4) PEDESTAL POLE - SEE EQUIPMENT SCHEDULE  
X" NMC TO HH-1 W/



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL FACE CHART

FACE	R	Y	G
2-1, 2-2, 2-3, 2-4	●	●	●
4-1, 4-2, 4-3	●	●	●
6-1, 6-2	●	●	●

- ALL SIGNAL INDICATIONS SHALL BE 12" LED  
- ALL SIGNAL HEADS SHALL BE BLACK  
POLYCARBONATE WITH BACKGROUND SHIELDS

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION SHALL BE 3 PHASE.
- SIGNAL SYSTEM SHALL BE FULLY ACTUATED.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn

60% SUBMISSION - 09/28/15



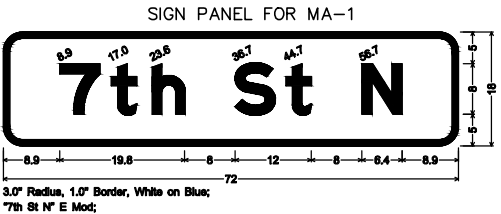
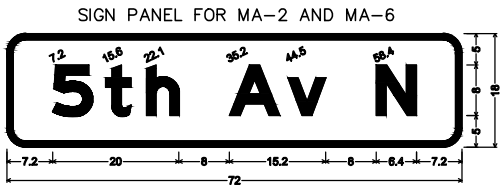
CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SIGNAL SYSTEM "T"  
7TH ST N & 5TH AVE N

DISCIPLINE: TRAFFIC

SHEET NAME: E4-TFC-SIG-7TH-001

SHEET  
230  
OF  
266

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- NOTES:
- 1.) SIGNS SHALL BE MOUNTED TO THE MAST ARM WITH STAINLESS BANDS AS DIRECTED BY THE ENGINEER.
  - 2.) ALL SIGNING SHALL USE DG3 SHEETING.
  - 3.) SIGN PANELS SHALL BE INCIDENTAL TO SIGNAL SYSTEM.

EQUIPMENT SCHEDULE															
STRUCTURE				SIGNAL M.A.		LUMINAIRE				SIGNAL HEAD BRACKETING		APS PUSH BUTTON		SIGN TYPE	EVP
NO.	TYPE	STD PLATE	FDN TYPE STD PLATE	LENGTH	HEAD LOCATION	HT	M.A. LENGTH	MTD POSITION	FIXTURE	TYPE	MTD POSITION	NO.	MTD POSITION		
①	MAST ARM POLE	1231	1074	34'	0'	30'	0'	0'	LED	10B	180°	1	180°	R10-3e	1-1 CHANNEL W/ INDICATOR LIGHT
②	MAST ARM POLE	1231	1074	28'	0'	30'	0'	0'	LED	10B 30A(L)	180° 90°	1	270°	R10-3e	1-1 CHANNEL W/ INDICATOR LIGHT
③	PUSHBUTTON PEDESTAL	1260	1082	-	-	-	-	-	-	-	-	1	0°	R10-3e	-
④	PEDESTAL POLE	1266	1076	-	-	-	-	-	-	10B 30A(R)	0° 180°	2	0° 90°	R10-3e R10-3e	-
⑤	MAST ARM POLE	1231	1074	46'	0',12'	30'	0'	0'	LED	10A 10B	180° 90°	1	90°	R10-3e	1-1 CHANNEL W/ INDICATOR LIGHT
Ⓐ	CABINET	P	1071												
Ⓑ	SERVICE CABINET	3487													
Ⓒ	SOURCE OF POWER	3487													

ITERIS VIDEO DETECTOR CHART VIDEO CAMERA 1			
DESIGNATION	NO.	FUNCTION	LOCATION
D2-1	VIDEO (V-3)	(1)	120'
D2-2	VIDEO (V-3)	(1)	120'
D2-3	VIDEO (V-3)	(1)	5' & 20'
D2-4	VIDEO (V-3)	(1)	5' & 20'
D2-5	VIDEO (V-3)	(1)	5' & 20'
D4-1	VIDEO (V-1)	(1)	120'
D4-2	VIDEO (V-1)	(1)	5' & 20'
D6-1	VIDEO (V-2)	(1)	120'
D6-2	VIDEO (V-2)	(1)	120'
D6-3	VIDEO (V-2)	(1)	5' & 20'
D6-4	VIDEO (V-2)	(1)	5' & 20'

LOCATION OF DETECTION ZONE:  
DISTANCE FROM CROSSWALK/STOP BAR IN FEET

- (1) CALL AND EXTEND  
(2) DELAY CALL AND IMMEDIATE EXTEND  
(3) SYSTEM

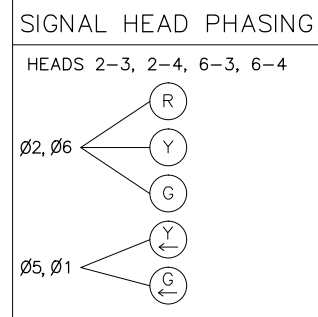
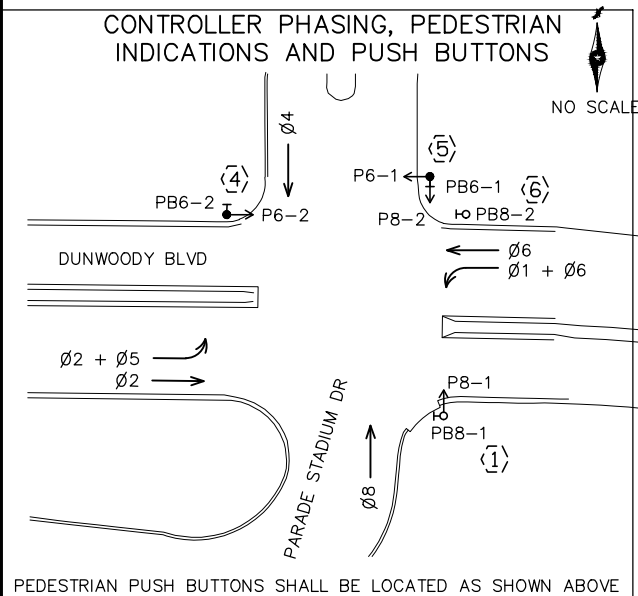
NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL									CIVIL EAST - VOLUME 10 SIGNAL PLAN - SIGNAL SYSTEM "T" 7TH ST N & 5TH AVE N EQUIPMENT SCHEDULE				SHEET 231 OF 266
														DISCIPLINE: TRAFFIC				
														SHEET NAME: E4-TFC-SIG-7TH - 002				
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- NOTES:
- 1.) SEE DIVISION "SS" OF SPECIAL PROVISIONS FOR ACCESSIBLE PEDESTRIAN SIGNAL (APS).
  - 2.) ONE APS PEDESTRIAN PUSH BUTTON WITH SIGN R10-3E (9"x15") SHALL BE INSTALLED ON EACH SIGNAL MAST ARM AND ON EACH PUSH BUTTON STATION AS DIRECTED BY THE ENGINEER FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
  - 3.) PEDESTRIAN INDICATIONS SHALL BE ONE SECTION LED WITH COUNTDOWN TIMERS UTILIZING INTERNATIONAL SYMBOL (HAND AND WALKING PERSON) INDICATIONS. SEE SPECIAL PROVISIONS.
  - 4.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO ITS ORIGINAL CONDITION OR BETTER. ALL COSTS FOR THIS WORK SHALL BE INCIDENTAL.
  - 5.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - 6.) EXACT LOCATIONS OF HANDHOLES, POLES, DETECTION ZONES, CABINETS, AND BASES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - 7.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 8.) ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C #6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
  - 9.) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
  - 10.) THE CONTRACTOR SHALL FURNISH AND INSTALL ONE R9-3A SIGN (18"x18") ON POLES 1, 2 AND 4.

- ▲ REMOVAL NOTES:
1. EXISTING PEDESTAL POLE 7 IN EAST MEDIAN TO BE REMOVED.
  2. EXISTING CONDUIT RUNS BETWEEN MAST ARM 4 AND HH 5 TO BE REMOVED.
  3. EXISTING CONDUIT RUNS BETWEEN MAST ARM 5 AND HH 5 TO BE REMOVED.
  4. EXISTING CONDUIT RUN BETWEEN PUSHBUTTON PEDESTAL 6 AND HH 5 TO BE REMOVED.
  5. EXISTING CONDUIT RUN BETWEEN PEDESTAL POLE 7 AND HH 6 TO BE ABANDONED INPLACE.
  6. EXISTING CONDUIT RUN BETWEEN HH 6 AND DETECTION ZONE 1-2 TO BE ABANDONED INPLACE.
  7. EXISTING CONDUIT RUN BETWEEN HH 6 AND DETECTION ZONE 1-1 TO BE ABANDONED INPLACE.
  8. EXISTING CONDUIT RUN BETWEEN CONTROLLER CABINET AND PEDESTAL POLE 7 TO BE ABANDONED INPLACE.
  9. EXISTING CONDUIT BETWEEN HH 6 AND HH 5 TO BE ABANDONED INPLACE.
  10. EXISTING HH 5 IN NORTHEAST CORNER SHALL BE REMOVED.
  11. EXISTING HH 6 IN EAST MEDIAN SHALL BE REMOVED.



SIGNAL FACE CHART					
FACE	R	Y	G	Y	G
2-1, 2-2	○	○	○		
2-3	●	●	●	◀	◀
2-4	○	○	○	◀	◀
4-1, 4-2, 4-3	○	○	○		
6-1, 6-2	○	○	○		
6-3, 6-4	○	○	○	◀	◀
8-1, 8-2, 8-3	○	○	○		

SIGNAL SYSTEM "U" IS BEING MODIFIED TO PROVIDE PESESTRIAN PUSH BUTTONS AND COUNTDOWN TIMERS.

SIGNAL SYSTEM OPERATIONS

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

AECOM Kimley»Horn



60% SUBMISSION - 09/28/15

CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SYSTEM "U"  
DUNWOODY BLVD AND PARADE STADIUM DR

DISCIPLINE: TRAFFIC

SHEET NAME: E4-TFC-SIG-DUN-001

SHEET  
232  
OF  
266

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LOOP DETECTOR CHART		
DESIGNATION	FUNCTION	LOCATION
D1-1	IP	IP
D1-2	IP	IP
D4-1	IP	IP
D4-2	IP	IP
D5-1	IP	IP
D5-2	IP	IP
D8-1	IP	IP
D8-2	IP	IP
D8-3	IP	IP

ALL SIGNAL EQUIPMENT ON THIS SHEET IS INPLACE & SHALL REMAIN INPLACE UNLESS OTHERWISE NOTED. A ▲ DENOTES WORK TO BE COMPLETED BY THE CONTRACTOR.

EQUIPMENT SCHEDULE																
STRUCTURE				SIGNAL M.A.		LUMINAIRE				SIGNAL HEAD BRACKETING		APS PUSH BUTTON		SIGN TYPE	EVP	
NO.	TYPE	STD PLATE	FDN TYPE STD PLATE	LENGTH	HEAD LOCATION	HT	M.A. LENGTH	MTD POSITION	FIXTURE	TYPE	MTD POSITION	NO.	MTD POSITION			
①	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	270°	R10-3e	▲	-
②	MAST ARM POLE	IP	IP	IP	IP	-	-	-	-	IP	IP	-	-	-		-
③	PEDESTAL POLE	IP	IP	-	-	-	-	-	-	IP	IP	-	-	-		-
④	MAST ARM POLE	IP	IP	IP	IP	IP	IP	IP	IP	IP	IP	1	0°	R10-3e	▲	-
⑤	MAST ARM POLE	IP	IP	IP	IP	-	-	-	-	IP	IP	1	270°	R10-3e	▲	-
⑥	PUSHBUTTON PEDESTAL	IP	IP	-	-	-	-	-	-	-	-	1	0°	R10-3e	▲	-
⑦	PEDESTAL POLE	1266	1076	-	-	-	-	-	-	10A	270°	-	-	-		-
Ⓐ	CABINET	IP	IP													
Ⓑ	SERVICE CABINET	IP	IP													
Ⓒ	SOURCE OF POWER	IP	IP													

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL




60% SUBMISSION - 09/28/15

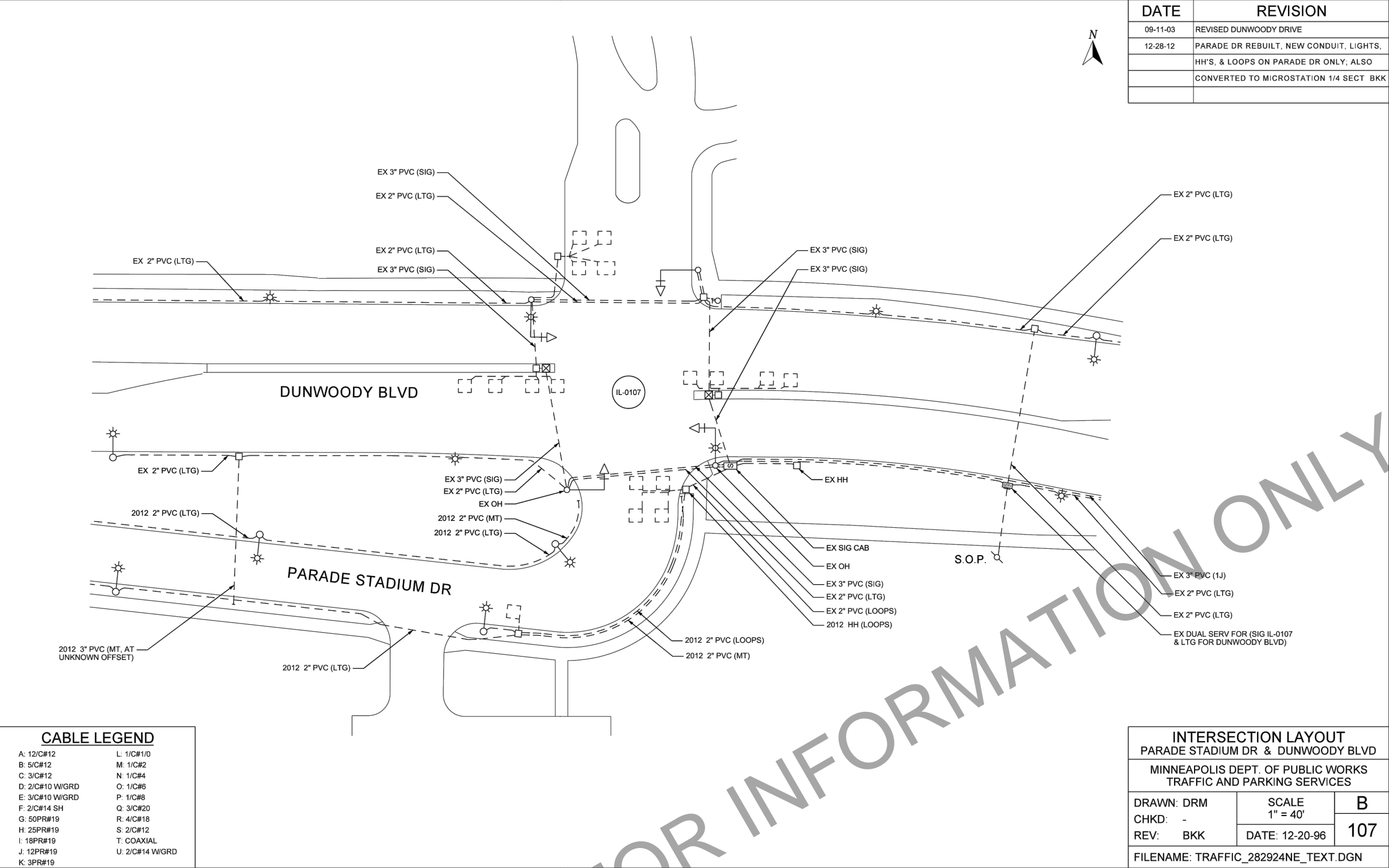


CIVIL EAST - VOLUME 10  
SIGNAL PLAN - SYSTEM "U"  
DUNWOODY BLVD AND PARADE STADIUM DR  
EQUIPMENT SCHEDULE

DISCIPLINE: TRAFFIC

SHEET NAME: E4-TFC-SIG-DUN - 002

Sep. 21 2015 08:28 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\TRAFFIC\E4-TFC-SIG-DUN.dwg By: brian.villa



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL


**AECOM** Kimley»Horn

60% SUBMISSION - 09/28/15

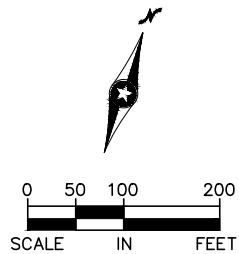
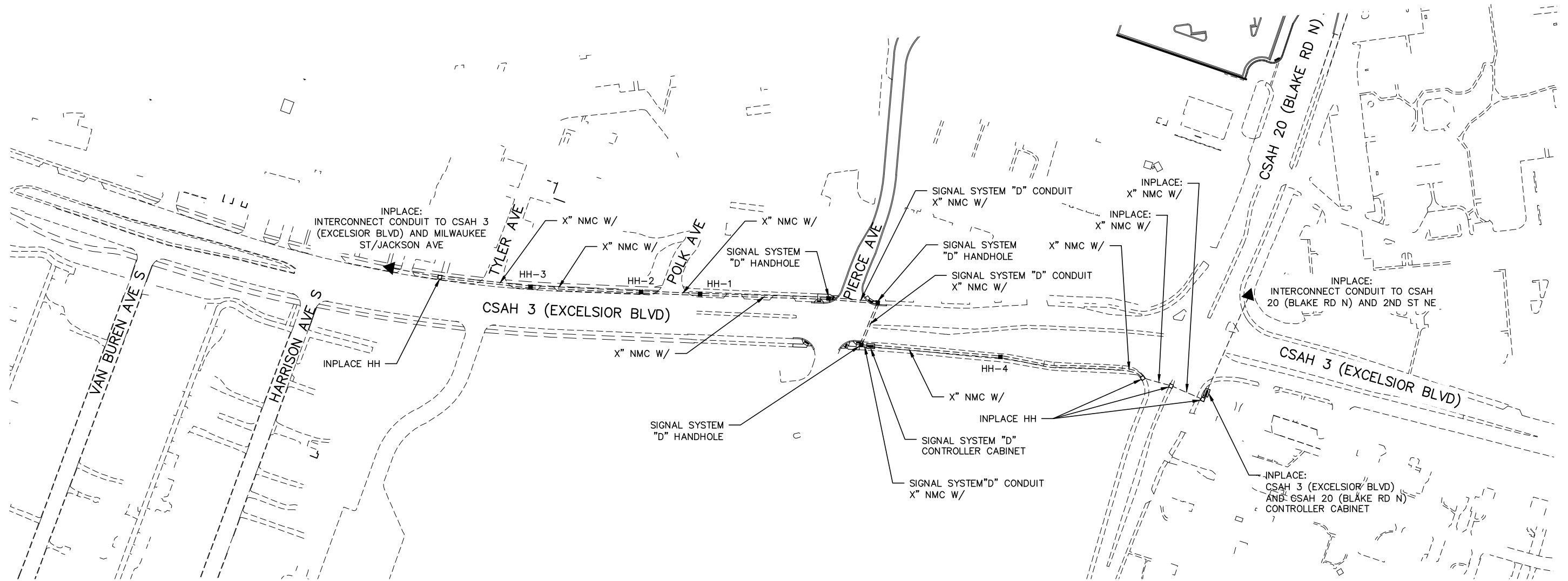
**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**SIGNAL PLAN - SYSTEM "U"**  
**DUNWOODY BLVD AND PARADE STADIUM DR**  
**FOR INFORMATION ONLY**

DISCIPLINE: **TRAFFIC**  
SHEET NAME: **E4-TFC-SIG-DUN-003**

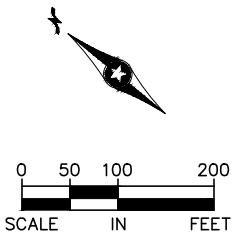
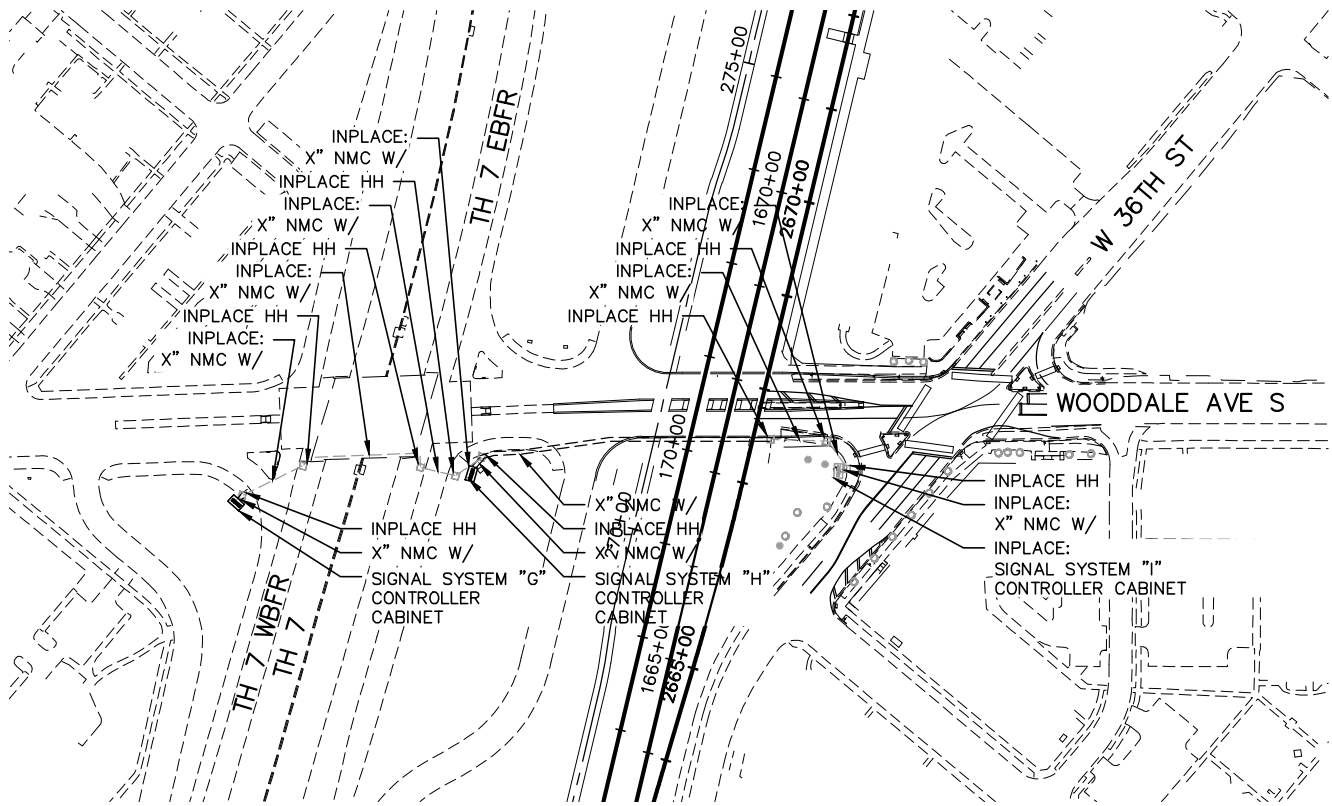
Sep. 21 2015 06:55 am V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\TRAFFIC\E1-TFC-INT-01.dwg By: brian.villa



