

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6430-22-71	WISC 2024328	1

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

## OSHKOSH - GREENVILLE

CTH II - SHADY LN

STH 76

WINNEBAGO COUNTY

STATE PROJECT NUMBER
<b>6430-22-71</b>

**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
<del>Section No.</del>	<del>4</del>	<del>Right of Way Plat</del>
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
<del>Section No.</del>	<del>8</del>	<del>Structure Plans</del>
<del>Section No.</del>	<del>9</del>	<del>Computer Earthwork Data</del>
Section No.	9	Cross Sections

TOTAL SHEETS = 96



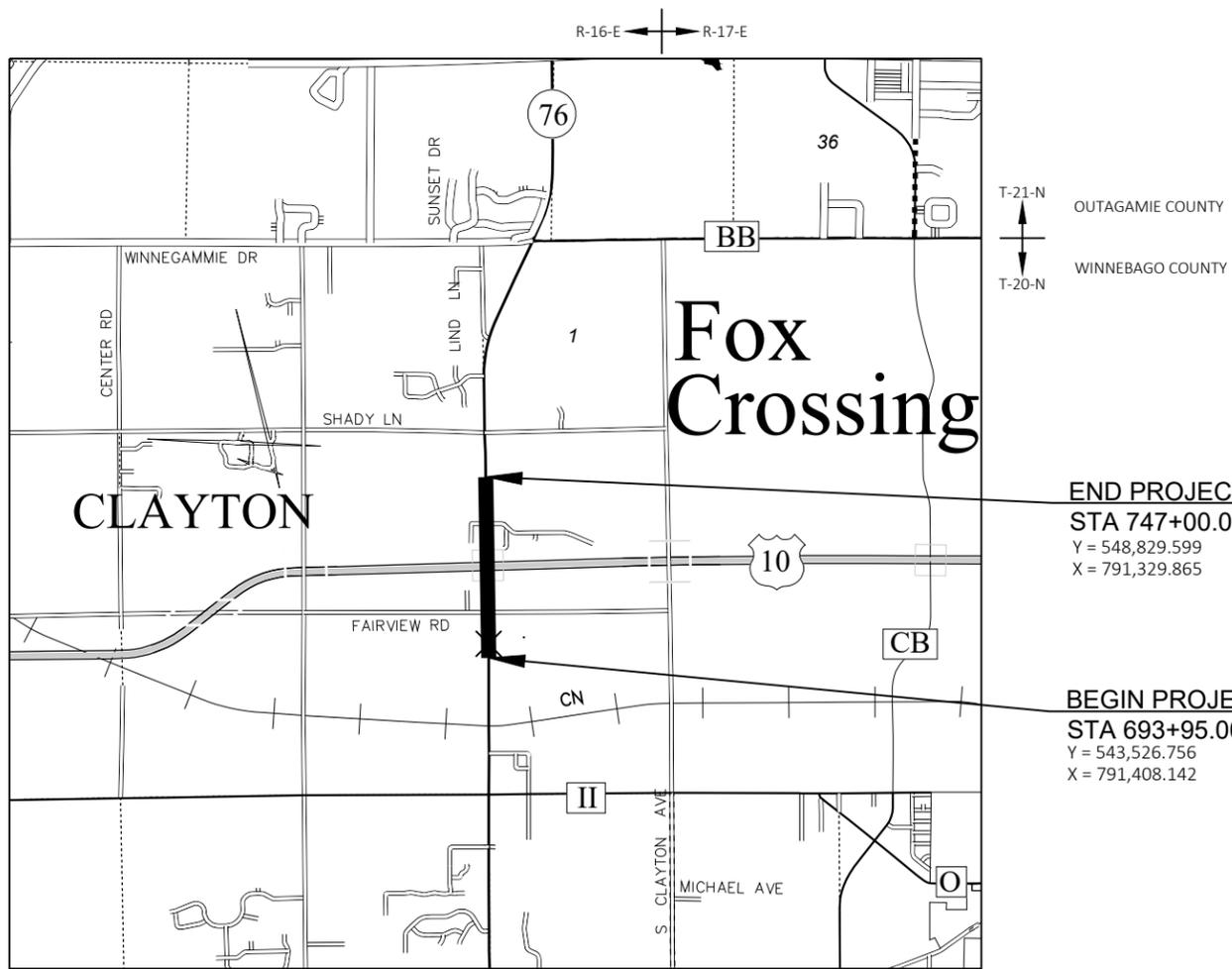
DESIGN DESIGNATION 6430-22-00

A.A.D.T.	2024	=	11,040
A.A.D.T.	2044	=	13,270
D.H.V.		=	690
D.D.		=	60/40
T.		=	9.2
DESIGN SPEED		=	60
ESALS		=	2,900,000

**CONVENTIONAL SYMBOLS**

<b>PLAN</b>	
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	

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



**END PROJECT**  
STA 747+00.00  
Y = 548,829.599  
X = 791,329.865

**BEGIN PROJECT**  
STA 693+95.00  
Y = 543,526.756  
X = 791,408.142

LAYOUT  
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 1.005 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WINNEBAGO COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	SURVEYOR
Designer	ERIC DANKE
Project Manager	WILLIAM BERTRAND
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	TAMMY RABE
APPROVED FOR THE DEPARTMENT	
DATE: 2/26/24	<i>Bill Bertrand, P.E.</i> (Signature)

PROJECT ID: 6430-22-71

COUNTY: WINNEBAGO

GENERAL NOTES

THE LOCATIONS OF EXISTING UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PLAN DETAILS
- TRAFFIC CONTROL
- DETOUR PLAN
- ALIGNMENT PLAN

DNR LIAISON

JAY SCHIEFELBEIN  
2984 SHAWANO AVE  
GREEN BAY, WI 54313  
(920) 360-3784  
jeremiah.schiefelbein@wisconsin.gov

WINNEBAGO COUNTY HIGHWAY COMMISSIONER

ROBERT DOEMEL  
901 W COUNTY RD Y  
OSHKOSH, WI 54901  
(920) 232-1713  
rdoemel@co.winnebago.wi.us

NE REGION SURVEY COORDINATOR

MICHAEL ANDRASCHKO, PLS  
944 VANDERPERREN WAY  
GREEN BAY, WI 54304  
(920) 492-4166  
michael.andraschko@dot.wi.gov

NE REGION DESIGN PROJECT MANAGER

WILLIAM BERTRAND, PE  
944 VANDERPERREN WAY  
GREEN BAY, WI 54304  
(920) 360-3124  
william.bertrand@dot.wi.gov

UTILITIES CONTACTS

SCOTT HEINZELMAN  
BRIGHTSPEED OF E CENTRAL WISCONSIN - COMMUNICATION LINE  
144 N PEARL ST  
BERLIN, WI 54923  
(608) 716-5964 & (920) 757-4802  
scott.heinzelman@brightspeed.com

LINDA TREBIATOWSKI  
WISCONSIN PUBLIC SERVICE CORP - ELECTRICITY  
2850 S ASHLAND AVE  
GREEN BAY, WI 54304  
(920) 236-5904 & (920) 660-3266  
linda.trebiatowski@wisconsinpublicservice.com

JESUS VICTORIA  
WE ENERGIES - GAS/PETROLEUM  
800 S LYNNDALE DR  
APPLETON, WI 54914  
(920) 380-3314 & (920) 470-3812  
jesus.victoria@we-energies.com

BEN HAMBLIN  
MCMAHON ASSOCIATES  
CLAYTON SANITARY DISTRICT #1 - SEWER & WATER  
1445 MCMAHON DRIVE  
NEENAH, WI 54956  
(920) 751-4200 & (920) 810-2468  
bhamblin@mcmgrp.com

VINCENT ALBIN  
SPECTRUM - COMMUNICATION LINE  
3520 E DESTINATION DR  
APPLETON, WI 54915  
(920) 831-9249 & (920) 378-0444  
vince.albin@charter.com

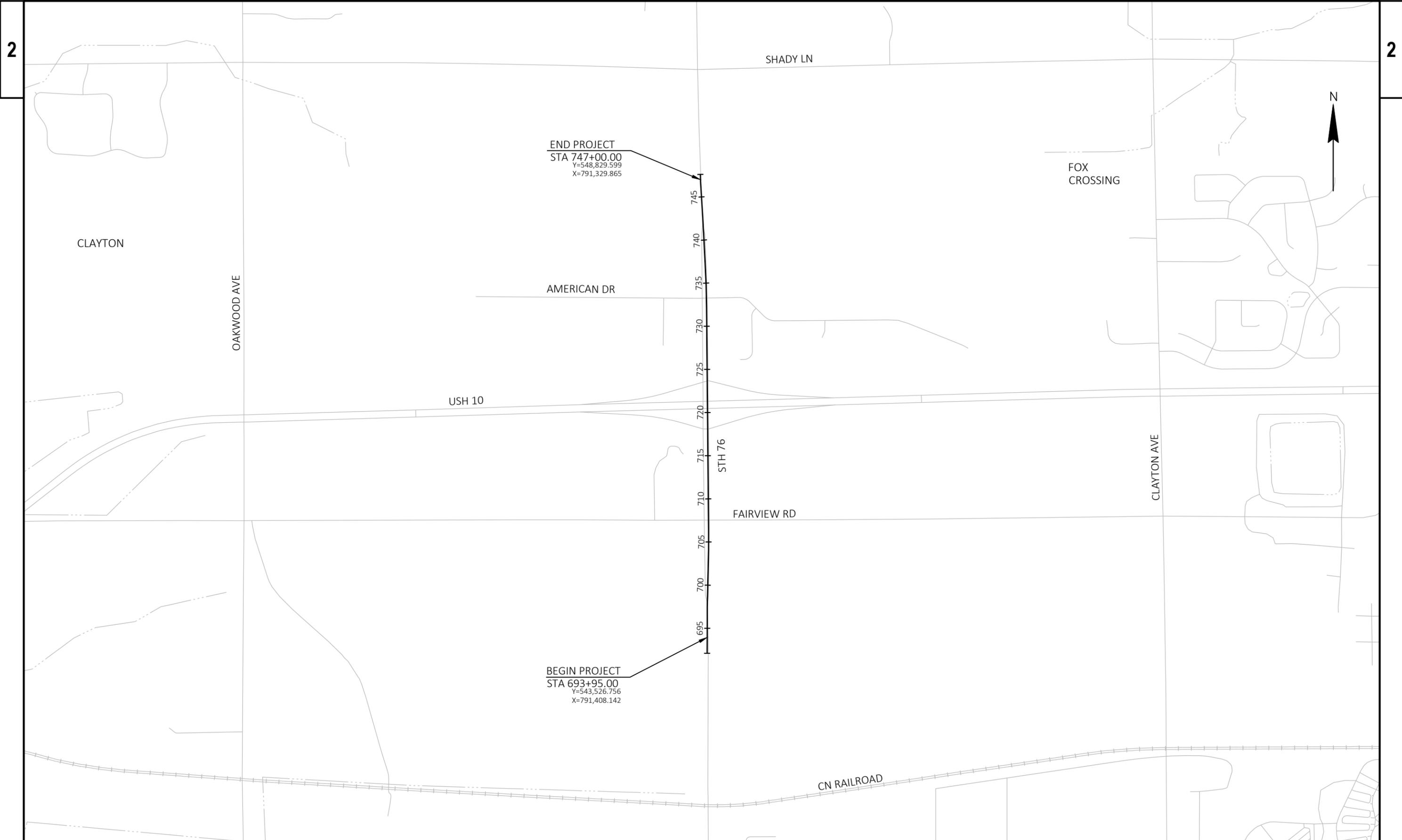
ADAM VANDENHOUTEN  
WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM  
3300 N MAIN ST  
OSHKOSH, WI 54901  
(920) 617-2736 & (920) 660-5548  
adam.vandenhouten@wisconsinpublicservice.com

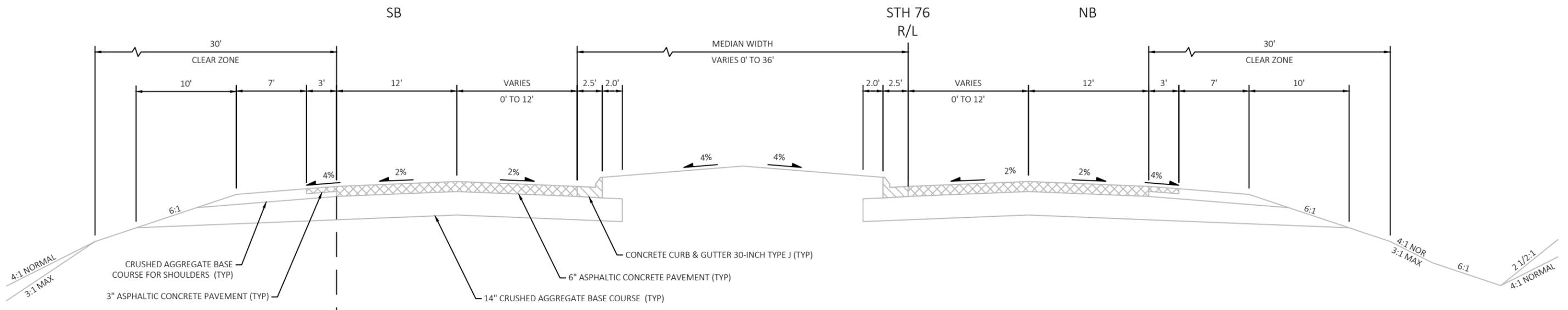
**RUNOFF COEFFICIENT TABLE**

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER									
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

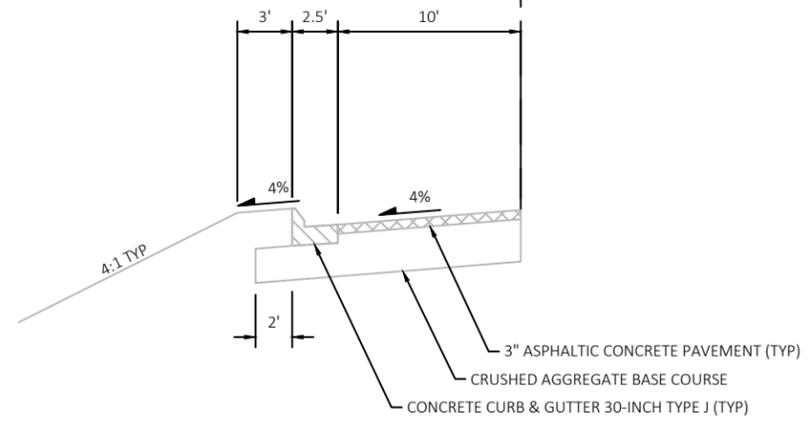
TOTAL PROJECT AREA = 9.9 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.15 ACRES



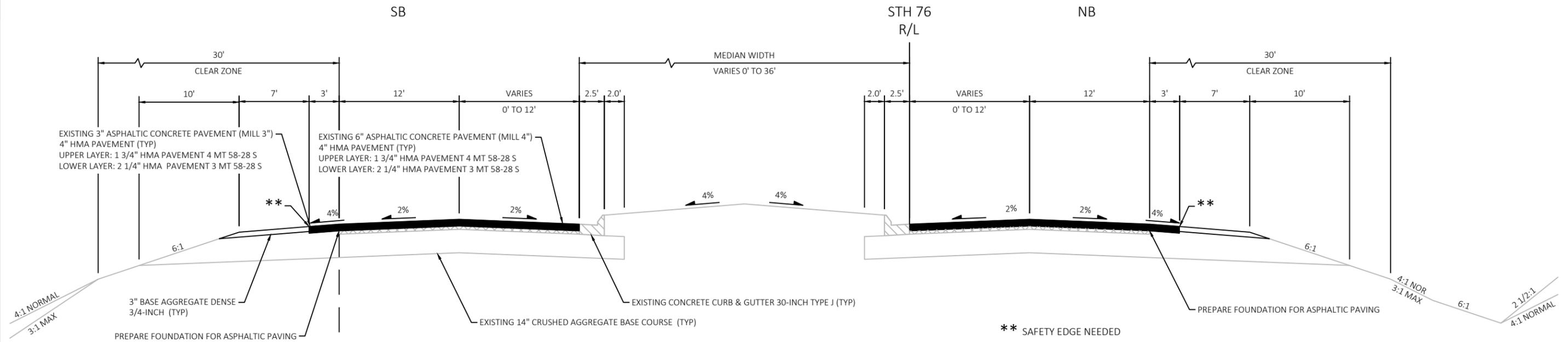




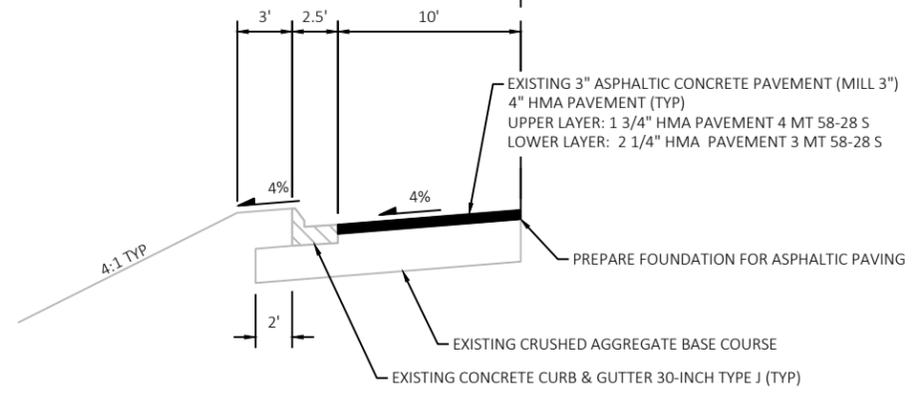
EXISTING TYPICAL SECTION STH 76  
STA 693+95 TO STA 747+00



EXISTING TYPICAL CURB & GUTTER SECTION  
STA 699+75 TO STA 703+25 LT  
STA 708+26 TO STA 710+26 LT  
STA 734+01 TO STA 741+00 LT  
STA 737+00 TO STA 741+00 RT



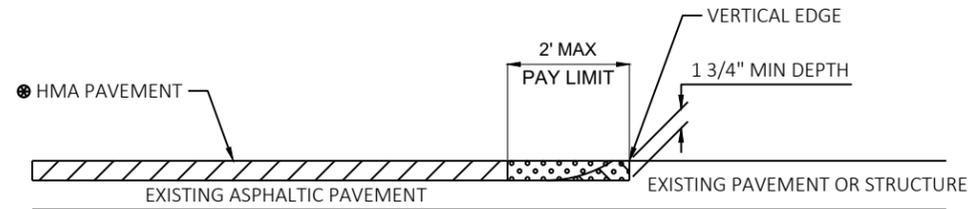
**FINISHED TYPICAL SECTION STH 76**  
 STA 693+95 TO STA 747+00



**FINISHED TYPICAL CURB & GUTTER SECTION**

STA 699+75 TO STA 703+25 LT  
 STA 708+26 TO STA 710+26 LT  
 STA 734+01 TO STA 741+00 LT  
 STA 737+00 TO STA 741+00 RT

NOT TO SCALE

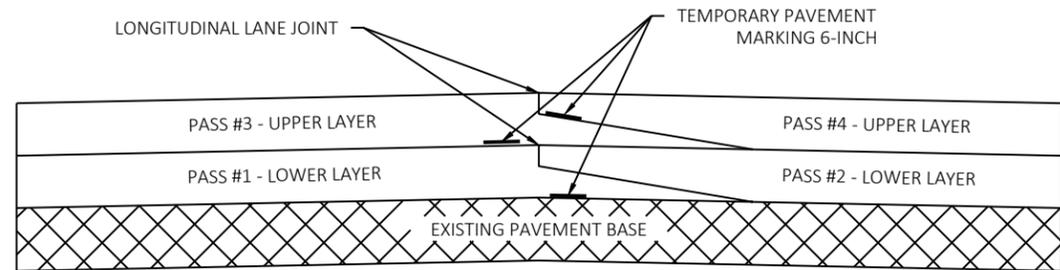


-  REMOVING ASPHALTIC SURFACE, MILLING
-  REMOVING ASPHALTIC SURFACE, BUTT JOINTS
-  REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE

⊕ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

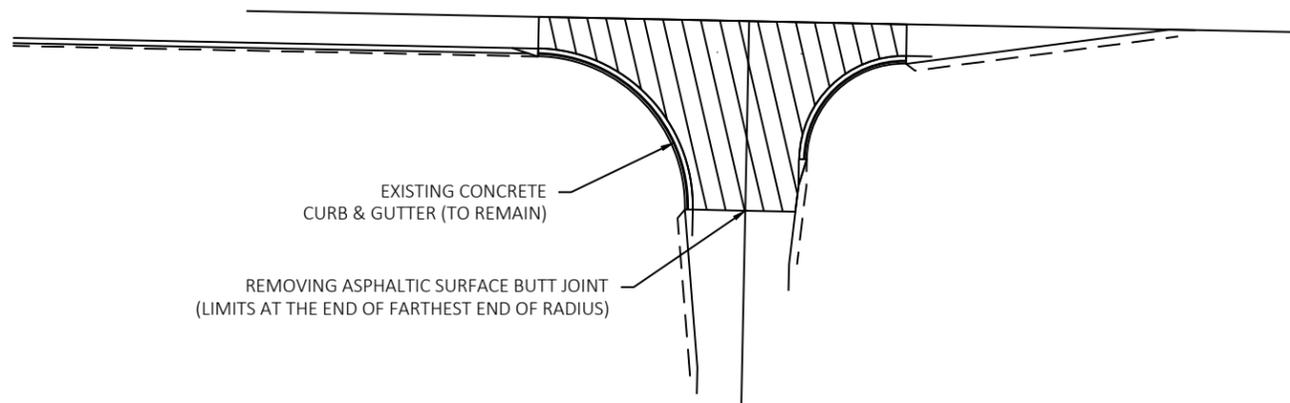
BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)

NOT TO SCALE



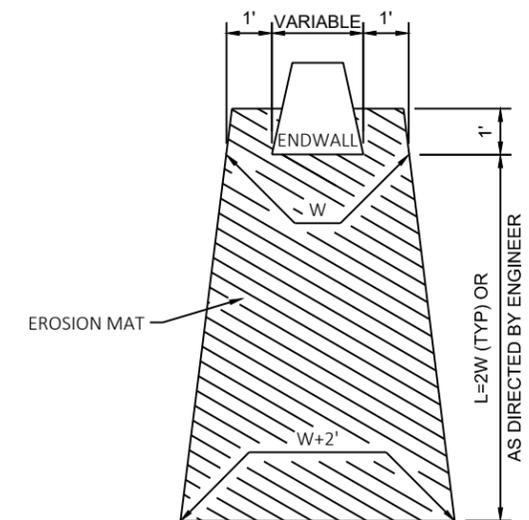
PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS

NOT TO SCALE



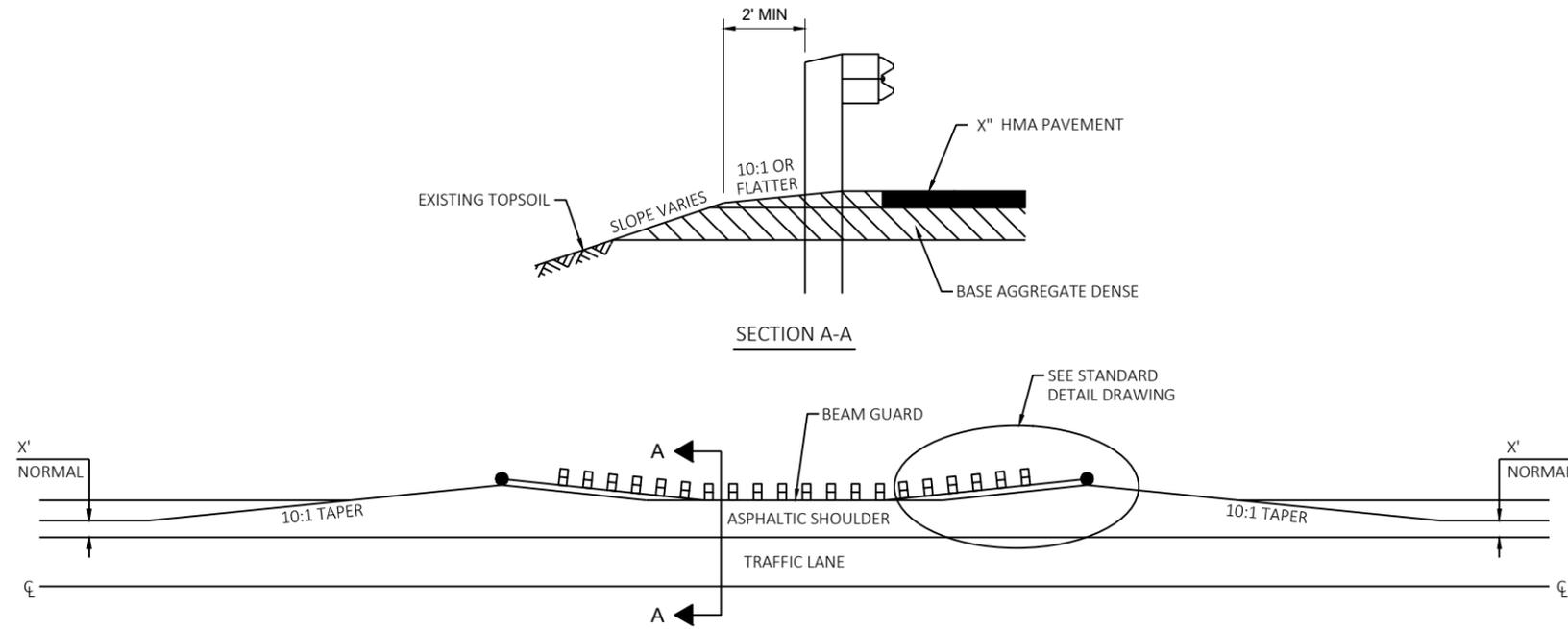
SIDE ROAD CONSTRUCTION LIMITS

NOT TO SCALE



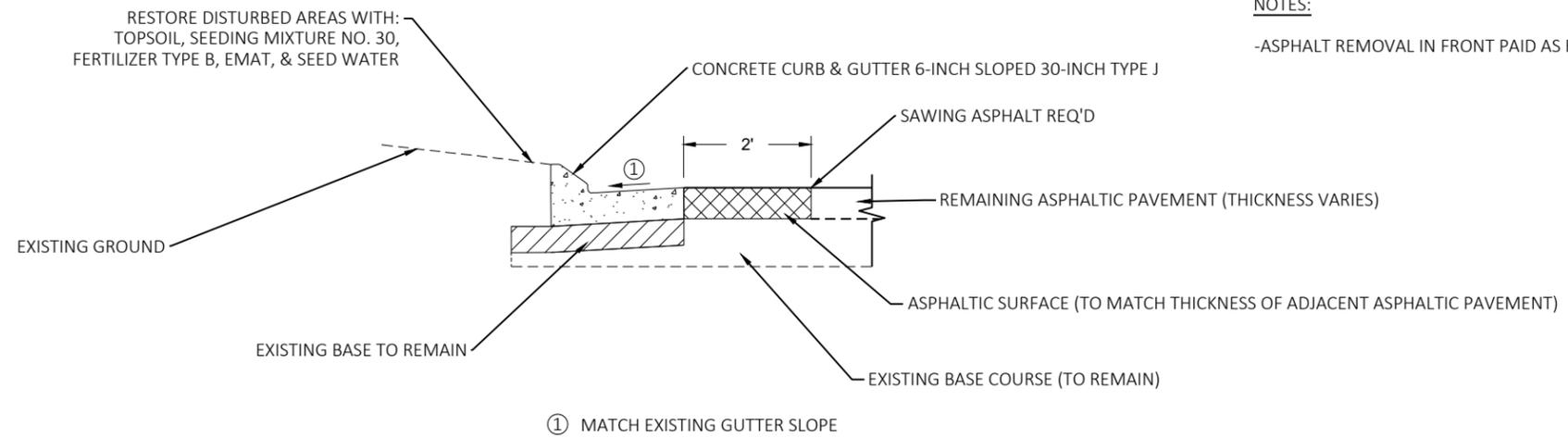
EROSION MAT TREATMENT AT CULVERTS

NOT TO SCALE



DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

NOT TO SCALE



NOTES:

-ASPHALT REMOVAL IN FRONT PAID AS REMOVING ASPHALTIC SURFACE

CONCRETE CURB & GUTTER SPOT REPLACEMENT





**LEGEND**

- ##### EROSION MAT CLASS 1 TYPE A
- X INLET PROTECTION
- A B C INLET PROTECTION TYPE
- SILT FENCE

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	EROSION CONTROL	SHEET	<b>E</b>
------------------------	-------------	-------------------	-----------------	-------	----------



**LEGEND**

- EROSION MAT CLASS 1 TYPE A
- ⊗ INLET PROTECTION
- A B C INLET PROTECTION TYPE
- SILT FENCE

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	EROSION CONTROL	SHEET	<b>E</b>
------------------------	-------------	-------------------	-----------------	-------	----------



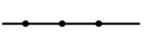
**LEGEND**

#####	EROSION MAT CLASS 1 TYPE A
X	INLET PROTECTION
A B C	INLET PROTECTION TYPE
—●—	SILT FENCE

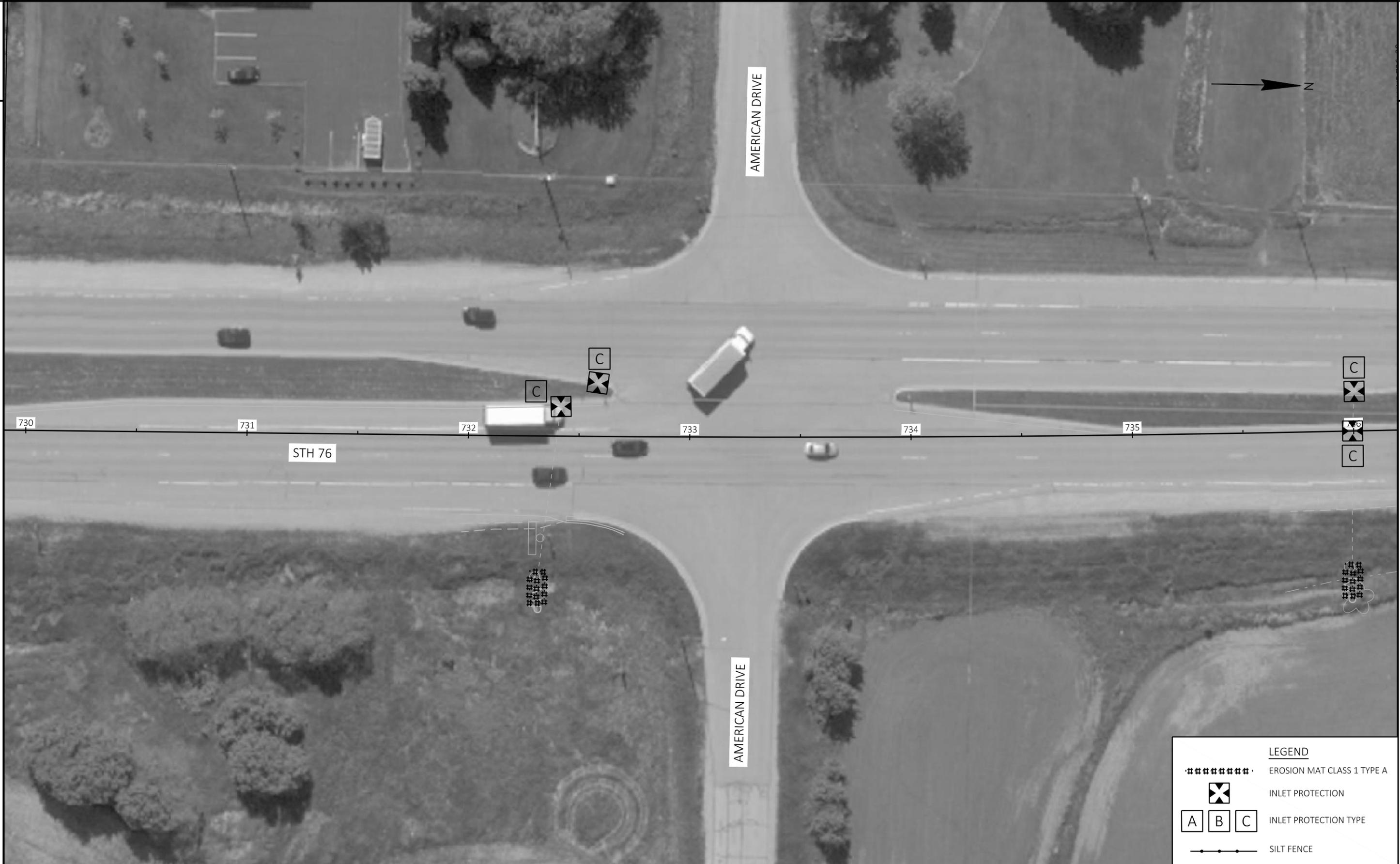
PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	EROSION CONTROL	SHEET	<b>E</b>
------------------------	-------------	-------------------	-----------------	-------	----------



**LEGEND**

- EROSION MAT CLASS 1 TYPE A
-  INLET PROTECTION
-    INLET PROTECTION TYPE
-  SILT FENCE

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	EROSION CONTROL	SHEET	<b>E</b>
------------------------	-------------	-------------------	-----------------	-------	----------



**LEGEND**

- EROSION MAT CLASS 1 TYPE A
- ⊗ INLET PROTECTION
- A B C INLET PROTECTION TYPE
- SILT FENCE

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	EROSION CONTROL	SHEET	<b>E</b>
------------------------	-------------	-------------------	-----------------	-------	----------



**LEGEND**

- EROSION MAT CLASS 1 TYPE A
-  INLET PROTECTION
-    INLET PROTECTION TYPE
- SILT FENCE

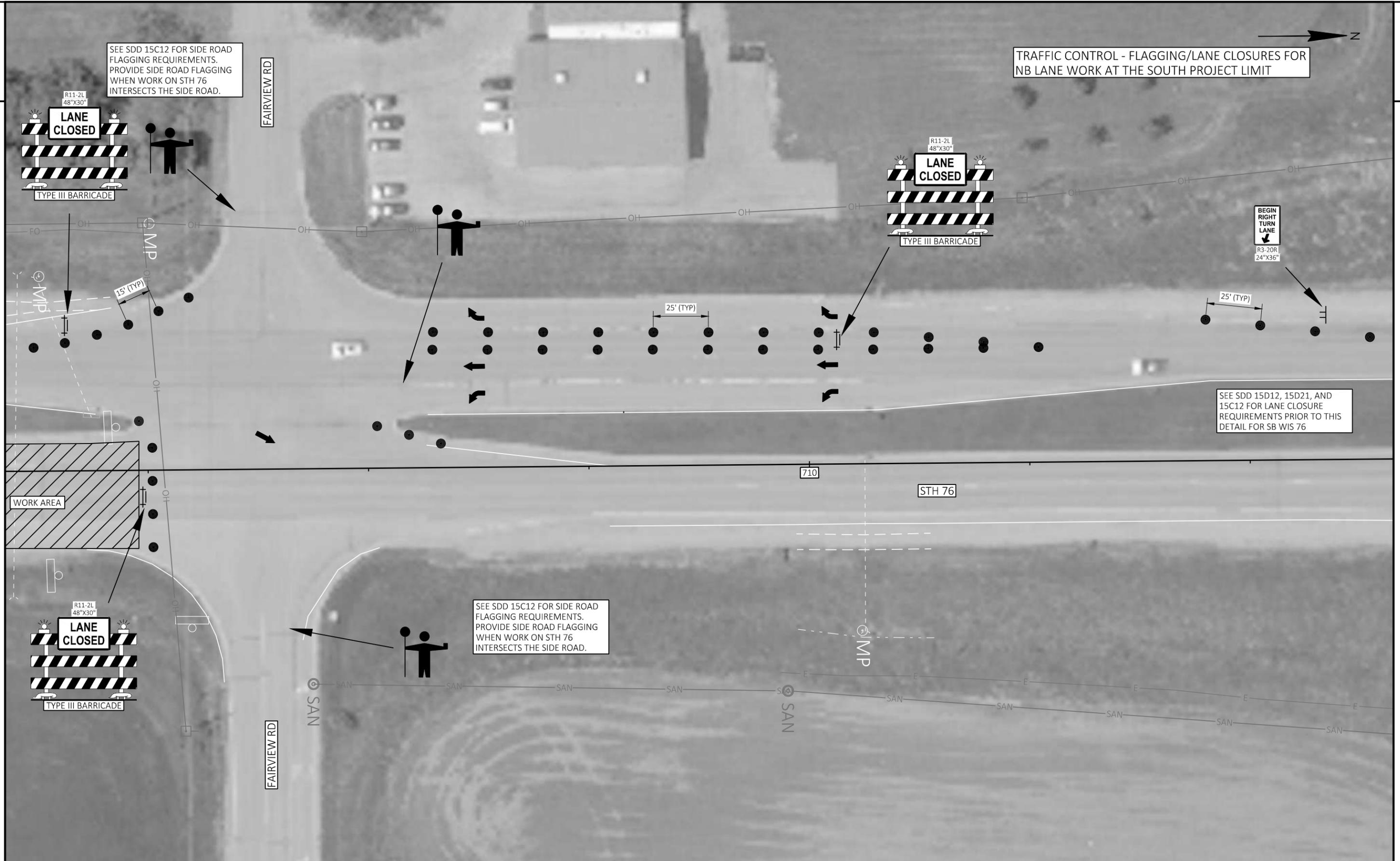
PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	EROSION CONTROL	SHEET	<b>E</b>
------------------------	-------------	-------------------	-----------------	-------	----------

TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR NB LANE WORK AT THE SOUTH PROJECT LIMIT



**LEGEND**

-  TRAFFIC CONTROL DRUM
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
-  WORK AREA



SEE SDD 15C12 FOR SIDE ROAD FLAGGING REQUIREMENTS. PROVIDE SIDE ROAD FLAGGING WHEN WORK ON STH 76 INTERSECTS THE SIDE ROAD.

TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR NB LANE WORK AT THE SOUTH PROJECT LIMIT

SEE SDD 15D12, 15D21, AND 15C12 FOR LANE CLOSURE REQUIREMENTS PRIOR TO THIS DETAIL FOR SB WIS 76

SEE SDD 15C12 FOR SIDE ROAD FLAGGING REQUIREMENTS. PROVIDE SIDE ROAD FLAGGING WHEN WORK ON STH 76 INTERSECTS THE SIDE ROAD.

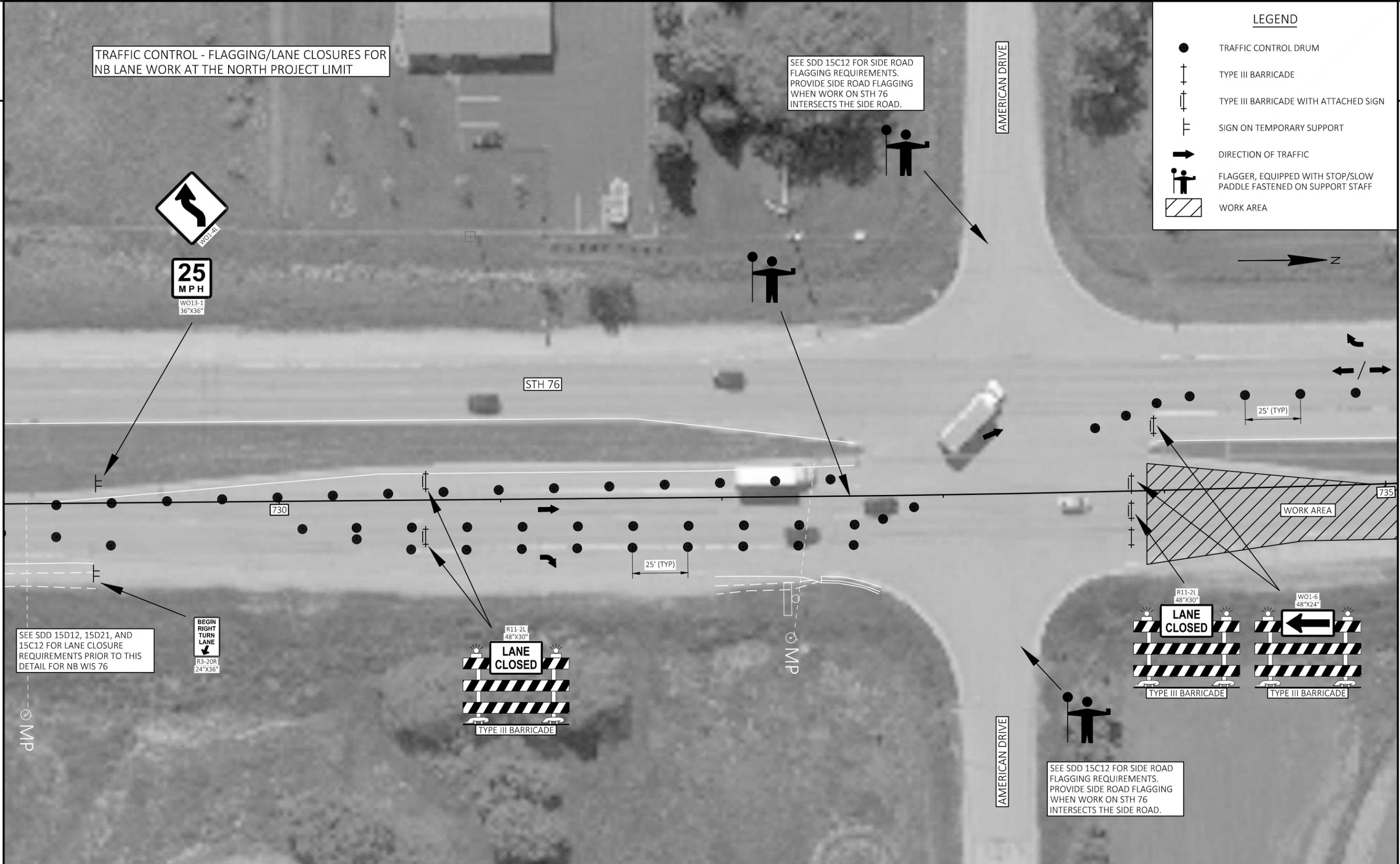
PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	TRAFFIC CONTROL	SHEET	E
------------------------	-------------	-------------------	-----------------	-------	---

TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR NB LANE WORK AT THE NORTH PROJECT LIMIT

SEE SDD 15C12 FOR SIDE ROAD FLAGGING REQUIREMENTS. PROVIDE SIDE ROAD FLAGGING WHEN WORK ON STH 76 INTERSECTS THE SIDE ROAD.

**LEGEND**

- TRAFFIC CONTROL DRUM
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- ⊥ SIGN ON TEMPORARY SUPPORT
- ➔ DIRECTION OF TRAFFIC
- 👤 FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- ▨ WORK AREA



SEE SDD 15D12, 15D21, AND 15C12 FOR LANE CLOSURE REQUIREMENTS PRIOR TO THIS DETAIL FOR NB WIS 76

BEGIN RIGHT TURN LANE  
R3-20R  
24"x36"

R11-2L  
48"x30"  
LANE CLOSED  
TYPE III BARRICADE

R11-2L  
48"x30"  
LANE CLOSED  
TYPE III BARRICADE  
W01-6  
48"x24"  
TYPE III BARRICADE

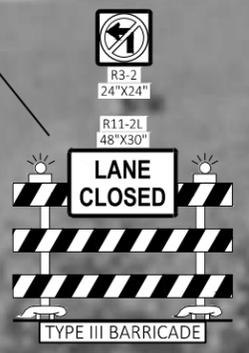
SEE SDD 15C12 FOR SIDE ROAD FLAGGING REQUIREMENTS. PROVIDE SIDE ROAD FLAGGING WHEN WORK ON STH 76 INTERSECTS THE SIDE ROAD.

TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR NB LANE WORK AT THE NORTH PROJECT LIMIT



LEGEND

-  TRAFFIC CONTROL DRUM
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
-  WORK AREA



TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR NB LANE WORK AT THE NORTH PROJECT LIMIT



SEE SDD 15C12 FOR FLAGGING REQUIREMENTS PRIOR TO THIS DETAIL FOR SB WIS 76



**LEGEND**

-  TRAFFIC CONTROL DRUM
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
-  WORK AREA

TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR SB LANE WORK AT THE SOUTH PROJECT LIMIT



SEE SDD 15C12 FOR FLAGGING REQUIREMENTS PRIOR TO THIS DETAIL FOR NB WIS 76



LEGEND	
	TRAFFIC CONTROL DRUM
	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
	WORK AREA

TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR SB LANE WORK AT THE SOUTH PROJECT LIMIT



**LEGEND**

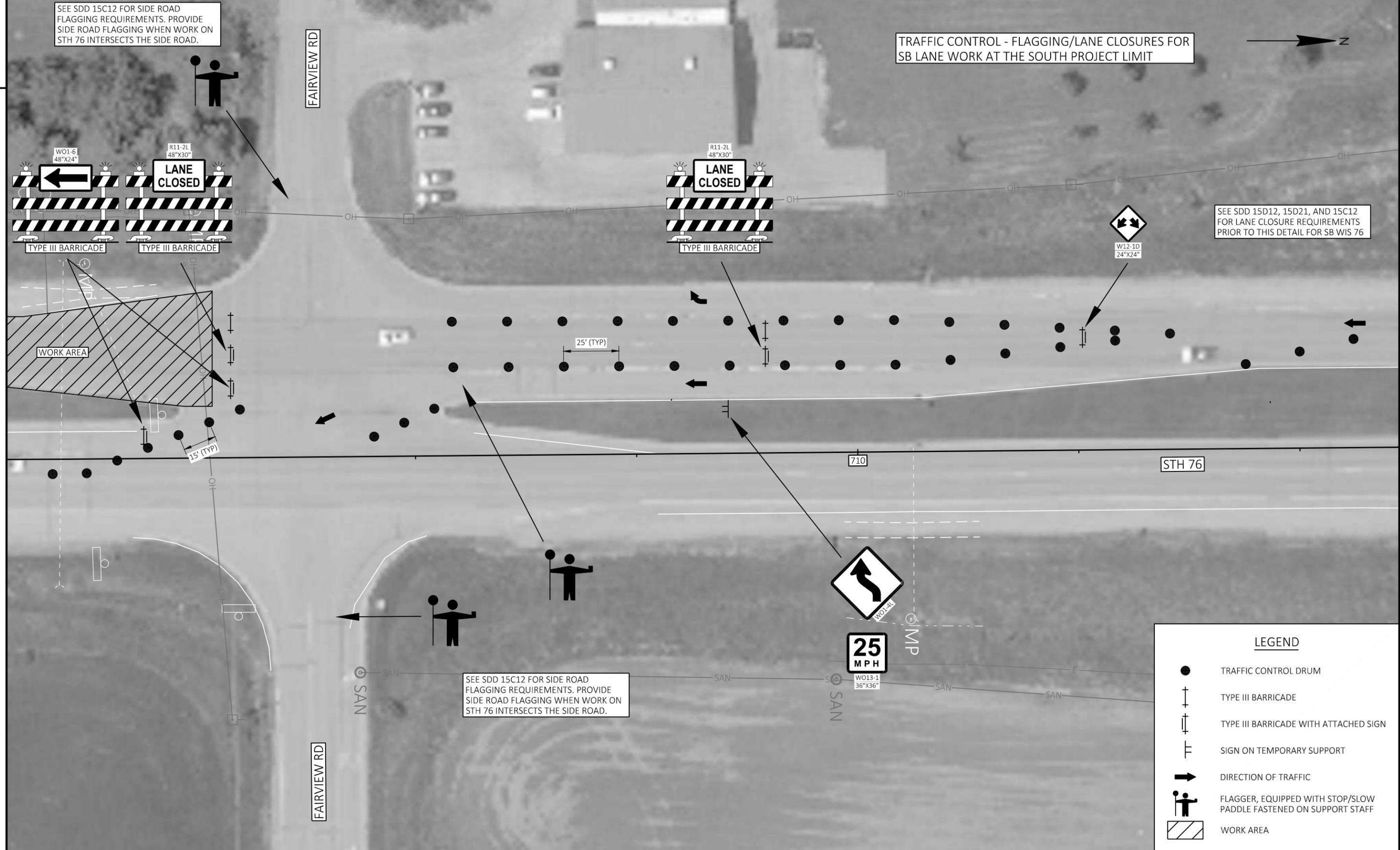
- TRAFFIC CONTROL DRUM
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- ⊥ SIGN ON TEMPORARY SUPPORT
- ➔ DIRECTION OF TRAFFIC
- 🚧 FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- ▨ WORK AREA

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	TRAFFIC CONTROL	SHEET	<b>E</b>
------------------------	-------------	-------------------	-----------------	-------	----------

SEE SDD 15C12 FOR SIDE ROAD FLAGGING REQUIREMENTS. PROVIDE SIDE ROAD FLAGGING WHEN WORK ON STH 76 INTERSECTS THE SIDE ROAD.

TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR SB LANE WORK AT THE SOUTH PROJECT LIMIT

SEE SDD 15D12, 15D21, AND 15C12 FOR LANE CLOSURE REQUIREMENTS PRIOR TO THIS DETAIL FOR SB WIS 76



LEGEND	
	TRAFFIC CONTROL DRUM
	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
	WORK AREA

LEGEND

- TRAFFIC CONTROL DRUM
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- ⊥ SIGN ON TEMPORARY SUPPORT
- ➔ DIRECTION OF TRAFFIC
- 👤 FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- ▨ WORK AREA

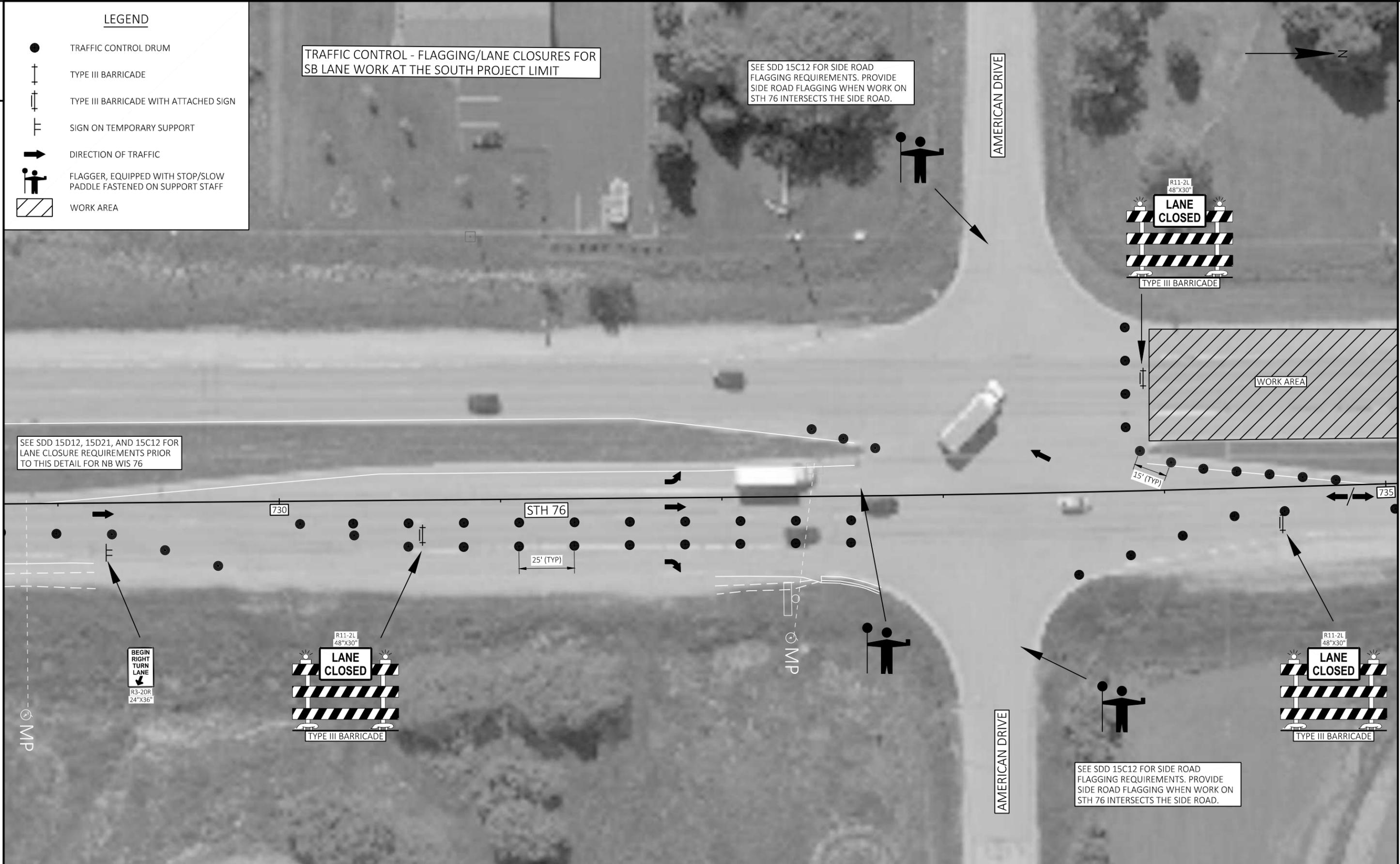
TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR SB LANE WORK AT THE SOUTH PROJECT LIMIT

SEE SDD 15C12 FOR SIDE ROAD FLAGGING REQUIREMENTS. PROVIDE SIDE ROAD FLAGGING WHEN WORK ON STH 76 INTERSECTS THE SIDE ROAD.

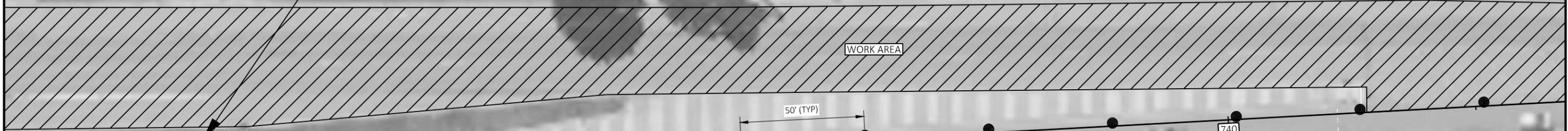
AMERICAN DRIVE

Z

SEE SDD 15D12, 15D21, AND 15C12 FOR LANE CLOSURE REQUIREMENTS PRIOR TO THIS DETAIL FOR NB WIS 76



TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR SB LANE WORK AT THE SOUTH PROJECT LIMIT



WORK AREA

50' (TYP)

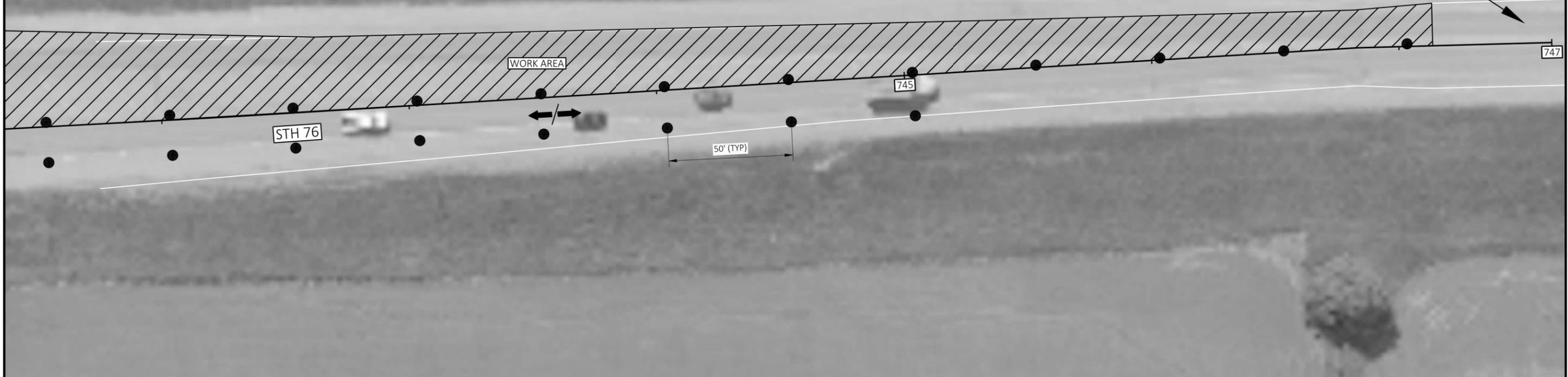
740

MP

MP

LEGEND	
	TRAFFIC CONTROL DRUM
	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
	WORK AREA

TRAFFIC CONTROL - FLAGGING/LANE CLOSURES FOR SB LANE WORK AT THE SOUTH PROJECT LIMIT



LEGEND

- TRAFFIC CONTROL DRUM
- † TYPE III BARRICADE
- †† TYPE III BARRICADE WITH ATTACHED SIGN
- ⊥ SIGN ON TEMPORARY SUPPORT
- ➔ DIRECTION OF TRAFFIC
- 🚧 FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- ▨ WORK AREA

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	TRAFFIC CONTROL	SHEET	E
------------------------	-------------	-------------------	-----------------	-------	---

Estimate Of Quantities

6430-22-71

Line	Item	Item Description	Unit	Total	Qty
0002	204.0100	Removing Concrete Pavement	SY	23.000	23.000
0004	204.0110	Removing Asphaltic Surface	SY	104.000	104.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	156.000	156.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	37,404.000	37,404.000
0010	204.0150	Removing Curb & Gutter	LF	416.000	416.000
0012	204.0165	Removing Guardrail	LF	490.000	490.000
0014	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 6430-22-71	EACH	1.000	1.000
0016	213.0100	Finishing Roadway (project) 01. 6430-22-71	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	538.000	538.000
0020	415.0060	Concrete Pavement 6-Inch	SY	11.000	11.000
0022	416.0610	Drilled Tie Bars	EACH	68.000	68.000
0024	455.0605	Tack Coat	GAL	4,494.000	4,494.000
0026	460.2000	Incentive Density HMA Pavement	DOL	5,850.000	5,850.000
0028	460.6223	HMA Pavement 3 MT 58-28 S	TON	5,110.000	5,110.000
0030	460.6224	HMA Pavement 4 MT 58-28 S	TON	4,020.000	4,020.000
0032	465.0105	Asphaltic Surface	TON	43.000	43.000
0034	465.0110	Asphaltic Surface Patching	TON	50.000	50.000
0036	601.0415	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type J	LF	416.000	416.000
0038	601.0452	Concrete Curb & Gutter Integral 30-Inch Type D	LF	47.000	47.000
0040	611.0630	Inlet Covers Type HM-GJ	EACH	1.000	1.000
0042	614.0010	Barrier System Grading Shaping Finishing	EACH	2.000	2.000
0044	614.2300	MGS Guardrail 3	LF	25.000	25.000
0046	614.2500	MGS Thrie Beam Transition	LF	80.000	80.000
0048	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0050	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6430-22-71	EACH	1.000	1.000
0052	619.1000	Mobilization	EACH	1.000	1.000
0054	624.0100	Water	MGAL	8.000	8.000
0056	625.0100	Topsoil	SY	136.000	136.000
0058	628.1504	Silt Fence	LF	369.000	369.000
0060	628.1520	Silt Fence Maintenance	LF	369.000	369.000
0062	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0064	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0066	628.2002	Erosion Mat Class I Type A	SY	136.000	136.000
0068	628.7015	Inlet Protection Type C	EACH	29.000	29.000
0070	629.0210	Fertilizer Type B	CWT	0.090	0.090
0072	630.0130	Seeding Mixture No. 30	LB	2.400	2.400
0074	630.0500	Seed Water	MGAL	3.000	3.000
0076	642.5001	Field Office Type B	EACH	1.000	1.000
0078	643.0300	Traffic Control Drums	DAY	4,695.000	4,695.000
0080	643.0420	Traffic Control Barricades Type III	DAY	164.000	164.000
0082	643.0705	Traffic Control Warning Lights Type A	DAY	92.000	92.000
0084	643.0715	Traffic Control Warning Lights Type C	DAY	64.000	64.000
0086	643.0800	Traffic Control Arrow Boards	DAY	16.000	16.000
0088	643.0900	Traffic Control Signs	DAY	1,010.000	1,010.000
0090	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0092	643.3165	Temporary Marking Line Paint 6-Inch	LF	24,842.000	24,842.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	646.2020	Marking Line Epoxy 6-Inch	LF	5,135.000	5,135.000
0098	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	11,740.000	11,740.000
0100	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	2,485.000	2,485.000

Estimate Of Quantities

6430-22-71

Line	Item	Item Description	Unit	Total	Qty
0102	646.7120	Marking Diagonal Epoxy 12-Inch	LF	720.000	720.000
0104	650.8000	Construction Staking Resurfacing Reference	LF	5,305.000	5,305.000
0106	690.0150	Sawing Asphalt	LF	537.000	537.000
0108	690.0250	Sawing Concrete	LF	85.000	85.000
0110	740.0440	Incentive IRI Ride	DOL	11,200.000	11,200.000
0112	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0114	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0116	SPV.0060	Special 01. Cleaning Storm Sewer Outfall	EACH	12.000	12.000
0118	SPV.0060	Special 02. Adjusting Inlet Covers and Replacing Rings	EACH	17.000	17.000

204.0100 REMOVING CONCRETE PAVEMENT

ROADWAY	STATION	RT/LT	SY	REMARKS
STH 76 NB	722+30	RT	14	REMOVED IN CONJUNCTION WITH INTEGRAL CURB & GUTTER
STH 76 SB	722+29	LT	9	REMOVED IN CONJUNCTION WITH INTEGRAL CURB & GUTTER
			<b>TOTAL</b>	<b>23</b>

204.0110 REMOVING ASPHALTIC SURFACE

ROADWAY	STATION	RT/LT	SY	
STH 76 NB	710+25	LT	3	
STH 76 NB	713+68	LT	3	
STH 76 NB	717+85	LT	24	
STH 76 NB	722+30	RT	6	
STH 76 NB	722+98	LT	2	
STH 76 NB	728+86	LT	4	
STH 76 NB	732+42	LT	2	
STH 76 NB	736+00	LT	2	
STH 76 NB	740+44	LT	3	
STH 76 SB	701+02	LT	3	
STH 76 SB	713+68	LT	3	
STH 76 SB	717+76	LT	22	
STH 76 SB	722+29	LT	6	
STH 76 SB	722+98	LT	3	
STH 76 SB	728+87	LT	3	
STH 76 SB	732+53	LT	2	
STH 76 SB	736+00	LT	7	
STH 76 SB	737+58	LT	2	
STH 76 SB	740+47	LT	3	
			<b>TOTAL</b>	<b>104</b>

204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION	ROADWAY	LOCATION	AREA (SY)	
693+95	STH 76	SOUTH PROJECT LIMITS	7	
707+50	FAIRVIEW RD	EAST PROJECT LIMITS	9	
707+50	FAIRVIEW RD	WEST PROJECT LIMITS	6	
717+90	EB USH 10 OFF-RAMP	WEST LIMITS	19	
718+15	EB USH 10 ON-RAMP	EAST LIMITS	14	
719+58	SB STH 76	SOUTH END OF USH 10 STRUCTURE	10	
719+58	NB STH 76	SOUTH END OF USH 10 STRUCTURE	10	
722+12	SB STH 76	NORTH END OF USH 10 STRUCTURE	10	
722+12	NB STH 76	NORTH END OF USH 10 STRUCTURE	10	
723+50	WB USH 10 ON-RAMP	WEST LIMITS	18	
723+80	WB USH 10 OFF-RAMP	EAST LIMITS	22	
733+20	AMERICAN DR	EAST PROJECT LIMITS	7	
733+20	AMERICAN DR	WEST PROJECT LIMITS	7	
747+00	STH 76	NORTH PROJECT LIMITS	7	
			<b>TOTAL</b>	<b>156</b>

204.0120 REMOVING ASPHALTIC SURFACE MILLING

STATION	TO	STATION	ROADWAY	AREA (SY)
693+95	-	698+79	STH 76	2176
698+79	-	706+92	STH 76 NB	3114
698+79	-	706+92	STH 76 SB	2480
706+92	-	708+07	STH 76	2076
708+07	-	717+94	STH 76 NB	3458
708+07	-	717+94	STH 76 SB	3737
717+94	-	718+65	STH 76	832
718+65	-	719+57	STH 76 NB	485
718+65	-	719+57	STH 76 SB	475
722+11	-	723+07	STH 76 NB	489
722+11	-	723+07	STH 76 SB	490
723+07	-	723+78	STH 76	849
723+78	-	732+65	STH 76 NB	3454
723+78	-	732+65	STH 76 SB	2839
732+65	-	733+88	STH 76	2124
733+88	-	740+65	STH 76 NB	2199
733+88	-	740+65	STH 76 SB	2993
740+65	-	747+00	STH 76	3134
			<b>TOTAL</b>	<b>37404</b>

204.0150 REMOVING CURB & GUTTER

ROADWAY	STATION	RT/LT	LF	REMARKS
STH 76 NB	710+25	LT	13	
STH 76 NB	713+68	LT	13	
STH 76 NB	717+85	LT	110	
STH 76 NB	722+98	LT	9	
STH 76 NB	728+86	LT	16	
STH 76 NB	732+42	LT	10	
STH 76 NB	736+00	LT	11	
STH 76 NB	740+44	LT	15	
STH 76 SB	701+02	LT	12	
STH 76 SB	713+68	LT	15	
STH 76 SB	717+76	LT	100	
STH 76 SB	722+98	LT	13	
STH 76 SB	728+87	LT	15	
STH 76 SB	732+53	LT	8	
STH 76 SB	736+00	LT	33	
STH 76 SB	737+58	LT	8	
STH 76 SB	740+47	LT	15	
			<b>TOTAL</b>	<b>416</b>

204.0165 REMOVING GUARDRAIL

ROADWAY	RT/LT	LENGTH (LF)	REMARKS
STH 76	LT	135	SOUTHWEST QUADRANT OF USH 10 STRUCTURE
STH 76	RT	110	SOUTHEAST QUADRANT OF USH 10 STRUCTURE
STH 76	LT	110	NORTHWEST QUADRANT OF USH 10 STRUCTURE
STH 76	RT	135	NORTHEAST QUADRANT OF USH 10 STRUCTURE
		<b>TOTAL</b>	<b>490</b>

305.0110 BASE AGGREGATE DENSE 3/4-INCH

ROADWAY	RT/LT	STATION TO STATION	TONS	MGAL	624.0100 WATER
STH 76	LT	693+95 - 699+73	43	1	
STH 76	RT	693+95 - 706+74	92	1	
STH 76 SB	LT	703+22 - 706+95	26	0.4	
STH 76 NB	RT	708+04 - 717+74	64	1	
STH 76 SB	LT	710+26 - 717+58	53	1	
STH 76 SB	LT	718+19 - 719+59	9	0.1	
STH 76 NB	RT	718+38 - 719+59	6	0.1	
STH 76 SB	LT	722+10 - 723+30	5	0.1	
STH 76 NB	RT	722+10 - 723+50	9	0.1	
STH 76 SB	LT	723+99 - 732+70	64	1	
STH 76 NB	RT	724+27 - 732+47	54	1	
STH 76 NB	RT	733+76 - 737+05	22	0.3	
STH 76	LT	741+03 - 747+00	45	1	
STH 76	RT	741+00 - 747+00	44	1	
FAIRVIEW ROAD	RT	707+32 - 707+36	1	-	
AMERICAN DRIVE	RT	733+07 - 733+10	1	-	
AMERICAN DRIVE	LT	733+37 - 733+39	1	-	
			<b>TOTAL</b>	<b>538</b>	<b>8</b>

3

415.0060 CONCRETE PAVEMENT 6-INCH

ROADWAY	STATION	RT/LT	SY
STH 76 NB	722+30	RT	8
STH 76 SB	722+29	LT	3
<u>TOTAL</u>			<u>11</u>

601.0415 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J

ROADWAY	STATION	RT/LT	LENGTH (LF)
STH 76 NB	710+25	LT	13
STH 76 NB	713+68	LT	13
STH 76 NB	717+85	LT	110
STH 76 NB	722+98	LT	9
STH 76 NB	728+86	LT	16
STH 76 NB	732+42	LT	10
STH 76 NB	736+00	LT	11
STH 76 NB	740+44	LT	15
STH 76 SB	701+02	LT	12
STH 76 SB	713+68	LT	15
STH 76 SB	717+76	LT	100
STH 76 SB	722+98	LT	13
STH 76 SB	728+87	LT	15
STH 76 SB	732+53	LT	8
STH 76 SB	736+00	LT	33
STH 76 SB	737+58	LT	8
STH 76 SB	740+47	LT	15
<u>TOTAL</u>			<u>416</u>

416.0610 DRILLED TIE BARS

ROADWAY	STATION	RT/LT	EACH	REMARKS
STH 76 NB	710+25	LT	4	TO BE INSTALLED IN THE EXISTING CURB AND GUTTER AT THE REPAIR LIMITS. 2 TIE BARS PER SIDE.
STH 76 NB	713+68	LT	4	
STH 76 NB	717+85	LT	4	
STH 76 NB	722+98	LT	4	
STH 76 NB	728+86	LT	4	
STH 76 NB	732+42	LT	4	
STH 76 NB	736+00	LT	4	
STH 76 NB	740+44	LT	4	
STH 76 SB	701+02	LT	4	
STH 76 SB	713+68	LT	4	
STH 76 SB	717+76	LT	4	
STH 76 SB	722+98	LT	4	
STH 76 SB	728+87	LT	4	
STH 76 SB	732+53	LT	4	
STH 76 SB	736+00	LT	4	
STH 76 SB	737+58	LT	4	
STH 76 SB	740+47	LT	4	
<u>TOTAL</u>			<u>68</u>	

601.0452 CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D

ROADWAY	STATION	RT/LT	LENGTH (LF)
STH 76 NB	722+30	RT	24
STH 76 SB	722+29	LT	23
<u>TOTAL</u>			<u>47</u>

<u>455.0605 TACK COAT (GAL)</u>	<u>460.6223 HMA PAVEMENT 3 MT 58-28 S</u>	<u>460.6224 HMA PAVEMENT 4 MT 58-28 S</u>	<u>465.0110 ASPHALTIC SURFACE PATCHING</u>
---------------------------------	---	---	--

STATION TO	STATION	ROADWAY	LOWER LAYER	UPPER LAYER	TON	TON	TON	REMARKS
693+95 -	698+79	STH 76	153	109	300	230	-	
698+79 -	706+92	STH 76 NB	218	156	420	340	-	
698+79 -	706+92	STH 76 SB	174	124	340	270	-	
706+92 -	708+07	STH 76	146	104	280	220	-	FAIRVIEW RD/STH 116
708+07 -	717+94	STH 76 NB	242	173	470	370	-	
708+07 -	717+94	STH 76 SB	262	187	510	400	-	
717+94 -	718+65	STH 76	58	42	110	90	-	
718+65 -	719+57	STH 76 NB	34	25	70	50	-	
718+65 -	719+57	STH 76 SB	33	24	60	50	-	
722+11 -	723+07	STH 76 NB	34	25	70	50	-	
722+11 -	723+07	STH 76 SB	34	25	70	50	-	
723+07 -	723+78	STH 76	60	43	120	90	-	
723+78 -	732+65	STH 76 NB	242	173	470	370	-	
723+78 -	732+65	STH 76 SB	199	142	390	310	-	
732+65 -	733+88	STH 76	148	106	290	230	-	AMERICAN DR/STH 116
733+88 -	740+65	STH 76 NB	154	110	300	240	-	
733+88 -	740+65	STH 76 SB	209	150	410	320	-	
740+65 -	747+00	STH 76	219	157	430	340	-	
			-	-	-	-	50	PROJECT WIDE
<u>TOTAL</u>			<u>2,619</u>	<u>1,875</u>	<u>4,494</u>	<u>5,110</u>	<u>4,020</u>	<u>50</u>

611.0630 INLET COVERS TYPE HM-GJ

ROADWAY	STATION	RT/LT	EACH	REMARKS
STH 76 NB	710+25	LT	1	REPLACE EXISTING CASTING
<u>TOTAL</u>			<u>1</u>	

465.0105 ASPHALTIC SURFACE

ROADWAY	STATION	RT/LT	TON	REMARKS
STH 76 NB	710+25	LT	1	
STH 76 NB	713+68	LT	1	
STH 76 NB	717+85	LT	8	
STH 76 NB	722+30	RT	2	
STH 76 NB	722+98	LT	1	
STH 76 NB	728+86	LT	1	
STH 76 NB	732+42	LT	1	
STH 76 NB	736+00	LT	1	
STH 76 NB	740+44	LT	1	
STH 76 SB	701+02	LT	1	
STH 76 SB	713+68	LT	8	
STH 76 SB	717+76	LT	8	
STH 76 SB	722+29	LT	2	
STH 76 SB	722+98	LT	1	
STH 76 SB	728+87	LT	1	
STH 76 SB	732+53	LT	1	
STH 76 SB	736+00	LT	3	
STH 76 SB	737+58	LT	1	
STH 76 SB	740+47	LT	1	
<u>TOTAL</u>			<u>43</u>	

3

614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING

ROADWAY	STATION	RT/LT	EACH	REMARKS	*FOR INFORMATION ONLY				
					BORROW (CY)	SALVAGED TOPSOIL (SY)	EROSION MAT CLASS I TYPE A (SY)	FERTILIZER TYPE B (CWT)	SEEDING MIXTURE NO. 30 (LB)
STH 76	718+56 - 719+61	RT	1	SOUTHEAST QUADRANT OF USH 10 STRUCTURE	5	11	11	0.01	0.2
STH 76	722+09 - 723+15	LT	1	NORTHWEST QUADRANT OF USH 10 STRUCTURE	5	18	18	0.01	0.3
<b>TOTAL</b>				<b>2</b>	<b>10</b>	<b>29</b>	<b>29</b>	<b>0.02</b>	<b>0.5</b>

614.2300 MGS GUARDRAIL 3

ROADWAY	RT/LT	LENGTH (LF)	REMARKS
STH 76	RT	12.5	SOUTHEAST QUADRANT OF USH 10 STRUCTURE
STH 76	LT	12.5	NORTHWEST QUADRANT OF USH 10 STRUCTURE
<b>TOTAL</b>		<b>25</b>	

614.2500 MGS THRIE BEAM TRANSITION

ROADWAY	RT/LT	LENGTH (LF)	REMARKS
STH 76	RT	40	SOUTHEAST QUADRANT OF USH 10 STRUCTURE
STH 76	LT	40	NORTHWEST QUADRANT OF USH 10 STRUCTURE
<b>TOTAL</b>		<b>80</b>	

