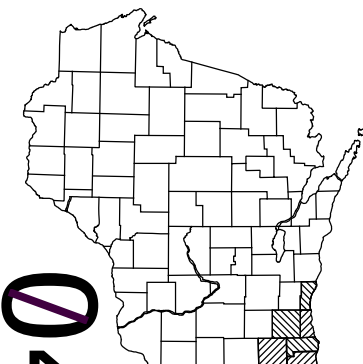


ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 180



04

DESIGN DESIGNATION N/A

A.D.T.	= N/A
A.D.T.	= N/A
D.H.V.	= N/A
D.	= N/A
T.	= N/A
DESIGN SPEED	= N/A
ESALS	= N/A

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

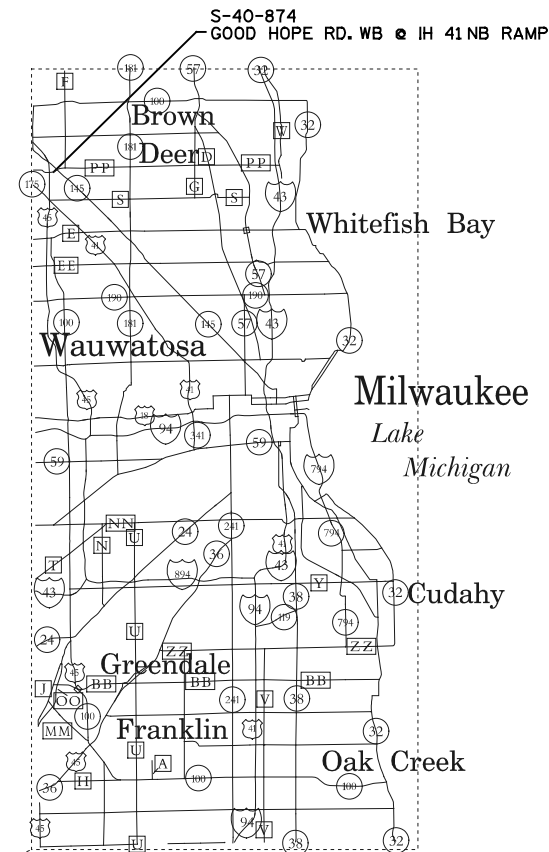
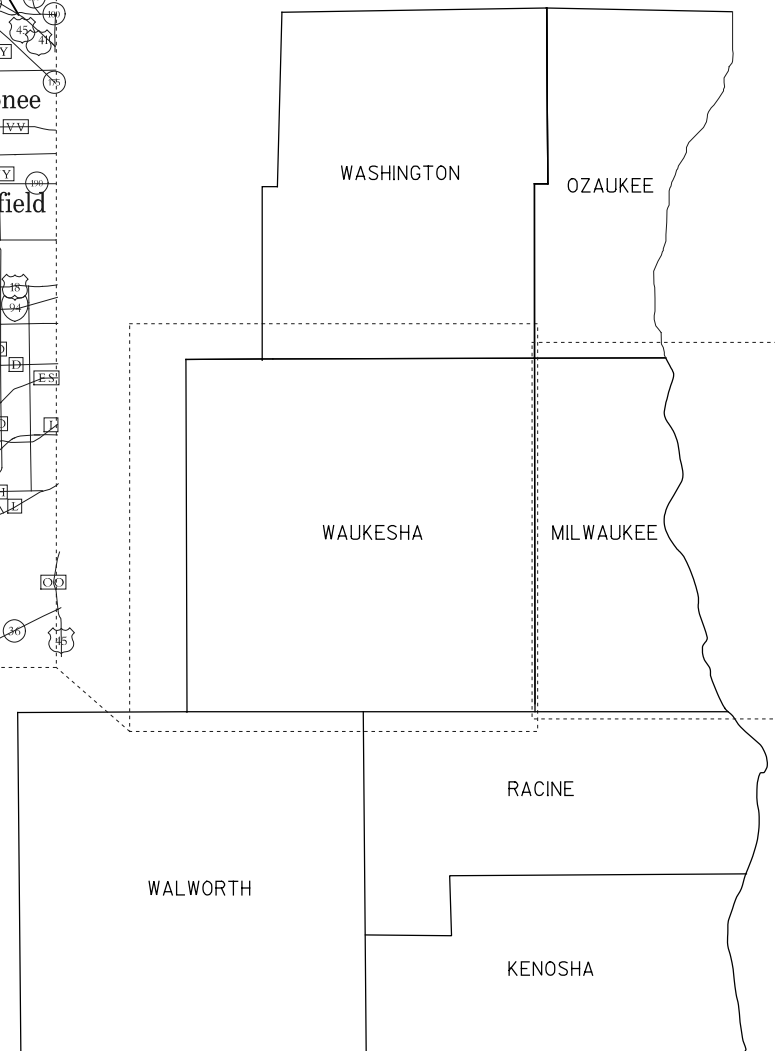
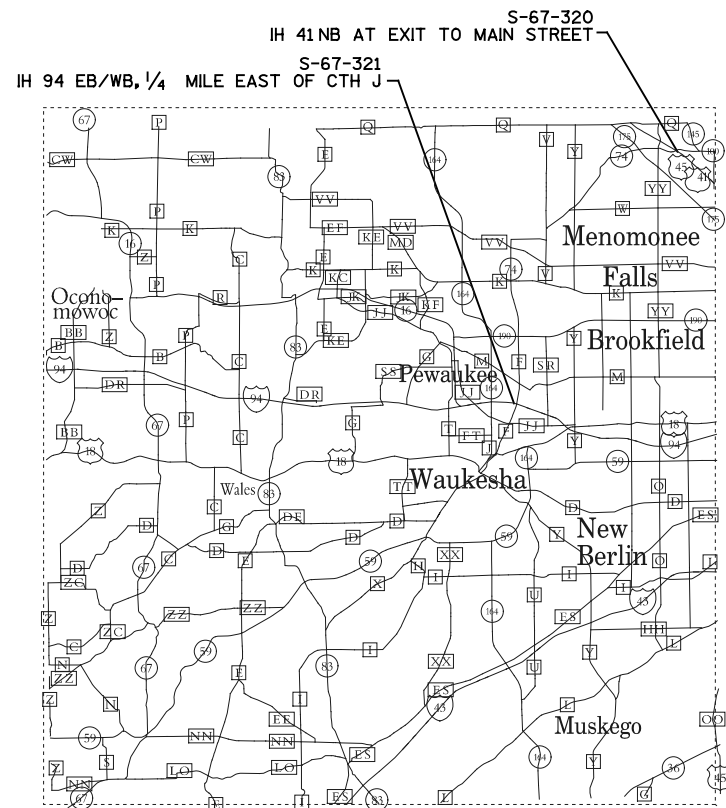
PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

SIGN BRIDGE REPAIR AND REPLACEMENT 2018
VARIOUS FREEWAYS, STATE HIGHWAYS, AND US HIGHWAYS
SOUTHEAST REGION WIDE

STATE PROJECT NUMBER
1000-20-70



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	
Designer	COLLINS ENGINEERS, INC.
Project Manager	JASON ZEMKE
District Examiner	
District Supervisor	BAO TRAN
C.O. Examiner	

APPROVED FOR DISTRICT OFFICE

DATE: 3/8/18

UTILITIES CONTACT LIST

STANLEY JACKSON
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ELECTRICAL SHOP
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WAUKESHA, WI 53188-2443
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JB5175@ATT.COM

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CHARTER COMMUNICATIONS - COMMUNICATION LINE
1320 N DR MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212-4002
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WIS.ENGINEERING@CHARTER.COM

LEVEL 3 COMMUNICATIONS LLC - COMMUNICATION LINE
1025 ELDORADO BLVD
BROOMFIELD, CO 80021
RELO@LEVEL3.COM

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333 W EVERETT ST
MILWAUKEE, WI 53203
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STE. 300
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JEFFREY.MADSON@DOT.WI.GOV

JEFFREY POLENSKE
CITY OF MILWAUKEE - ELECTRICITY
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841 N BROADWAY
MILWAUKEE, WI 53202
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JPOLEN@MILWAUKEE.GOV

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MIDWEST FIBER NETWORKS LLC - COMMUNICATION LINE
6070 NORTH FLINT RD
GLENDALE, WI 53209
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RTRGOVEC@MIDWESTFIBERNETWORKS.COM

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141 NW BARSTOW STREET
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ERIC.PEREA@DOT.WI.GOV

NICOLE SMULLEN (PRIMARY CONTACT)
WE ENERGIES - GAS/PETROLEUM
A299
333 W EVERETT ST
MILWAUKEE, WI 53203
(414) 460-7190
NICOLE.SMULLEN@WECENERGYGROUP.COM

GENERAL NOTES

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITY SERVICES ARE NOT SHOWN.

DNR CONTACT LIST

MILWAUKEE AND RACINE COUNTY
MS. KRISTINA BETZOLD
2300 N. MARTIN LUTHER KING DR.
MILWAUKEE, WI 53212
(414) 263-8517

WASHINGTON COUNTY
MR. MIKE THOMPSON
2300 N. MARTIN LUTHER KING DR.
MILWAUKEE, WI 53212
(414) 263-8648

KENOSHA AND WAUKESHA COUNTY
MR. CRAIG WEBSTER
141 N W BARSTOW ST., RM. 180
WAUKESHA, WI 53187
(262) 574-2141

DESIGN CONTACT

COLLINS ENGINEERS, INC.
2033 W. HOWARD AVE
MILWAUKEE, WI 53221
ATTN: VERONICA CHAVEZ DE FERNANDEZ
(414) 282-6905



SIGN BRIDGE LOCATIONS - KENOSHA COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-30-0206	IH 41	NB/SB	3/4 MILE NORTH OF CTH E
S-30-023	IH 41	NB	AT EXIT TO STH 158
S-30-024	IH 41	SB	1/2 MILE NORTH OF STH 50
S-30-212	STH 31	NB	RIGHT TURN LANE TO CTH M
S-30-213	STH 31	NB	AT CTH S
S-30-224	STH 158	EB	JUST WEST OF IH 94 ENTRANCE RAMP
S-30-230	IH 94	EB	0.5 MILES SOUTH OF STH 50
S-30-239	IH 41	NB	NORTH FRONTAGE ROAD ENTRANCE RAMP, NORTH OF STH 50
S-30-240	IH 94	EB	EXIT RAMP TO STH 50
S-30-251	IH 41	NB	EXIT TO STH 142

SIGN BRIDGE LOCATIONS - MILWAUKEE COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-40-206	IH 94	EB	JUST EAST OF 32ND ST
S-40-233	IH 41	NB/ SB	1/4 MILE SOUTH OF MAYFAIR RD
S-40-234	IH 41	NB	1/4 MILE SOUTH OF NORTH AVE W EXIT
S-40-236	IH 41	SB	3/4 MILE NORTH OF NORTH AVE
S-40-237	IH 41	NB/ SB	1/4 MILE NORTH OF BURLEIGH ST
S-40-241	STH 175	SB	1/4 MILE NORTH OF WELLS ST
S-40-242	STH 175	NB	1/4 MILE SOTH OF WASHINGTON BLVD
S-40-251	IH 43	SB	1/4 MILE SOUTH OF KEEFE AVE
S-40-252	IH 41	SB	CAPITOL DR ENTRANCE RAMP
S-40-257	IH 43	NB	AT SILVER SPRING DR EXIT
S-40-278	IH 41	NB	SILVER SPRING DR ENTRANCE RAMP
S-40-281	IH 41	NB	NORTH AVE ENTRANCE RAMP
S-40-302	CTH PP	WB	JUST EAST OF USH 45 NB ENTRANCE RAMP
S-40-303	IH 41	SB	1/2 MILE NORTH OF GOOD HOPE RD
S-40-304	IH 41	SB	APPLETON AVE EXIT
S-40-305	IH 41	SB	1/2 MILE NORTH OF APPLETON AVE
S-40-314	STH 341	NB	1/2 MILE SOUTH OF MILLER PARK GATE 6
S-40-315	STH 175	NB	JUST SOUTH OF CANAL ST EXIT
S-40-316	STH 175	NB	1/4 MILE SOUTH OF STADIUM INTERCHANGE
S-40-317	STH 175	NB	AT GORE TO IH 94 EB/WB RAMPS
S-40-318	STH 175	SB	1/10 MILE SOUTH OF IH 94
S-40-319	USH 341	SB	AT EXIT TO MILLER PARK
S-40-320	USH 341	SB	JUST NORTH OF NATIONAL AVE
S-40-323	FREDERICK MILLER WAY	EB	300 FEET WEST OF STH 175
S-40-324	FREDERICK MILLER WAY	WB	300 FEET WEST OF STH 341
S-40-370	IH 41	NB	1/2 MILE SOUTH OF HAMPTON AVE

SIGN BRIDGE LOCATIONS - MILWAUKEE COUNTY (CONT..)

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-40-383	IH 43	NB	1/4 MILE SOUTH OF HAMPTON AVE
S-40-390	IH 43	SB	AT EXIT TO HOLT AVE
S-40-431	IH 94	WB	1/10 MILE EAST OF EXIT TO 25TH ST
S-40-509	IH 43	SB	1/4 MILE NORTH OF HIGHLAND AVE
S-40-510	IH 43	SB	AT EXIT TO HIGHLAND AVE
S-40-514	IH 94	WB	1/10 MILE EAST OF 25TH ST
S-40-517	IH 94	WB	AT 16TH ST
S-40-538	IH 794	WB	AT 3RD ST
S-40-803	BRADLEY RD	WB	JUST EAST OF 124TH ST
S-40-750	CTH Y	WB	JUST EAST OF STH 241
S-40-757	IH 894	EB	EXIT RAMP TO STH 36
S-40-761	IH 41	NB	COLLEGE AVE ENTRANCE RAMP
S-40-770	IH 41	NB	CTH BB ENTRANCE RAMP
S-40-781	IH 41	SB	EXIT TO DREXEL AVE
S-40-812	IH 894	EB	EXIT TO LOOMIS RD
S-40-813	IH 43	NB	SOUTH OF IH 894
S-40-816	IH 43	NB	C-D RAMP TO LAPHAM BLVD
S-40-818	IH 43	NB	EXIT TO KEEFE AVE/ ATKINSON AVE
S-40-859	IH 94	WB	35TH ST ENTRANCE RAMP
S-40-922	STH 24	WB	1/8 MILE EAST OF STH 100
S-40-960	STH 59	EB	JUST WEST OF IH 894 SB RAMPS
S-40-977	4TH ST	NB	550 FEET SOUTH OF BECHER ST
S-40-978	5TH ST	SB	NORTH OF BECHER ST
S-40-979	5TH ST	SB	NORTH OF ROGERS ST

SIGN BRIDGE LOCATIONS - WASHINGTON COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-66-205	IH 41	NB	1/2 MILE SOUTH OF 27TH ST
S-66-206	STH 145	EB	JUST WEST OF IH 41
S-66-207	STH 145	EB	JUST WEST OF CABELA WAY
S-66-208	STH 145	EB	WEST OF USH 45 SB ENTRANCE RAMP
S-66-210	STH 145	WB	EAST OF IH 41 NB ENTRANCE RAMP
S-66-211	STH 145	WB	JUST EAST OF IH 41
S-66-213	IH 41	NB	EXIT TO STH 145
S-66-215	CABELA WAY	NB	JUST SOUTH OF STH 145
S-66-216	USH 45	SB	EXIT RAMP TO STH 145
S-66-217	STH 164	SB	1/10 MILE NORTH OF CTH Q
S-66-218	CTH Q	WB	JUST EAST OF STH 184

SIGN BRIDGE LOCATIONS - OZAUKEE COUNTY

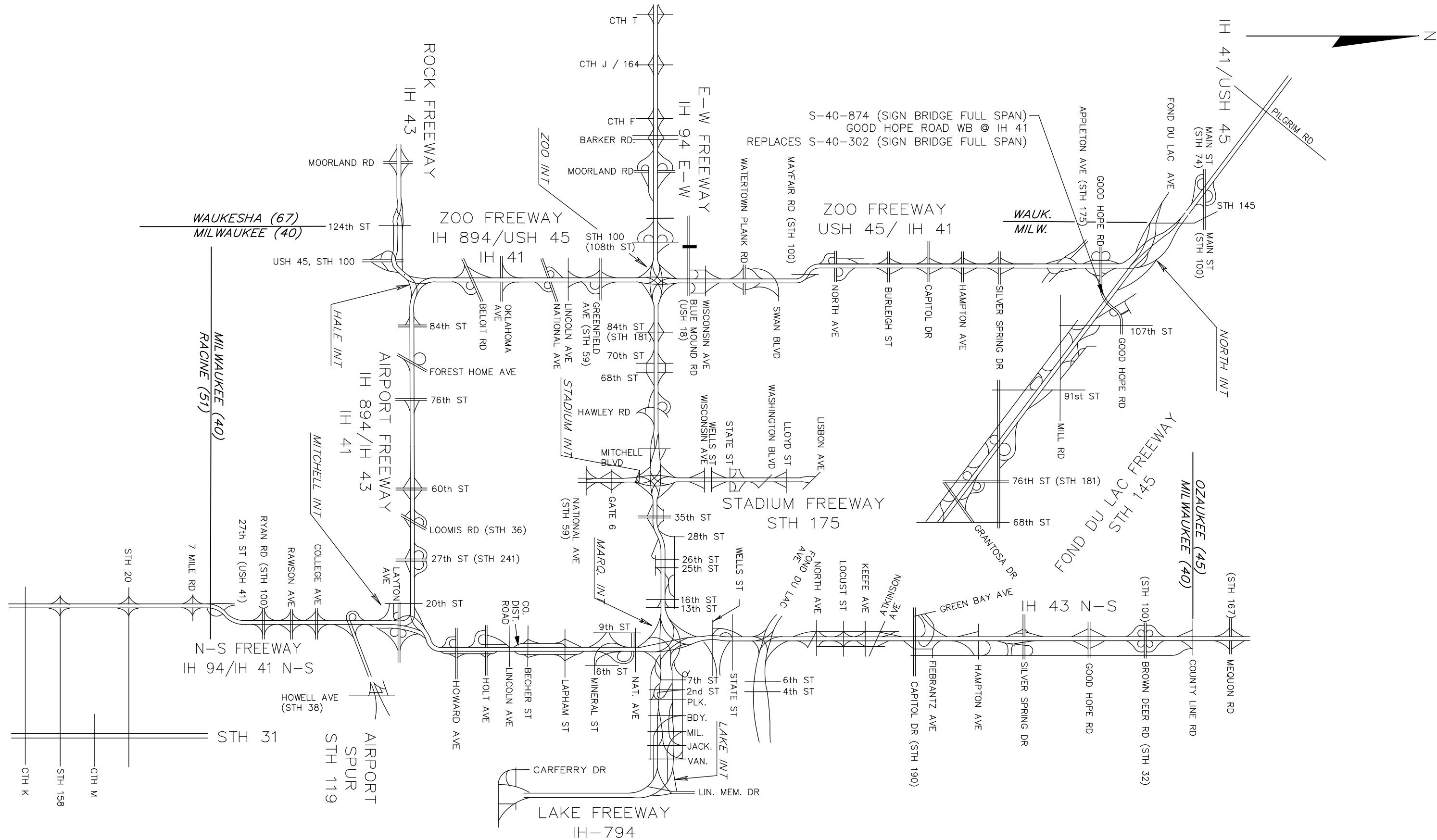
STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-45-208	STH 33	EB	JUST WEST OF NORTHWOODS RD
S-45-209	STH 33	WB	JUST EAST OF NORTHWOODS RD

SIGN BRIDGE LOCATIONS - RACINE COUNTY

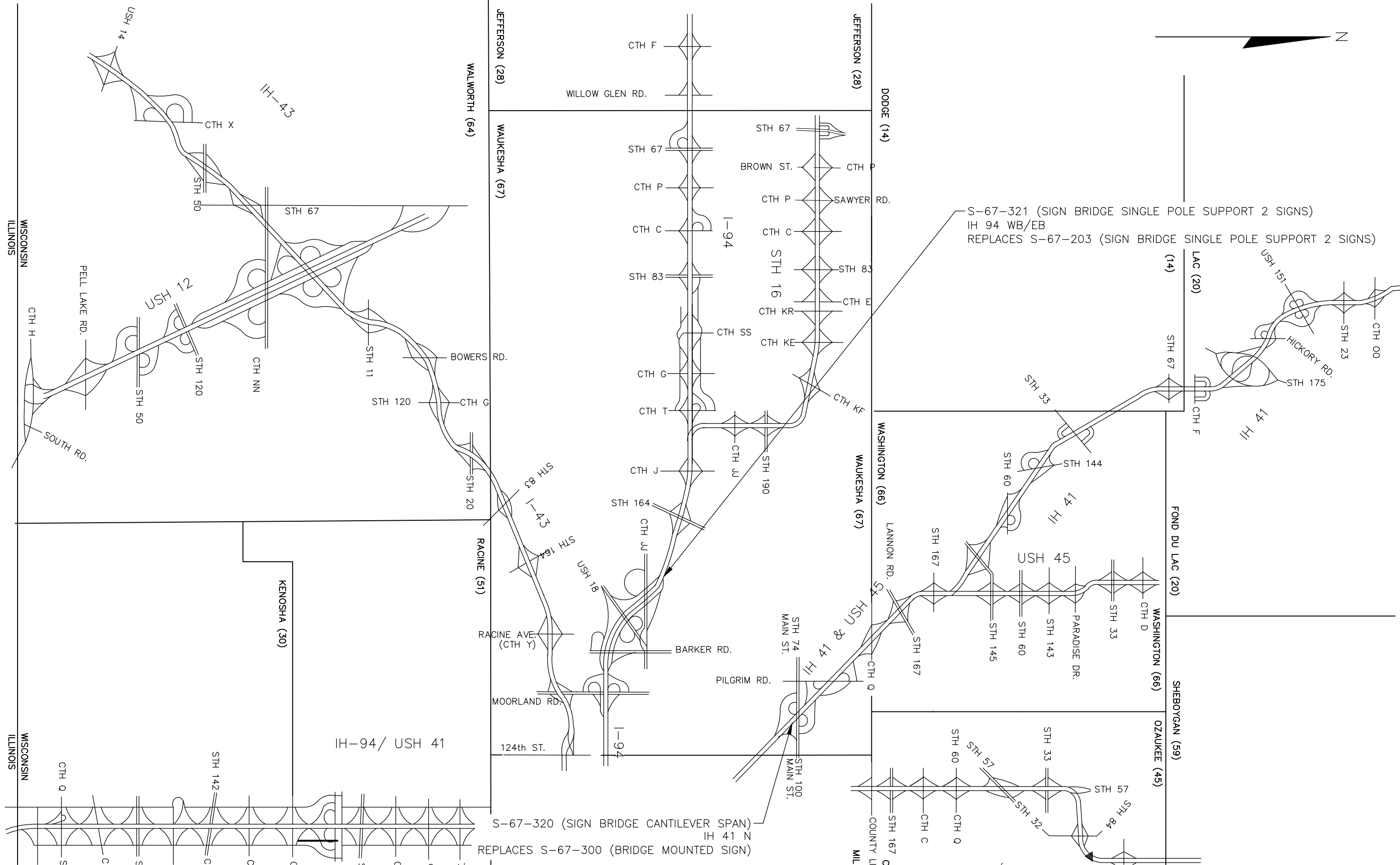
STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-51-203	IH 41	NB/ SE	1/2 MILE SOUTH OF CTH G

SIGN BRIDGE LOCATIONS - WAUKESHA COUNTY

STRUCTURE NUMBER	HIGHWAY	DIRECTION OF TRAVEL	LOCATION
S-67-038	CTH Y	NB	1/10 MILE SOUTH OF IH 94
S-67-039	IH 94	WB	1/4 MILE EAST OF CTH G
S-67-040	IH 94	WB	1/8 MILE EAST OF CTH G
S-67-041	IH 94	WB	1/4 MILE EAST OF CTH SS
S-67-042	IH 94	WB	1/8 MILE EAST OF CTH SS
S-67-045	IH 41	SB	1/2 MILE NORTH OF STH 145 EXIT
S-67-046	IH 41	SB	EXIT RAMP TO STH 145
S-67-210	STH 164	NB/ SB	1/2 MILE NORTH OF CTH JJ
S-67-226	IH 94	EB	CTH Y ENTRANCE RAMP
S-67-239	CTH G	NB	LEFT TURN TO IH 94 WEST ENTRANCE RAMP
S-67-240	CTH G	NB	LEFT TURN TO IH 94 WEST ENTRANCE RAMP
S-67-241	IH 41	NB	MAIN ST ENTRANCE RAMP
S-67-244	CTH SS	SB	LEFT TURN LANE TO IH 94 EAST ENTRANCE RAMP
S-67-245	CTH SS	SB	LEFT TURN LANE TO IH 94 EAST ENTRANCE RAMP
S-67-246	CTH SS	NB	JUST SOUTH OF CTH DR
S-67-250	STH 83	SB	JUST SOUTH OF IH 94
S-67-254	CTH Q	EB	JUST WEST OF STH 164
S-67-263	STH 164	NB	1/10 MILE SOUTH OF STH 59
S-67-272	CTH O (MOORLAND RD)	SB	1/10 MILE SOUTH OF IH 43
S-67-279	STH 74	EB	JUST SOUTH OF MCLAUGHLIN RD
S-67-314	IH 94	WB	EXIT TO MOORLAND RD SOUTH
S-67-402	IH 94	EB	100 FEET WEST OF ELM GROVE RD
S-67-404	STH 190	EB	1/10 MILE WEST OF 124TH ST
S-67-911	USH 18	EB	1/8 MILE WEST OF STH 83
S-67-912	CTH Y	NB	JUST SOUTH OF IH 43 NORTH ENTRANCE RAMP
S-67-913	CTH Y	NB	JUST SOUTH OF IH 43
S-67-914	CTH Y	SB	JUST NORTH OF IH 43
S-67-916	IH 43	SB	EXIT RAMP TO CTH Y
S-67-917	IH 43	NB	EXIT RAMP TO CTH Y
S-67-939	STH 100	WB	JUST WEST OF FOUNTAIN BLVD



PROJECT NO: 1000-20-70	HWY: GOOD HOPE ROAD	COUNTY: MILWAUKEE	SHEET	E
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PROJECT NO: 1000-20-70

HWY: IH 41 N / IH 94

COUNTY: WAUKESHA

REPLACEMENT LOCATIONS

SHEET

E

Estimate Of Quantities

1000-20-70

Line	Item	Item Description	Unit	Total	Qty
0002	204.9060.S	Removing (item description) 01. Sign Lighting	EACH	1.000	1.000
0004	204.9090.S	Removing (item description) 01. Electrical Wires From Conduit	LF	134.000	134.000
0006	603.8000	Concrete Barrier Temporary Precast Delivered	LF	350.000	350.000
0008	603.8125	Concrete Barrier Temporary Precast Installed	LF	350.000	350.000
0010	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0012	619.1000	Mobilization	EACH	1.000	1.000
0014	636.0100	Sign Supports Concrete Masonry	CY	43.000	43.000
0016	636.1000	Sign Supports Steel Reinforcement HS	LB	1,290.000	1,290.000
0018	636.1500	Sign Supports Steel Coated Reinforcement HS	LB	2,740.000	2,740.000
0020	637.1220	Signs Type I Reflective SH	SF	527.000	527.000
0022	637.2220	Signs Type II Reflective SH	SF	183.600	183.600
0024	638.2101	Moving Signs Type I	EACH	2.000	2.000
0026	638.2601	Removing Signs Type I	EACH	6.000	6.000
0028	641.0600	Sign Bridge Single Pole Sign Support Two Signs (structure) 01. S-67-321	LS	1.000	1.000
0030	641.1200	Sign Bridge Cantilevered (structure) 02. S-67-320	LS	1.000	1.000
0032	641.6600	Sign Bridge (structure) 03. S-40-874	LS	1.000	1.000
0034	643.5000	Traffic Control	EACH	1.000	1.000
0036	650.6500	Construction Staking Structure Layout (structure) 01. S-67-321	LS	1.000	1.000
0038	650.6500	Construction Staking Structure Layout (structure) 02. S-67-320	LS	1.000	1.000
0040	650.6500	Construction Staking Structure Layout (structure) 03. S-40-874	LS	1.000	1.000
0042	SPV.0060	Special 01. Replace Rodent Screen	EACH	17.000	17.000
0044	SPV.0060	Special 02. Tension Anchor Rods	EACH	67.000	67.000
0046	SPV.0060	Special 03. Repair Foundation	EACH	2.000	2.000
0048	SPV.0060	Special 04. Secure/Replace Chord CAP	EACH	35.000	35.000
0050	SPV.0060	Special 05. Install Conduit Plug	EACH	3.000	3.000
0052	SPV.0060	Special 06. Replace Safety Chain	EACH	5.000	5.000
0054	SPV.0060	Special 07. Replace Handrail Hinge Pin	EACH	6.000	6.000
0056	SPV.0060	Special 08. Replace U-Bolts	EACH	14.000	14.000
0058	SPV.0060	Special 09. Secure/Replace Vertical Post Cap	EACH	1.000	1.000
0060	SPV.0060	Special 10. Remove Debris and Regrade	EACH	4.000	4.000
0062	SPV.0060	Special 11. Install Sign Panel Connector	EACH	176.000	176.000
0064	SPV.0060	Special 12. Replace Post Mounted Signal	EACH	2.000	2.000
0066	SPV.0060	Special 13. Tension Leveling Nut	EACH	3.000	3.000
0068	SPV.0060	Special 14. Secure Signs Type II	EACH	6.000	6.000
0070	SPV.0060	Special 15. Replace Signal Mount Socket Connection	EACH	1.000	1.000
0072	SPV.0060	Special 16. Replace Walkway Connection Clip	EACH	1.000	1.000

Estimate Of Quantities

1000-20-70

Line	Item	Item Description	Unit	Total	Qty
0074	SPV.0060	Special 17. Tighten VMS Connection	EACH	1.000	1.000
0076	SPV.0060	Special 18. Replace Sign Connection Assembly	EACH	8.000	8.000
0078	SPV.0060	Special 19. Secure Luminaire Cover	EACH	5.000	5.000
0080	SPV.0060	Special 20. Remove Vegetation	EACH	1.000	1.000
0082	SPV.0060	Special 21. Remove Catwalk and L-Brackets	EACH	2.000	2.000
0084	SPV.0060	Special 22. Replace Vibration Dampener	EACH	1.000	1.000
0086	SPV.0060	Special 23. Clean and Paint Anchor Rod	EACH	9.000	9.000
0088	SPV.0060	Special 24. Install ID Plaque	EACH	6.000	6.000
0090	SPV.0060	Special 25. Replace Vertical Sign Support	EACH	17.000	17.000
0092	SPV.0060	Special 26. Replace Splice Connection Bolts	EACH	14.000	14.000
0094	SPV.0060	Special 27. Repair/Replace Luminaire	EACH	5.000	5.000
0096	SPV.0060	Special 28. Replace Truss Gusset Connection Bolt	EACH	2.000	2.000
0098	SPV.0060	Special 29. Secure/Replace Handhole Cover	EACH	7.000	7.000
0100	SPV.0060	Special 30. Foundation Epoxy Repair	EACH	6.000	6.000
0102	SPV.0060	Special 31. Replace Unistrut	EACH	2.000	2.000
0104	SPV.0060	Special 32. Slotted Hole Repair on Sign Support Bracket	EACH	52.000	52.000
0106	SPV.0060	Special 33. Clean Nesting Debris	EACH	8.000	8.000
0108	SPV.0060	Special 34. Tighten Post to Chord Connection Bolt	EACH	15.000	15.000
0110	SPV.0060	Special 35. Replace Post to Chord Connection Bolt	EACH	38.000	38.000
0112	SPV.0090	Special 01. Repair/Replace Concrete Barrier	LF	12.000	12.000
0114	SPV.0090	Special 02. Barrier Removal and Retrofit	LF	78.000	78.000
0116	SPV.0105	Special 01. Removing Sign Bridge S-40-302	LS	1.000	1.000
0118	SPV.0105	Special 02. Removing Sign Bridge S-67-203	LS	1.000	1.000
0120	SPV.0105	Special 03. Removing Sign Bridge S-67-300	LS	1.000	1.000
0122	SPV.0165	Special 01. Repair Galvanized Coating	SF	16.000	16.000

3

SIGN BRIDGE REMOVALS

	SPV.0105.01 REMOVING SIGN BRIDGE S-40-302	SPV.0105.02 REMOVING SIGN BRIDGE S-67-203	SPV.0105.03 REMOVING SIGN BRIDGE S-67-300
LOCATION	LS	LS	LS
CTH PP W JUST E OF USH 45 NB RAMP	1		
IH 94 1/4 M E OF CTH J/STH 164		1	
USH 41 ON STH 100 BRIDGE			1
TOTAL	1	1	1

CATEGORY CODE 0020

ROADWAY ITEMS

LOCATION	204.9060.S.01 REMOVING SIGN LIGHTING EACH	204.9090.S.01 REMOVING ELECTRICAL WIRES FROM CONDUIT LF	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH	
CTH PP W JUST E OF USH 45 NB RAMP	1	134				
IH 94 1/4 M E OF CTH J/STH 164			350	350	2	
TOTAL	1	134	350	350	2	
LOCATION	614.0905 CRASH CUSHIONS TEMPORARY	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	CRASH CUSHION SHIELDS
I-94 EB @ S-67-321, 6' LT	1	2	OM-3L (W05-58L)	TL-3	R	TEMPORARY CONCRETE BARRIER IN LEFT SHOULDER
I-94 WB @ S-67-321, 6' RT	1	2	OM-3L (W05-58L)	TL-3	R	TEMPORARY CONCRETE BARRIER IN LEFT SHOULDER
TOTAL	2					

CATEGORY CODE 0010

SIGNS

SIGN NO.	TYPE I SIGN SIZE FT X FT	TYPE I SIGN MESSAGE	637.1220 SIGNS TYPE I REFLECTIVE SH SF	638.2101 MOVING SIGNS TYPE I EACH	638.2601 REMOVING SIGNS TYPE I EACH	REMARKS
S-40-874	14 X 6.5	NORTH <IH-41 SYM> <USH-45 SYM> <WIS-100 SYM> <WIS-145 SYM> <DOWN ARROW> ONLY	91		1	I-BEAMS INCIDENTAL
S-40-874	11 X 6.5	SOUTH <IH-41 SYM> <USH-45 SYM> <WIS-100 SYM> <DOWN ARROW> ONLY	71.5		1	I-BEAMS INCIDENTAL
S-40-874	11 X 8	SOUTH <IH-41 SYM> <USH-45 SYM> <WIS-100 SYM> GOOD HOPE RD <DOWN ARROW>	88		1	I-BEAMS INCIDENTAL
S-40-874	11 X 8.5	<HOV DIAMOND SYM> SOUTH FREEWAY HOV RAMP GOOD HOPE RD <DOWN ARROW>	93.5		1	I-BEAMS INCIDENTAL
S-67-320	15 X 10.5	<WIS-74 SYM> WEST / MAIN ST / EXIT <UP RIGHT ARROW> ONLY	157.5		1	I-BEAMS INCIDENTAL
S-67-320	10 X 2.5	EXIT 50B	25		1	I-BEAMS INCIDENTAL
S-67-321	18 X 8	<WIS-164 SYM> NORTH 1/4 <WIS-16 SYM> 1 1/4 <CTH-T SYM> 2		1		I-BEAMS INCIDENTAL
S-67-321	18 X 8	<CTH-F SYM> 1/4 <USH-18 SYM> <WIS-164 SYM> <CTH-JJ SYM> 2 1/4 MOORLAND RD 5 1/2		1		I-BEAMS INCIDENTAL
TOTAL			527	2	6	

CATEGORY CODE 0020

PROJECT NO: 1000-20-70

HWY: VARIOUS

COUNTY: SE REGION WIDE

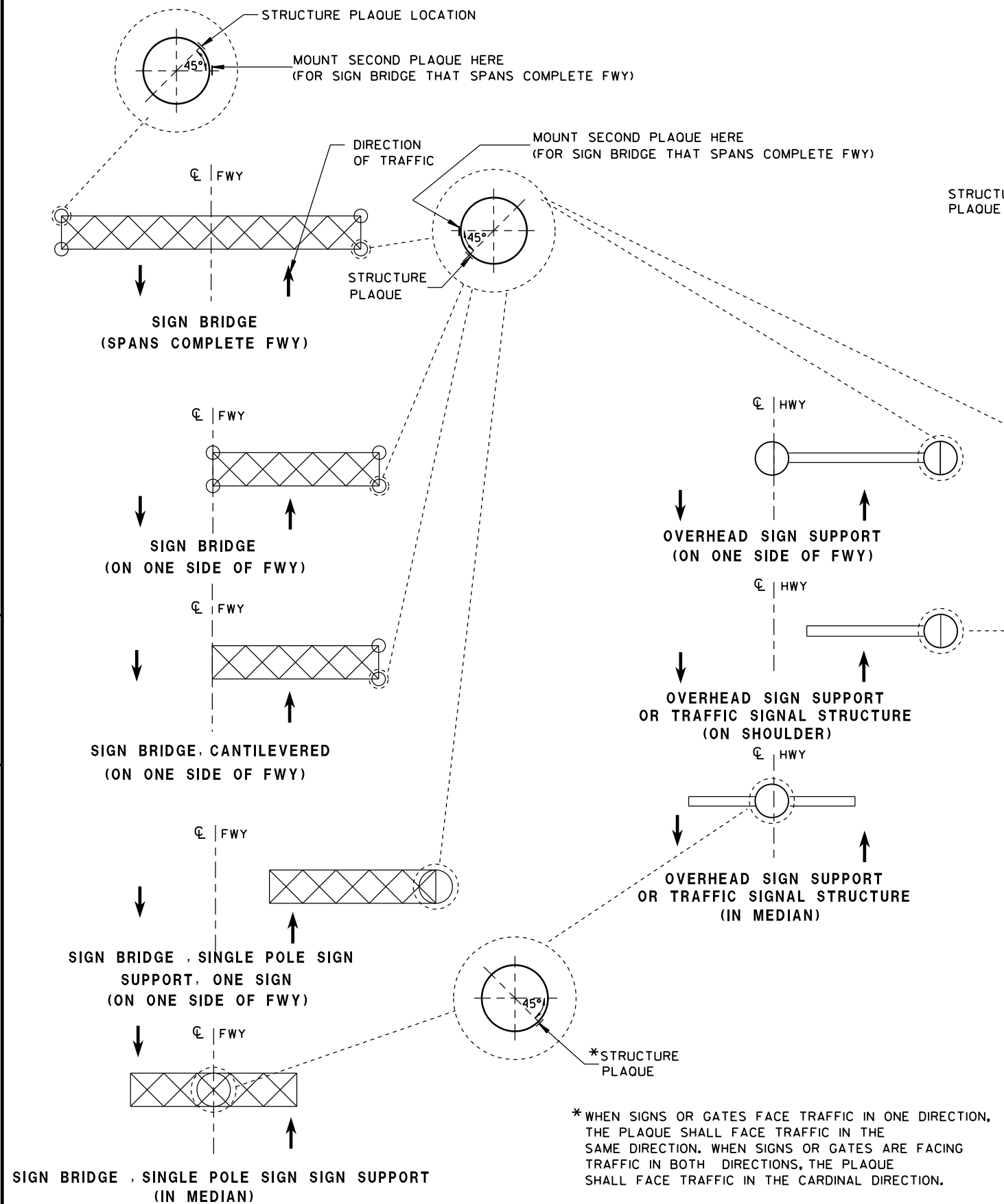
MISCELLANEOUS QUANTITIES

SHEET

E

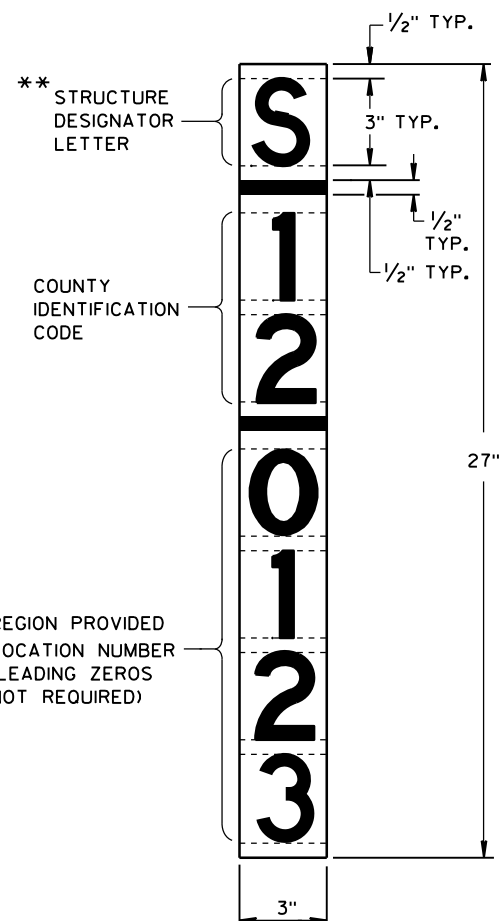
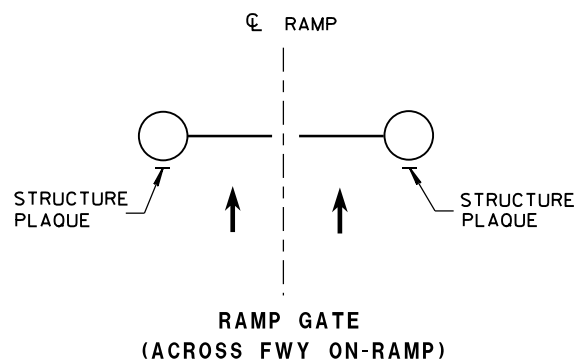
Standard Detail Drawing List

12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B22-06A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B22-06B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B32-05A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-05B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-05C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-05D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-05E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B35-01C	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
15D03-04	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D14-03	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-04B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D22-03	TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD
SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL
STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN
SUPPORT WHICH ARE NOT STRUCTURE MOUNTED



GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS;
FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

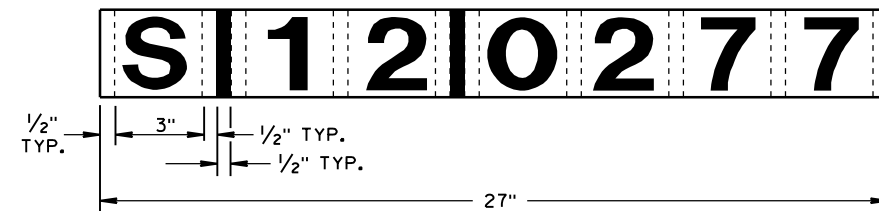
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE,
STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES.
LETTER "S" UTILIZED FOR SIGN BRIDGES,
OVERHEAD SIGN SUPPORTS, AND TRAFFIC
SIGNALS.

STRUCTURE IDENTIFICATION PLAQUES,
RAMP GATES, SIGN BRIDGES, OVERHEAD
SIGN SUPPORTS, & TRAFFIC SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

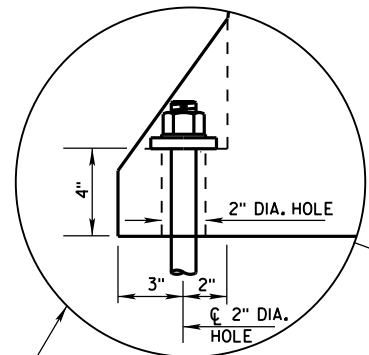
APPROVED

12/4/2012

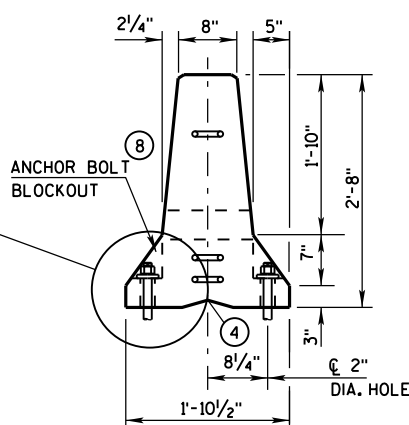
DATE

FHWA

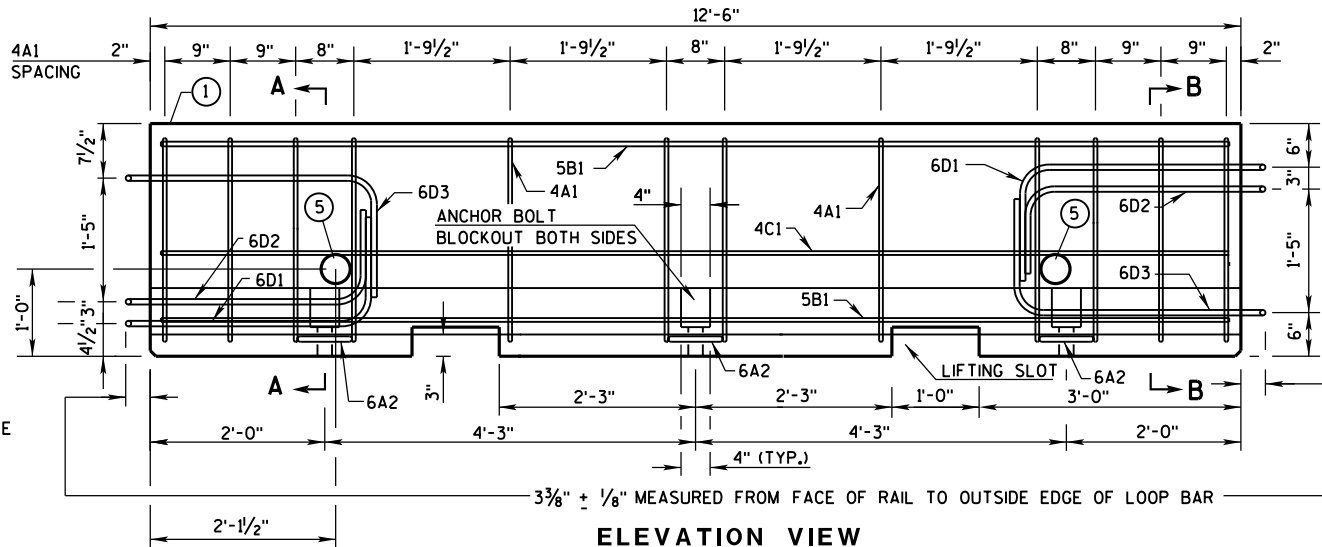
/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



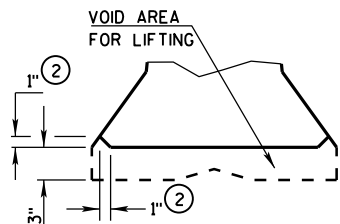
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



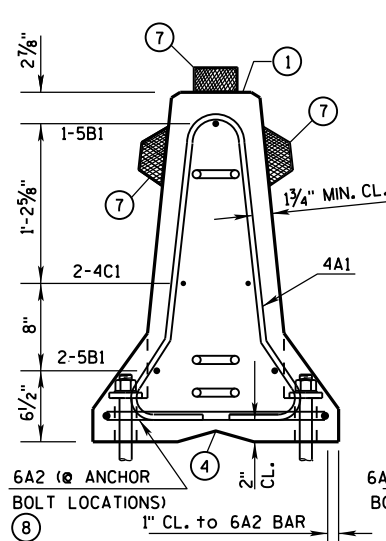
END VIEW



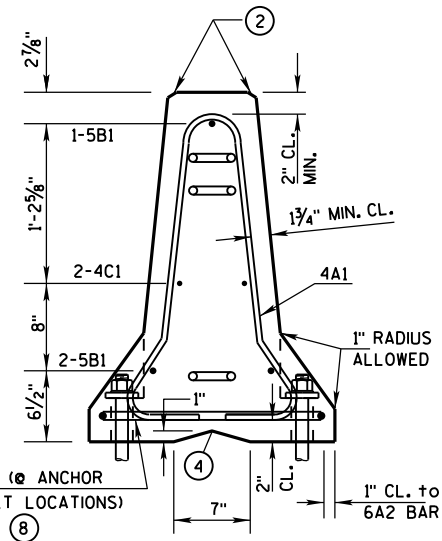
ELEVATION VIEW



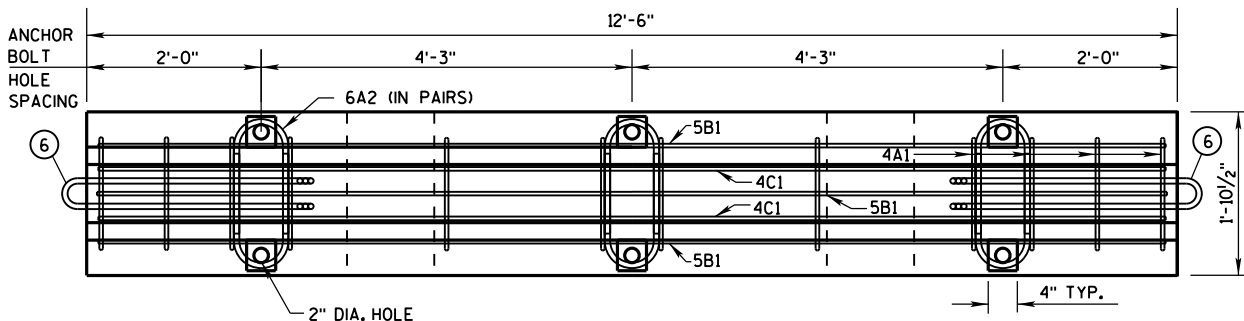
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

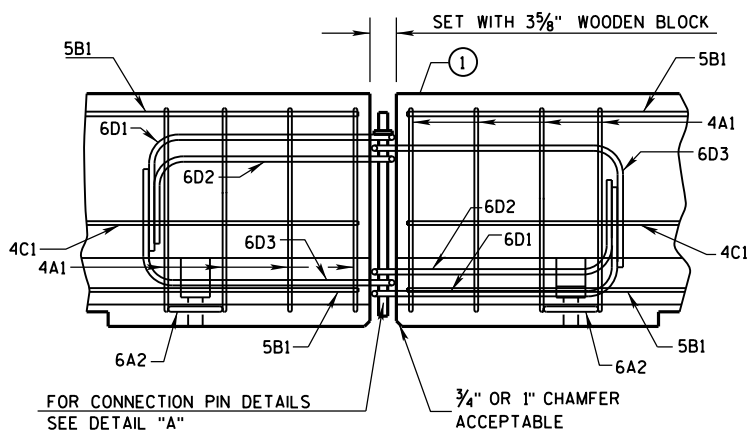


SECTION B-B
(STIRRUP PLACEMENT)

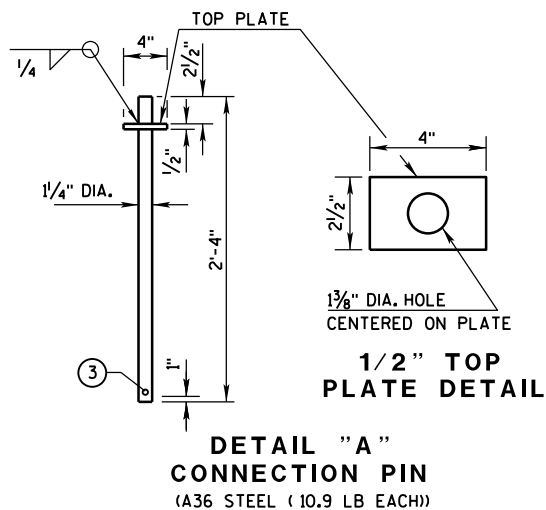


PLAN VIEW

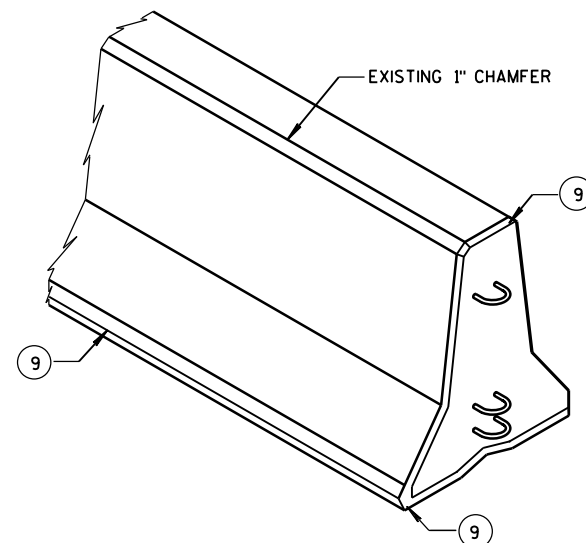
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

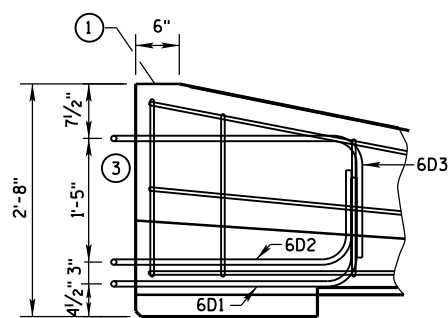
INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
- 1" CHAMFER TO PREVENT SPALLING.
- A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- "V" NOTCH IS OPTIONAL.
- THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.
- 1" CHAMFER OPTIONAL.

f'c = 4,000 psi

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

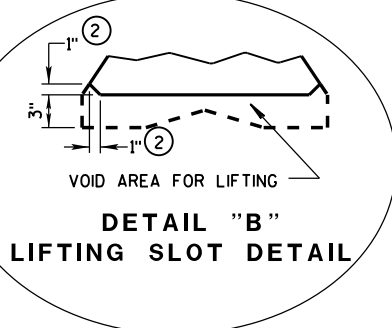


GENERAL NOTES

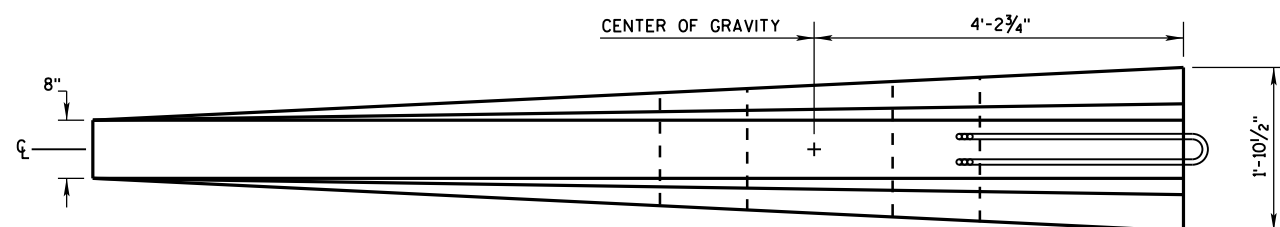
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

SIDE ELEVATION

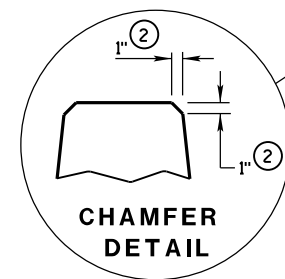
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)



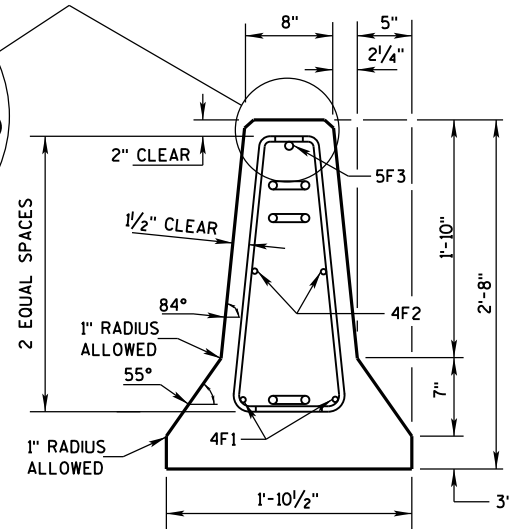
DETAIL "B"
LIFTING SLOT DETAIL



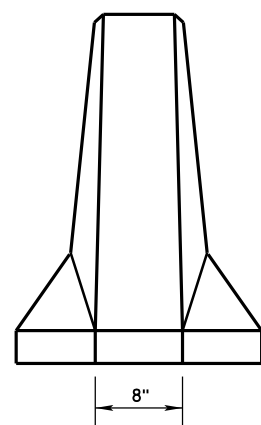
PLAN VIEW



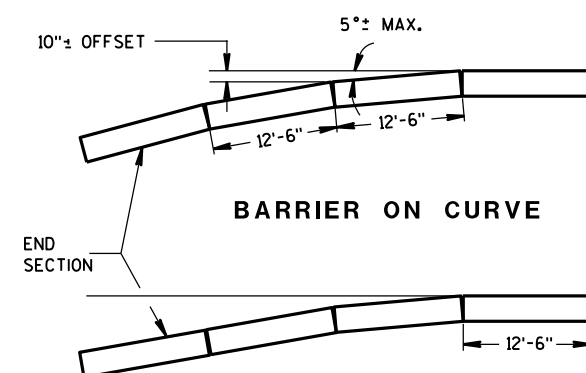
CHAMFER DETAIL



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

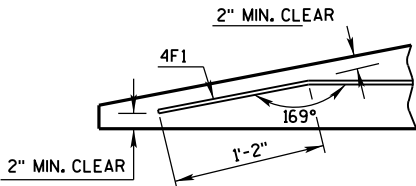
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

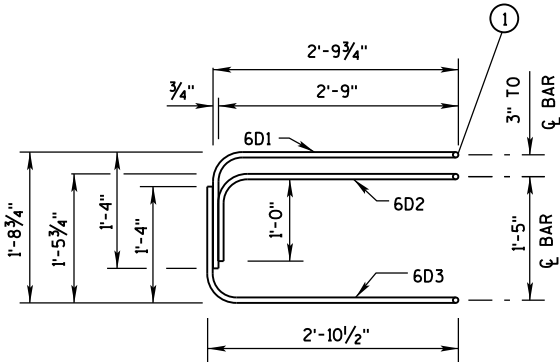
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

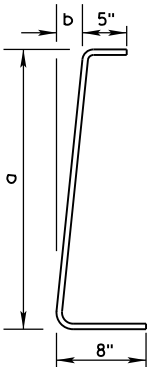
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

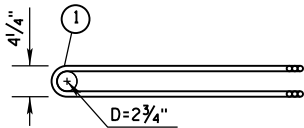
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

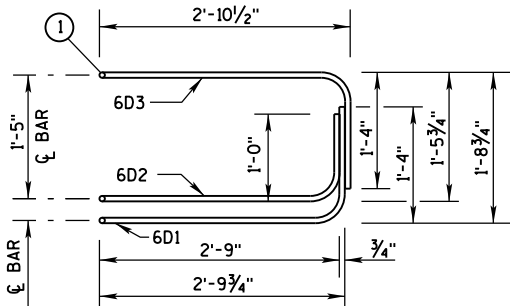
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

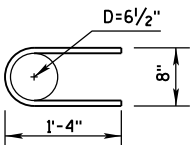


PLAN VIEW
LOOP BAR ASSEMBLY

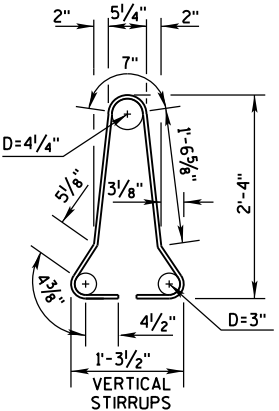
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

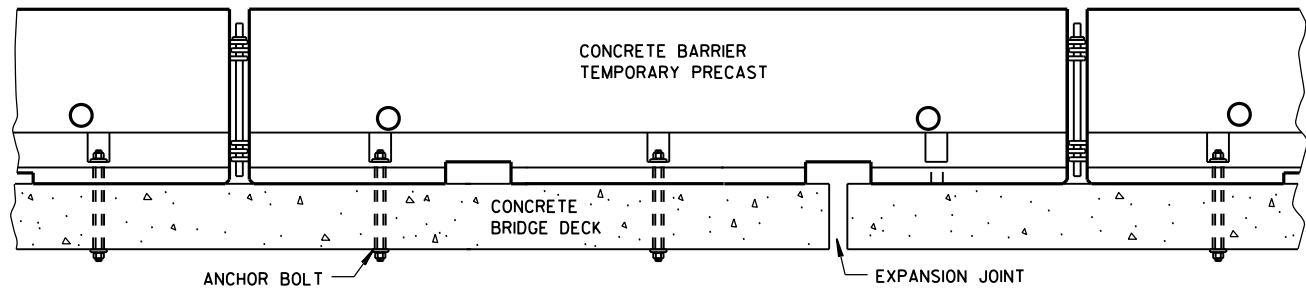
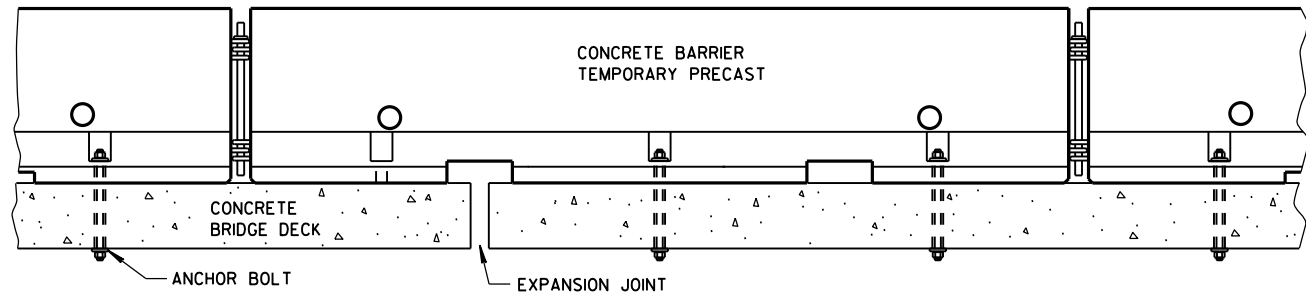


4A1

BARRIER SECTION

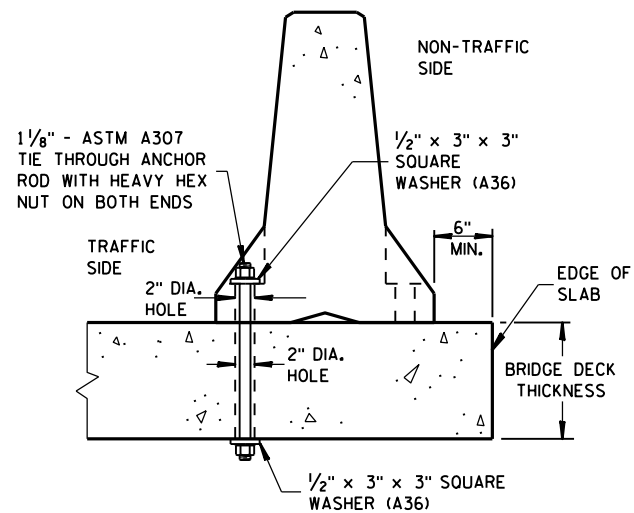
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



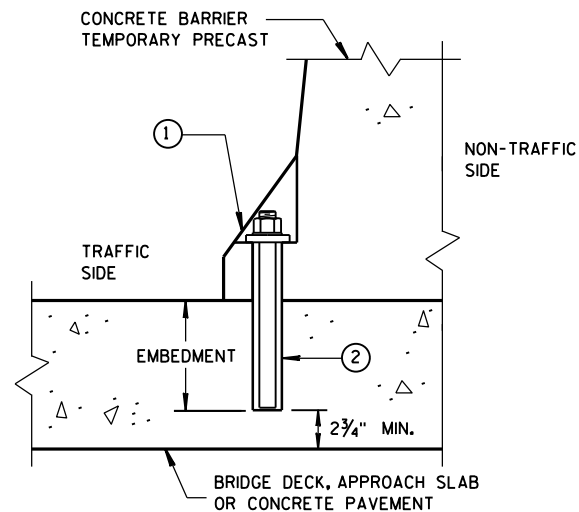
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



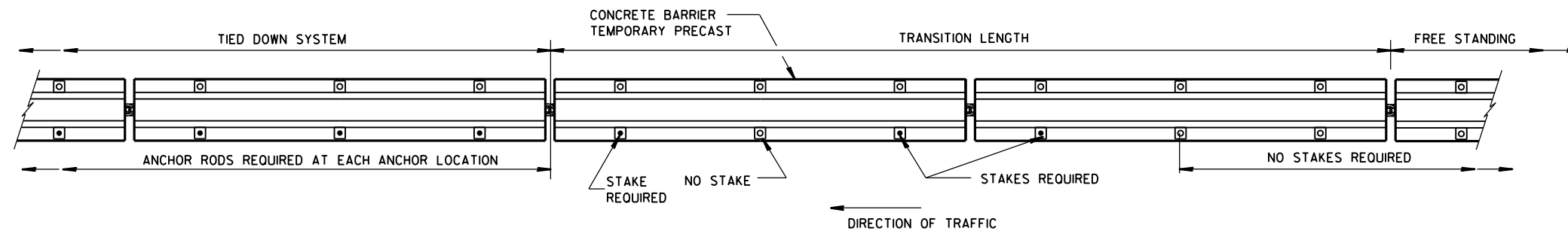
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

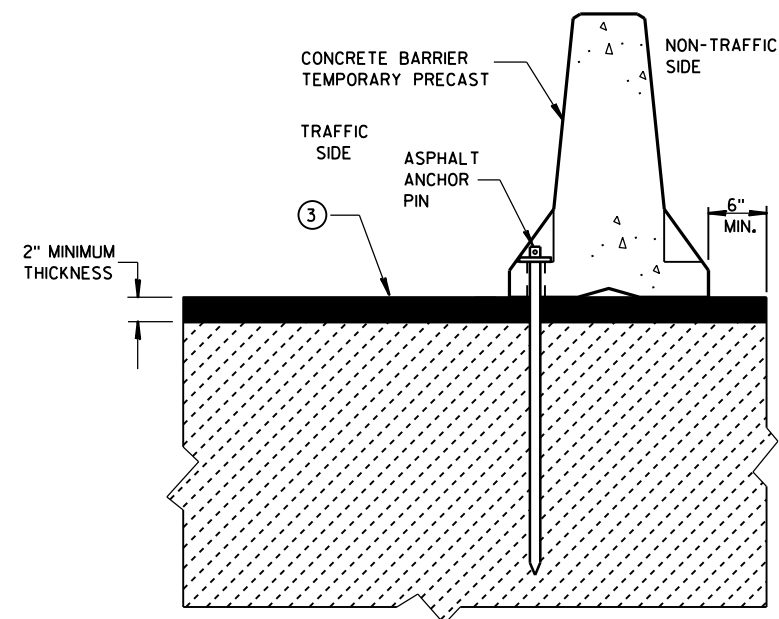
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

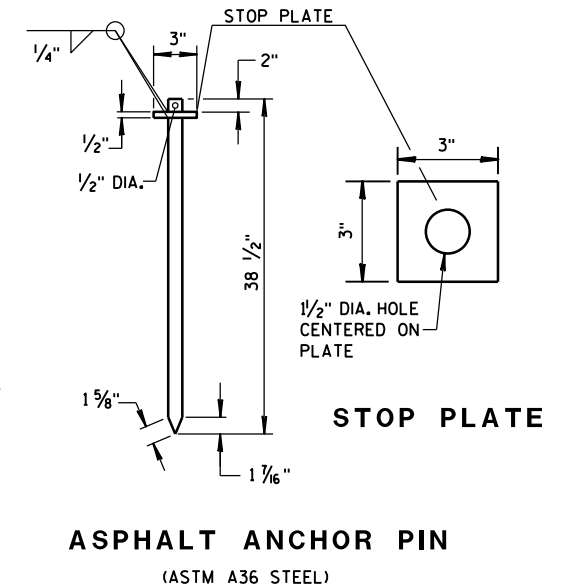
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

- ① 1/8" DIAMETER A307 THREADED ROD, 1/2" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ② ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.12 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.
- ③ ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THEN DRIVE ASPHALT ANCHOR PIN.

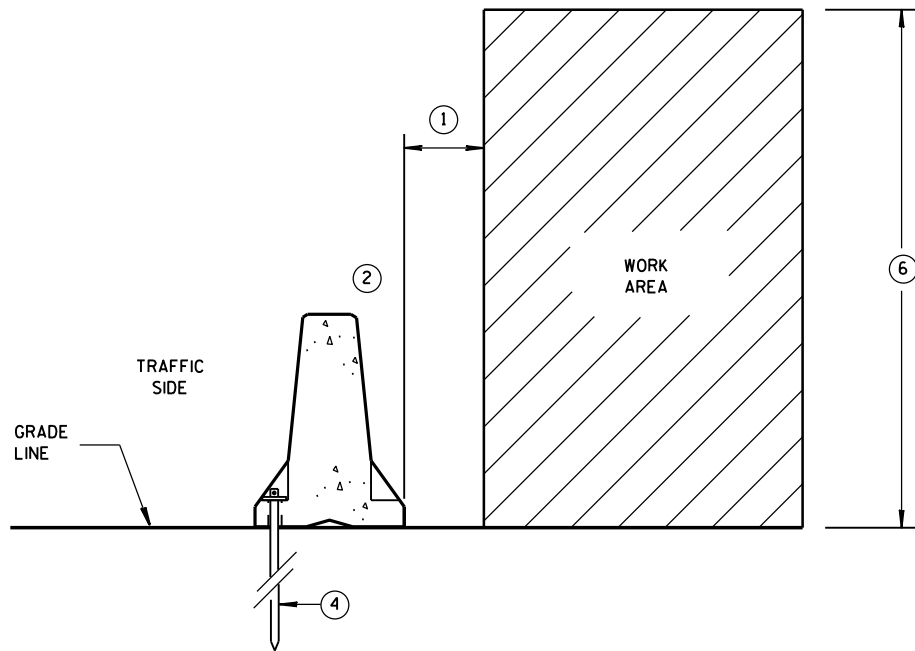


STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE

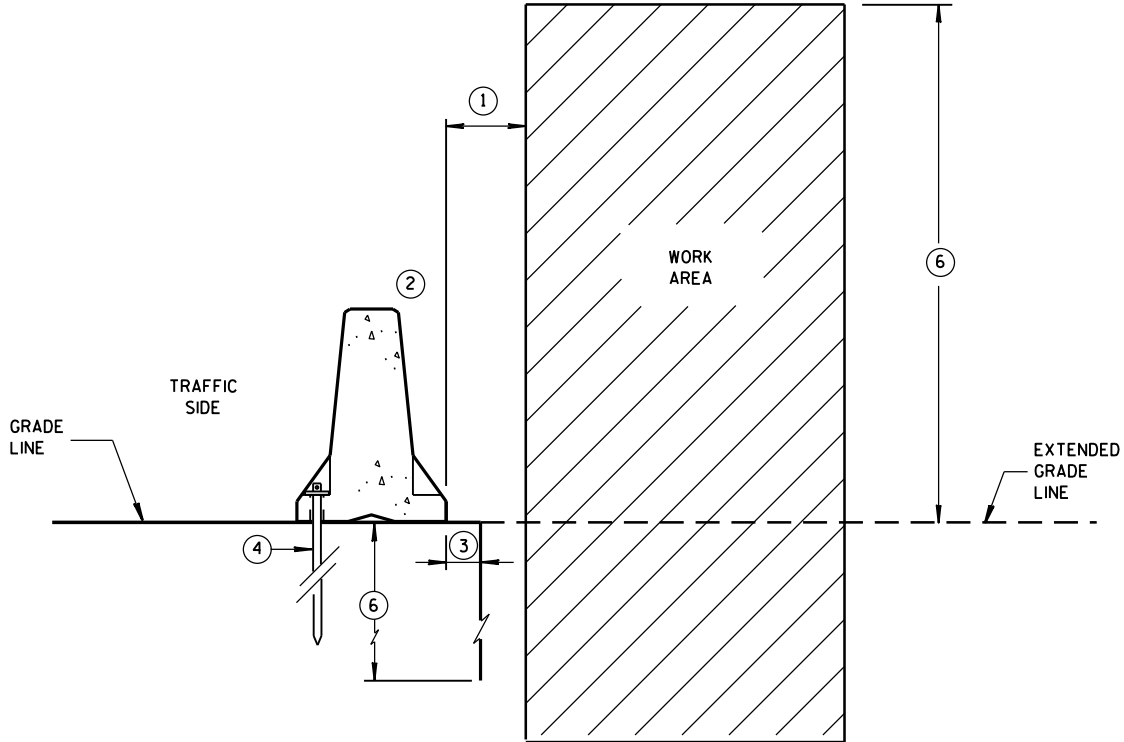


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



ANCHORED BARRIER SPACE REQUIREMENTS
FOR HAZARDS EXTENDED
ABOVE THE GRADE LINE

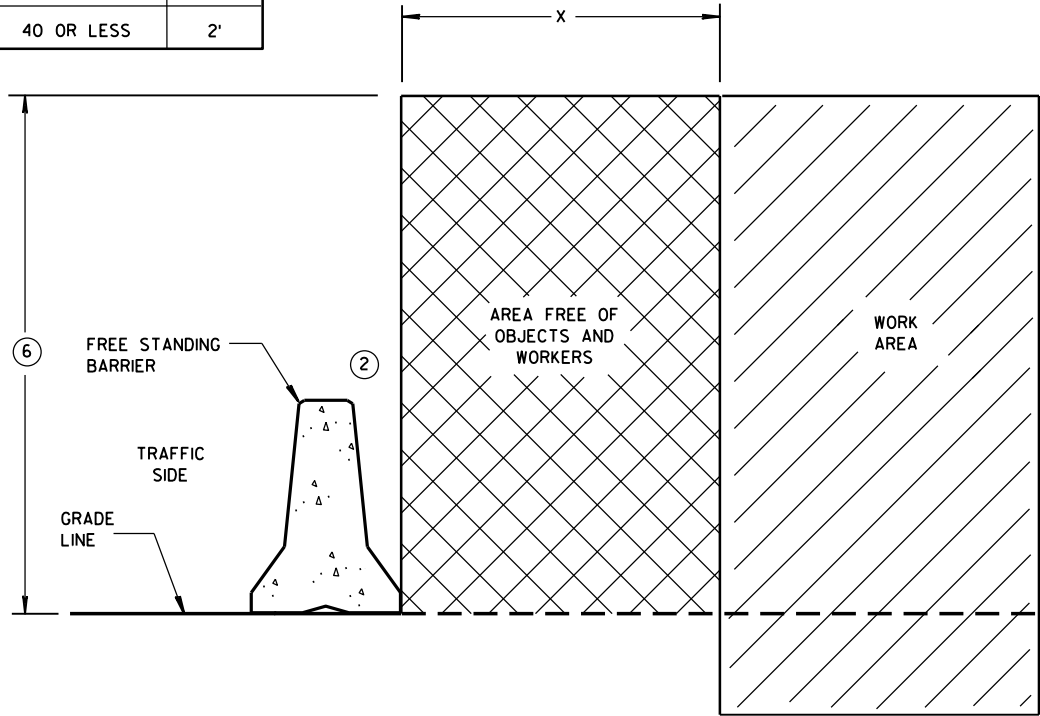


ANCHORED BARRIER SPACE REQUIREMENTS
ON VERTICAL DROP OFFS

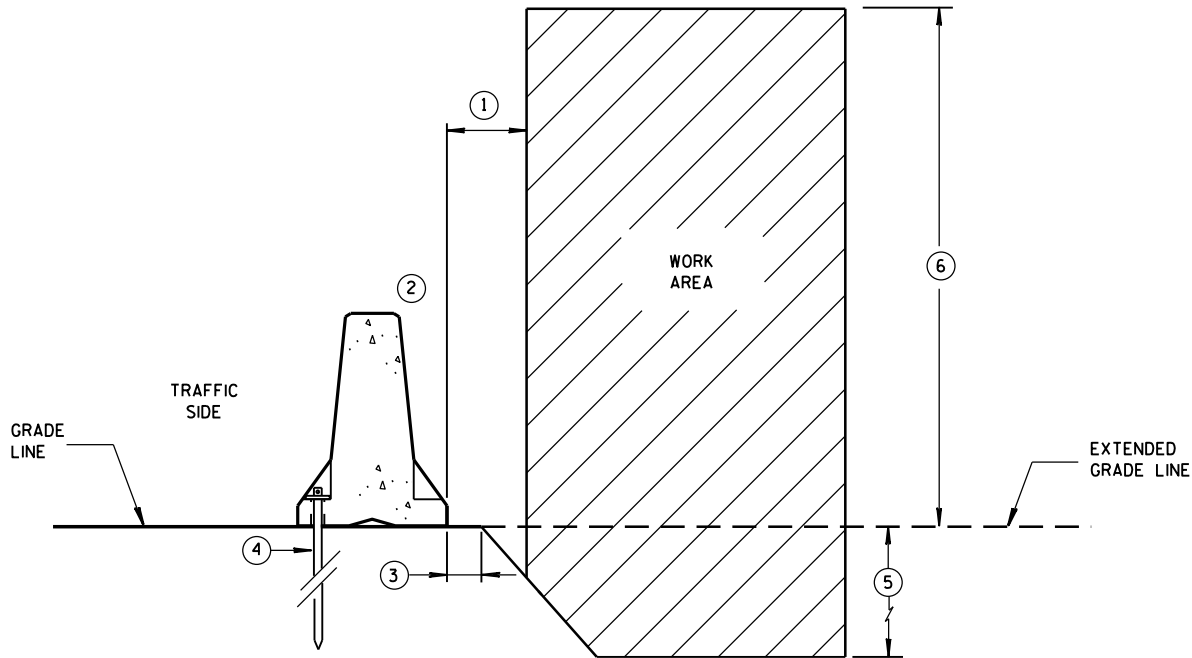
GENERAL NOTES

- ① WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
- ② OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
- ③ SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
- ④ SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
- ⑤ DEPTH OF 3 FEET OR MORE.
- ⑥ Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



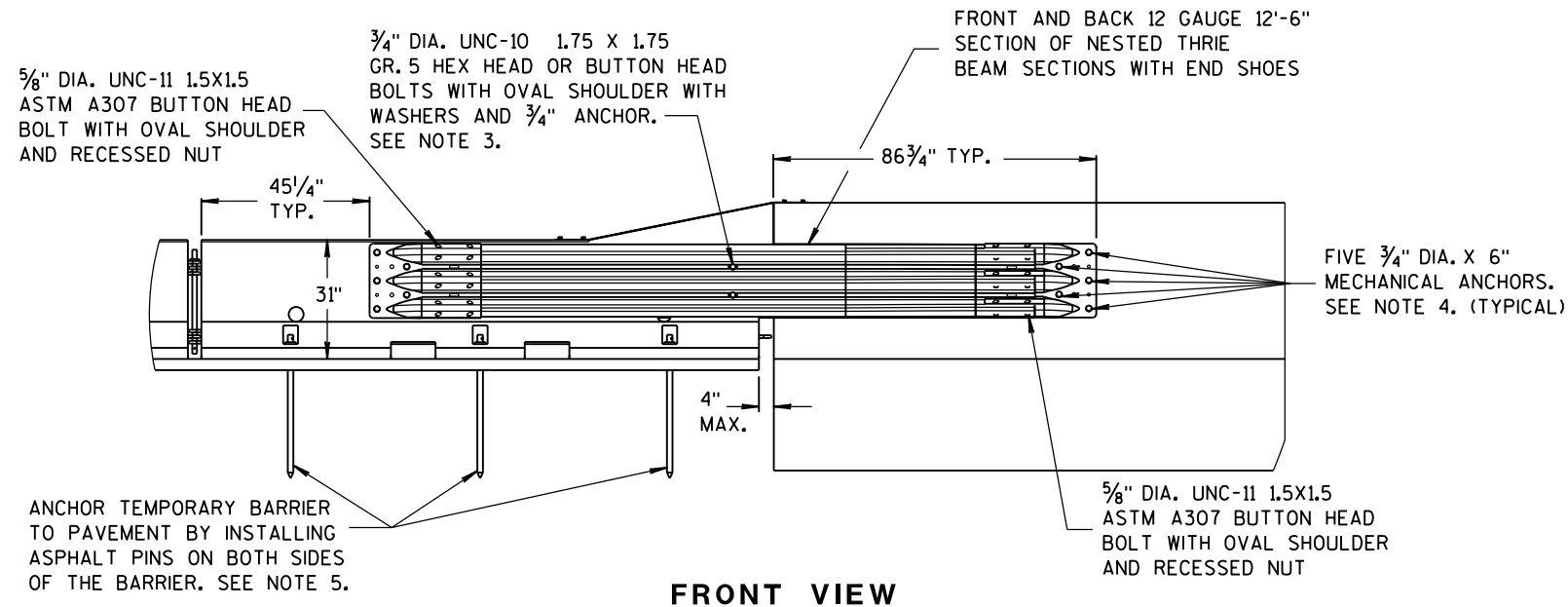
FREE STANDING BARRIER SPACE REQUIREMENTS



ANCHORED BARRIER SPACE REQUIREMENTS
ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



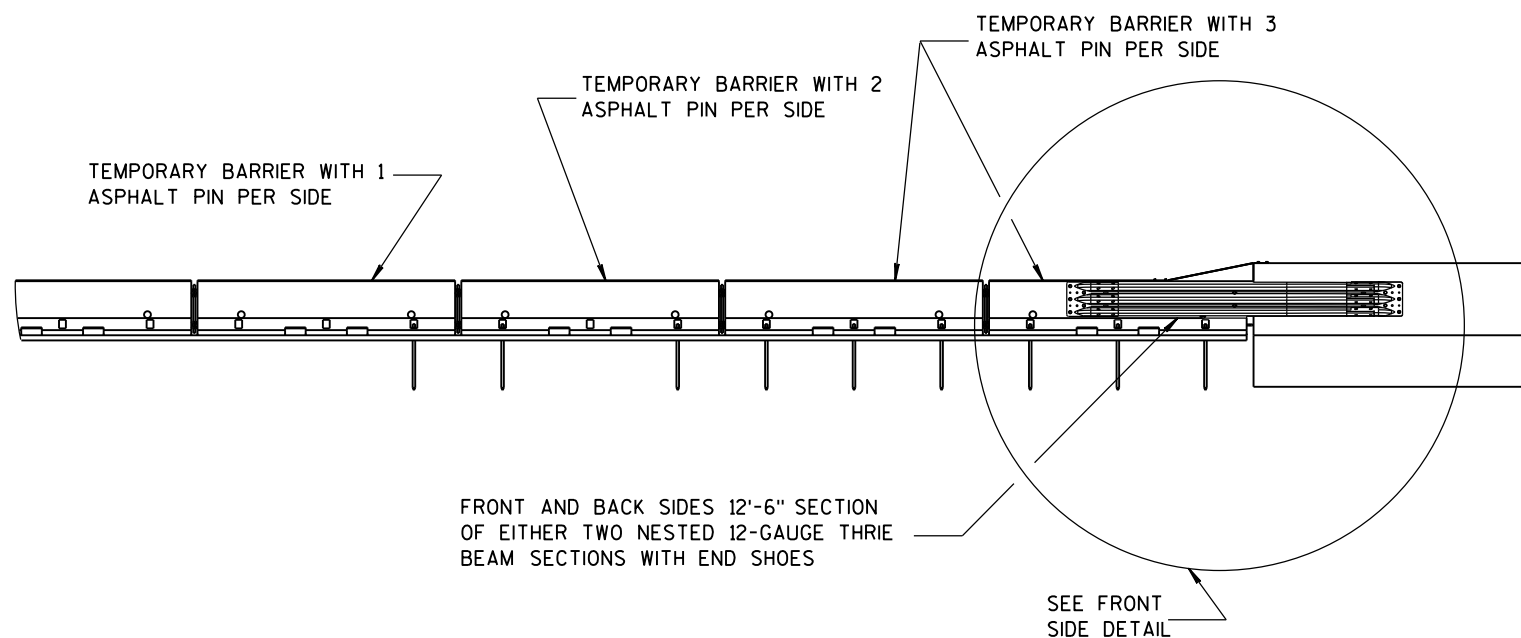
FRONT VIEW

NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

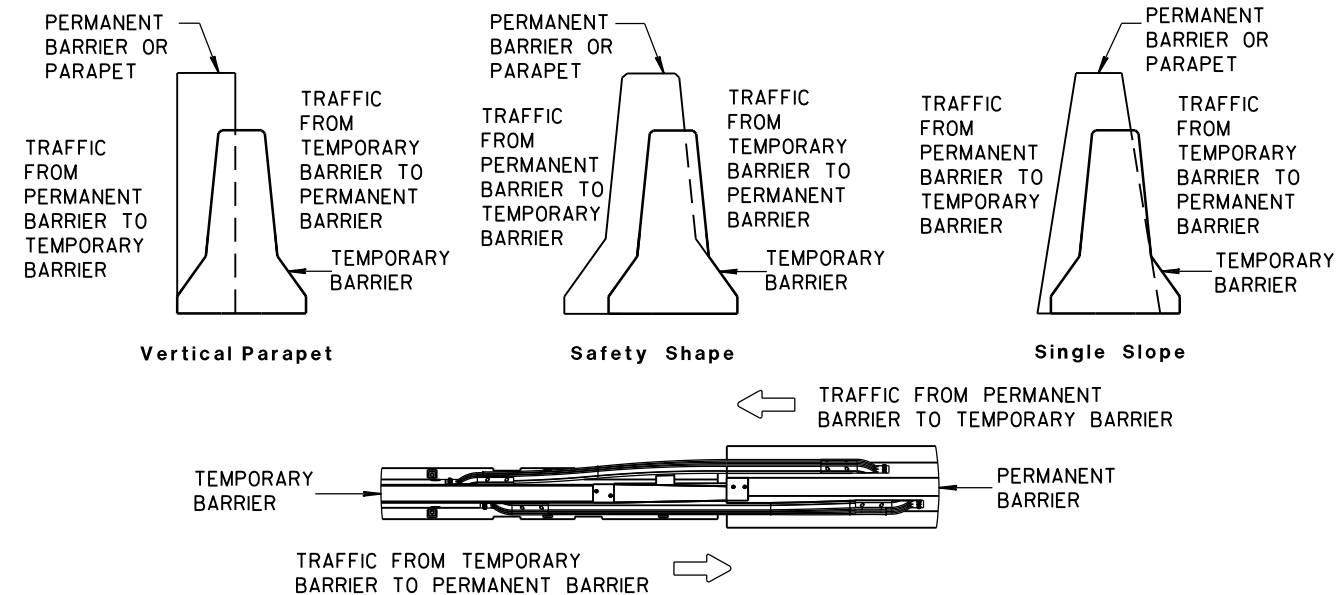
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.

4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

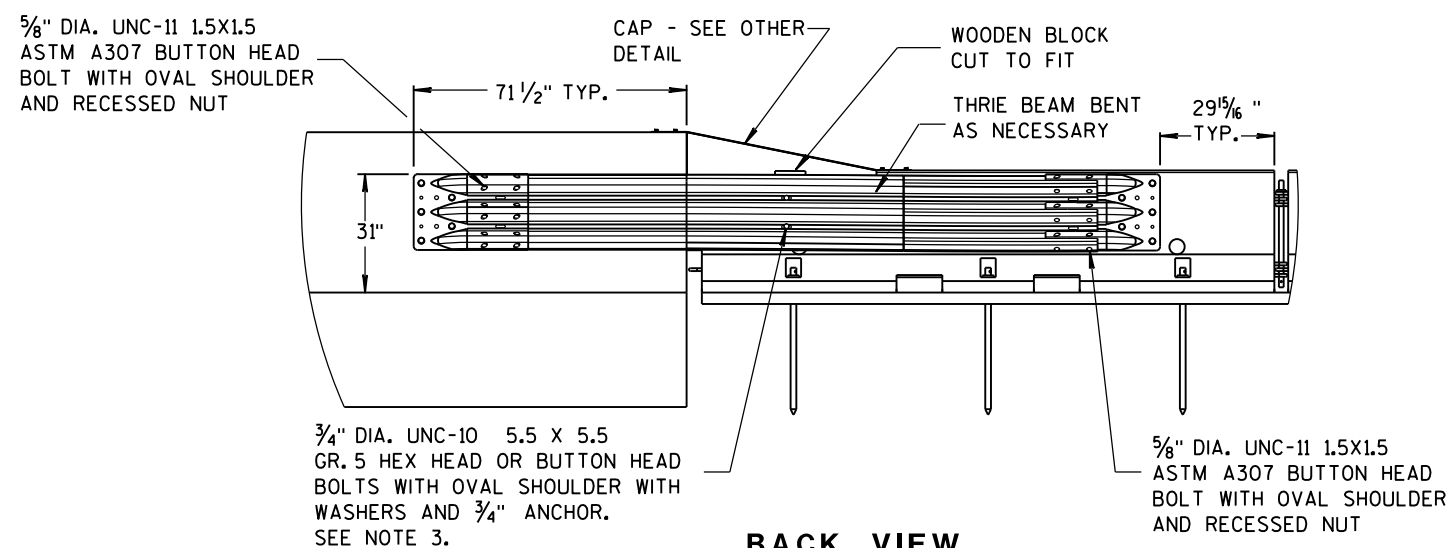


FRONT VIEW

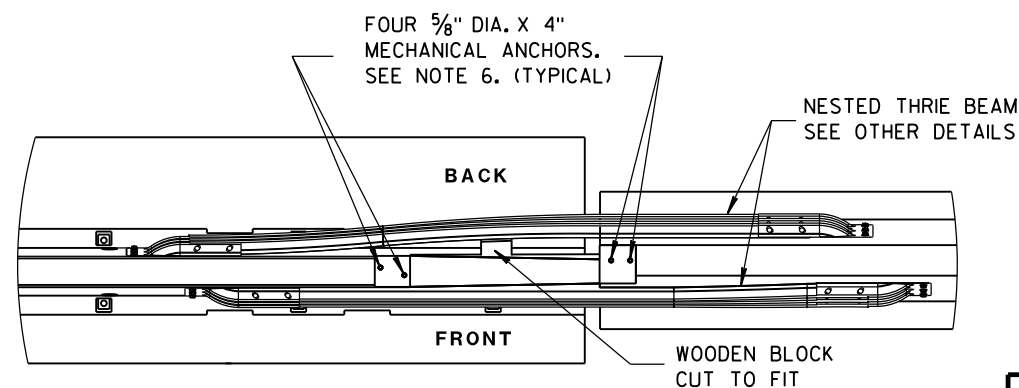
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



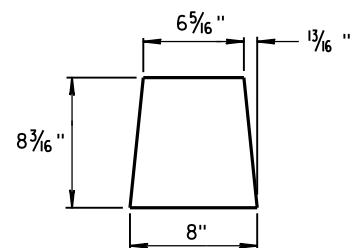
BACK VIEW



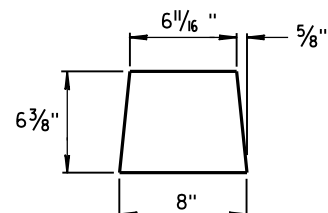
PLAN VIEW

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

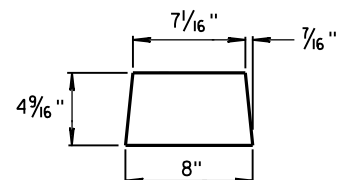
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



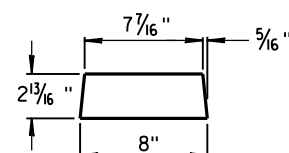
GUSSET 1



GUSSET 2

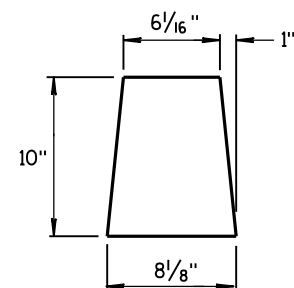


GUSSET 3

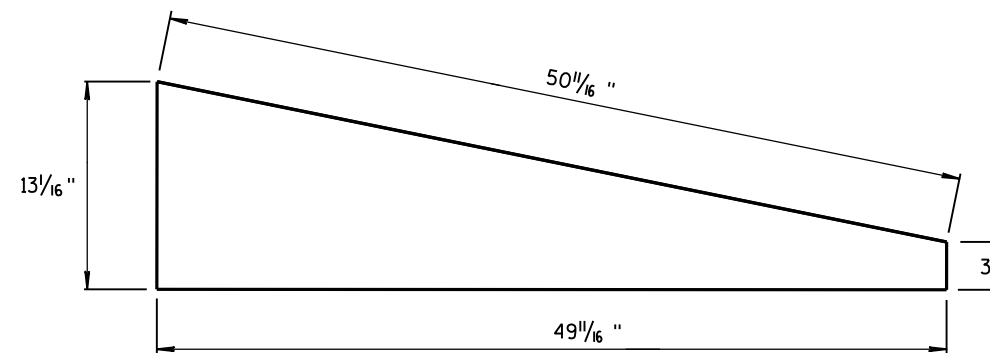


GUSSET 4

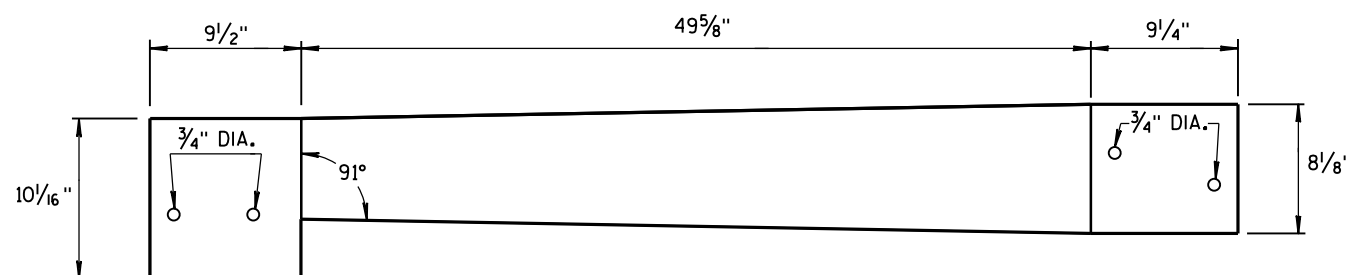
GUSSETS



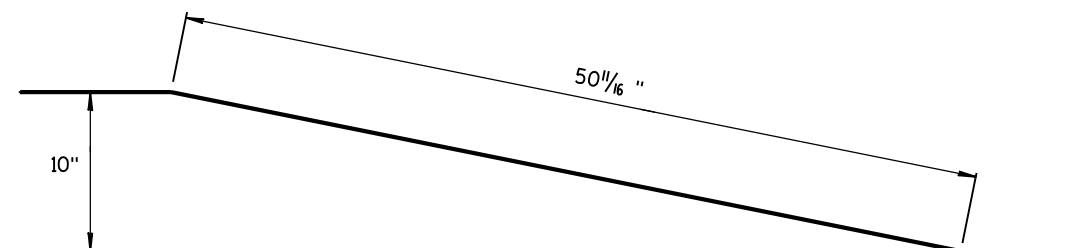
END PLATE



SIDE PLATE

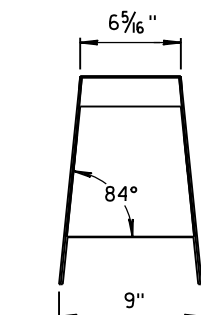
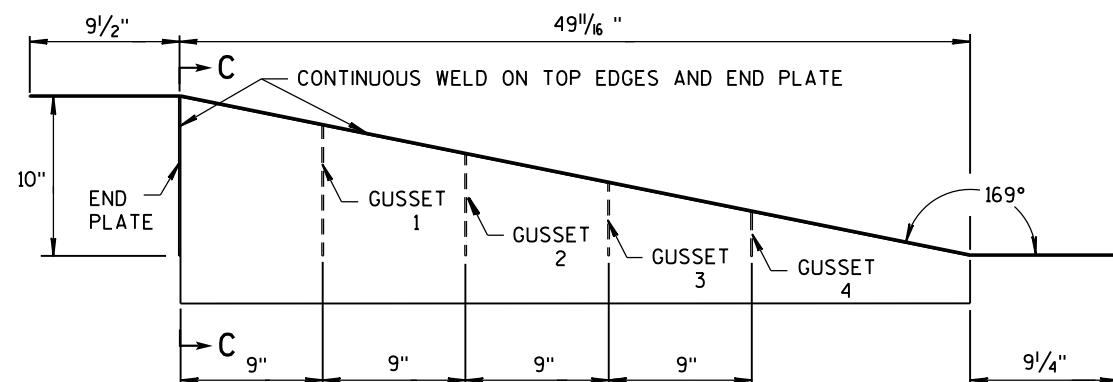
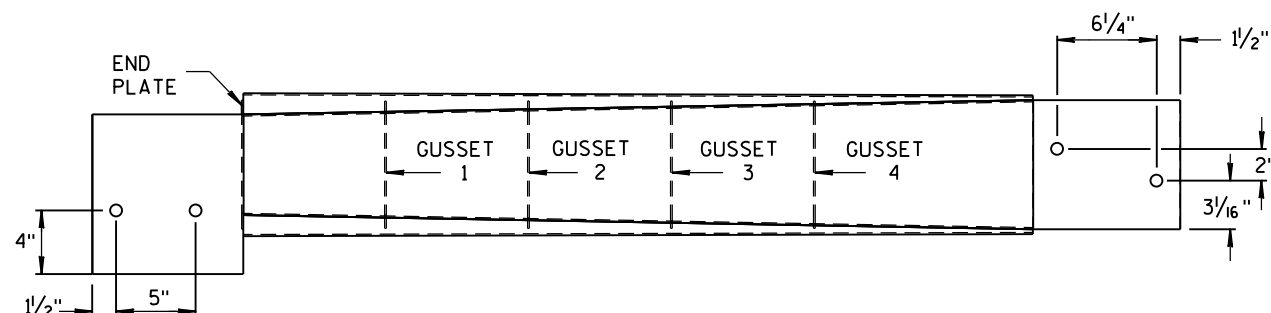


TOP PLATE



**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C

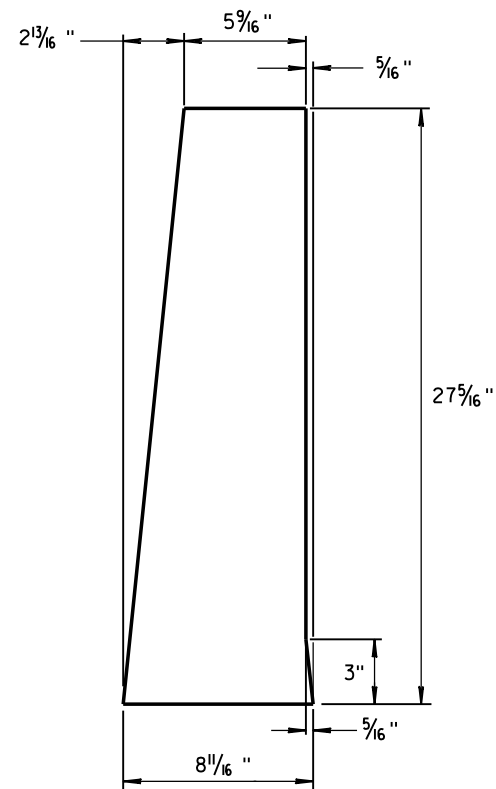
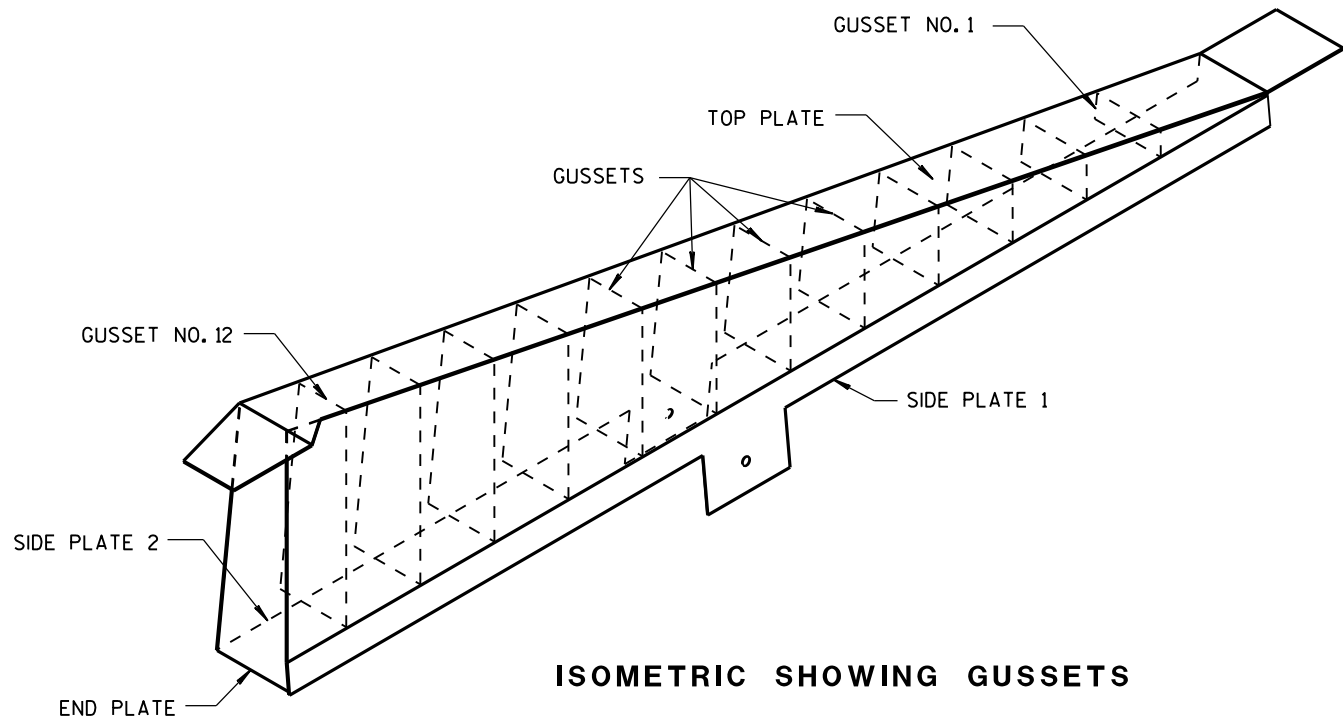
NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

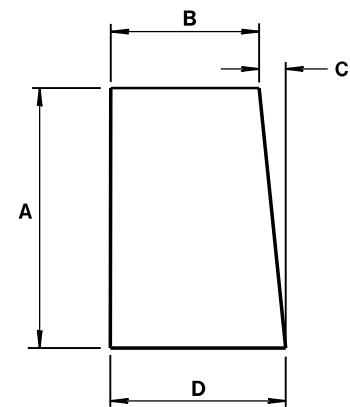
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

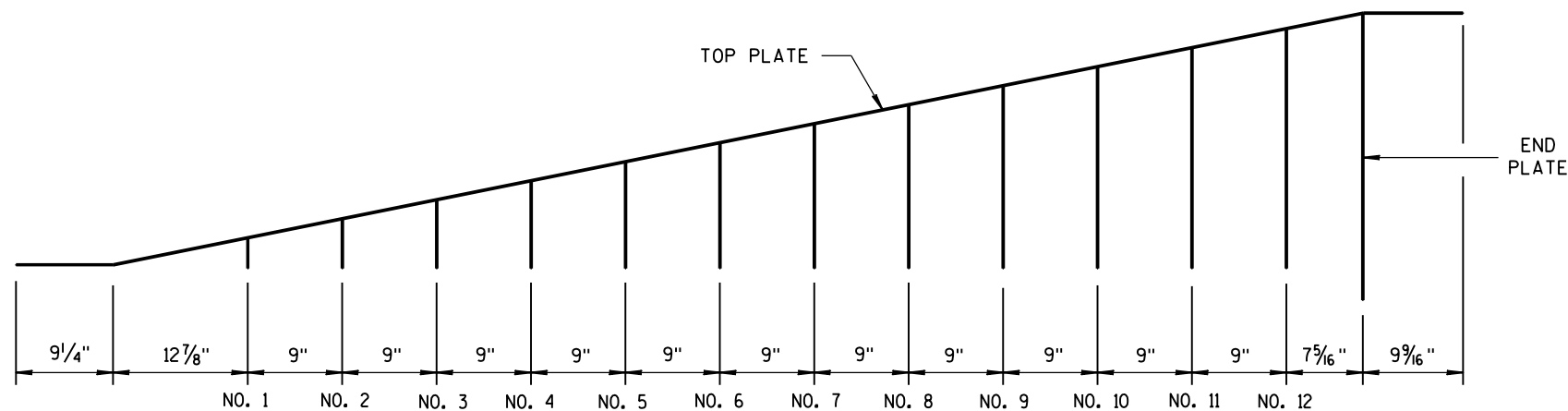


ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	1 1/16 "	8 1/16 "
4	8 5/16"	7 3/16"	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16"	6 7/16"	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16"	6 1/16"	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16"	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16"	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

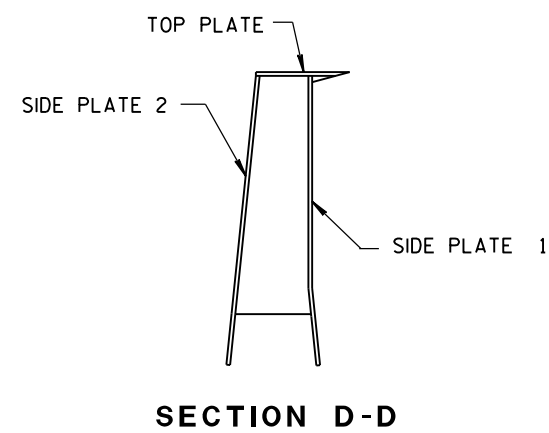
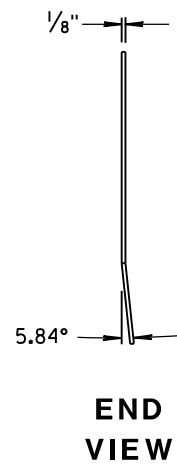
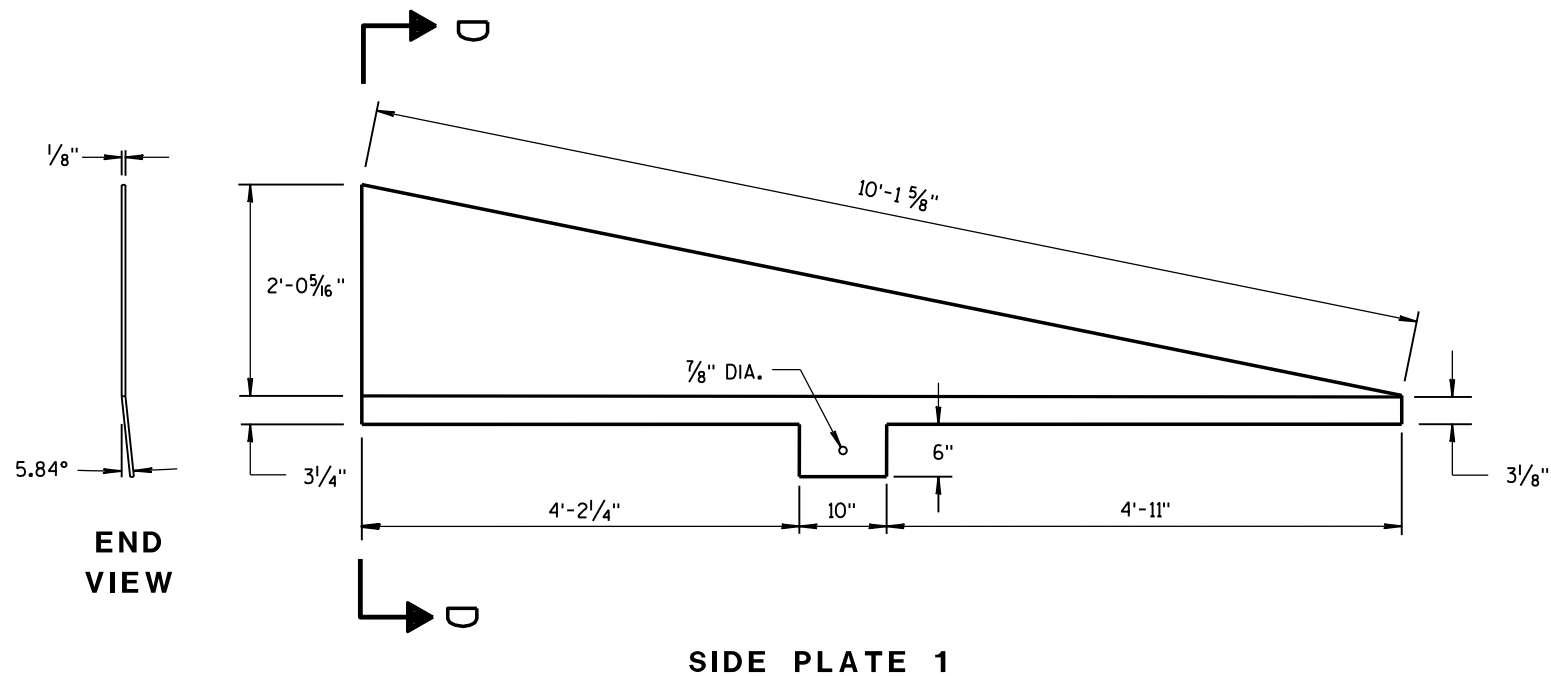
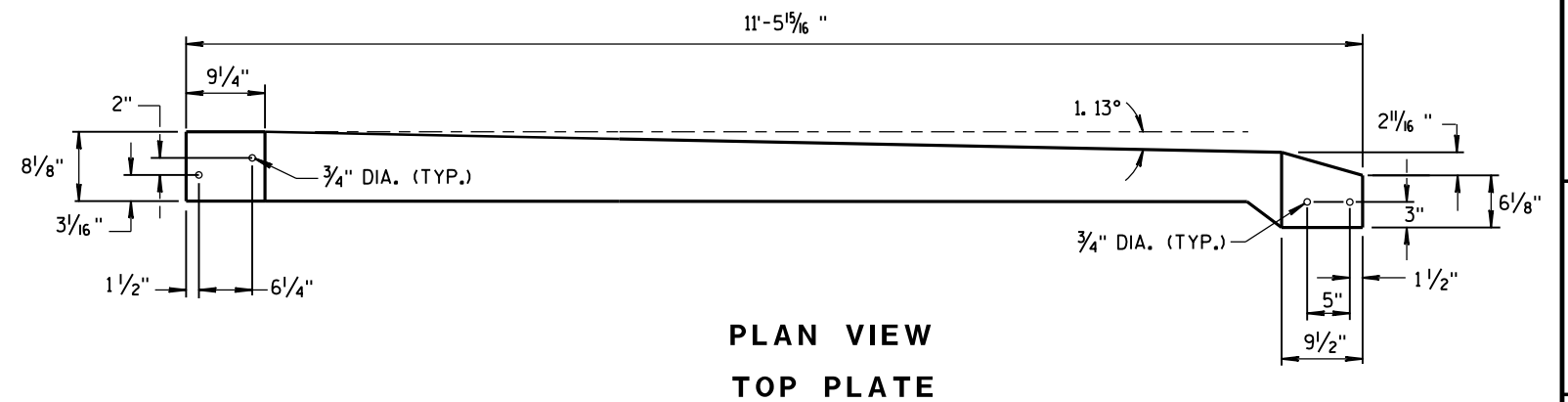
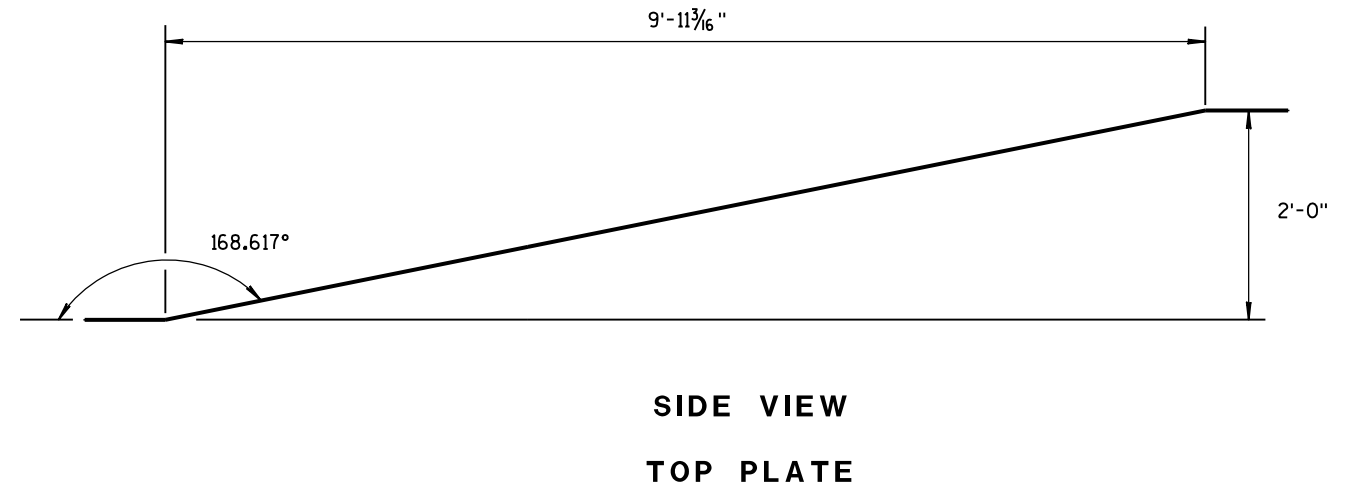
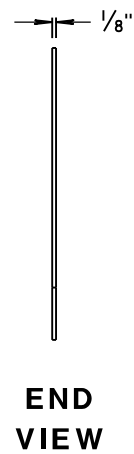
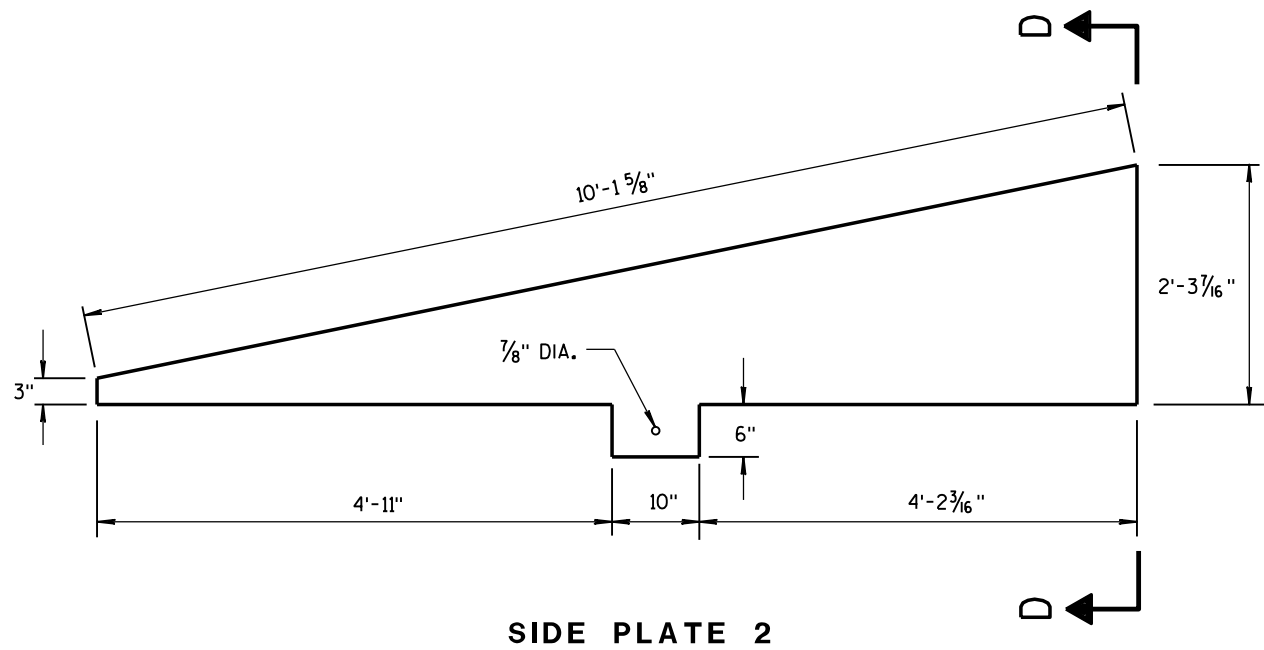
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

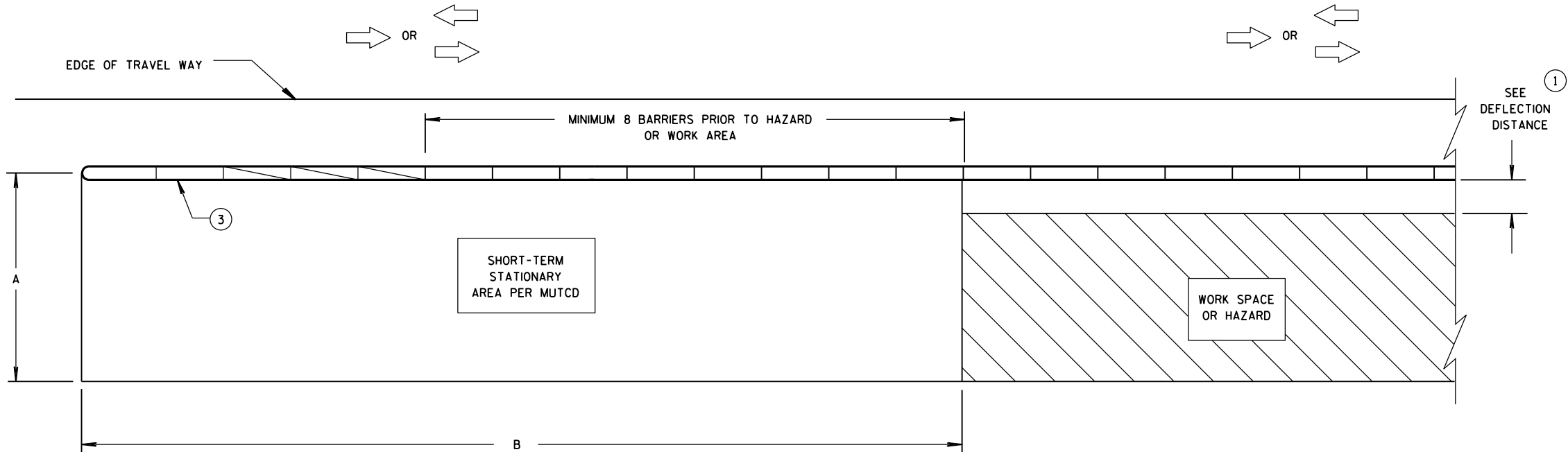
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Rodney Taylor ROADWAY STANDARD DEVELOPMENT UNIT SUPERVISOR
FHWA	