- NOTES:
- 1.) EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD.
  - 2.) SEE SIGNAL PLANS FOR SIGNAL CABINET AND SIGNAL EQUIPMENT.
  - 3.) ALL HANDHOLES SHALL BE FIBER OPTIC HANDHOLES.
  - 4.) THE EQUIPMENT CALLED OUT ON THIS PLAN IS FOR INSTALLATION OF THE INTERCONNECT SYSTEM UNLESS OTHERWISE NOTED.
  - 5.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 6.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

 <b>60% SUBMISSION - 09/28/15</b>	 <b>SOUTHWEST</b> Green Line LRT Extension	<b>CIVIL EAST - VOLUME 10 INTERCONNECT PLAN</b>		<b>SHEET 235 OF 266</b>
		DISCIPLINE: <b>TRAFFIC</b>	SHEET NAME: <b>E1-TFC-INT-01 - 001</b>	



- NOTES:
- 1.) EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD.
  - 2.) SEE SIGNAL PLANS FOR SIGNAL CABINET AND SIGNAL EQUIPMENT.
  - 3.) ALL HANDHOLES SHALL BE FIBER OPTIC HANDHOLES.
  - 4.) THE EQUIPMENT CALLED OUT ON THIS PLAN IS FOR INSTALLATION OF THE INTERCONNECT SYSTEM UNLESS OTHERWISE NOTED.
  - 5.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 6.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15



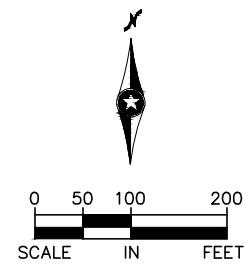
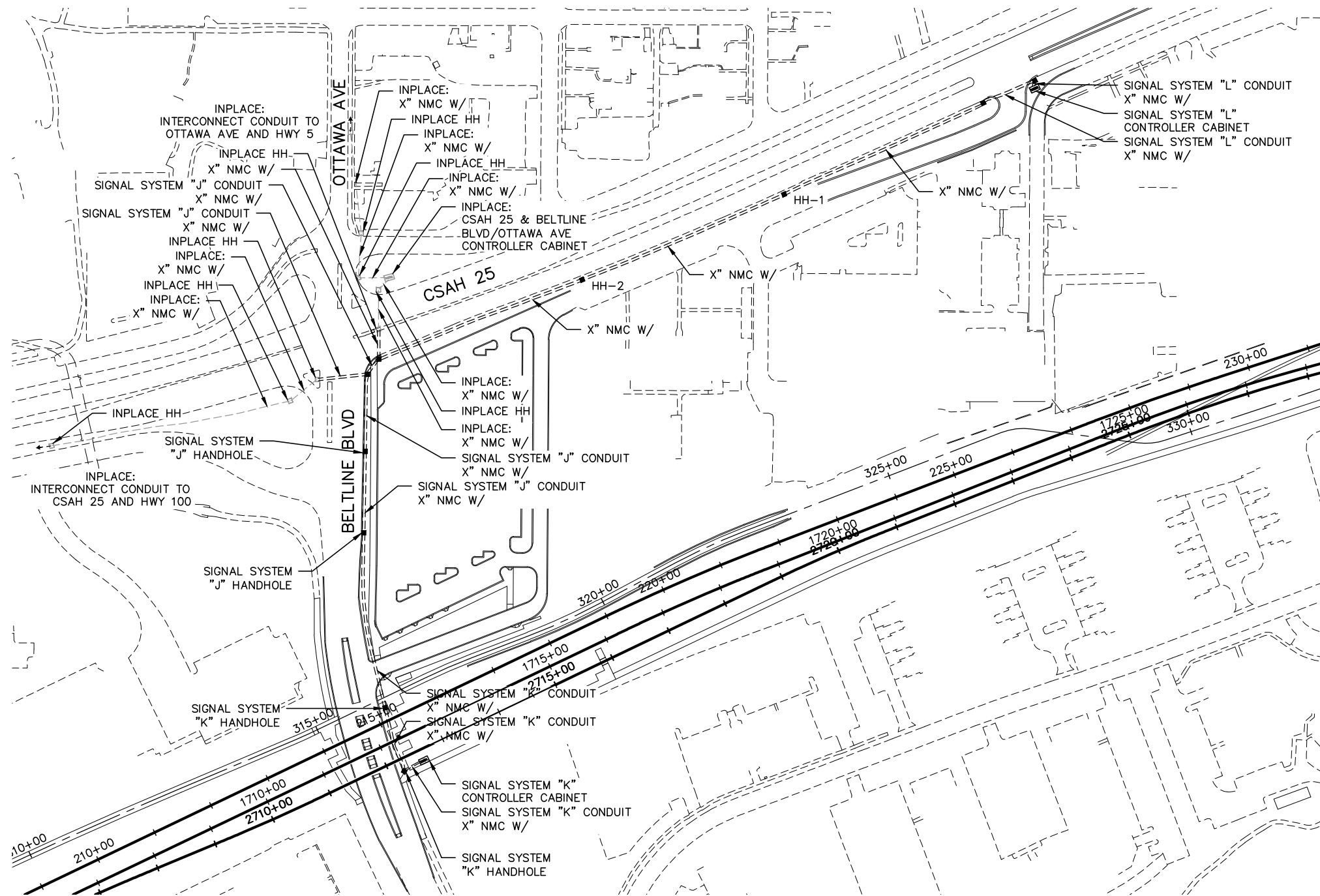
**CIVIL EAST - VOLUME 10  
INTERCONNECT PLAN**

DISCIPLINE: **TRAFFIC** SHEET NAME: **E2-TFC-INT-01 - 001**

**SHEET**  
**236**  
**OF**  
**266**



Sep. 21 2015 06:57 am V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\TRAFFIC\E2-TFC-INT-01.dwg By: brian.villa



- NOTES:
- 1.) EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD.
  - 2.) SEE SIGNAL PLANS FOR SIGNAL CABINET AND SIGNAL EQUIPMENT.
  - 3.) ALL HANDHOLES SHALL BE FIBER OPTIC HANDHOLES.
  - 4.) THE EQUIPMENT CALLED OUT ON THIS PLAN IS FOR INSTALLATION OF THE INTERCONNECT SYSTEM UNLESS OTHERWISE NOTED.
  - 5.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 6.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15

**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

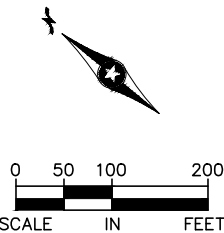
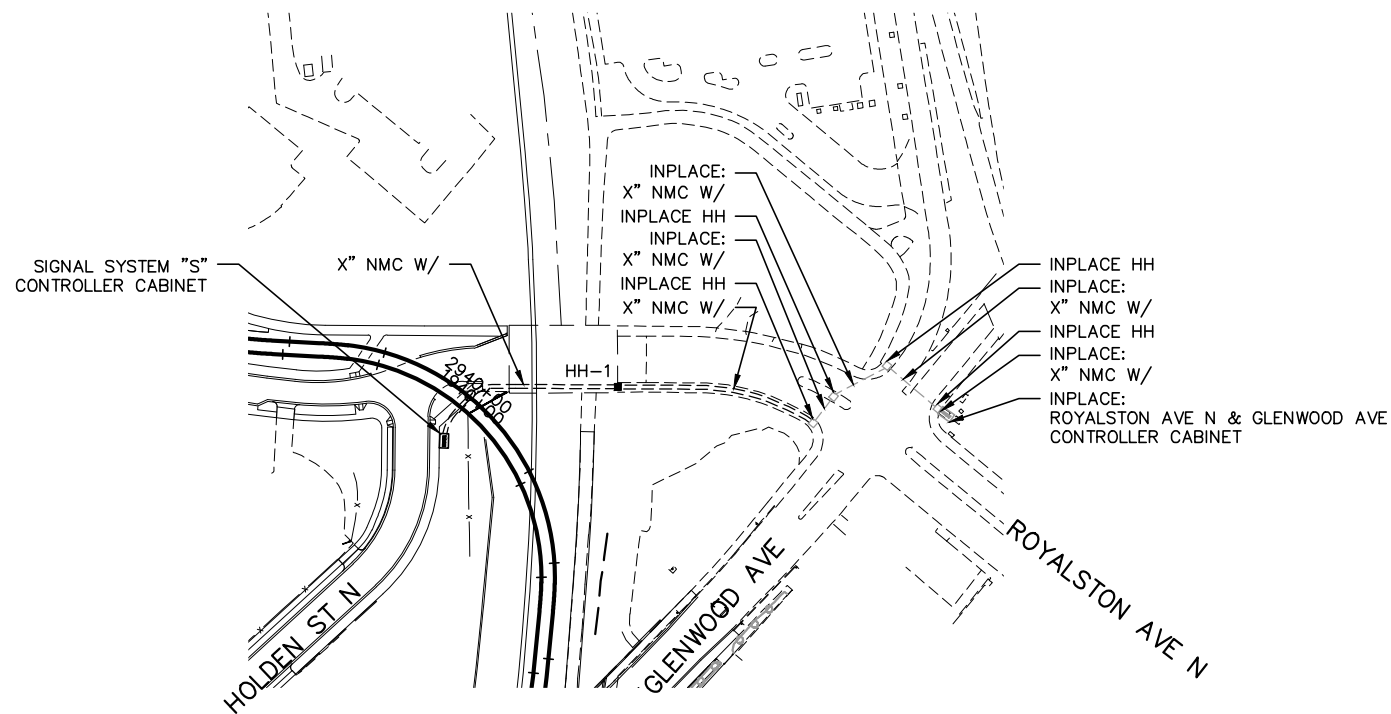
**CIVIL EAST - VOLUME 10**  
**INTERCONNECT PLAN**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E2-TFC-INT-01 - 002**

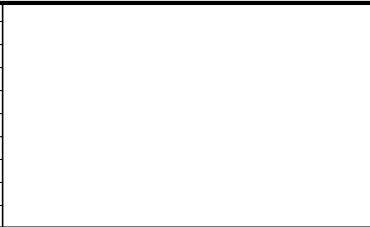
**SHEET**  
**237**  
**OF**  
**266**

Sep. 21 2015 06:59 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\TRAFFIC\E4-TFC-INT-01.dwg By: brian.villa



- NOTES:
- 1.) EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED IN THE FIELD.
  - 2.) SEE SIGNAL PLANS FOR SIGNAL CABINET AND SIGNAL EQUIPMENT.
  - 3.) ALL HANDHOLES SHALL BE FIBER OPTIC HANDHOLES.
  - 4.) THE EQUIPMENT CALLED OUT ON THIS PLAN IS FOR INSTALLATION OF THE INTERCONNECT SYSTEM UNLESS OTHERWISE NOTED.
  - 5.) THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAY REQUIRE BORING.
  - 6.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



**AECOM Kimley»Horn**

60% SUBMISSION - 09/28/15

**METROPOLITAN COUNCIL**

**SOUTHWEST**  
Green Line LRT Extension

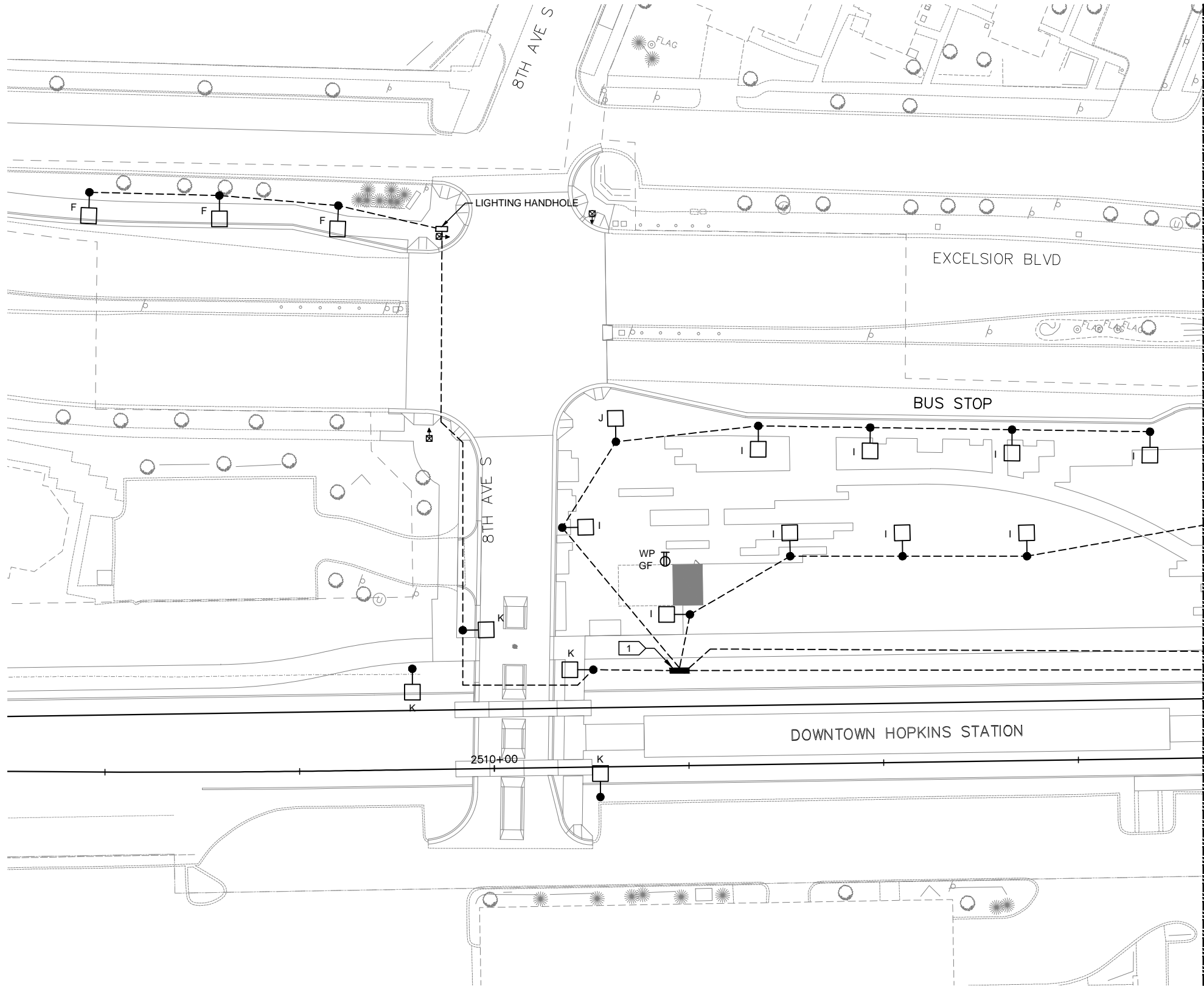
**CIVIL EAST - VOLUME 10**  
**INTERCONNECT PLAN**

DISCIPLINE: **TRAFFIC**

SHEET NAME: **E4-TFC-INT-01 - 001**

**SHEET**  
**238**  
**OF**  
**266**

Sep. 21 2015 08:20 am V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\ELECTRICAL\E1-HOP-ELE-PLN-101.dwg By: V-Bege,B



- KEYNOTES: 
1. CUSTOMER METERING ENCLOSURE.

- GENERAL NOTES:
1. DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



60% SUBMISSION - 09/28/15



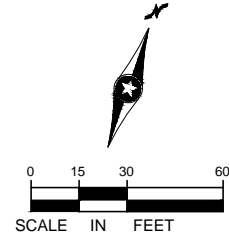
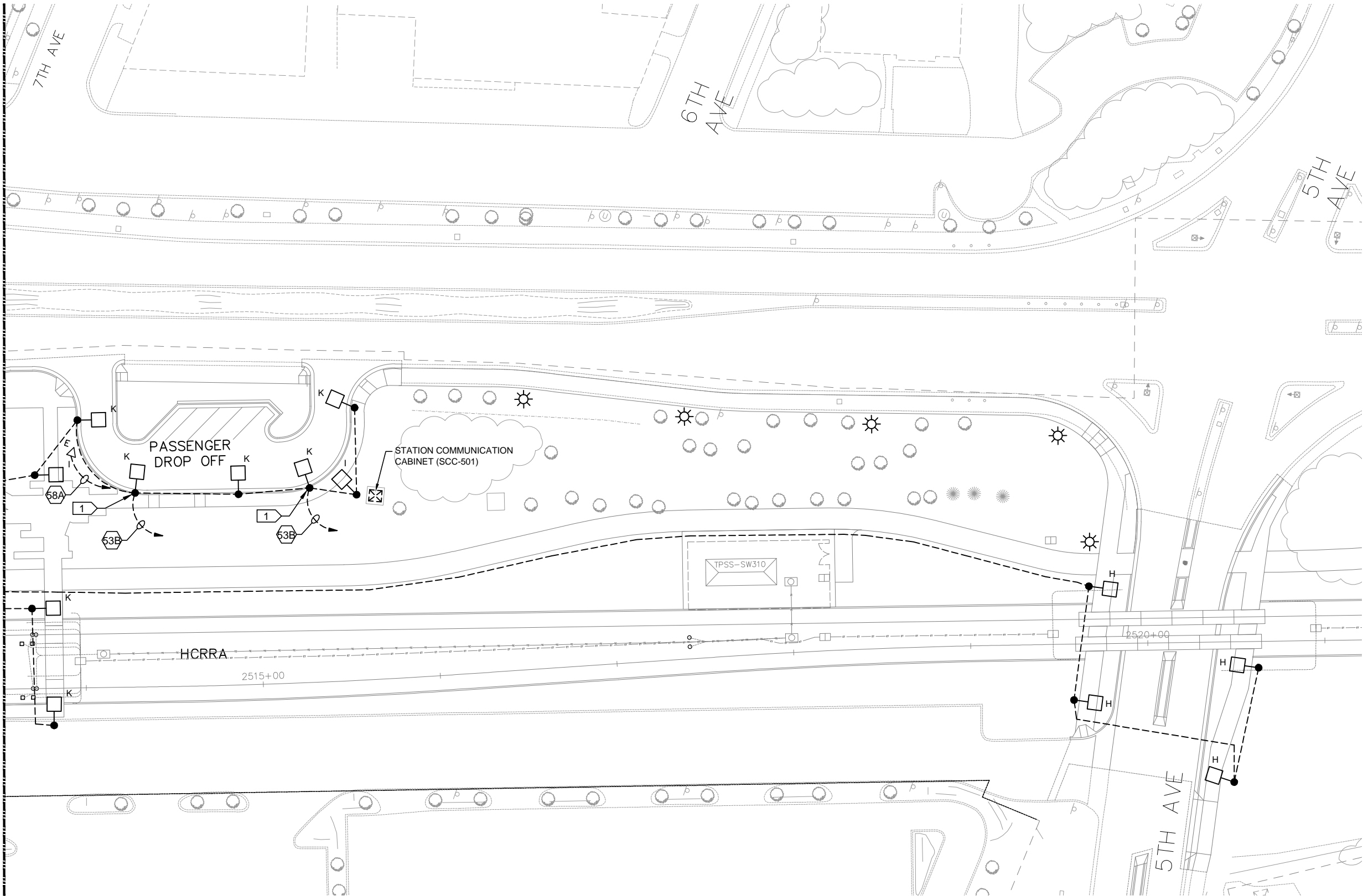
CIVIL EAST - VOLUME 10  
DOWNTOWN HOPKINS STATION  
ELECTRICAL  
SITE PLAN (1 OF 2)

DISCIPLINE:	SHEET NAME:
ELECTRICAL	E1-HOP-ELE-PLN-101

SHEET  
239  
OF  
266

Sep. 21 2015 08:26 am V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\ELECTRICAL\E1-HOP-ELE-PLN-102.dwg By: V-Bege.B

MATCH LINE SEE SHEET E1-HOP-ELE-PLN-101



- KEYNOTES:
1. PROVIDE CCTV CAMERA ON THIS POLE AT 20'-0" A.F.F.