RESTORATION

ROADWAY	STATION	RT/LT	625.0100	629.0210	630.0130	630.0500	REMARKS
			TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 30 LB	SEED WATER MGAL	
STH 76 NB	710+25	LT	3	0.002	0.1	0.1	
STH 76 NB	713+68	LT	3	0.002	0.1	0.1	
STH 76 NB	717+85	LT	24	0.02	0.4	0.5	
STH 76 SB	719+10 TO 719+60	LT	18	0.01	0.3	0.4	PLACE TO DEPTH AND GRADE AS INDICATED IN CROSS SECTIONS
STH 76 NB	728+86	LT	4	0.002	0.1	0.1	
STH 76 NB	732+42	LT	2	0.001	0.0	0.0	
STH 76 NB	736+00	LT	2	0.002	0.0	0.1	
STH 76 NB	740+44	LT	3	0.002	0.1	0.1	
STH 76 SB	701+02	LT	3	0.002	0.0	0.1	
STH 76 SB	713+68	LT	3	0.002	0.1	0.1	
STH 76 SB	717+76	LT	22	0.014	0.4	0.5	
STH 76 SB	722+98	LT	3	0.002	0.1	0.1	
STH 76 SB	728+87	LT	3	0.002	0.1	0.1	
STH 76 SB	732+53	LT	2	0.001	0.0	0.0	
STH 76 SB	736+00	LT	7	0.005	0.1	0.2	
STH 76 SB	737+58	LT	2	0.001	0.0	0.0	
STH 76 SB	740+47	LT	3	0.002	0.1	0.1	
UNDISTRIBUTED			27	0.017	0.5	0.6	PROJECT WIDE
<b>TOTAL</b>			<b>136</b>	<b>0.09</b>	<b>2.4</b>	<b>3.0</b>	

614.2610 MGS GUARDRAIL TERMINAL EAT

ROADWAY	RT/LT	EACH	REMARKS
STH 76	RT	1	SOUTHEAST QUADRANT OF USH 10 STRUCTURE
STH 76	LT	1	NORTHWEST QUADRANT OF USH 10 STRUCTURE
<b>TOTAL</b>		<b>2</b>	

3

628.2002 EROSION MAT CLASS I TYPE A			
ROADWAY	STATION	RT/LT	SY
STH 76 NB	710+25	LT	3
STH 76 NB	713+68	LT	3
STH 76 NB	717+85	LT	24
STH 76 SB	719+10 TO 719+60	LT	18
STH 76 NB	728+86	LT	4
STH 76 NB	732+42	LT	2
STH 76 NB	736+00	LT	2
STH 76 NB	740+44	LT	3
STH 76 SB	701+02	LT	3
STH 76 SB	713+68	LT	3
STH 76 SB	717+76	LT	22
STH 76 SB	722+98	LT	3
STH 76 SB	728+87	LT	3
STH 76 SB	732+53	LT	2
STH 76 SB	736+00	LT	7
STH 76 SB	737+58	LT	2
STH 76 SB	740+47	LT	3
UNDISTRIBUTED			27
<b>TOTAL</b>			<b>136</b>

628.1504 SILT FENCE		
STATION	RT/LT	LF
STA 719+10 - STA 719+60	LT	50
STA 718+52 - STA 719+74	RT	125
STA 722+02 - STA 723+18	LT	120
UNDISTRIBUTED		74
<b>TOTAL</b>		<b>369</b>

628.1520 SILT FENCE MAINTENANCE		
STATION	RT/LT	LF
STA 719+10 - STA 719+60	LT	50
STA 718+52 - STA 719+74	RT	125
STA 722+02 - STA 723+18	LT	120
UNDISTRIBUTED		74
<b>TOTAL</b>		<b>369</b>

STATION	RT/LT	628.1905	628.1910	REMARKS
		MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL	
UNDISTRUBTED		6	2	PROJECT WIDE
<b>TOTAL</b>		<b>6</b>	<b>2</b>	

628.7015 INLET PROTECTION TYPE C		
STATION	RT/LT	EACH
STH 76 SB	RT	13
STH 76 NB	LT	13
UNDISTRIBUTED		3
<b>TOTAL</b>		<b>29</b>

3

OPERATION	ESTIMATED DURATION (CALENDER DAYS)	TRAFFIC CONTROL																REMARKS
		643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1050		643.5000		
		* EACH	TRAFFIC CONTROL DRUMS DAY	* EACH	TRAFFIC CONTROL BARRICADES TYPE III DAY	* EACH	TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	* EACH	TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	* EACH	TRAFFIC CONTROL ARROW BOARDS DAY	* EACH	TRAFFIC CONTROL SIGNS DAY	* EACH	TRAFFIC CONTROL SIGNS PCMS DAY	TRAFFIC CONTROL EACH		
PRECONSTRUCTION	7	8	56	-	-	-	-	-	-	-	-	-	-	2	14	-		
ADVANCED WARNING	40	-	-	-	-	-	-	-	-	-	-	8	320	-	-	-		
SIDE ROADS	40	-	-	-	-	-	-	-	-	-	-	6	240	-	-	-		
STH 76 NB - RIGHT LANE	4	90	360	3	12	4	16	8	32	-	-	8	32	-	-	-	FOR GUARDRAIL WORK	
STH 76 SB - RIGHT LANE	4	70	280	3	12	4	16	8	32	-	-	8	32	-	-	-	FOR GUARDRAIL WORK	
STH 76 NB - LEFT LANE CLOSURE	5	125	625	3	15	6	30	-	-	-	-	10	50	-	-	-	CURB & GUTTER REPLACEMENT	
STH 76 SB - LEFT LANE CLOSURE	5	120	600	3	15	6	30	-	-	-	-	10	50	-	-	-	CURB & GUTTER REPLACEMENT	
STH 76 NB	2	95	190	5	10	-	-	-	-	2	4	13	26	-	-	-	SOUTH LIMITS 2 TO 4 LANE TRANSITION	
STH 76 NB	2	100	200	9	18	-	-	-	-	2	4	18	36	-	-	-	NORTH LIMITS 2 TO 4 LANE TRANSITION	
STH 76 SB	2	100	200	9	18	-	-	-	-	2	4	15	30	-	-	-	SOUTH LIMITS 2 TO 4 LANE TRANSITION	
STH 76 SB	2	112	224	4	8	-	-	-	-	2	4	13	26	-	-	-	NORTH LIMITS 2 TO 4 LANE TRANSITION	
STH 76 NB - RIGHT LANE CLOSURE	4	130	520	4	16	-	-	-	-	-	-	11	44	-	-	-	MILLING & PAVING	
STH 76 NB - LEFT LANE CLOSURE	4	125	500	3	12	-	-	-	-	-	-	10	40	-	-	-	MILLING & PAVING	
STH 76 SB - RIGHT LANE CLOSURE	4	115	460	4	16	-	-	-	-	-	-	11	44	-	-	-	MILLING & PAVING	
STH 76 SB - LEFT LANE CLOSURE	4	120	480	3	12	-	-	-	-	-	-	10	40	-	-	-	MILLING & PAVING	
UNDISTRIBUTED		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
<b>TOTAL</b>			<b>4,695</b>		<b>164</b>		<b>92</b>		<b>64</b>		<b>16</b>		<b>1,010</b>		<b>14</b>		<b>1</b>	

\*FOR INFORMATION ONLY

643.3165 TEMPORARY MARKING LINE PAINT 6-INCH

ROADWAY	START POINT	TO	END POINT	MILLED SURFACE	MILLED SURFACE	TOP LOWER LAYER	TOP LOWER LAYER	FINAL SURFACE	FINAL SURFACE EDGELINE	
				DASHED WHITE LENGTH (LF)	SOLID YELLOW LENGTH (LF)	DASHED WHITE LENGTH (LF)	SOLID YELLOW LENGTH (LF)	DASHED WHITE LENGTH (LF)	SOLID LEFT WHITE LENGTH (LF)	SOLID RIGHT WHITE LENGTH (LF)
STH 76	SOUTH PROJECT LIMITS	-	TRANSITION FROM 2-LANE TO DIVIDED BEGIN	-	28	-	28	-	35	35
STH 76 SB	TRANSITION FROM 2-LANE TO DIVIDED BEGIN	-	BEGIN CURB AND GUTTER MEDIAN	-	950	-	950	-	470	-
STH 76 NB	TRANSITION FROM 2-LANE TO DIVIDED BEGIN	-	BEGIN CURB AND GUTTER MEDIAN	-	950	-	950	-	-	470
STH 76 SB	BEGIN CURB AND GUTTER MEDIAN	-	TRANSITION FROM 1-LANE TO 2-LANE END	-	-	-	-	-	520	-
STH 76 NB	BEGIN CURB AND GUTTER MEDIAN	-	TRANSITION FROM 1-LANE TO 2-LANE END	-	110	-	110	-	-	55
STH 76 NB	TRANSITION FROM 1-LANE TO 2-LANE END	-	FAIRVIEW ROAD	200	-	200	-	200	-	740
STH 76 SB	TRANSITION FROM 1-LANE TO 2-LANE END	-	FAIRVIEW ROAD	88	-	88	-	88	295	-
STH 76 SB	FAIRVIEW ROAD	-	USH 10 EB OFF-RAMP	263	-	263	-	263	935	-
STH 76 NB	FAIRVIEW ROAD	-	USH 10 EB ON-RAMP	275	-	275	-	275	-	970
STH 76 SB	USH 10 EB OFF-RAMP	-	USH 10 WB ON-RAMP	138	-	138	-	138	530	-
STH 76 NB	USH 10 EB ON-RAMP	-	USH 10 WB OFF-RAMP	138	-	138	-	138	-	520
STH 76 SB	USH 10 WB ON-RAMP	-	AMERICAN DRIVE	250	-	250	-	250	870	-
STH 76 NB	USH 10 WB OFF-RAMP	-	AMERICAN DRIVE	238	-	238	-	238	-	825
STH 76 SB	AMERICAN DRIVE	-	TRANSITION FROM 2-LANE TO 1-LANE BEGIN	175	-	175	-	175	610	-
STH 76 NB	AMERICAN DRIVE	-	TRANSITION FROM 2-LANE TO 1-LANE BEGIN	63	-	63	-	63	-	175
STH 76 NB	TRANSITION FROM 2-LANE TO 1-LANE BEGIN	-	END CURB AND GUTTER MEDIAN	-	-	-	-	-	-	515
STH 76 SB	TRANSITION FROM 2-LANE TO 1-LANE BEGIN	-	END CURB AND GUTTER MEDIAN	-	110	-	110	-	55	-
STH 76 SB	END CURB AND GUTTER MEDIAN	-	TRANSITION FROM DIVIDED TO 2-LANE END	-	1,275	-	1,275	-	630	-
STH 76 NB	END CURB AND GUTTER MEDIAN	-	TRANSITION FROM DIVIDED TO 2-LANE END	-	1,275	-	1,275	-	-	630
STH 76	TRANSITION FROM DIVIDED TO 2-LANE END	-	NORTH PROJECT LIMITS	-	28	-	28	-	15	15
FAIRVIEW ROAD	WEST PROJECT LIMITS	-	STH 76 SB	-	-	-	-	-	-	-
FAIRVIEW ROAD	STH 76 SB	-	STH 76 NB	-	-	-	-	-	-	-
FAIRVIEW ROAD	STH 76 NB	-	EAST PROJECT LIMITS	-	-	-	-	-	-	-
AMERICAN DRIVE	WEST PROJECT LIMITS	-	STH 76 SB	-	-	-	-	-	-	-
AMERICAN DRIVE	STH 76 SB	-	STH 76 NB	-	-	-	-	-	-	-
AMERICAN DRIVE	STH 76 NB	-	EAST PROJECT LIMITS	-	-	-	-	-	-	-
				1,825	4,726	1,825	4,726	1,825	4,965	4,950
<b>TOTAL</b>				<b>24,842</b>						

646.2020 MARKING LINE EPOXY 6-INCH

ROADWAY	STATION	TO	STATION	YELLOW			TOTAL LENGTH (LF)
				DOUBLE LENGTH (LF)	SINGLE LENGTH (LF)	DASHED LENGTH (LF)	
STH 76	693+95	-	694+10	-	15	12.5	28
STH 76 SB	694+10	-	698+80	940	10	-	950
STH 76 NB	694+10	-	698+80	940	10	-	950
STH 76 NB	698+80	-	699+35	110	-	-	110
STH 76 SB	723+55	-	723+55	-	10	-	10
STH 76 SB	740+00	-	740+55	110	-	-	110
STH 76 SB	740+55	-	746+85	1,260	15	-	1,275
STH 76 NB	740+55	-	746+85	1,260	15	-	1,275
STH 76	746+85	-	747+00	-	15	12.5	28
FAIRVIEW ROAD	WEST PROJECT LIMITS	-	STH 76 SB	100	-	-	100
FAIRVIEW ROAD	STH 76 NB	-	EAST PROJECT LIMITS	100	-	-	100
AMERICAN DRIVE	WEST PROJECT LIMITS	-	STH 76 SB	100	-	-	100
AMERICAN DRIVE	STH 76 NB	-	EAST PROJECT LIMITS	100	-	-	100
						<b>TOTAL</b>	<b>5,135</b>

646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH

ROADWAY	START POINT	TO	END POINT	DASHED WHITE LENGTH (LF)	EDGE LINE	
					SOLID LEFT WHITE LENGTH (LF)	SOLID RIGHT WHITE LENGTH (LF)
STH 76	SOUTH PROJECT LIMITS	-	TRANSITION FROM 2-LANE TO DIVIDED BEGIN	-	35	35
STH 76 SB	TRANSITION FROM 2-LANE TO DIVIDED BEGIN	-	BEGIN CURB AND GUTTER MEDIAN	-	470	-
STH 76 NB	TRANSITION FROM 2-LANE TO DIVIDED BEGIN	-	BEGIN CURB AND GUTTER MEDIAN	-	-	470
STH 76 SB	BEGIN CURB AND GUTTER MEDIAN	-	TRANSITION FROM 1-LANE TO 2-LANE END	-	520	-
STH 76 NB	BEGIN CURB AND GUTTER MEDIAN	-	TRANSITION FROM 1-LANE TO 2-LANE END	-	-	55
STH 76 NB	TRANSITION FROM 1-LANE TO 2-LANE END	-	FAIRVIEW ROAD	200	-	740
STH 76 SB	TRANSITION FROM 1-LANE TO 2-LANE END	-	FAIRVIEW ROAD	88	295	-
STH 76 SB	FAIRVIEW ROAD	-	USH 10 EB OFF-RAMP	263	935	-
STH 76 NB	FAIRVIEW ROAD	-	USH 10 EB ON-RAMP	275	-	970
STH 76 SB	USH 10 EB OFF-RAMP	-	USH 10 WB ON-RAMP	138	530	-
STH 76 NB	USH 10 EB ON-RAMP	-	USH 10 WB OFF-RAMP	138	-	520
STH 76 SB	USH 10 WB ON-RAMP	-	AMERICAN DRIVE	250	870	-
STH 76 NB	USH 10 WB OFF-RAMP	-	AMERICAN DRIVE	238	-	825
STH 76 SB	AMERICAN DRIVE	-	TRANSITION FROM 2-LANE TO 1-LANE BEGIN	175	610	-
STH 76 NB	AMERICAN DRIVE	-	TRANSITION FROM 2-LANE TO 1-LANE BEGIN	63	-	175
STH 76 NB	TRANSITION FROM 2-LANE TO 1-LANE BEGIN	-	END CURB AND GUTTER MEDIAN	-	-	515
STH 76 SB	TRANSITION FROM 2-LANE TO 1-LANE BEGIN	-	END CURB AND GUTTER MEDIAN	-	55	-
STH 76 SB	END CURB AND GUTTER MEDIAN	-	TRANSITION FROM DIVIDED TO 2-LANE END	-	630	-
STH 76 NB	END CURB AND GUTTER MEDIAN	-	TRANSITION FROM DIVIDED TO 2-LANE END	-	-	630
STH 76	TRANSITION FROM DIVIDED TO 2-LANE END	-	NORTH PROJECT LIMITS	-	15	15
FAIRVIEW ROAD	WEST PROJECT LIMITS	-	STH 76 SB	-	-	-
FAIRVIEW ROAD	STH 76 SB	-	STH 76 NB	-	-	-
FAIRVIEW ROAD	STH 76 NB	-	EAST PROJECT LIMITS	-	-	-
AMERICAN DRIVE	WEST PROJECT LIMITS	-	STH 76 SB	-	-	-
AMERICAN DRIVE	STH 76 SB	-	STH 76 NB	-	-	-
AMERICAN DRIVE	STH 76 NB	-	EAST PROJECT LIMITS	-	-	-
				1,825	4,965	4,950
<b>TOTAL</b>					<b>11,740</b>	

3

646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH

ROADWAY	STATION TO	STATION	WHITE		REMARKS
			LENGTH (LF)		
STH 76 NB	704+70	- 706+90	410		LEFT AND RIGH TURN LANE CHANNELIZATION
STH 76 SB	708+12	- 710+29	420		LEFT AND RIGH TURN LANE CHANNELIZATION
STH 76 NB	715+74	- 717+74	300		RIGHT TURN LANE CHANNELIZATION
STH 76 SB	718+65	- 720+65	200		LEFT TURN LANE CHANNELIZATION
STH 76 NB	720+07	- 723+07	300		LEFT TURN LANE CHANNELIZATION
STH 76 NB	730+43	- 732+63	420		LEFT AND RIGH TURN LANE CHANNELIZATION
STH 76 SB	733+93	- 735+93	400		LEFT AND RIGH TURN LANE CHANNELIZATION
FAIRVIEW ROAD	707+60	-	35		RIGHT TURN LANE CHANNELIZATION
<b>TOTAL</b>			<b>2,485</b>		

646.7120 MARKING DIAGONAL EPOXY 12-INCH

STATION TO	STATION	ROADWAY	LENGTH (LF)	REMARKS
694+00	- 699+30	STH 76	320	LANE TRANSITION MEDIUM
741+05	- 746+80	STH 76	400	LANE TRANSITION MEDIUM
<b>TOTAL</b>			<b>720</b>	

650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE

STATION TO	STATION	LF
693+95	- 707+00	1,305
707+00	- 718+00	1,100
718+00	- 724+00	600
724+00	- 733+00	900
733+00	- 747+00	1,400
<b>TOTAL</b>		<b>5305</b>

3

690.0150 SAWING ASPHALT

ROADWAY	STATION	RT/LT	LF	REMARKS
STH 76 NB	710+25	LT	17	
STH 76 NB	713+68	LT	17	
STH 76 NB	717+85	LT	114	
STH 76 NB	722+30	RT	26	
STH 76 NB	722+98	LT	13	
STH 76 NB	728+86	LT	20	
STH 76 NB	732+42	LT	14	
STH 76 NB	736+00	LT	15	
STH 76 NB	740+44	LT	19	
STH 76 SB	701+02	LT	16	
STH 76 SB	713+68	LT	19	
STH 76 SB	717+76	LT	104	
STH 76 SB	722+29	LT	27	
STH 76 SB	722+98	LT	17	
STH 76 SB	728+87	LT	19	
STH 76 SB	732+53	LT	12	
STH 76 SB	736+00	LT	37	
STH 76 SB	737+58	LT	12	
STH 76 SB	740+47	LT	19	
<b>TOTAL</b>			<b>537</b>	

690.0250 SAWING CONCRETE

ROADWAY	STATION	RT/LT	LF	REMARKS
STH 76 NB	710+25	LT	5	
STH 76 NB	713+68	LT	5	
STH 76 NB	717+85	LT	5	
STH 76 NB	722+98	LT	5	
STH 76 NB	728+86	LT	5	
STH 76 NB	732+42	LT	5	
STH 76 NB	736+00	LT	5	
STH 76 NB	740+44	LT	5	
STH 76 SB	701+02	LT	5	
STH 76 SB	713+68	LT	5	
STH 76 SB	717+76	LT	5	
STH 76 SB	722+98	LT	5	
STH 76 SB	728+87	LT	5	
STH 76 SB	732+53	LT	5	
STH 76 SB	736+00	LT	5	
STH 76 SB	737+58	LT	5	
STH 76 SB	740+47	LT	5	
<b>TOTAL</b>			<b>85</b>	

SPV.0060.01 CLEANING STORM SEWER OUTFALL

STATION	OFFSET	EACH	REMARKS
698+77 LT	52.8'	1	CLEAN OUT STORM SEWER ENDWALL
706+40 LT	88.9'	1	CLEAN OUT STORM SEWER ENDWALL
706+40 RT	57.0'	1	CLEAN OUT STORM SEWER ENDWALL
710+25 RT	75.7'	1	CLEAN OUT STORM SEWER ENDWALL
713+70 RT	98.6'	1	CLEAN OUT STORM SEWER ENDWALL
717+20 RT	96.0'	1	CLEAN OUT STORM SEWER ENDWALL
719+03 RT	67.9'	1	CLEAN OUT STORM SEWER ENDWALL
722+98 RT	70.1'	1	CLEAN OUT STORM SEWER ENDWALL
728+85 RT	95.1'	1	CLEAN OUT STORM SEWER ENDWALL
732+32 RT	63.4'	1	CLEAN OUT STORM SEWER ENDWALL
735+98 RT	61.8'	1	CLEAN OUT STORM SEWER ENDWALL
740+44 RT	47.0'	1	CLEAN OUT STORM SEWER ENDWALL
<b>TOTAL</b>		<b>12</b>	

SPV.0060.02 ADJUSTING INLET COVERS AND REPLACING RINGS

ROADWAY	STATION	RT/LT	EACH	REMARKS
STH 76 NB	713+68	LT	1	
STH 76 NB	717+85	LT	1	
STH 76 NB	722+31	RT	1	
STH 76 NB	722+98	LT	1	
STH 76 NB	728+86	LT	1	
STH 76 NB	732+42	LT	1	
STH 76 NB	736+00	LT	1	
STH 76 NB	740+44	LT	1	
STH 76 SB	701+02	LT	1	
STH 76 SB	713+68	LT	1	
STH 76 SB	717+76	LT	1	
STH 76 SB	722+29	LT	1	
STH 76 SB	722+98	LT	1	
STH 76 SB	728+87	LT	1	
STH 76 SB	732+53	LT	1	
STH 76 SB	736+00	LT	1	
STH 76 SB	740+47	LT	1	
<b>TOTAL</b>			<b>17</b>	



BEGIN PROJECT  
 STA 693+95.00  
 Y=543,526.756  
 X=791,408.142

PI: 696+04.09

PC: 697+45.55

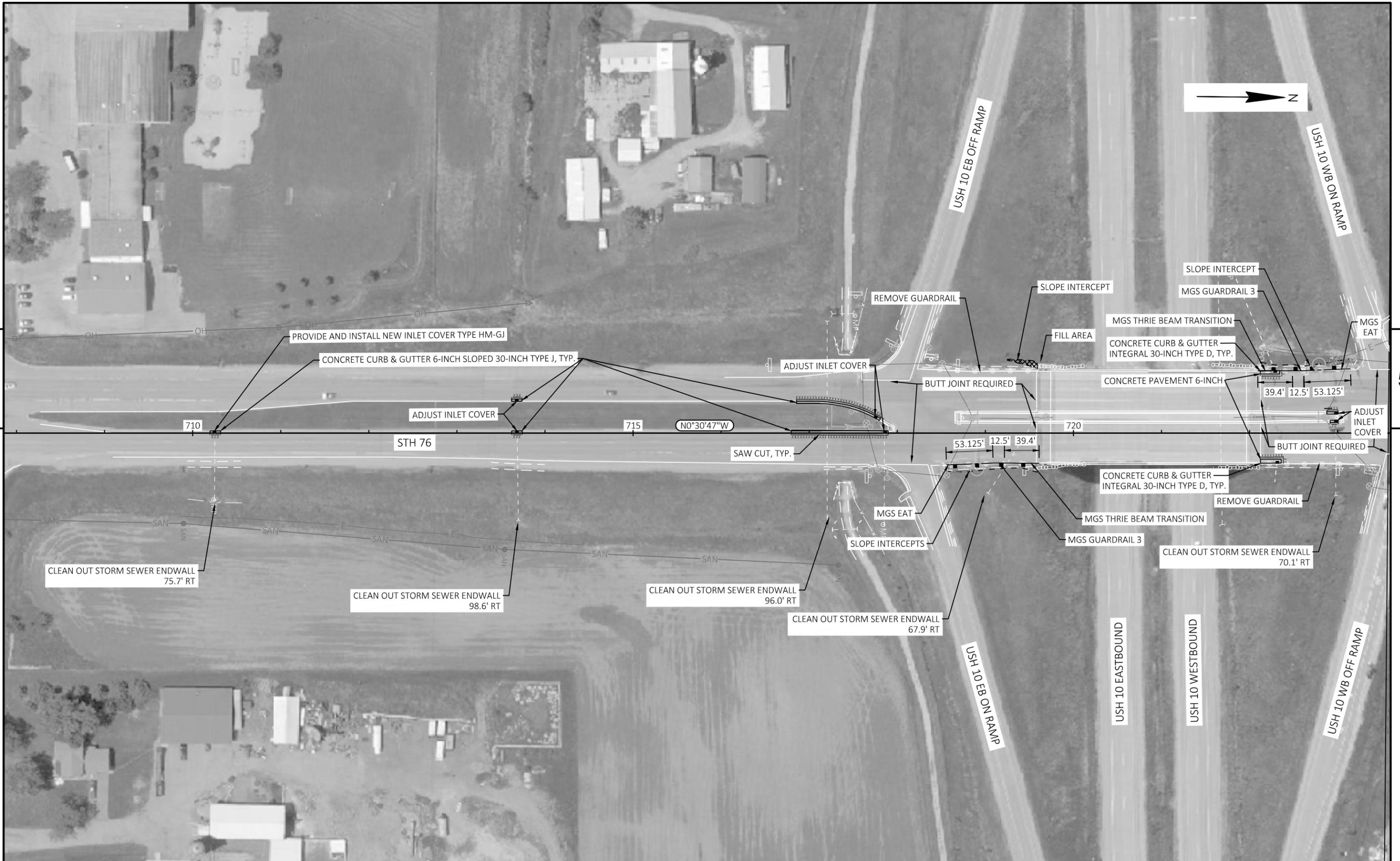
PT: 700+54.76

PC: 701+80.09

PT: 706+43.93

**CURVE 1**  
 PI STA = 699+00.16  
 Y = 544031.915  
 X = 791409.886  
 DELTA = 1°32'46" RT  
 D = 0°30'00"  
 T = 154.61'  
 L = 309.21'  
 R = 11459.16'  
 PC STA = 697+45.55  
 Y = 543877.302  
 X = 791409.184  
 PT STA = 700+54.76  
 Y = 544186.453  
 X = 791414.759  
 DB = N00°15'37"E  
 DA = N01°48'22"E  
 NC

**CURVE 2**  
 PI STA = 704+12.04  
 Y = 544543.561  
 X = 791426.020  
 DELTA = 2°19'09" LT  
 D = 0°30'00"  
 T = 231.95'  
 L = 463.84'  
 R = 11459.16'  
 PC STA = 701+80.09  
 Y = 544311.722  
 X = 791418.709  
 PT STA = 706+43.93  
 Y = 544775.505  
 X = 791423.943  
 DB = N01°48'22"E  
 DA = N00°30'47"W  
 NC



5

5

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	PLAN	SHEET	E
------------------------	-------------	-------------------	------	-------	---

FILE NAME : N:\PDS\C3D\64302200\SHEETS\PLAN\050201-PN.DWG PLOT DATE : 10/17/2023 4:52 PM PLOT BY : CAMPSHURE, MICHAEL R PLOT NAME : PLOT SCALE : 1 IN:100 FT



**CURVE 3**  
 PI STA = 734+76.06  
 Y = 547607.521  
 X = 791398.585  
 DELTA = 2°34'20" LT  
 D = 0°30'00"  
 T = 257.26'  
 L = 514.44'  
 R = 11459.16'  
 PC STA = 732+18.80  
 Y = 547350.268  
 X = 791400.889  
 PT STA = 737+33.24  
 Y = 547864.411  
 X = 791384.739  
 DB = N00°30'47"W  
 DA = N03°05'07"W  
 NC

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	PLAN	SHEET	<b>E</b>
------------------------	-------------	-------------------	------	-------	----------



5

5

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	PLAN	SHEET	E
------------------------	-------------	-------------------	------	-------	---

FILE NAME : N:\PDS\C3D\64302200\SHEETS\PLAN\050201-PN.DWG PLOT DATE : 10/17/2023 4:52 PM PLOT BY : CAMPSHURE, MICHAEL R PLOT NAME : PLOT SCALE : 1 IN:100 FT WISDOT/CADD SHEET 44

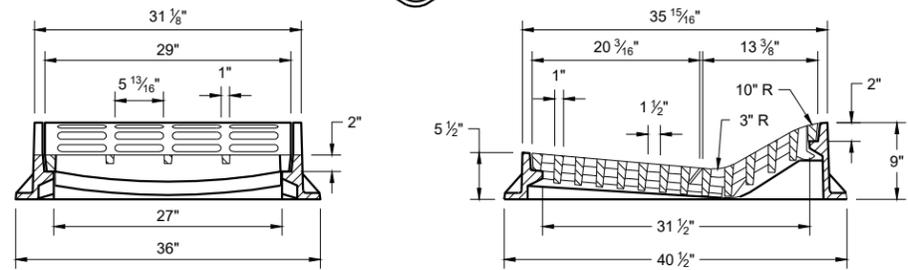
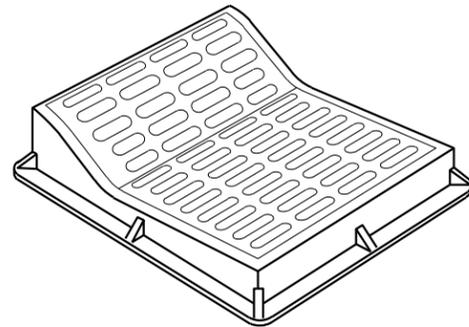
## Standard Detail Drawing List

08A05-20C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D12-11A	TRAFFIC CONTROL, LANE CLOSURE
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

**GENERAL NOTES**

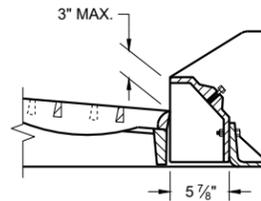
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



**TYPE "F"**

USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"

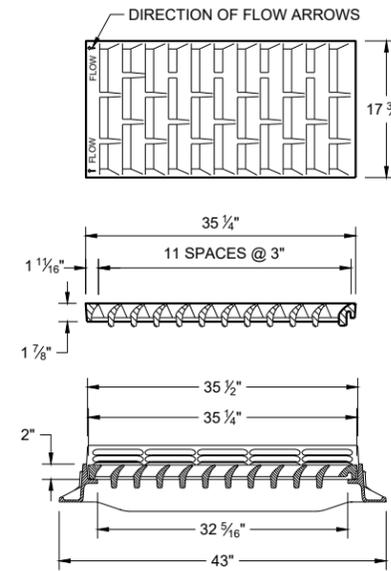


**ALTERNATIVE CURB BOX FOR TYPE "HM" COVER**

USE WITH TYPES "G" AND "J" CONCRETE CURB AND GUTTER, 30 INCH NOTED AS TYP "HM-GJ" ON DRAINAGE TABLE

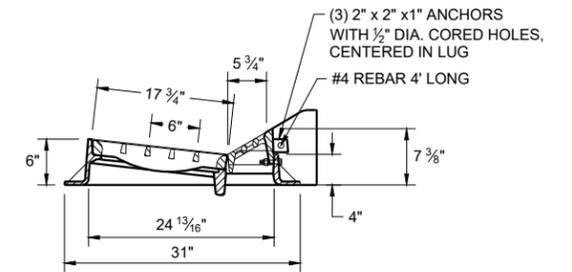
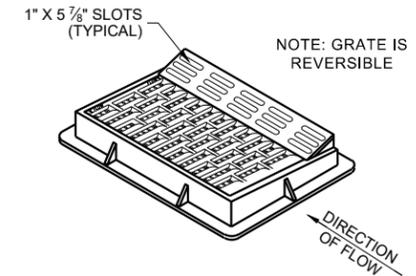
NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.



**TYPE "HM"**

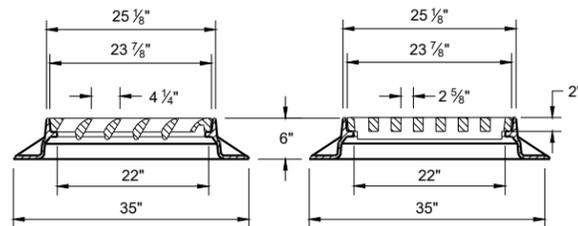
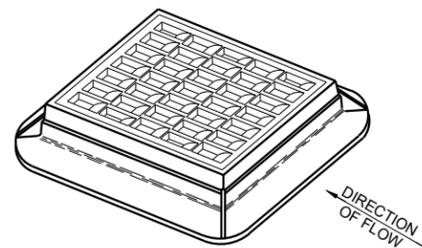
USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"



NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

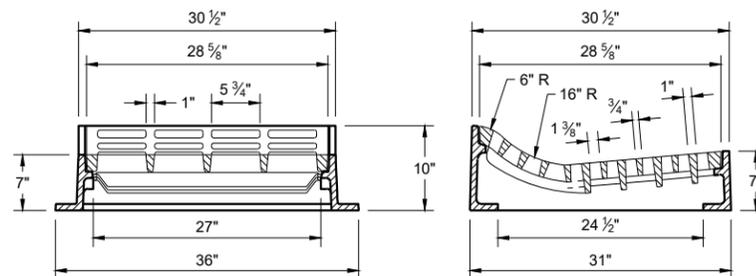
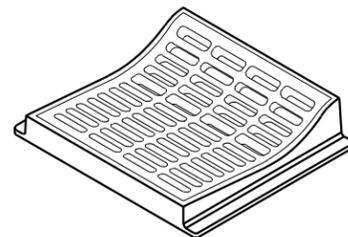
NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.