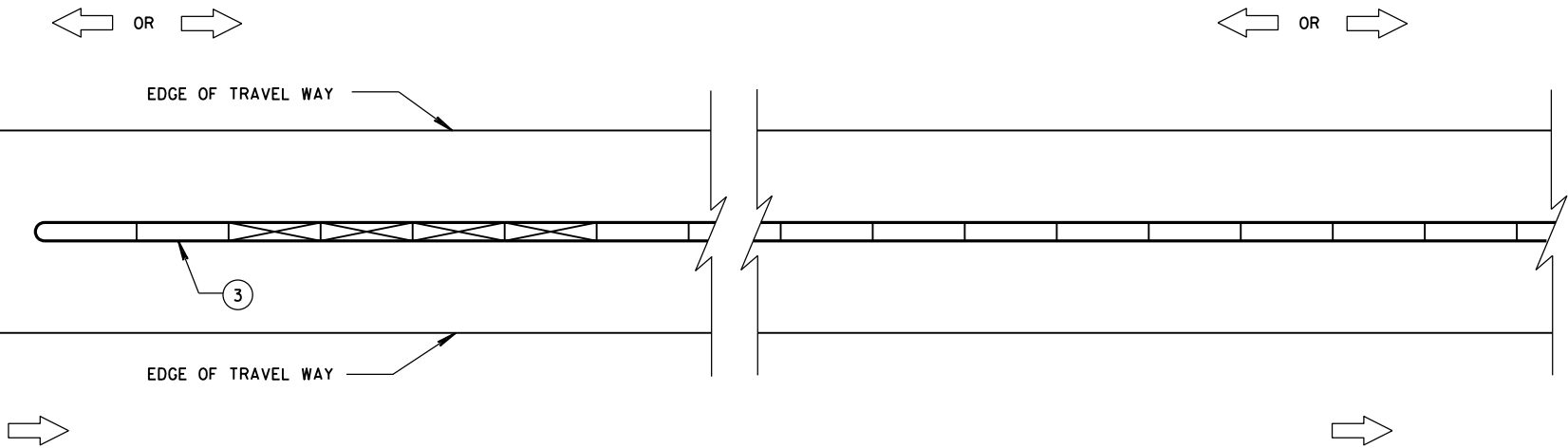
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE ②

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE ②

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

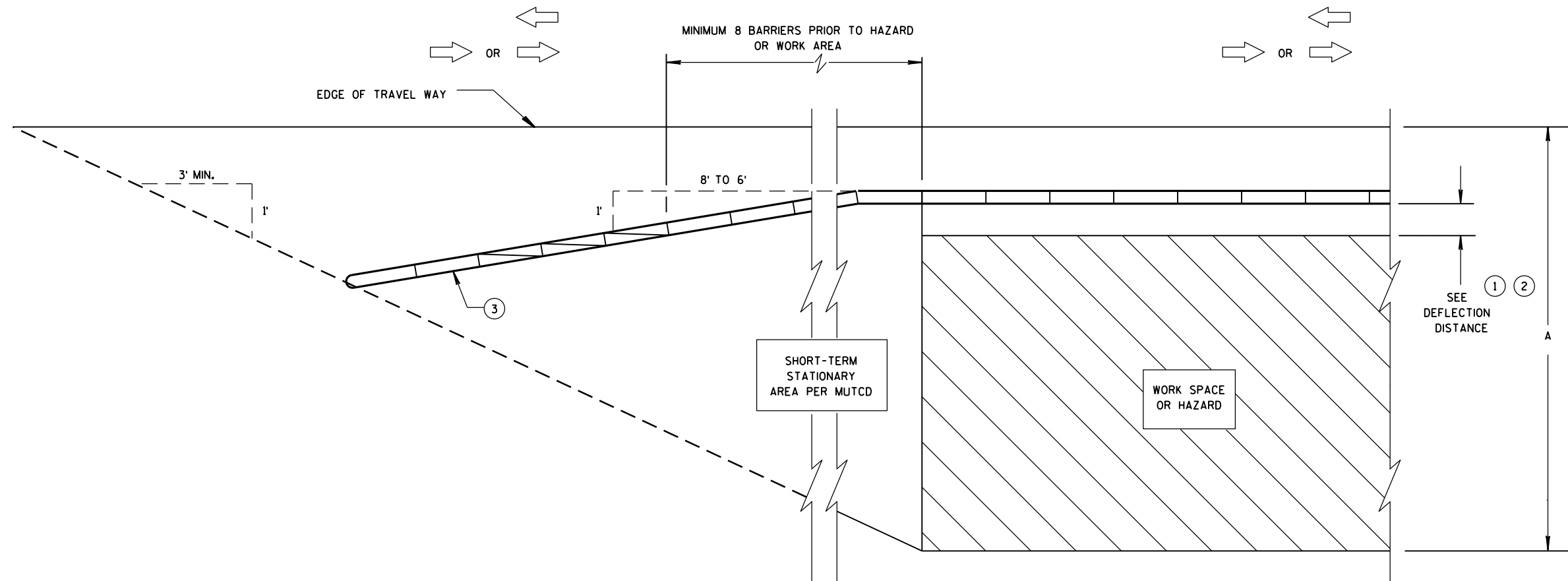
FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

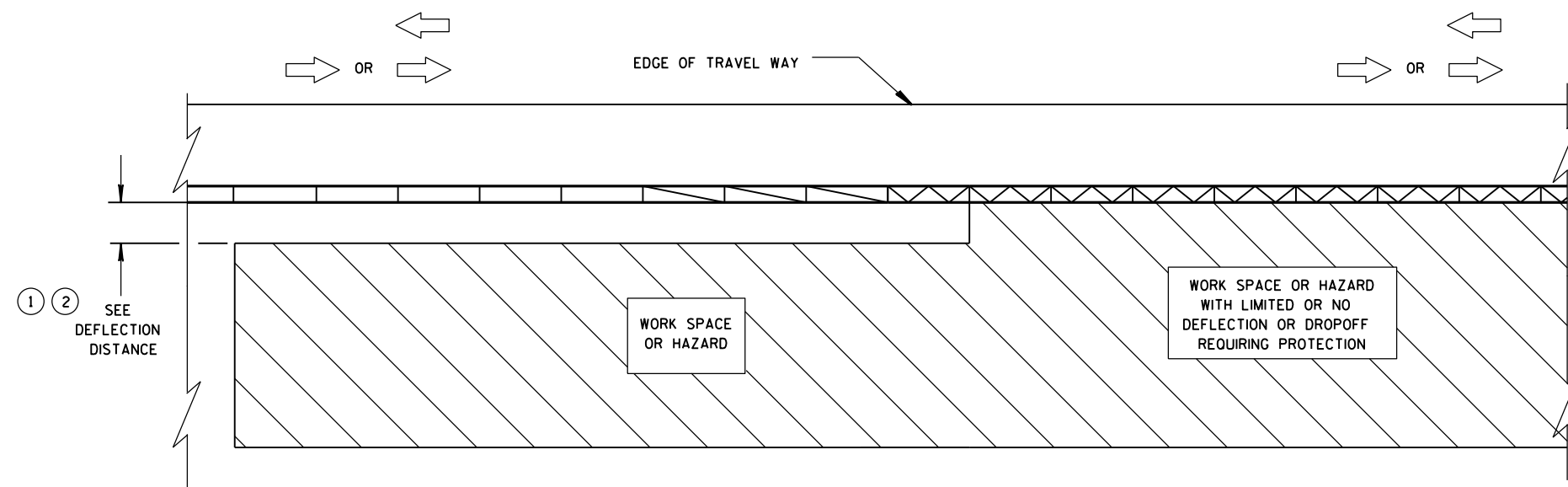
- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- ③ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION**



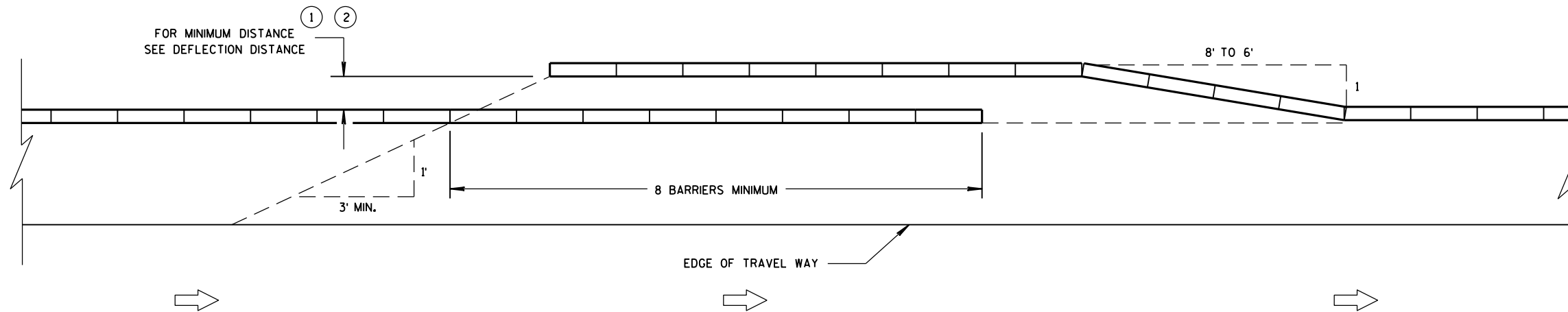
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

LEGEND

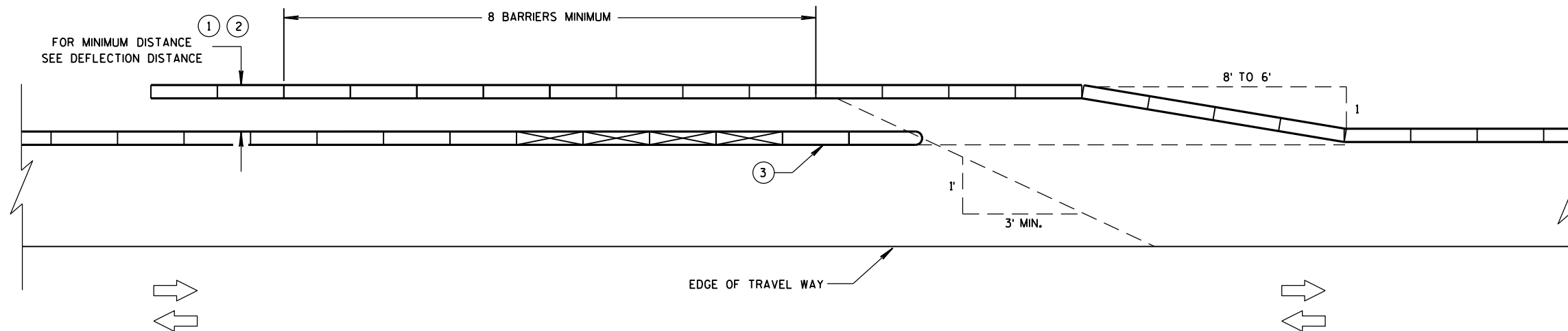
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

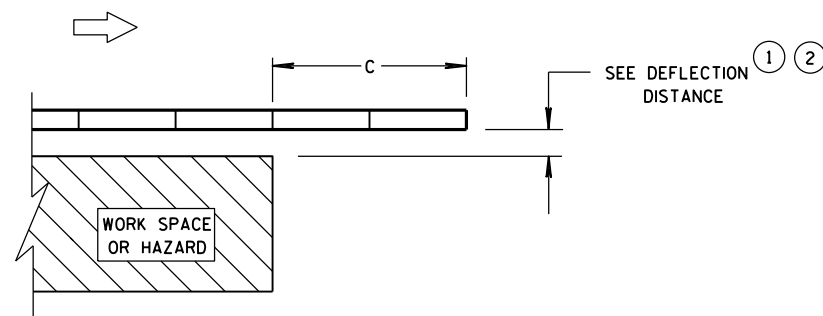
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



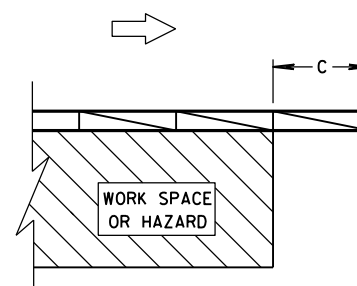
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



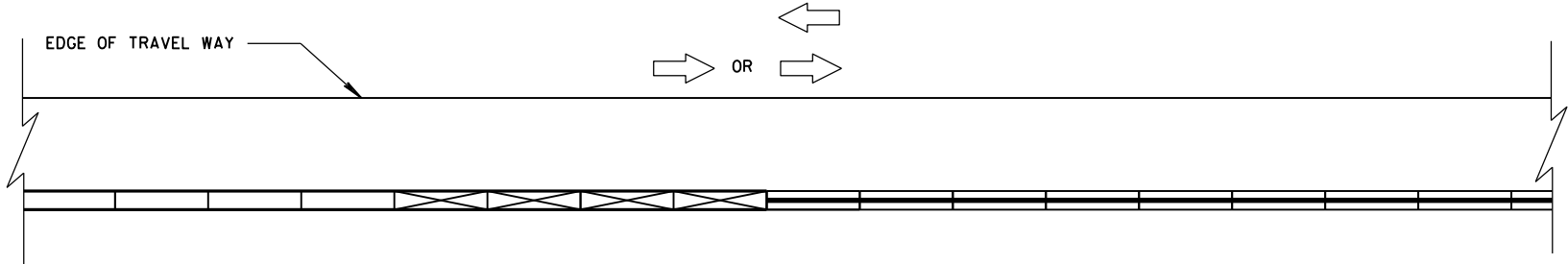
**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

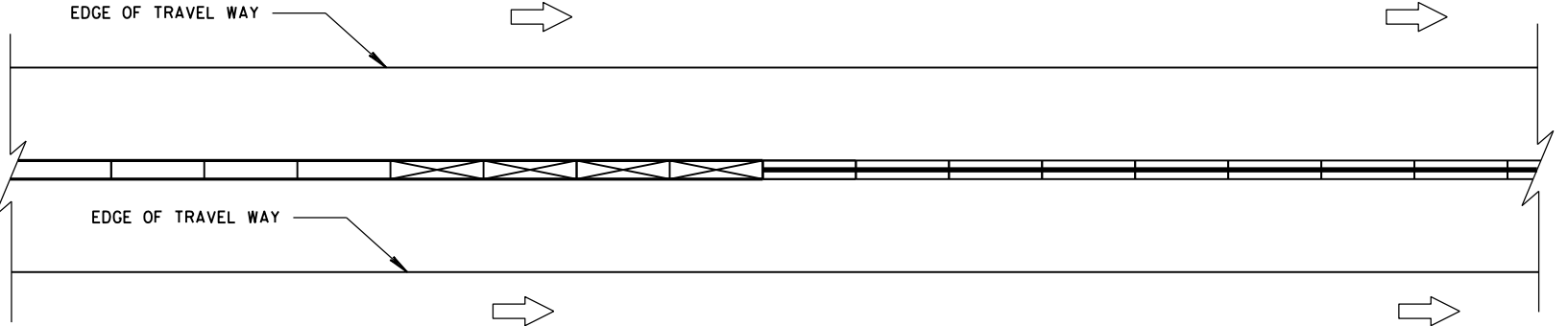
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



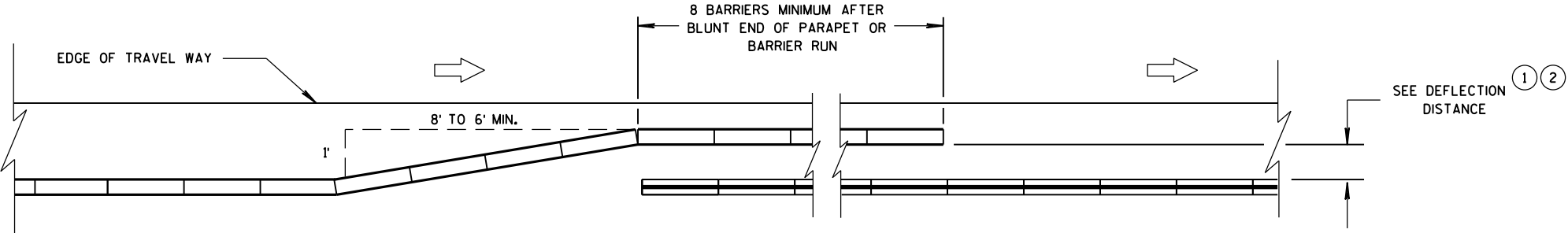
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



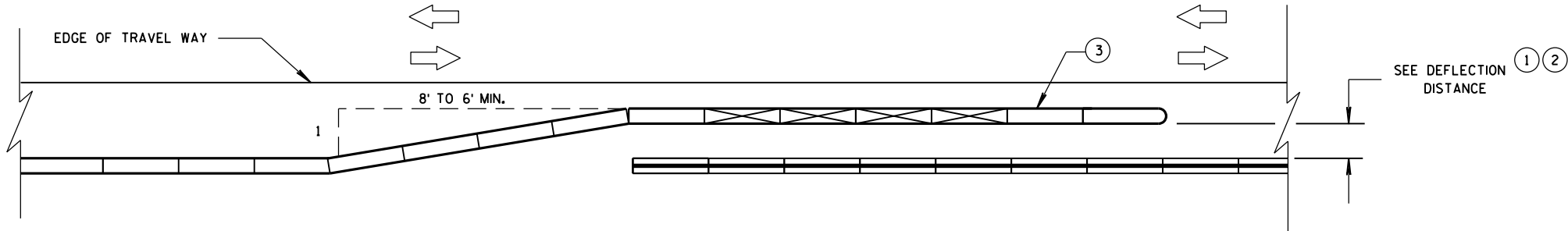
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

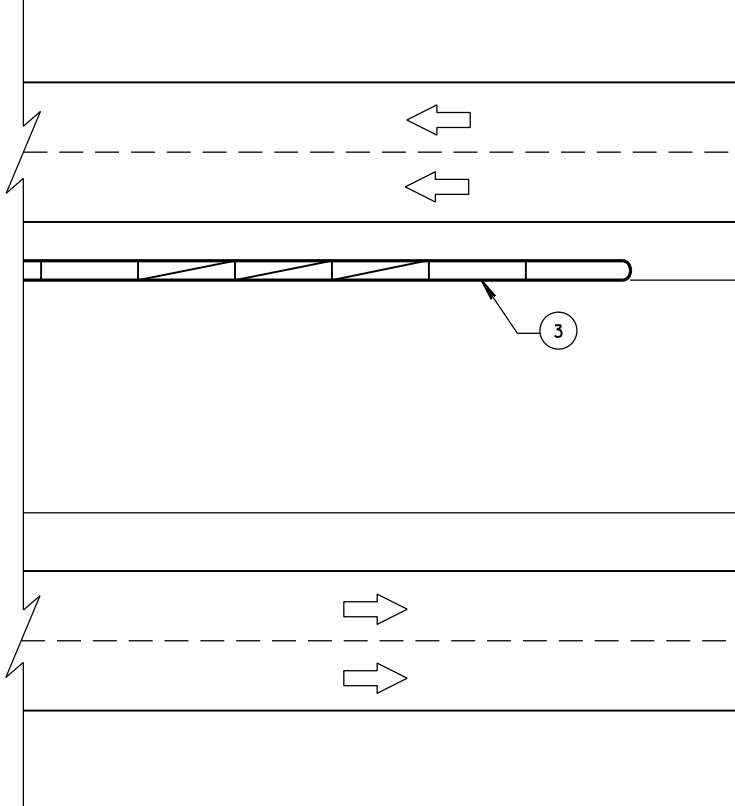
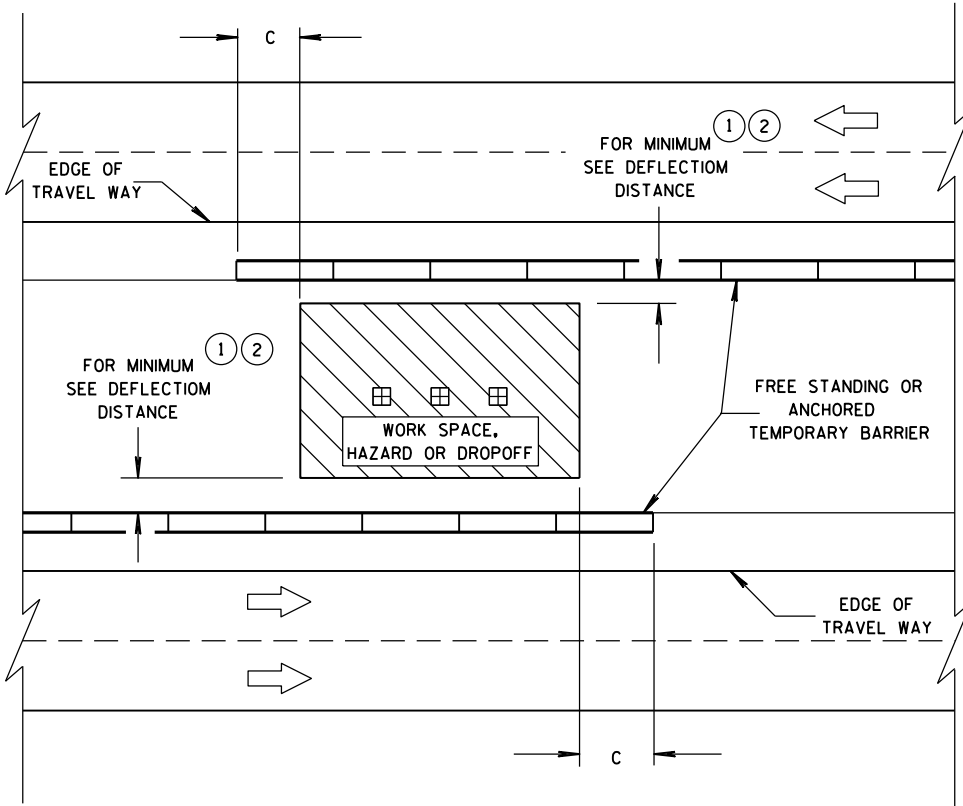
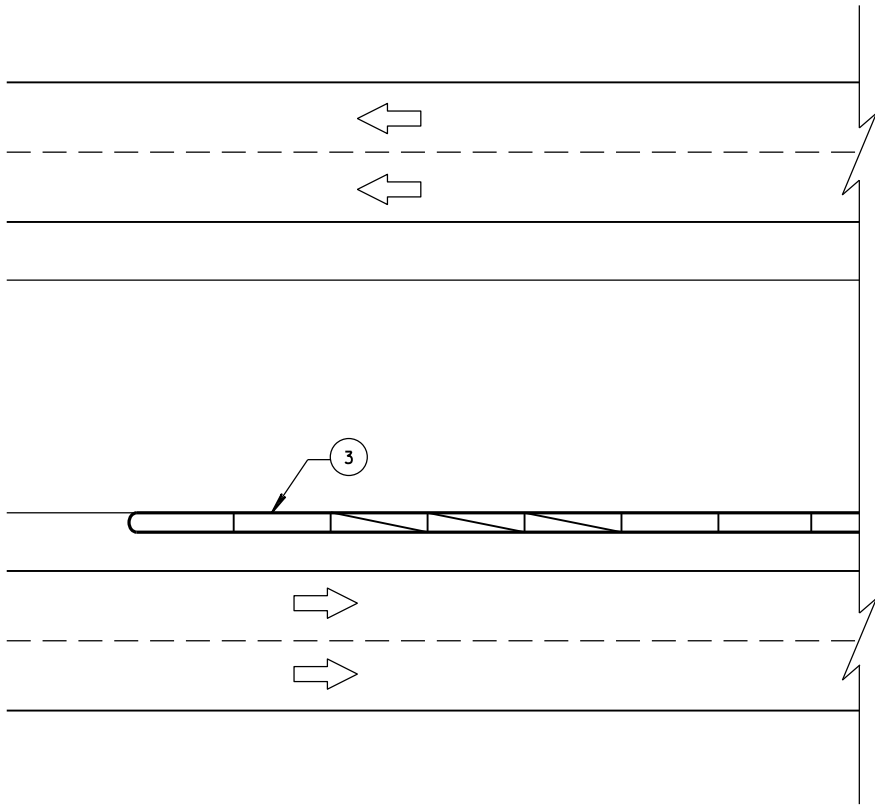
LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100

6

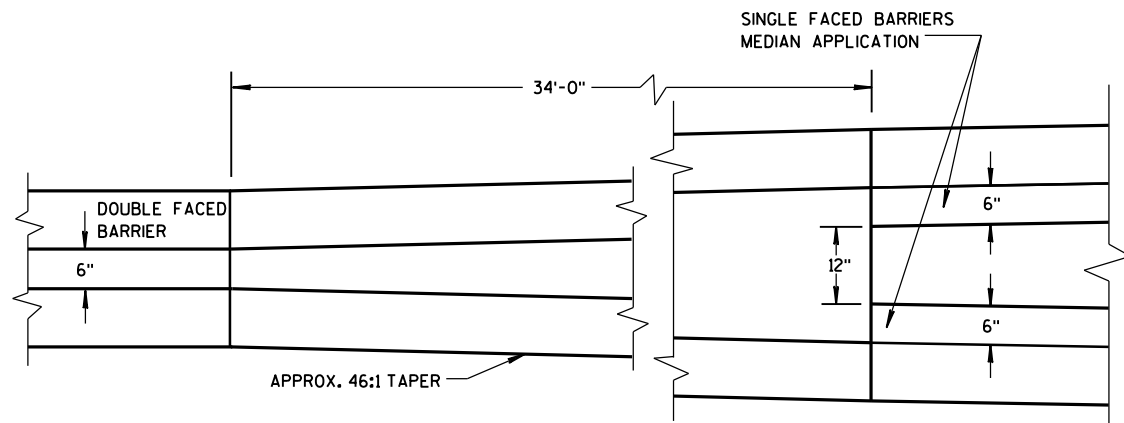


6

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER



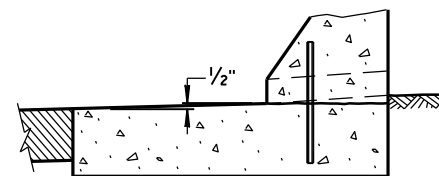
PLAN VIEW
TRANSITION DETAILS OF DOUBLE FACED
TO SINGLE FACED CONCRETE MEDIAN BARRIER
(FOOTINGS ARE NOT SHOWN)

GENERAL NOTES

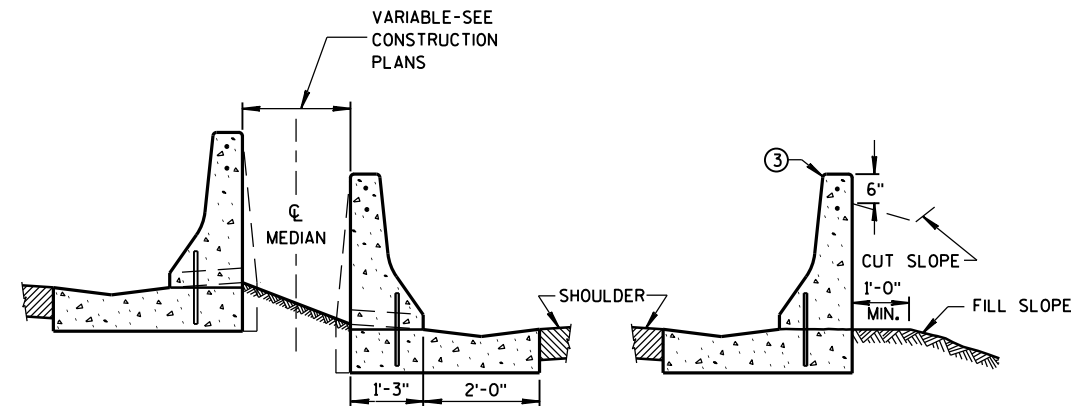
SPLICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

- ① BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN CONTRACT.
- ② OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.
- ③ $\frac{3}{4}$ -INCH BEVEL OR 1-INCH RADIUS (TYPICAL).
- ④ NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.
- ⑤ EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.
- ⑥ SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.

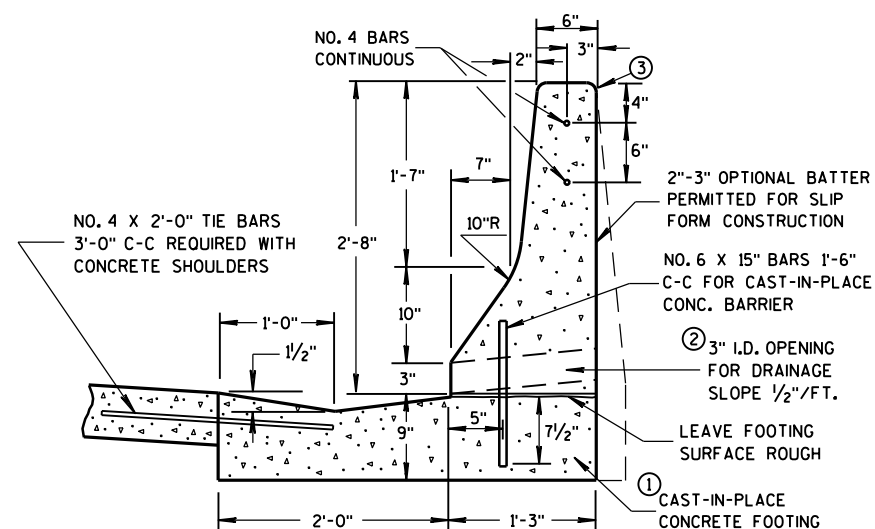


HIGH SIDE
CONCRETE BARRIER DETAIL

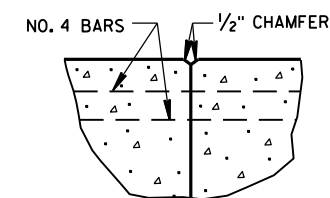


MEDIAN **SHOULDER**

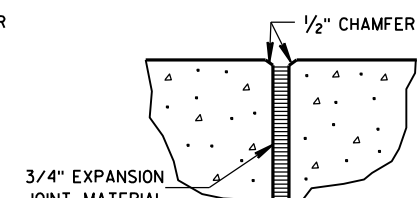
TYPICAL APPLICATIONS



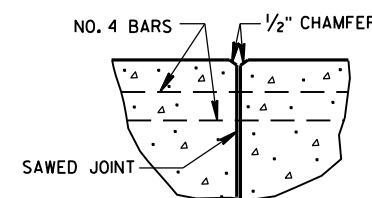
SECTION VIEW



④ CONSTRUCTION JOINT



⑤ EXPANSION JOINT

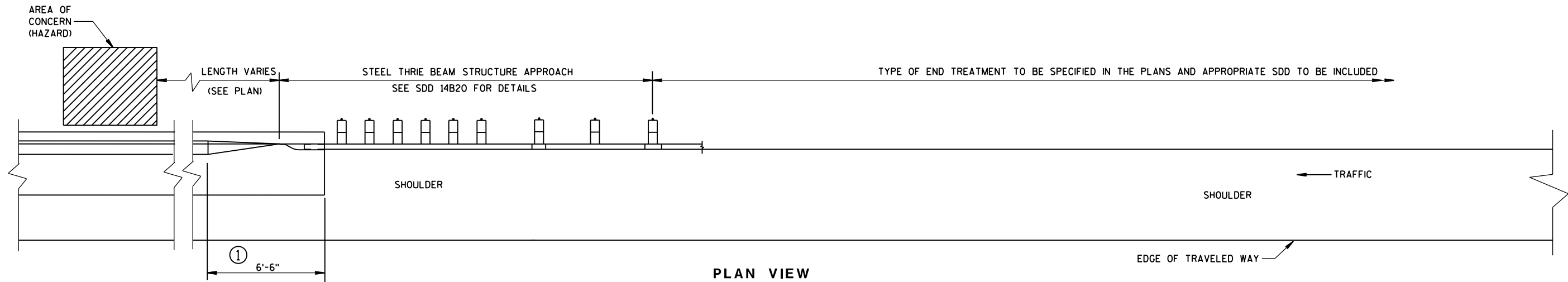


⑥ CONTRACTION JOINT

JOINT DETAILS

CONCRETE BARRIER,
SINGLE-FACED
(WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

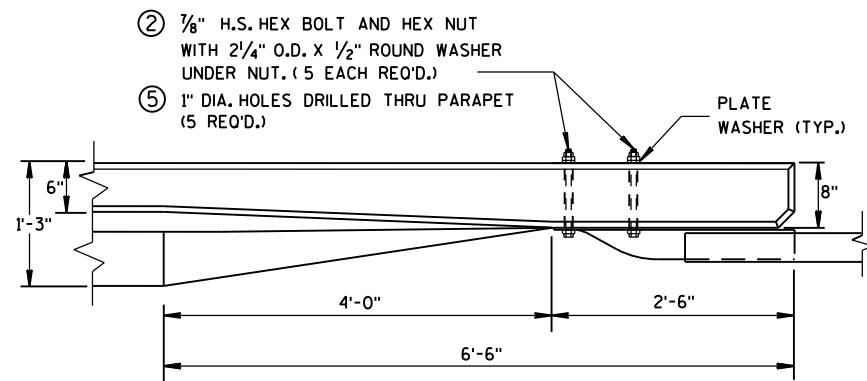


PLAN VIEW
TRANSITION TO STEEL PLATE BEAM GUARD
AND END TERMINAL

GENERAL NOTES

- ① A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.
- ④ PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.
- ⑤ INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



PLAN VIEW

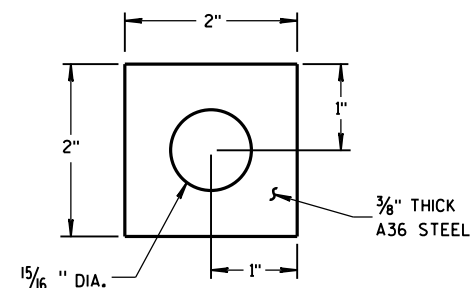
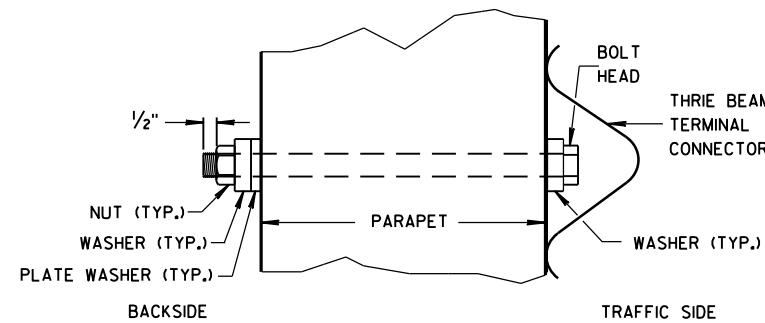
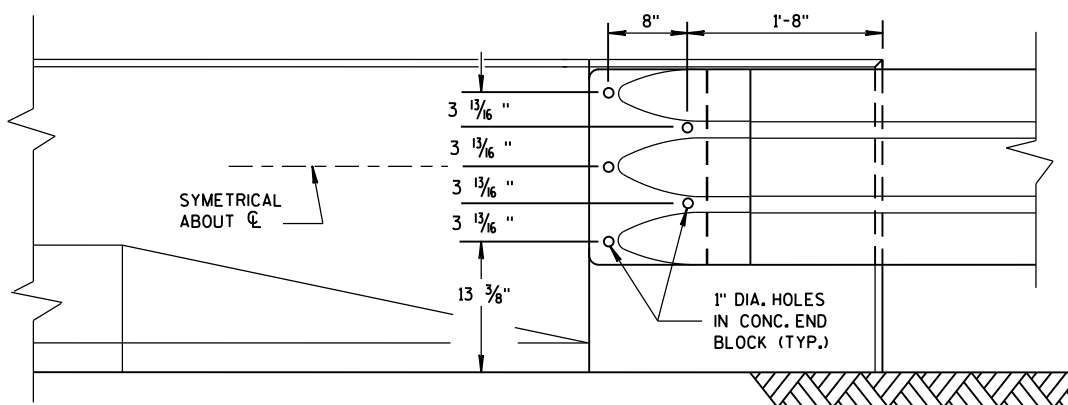


PLATE WASHER DETAIL

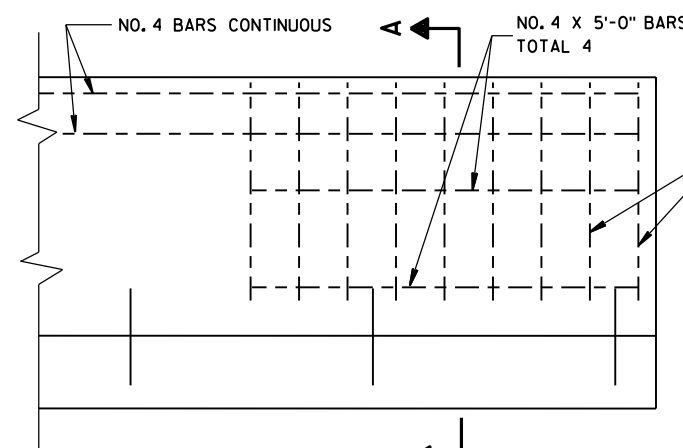


THRIE BEAM BOLT DETAIL



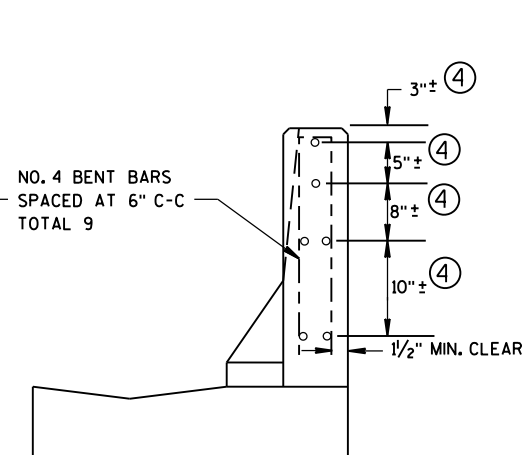
FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM

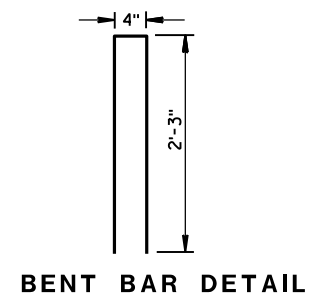


FRONT VIEW

③ REINFORCEMENT AT BARRIER END



SECTION A-A

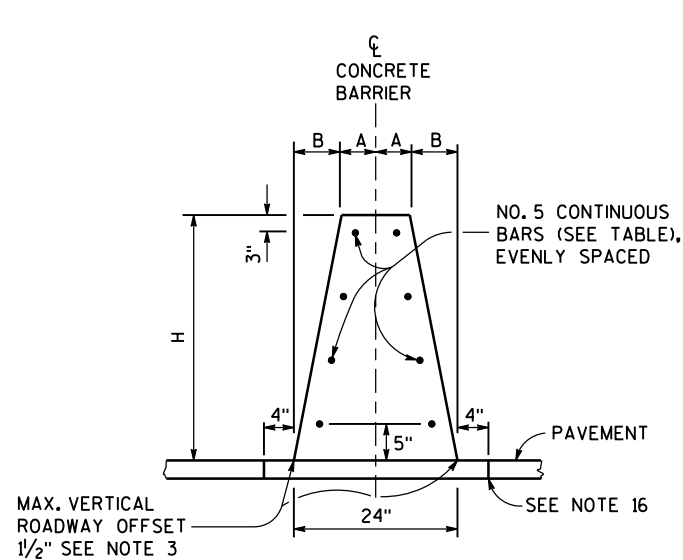


BENT BAR DETAIL

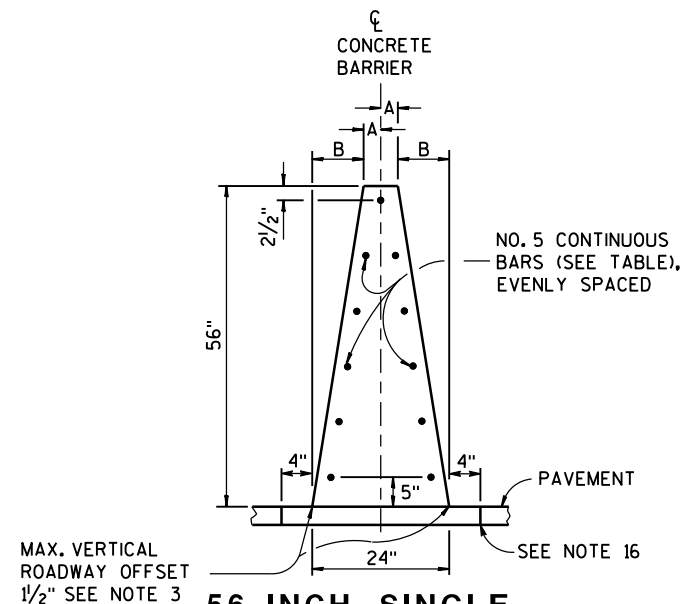
CONCRETE BARRIER,
SINGLE-FACED
(WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

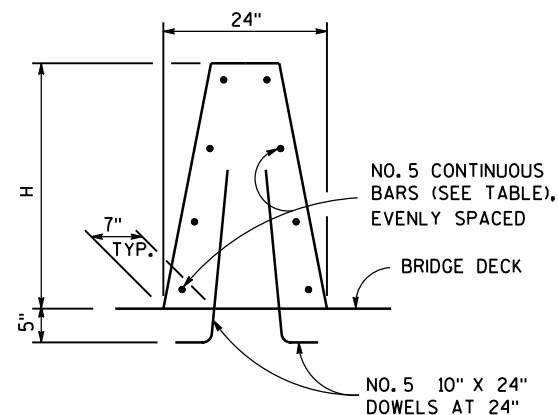
APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



**32-INCH, 36-INCH OR 42-INCH
SINGLE SLOPE CONCRETE BARRIER
(TYPE S32, TYPE S36, AND
TYPE S42)**



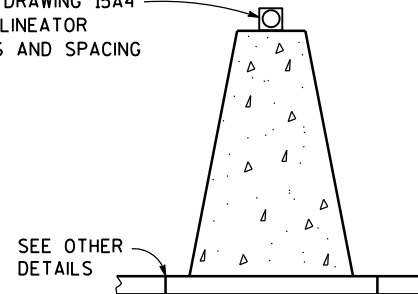
**56-INCH SINGLE
SLOPE CONCRETE BARRIER
(TYPE S56)**



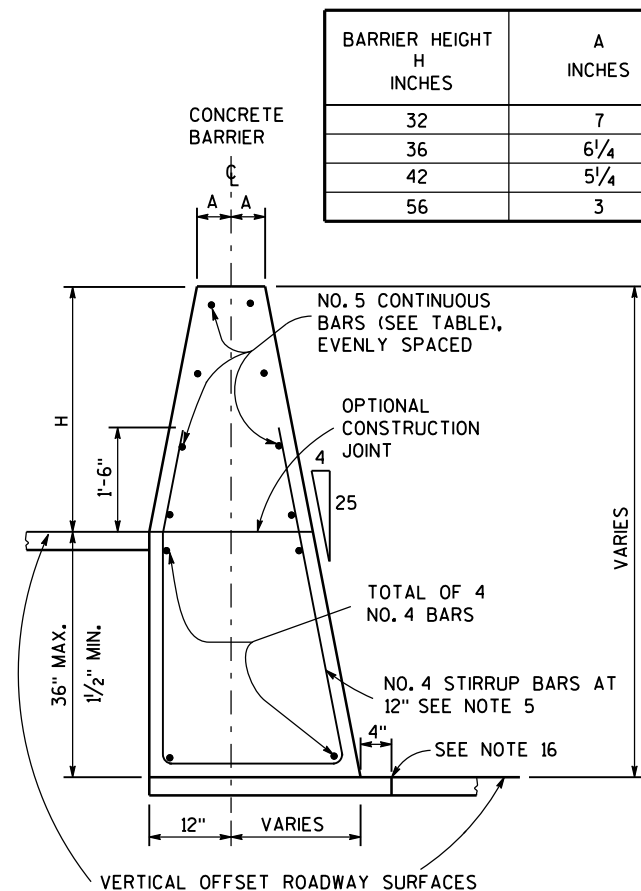
**SINGLE SLOPE
CONCRETE BARRIER
ON BRIDGE**

NON OUTER PARAPET APPLICATION

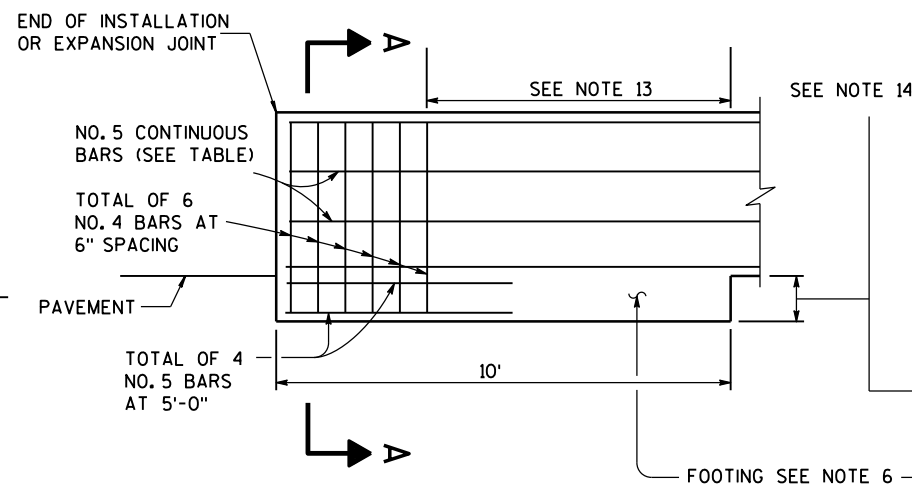
SEE STANDARD
DETAIL DRAWING 15A4
FOR DELINEATOR
DETAILS AND SPACING



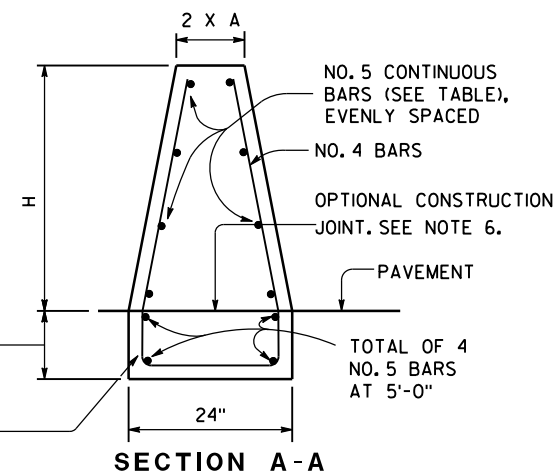
DELINEATION



**SINGLE SLOPE CONCRETE
BARRIER AND RETAINING WALL
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)
(BETWEEN ADJACENT ROADWAYS)**



**END ANCHOR SINGLE
SLOPE CONCRETE BARRIER
AT CONSTRUCTION JOINT**



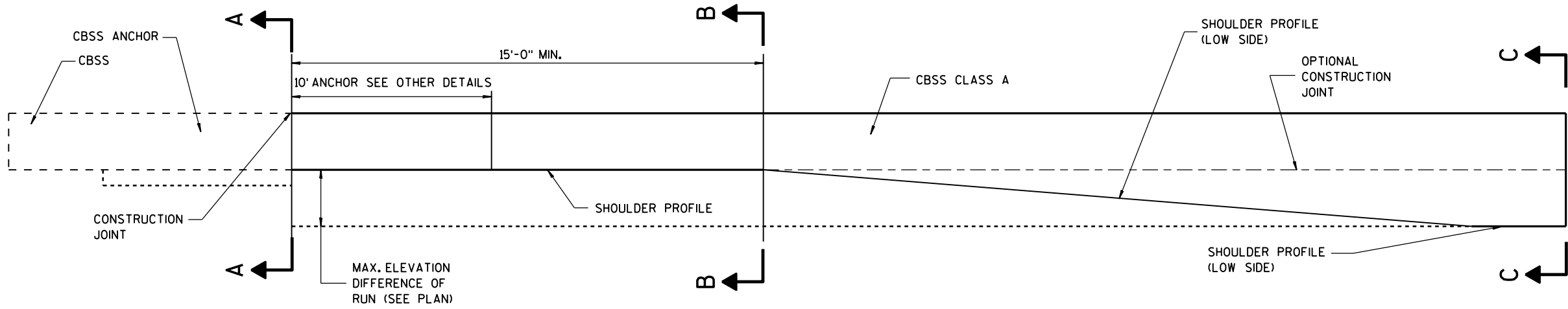
SECTION A-A

GENERAL NOTES

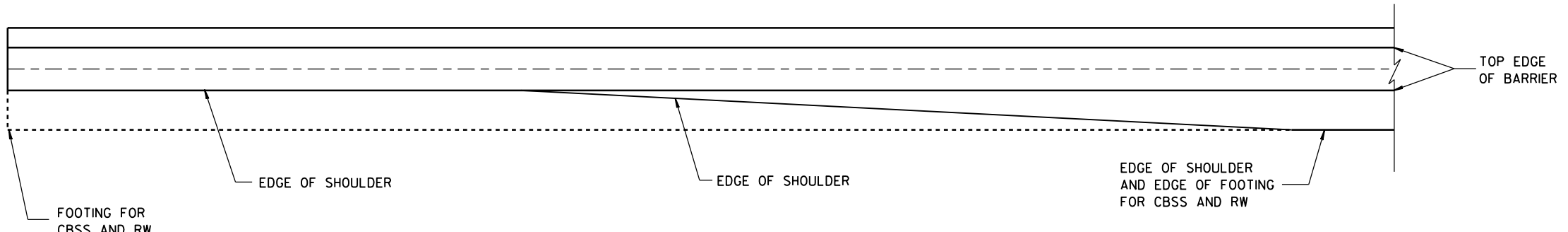
- WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
- EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR 1/2" MINIMUM.
- WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1 1/2", USE TYPE A
- PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
- EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
- FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
- STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
- 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
- WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
- USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
- 2" CLEAR COVER TYPICAL.
- COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
- IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
- IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
- FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
- CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

**CONCRETE BARRIER SINGLE SLOPE
(CBSS)**

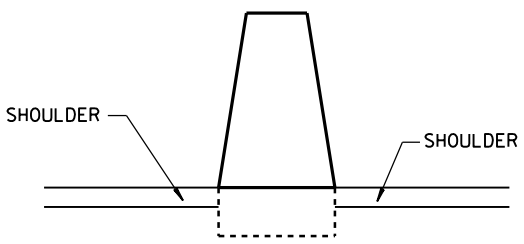
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



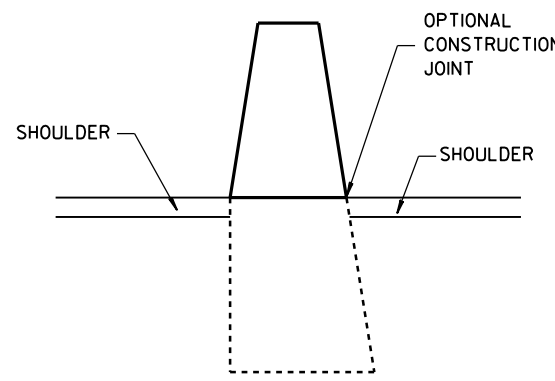
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



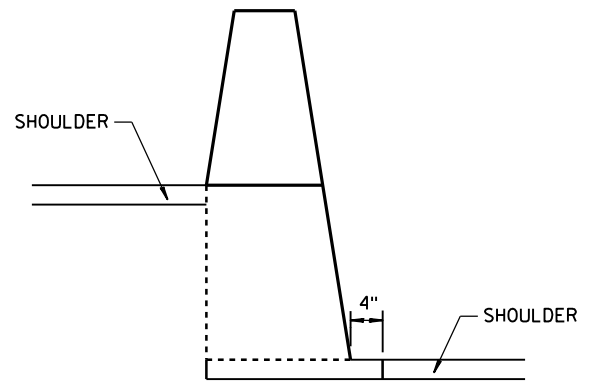
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



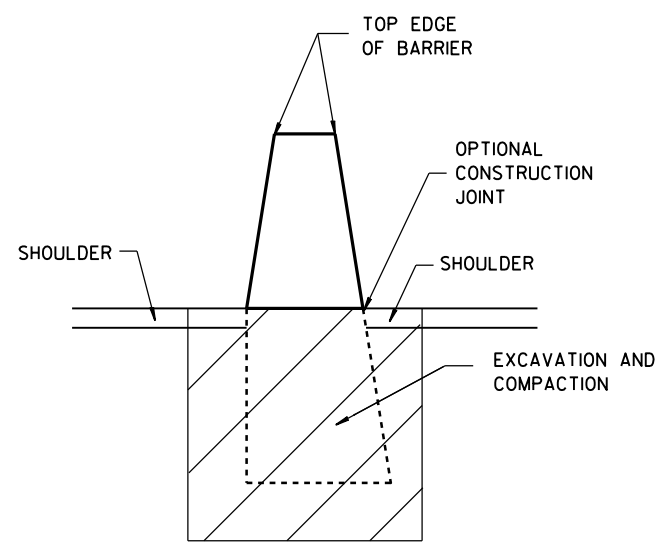
SECTION A-A



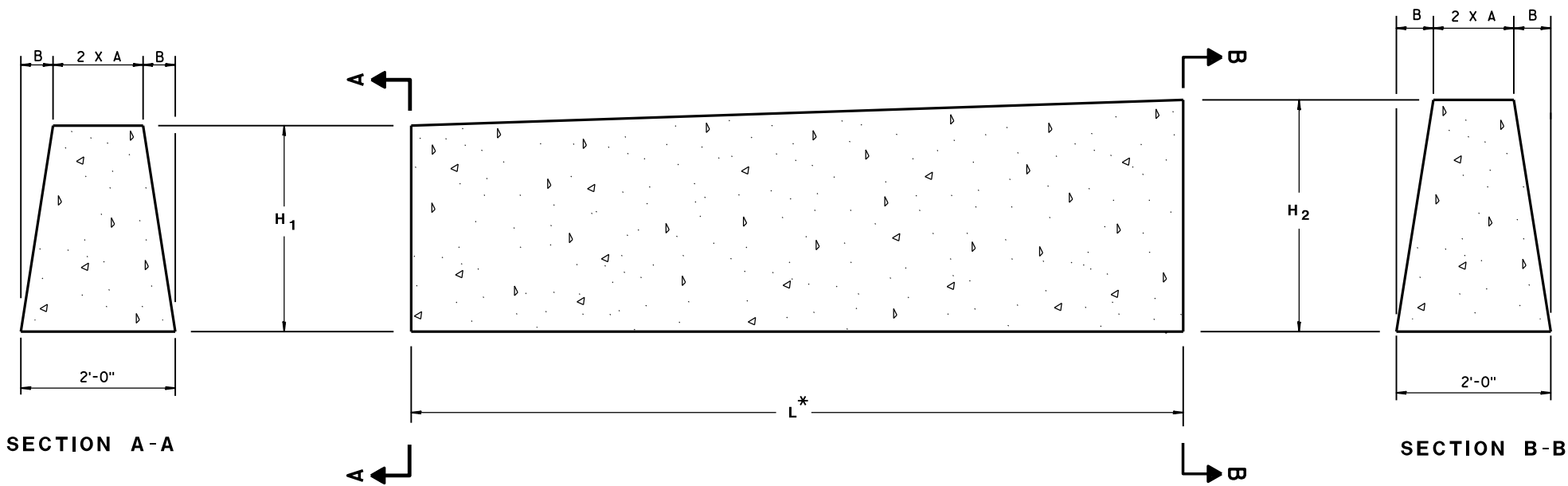
SECTION B-B



SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 $\frac{1}{4}$	5 $\frac{3}{4}$
42	5 $\frac{1}{4}$	6 $\frac{3}{4}$
56	3	9

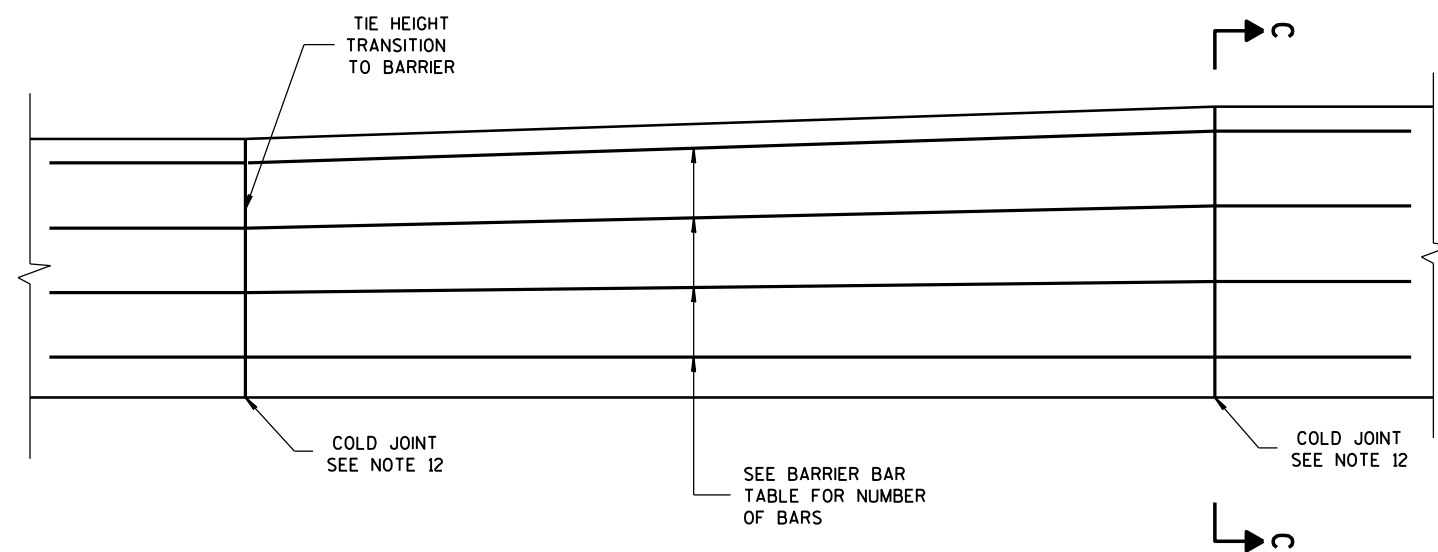
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

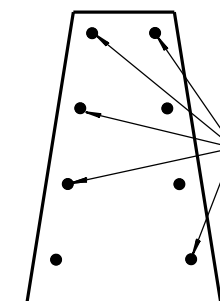
BARRIER BARS

H ₁	H ₂	L *	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

*
LENGTH OF DOUBLE COLD JOINT INCLUDED
IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

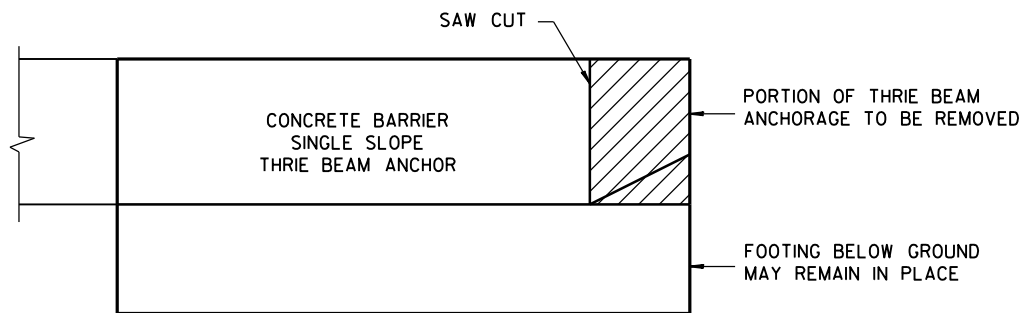
SEE BARRIER BAR
TABLE FOR NUMBER
OF BARS

CONCRETE BARRIER
SINGLE SLOPE

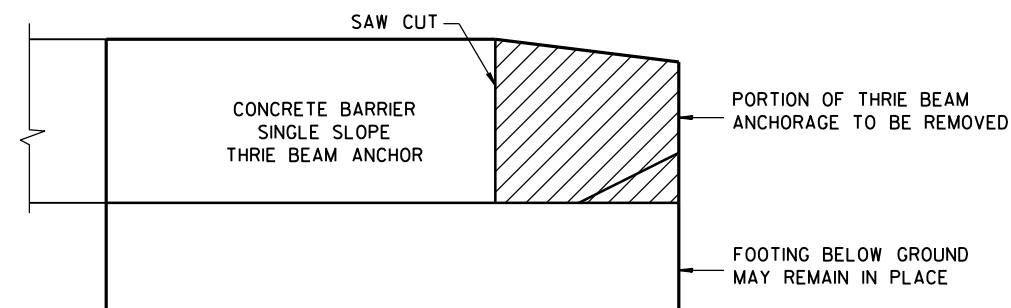
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

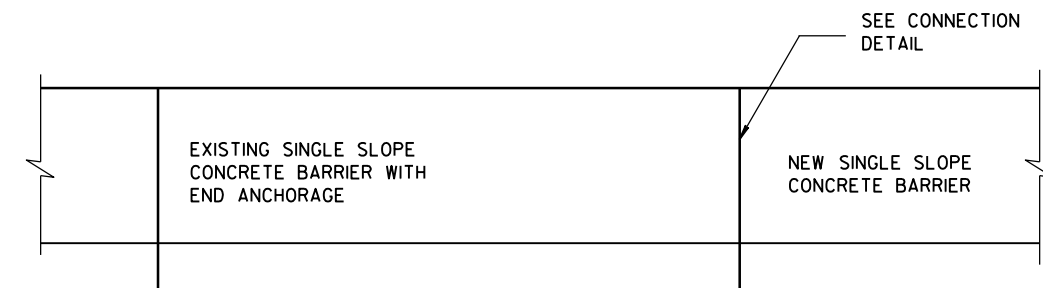
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR



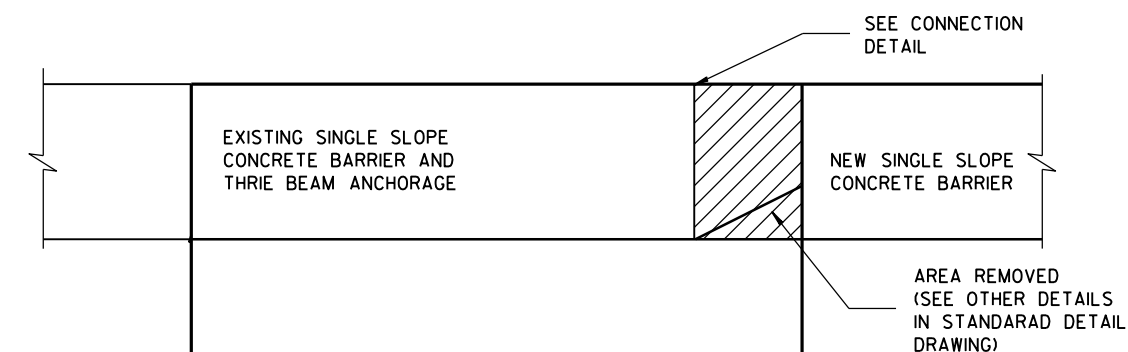
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



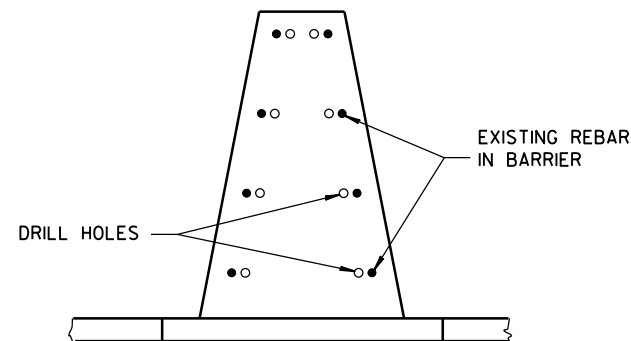
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



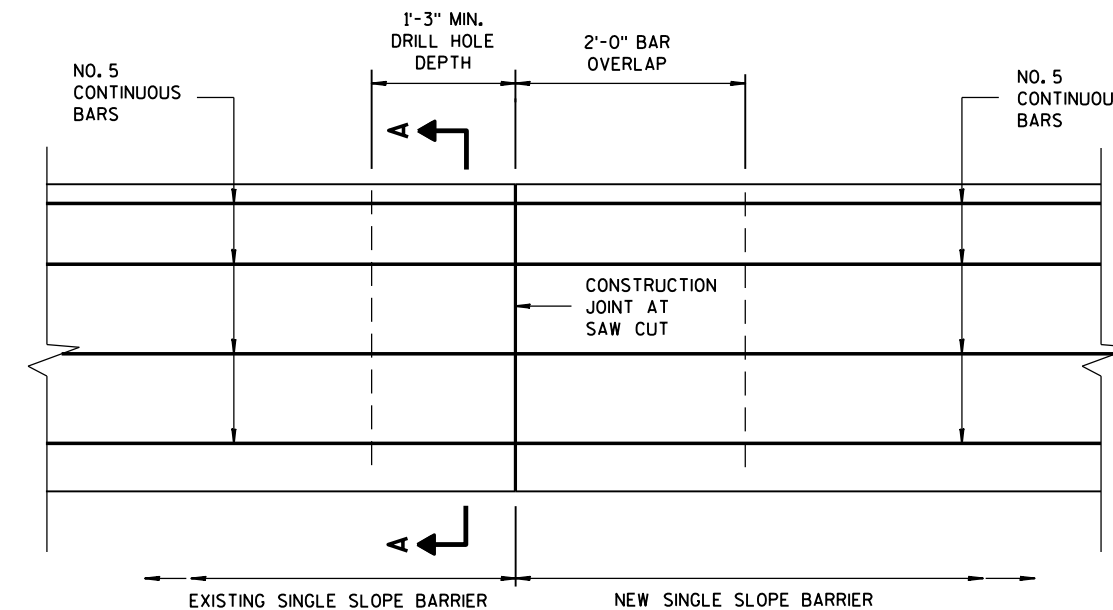
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



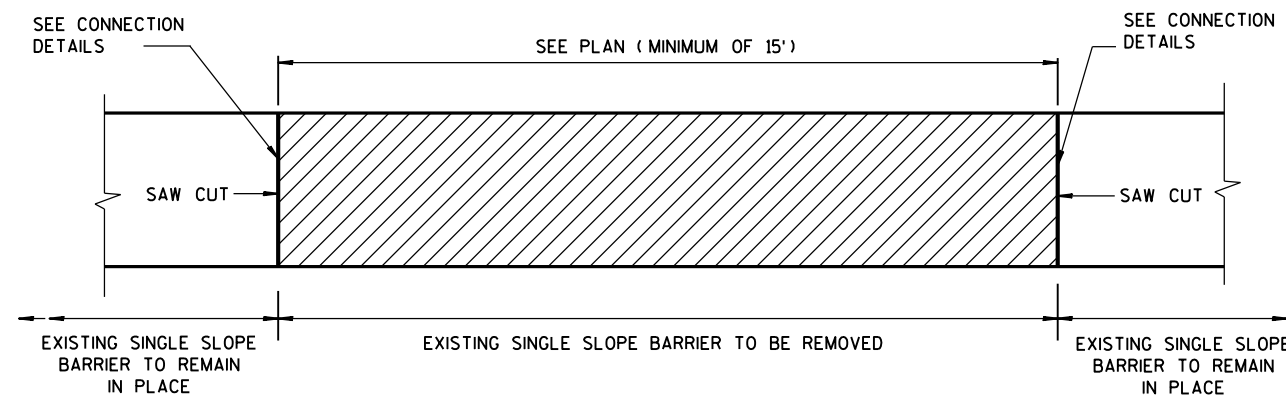
SECTION A-A

GENERAL NOTES

1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION VIEW
BARRIER REMOVAL AND REPLACEMENT

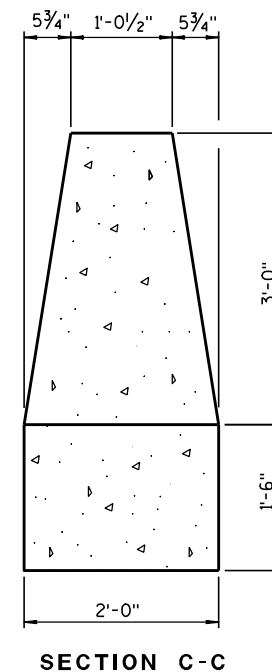
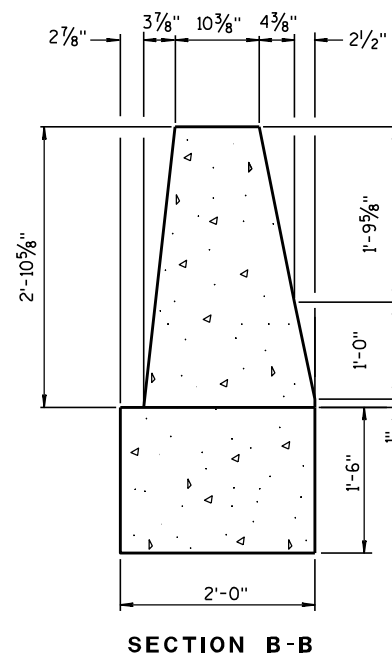
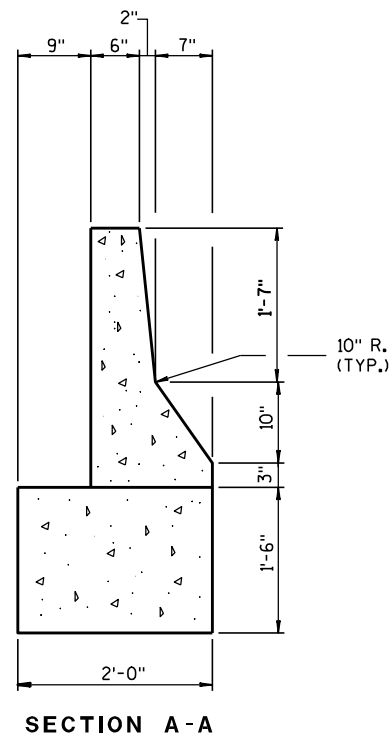
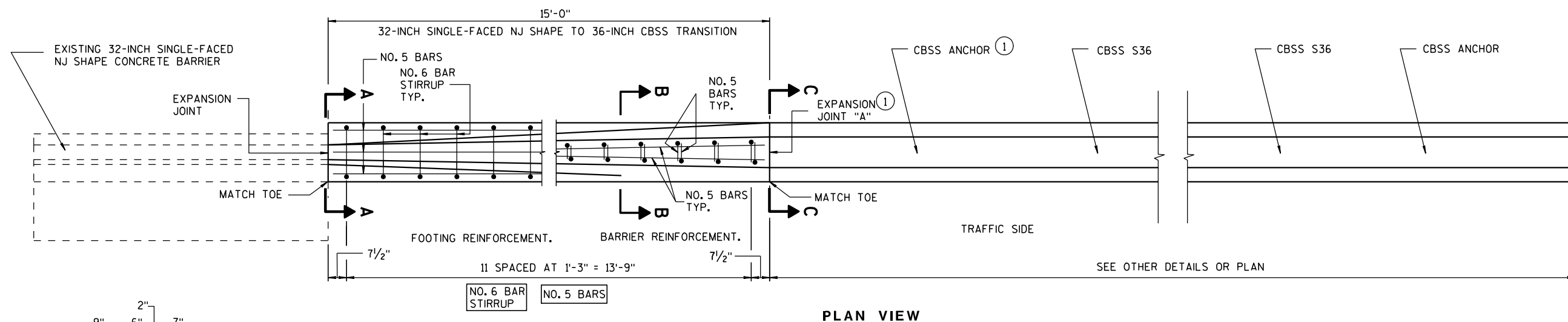
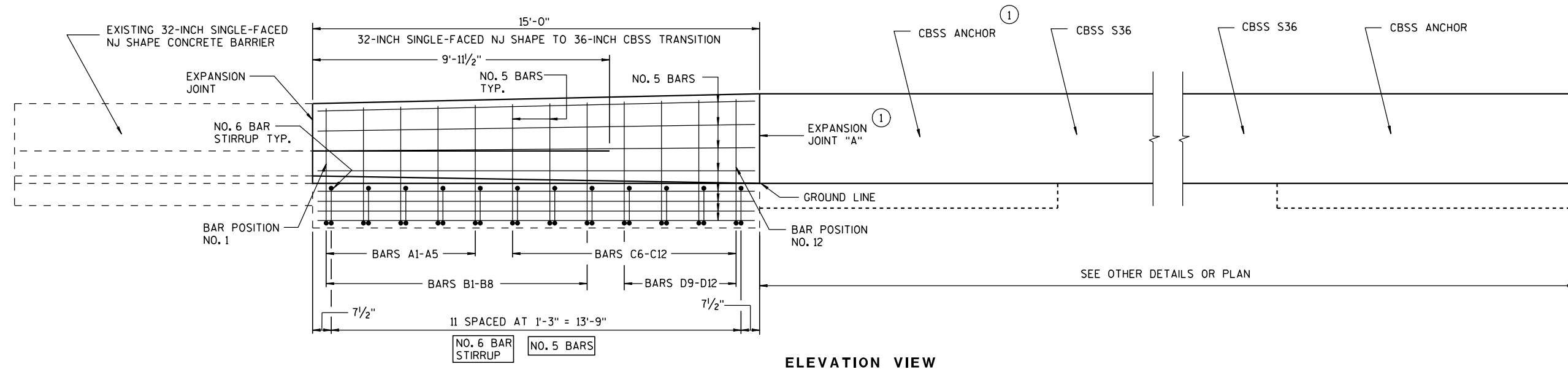
CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER



GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE $\frac{3}{4}$ " BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

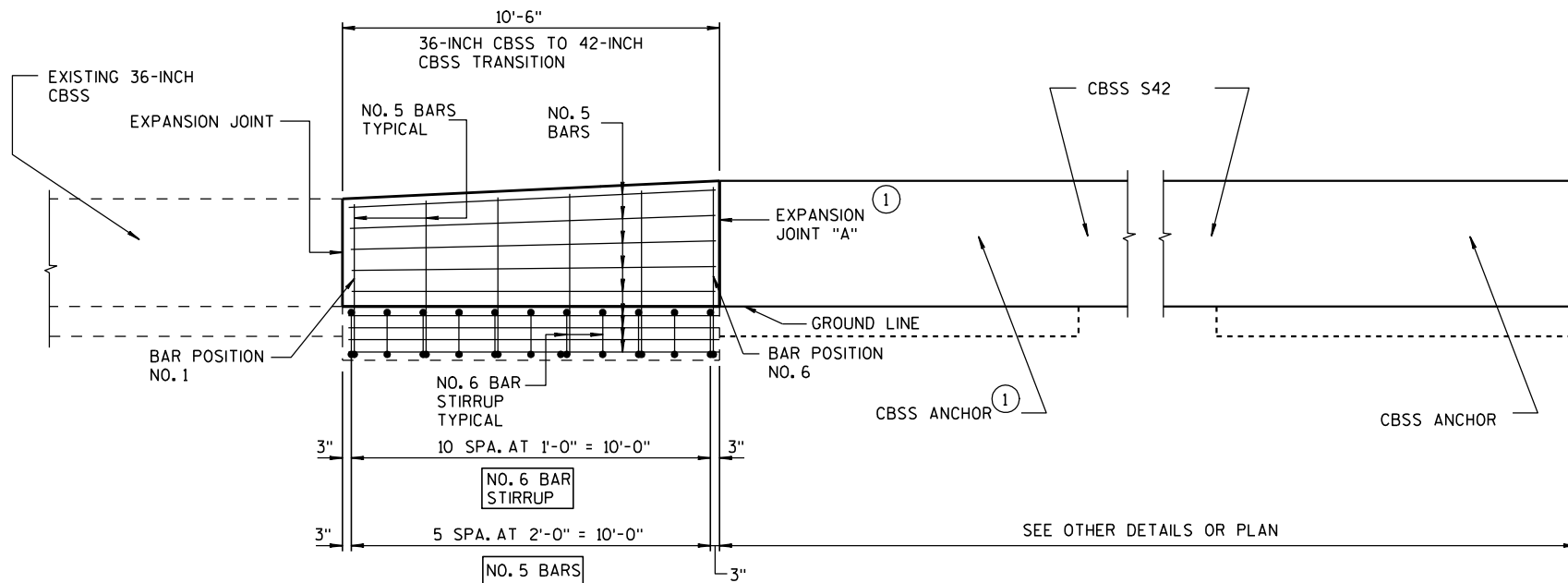
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

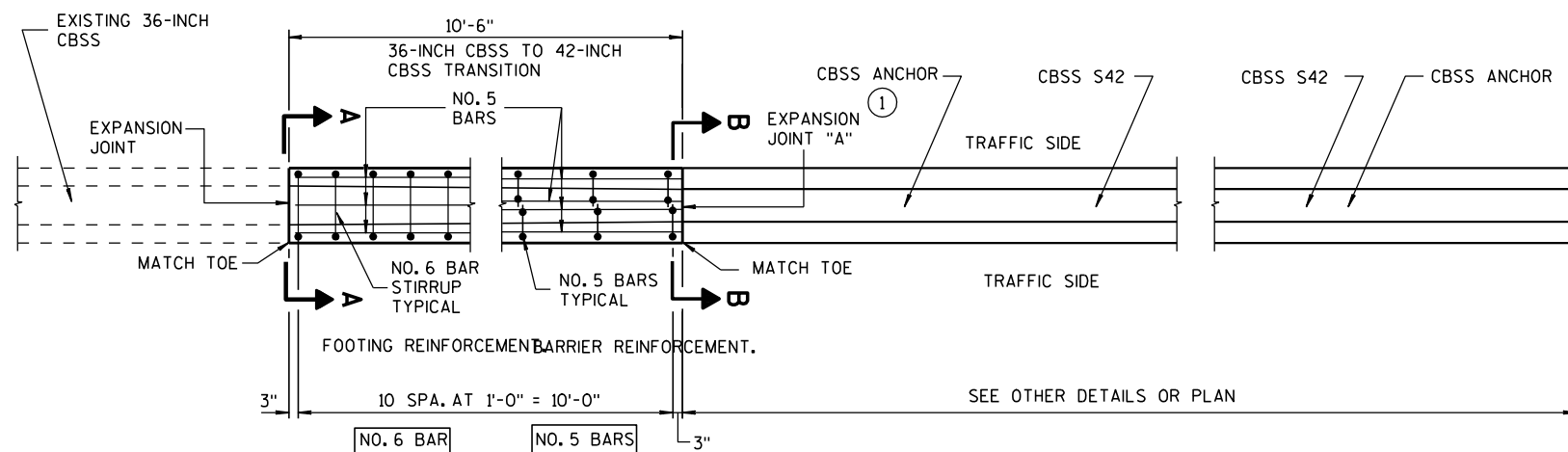
① EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

32-INCH SINGLE-FACED NJ SHAPE
CONCRETE BARRIER TO 36-INCH SINGLE
SLOPE CONCRETE BARRIER TRANSITION

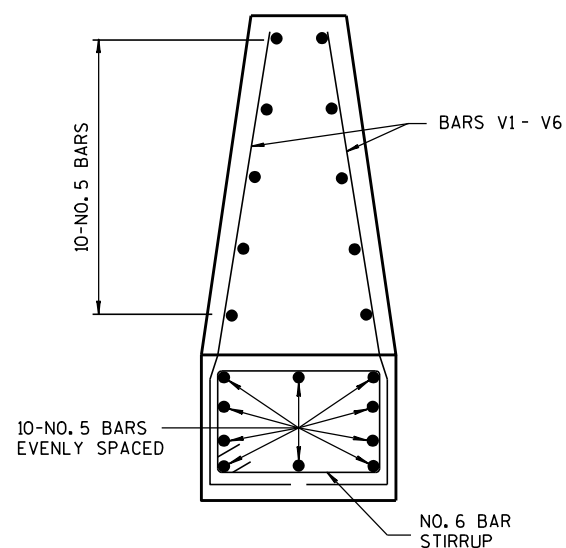
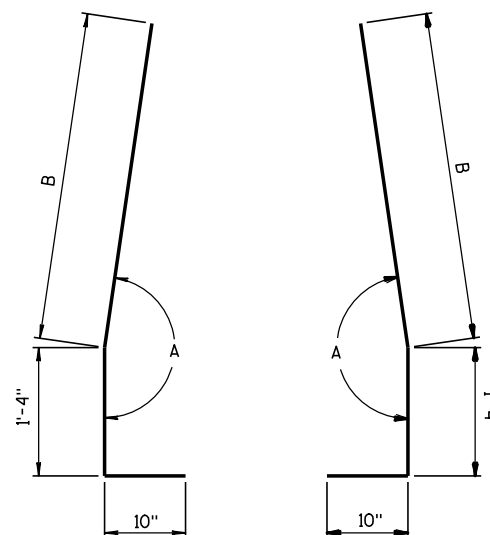
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



ELEVATION VIEW



PLAN VIEW

BAR DETAIL
BAR POSITION NO. 1 - NO. 6BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

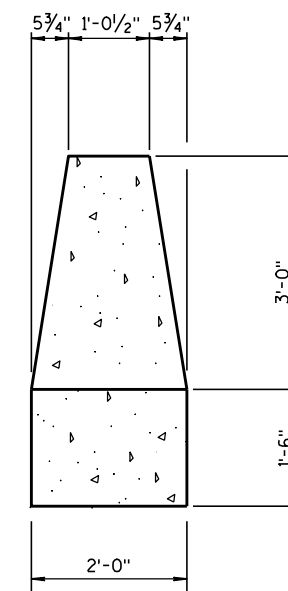
4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE $\frac{3}{4}$ " BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

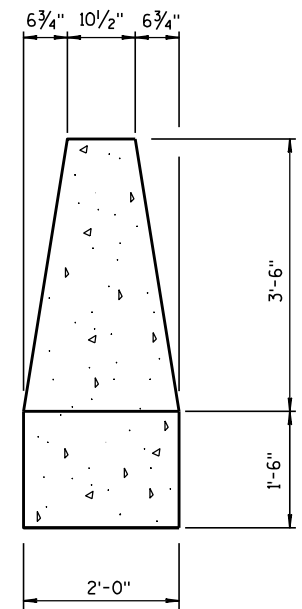
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

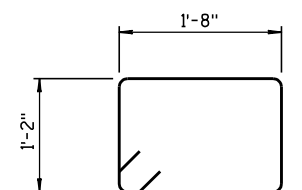
- ① EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



SECTION A-A



SECTION B-B

STIRRUP BAR
BENDING DETAILBAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10 1/2"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4 1/2"

36-INCH SINGLE SLOPE CONCRETE
BARRIER TO 42-INCH SINGLE SLOPE
CONCRETE BARRIER HEIGHT TRANSITIONSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010

DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

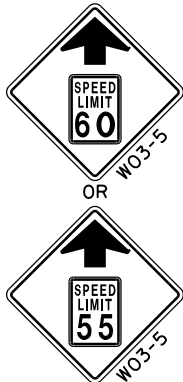
LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

L, TAPER LENGTH (MPH)						
SPEED (MPH)	W, LATERAL OFFSET (FT)					
	10	11	12	13	14	15
45	450	495	540	585	630	675
50	500	550	600	650	700	750
55	550	605	660	715	770	825
60	600	660	720	780	840	900
65	650	715	780	845	910	975
70	700	770	840	910	980	1050



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).



LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



OR



R2-1 48"x60" (BLACK AND WHITE) LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

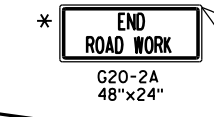
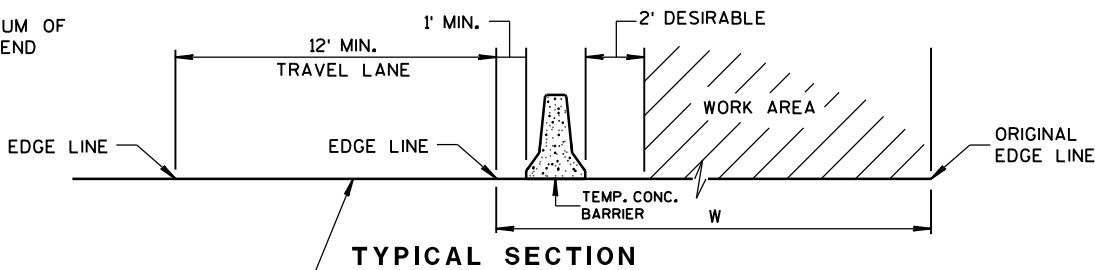
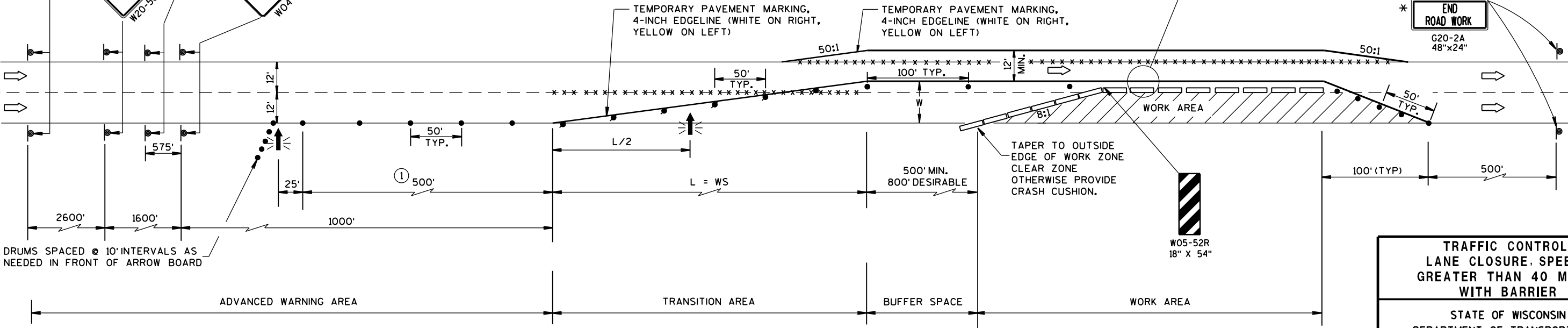
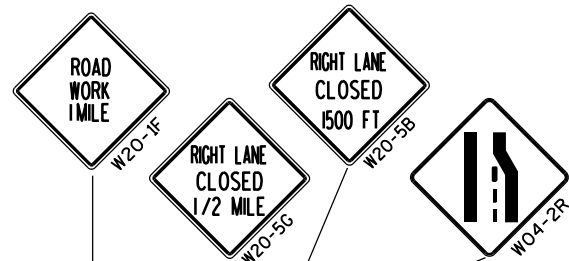
1 CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

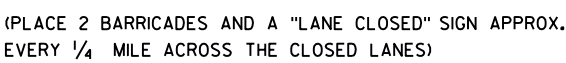
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

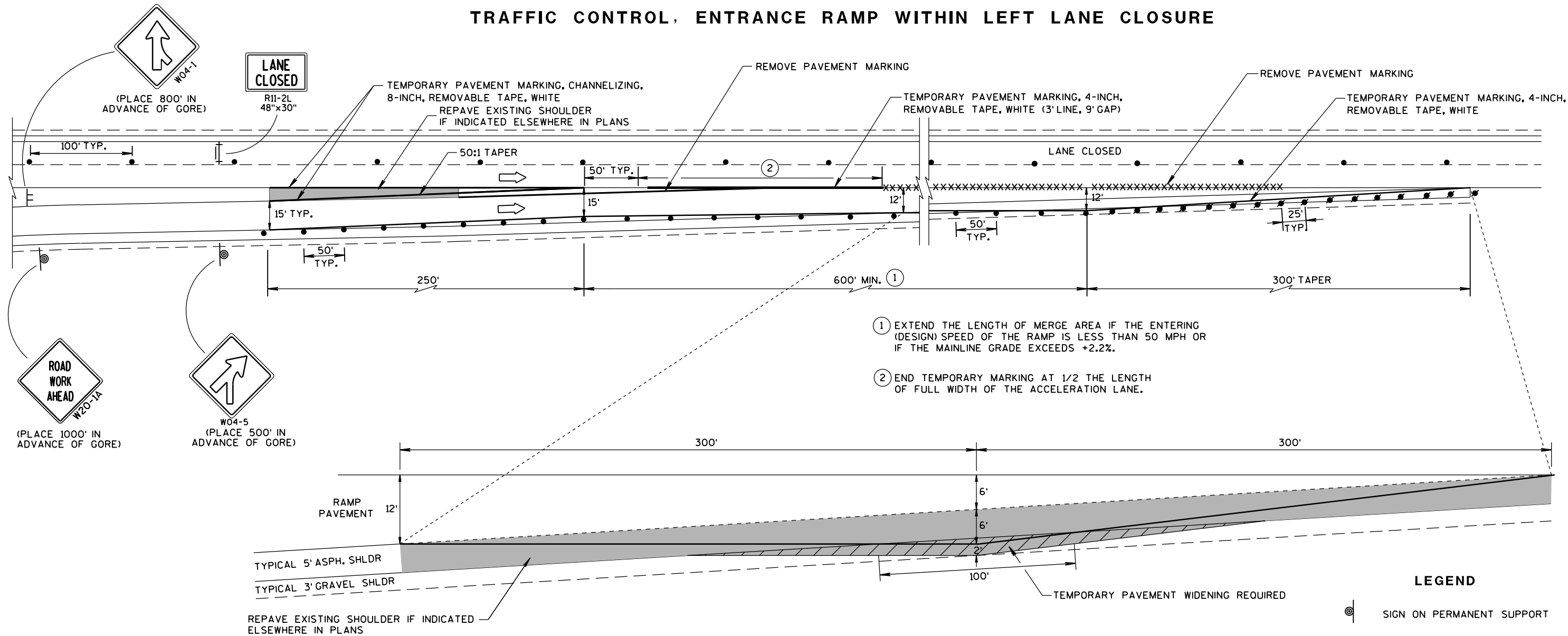


TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept., 2016 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



TRAFFIC CONTROL. TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 14, 2015	/S/ Peter Amakobe Atepe
DATE	STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FWHA	

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY. ADJUST
TEMPORARY PAVEMENT ACCORDINGLY)

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⌄ SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ⌄ TYPE III BARRICADE WITH ATTACHED SIGN
- XXXXX REMOVING PAVEMENT MARKING
- ➡ DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

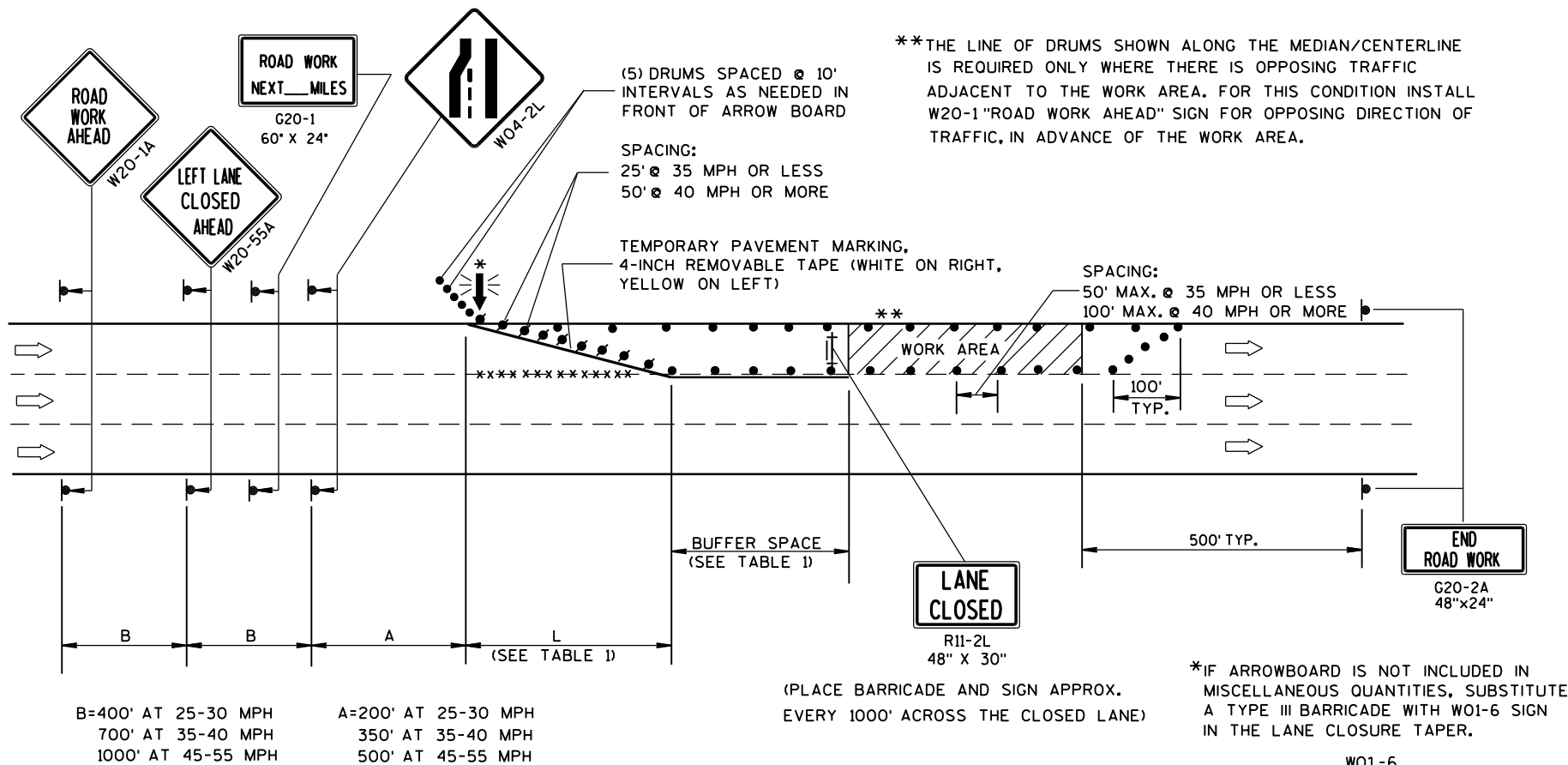
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept., 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	



GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER
L = $\frac{WS^2}{60}$ AT 40 MPH OR LESS
L = TAPER LENGTH IN FEET
S = NON-CONSTRUCTION SPEED LIMIT (MPH)
W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2016 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

$L = WS$ AT 45 MPH OR GREATER











$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TRAFFIC CONTROL DRUM
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

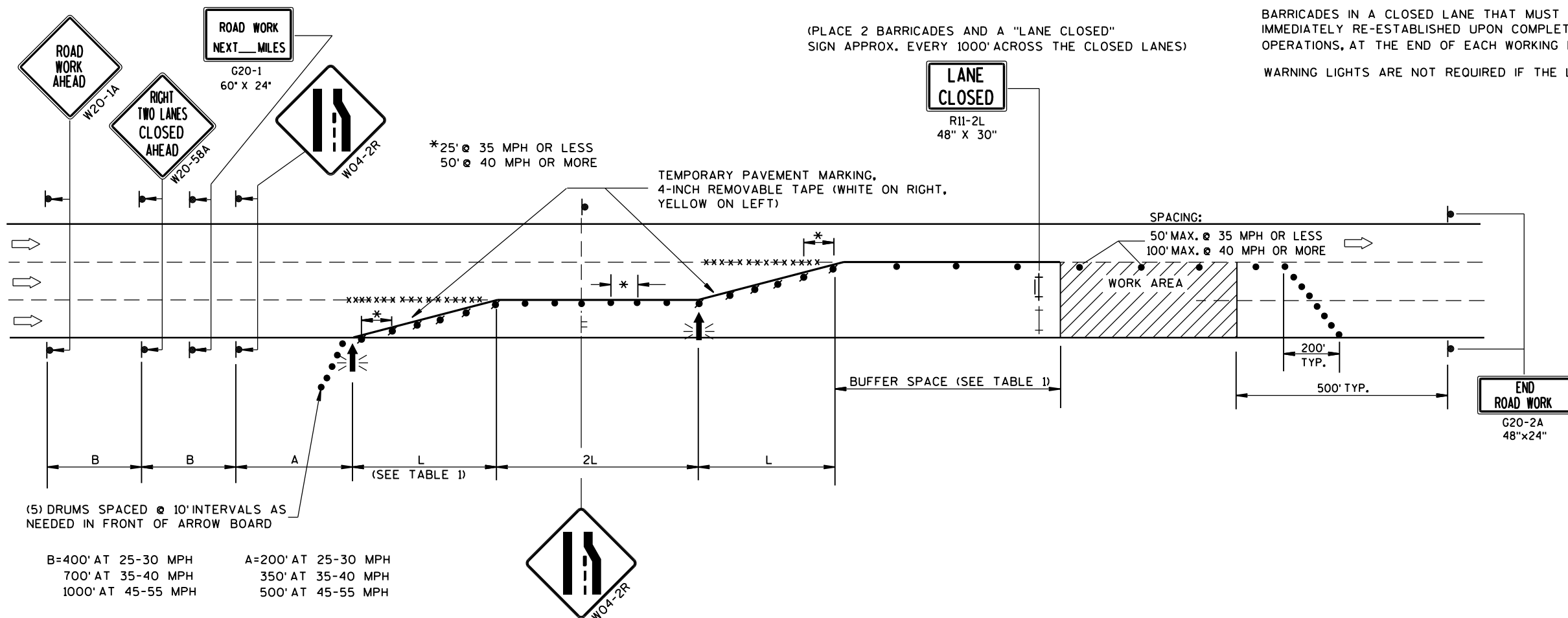
WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO LOCATE THE ARROWBOARD AS SHOWN, PLACE THE ARROWBOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(PLACE 2 BARRICADES AND A "LANE CLOSED" SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANES)



TRAFFIC CONTROL,
TWO LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016

DATE

FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

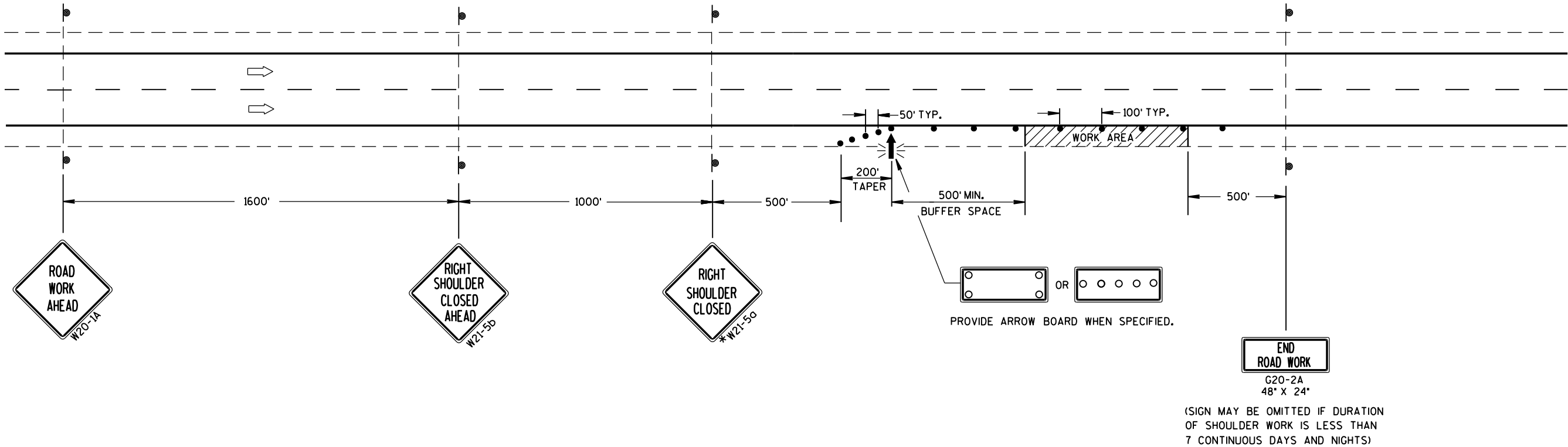
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

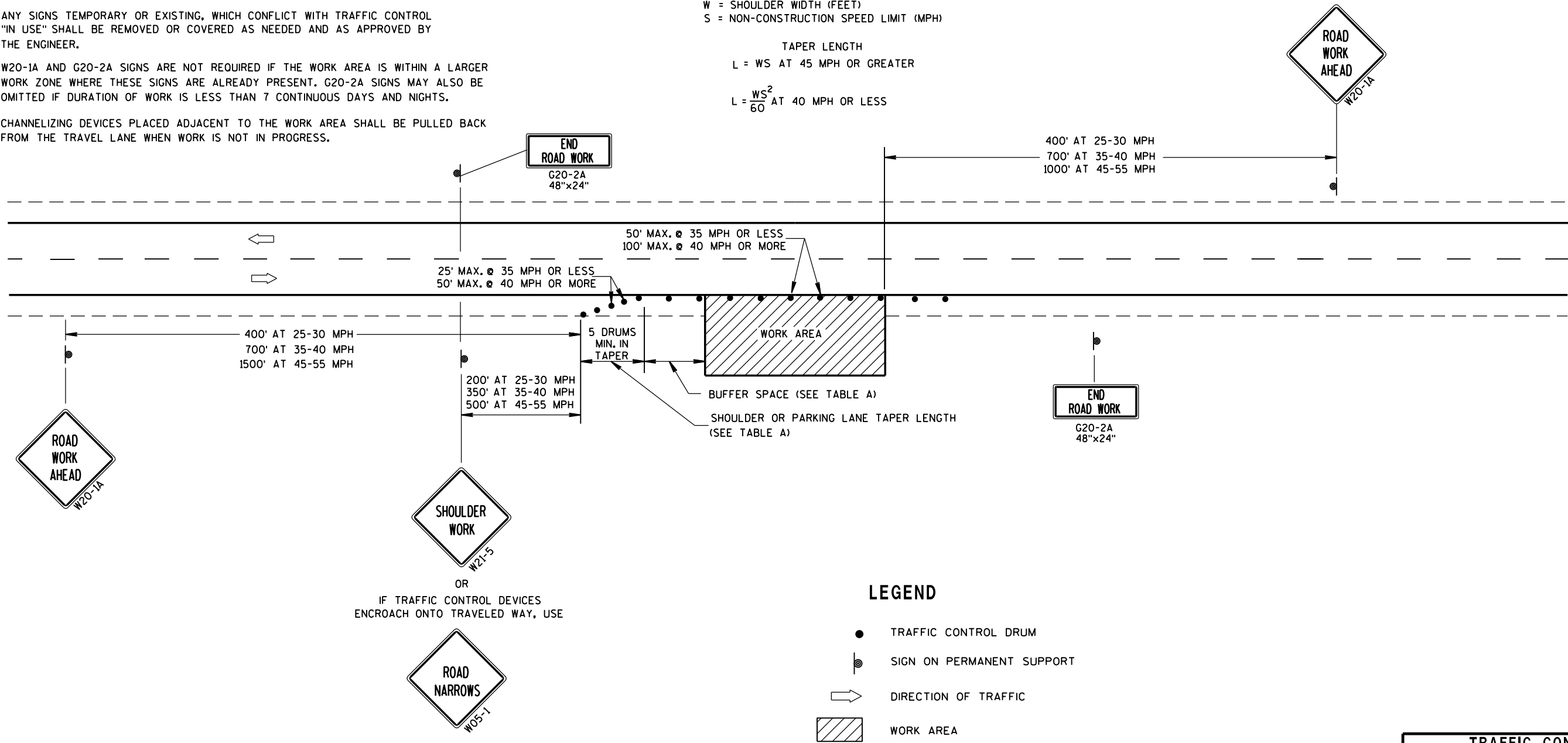
SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S	W	4	6	8	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH
L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL,
WORK ON SHOULDER OR
PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 14, 2015 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA

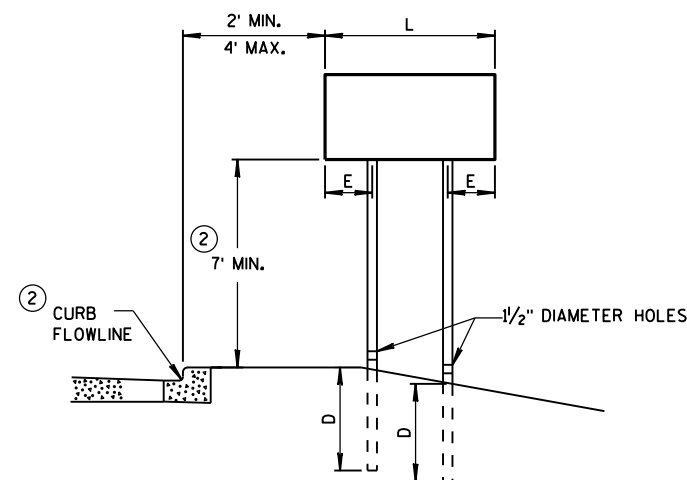
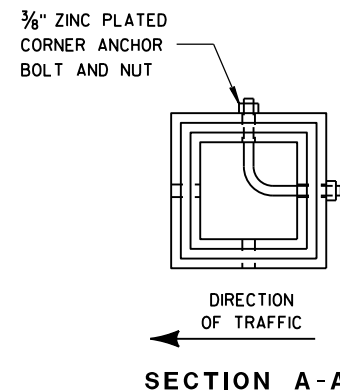


DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

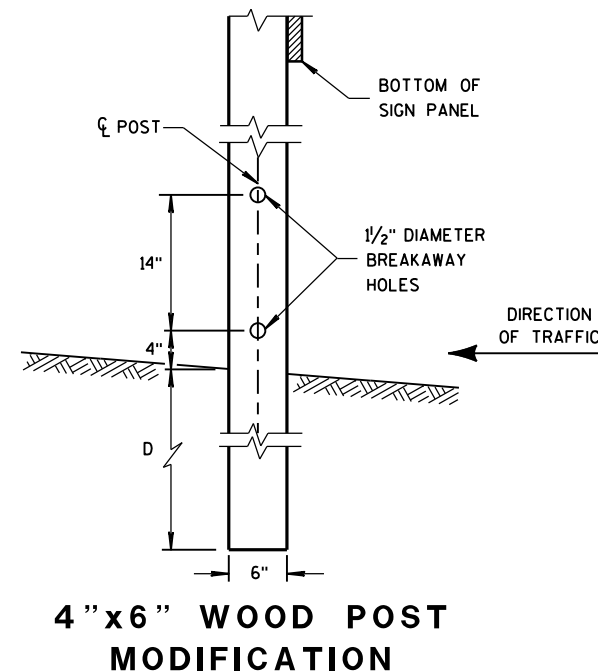


URBAN AREA

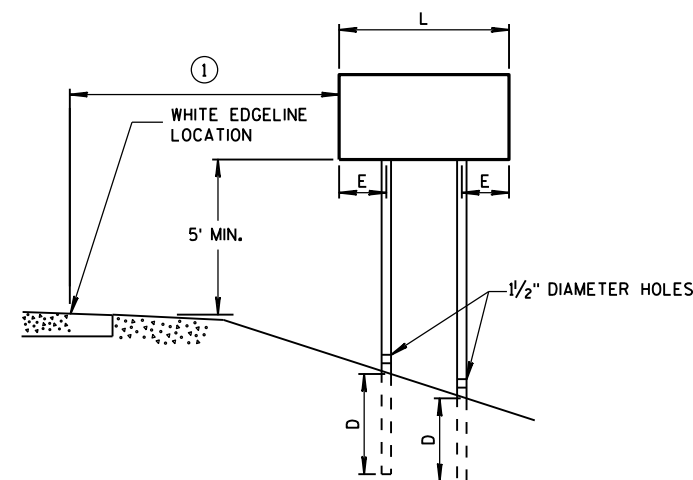
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4"x6" WOOD POST MODIFICATION



RURAL AREA

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

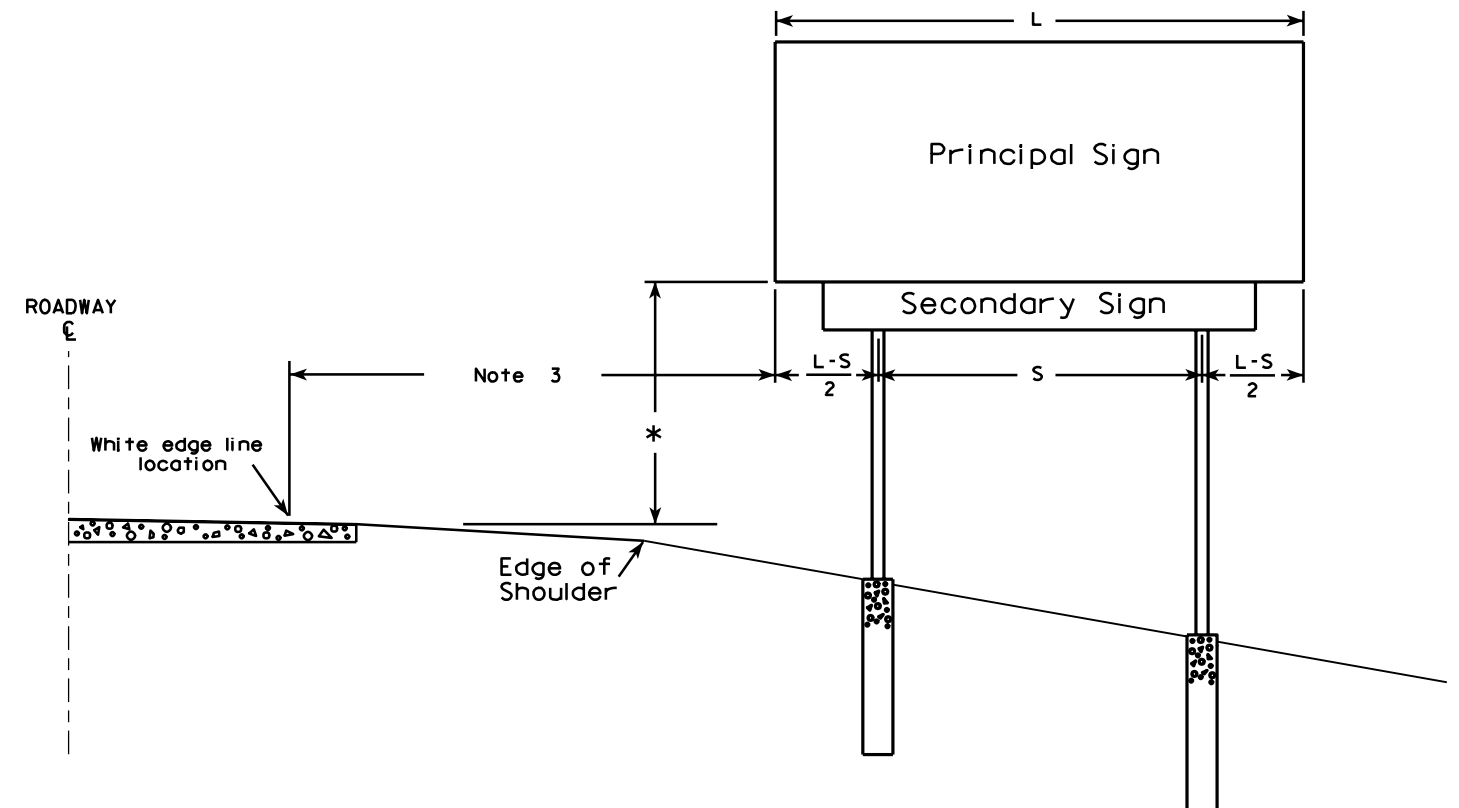
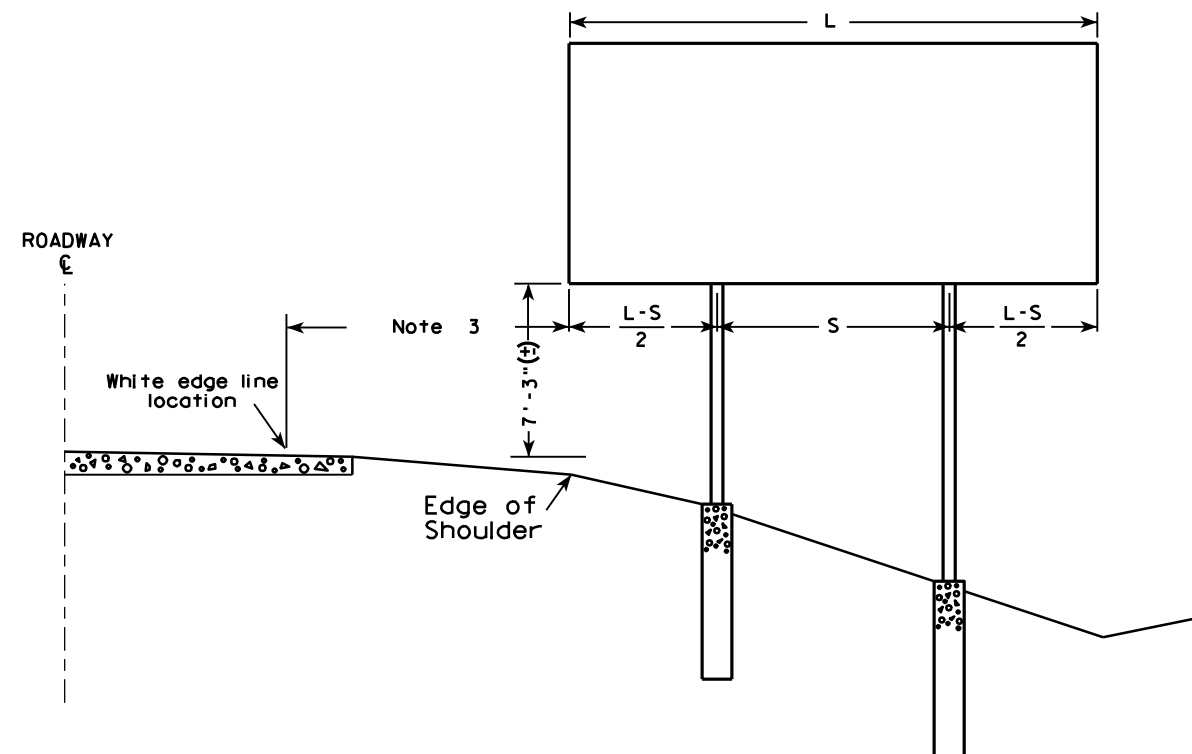
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



GENERAL NOTES

1. For a 2 post installation, S equals $3L/5$, but shall not be less than 9 ft.
2. For a 3 post installation, S equals $5L/7$, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3" (±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3" (±).

TYPICAL INSTALLATION OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 4/02/08

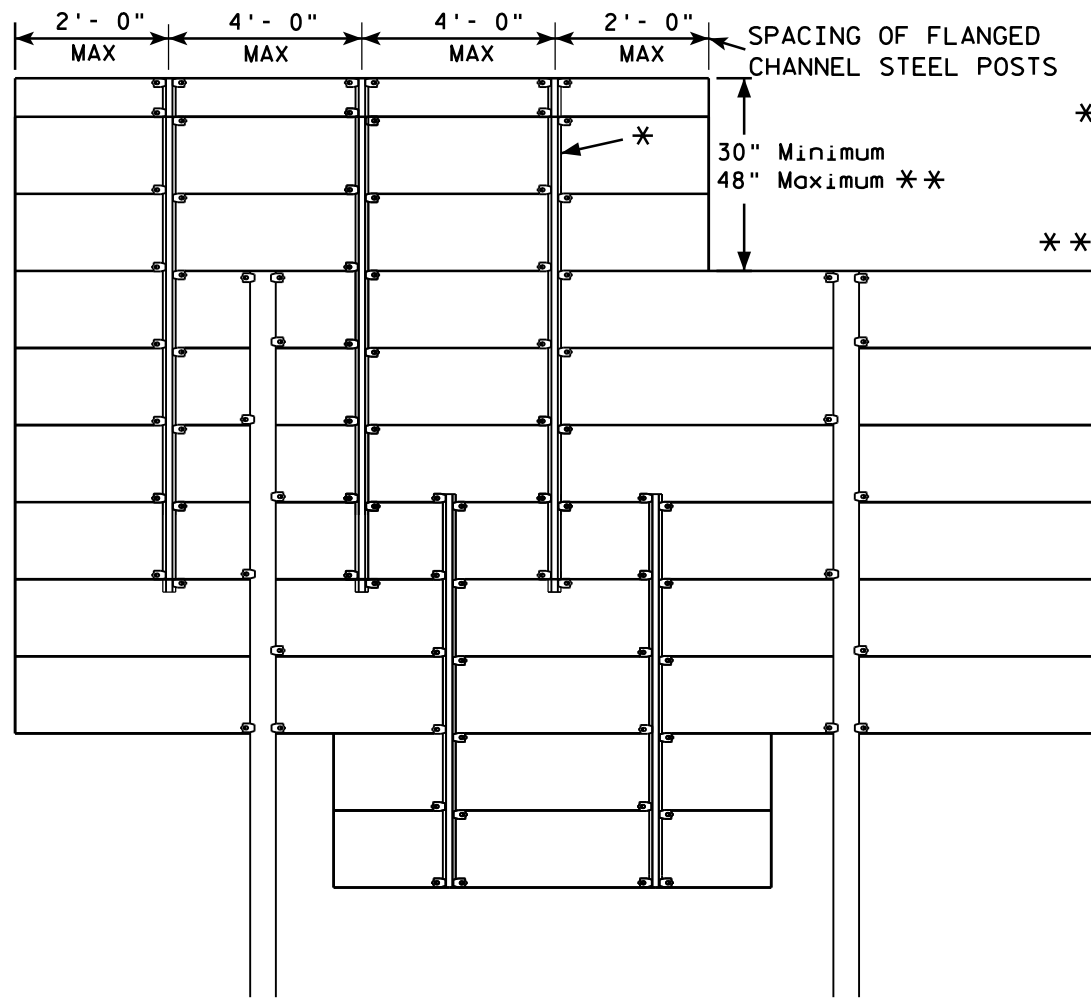
PLATE NO. A4-1.9

PROJECT NO:

SHEET NO:

E

GROUND MOUNTED SIGN

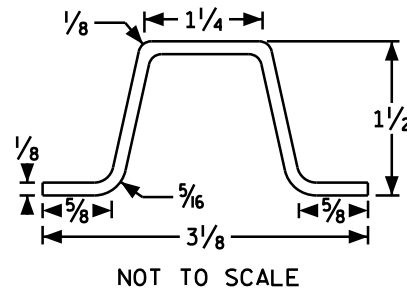


* = 2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

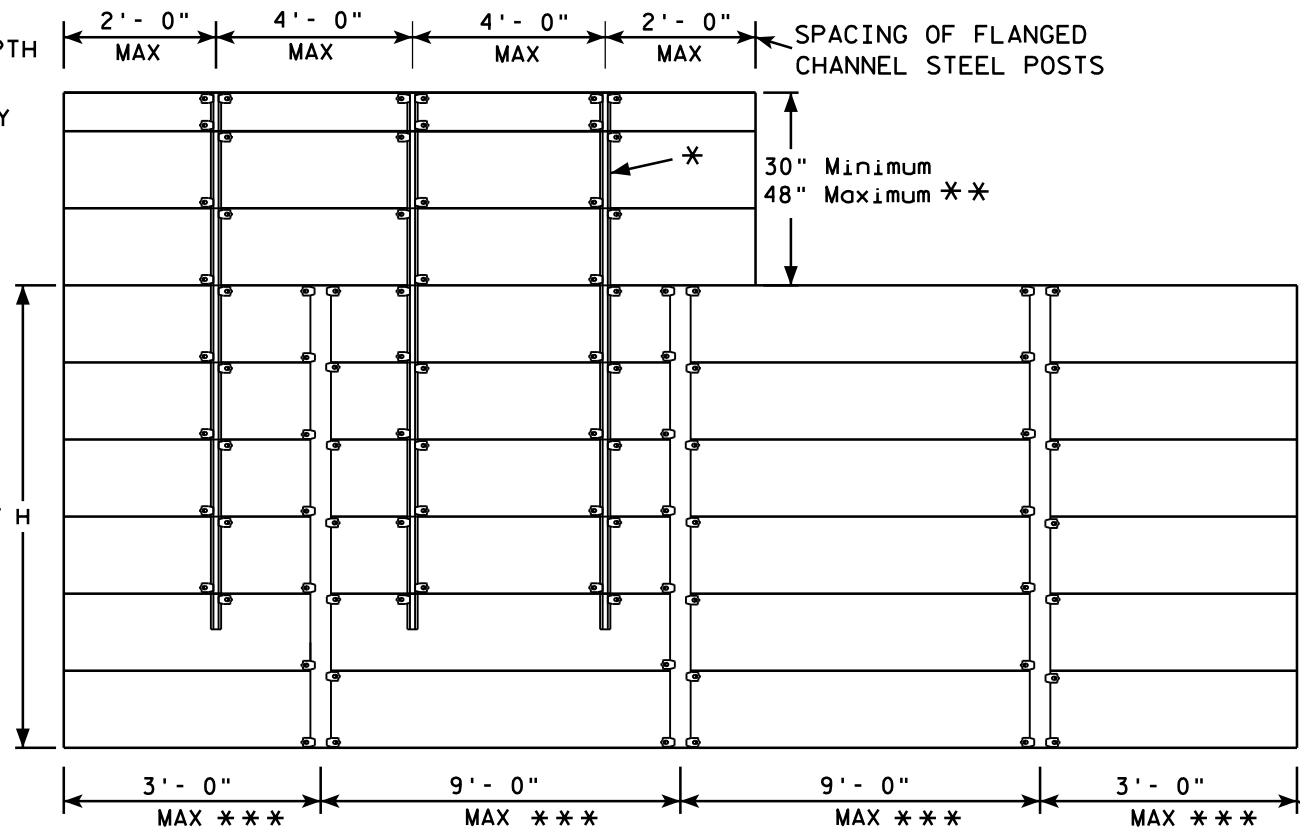
** = FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS 5" X 3.5" X 3.7 LBS./ft.