- GENERAL NOTES:
1. ALL LUMINAIRES NEAR FREIGHT CONDITIONS SHALL MAINTAIN A MINIMUM OF 25' CLEARANCE FROM FREIGHT CENTER LINE.
  2. DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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**CIVIL EAST - VOLUME 10**  
**DOWNTOWN HOPKINS STATION**  
**ELECTRICAL**  
**SITE PLAN (2 OF 2)**

DISCIPLINE:  
**ELECTRICAL**

SHEET NAME:  
**E1-HOP-ELE-PLN-102**

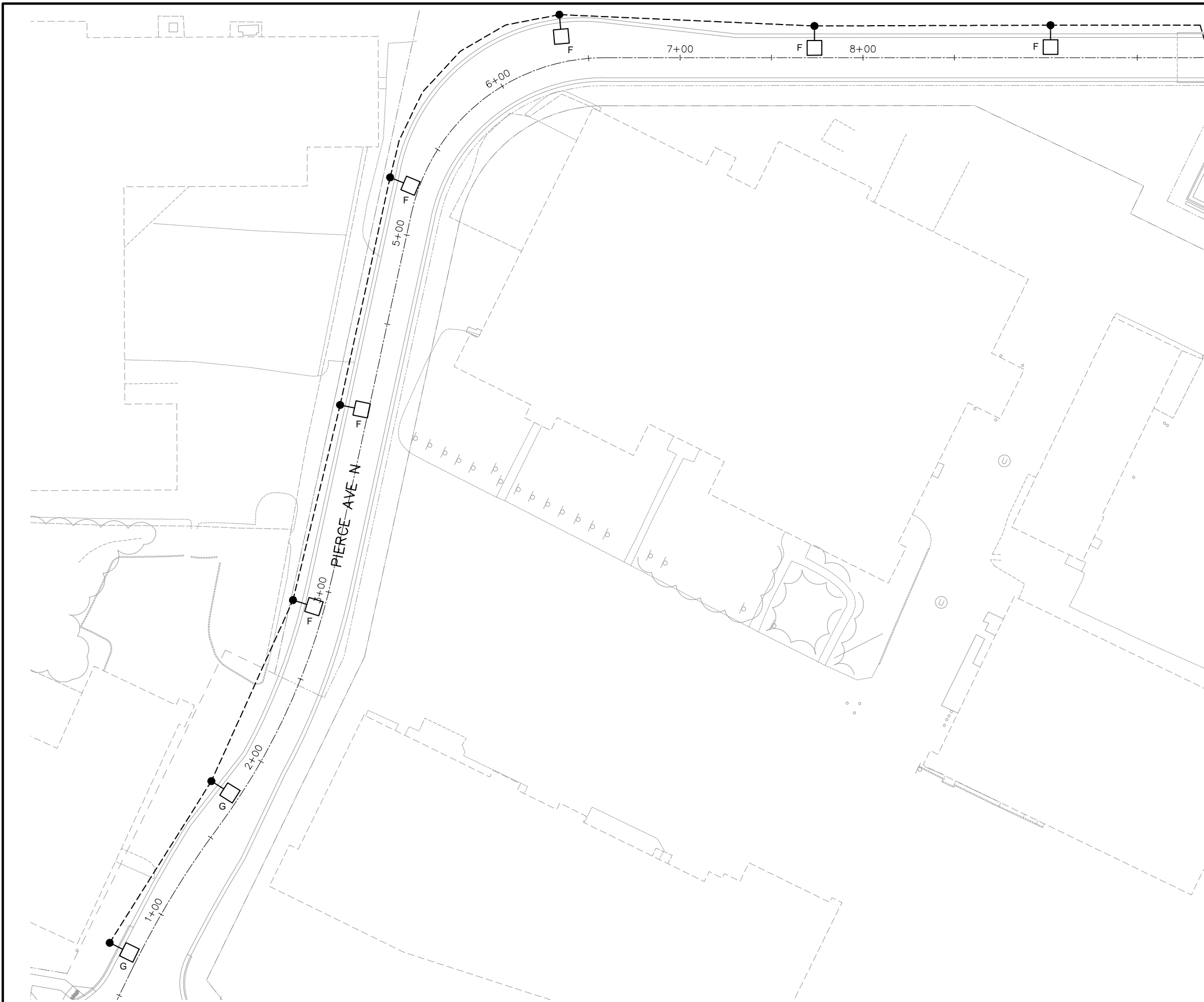
SHEET

240

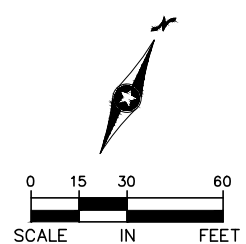
OF

266

Sep. 21 2015 08:30 am V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\ELECTRICAL\E1-BLK-ELE-PLN-101.dwg By: V-BegeJB



MATCH LINE SEE SHEET E1-BLK-ELE-PLN-102



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



60% SUBMISSION - 09/28/15

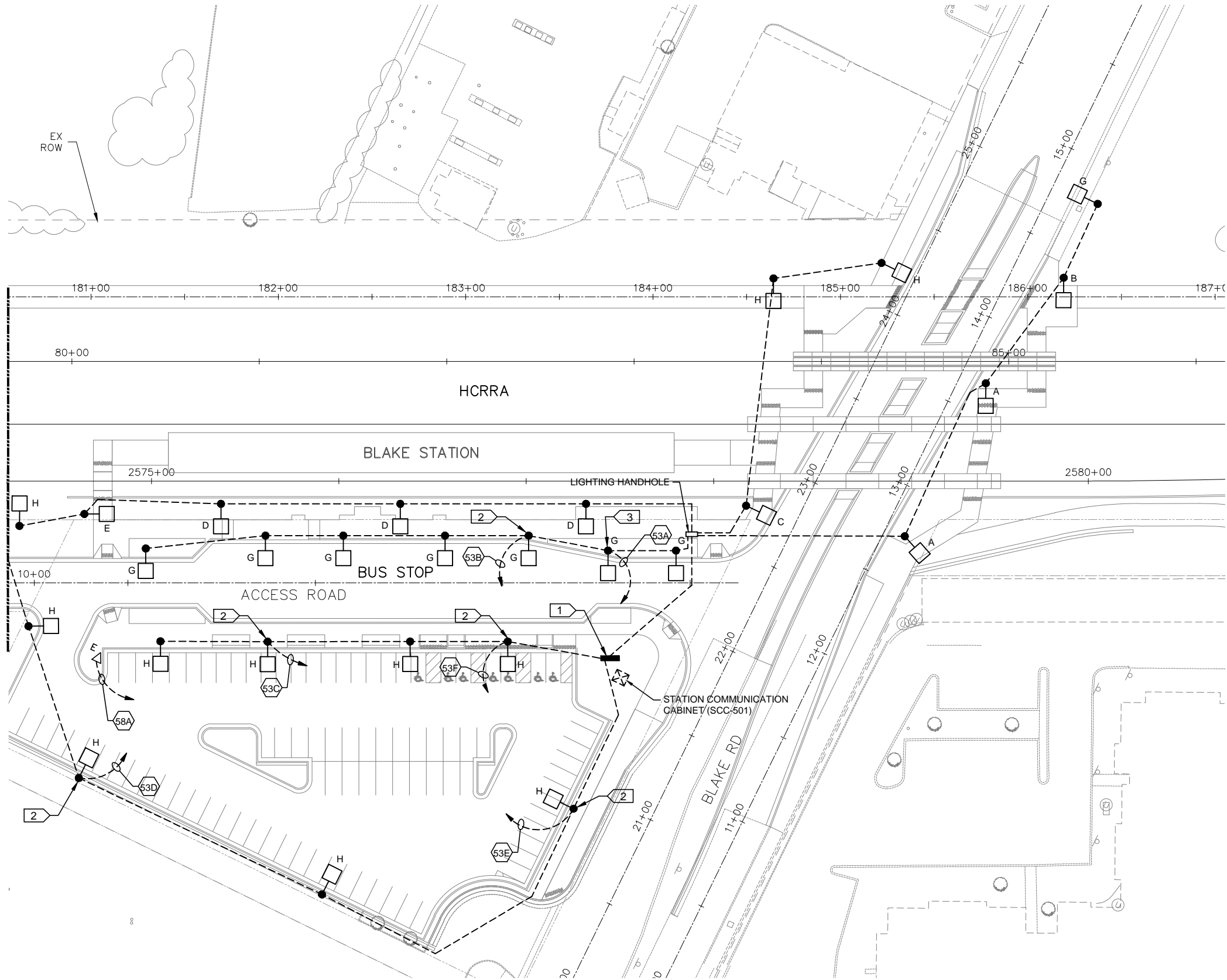
CIVIL EAST - VOLUME 10 BLAKE STATION ELECTRICAL SITE PLAN (1 OF 2)	
DISCIPLINE: ELECTRICAL	SHEET NAME: E1-BLK-ELE-PLN-101

SHEET  
241  
OF  
266



Sep. 21 2015 11:45 am V:\3400\_ADC\CAD\SEGMENT E1\PLAN SHEETS\ELECTRICAL\E1-BLK-ELE-PLN-102.dwg By: V-BegeJB

MATCH LINE SEE SHEET E1-BLK-ELE-PLN-101



KEYNOTES:

1. CUSTOMER METERING ENCLOSURE.
2. PROVIDE CCTV CAMERA ON THIS POLE AT 20'-0" A.F.F.
3. PROVIDE LICENSE PLATE READER (LPR) CAMERA ON THIS POLE AT 15'-0" A.F.F.

GENERAL NOTES:

1. ALL LUMINAIRES NEAR FREIGHT CONDITIONS SHALL MAINTAIN A MINIMUM OF 25' CLEARANCE FROM FREIGHT CENTER LINE.
2. DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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CIVIL EAST - VOLUME 10  
BLAKE STATION  
ELECTRICAL  
SITE PLAN (2 OF 2)

DISCIPLINE:

ELECTRICAL

SHEET NAME:

E1-BLK-ELE-PLN-102

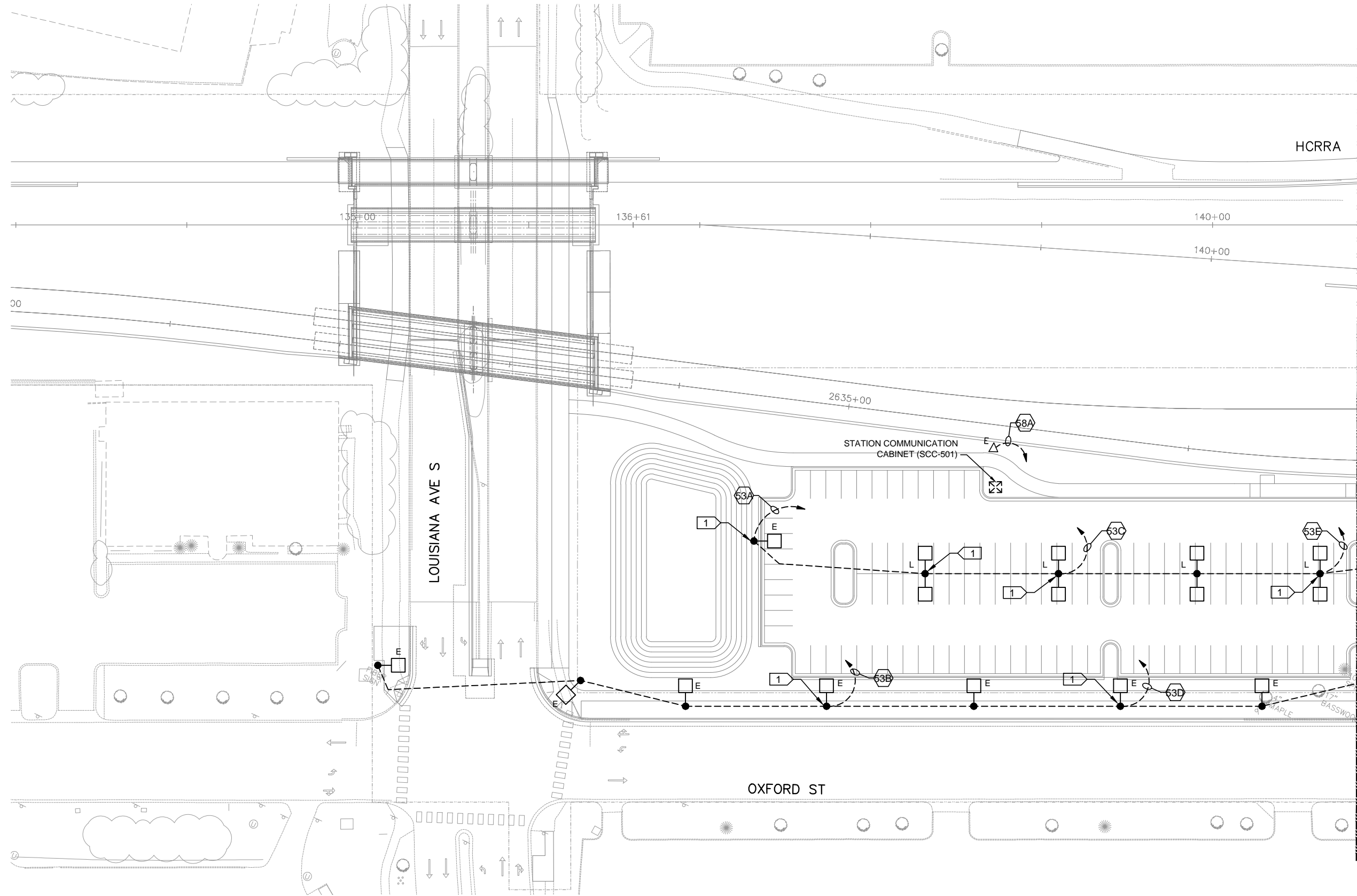
SHEET


242

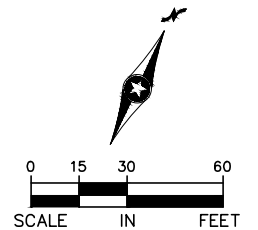
OF

266

Sep. 21 2015 02:16 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\ELECTRICAL\E2-LOU-ELE-PLN-101.dwg By: V-Bege.B



- KEYNOTES: 
1. PROVIDE CCTV CAMERA ON THIS POLE AT 20'-0" A.F.F.
- GENERAL NOTES:
1. DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET UNLESS OTHERWISE NOTED.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



60% SUBMISSION - 09/28/15



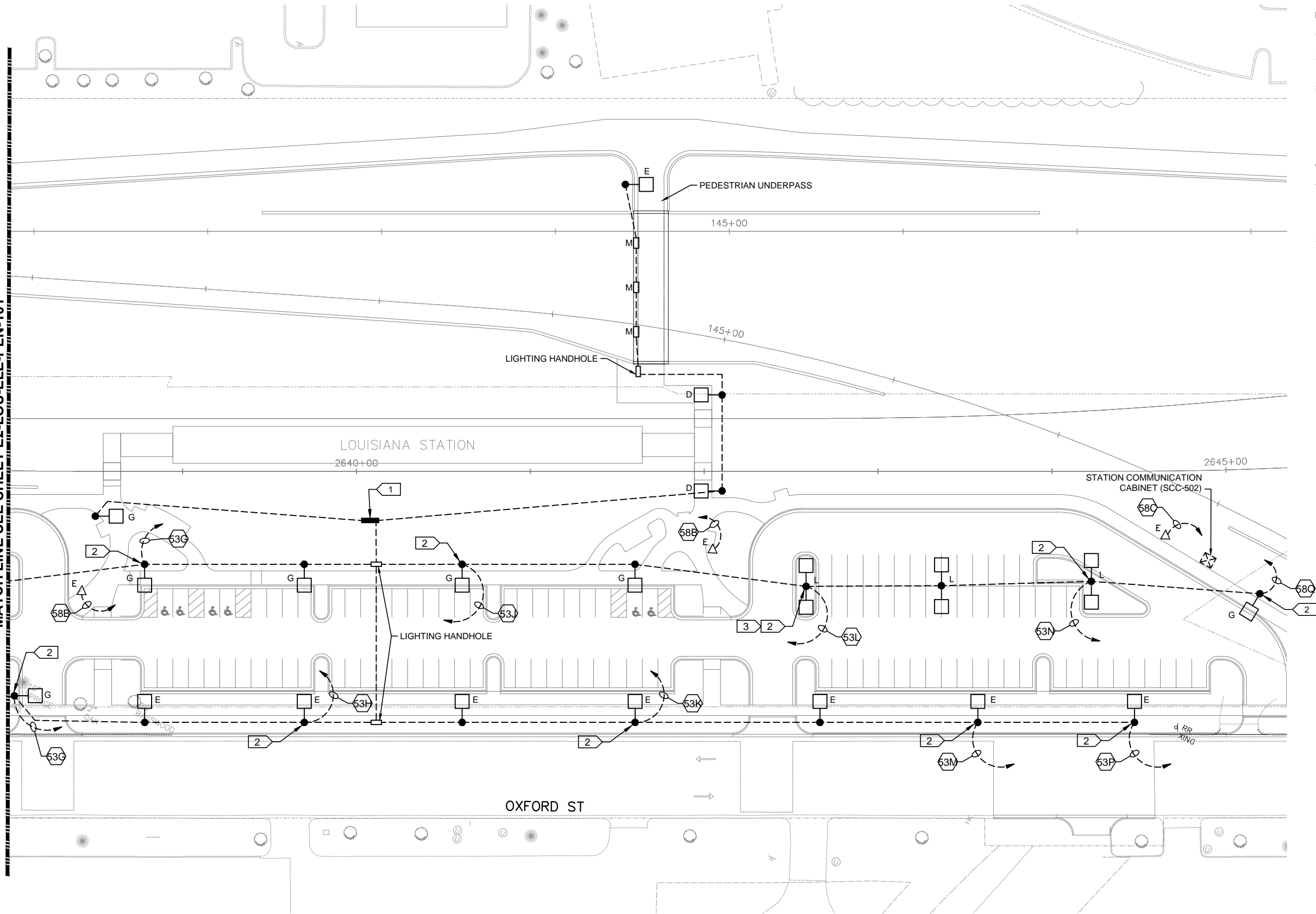
CIVIL EAST - VOLUME 10  
LOUISIANA STATION  
ELECTRICAL  
SITE PLAN (1 OF 2)

DISCIPLINE: ELECTRICAL  
SHEET NAME: E2-LOU-ELE-PLN-101

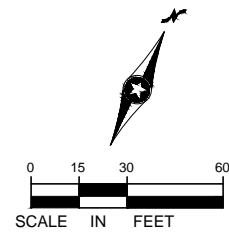
SHEET  
243  
OF  
266

Sep. 21 2015 02:19 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\ELECTRICAL\E2-LOU-ELE-PLN-102.dwg By: V-BegeJB

MATCH LINE SEE SHEET E2-LOU-ELE-PLN-101



- KEYNOTES:
- CUSTOMER METERING ENCLOSURE.
  - PROVIDE CCTV CAMERA ON THIS POLE AT 20'-0" A.F.F.
  - PROVIDE LICENSE PLATE READER (LPR) CAMERA ON THIS POLE AT 15'-0".
- GENERAL NOTES:
- ALL LUMINAIRES NEAR FREIGHT CONDITIONS SHALL MAINTAIN A MINIMUM OF 25' CLEARANCE FROM FREIGHT CENTER LINE.
  - DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET.



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL

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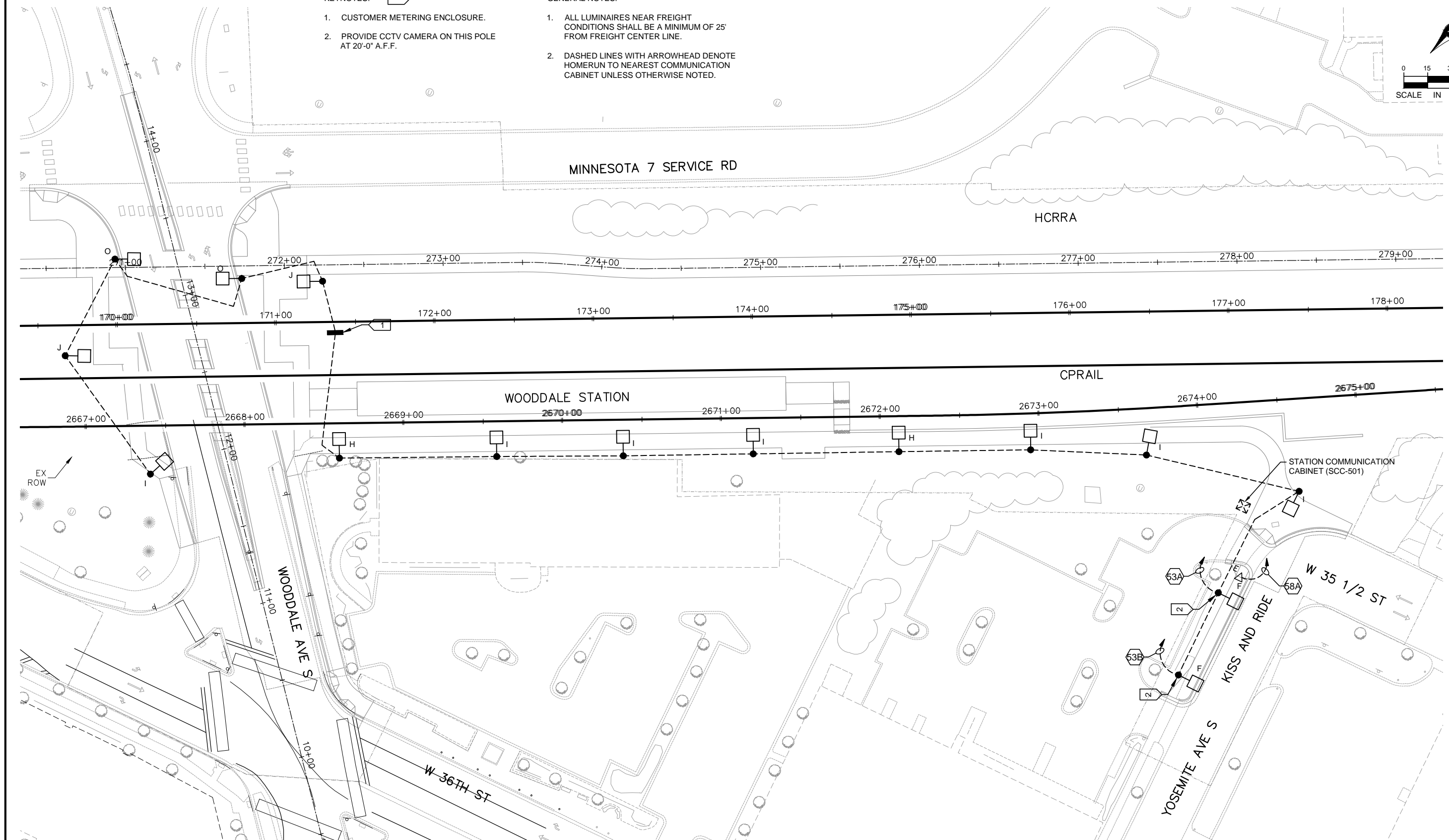
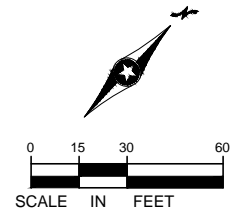
CIVIL EAST - VOLUME 10  
LOUISIANA STATION  
ELECTRICAL  
SITE PLAN (2 OF 2)

DISCIPLINE: ELECTRICAL	SHEET NAME: E2-LOU-ELE-PLN-102
---------------------------	-----------------------------------

SHEET  
244  
OF  
266

1. CUSTOMER METERING ENCLOSURE.
2. PROVIDE CCTV CAMERA ON THIS POLE AT 20'-0" A.F.F.

1. ALL LUMINAIRES NEAR FREIGHT CONDITIONS SHALL BE A MINIMUM OF 25' FROM FREIGHT CENTER LINE.
2. DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET UNLESS OTHERWISE NOTED.