6



**TYPE "S"**

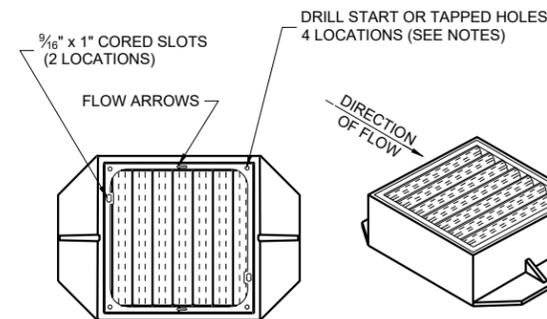
SDD 08A05-20C



**TYPE "T"**

USE WITH TYPES "R" AND "T" CONCRETE CURB AND GUTTER, 36"

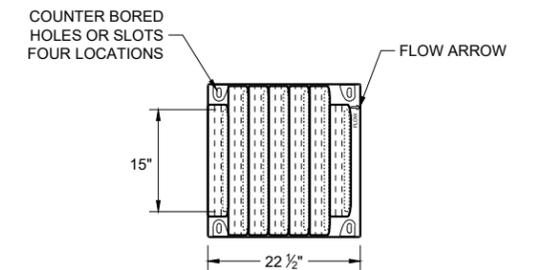
6



**TYPE "V"**

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V  
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A  
3/8" DIA. X 1/16" DRILL START IN 4 LOCATIONS  
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



**BOLT DOWN GRATE FOR TYPE "V" COVER**

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER NOTED AS TYPE "V-B" ON DRAINAGE TABLE

TAP 1/2" -13 HOLES IN FOUR LOCATIONS IN FRAME TO BOLT GRATE FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD BOLTS - 1/2" -13 STAINLESS STEEL BOLTS WITH WASHERS TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

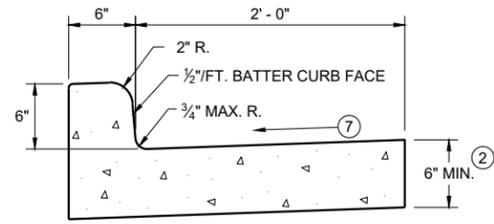
**INLET COVERS  
TYPES F, HM, HM-S, S, T, V,  
HM-GJ AND HM-GJ-S**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

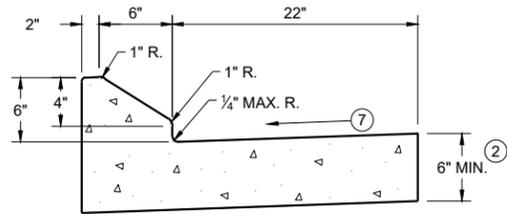
APPROVED  
July 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

FHWA

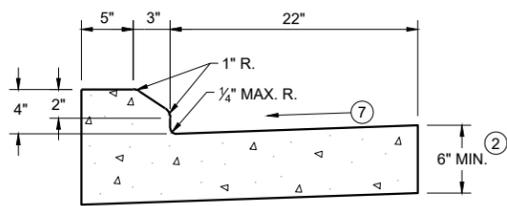
SDD 08A05-20C



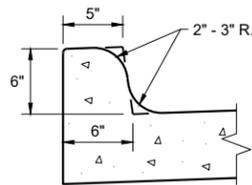
TYPES A<sup>①</sup> & D



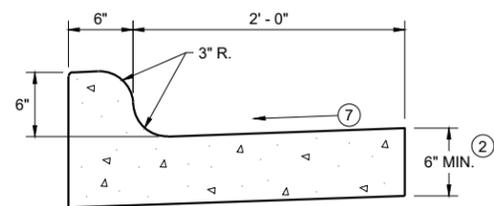
6" SLOPED CURB TYPES G<sup>①</sup> & J



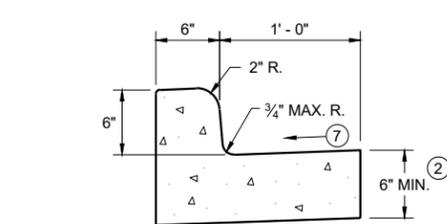
4" SLOPED CURB TYPES G<sup>①</sup> & J



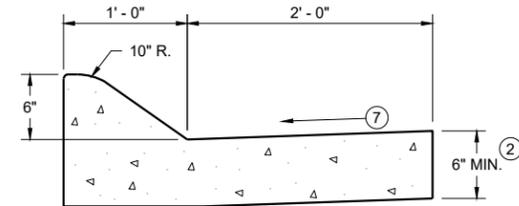
TYPES K<sup>①</sup> & L  
(OPTIONAL CURB SHAPE)



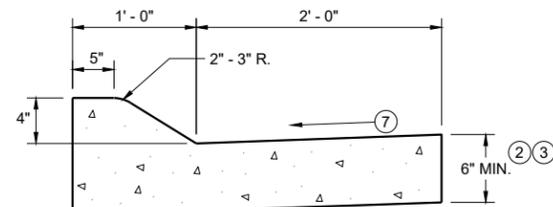
TYPES K<sup>①</sup> & L  
CONCRETE CURB AND GUTTER 30"



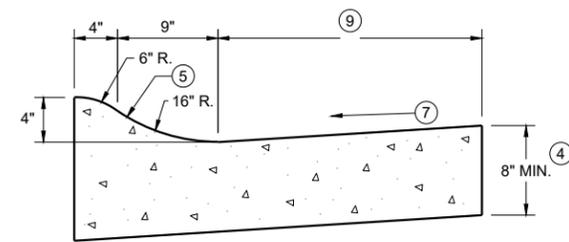
TYPES A<sup>①</sup> & D  
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A<sup>①</sup> & D

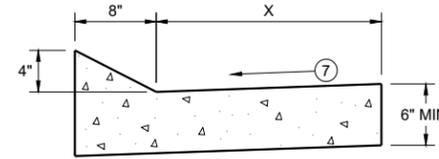


4" SLOPED CURB TYPES A<sup>①</sup> & D  
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R<sup>①</sup> & T

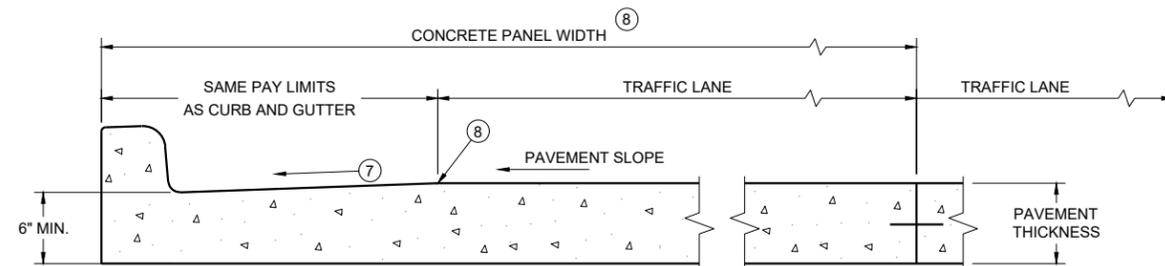
TBT & TBTT	X
30"	22"
36"	28"



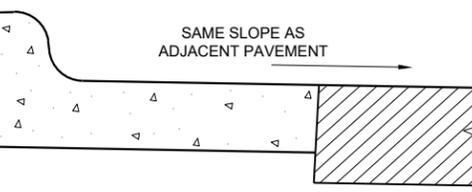
TYPES TBT & TBTT<sup>①</sup>  
CONCRETE CURB AND GUTTER

PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER



REVERSE SLOPE GUTTER<sup>⑥</sup>  
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

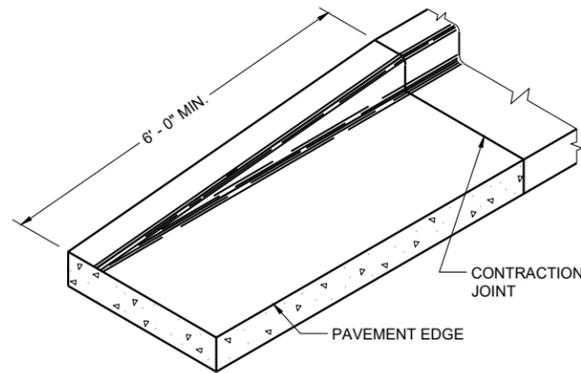
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

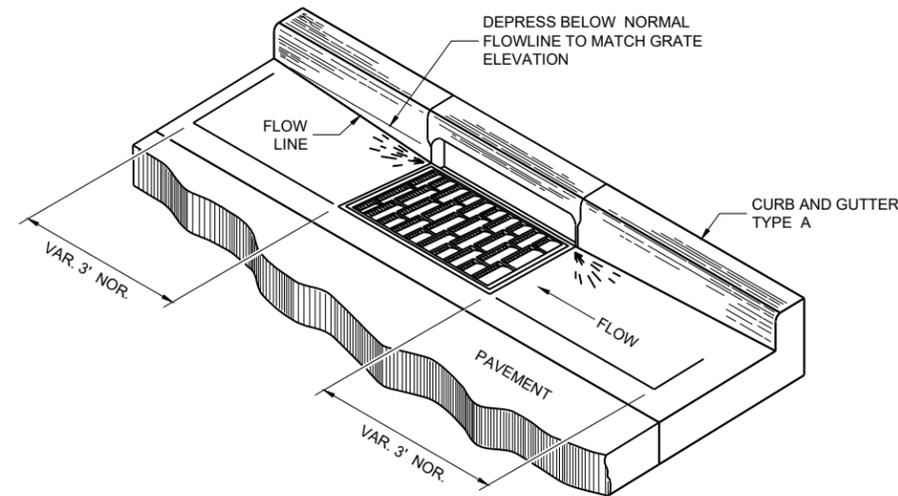
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES  
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

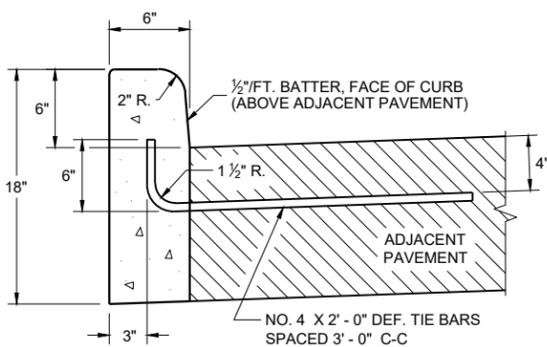


**END SECTION CURB AND GUTTER**

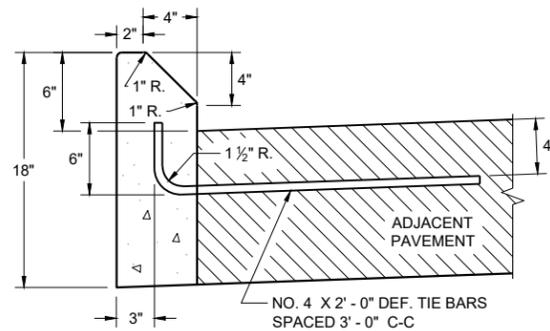


**DETAIL OF CURB AND GUTTER AT INLETS**

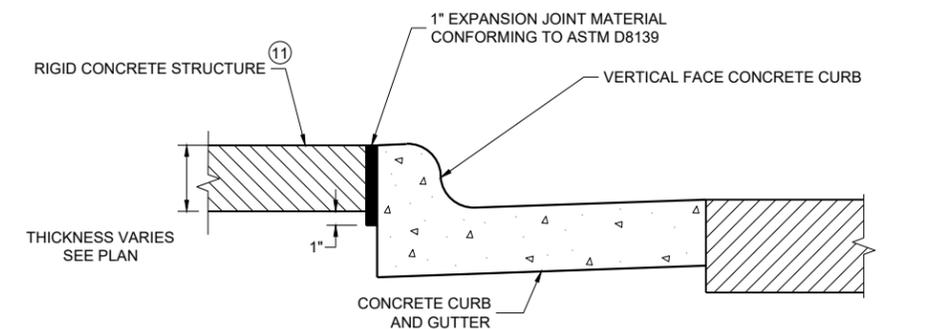
(TYPICAL H INLET COVER SHOWN)



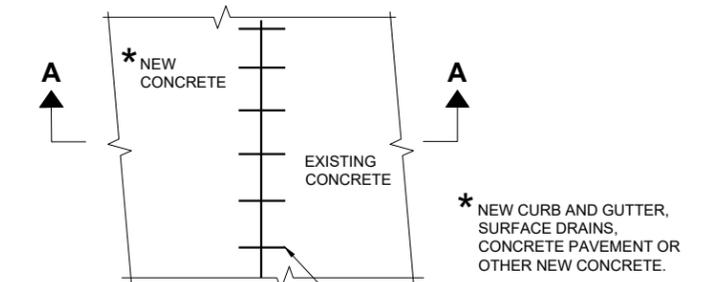
**TYPES A<sup>①</sup> & D**



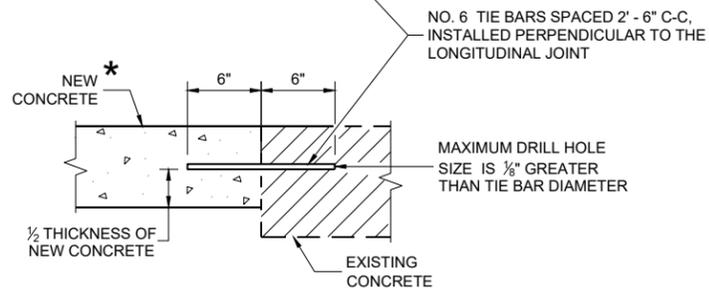
**TYPES G<sup>①</sup> & J  
CONCRETE CURB**



**EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE<sup>⑪</sup>**



**PLAN VIEW**



**SECTION A - A**

**TIE BARS DRILLED INTO EXISTING PAVEMENT**

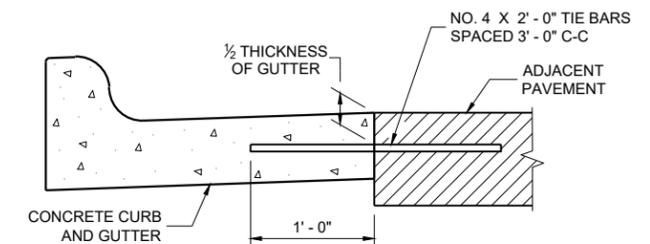
**GENERAL NOTES**

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

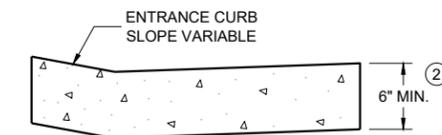
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



**TYPICAL TIE BAR LOCATION<sup>①</sup>**

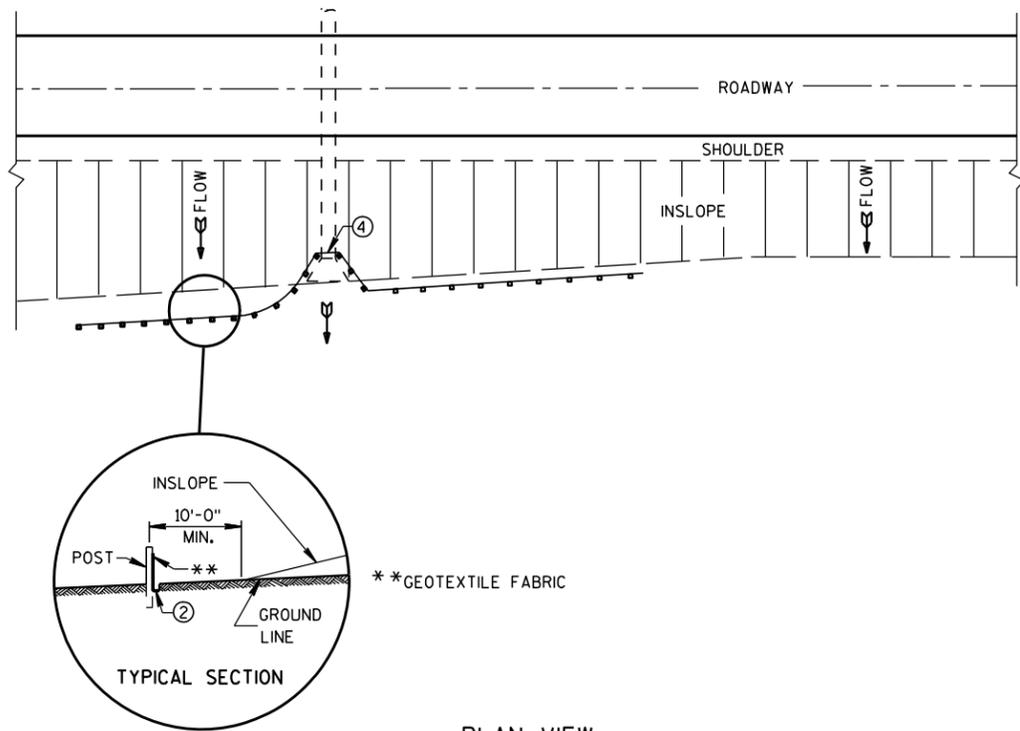


**DRIVEWAY ENTRANCE CURB<sup>⑩</sup>  
(WHEN DIRECTED BY THE ENGINEER)**

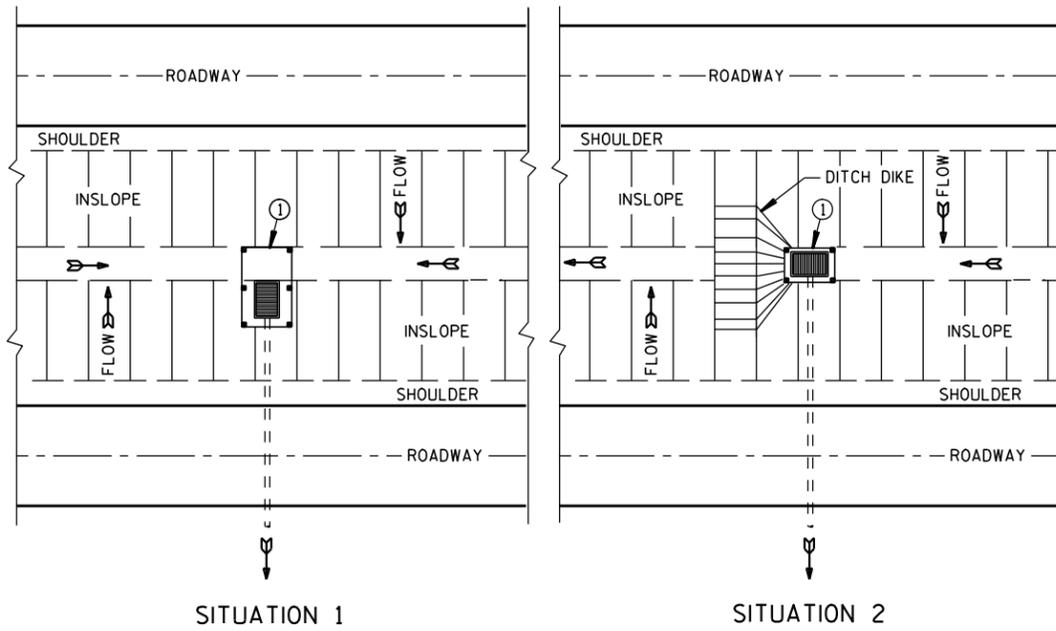
**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

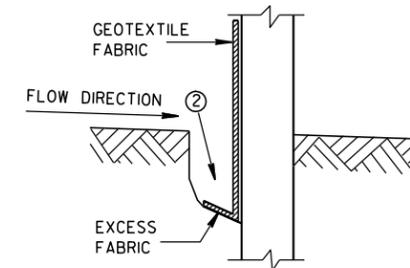


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

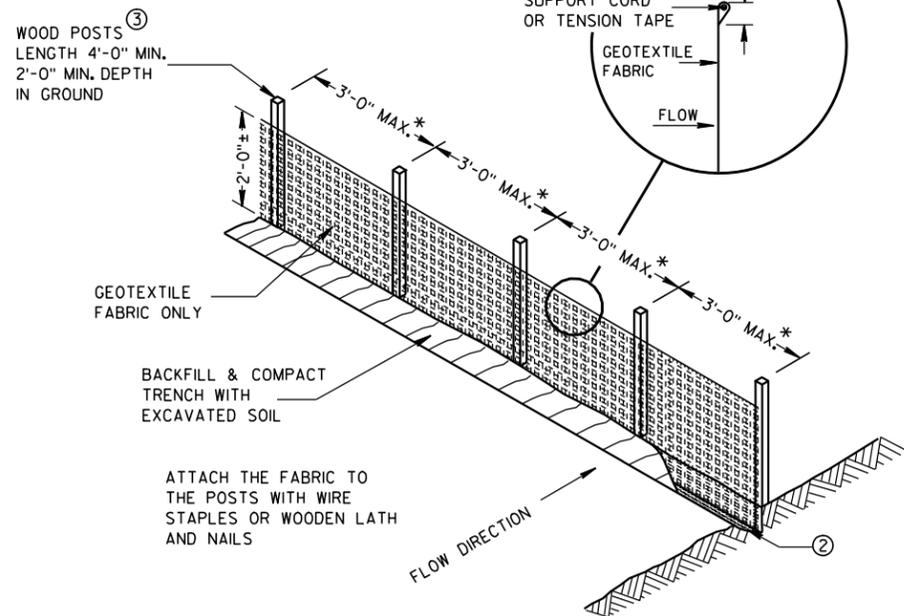
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



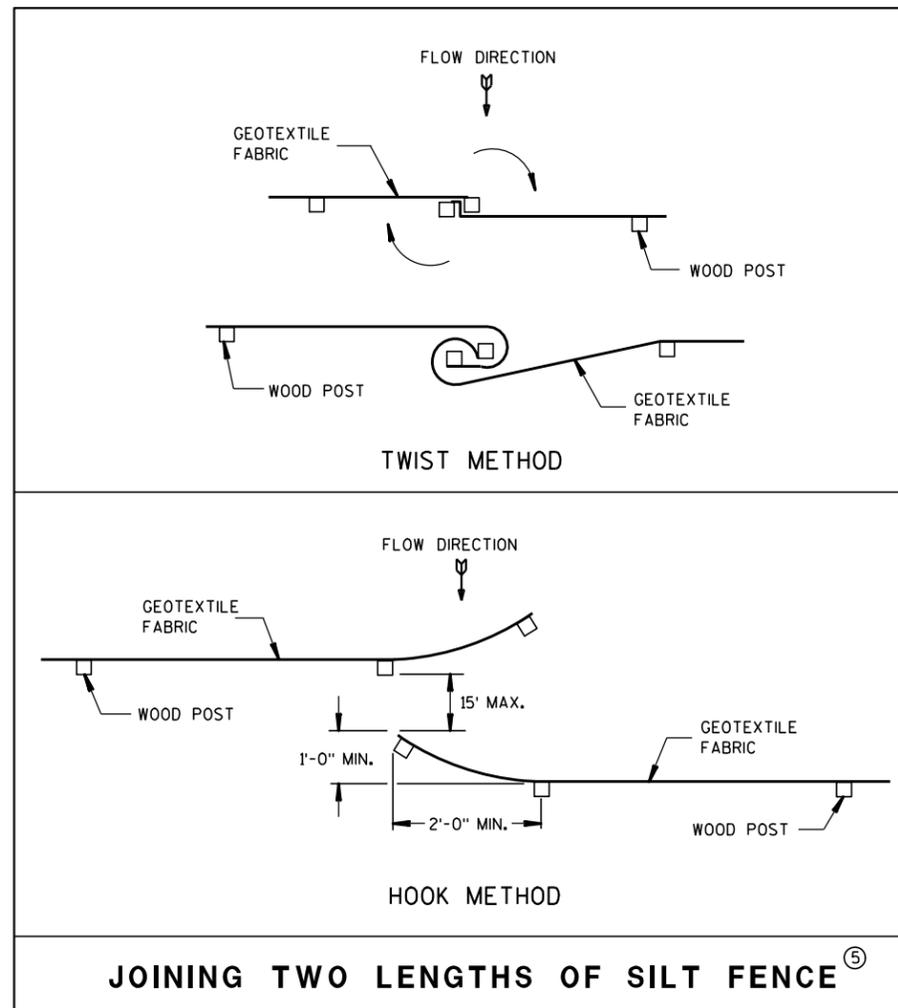
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

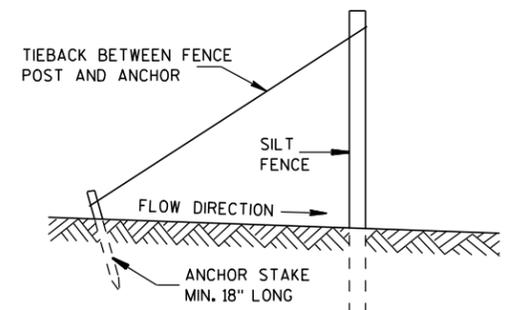


SILT FENCE

\* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

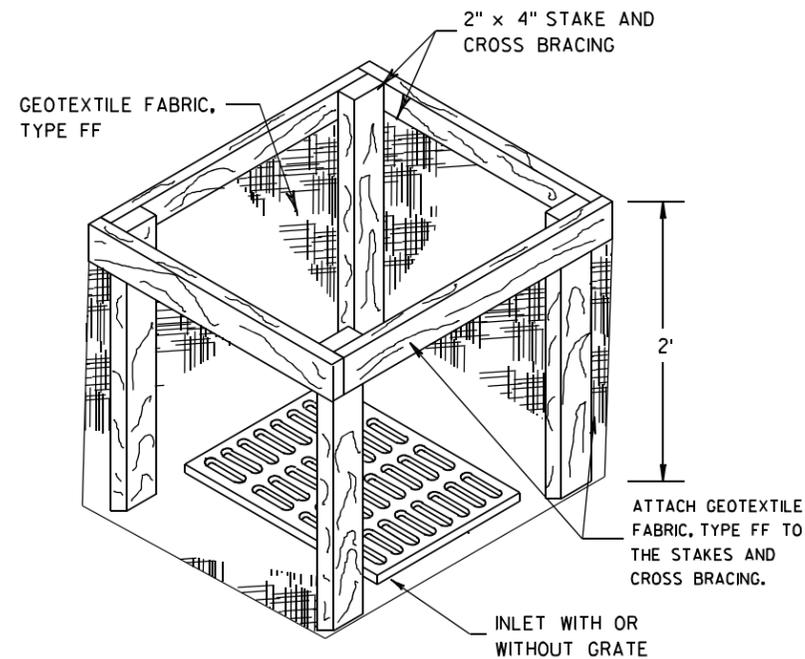
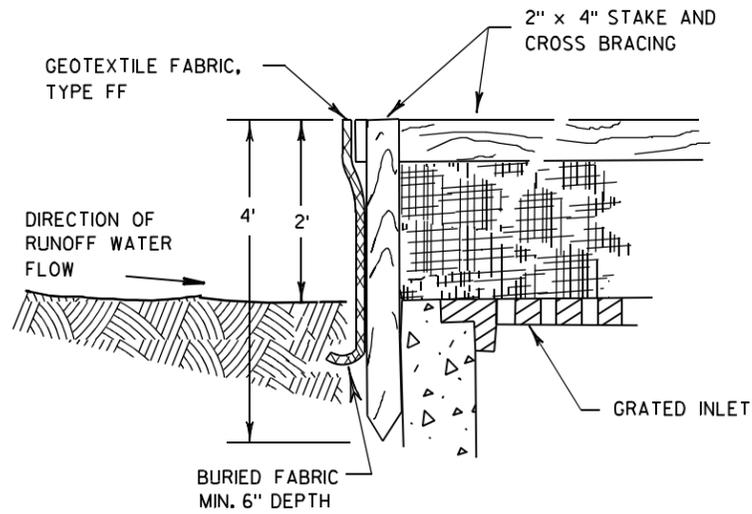
APPROVED

4-29-05

DATE

FHWA

/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER



**INLET PROTECTION, TYPE A**

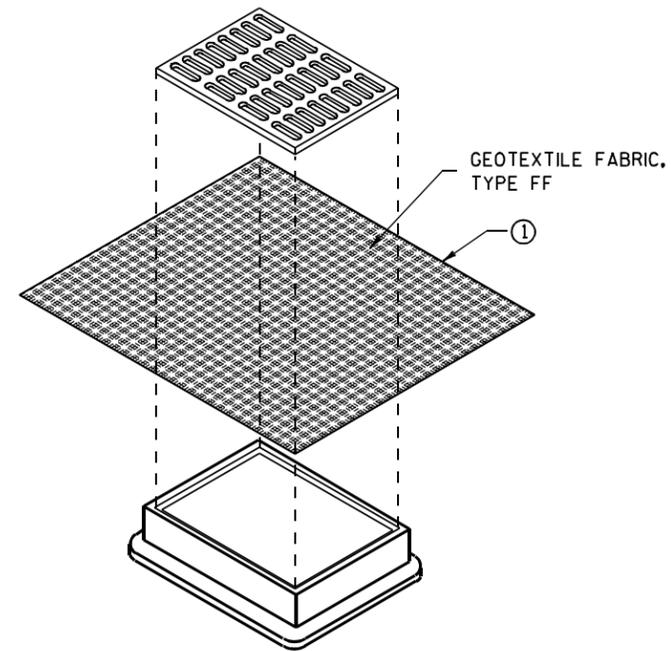
**GENERAL NOTES**

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

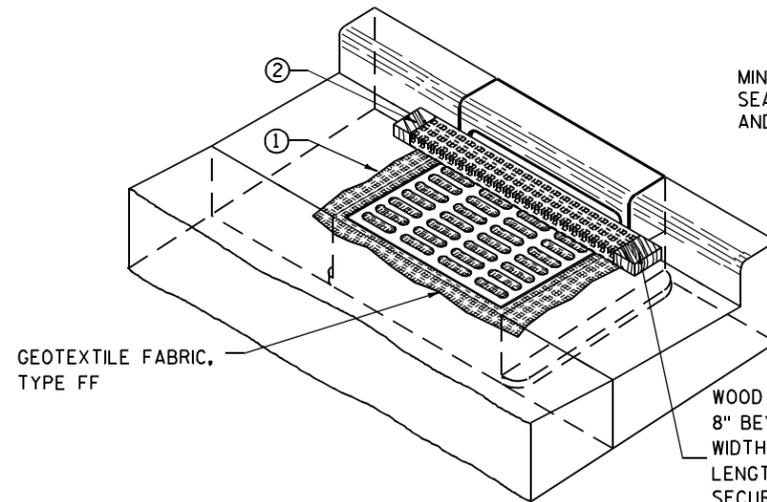
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

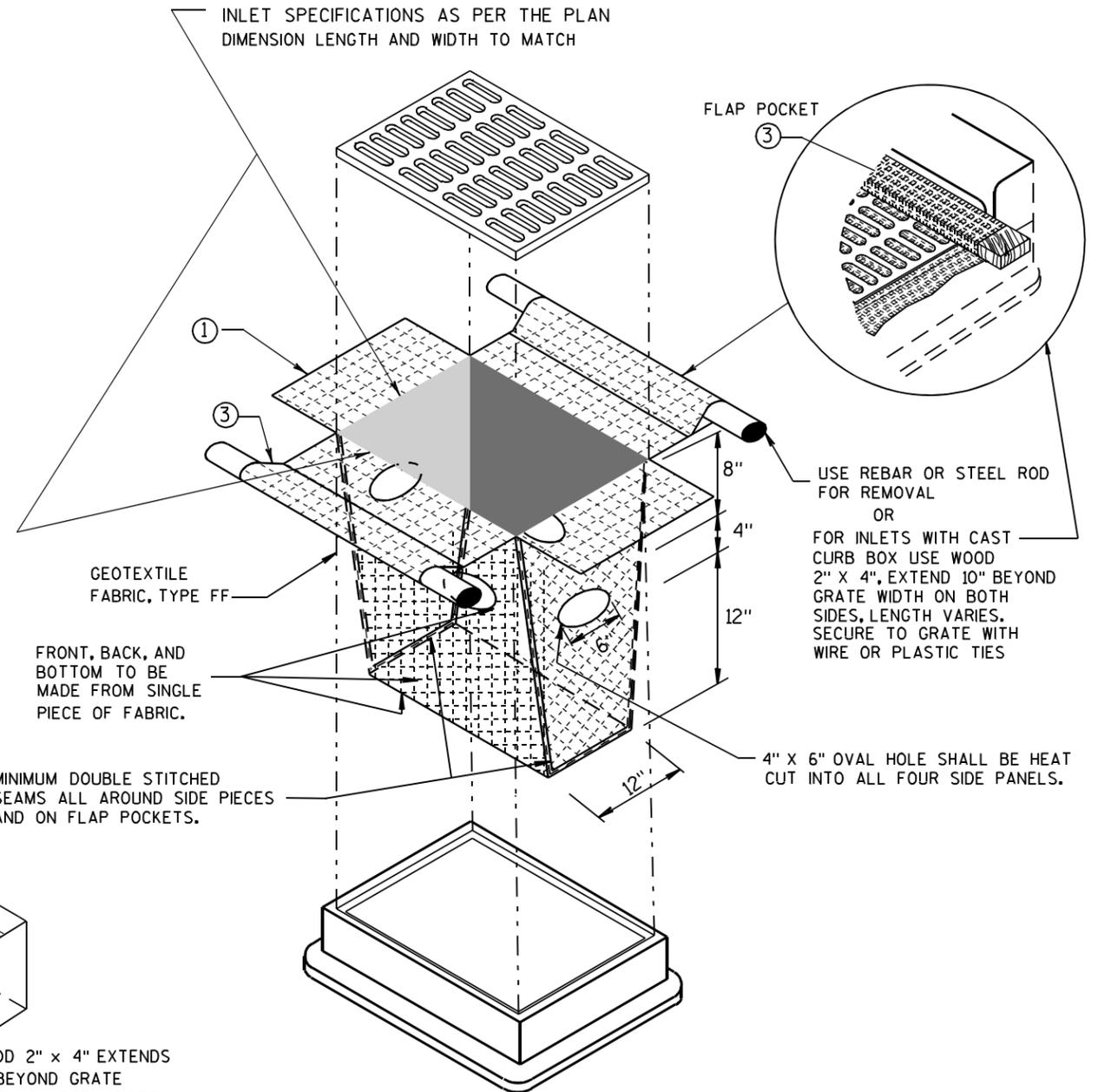
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



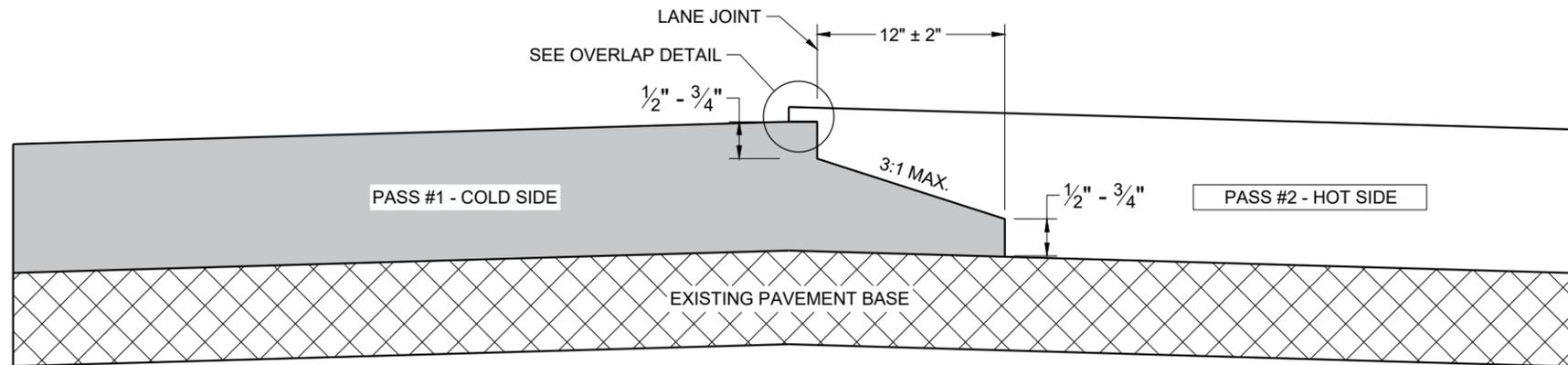
**INLET PROTECTION, TYPE D**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

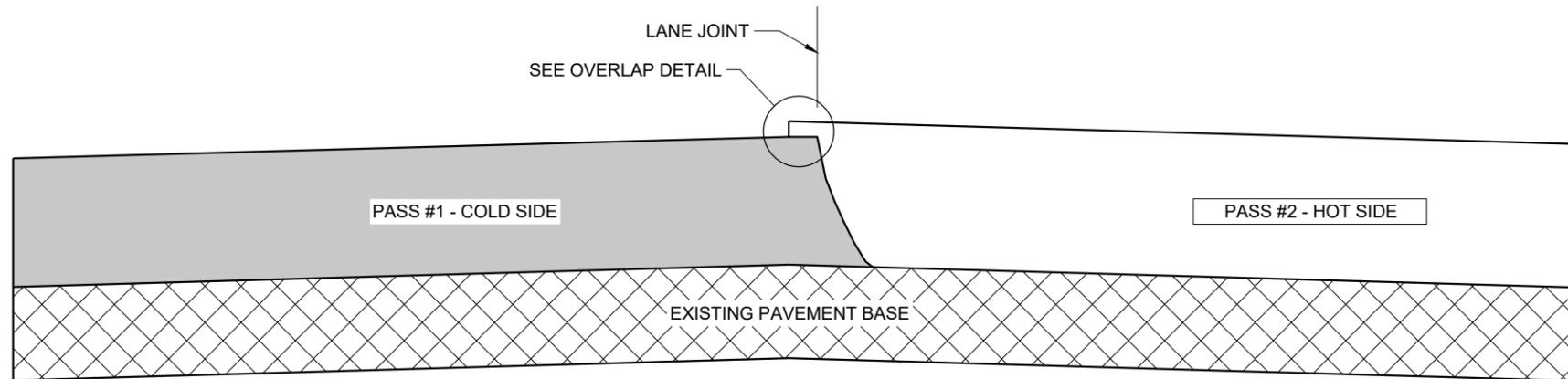
**INLET PROTECTION  
TYPE A, B, C, AND D**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

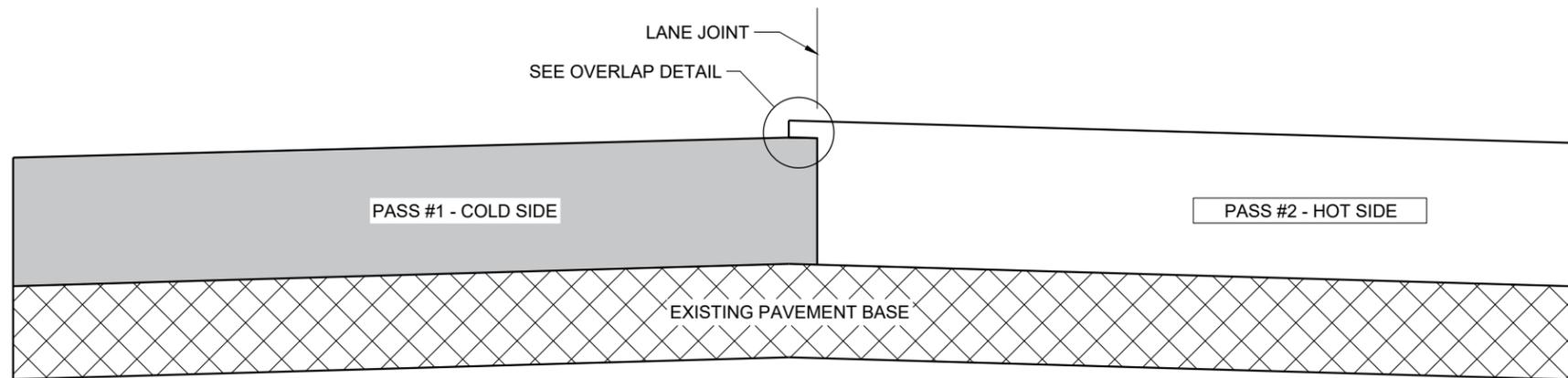
APPROVED  
10/16/02 /S/ Beth Connestra  
DATE  
CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA



**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT (MILLED)**

**GENERAL NOTES**

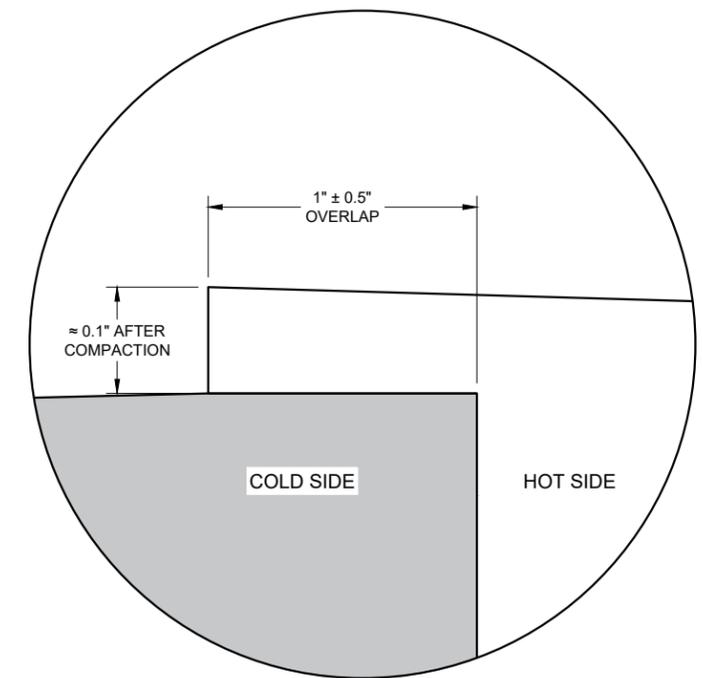
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY  $1" \pm 0.5"$  AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY  $0.1"$  AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO  $2"$  FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



**OVERLAP DETAIL (TYPICAL)**

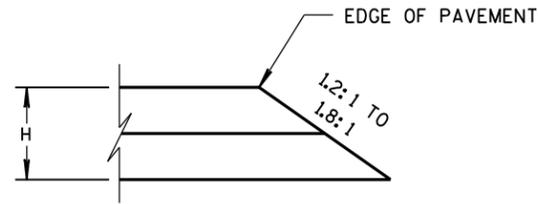
6

6

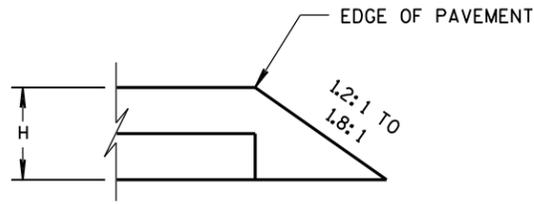
SDD 13C19 - 03

SDD 13C19 - 03

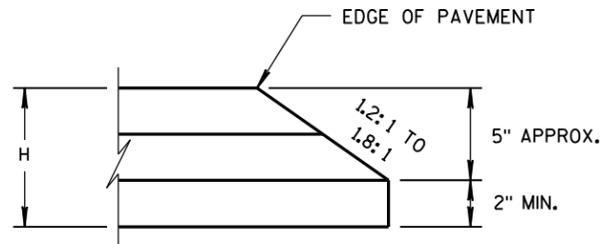
<b>HMA LONGITUDINAL JOINTS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	



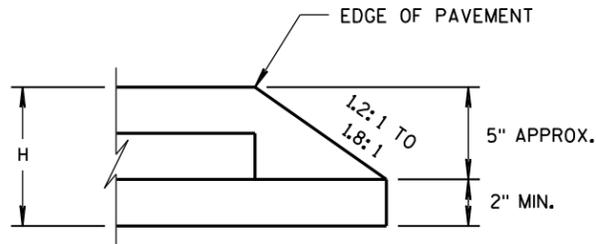
CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER  
FOR H 5" OR LESS

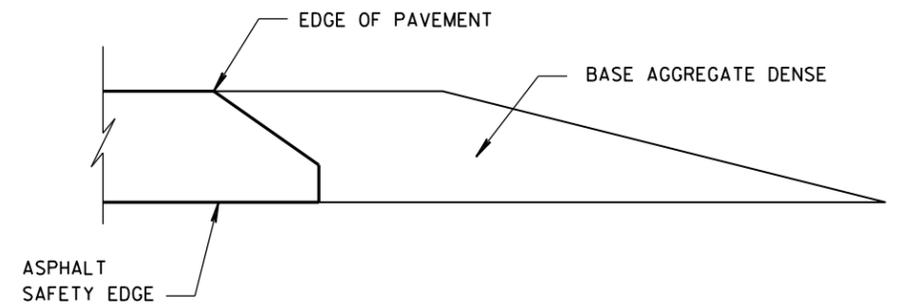


CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER  
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

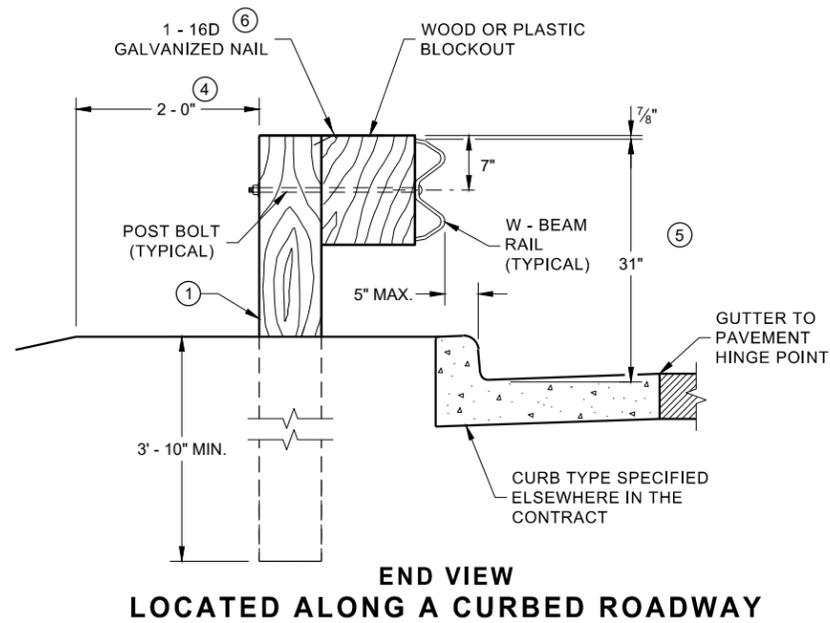
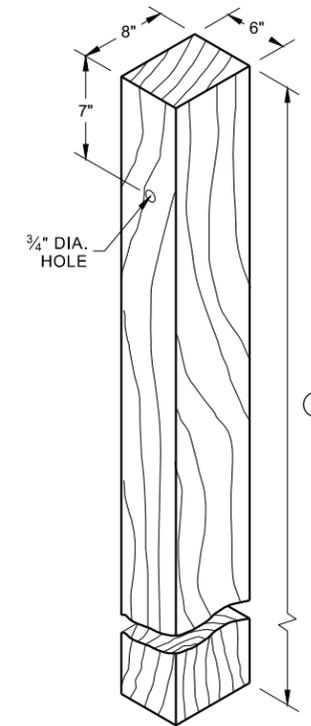
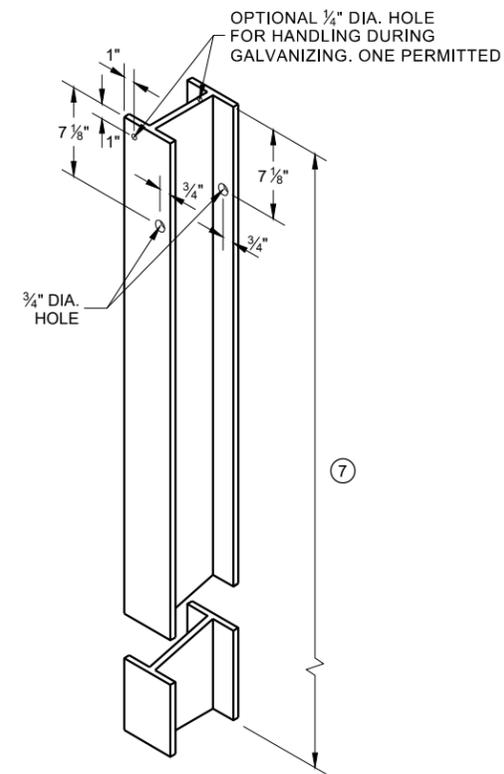
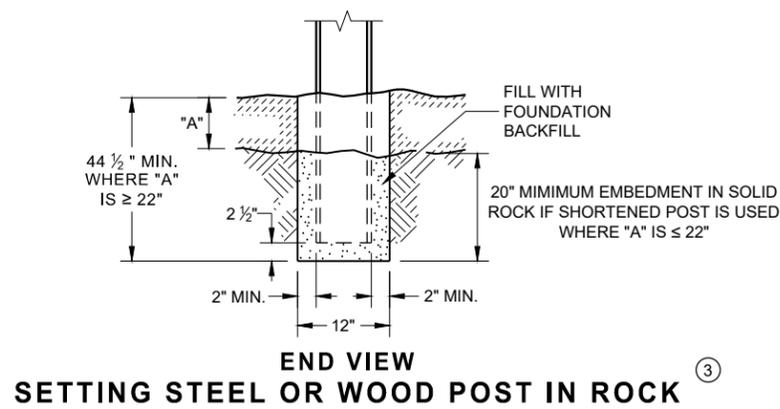
6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

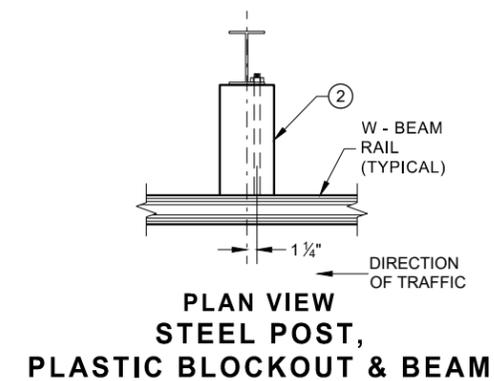
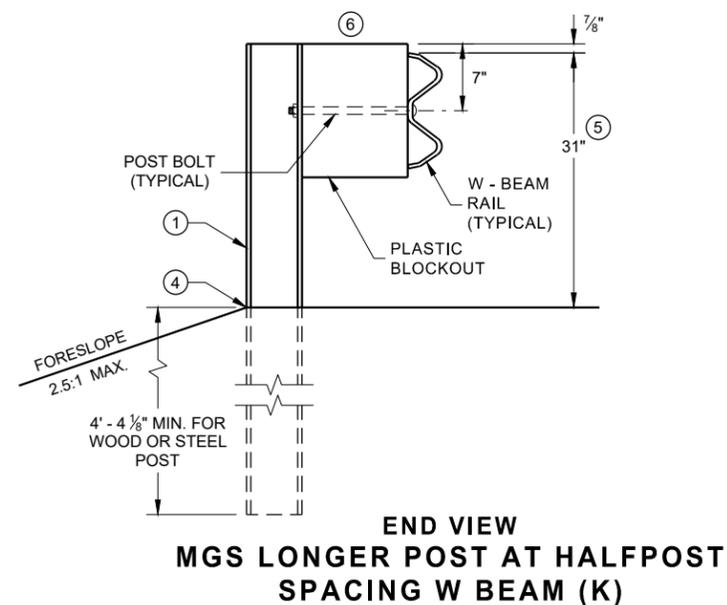
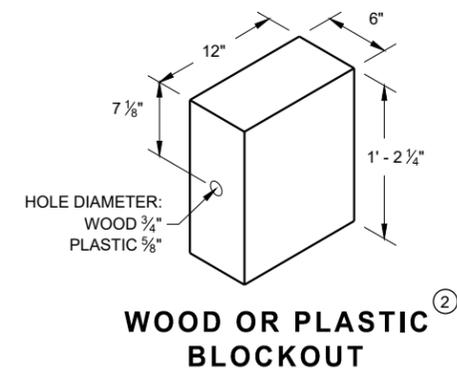
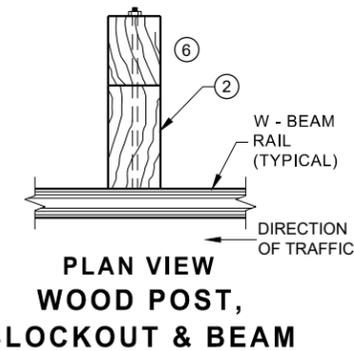
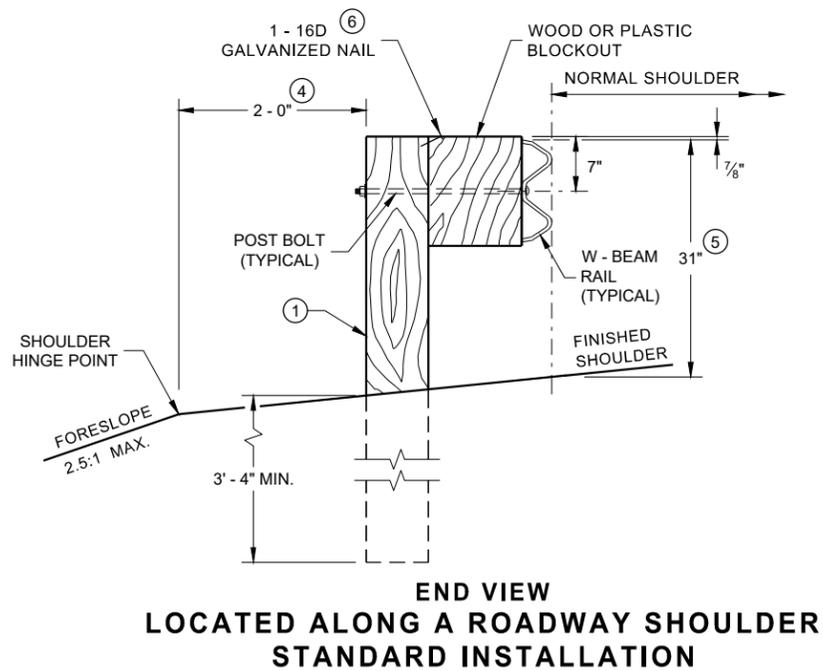
SAFETY EDGE <sub>SM</sub>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS  $\pm 1"$ . FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



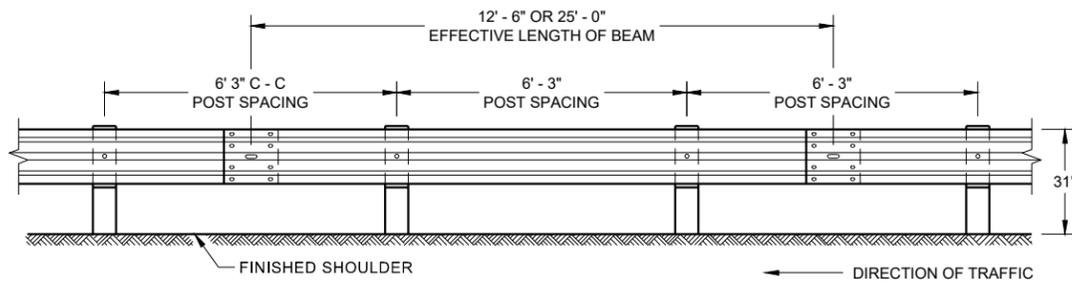
**STEEL POST & HOLE PUNCHING DETAIL  
(W 6 X 9)** ①

**WOOD POST  
(6" X 8") NOMINAL** ①

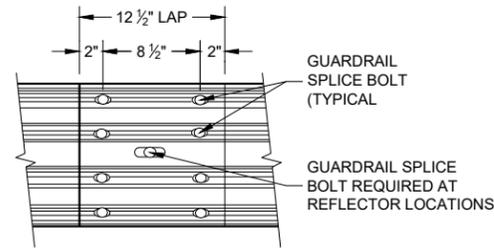


**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



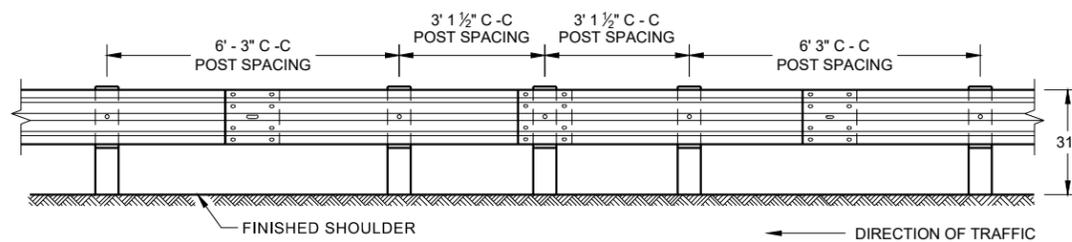
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



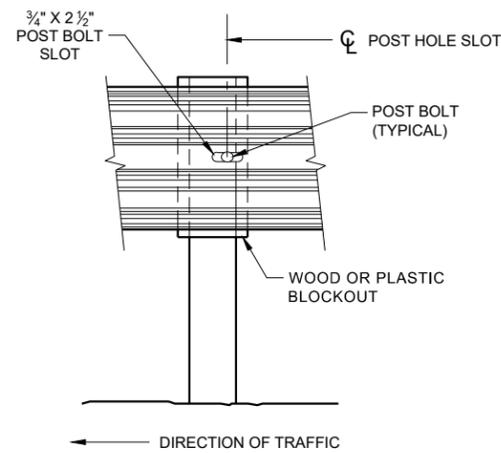
**FRONT VIEW  
MID-SPAN BEAM SPLICE**

**GENERAL NOTES**

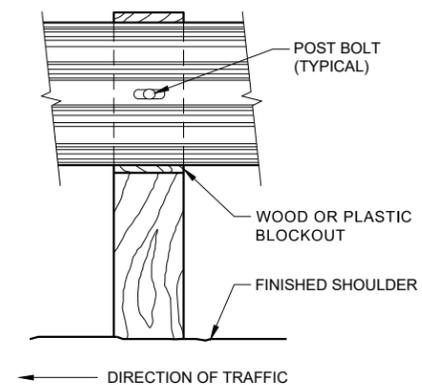
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
  - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



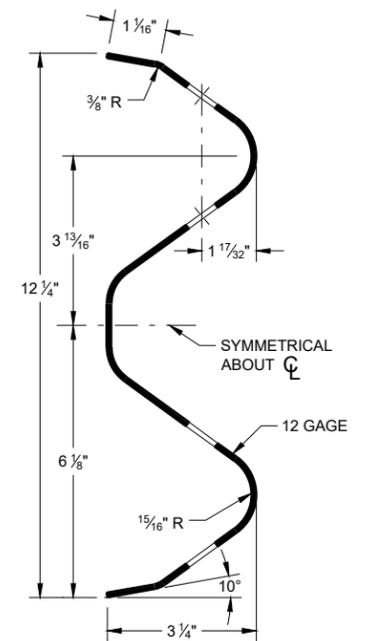
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



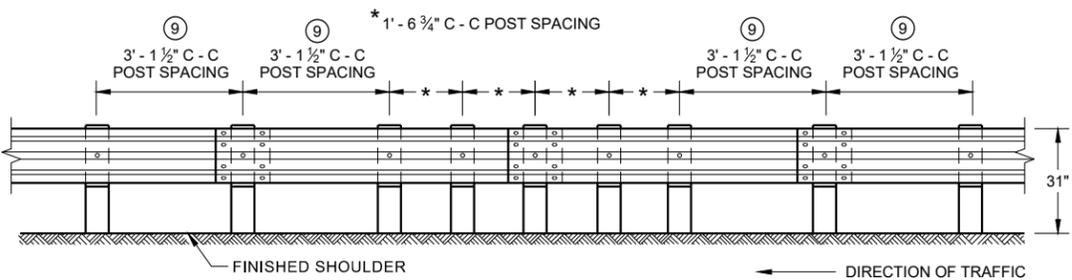
**FRONT VIEW AT STEEL POST**



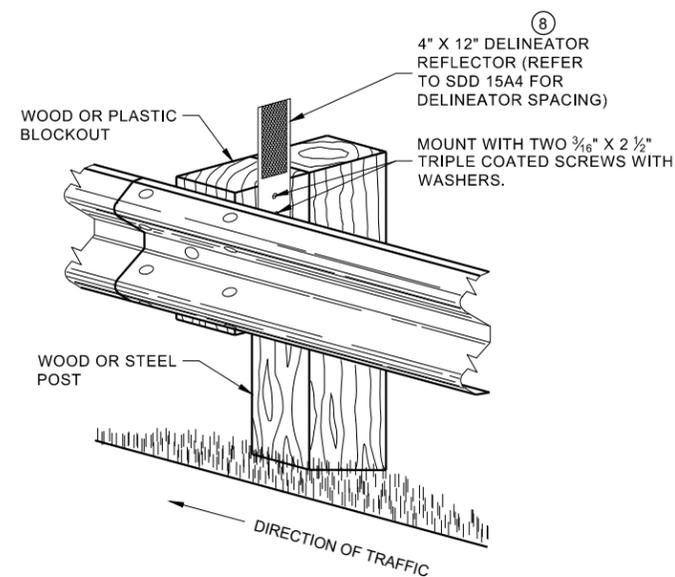
**FRONT VIEW AT WOOD POST**



**SECTION THRU W-BEAM RAIL**



**FRONT VIEW  
QUARTER POST SPACING (QS)**



**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

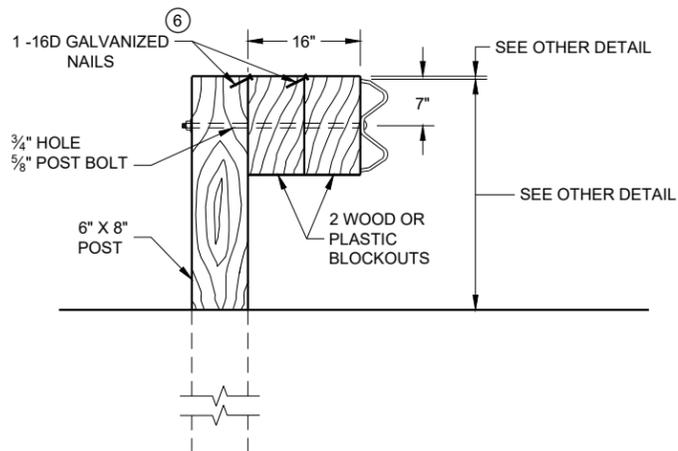
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

SDD 14B42 - 07b

SDD 14B42 - 07b

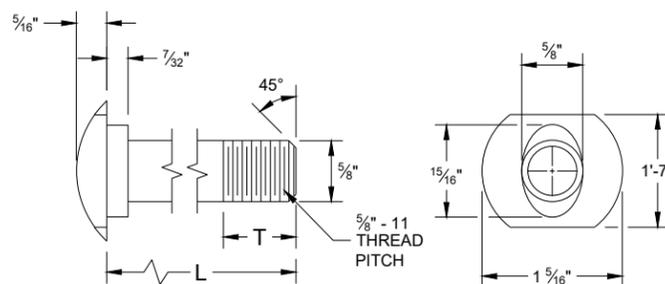


**DETAIL FOR 16" BLOCKOUT DEPTH**

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

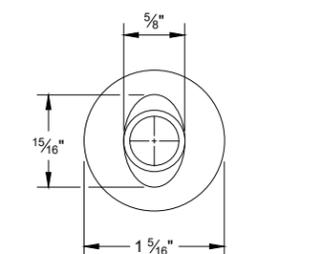
**NOTE:**

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

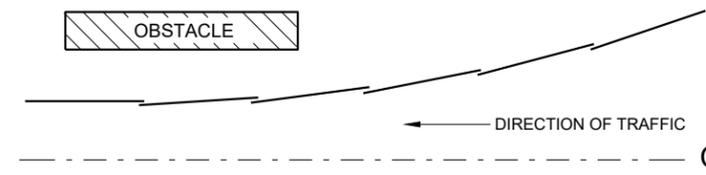


**POST BOLT TABLE**

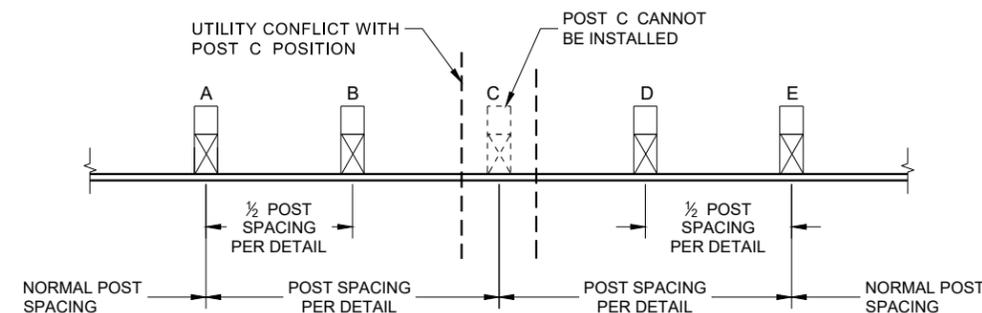
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



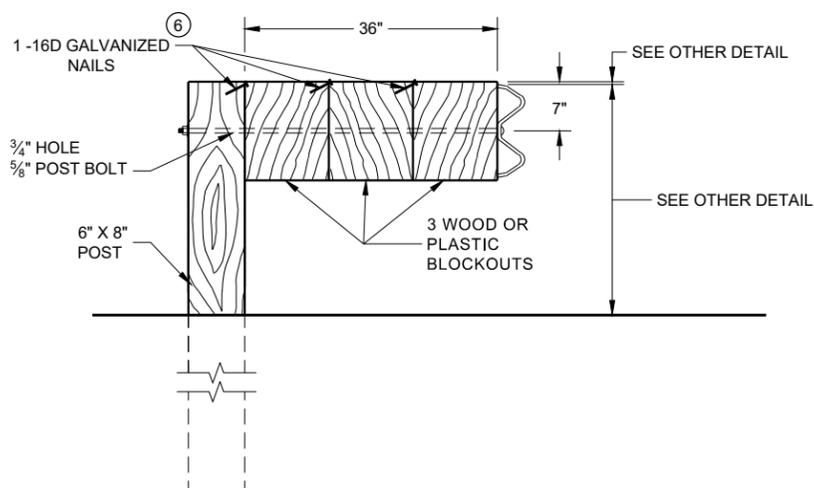
**ALTERNATE BOLT HEAD**



**PLAN VIEW  
BEAM LAPPING DETAIL**

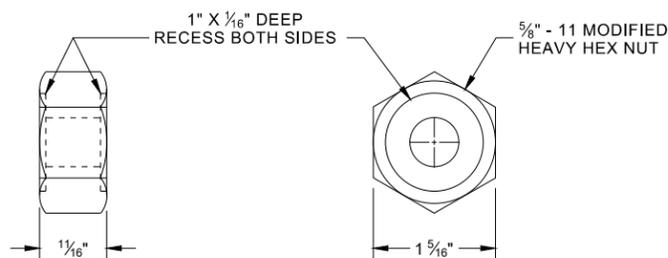


**POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION**

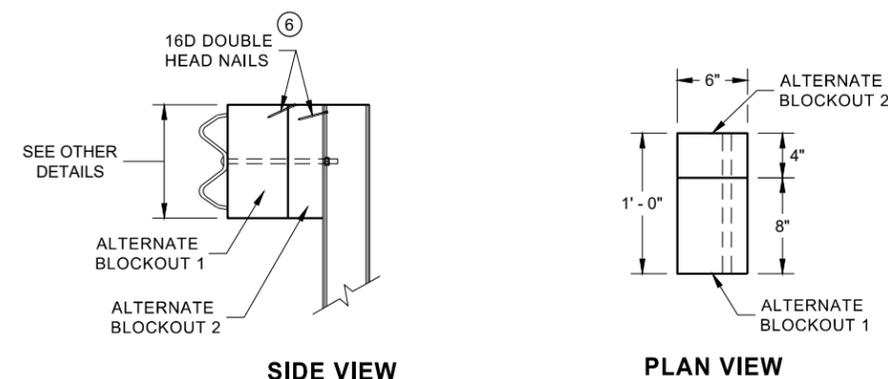


**DETAIL FOR 36" BLOCKOUT DEPTH**

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.  
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



**POST BOLT, SPLICE BOLT  
AND RECESS NUT**

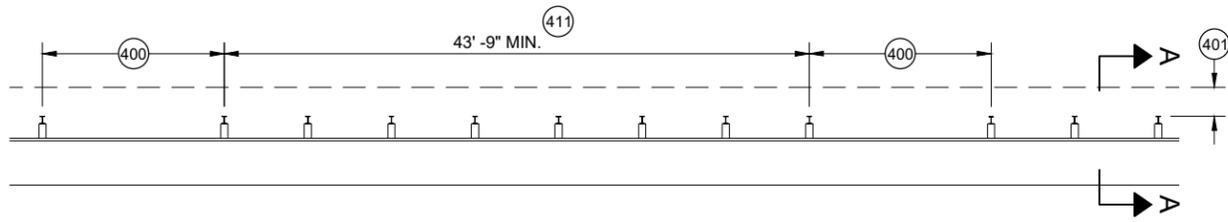


**ALTERNATE WOOD  
BLOCKOUT DETAIL**

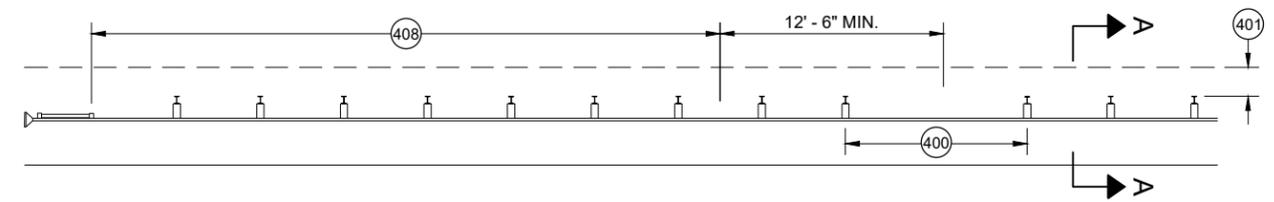
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

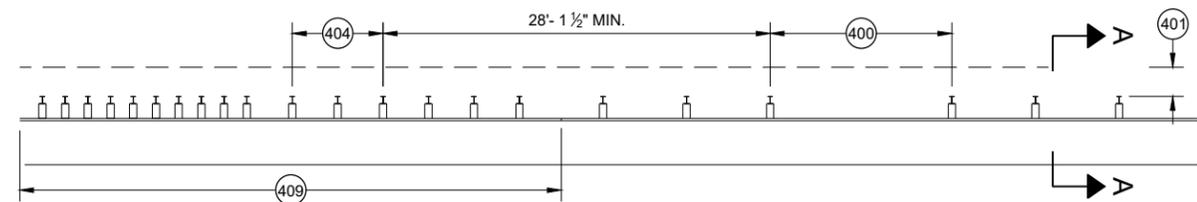
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



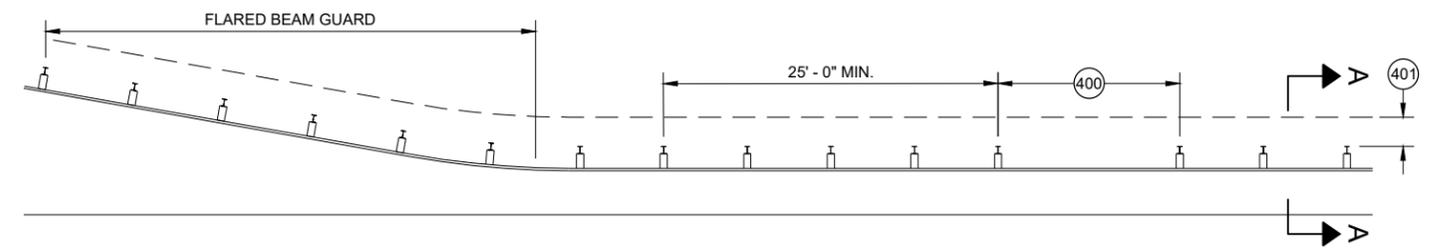
**MISSING POST IN MGS GUARDRAIL**



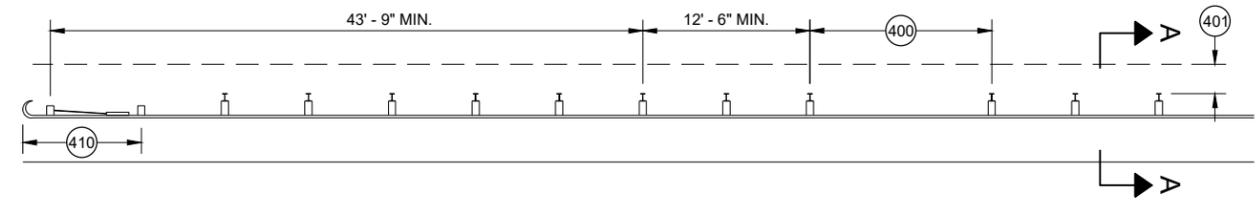
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



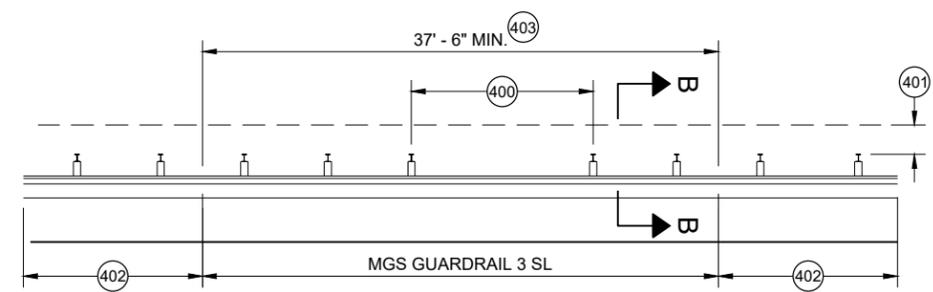
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

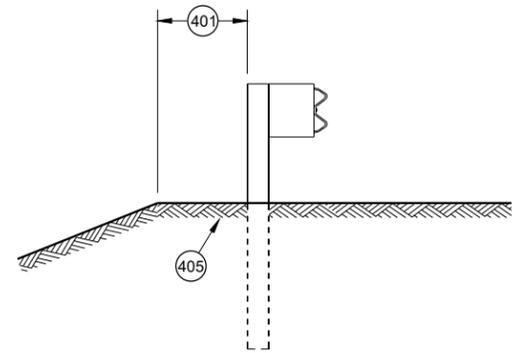


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

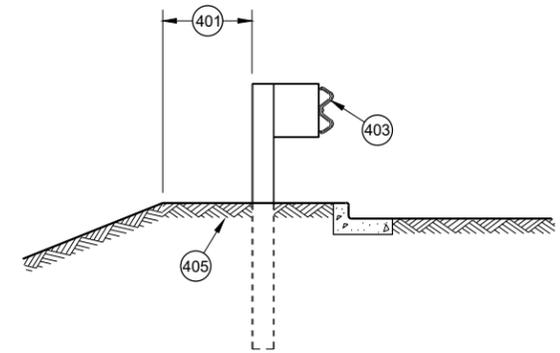


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- 400 MAX SPAN 12' - 6"
- 401 2' MIN.
- 402 MGS GUARDRAIL 3
- 403 NESTING BEAM GUARD
- 404 ASYMMETRIC TRANSITION
- 405 SOIL WELL DRAINED AND COMPACTED
- 406 SEE OTHER DRAWINGS IN THIS SDD
- 407 SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- 408 SEE SDD 14B44
- 409 SEE SDD 14B45
- 410 SEE SDD 14B47
- 411 MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



**SECTION A - A**



**SECTION B - B**

<b>MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

**GENERAL NOTES**

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
  - (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
  - (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
  - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
  - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

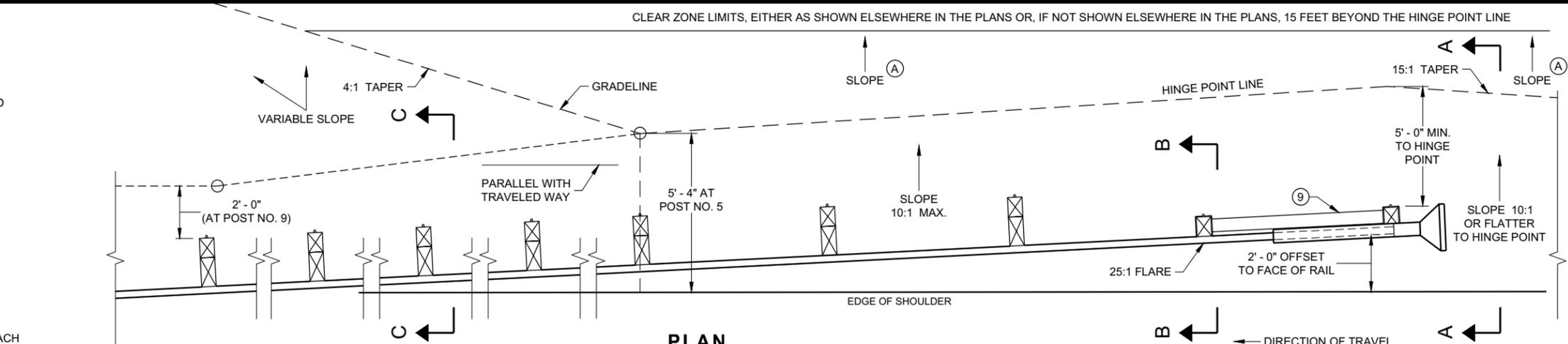
SEE SDD 14B42 FOR MORE INFORMATION.

\* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

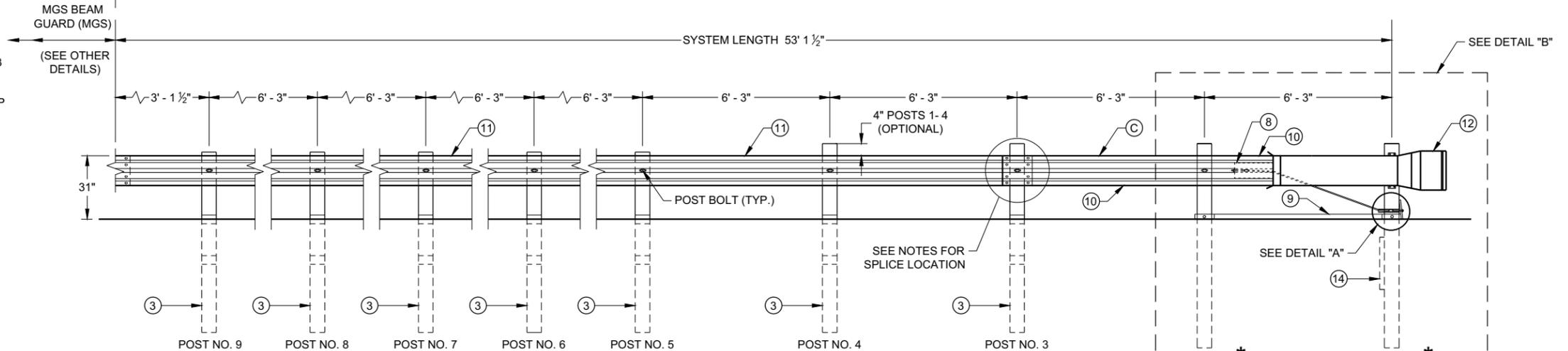
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

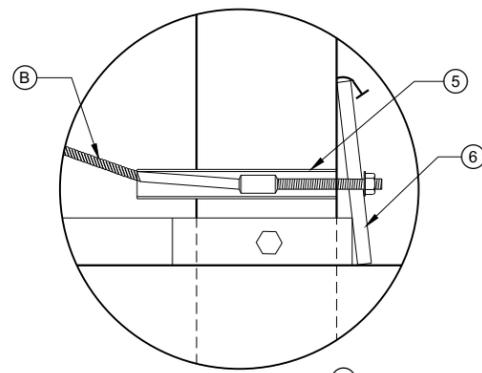
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



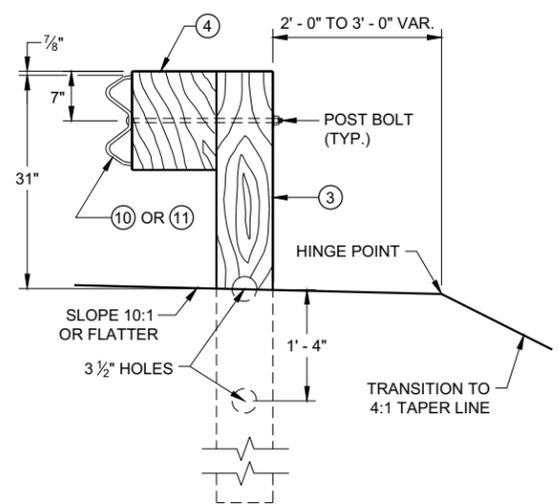
**PLAN**



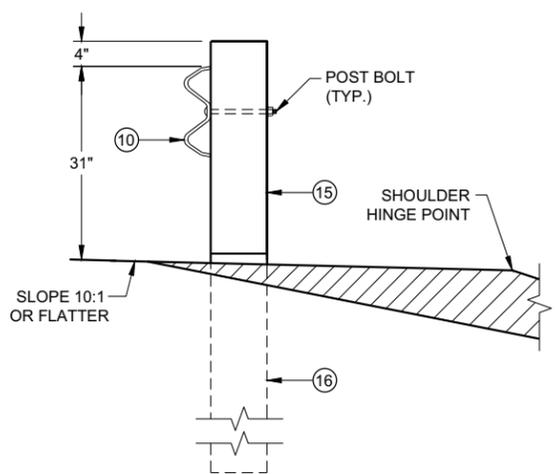
**ELEVATION**



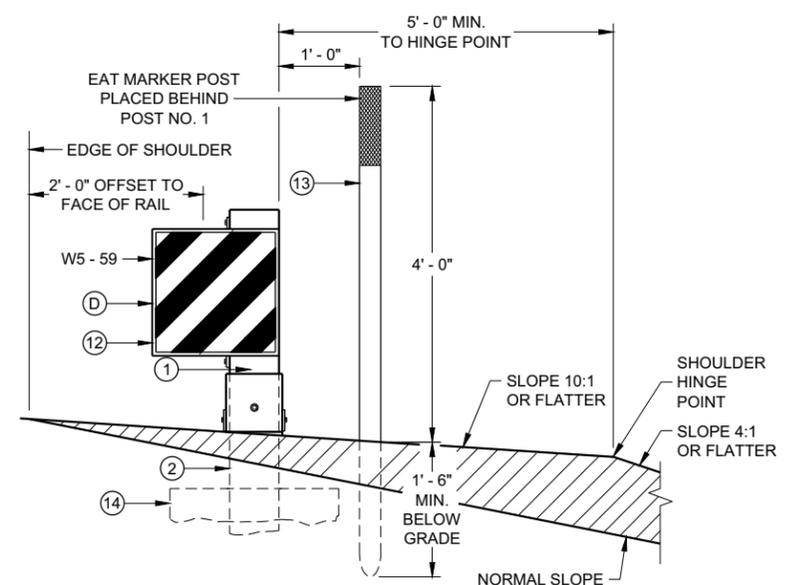
**DETAIL "A"**



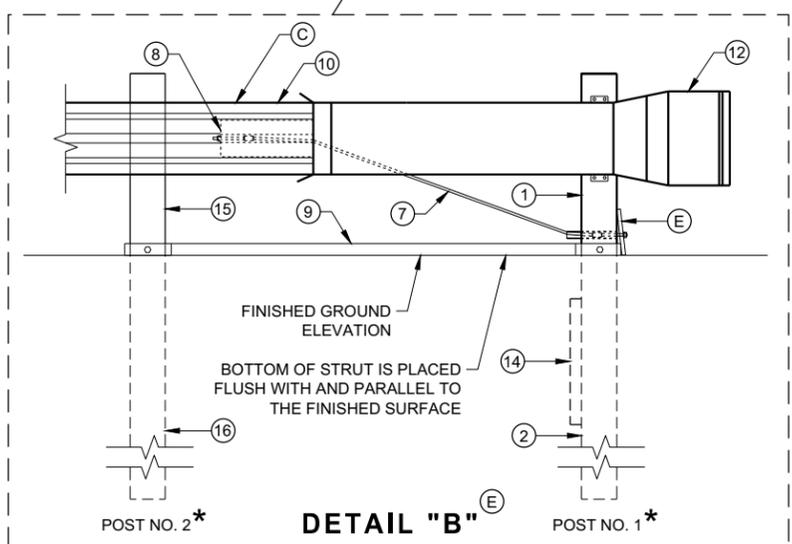
**SECTION C - C  
TYPICAL AT POST NOS. 3 - 9**



**SECTION B - B  
TYPICAL AT POST NO. 2\***



**SECTION A - A  
TYPICAL AT POST NO. 1\***



**DETAIL "B"**

**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

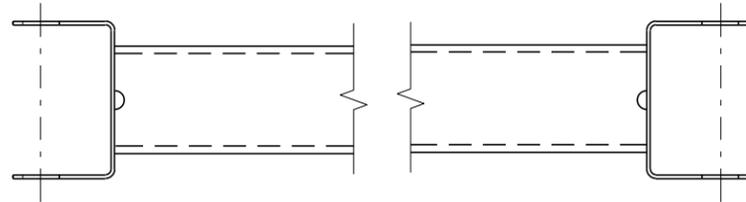
6

SDD 14B44 - 04a

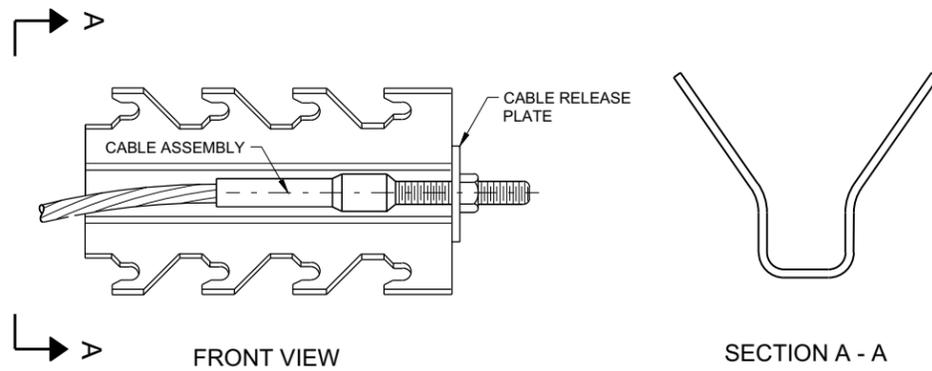
SDD 14B44 - 04a

**BILL OF MATERIALS**

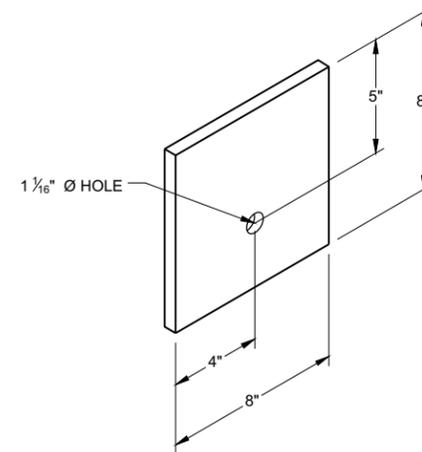
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



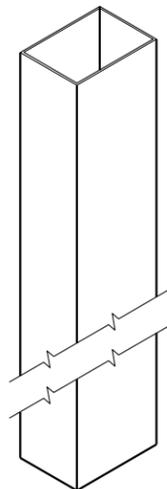
**GENERIC GROUND STRUT** ⑨ ⑤



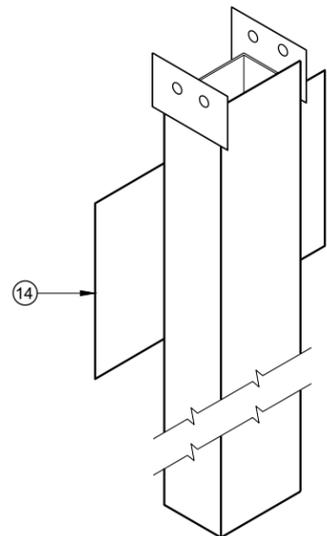
**GENERIC ANCHOR CABLE BOX** ⑨ ⑤



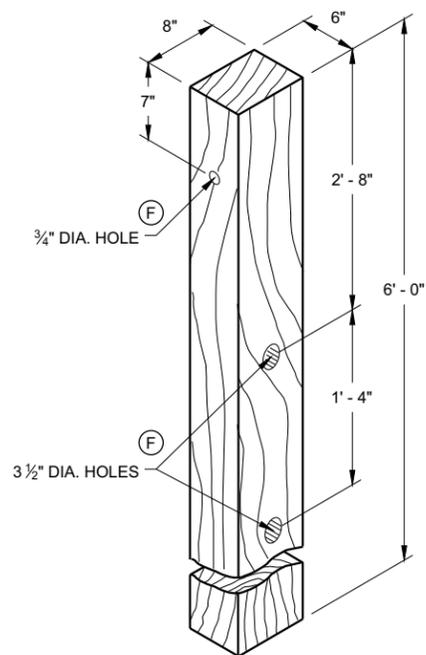
**BEARING PLATE** ⑥ ⑤



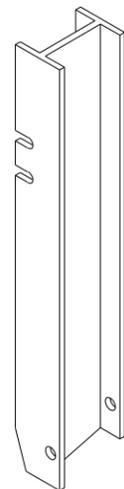
UPPER POST NO. 1 <sup>(1)</sup> (E)



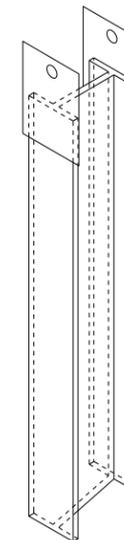
LOWER POST NO. 1 <sup>(2)</sup> (E)



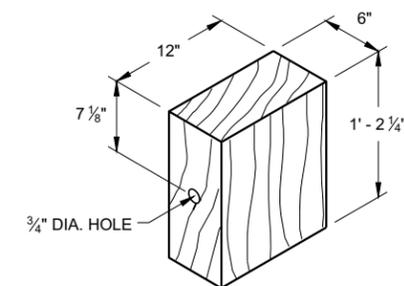
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



UPPER POST NO. 2 <sup>(15)</sup> (E)

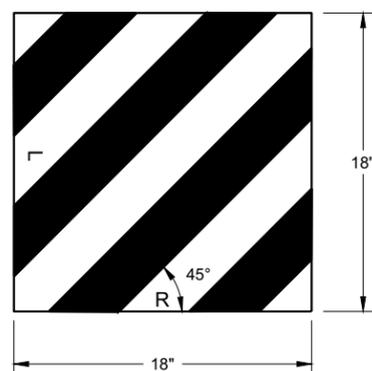


LOWER POST NO. 2 <sup>(16)</sup> (E)



WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

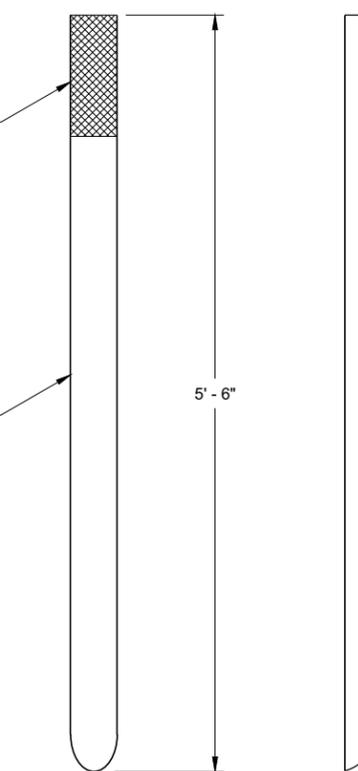
6



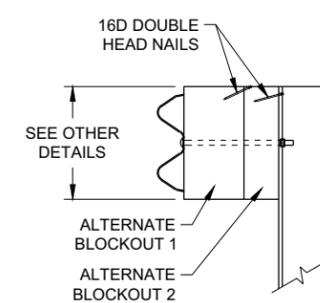
W5 - 59  
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>

TYPE H  
YELLOW REFLECTIVE  
SHEETING 3" X 9".  
SEE STANDARD  
SPECIFICATION 637.

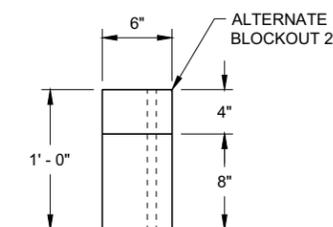
E.A.T. MARKER  
POST (YELLOW)



FRONT VIEW SIDE VIEW  
E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW



TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

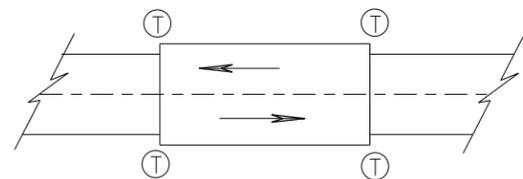
SDD 14B44 - 04c

**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

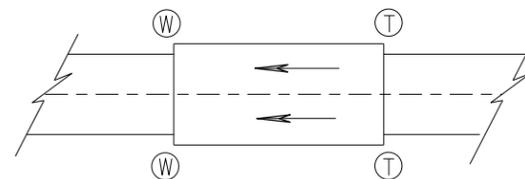
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

FHWA



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

**TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE**

**GENERAL NOTES**

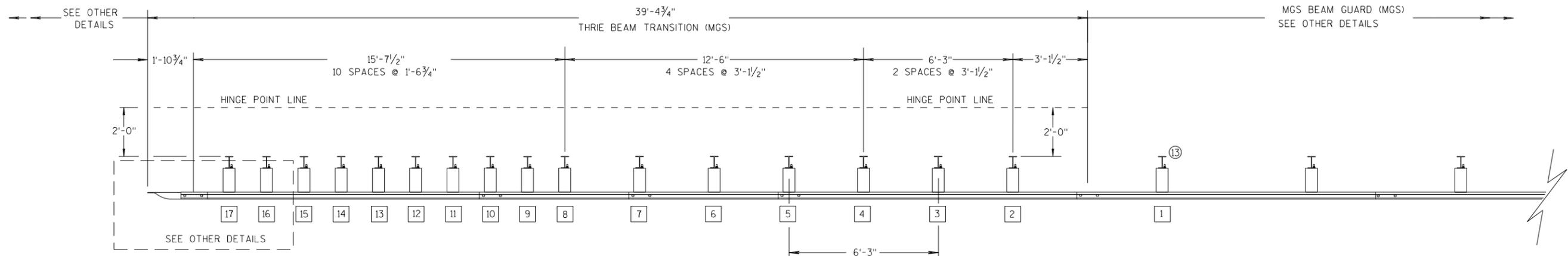
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

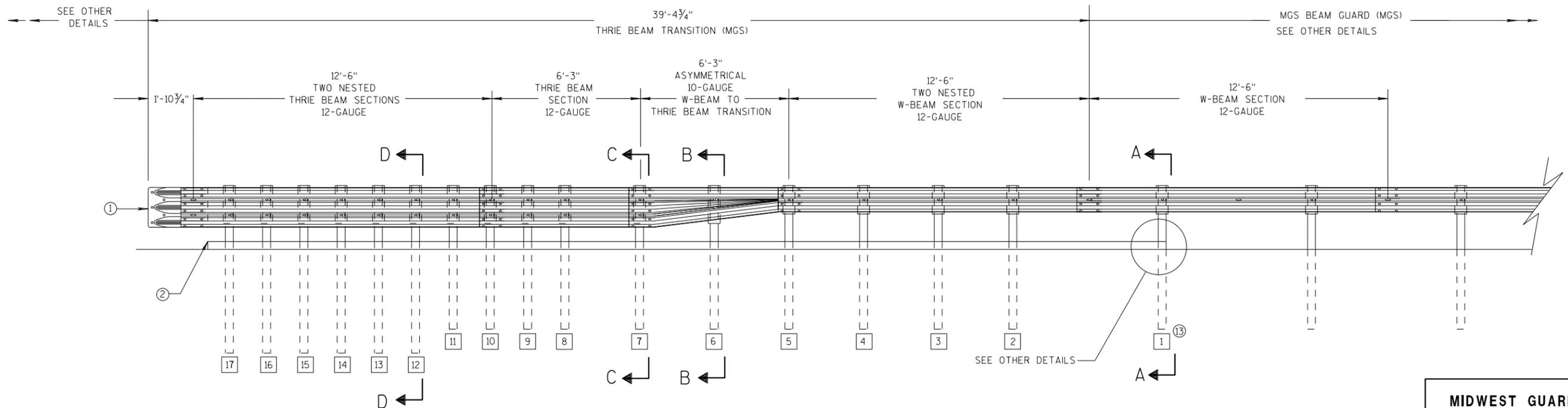
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



**PLAN VIEW**



**ELEVATION VIEW**

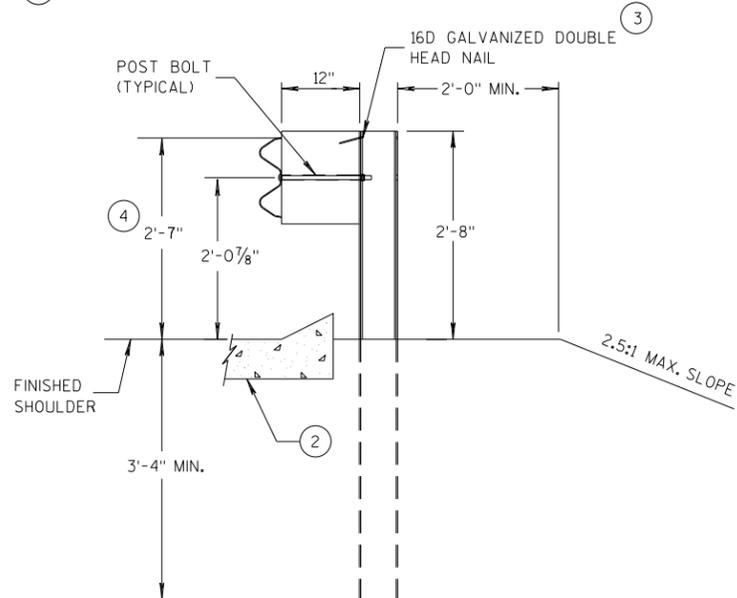
**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION**

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

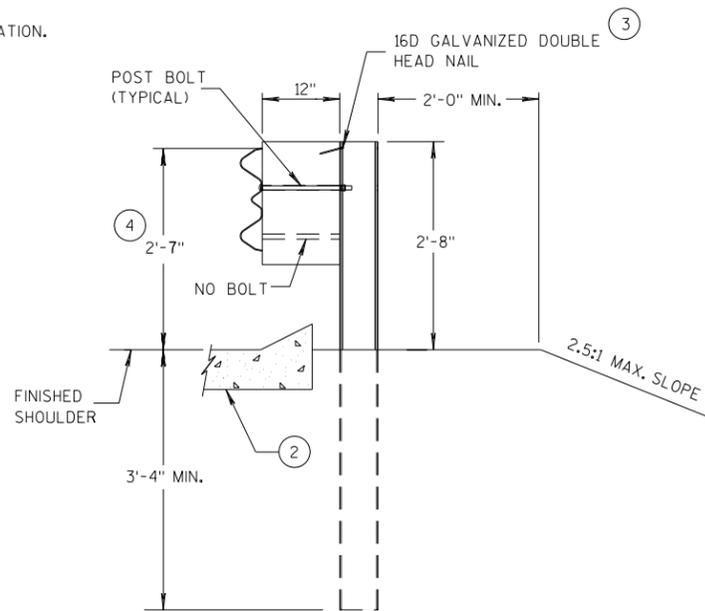
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

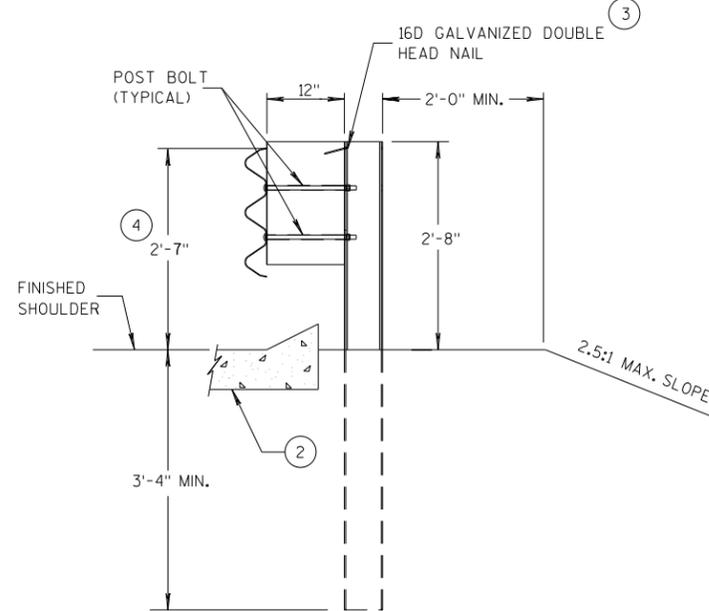
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



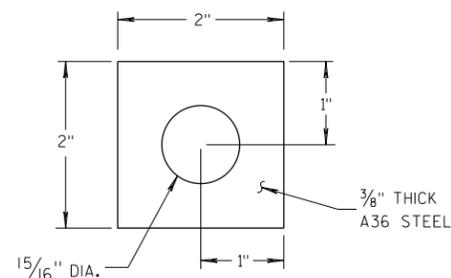
**SECTION A-A  
POSTS 1-5**



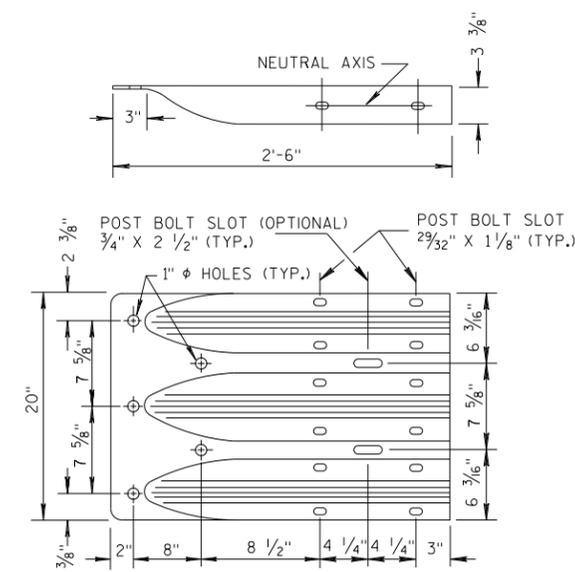
**SECTION B-B  
POST 6**



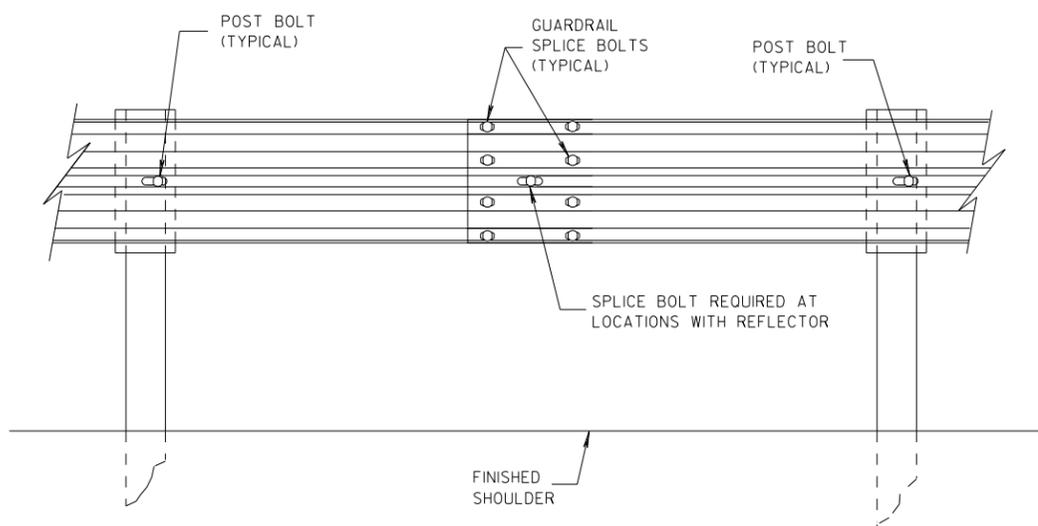
**SECTION C-C  
POSTS 7-11**



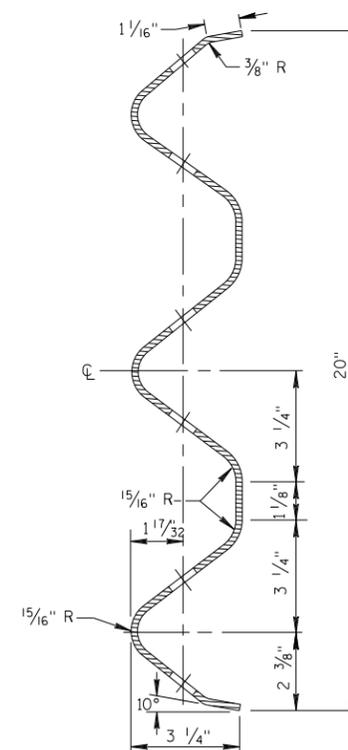
**PLATE WASHER DETAIL**



**THRIE BEAM  
TERMINAL CONNECTOR**



**SPLICE DETAIL**



**SECTION THRU THRIE  
BEAM RAIL ELEMENT**

6

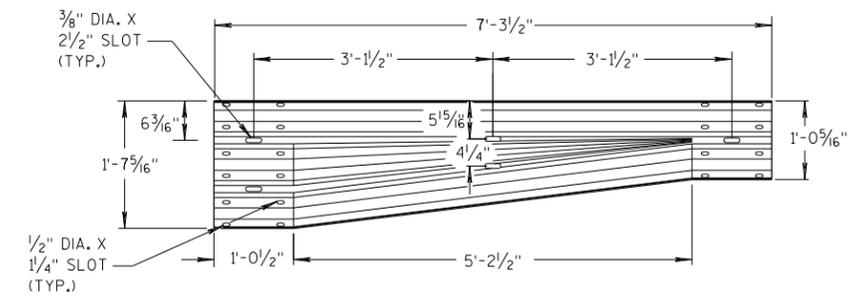
6

**SECTION D-D  
POSTS 12-17**

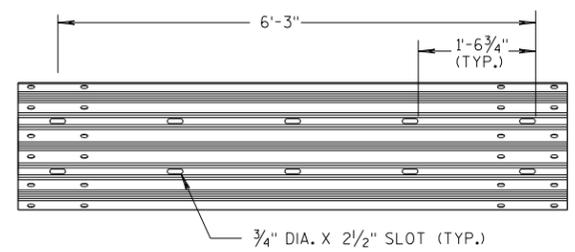
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**  
  
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 45-5b

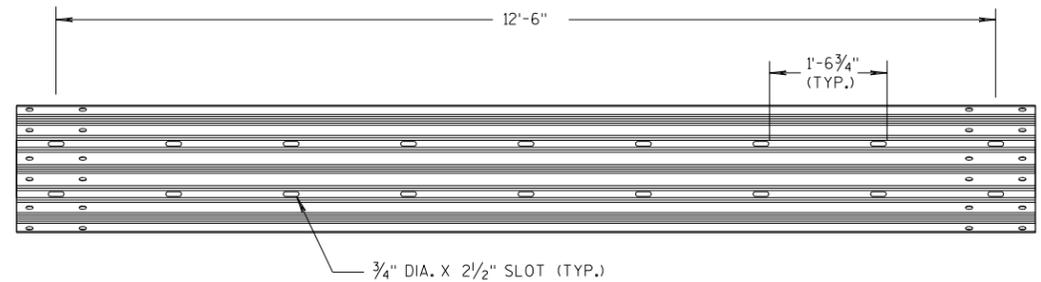
S.D.D. 14 B 45-5b



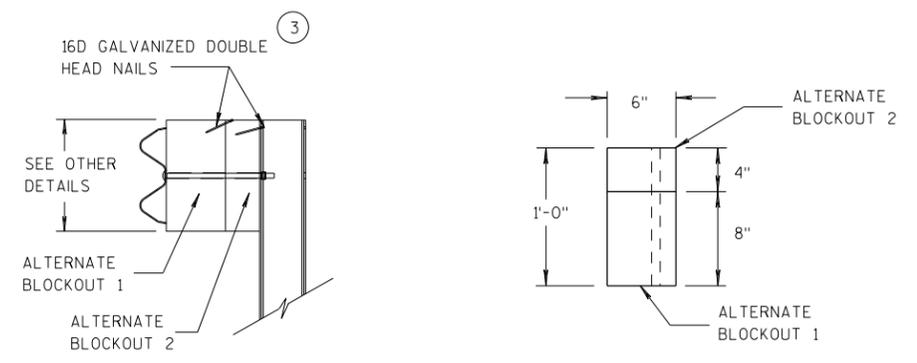
**W-BEAM TO THRIE BEAM TRANSITION SECTION**



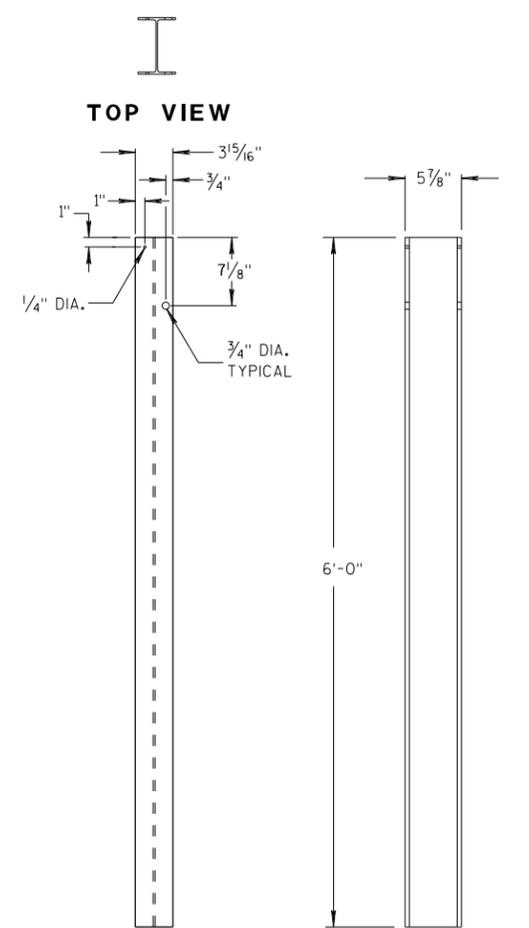
**6'-3\"/>**



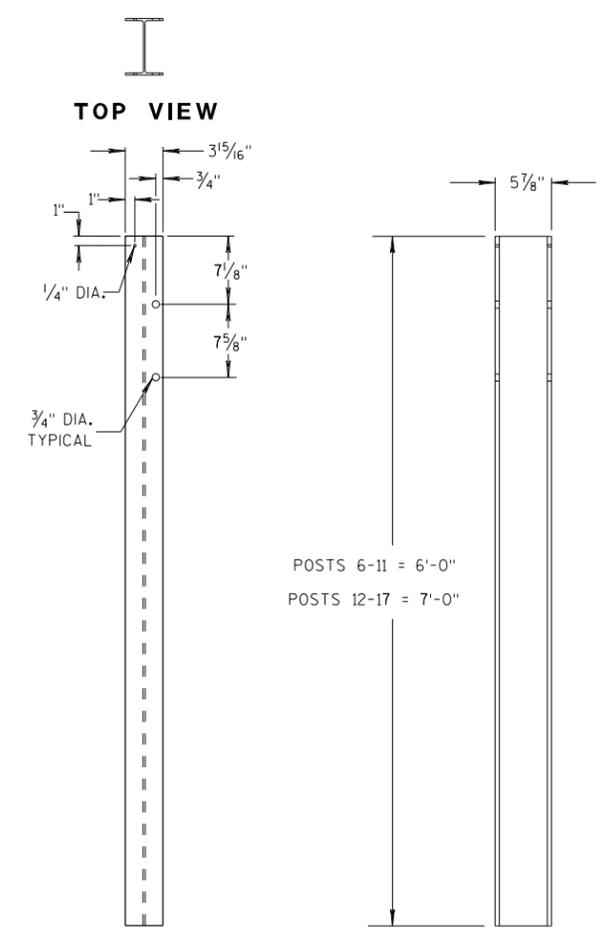
**12'-6\"/>**



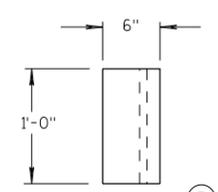
**ALTERNATE WOOD BLOCKOUT DETAIL**



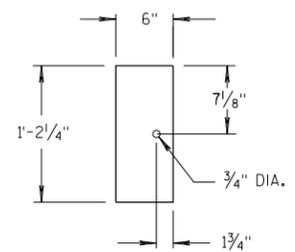
**STEEL POSTS 1-5**



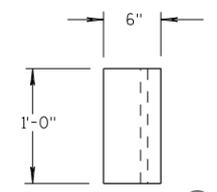
**STEEL POSTS 6-17**



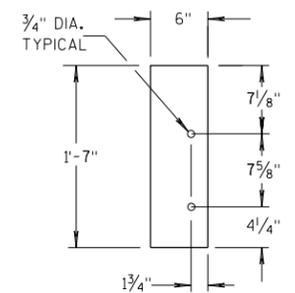
**TOP VIEW**



**FRONT VIEW  
BLOCKOUT  
POSTS 1-5**



**TOP VIEW**



**FRONT VIEW  
BLOCKOUT  
POSTS 6-17**

**GENERAL NOTES**

- STEEL POSTS ARE W6X9 OR W6X8.5.
- BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.
- (3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- (5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.
- (13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

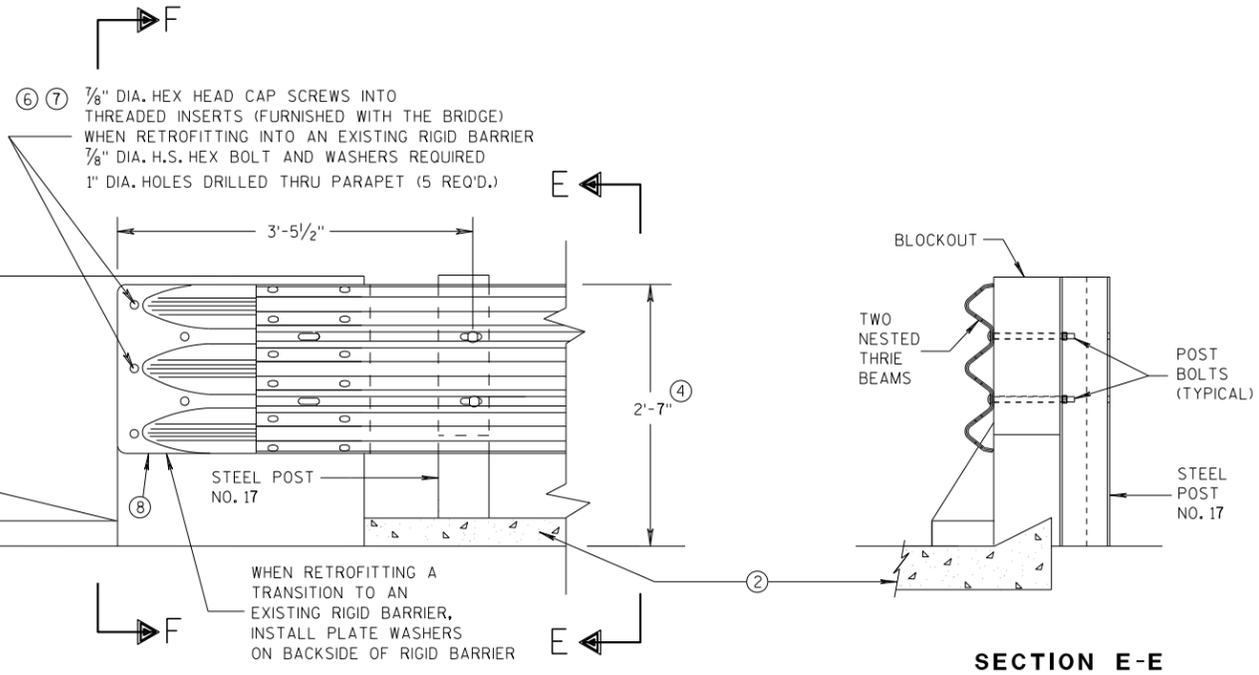
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