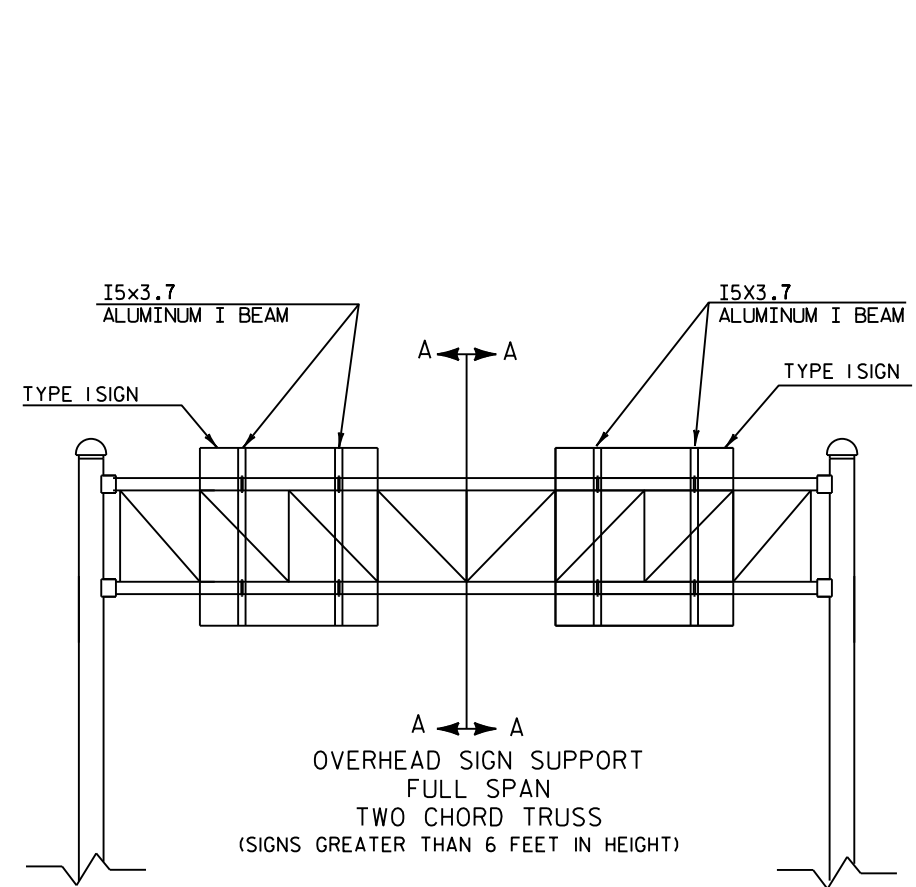
GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:
PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
PANEL LENGTH 9'-0" - 12'-0" = 3 CHANNELS
PANEL LENGTH 13'-0" OR MORE = 4 CHANNELS
If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.

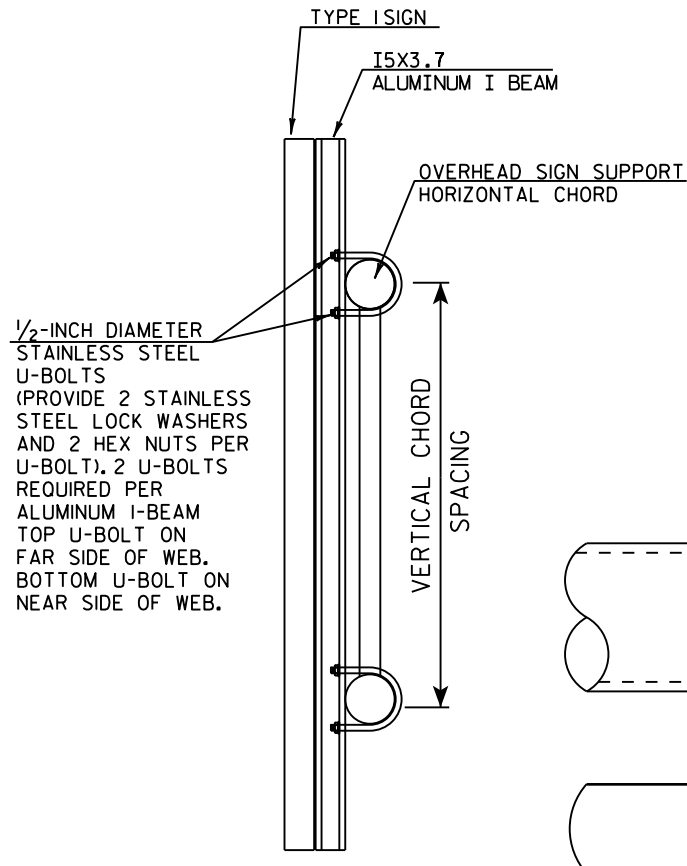
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

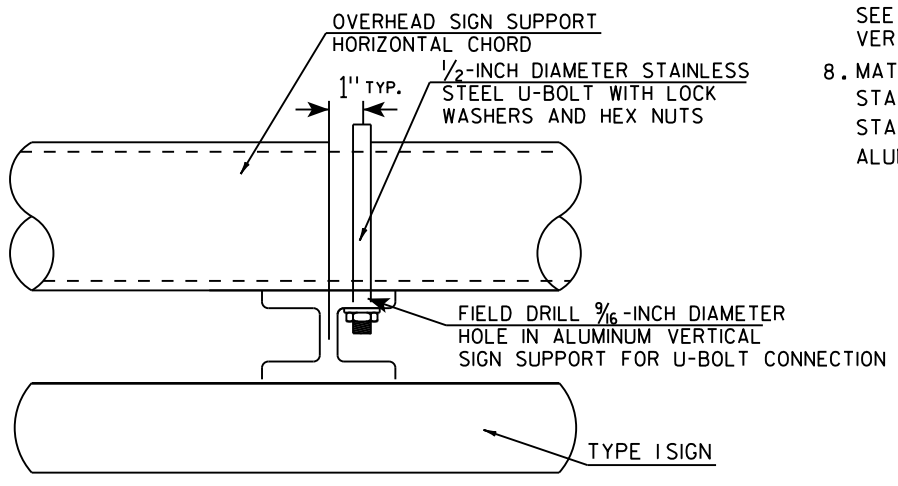
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 12/05/13 PLATE NO. A4-6.12



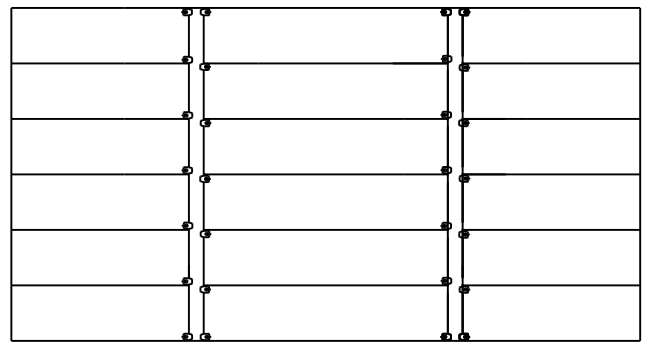
OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



CUT SECTION A-A

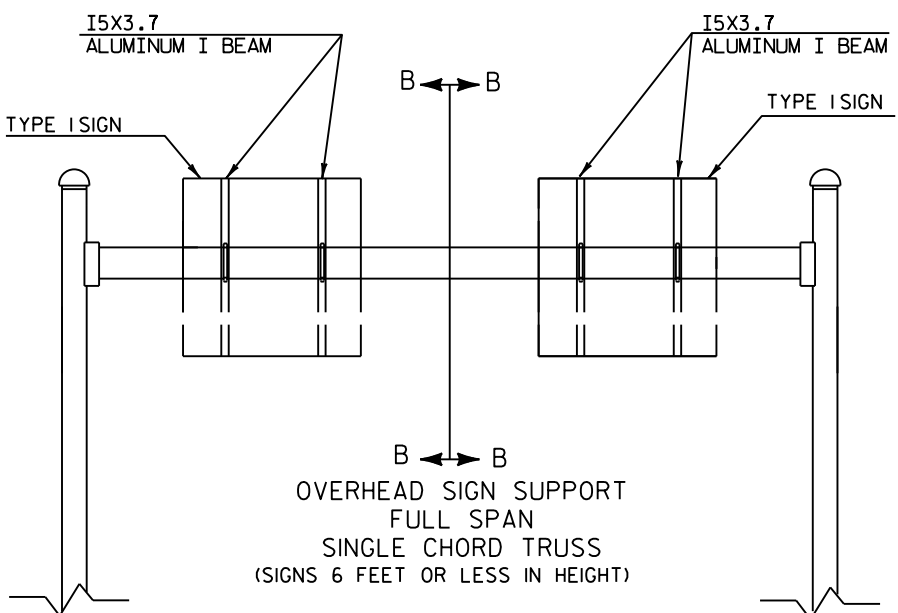


TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

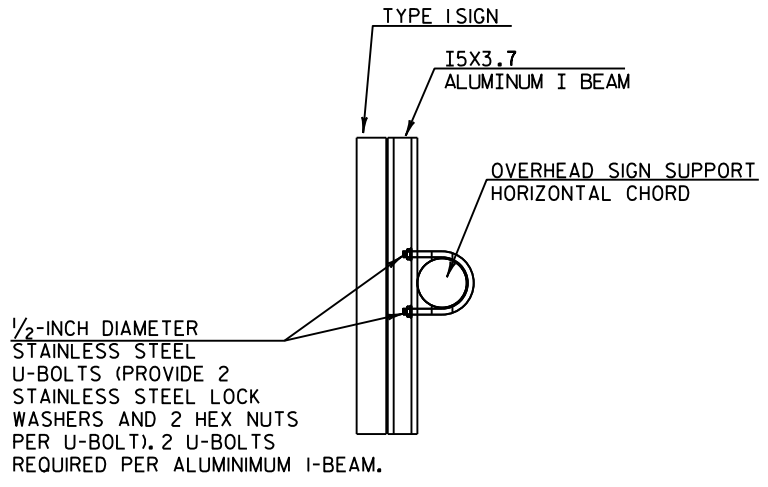


SPACING OF I5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT

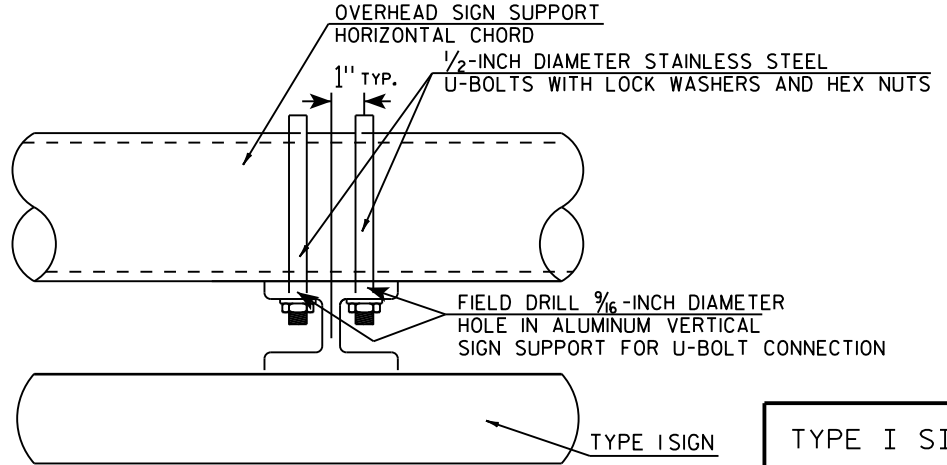
- GENERAL NOTES**
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
 2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
 3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
 4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
 5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
 6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
 7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
 8. MATERIAL NOTES:
STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
STAINLESS STEEL HEX NUTS ASTM A276.
ALUMINUM I-BEAMS ARE 6061-T6.



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



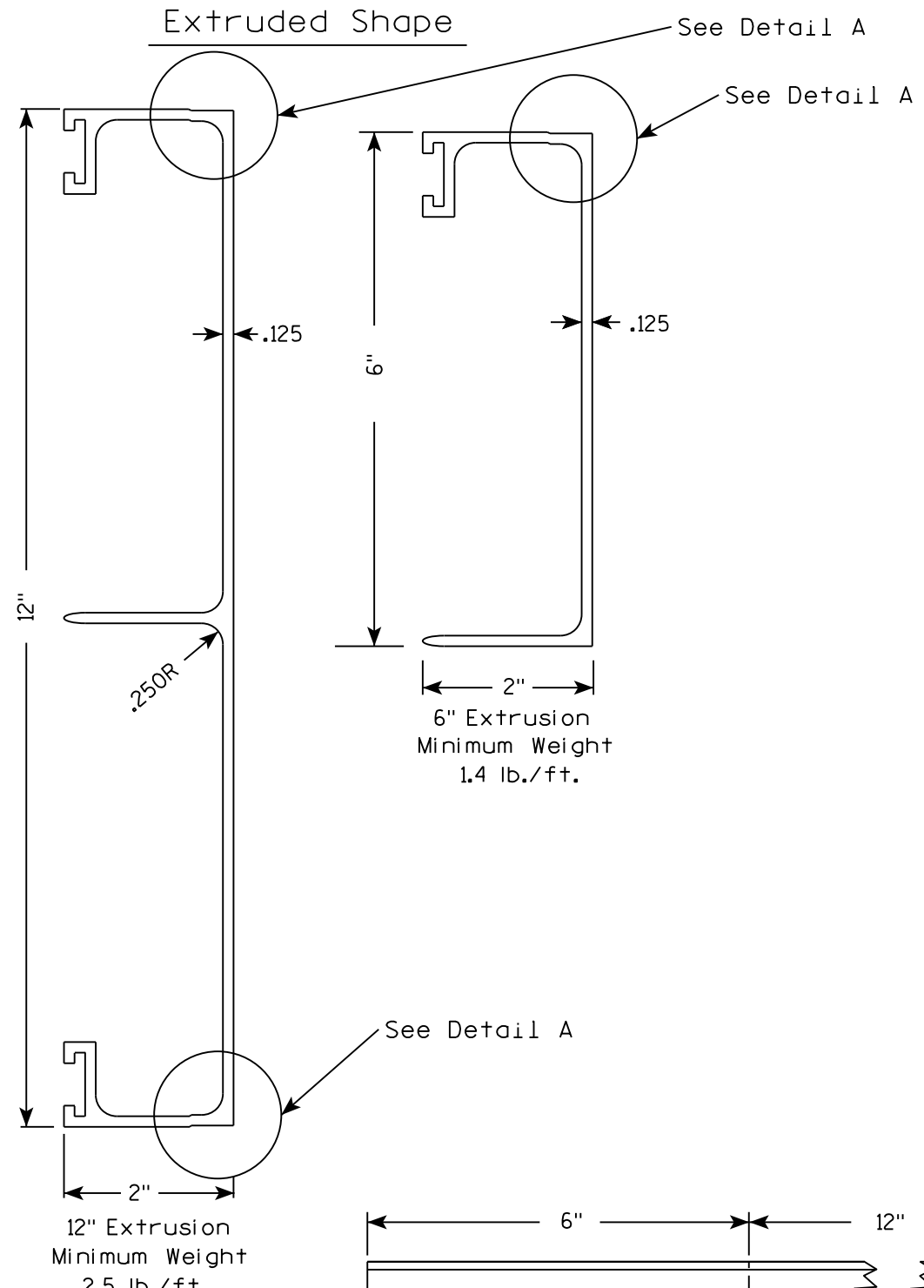
TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

TYPE I SIGN CONNECTION
TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 11/10/15 PLATE NO. A4-7.4

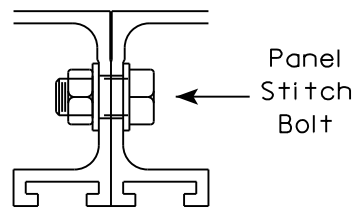
Extruded Shape

Hardware



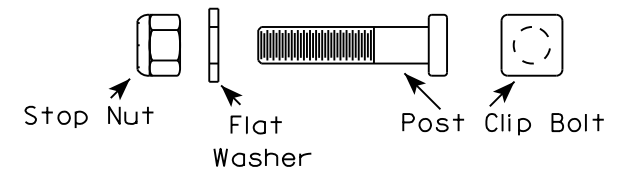
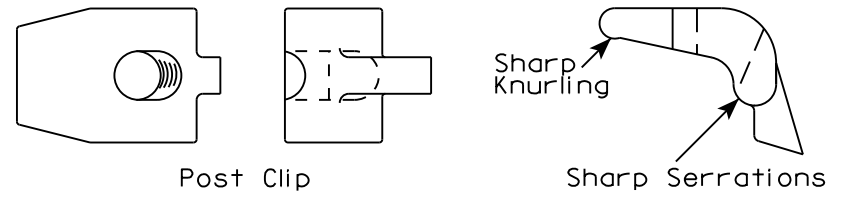
STITCH BOLT, WASHER & NUT

The hardware includes:
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



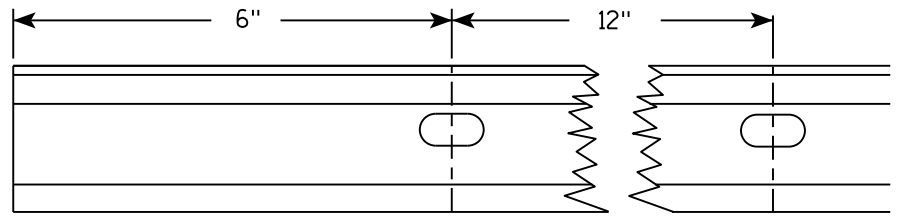
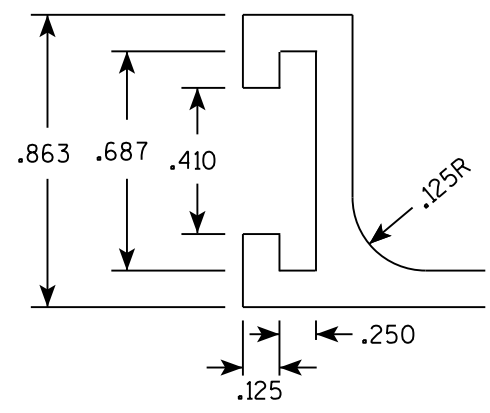
POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.

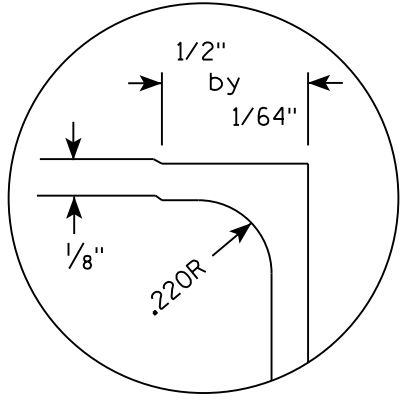


NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



Punch 7/16" x 7/8" ovalholes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

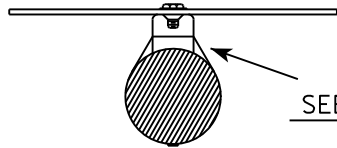
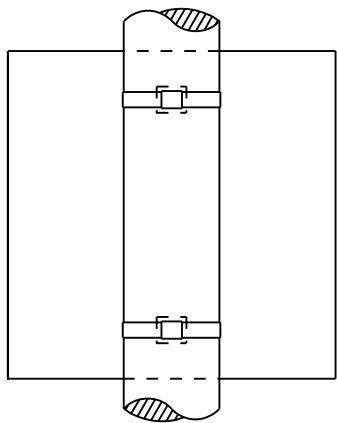


DETAIL A (EDGE WRAP JOINT)

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/30/16	PLATE NO. A5-2.10

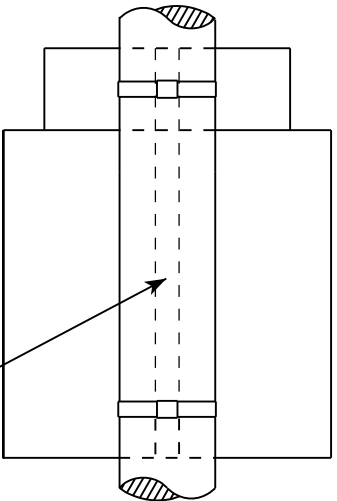
BANDING

SINGLE SIGN

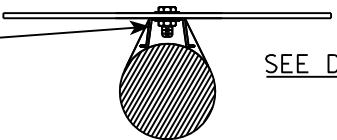


SEE DETAIL A

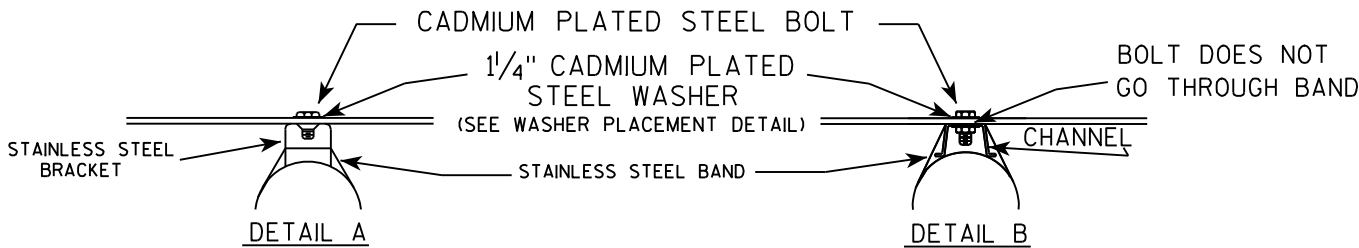
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



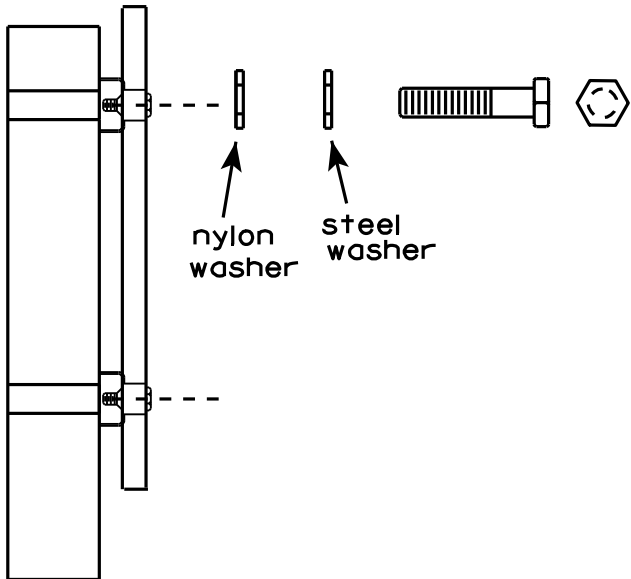
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



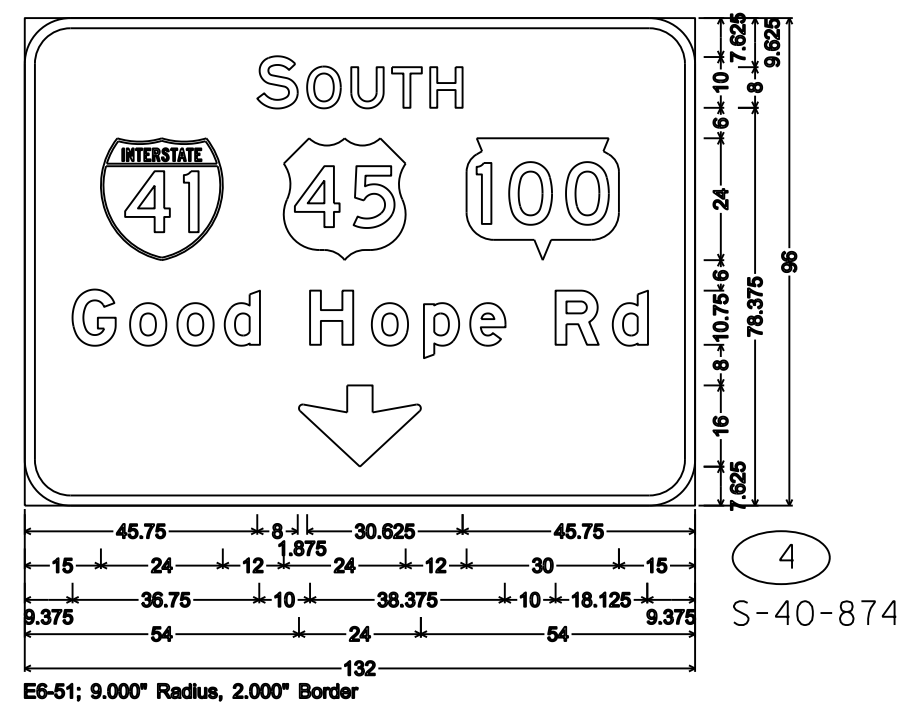
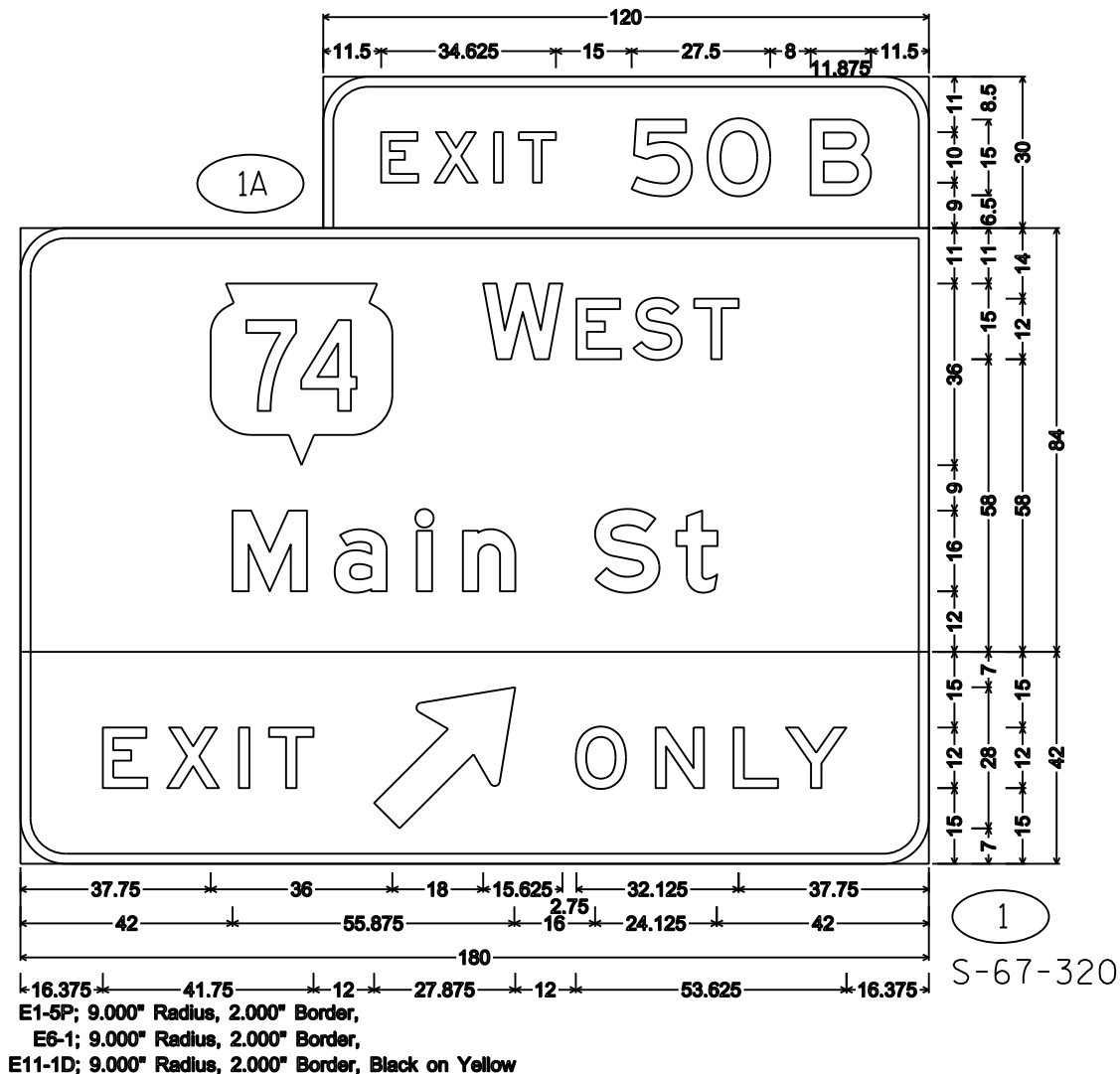
WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

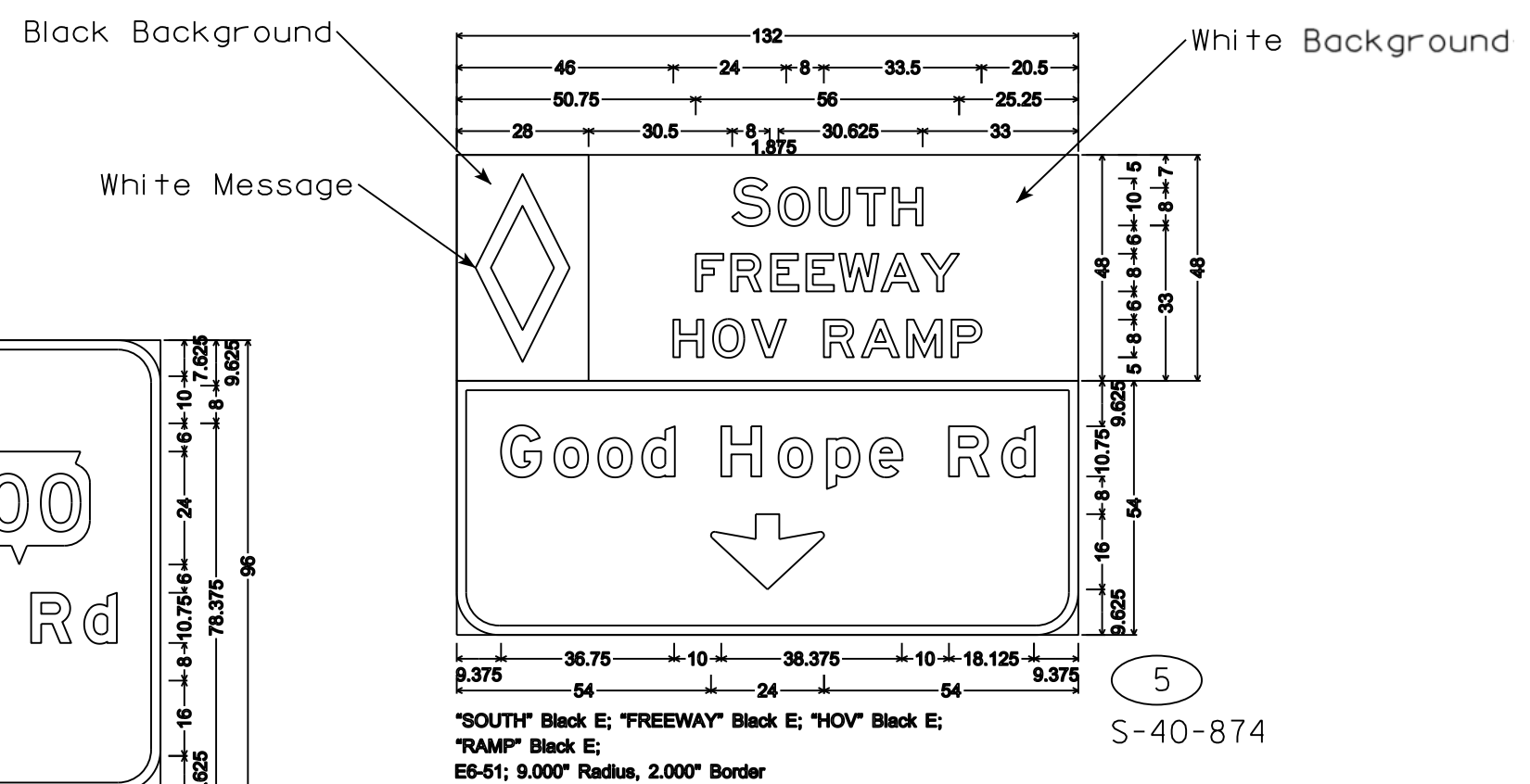
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

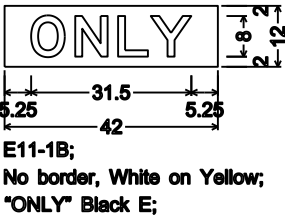
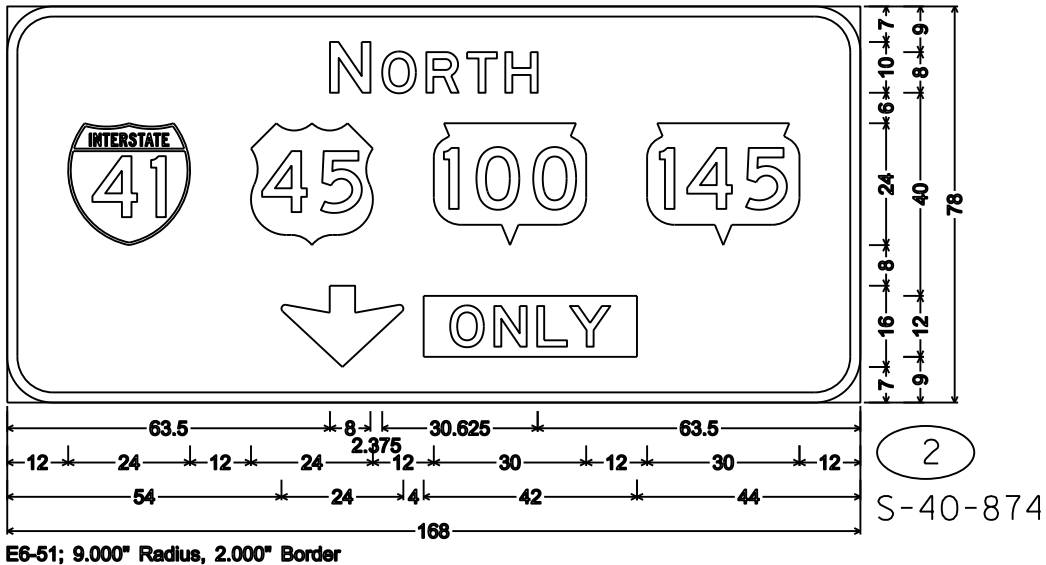
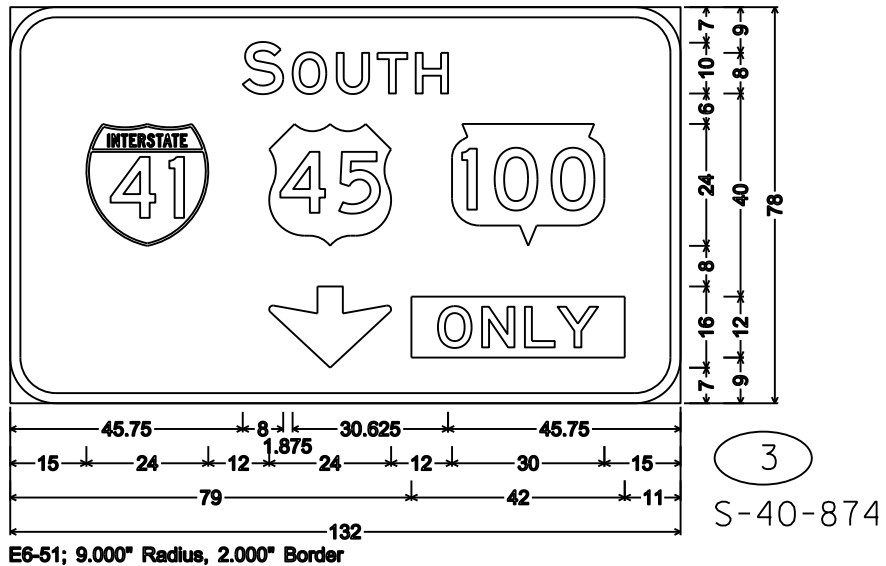


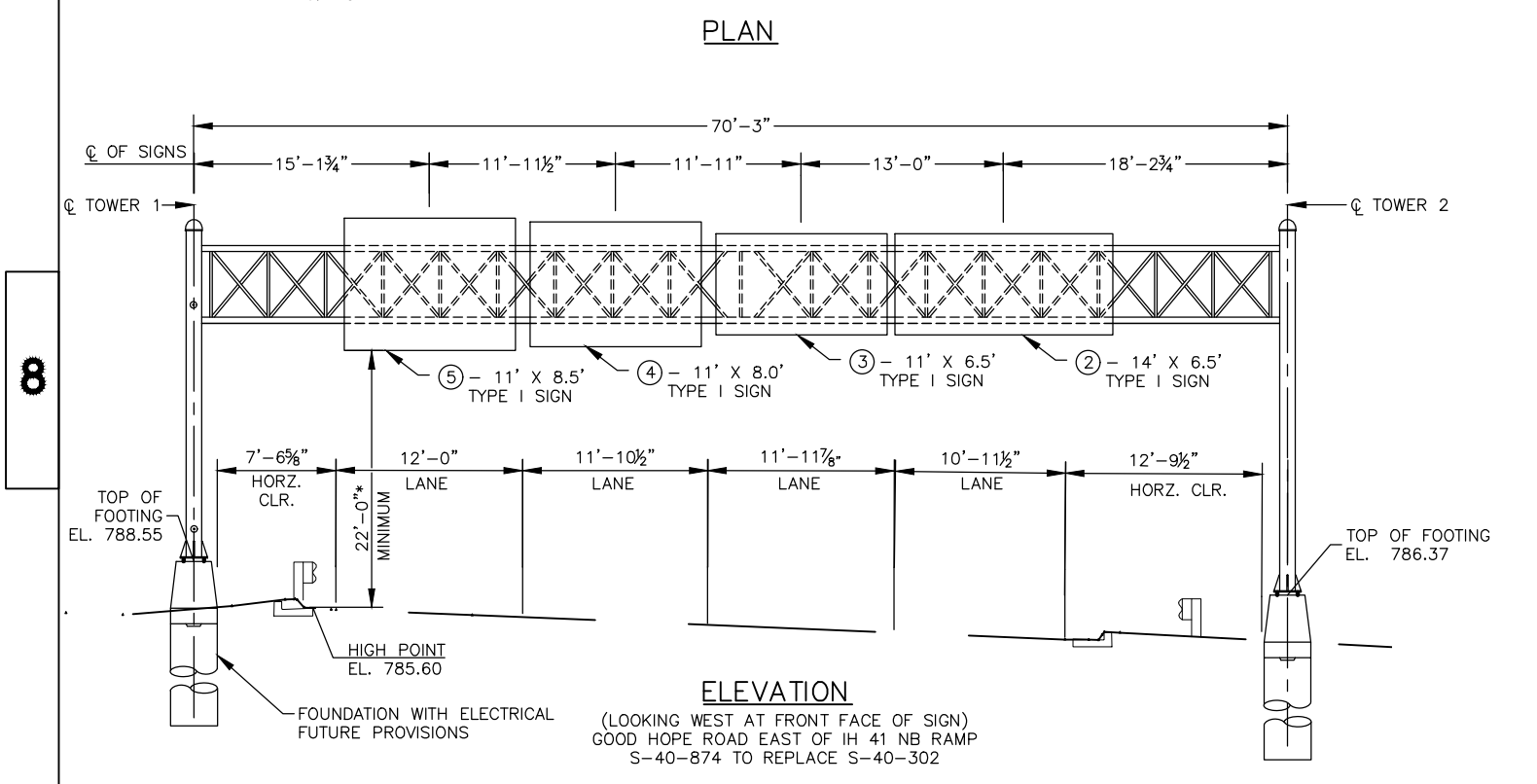
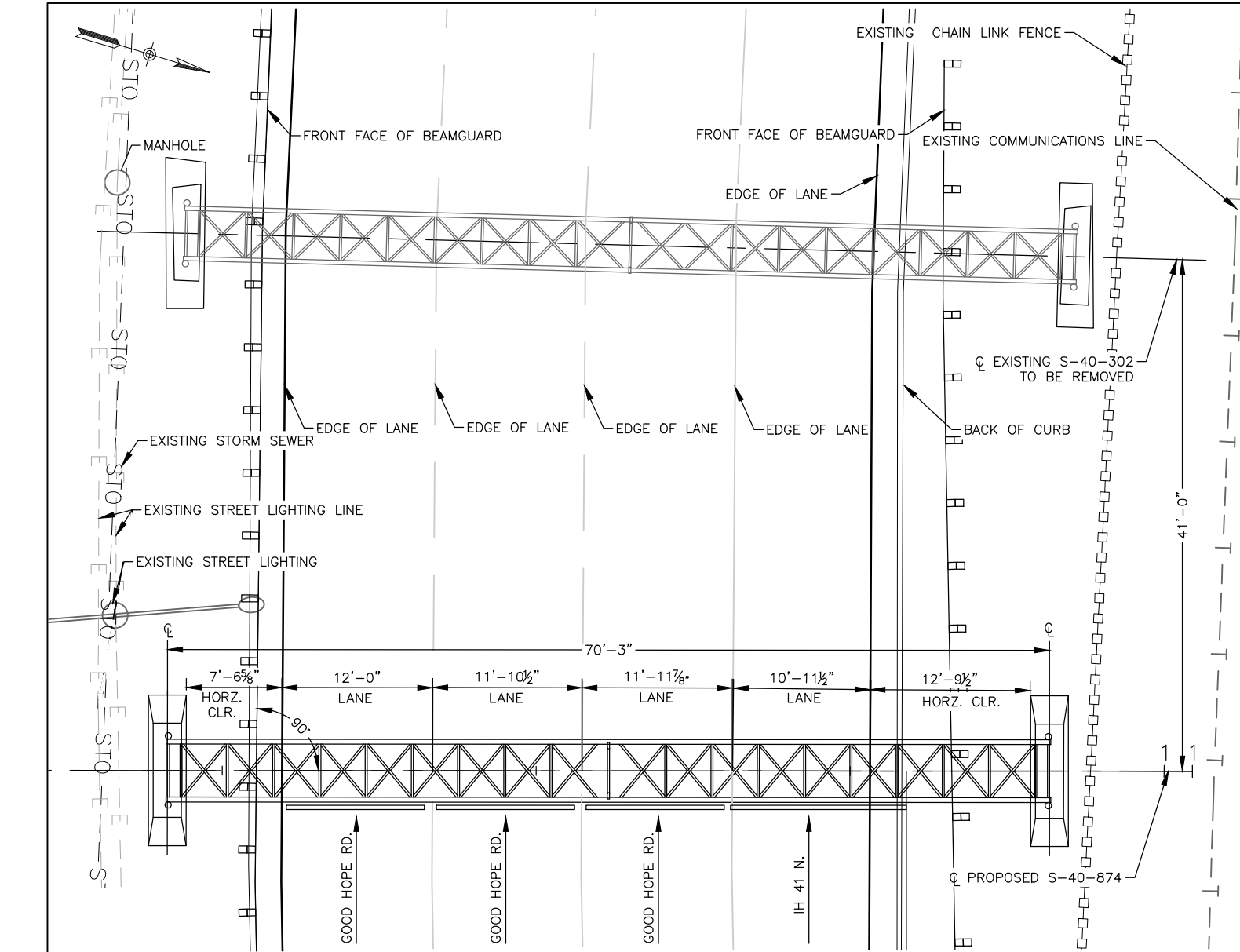
- NOTES
1. All Signs Type I - Type SH Reflective
 2. Color:
Background - Green except as noted
Message - White except as noted
 3. Message Series - E Modified except all CAP words Series E
 4. Exit Only Panel is on Yellow Type F Reflective Sheeting with Black Non-Reflective Message



NOTES

- 1. All Signs Type I - Type SH Reflective
- 2. Color:
Background - Green
Message - White
- 3. Message Series - E Modified except all CAP words Series E
- 4. Only Plaque is on Yellow Type F Reflective Sheeting
with Black Non-Reflective Message
- 5. Only Plaque base material is .040" aluminum





LIST OF DRAWINGS

1. PLAN & ELEVATION
2. TOWER 1 & 2 FOUNDATION DETAILS
3. 4-CHORD GALVANIZED STEEL SIGN BRIDGE
4. 4-CHORD GALVANIZED STEEL SIGN BRIDGE DETAILS
5. HANDHOLE DETAILS

ULTIMATE DESIGN STRESS:

CONCRETE:f_c = 3,500 psi

HIGH STRENGTH BAR
STEEL REINFORCEMENT:f_y = 60,000 psi

STEEL COLUMN & CHORDS:f_y = 42,000 psi**
(INCLD. HANDHOLE) A.P.I. SPEC 5L GRADE X42

PLATES, BARS, STRUCTURAL
ANGLES & CHANNELS:f_y = 36,000 psi
A.S.T.M. A709 GRADE 36

STEEL ANCHOR RODS:f_y = 55,000 psi
ASTM F1554 GRADE 55.

** CONTRACTOR MAY SUBSTITUTE ALTERNATE MATERIALS
PER WISDOT BRIDGE MANUAL SECTION 39.3 AT NO
ADDITIONAL COST, PROVIDED THAT APPROVAL IS
OBTAINED FROM THE DEPARTMENT.

DESIGN DATA:

DEAD LOAD - 3 PSF OF SIGN, WEIGHT OF SUPPORTING
STRUCTURE.

LIVE LOAD - NONE.

ICE LOAD - 3 PSF TO ONE FACE OF SIGN & AROUND
SURFACE OF MEMBERS.

WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO
SIGN AREA & EXPOSED MEMBERS.

FATIGUE - NOT APPLICABLE.

DESIGNED ACCORDING TO THE 6TH EDITION AND INTERIM
REVISIONS OF AASHTO "STANDARD SPECIFICATIONS FOR
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES,
AND TRAFFIC SIGNALS"

TRAFFIC VOLUME

A.D.T.= 15,000

R.D.S.= 40 M.P.H

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. SIGN DEPTH
504	12'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	21
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	150
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	1590
641.6600	SIGN BRIDGE S-40-874	LS	1
650.6500.03	CONSTRUCTION STAKING STRUCTURE LAYOUT S-40-874	LS	1

SE REGION CONTACT:
JASON ZEMKE (262) 548-8743

CONSULTANT CONTACT:
VERONICA CHAVEZ DE FERNANDEZ (414) 282-6905

STATE PROJECT NUMBER

1000-20-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL ELEVATIONS ARE BASED ON NGVD 29 UNLESS OTHERWISE
SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS, PLATES, H.S. BOLTS, NUTS AND WASHERS
SHALL BE GALVANIZED PER SECTION 641 OF THE WISDOT STANDARD
SPECIFICATIONS.

CENTER ALL SIGN PANELS VERTICALLY ON TRUSS.

CENTER ALL DOWN ARROWS HORIZONTALLY OVER THE CENTER OF THE TRAFFIC
LANES.

ALTERNATE DESIGNS ARE NOT ALLOWED.

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE
PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS
WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. VERIFY UTILITY
INTERFERENCES PRIOR TO CONSTRUCTION.

PROVIDE A 3/4" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

THE UPPER 1'-6" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE
GALVANIZED IN ACCORDANCE WITH THE AASHTO SPECIFICATION
AS STATED IN SECTION 641. OF THE WISDOT STANDARD
SPECIFICATIONS.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE
WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND
OVERHEAD SIGN SUPPORT. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO
THE BID ITEM "SIGN BRIDGE S-40-874".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF
ERECTION. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND
MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE S-40-874".

WELD TEST AS PER AWS D1.1.

ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER
A325 BOLTS, GALVANIZED ASTM A153, CLASS C, AND INSTALLED WITH DTI
WASHERS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS IF UNIT
CAN BE GALVANIZED IN ONE PIECE.

THE REMOVAL OF ALL EXISTING SIGN LIGHTING AND REMOVAL OF EXISTING
ELECTRICAL WIRES FROM CONDUITS SHALL BE INCIDENTAL TO "REMOVING SIGN
BRIDGE S-40-302". EXISTING WIRING SHALL BE PULLED BACK TO THE NEAREST
LIGHT POLE AND REMOVED.

*CLEARANCE FOR A 12' DEEP SIGN IS PROVIDED FOR FUTURE PROVISIONS.

XX - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT
SIGNING SHEETS.

SUBMIT SHOP DRAWINGS TO BUREAU OF STRUCTURES AND PROJECT
MANAGER AND TOM HEYDEL, TRAFFIC OPS.



NO.	DATE	REVISION	BY
COLLINS ENGINEERS			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> SDR		03/26/18	
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
STRUCTURE S-40-874			
GOOD HOPE ROAD, EAST OF IH 41			
COUNTY	MILWAUKEE	TOWN/CITY/VILLAGE	MILWAUKEE
DESIGN SPEC. AASHTO STD. SPEC. 6TH EDITION			
DESIGNED BY	VC	DESIGN CK'D.	NJH
DRAWN BY	MR	PLANS CK'D.	NJH
PLAN & ELEVATION			SHEET 1 OF 5

GENERAL NOTES

1. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS OTHERWISE NOTED.
2. THE TOP OF THE FOOTING SURFACE SHALL BE SMOOTHED AND SLOPED TO DRAIN.
3. REFER TO THE PLAN AND ELEVATION SHEET FOR TOP OF FOOTING ELEVATIONS. BOTTOM OF FOOTING TO BE EMBEDDED 1'-0" BELOW GRADE.
4. INSTALL CONDUIT IN FOOTING AND SWEEP CONDUIT UPSTREAM AND DOWN STREAM. CAP BOTH ENDS OF THE CONDUIT. STUB OUT 6" MINIMUM. EXACT LOCATION TO BE DETERMINED IN THE FIELD. THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY."

FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

SOIL UNIT WEIGHT = 120 psf
COHESION VALUE = 1000 psf
FRICTION ANGLE = 25°
ALLOWABLE SOIL BEARING PRESSURE = 4000 psf
ALLOWABLE SKIN FRICTION = 350 psf

SIGN STRUCTURE FOUNDATIONS TO BE SUPPORTED ON DRILLED SHAFTS WITH REQUIRED ALLOWABLE BEARING RESISTANCE OF 4000 PSF. THE SE REGION GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBSURFACE SOILS TO CONFIRM THE ALLOWABLE BEARING RESISTANCE PRIOR TO CONSTRUCTION.

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

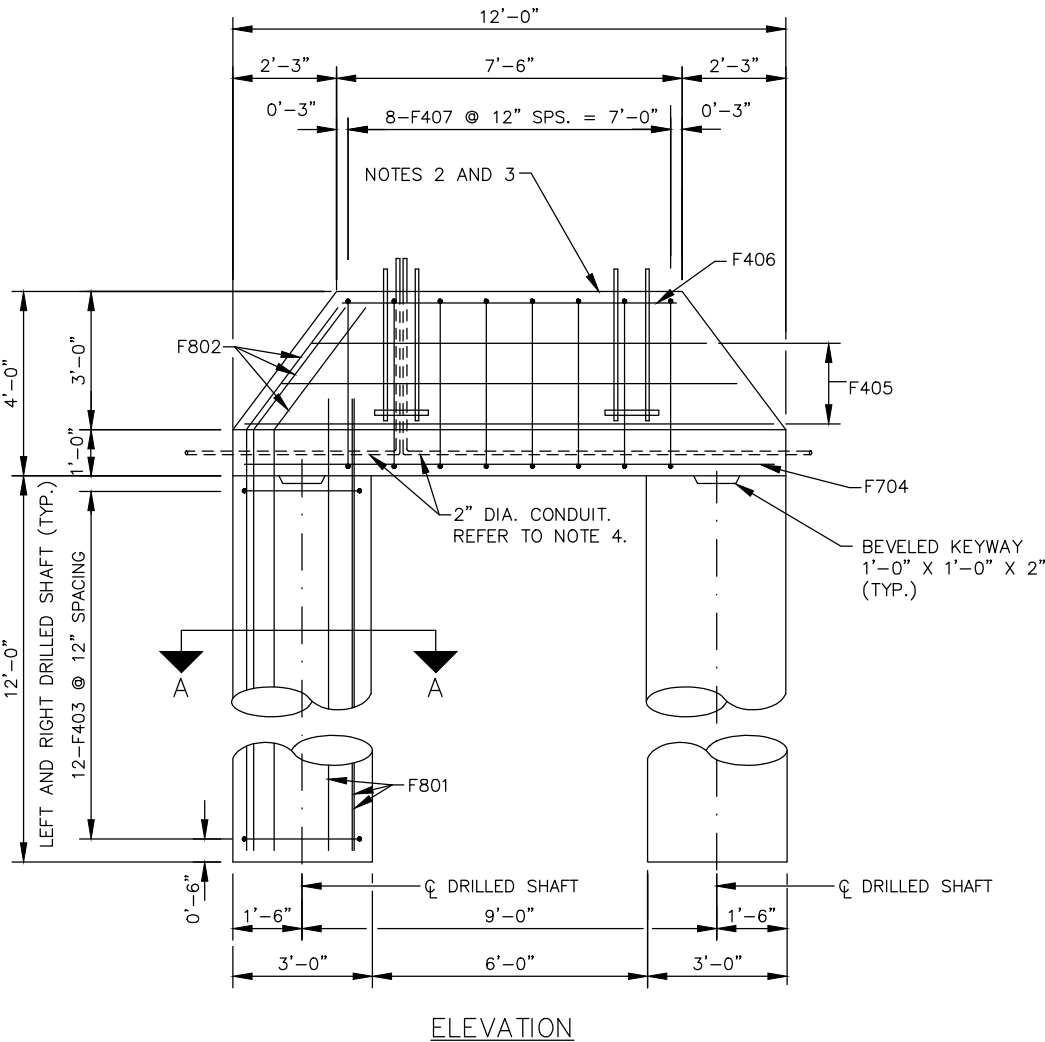
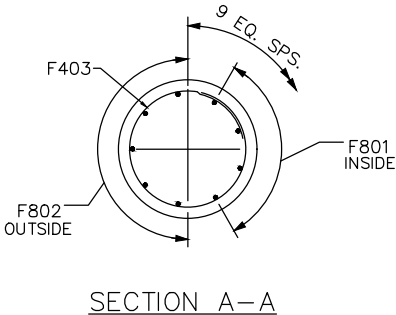
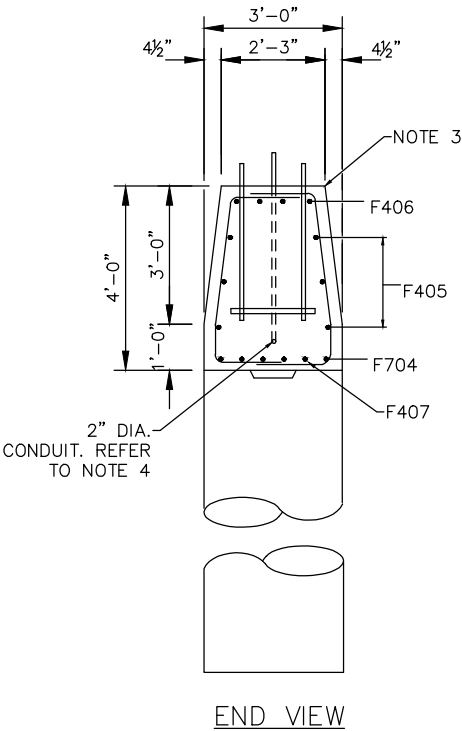
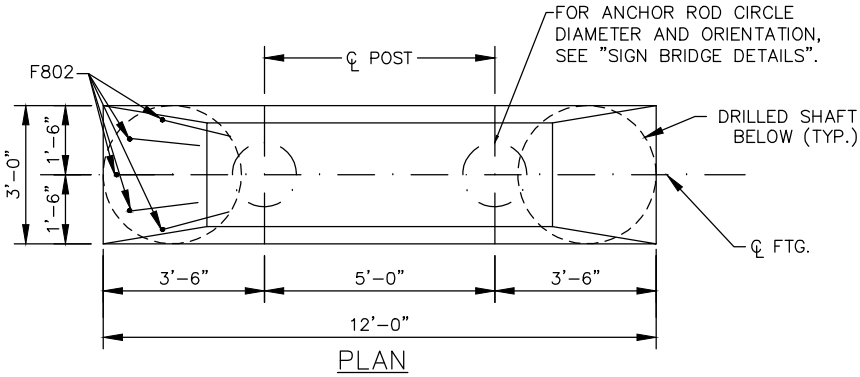
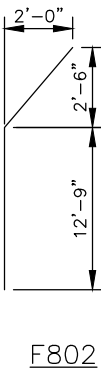
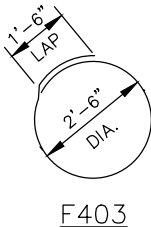
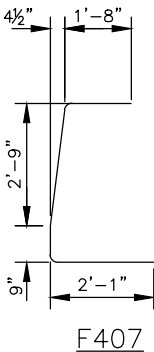
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
F801	X	16	14'-0"			DRILLED SHAFT VERTICAL
F802	X	10	16'-0"	▲		DRILLED SHAFT VERTICAL
F403		24	9'-5"	▲		DRILLED SHAFT HOOP
F704	X	12	11'-6"			CAP BEAM LONGITUDINAL
F405	X	12	10'-0"		△	CAP BEAM LONGITUDINAL
F406	X	8	7'-4"			CAP BEAM LONGITUDINAL
F407	X	32	7'-6"	▲		CAP BEAM STIRRUP

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

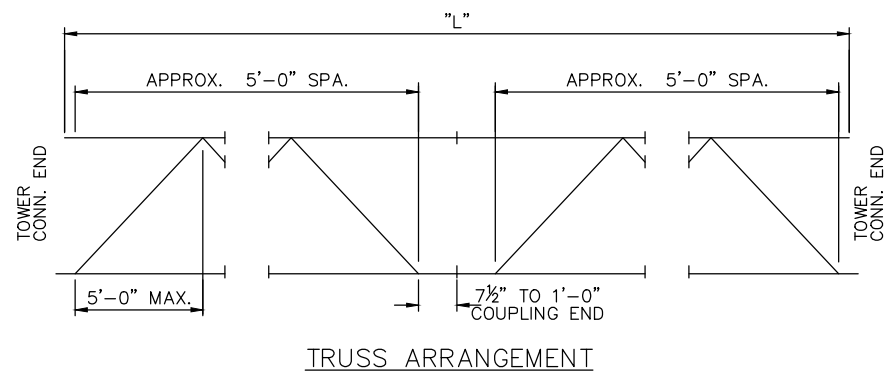
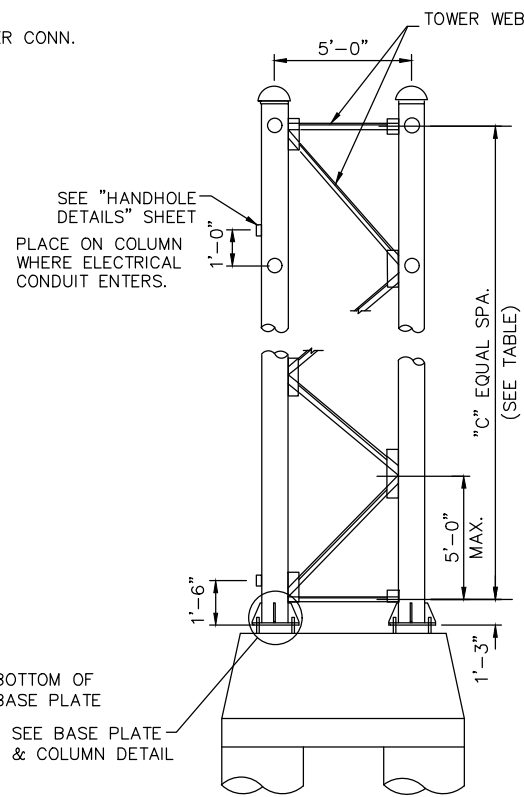
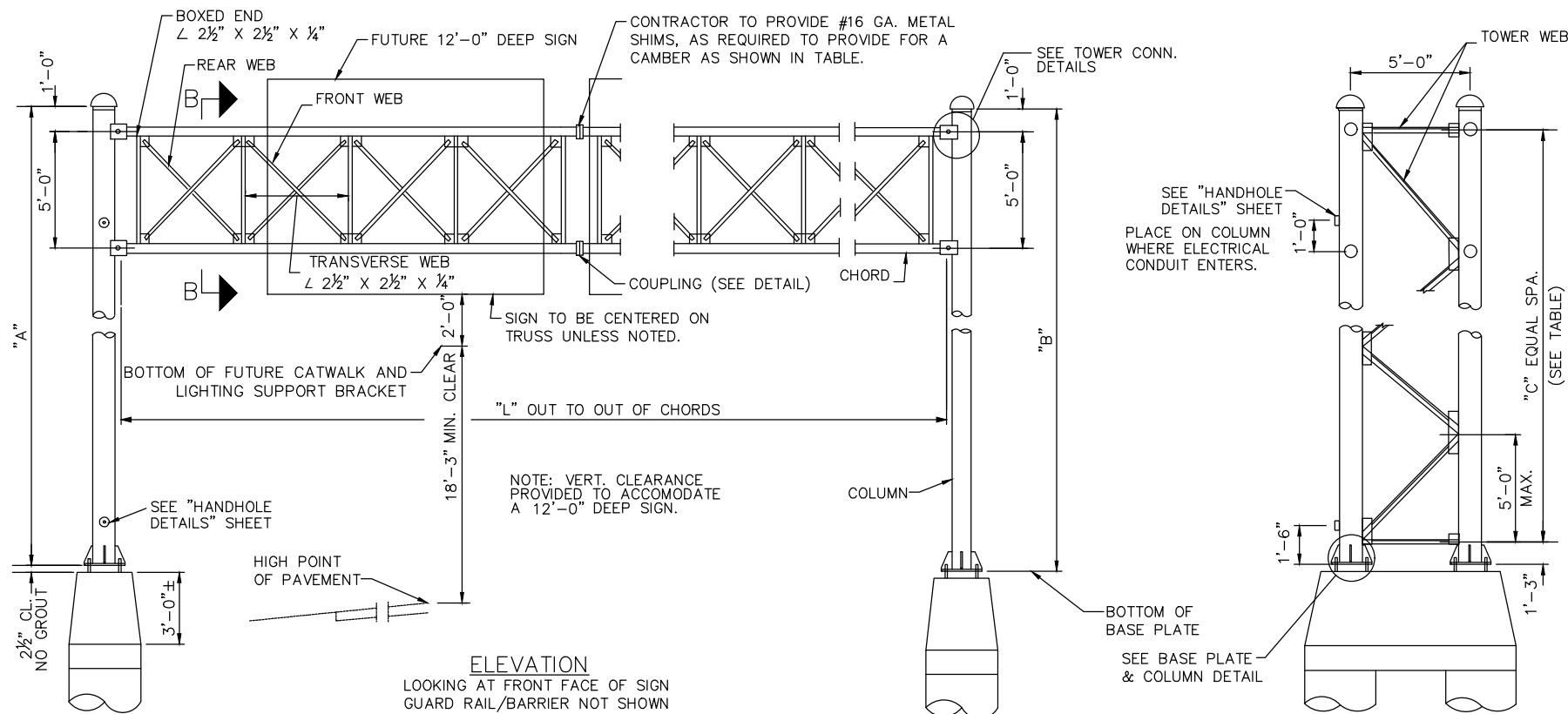
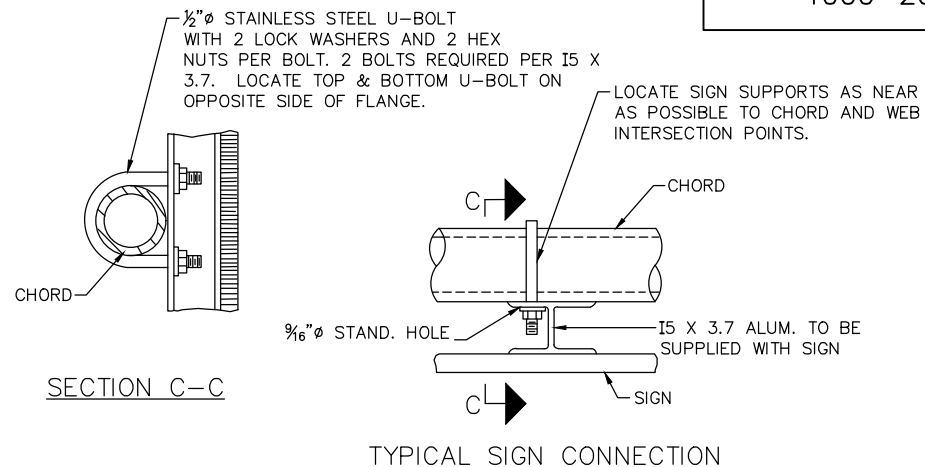
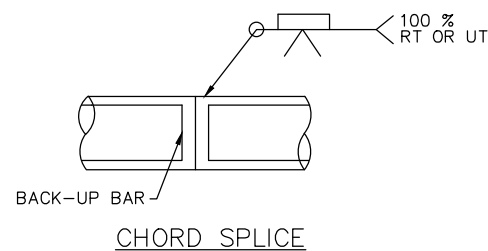
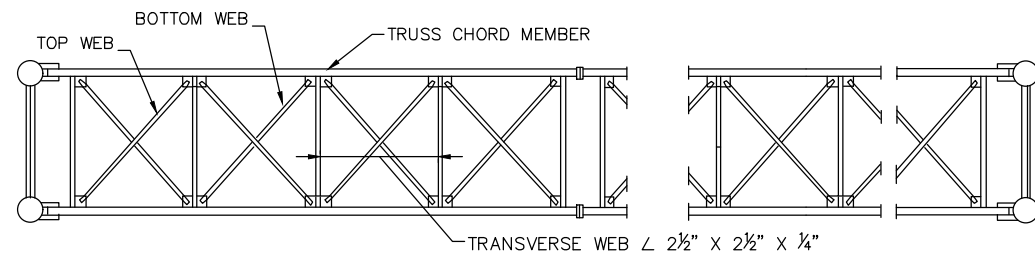
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
F405	4 SERIES OF 3	8'-8" TO 11'-4"

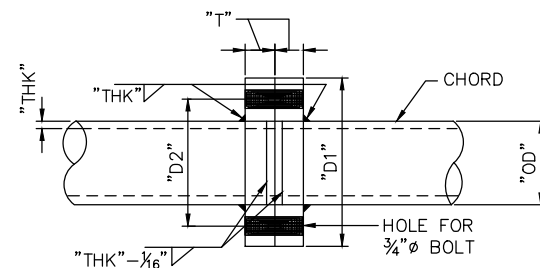
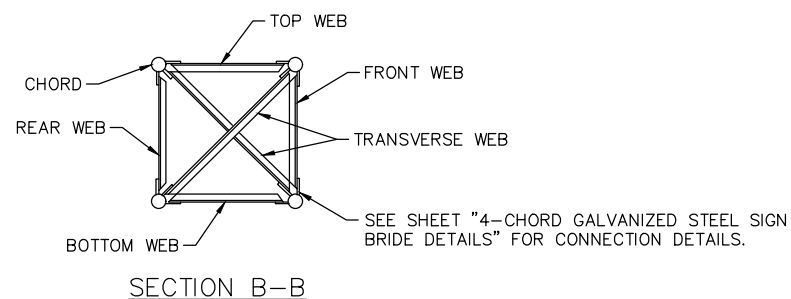
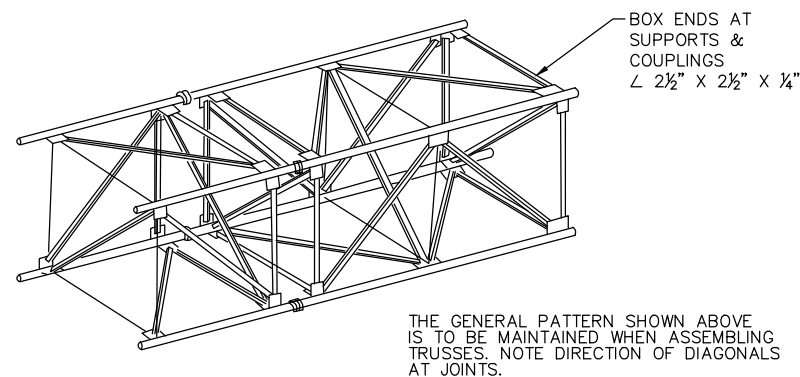
BUNDLE AND TAG EACH SERIES SEPARATELY



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-40-874			
DRAWN BY		MR	PLANS CK'D. NJH
TOWER 1 & 2 FOUNDATION DETAILS		SHEET 2 OF 5	



FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTIPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.

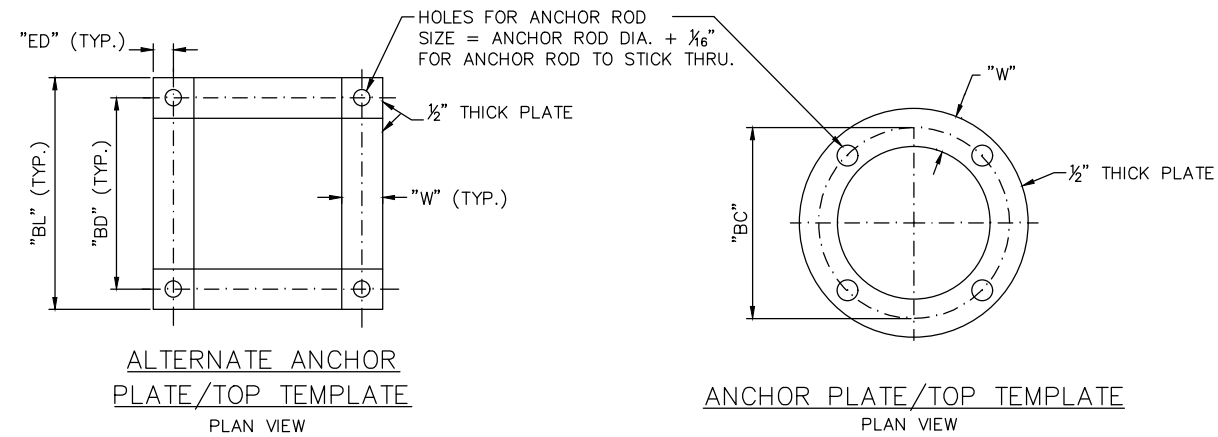


CONTRACTOR SHALL PROVIDE #16 GA. GALVANIZED STEEL SHIMS AS REQUIRED TO PROVIDE A CAMBER SHOWN IN TABLE.

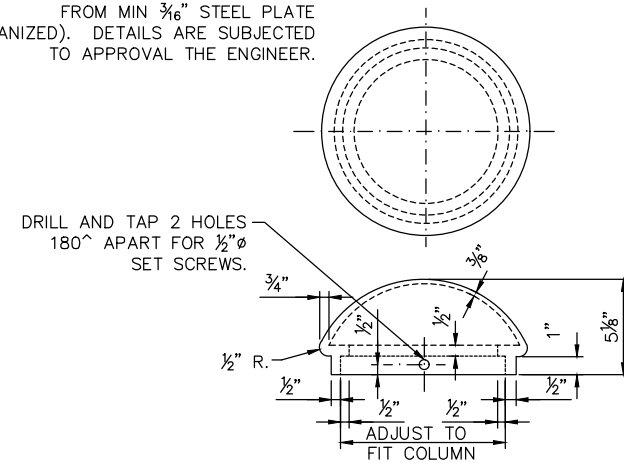
DIMENSIONS, CAMBER & MEMBER SIZES

STRUCTURE	DIMENSIONS				CAMBER	CHORD "OD" X "THK"	TRUSS WEB		COUPLING			COLUMN "OD" X "THK"	TOWER WEB
	"L"	"A"	"B"	"C"			TOP & BOTTOM	FRONT & REAR	"D1"	"T"	"D2"	NO. OF BOLT	
S-40-874	69'-1 1/4"	26'-7 1/8"	28'-9 1/4"	6	1 1/4"	4" X 0.226"	3" X 3" X 3/16"	3" X 3" X 3/16"	16"	0.75"	12"	6	10.75" X 0.307"
													3" X 3" X 3/16"

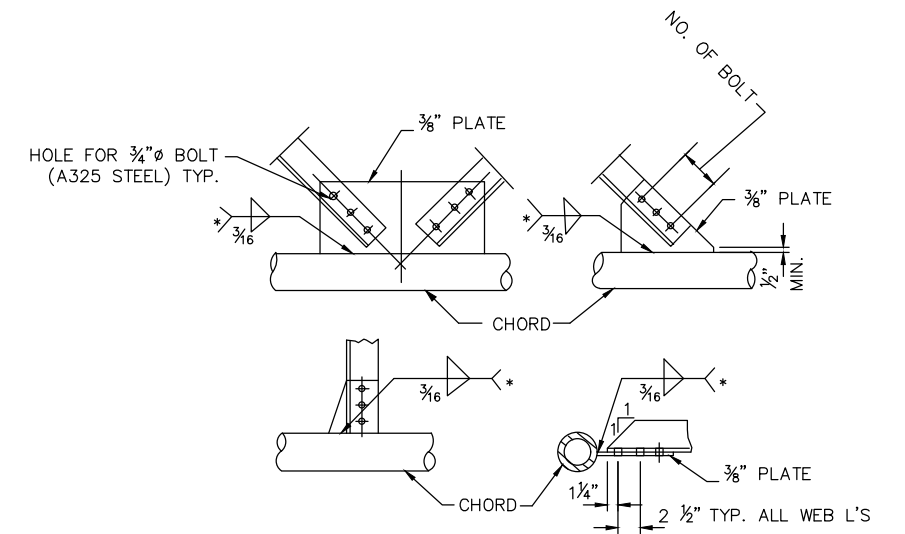
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-40-874			
DRAWN BY		MR	PLANS CK'D. NJH
4-CHORD GALVANIZED STEEL SIGN BRIDGE		SHEET 3 OF 5	



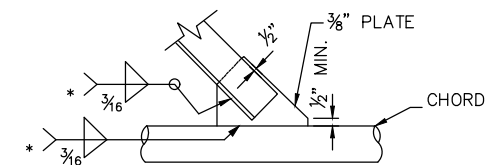
ALTERNATE CAP MAY BE FABRICATED FROM MIN $\frac{3}{16}$ " STEEL PLATE (GALVANIZED). DETAILS ARE SUBJECTED TO APPROVAL THE ENGINEER.



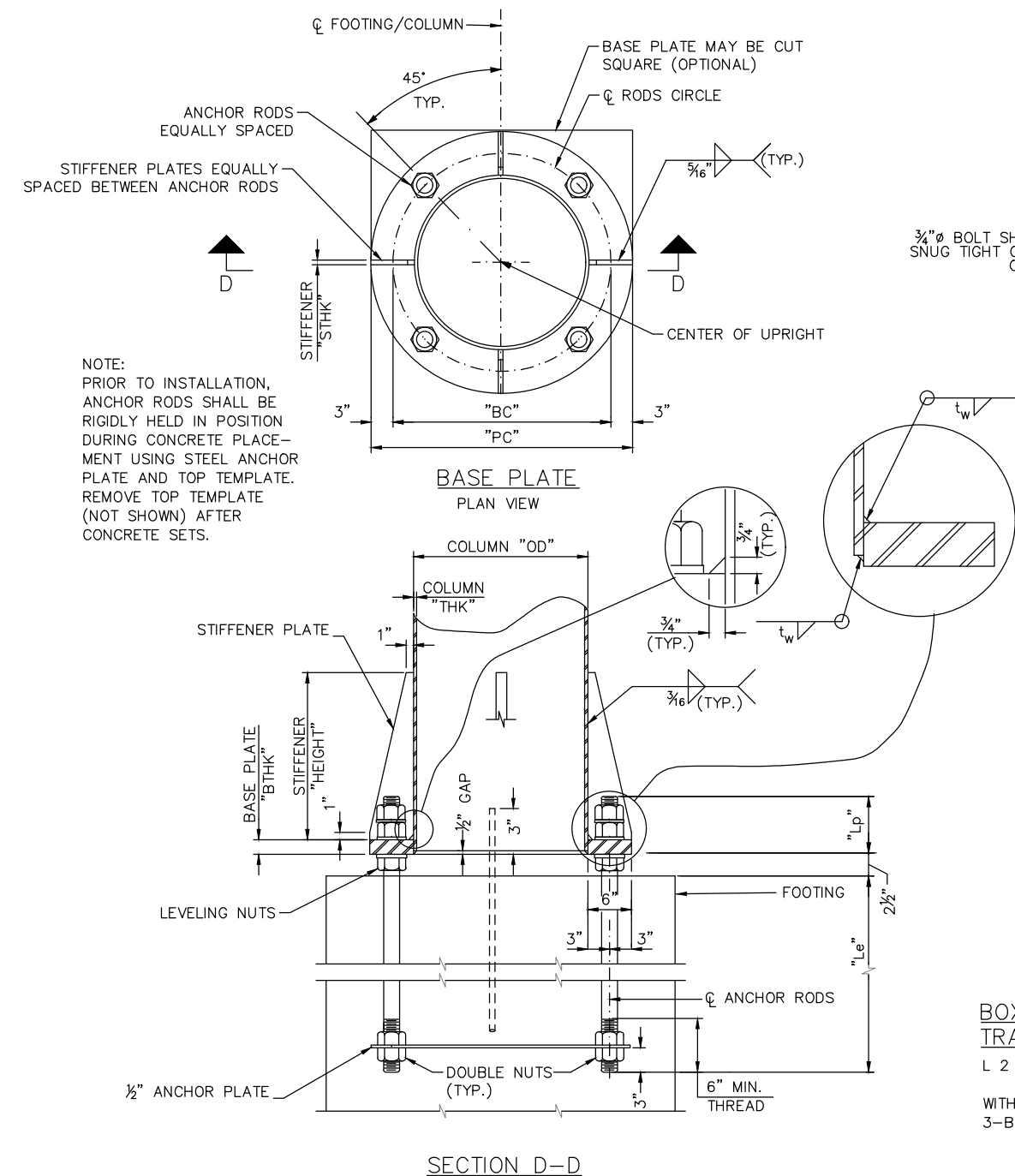
TOWER CAP DETAIL



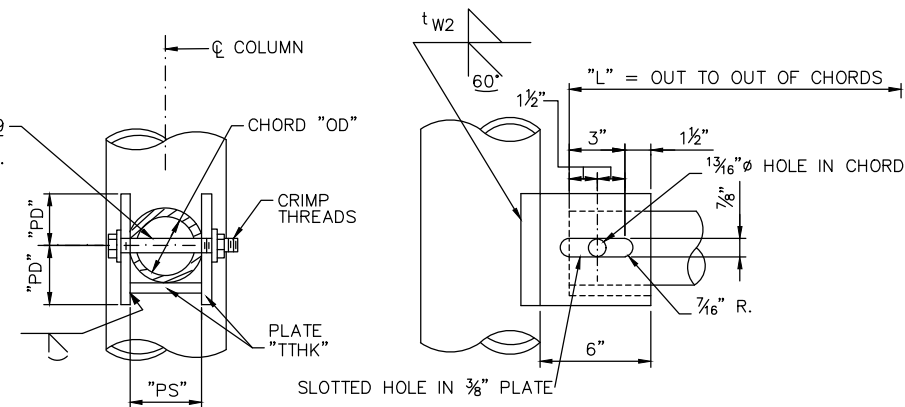
TYPICAL TRUSS CONNECTION DETAILS



TYPICAL WELDED ALTERNATE



3/4" Ø BOLT SHALL BE A449
SNUG TIGHT ONLY. DO NOT
OVER TIGHTEN.



TOWER CONNECTION DETAIL

BASE PLATE, COLUMN STIFFENER, ANCHOR ROD & TOWER CONNECTION

STRUCTURE	BASE PLATE					ANCHOR PLATE/TOP TEMPLATE				STIFFENER PLATE		ANCHOR ROD			TOWER CONNECTION			
	"BC"	"PC"	"BTHK"	"HOLE"	"t _{W1} "	"W"	"BD"	"ED"	"BL"	"STHK"	"HEIGHT"	"ø"	"Le"	"Lp"	"PD"	"PS"	"TTHK"	"t _{W2} "
S-40-874	16.75"	22.75"	1.25"	1.3125"	$\frac{5}{16}$ "	2.5"	11.844"	1.25"	14.344"	0.5"	11"	1.25"	3'-0"	4.75"	2.75"	4.1875"	$\frac{3}{8}$ "	$\frac{3}{16}$ "

WEB MEMBER CONNECTIONS

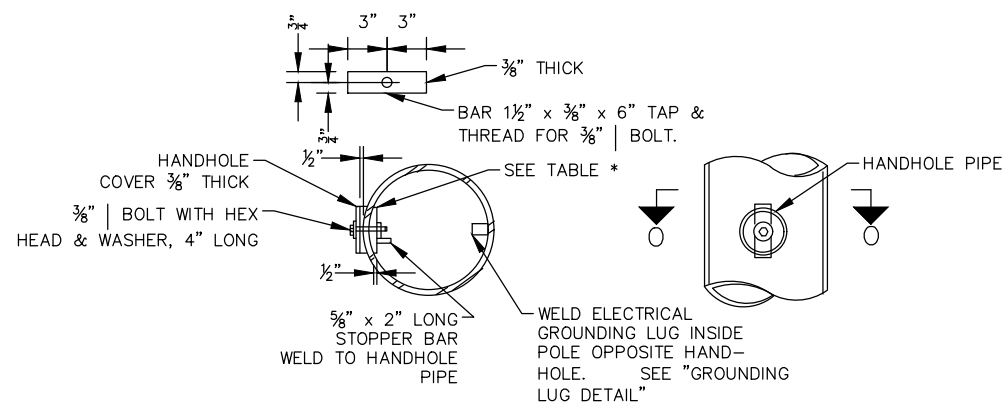
STRUCTURE	TRUSS WEB			TOWER WEB		
	ANGLE SIZE	WELD LENGTH	NO. OF BOLT	ANGLE SIZE	WELD LENGTH	NO. OF BOLT
S-40-874	3" X 3" X 3/16"	10"	3"	3" X 3" X 3/16"	10"	3"

BOXED END & TRANSVERSE BRACING

L 2 1/2", 2 1/2" X 1/4"

WITH 11" WELD LENGTH OR
3-BOLTS PER CONNECTION

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE S-40-874					
		DRAWN BY	MR	PLANS CK'D.	NJH
4-CHORD GALVANIZED STEEL SIGN BRIDGE DETAILS			SHEET 4 OF 5		



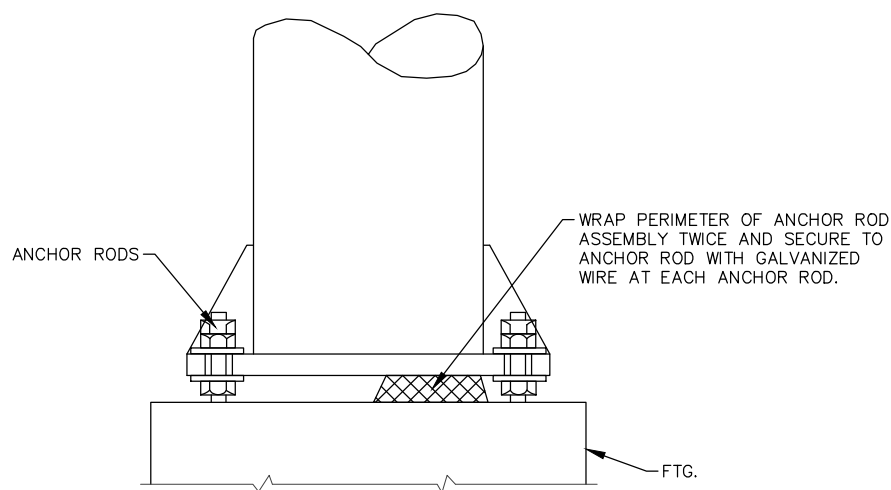
SECTION 0-0

HANDHOLE DETAILS

HANDHOLE NOTES

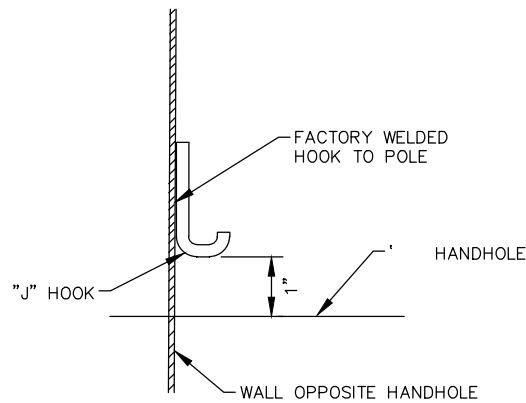
HANDHOLES SHALL BE LOCATED IN ONE COLUMN OF THE SIGN BRIDGE STRUCTURE IF ELECTRICALLY OPERATED DEVICES ARE INSTALLED ON/IN THE STRUCTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ELECTRICAL SERVICE ENTRANCE WITH THE REGION TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN BRIDGE COLUMNS AND MEMBERS. CONDUIT (AS REQ'D.) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL DETAIL PLAN SHEETS.

* COLUMN SIZE O.D. X THICKNESS	HANDHOLE PIPE O.D. X MIN. THK.
UP TO AND INCLD. 16" X .375"	5.562" X .500"
GREATER THAN 16" X .375" TO AND INCLD. 24" X .562"	6.625" X .562"



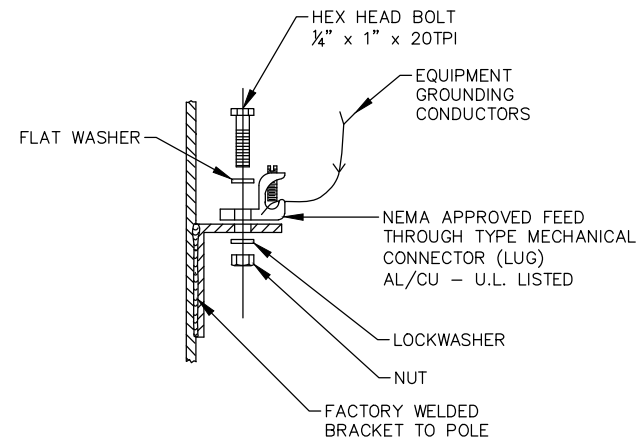
RODENT SCREEN

(ONLY REQ'D. WHEN ELECTRICAL DEVICES ARE INSTALLED)



TYPICAL "J" HOOK LOCATION

THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF ALL COLUMNS CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.



GROUNDING LUG DETAIL

NUT, BOLT, AND WASHERS SHALL BE STAINLESS STEEL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-40-874			
DRAWN BY		MR	PLANS CK'D. NJH
HANDHOLE DETAILS		SHEET 5 OF 5	

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CANTILEVER TRUSS FOOTING
3. GALVANIZED STEEL CANTILEVER SIGN TRUSS
4. GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS
5. HANDHOLE DETAILS

ULTIMATE DESIGN STRESSES

CONCRETE:f'c = 3,500 psi

HIGH STRENGTH BAR
STEEL REINFORCEMENT:fy = 60,000 ps

STEEL COLUMN:fy = 42,000 psi**
A.P.I. SPEC 5L GRADE X42, PSL

STEEL CHORD:fy = 42,000 psi**
A.P.I. SPEC 5L GRADE X42

PLATES, BARS, STRUCTURAL ANGLES:fy = 36,000 psi
A.S.T.M. A709 GRADE 36

STEEL ANCHOR BOLTS:fy = 55,000 psi
ASTM F1554 GRADE 55.
ASTM A563A HEAVY HEX NUTS.
AND ASTM F436 WASHERS.

HIGH STRENGTH BOLTS A325fy = 92,000 psi

STRUCTURAL MEMBERS GALVANIZED.....ASTM A123

HARDWARE GALVANIZEDASTM A153 CLASS C

**CONTRACTOR MAY SUBSTITUTE ALTERNATE MATERIALS PER
WISDOT BRIDGE MANUAL SECTION 39.3 AT NO ADDITIONAL COST,
PROVIDED THAT APPROVAL IS OBTAINED FROM THE
DEPARTMENT.

DESIGN DATA

DEAD LOAD - 3 PSF OF SIGN, WEIGHT OF SUPPORTING
STRUCTURE, CATWALK, LIGHTS AND RAILINGS.

LIVE LOAD - NONE.

ICE LOAD - 3 PSF TO 1 FACE OF SIGN & AROUND
SURFACE OF MEMBERS.

WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED)
TO SIGN AREA & EXPOSED MEMBERS.

FATIGUE CATEGORY I WITHOUT GALLOPING WIND EFFECTS.

TRAFFIC VOLUME

A.D.T.= 100,00

R.D.S.= 70 M.P.H

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
264	12'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	8
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	990
641.1200	SIGN BRIDGE CANTILEVERED S-67-320	LS	1
650.6500.02	CONSTRUCTION STAKING STRUCTURE LAYOUT S-67-320	LS	1

SE REGION CONTACT:
JASON ZEMKE (262) 548-8743

CONSULTANT CONTACT:
VERONICA CHAVEZ DE FERNANDEZ (414) 282-6905

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL ELEVATIONS ARE BASED ON NGVD 29 UNLESS OTHERWISE
SHOWN OR NOTED.

THE SIGN BRIDGE WAS DESIGNED ACCORDING TO THE 4TH EDITION AND
INTERIM REVISIONS OF AASHTO "STANDARD SPECIFICATIONS FOR
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES, AND TRAFFIC
SIGNALS".

PREFABRICATE CAMBER INTO THE HORIZONTAL SUPPORT PROVIDING AN
AMOUNT "Y" AT THE END OF THE TRUSS SHOWN IN "CAMBER DIAGRAM".
DO NOT RAKE COLUMN BY ADJUSTMENT OF LEVELING NUTS.

ALL STRUCTURAL STEEL MEMBERS, PLATES, H.S BOLTS, NUTS, AND
WASHERS SHALL BE GALVANIZED PER SECTION 641 OF THE WISDOT
STANDARD SPECIFICATIONS.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

CENTER SIGNS OVER RESPECTIVE LANE IF THEY HAVE A DOWN ARROW.

ALTERNATE DESIGNS ARE NOT ALLOWED.

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE
PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS
WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. VERIFY UTILITY
INTERFERENCES PRIOR TO CONSTRUCTION.

PROVIDE A 3/4" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

THE UPPER 12" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE
GALVANIZED IN ACCORDANCE WITH THE AASHTO SPECIFICATION
AS STATED IN SECTION 641. OF THE WISDOT STANDARD
SPECIFICATIONS.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE
WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND
OVERHEAD SIGN SUPPORT. THIS WORK SHALL BE CONSIDERED INCIDENTAL
TO THE BID ITEM "SIGN BRIDGE CANTILEVERED S-67-320"

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF
ERECTION. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND
MOUNTING HARDWARE SHALL BE INCIDENTAL TO
"SIGN BRIDGE CANTILEVERED S-67-320".

ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER
A325 BOLTS, GALVANIZED ASTM A153, CLASS C, AND INSTALLED WITH DTI
WASHERS.

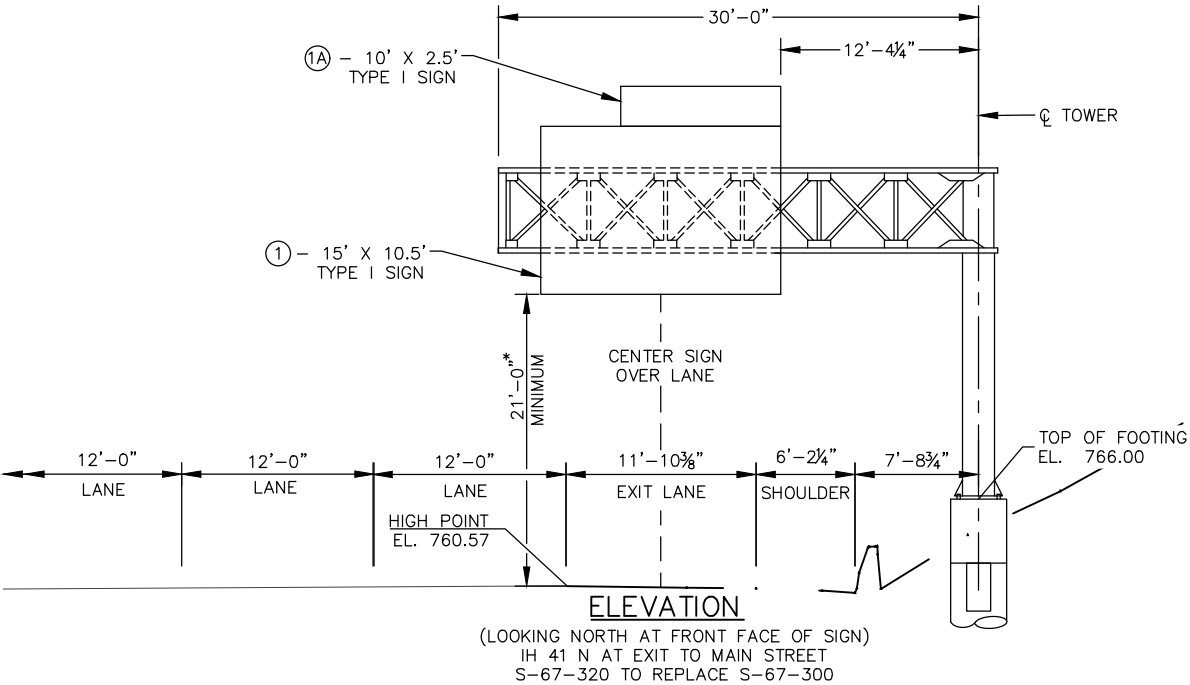
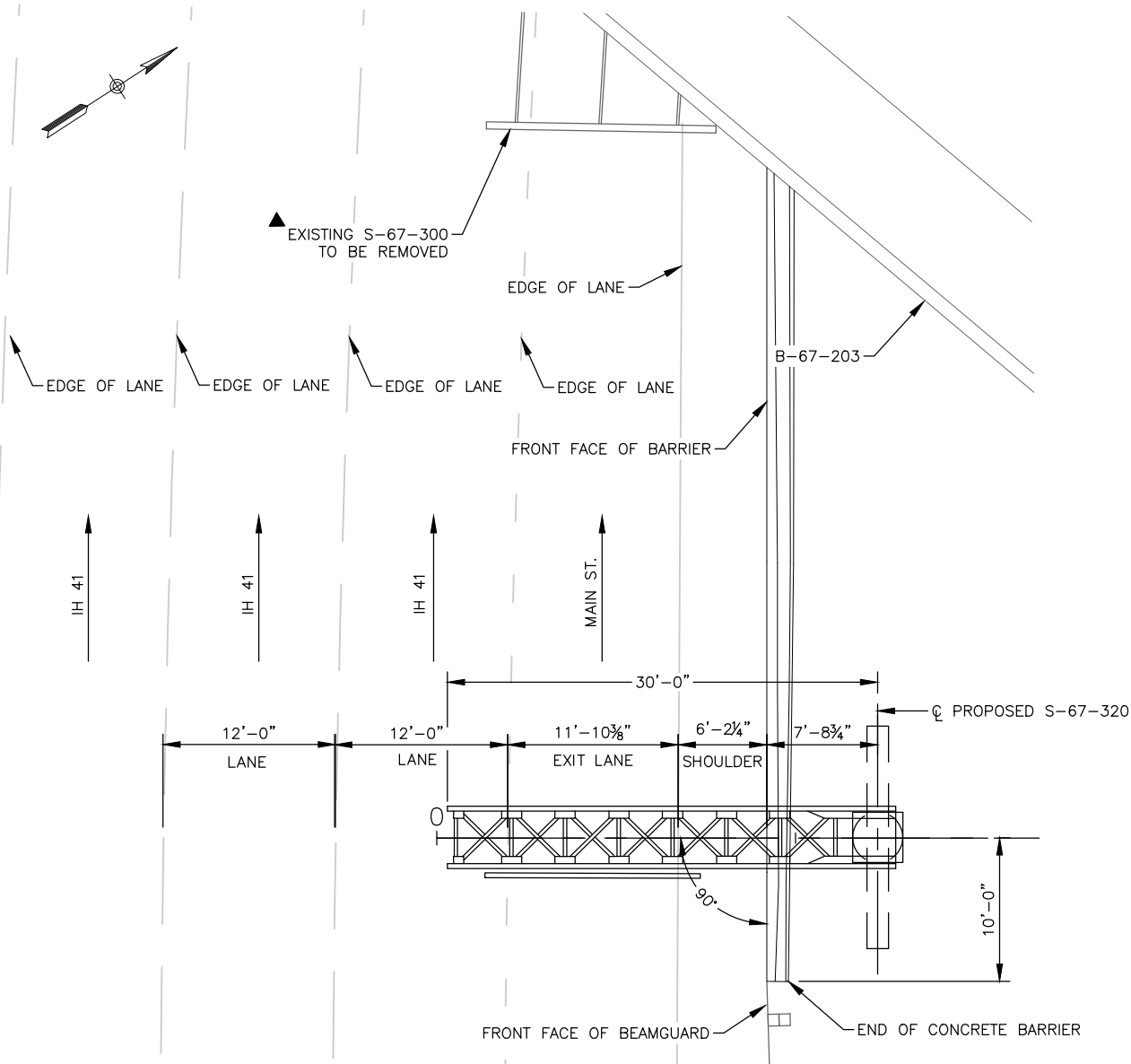
WELD TEST AS PER AWS D1.1

▲ FILL PARAPET CONCRETE HOLES WITH NON-SHRINK GROUT AND REINSTALL
STEEL ANCHORS AT GIRDER LOCATIONS AFTER SIGN STRUCTURE REMOVAL.
LABOR, INSTALLATION AND MATERIALS INCIDENTAL TO "REMOVING
S-67-300"

*CLEARANCE FOR A 12' DEEP SIGN IS PROVIDED FOR FUTURE PROVISIONS.

ⓧ - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT
SIGNING SHEETS.

SUBMIT SHOP DRAWINGS TO BUREAU OF STRUCTURES AND PROJECT
MANAGER.



NO.	DATE	REVISION	BY
COLLINS ENGINEERS			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Decker</i> SDR	03/26/18	DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE S-67-320			
IH 41 N AT STH 100/MAIN STREET			
COUNTY	WAUKESHA	TOWN/CITY/VILLAGE	MENOMONEE
DESIGN SPEC. AASHTO STD. SPEC. 4TH EDITION			
DESIGNED BY	VC	DESIGN CK'D.	NJH
DRAWN BY	MR	PLANS CK'D.	NJH
PLAN & ELEVATION			SHEET 1 OF 5

NOTES

CONTRACTOR SHALL VERIFY UTILITY CONFLICTS PRIOR TO CONSTRUCTION OF FOOTING.

FOOTING BELOW THE WINGS SHALL BE EXCAVATED BY THE USE OF CIRCULAR AUGER.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 3" CLEAR UNLESS DETAILED OTHERWISE.

BENDING DIMENSIONS ARE OUT TO OUT OF BAR.

CENTER ANCHOR ROD ASSEMBLY TO MISS BAR STEEL REINFORCEMENT AND MAKE SURE IT IS PLUMB. MAINTAIN ANCHOR ROD PROJECTION ABOVE FOOTING AS DETAILED ON PLAN.

ANCHOR ROD ASSEMBLY SHALL BE RIGIDLY SECURE IN POSITION DURING AND AFTER CONCRETE PLACEMENT. DO NOT WELD THE ANCHOR RODS.

UNLESS NOTED ON PLAN, REMOVE ALL CASING AND FORMS USED TO CONSTRUCT THE FOOTING PRIOR TO BACKFILLING AROUND THE FOOTING. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE IN LAYERS OF 1'-0" OR LESS FOR GRANULAR MATERIAL AND 0'-8" OR LESS FOR NON-GRANULAR MATERIAL.

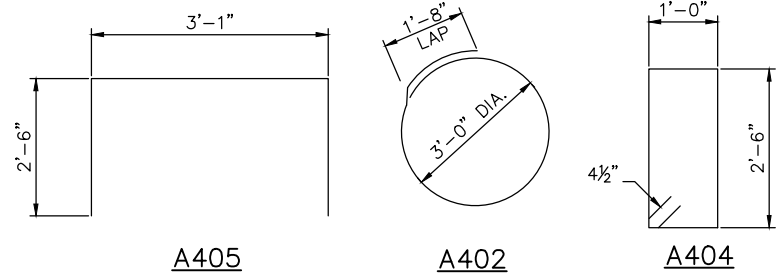
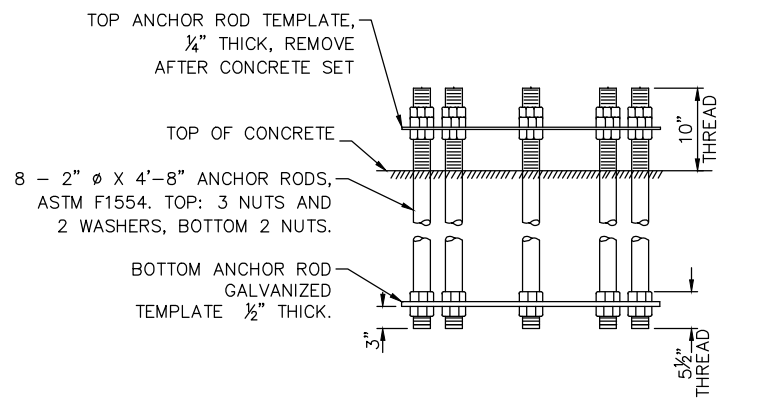
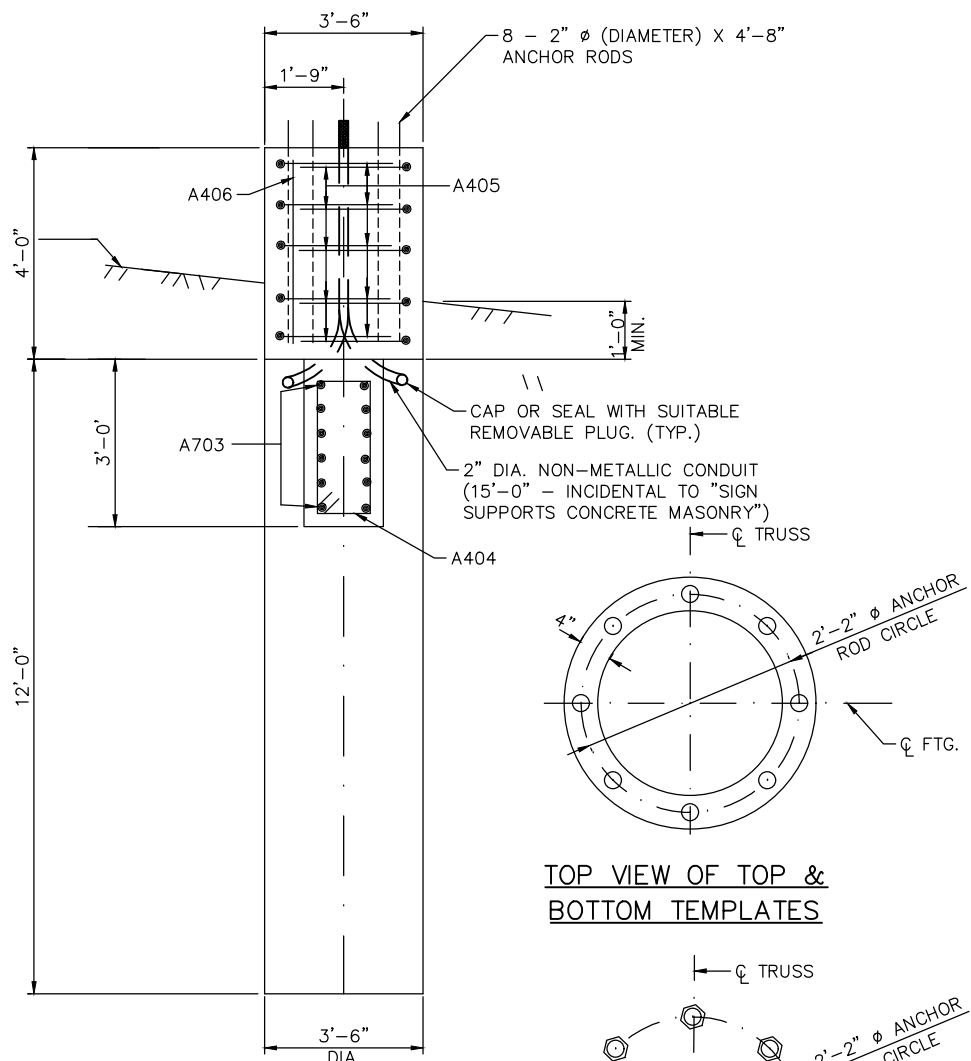
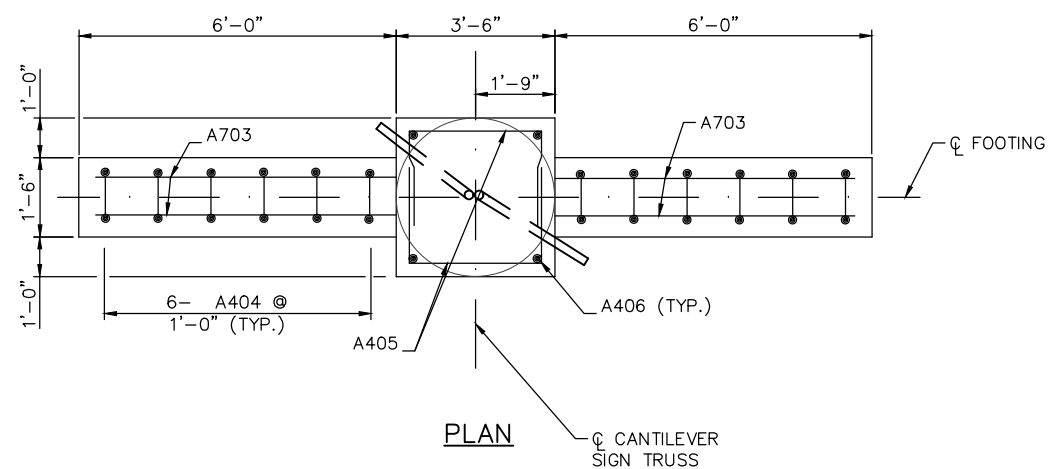
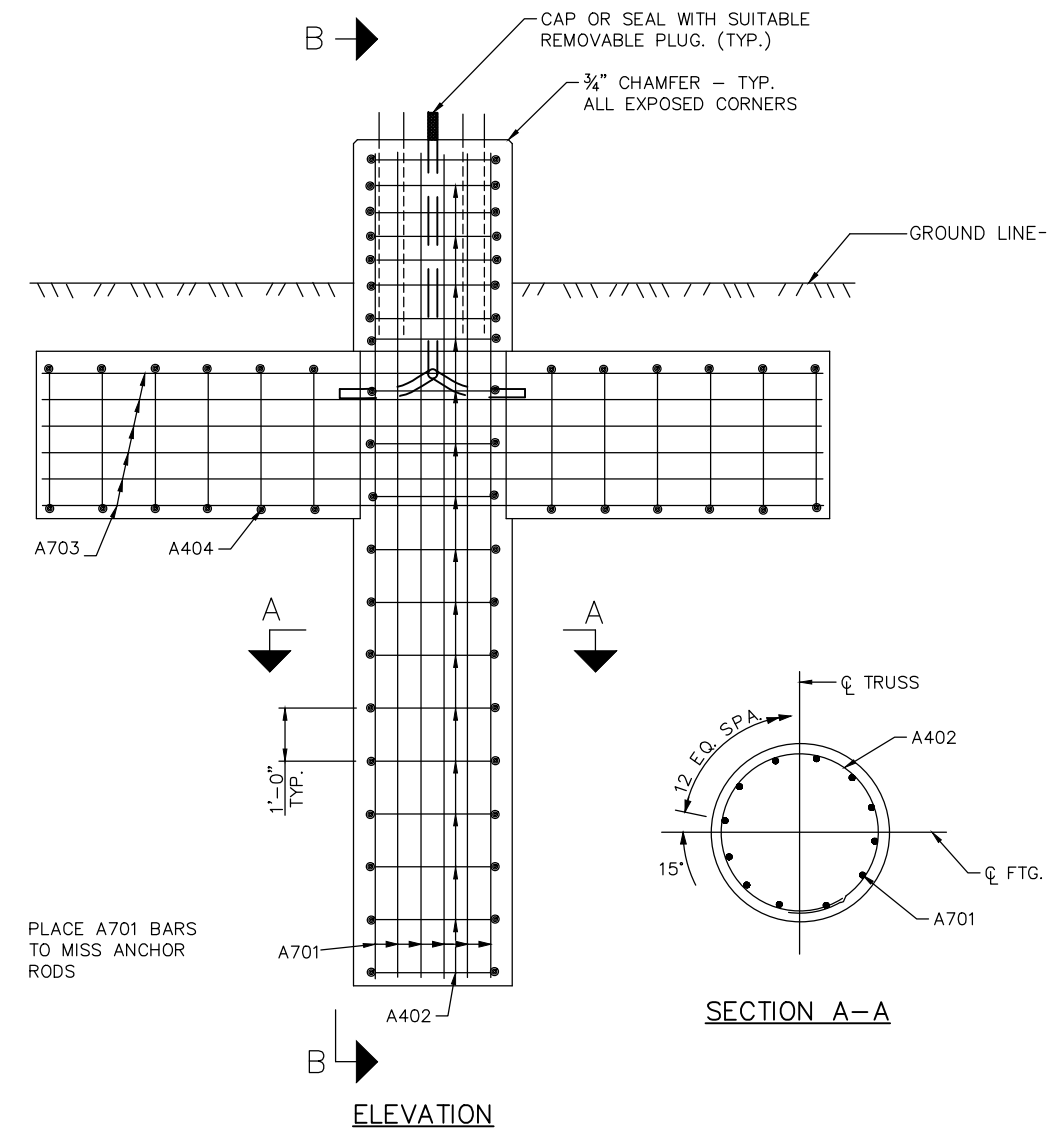
FOUNDATION DATA

ALLOWABLE SOIL BEARING PRESSURE = 4000 PSF

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	CUT, DIAG.	BUN-DLE	LOCATION
A701	X	12	15'-6"				FOOTING - VERT
A402	X	16	11'-2"	X			FOOTING - HORIZ
A703	X	12	15'-0"				FOOTING - WINGS HORIZ
A404	X	12	7'-6"	X			FOOTING - WINGS TIES
A405	X	10	7'-11"	X			FOOTING - TOP HORIZ
A406	X	4	3'-6"				FOOTING - TOP VERT

NOTE: THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-67-320			
DRAWN BY		MR	PLANS CK'D. NJH
CANTILEVER TRUSS FOOTING		SHEET 2 OF 5	

GENERAL NOTES

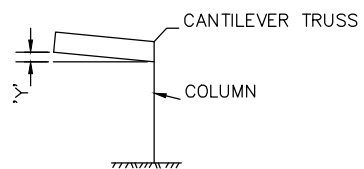
DRAWINGS SHALL NOT BE SCALED.

PREFABRICATE CAMBER INTO THE HORIZONTAL SUPPORT PROVIDING AN AMOUNT "Y" AT END OF TRUSS SHOWN IN "CAMBER DIAGRAM". DO NOT RAKE VERTICAL COLUMN BY ADJUSTMENT OF LEVELING NUTS.

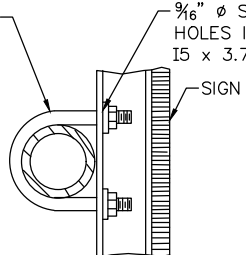
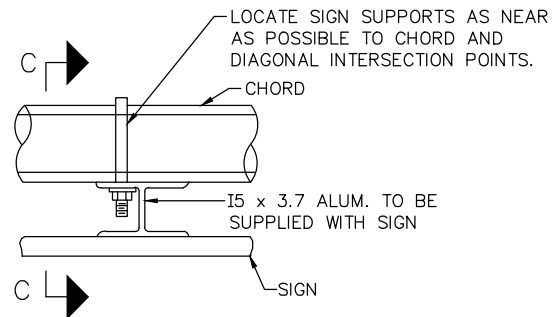
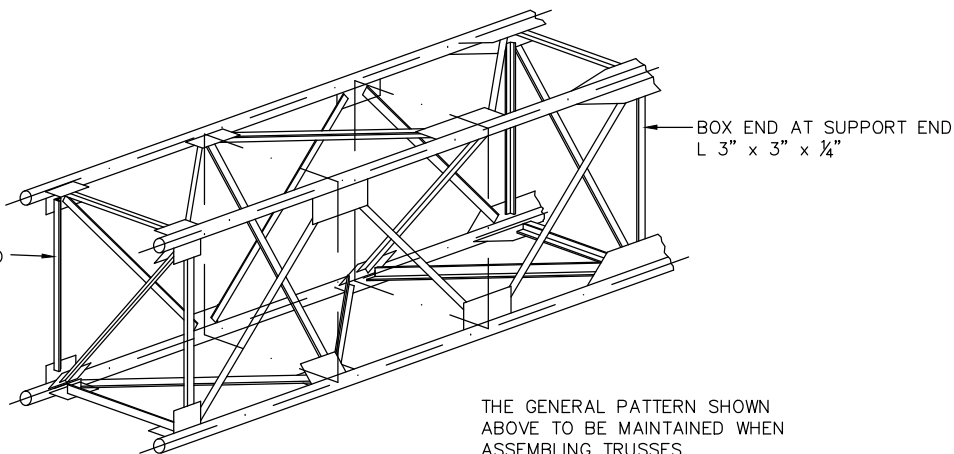
WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS IF UNIT CAN BE GALVANIZED IN ONE PIECE.

DIMENSIONS, CAMBER, & ELEVATIONS

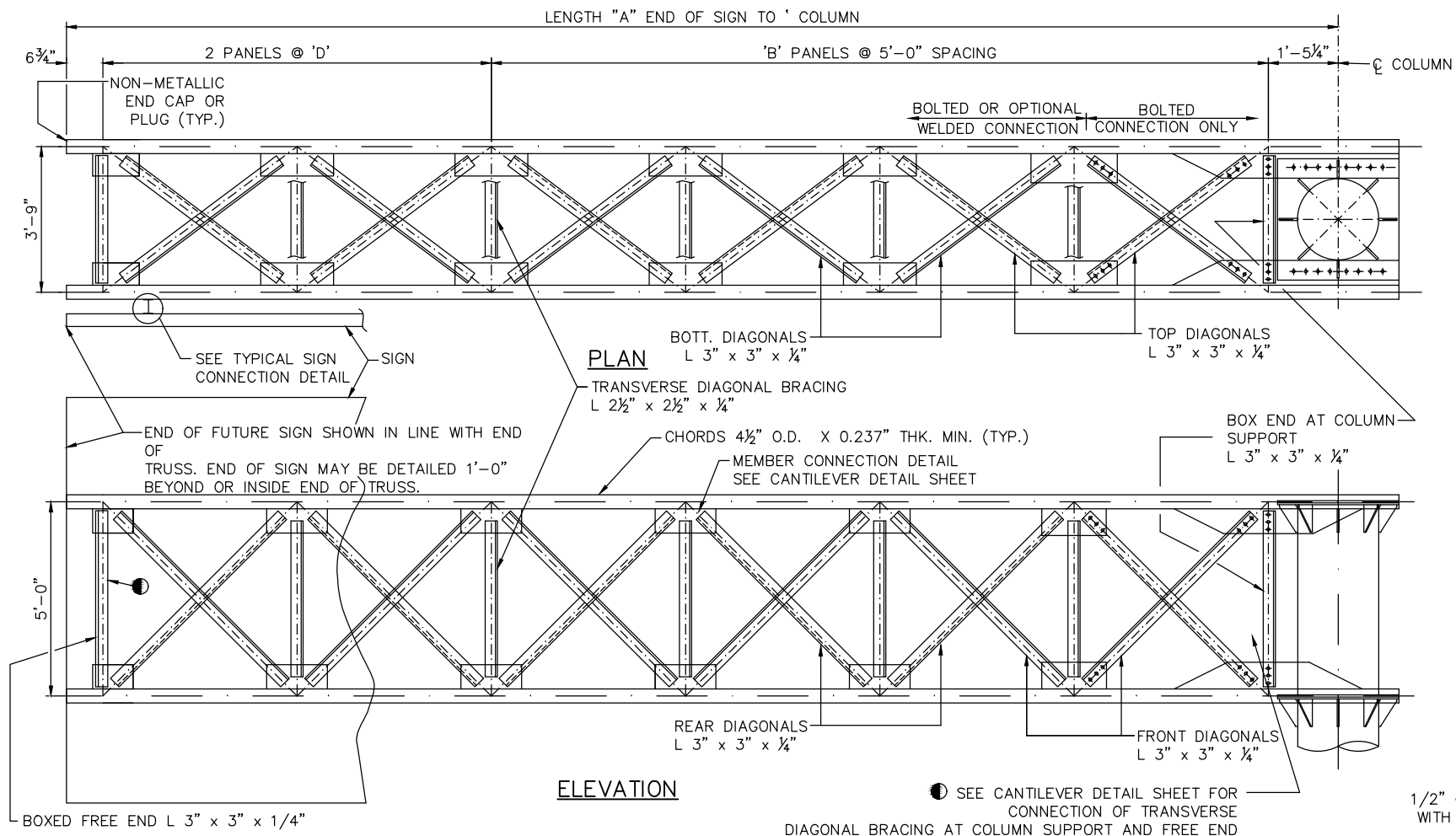
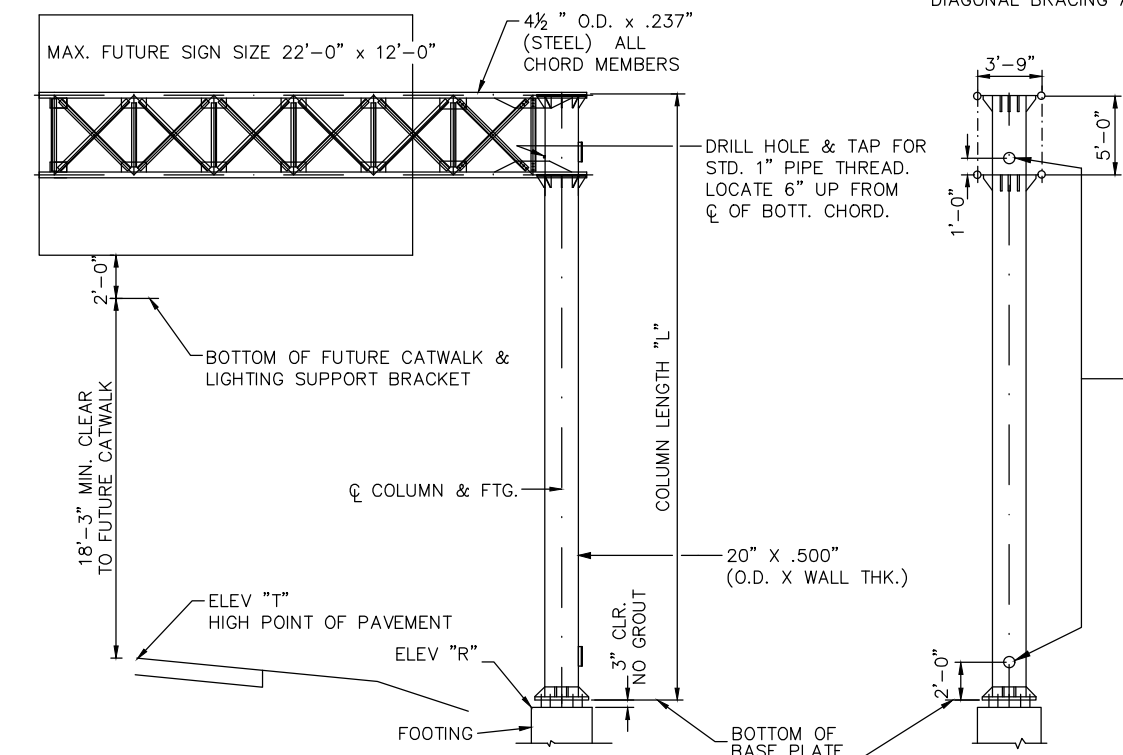
STRUCTURE	"A"	"L"	"B"	"D"	"Y"	ELEV "R"	ELEV "T"
S-67-320	30'-0"	23'-0"	4	4'-0"	2.75"	766.00	760.57

**CAMBER DIAGRAM**

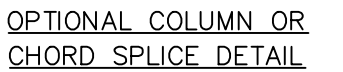
1/2" Ø STAINLESS STEEL U-BOLT WITH 2 LOCK WASHERS & 2 HEX NUTS PER BOLT. 2 REQ'D. PER I5 x 3.7 ALUM. LOCATE TOP & BOT. U-BOLT ON OPPOSITE SIDE OF FLANGE.