[illegible]

**AECOM** *MP CONSULTANTS*  
CONSULTING ENGINEERING  
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# CIVIL EAST - VOLUME 10 WOODDALE STATION ELECTRICAL SITE PLAN

DISCIPLINE:

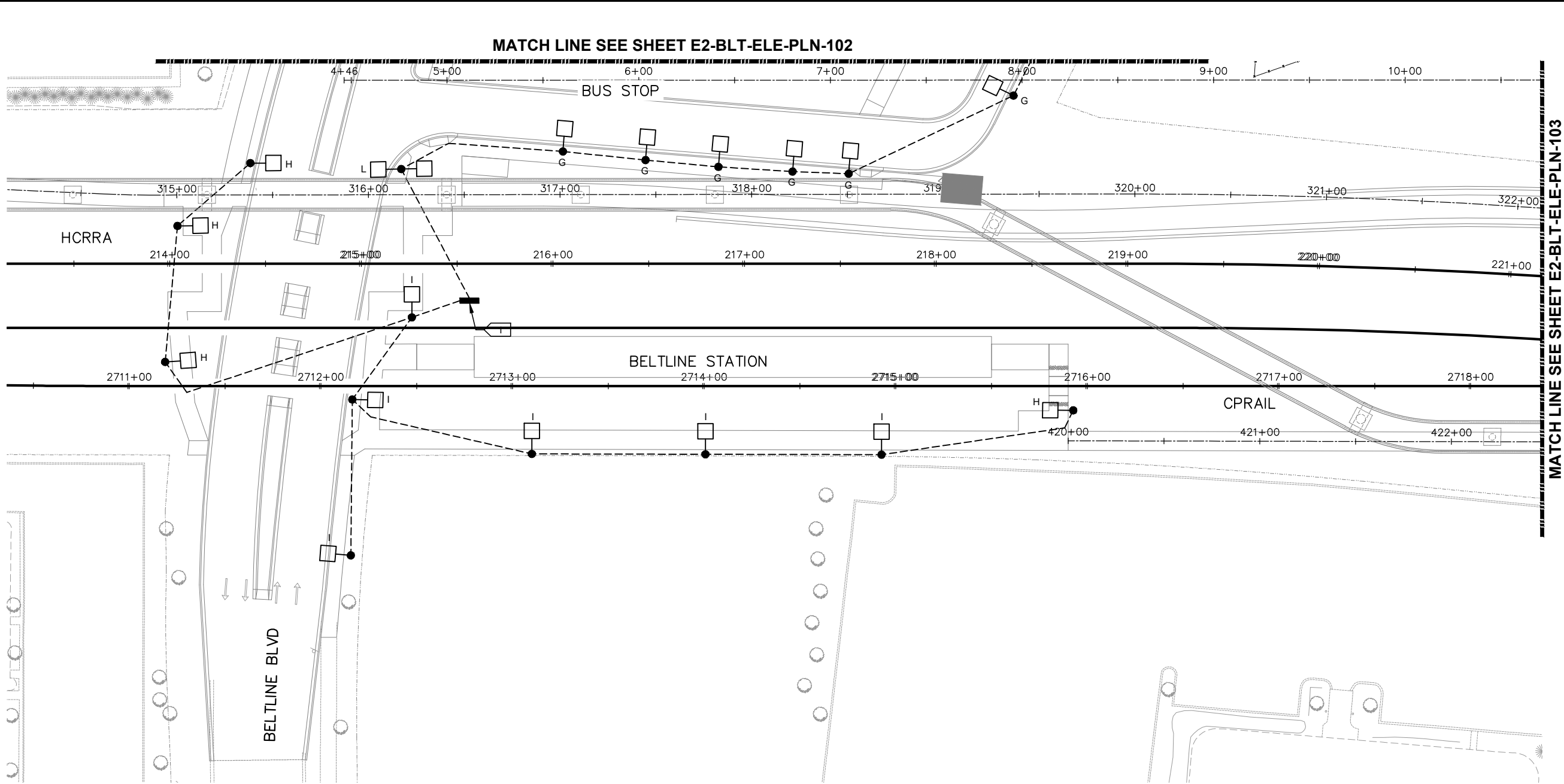
## ELECTRICAL


SHEET NAME:
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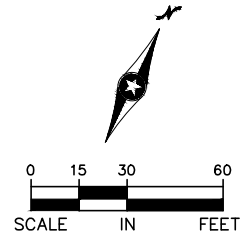
E2-WDL-ELE-PLN-101

**SHEET**  
**245**  
**OF**  
**266**

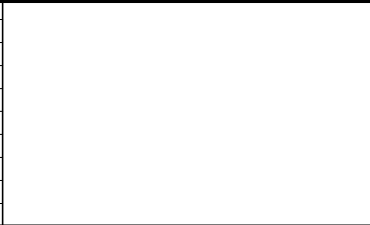
Sep. 21 2015 11:59 am V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\ELECTRICAL\E2-BLT-ELE-PLN-101.dwg By: V-BegeJB



- KEYNOTES: 
1. CUSTOMER METERING CABINET.
- GENERAL NOTES:
1. ALL LUMINAIRES NEAR FREIGHT CONDITIONS SHALL BE A MINIMUM OF 25' FROM FREIGHT CENTER LINE.
2. DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET UNLESS OTHERWISE NOTED.



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CIVIL EAST - VOLUME 10  
BELTLINE STATION  
ELECTRICAL  
SITE PLAN (1 OF 3)

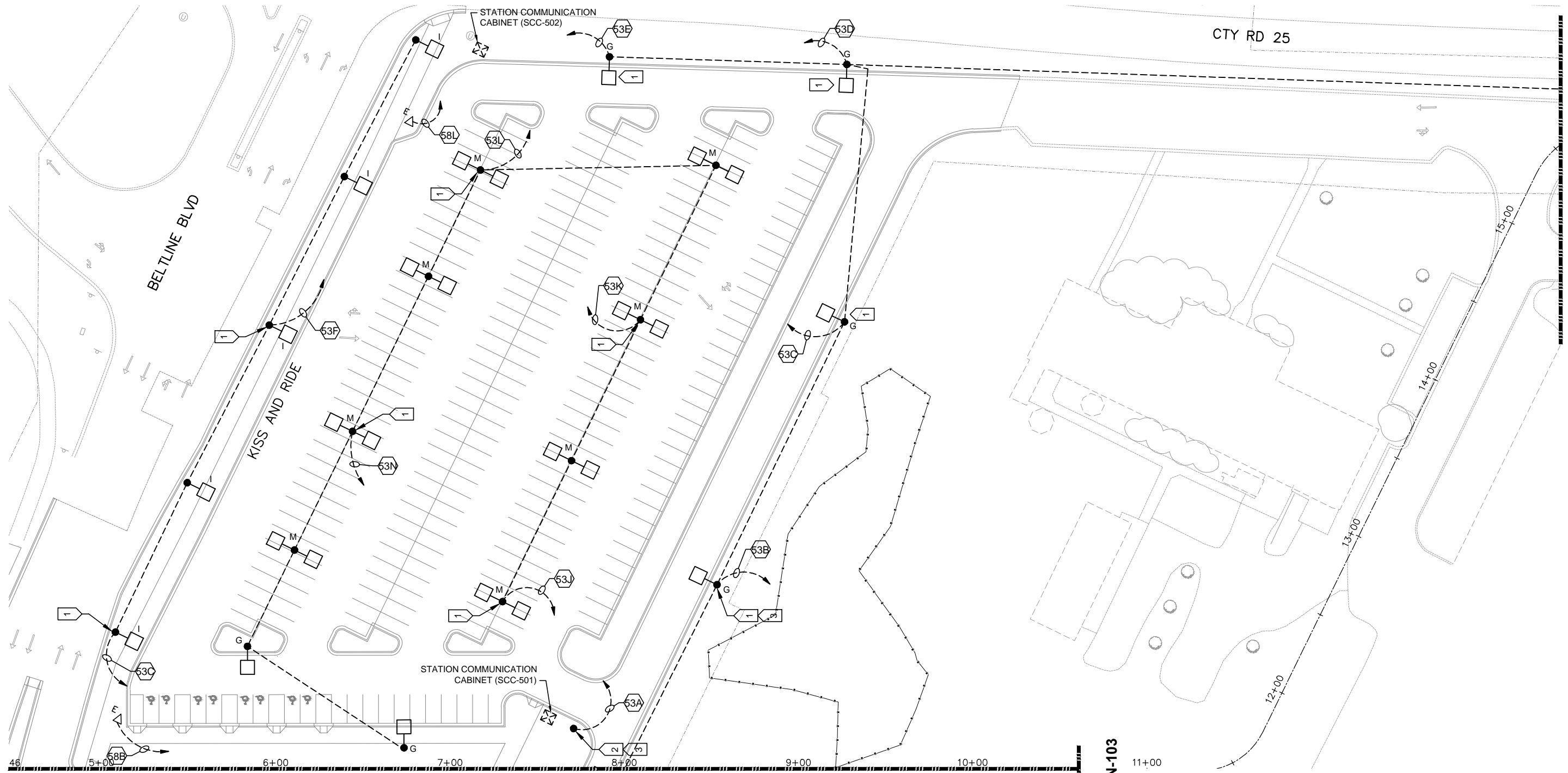
DISCIPLINE: ELECTRICAL

SHEET NAME: E2-BLT-ELE-PLN-101

SHEET  
246  
OF  
266



Sep. 21 2015 02:08 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\ELECTRICAL\E2-BLT-ELE-PLN-102.dwg By: V-Bege.B



KEYNOTES: 1

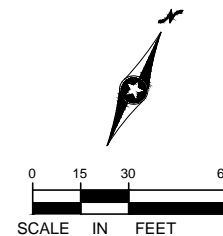
1. PROVIDE CCTV CAMERA ON THIS POLE AT 20'-0" A.F.F.
2. PROVIDE POLE TO MOUNT CCTV CAMERA.
3. PROVIDE LICENSE PLATE READER (LPR) CAMERA ON THIS POLE AT 15'-0" A.F.F.

GENERAL NOTES:

1. DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET UNLESS OTHERWISE NOTED.

MATCH LINE SEE SHEET E2-BLT-ELE-PLN-101

MATCH LINE SEE SHEET E2-BLT-ELE-PLN-103



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



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CIVIL EAST - VOLUME 10  
BELTLINE STATION  
ELECTRICAL  
SITE PLAN (2 OF 3)

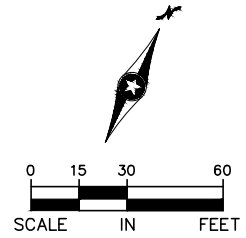
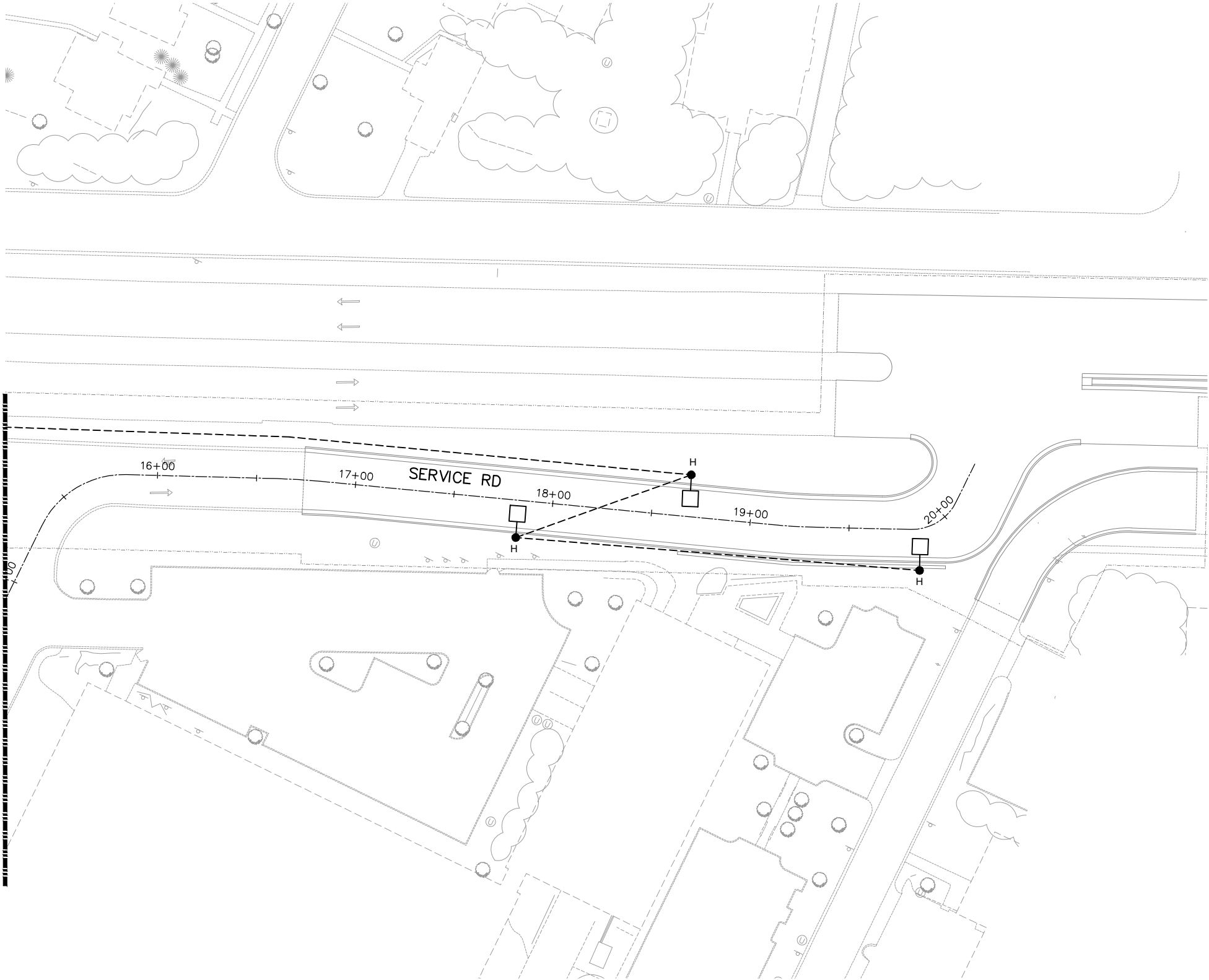
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SHEET NAME:  
E2-BLT-ELE-PLN-102

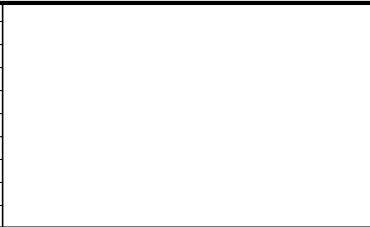
SHEET  
247  
OF  
266

Sep. 21 2015 12:03 pm V:\3400\_ADC\CAD\SEGMENT E2\PLAN SHEETS\ELECTRICAL\E2-BLT-ELE-PLN-103.dwg By: V-Begea.B

MATCH LINE SEE SHEET E2-BLT-ELE-PLN-101 & 102



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





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SOUTHWEST

Green Line LRT Extension



CIVIL EAST - VOLUME 10  
BELTLINE STATION  
ELECTRICAL  
SITE PLAN (3 OF 3)

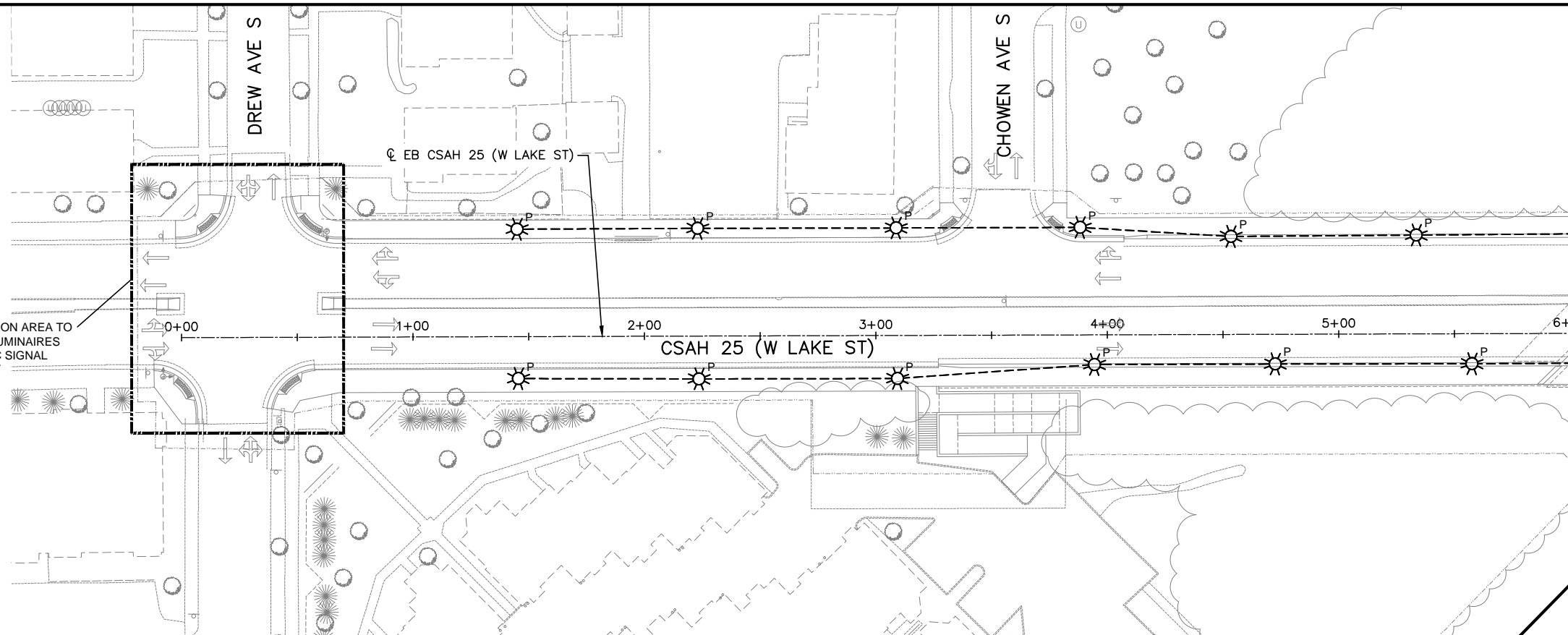
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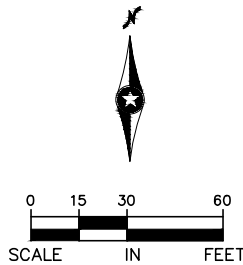
SHEET  
248  
OF  
266

Sep. 21 2015 10:41 am V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-WST-ELE-PLN-101.dwg By: V-Beggs.B

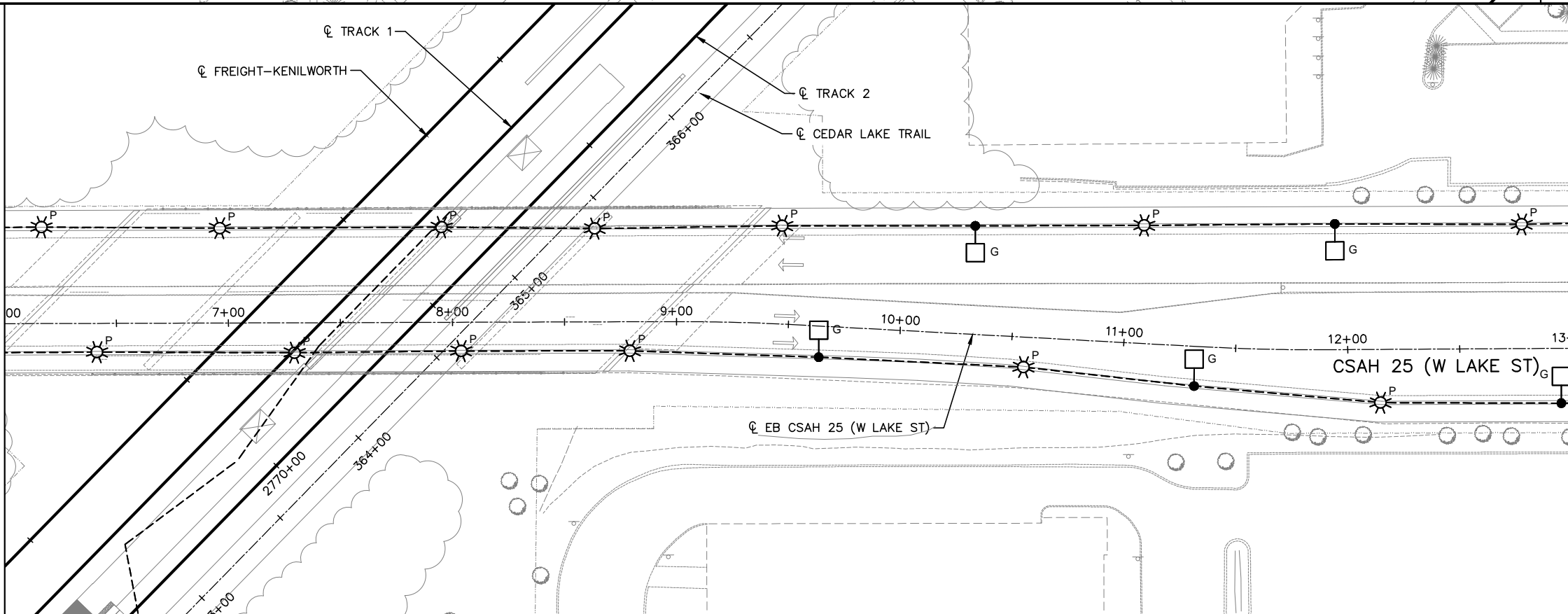
INTERSECTION AREA TO  
BE LIT BY LUMINAIRES  
ON TRAFFIC SIGNAL  
EQUIPMENT



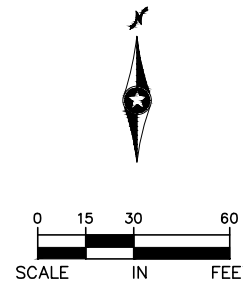
MATCHLINE SEE BELOW



MATCHLINE SEE ABOVE



MATCHLINE SEE SHEET E3-WST-ELE-PLN-102



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



60% SUBMISSION - 09/28/15



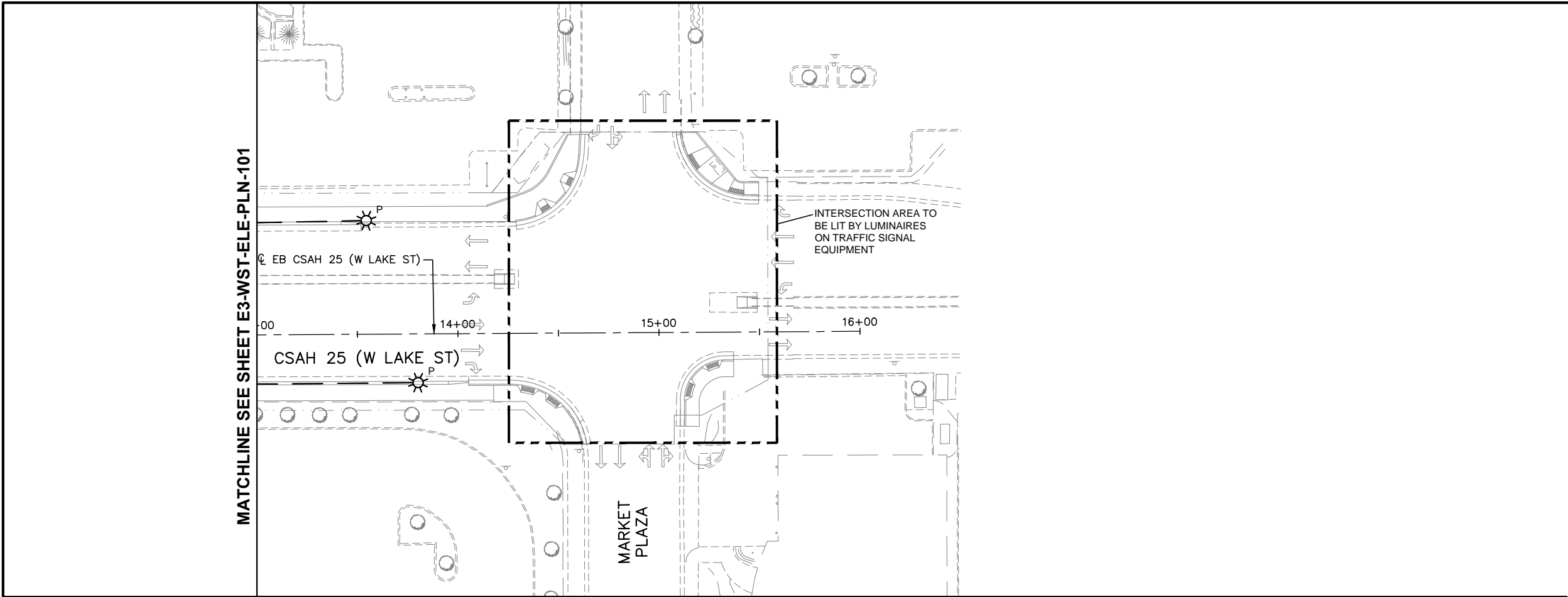
CIVIL EAST - VOLUME 10  
WEST LAKE STATION  
ELECTRICAL  
SITE PLAN (1 OF 3)