S.D.D. 14 B 45-5c

S.D.D. 14 B 45-5c



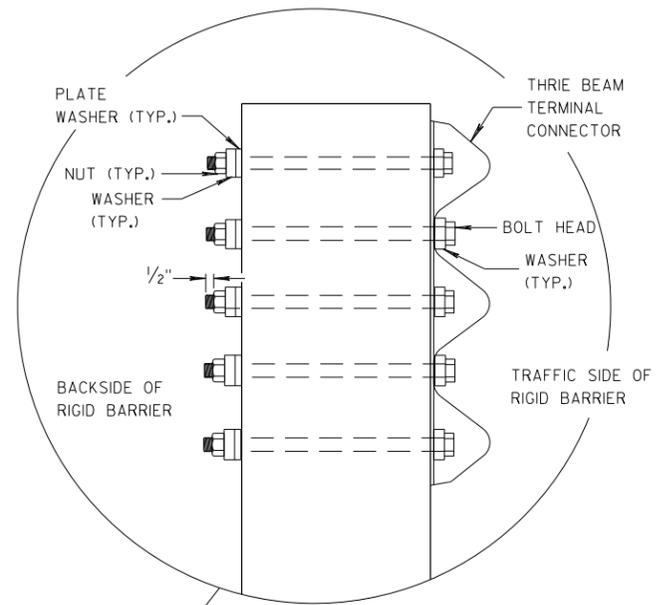
FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS**

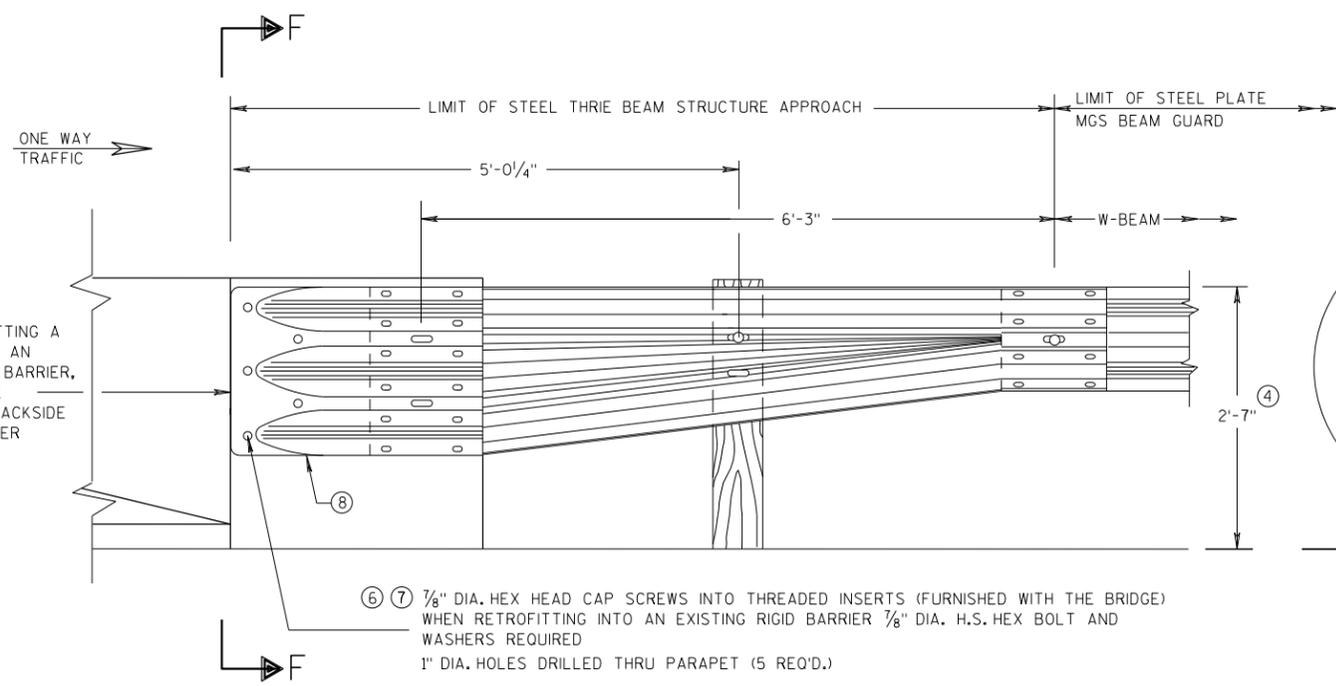
SECTION E-E

**GENERAL NOTES**

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- (2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
  - (4) TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
  - (6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
  - (7) 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 CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
  - (8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

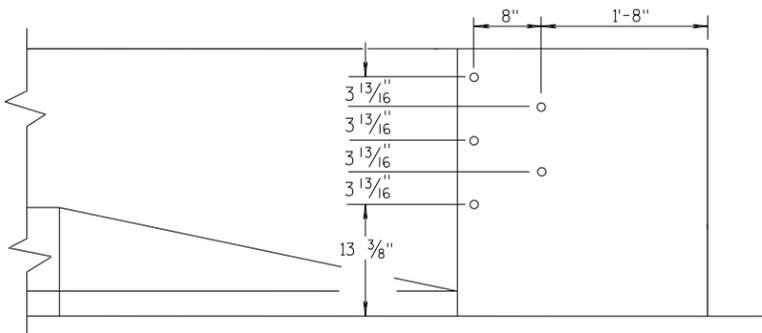


SECTION F-F



FRONT VIEW

**W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS  
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)**



DRILL HOLE LOCATION

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

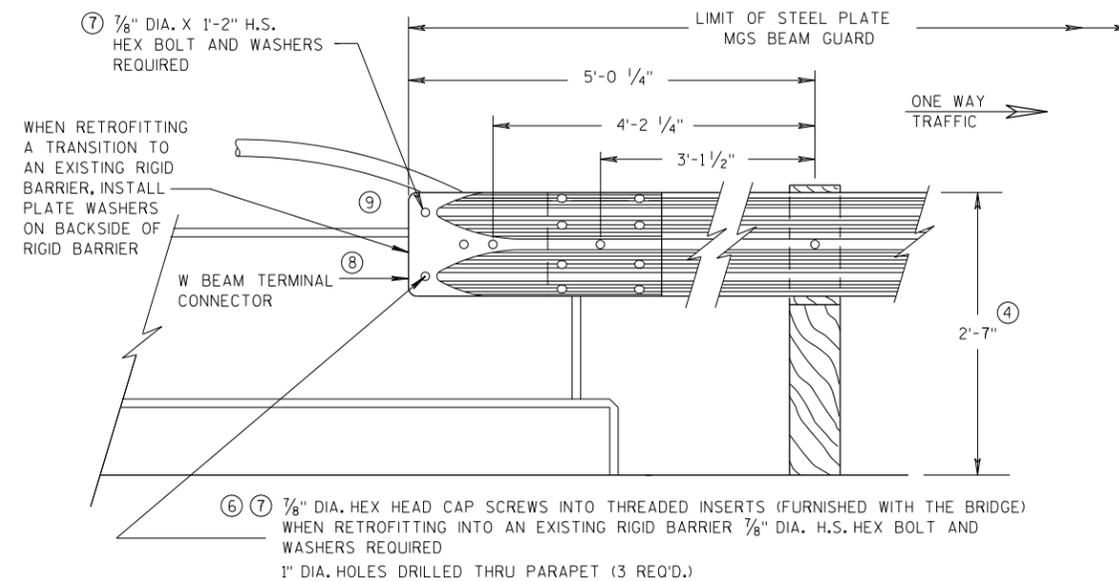
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 07/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA

## GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

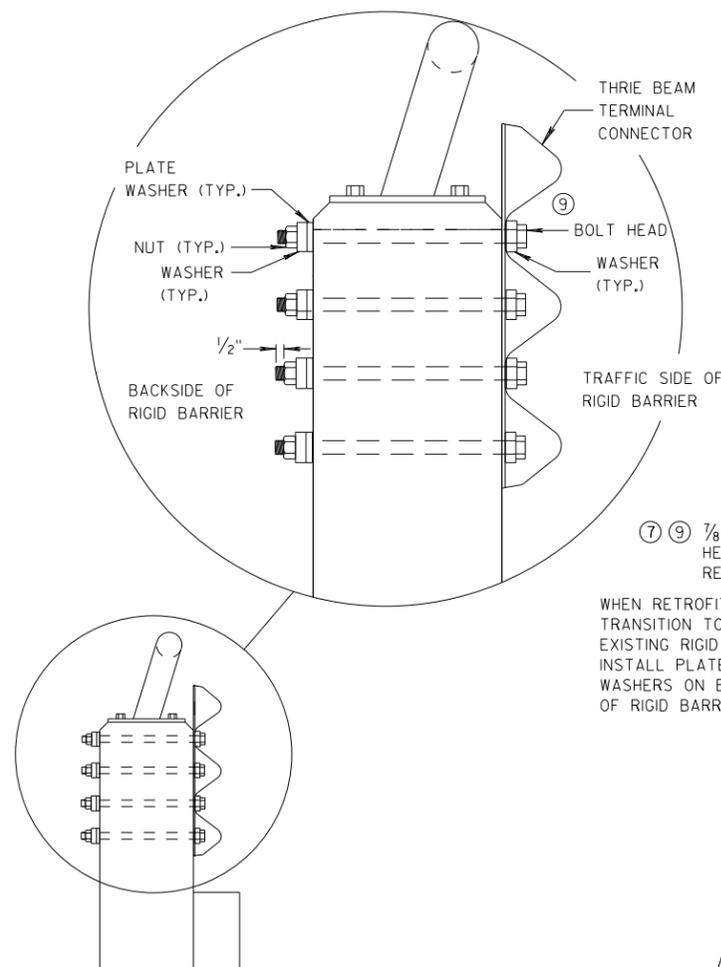
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH 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 CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



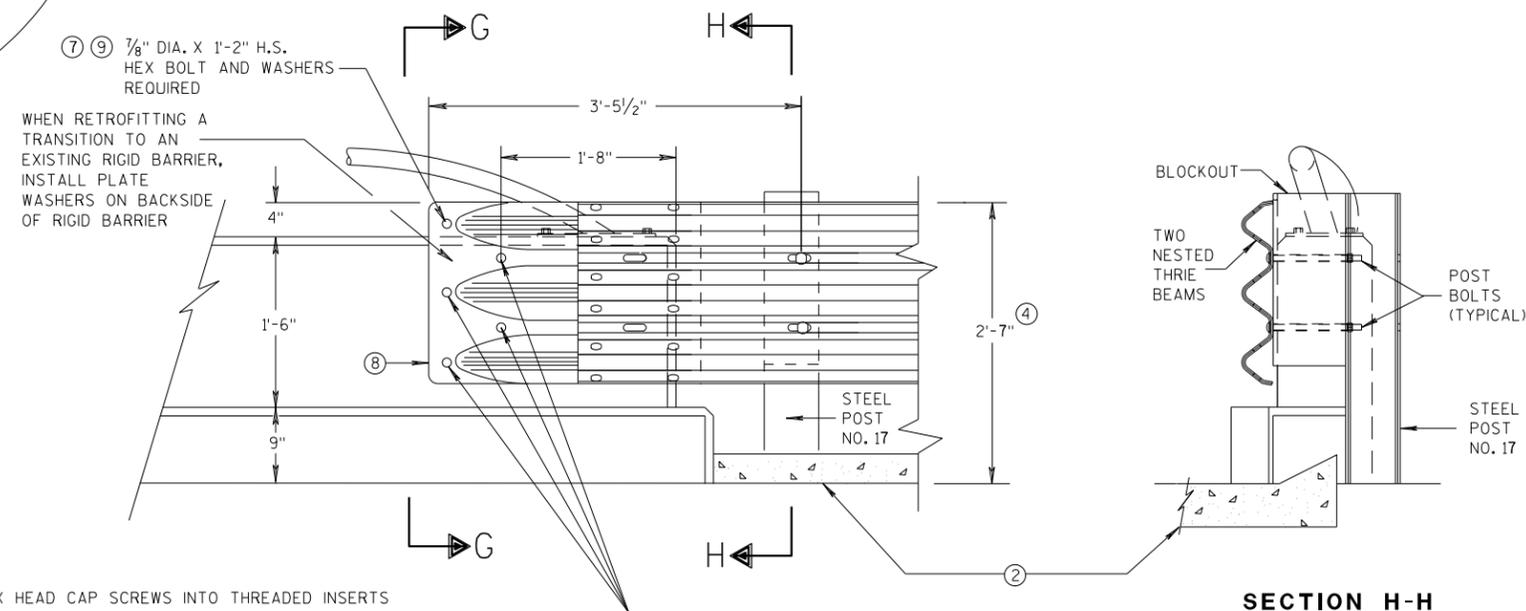
FRONT VIEW

### W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



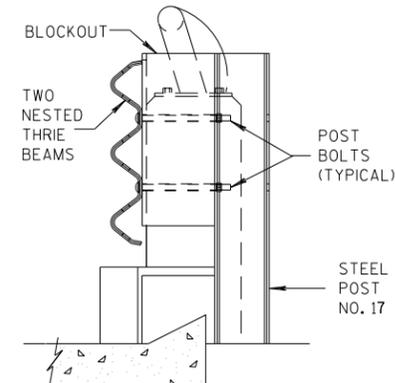
SECTION G-G



FRONT VIEW

### THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

SECTION H-H

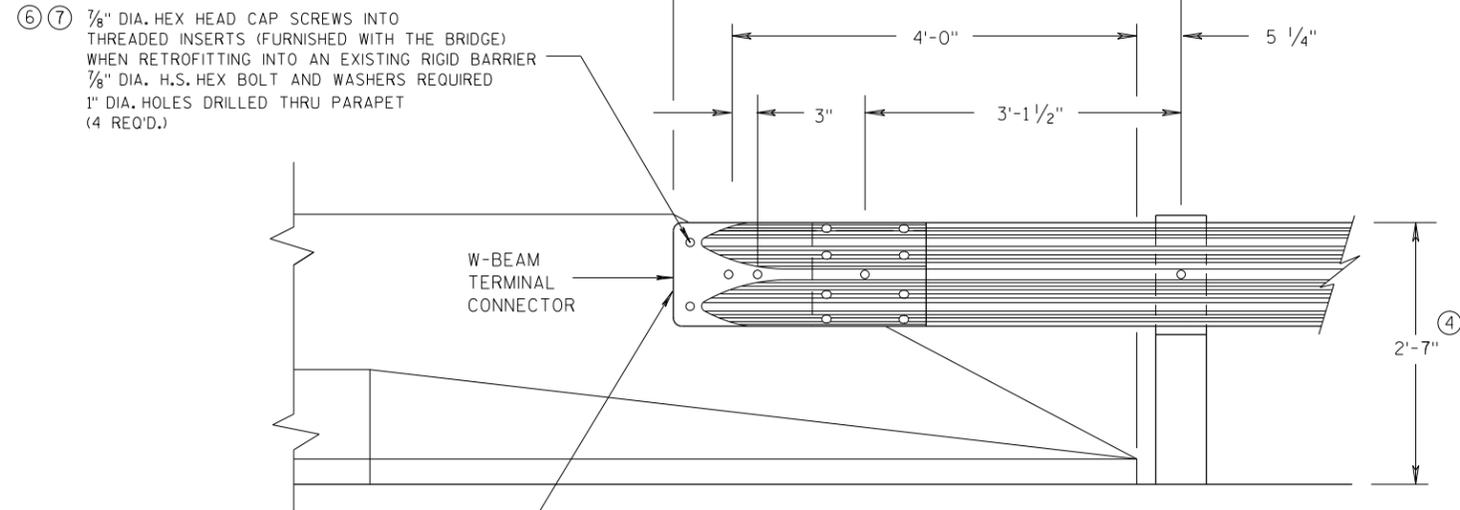


MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
07/2018 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR

ONE WAY  
TRAFFIC



WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER.

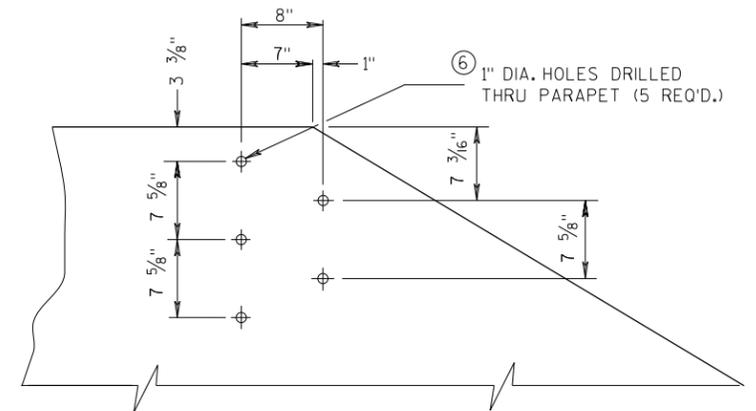
FRONT VIEW

**W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS**

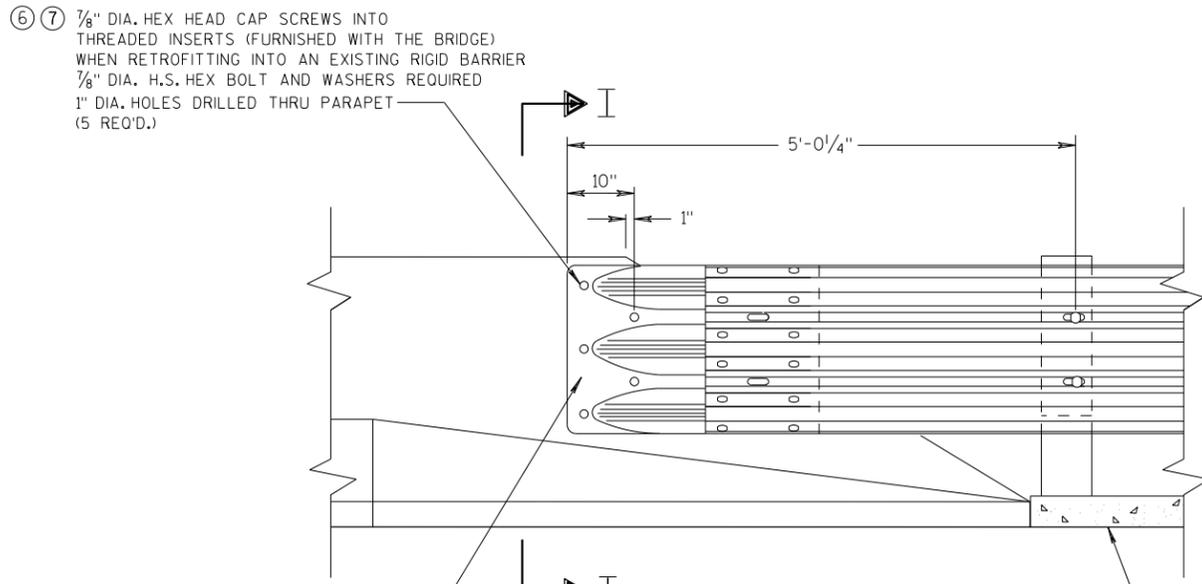
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

**GENERAL NOTES**

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ 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 CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



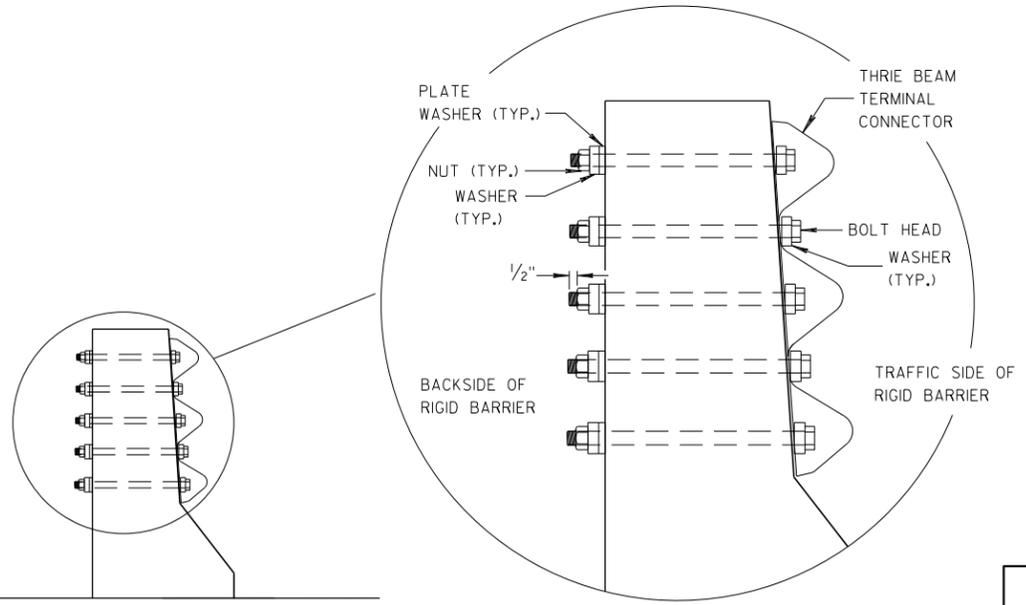
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER.

FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS**

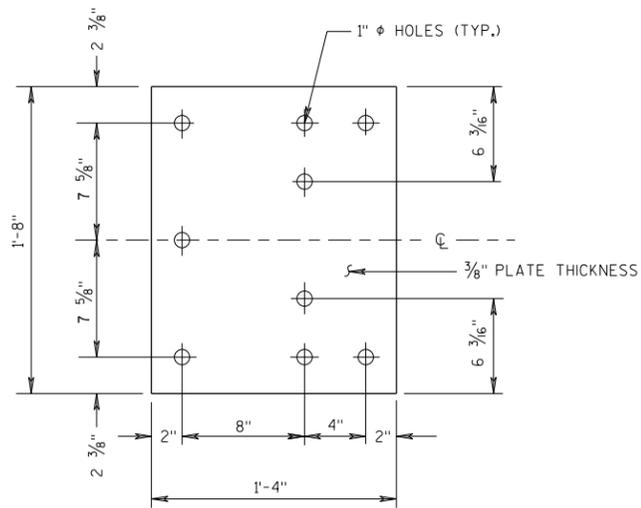


SECTION I-I

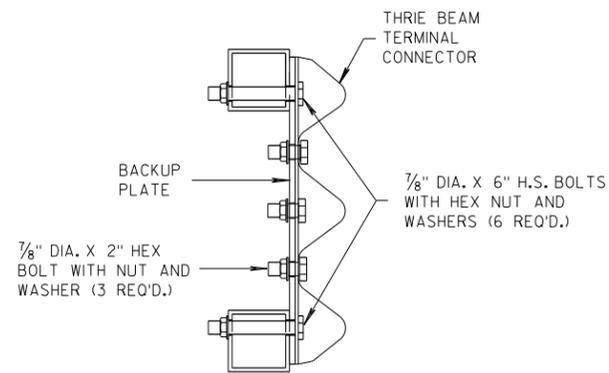
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

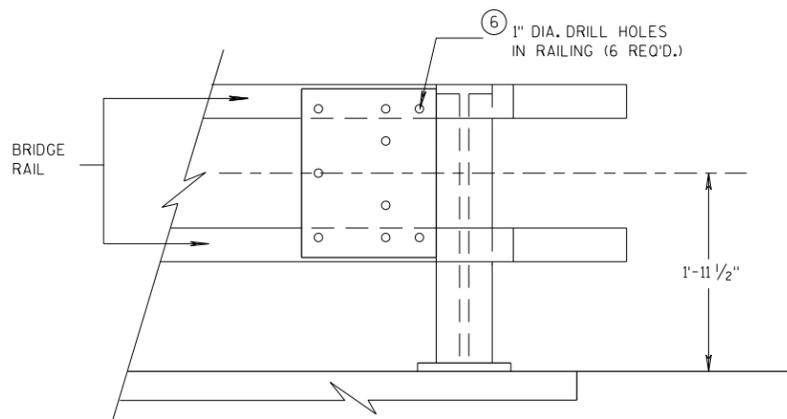
APPROVED  
DATE 07/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



**BACK-UP PLATE DETAIL**



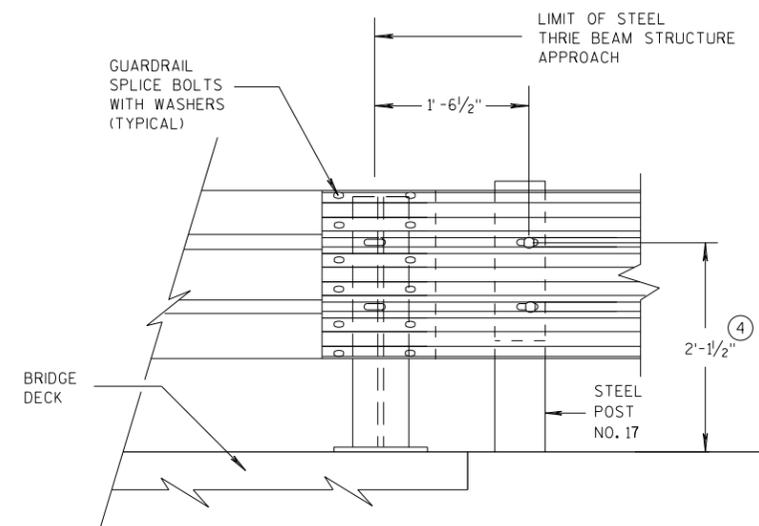
**SECTION J-J**



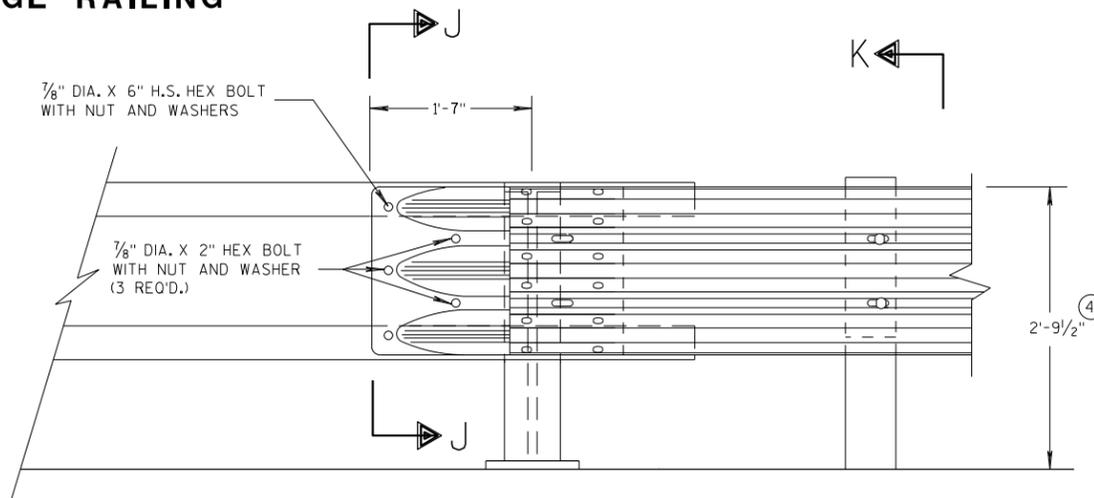
**BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING**

**GENERAL NOTES**

- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1'$ .
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

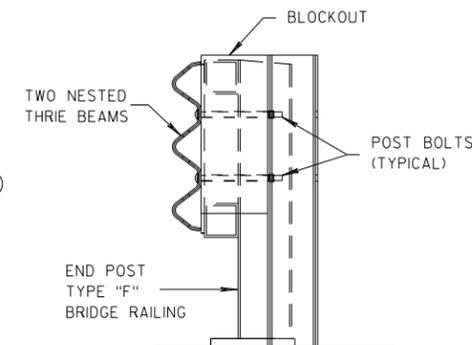


**FRONT VIEW  
THRIE BEAM CONNECTION TO  
STEEL RAILING TYPE "W"**



**FRONT VIEW**

**THRIE BEAM CONNECTION TO  
TUBULAR RAILING TYPE "F"**



**SECTION K-K**

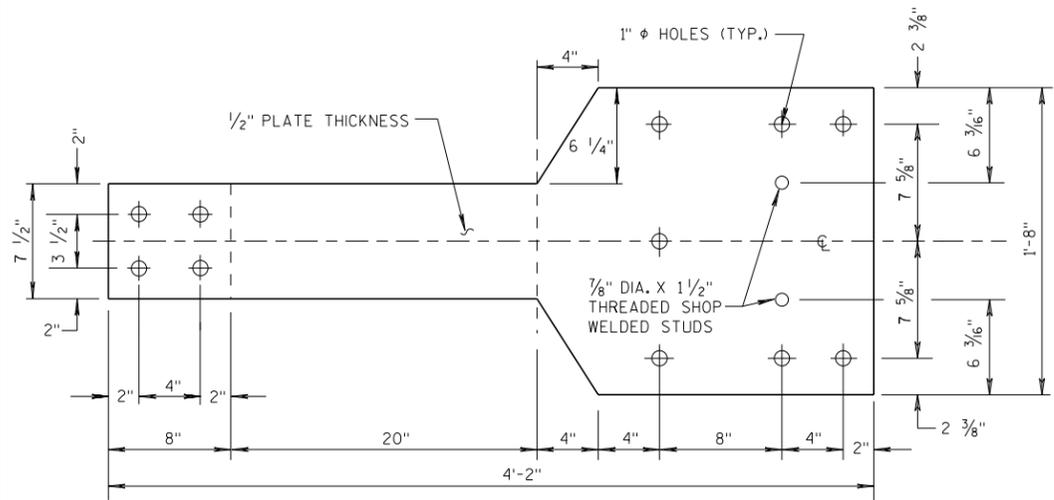
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

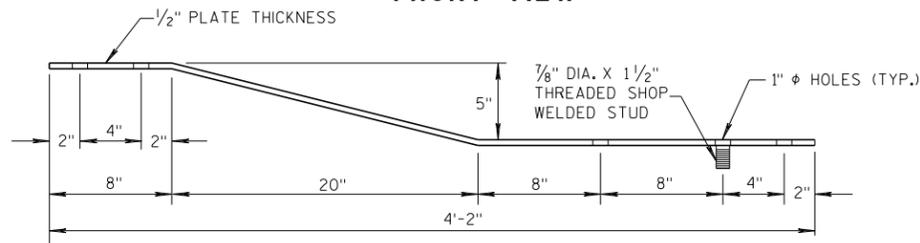
APPROVED  
07/2018 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR

**GENERAL NOTES**

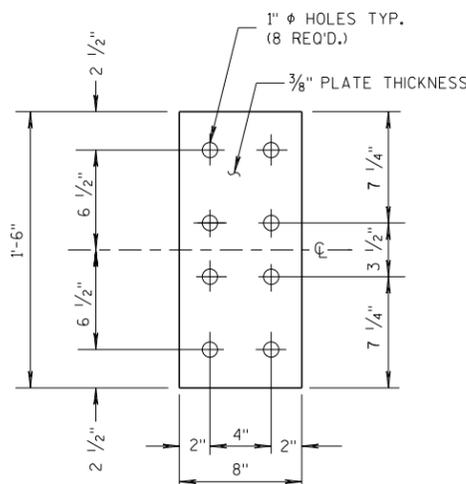
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