**SECTION C-C****TYPICAL SIGN CONNECTION**

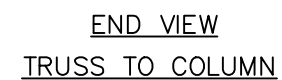
THE GENERAL PATTERN SHOWN ABOVE TO BE MAINTAINED WHEN ASSEMBLING TRUSSES.

TYPICAL TRUSS SECTION**ELEVATION****ELEVATION****END VIEW**

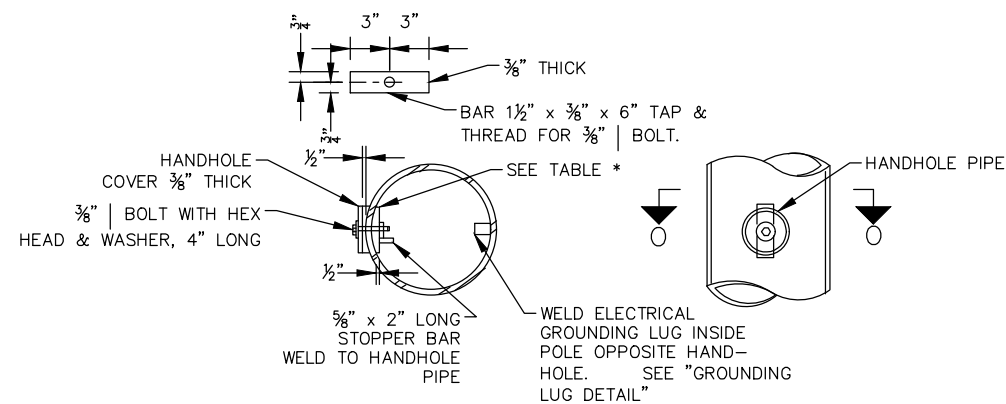
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-67-320			
DRAWN BY		MR	PLANS CK'D. NJH
GALVANIZED STEEL CANTILEVER SIGN TRUSS		SHEET 3 OF 5	



* SIZE AS NEEDED



NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE S-67-320					
		DRAWN BY	MR	PLANS CK'D.	NJH
GALVANIZED STEEL CANTILEVER SIGN TRUSS DETAILS				SHEET 4 OF 5	



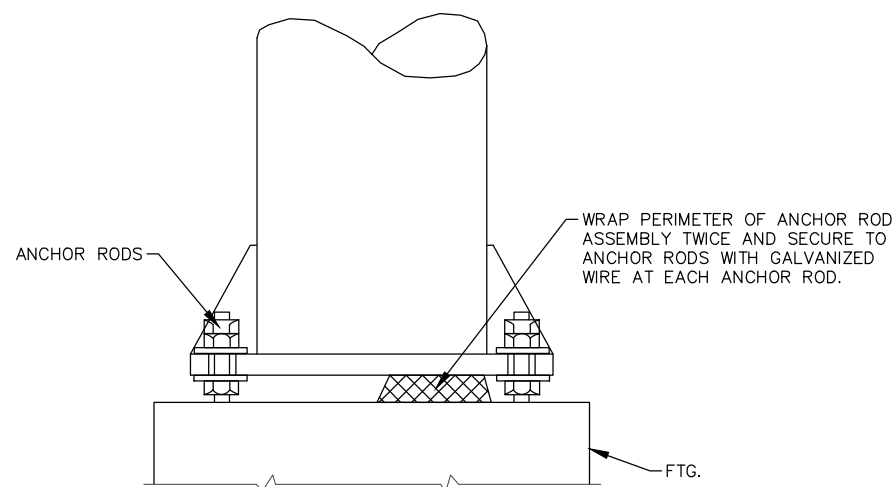
SECTION 0-0

HANDHOLE DETAILS

HANDHOLE NOTES

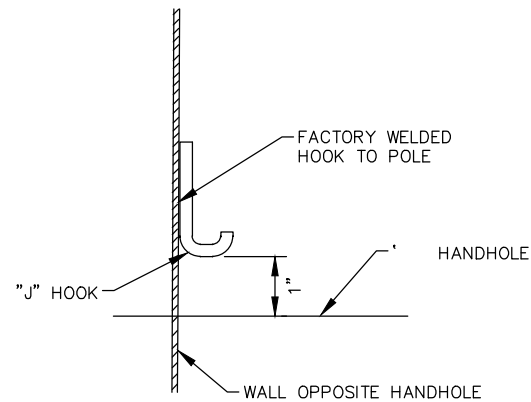
HANDHOLES SHALL BE LOCATED IN ONE COLUMN OF THE SIGN BRIDGE STRUCTURE IF ELECTRICALLY OPERATED DEVICES ARE INSTALLED ON/IN THE STRUCTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ELECTRICAL SERVICE ENTRANCE WITH THE REGION TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN BRIDGE COLUMNS AND MEMBERS. CONDUIT (AS REQ'D.) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL DETAIL PLAN SHEETS.

* COLUMN SIZE O.D. X THICKNESS	HANDHOLE PIPE O.D. X MIN. THK.
UP TO AND INCL. 16" X .375"	5.562" X .500"
GREATER THAN 16" X .375" TO AND INCL. 24" X .562"	6.625" X .562"



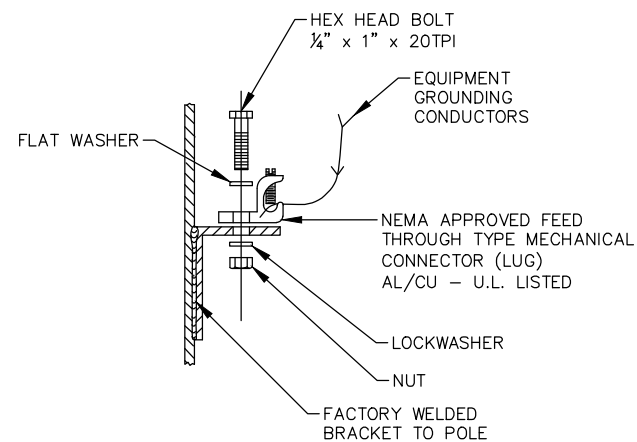
RODENT SCREEN

(ONLY REQ'D. WHEN ELECTRICAL DEVICES ARE INSTALLED)



TYPICAL "J" HOOK LOCATION

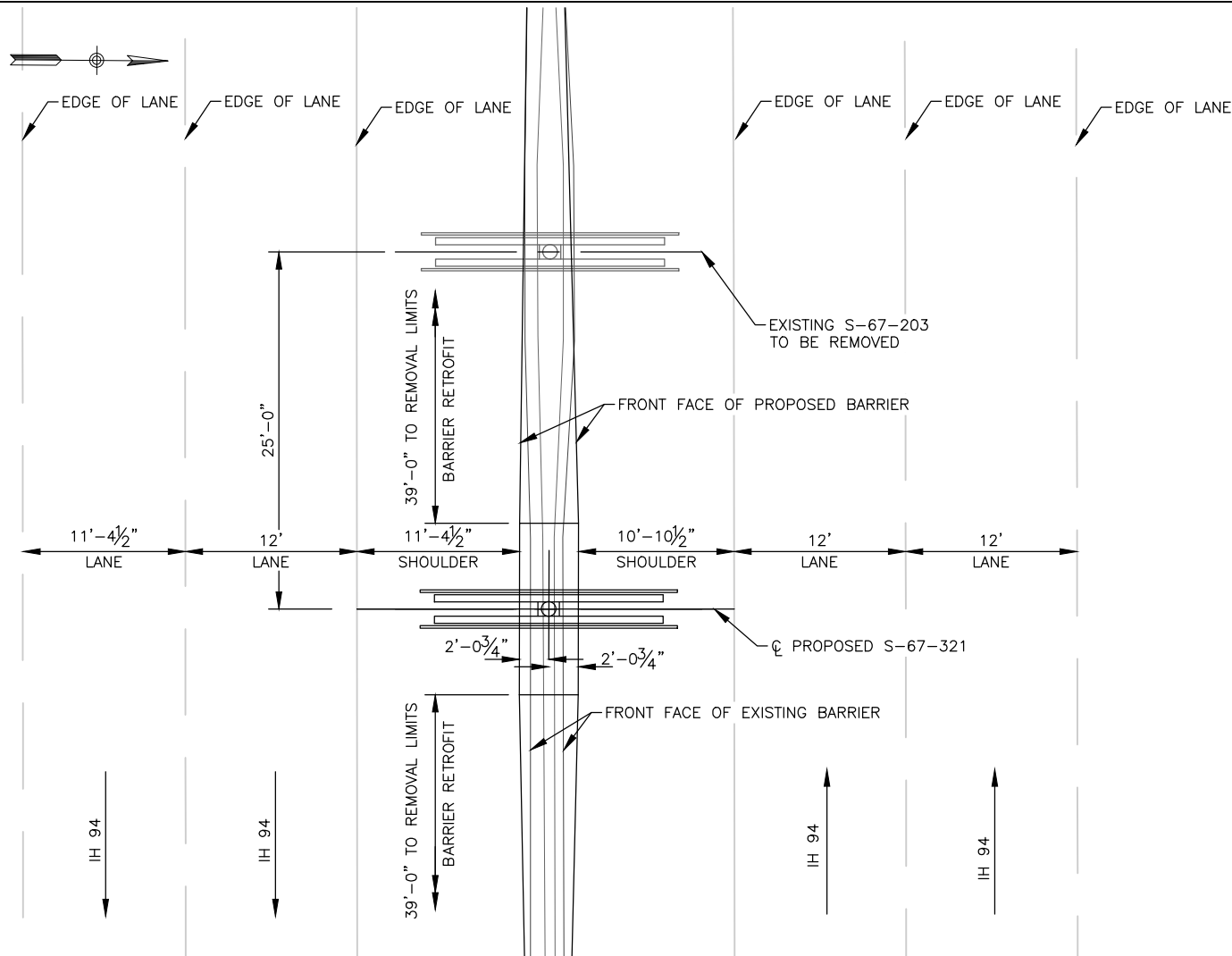
THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF ALL COLUMNS CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.



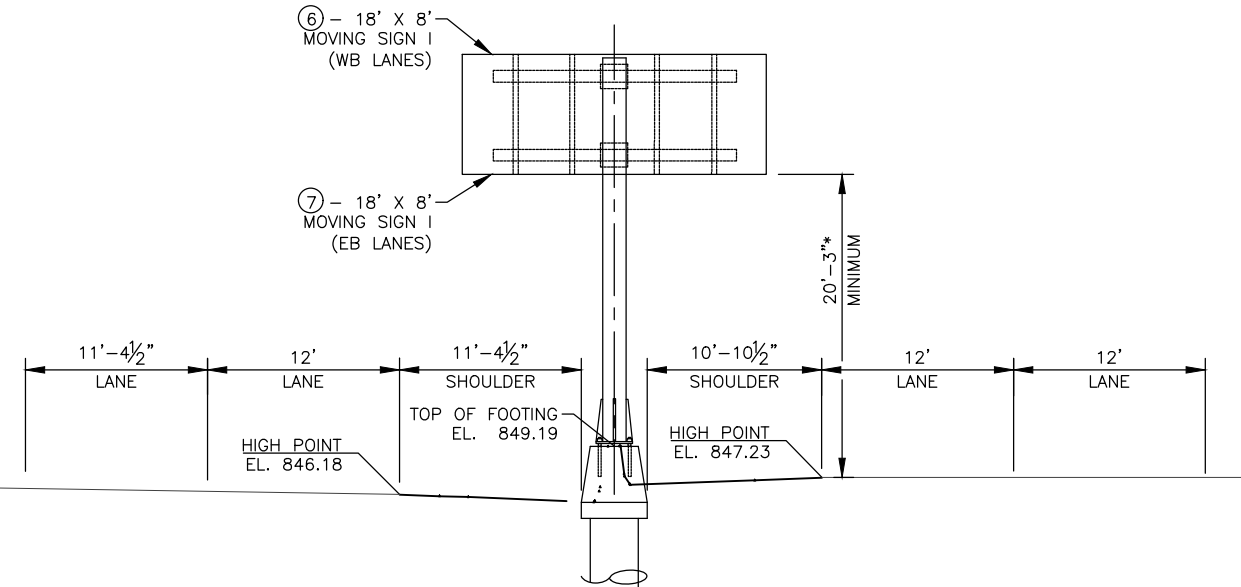
GROUNDING LUG DETAIL

NUT, BOLT, AND WASHERS SHALL BE STAINLESS STEEL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-67-320			
DRAWN BY		MR	PLANS CK'D. NJH
HANDHOLE DETAILS			SHEET 5 OF 5



PLAN



ELEVATION

(LOOKING WEST)
IH 94, ¼ MILE EAST OF CTH J/STH 164
S-67-321 TO REPLACE S-67-203

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. FOUNDATION DETAILS
3. SIGN DETAILS
4. HANDHOLE DETAILS

ULTIMATE DESIGN STRESS:

CONCRETE:f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT:fy = 60,000 psi

STEEL COLUMN & CHORDS:fy = 42,000 psi
(INCLD. HANDHOLE) A.P.I. SPEC 5L GRADE X42

PLATES, BARS, STRUCTURAL ANGLES:fy = 36,000 psi
A.S.T.M. A709 GRADE 36

STEEL ANCHOR RODS:fy = 55,000 psi
ASTM F1554 GRADE 55

STRUCTURAL MEMBERS GALVANIZEDASTM A123

HARDWARE GALVANIZEDASTM A153 CLASS C

DESIGN DATA

DEAD LOAD - 3 PSF OF SIGN. WEIGHT OF SUPPORTING STRUCTURE.
LIVE LOAD - NONE.
ICE LOAD - 3 PSF TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 M.P.H. (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.
FATIGUE CATEGORY I.

ALL BOLTED CONNECTIONS SHALL BE GALVANIZED ASTM A153, CLASS C, AND INSTALLED WITH DTI WASHERS.

TRAFFIC VOLUME

A.D.T.= 114,000

R.D.S.= 70 M.P.H

TYPE I SIGN DESIGN DATA

MAX DESIGN SIGN AREA (SQ. FT.)	MAX. TYPE I SIGN DEPTH
144	8'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	14
636.1000	SIGN SUPPORTS STEEL REINFORCEMENT HS	LB	150
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	1150
641.0600	SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS S-67-321	LS	1
650.6500.01	CONSTRUCTION STAKING STRUCTURE LAYOUT S-67-321	LS	1
SPV.0090.02	BARRIER REMOVAL AND RETROFIT	LF	78

SE REGION CONTACT:
JASON ZEMKE (262) 548-8743

CONSULTANT CONTACT:
VERONICA CHAVEZ DE FERNANDEZ (414) 282-6905

STATE PROJECT NUMBER

1000-20-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL ELEVATIONS ARE BASED ON NGVD 29 UNLESS OTHERWISE SHOWN OR NOTED.

THE SIGN STRUCTURE WAS DESIGNED ACCORDING TO THE 4TH EDITION AND INTERM REVISIONS OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES, AND TRAFFIC SIGNALS.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

CENTER SIGNS VERTICALLY ON CHORD/TRUSS.

ALTERNATE DESIGNS ARE NOT ALLOWED.

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. VERIFY UTILITY INTERFERENCES PRIOR TO CONSTRUCTION.

PROVIDE A ¾" CHAMFER OR 1" RADIUS ON ALL EXPOSED CONCRETE EDGES.

THE UPPER 1'-6" OF ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE AASHTO SPECIFICATION AS STATED IN SECTION 641. OF THE WISDOT STANDARD SPECIFICATIONS.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE SIGN BRIDGE IN ACCORDANCE WITH SDD STRUCTURE IDENTIFICATION PLAQUES, SIGN BRIDGES AND OVERHEAD SIGN SUPPORT. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE SINGLE POLE SUPPORT TWO SIGNS S-67-321".

SIGNS OR BLANKS SHALL BE INSTALLED ON THE TRUSS AT THE TIME OF ERECTION. SIGNS SHALL BE AS DESIGNATED IN PLANS. SIGN BLANKS AND MOUNTING HARDWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE SINGLE POLE SUPPORT TWO SIGNS S-67-321".

NEW I-BEAMS ARE REQUIRED FOR SIGNS AND ARE INCIDENTAL TO "SIGN BRIDGE SINGLE POLE SUPPORT TWO SIGNS S-67-321".

WELD TEST AS PER AWS D1.1

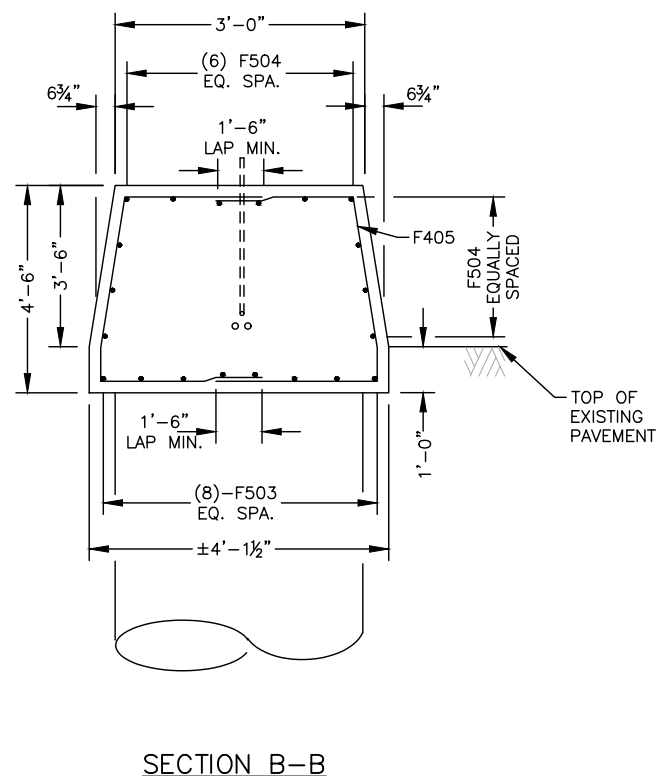
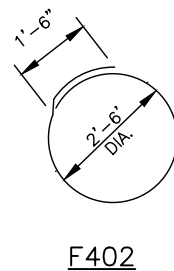
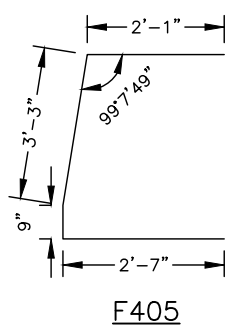
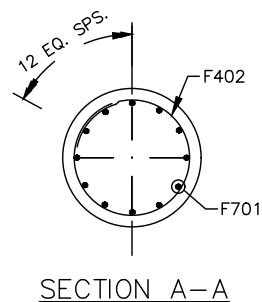
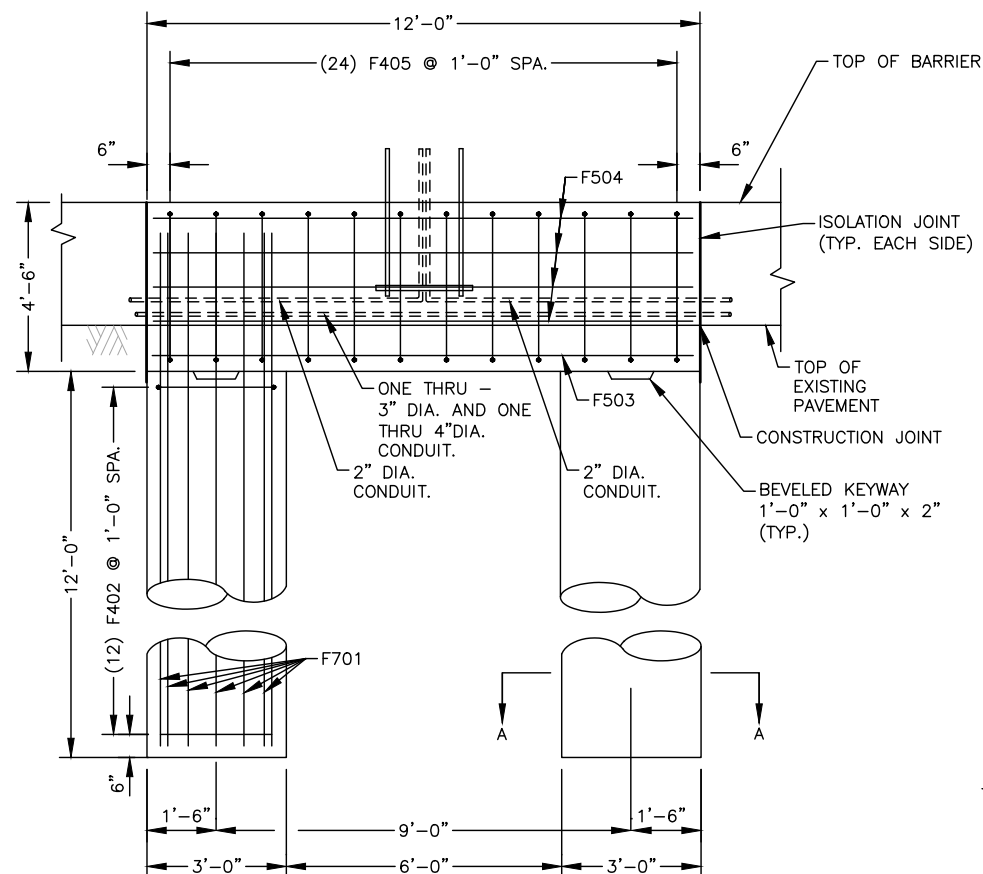
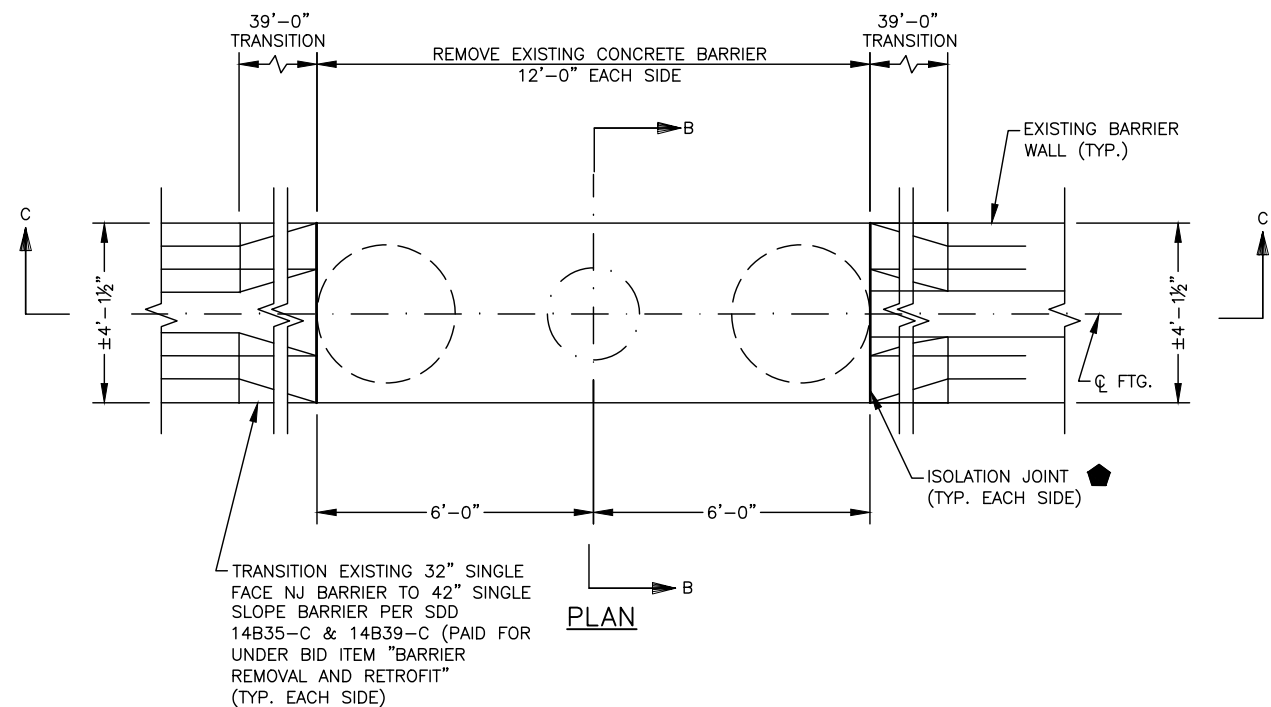
*CLEARANCE FOR A 12' DEEP SIGN IS PROVIDED FOR FUTURE PROVISIONS.

(XX) - REPRESENTS THE SIGN NO.

SUBMIT SHOP DRAWINGS TO BUREAU OF STRUCTURES AND PROJECT MANAGER.



NO.	DATE	REVISION	BY
COLLINS ENGINEERS			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> SDR CHIEF STRUCTURES DESIGN ENGINEER		03/26/18 DATE
STRUCTURE S-67-321			
IH 94, EAST OF CTH J/STH 164			
COUNTY	WAUKESHA	TOWN/CITY/VILLAGE	PEWAUKEE
DESIGN SPEC. AASHTO STD. SPEC. 6TH EDITION			
DESIGNED BY	VC	DESIGN CK'D. NJH	DRAWN BY MR PLANS CK'D. NJH
PLAN & ELEVATION			SHEET 1 OF 4

**BILL OF BARS**

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
F701	▲	24	15'-9"			DRILLED SHAFT VERTICAL
F402		24	9'-4"	▲		DRILLED SHAFT HOOP
F503	▲	8	11'-6"			CAP BEAM LONGITUDINAL
F504	▲	12	11'-6"			CAP BEAM LONGITUDINAL
F405	▲	24	8'-9"	▲		CAP BEAM STIRRUP

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

CONCRETE BARRIER TRANSITION DIMENSIONS SHALL BE ADJUSTED TO MATCH EXISTING TRAFFIC BARRIER.

TOP OF FOOTING SURFACE SHALL BE SMOOTH AND SLOPED TO DRAIN.

BOTTOM OF FOOTING TO BE EMBEDDED 1'-0" BELOW GRADE, UNLESS OTHERWISE NOTED.

ISOLATION JOINT PREFORMED JOINT FILLER WITH NON-BITUMINOUS JOINT SEALER. THE PREFORMED JOINT FILLER AND NON-BITUMINOUS JOINT SEALER SHALL MEET THE REQUIREMENTS OF SECTION 502 OF THE STANDARD SPECIFICATIONS. INCIDENTAL TO "SIGN SUPPORTS CONCRETE MASONRY".

BAR STEEL SHALL BE EMBEDDED 3" CLEAR UNLESS OTHERWISE NOTED.

TIE CAP BEAM REBAR IN PLACE AFTER ANCHOR ROD ASSEMBLY IS SET.

INSTALL CONDUIT IN FOOTING AND SWEEP CONDUIT UPSTREAM AND DOWN STREAM. CAP BOTH ENDS OF THE CONDUIT AND STUB OUT 6" MINIMUM. EXACT LOCATION TO BE DETERMINED IN THE FIELD. CONTRACTOR SHALL PROVIDE CONDUIT BOND BREAKER FOR FUTURE USE AND INSTALLATION OF ELECTRICAL CONNECTION. THE WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

TRANSITION BARRIER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 603 OF THE WISDOT STANDARD SPECIFICATION. EXISTING BARRIER VERTICAL ANCHORAGE DOWELS SHALL REMAIN AND SHALL BE CLEANED AND STRAIGHTENED. REFER TO STANDARD DETAIL DRAWING CONCRETE BARRIER SINGLE-FACED (WITH ANCHORAGE). ANY MISSING OR DAMAGED VERTICAL ANCHORAGE DOWELS SHALL BE REPLACED. VERTICAL ANCHORAGE DOWELS ARE INCIDENTAL TO ITEM "BARRIER REMOVAL AND RETROFIT".

SIGN STRUCTURE FOUNDATIONS TO BE SUPPORTED ON DRILLED SHAFTS WITH REQUIRED ALLOWABLE BEARING RESISTANCE OF 4000 PSF. THE SE REGION GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBSURFACE SOILS TO CONFIRM THE ALLOWABLE BEARING RESISTANCE PRIOR TO CONSTRUCTION.

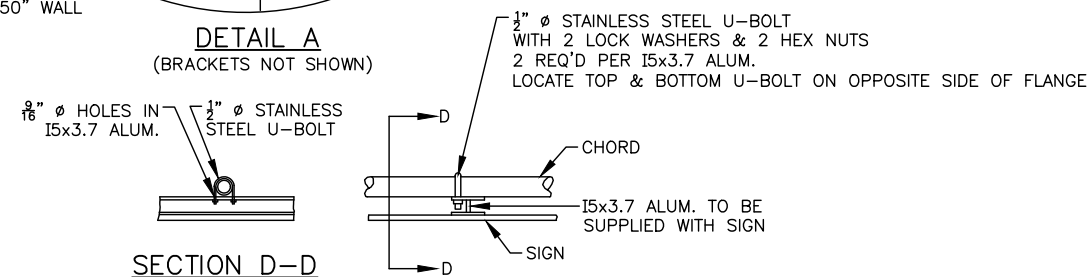
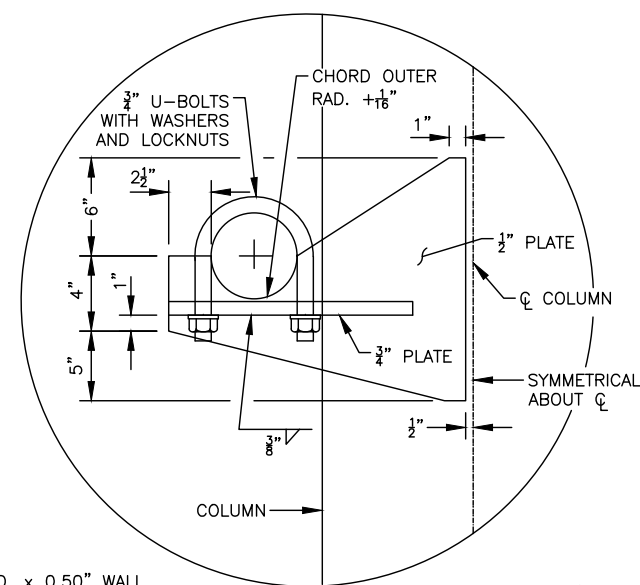
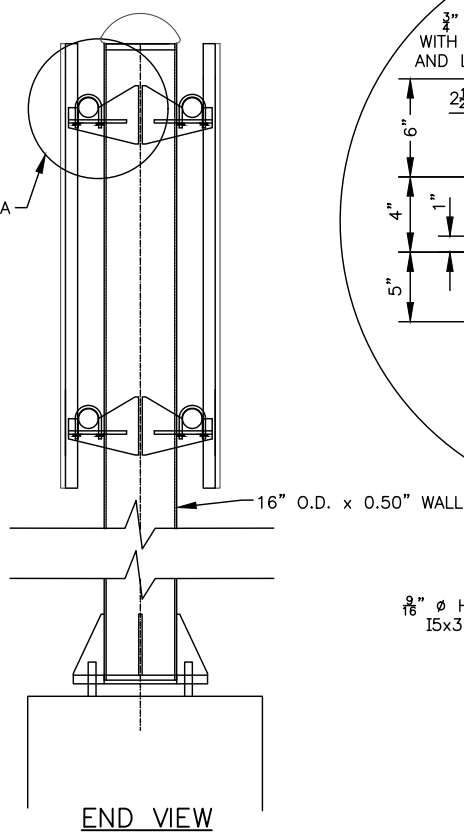
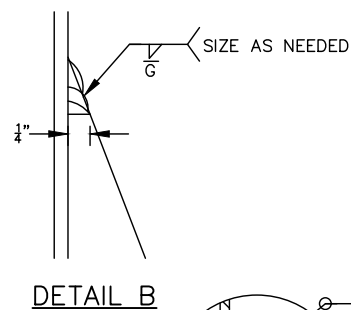
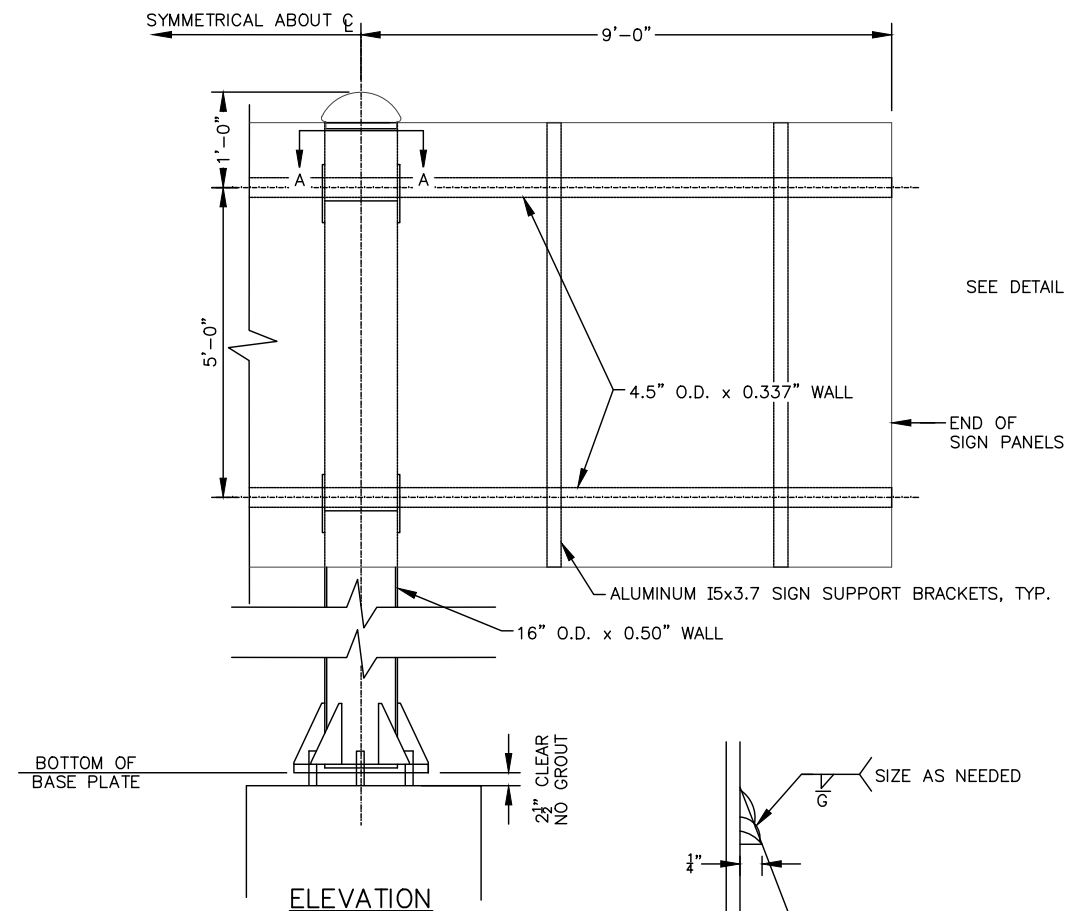
FOUNDATION DATA

THE FOLLOWING SOIL PARAMETERS WERE USED FOR THE DESIGN OF THE FOUNDATION SYSTEM. IF VARIATIONS IN THE SOIL PARAMETERS ARE FOUND DURING CONSTRUCTION NOTIFY PROJECT ENGINEER FOR REQUIRED MODIFICATION TO THE FOUNDATION SYSTEM.

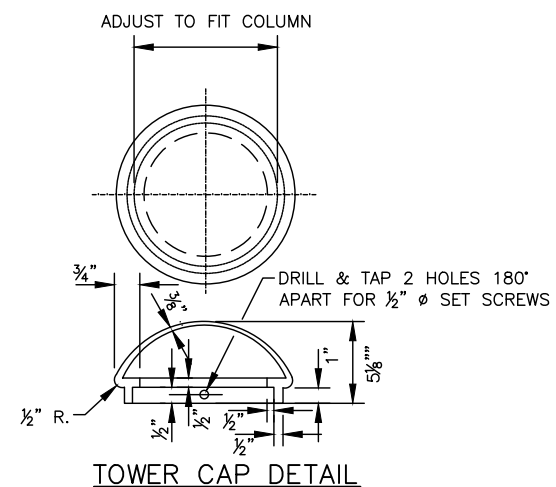
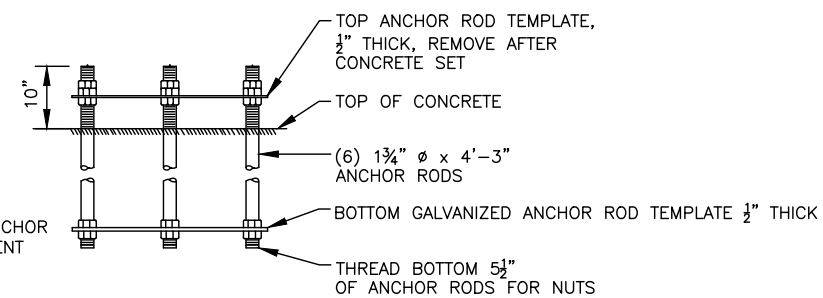
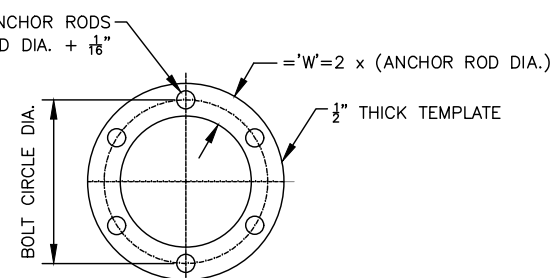
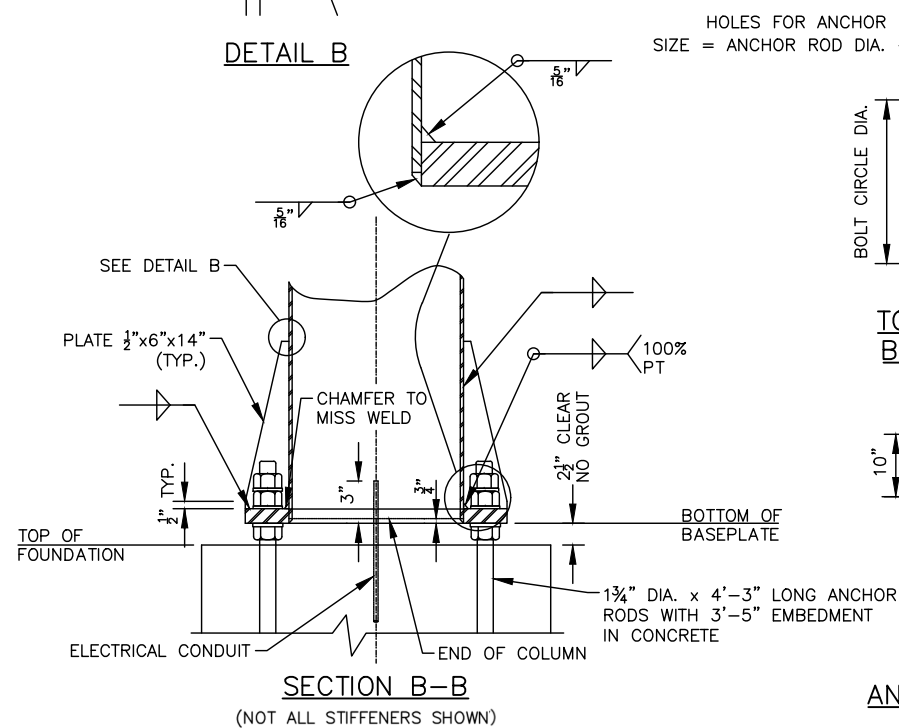
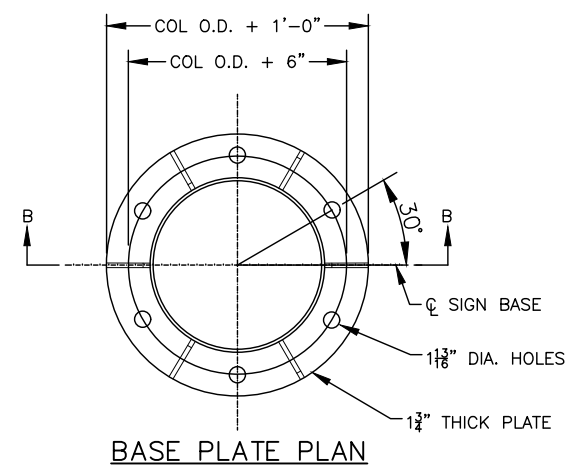
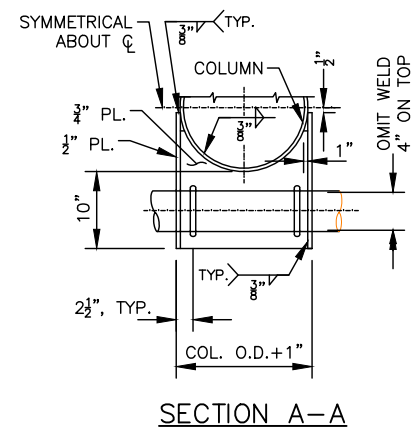
SOIL UNIT WEIGHT = 120 pcf
COHESION VALUE = 1000 psf
FRICTION ANGLE = 25°
ALLOWABLE SOIL BEARING PRESSURE = 4000 psf
ALLOWABLE SKIN FRICTION = 300 psf

SIGN STRUCTURE FOUNDATIONS TO BE SUPPORTED ON DRILLED SHAFTS WITH REQUIRED ALLOWABLE BEARING RESISTANCE OF 4000 PSF. THE SE REGION GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBSURFACE SOILS TO CONFIRM THE ALLOWABLE BEARING RESISTANCE PRIOR TO CONSTRUCTION.

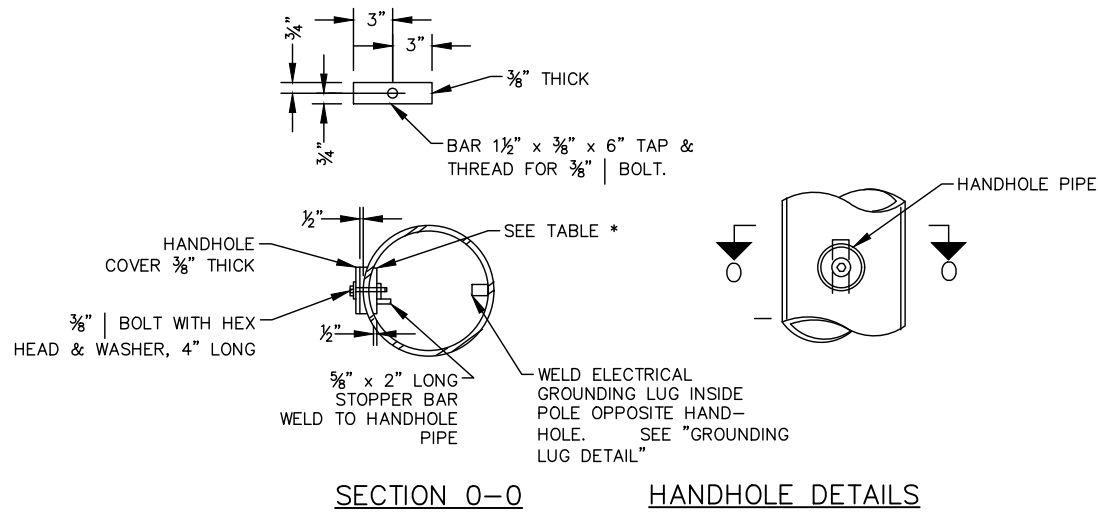
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-67-321			
DRAWN BY		MR	PLANS CK'D. NJH
FOUNDATION DETAILS		SHEET 2 OF 4	



TYPICAL SIGN CONNECTION



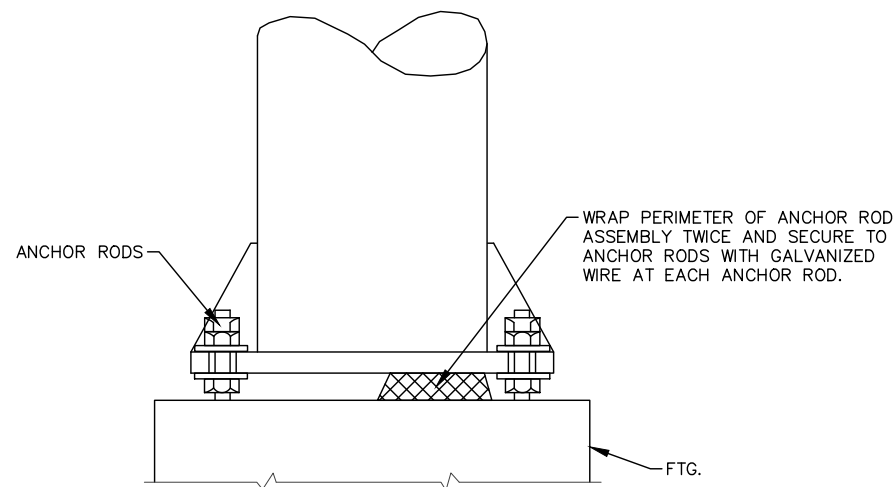
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-67-321			
DRAWN BY		MR	PLANS CK'D. NJH
SINGLE POLE SIGN SUPPORT DETAILS			SHEET 3 OF 4



HANDHOLE NOTES

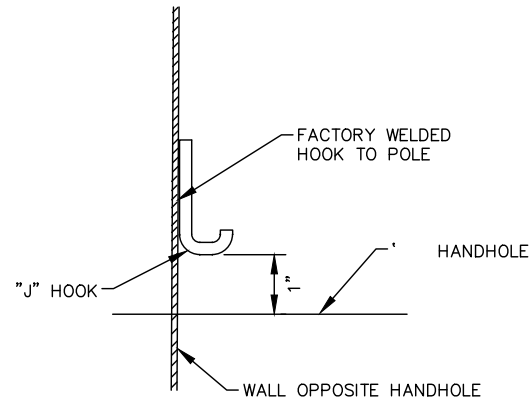
HANDHOLES SHALL BE LOCATED IN ONE COLUMN OF THE SIGN BRIDGE STRUCTURE IF ELECTRICALLY OPERATED DEVICES ARE INSTALLED ON/IN THE STRUCTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ELECTRICAL SERVICE ENTRANCE WITH THE REGION TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN BRIDGE COLUMNS AND MEMBERS. CONDUIT (AS REQ'D.) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL DETAIL PLAN SHEETS.

* COLUMN SIZE O.D. X THICKNESS	HANDHOLE PIPE O.D. X MIN. THK.
UP TO AND INCLD. 16" X .375"	5.562" X .500"
GREATER THAN 16" X .375" TO AND INCLD. 24" X .562"	6.625" X .562"



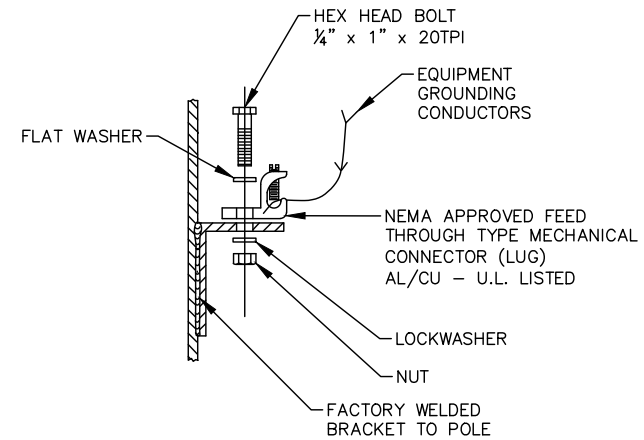
RODENT SCREEN

(ONLY REQ'D. WHEN ELECTRICAL DEVICES ARE INSTALLED)



TYPICAL "J" HOOK LOCATION

THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF ALL COLUMNS CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.



GROUNDING LUG DETAIL

NUT, BOLT, AND WASHERS SHALL BE STAINLESS STEEL.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE S-67-321			
DRAWN BY		MR	PLANS CK'D. NJH
HANDHOLE DETAILS		SHEET 4 OF 4	

TABLE OF ESTIMATED QUANTITES FOR FOUNDATIONS*

STRUCTURE NUMBER	HIGHWAY	REPLACE RODENT SCREEN	TENSION ANCHOR RODS	REPAIR FOUNDATION	TENSION LEVELING NUTS	CLEAN AND PAINT ANCHOR ROD	FOUNDATION EPOXY REPAIR	REPAIR/ REPLACE CONCRETE BARRIER
		SPV.0060.01	SPV.0060.02	SPV.0060.03	SPV.0060.13	SPV.0060.23	SPV.0060.30	SPV.0090.01
		EACH	EACH	EACH	EACH	EACH	EACH	LF
S-30-023	IH 41		1					
S-30-024	IH 41		1					
S-30-212	STH 31		1					
S-30-230	IH 94		1					
S-30-239	IH 41		2					
S-30-240	IH 94		2					
S-40-206	IH 94		1					
S-40-233	IH 41							12
S-40-236	IH 41			1		1		
S-40-241	STH 175			1				
S-40-251	IH 43		1					
S-40-252	IH 41		1					
S-40-281	IH 41	1						
S-40-302	CTH PP	4						
S-40-303	IH 41	1						
S-40-304	IH 41		1					
S-40-305	IH 41		1					
S-40-314	STH 341	1	1					
S-40-315	STH 175		2					
S-40-316	STH 175		2					
S-40-317	STH 175		2					
S-40-318	STH 175		2					
S-40-319	USH 341	2	2					
S-40-320	USH 341		2					
S-40-323	FREDERICK MILLER WAY	2	2					
S-40-324	FREDERICK MILLER WAY		2					
S-40-370	IH 41				2			
S-40-383	IH 43	1						
S-40-390	IH 43	2						
S-40-510	IH 43		2					
S-40-514	IH 94		1					
S-40-538	IH 794		2					
S-40-603	BRADLEY RD		1					
S-40-761	IH 41	1						
S-40-770	IH 41	1						
S-40-781	IH 41		1					
S-40-812	IH 894		1					
S-40-816	IH 43		1					
S-40-818	IH 43		1					
S-40-922	STH 24		1		1			
S-40-960	STH 59		1					
S-40-977	4TH ST		1					
S-45-208	STH 33		1					
S-45-209	STH 33		2					
S-66-207	STH 145		2					
S-66-212	STH 145		1					
S-66-213	IH 41		2					
S-66-216	USH 45		2					
S-67-038	CTH Y		1					
S-67-039	IH 94		2				1	
S-67-040	IH 94		1					
S-67-041	IH 94		1				1	
S-67-042	IH 94		1				1	
S-67-046	IH 41	1						
S-67-226	IH 94		1					
S-67-239	CTH G		1			8		
S-67-240	CTH G		1					
S-67-250	STH 83		1					
S-67-912	CTH Y		1				1	
S-67-917	IH 43		2				2	
S-67-939	STH 100		1					

* THE INFORMATION PROVIDED IN THIS TABLE IS FOR INFORMATION PURPOSES ONLY AND NOT TO BE COUNTED AS ADDITIONAL QUANTITIES TO THOSE LISTED ON THE ELEVATION VIEW SHEETS.

STATE PROJECT NUMBER

1000-20-70

LIST OF REPAIR DRAWINGS

1. FOUNDATION DETAILS (1 OF 3)

2. FOUNDATION DETAILS (2 OF 3)

3. FOUNDATION DETAILS (3 OF 3)

4. TRUSS DETAILS (1 OF 2)

5. TRUSS DETAILS (2 OF 2)

6. SIGN PANEL DETAILS (1 OF 2)

7. SIGN PANEL DETAILS (2 OF 2)

8. CATWALK DETAILS (1 OF 2)

9. CATWALK DETAILS (2 OF 2)

10. ELECTRICAL DETAILS

11. S-30-023

12. S-30-024

13. S-30-206

14. S-30-212

15. S-30-213

16. S-30-224

17. S-30-230

18. S-30-239

19. S-30-240

20. S-30-251

21. S-40-206

22. S-40-233

23. S-40-234

24. S-40-236

25. S-40-237

26. S-40-241

27. S-40-242

28. S-40-251

29. S-40-252

30. S-40-257

31. S-40-278

32. S-40-281

33. S-40-302

34. S-40-303

35. S-40-304

36. S-40-305

37. S-40-314

38. S-40-315

39. S-40-316

40. S-40-317

41. S-40-318

42. S-40-319

43. S-40-320

44. S-40-323

45. S-40-324

46. S-40-370

47. S-40-383

48. S-40-390

49. S-40-431

50. S-40-509

51. S-40-510

52. S-40-514

53. S-40-517

54. S-40-538

55. S-40-603

56. S-40-750

57. S-40-757

58. S-40-761

59. S-40-770

60. S-40-781

61. S-40-812

62. S-40-813

63. S-40-816

64. S-40-818

65. S-40-859

66. S-40-922

67. S-40-960

68. S-40-977

69. S-40-978

70. S-40-979

71. S-45-208

72. S-45-209

73. S-51-203
74. S-66-205

75. S-66-206

76. S-66-207

77. S-66-208

78. S-66-210

79. S-66-211

80. S-66-212

81. S-66-213

82. S-66-215

83. S-66-216

84. S-66-217

85. S-66-218

86. S-67-038

87. S-67-039

88. S-67-040

89. S-67-041

90. S-67-042

91. S-67-045

92. S-67-046

93. S-67-210

94. S-67-226

95. S-67-239

96. S-67-240

97. S-67-241

98. S-67-244

99. S-67-245

100. S-67-246

101. S-67-250

102. S-67-254

103. S-67-263

104. S-67-272

105. S-67-279

106. S-67-314

107. S-67-402

108. S-67-404

109. S-67-911

110. S-67-912

111. S-67-913

112. S-67-914

113. S-67-916

114. S-67-917

115. S-67-939



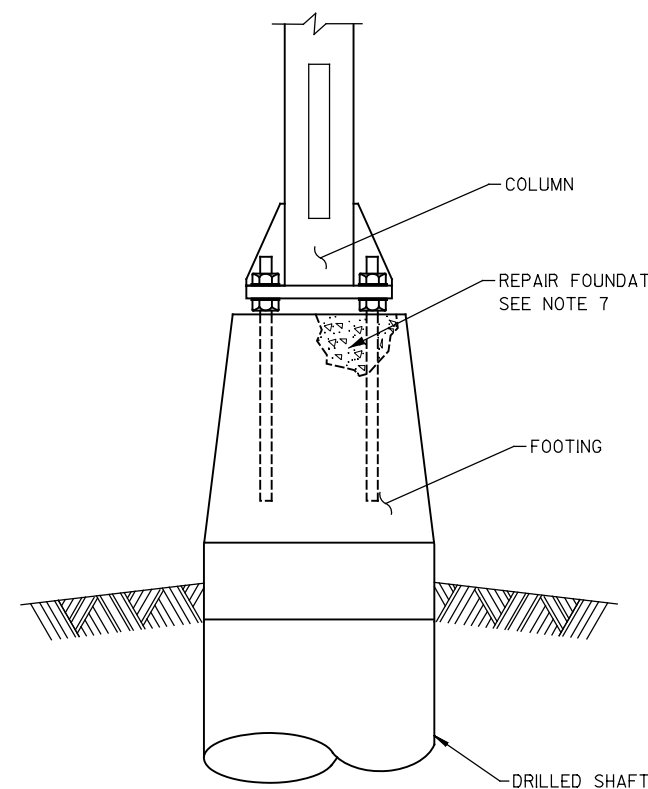
SE REGION CONTACT:
JASON ZEMKE (262) 548-8743

CONSULTANT CONTACT:
VERONICA CHAVEZ DE FERNANDEZ
(414) 282-6905

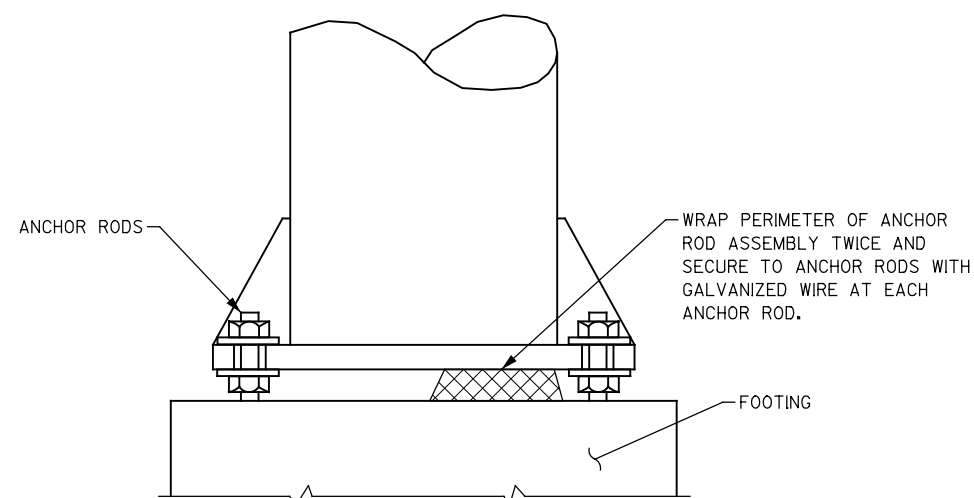
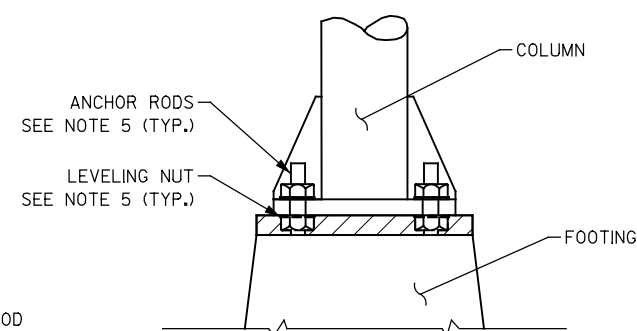
NO.	DATE	REVISION	BY
<div><div>COLLINS ENGINEERS</div><div>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</div></div>			
ACCEPTED <i>William C. Dreher</i> SDR		04/04/18	
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
SOUTHEAST REGION WIDE			
COUNTY SOUTHEAST REGION WIDE	TOWN/CITY/VILLAGE VARIOUS		
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	VC	DESIGN CK'D.	NJH
DRAWN BY	MSR	PLANS CK'D.	NJH
FOUNDATION DETAILS (1 OF 3)			SHEET 1 OF 115

FOUNDATION NOTES:

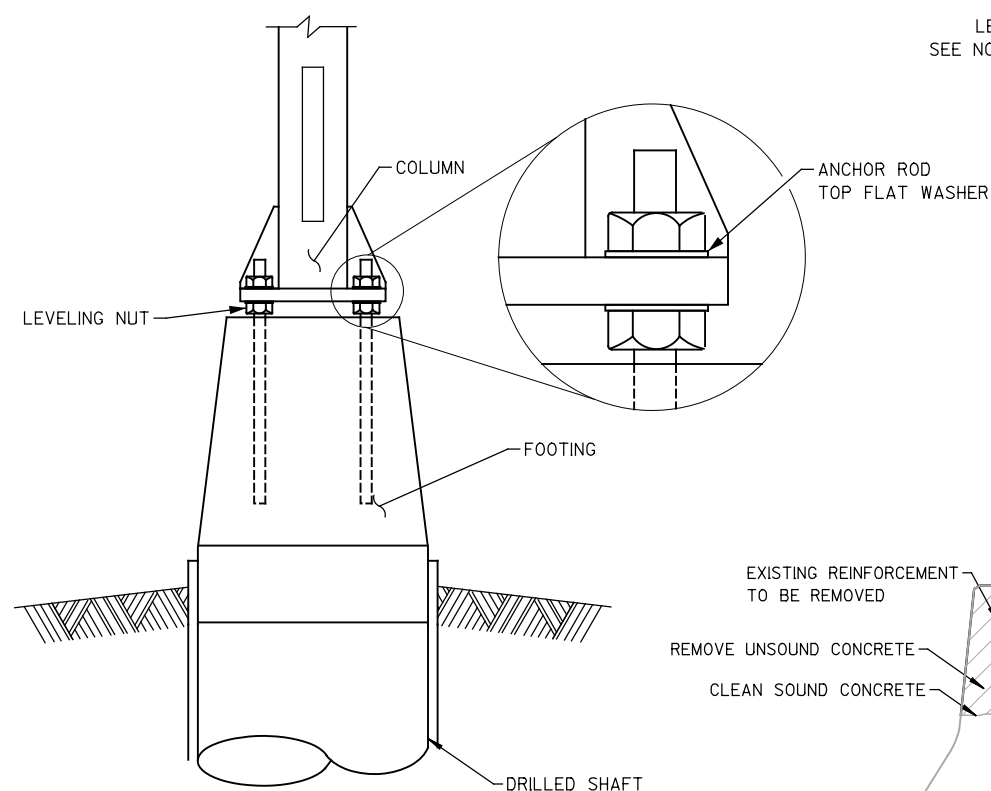
1. CONCRETE - $f_c' = 3,500$ P.S.I.
2. BAR STEEL REINF. - GRADE 60
 $f_y = 60,000$ P.S.I.
3. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL REPAIRS.
4. THE CONTRACTOR SHALL FIELD VERIFY DIMENSION OF THE ITEM REQUIRED. DISCREPANCIES SHALL BE SUBMITTED TO THE ENGINEER FOR CLARIFICATION PRIOR TO BEGINNING WORK.
5. APPLY ZINC-RICH PAINT TO THE ANCHOR RODS, NUTS, WASHERS, AND LEVELING NUTS IN ACCORDANCE WITH SPECIFICATIONS AFTER REMOVING THE GROUT PAD OR TENSIONING THE ANCHOR ROD. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM, "TENSION LEVELING NUTS", "TENSION ANCHOR RODS" OR "INSTALL ANCHOR ROD TOP WASHER".
6. STEEL ANCHOR ROD NUTS AND WASHERS ASTM A563A HEAVY HEX NUTS AND ASTM F436 WASHERS.
7. THE TOP OF THE FOOTING SURFACE SHALL BE SMOOTHED AND SLOPED TO DRAIN.



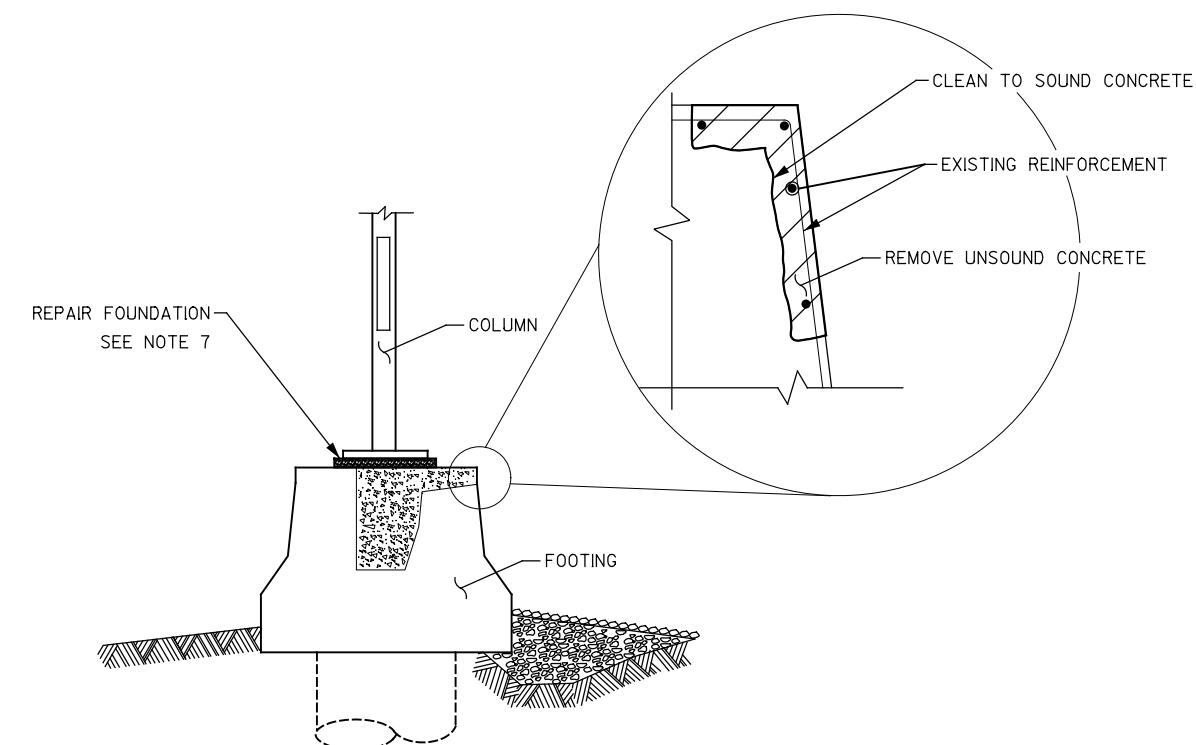
REPAIR FOUNDATION DETAIL

REPLACE RODENT SCREEN
REQUIRED ON ALL GROUT PAD REMOVALS

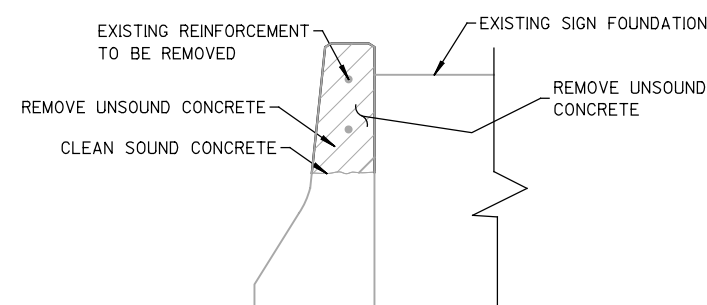
TENSION ANCHOR ROD



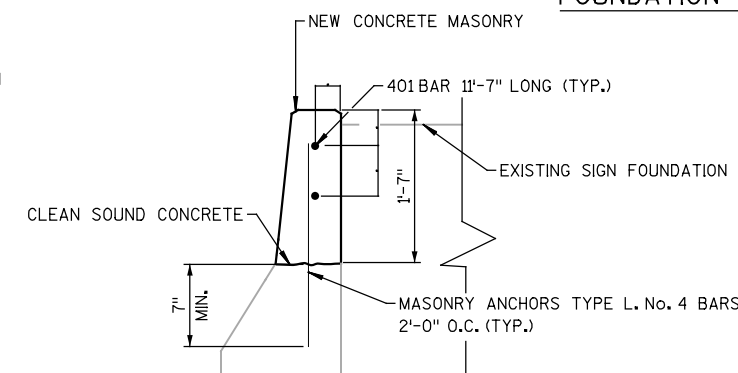
FOUNDATION DETAIL



FOUNDATION DETAIL



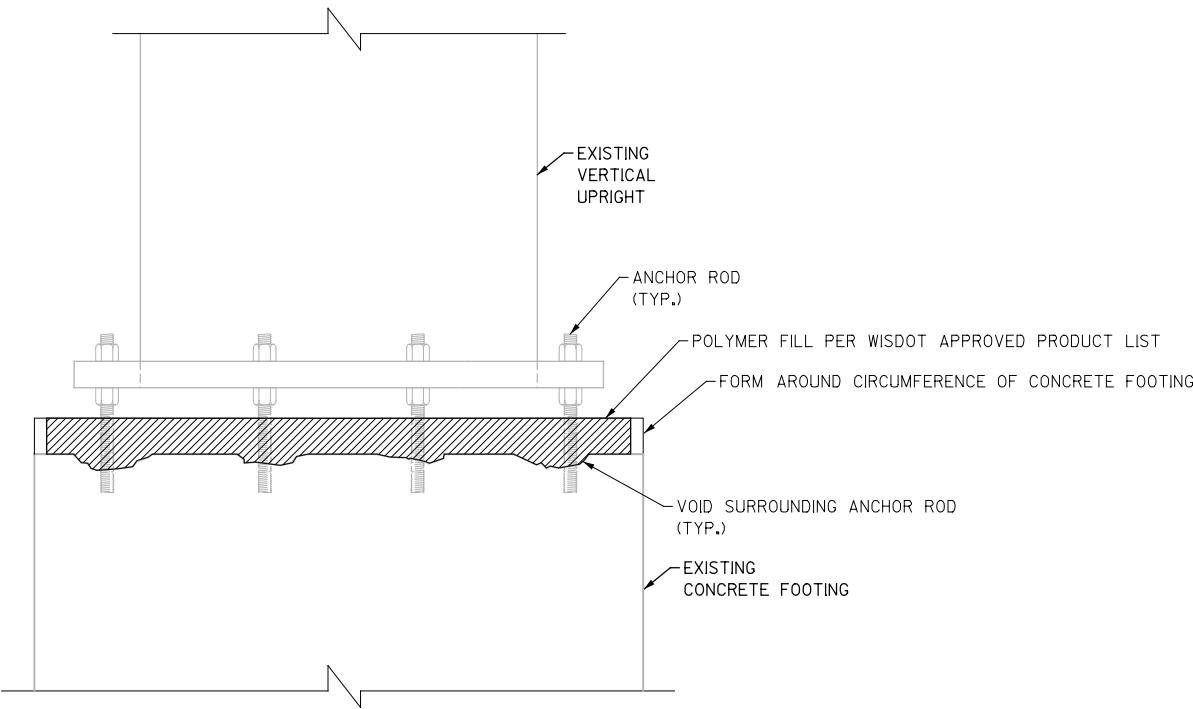
EXISTING SECTION



REPAIRED SECTION

BARRIER WALL REPAIR

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
FOUNDATION DETAILS (2 OF 3)			SHEET 2 OF 115



FOUNDATION EPOXY REPAIR

FOUNDATION NOTES

DRAWINGS SHALL NOT BE SCALED

EXISTING GEOMETRY BASED OFF FIELD OBSERVATIONS AND INSPECTIONS. CONTRACTOR TO FIELD VERIFY PRIOR TO FABRICATION AND/OR ORDERING MATERIALS FOR ANCHOR BOLT REPAIR.

THE ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE COLD GALVANIZED WITH ZINC RICH PAINT IN ACCORDANCE TO THE SPECIFICATIONS.

CLEAN ALL SURFACES AS SPECIFIED IN THE PLANS AND PER THE SPECIAL PROVISIONS. ALL CLEANING OF THE ITEMS ARE INCIDENTAL SIGN STRUCTURE ANCHOR ROD REPAIR.

* THE NUMBER OF ANCHOR BOLTS SHOWN ARE FOR INFORMATION PURPOSES ONLY.

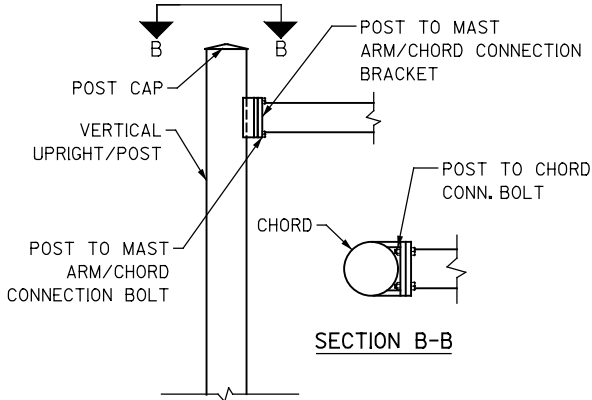
NUMBER OF ANCHOR BOLTS VARY PER STRUCTURE.

ALL ITEMS SHOWN ARE INCIDENTAL TO "FOUNDATION EPOXY REPAIR"

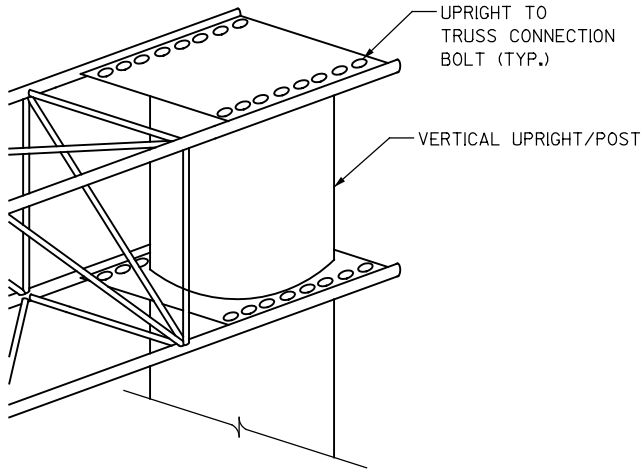
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
FOUNDATION DETAILS (3 OF 3)			SHEET 3 OF 115

TABLE OF ESTIMATED QUANTITES FOR TRUSS*

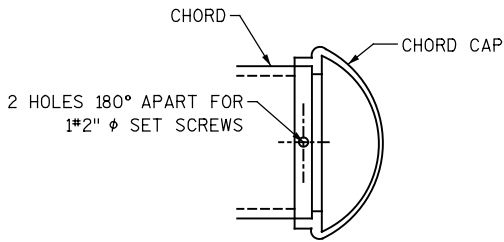
STRUCTURE NUMBER	HIGHWAY	SECURE/REPLACE CHORD CAP	SECURE/REPLACE VERTICAL POST CAP	REPLACE SPLICE CONNECTION BOLTS	REPLACE TRUSS GUSSET CONNECTION BOLT	TIGHTEN POST TO CHORD CONNECTION BOLT	REPLACE POST TO CHORD CONNECTION BOLT
		SPV.0060.04	SPV.0060.09	SPV.0060.26	SPV.0060.28	SPV.0060.34	SPV.0060.35
		EACH	EACH	EACH	EACH	EACH	EACH
S-30-023	IH 41	8					
S-30-251	IH 41	2					
S-40-237	IH 41	1					
S-40-302	CTH PP						
S-40-304	IH 41			1			
S-40-509	IH 43			1			
S-40-757	IH 894			1		1	
S-40-770	IH 41						4
S-40-812	IH 894	8					
S-40-859	IH 94	8					
S-40-978	5TH ST					2	
S-40-979	5TH ST					1	
S-45-209	STH 33					4	2
S-66-207	STH 145					1	
S-66-208	STH 145					1	
S-66-210	STH 145					1	
S-66-212	STH 145						4
S-66-213	IH 41			1		1	
S-66-215	CABELA WAY						8
S-66-217	STH 164			1		2	
S-66-218	CTH Q			1			
S-67-038	CTH Y			1			
S-67-045	IH 41			1			
S-67-046	IH 41			1			
S-67-226	IH 94		1				4
S-67-250	STH 83						4
S-67-254	CTH Q			1			
S-67-272	CTH O (MOORLAND RD)			1			
S-67-314	IH 94	8			2		
S-67-404	STH 190					1	
S-67-911	USH 18						4
S-67-912	CTH Y			1			
S-67-916	IH 43			1			
S-67-917	IH 43			1			
S-67-939	STH 100						8



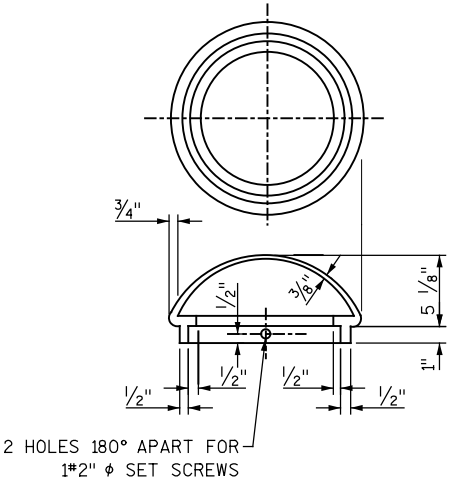
POST TO MAST ARM/CHORD DETAIL



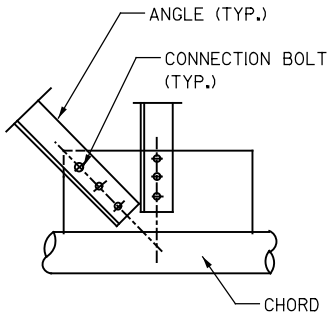
CANTIEVER SIGN BRIDGE
POST TO TRUSS CONNECTION DETAIL



CHORD CAP DETAIL



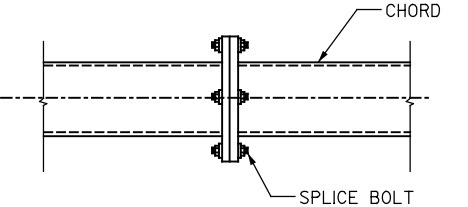
VERTICAL POST CAP DETAIL



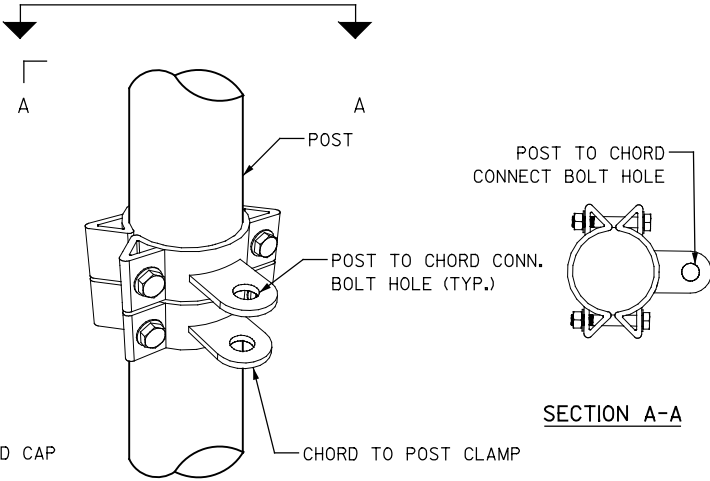
TRUSS GUSSET CONNECTION DETAIL

TRUSS NOTES:

1. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL REPAIRS.
2. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS OF THE ITEM REQUIRED. DISCREPANCIES SHALL BE SUBMITTED TO THE ENGINEER FOR CLARIFICATION PRIOR TO BEGINNING WORK.
3. ALL STAINLESS STEEL BOLTS, LOCK WASHERS, AND NUTS SHALL CONFORM TO:
-ANCHOR BOLTS/HEX BOLTS ASTM F593 ANY ALLOY GROUP 1, 2, OR 3
-HEX NUTS ASTM F594
-WASHERS ASTM A240
ANY OF THE 300 SERIES WHICH HAVE A MINIMUM YIELD OF 40,000 PSI AND ELONGATION OF 15% FOR OVER 3/4" φ AND 12% FOR 3/4" φ AND SMALLER.
4. REPLACE MISSING BOLTS ON TOWER CAPS WITH A STAINLESS STEEL BOLT.
5. REMOVE AND CLEAN ALL NESTING DEBRIS AT ALL POST TO CHORD CONNECTIONS.



SPLICE CONNECTION BOLT
DETAIL



CLAMP TYPE POST TO CHORD CONNECTION

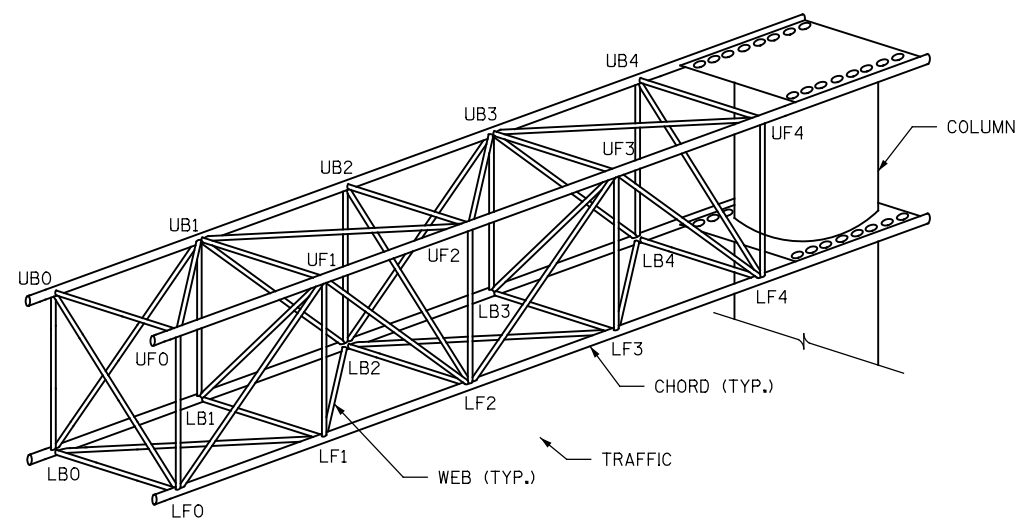
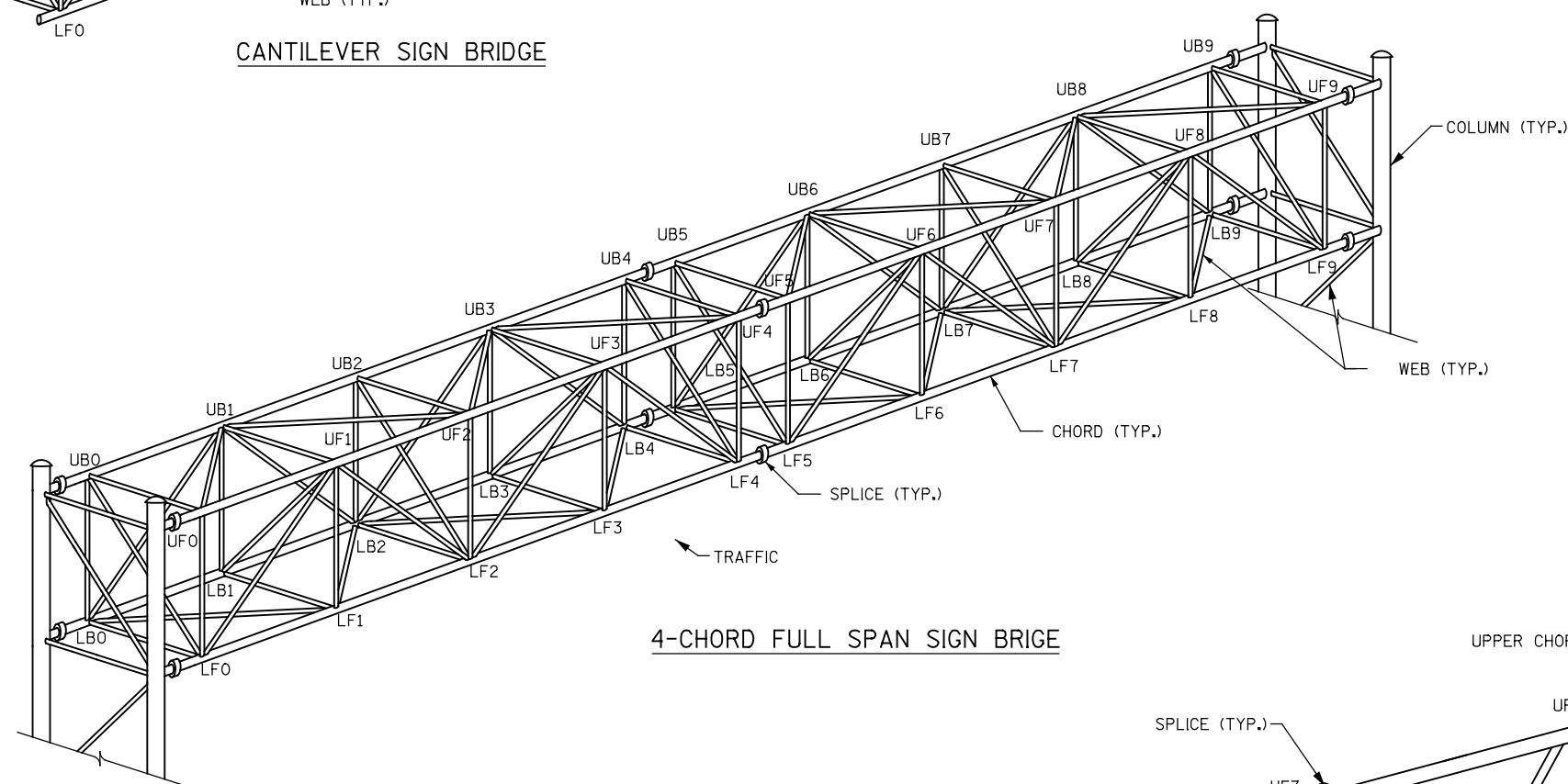
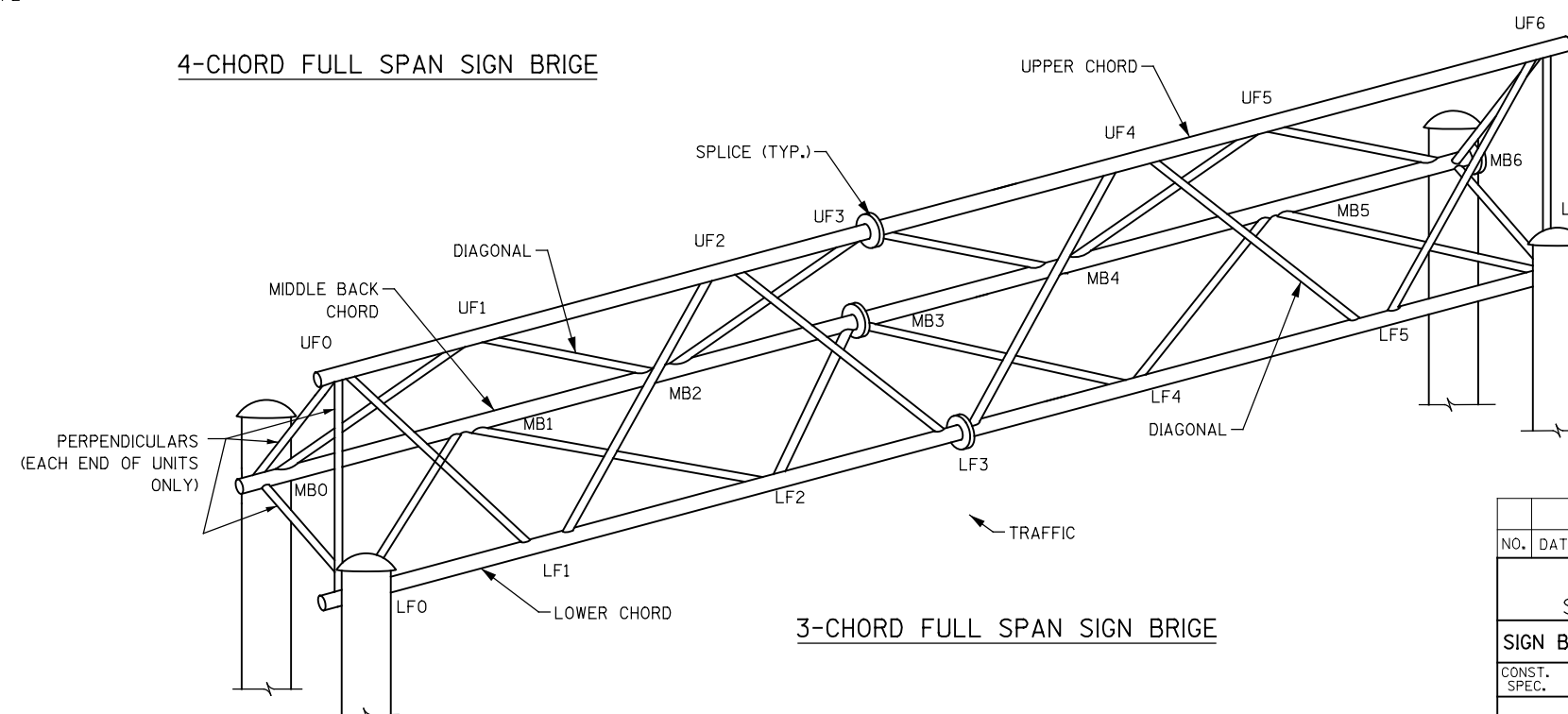
STATE PROJECT NUMBER

1000-20-70

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
TRUSS DETAILS (1 OF 2)			SHEET 4 OF 115

TRUSS NOTES:

1. WHEN A FULL SPAN SIGN BRIDGE IS OVER BOTH DIRECTIONS AND SIGNS ARE ON STRUCTURE FOR BOTH DIRECTIONS, THEN NORTHBOUND AND EASTBOUND GOVERN THE NUMBERING SYSTEM.
2. THE CANTILEVER SIGN BRIDGE NUMBERING SYSTEM ALWAYS COUNTS UP FROM LEFT TO RIGHT REGARDLESS OF COLUMN LOCATION.
3. TYPICAL SIGN BRIDGE CONFIGURATION FOR INFORMATION ONLY.

**CANTILEVER SIGN BRIDGE****4-CHORD FULL SPAN SIGN BRIDGE****3-CHORD FULL SPAN SIGN BRIDGE**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
TRUSS DETAILS (2 OF 2)			SHEET 5 OF 115

TABLE OF ESTIMATED QUANTITES FOR SIGNS*

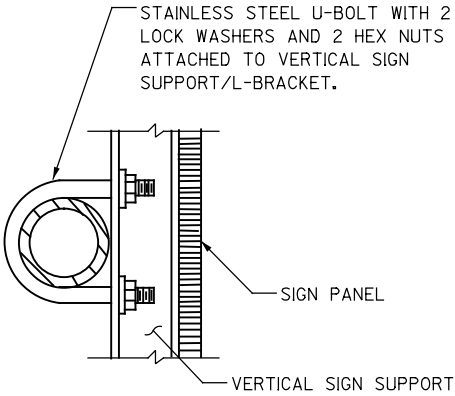
STRUCTURE NUMBER	HIGHWAY	REPLACE U-BOLT	INSTALL SIGN PANEL CONNECTOR	SECURE SIGN TYPE II	REPLACE SIGN CONNECTION ASSEMBLY	INSTALL ID PLAQUE	REPLACE VERTICAL SIGN SUPPORT	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET
		SPV.0060.08	SPV.0060.11	SPV.0060.14	SPV.0060.18	SPV.0060.24	SPV.0060.25	SPV.0060.32
		EACH	EACH	EACH	EACH	EACH	EACH	EACH
S-30-0206	IH 41		48				8	
S-30-023	IH 41					1		
S-30-213	STH 31				1			
S-30-224	STH 158			1				
S-30-240	IH 94							8
S-30-251	IH 41							2
S-40-236	IH 41					1		
S-40-237	IH 41					1		
S-40-241	STH 175	1						
S-40-242	STH 175	6	1					
S-40-257	IH 43						3	
S-40-281	IH 41				2			
S-40-303	IH 41		12					
S-40-304	IH 41	2						
S-40-315	STH 175		21					
S-40-316	STH 175		32					
S-40-320	USH 341		28					
S-40-324	FREDERICK MILLER WAY		14					
S-40-383	IH 43	2						
S-40-750	CTH Y			1				
S-40-761	IH 41				1			
S-40-770	IH 41					1		
S-40-812	IH 894						3	
S-40-813	IH 43	1						
S-40-859	IH 94					1		
S-40-979	5TH ST	1						
S 45-208	STH 33							4
S-45-209	STH 33							4
S-51-203	IH 41	1						
S-66-205	IH 41			1				
S-66-212	STH 145			1				
S-67-038	CTH Y		1					
S-67-039	IH 94		18					
S-67-042	IH 94		1					
S-67-210	STH 164			1				
S-67-241	IH 41				1			
S-67-246	CTH SS				1			
S-67-263	STH 164				2			
S-67-279	STH 74						3	
S-67-911	USH 18							6
S-67-912	CTH Y							7
S-67-913	CTH Y							2
S-67-914	CTH Y							7
S-67-916	IH 43			1		1		7
S-67-917	IH 43							5

STATE PROJECT NUMBER

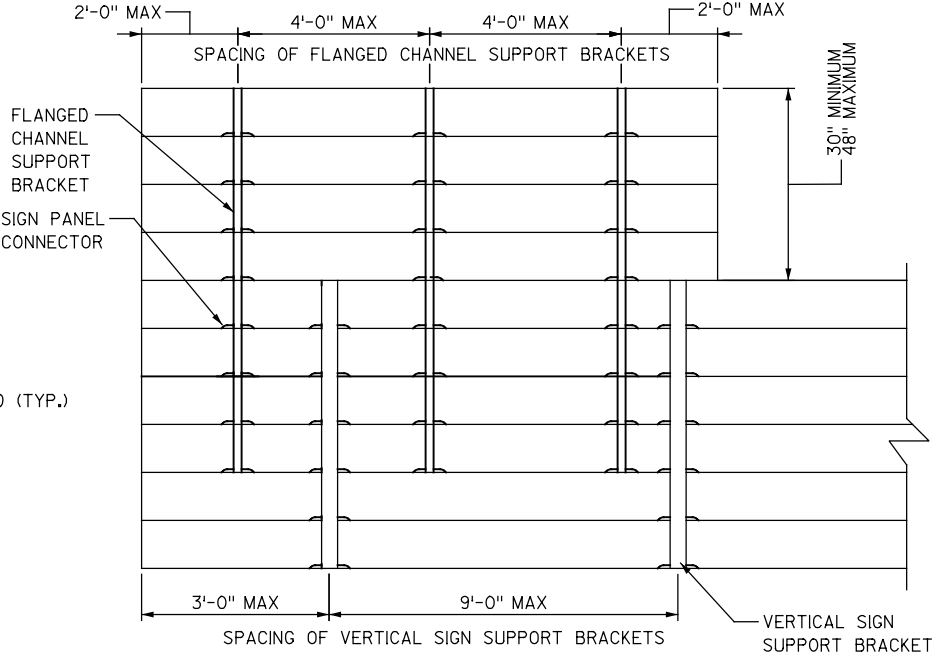
1000-20-70

SIGN PANEL NOTES:

1. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL REPAIRS.
2. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS OF THE ITEM REQUIRED. DISCREPANCIES SHALL BE SUBMITTED TO THE ENGINEER FOR CLARIFICATION PRIOR TO BEGINNING WORK.
3. ALL STAINLESS STEEL BOLTS, LOCK WASHERS, AND NUTS SHALL CONFORM TO:
-HEX BOLTS ASTM F593 ANY ALLOY GROUP 1, 2, OR 3
-HEX NUTS ASTM 594
-WASHERS ASTM A240
ANY OF THE 300 SERIES WHICH HAVE A MINIMUM YIELD OF 40,000 PSI AND ELONGATION OF 15% FOR OVER 3/4" ϕ AND 12% FOR 3/4" ϕ AND SMALLER.
4. ALL OVERHEAD SIGN SUPPORT MOUNTING BRACKETS THAT NEED TO BE COMPLETELY REPLACED SHALL BE PER WISDOT APPROVED PRODUCTS LIST.



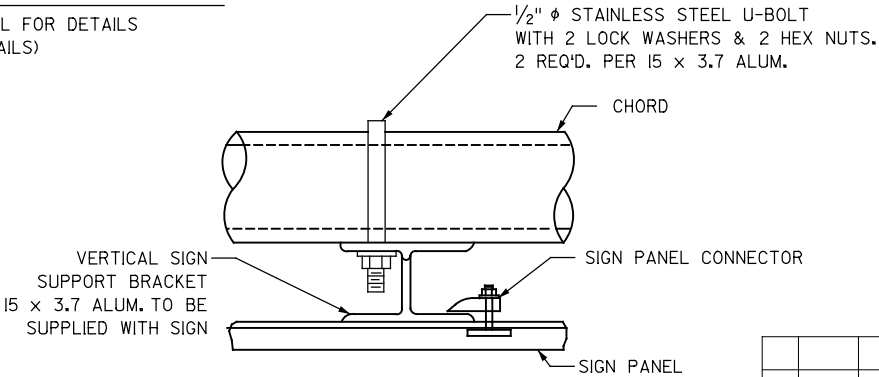
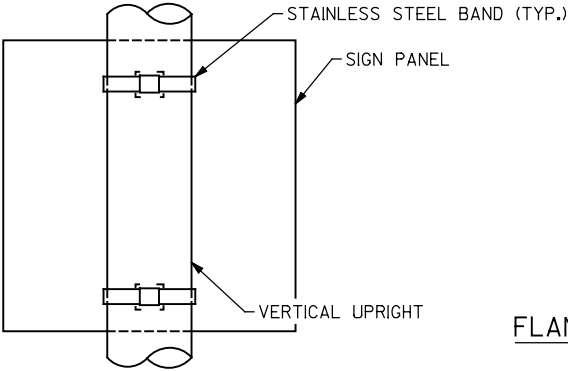
REPLACE U-BOLTS



FLANGED CHANNEL SUPPORT/VERTICAL SIGN SUPPORT BRACKET DETAILS

TYPE-II SIGN TO VERTICAL UPRIGHT DETAIL

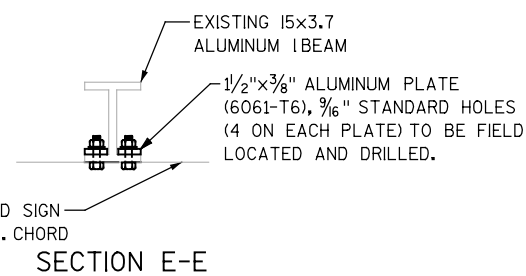
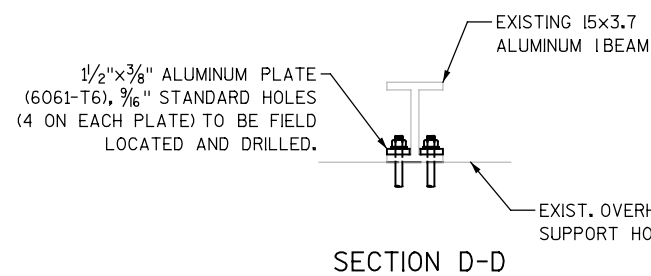
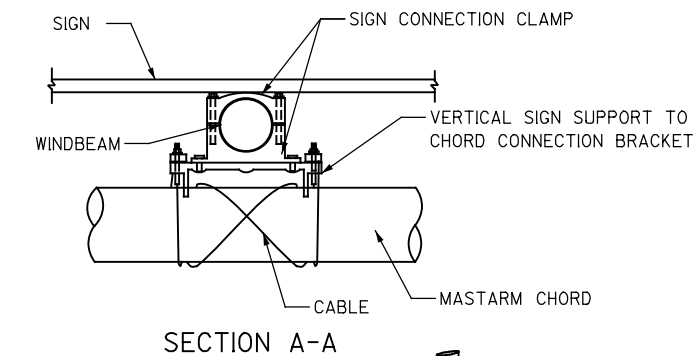
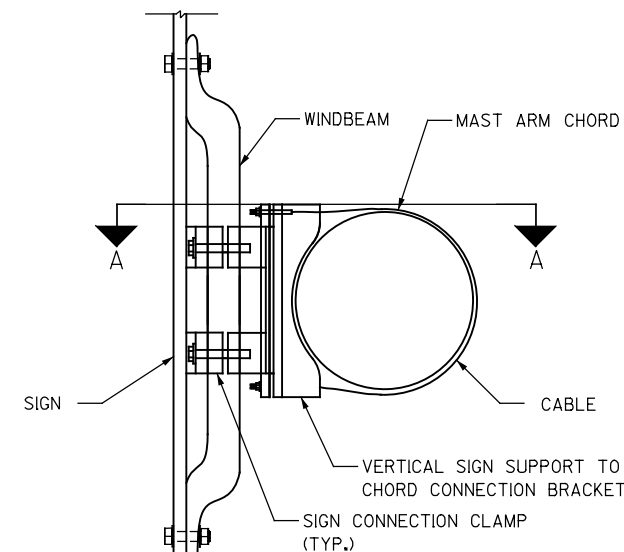
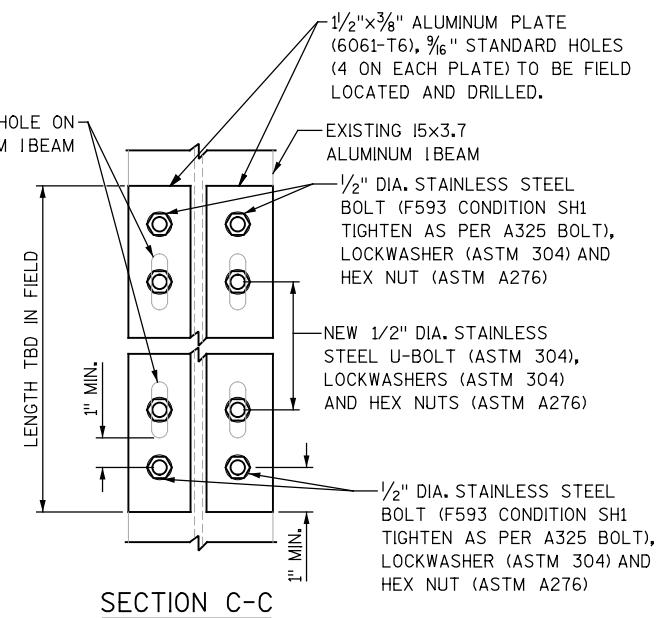
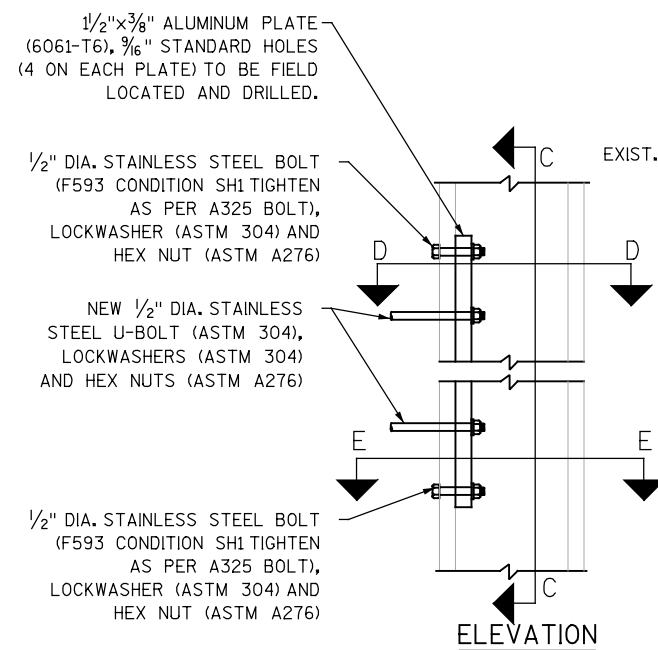
REFER TO SIGN PLATE MANUAL FOR DETAILS
(SIGN BANDING DETAILS)



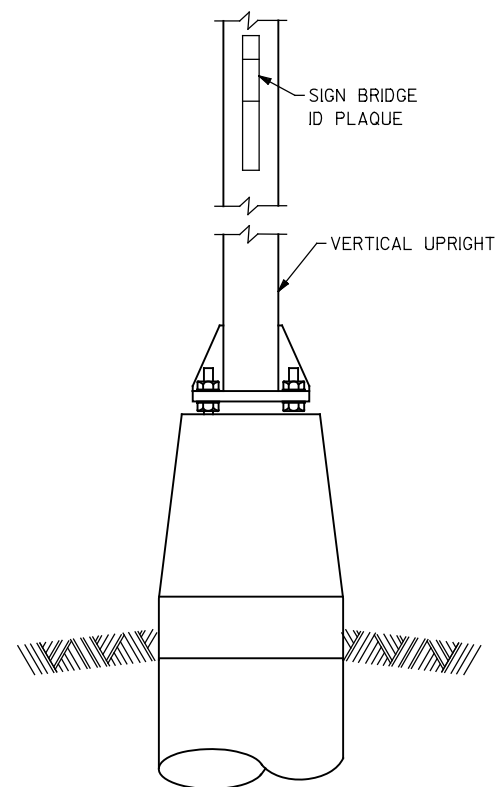
TYPICAL SIGN PANEL CONNECTION (TYPE I SIGN)

* THE INFORMATION PROVIDED IN THIS TABLE IS FOR INFORMATION PURPOSES ONLY AND NOT TO BE COUNTED AS ADDITIONAL QUANTITIES TO THOSE LISTED ON THE ELEVATION VIEW SHEETS.

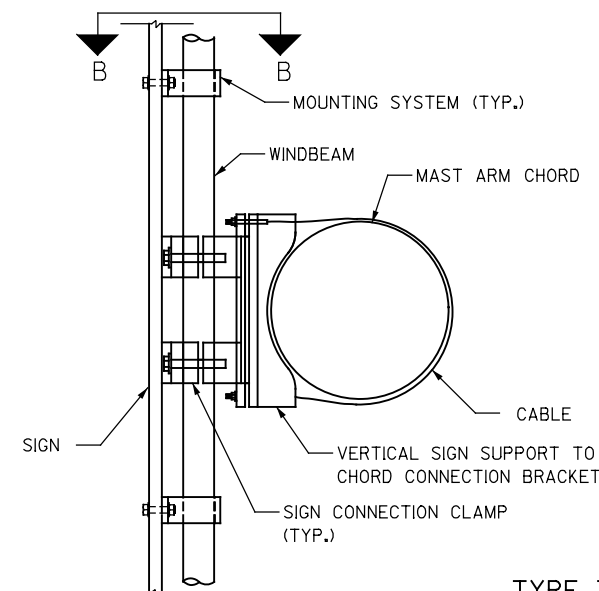
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
SIGN PANEL DETAILS (1 OF 2)			SHEET 6 OF 115



SLOTTED VERTICAL SIGN SUPPORT REPAIR DETAIL
EACH REPAIR INCLUDES ALL BOLT CONNECTIONS PER I-BEAM

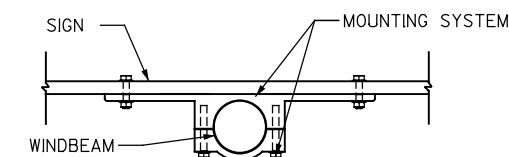
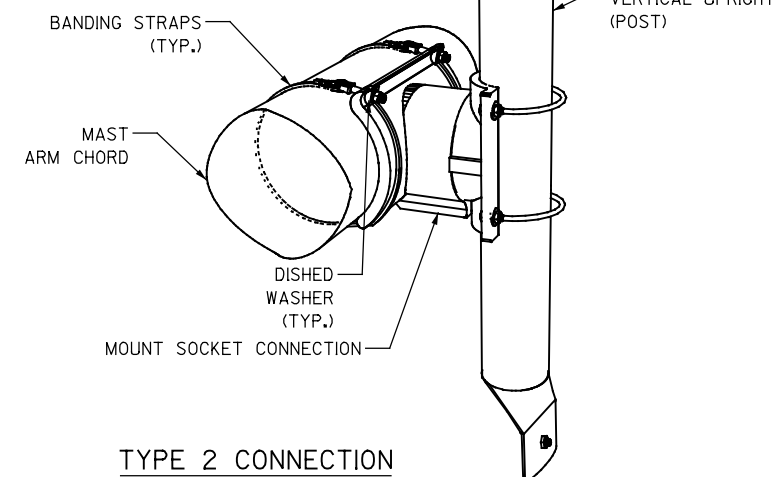


SIGN BRIDGE ID PLAQUE



SIGN PANEL CONNECTION DETAIL (TYPE II SIGN)

NOTE: SOME TYPE II SIGN PANELS MAY HAVE SIGN TYPE I CONNECTION. REFER TO SHEET "SIGN PANEL DETAILS (1 OF 2)".



NO.	DATE	REVISION	BY
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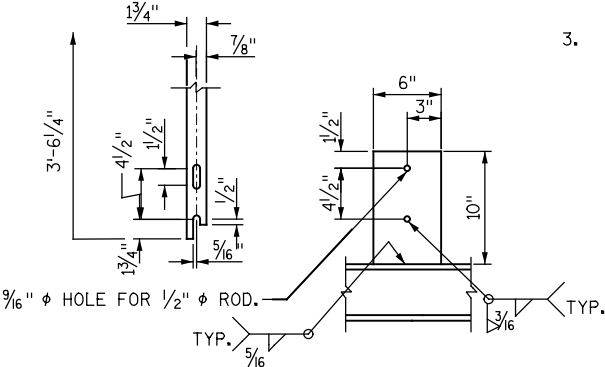
TABLE OF ESTIMATED QUANTITIES FOR CATWALKS*

STRUCTURE NUMBER	HIGHWAY	REPLACE SAFETY CHAIN	REPLACE HANDRAIL HINGE PIN	REPLACE WALKWAY CONNECTION CLIP	REMOVE CATWALK AND L-BRACKETS	REPLACE UNISTRUT
		SPV.0060.06	SPV.0060.07	SPV.0060.16	SPV.0060.21	SPV.0060.31
		EACH	EACH	EACH	EACH	EACH
S-40-233	IH 41					1
S-40-234	IH 41					1
S-40-257	IH 43			1		
S-40-304	IH 41				2	
S-40-315	STH 175	1				
S-40-390	IH 43	1				
S-40-812	IH 894	1				
S-67-314	IH 94	2				
S-67-404	STH 190		6			

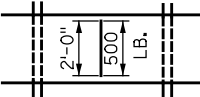
* THE INFORMATION PROVIDED IN THIS TABLE IS FOR INFORMATION PURPOSES ONLY AND NOT TO BE COUNTED AS ADDITIONAL QUANTITIES TO THOSE LISTED ON THE ELEVATION VIEW SHEETS.

CATWALK NOTES:

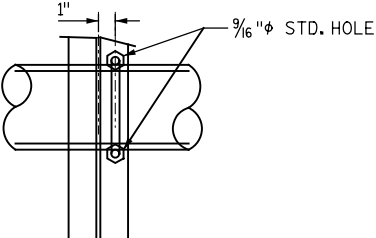
1. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL REPAIRS.
2. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE OF THE ITEM REQUIRED.
3. ALL STAINLESS STEEL BOLTS, LOCK WASHERS, AND NUTS SHALL CONFORM TO:
 - ANCHOR BOLTS/HEX BOLTS ASTM F593 ANY ALLOY GROUP 1,2,OR3
 - HEX NUTS ASTM F594
 - WASHERS ASTM A240ANY OF THE 300 SERIES WHICH HAVE A MINIMUM YIELD OF 40,000 PSI AND ELONGATION OF 15% FOR OVER 3/4" ϕ AND 12% FOR 3/4" ϕ AND SMALLER.



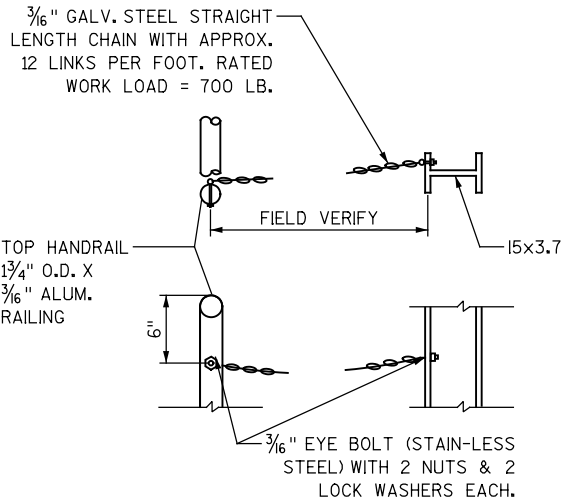
DETAIL "D"



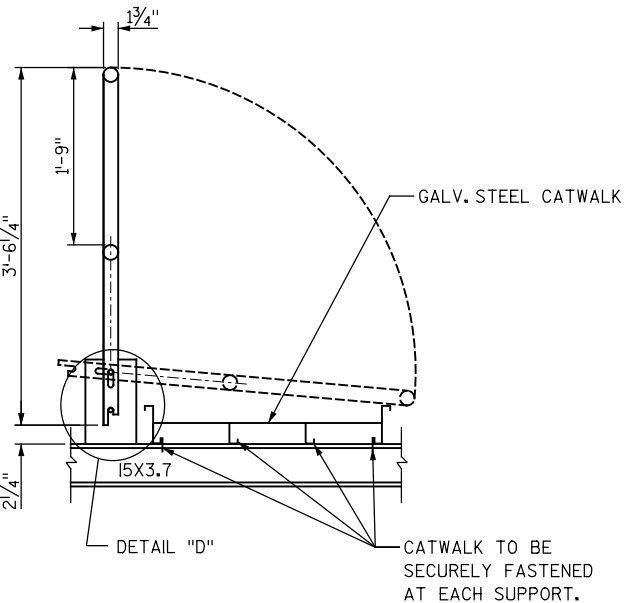
NOTE:
CATWALK SHALL MEET AASHTO "STANDARD SPECIFICATIONS FOR
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC
SIGNALS" 6TH EDITION. (500 LB. DISTRIBUTED OVER 2'-0" TRANSVERSELY
WITH THE BASIC ALLOWABLE UNIT STRESS INCREASED 25%). MAX. SPAN
IS 8'-0". CATWALK SHALL ALSO MEET THE MOST RECENT ISSUE OF
OSHA STD'S FOR WALKING-WORKING SURFACES.



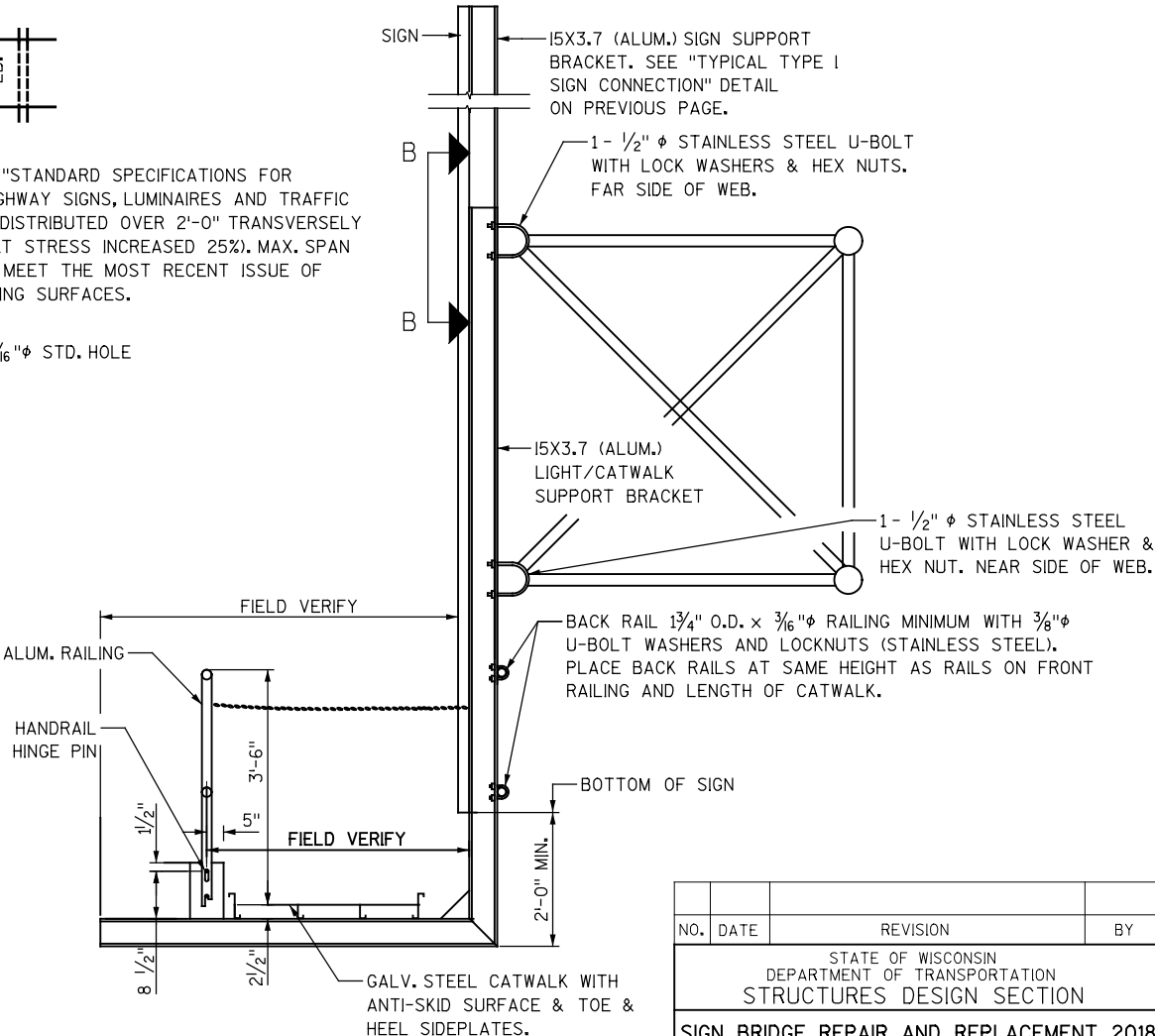
SECTION B-B



SAFETY CHAIN DETAIL



RAIL POST DETAIL

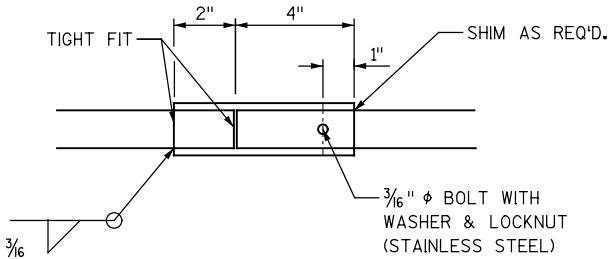


SECTION THRU WALKWAY

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
CATWALK DETAILS (1 OF 2)			SHEET 8 OF 115

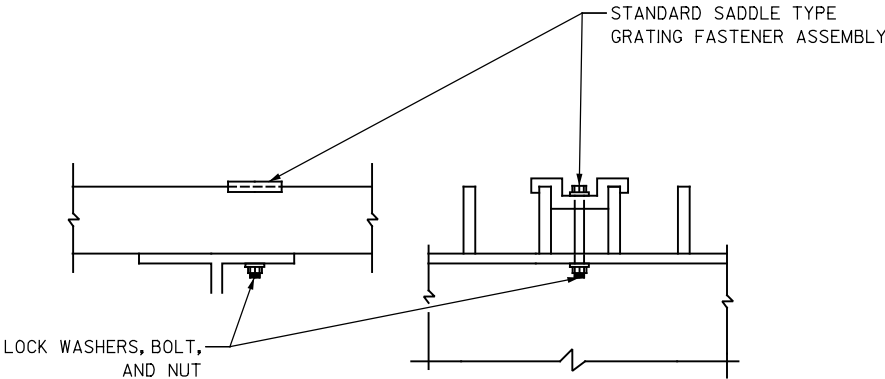
CATWALK NOTES:

1. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL REPAIRS.
2. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE OF THE ITEM REQUIRED.
3. ALL STAINLESS STEEL BOLTS, LOCK WASHERS, AND NUTS SHALL CONFORM TO:
-ANCHOR BOLTS/HEX BOLTS ASTM F593 ANY ALLOY GROUP 1,2,OR3
-HEX NUTS ASTM F594
-WASHERS ASTM A240
ANY OF THE 300 SERIES WHICH HAVE A MINIMUM YIELD OF 40,000 PSI AND ELONGATION OF 15% FOR OVER 3/4" ϕ AND 12% FOR 3/4" ϕ AND SMALLER.