DISCIPLINE:  
ELECTRICAL

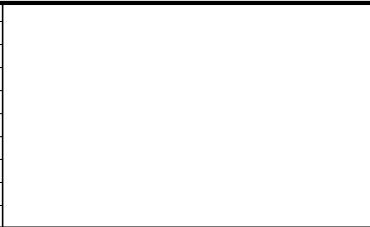
SHEET NAME:  
E3-WST-ELE-PLN-101

SHEET  
249  
OF  
266

Sep. 21 2015 10:40 am V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-WST-ELE-PLN-102.dwg By: V-BegeJB



NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL





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CIVIL EAST - VOLUME 10  
WEST LAKE STATION  
ELECTRICAL  
SITE PLAN (2 OF 3)

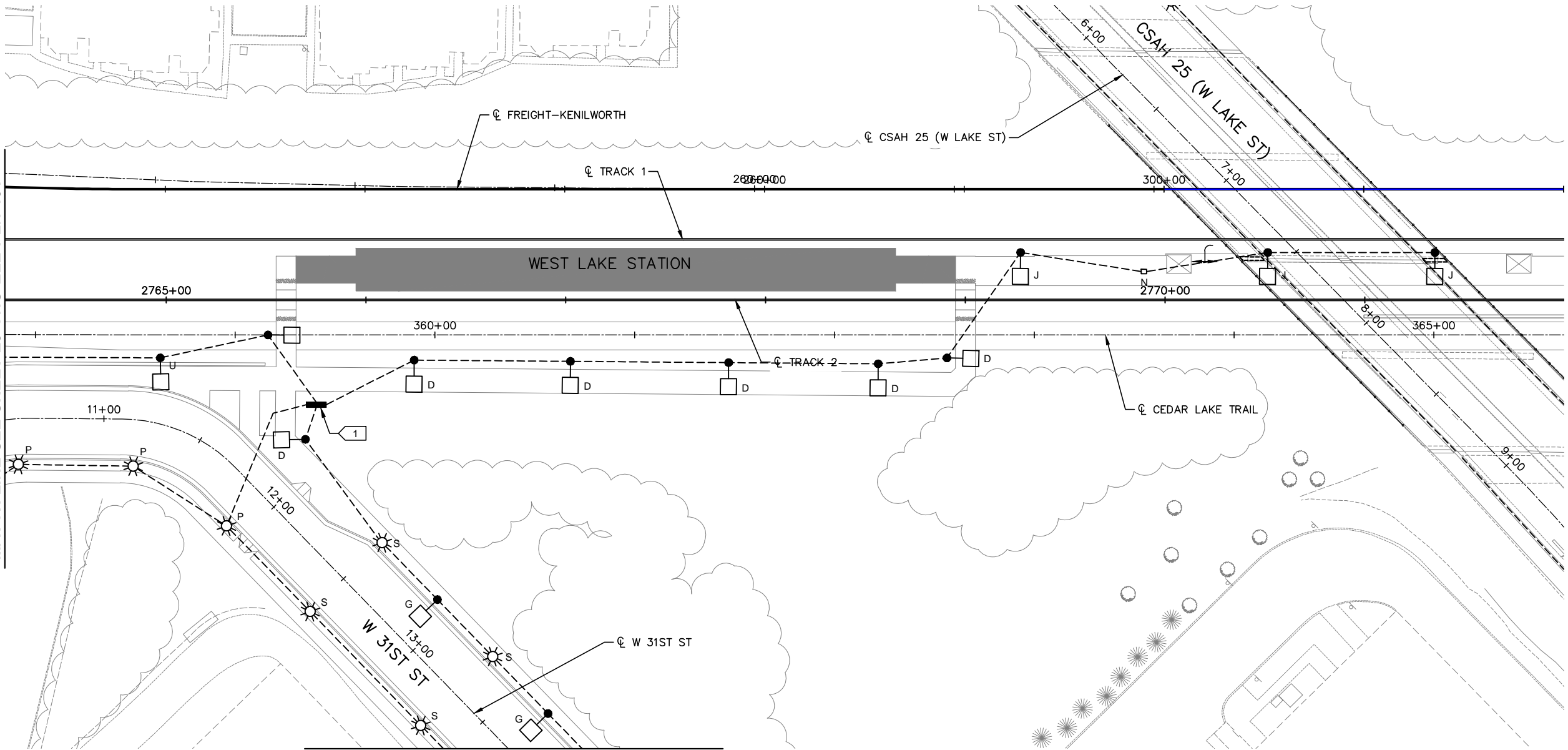
DISCIPLINE: ELECTRICAL

SHEET NAME: E3-WST-ELE-PLN-102

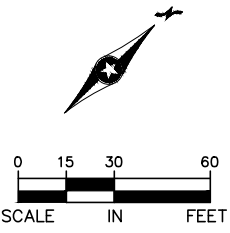
SHEET  
250  
OF  
266

Sep. 21 2015 12:21 pm V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-WST-ELE-PLN-103.dwg By: V-Bege,B

MATCH LINE SEE SHEET E3-CHO-ELE-PLN-101



MATCH LINE SEE SHEET E3-CHO-ELE-PLN-101



- KEYNOTES:
- 1. CUSTOMER METERING ENCLOSURE.

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL



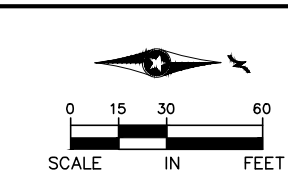
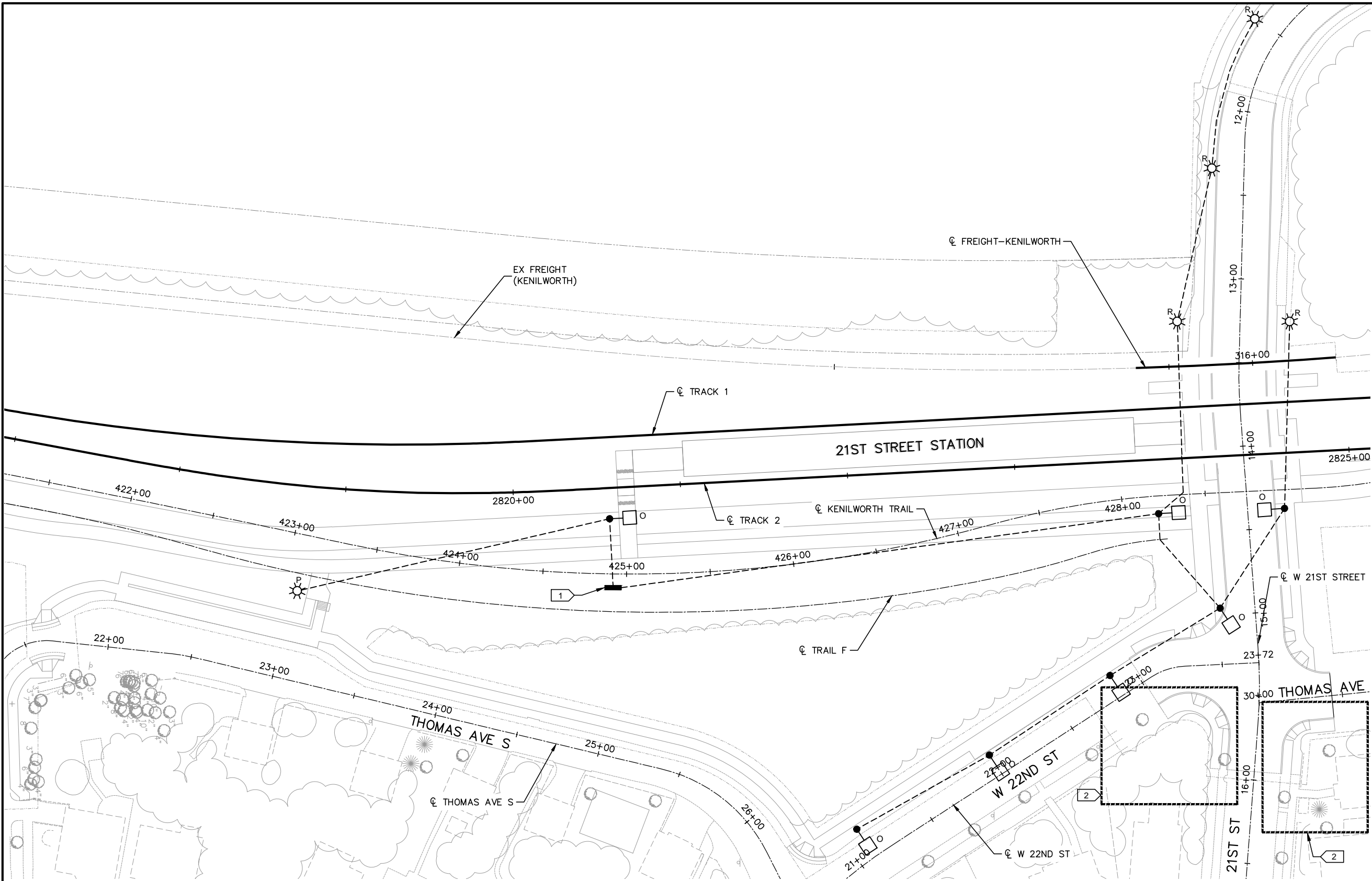
60% SUBMISSION - 09/28/15



CIVIL EAST - VOLUME 10 WEST LAKE STATION ELECTRICAL SITE PLAN (3 OF 3)		SHEET
DISCIPLINE:	SHEET NAME:	251
ELECTRICAL	E3-WST-ELE-PLN-103	OF
		266



Sep. 21 2015 09:26 am V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-21S-ELE-PLN-101.dwg By: V-Bege@B



- KEYNOTES:
1. CUSTOMER METERING CABINET.
  2. SALVAGE AND REINSTALL ANY EXISTING LUMINAIRES IN THIS AREA.

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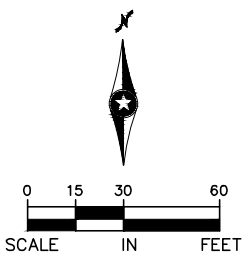
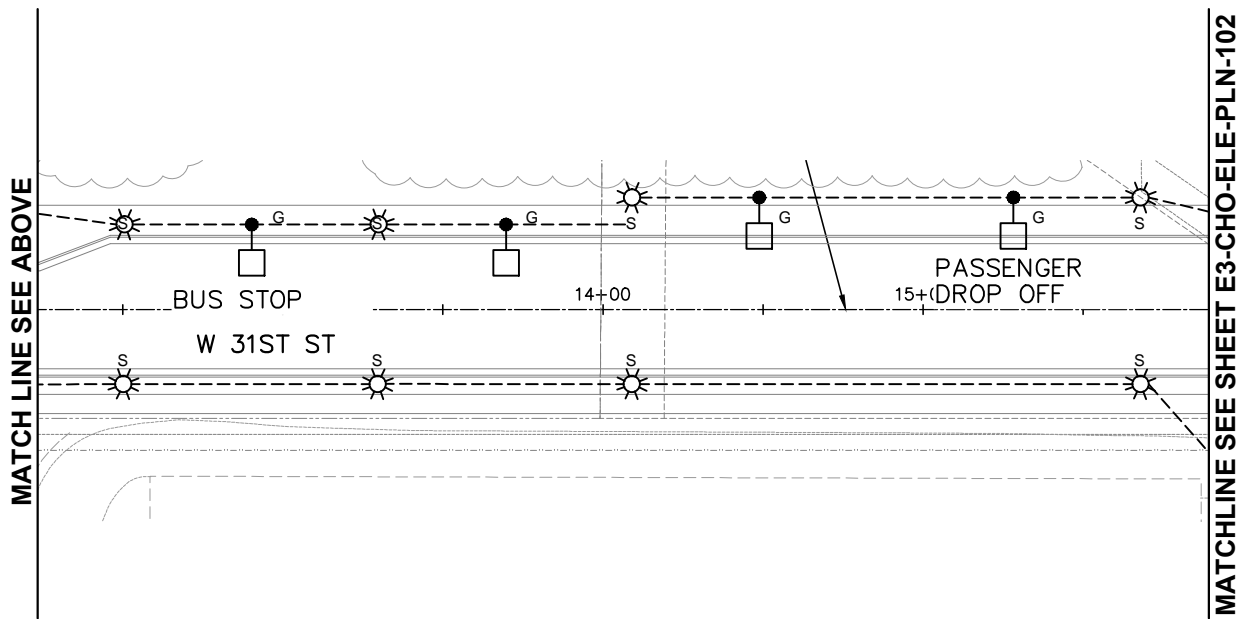
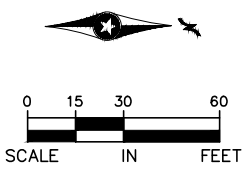
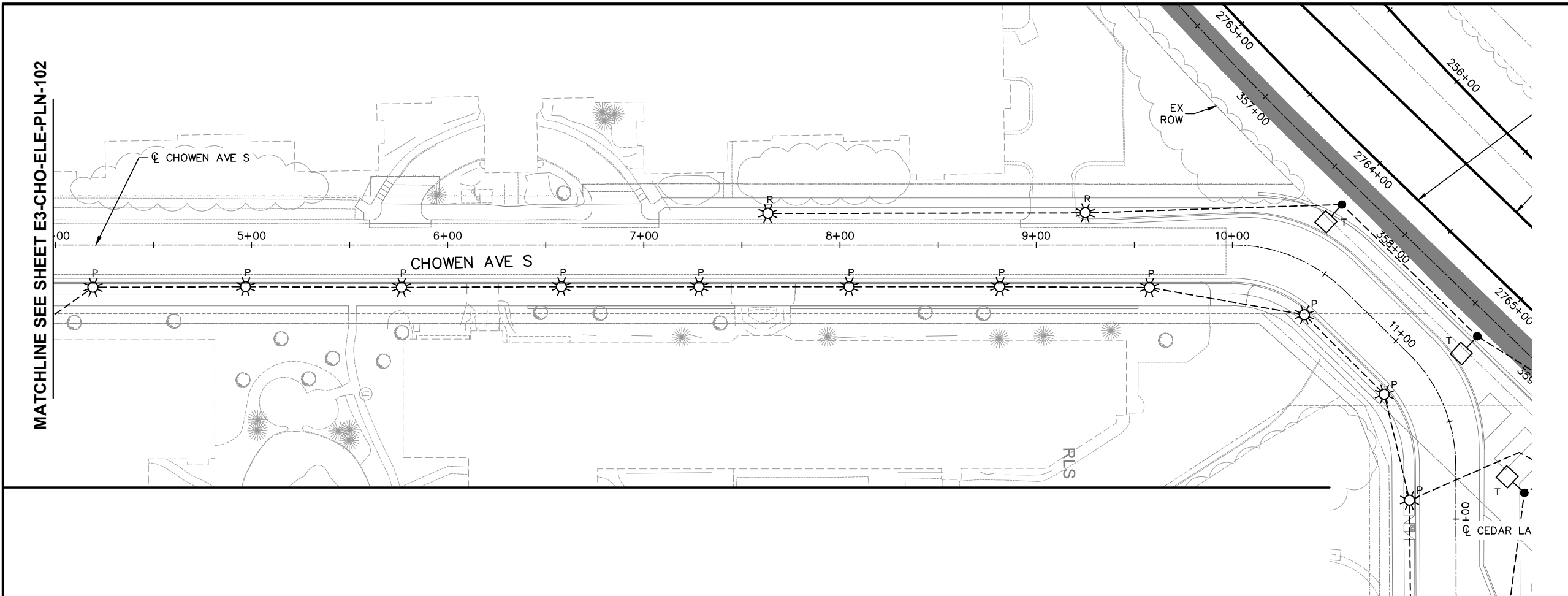


CIVIL EAST - VOLUME 10  
21ST STREET STATION  
ELECTRICAL  
SITE PLAN

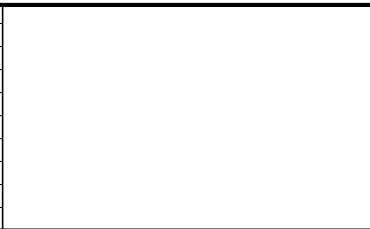
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SHEET  
252  
OF  
266

Sep. 21 2015 10:43 am V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-CHO-ELE-PLN-101.dwg By: V-Bege.B



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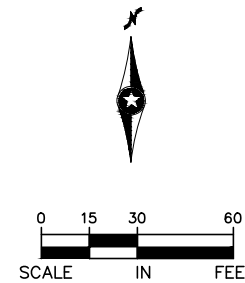
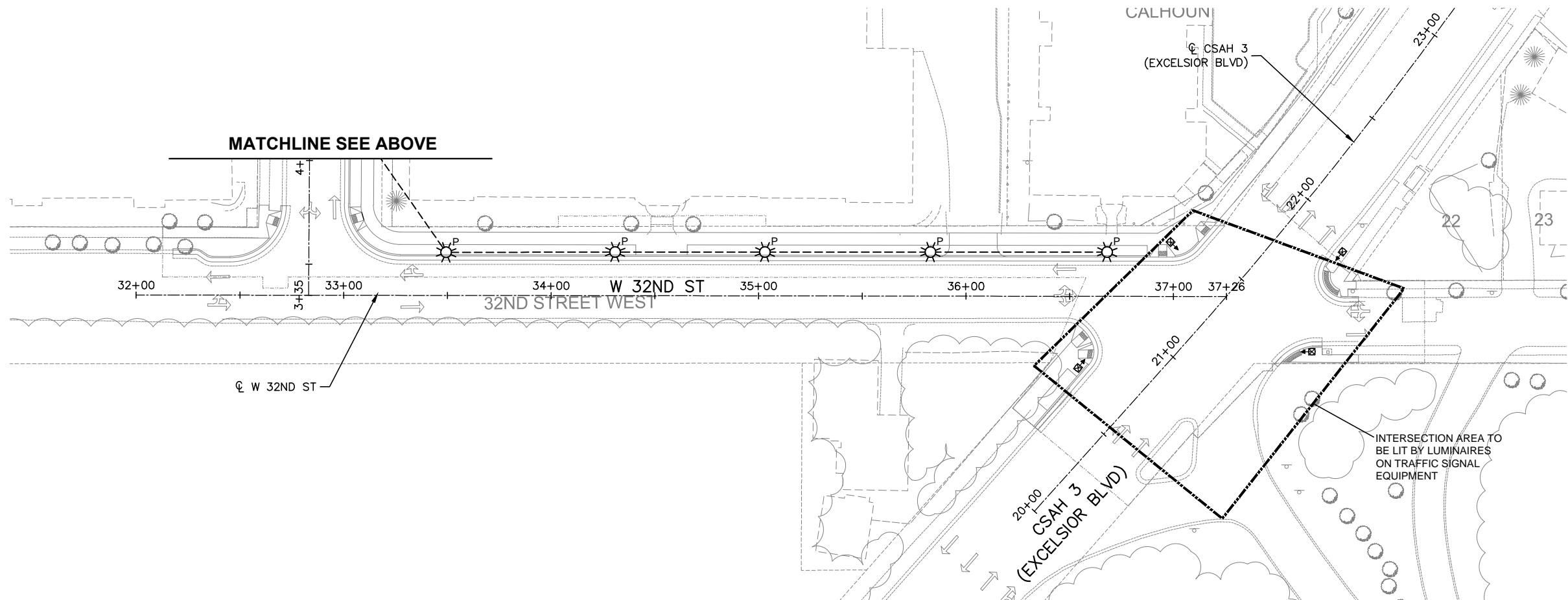
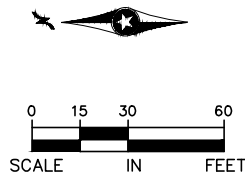
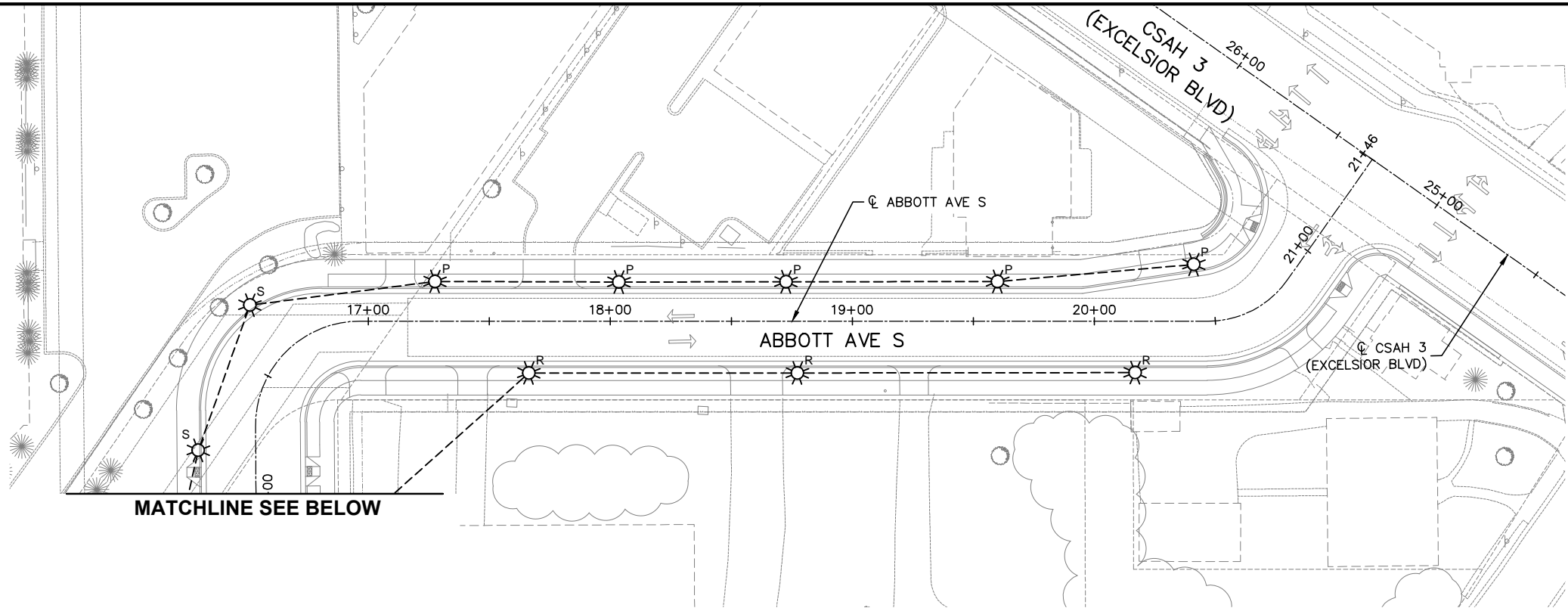