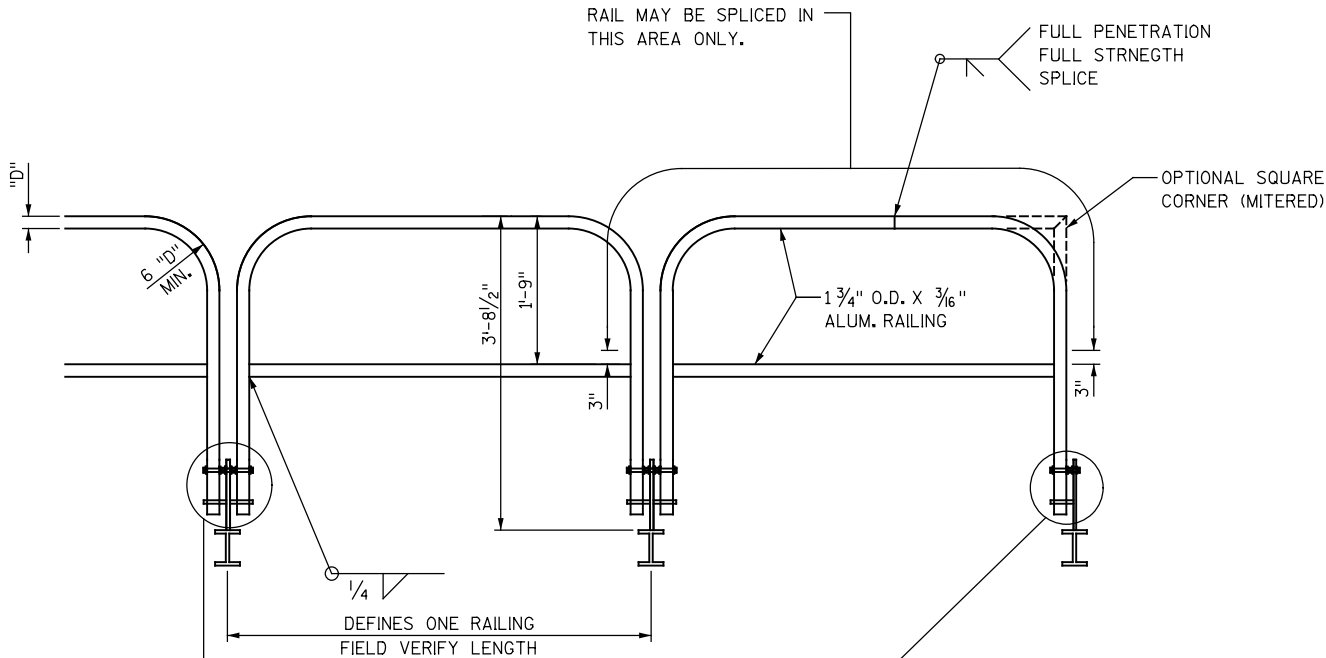


TYPICAL SECURE BACKRAIL SPLICE

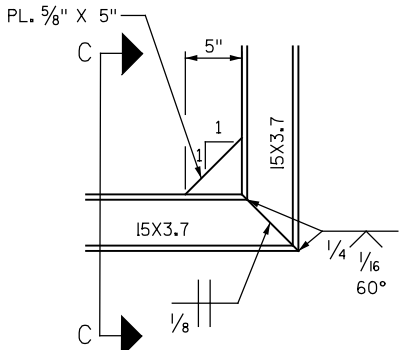
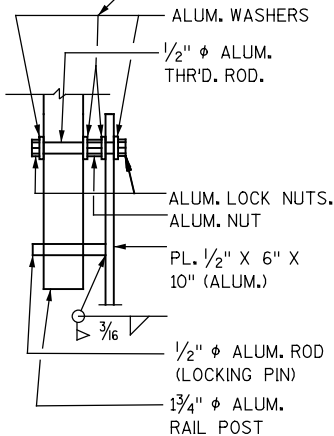
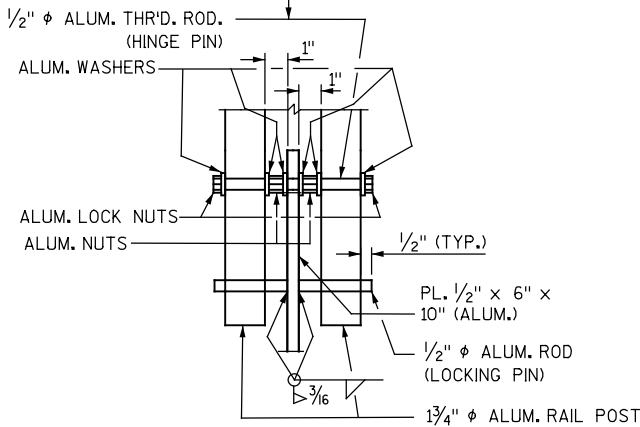
ONE SPLICE ALLOWED FOR LENGTHS OVER 30'-0"



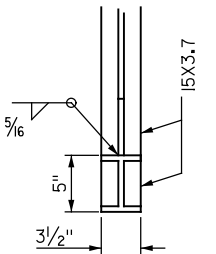
TYPICAL WALKWAY CONNECTION CLIP DETAIL



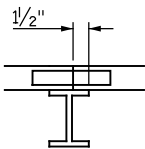
TYPICAL RAILING DETAILS



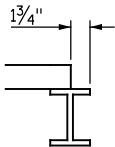
BRACKET DETAIL



SECTION C-C



CATWALK SPLICE LOCATION DETAIL



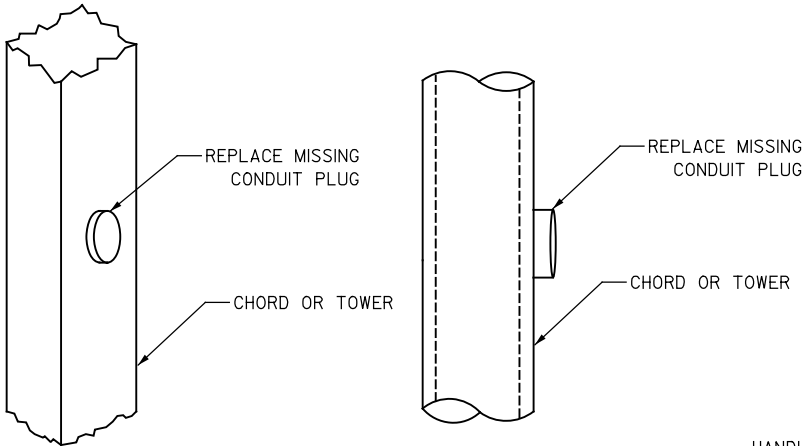
CATWALK TERMINATION DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
CATWALK DETAILS (2 OF 2)			SHEET 9 OF 115

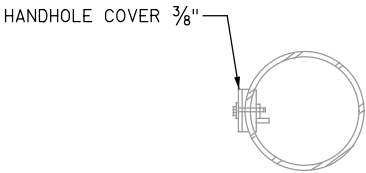
TABLE OF ESTIMATED QUANTITIES FOR ELECTRICAL*

STRUCTURE NUMBER	HIGHWAY	INSTALL CONDUIT PLUG	REPLACE POST MOUNTED SIGNAL	TIGHTEN VMS CONNECTION	SECURE LUMINAIRE COVER	REPAIR / REPLACE LUMINAIRE	SECURE/REPLACE HANDHOLE COVER
		SPV.0060.05	SPV.0060.12	SPV.0060.17	SPV.0060.19	SPV.0060.27	SPV.0060.29
		EACH	EACH	EACH	EACH	EACH	EACH
S-30-023	IH 41	1					1
S-40-206	IH 94					1	
S-40-233	IH 41					1	
S-40-234	IH 41					1	1
S-40-242	STH 175						1
S-40-278	IH 41						
S-40-303	IH 41				1		
S-40-320	USH 341	1					
S-40-324	FREDERICK MILLER WA	1					
S-40-370	IH 41						1
S-40-431	IH 94			1			
S-40-517	IH 94				1	1	
S-40-538	IH 794						1
S-40-816	IH 43					1	
S-67-046	IH 41				3		
S-67-241	IH 41		2				
S-67-244	CTH SS						1
S-67-402	IH 94						1

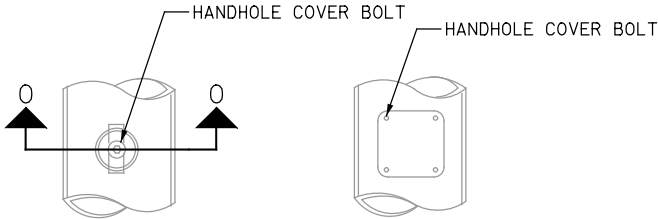
* THE INFORMATION PROVIDED IN THIS TABLE IS FOR INFORMATION PURPOSES ONLY AND NOT TO BE COUNTED AS ADDITIONAL QUANTITIES TO THOSE LISTED ON THE ELEVATION VIEW SHEETS.



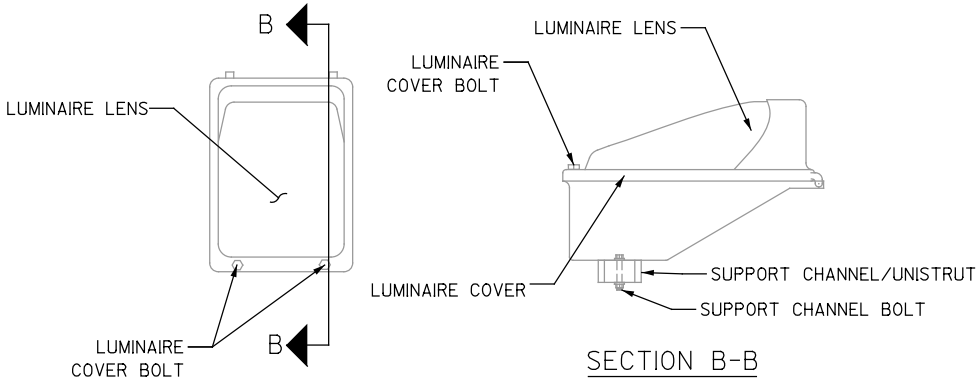
CONDUIT PLUG



SECTION 0-0



HANDHOLE DETAILS



SECTION B-B

TYPICAL LUMINAIRE DETAILS

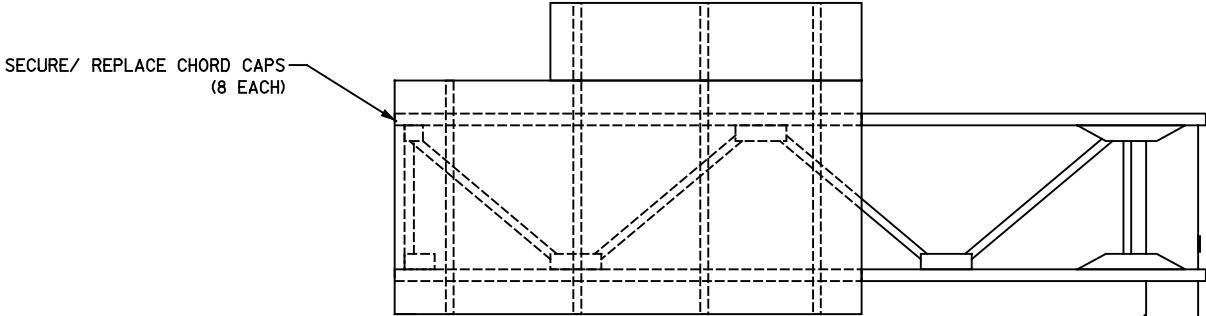
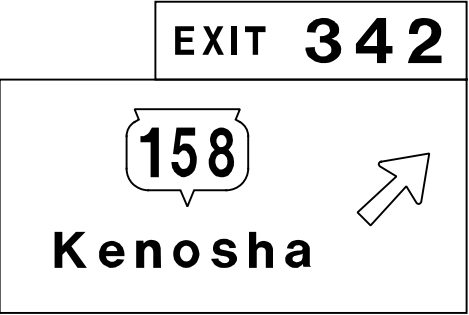
ELECTRICAL NOTES:

1. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL REPAIRS.
2. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE OF THE ITEM REQUIRED.
3. ALL STAINLESS STEEL BOLTS, LOCK WASHERS, AND NUTS SHALL CONFORM TO:
-HEX BOLTS ASTM F593 ANY ALLOY GROUP 1, 2, OR 3
-HEX NUTS ASTM F594
-WASHERS ASTM A240
ANY OF THE 300 SERIES WHICH HAVE A MINIMUM YIELD OF 40,000 PSI AND ELONGATION OF 15% FOR OVER 3/4" ϕ AND 12% FOR 3/4" ϕ AND SMALLER.
4. THE CONTRACTOR SHALL USE ANTI-SIEZE COMPOUND ON ELECTRICAL HANDHOLE COVER BOLTS, JUNCTION BOX BOLTS, LUMINAIRE COVER BOLTS, AND CONDUIT PLUGS PER SECTION 651.3.1(5) OF THE WISDOT STANDARD SPECIFICATION.
5. CAP ALL EXPOSED WIRES AND CLOSE THE JUNCTION BOX.
6. REPLACE THE JUNCTION BOX BOLT WITH A STAINLESS STEEL BOLT.

STATE PROJECT NUMBER

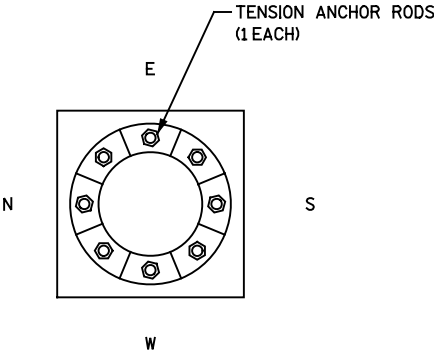
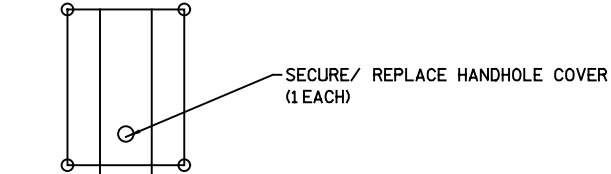
1000-20-70

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
ELECTRICAL DETAILS			SHEET 10 OF 115

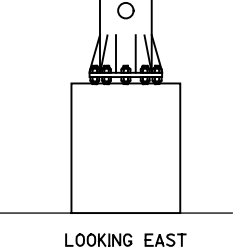


INSTALL CONDUIT PLUG
(1 EACH)

INSTALL ID PLAQUE
(1 EACH)



ELEVATION VIEW
LOOKING SOUTH



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.04	SECURE/ REPLACE CHORD CAP	8 EACH	4
SPV.0060.24	INSTALL ID PLAQUE	1 EACH	SDD 12 A 4-3
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.05	INSTALL CONDUIT PLUG	1 EACH	10
SPV.0060.29	SECURE/ REPLACE HANDHOLE COVER	1 EACH	10


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0023			SHEET 11 OF 115

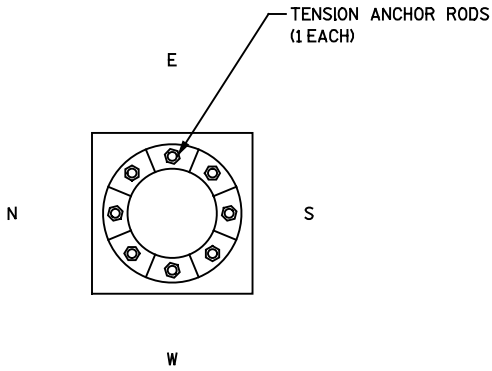
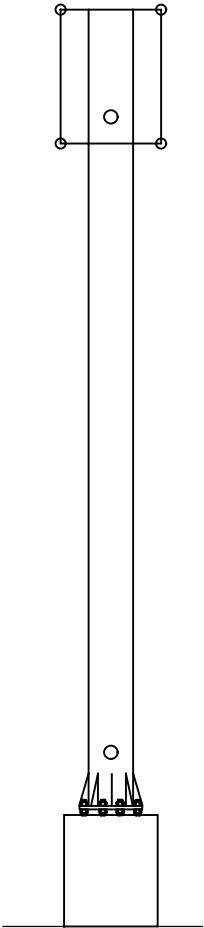
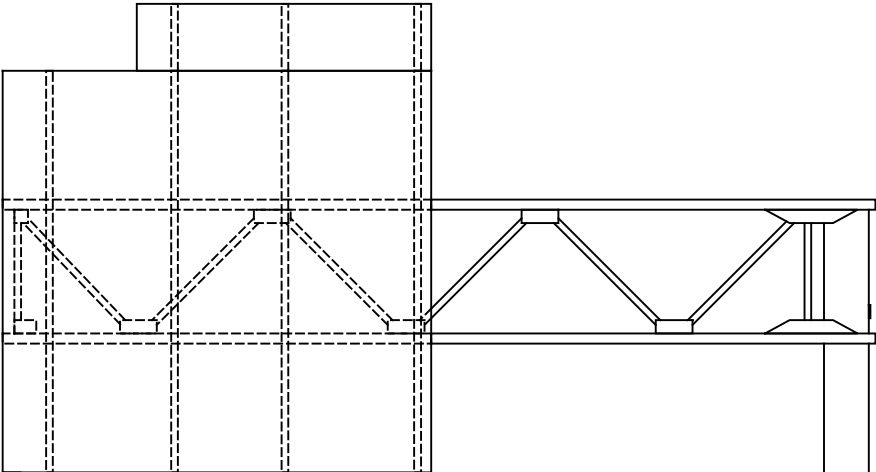
EXIT 344

50

Kenosha
Lake Geneva

1/2 MILE

EXIT  ONLY



FOUNDATION DETAIL

ELEVATION VIEW
LOOKING SOUTH

LOOKING EAST

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0024			SHEET 12 OF 115

Hwy E

3/4

Hwy 142

2 1/4

Hwy 158

4 1/4

Hwy KR

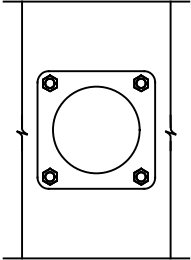
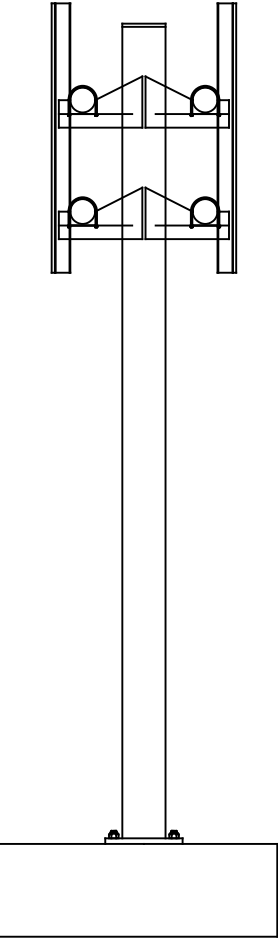
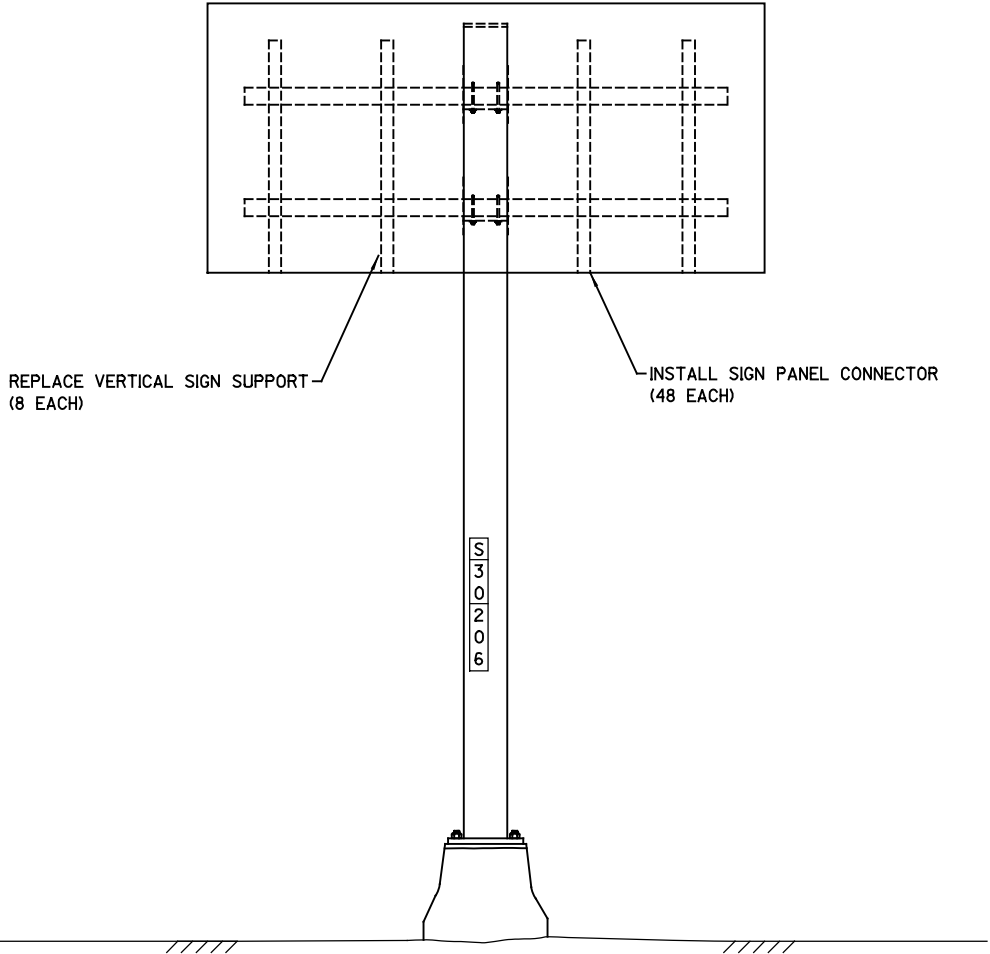
3/4

Hwy 11

2 1/2

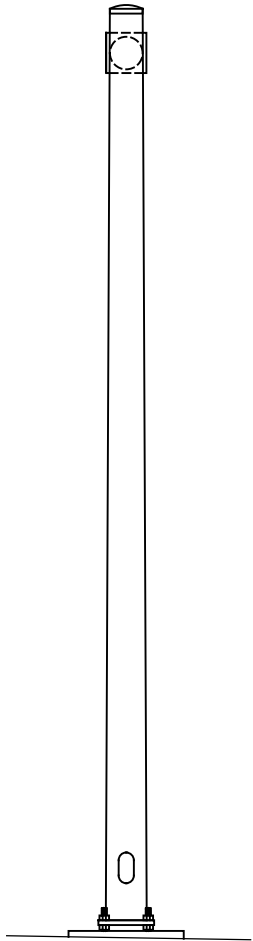
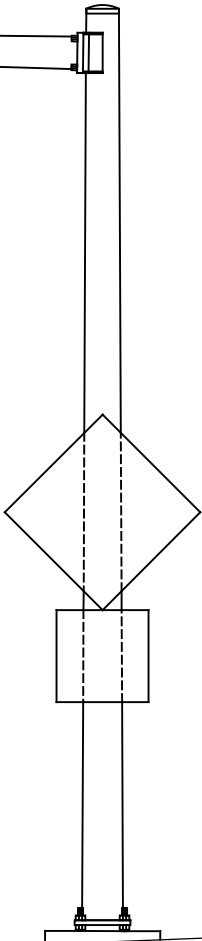
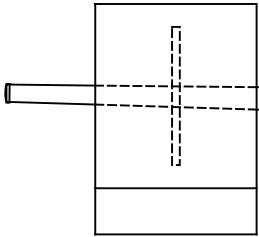
Hwy 20

4 1/4



ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	48 EACH	6
SPV.0060.25	REPLACE VERTICAL SIGN SUPPORT	8 EACH	6

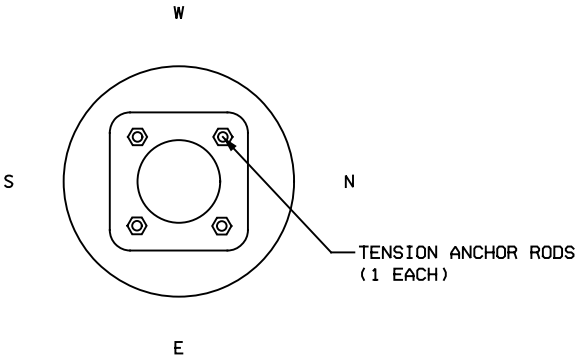
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0206			SHEET 13 OF 115



LOOKING WEST

ELEVATION VIEW

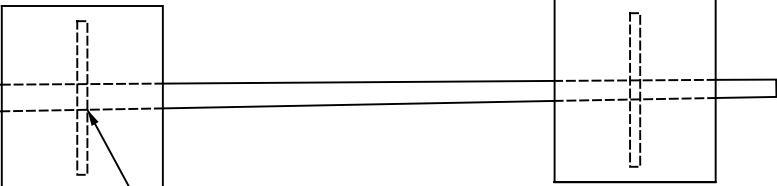
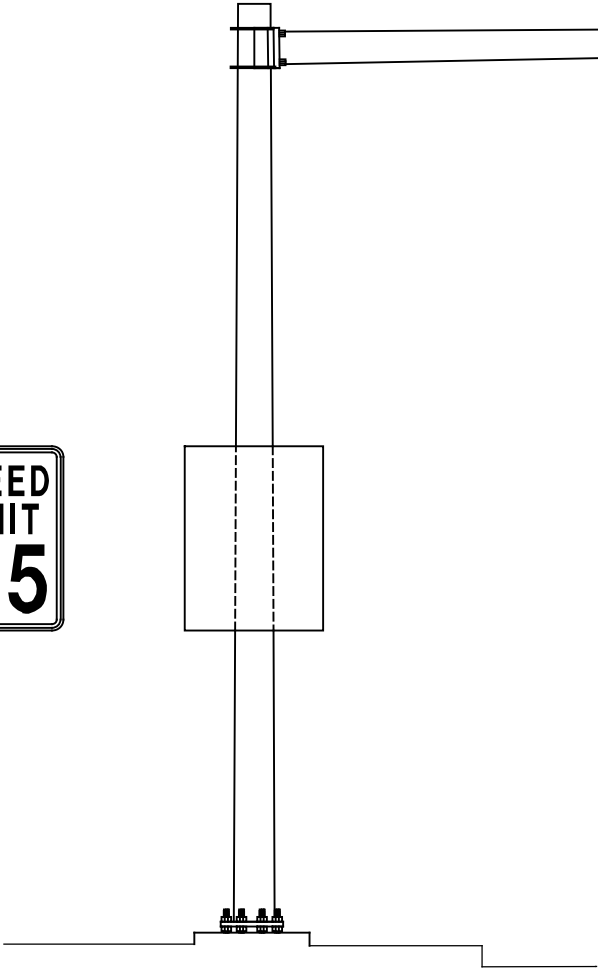
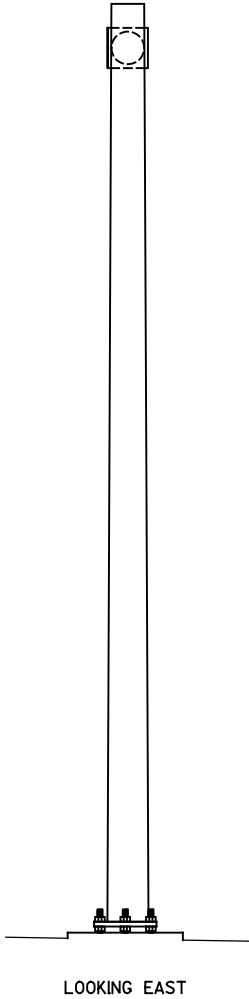
LOOKING NORTH



FOUNDATION DETAIL

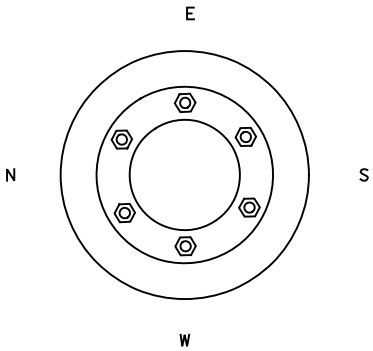
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0212			SHEET 14 OF 115



REPLACE SIGN CONNECTION ASSEMBLY
(1 EACH)

ELEVATION VIEW
LOOKING NORTH

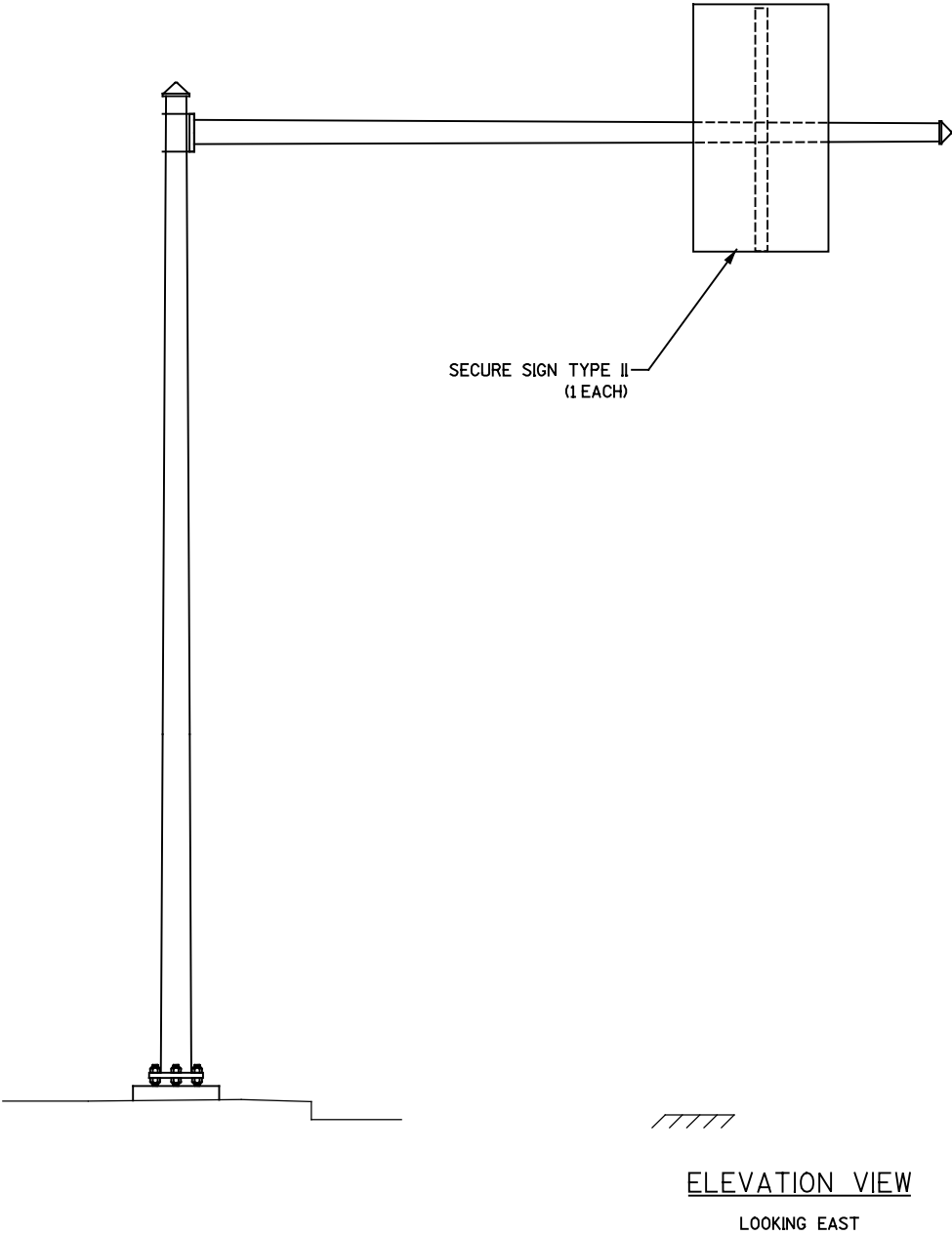
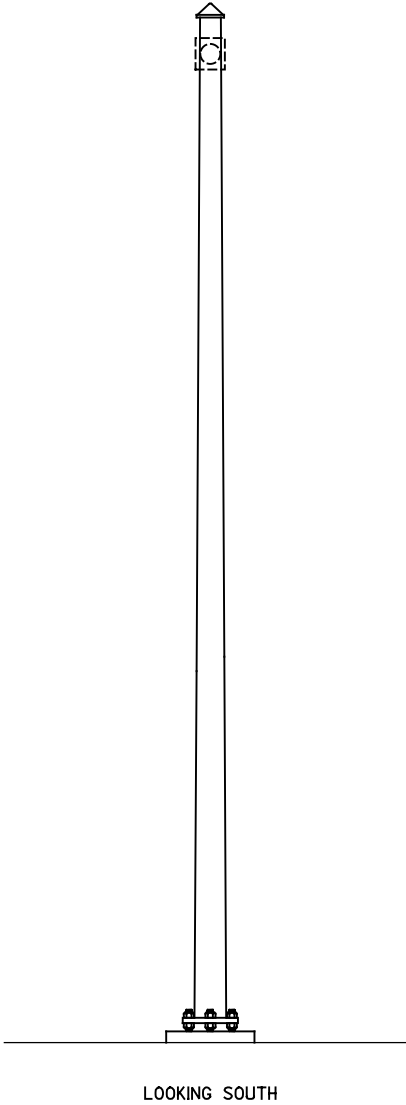
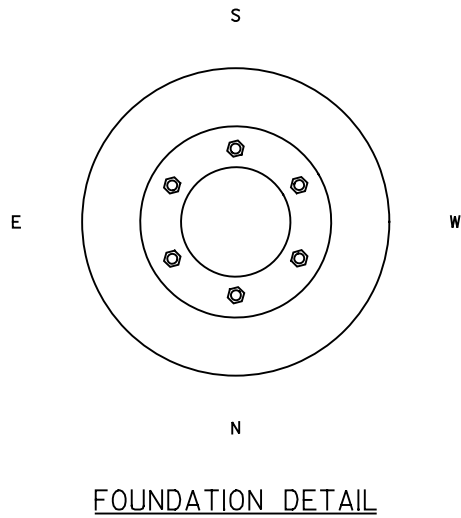


FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.18	REPLACE SIGN CONNECTION ASSEMBLY	1 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0213			SHEET 15 OF 115

8



SECURE SIGN TYPE II
(1 EACH)



ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.14	SECURE SIGN TYPE II	1 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0224			SHEET 16 OF 115

50

158

142

1/2

2

3 3/4

C

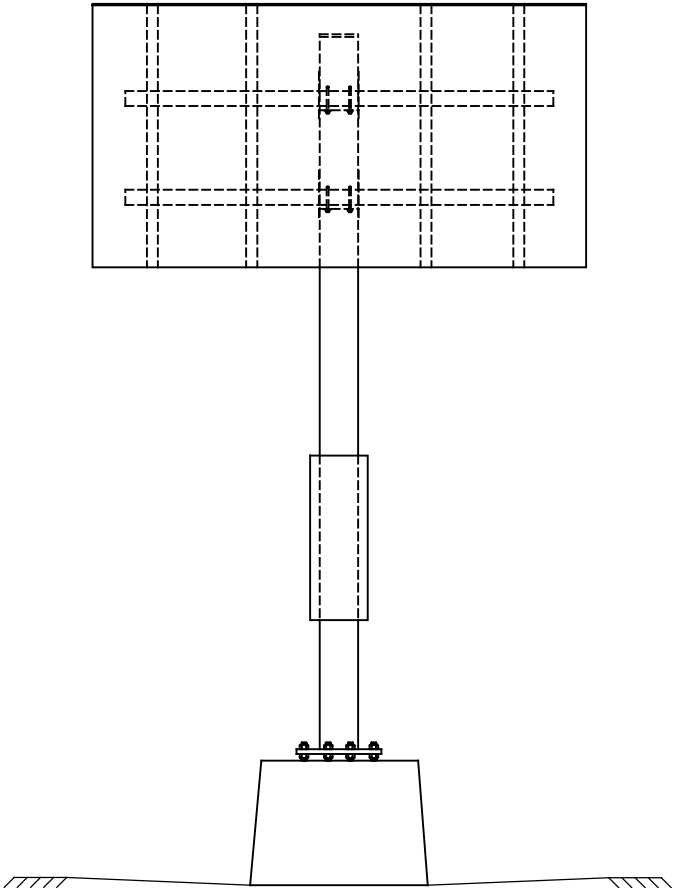
165

Russel Rd

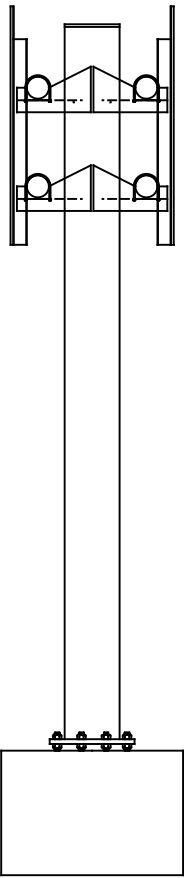
1/2

1 3/4

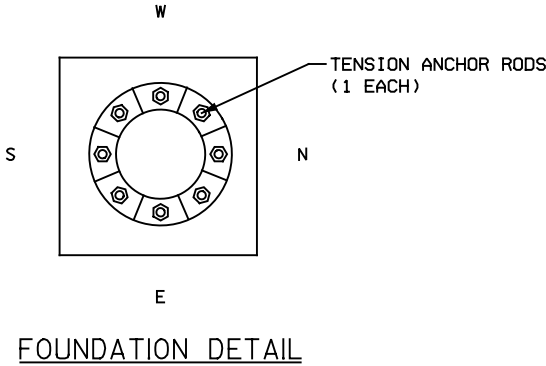
4 3/4



ELEVATION VIEW
LOOKING NORTH



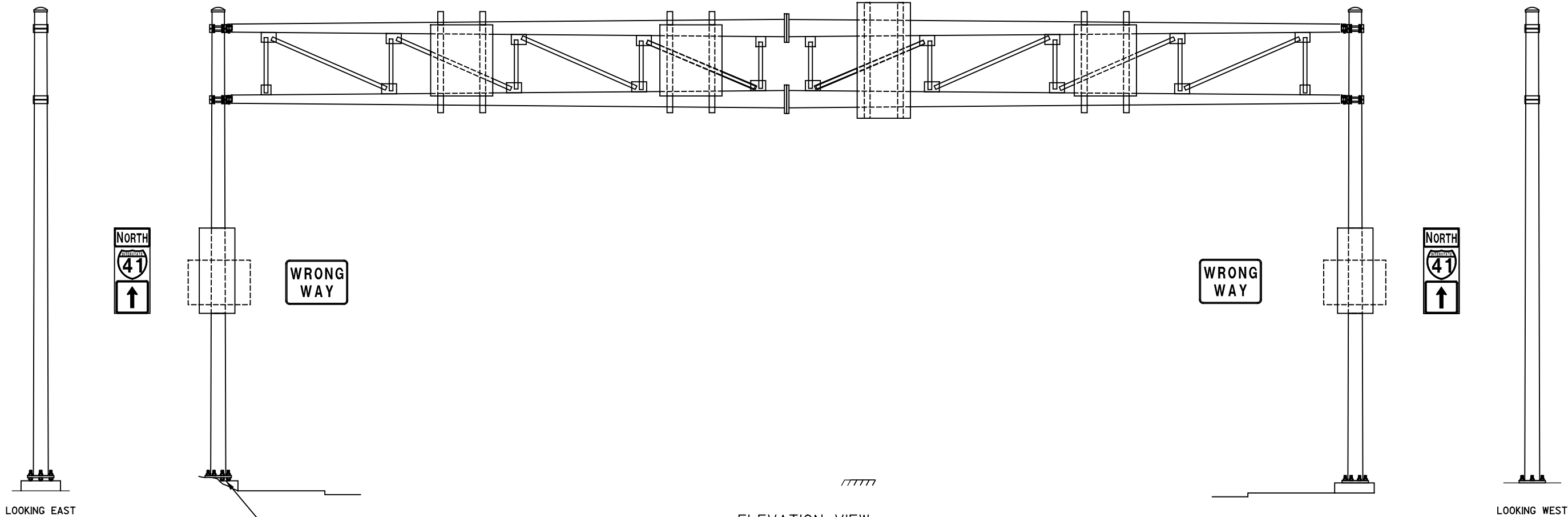
LOOKING WEST



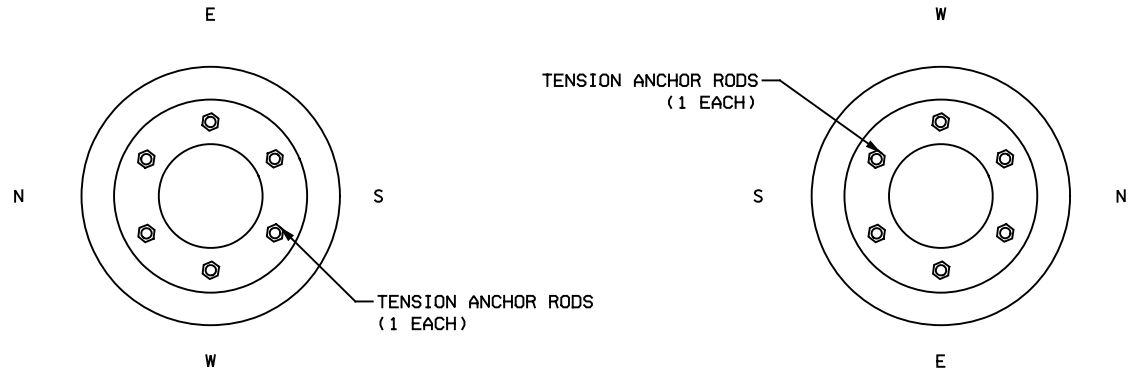
FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0230			SHEET 17 OF 115



ELEVATION VIEW
LOOKING NORTH

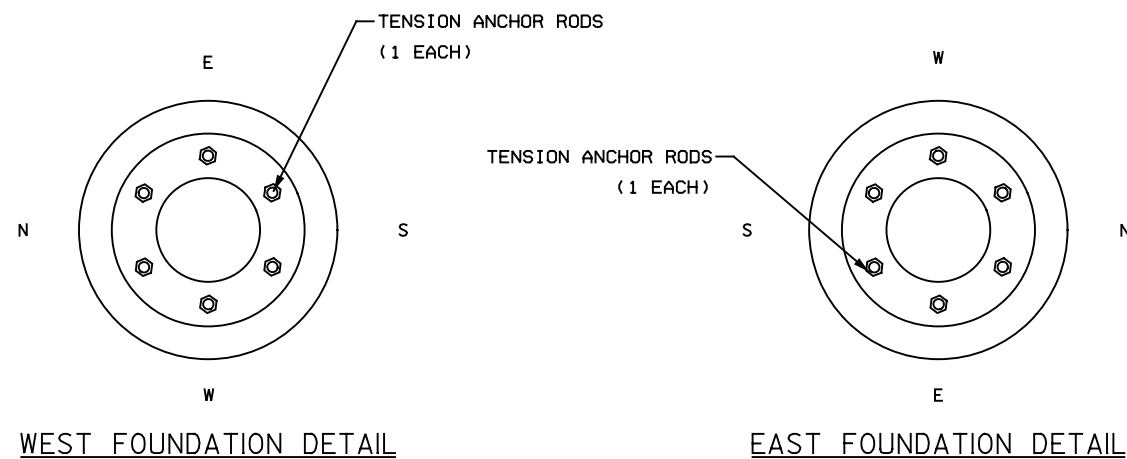
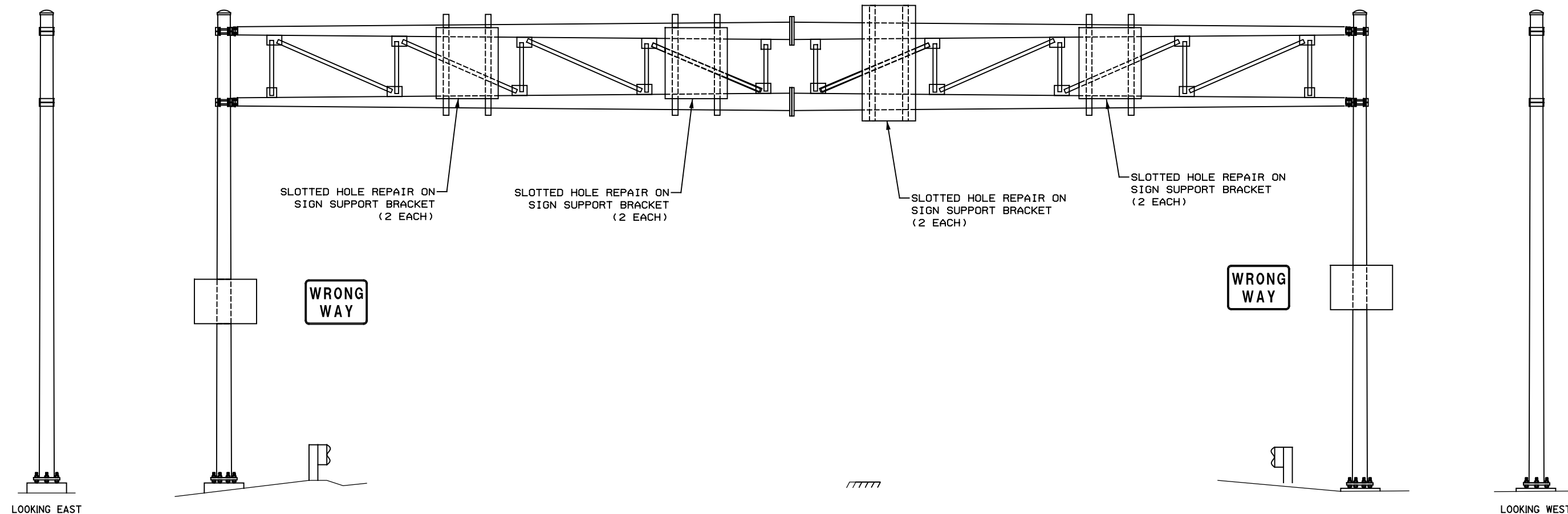


WEST FOUNDATION DETAIL

EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.10	REMOVE DEBRIS AND REGRADE	1 EACH	N/A
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0239			SHEET 18 OF 115



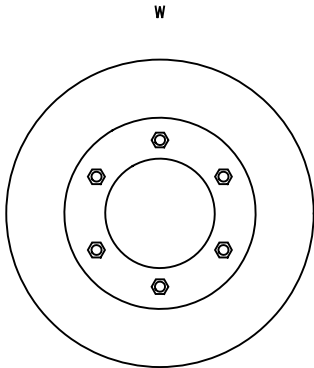
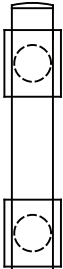
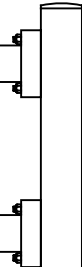
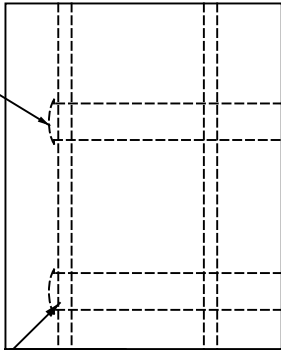
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.32	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET	8 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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SECURE/ REPLACE CHORD CAP
(2 EACH)

SLOTTED HOLE REPAIR ON
SIGN SUPPORT BRACKET
(2 EACH)



ELEVATION VIEW
LOOKING NORTH

LOOKING WEST

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-30-0251			SHEET 20 OF 115

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.32	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET	2 EACH	7
SPV.0060.04	SECURE/ REPLACED CHORD CAP	2 EACH	4

26 th Street

13 th Street

43

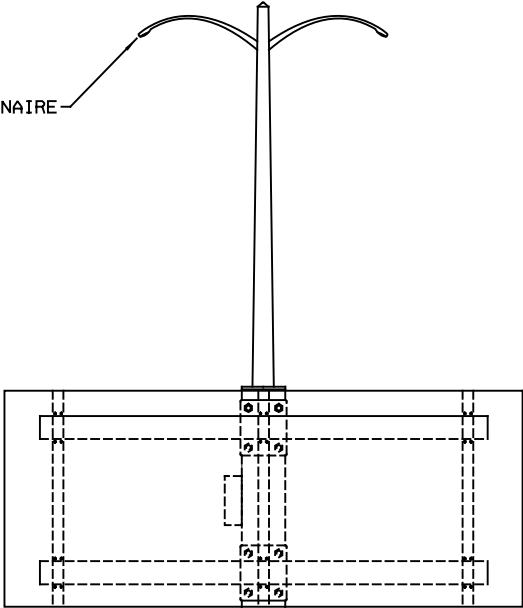
794

1 1/4

1

1 1/4

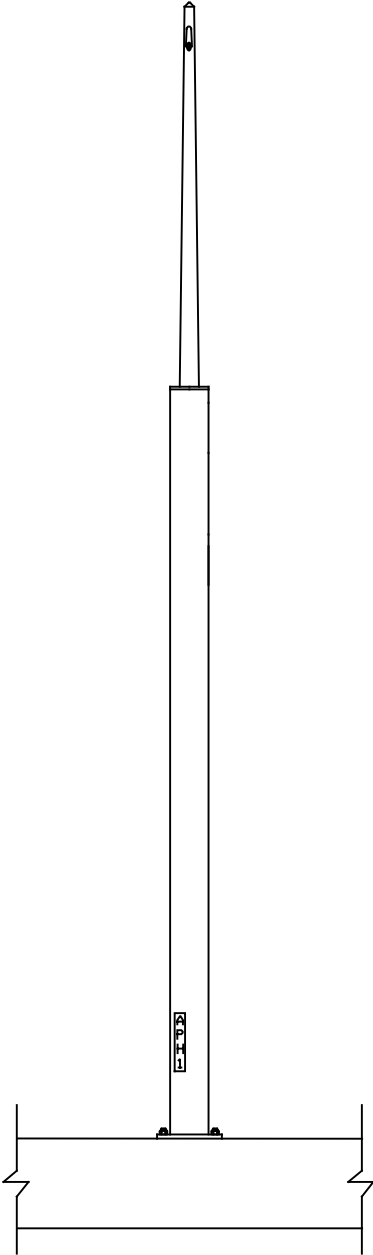
REPAIR/ REPLACE LUMINAIRE
(1 EACH)



SPEED
LIMIT
50

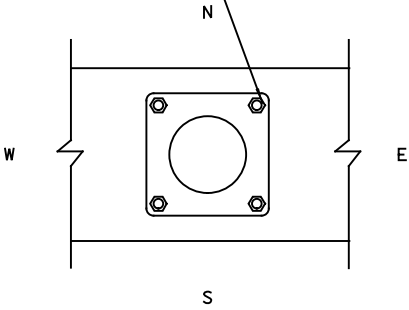
ELEVATION VIEW

LOOKING EAST



LOOKING NORTH

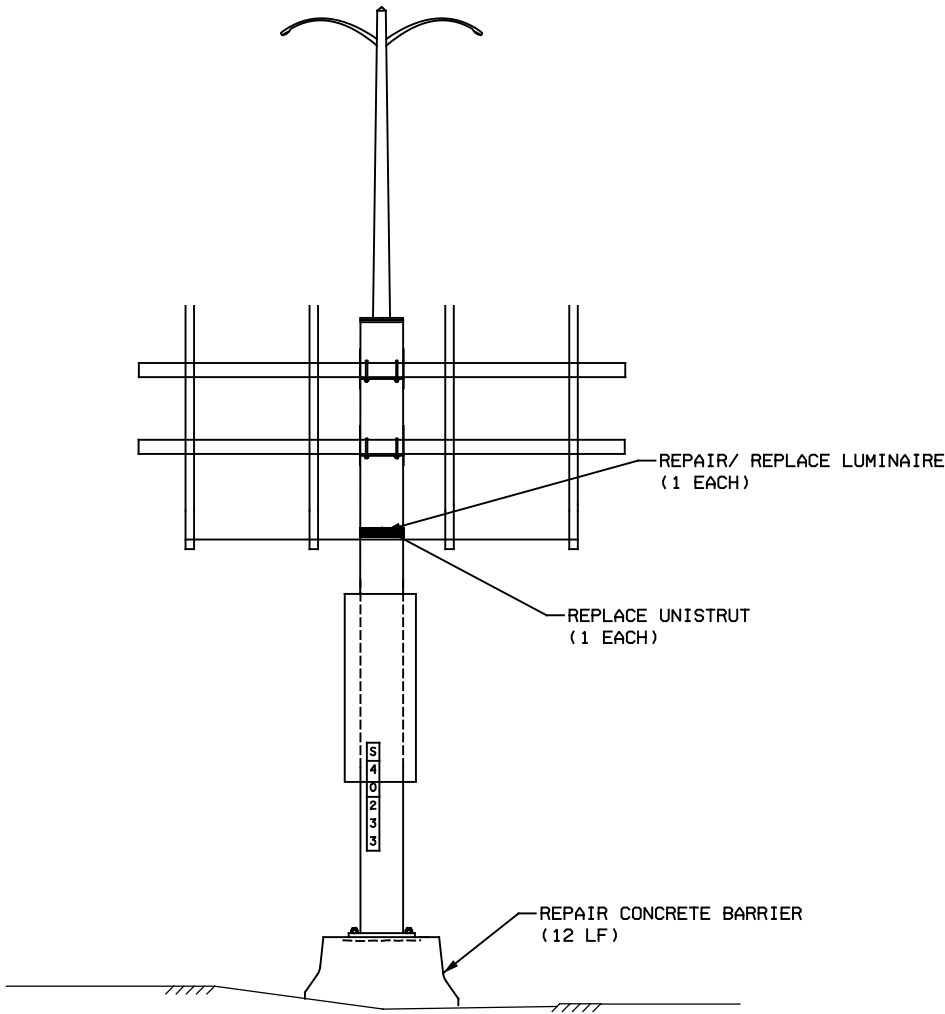
TENSION ANCHOR RODS
(1 EACH)



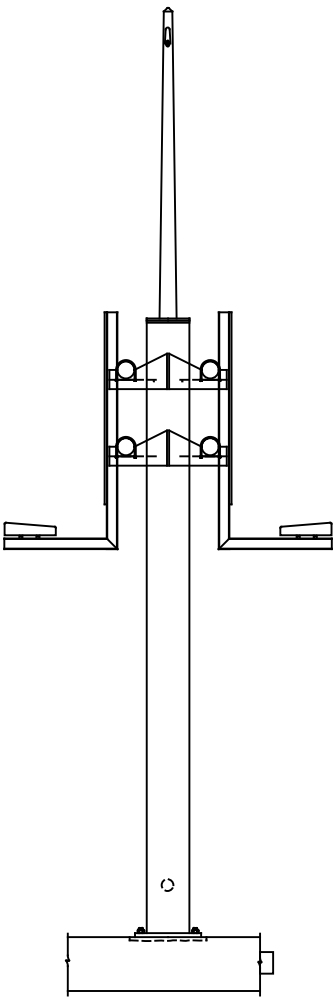
FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.27	REPAIR/ REPLACE LUMINAIRE	1 EACH	10

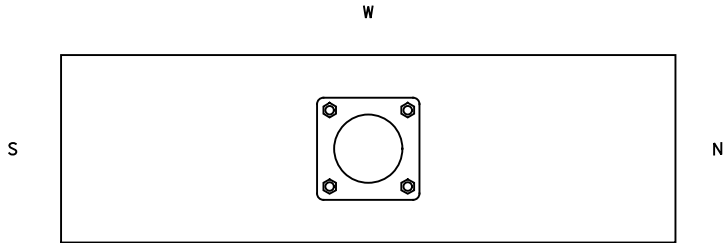
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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ELEVATION VIEW
LOOKING NORTH



LOOKING WEST

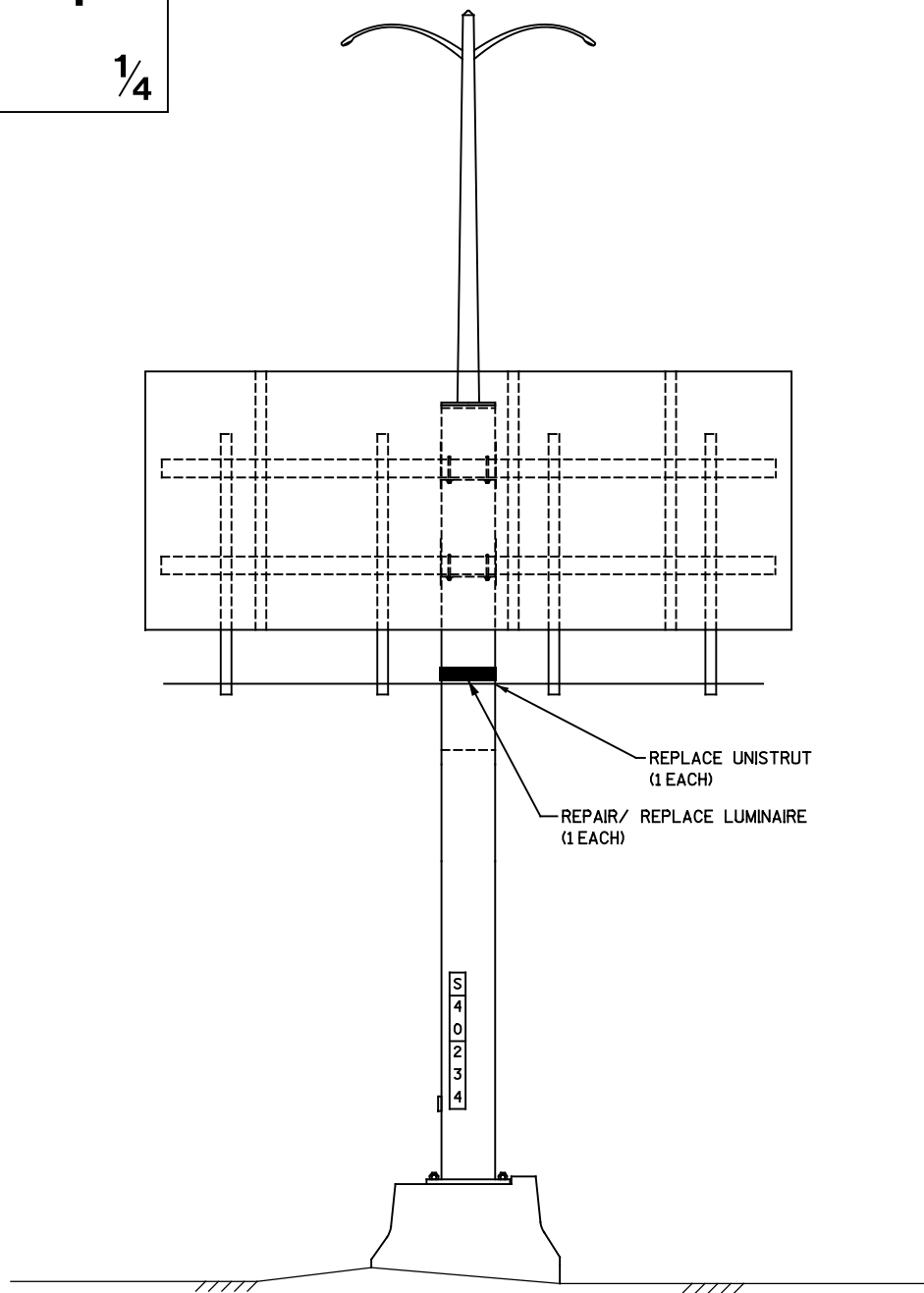


FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.01	REPAIR CONCRETE BARRIER	12 LF	2
SPV.0060.27	REPAIR/ REPLACE LUMINAIRE	1 EACH	10
SPV.0060.31	REPLACE UNISTRUT	1 EACH	8

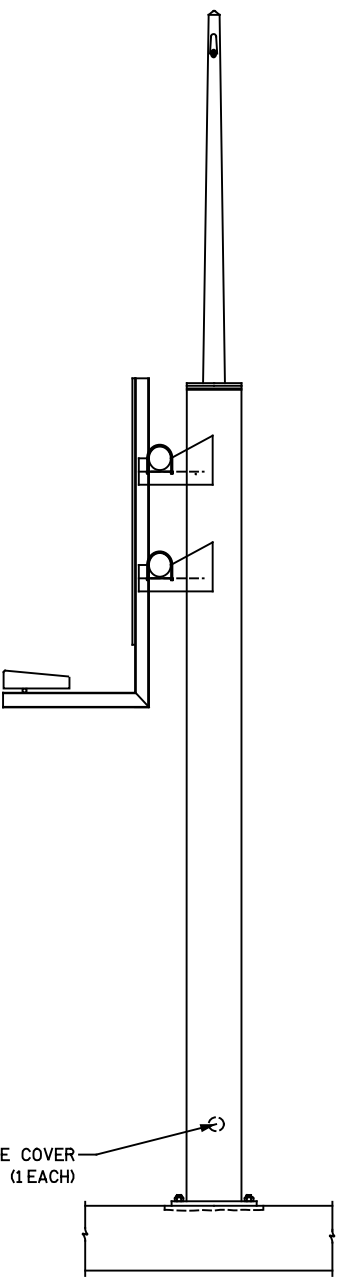
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0233			SHEET 22 OF 115

North Ave WEST 1/4
Burleigh St 1
Capitol Dr 1/4



ELEVATION VIEW

LOOKING NORTH

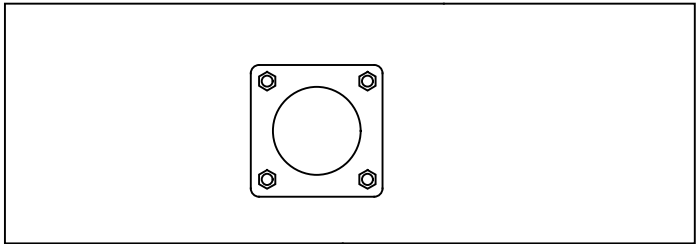


LOOKING WEST

SECURE/ REPLACE HANDHOLE COVER
(1 EACH)

REPLACE UNISTRUT
(1 EACH)

REPAIR/ REPLACE LUMINAIRE
(1 EACH)



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.29	SECURE/ REPLACE HANDHOLE COVER	1 EACH	10
SPV.0060.27	REPAIR/ REPLACE LUMINAIRE	1 EACH	10
SPV.0060.31	REPLACE UNISTRUT	1 EACH	8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0234			SHEET 23 OF 115

North Ave

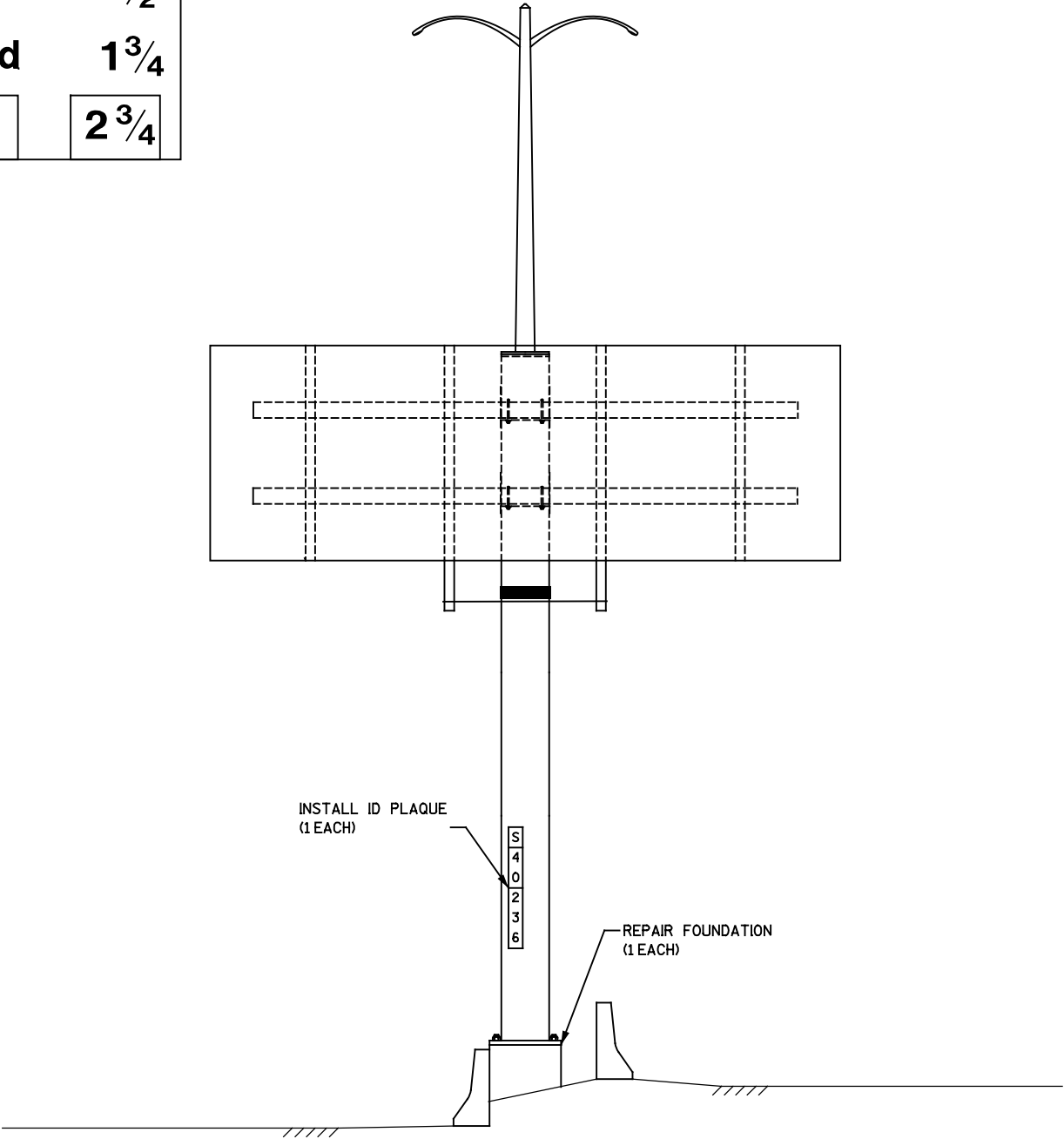
Watertown Plk Rd

BLUEMOUND RD

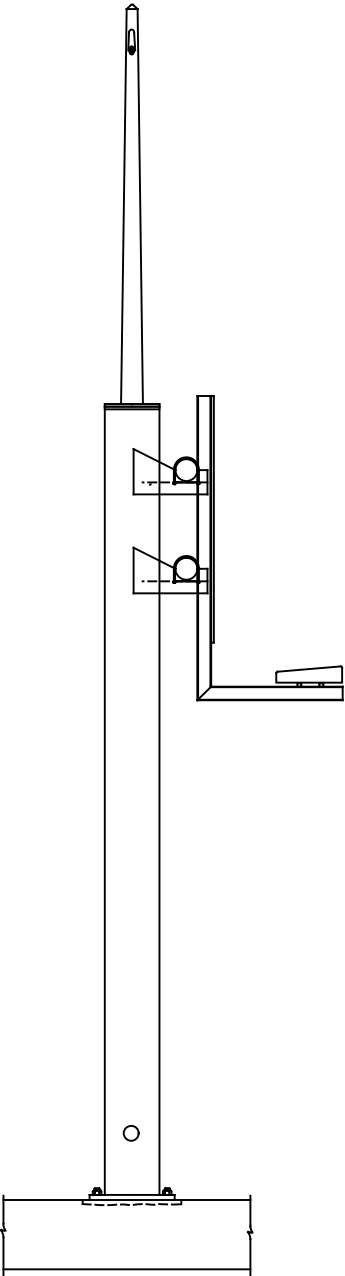
1½

1¾

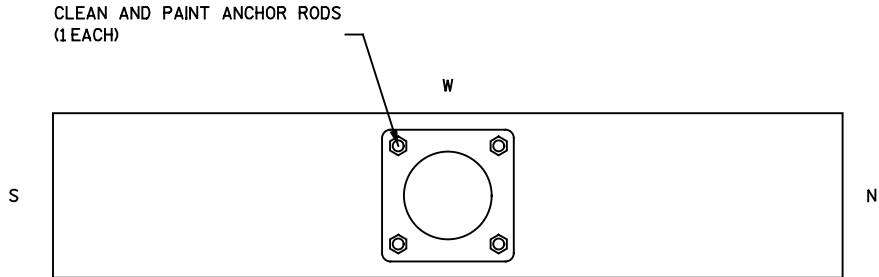
2¾



ELEVATION VIEW
LOOKING SOUTH



LOOKING WEST



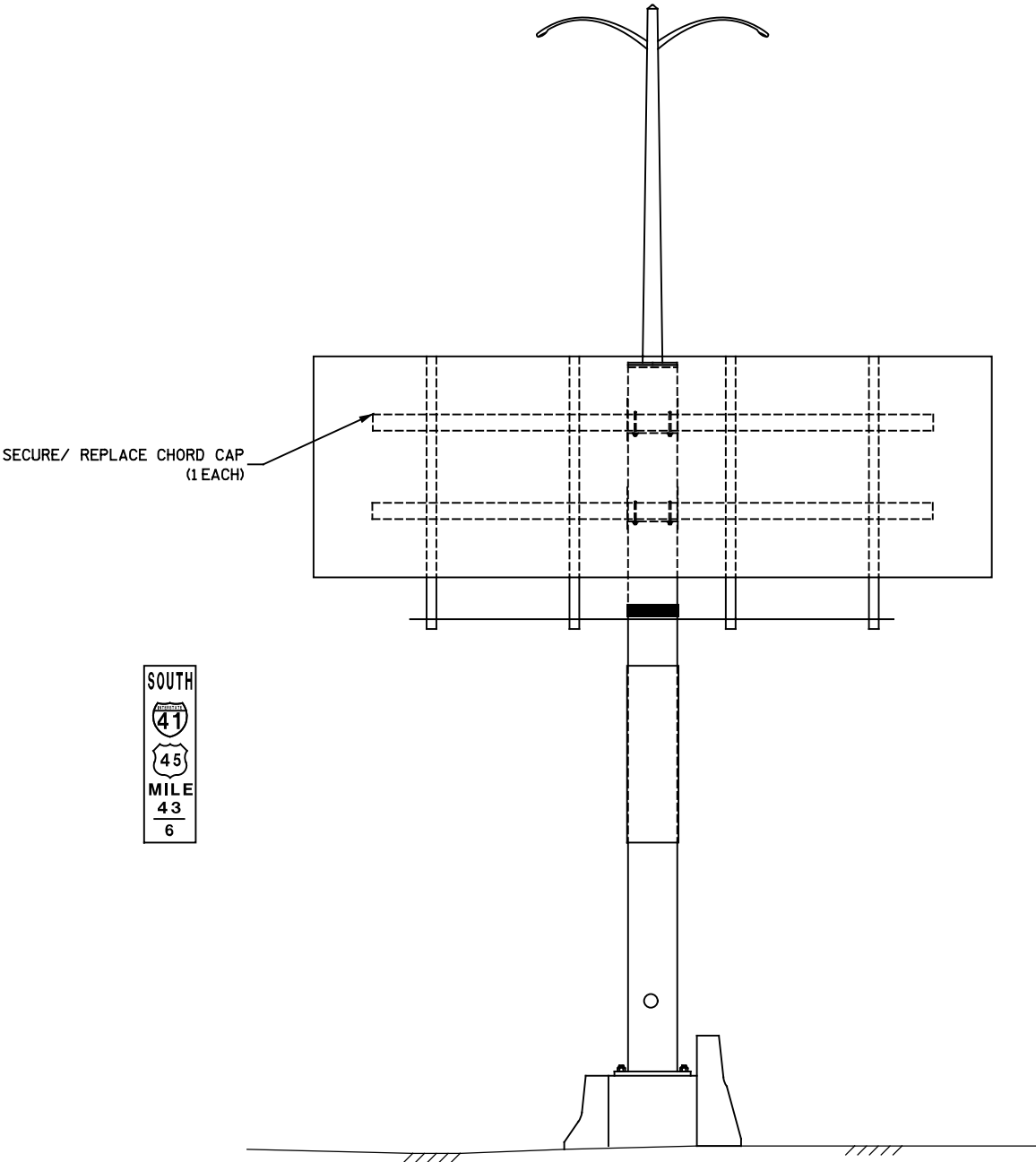
FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.23	CLEAN AND PAINT ANCHOR RODS	1 EACH	N/A
SPV.0060.24	INSTALL ID PLAQUE	1 EACH	SDD 12 A 4-3
SPV.0060.03	REPAIR FOUNDATION	1 EACH	2

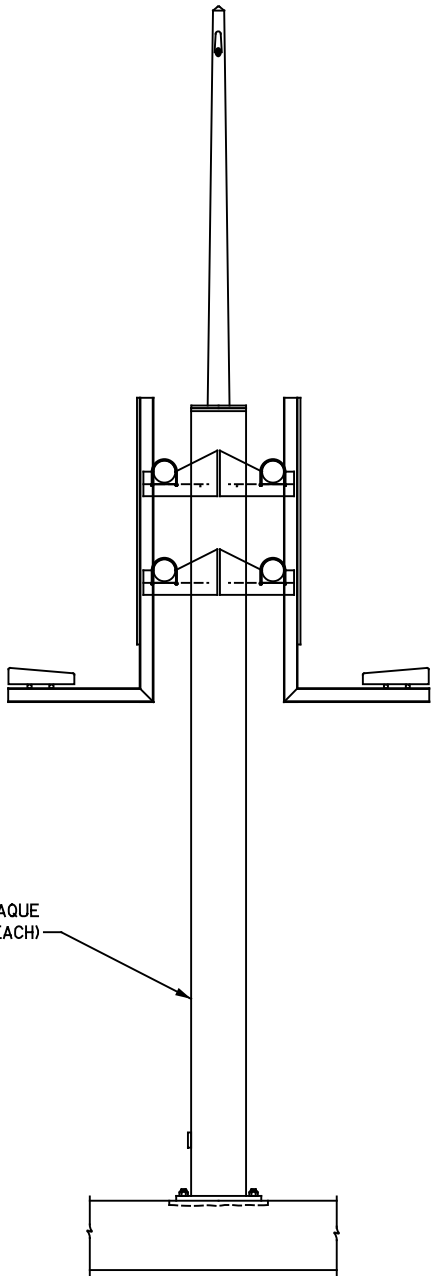
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0236			SHEET 24 OF 115

Burleigh St	1	1/4
North Ave	1	1/4
Watertown Plk Rd	2	1/2

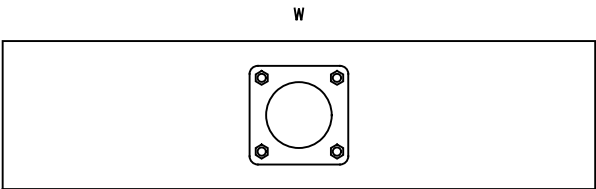
Capitol Dr	1	1/2
Hampton Ave	1	1/2
Silver Spring Dr	2	1/2



ELEVATION VIEW
LOOKING NORTH



LOOKING WEST



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.04	SECURE/ REPLACE CHORD CAP	1 EACH	4
SPV.0060.24	INSTALL ID PLAQUE	1 EACH	SDD 12 A 4-3

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0237			SHEET 25 OF 115

Wells - Wisconsin

INTERSTATE

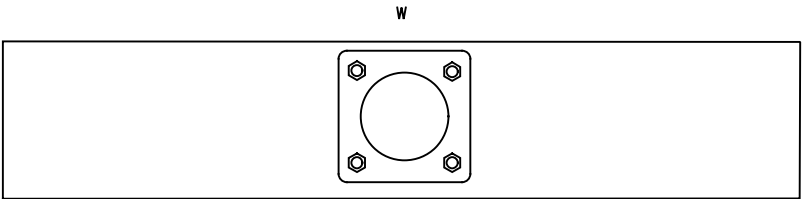
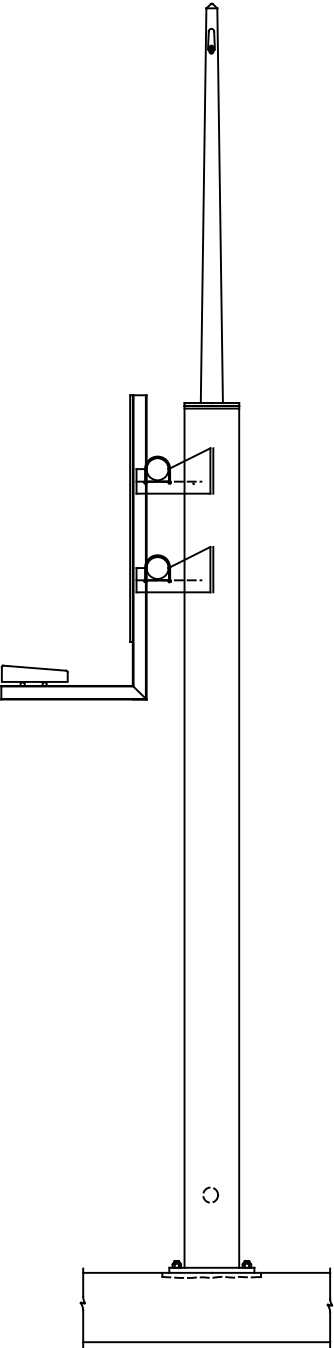
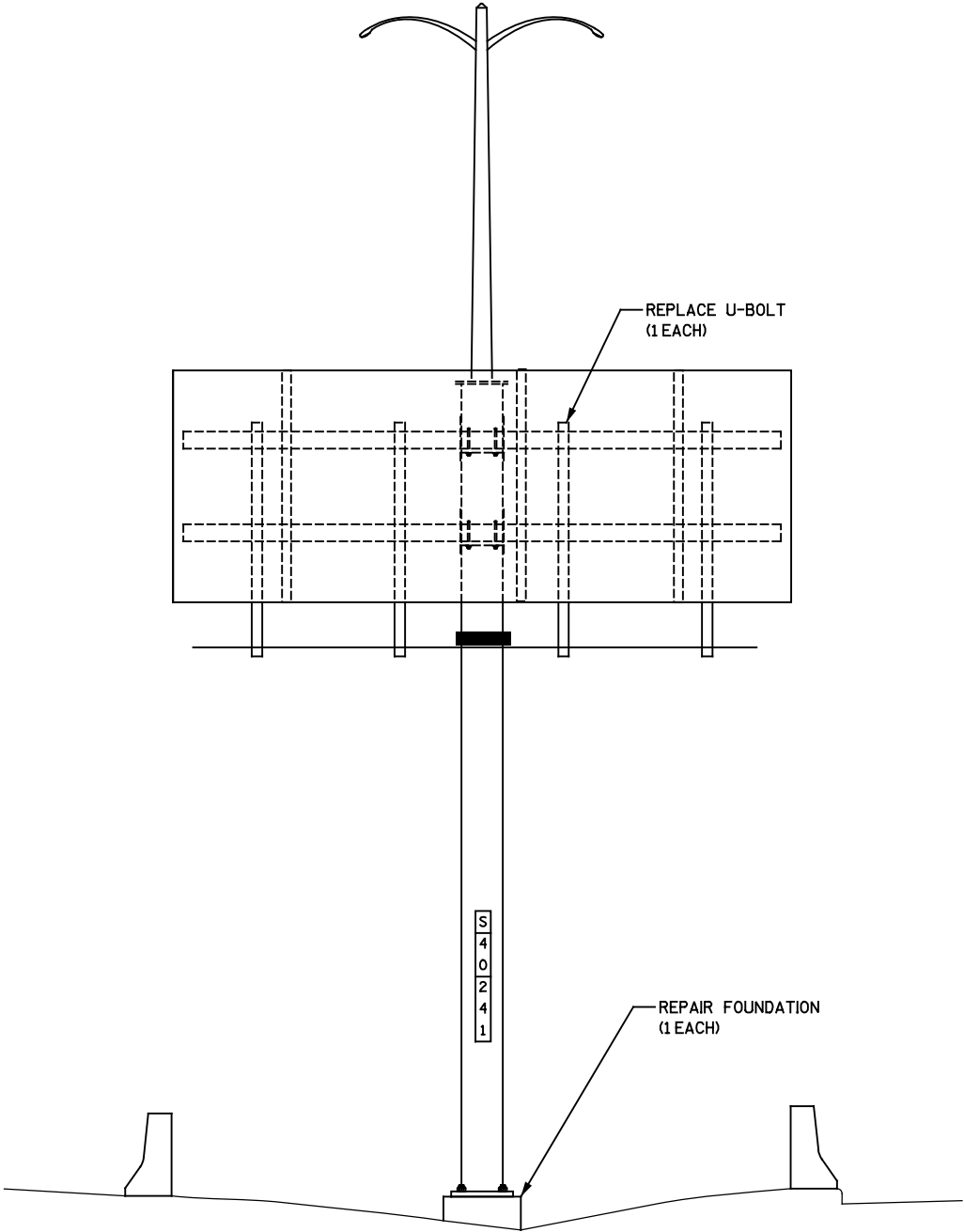
94

Miller Park

1/4

1/2

3/4



ELEVATION VIEW
LOOKING SOUTH

FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.03	REPAIR FOUNDATION	1 EACH	2
SPV.0060.08	REPLACE U-BOLT	1 EACH	6

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0241			SHEET 26 OF 115

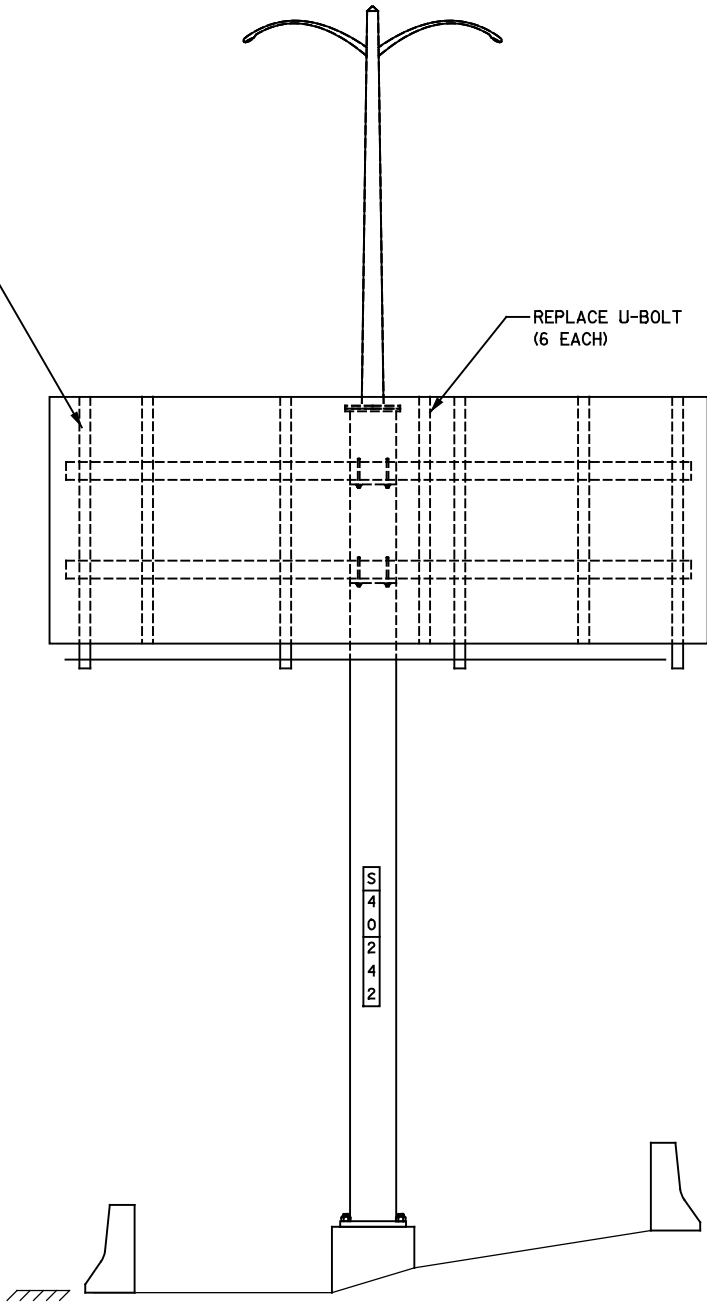
Washington Blvd1/4

Lloyd St1/2

FREWAY ENDS3/4

INSTALL SIGN PANEL CONNECTOR
(1 EACH)

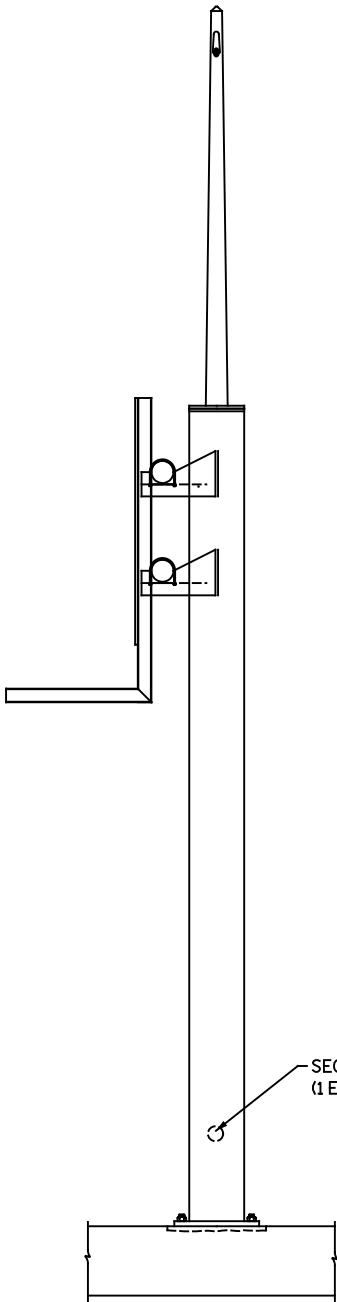
REPLACE U-BOLT
(6 EACH)



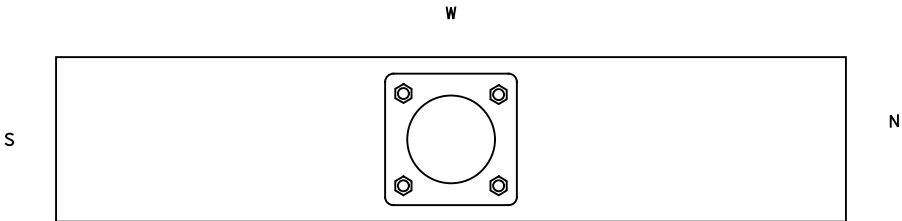
ELEVATION VIEW

LOOKING NORTH

SECURE/ REPLACE HANDHOLE COVER
(1 EACH)



LOOKING WEST



FOUNDATION DETAIL

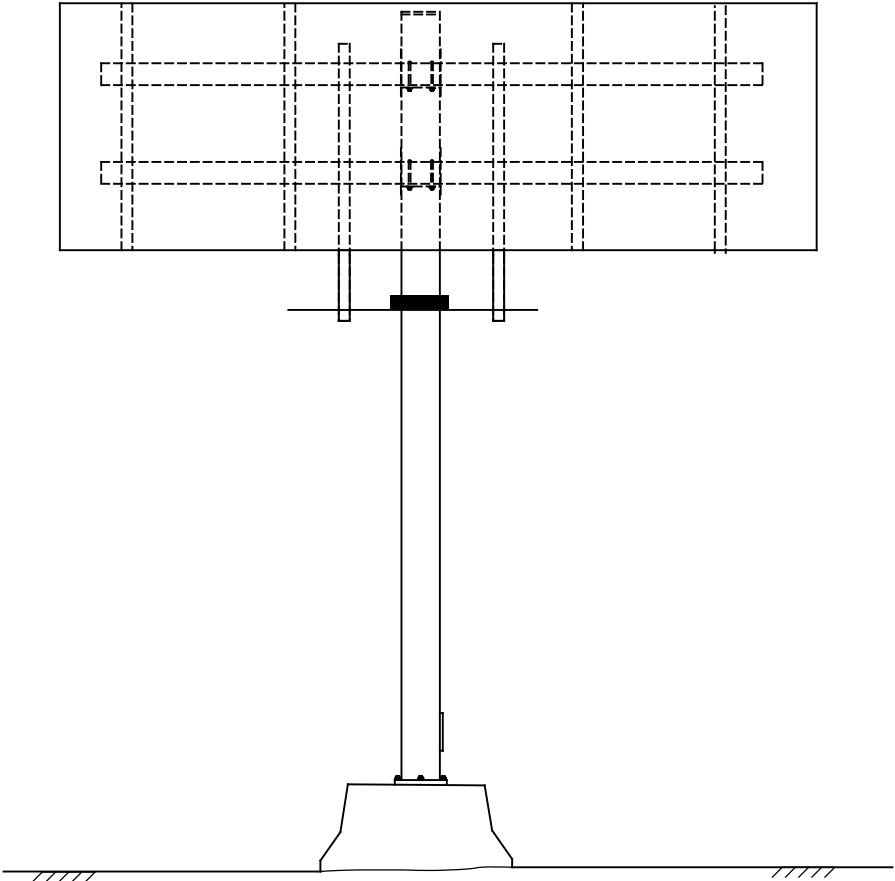
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.08	REPLACE U-BOLT	6 EACH	6
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	1 EACH	6
SV.0060.29	SECURE/ REPLACE HANDHOLE COVER	1 EACH	10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0242			SHEET 27 OF 115

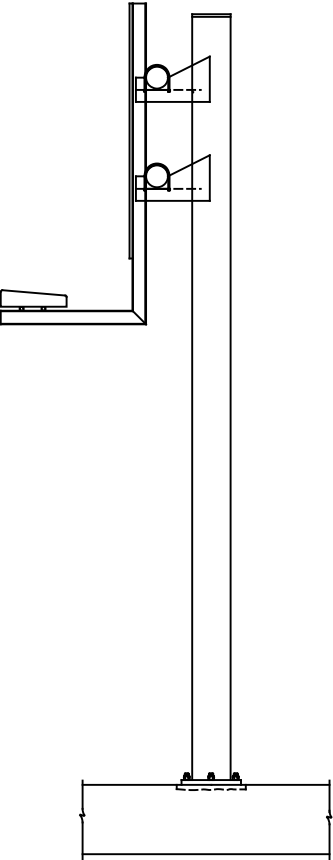
Locust St1⁄4

North Ave1

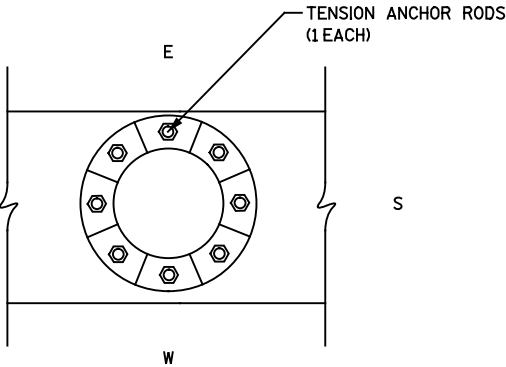
145McKinley Ave1 3⁄4



ELEVATION VIEW
LOOKING SOUTH



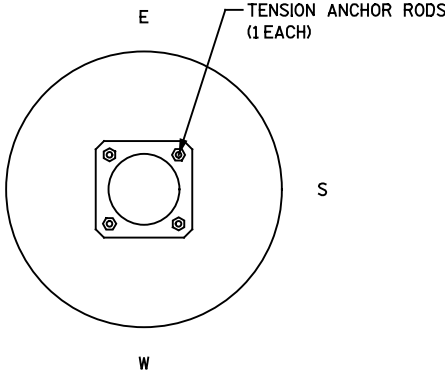
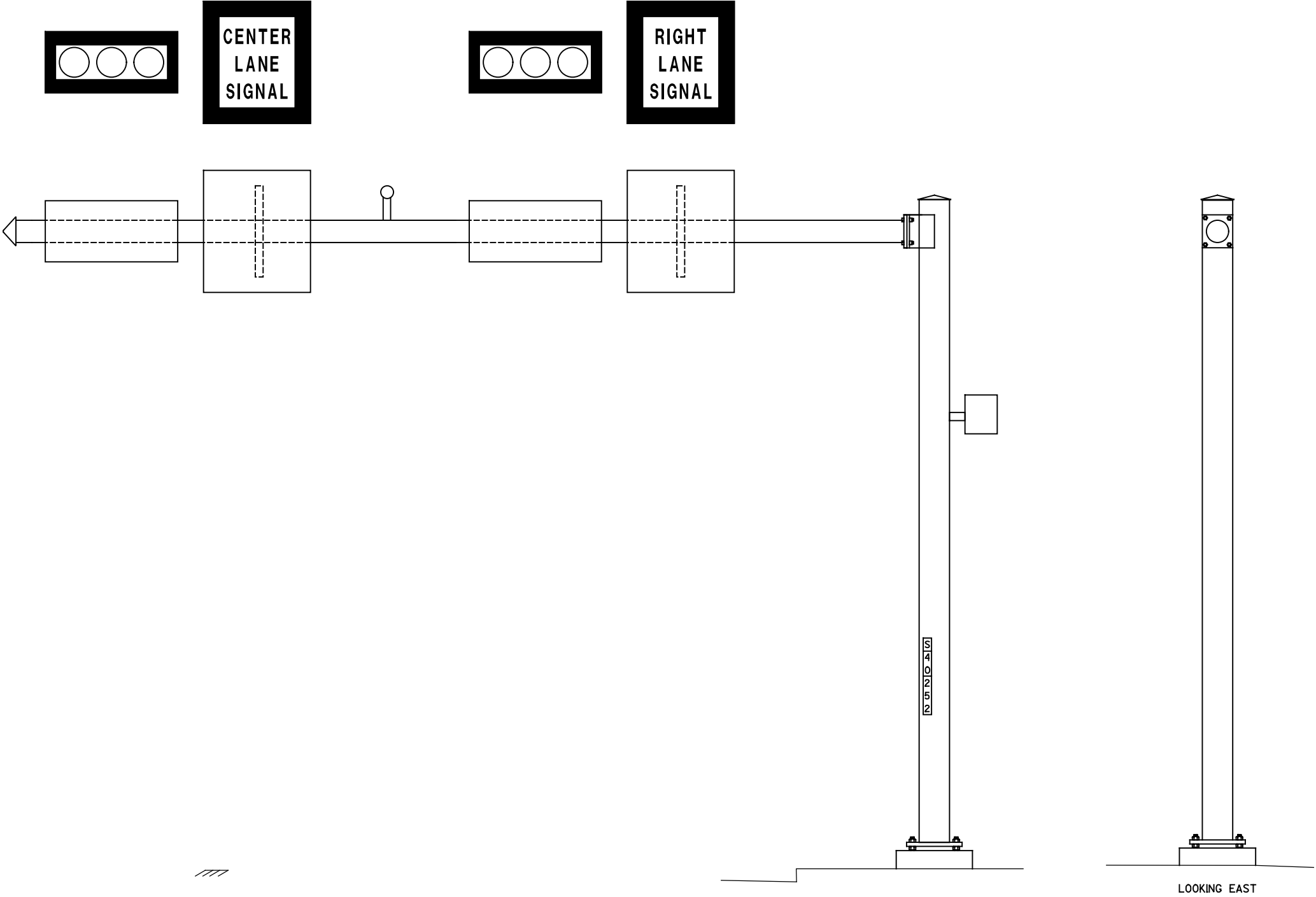
LOOKING EAST



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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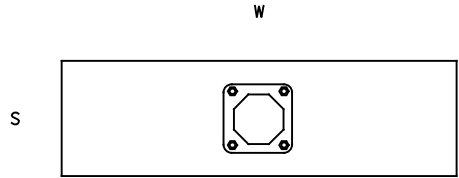
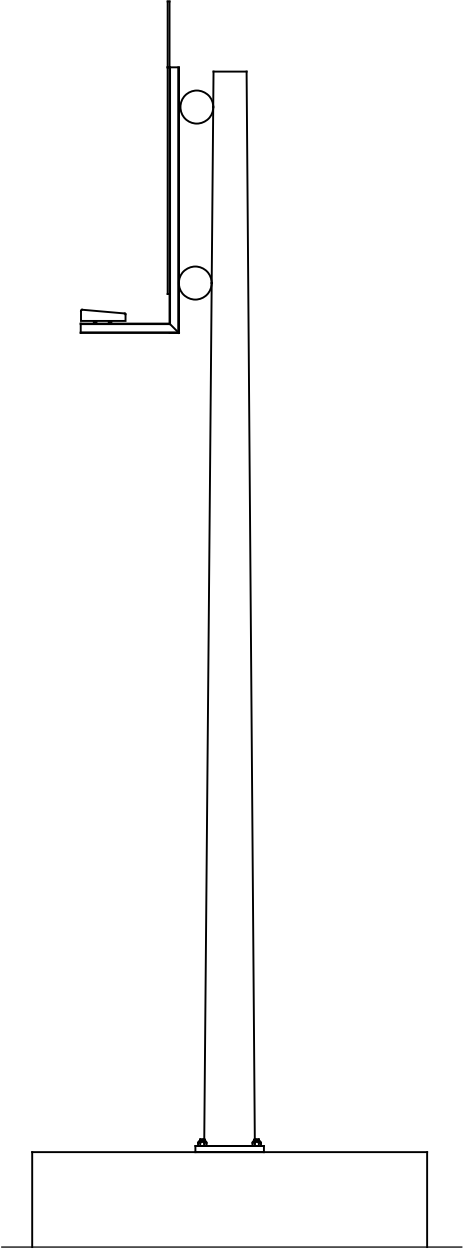
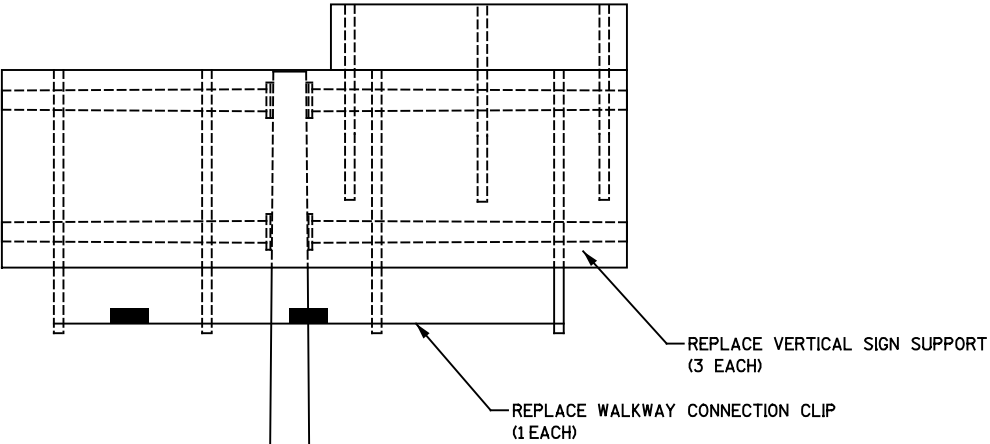


ELEVATION VIEW

LOOKING SOUTH

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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ELEVATION VIEW
LOOKING NORTH

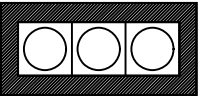
LOOKING WEST

FOUNDATION DETAIL

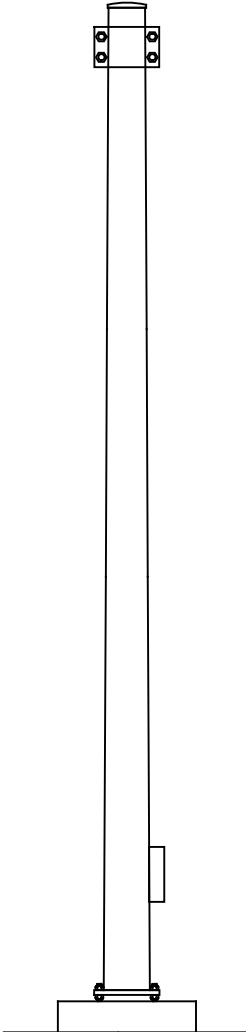
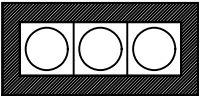
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.25	REPLACE VERTICAL SIGN SUPPORT	3 EACH	6
SPV.0060.16	REPLACE WALKWAY CONNECTION CLIP	1 EACH	N/A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0257			SHEET 30 OF 115

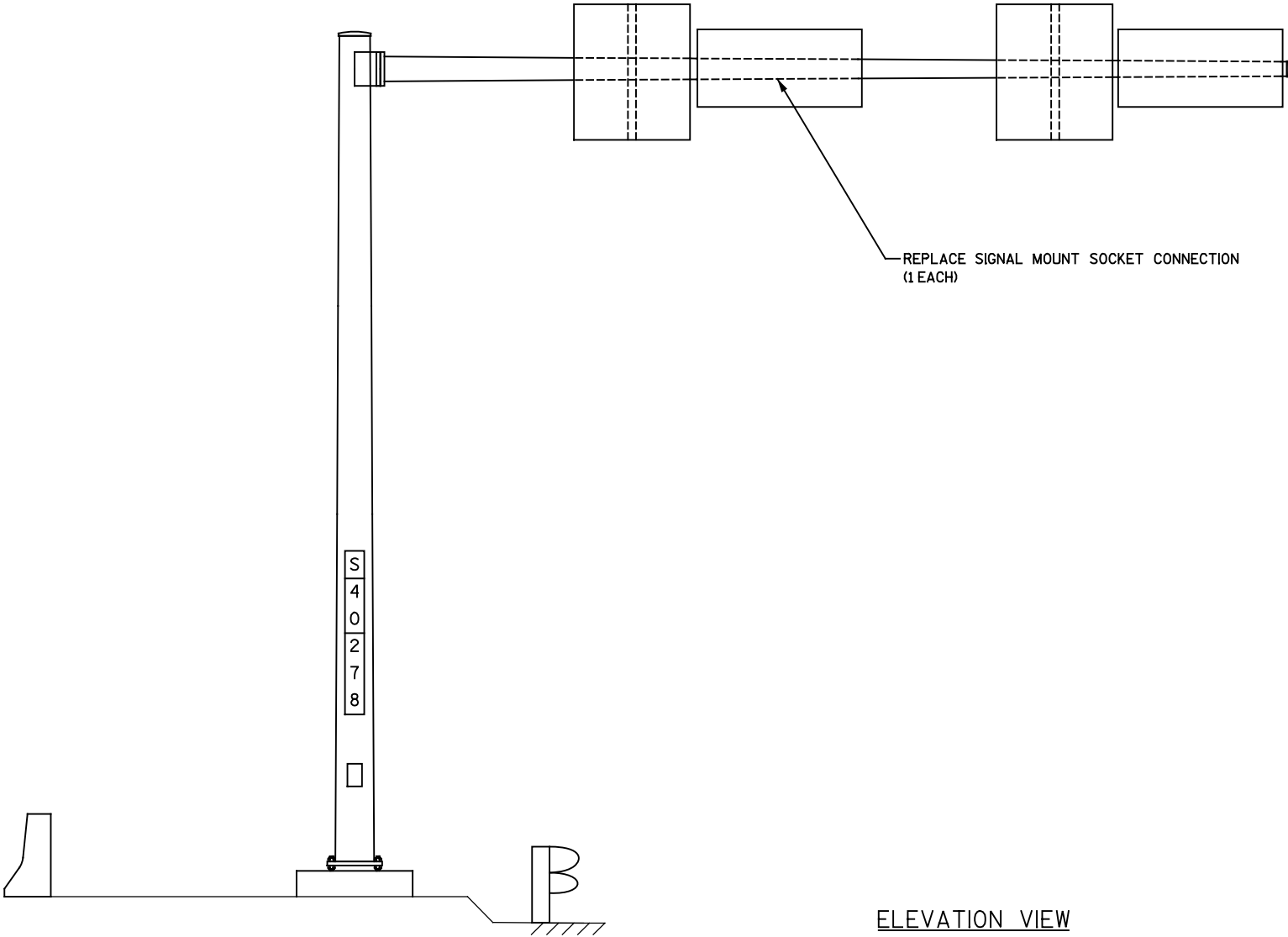
LEFT
LANE
SIGNAL



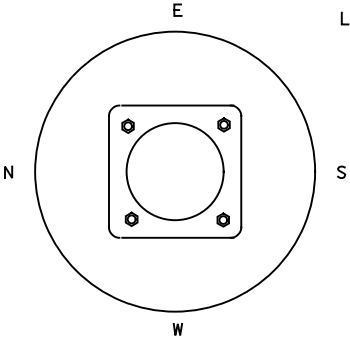
CENTER
LANE
SIGNAL



LOOKING EAST



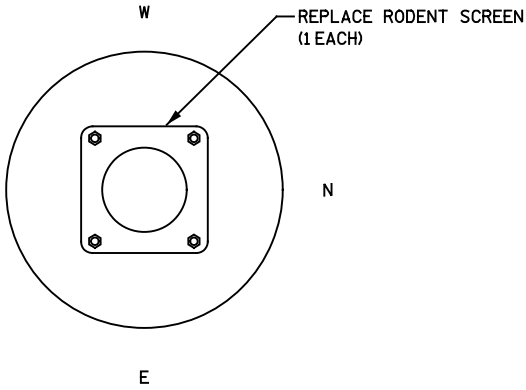
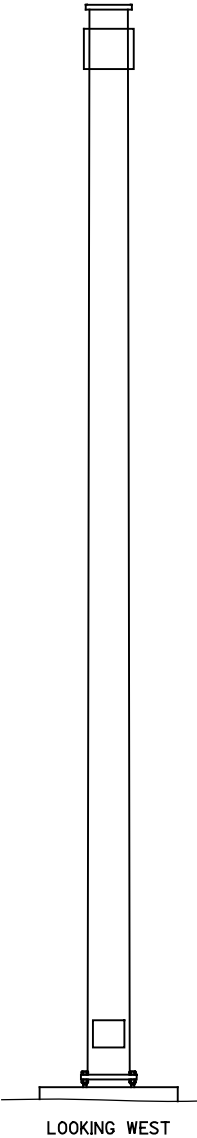
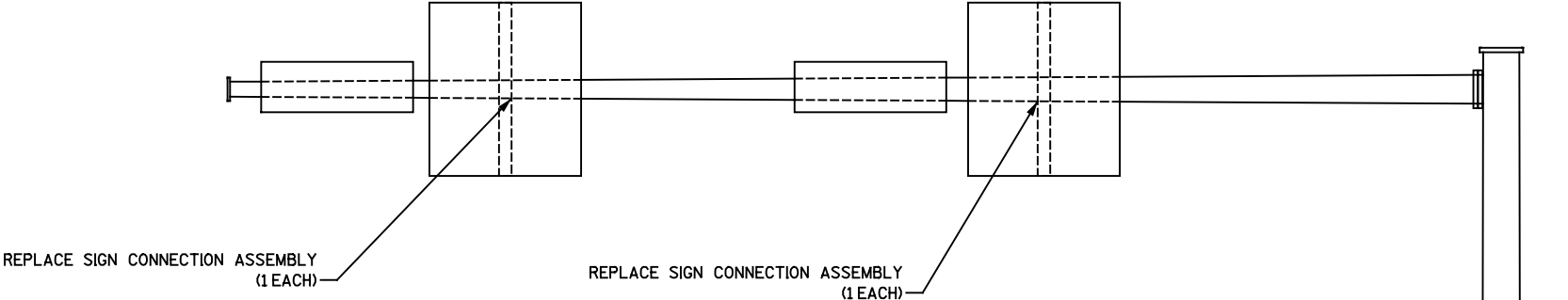
ELEVATION VIEW
LOOKING NORTH



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.15	REPLACE SIGNAL MOUNT SOCKET CONNECTION	1 EACH	N/A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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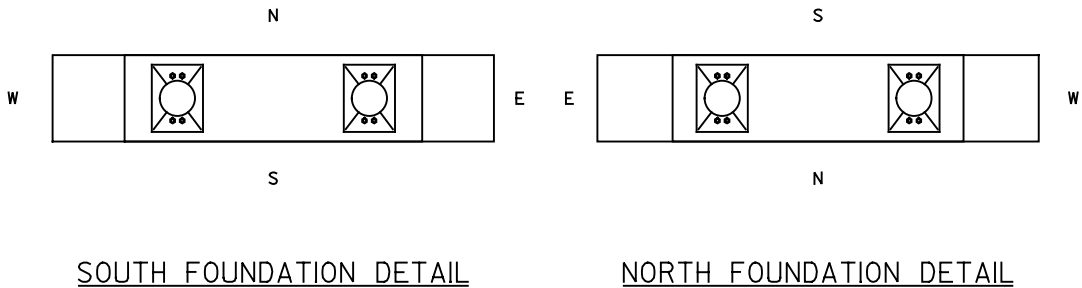
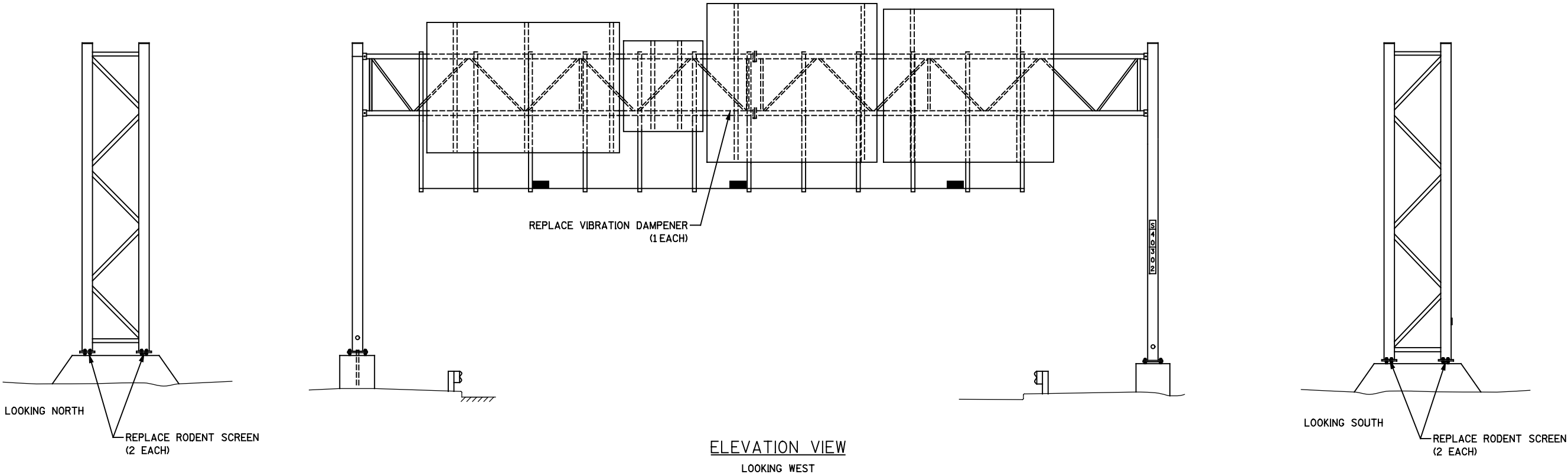
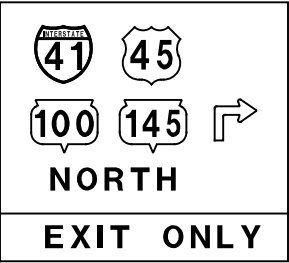
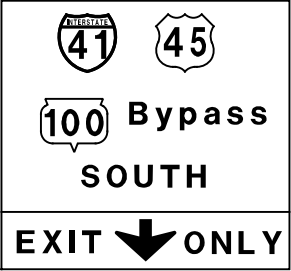
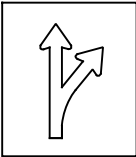
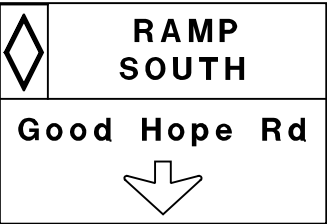


ELEVATION VIEW
LOOKING NORTH

FOUNDATION DETAIL

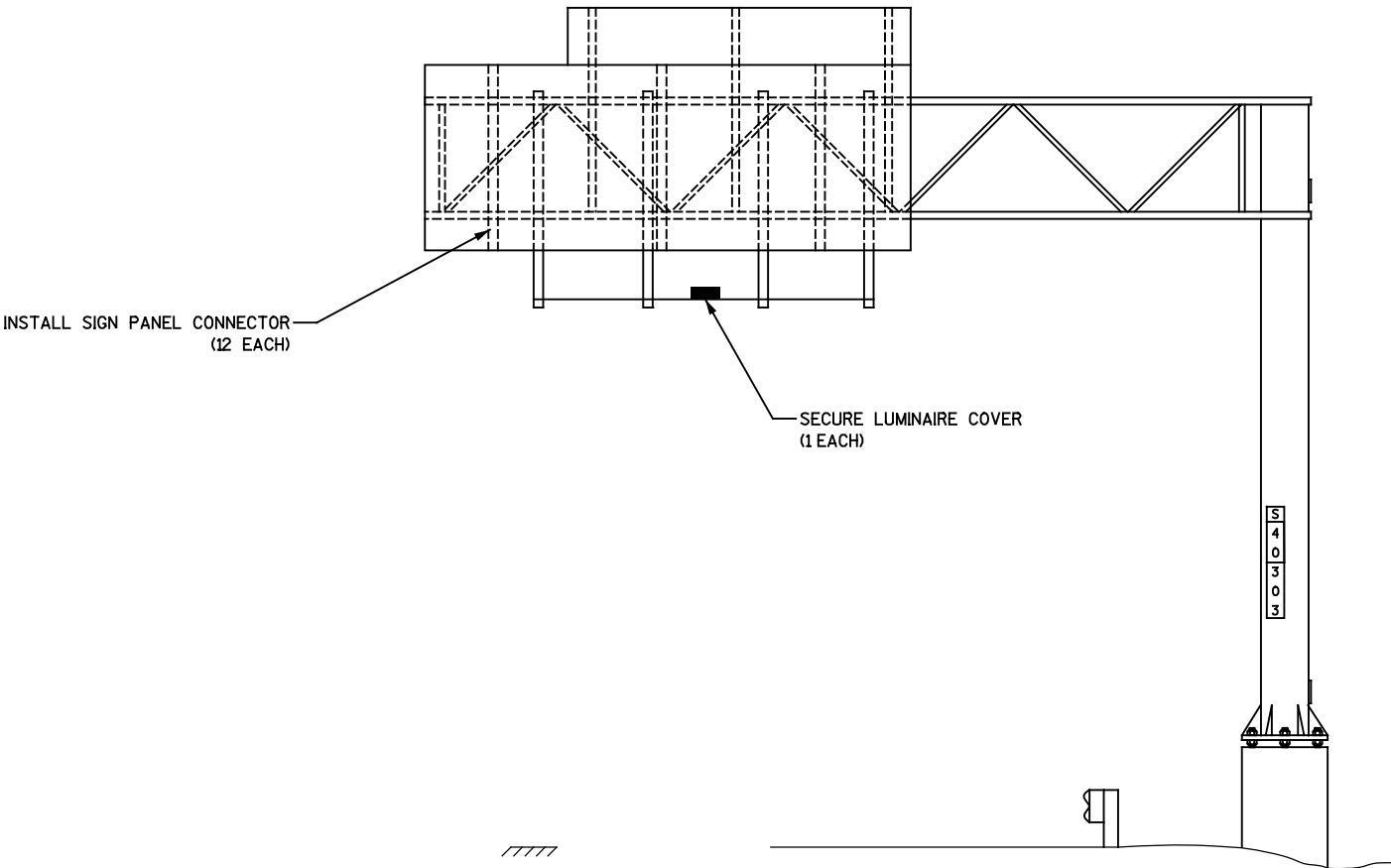
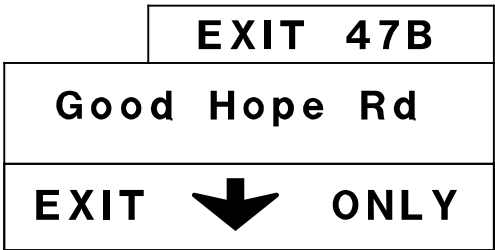
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.18	REPLACE SIGN CONNECTION ASSEMBLY	2 EACH	7
SPV.0060.01	REPLACE RODENT SCREEN	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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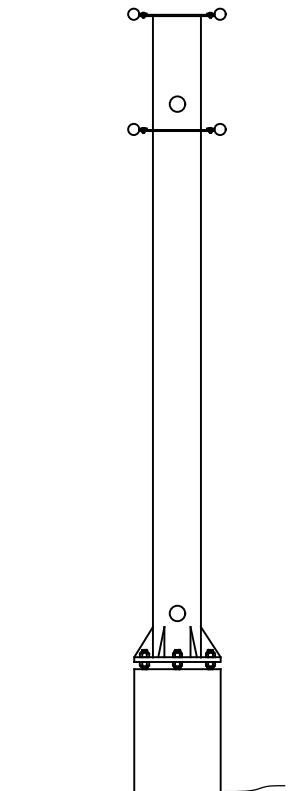


ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.01	REPLACE RODENT SCREEN	4 EACH	2
SPV.0060.22	REPLACE VIBRATION DAMPENER	1 EACH	N/A

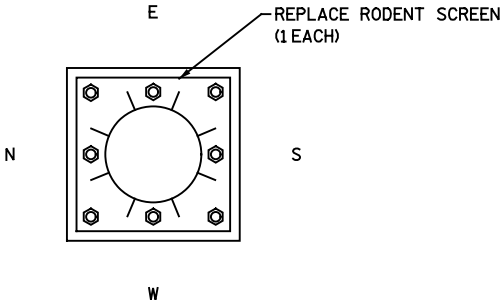
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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ELEVATION VIEW
LOOKING SOUTH