CIVIL EAST - VOLUME 10  
CHOWEN AVE S  
ELECTRICAL  
SITE PLAN (1 OF 2)

DISCIPLINE: ELECTRICAL	SHEET NAME: E3-CHO-ELE-PLN-101
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SHEET  
253  
OF  
266

Sep, 21 2015 10:44 am V:\3400\_ADC\CAD\SEGMENT E3\PLAN SHEETS\ELECTRICAL\E3-CHO-ELE-PLN-102.dwg By: V-BegeJB



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**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

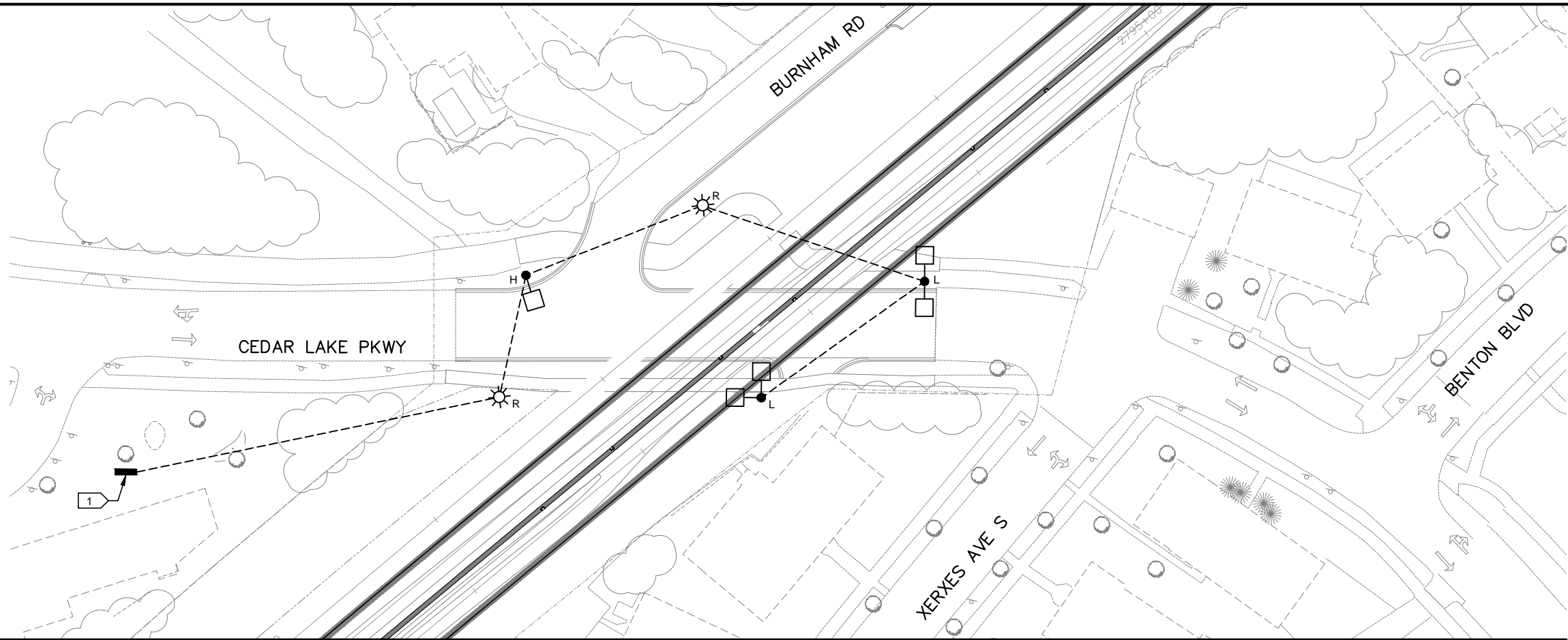
**CIVIL EAST - VOLUME 10**  
**CHOWEN AVE S**  
**ELECTRICAL**  
**SITE PLAN (2 OF 2)**


DISCIPLINE:  
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SHEET NAME:  
**E3-CHO-ELE-PLN-102**

**SHEET**  
**254**  
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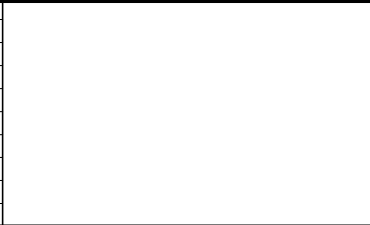
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KEYNOTES:   
1. CUSTOMER METERING ENCLOSURE.

GENERAL NOTES:  
1. TRACK 1 AND TRACK 2 NOT SHOWN FOR CLARITY.

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SOUTHWEST

Green Line LRT Extension



CIVIL EAST - VOLUME 10  
CEDAR LAKE PKWY  
ELECTRICAL  
SITE PLAN

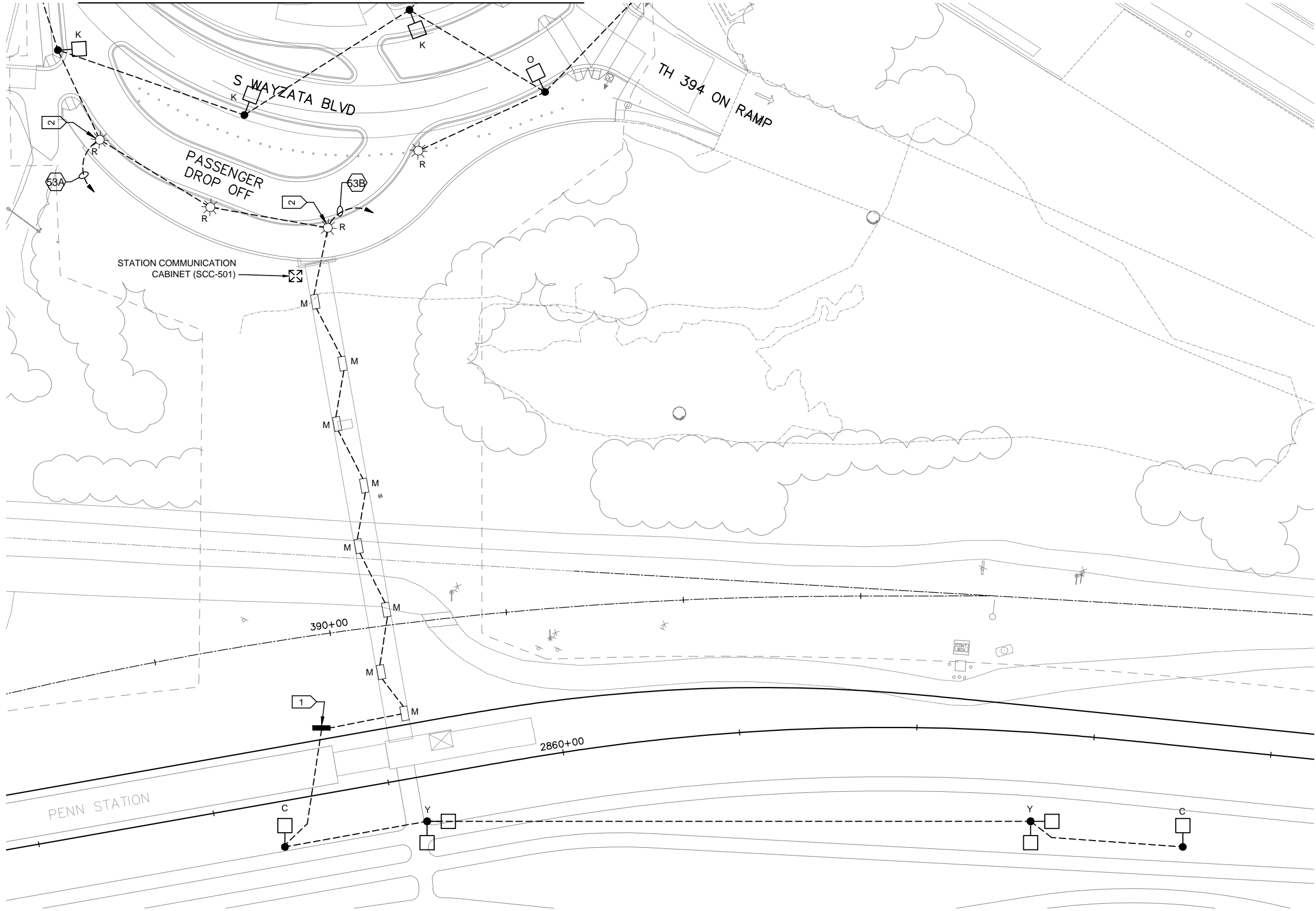
DISCIPLINE: ELECTRICAL

SHEET NAME: E3-CED-ELE-PLN-101

SHEET  
255  
OF  
266

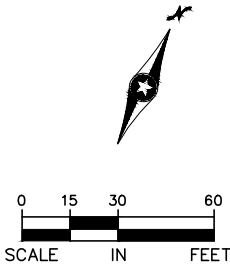
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MATCH LINE SEE SHEET E4-WAY-ELE-PLAN-101



- KEYNOTES:
- 1. CUSTOMER METERING ENCLOSURE.
  - 2. PROVIDE CCTV CAMERA ON THIS POLE AT 20'-0" A.F.F.

- GENERAL NOTES:
- 1. DASHED LINES WITH ARROWHEAD DENOTE HOMERUN TO NEAREST COMMUNICATION CABINET UNLESS OTHERWISE NOTED.



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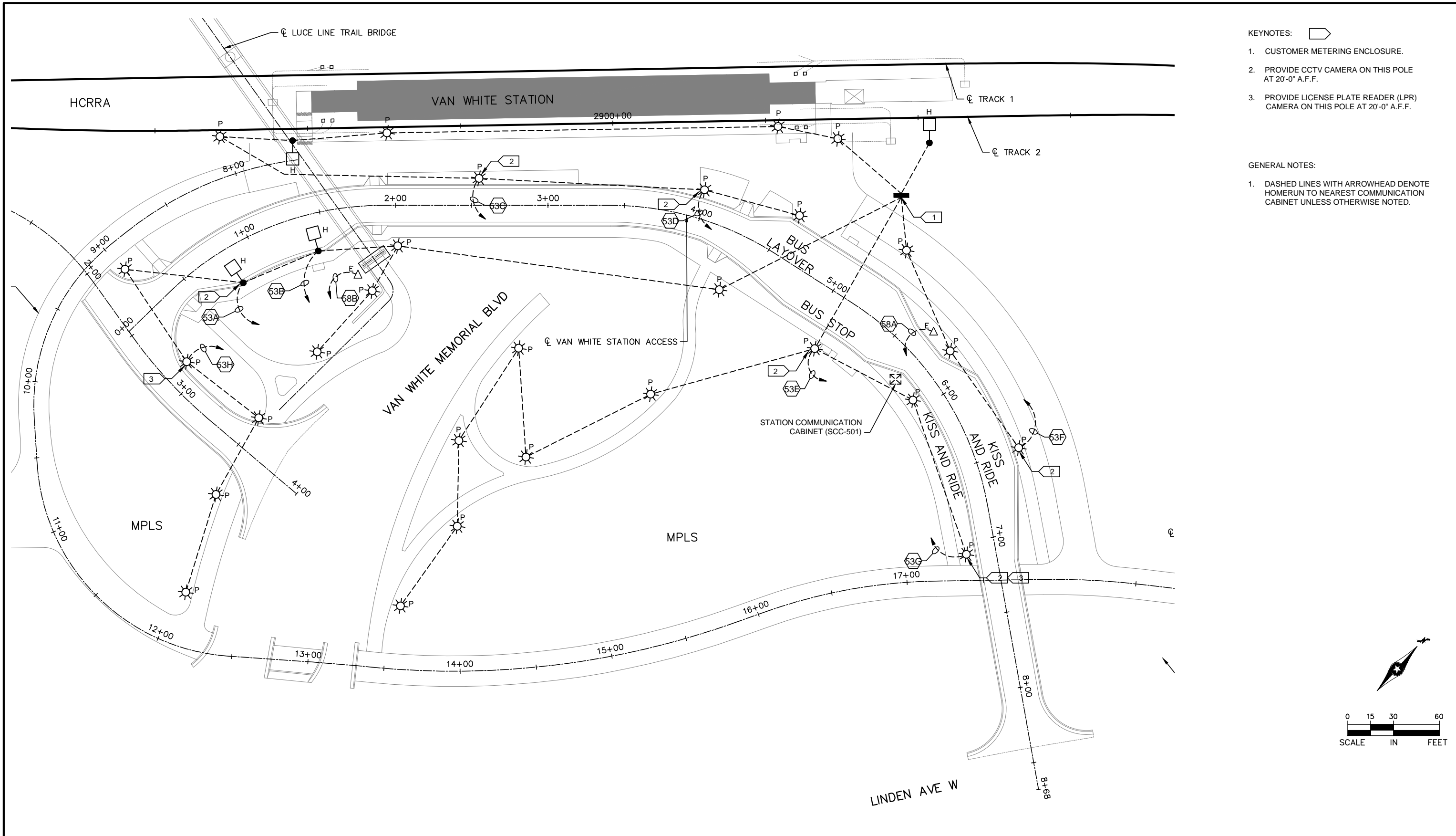



CIVIL EAST - VOLUME 10  
PENN STATION  
ELECTRICAL  
SITE PLAN

DISCIPLINE: ELECTRICAL  
SHEET NAME: E4-PEN-ELE-PLN-101

SHEET  
256  
OF  
266





- KEYNOTES:** 
1. CUSTOMER METERING ENCLOSURE.
  2. PROVIDE CCTV CAMERA ON THIS POLE AT 20'-0" A.F.F.
  3. PROVIDE LICENSE PLATE READER (LPR) CAMERA ON THIS POLE AT 20'-0" A.F.F.

[illegible]

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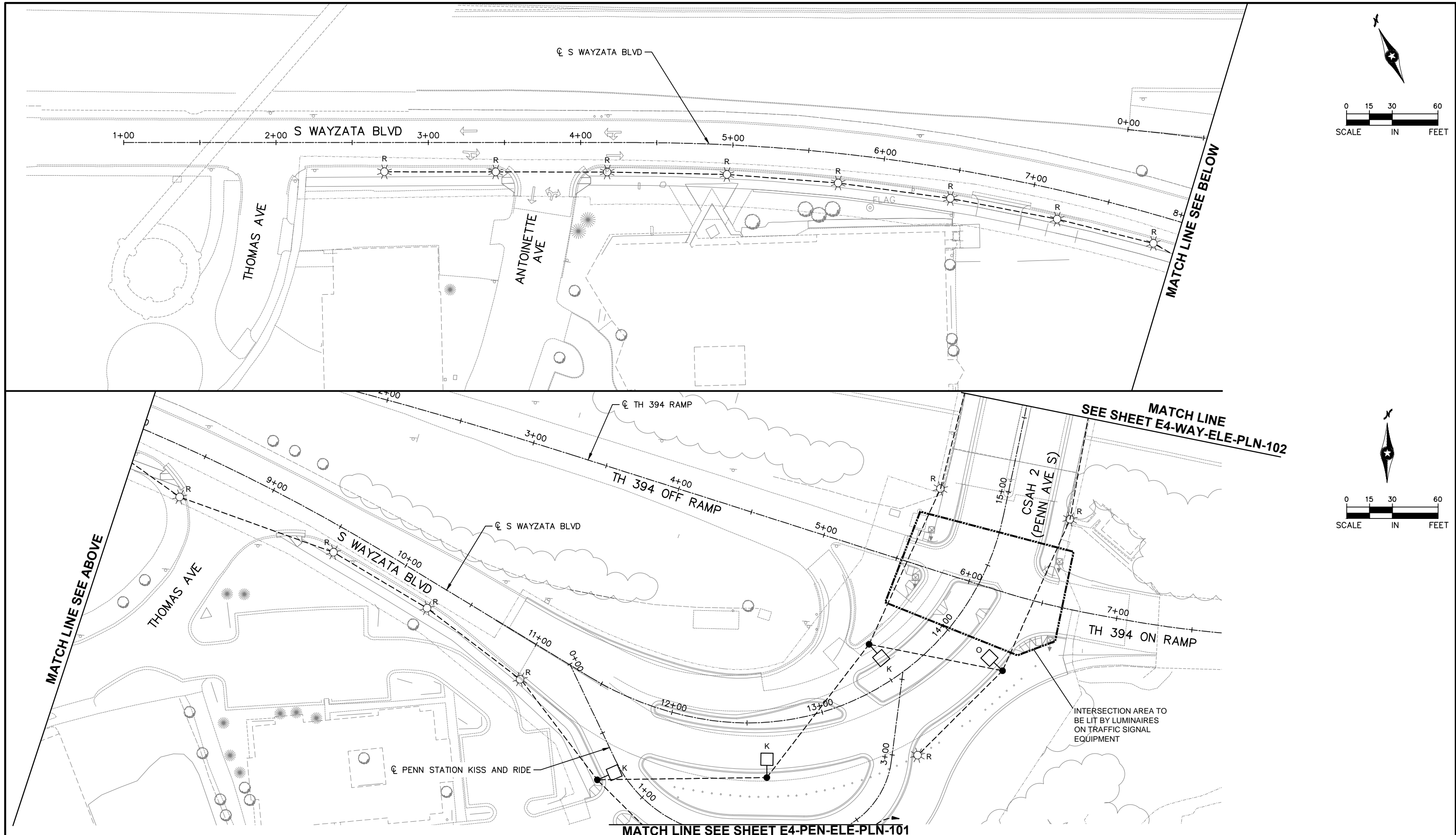
# CIVIL EAST - VOLUMN 10

## VAN WHITE STATION

### ELECTRICAL


### SITE PLAN

Sep. 21 2015 10:57 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-WAY-ELE-PLN-101.dwg By: V-BegeJB



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CIVIL EAST - VOLUME 10  
WAYZATA BLVD/PENN AVE  
ELECTRICAL  
SITE PLAN (1 OF 2)

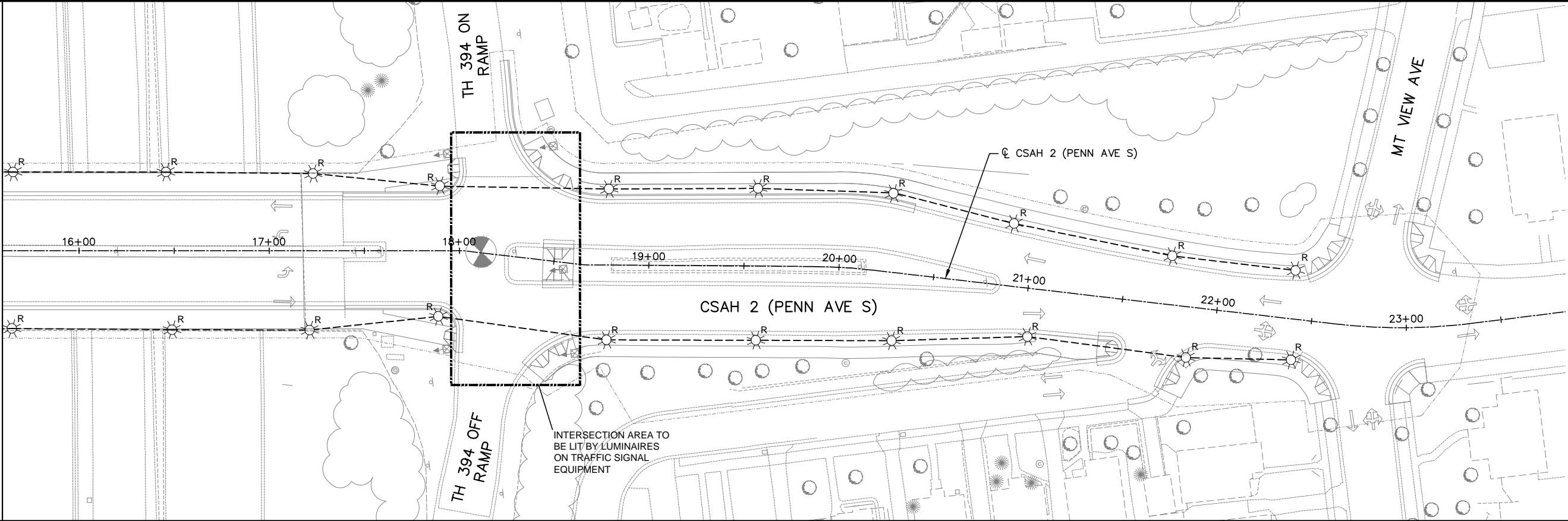
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SHEET NAME:  
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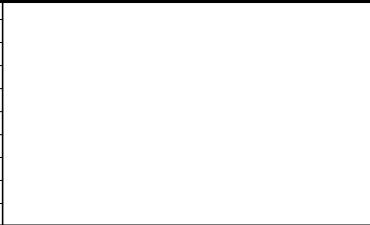
SHEET  
258  
OF  
266

Sep. 21 2015 10:54 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-WAY-ELE-PLN-102.dwg By: V-BegeJB

MATCH LINE SEE SHEET E4-WAY-ELE-PLN-101



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**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