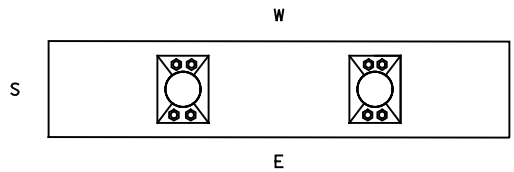
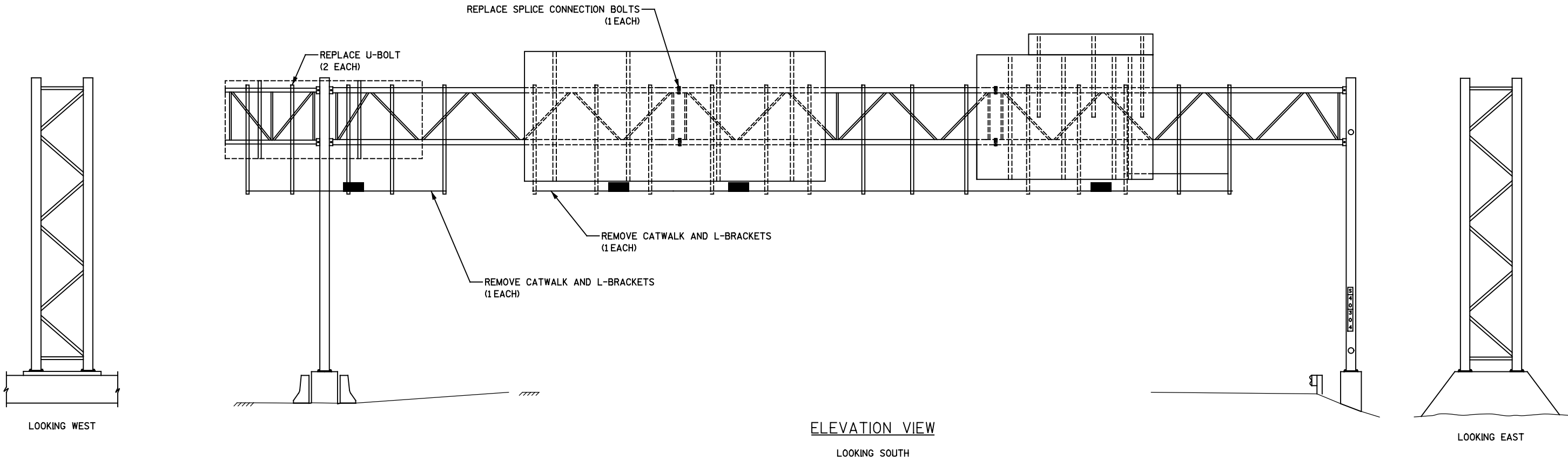
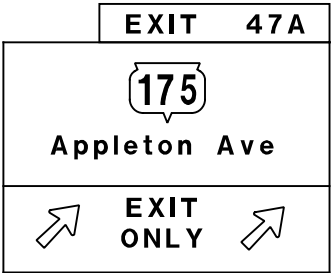
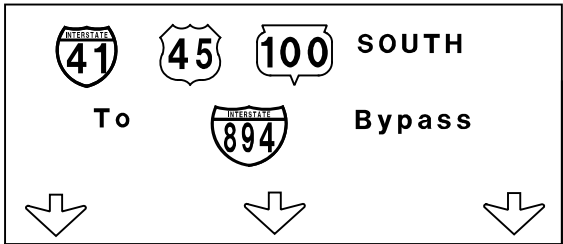
LOOKING EAST



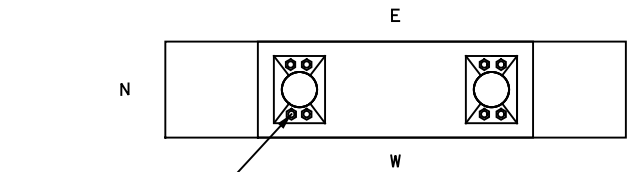
FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.01	REPLACE RODENT SCREEN	1 EACH	2
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	12 EACH	6
SPV.0060.27	SECURE LUMINAIRE COVER	1 EACH	10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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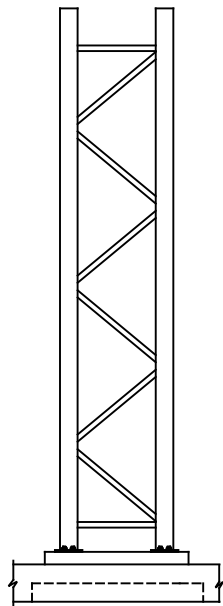
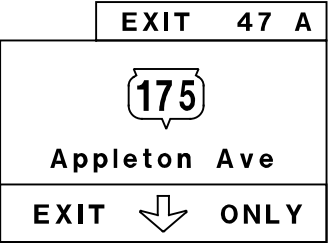
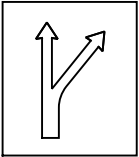
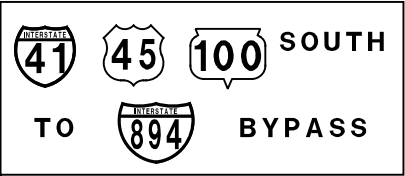
EAST FOUNDATION DETAIL



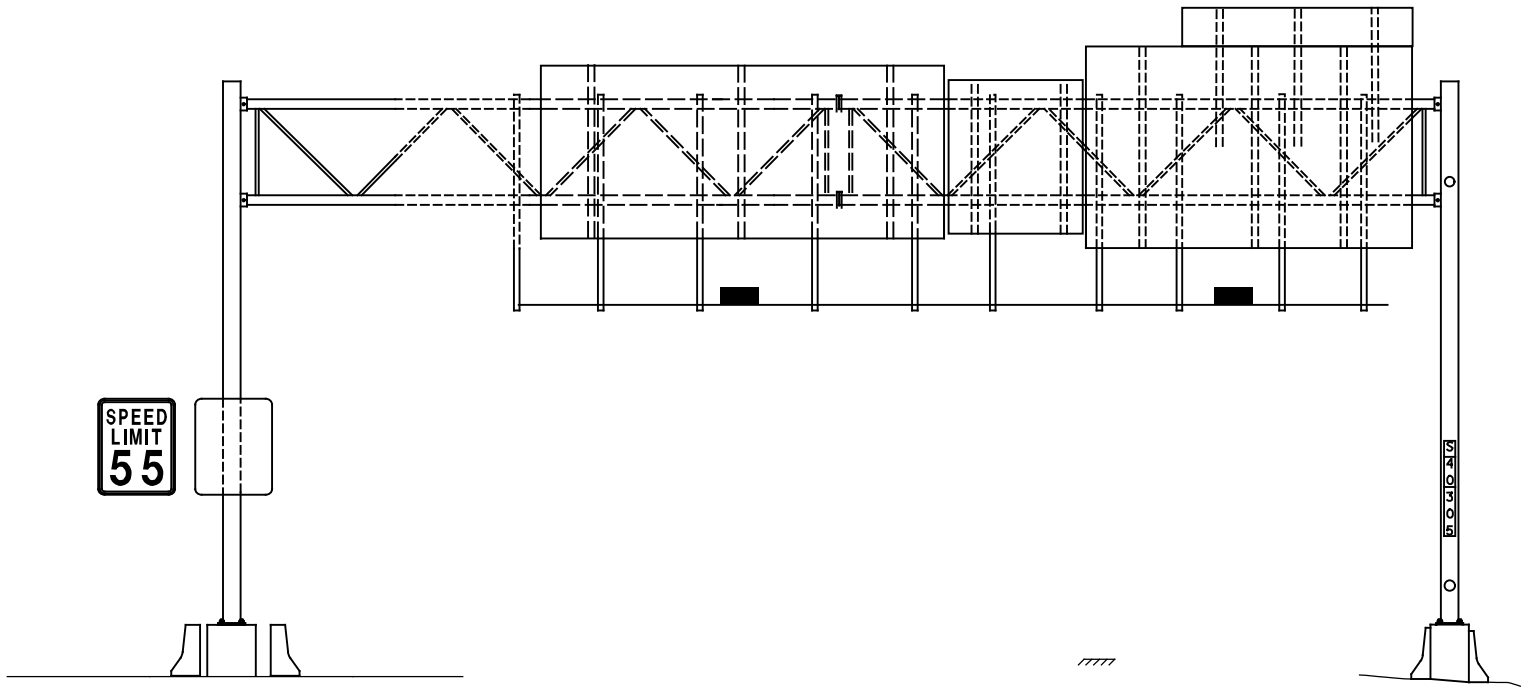
WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.08	REPLACE U-BOLT	2 EACH	6
SPV.0060.21	REMOVE CATWALK AND L-BRACKETS	2 EACH	8
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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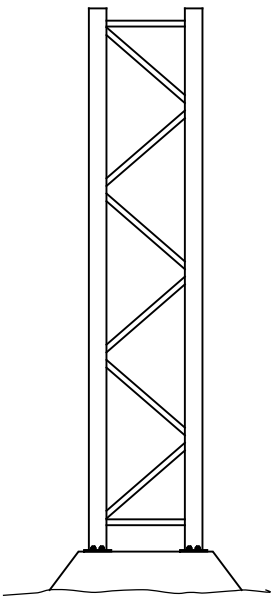


LOOKING WEST

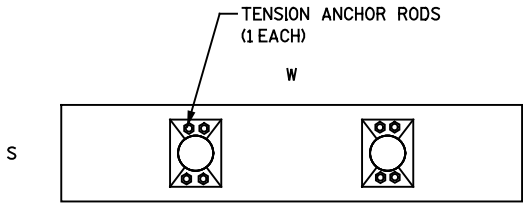


ELEVATION VIEW

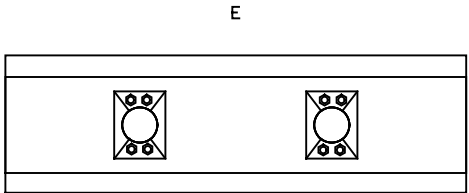
LOOKING SOUTH



LOOKING EAST



EAST FOUNDATION DETAIL



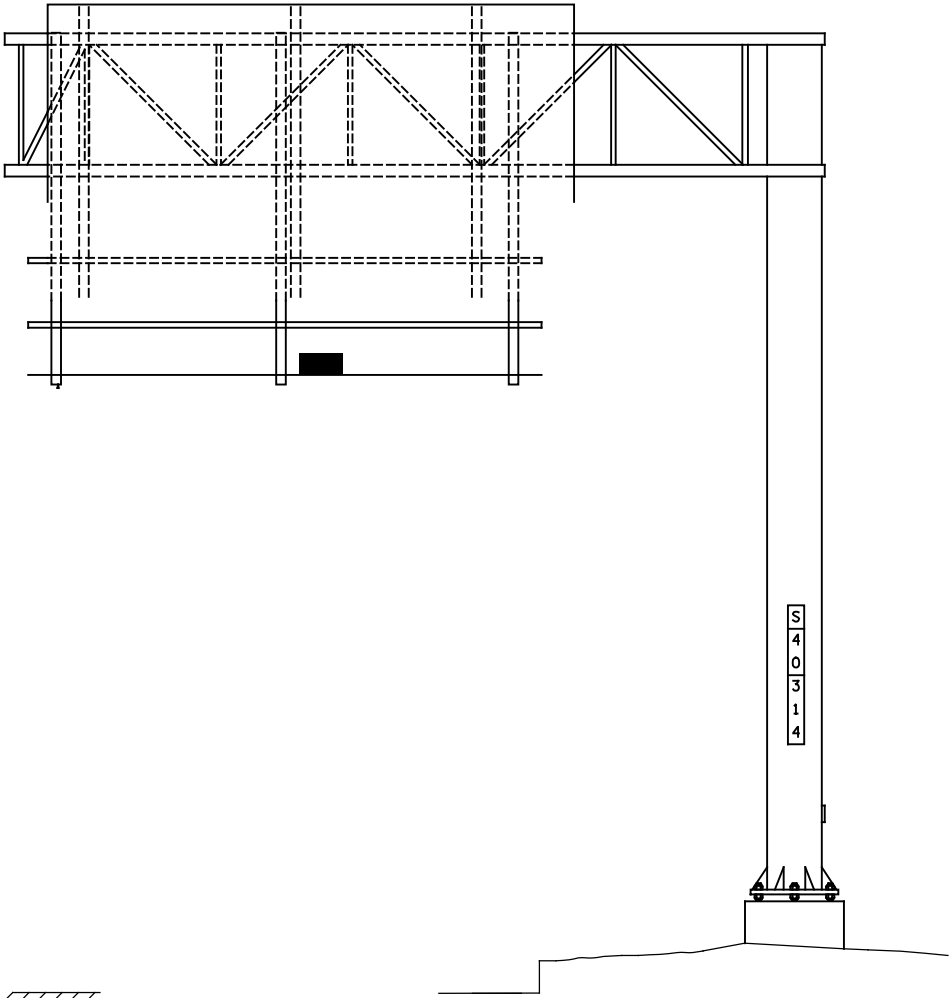
WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

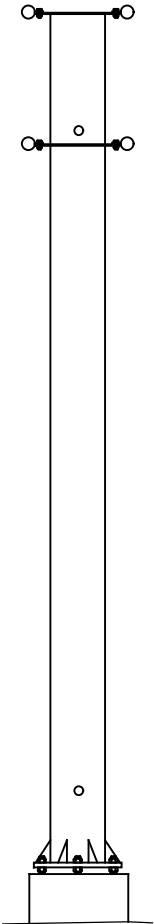
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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Miller Park
Canal Street

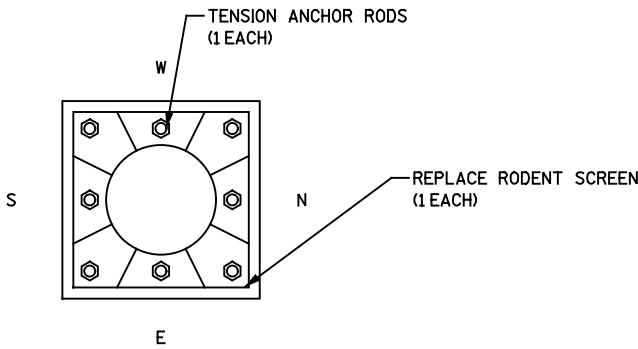
EXIT  ONLY



ELEVATION VIEW
LOOKING NORTH



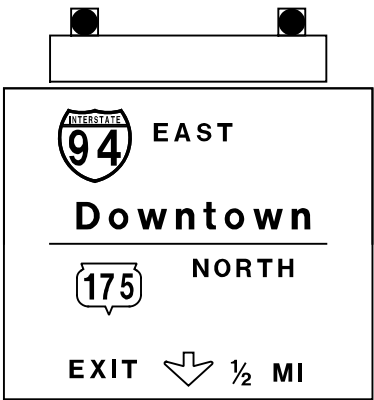
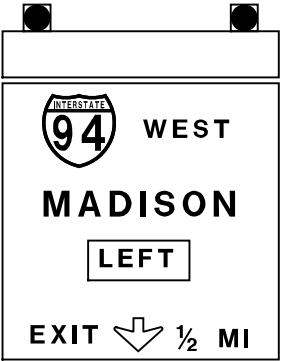
LOOKING WEST



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.01	REPLACE RODENT SCREEN	1 EACH	2
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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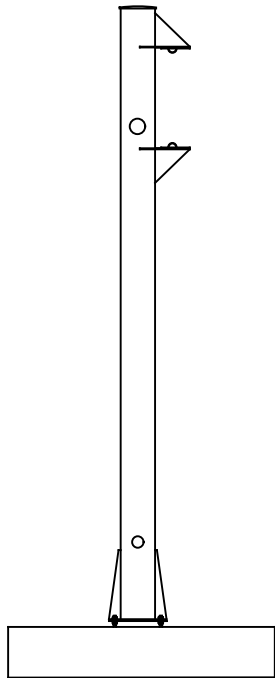


INSTALL SIGN PANEL CONNECTOR
(10 EACH)

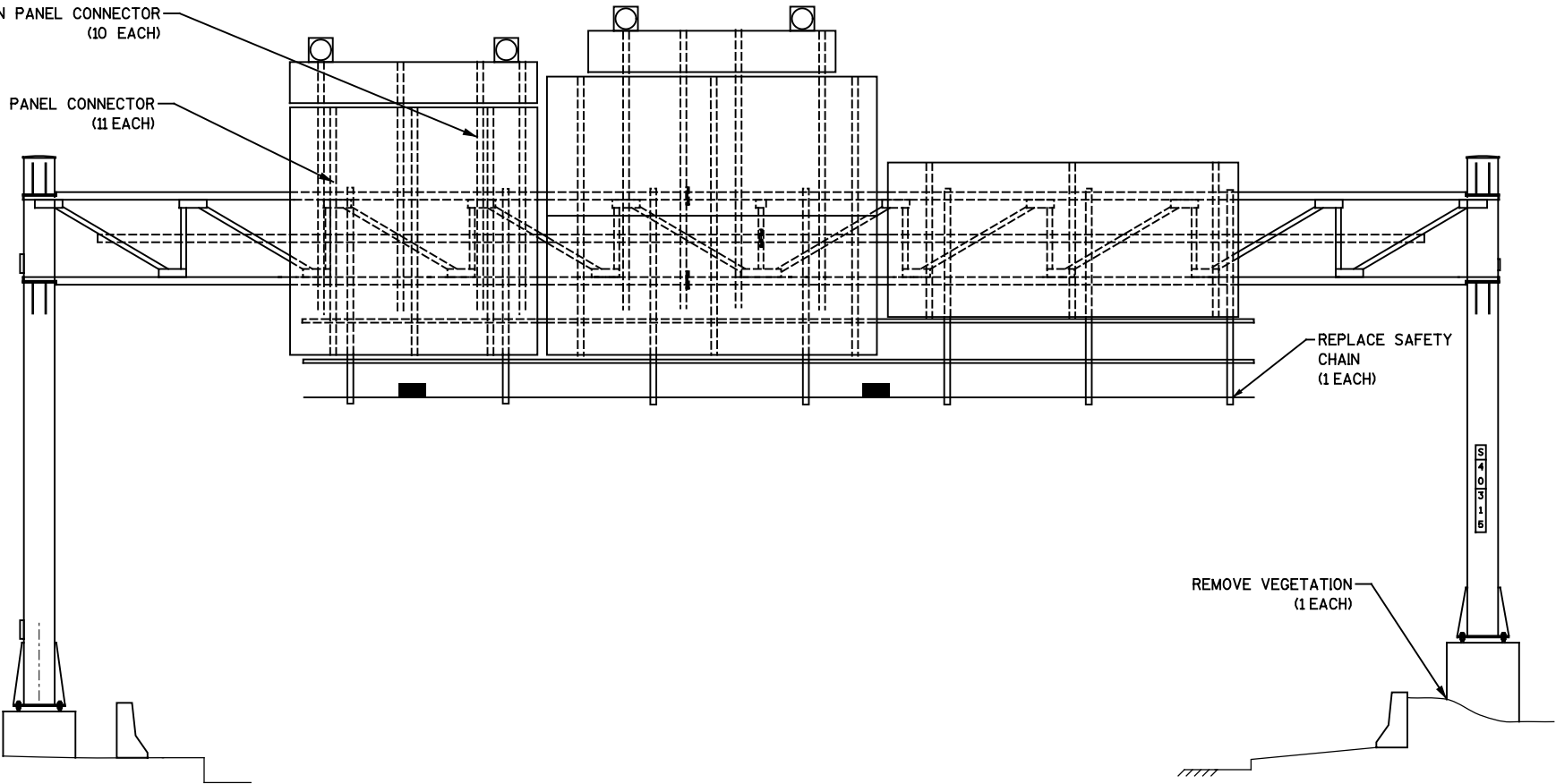
INSTALL SIGN PANEL CONNECTOR
(11 EACH)

REPLACE SAFETY
CHAIN
(1 EACH)

REMOVE VEGETATION
(1 EACH)

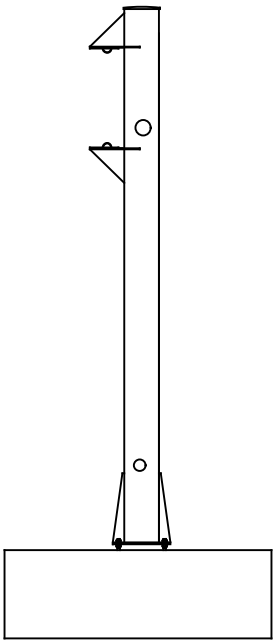


LOOKING EAST



ELEVATION VIEW

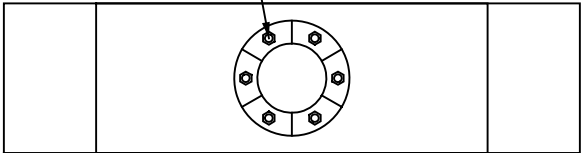
LOOKING NORTH



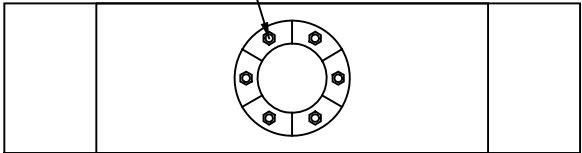
LOOKING WEST

TENSION ANCHOR RODS
(1 EACH)

TENSION ANCHOR RODS
(1 EACH)



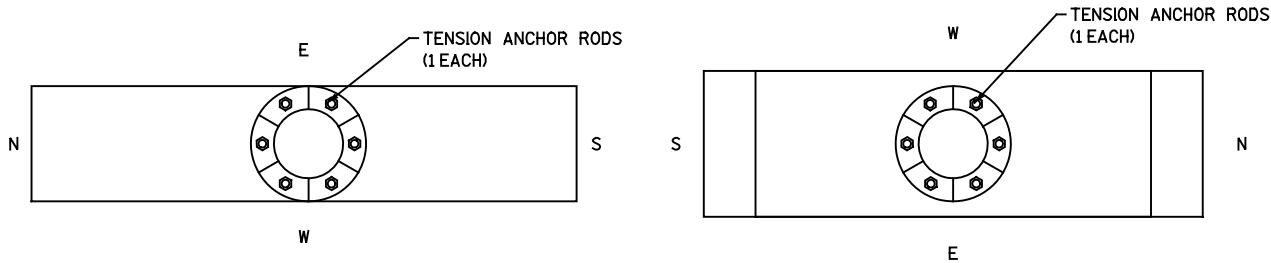
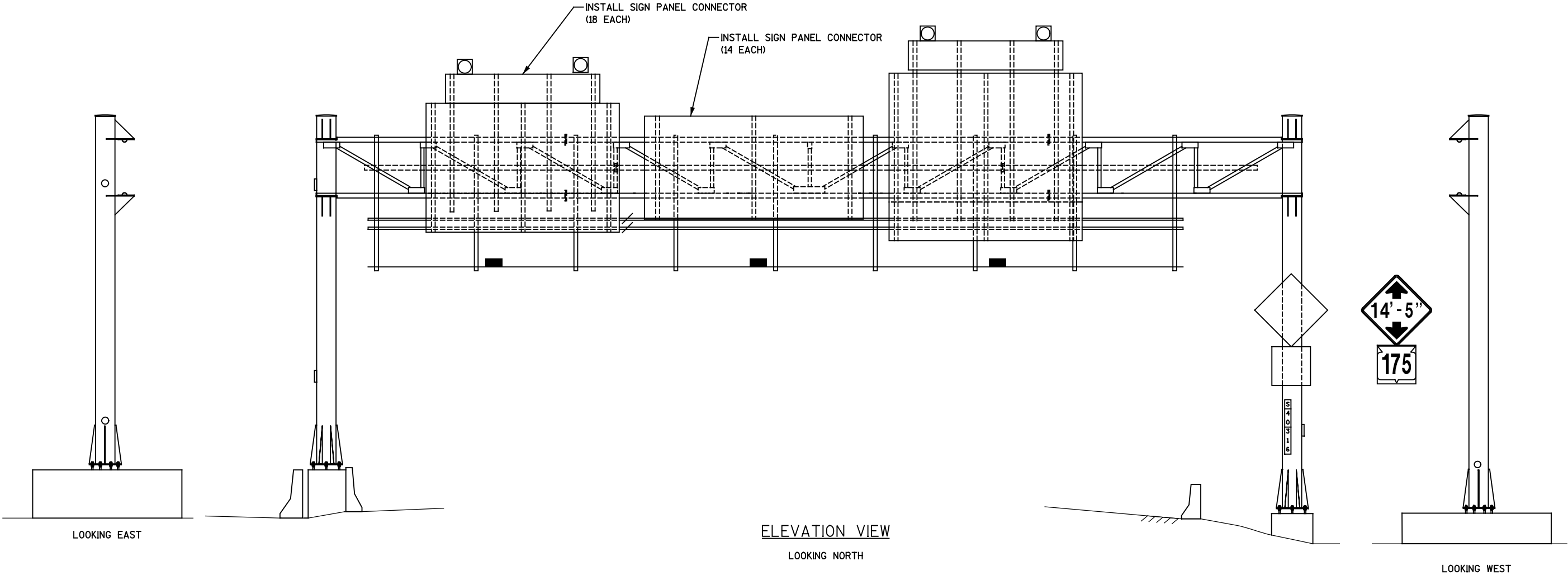
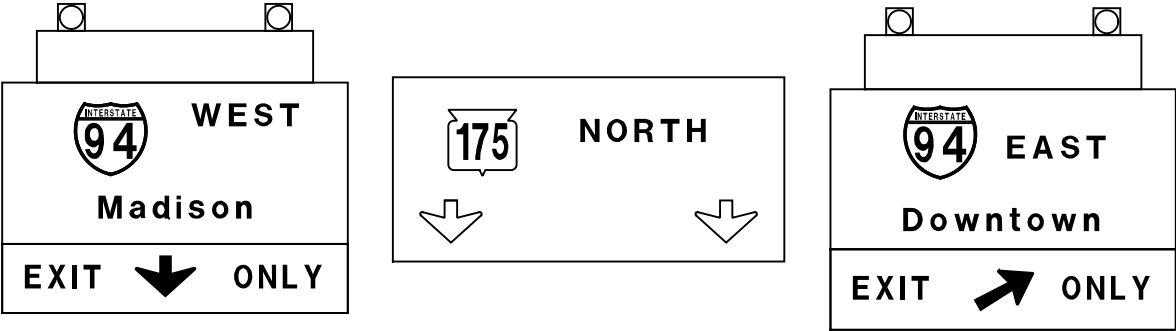
WEST FOUNDATION DETAIL



EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.06	REPLACE SAFETY CHAIN	1 EACH	8
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	21 EACH	6
SPV.0060.20	REMOVE VEGETATION	1 EACH	N/A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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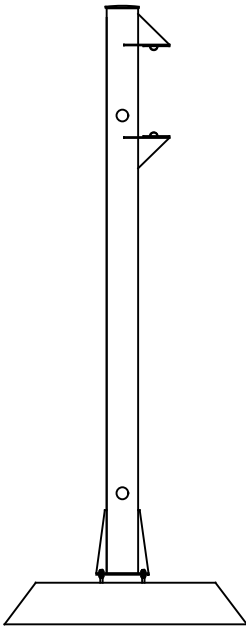
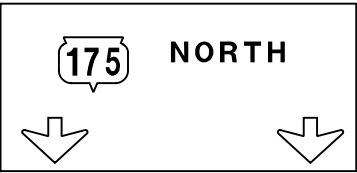
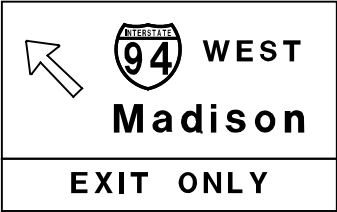


WEST FOUNDATION DETAIL

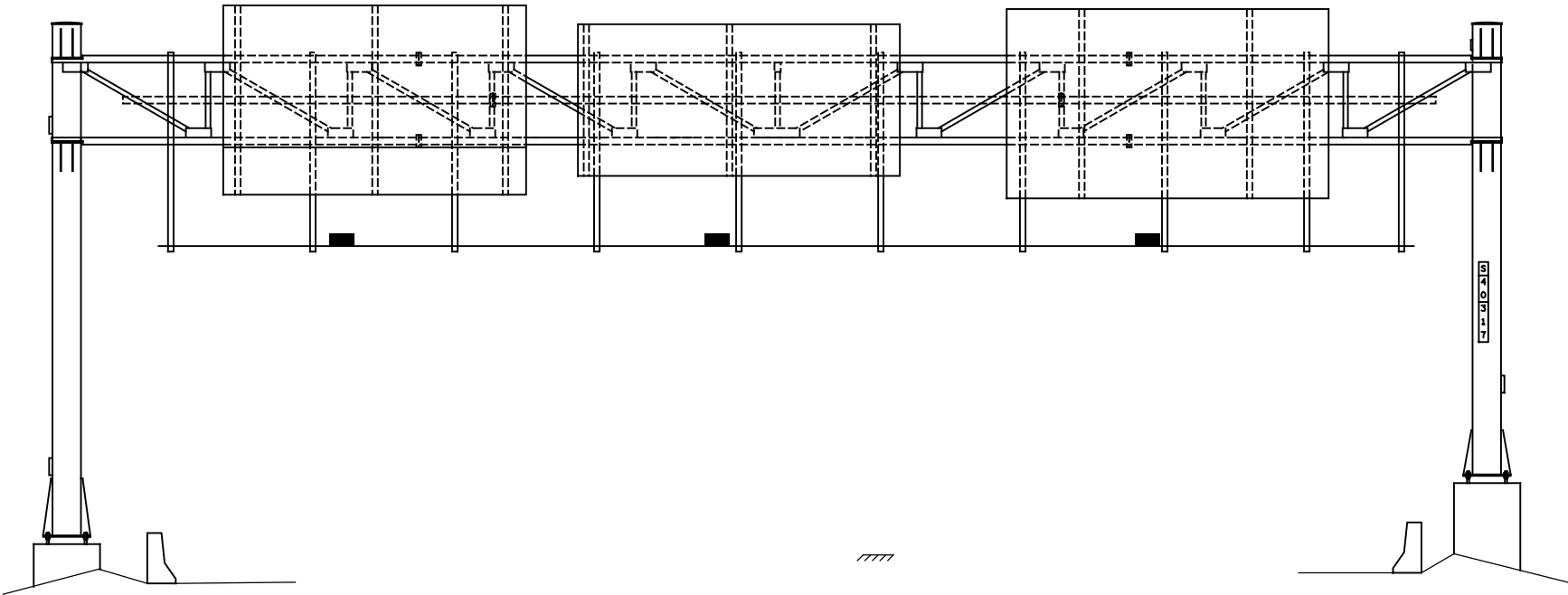
EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	32 EACH	6

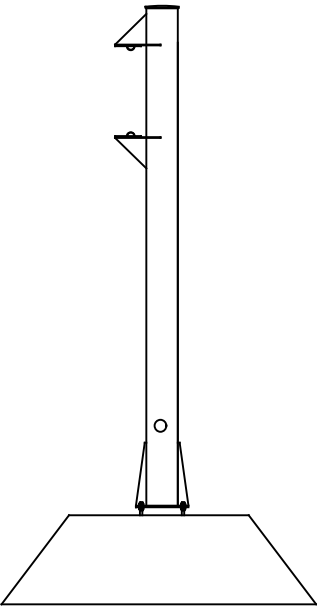
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0316			SHEET 39 OF 115



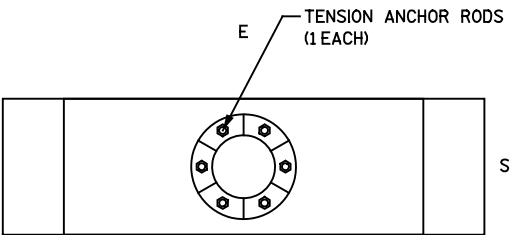
LOOKING EAST



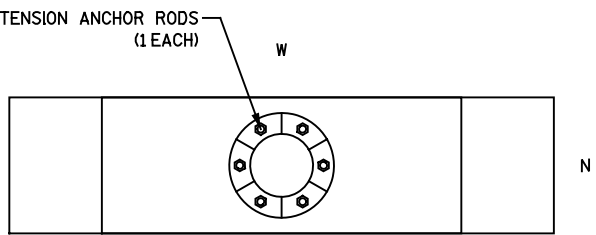
ELEVATION VIEW
LOOKING NORTH



LOOKING WEST



WEST FOUNDATION DETAIL



EAST FOUNDATION DETAIL

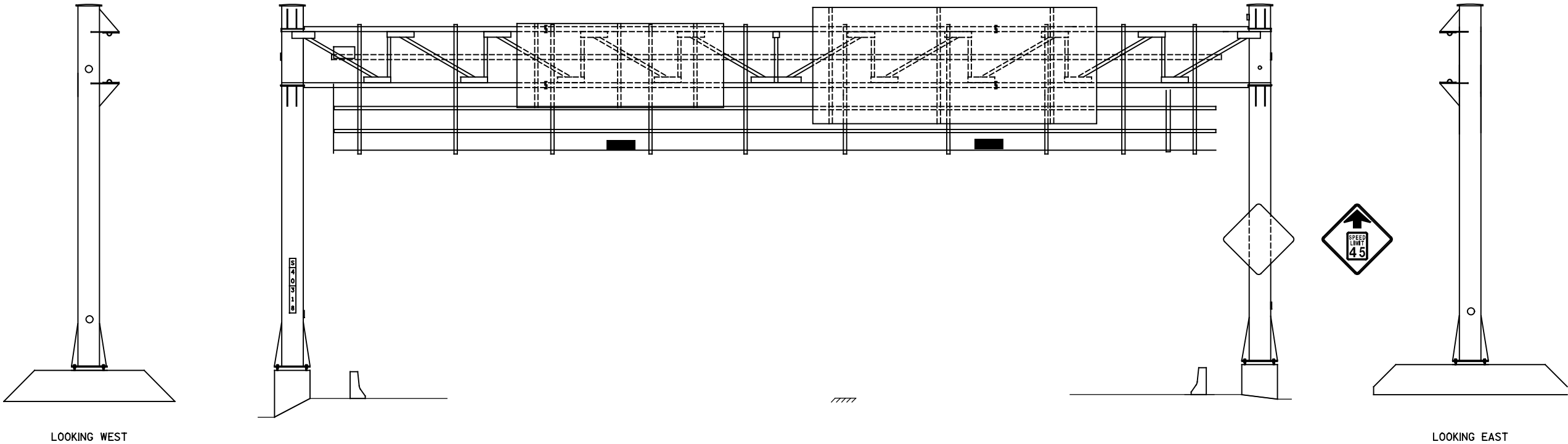
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0317			SHEET 40 OF 115

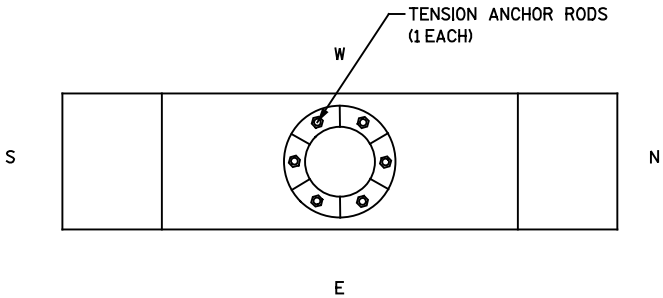
Miller Park Way
To National Ave
LEFT LANES

Miller Park
Canal Street

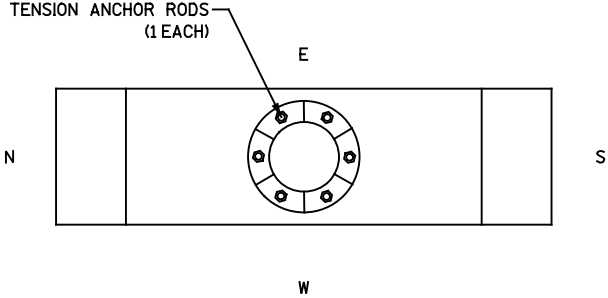
EXIT ↓ ONLY



ELEVATION VIEW
LOOKING SOUTH



EAST FOUNDATION DETAIL



WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2

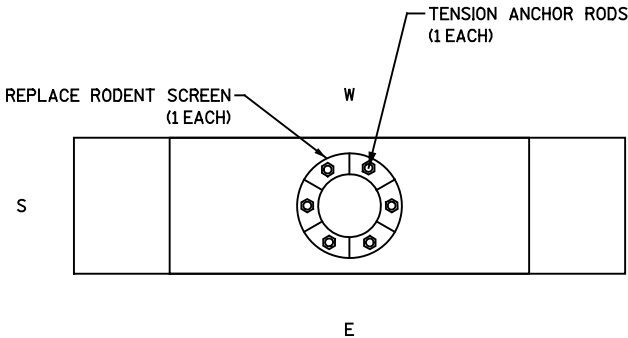
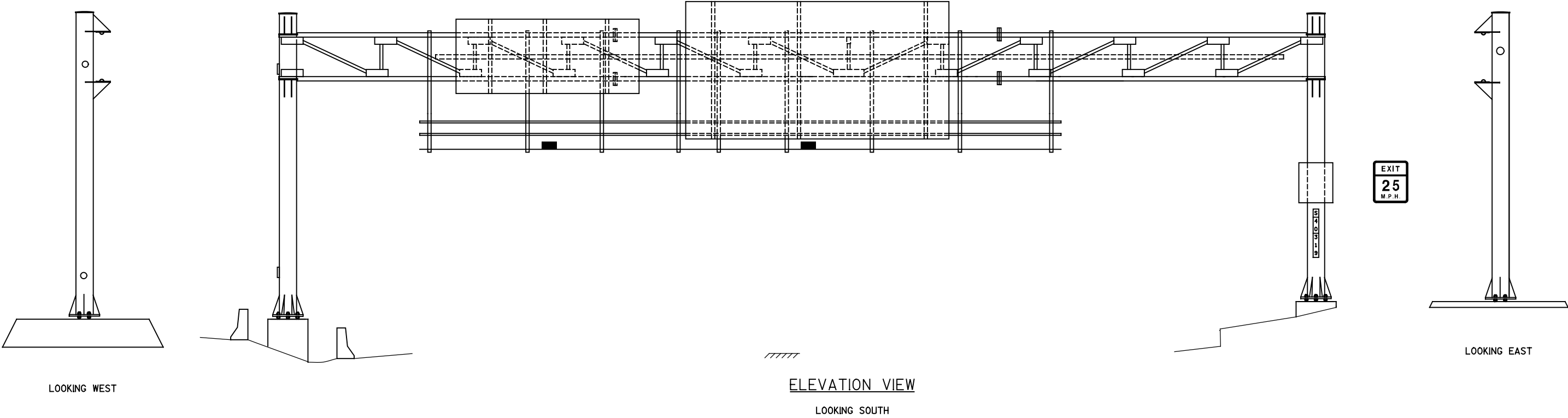
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0318			SHEET 41 OF 115

Miller Park Way
To National Ave
LEFT LANES

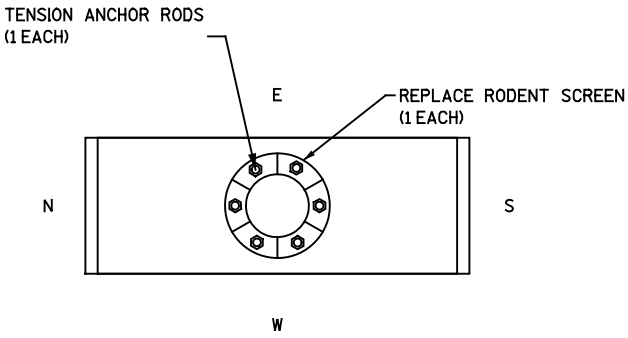
Miller Park
Canal Street

EXIT ONLY

25 MPH



EAST FOUNDATION DETAIL



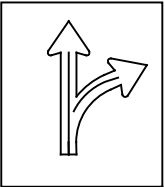
WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.01	REPLACE RODENT SCREEN	2 EACH	2
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2

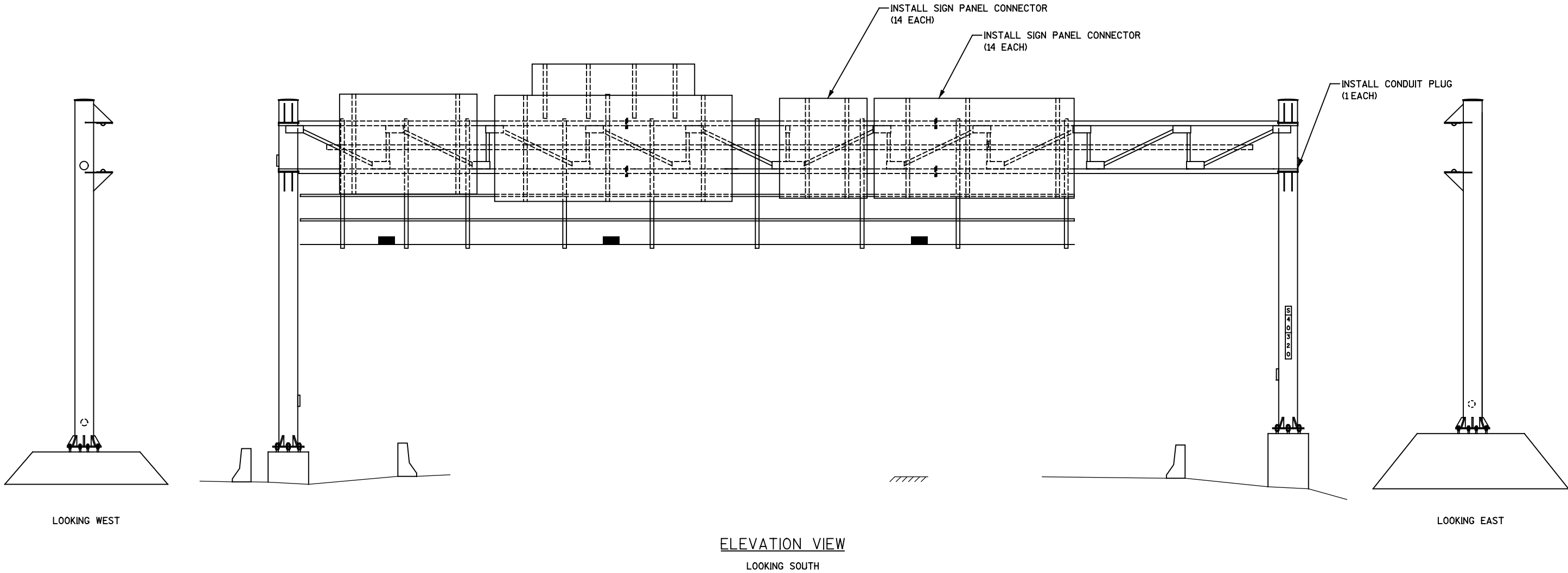
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0319			SHEET 42 OF 115

59 EAST
NEXT LEFT

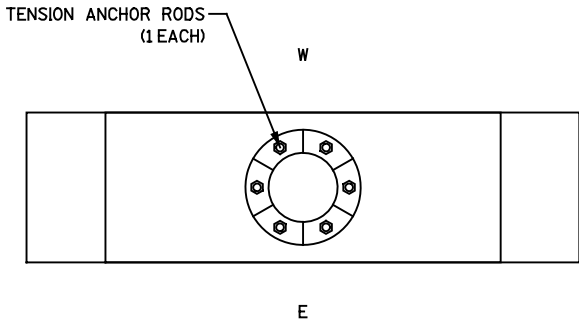
FREEWAY ENDS
Miller Park Way
SOUTH



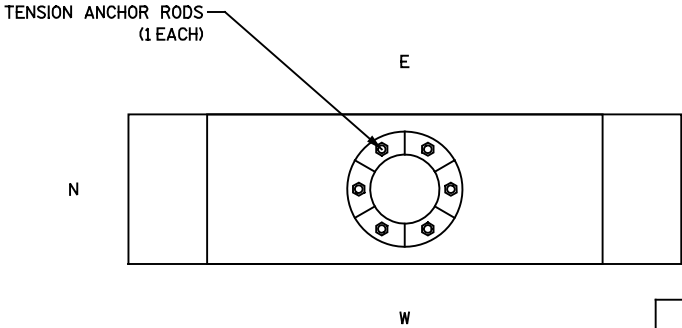
59 WEST
RIGHT LANE



ELEVATION VIEW
LOOKING SOUTH



EAST FOUNDATION DETAIL



WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.05	INSTALL CONDUIT PLUG	1 EACH	10
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	28 EACH	6

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0320			SHEET 43 OF 115

Charter Buses
Preferred Parking

↩

♿

General
Parking

↓

175 NORTH
TO

94

General Parking

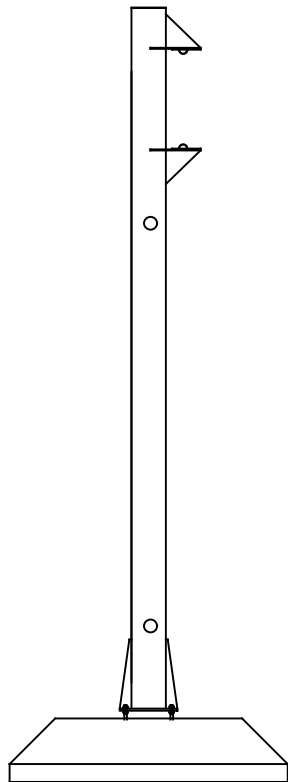
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175 NORTH
TO

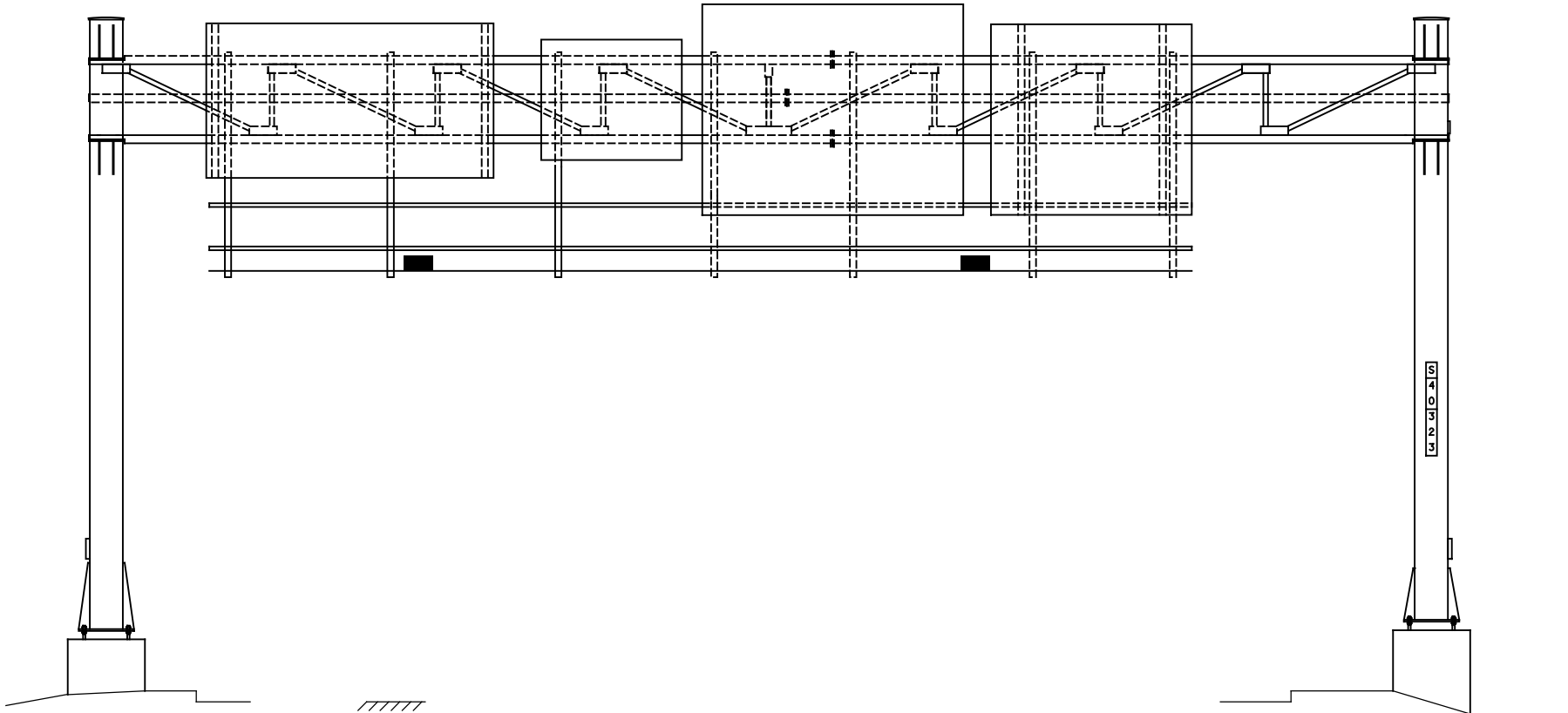
94

Downtown

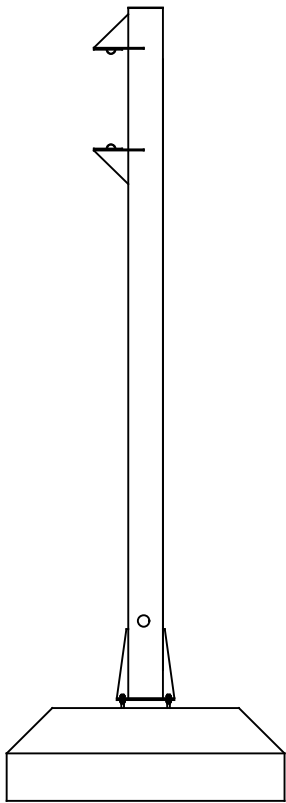
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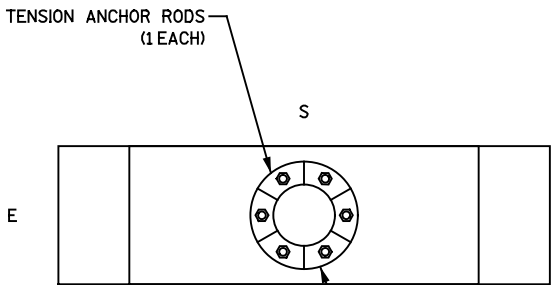
LOOKING SOUTH



ELEVATION VIEW
LOOKING EAST

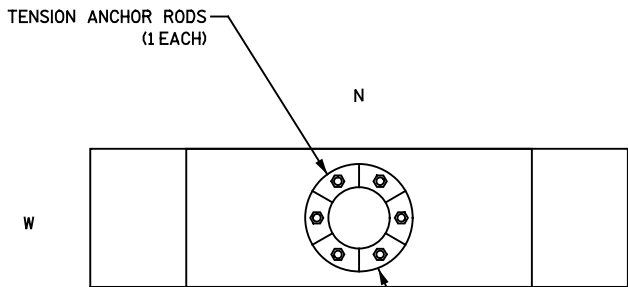


LOOKING NORTH



REPLACE RODENT SCREEN
(1 EACH)

NORTH FOUNDATION DETAIL

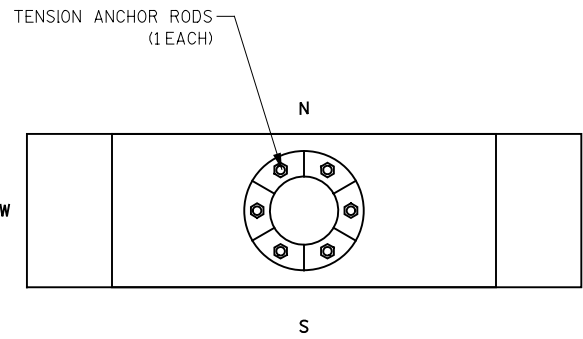
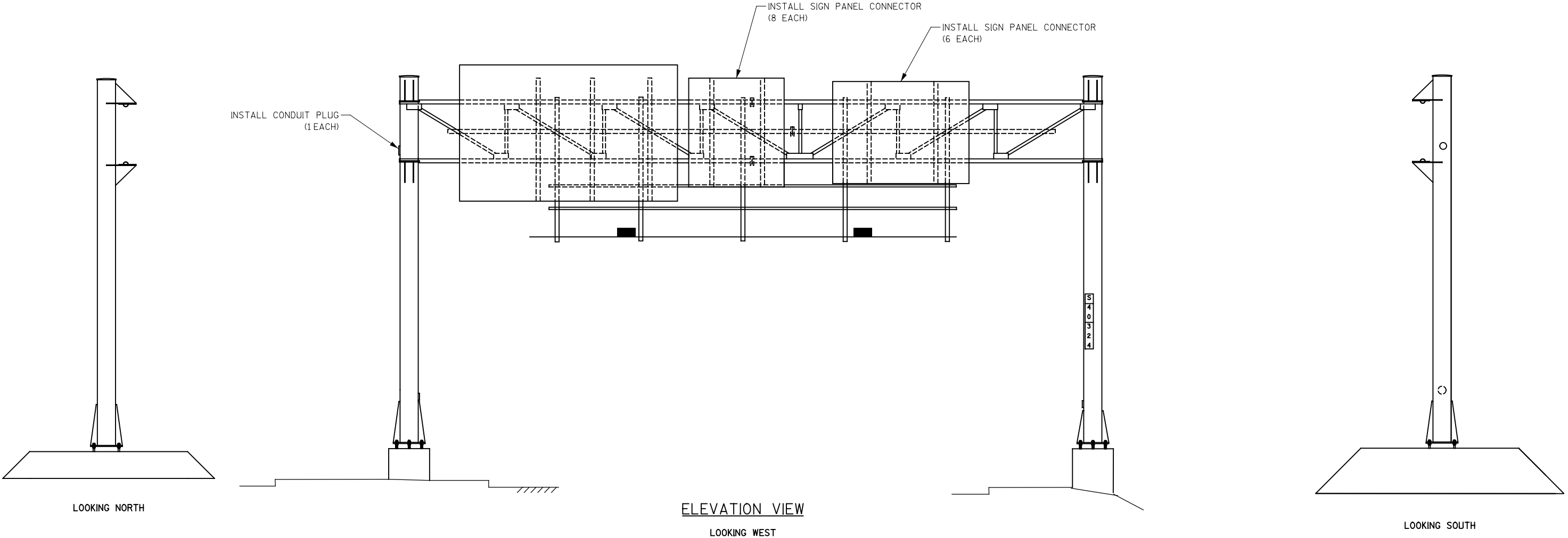
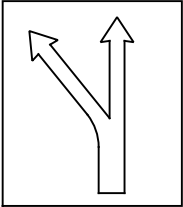
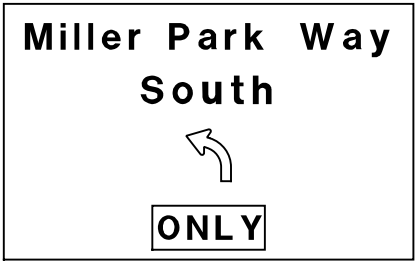


REPLACE RODENT SCREEN
(1 EACH)

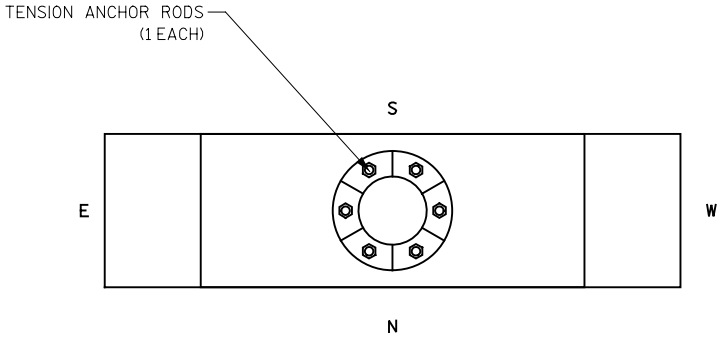
SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.01	REPLACE RODENT SCREEN	2 EACH	2
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0323			SHEET 44 OF 115



SOUTH FOUNDATION DETAIL




NORTH FOUNDATION DETAIL

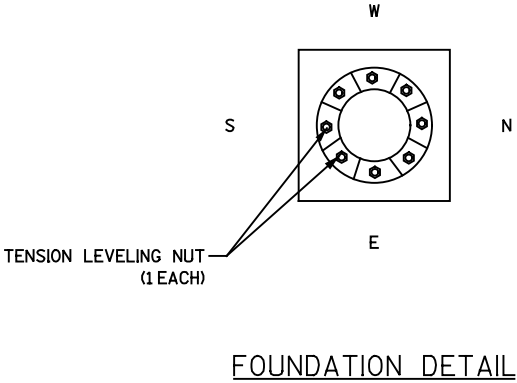
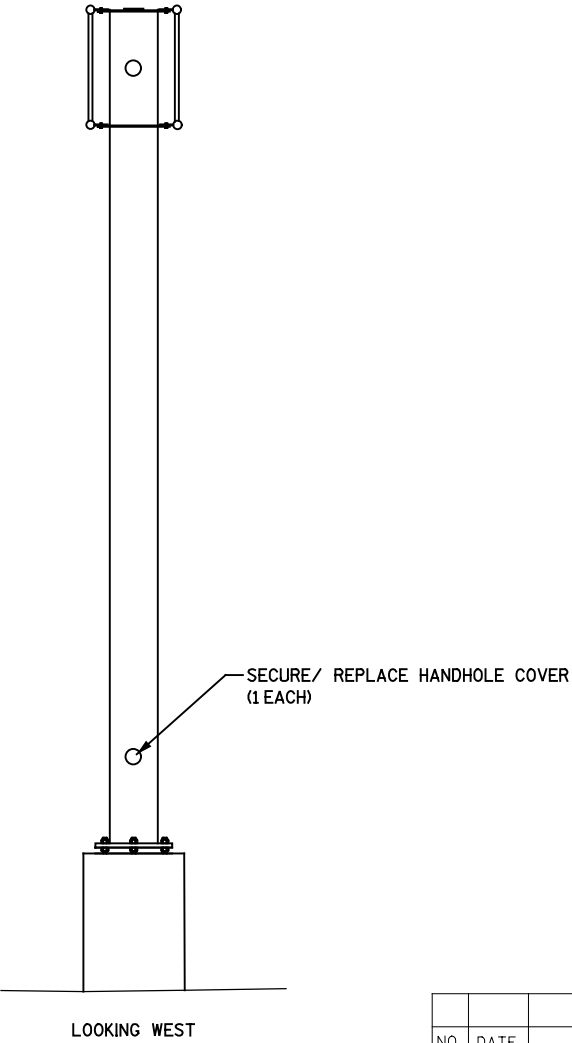
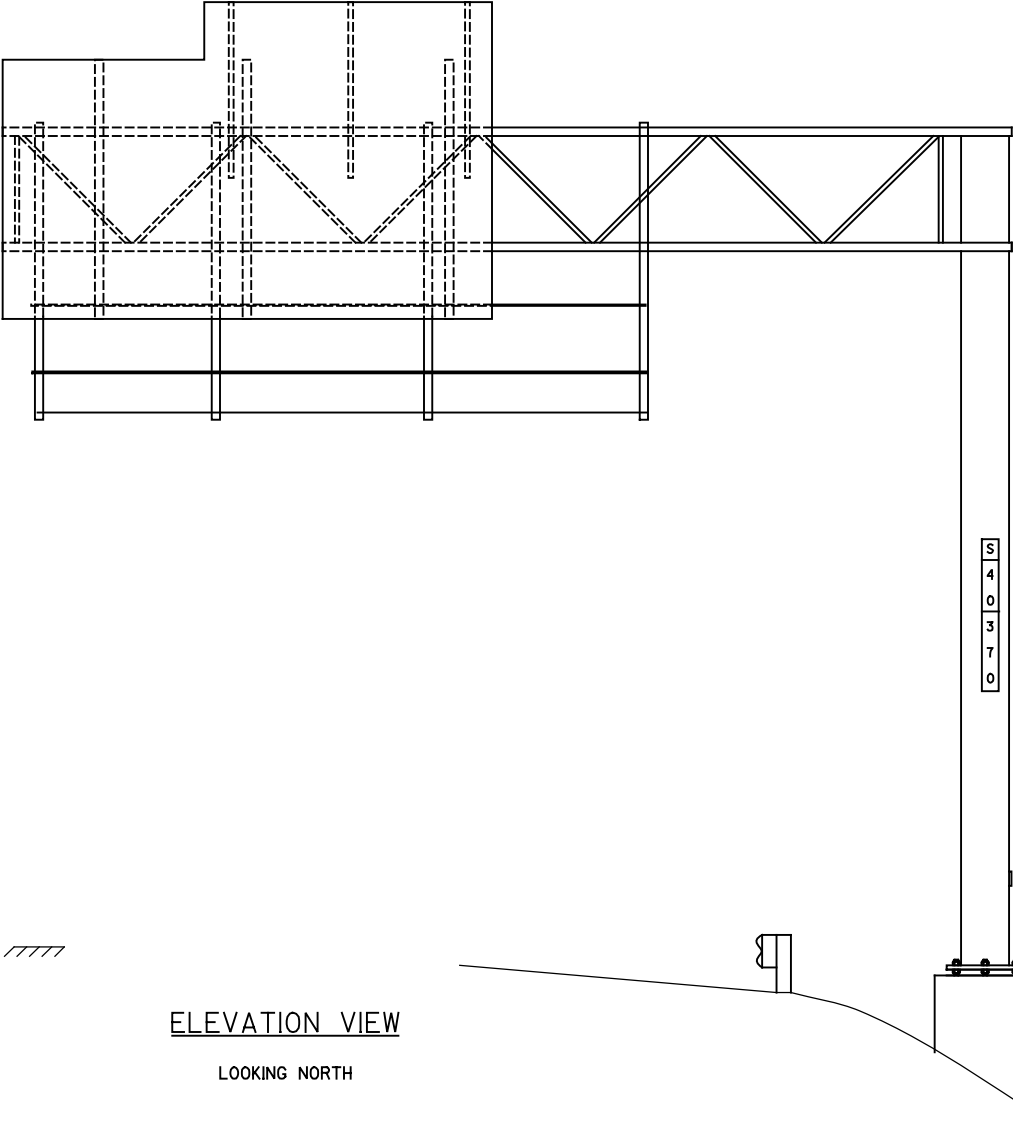
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.05	INSTALL CONDUIT PLUG	1 EACH	10
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	14 EACH	6

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0324			SHEET 45 OF 115

EXIT 45

Hampton Ave
1/2 MILE

EXIT  ONLY



ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.13	TENSION LEVELING NUT	2 EACH	2
SPV.0060.29	SECURE/ REPLACE HANDHOLE COVER	1 EACH	10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0370			SHEET 46 OF 115

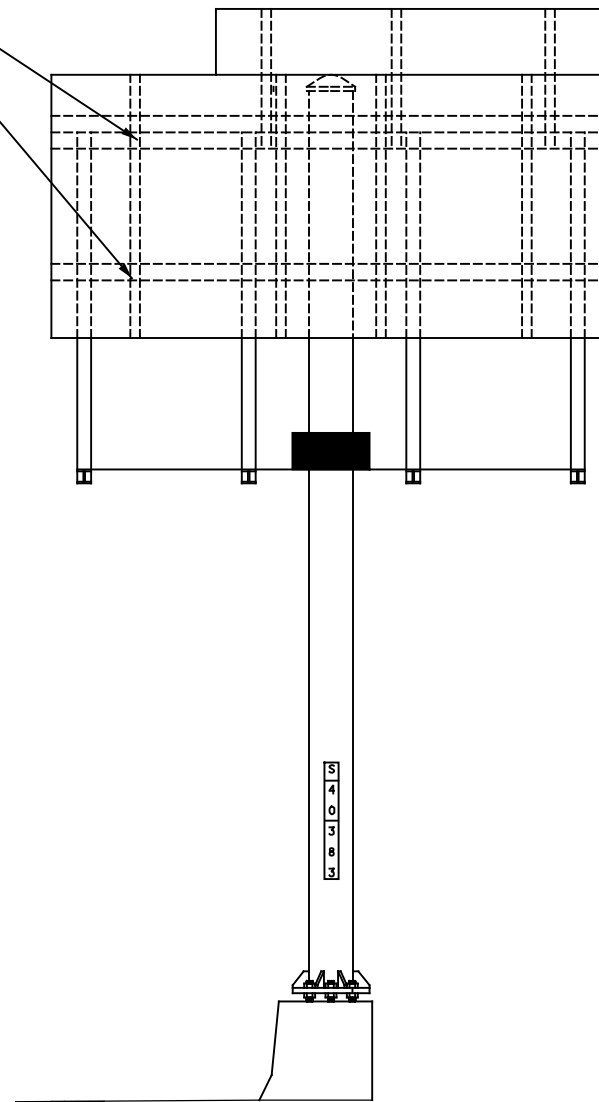
EXIT 77 A

Hampton Ave
EAST
1/4 MILE

STATE PROJECT NUMBER

1000-20-70

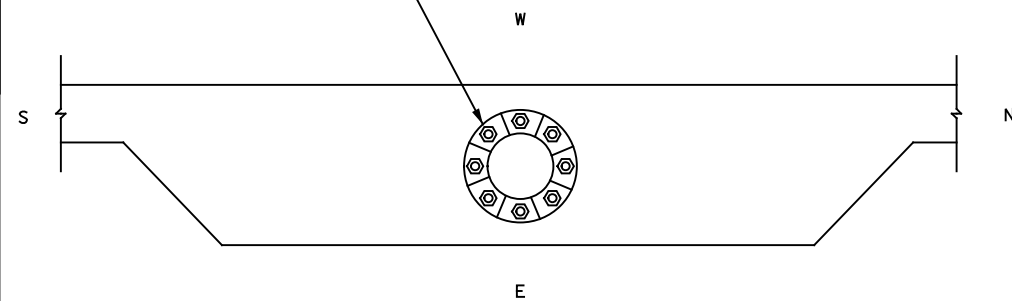
REPLACE U-BOLT
(1 EACH)



ELEVATION VIEW

LOOKING NORTH

REPLACE RODENT SCREEN
(1 EACH)



FOUNDATION DETAIL

LOOKING WEST

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0383			SHEET 47 OF 115

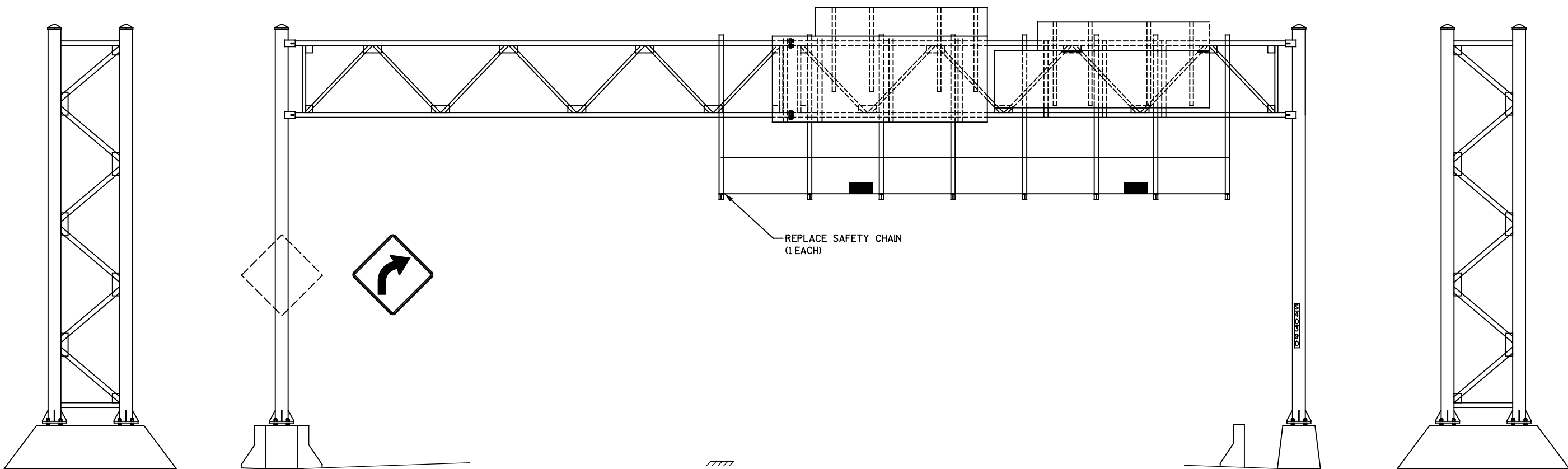
EXIT 314 B

Howard Ave

3/4 MILE

EXIT 314 A

Holt Ave



LOOKING WEST

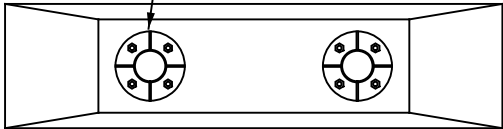
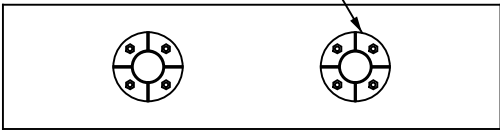
LOOKING EAST

ELEVATION VIEW

LOOKING SOUTH

REPLACE RODENT SCREEN
(1 EACH)

REPLACE RODENT SCREEN
(1 EACH)



EAST FOUNDATION DETAIL

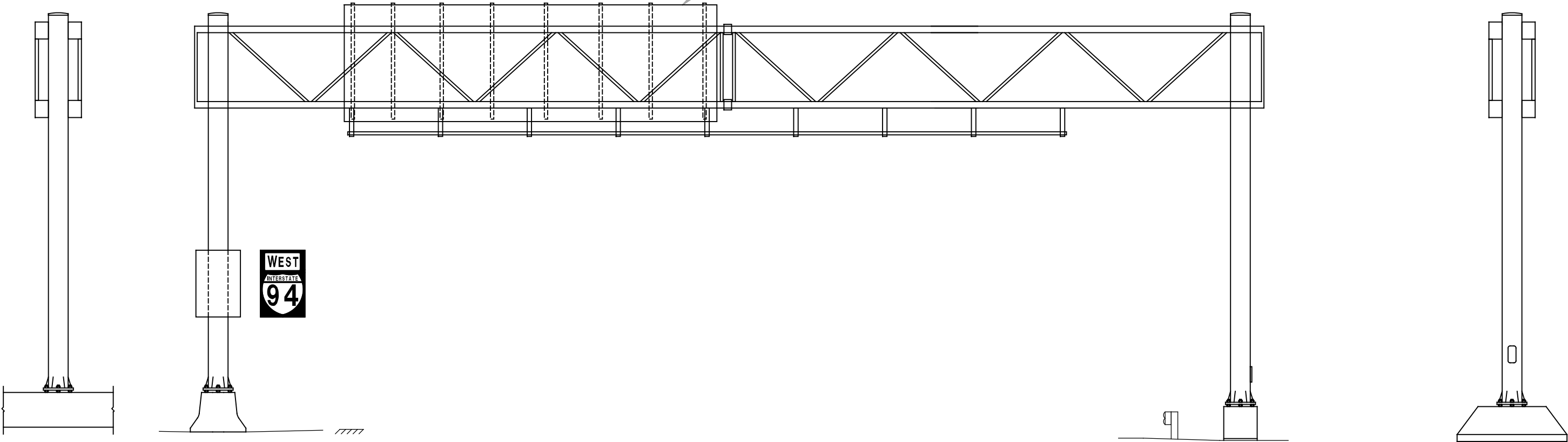
WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.06	REPLACE SAFETY CHAIN	1 EACH	8
SPV.0060.01	REPLACE RODENT SCREEN	2 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0390			SHEET 48 OF 115

VMS

TIGHTEN VMS CONNECTION
(1 EACH)

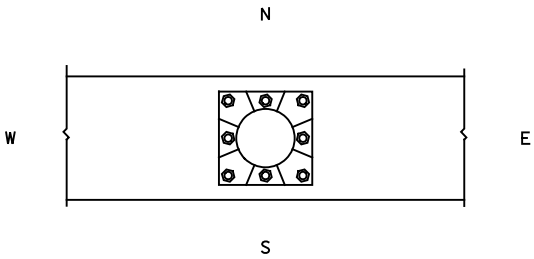


LOOKING NORTH

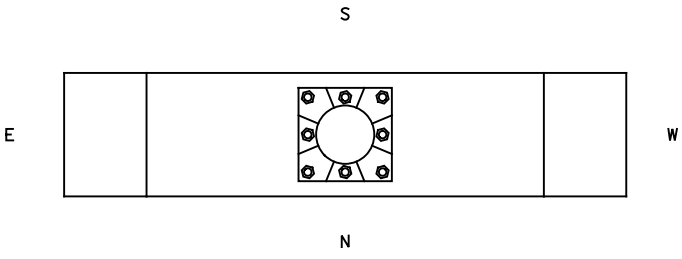
LOOKING SOUTH

ELEVATION VIEW

LOOKING WEST



SOUTH FOUNDATION DETAIL



NORTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.17	TIGHTEN VMS CONNECTION	1 EACH	N/A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0431			SHEET 49 OF 115

EXIT 72 E

Highland Ave
11 th Street
¼ MILE

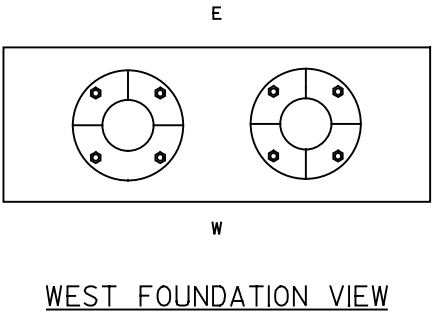
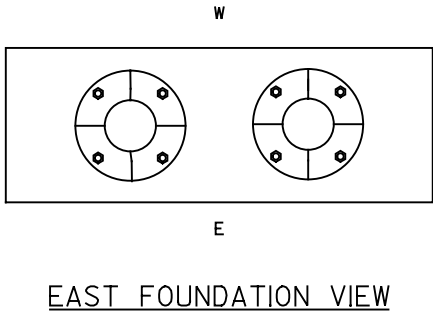
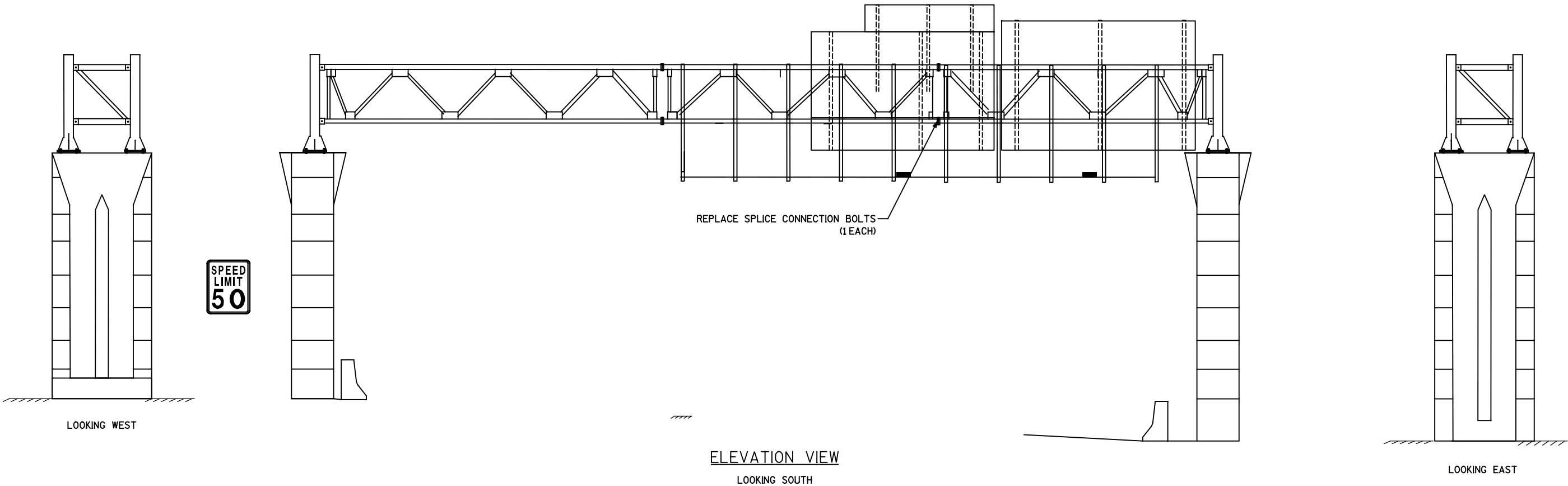
EXIT ↓ ONLY

EXIT 73 A

145

Fond du Lac
McKinley
Avenue

↗



ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0509			SHEET 50 OF 115

INTERSTATE

94

INTERSTATE

794

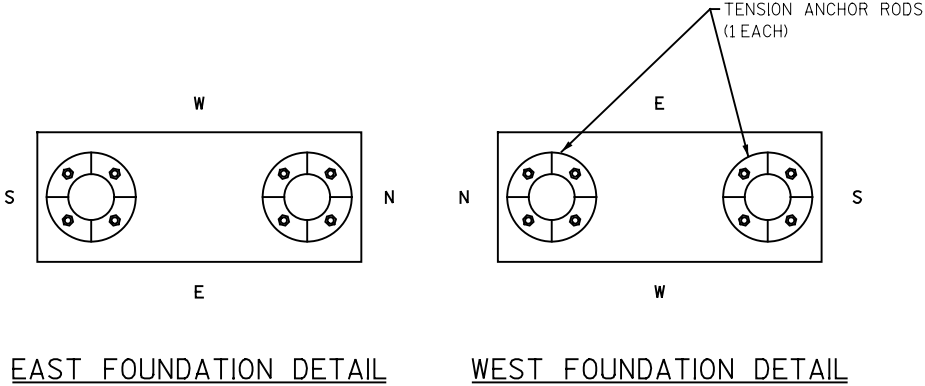
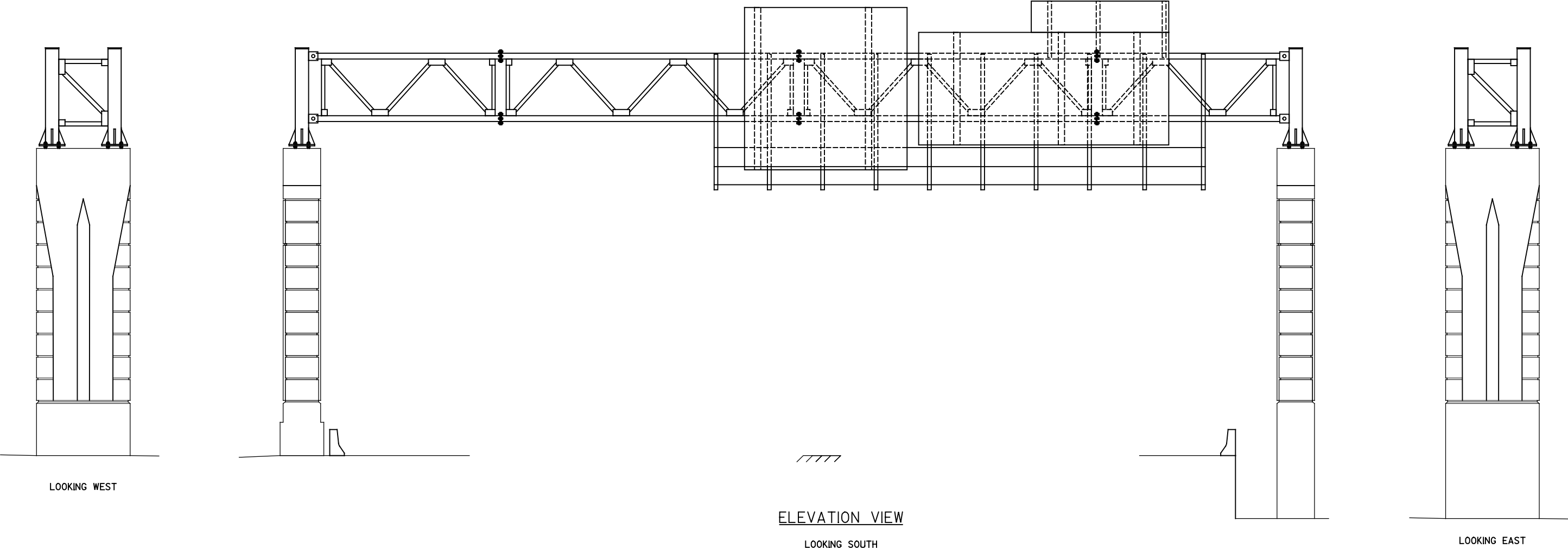
Madison
Lakefront

3/4 MILE

EXIT 72 E

Highland Ave
11 th Street

EXIT ONLY



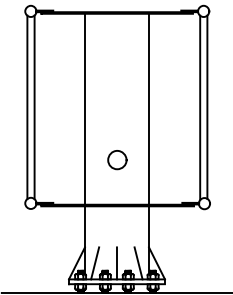
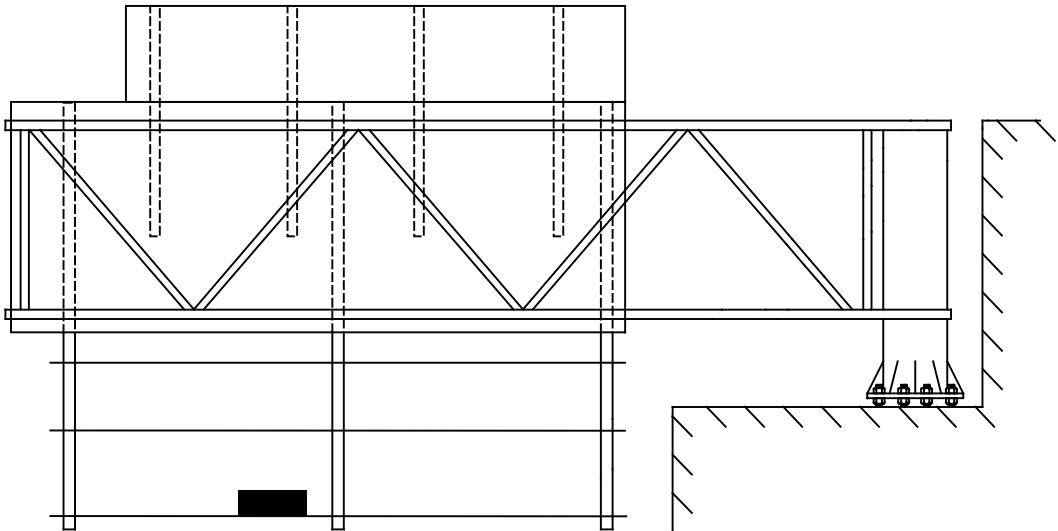
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0510			SHEET 51 OF 115

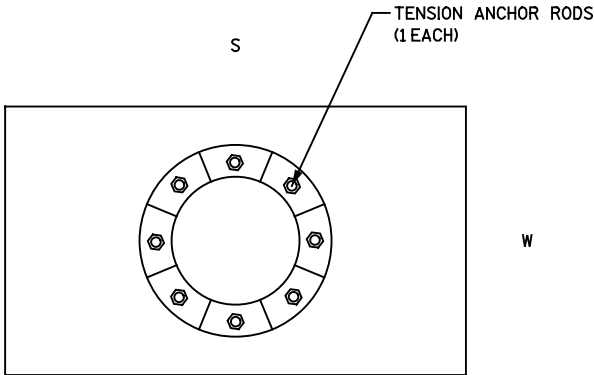
EXIT 309 A

35 th Street

³/₄ MILE



LOOKING SOUTH



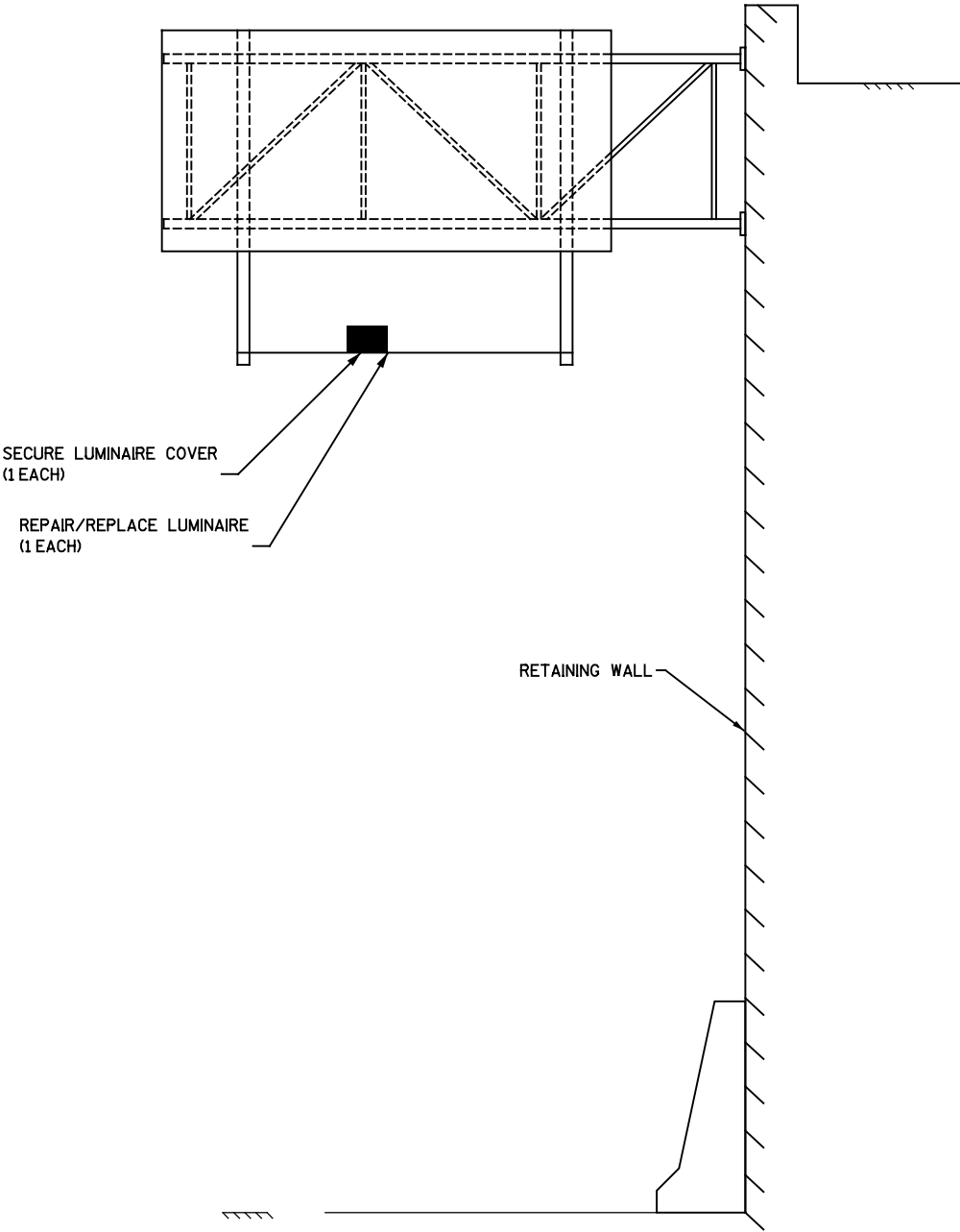
FOUNDATION DETAIL

ELEVATION VIEW
LOOKING WEST

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0514			SHEET 52 OF 115

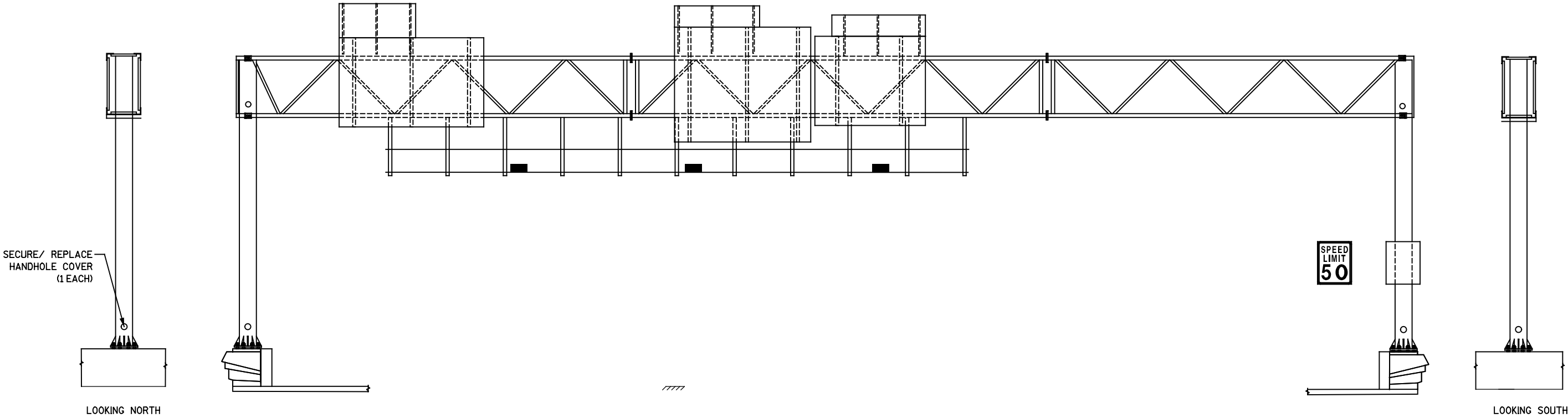
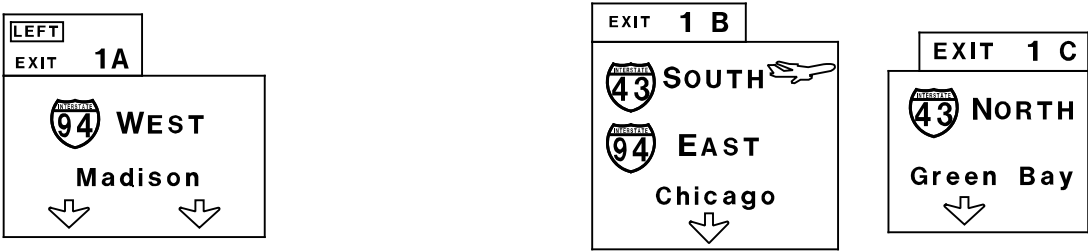
HOSPITAL
EXIT 309 B



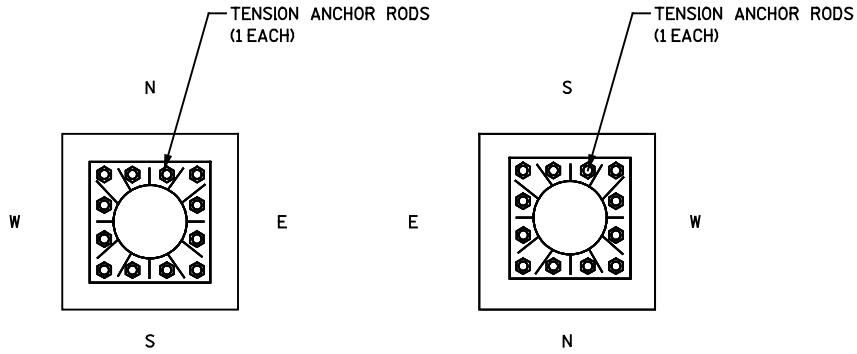
ELEVATION VIEW
LOOKING WEST

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.19	SECURE LUMINAIRE COVER	1 EACH	10
SPV.0060.27	REPAIR/ REPLACE LUMINAIRE	1 EACH	10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0517			SHEET 53 OF 115



ELEVATION VIEW
LOOKING WEST



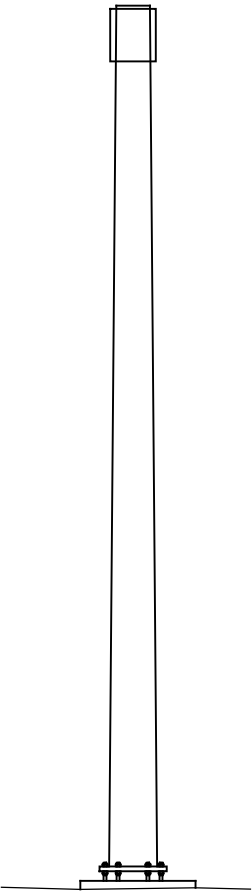
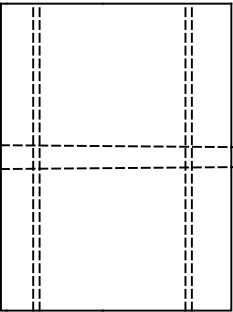
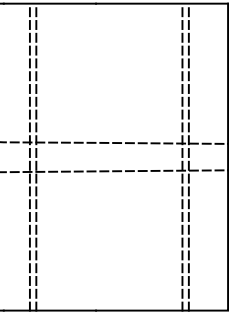
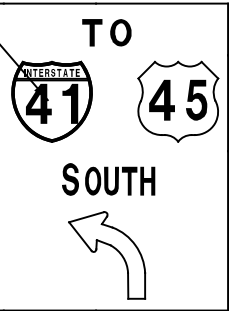
SOUTH FOUNDATION DETAIL NORTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.29	SECURE/ REPLACE HANDHOLE COVER	1 EACH	10

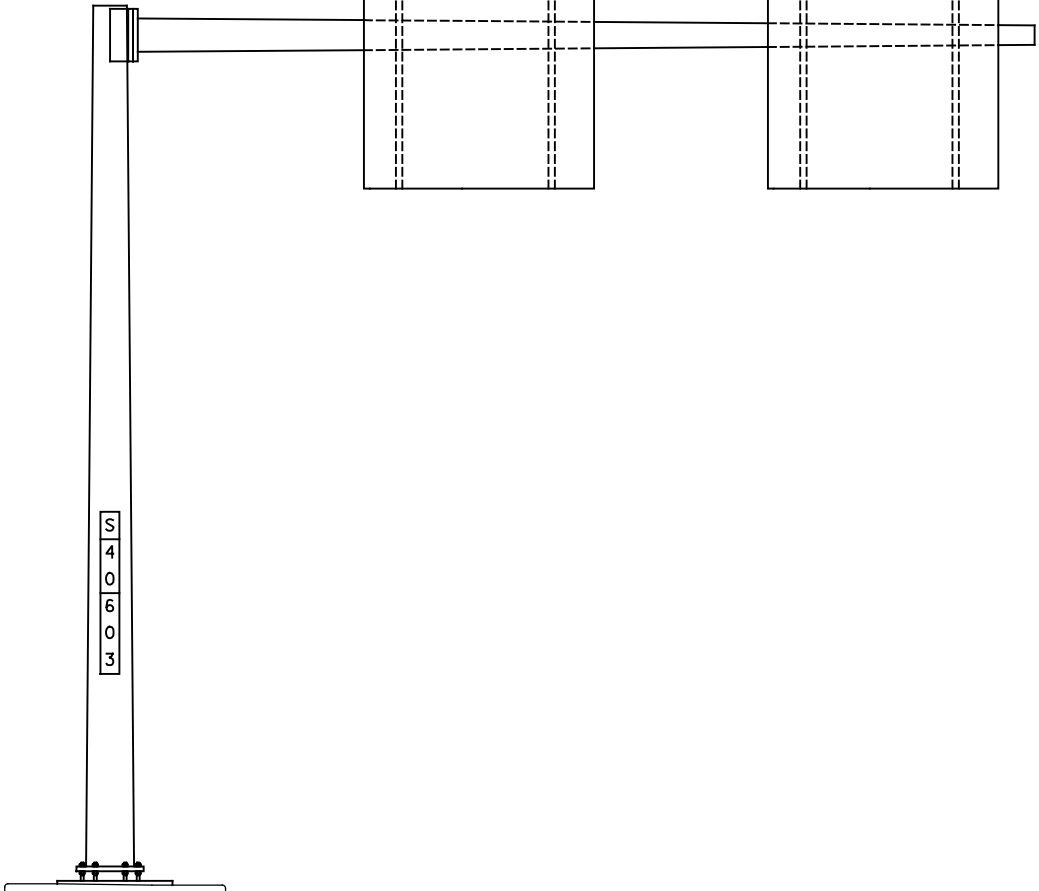
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0538			SHEET 54 OF 115

SIGNS TYPE II REFLECTIVE SH
(48 SF)

SIGNS TYPE II REFLECTIVE SH
(48 SF)

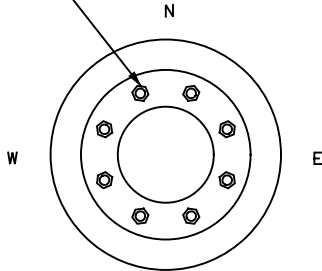


LOOKING NORTH



ELEVATION
LOOKING WEST

TENSION ANCHOR RODS
(1 EACH)

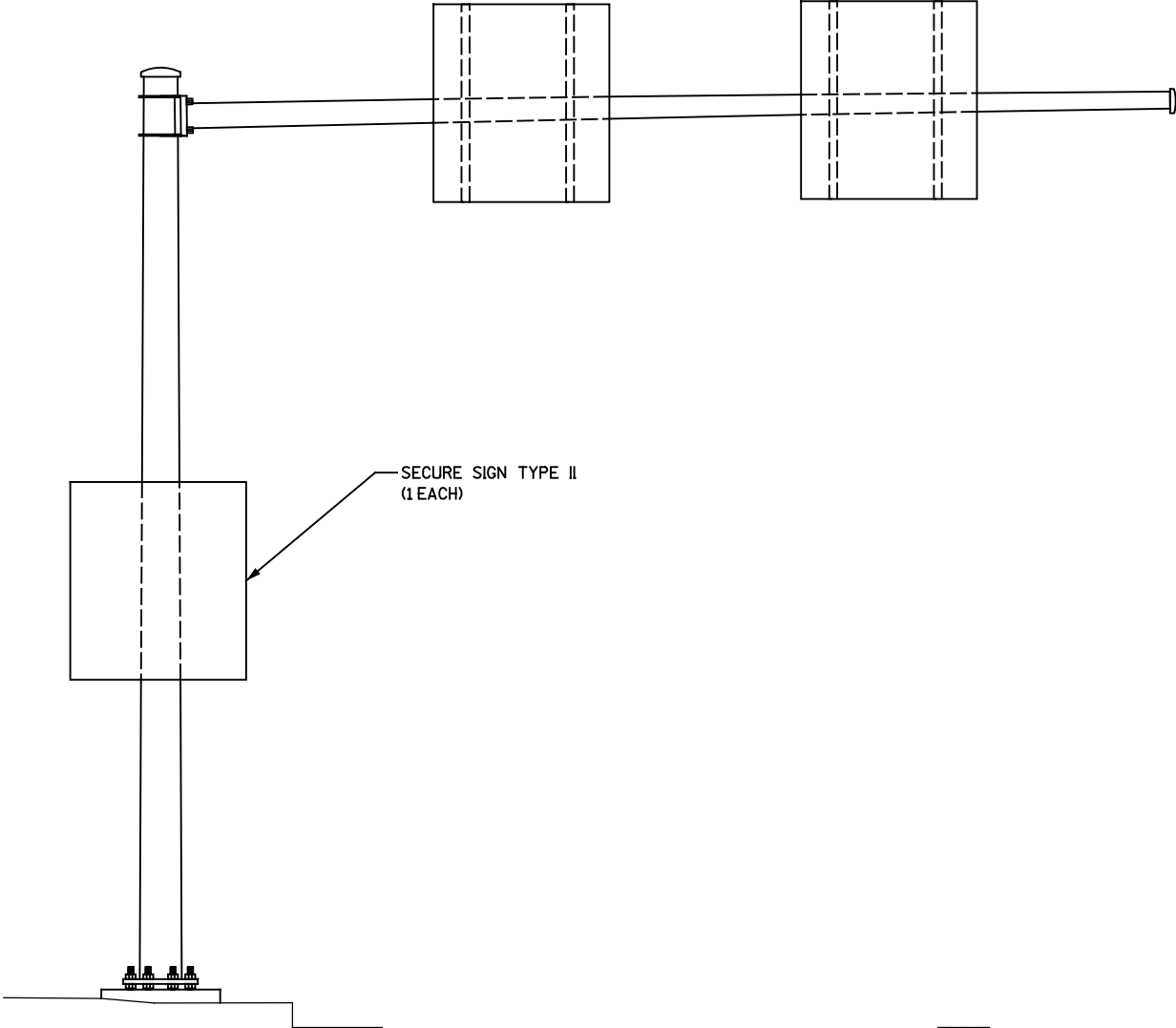
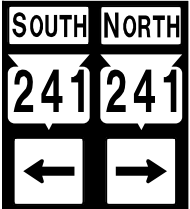
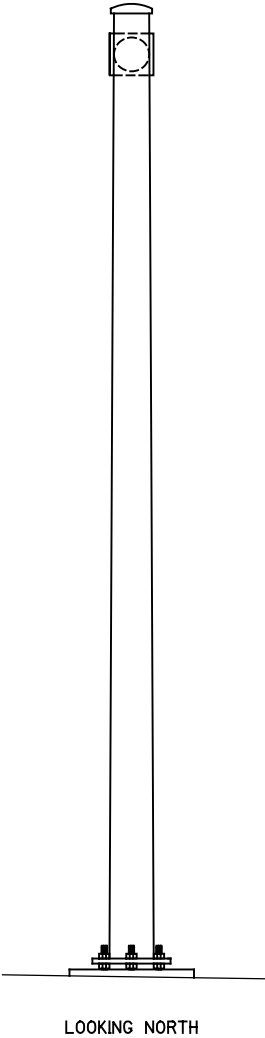
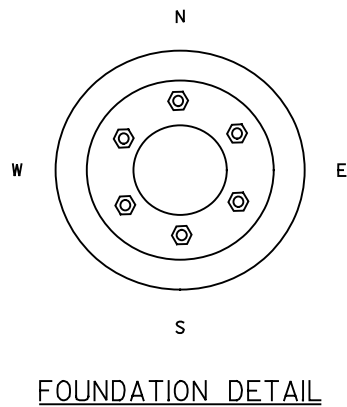


FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
637.2220	SIGNS TYPE II REFLECTIVE SH	96 SF	N/A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0603			SHEET 55 OF 115

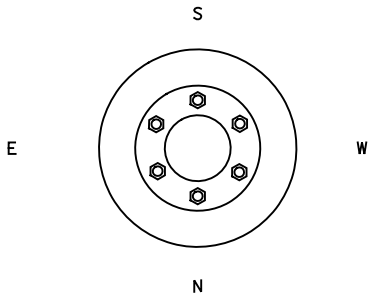
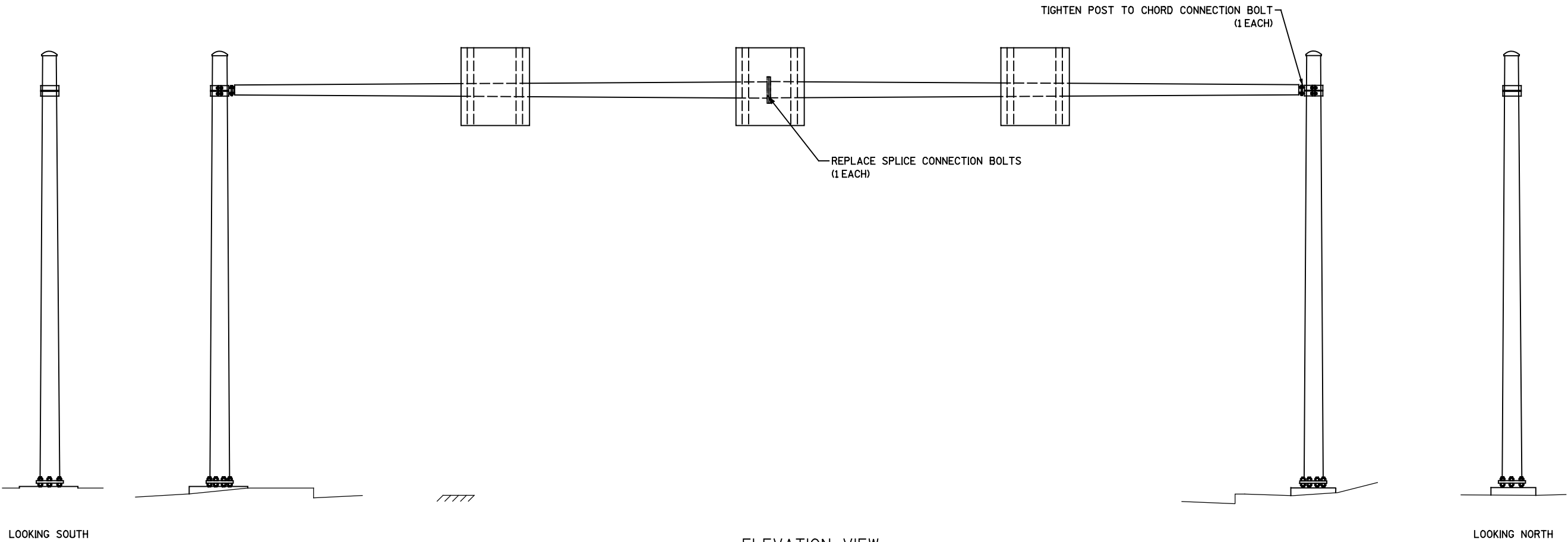
8



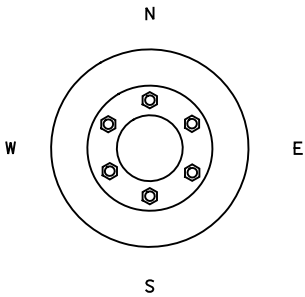
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.14	SECURE SIGN TYPE II	1 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0750			SHEET 56 OF 115

8



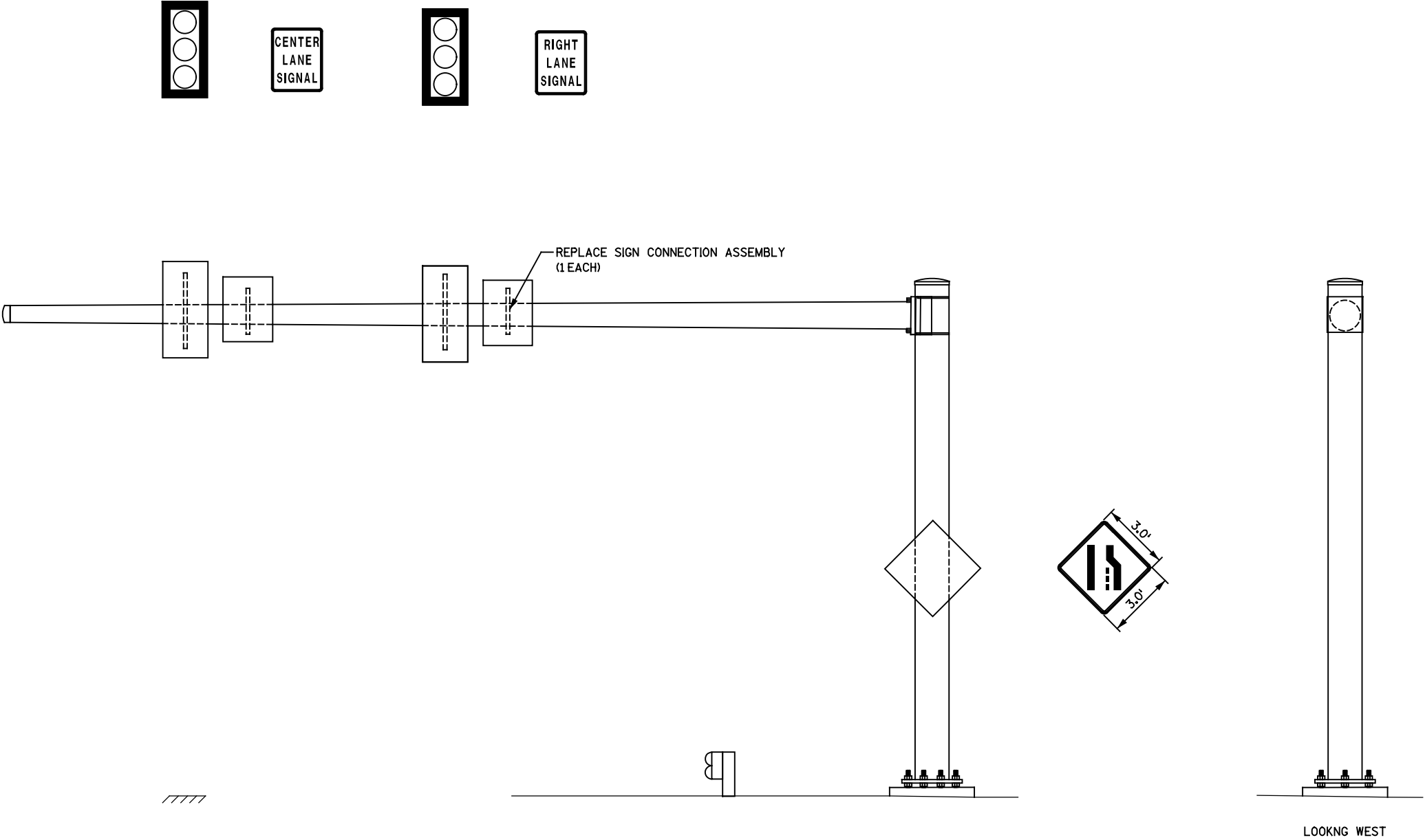
NORTH FOUNDATION DETAIL



SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	1 EACH	4

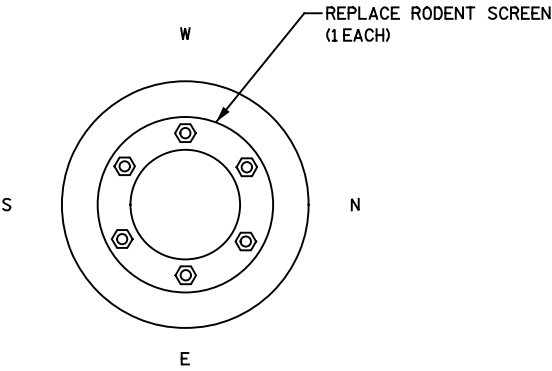
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0757			SHEET 57 OF 115



LOOKING WEST

ELEVATION VIEW

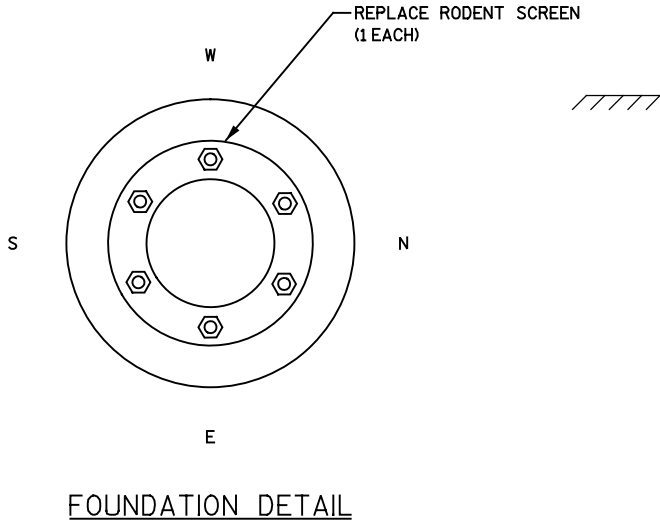
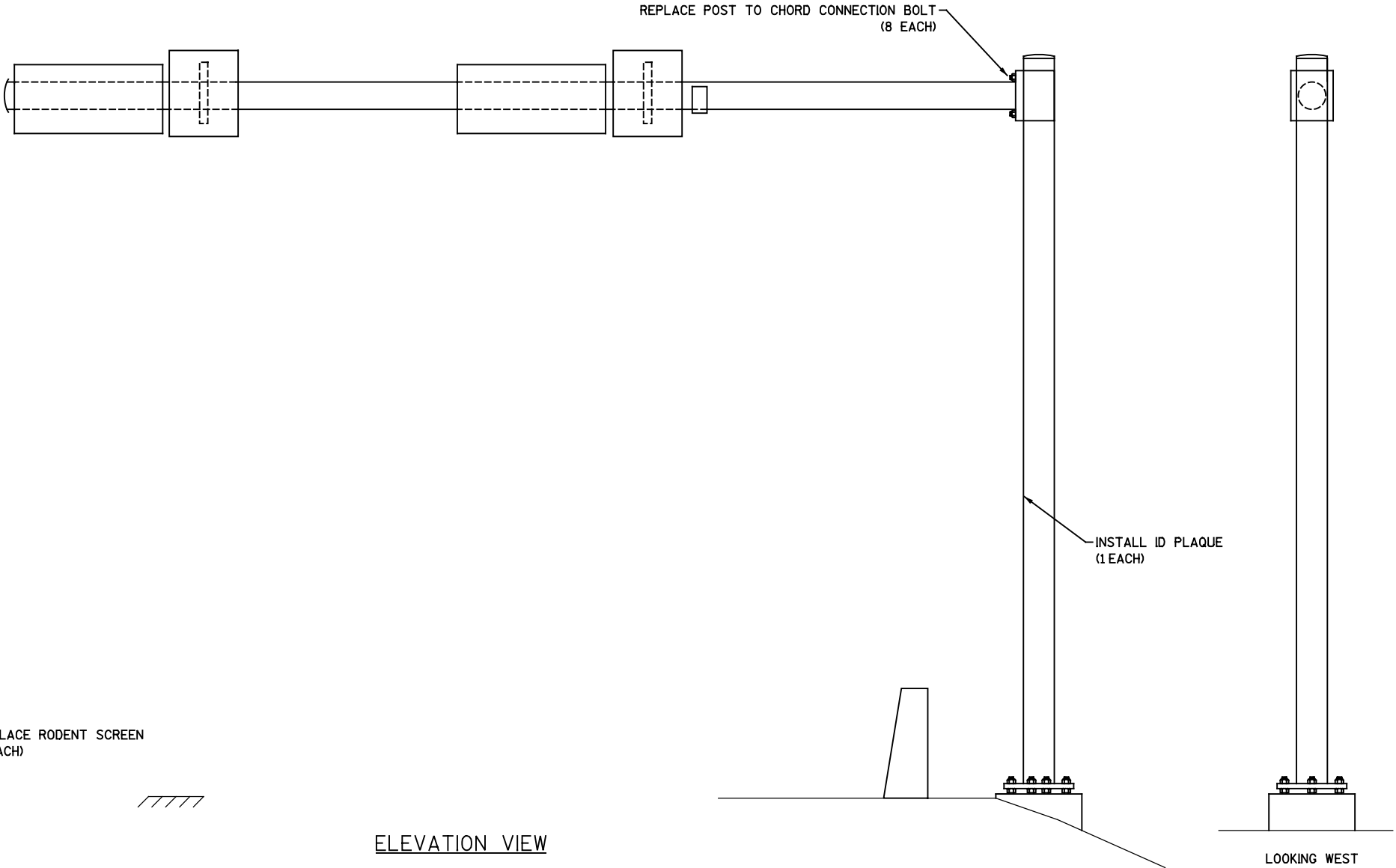
LOOKING NORTH



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.01	REPLACE RODENT SCREEN	1 EACH	2
SPV.0060.18	REPLACE SIGN CONNECTION ASSEMBLY	1 EACH	7

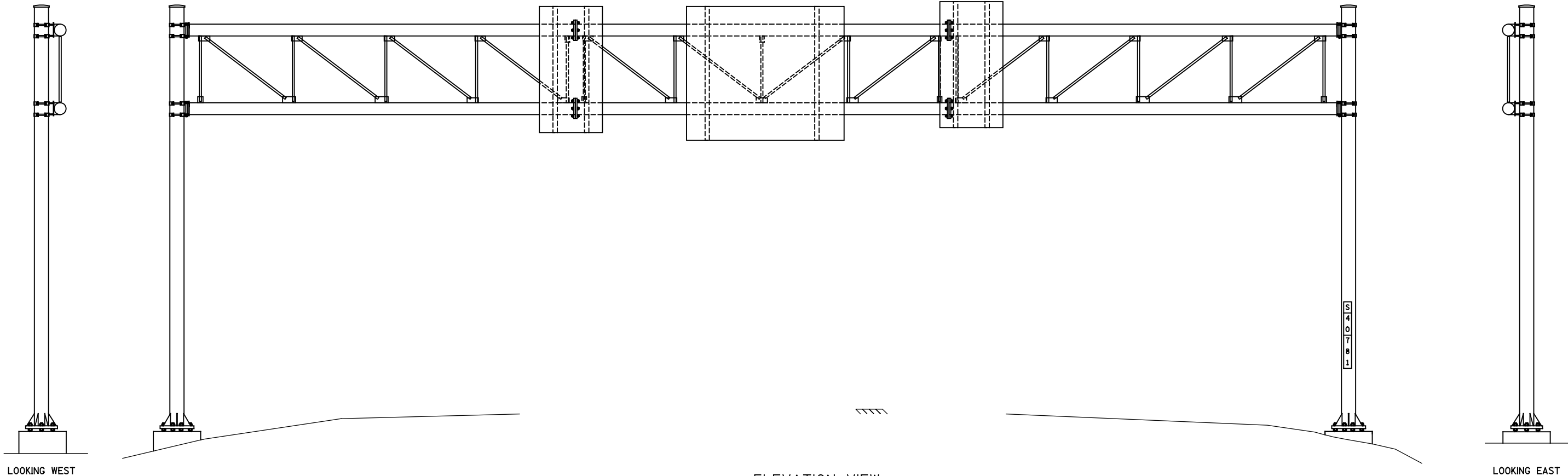
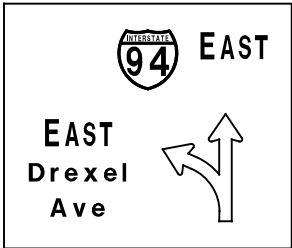
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0761			SHEET 58 OF 115



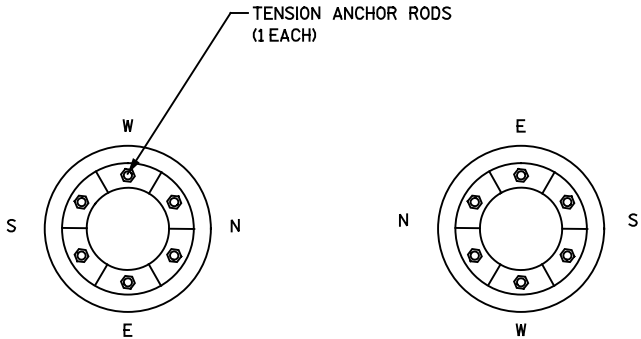
ELEVATION VIEW
LOOKING NORTH

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.24	INSTALL ID PLAQUE	1 EACH	SDD 12 A 4-3
SPV.0060.01	REPLACE RODENT SCREEN	1 EACH	2
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	4 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0770			SHEET 59 OF 115



ELEVATION VIEW
LOOKING SOUTH



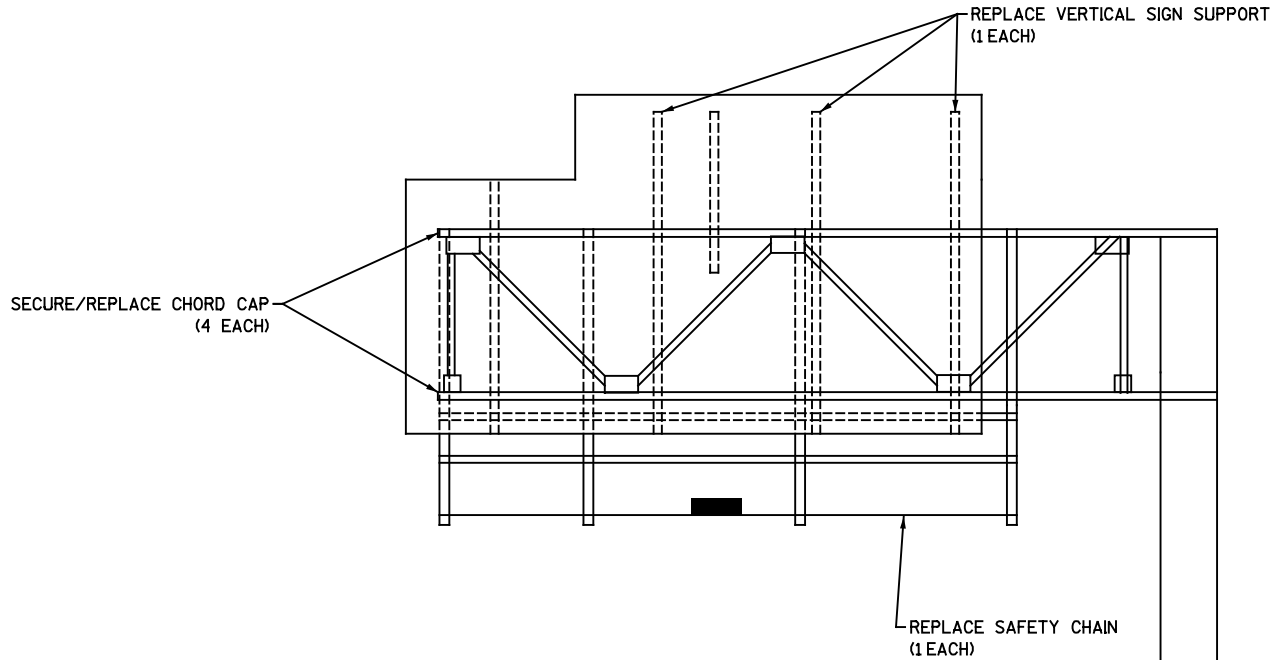
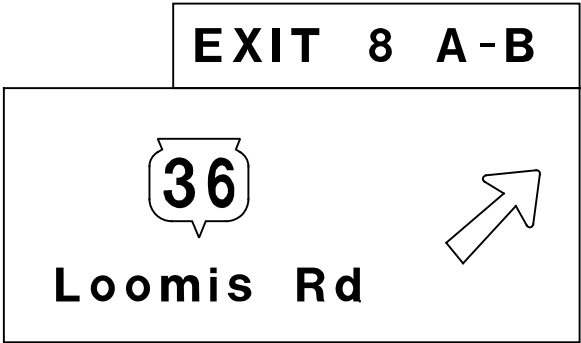
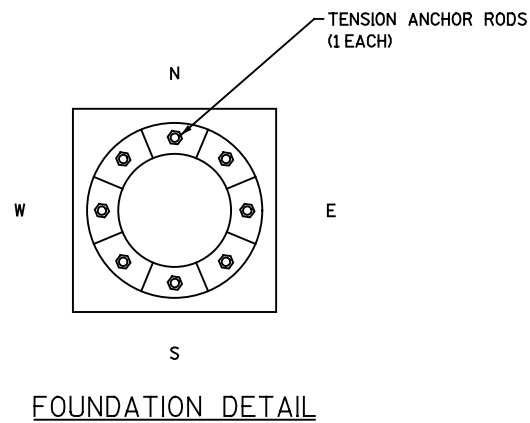
EAST FOUNDATION DETAIL