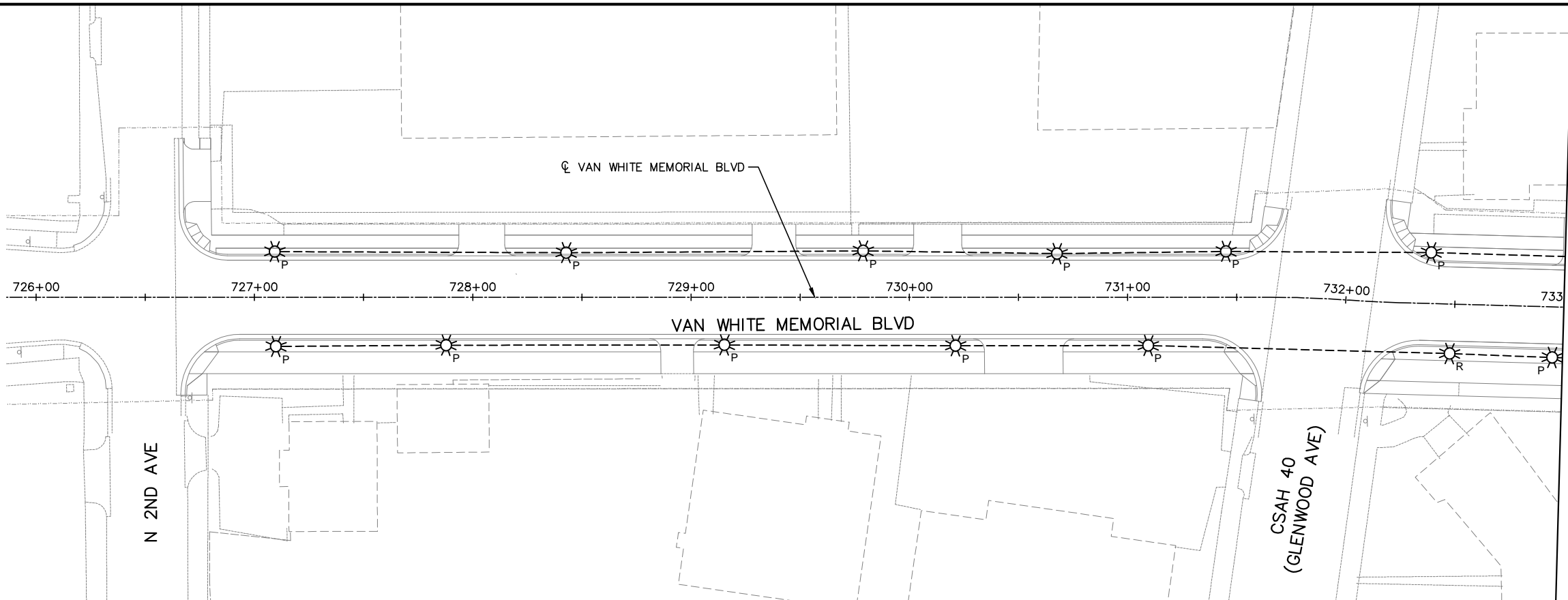
**CIVIL EAST - VOLUME 10**  
**WAYZATA BLVD/PENN AVE**  
**ELECTRICAL**  
**SITE PLAN (2 OF 2)**

DISCIPLINE:  
**ELECTRICAL**

SHEET NAME:  
**E4-WAY-ELE-PLN-102**

**SHEET**  
**259**  
**OF**  
**266**

Sep. 21 2015 11:09 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-FRE-ELE-PLN-101.dwg By: V-BegeJB



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**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

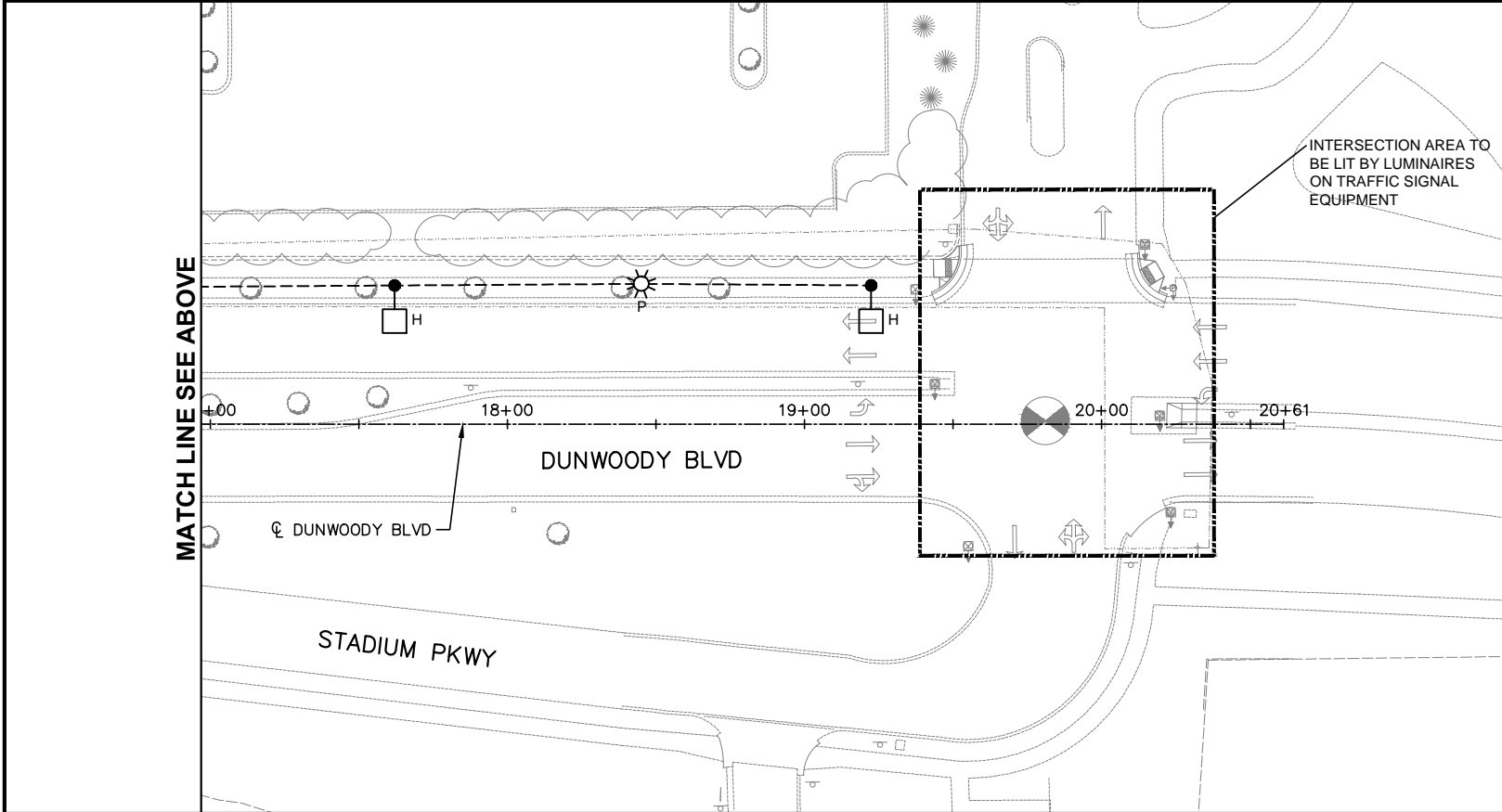
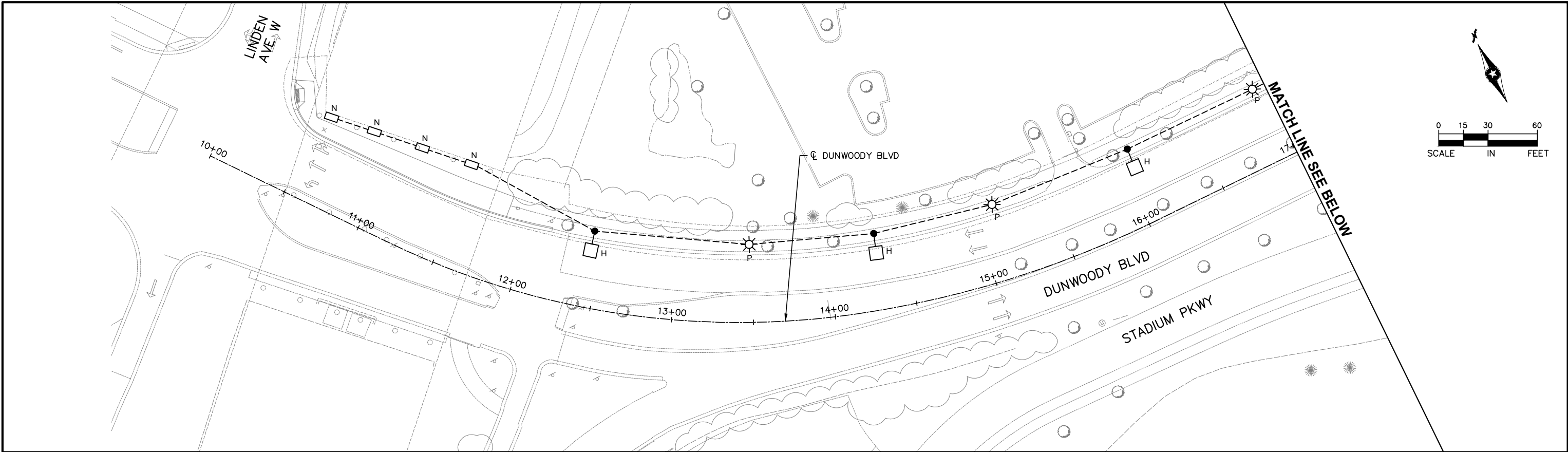
**CIVIL EAST - VOLUME 10**  
**VAN WHITE MEMORIAL BLVD**  
**ELECTRICAL**  
**SITE PLAN**

DISCIPLINE:  
**ELECTRICAL**

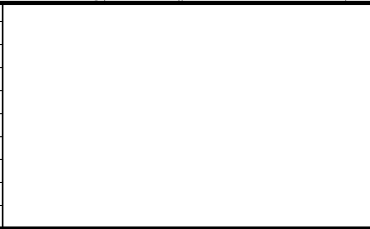
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**SHEET**  
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**266**

Sep. 21 2015 11:14 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-DUN-ELE-PLN-101.dwg By: V-Bege.B



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**METROPOLITAN  
COUNCIL**

**SOUTHWEST**  
Green Line LRT Extension

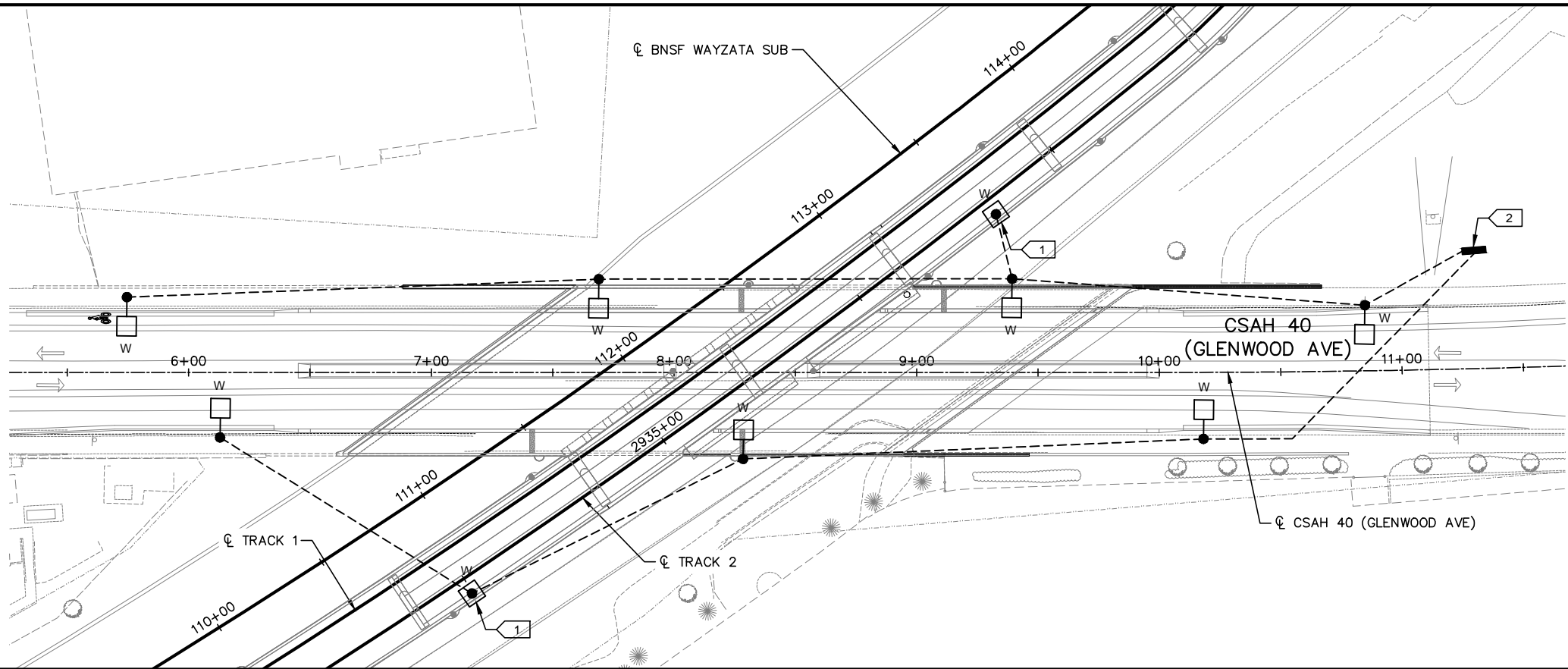
**CIVIL EAST - VOLUME 10**  
**DUNWOODY BLVD**  
**ELECTRICAL**  
**SITE PLAN**

DISCIPLINE: **ELECTRICAL**  
SHEET NAME: **E4-DUN-ELE-PLN-101**

**SHEET**  
**261**  
**OF**  
**266**



Sep. 21 2015 11:18 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-GLN-ELE-PLN-101.dwg By: V-BegeJB



- KEYNOTES:
- 1. POST TOP MOUNTED LUMINAIRE, HPS, TYPE 2 DISTRIBUTION, 250W HPS, MOUNTED @ 20' ON TOP OF RETAINING WALL.
  - 2. CUSTOMER METERING ENCLOSURE.

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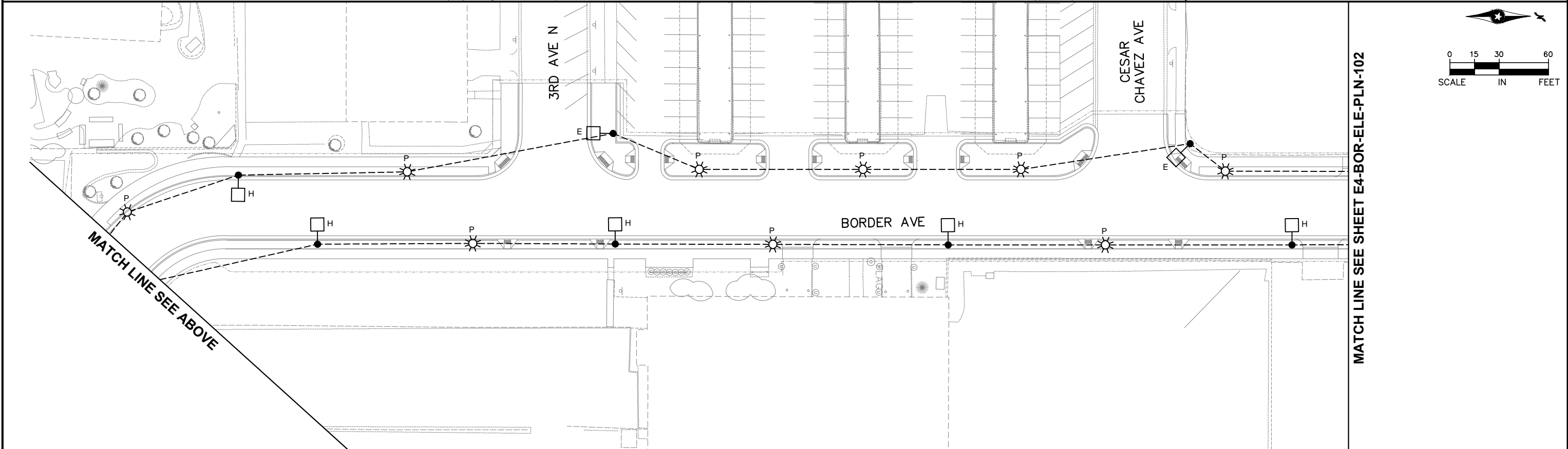
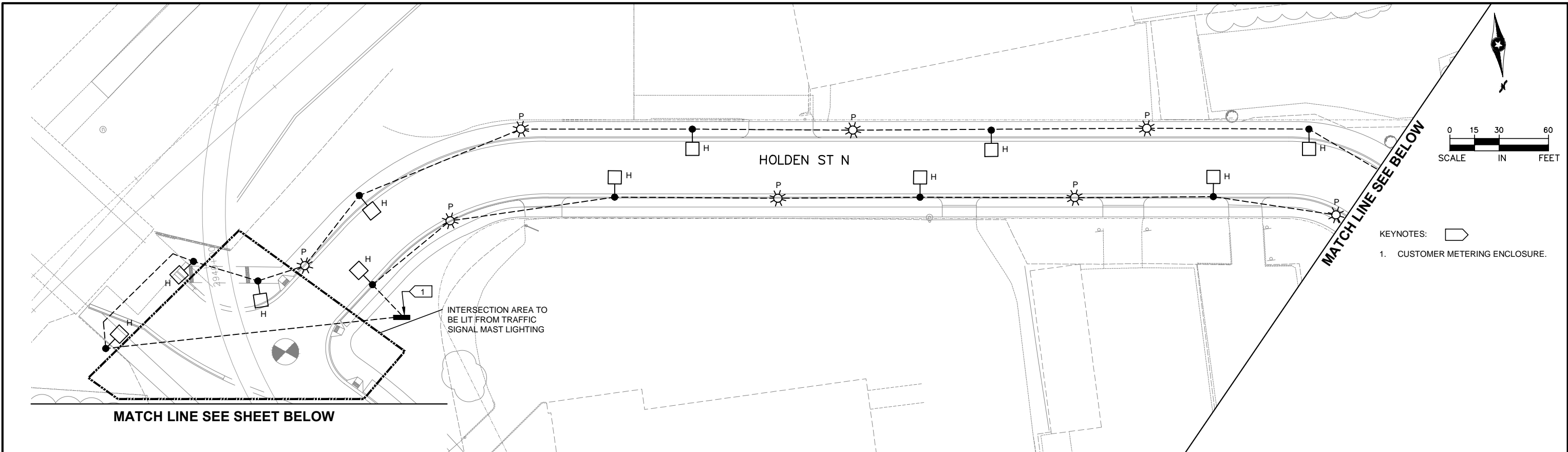


CIVIL EAST - VOLUME 10  
GLENWOOD AVE  
ELECTRICAL  
SITE PLAN

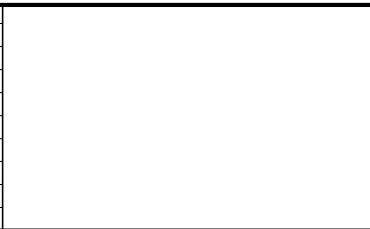
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SHEET NAME: E4-GLN-ELE-PLN-101

SHEET  
262  
OF  
266

Sep. 21 2015 11:22 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-BOR-ELE-PLN-101.dwg By: V-BegeaJB





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CIVIL EAST - VOLUME 10  
HOLDEN AVE N  
ELECTRICAL  
SITE PLAN (1 OF 2)

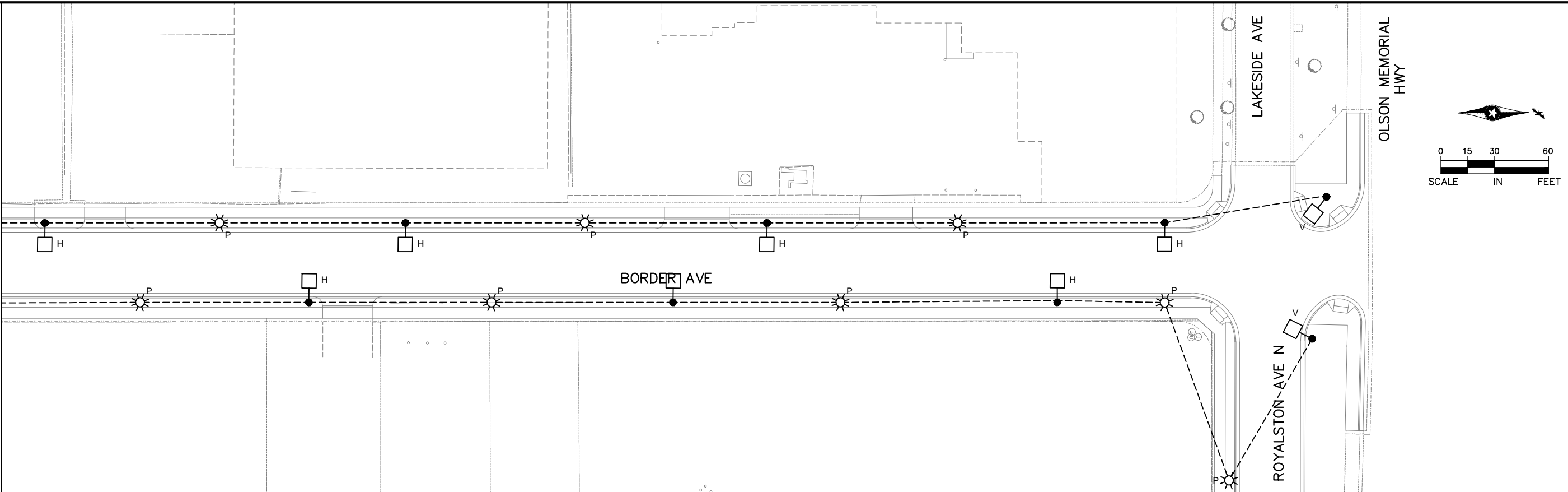
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SHEET NAME: E4-BOR-ELE-PLN-101

SHEET 263 OF 266

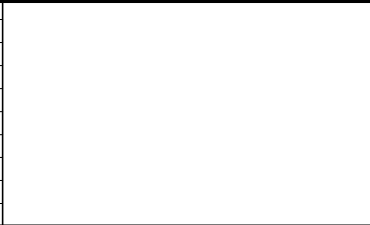
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MATCHLINE SEE SHEET E4-BOR-ELE-PLN-101



MATCHLINE SEE SHEET E4-ROY-ELE-PLN-102

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**METROPOLITAN**  
C O U N C I L