WEST FOUNDATION DETAIL

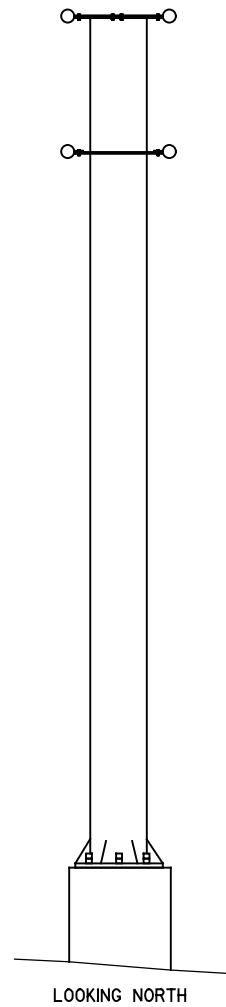
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0781			SHEET 60 OF 115

8



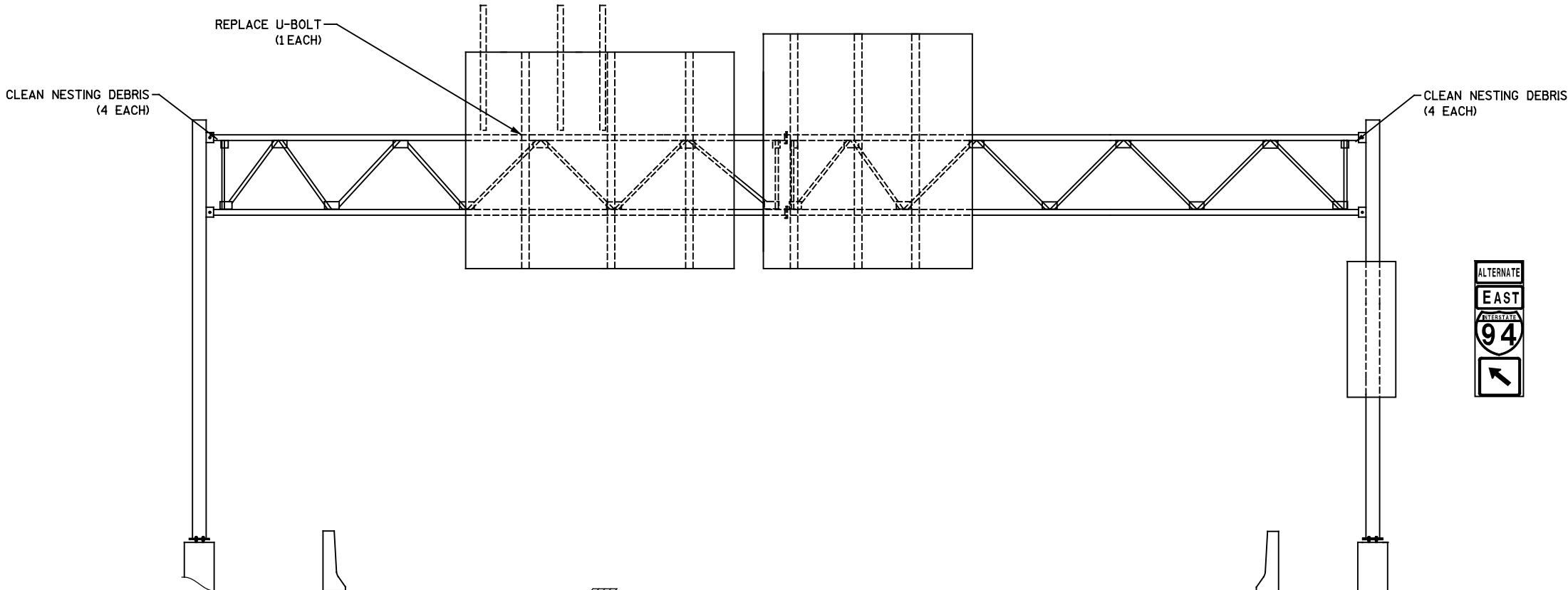
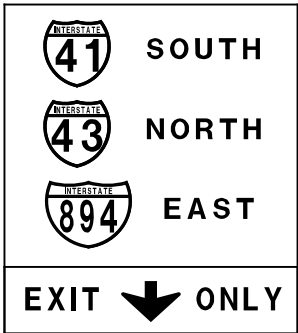
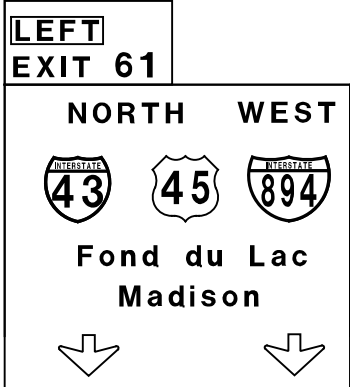
ELEVATION VIEW
LOOKING EAST



ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.25	REPLACE VERTICAL SIGN SUPPORT	3 EACH	6
SPV.0060.04	SECURE/ REPLACE CHORD CAP	8 EACH	4
SPV.0060.06	REPLACE SAFETY CHAIN	1 EACH	8
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0812			SHEET 61 OF 115

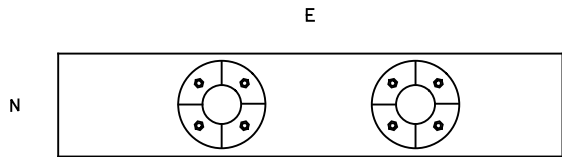
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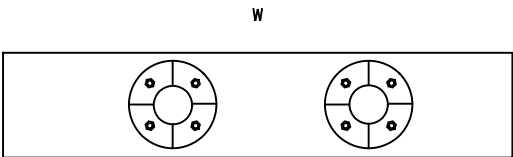
ELEVATION VIEW
LOOKING NORTH

LOOKING EAST

LOOKING WEST



WEST FOUNDATION DETAIL



EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.08	REPLACE U-BOLT	1 EACH	6
SPV.0060.33	CLEAN NESTING DEBRIS	8 EACH	N/A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0813			SHEET 62 OF 115



Lapham Blvd
Greenfield Ave



REPAIR/ REPLACE LUMINAIRE
(1 EACH)

LOOKING EAST

ELEVATION VIEW

LOOKING NORTH

LOOKING WEST

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TENSION ANCHOR RODS
(1 EACH)

WEST FOUNDATION DETAIL

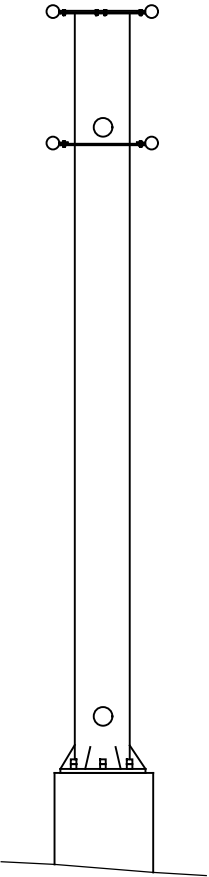
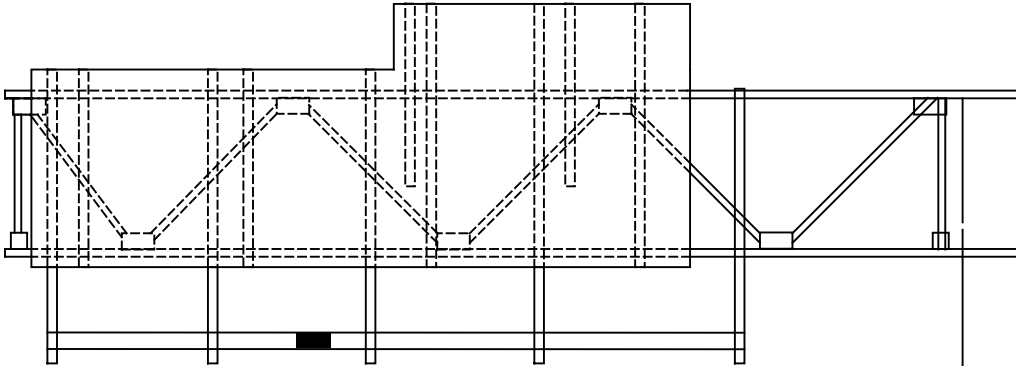
EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.27	REPAIR/ REPLACE LUMINAIRE	1 EACH	10

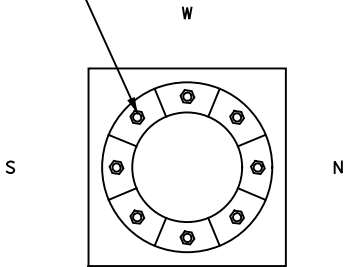
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0816			SHEET 63 OF 115

EXIT 75

Keefe Ave
Atkinson Ave



TENSION ANCHOR RODS
(1 EACH)



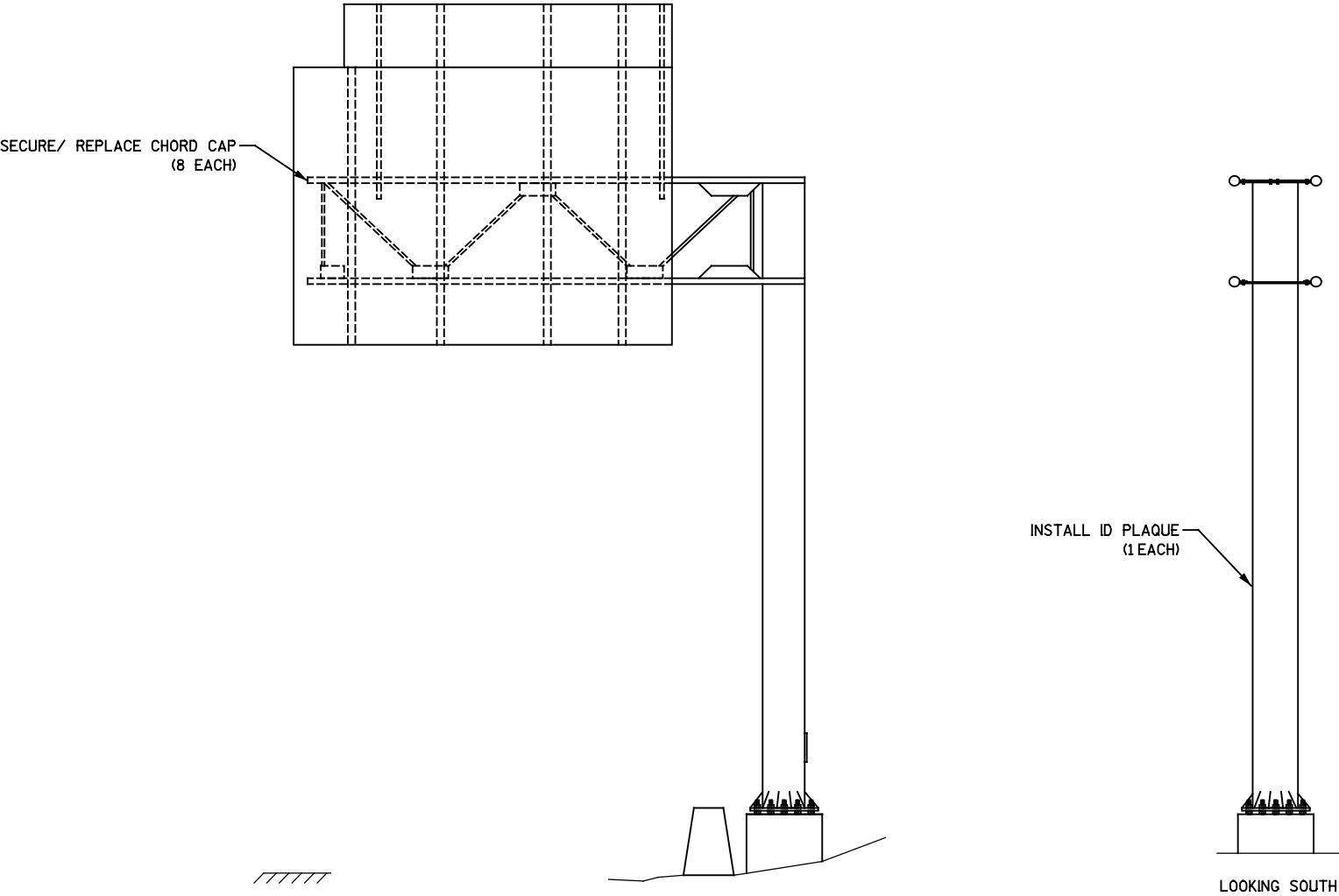
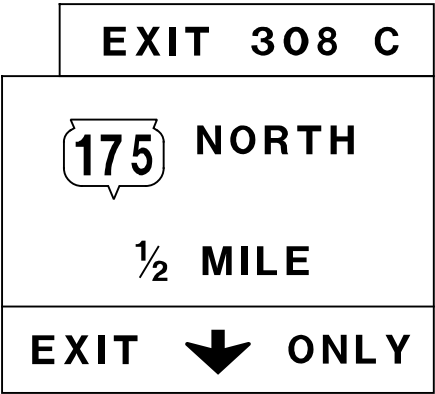
FOUNDATION DETAIL

ELEVATION VIEW
LOOKING NORTH

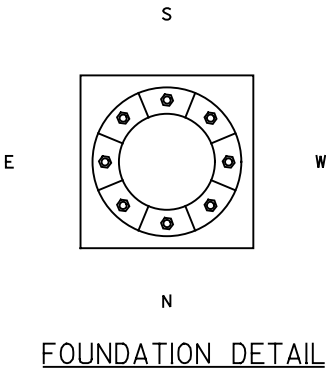
LOOKING WEST

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0818			SHEET 64 OF 115

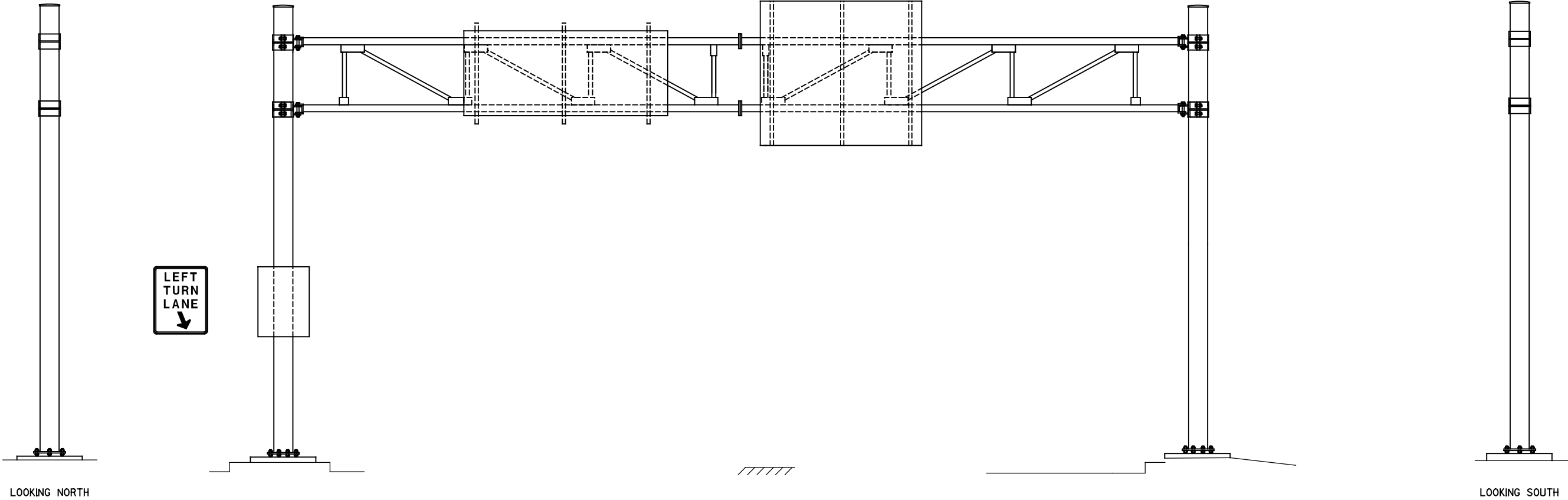
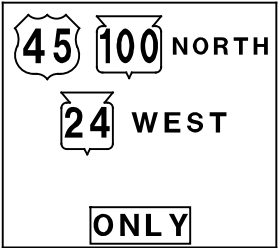


ELEVATION VIEW
LOOKING WEST

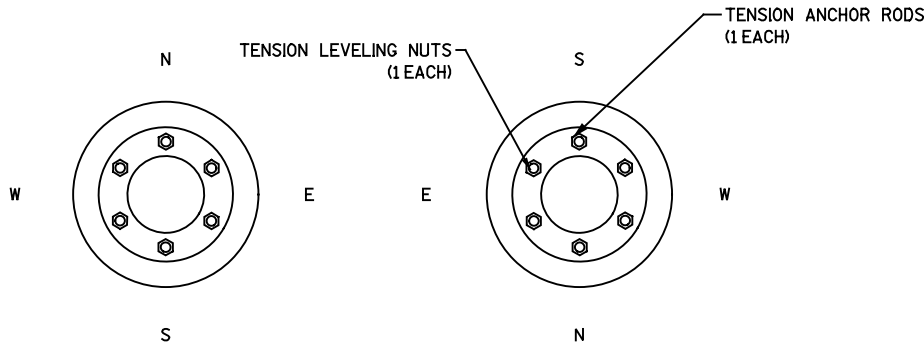


ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.24	INSTALL ID PLAQUE	1 EACH	SDD 12 A 4-3
SPV.0060.04	SECURE/ REPLACE CHORD CAP	8 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0859			SHEET 65 OF 115



ELEVATION VIEW
LOOKING WEST



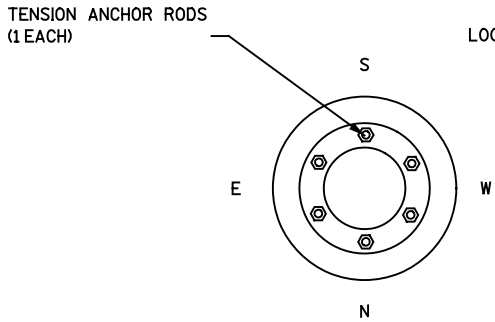
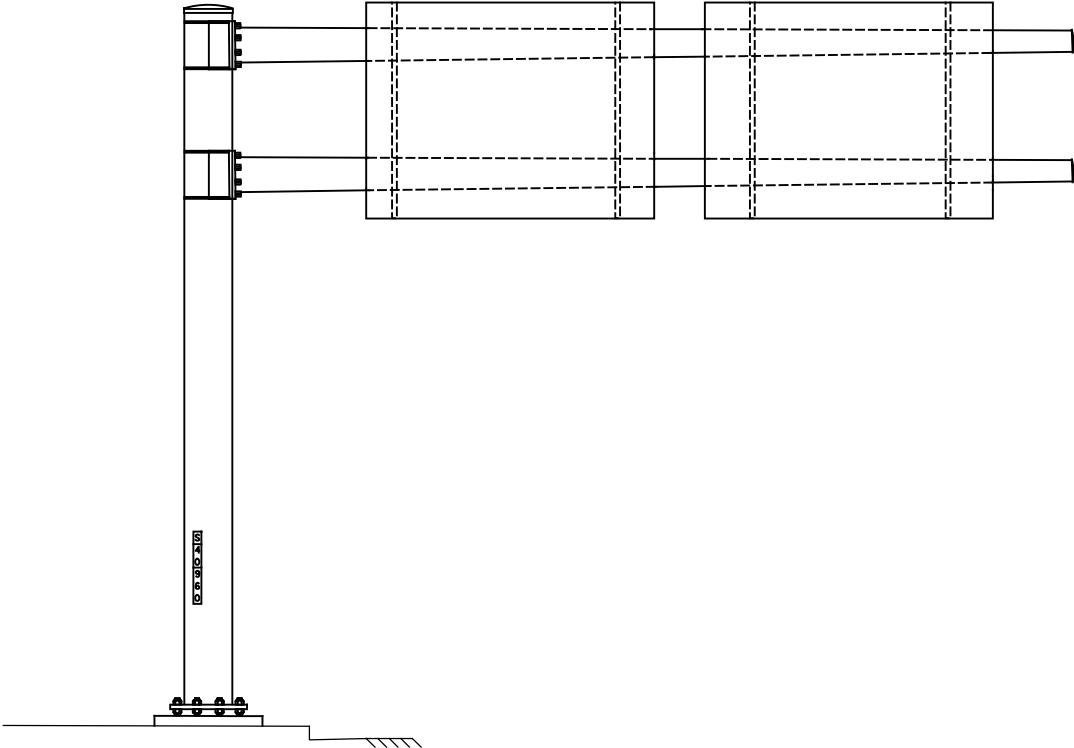
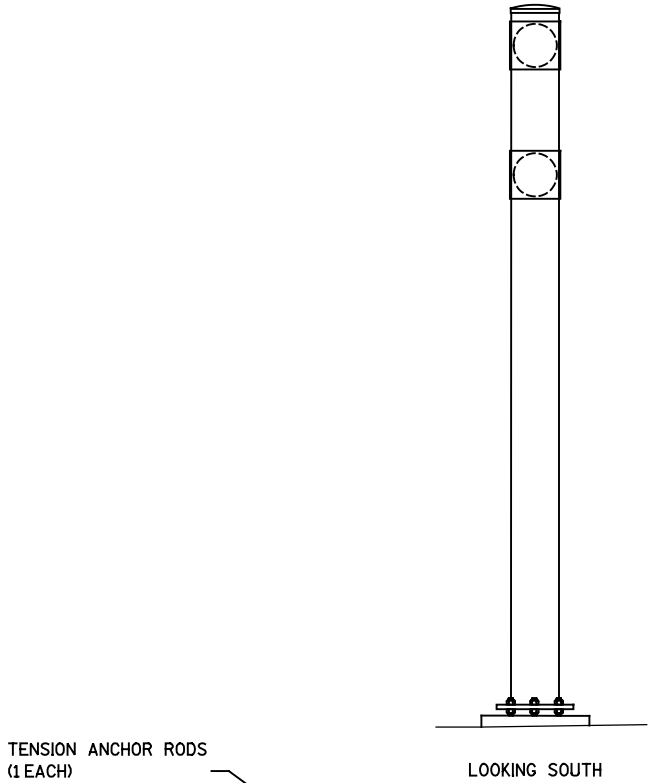
SOUTH FOUNDATION DETAIL NORTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.13	TENSION LEVELING NUTS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0922			SHEET 66 OF 115

I-94 EAST ONLY

I-94 EAST ONLY

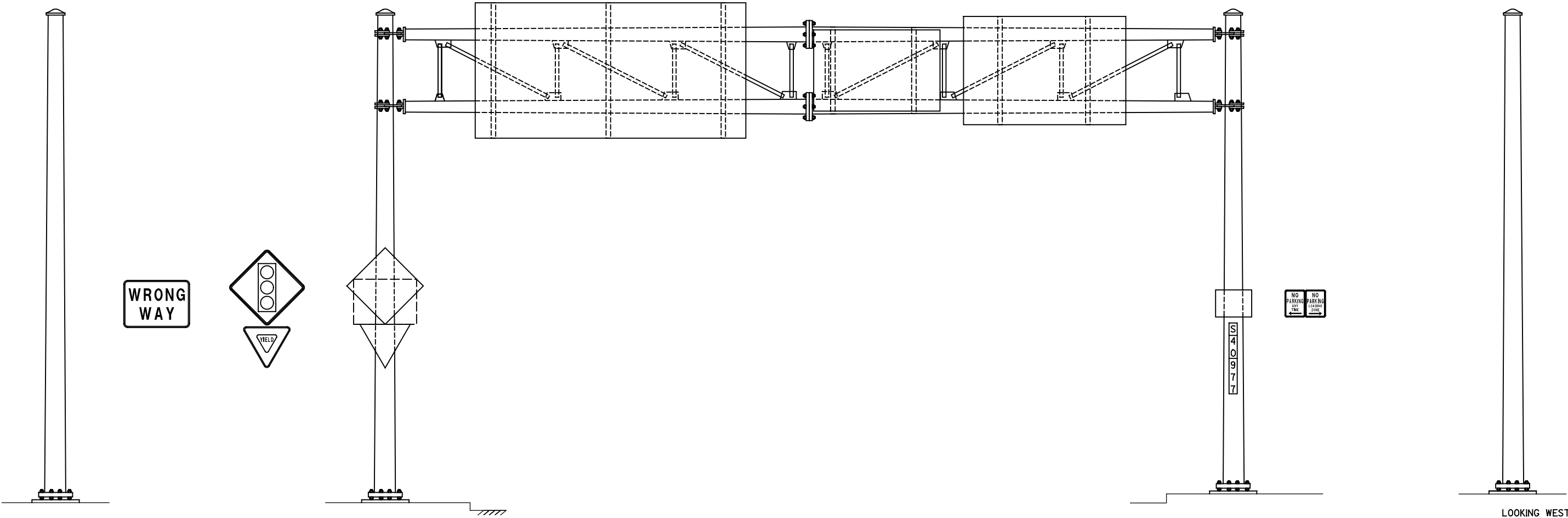
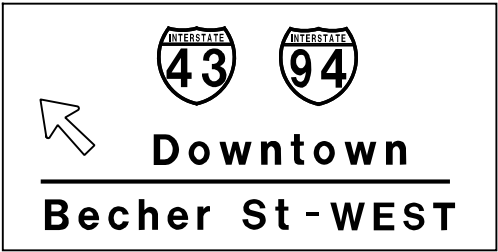


ELEVATION VIEW
LOOKING EAST

FOUNDATION DETAIL

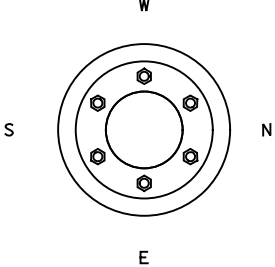
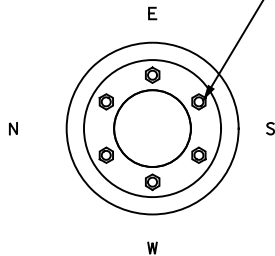
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0960			SHEET 67 OF 115



LOOKING EAST

TENSION ANCHOR RODS
(1 EACH)



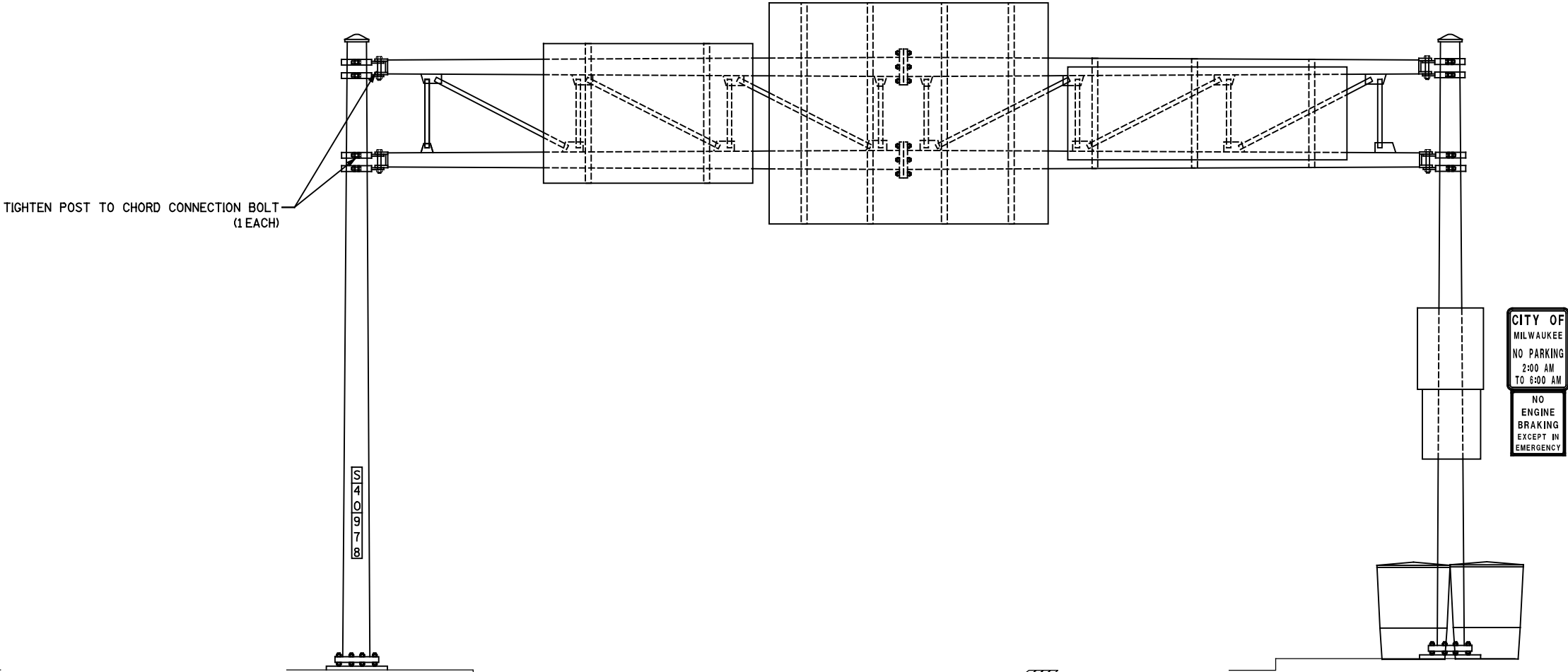
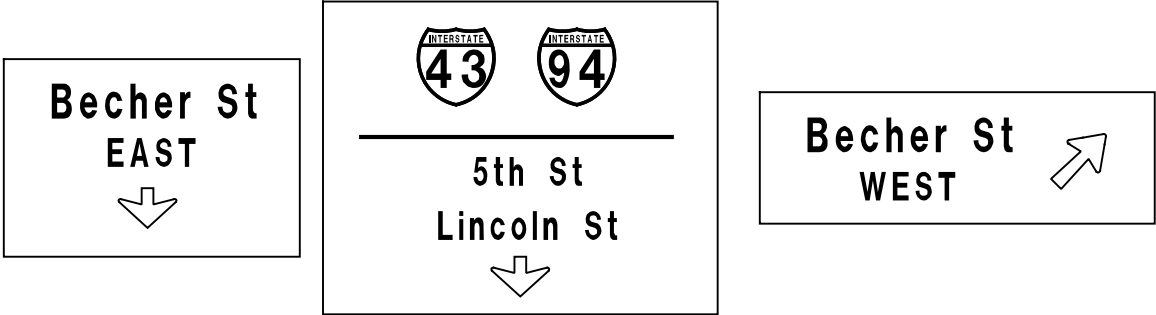
WEST FOUNDATION DETAIL

EAST FOUNDATION DETAIL

ELEVATION VIEW
LOOKING NORTH

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2

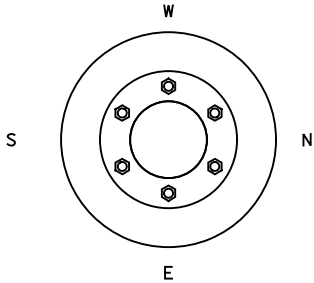
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0977			SHEET 68 OF 115



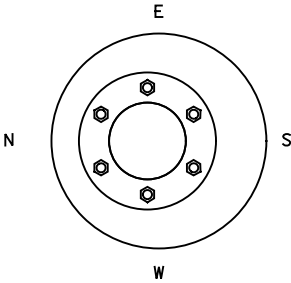
LOOKING WEST

LOOKING EAST

ELEVATION VIEW
LOOKING SOUTH



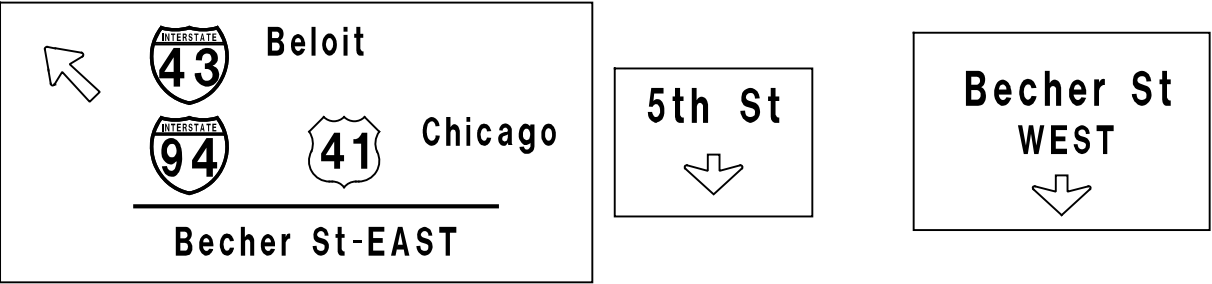
EAST FOUNDATION DETAIL



WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	2 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0978			SHEET 69 OF 115



TIGHTEN POST TO CHORD CONNECTION BOLT
(1 EACH)

REPLACE U-BOLT
(1 EACH)

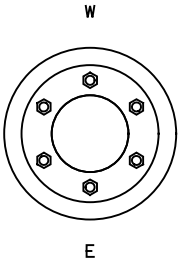
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LOOKING WEST

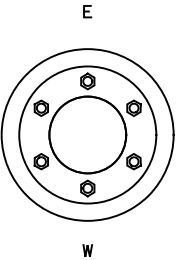
LOOKING EAST

ELEVATION VIEW

LOOKING SOUTH



EAST FOUNDATION DETAIL



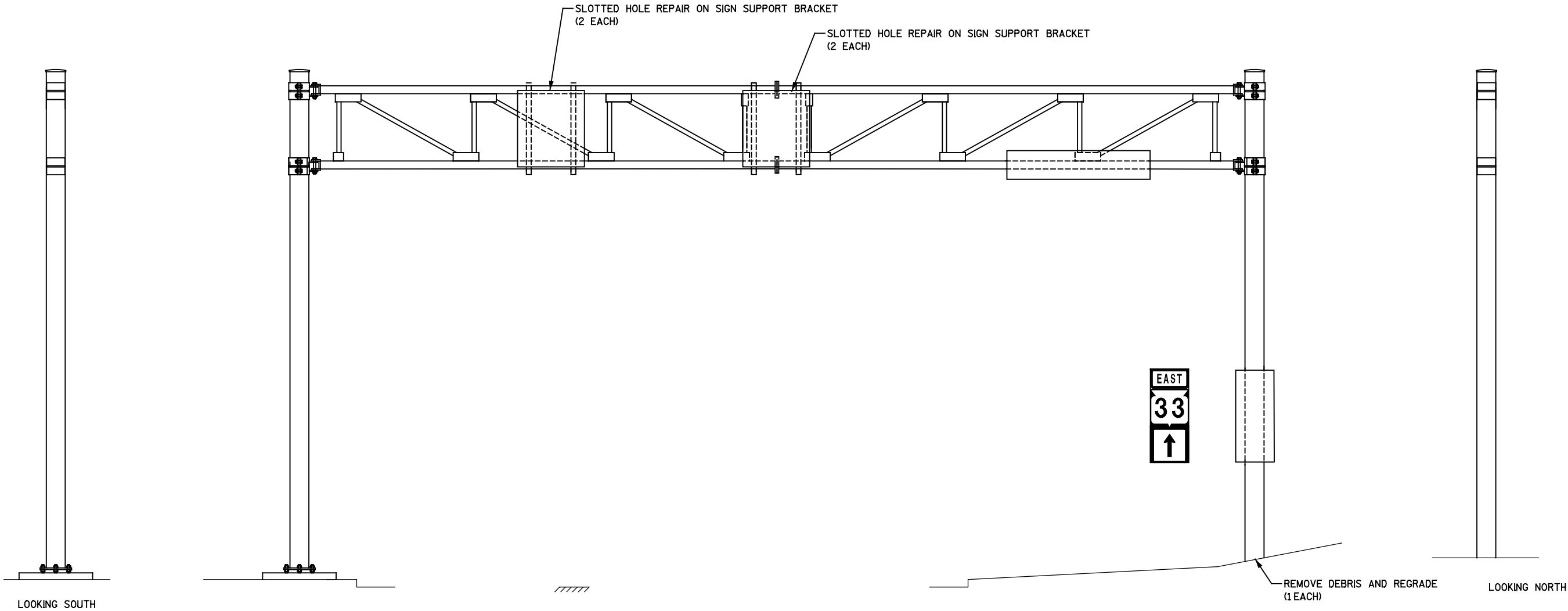
WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.08	REPLACE U-BOLT	1 EACH	6
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	1 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-40-0979			SHEET 70 OF 115

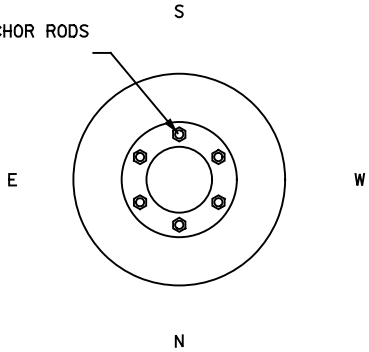


Northwoods Rd

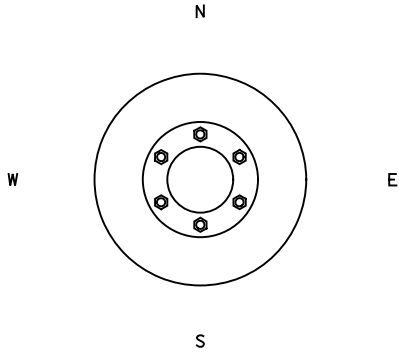


ELEVATION VIEW
LOOKING EAST

TENSION ANCHOR RODS
(1 EACH)



NORTH FOUNDATION DETAIL



SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.10	REMOVE DEBRIS AND REGRADE	1 EACH	N/A
SPV.0060.32	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET	4 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-45-0208			SHEET 71 OF 115



Northwoods Rd

SLOTTED HOLE REPAIR ON SIGN BRACKET
(2 EACH)

SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET
(2 EACH)

TIGHTEN POST TO CHORD CONNECTION BOLT
(4 EACH)

REPLACE POST TO CHORD CONNECTION BOLT
(2 EACH)



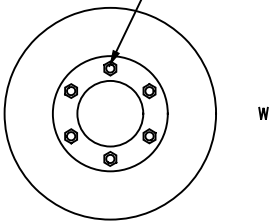
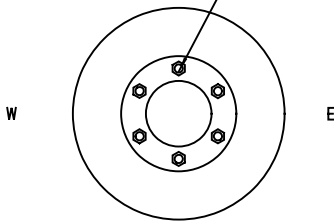
LOOKING NORTH

LOOKING SOUTH

ELEVATION VIEW
LOOKING WEST

TENSION ANCHOR RODS
(1 EACH)

TENSION ANCHOR RODS
(1 EACH)



SOUTH FOUNDATION DETAIL

NORTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.32	SLOTTED HOLE REPAIR ON SIGN BRACKET	4 EACH	7
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	4 EACH	4
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	2 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-45-0209			SHEET 72 OF 115

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6 3/4

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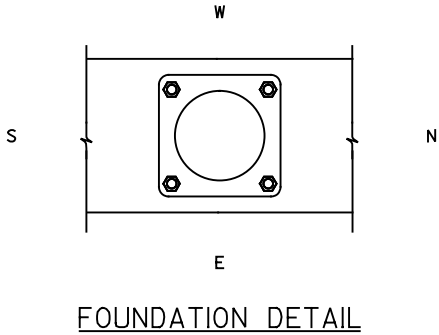
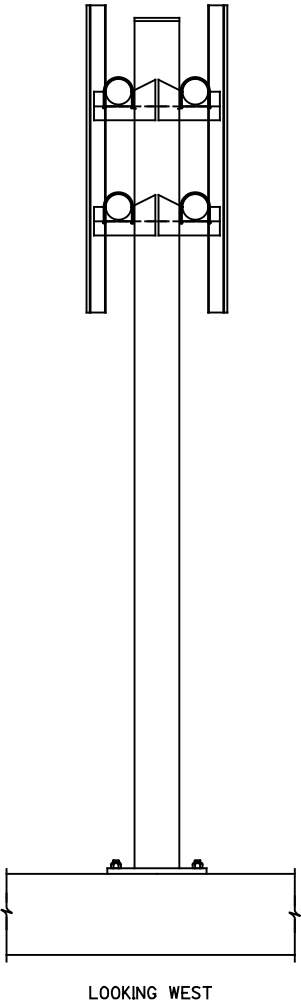
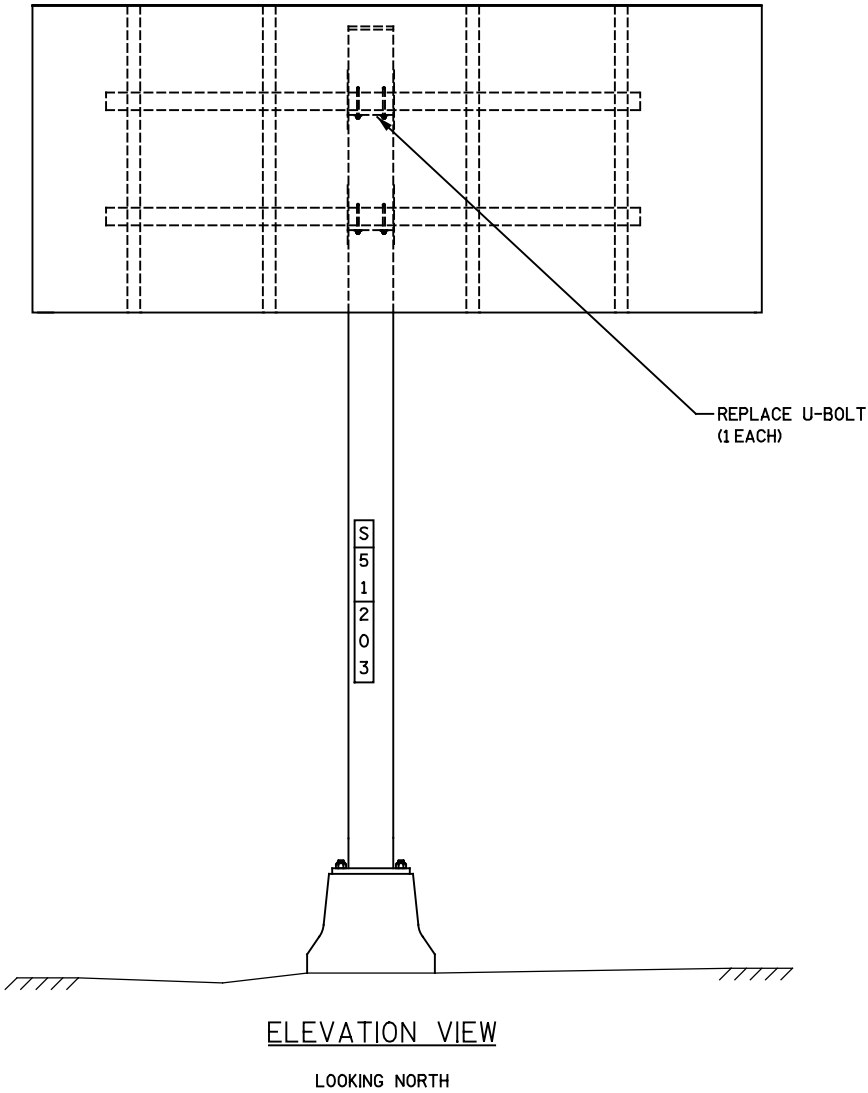
Seven Mile Rd

241 27th St

1/2

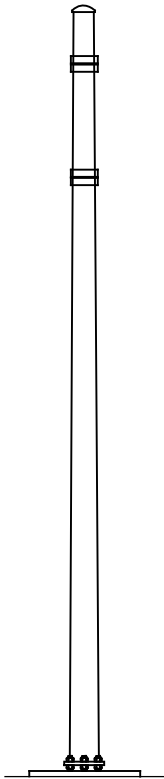
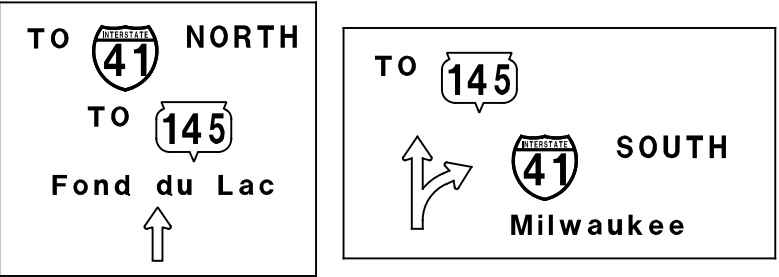
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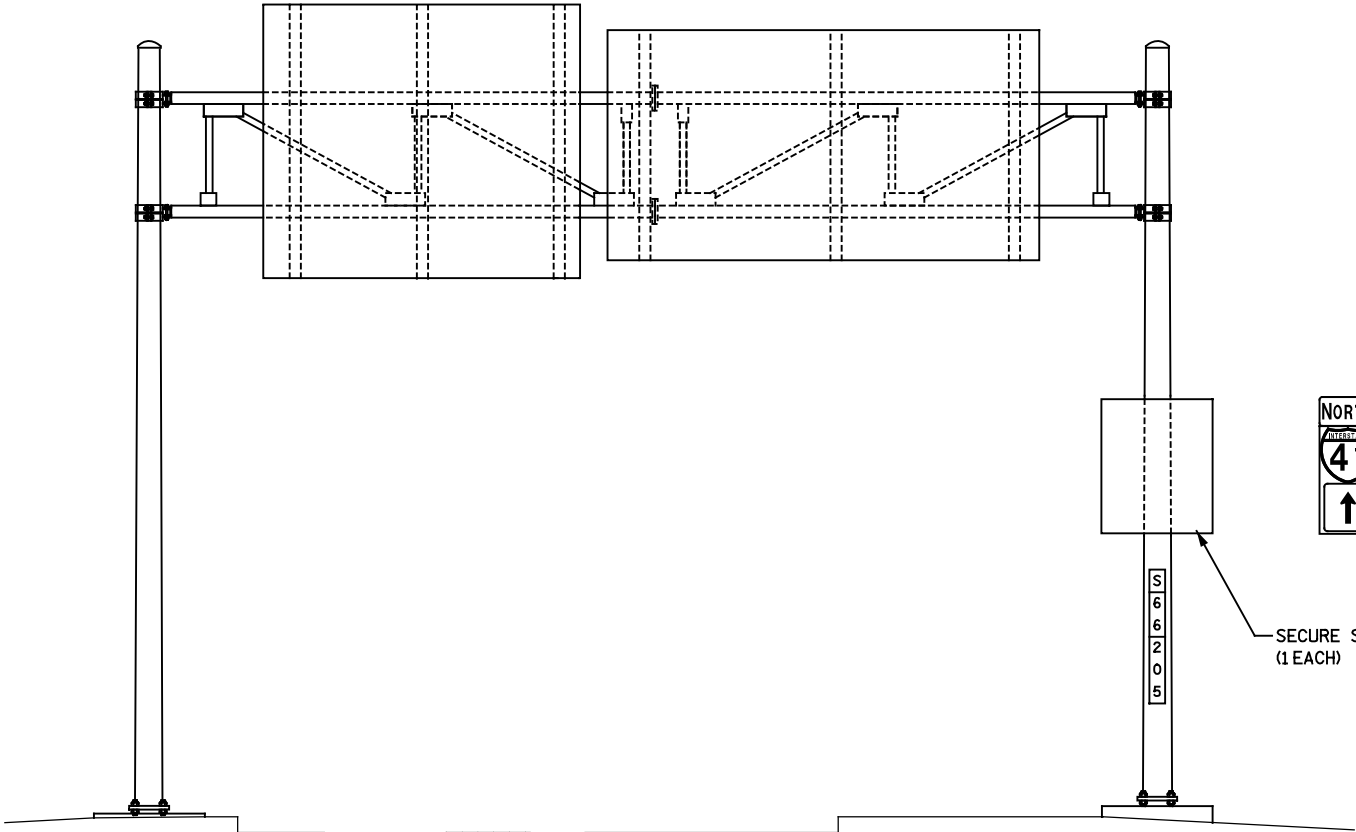


ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.08	REPLACE U-BOLT	1 EACH	6

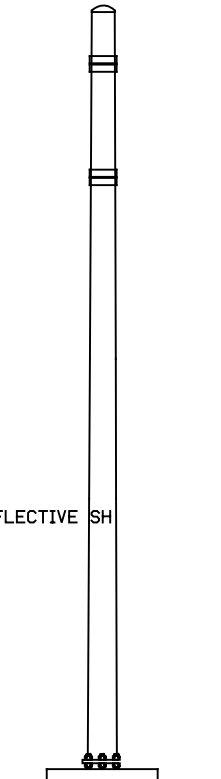
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-51-0203			SHEET 73 OF 115



LOOKING SOUTH



ELEVATION
LOOKING EAST

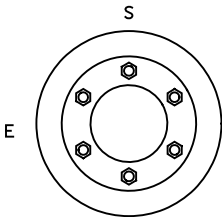


LOOKING NORTH

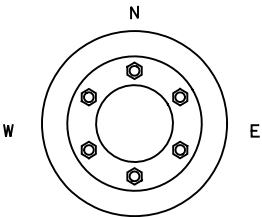


SIGNS TYPE II REFLECTIVE SH
(19.2 SF)

SECURE SIGN TYPE II
(1 EACH)



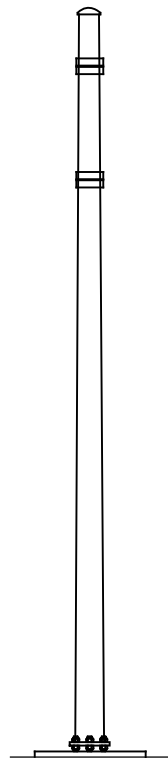
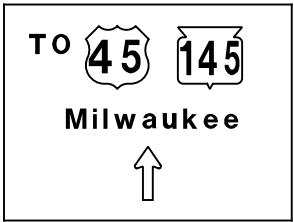
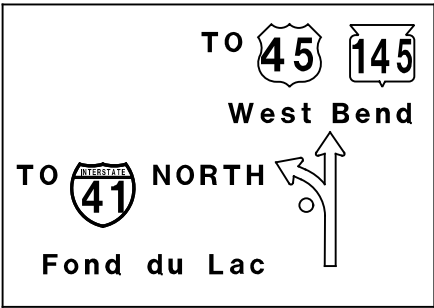
NORTH FOUNDATION DETAIL



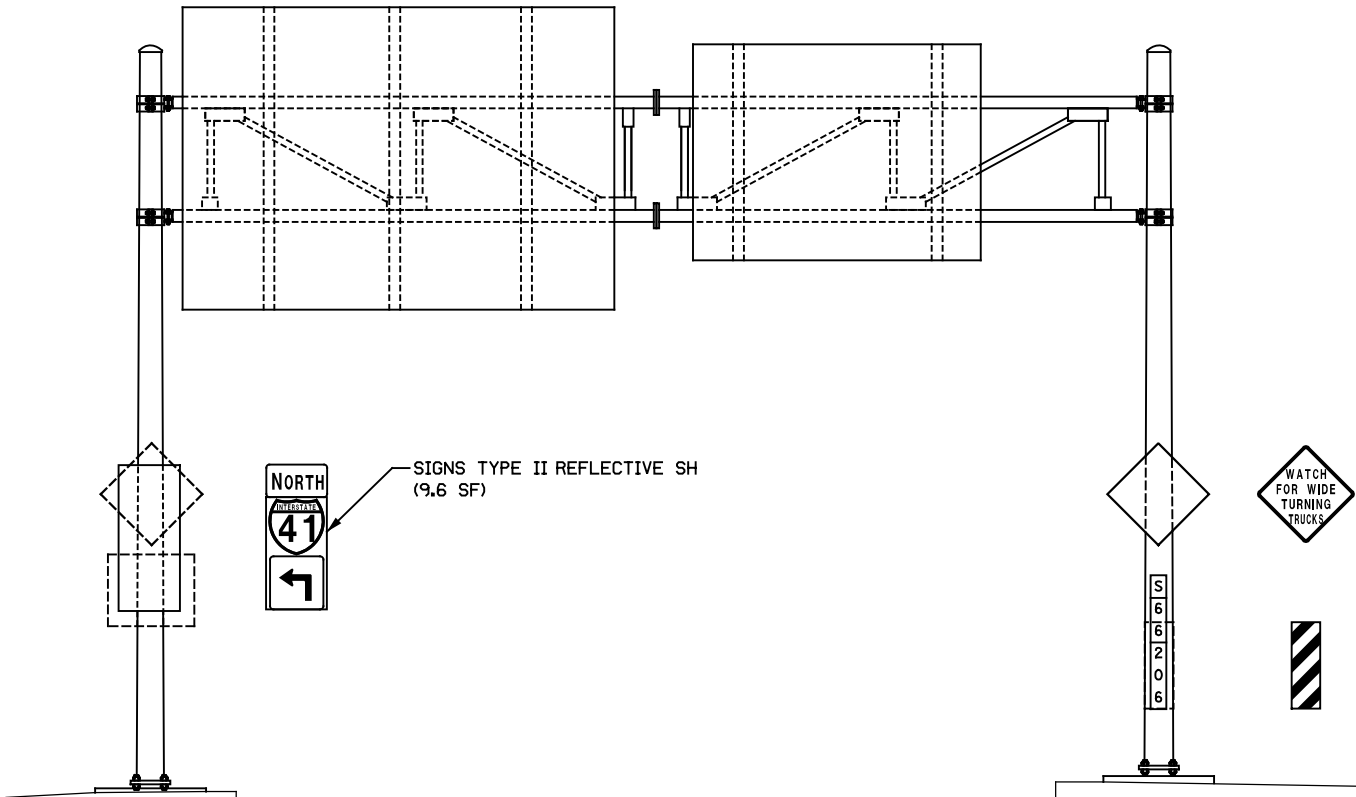
SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.14	SECURE SIGN TYPE II	1 EACH	7
637.2220	SIGNS TYPE II REFLECTIVE SH	19.2 SF	N/A

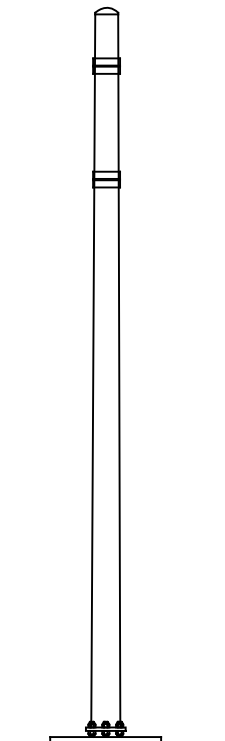
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0205			SHEET 74 OF 115



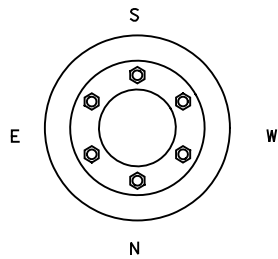
LOOKING SOUTH



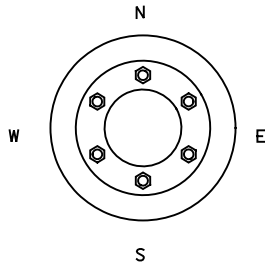
ELEVATION
LOOKING EAST



LOOKING NORTH



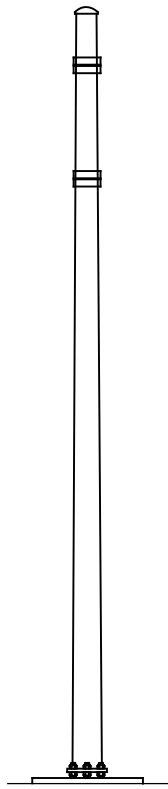
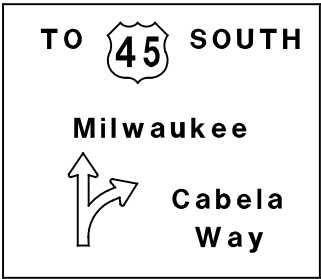
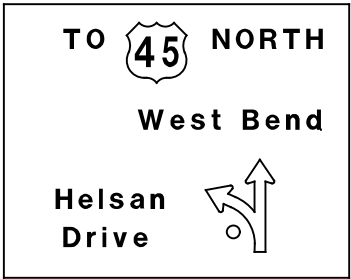
NORTH FOUNDATION DETAIL



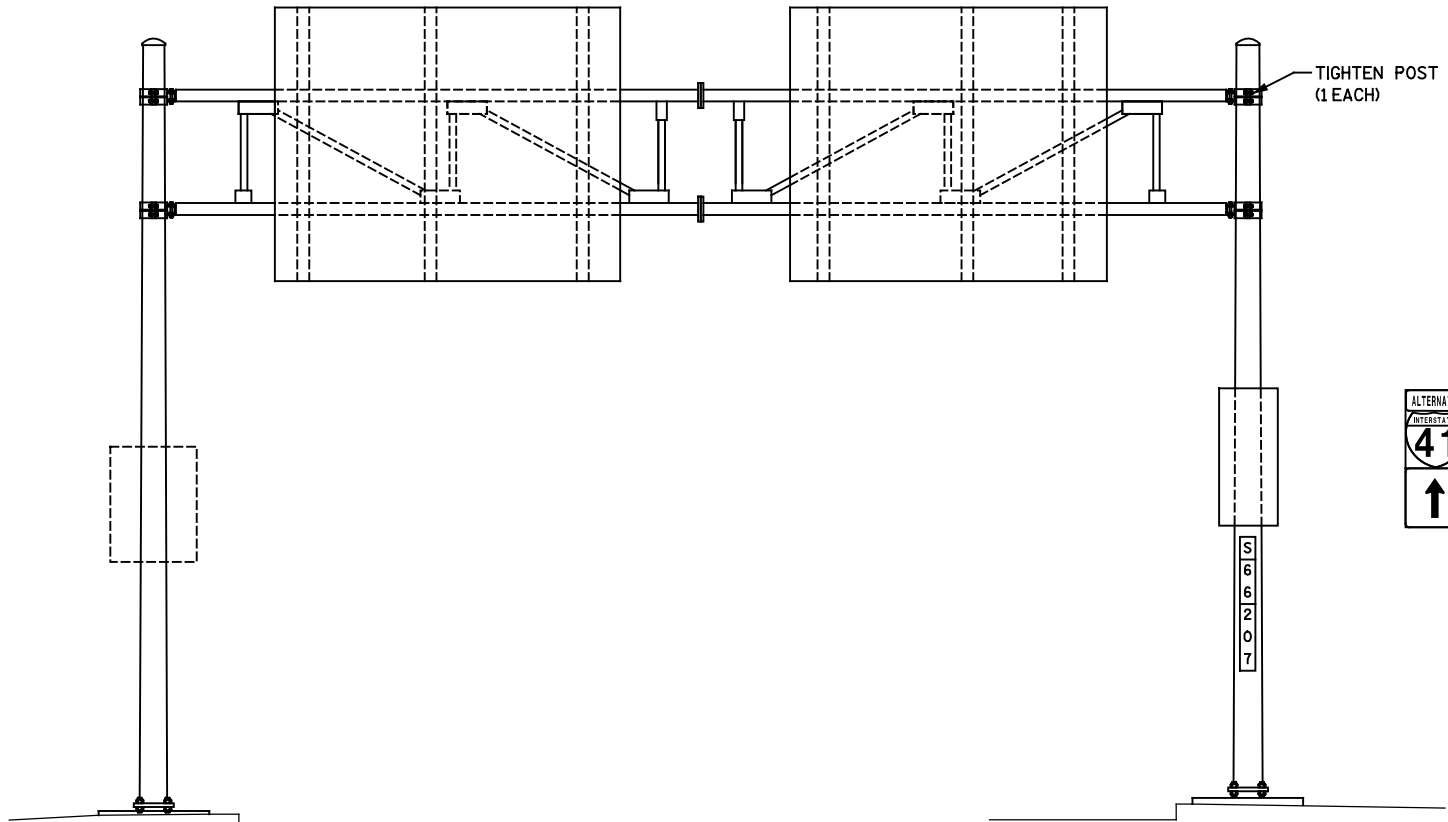
SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
637.2220	SIGNS TYPE II REFLECTIVE SH	9.6 SF	N/A

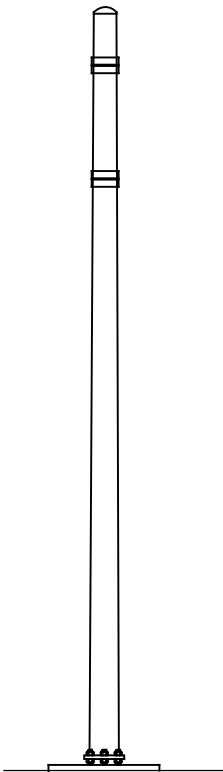
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0206			SHEET 75 OF 115



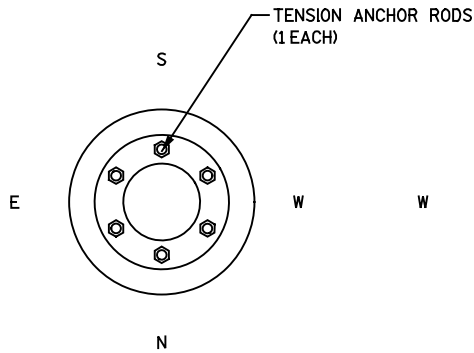
LOOKING SOUTH



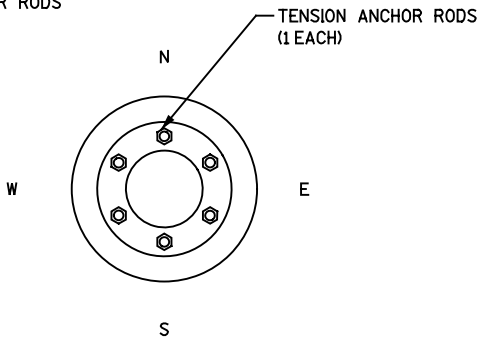
ELEVATION VIEW
LOOKING EAST



LOOKING NORTH



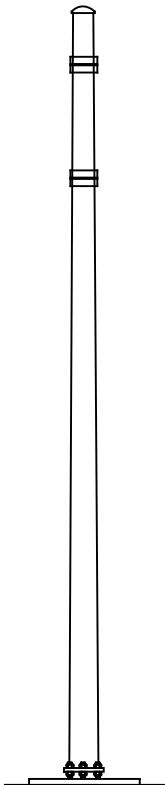
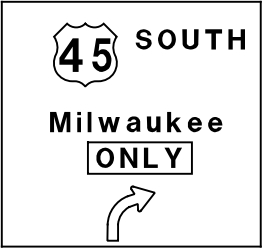
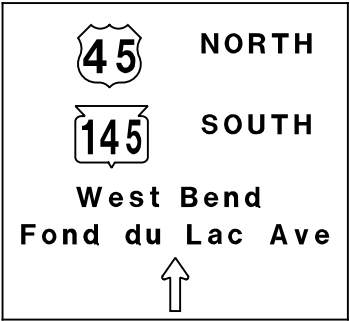
NORTH FOUNDATION DETAIL



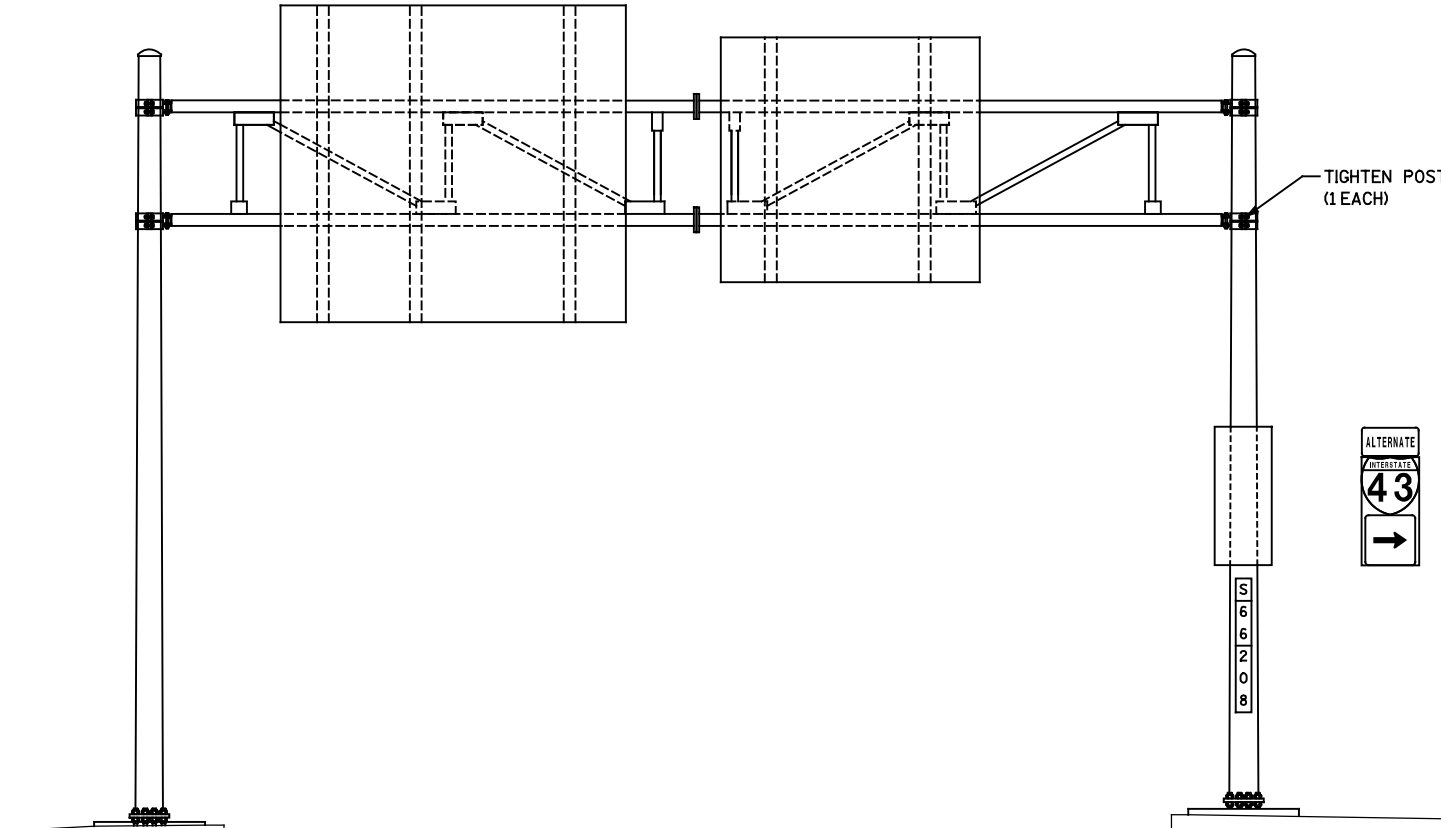
SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	1 EACH	4

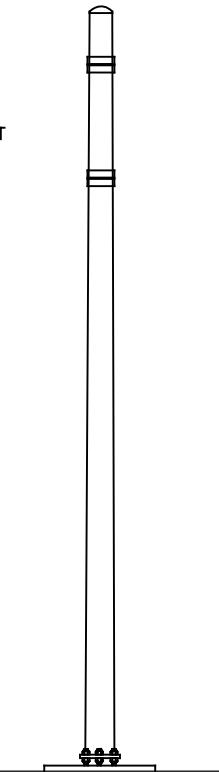
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0207			SHEET 76 OF 115



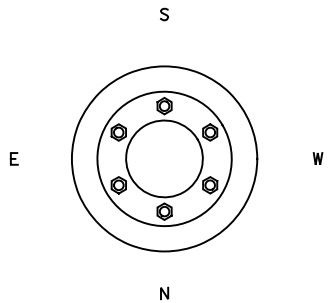
LOOKING SOUTH



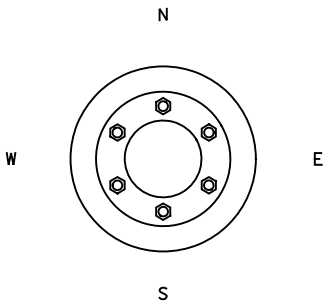
ELEVATION VIEW
LOOKING EAST



LOOKING NORTH



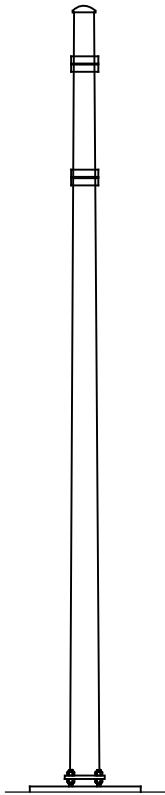
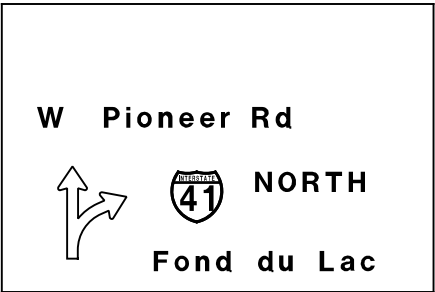
NORTH FOUNDATION DETAIL



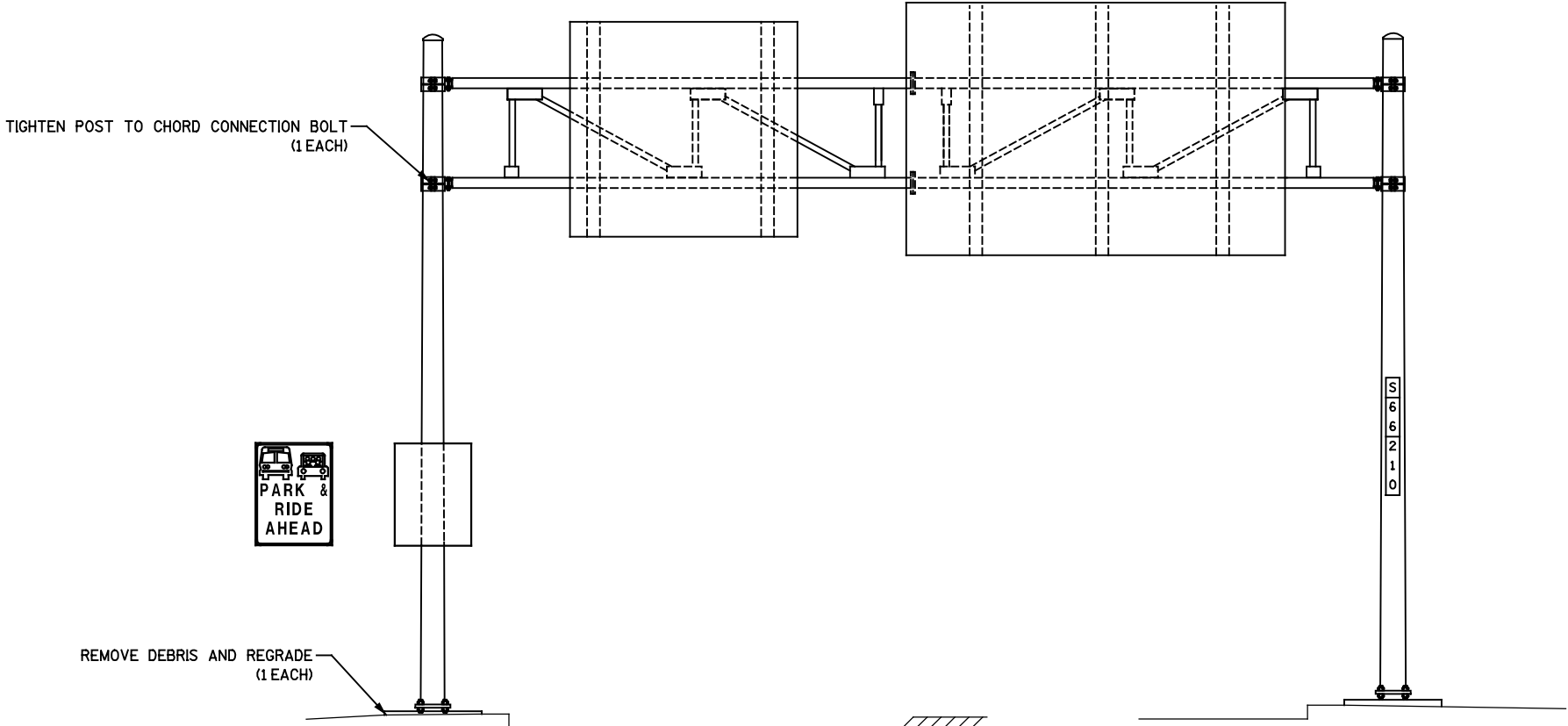
SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	1 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0208			SHEET 77 OF 115

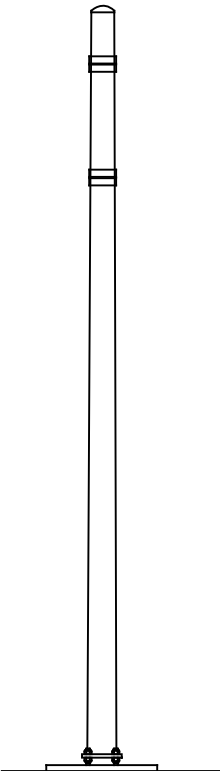


LOOKING NORTH

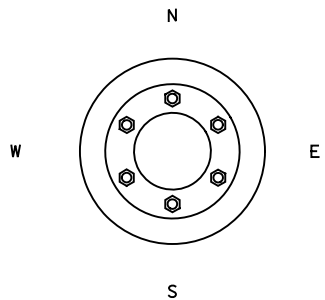


ELEVATION VIEW

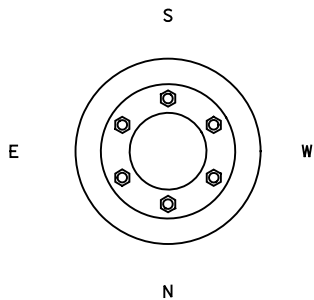
LOOKING WEST



LOOKING SOUTH



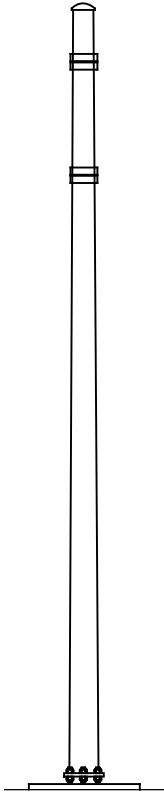
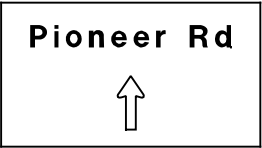
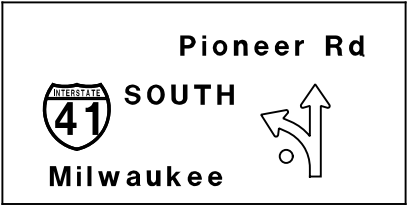
SOUTH FOUNDATION DETAIL



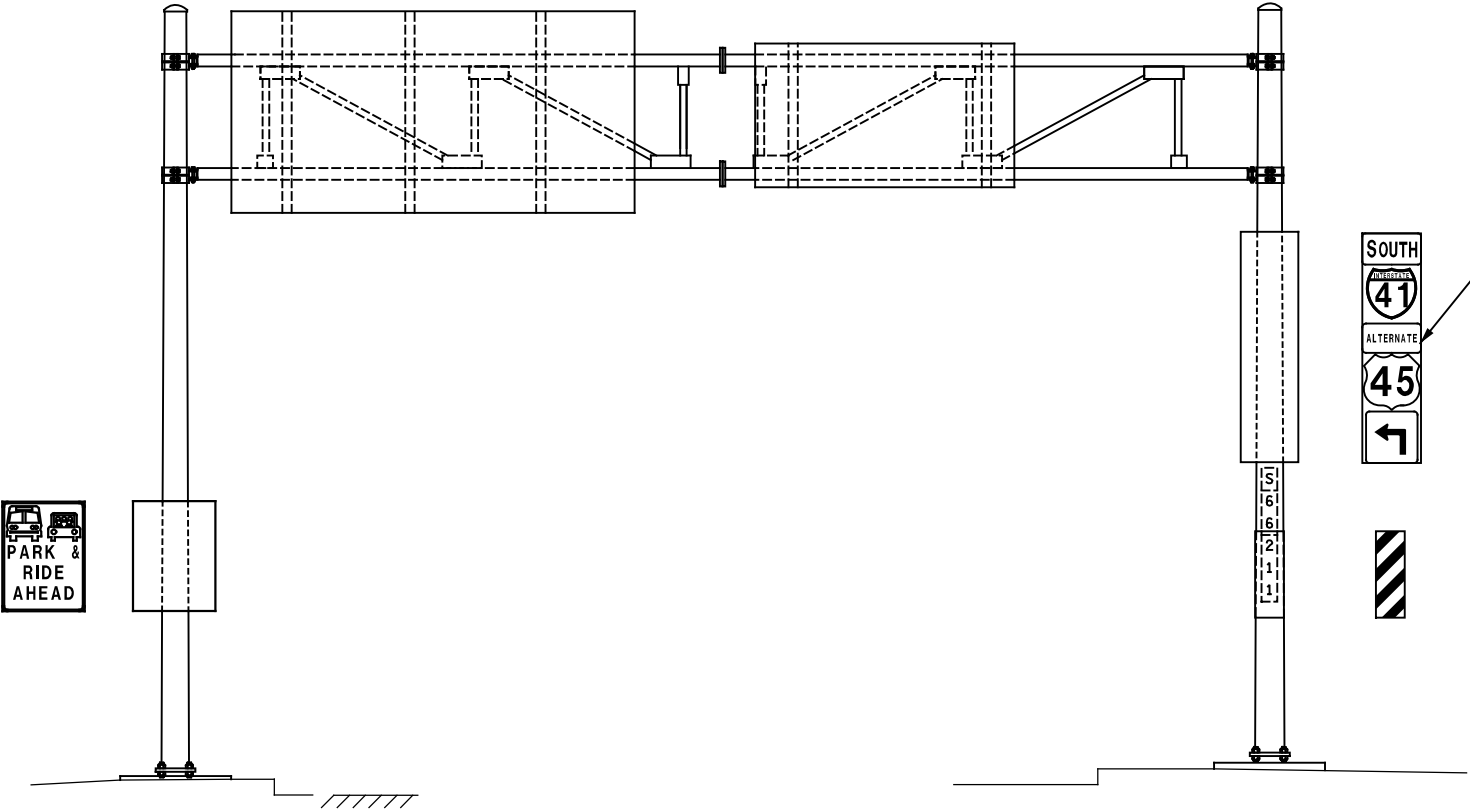
NORTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.10	REMOVE DEBRIS AND REGRADE	1 EACH	N/A
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	1 EACH	4

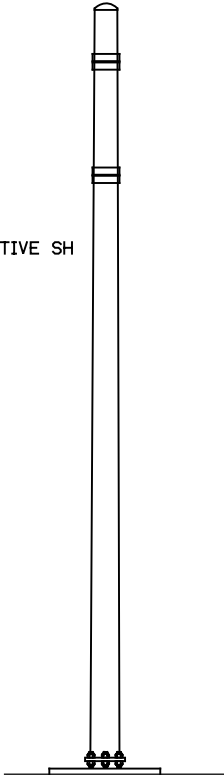
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0210			SHEET 78 OF 115



LOOKING NORTH



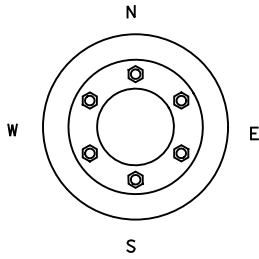
ELEVATION
LOOKING WEST



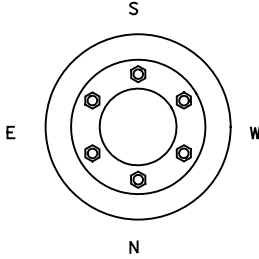
LOOKING SOUTH



SIGNS TYPE II REFLECTIVE SH
(16 SF)



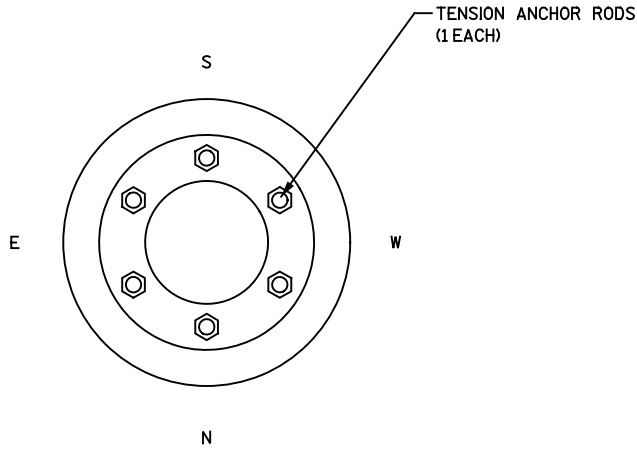
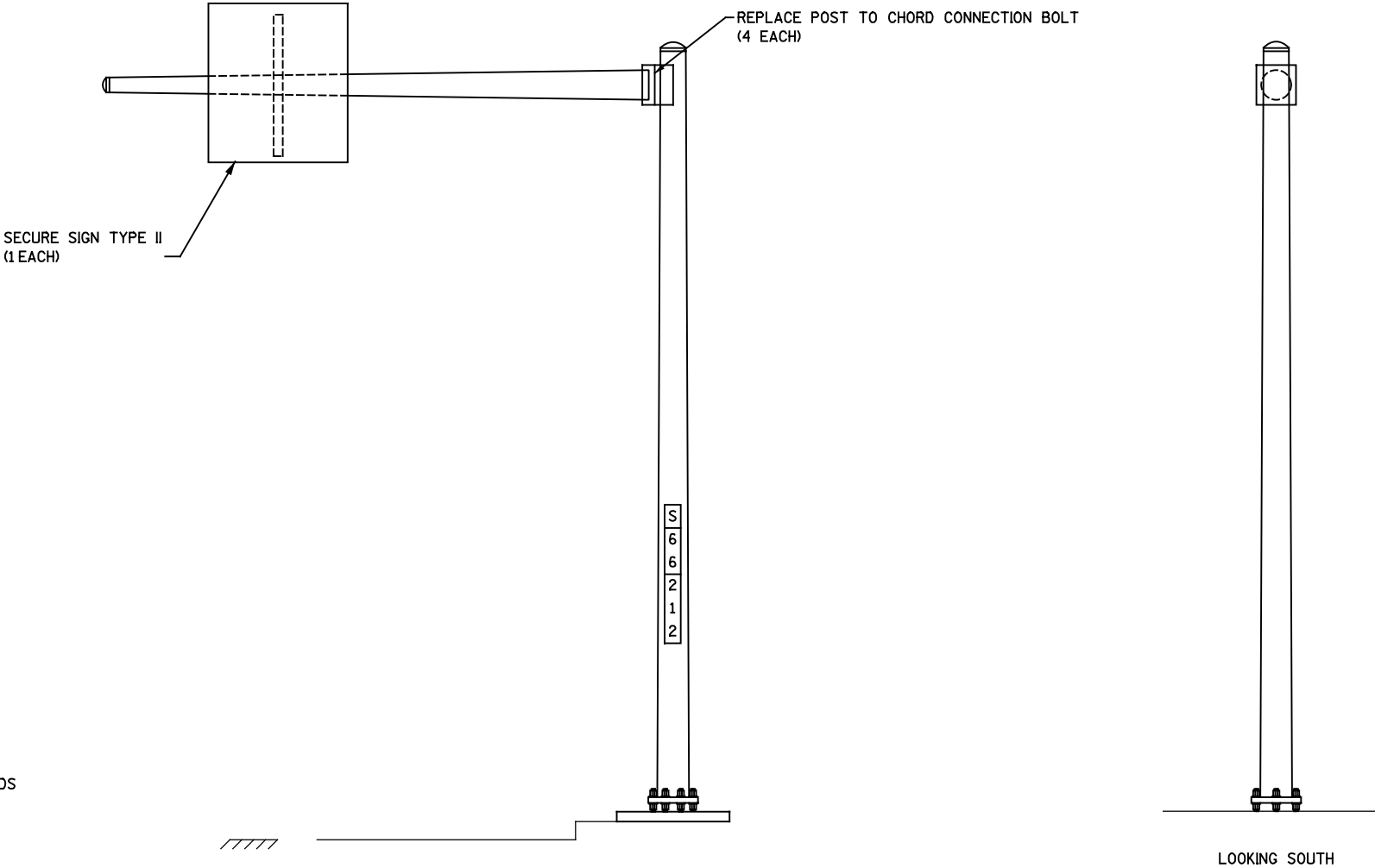
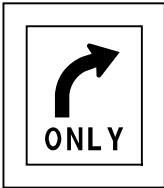
SOUTH FOUNDATION DETAIL



NORTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
637.2220	SIGNS TYPE II REFLECTIVE SH	16 SF	N/A

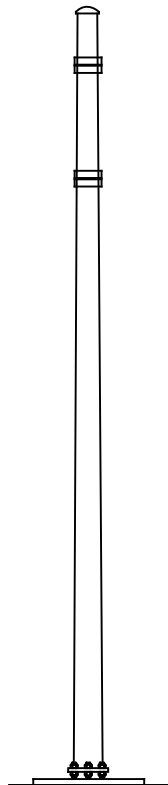
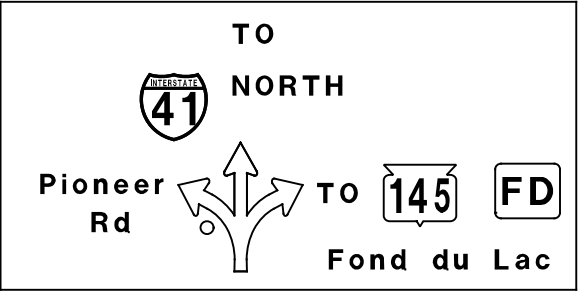
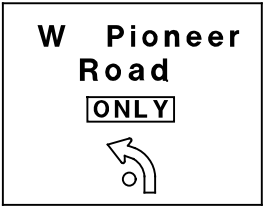
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0211			SHEET 79 OF 115



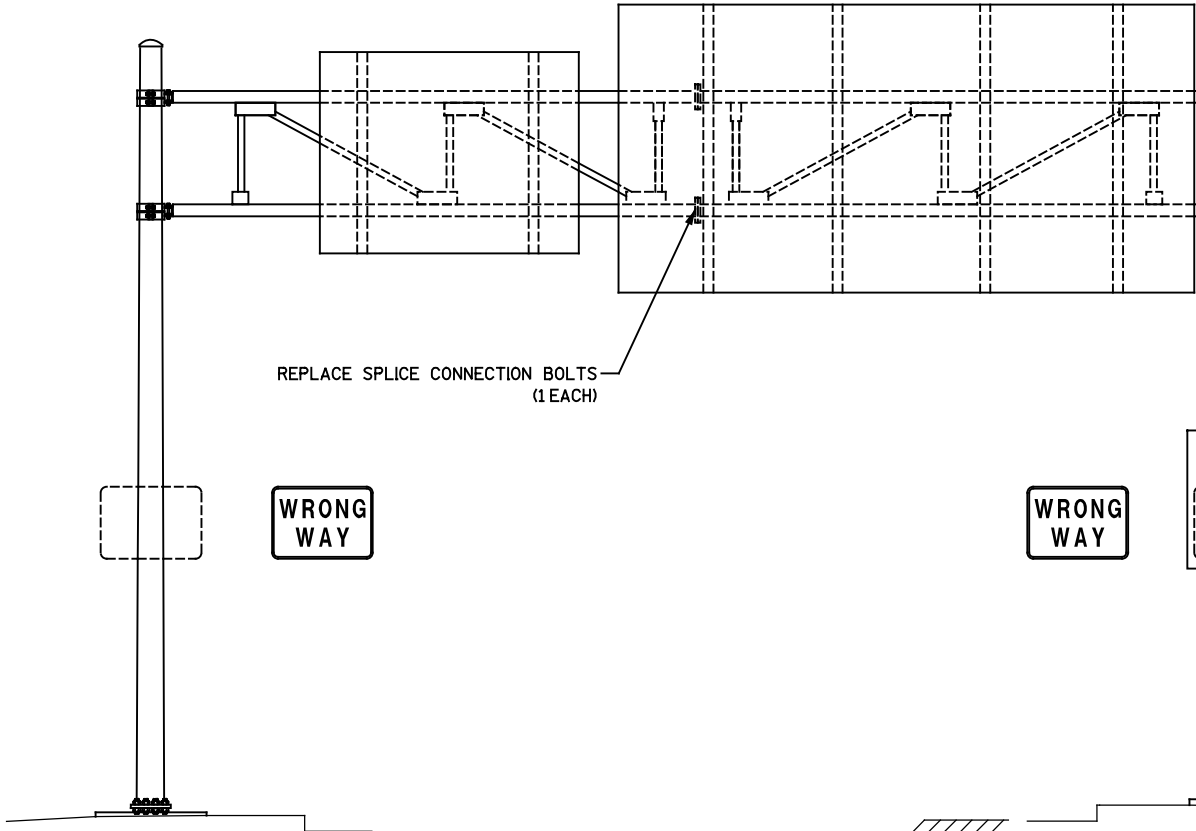
ELEVATION VIEW
LOOKING WEST

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.14	SECURE SIGN TYPE II	1 EACH	7
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	4 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0212			SHEET 80 OF 115



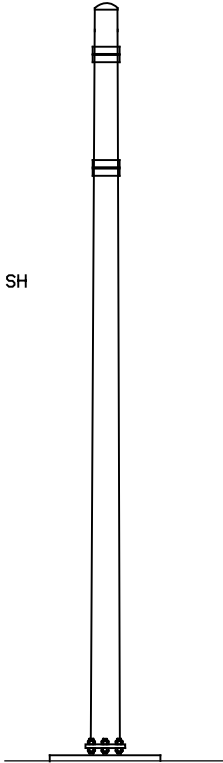
LOOKING EAST



TIGHTEN POST TO CHORD CONNECTION BOLT
(1 EACH)

REPLACE SPLICE CONNECTION BOLTS
(1 EACH)

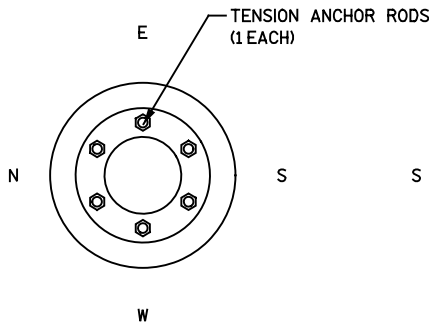
SIGN TYPE II REFLECTIVE SH
(19.2 SF)



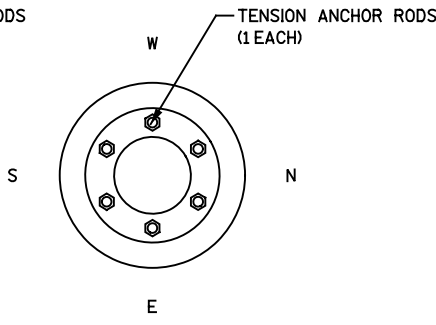
LOOKING WEST

ELEVATION VIEW

LOOKING NORTH



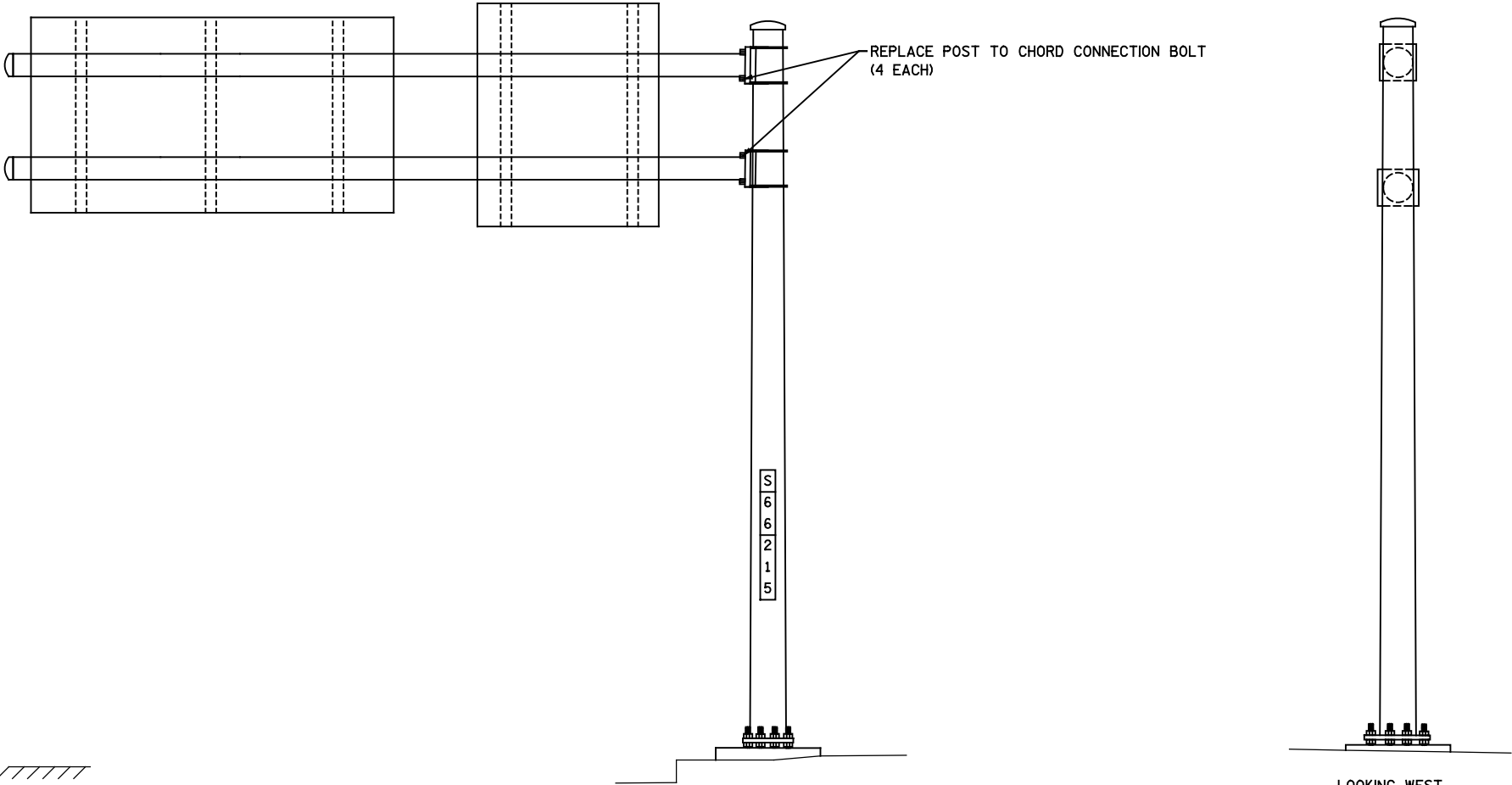
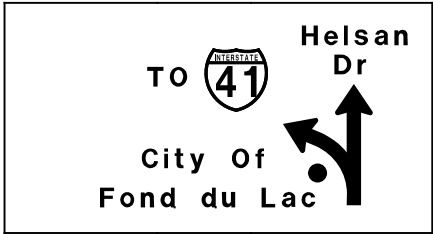
WEST FOUNDATION DETAIL



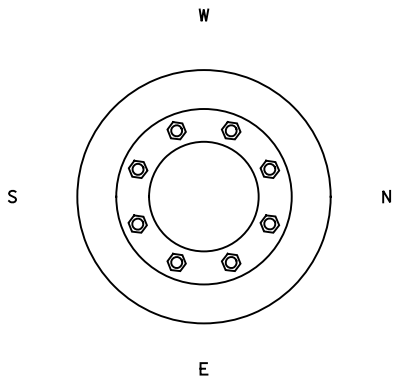
EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	1 EACH	4
637.2220	SIGNS TYPE II REFLECTIVE SH	19.2 SF	N/A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0213			SHEET 81 OF 115



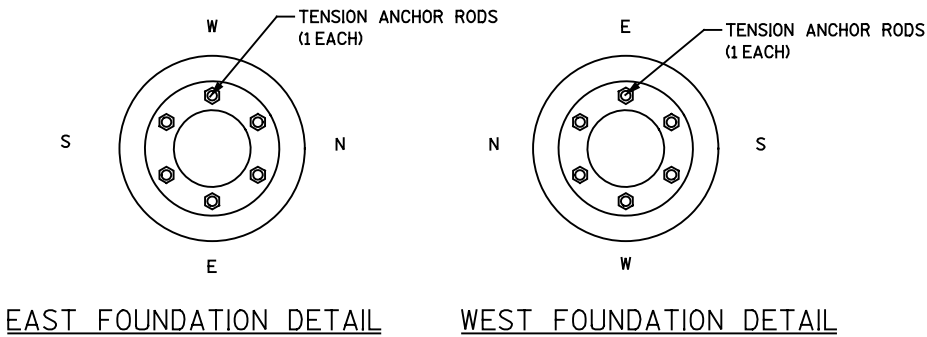
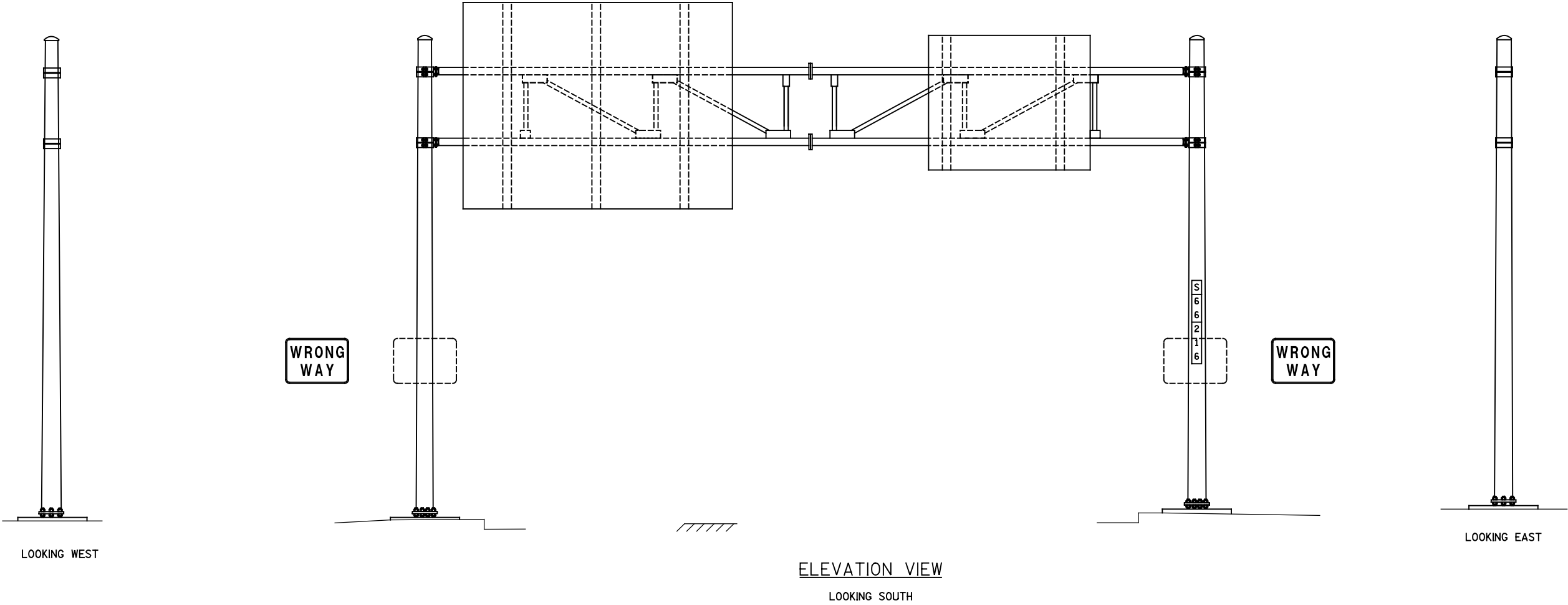
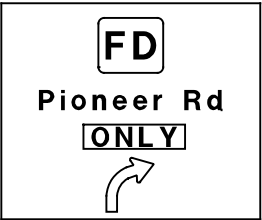
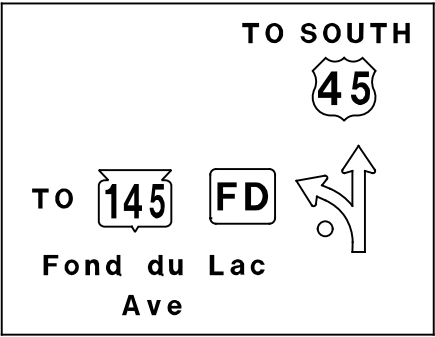
ELEVATION VIEW
LOOKING NORTH



FOUNDATION DETAIL

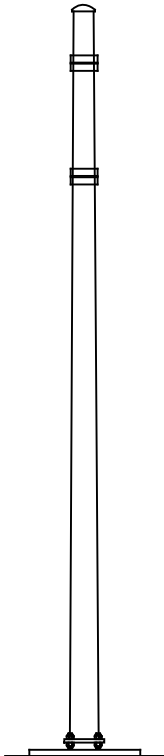
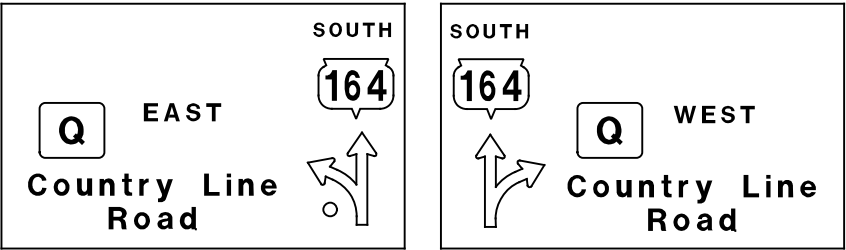
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	8 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0215			SHEET 82 OF 115

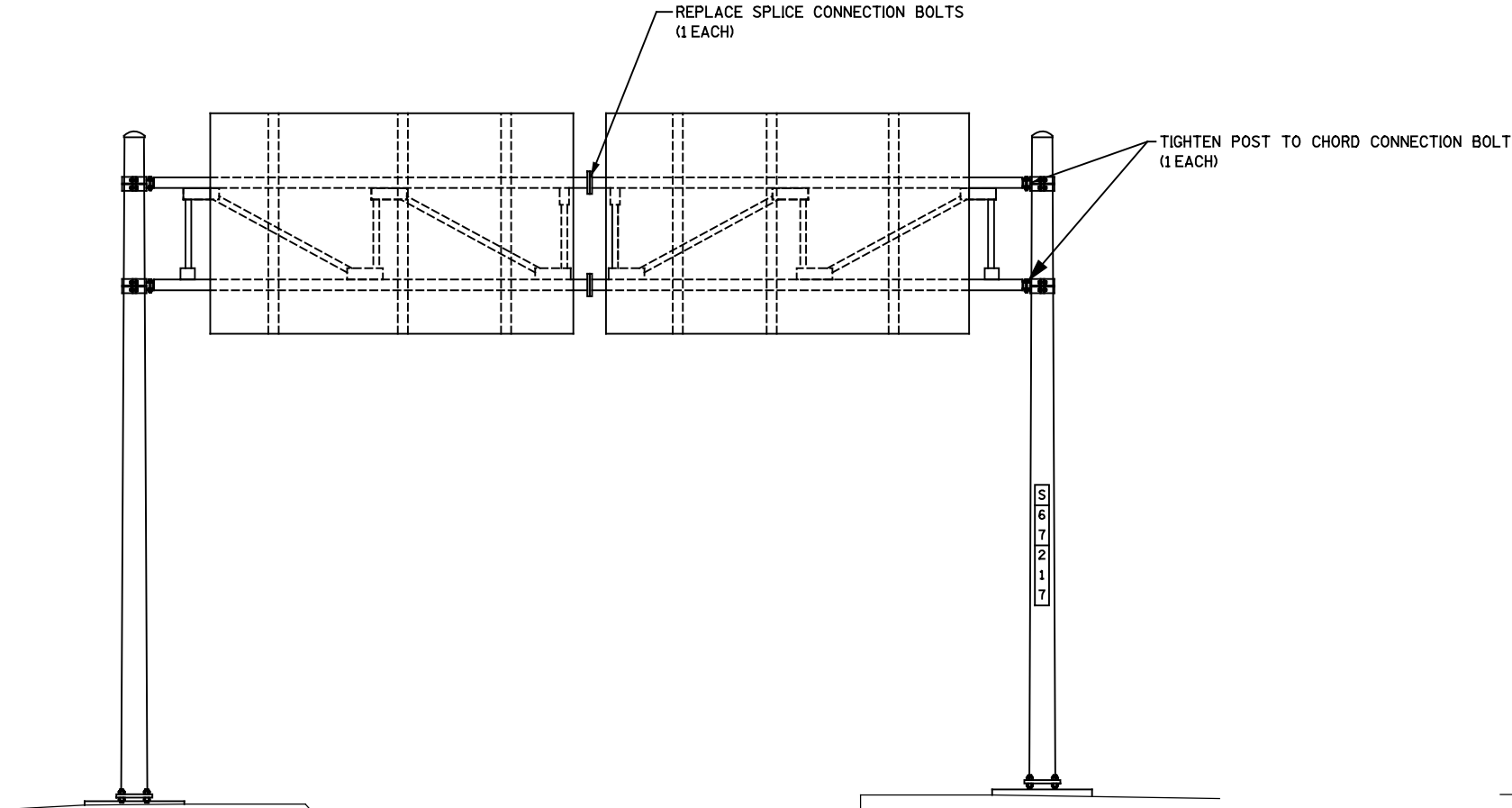


ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0216			SHEET 83 OF 115

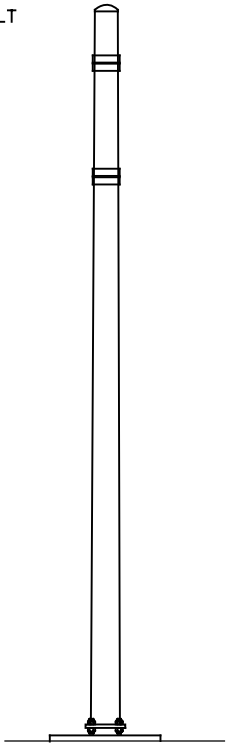


LOOKING WEST

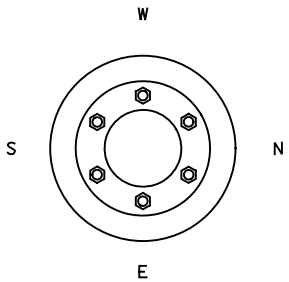


ELEVATION VIEW

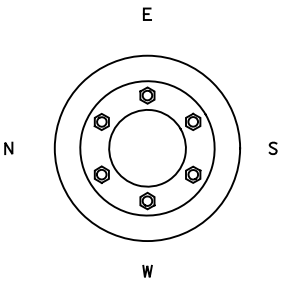
LOOKING SOUTH



LOOKING EAST



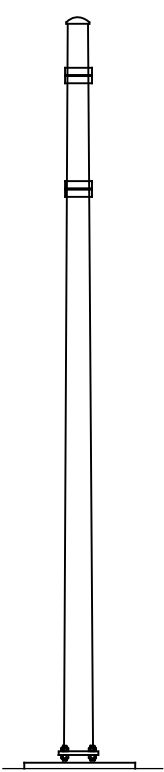
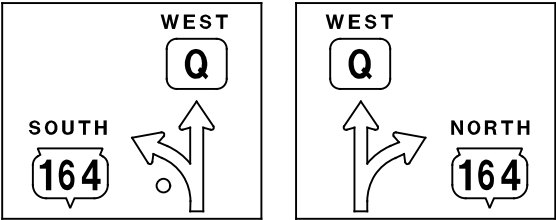
EAST FOUNDATION DETAIL



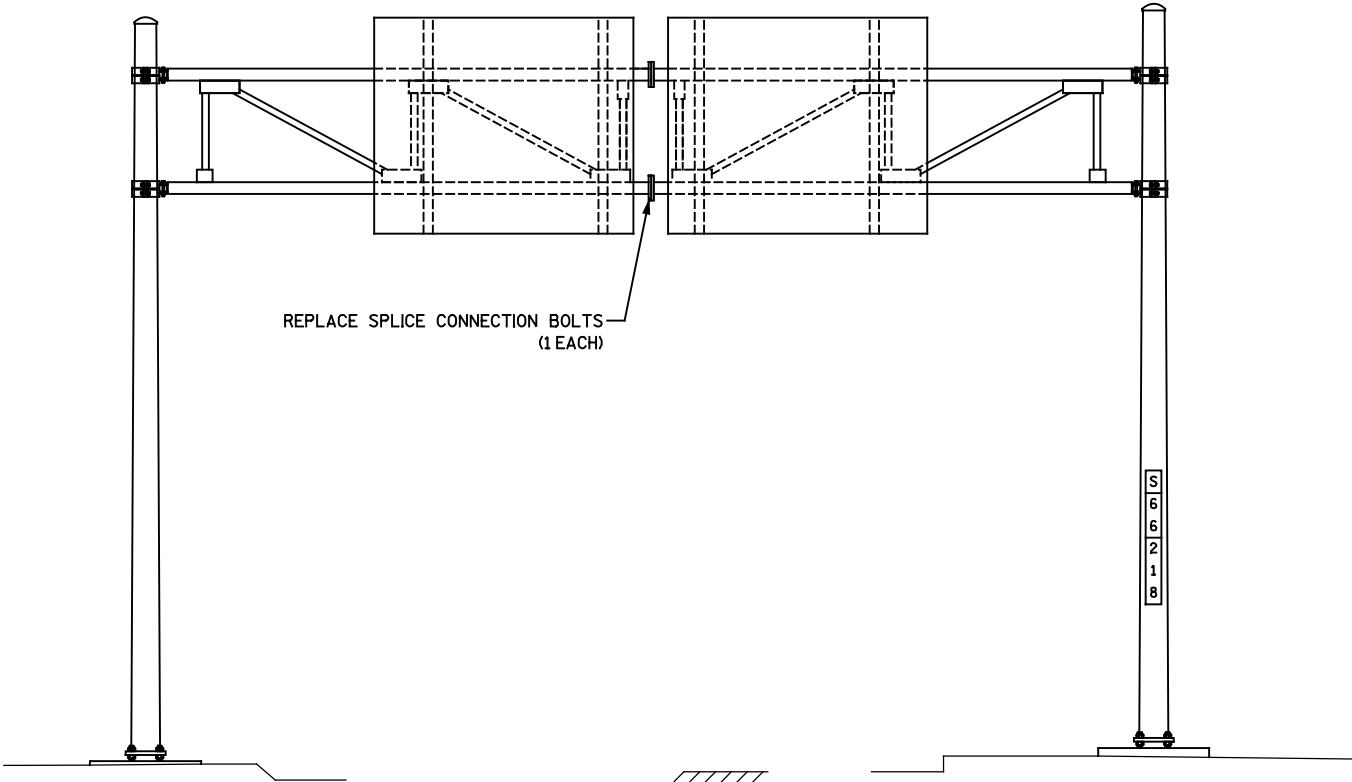
WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	2 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0217			SHEET 84 OF 115

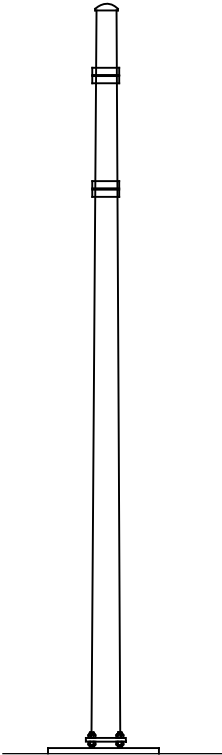


LOOKING NORTH

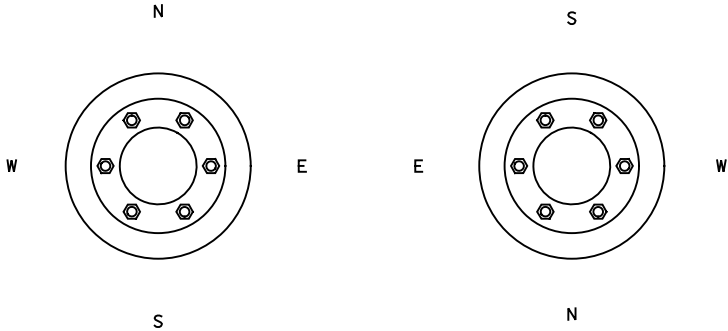


ELEVATION VIEW

LOOKING WEST



LOOKING SOUTH

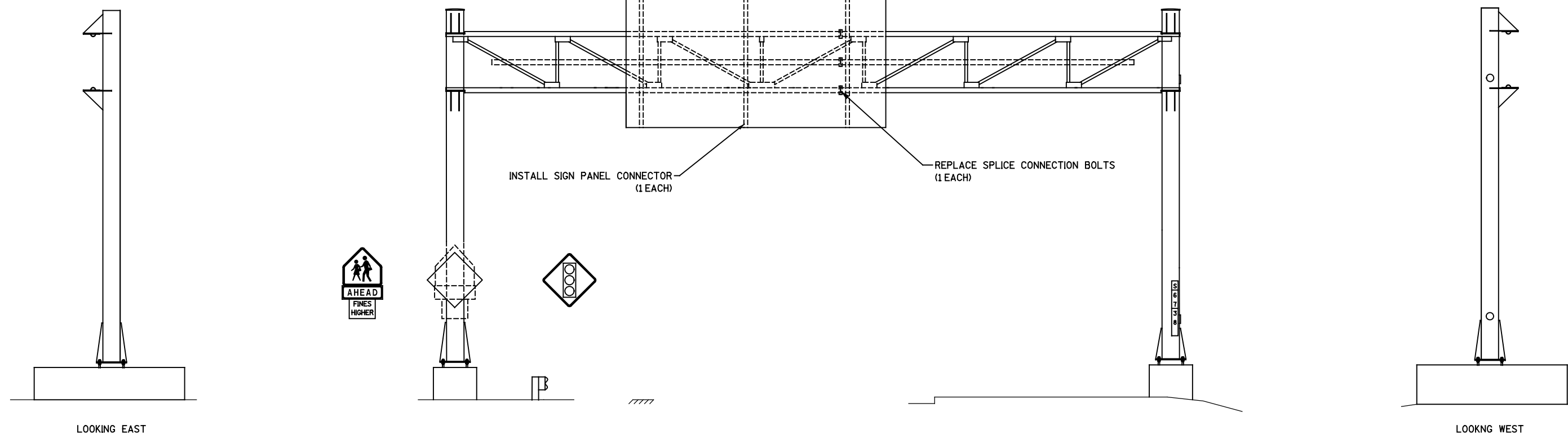


SOUTH FOUNDATION DETAIL

NORTH FOUNDATION DETAIL

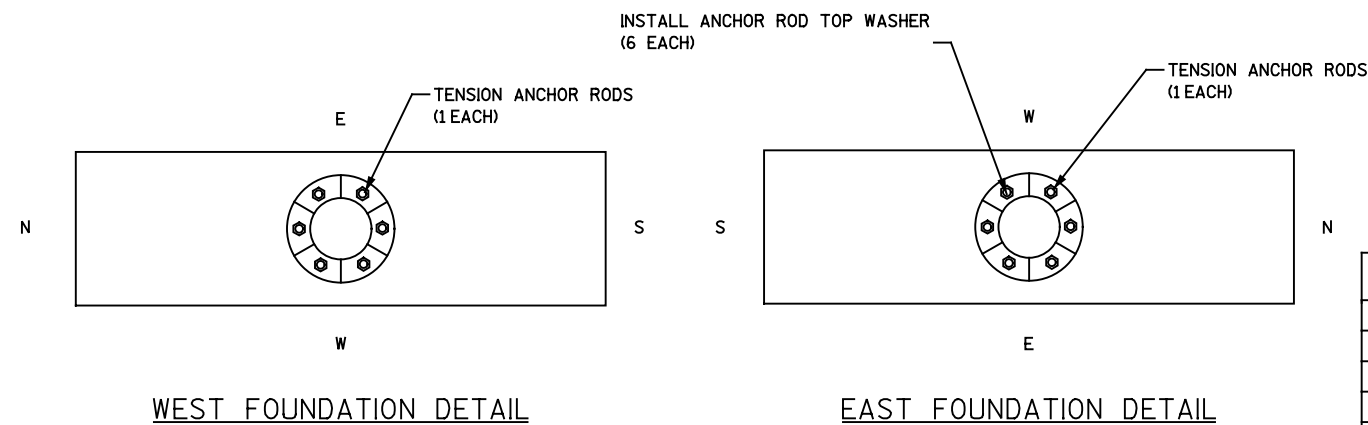
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-66-0218			SHEET 85 OF 115



ELEVATION VIEW

LOOKING NORTH

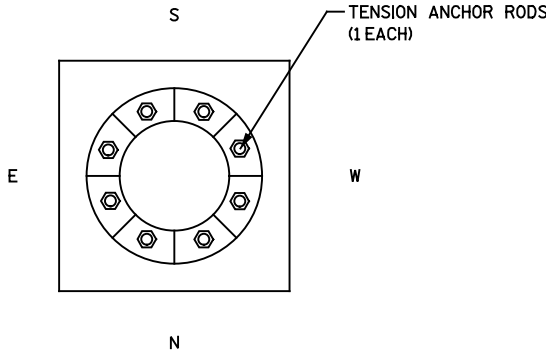
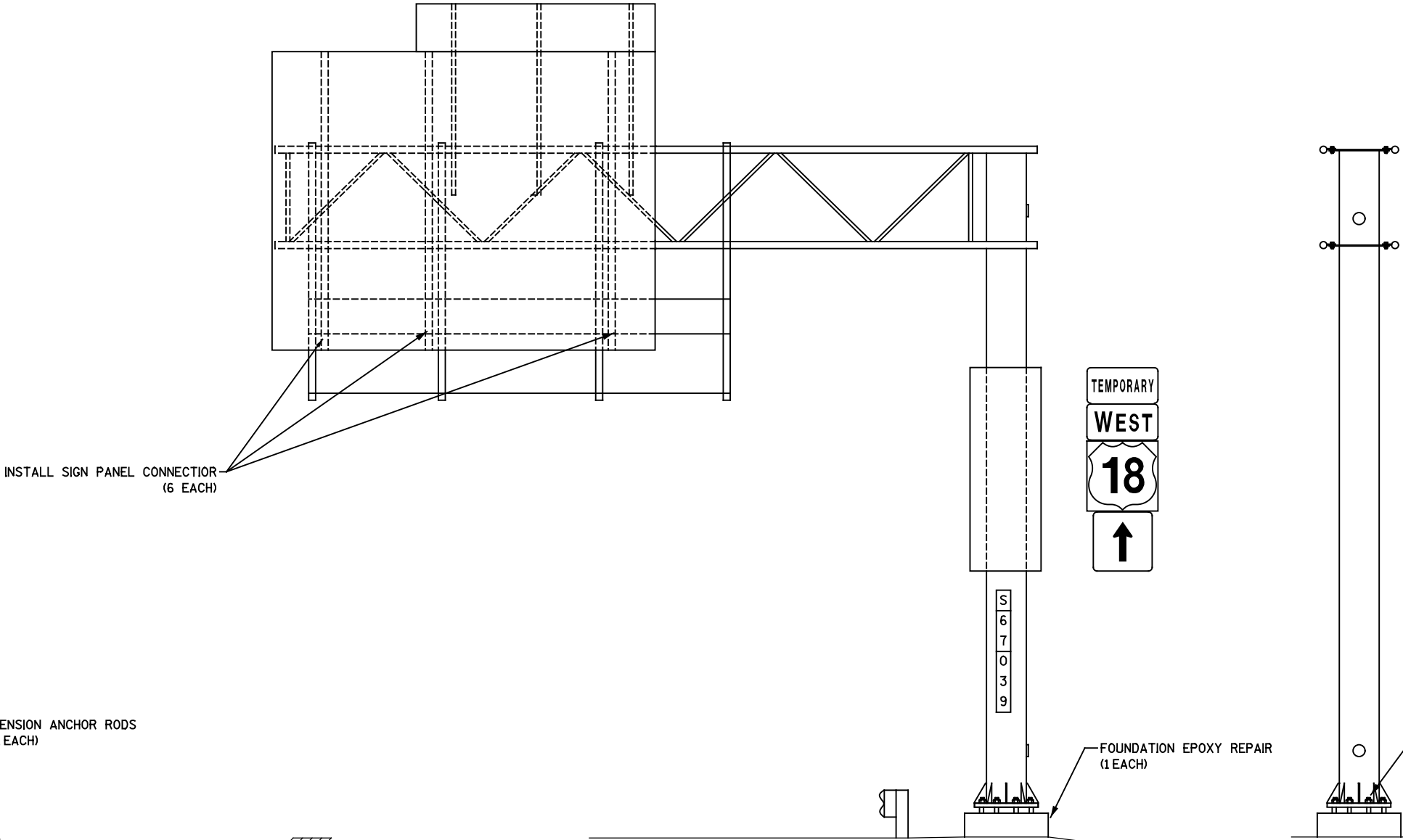
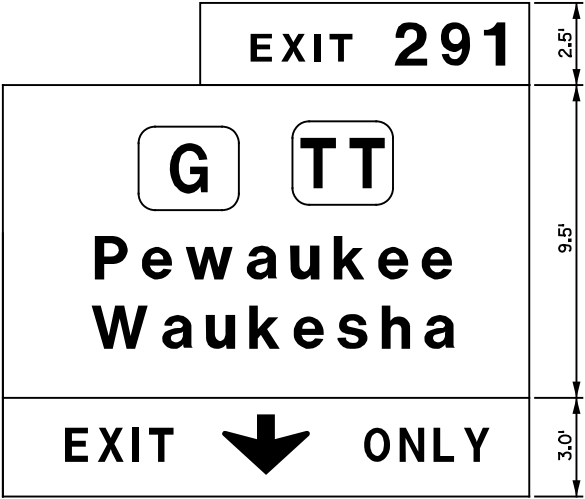


WEST FOUNDATION DETAIL

EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4
SPV.0060.30	INSTALL ANCHOR ROD TOP WASHER	6 EACH	2
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	1 EACH	6

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0038			SHEET 86 OF 115



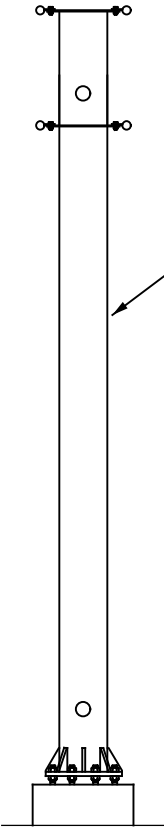
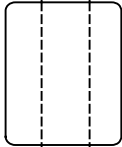
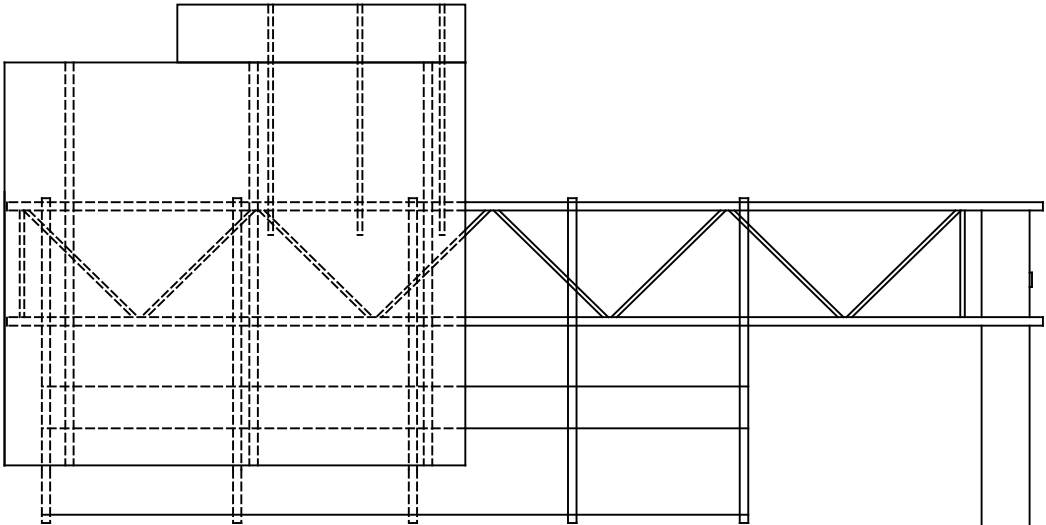
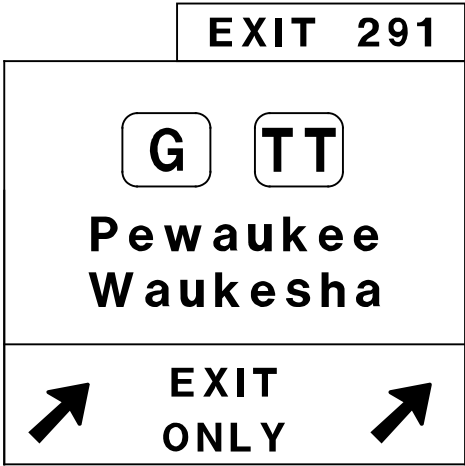
ELEVATION VIEW

LOOKING WEST

FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.30	FOUNDATION EPOXY REPAIR	1 EACH	3
SPV.0165.01	REPAIR GALVANIZED COATING	8 SF	N/A
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	18 EACH	6

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0039			SHEET 87 OF 115

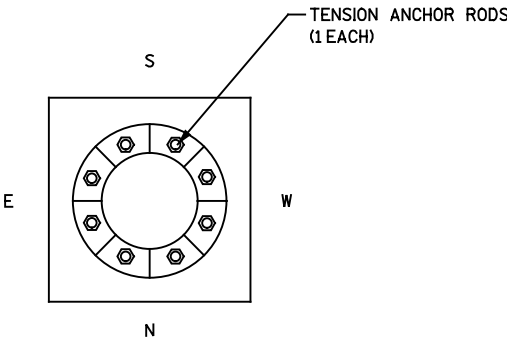


REPAIR GALVANIZED COATING
(8 SF)

LOOKING SOUTH

////

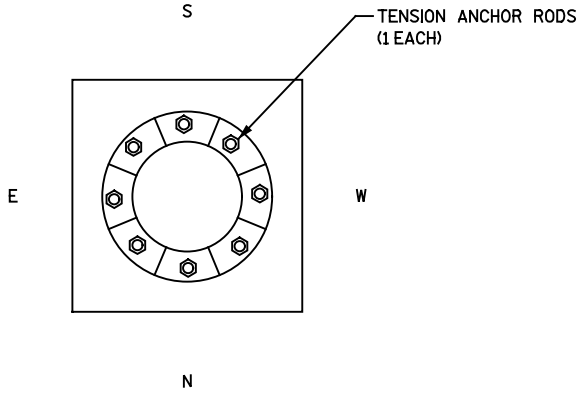
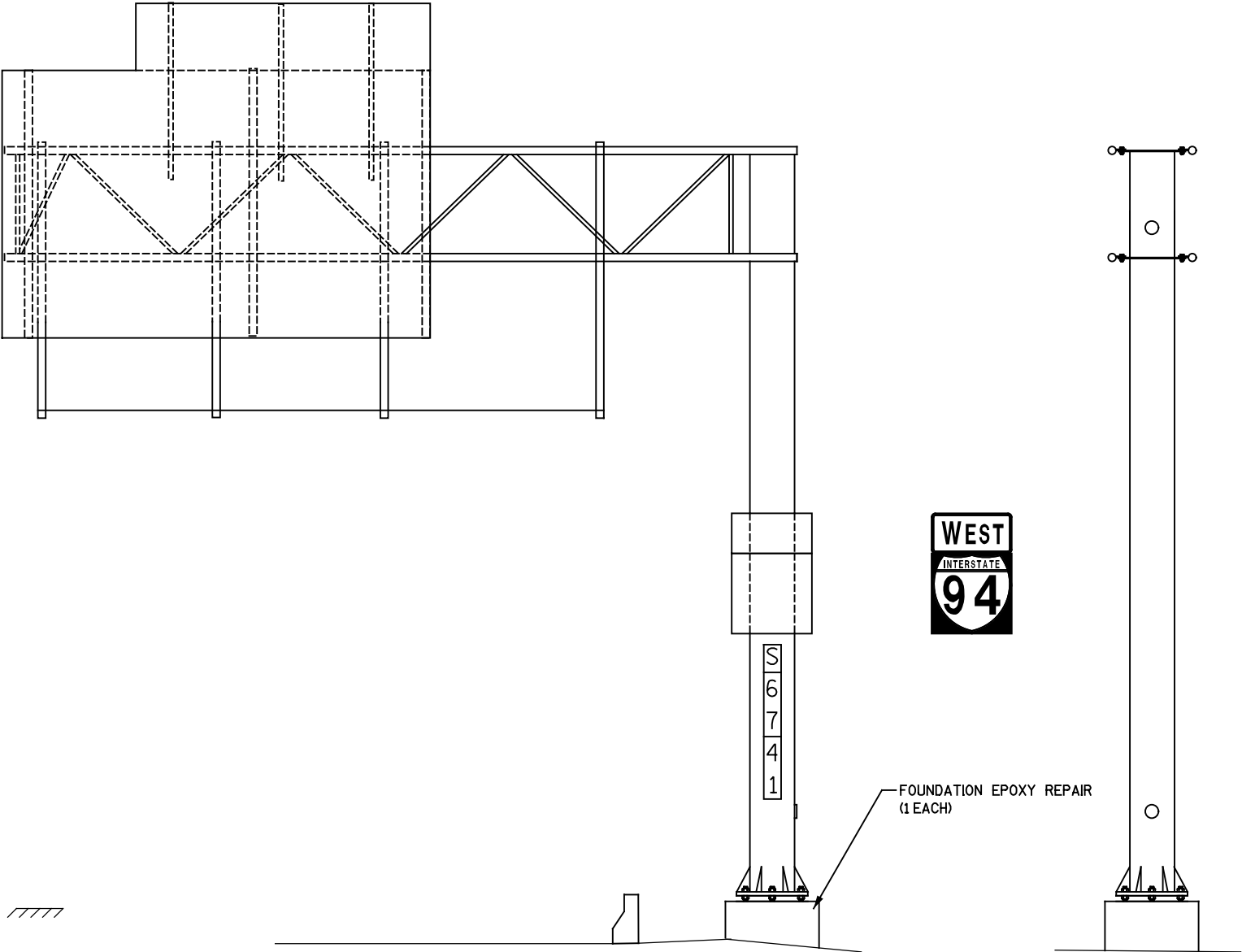
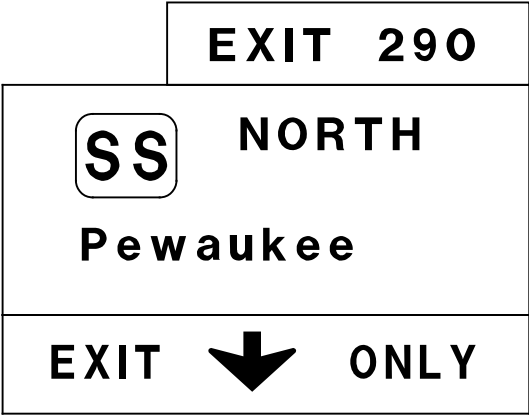
ELEVATION VIEW
LOOKING WEST



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0165.01	REPAIR GALVANIZED COATING	8 SF	N/A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0040			SHEET 88 OF 115



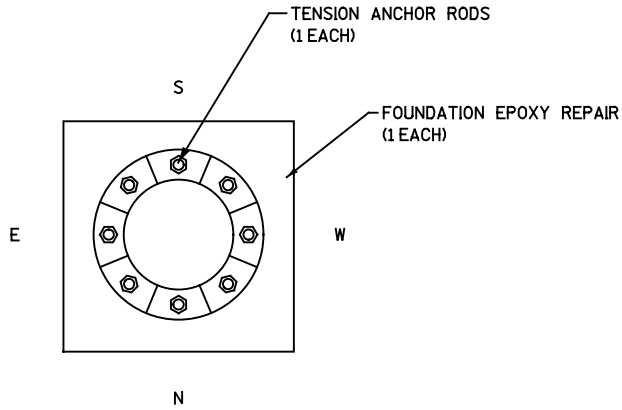
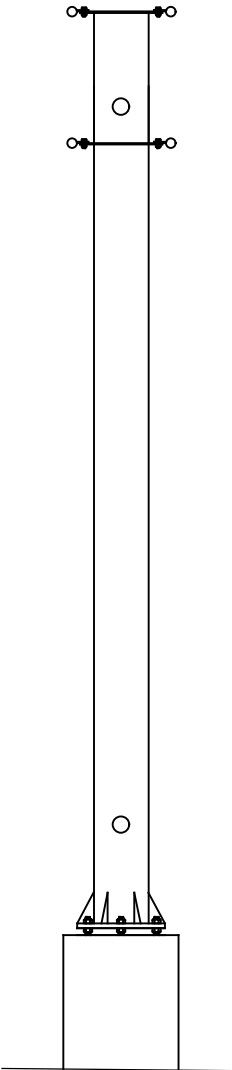
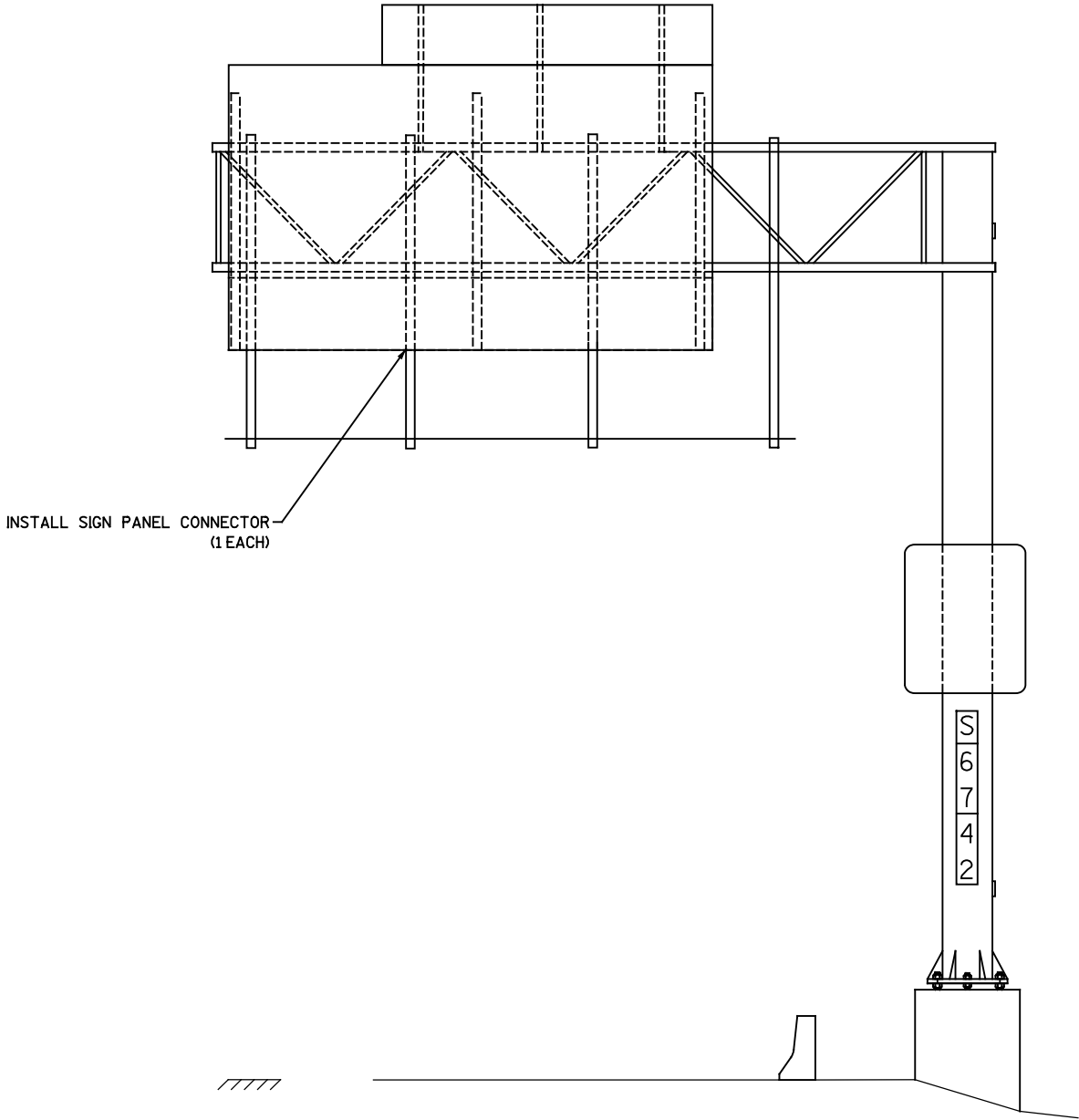
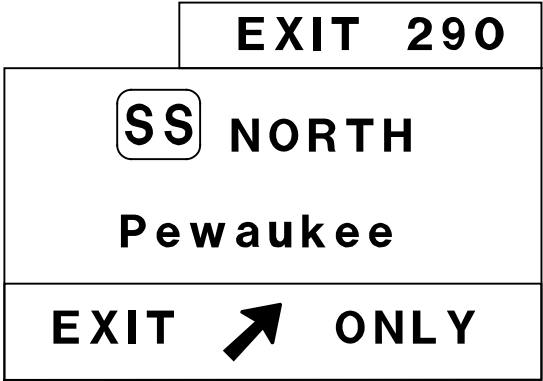
ELEVATION VIEW
LOOKING WEST

LOOKING SOUTH

FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.30	FOUNDATION EPOXY REPAIR	1 EACH	3

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0041			SHEET 89 OF 115



FOUNDATION DETAIL

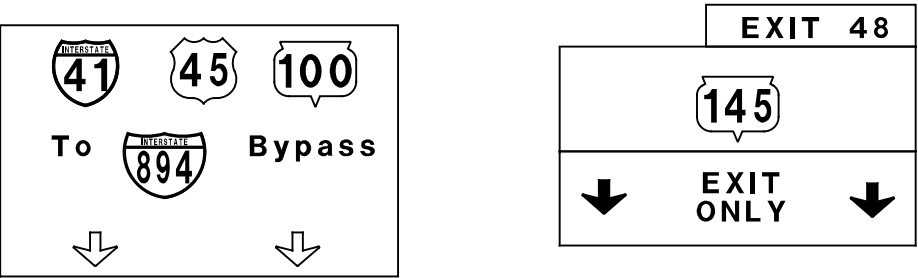
ELEVATION VIEW

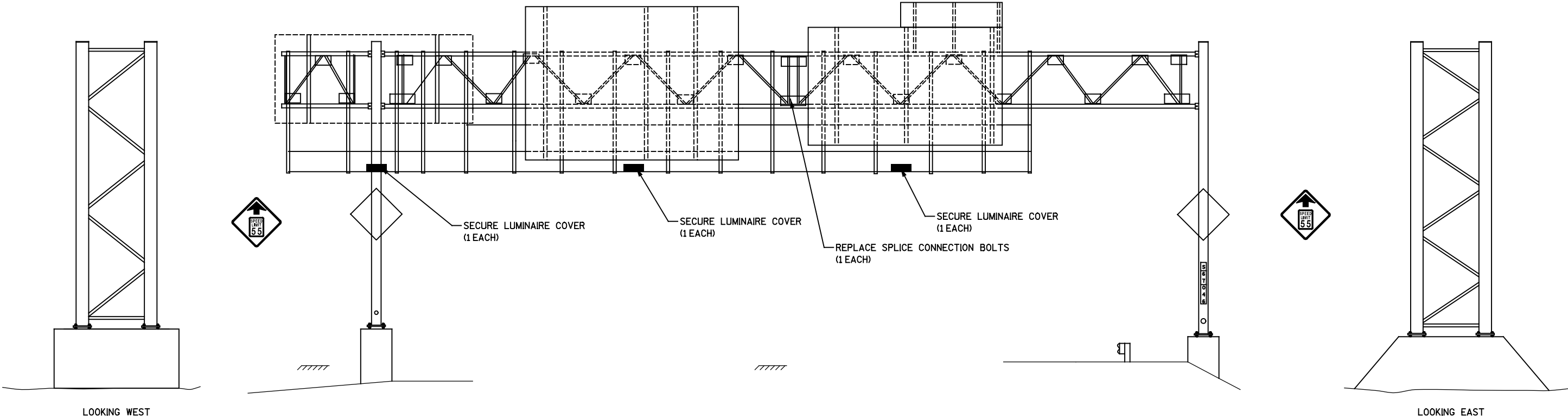
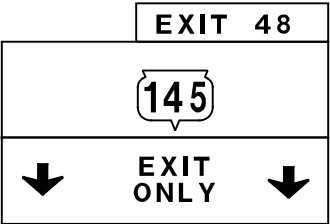
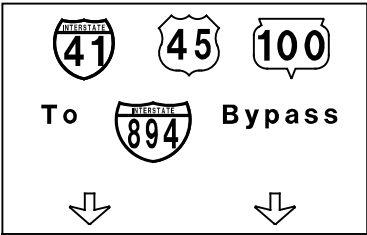
LOOKING WEST

LOOKING SOUTH

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.30	FOUNDATION EPOXY REPAIR	1 EACH	3
SPV.0060.11	INSTALL SIGN PANEL CONNECTOR	1 EACH	6

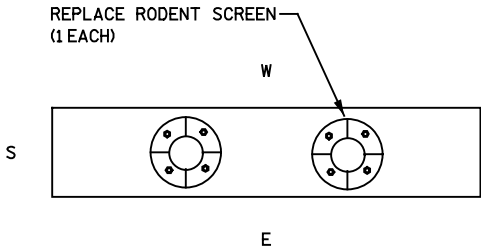
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0042			SHEET 90 OF 115



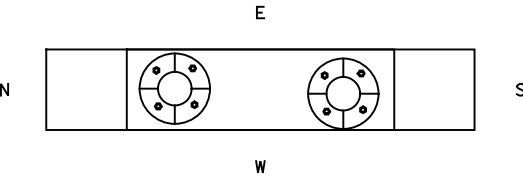


ELEVATION VIEW

LOOKING SOUTH



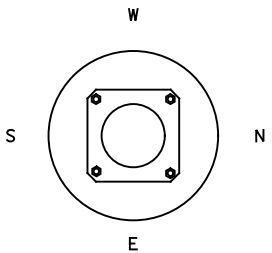
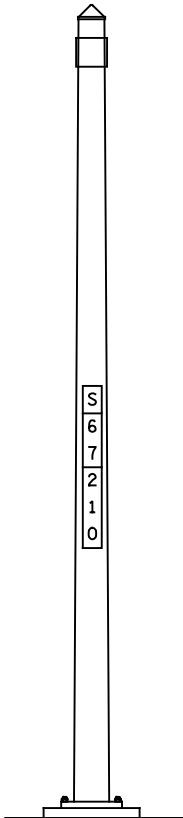
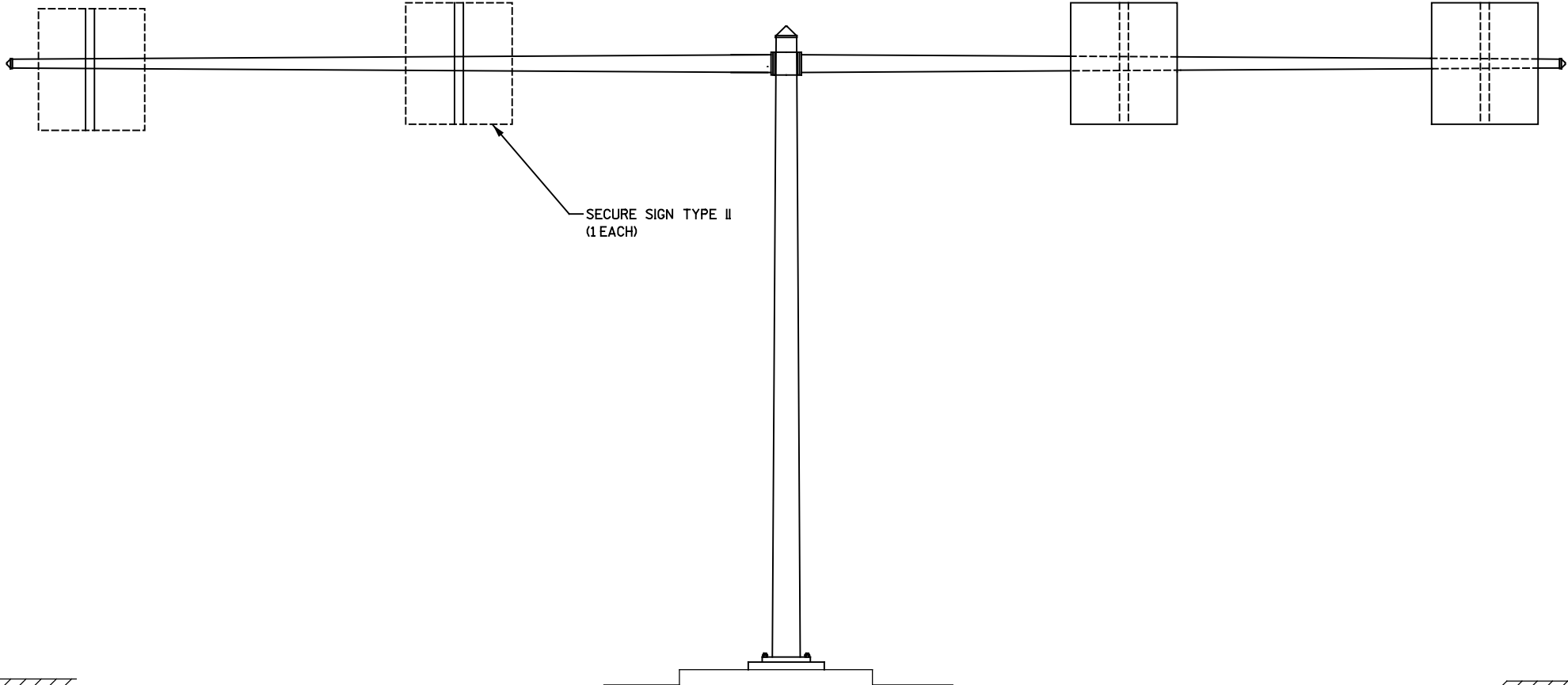
EAST FOUNDATION DETAIL



WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.19	SECURE LUMINAIRE COVER	3 EACH	10
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4
SPV.0060.01	REPLACE RODENT SCREEN	1 EACH	2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0046			SHEET 92 OF 115




FOUNDATION DETAIL

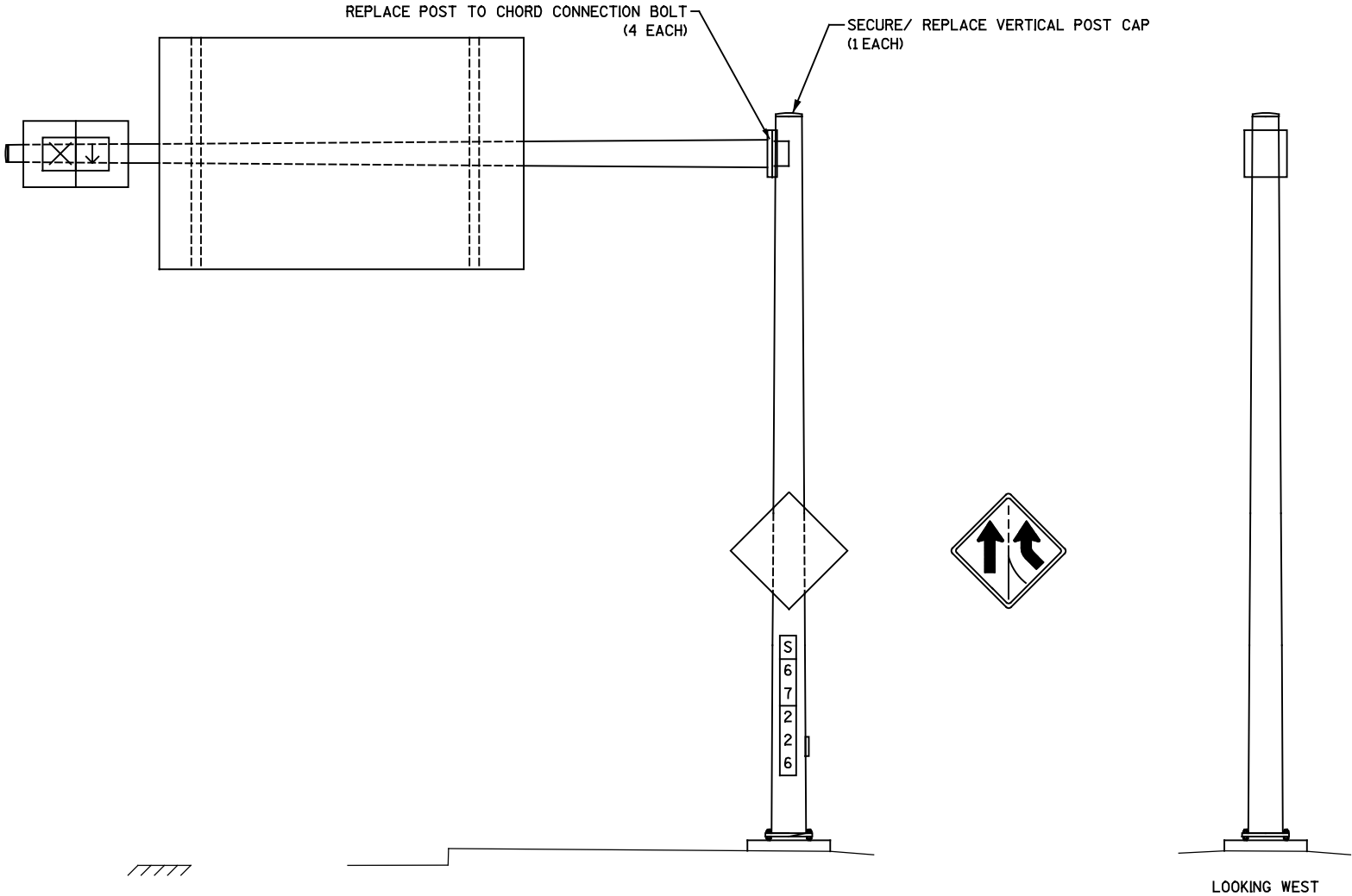
ELEVATION VIEW
LOOKING NORTH

LOOKING WEST

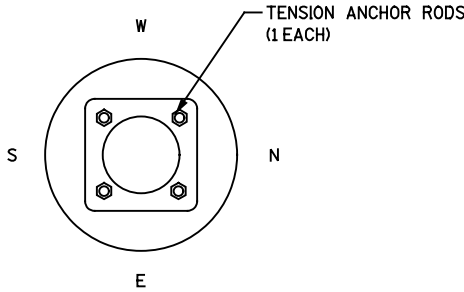
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.14	SECURE SIGN TYPE II	1 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0210			SHEET 93 OF 115

 **RESTRICTED
LANE**
**BUSES MOTORCYCLES
AND 2 OR MORE
OCCUPANT VEHICLES**



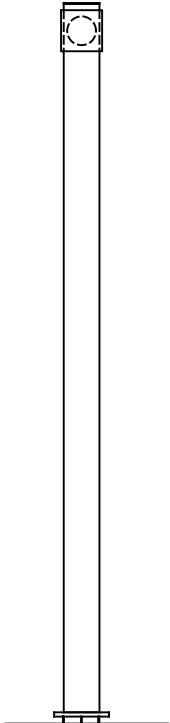
ELEVATION VIEW
LOOKING NORTH



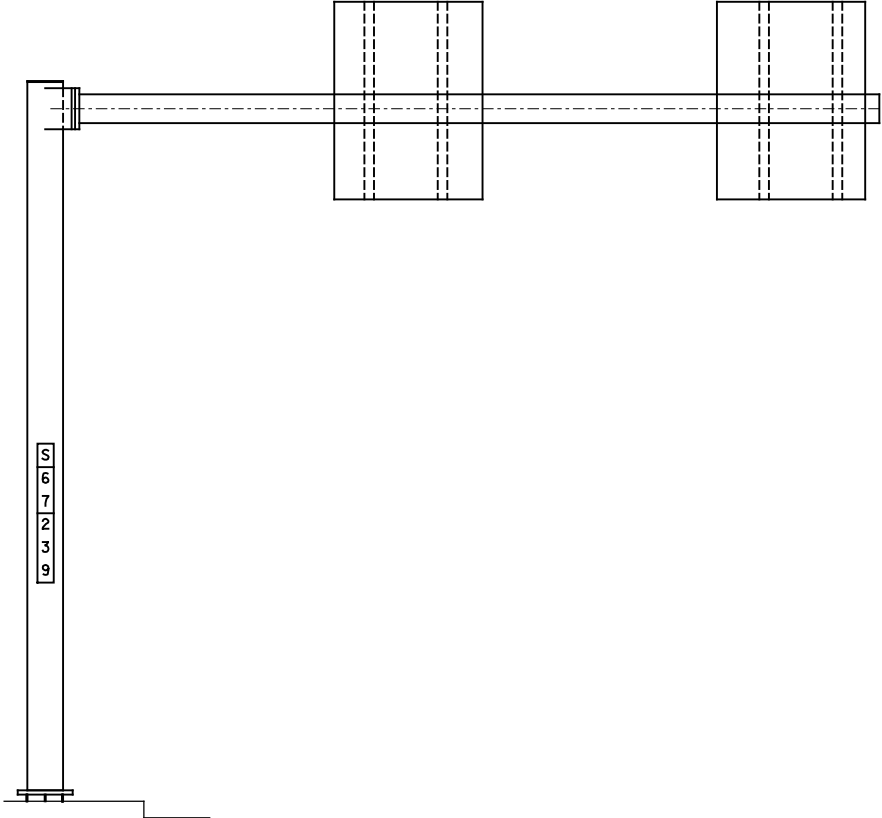
FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.09	SECURE/ REPLACE VERTICAL POST CAP	1 EACH	4
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	4 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0226			SHEET 94 OF 115

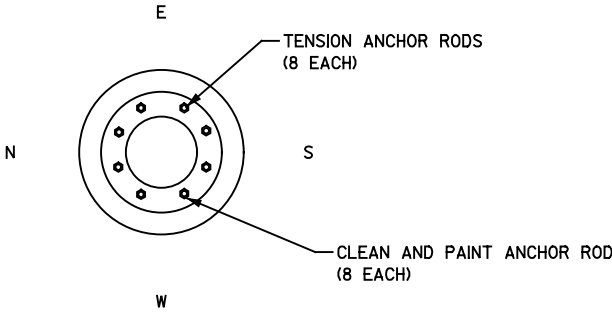


LOOKING EAST



ELEVATION VIEW

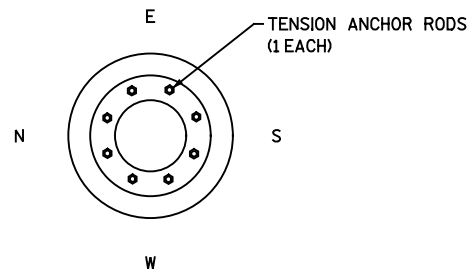
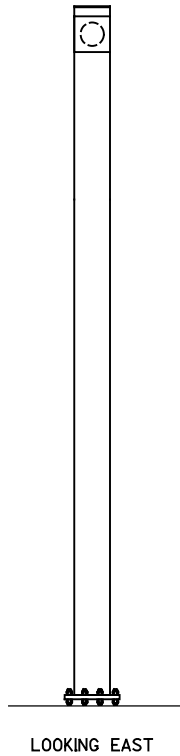
LOOKING NORTH



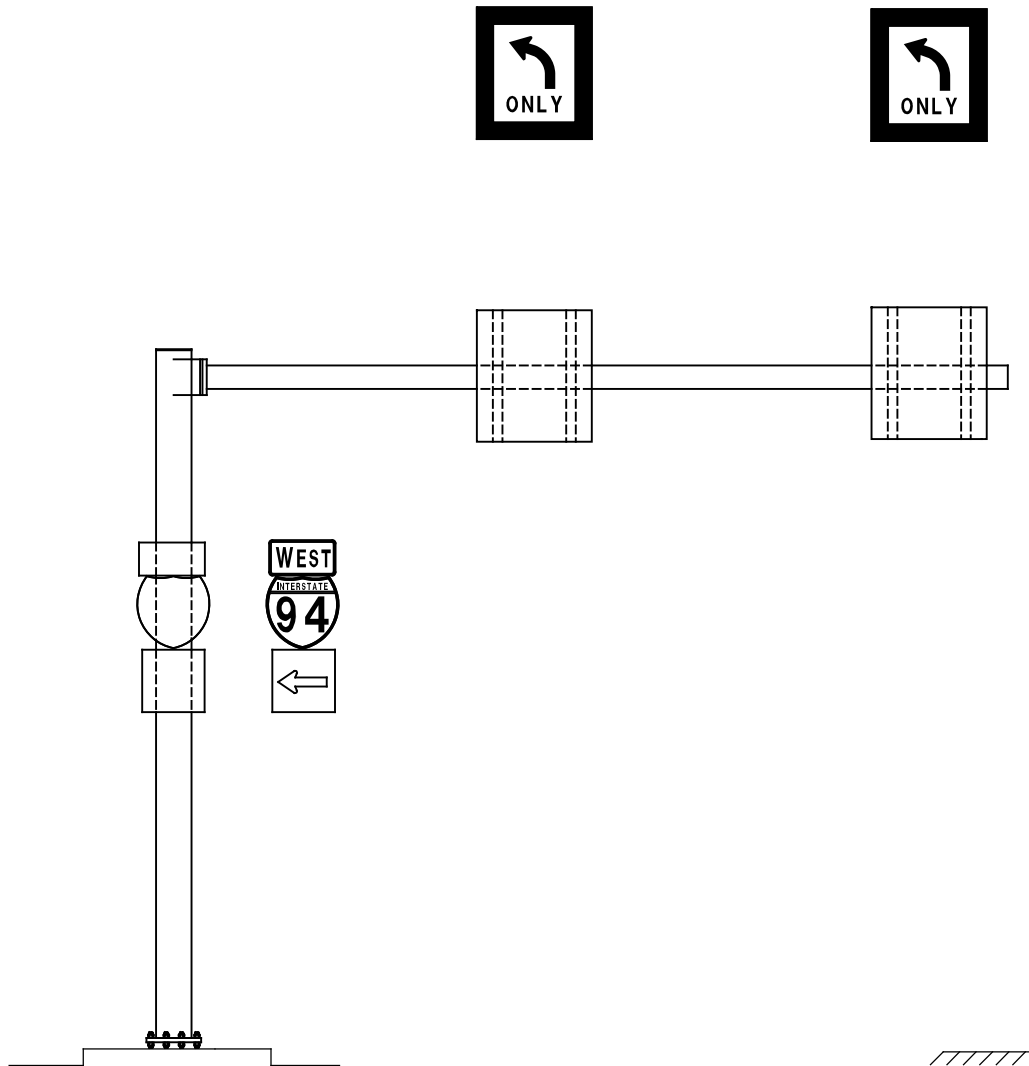
FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	8 EACH	2
SPV.0060.23	CLEAN AND PAINT ANCHOR ROD	8 EACH	2
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	8 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0239			SHEET 95 OF 115



FOUNDATION DETAIL

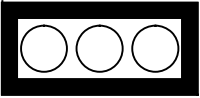


ELEVATION VIEW

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	8 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0240			SHEET 96 OF 115

LEFT
LANE
SIGNAL



CENTER
LANE
SIGNAL



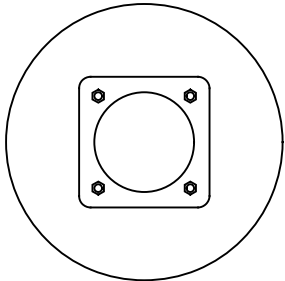
REPLACE SIGN CONNECTION ASSEMBLY
(1 EACH)

REPLACE POST MOUNTED SIGNAL
(1 EACH)

REPLACE POST MOUNTED SIGNAL
(1 EACH)

ELEVATION VIEW
LOOKING NORTH

LOOKING EAST

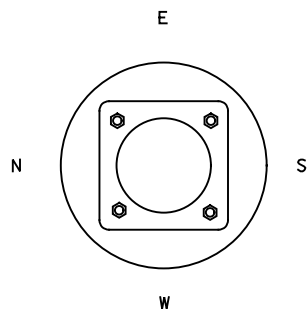


FOUNDATION DETAIL

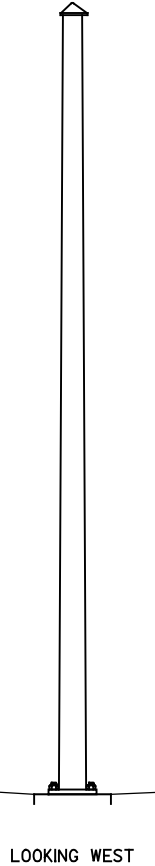
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.12	REPLACE POST MOUNTED SIGNAL	2 EACH	N/A
SPV.0060.18	REPLACE SIGN CONNECTION ASSEMBLY	1 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0241			SHEET 97 OF 115

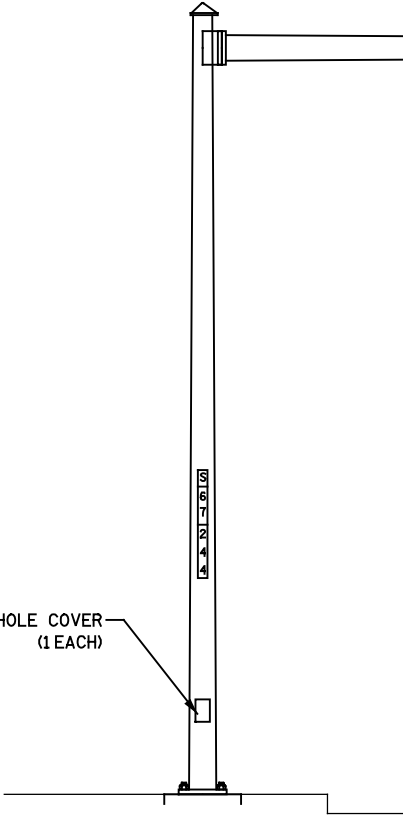
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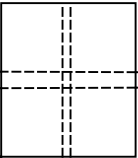
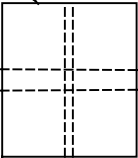
FOUNDATION DETAIL



SECURE/ REPLACE HANDHOLE COVER
(1 EACH)



SIGNS TYPE II REFLECTIVE SH
(14 SF)



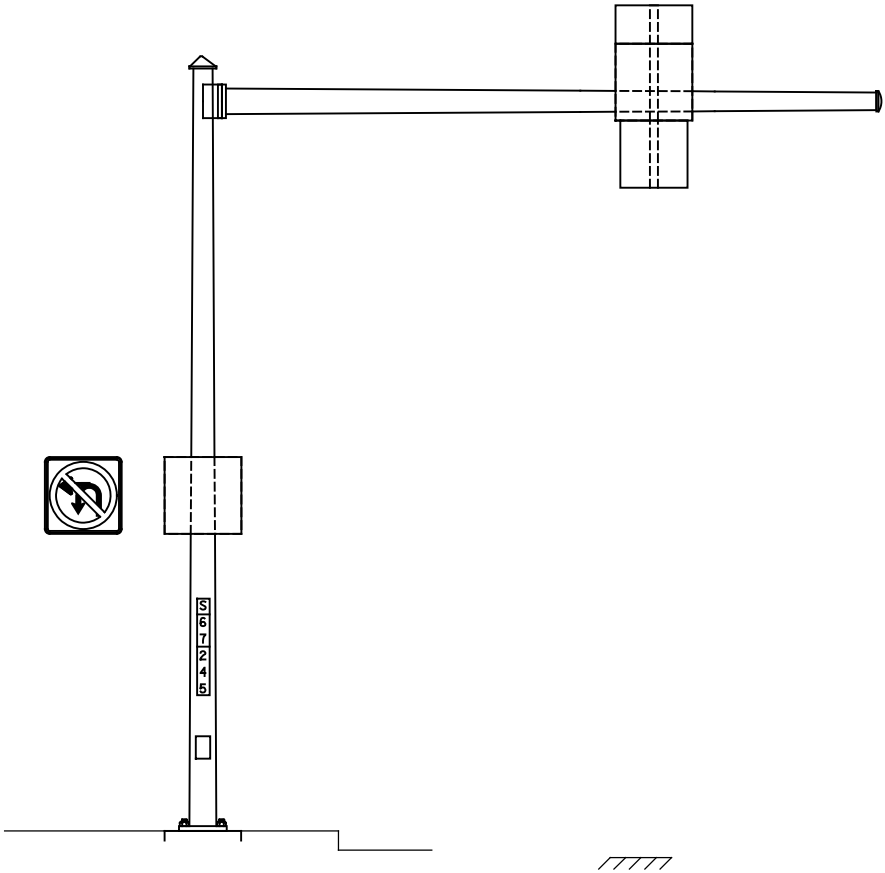
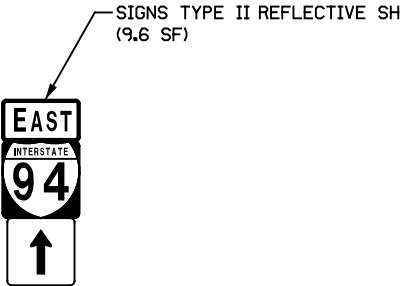
ELEVATION VIEW

LOOKING SOUTH

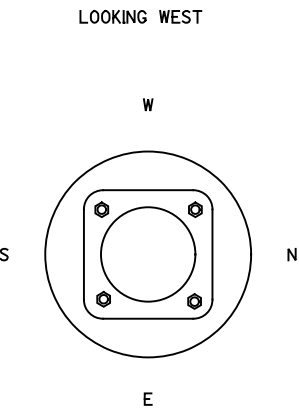
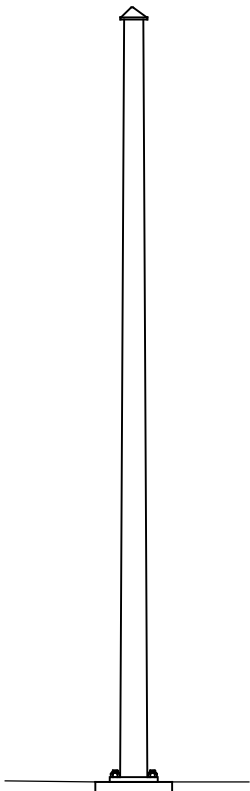
8

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
637.2220	SIGNS TYPE II REFLECTIVE SH	14 SF	N/A
SPV.0060.29	SECURE/ REPLACE HANDHOLD COVER	1 EACH	10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0244			SHEET 98 OF 115



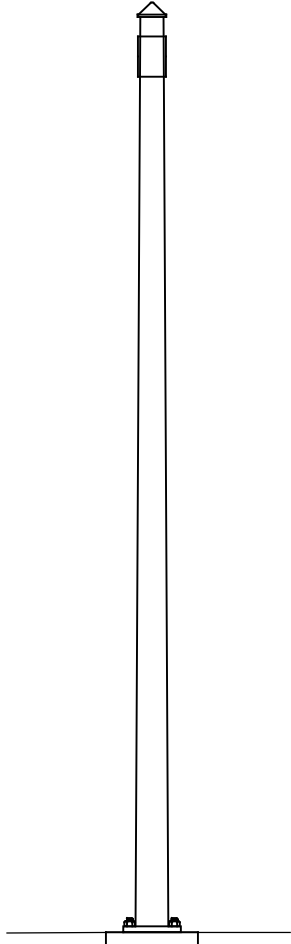
ELEVATION VIEW
LOOKING SOUTH



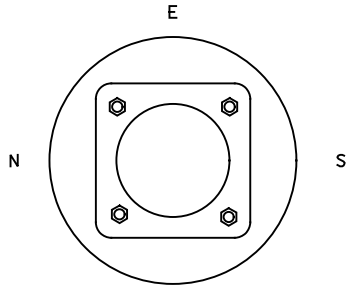
FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
637.2220	SIGNS TYPE II REFLECTIVE SH	9.6 SF	N/A

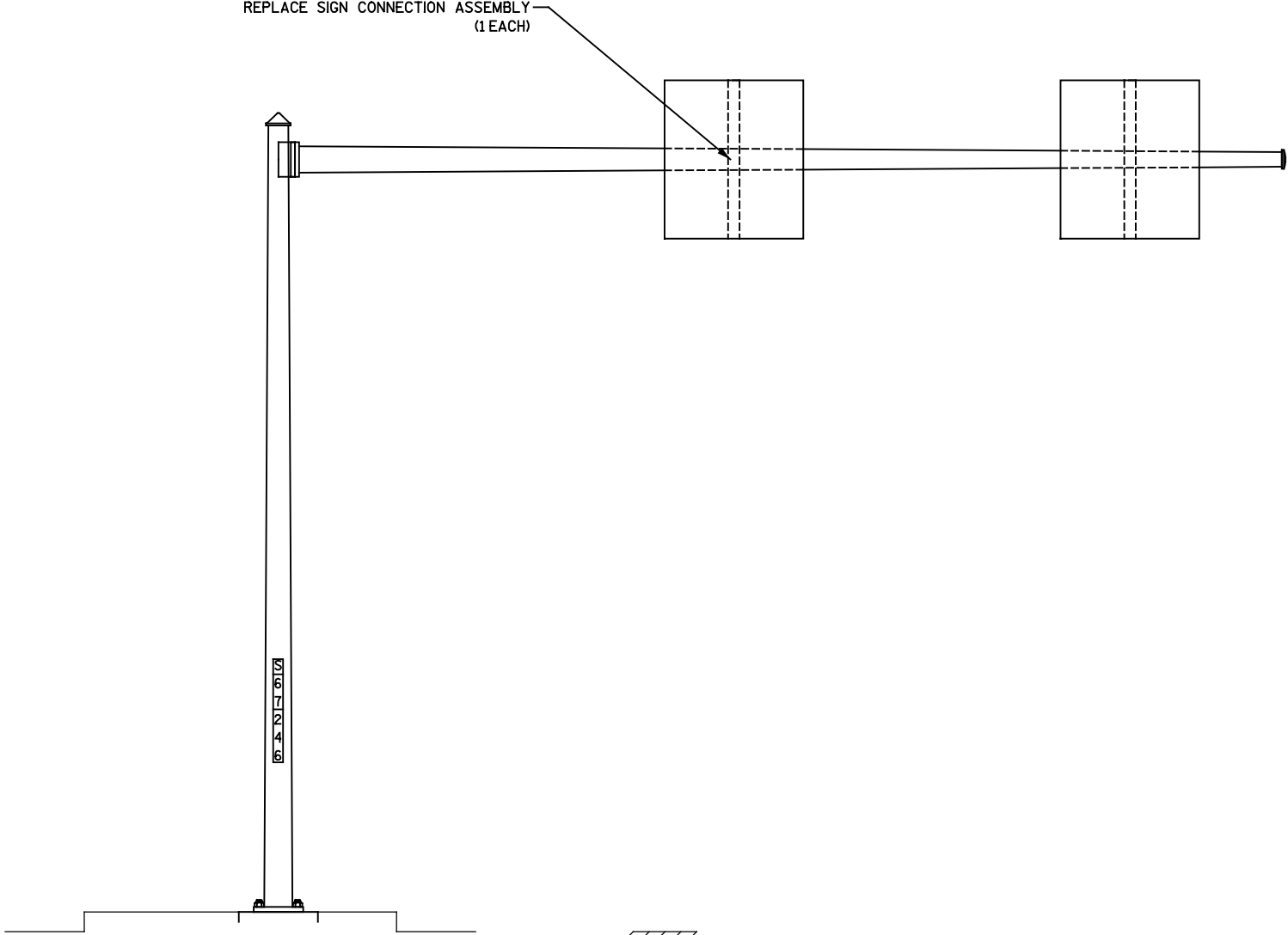
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0245			SHEET 99 OF 115



LOOKING EAST



FOUNDATION DETAIL

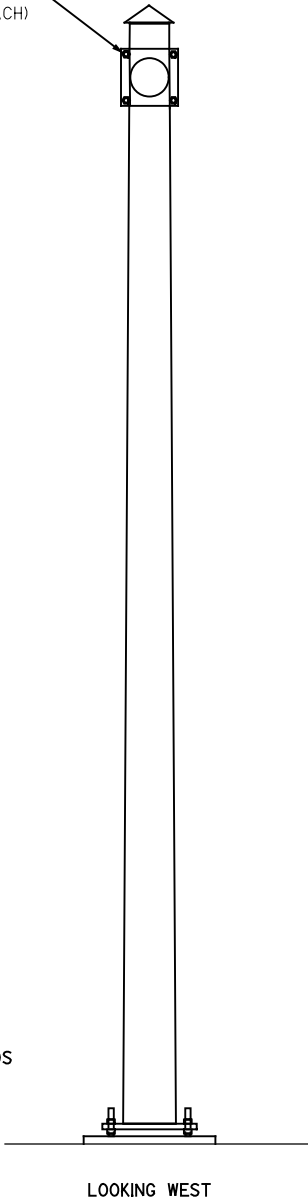


ELEVATION VIEW
LOOKING NORTH

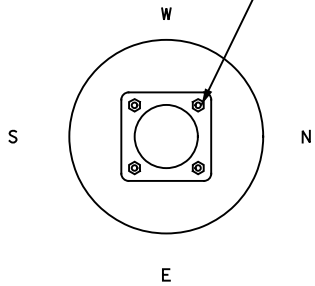
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.18	REPLACE SIGN CONNECTION ASSEMBLY	1 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0246			SHEET 100 OF 115

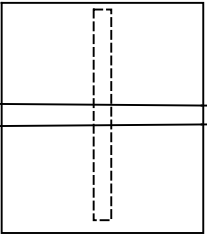
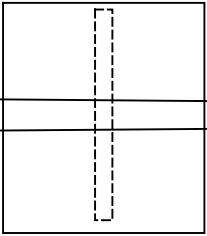
REPLACE POST TO CHORD CONNECTION BOLT
(4 EACH)



TENSION ANCHOR RODS
(1 EACH)



FOUNDATION DETAIL

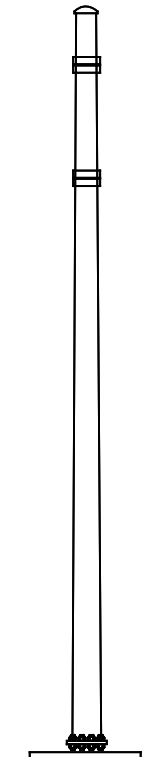
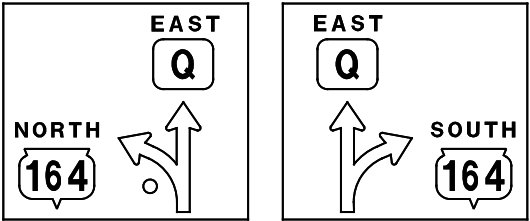


ELEVATION VIEW

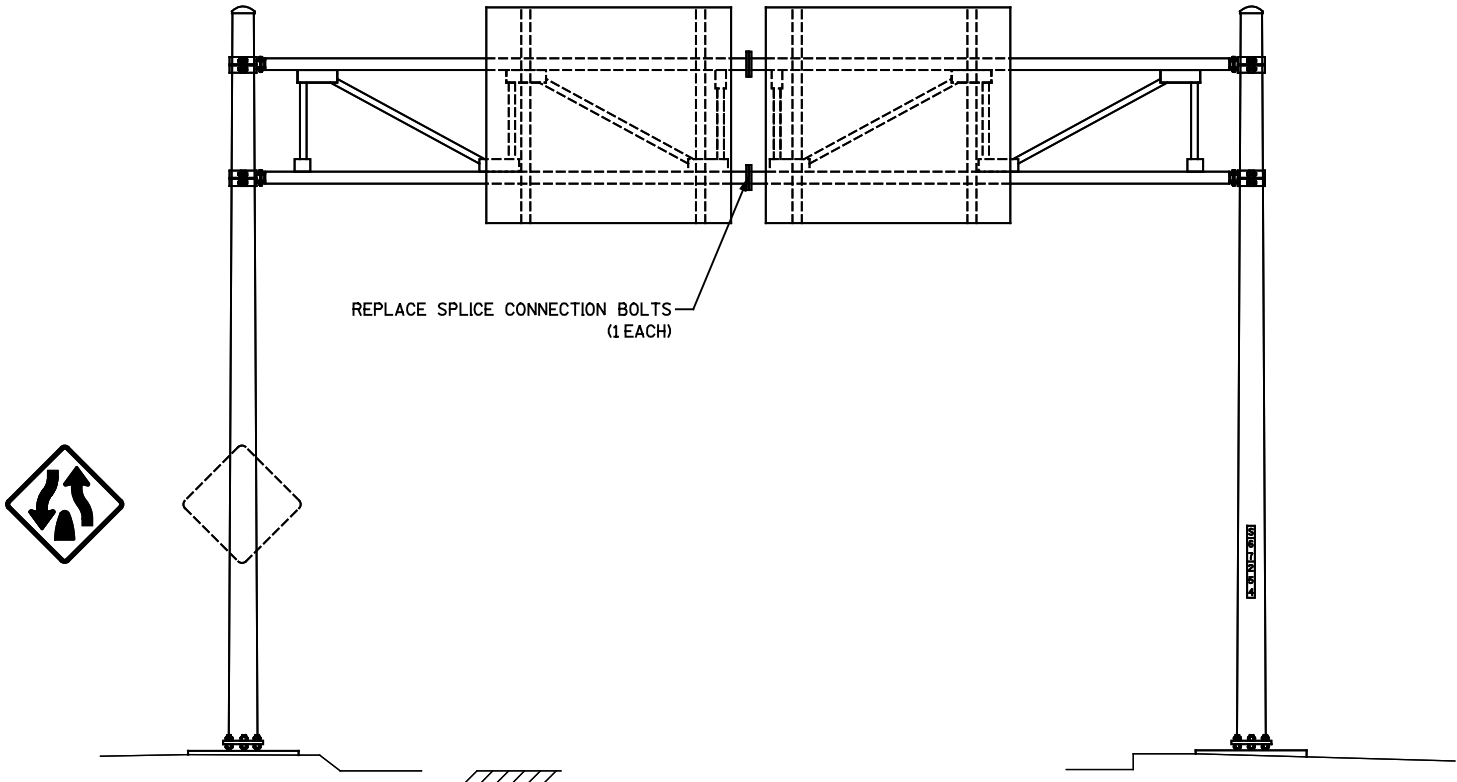
LOOKING SOUTH

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	4 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0250			SHEET 101 OF 115

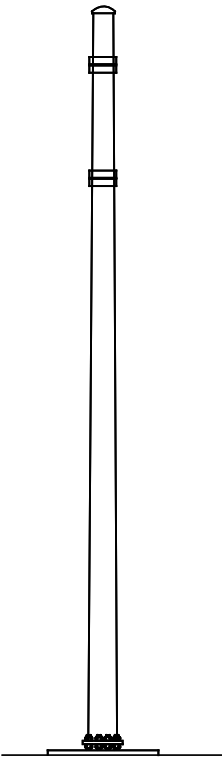


LOOKING SOUTH

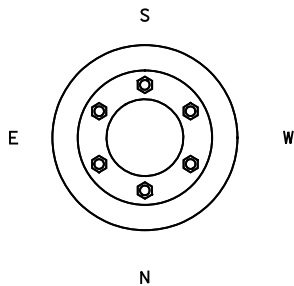


ELEVATION VIEW

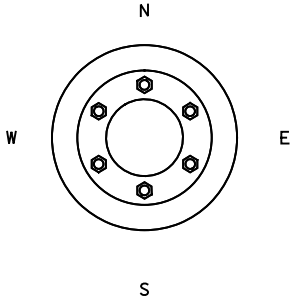
LOOKING EAST



LOOKING NORTH



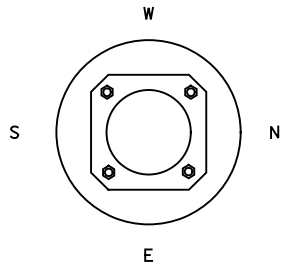
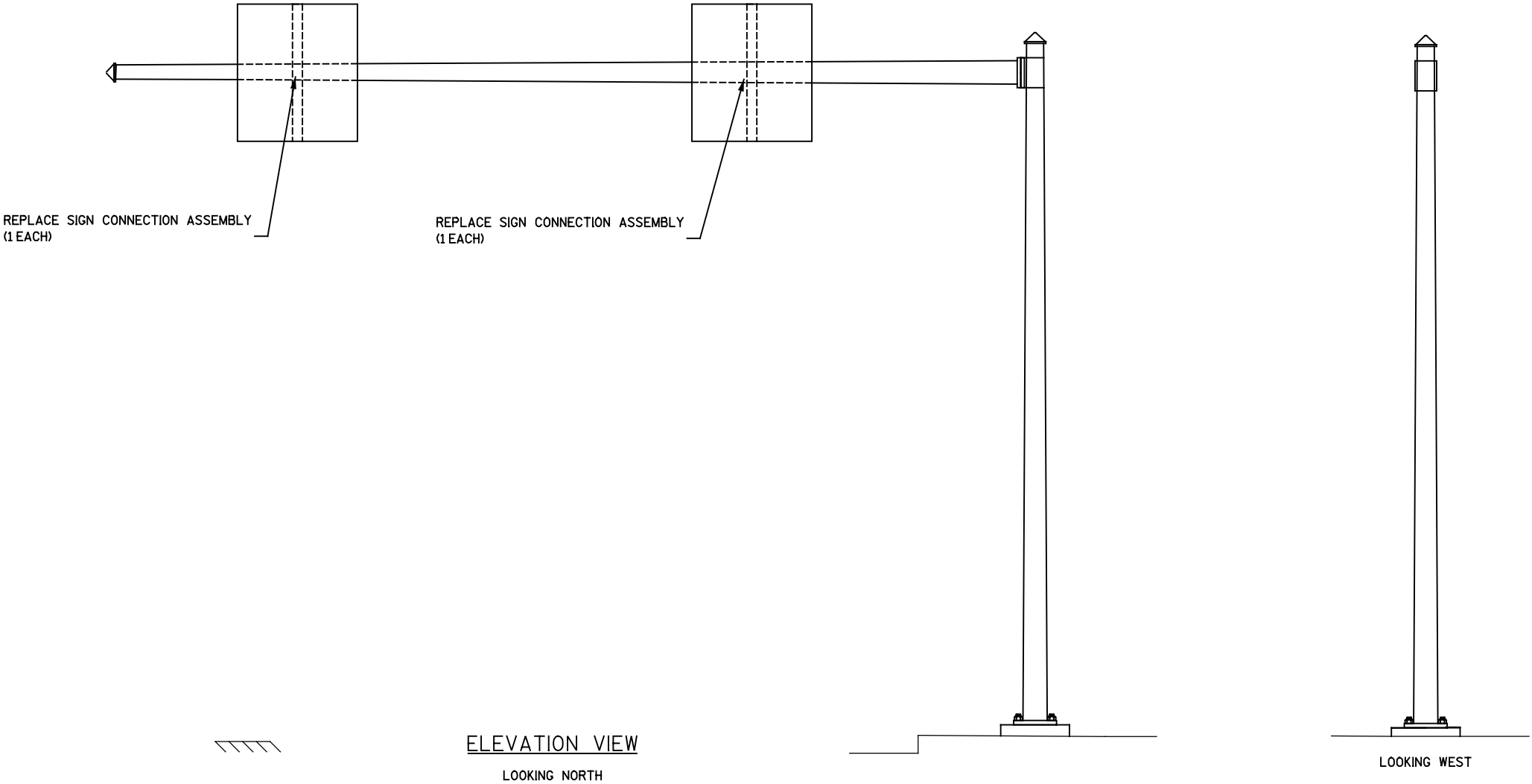
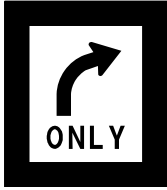
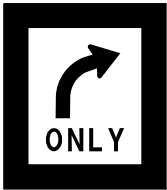
NORTH FOUNDATION DETAIL



SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4

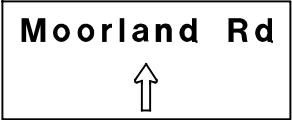
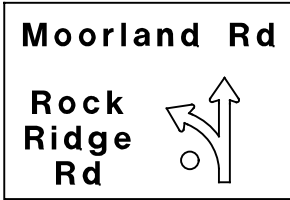
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0254			SHEET 102 OF 115



FOUNDATION DETAIL

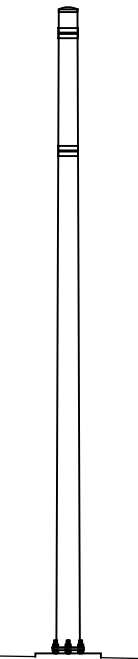
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.18	REPLACE SIGN CONNECTION ASSEMBLY	2 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0263			SHEET 103 OF 115

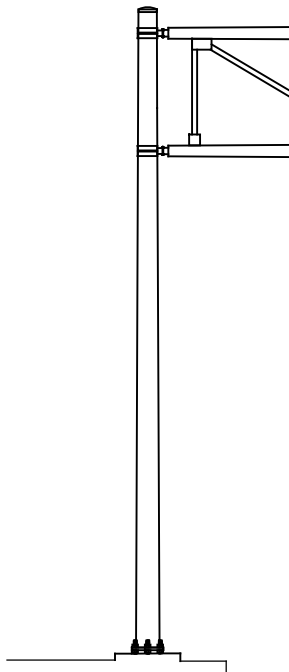


REPLACE SPLICE CONNECTION BOLTS
(1 EACH)

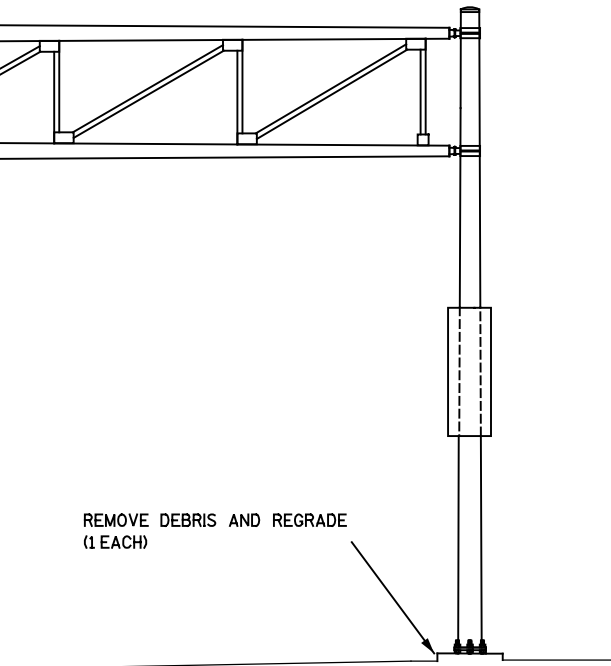
REMOVE DEBRIS AND REGRADE
(1 EACH)



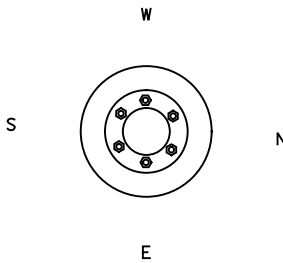
LOOKING WEST



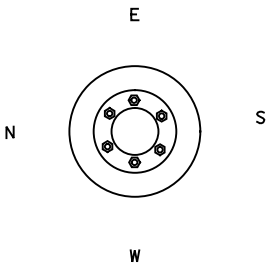
ELEVATION VIEW
LOOKING SOUTH



LOOKING EAST



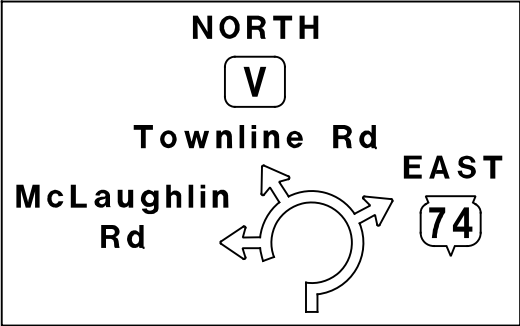
EAST FOUNDATION DETAIL



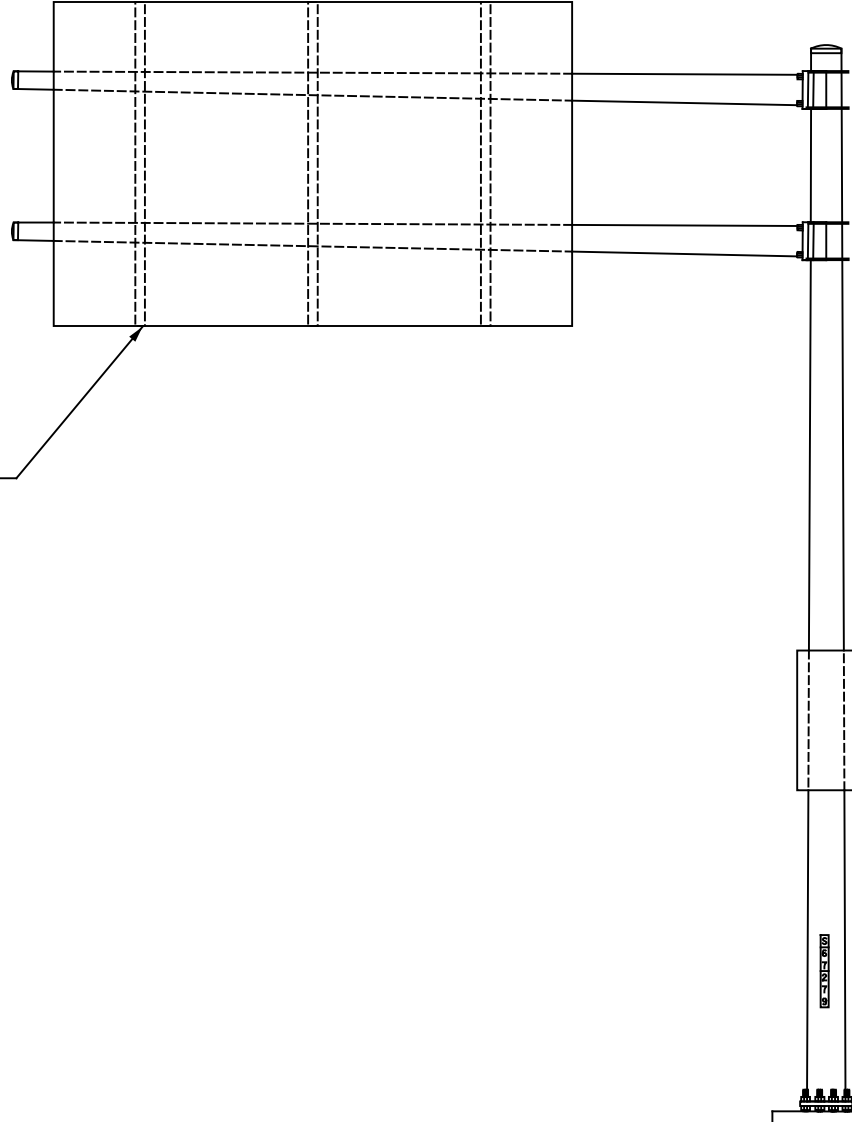
WEST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.10	REMOVE DEBRIS AND REGRADE	1 EACH	N/A
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4

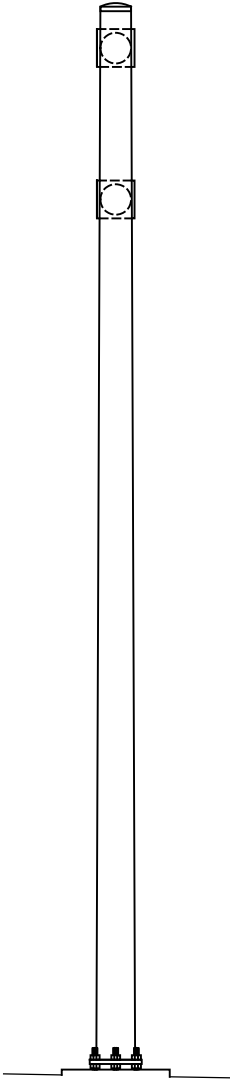
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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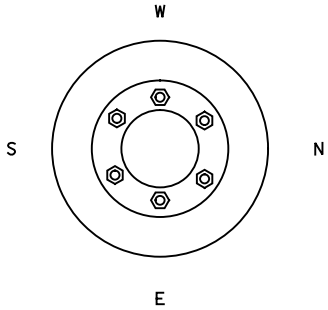
REPLACE VERTICAL SIGN SUPPORT
(3 EACH)



ELEVATION VIEW
LOOKING NORTH



LOOKING WEST




FOUNDATION DETAIL

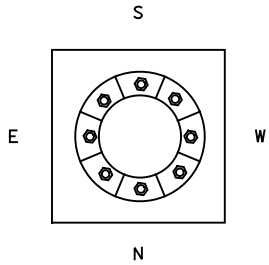
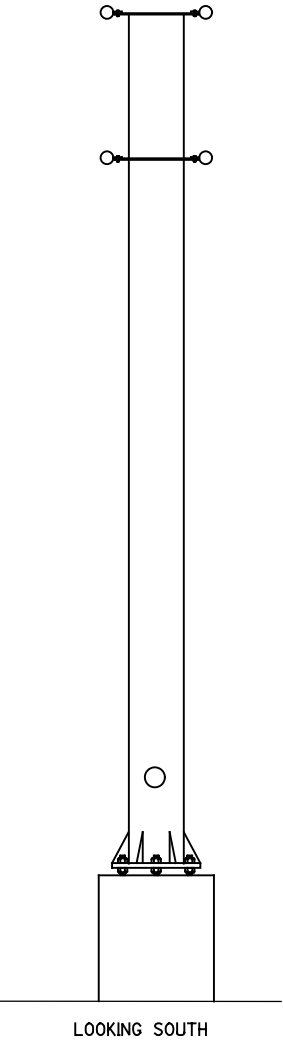
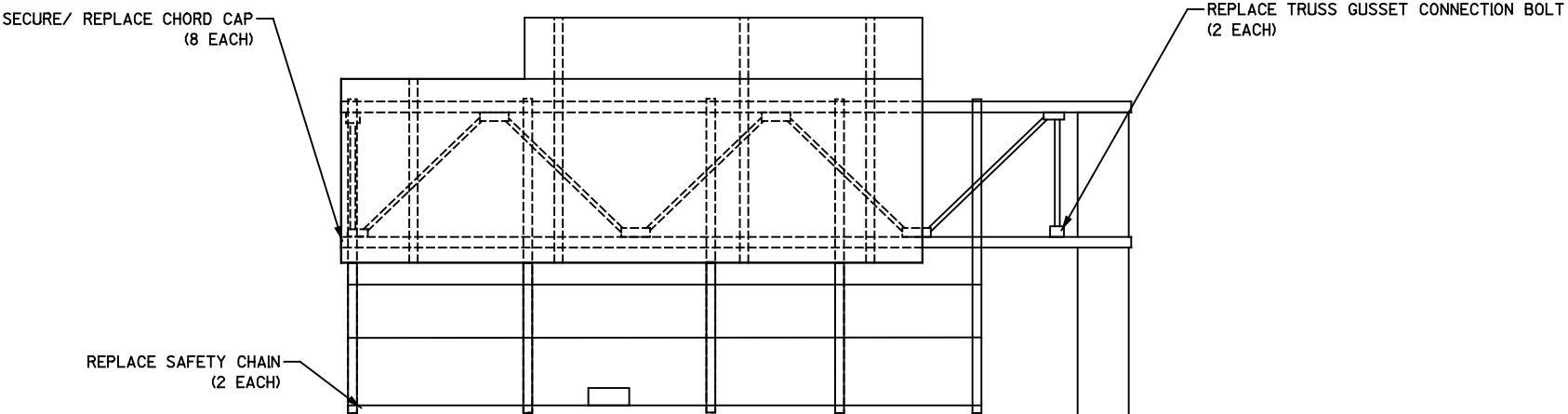
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.25	REPLACE VERTICAL SIGN SUPPORT	3 EACH	6

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
S-67-0279			SHEET 105 OF 115

EXIT 301 A

Moorland Rd
SOUTH





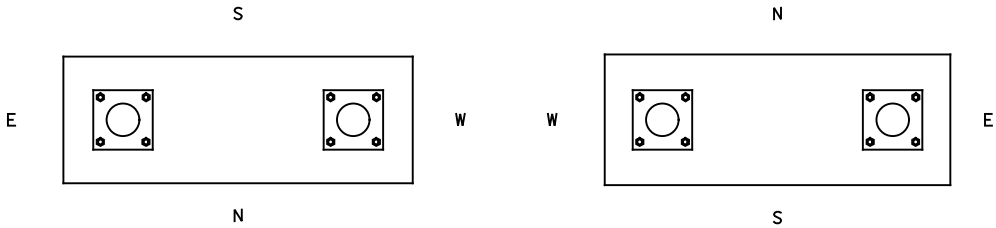
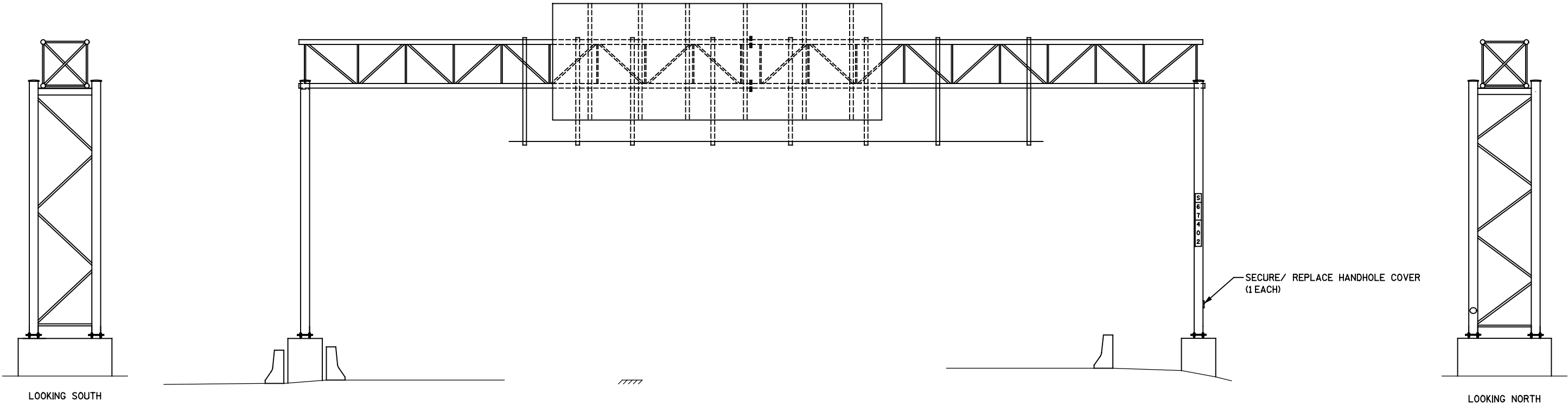
ELEVATION VIEW
LOOKING WEST

FOUNDATION DETAILS

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.28	REPLACE TRUSS GUSSET CONNECTION BOLT	2 EACH	
SPV.0060.04	SECURE/ REPLACE CHORD CAP	8 EACH	
SPV.0060.06	REPLACE SAFETY CHAIN	2 EACH	

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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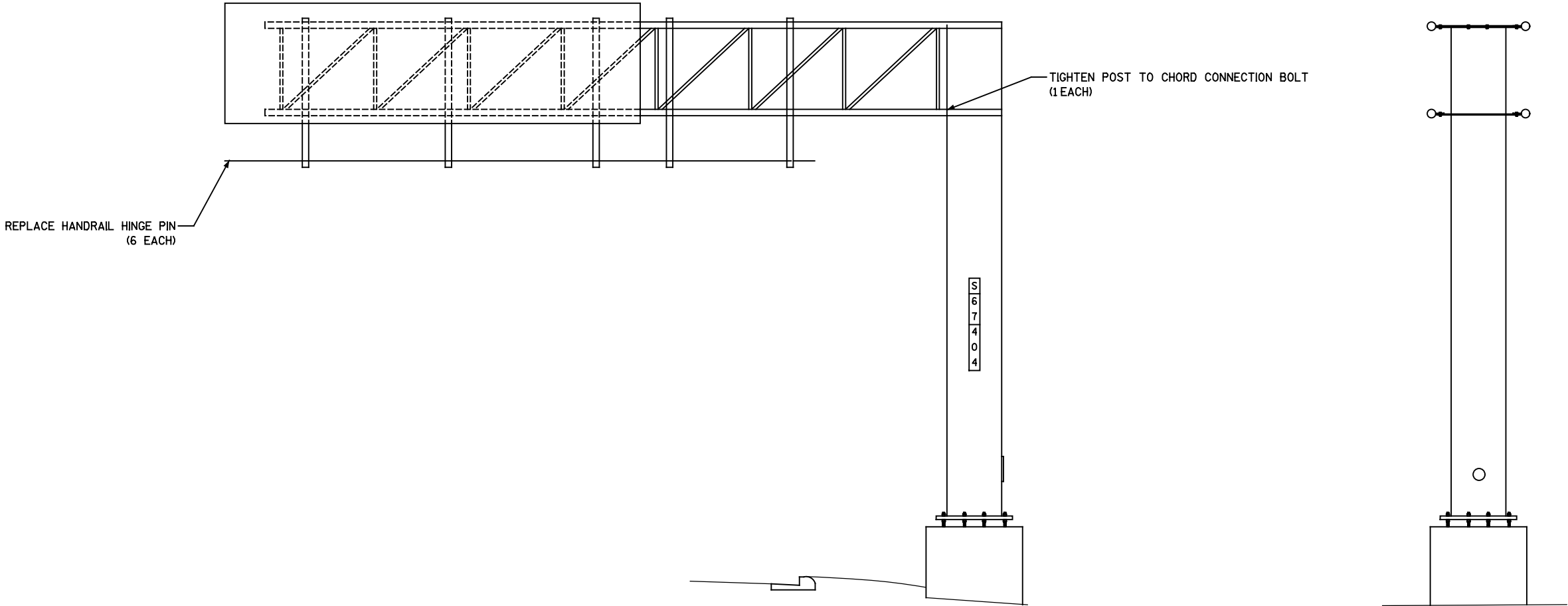
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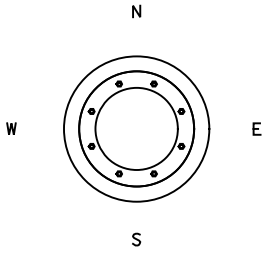
ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.29	SECURE/ REPLACE HANDHOLE COVER	1 EACH	10

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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VMS



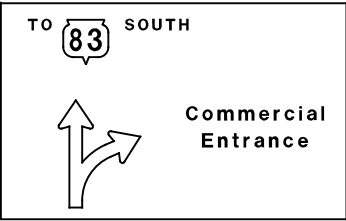
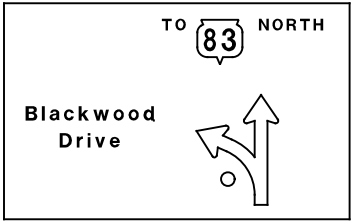
ELEVATION VIEW
LOOKING EAST



FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.07	REPLACE HANDRAIL HINGE PIN	6 EACH	8
SPV.0060.34	TIGHTEN POST TO CHORD CONNECTION BOLT	1 EACH	4

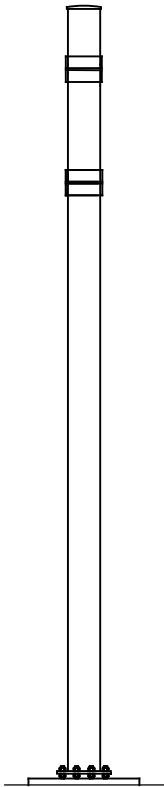
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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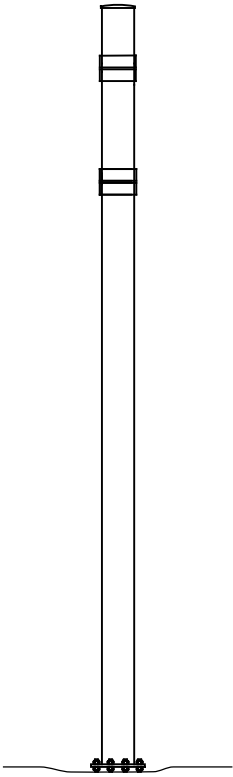
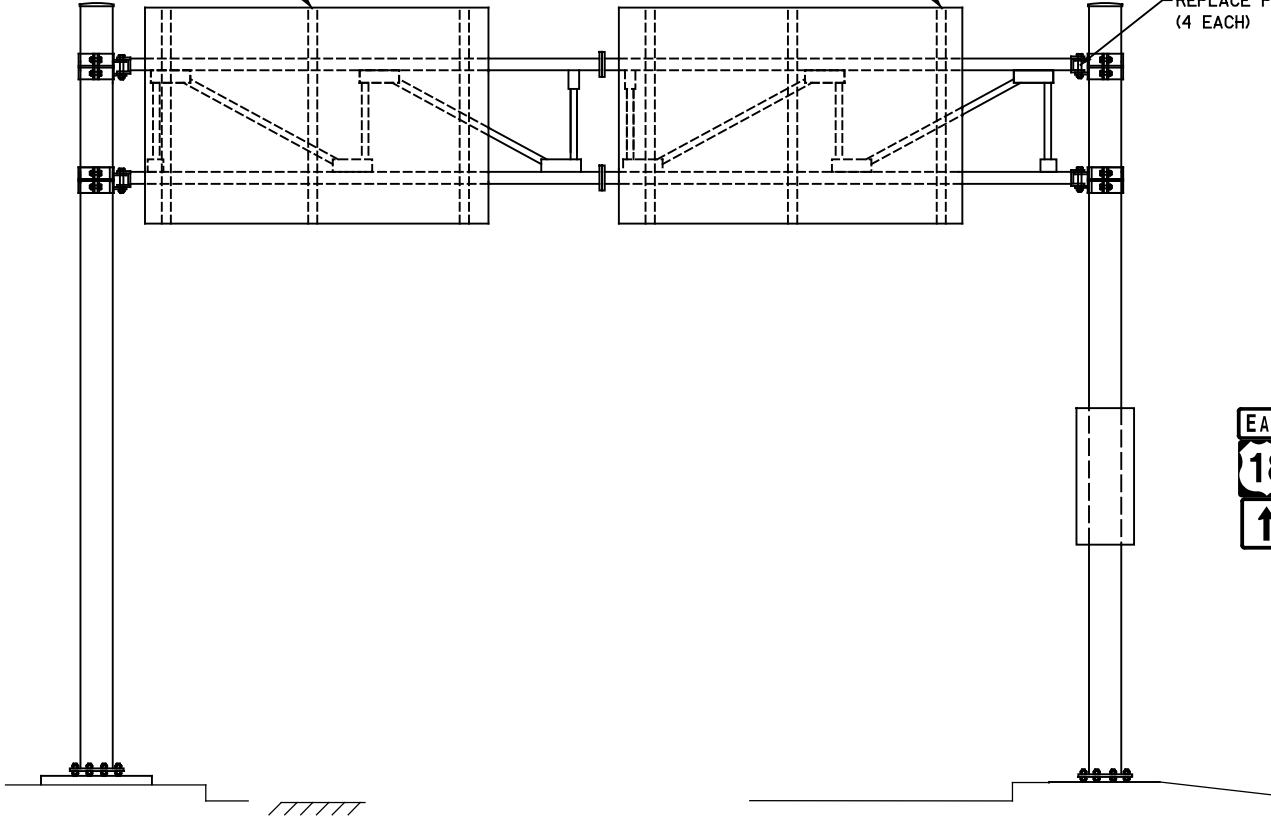
SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET
(3 EACH)

SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET
(3 EACH)

REPLACE POST TO CHORD CONNECTION BOLT
(4 EACH)



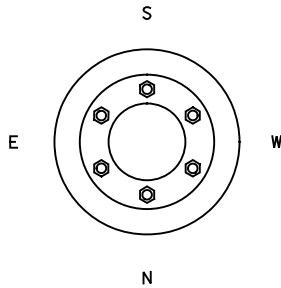
LOOKING SOUTH



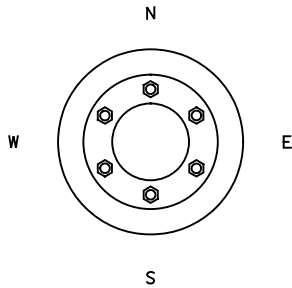
LOOKING NORTH

ELEVATION VIEW

LOOKING EAST



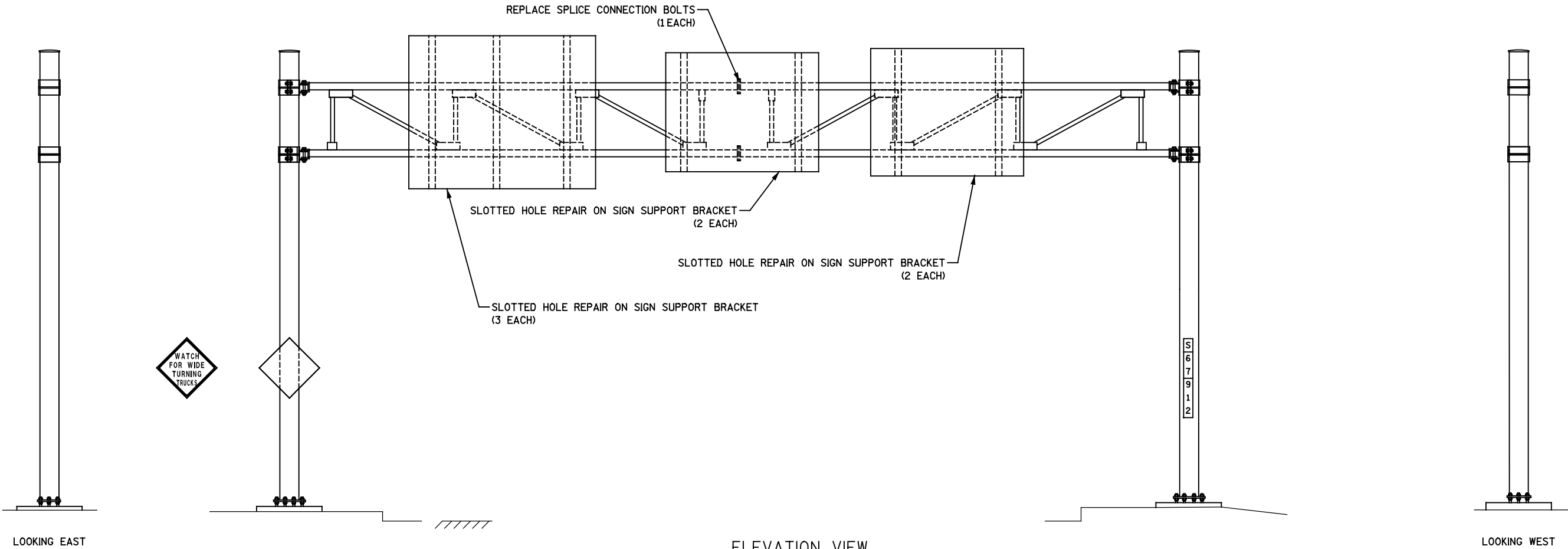
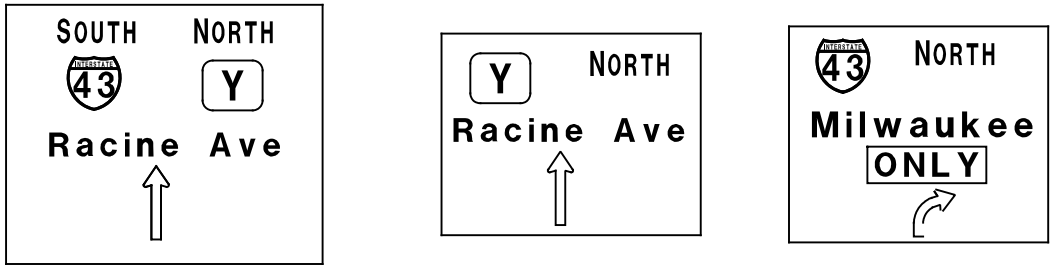
NORTH FOUNDATION DETAIL



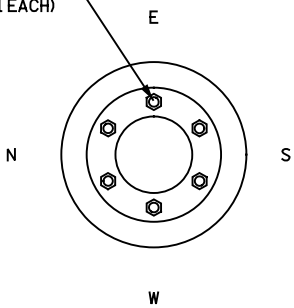
SOUTH FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.25	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET	6 EACH	7
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	4 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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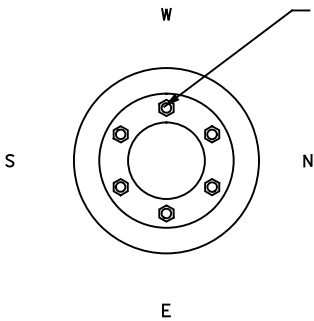


FOUNDATION EPOXY REPAIR
(1 EACH)



WEST FOUNDATION DETAIL

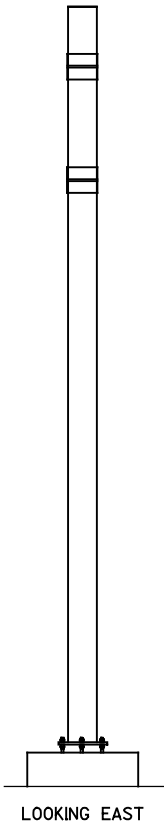
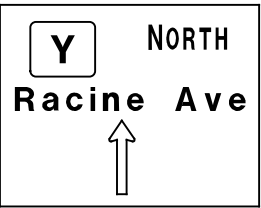
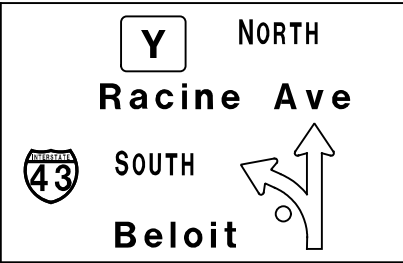
TENSION ANCHOR RODS
(1 EACH)



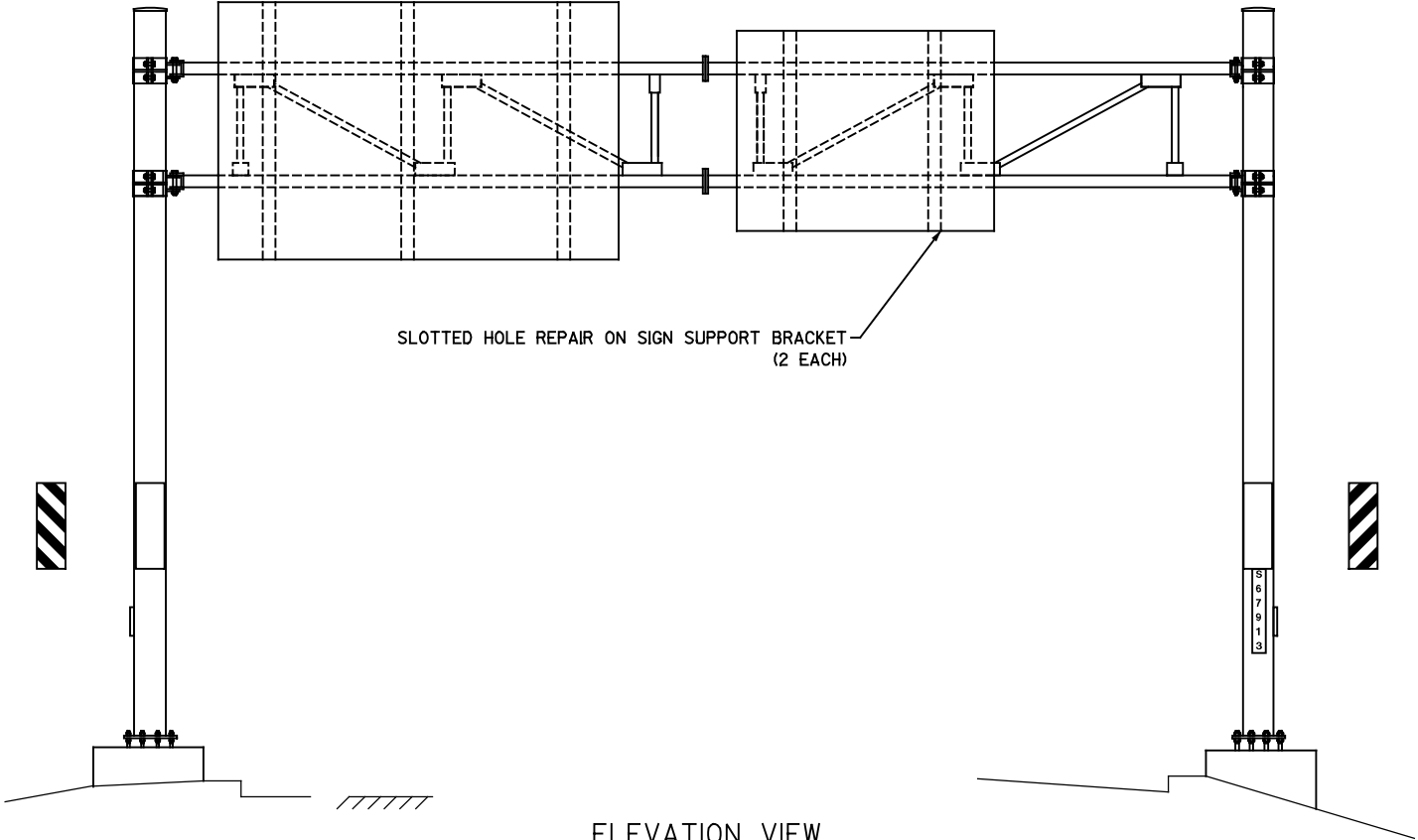
EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.30	FOUNDATION EPOXY REPAIR	1 EACH	3
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.32	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET	7 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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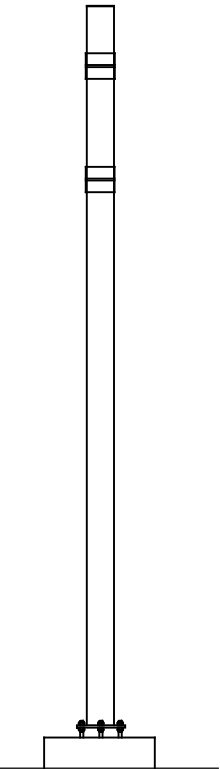


LOOKING EAST

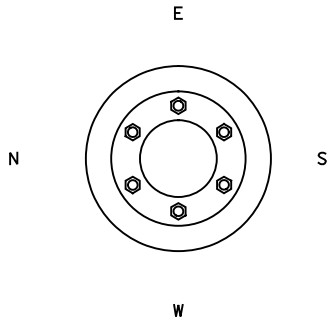


ELEVATION VIEW

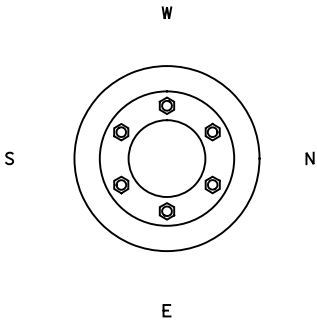
LOOKING NORTH



LOOKING WEST



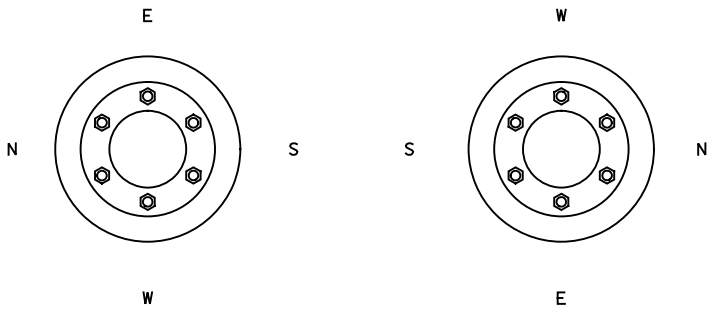
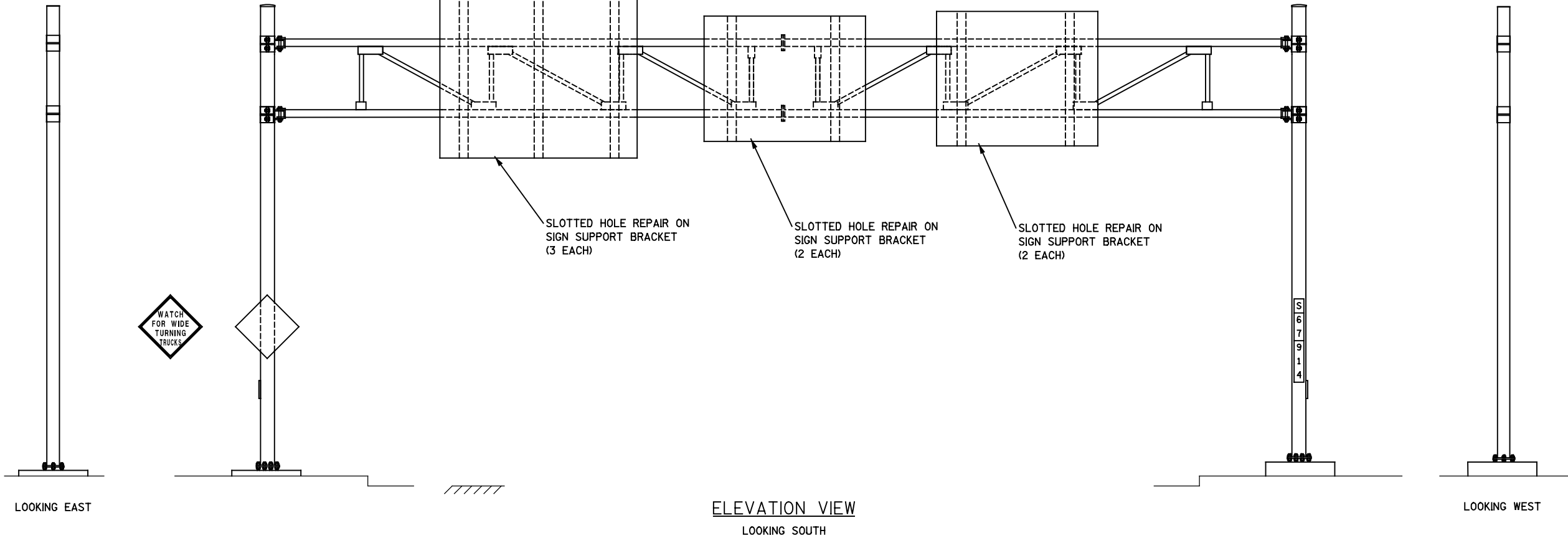
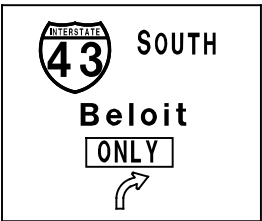
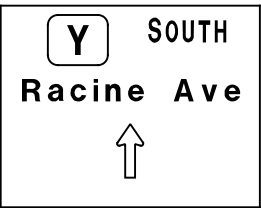
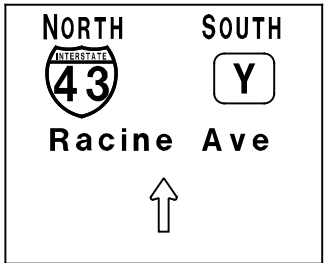
WEST FOUNDATION DETAIL



EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.32	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET	2 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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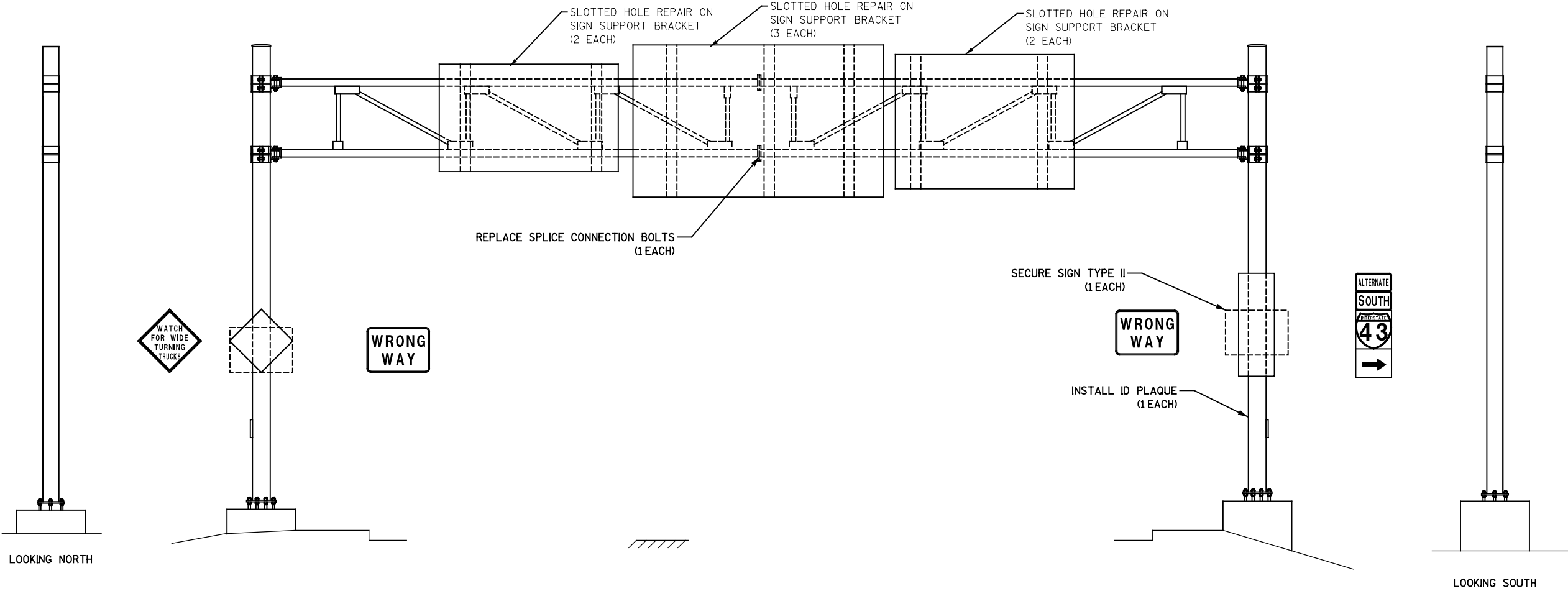
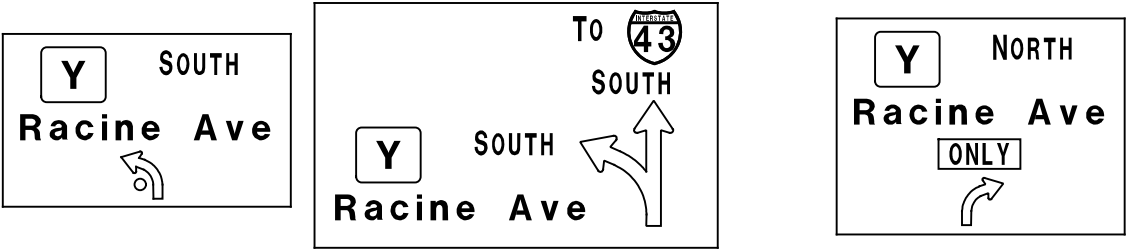


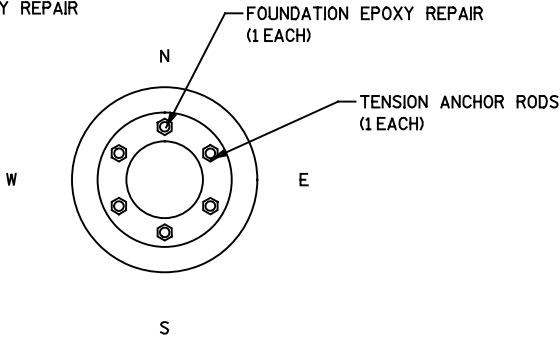
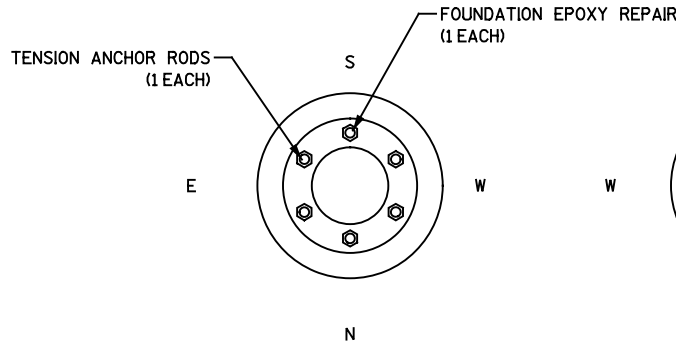
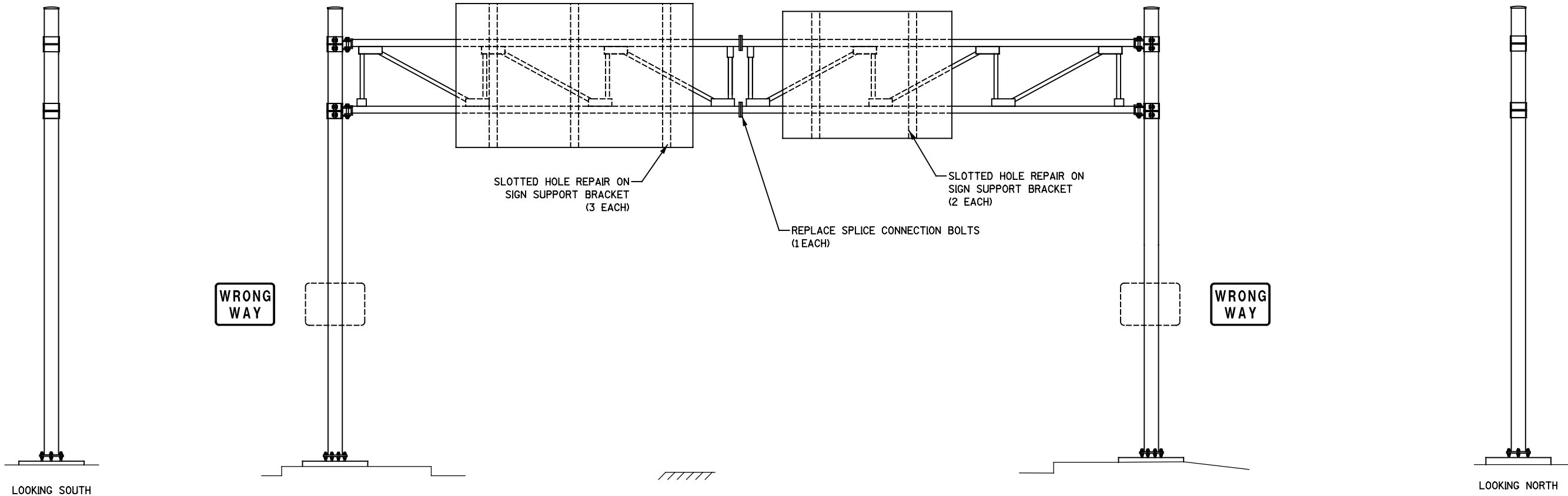
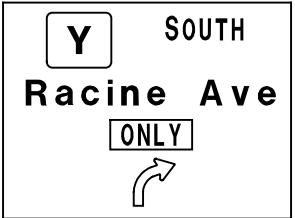
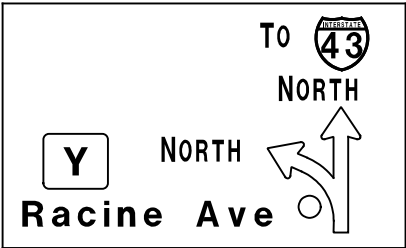
WEST FOUNDATION DETAIL

EAST FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.32	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET	7 EACH	7

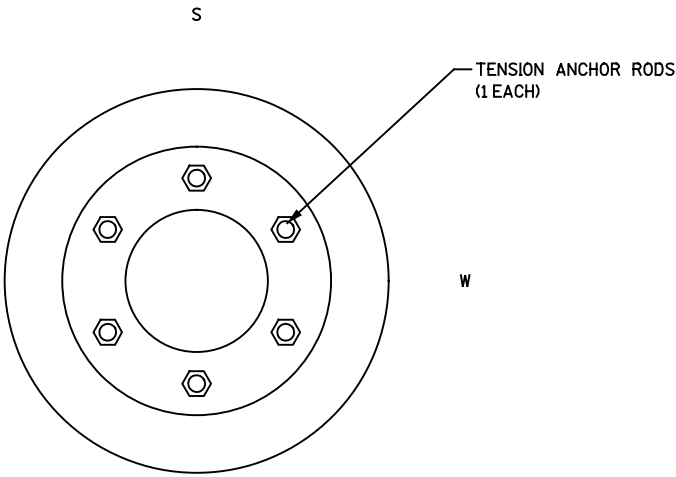
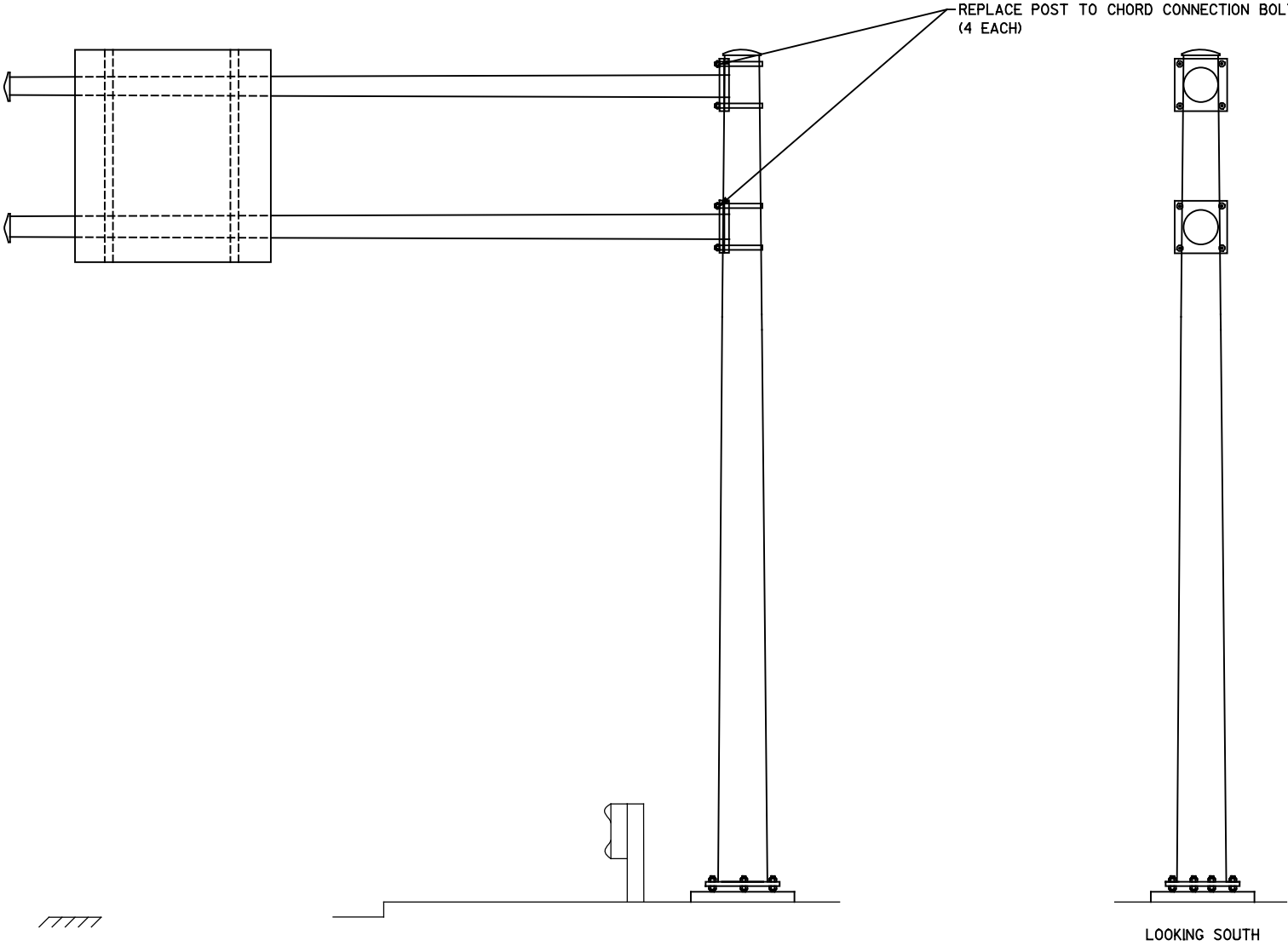
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	2 EACH	2
SPV.0060.30	FOUNDATION EPOXY REPAIR	2 EACH	3
SPV.0060.26	REPLACE SPLICE CONNECTION BOLTS	1 EACH	4
SPV.0060.32	SLOTTED HOLE REPAIR ON SIGN SUPPORT BRACKET	5 EACH	7

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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ELEVATION VIEW
LOOKING WEST

FOUNDATION DETAIL

ITEM NO.	LIST OF REPAIRS	QUANTITY	REPAIR DETAIL SHEET NO.
SPV.0060.02	TENSION ANCHOR RODS	1 EACH	2
SPV.0060.35	REPLACE POST TO CHORD CONNECTION BOLT	8 EACH	4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
SIGN BRIDGE REPAIR AND REPLACEMENT 2018			
CONST. SPEC.	2018	DRAWN BY RB	PLANS CK'D. VC
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Notes



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