**SOUTHWEST**  
Green Line LRT Extension

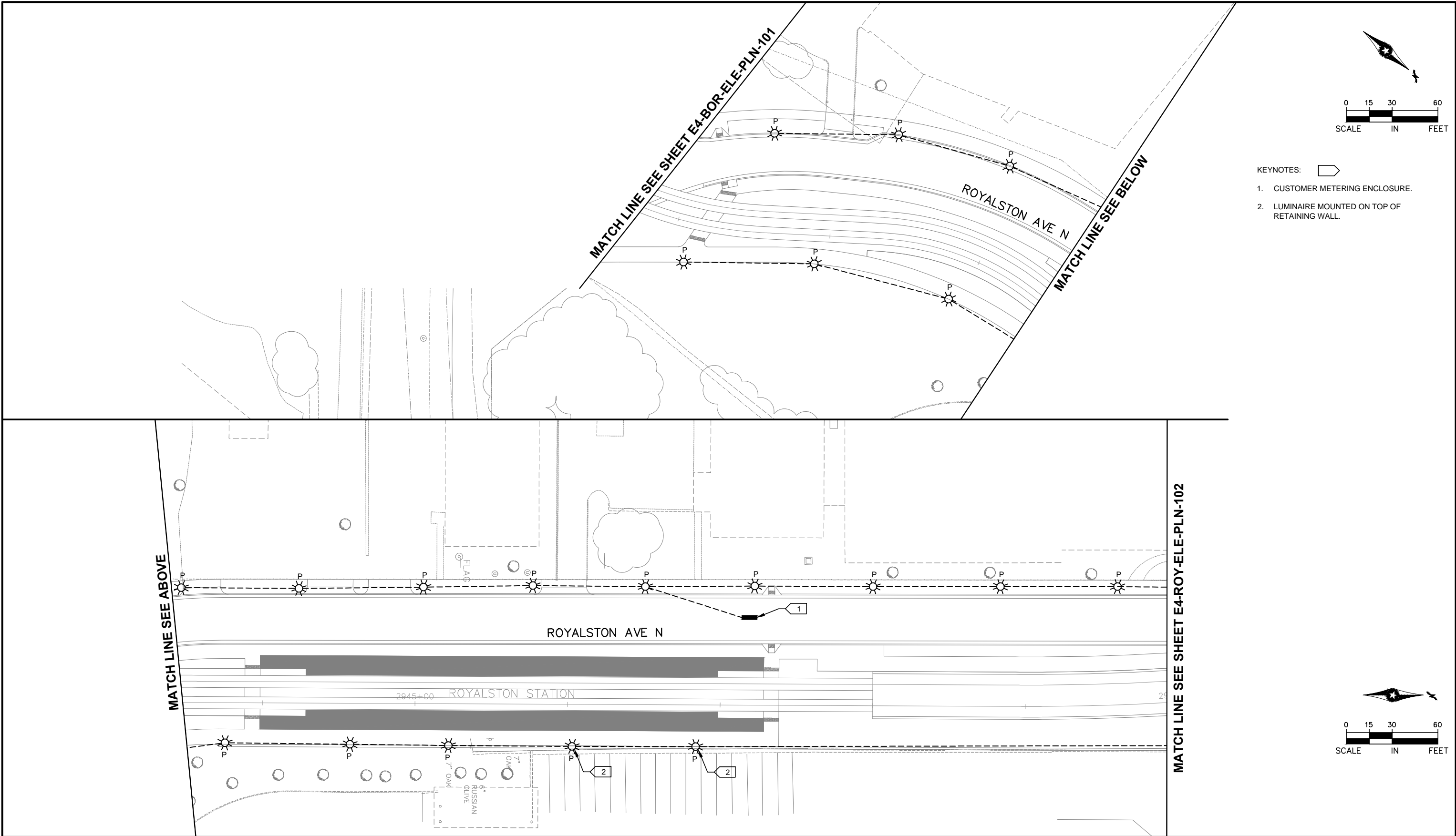
**CIVIL EAST - VOLUME 10**  
**HOLDEN AVE N**  
**ELECTRICAL**  
**SITE PLAN (2 OF 2)**

DISCIPLINE:  
**ELECTRICAL**

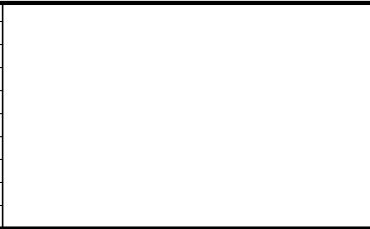
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**E4-BOR-ELE-PLN-102**

SHEET  
264  
OF  
266

Sep. 21 2015 12:30 pm V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-ROY-ELE-PLN-101.dwg By: V-Bege,B



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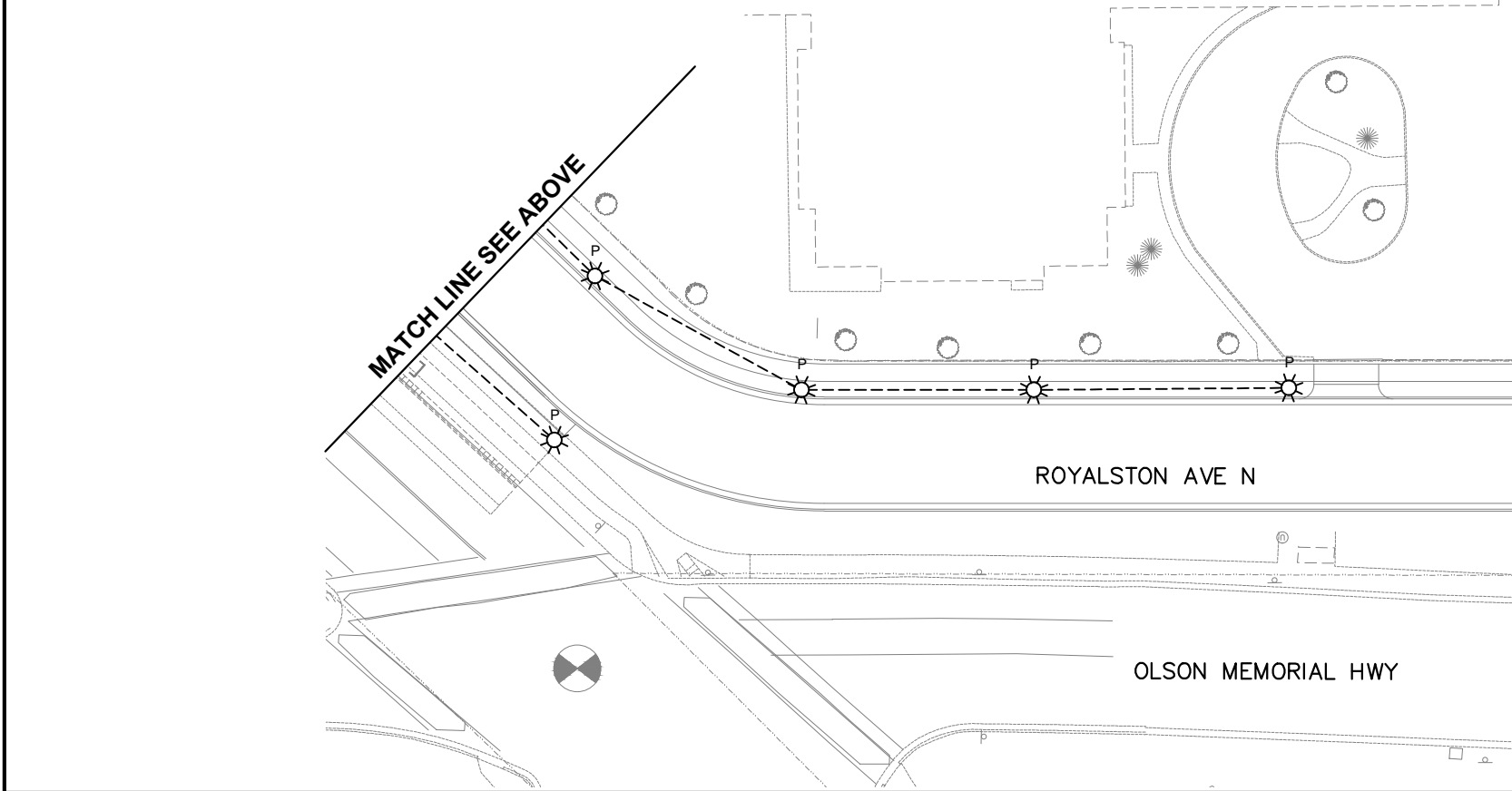
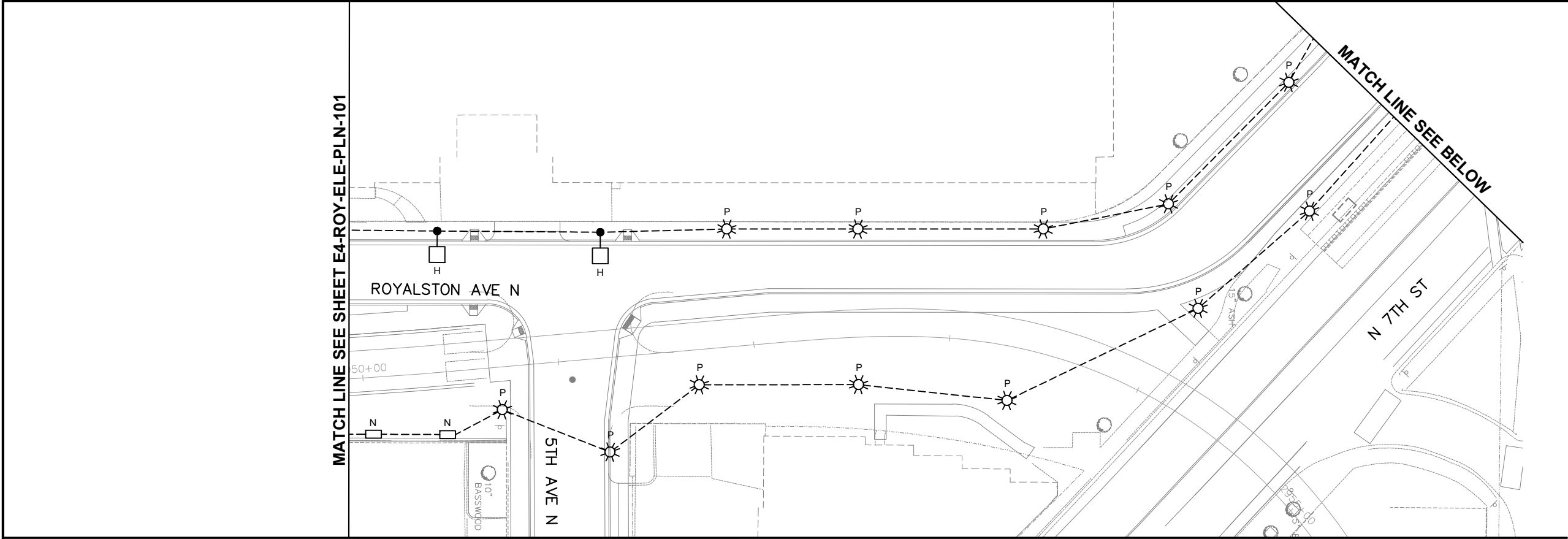
CIVIL EAST - VOLUME 10  
ROYALSTON STATION  
ELECTRICAL  
SITE PLAN (1 OF 2)

DISCIPLINE:  
ELECTRICAL

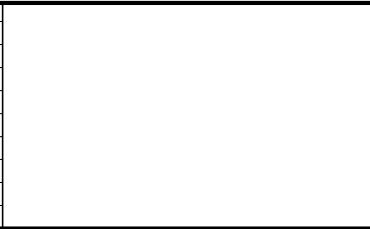
SHEET NAME:  
E4-ROY-ELE-PLN-101

SHEET  
265  
OF  
266

Sep. 21 2015 11:25 am V:\3400\_ADC\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-ROY-ELE-PLN-102.dwg By: V-Bege,B



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**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**ROYALSTON STATION**  
**ELECTRICAL**  
**SITE PLAN (2 OF 2)**

DISCIPLINE:  
**ELECTRICAL**

SHEET NAME:  
**E4-ROY-ELE-PLN-102**

SHEET

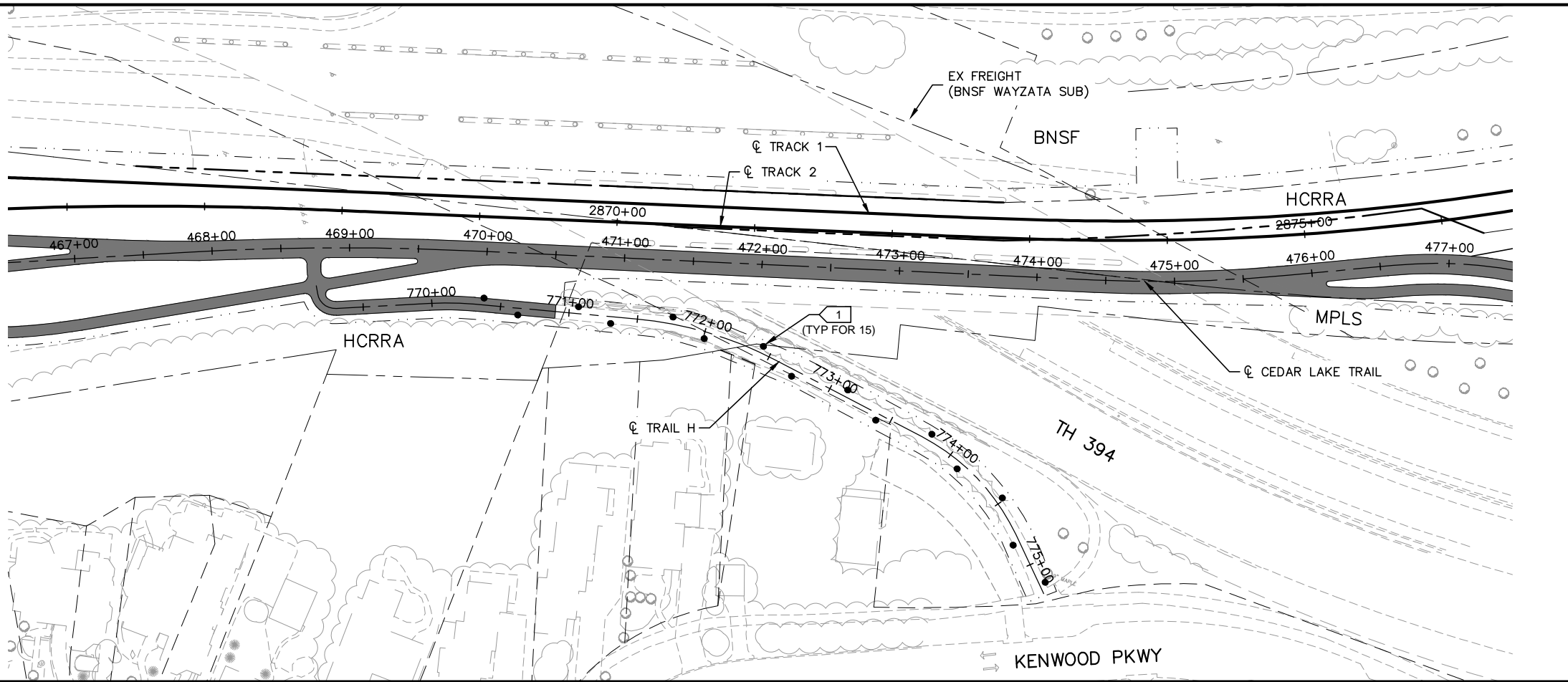
266

OF

266



Sep, 21 2015 12:31 pm V:\3400\_ADC\CAD\CAD\SEGMENT E4\PLAN SHEETS\ELECTRICAL\E4-TRH-ELE-PLN-101.dwg By: V-BegeJB



- KEYNOTES:
- 1. BOLLARD LUMINAIRE, LED, COOL WHITE COLOR TEMPERATURE, 739 LUMENS, MOUNTED @ 3.5'.

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**METROPOLITAN**  
COUNCIL

**SOUTHWEST**  
Green Line LRT Extension

**CIVIL EAST - VOLUME 10**  
**TRAIL H**  
**ELECTRICAL**  
**SITE PLAN**

DISCIPLINE: **ELECTRICAL**

SHEET NAME: **E4-TRH-ELE-PLN-101**

SHEET  
266A  
OF  
266

Sep. 21 2015 12:41 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\ELECTRICAL\E0-ELE-SITE-SCH-501.dwg By: V-BegeJB

TYPE	DESCRIPTION	MANUFACTURER	HOUSING	OPTICS	VOLTAGE	LAMP TYPE	DRIVER	MOUNTING	FINISH
A	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-3-75LA-4853-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE III DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 8753 LUMENS	530mA	20' POLE	BLACK
B	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-4-55LA-3253-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 5823 LUMENS	530mA	20' POLE	BLACK
C	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-2-55LA-3253-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE II DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 5994 LUMENS	530mA	15' POLE	BLACK
D	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-4-75LA-4853-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 8646 LUMENS	530mA	20' POLE	BLACK
E	SINGLE HEAD UTILITY POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM 1-2-100LA-4853-CW-UNV-BLP-	EC-ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE II DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED, COOL WHITE, 11896 LUMENS	530mA	20' POLE	BLACK
F	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-4-160LA-481A-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 14955 LUMENS	1050mA	20' POLE	BLACK
G1	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-4-100LA-6453-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 11558 LUMENS	530mA	20' POLE	BLACK
G2	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-4-100LA-6453-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 11558 LUMENS	530mA	15' POLE	BLACK
H	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-2-70LA-3270-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE II DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 7385 LUMENS	700mA	15' POLE	BLACK
I	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-4-70LA-3270-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 7293 LUMENS	700mA	15' POLE	BLACK
J	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-3-100LA-6453-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE III DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 11700 LUMENS	530mA	20' POLE	BLACK
K	TWIN HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-2@90-4-100LA-6453-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 11558 LUMENS EACH	530mA	20' POLE	BLACK
L	TWIN HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-2@90-4-160LA-481A-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 14955 LUMENS EACH	1050mA	20' POLE	BLACK
M	WALLPACK LUMINAIRE	LITHONIA TWH LED 30C-1000-4K-T3M-MVOLT-PE-DBLXD	TWHLED- DIE CAST ALUMINUM HOUSING HAS AN IMPACT-RESISTANT, TEMPERED GLASS LENS THAT IS FULLY GASKETED. ZINK-INFUSED SUPER DURABLE TGC THERMOSET POWDER COAT FINISH.	TYPE III MEDIUM DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 6391 LUMENS	1000mA	SURFACE	BLACK

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LUMINAIRE SCHEDULE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL




MP Consultants

CONSULTING ENGINEERING  
MINNEAPOLIS • MINNESOTA

60% SUBMISSION - 09/28/15



SOUTHWEST

Green Line LRT Extension



CIVIL EAST - VOLUME 10  
ELECTRICAL  
LUMINAIRE SCHEDULE  
1 OF 3

DISCIPLINE: ELECTRICAL

SHEET NAME: E0-ELE-SITE-SCH-501

Sep, 21 2015 12:41 pm V:\3400\_ADC\CAD\SEGMENT W1\PLAN SHEETS\ELECTRICAL\E0-ELE-SITE-SCH-502.dwg By: V-BegeJB

TYPE	DESCRIPTION	MANUFACTURER	HOUSING	OPTICS	VOLTAGE	LAMP TYPE	DRIVER	MOUNTING	FINISH
N	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-5-160LA-481A-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE V DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 14465 LUMENS	1050mA	20' POLE	BLACK
O	POST TOP POLE MOUNTED LUMINAIRE	HOLOPHANE PTUE-70-4K-AS-P3-B-S	CAST ALUMINUM HOUSING, ASYMMETRIC POLYCARBONATE REFRACTOR, GASKETED, 4000K, SPIKE FINIAL, SUPPFITTER, 120-277V	TYPE V DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 5183 LUMENS	350mA	15' POLE	BLACK
P	NOT USED								BLACK
Q	POST TOP POLE MOUNTED LUMINAIRE	HOLOPHANE PTUE-70-4K-AS-P3-B-S	CAST ALUMINUM HOUSING, ASYMMETRIC POLYCARBONATE REFRACTOR, GASKETED, 4000K, SPIKE FINIAL, SUPPFITTER, 120-277V	TYPE II DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 5427 LUMENS	530mA	15' POLE	BLACK
R	POST TOP POLE MOUNTED LUMINAIRE	HOLOPHANE PTUE-70-4K-AS-P3-B-S	CAST ALUMINUM HOUSING, ASYMMETRIC POLYCARBONATE REFRACTOR, GASKETED, 4000K, SPIKE FINIAL, SUPPFITTER, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 5736 LUMENS	530mA	15' POLE	BLACK
S	TWIN HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-2@90-4-55LA-3253-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE IV DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 5823 LUMENS EACH	530mA	15' POLE	BLACK
T	TWIN HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-2@90-2-55LA-3253-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE II DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 5994 LUMENS EACH	530mA	15' POLE	BLACK
U	SINGLE HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-1-105LA-4870-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE V DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 10494 LUMENS	700mA	20' POLE	BLACK
V	SINGLE HEAD POLE MOUNTED LUMINAIRE			TYPE II DISTRIBUTION	SEE PANELBOARD SCHEDULE	250W HIGH PRESSURE SODIUM	N/A	20' POLE	BLACK
W	TWIN HEAD POLE MOUNTED LUMINAIRE	PHILIPS GARDCO ECOFORM ECF-2@90-3-70LA-3270-CW-UNV-BLP-	ONE PIECE DIE CAST ALUMINUM HOUSING, ONE PIECE DIE CAST DOOR FRAME, ELECTROSTATICALLY APPLIED POWDER COAT FINISH, IP66 RATED, 120-277V	TYPE III DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED/COOL WHITE, 7576 LUMENS	700mA	15' POLE	BLACK
Y	WALLPACK LUMINAIRE			UP AND DOWN DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED		WALL	BLACK
Z	WALLPACK LUMINAIRE			DOWN DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED		WALL	BLACK
A1	RECESSED CAN LUMINAIRE			WIDE DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED		RECESSED	WHITE TRIM

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LUMINAIRE SCHEDULE

NO.	DATE	BY	CHECK	DESIGN	REVISION / SUBMITTAL	<div><div><div><div>AECOM</div><div>MP Consultants</div><div>CONSULTING ENGINEERING MINNEAPOLIS • MINNESOTA</div></div><div>60% SUBMISSION - 09/28/15</div></div></div> <div><div><div><div>METROPOLITAN COUNCIL</div><div>SOUTHWEST</div><div>Green Line LRT Extension</div></div><div></div></div></div> <div><div>CIVIL EAST - VOLUME 10 ELECTRICAL LUMINAIRE SCHEDULE 2 OF 3</div><div><div>DISCIPLINE: ELECTRICAL</div><div>SHEET NAME: E0-ELE-SITE-SCH-502</div></div></div> <div>SHEET 266C OF 266</div>

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TYPE	DESCRIPTION	MANUFACTURER	HOUSING	OPTICS	VOLTAGE	LAMP TYPE	DRIVER	MOUNTING	FINISH
B1	WALLPACK LUMINAIRE			UP AND DOWN DISTRIBUTION	SEE PANELBOARD SCHEDULE	LED		WALL	ALUMINUM
C1	LINEAR LUMINAIRE			N/A	SEE PANELBOARD SCHEDULE	LED		SURFACE	WHITE
D1	LINEAR LUMINAIRE			N/A	SEE PANELBOARD SCHEDULE	LED		RECESSED	WHITE TRIM
E1	2X2 LUMINAIRE			N/A	SEE PANELBOARD SCHEDULE	LED		RECESSED	WHITE TRIM

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LUMINAIRE SCHEDULE

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