**FRONT VIEW**

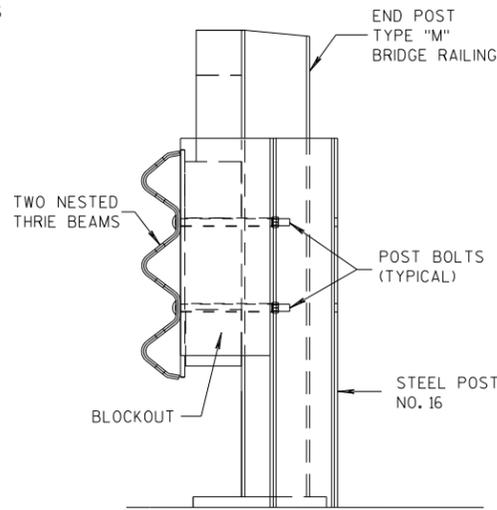


**PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"**

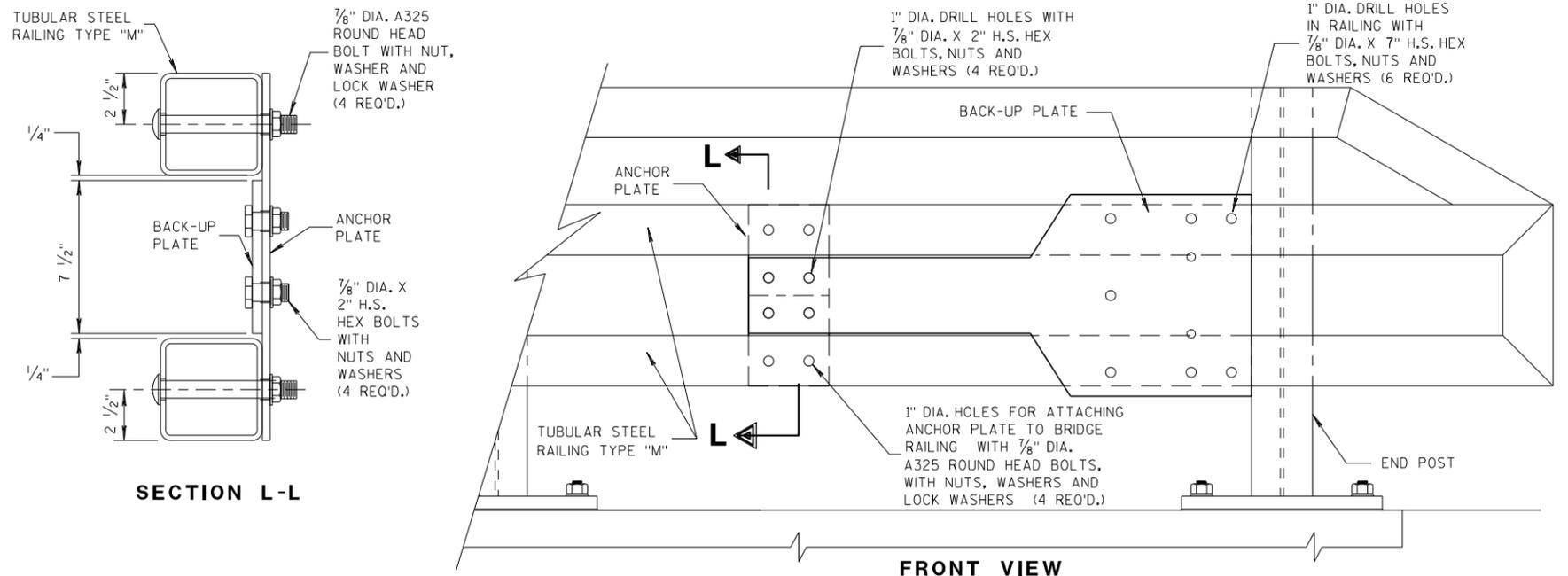


**FRONT VIEW**

**ANCHOR  
PLATE DETAIL,  
TYPE "M"**



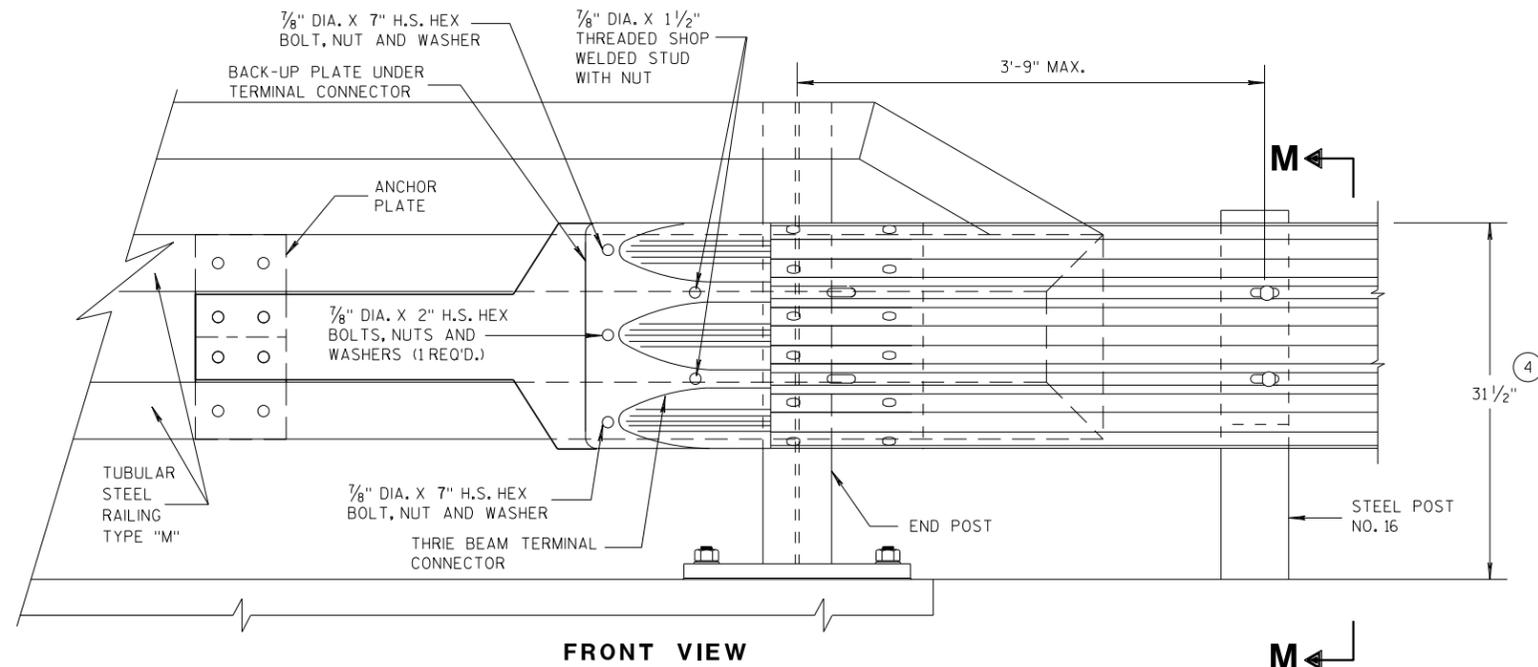
**SECTION M-M**



**SECTION L-L**

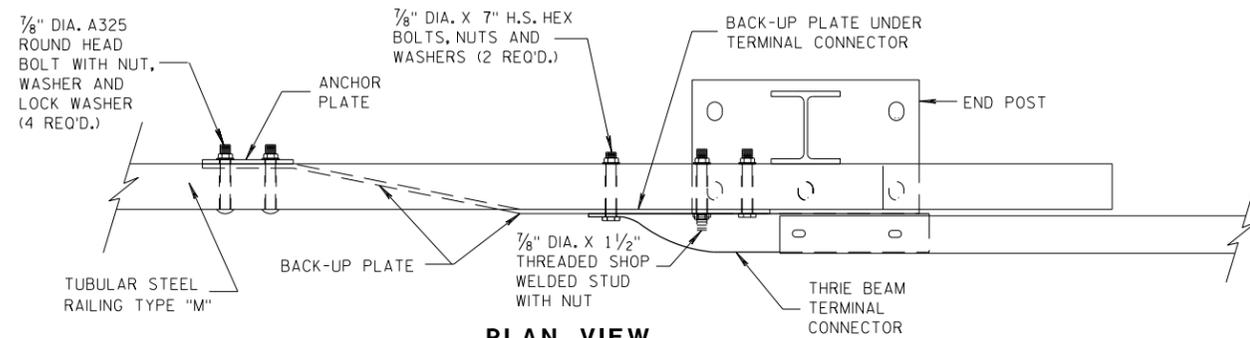
**FRONT VIEW**

**ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"**



**FRONT VIEW**

**M**



**PLAN VIEW**

**THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"**

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
07/2018  
DATE  
FHWA

/s/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

### GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

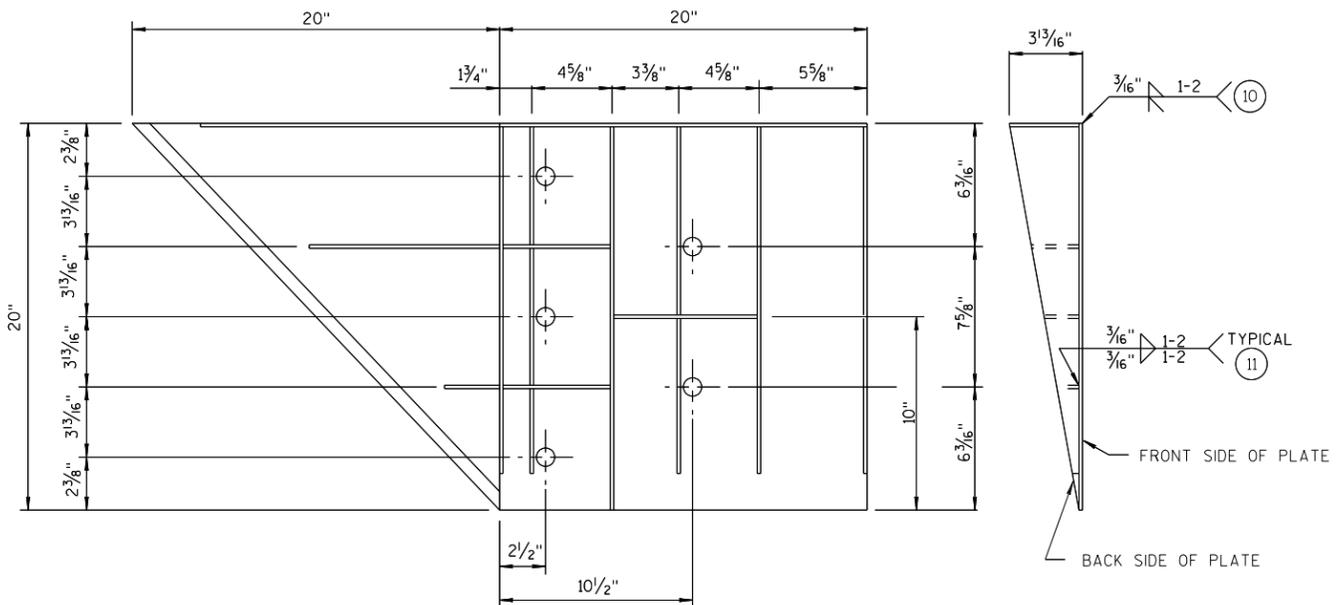
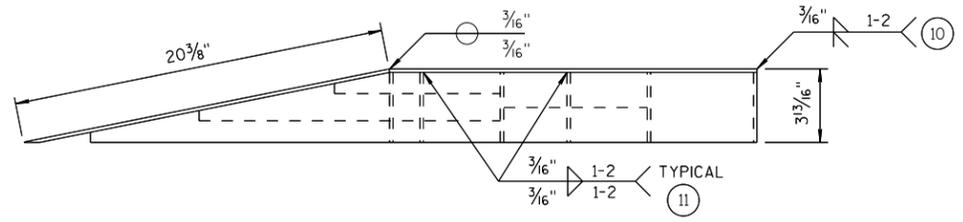
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

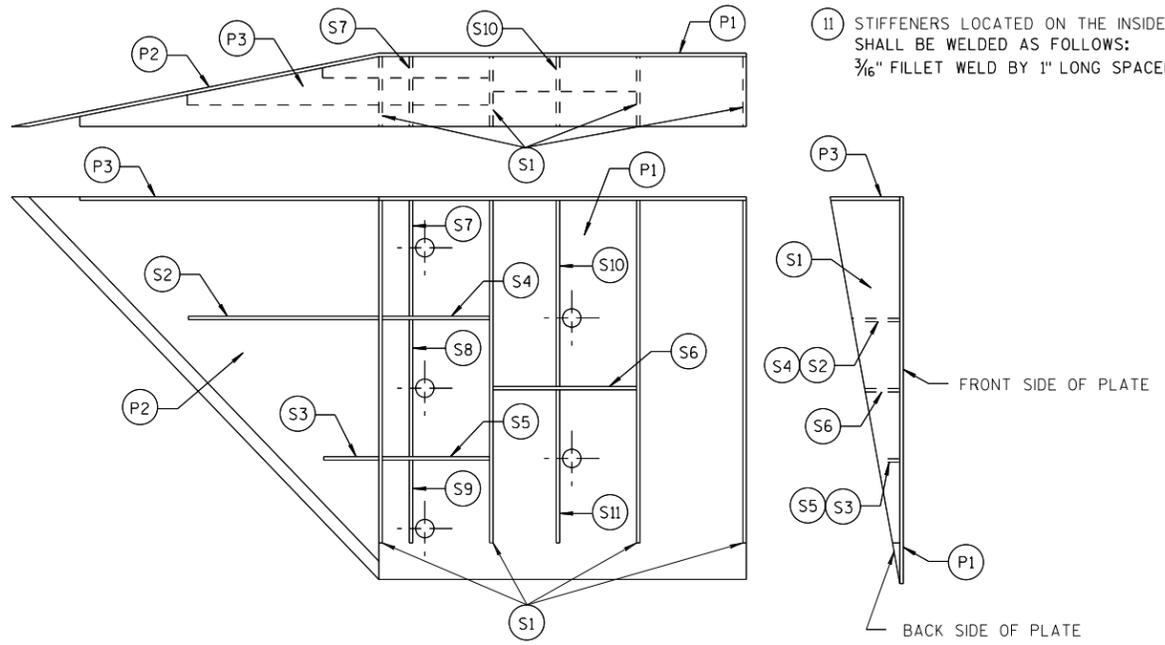
(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:  
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:  
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



### WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)



### PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 3/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 1/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 3/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 3/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 3/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 3/16"	1/4"

### SINGLE SLOPE CONNECTION PLATE

**MIDWEST GUARDRAIL SYSTEM  
THREE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

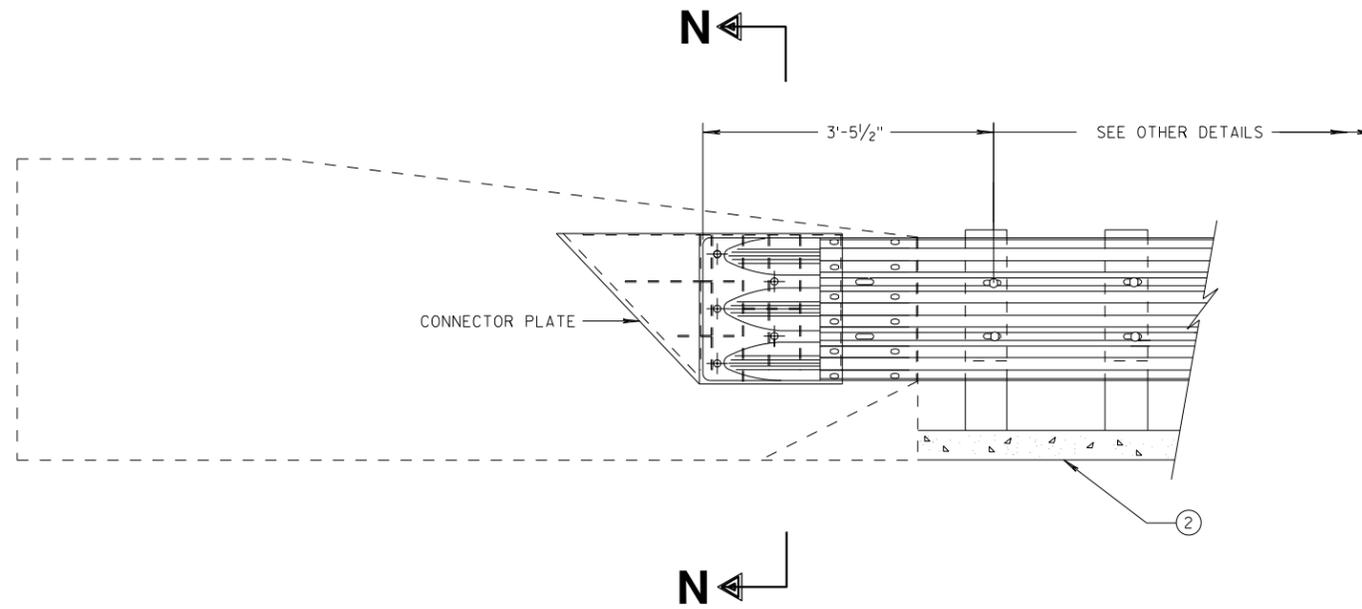
APPROVED: \_\_\_\_\_ /S/ Rodney Taylor  
DATE: 7/2018 ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR  
FHWA

**GENERAL NOTES**

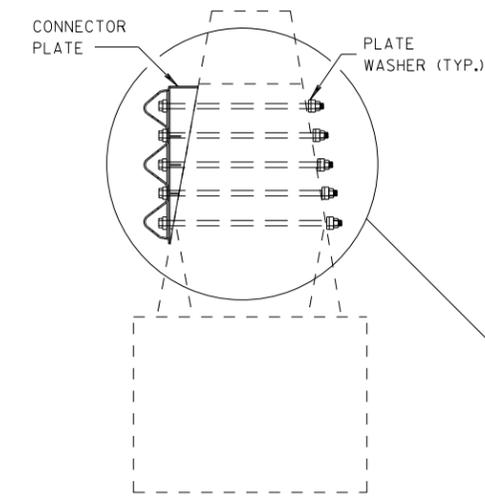
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

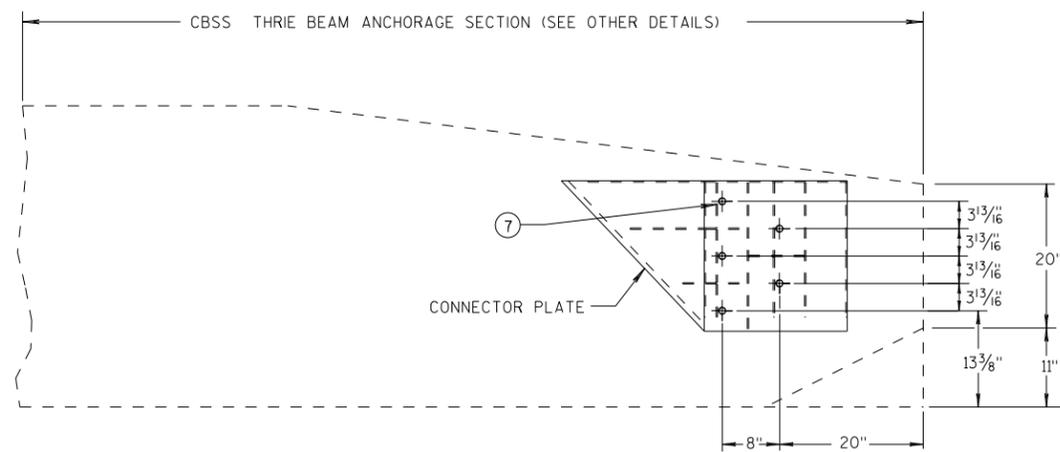
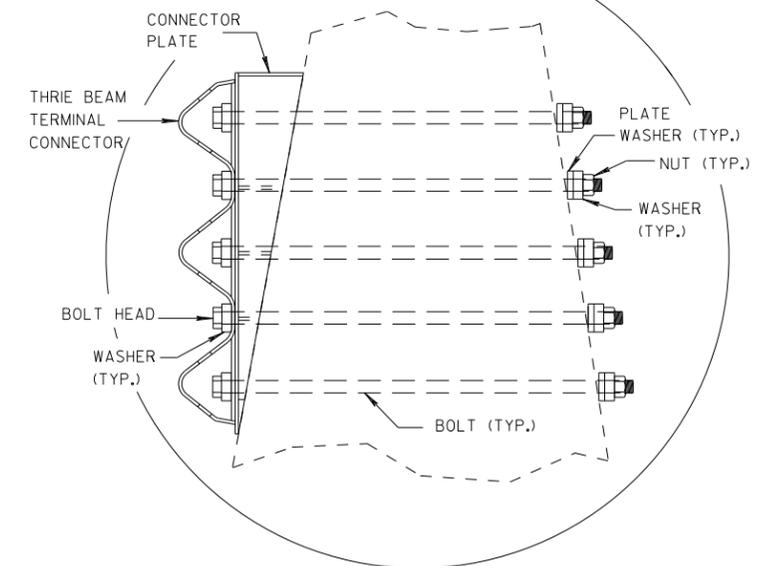
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTION PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER**



**SECTION N-N**

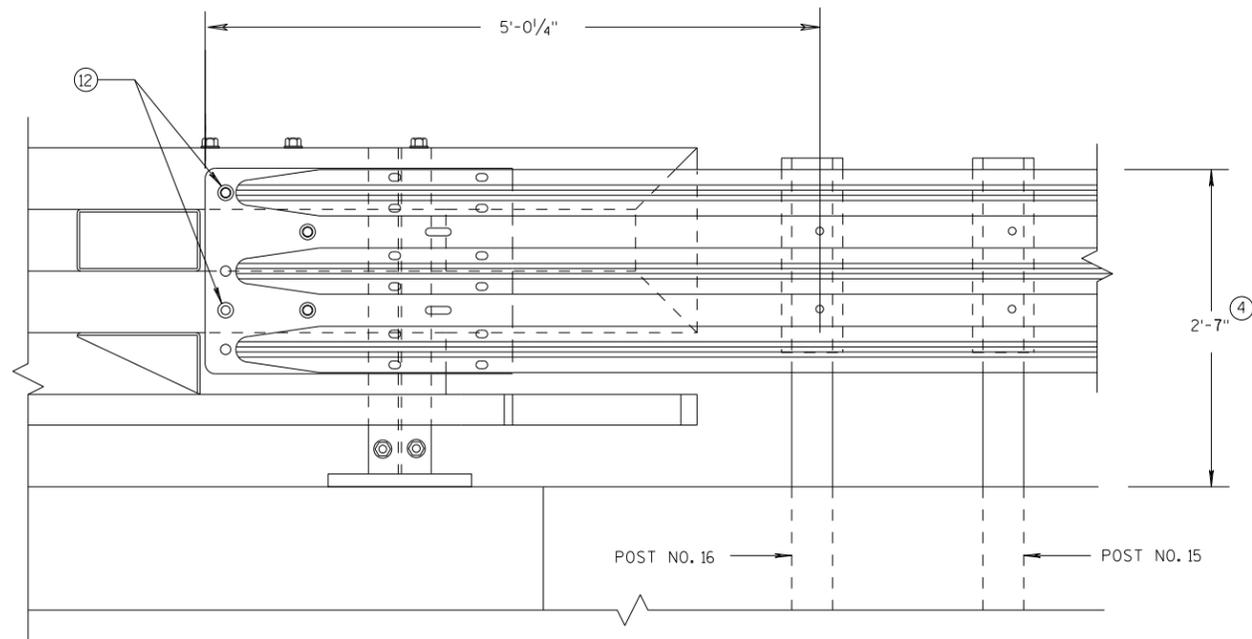


**SINGLE SLOPE CONNECTION PLATE PLACEMENT**

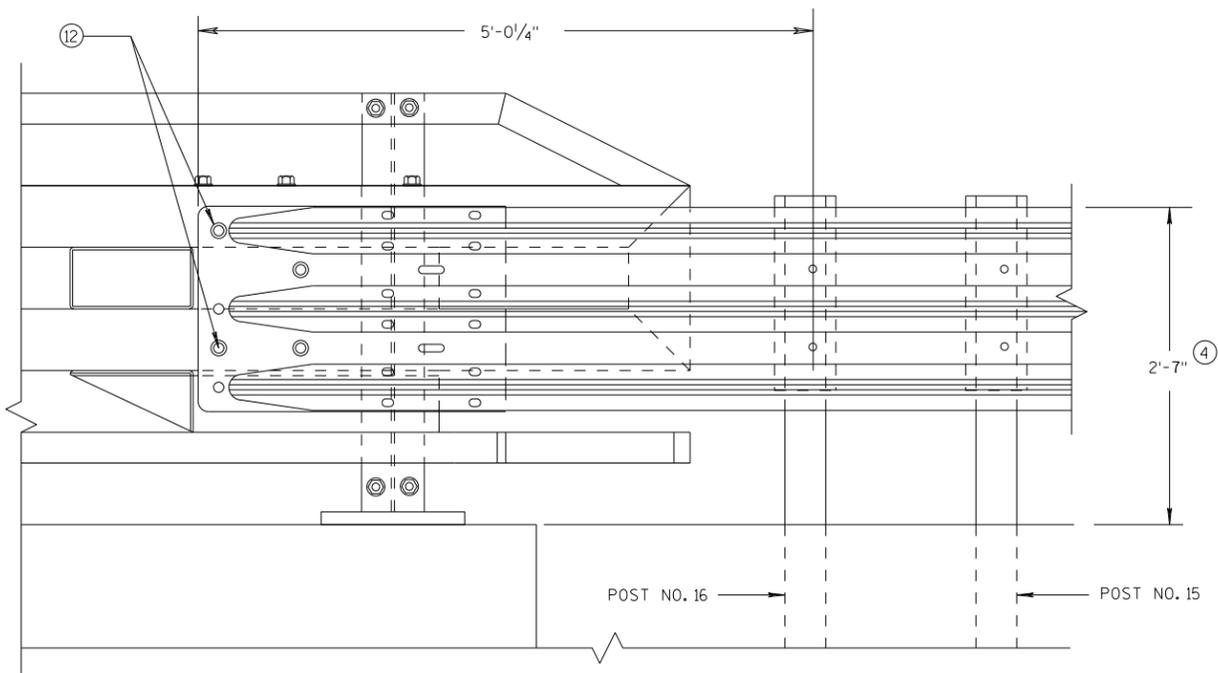
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 7/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



**ELEVATION OF DETAIL AT NY3 END POST**  
**THRIE BEAM RAIL ATTACHMENT**



**ELEVATION OF DETAIL AT NY4 END POST**  
**THRIE BEAM RAIL ATTACHMENT**

**GENERAL NOTES**

- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑫ 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 CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND  $\frac{1}{2}$ -INCH BEYOND NUT.

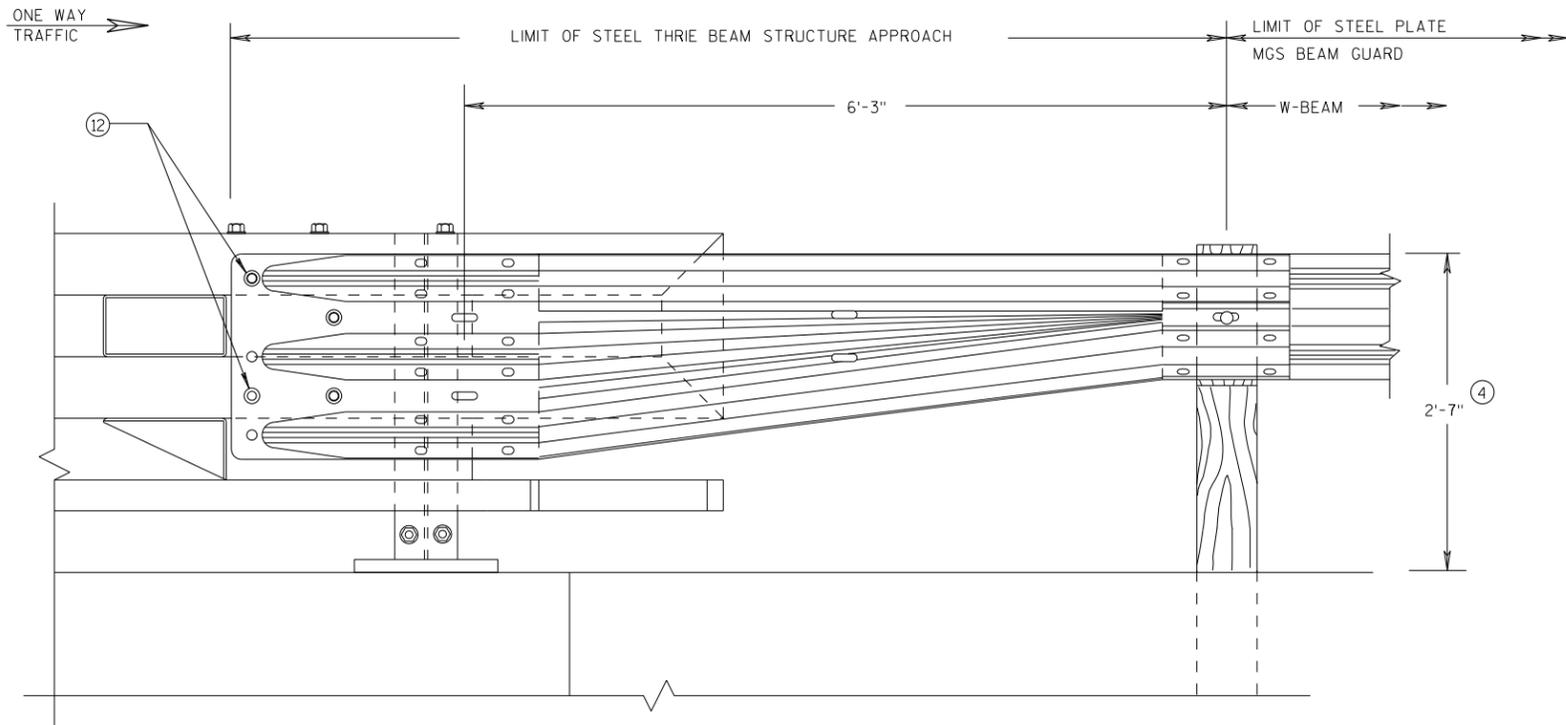
6

6

S.D.D. 14 B 45-5k

S.D.D. 14 B 45-5k

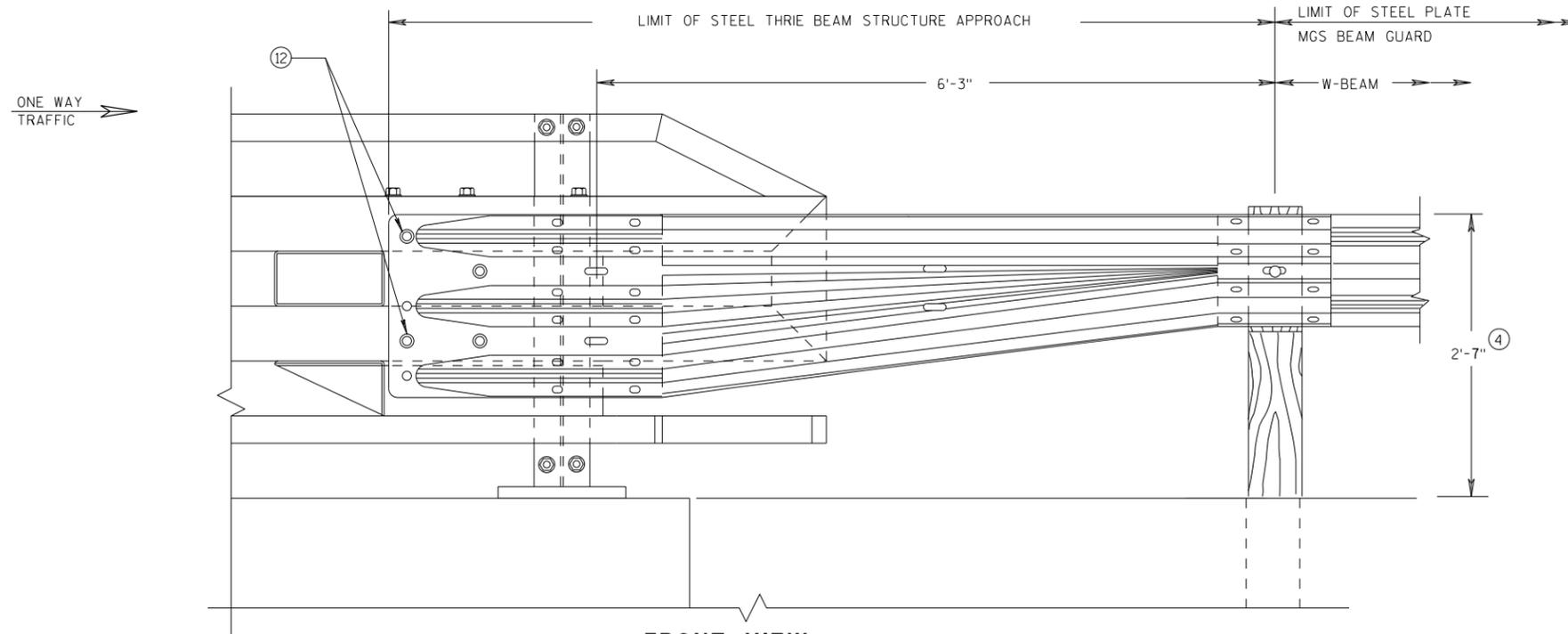
<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



**FRONT VIEW**  
**W BEAM TRANSITION AND**  
**CONNECTION TO BRIDGE RAILING TYPE "NY3"**  
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

**GENERAL NOTES**

- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑫ 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 CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND  $\frac{1}{2}$ -INCH BEYOND NUT.



**FRONT VIEW**  
**W BEAM TRANSITION AND**  
**CONNECTION TO BRIDGE RAILING TYPE "NY4"**  
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

**MIDWEST GUARDRAIL SYSTEM**  
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 DATE 7/2018 /S/ Rodney Taylor  
 ROADWAY STANDARDS DEVELOPMENT  
 UNIT SUPERVISOR  
 FHWA

**GENERAL NOTES**

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

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" X 48" UNLESS OTHERWISE NOTED.

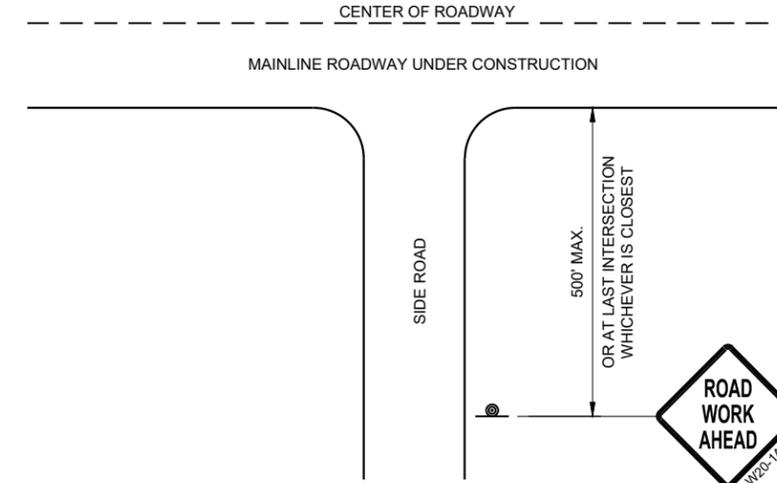
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

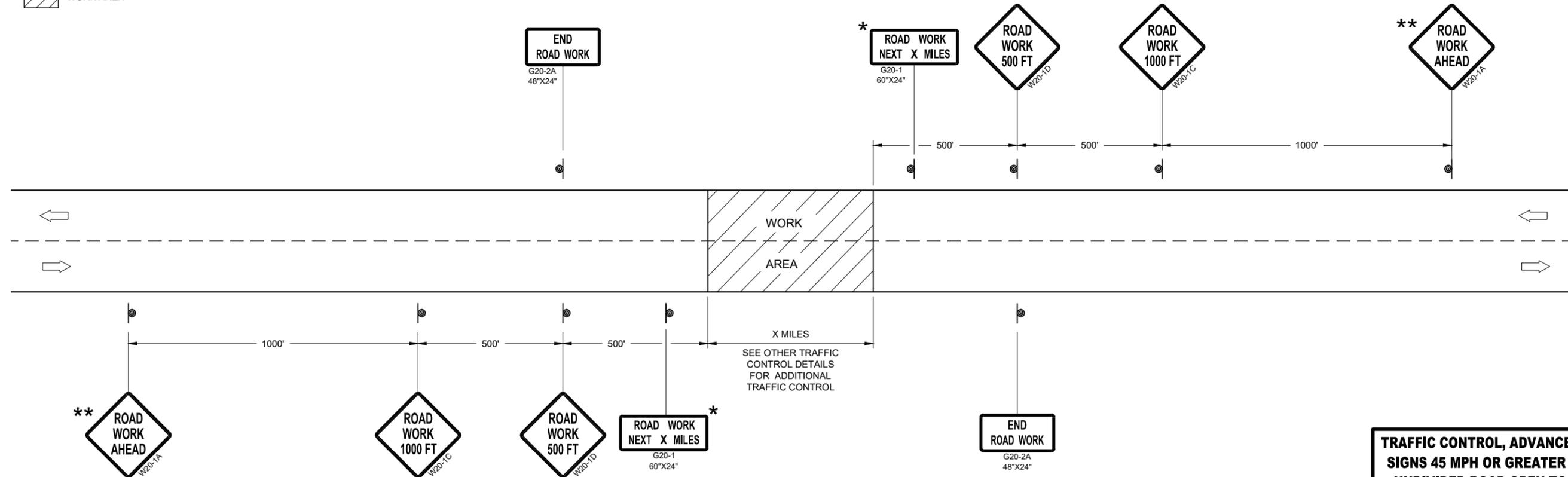
- \* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- \*\* PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



**TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL**



**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER**

**TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 45 MPH OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED \_\_\_\_\_ /S/ Andrew Heidtke  
DATE July 2018 WORK ZONE ENGINEER

FHWA

**GENERAL NOTES**

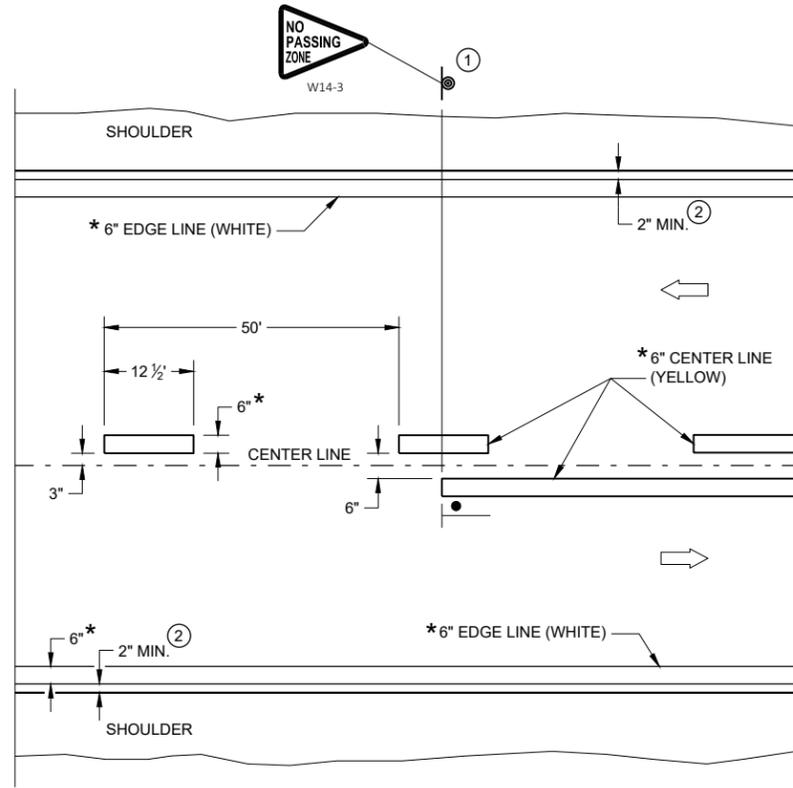
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

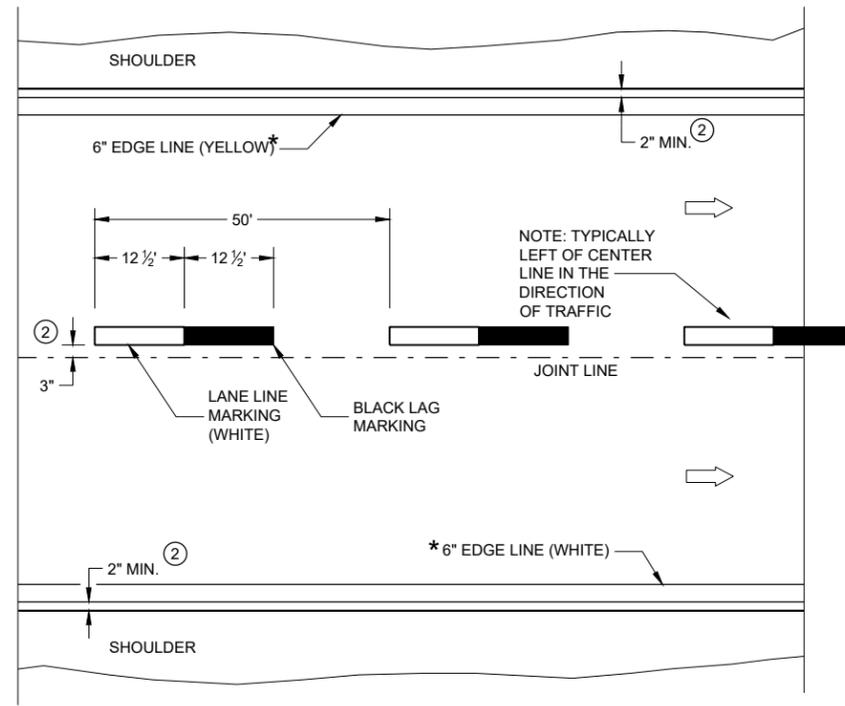
**LEGEND**

-  "T" MARKING
-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

**PERMANENT PAVEMENT MARKING**

6

6

SDD 15C08-23a

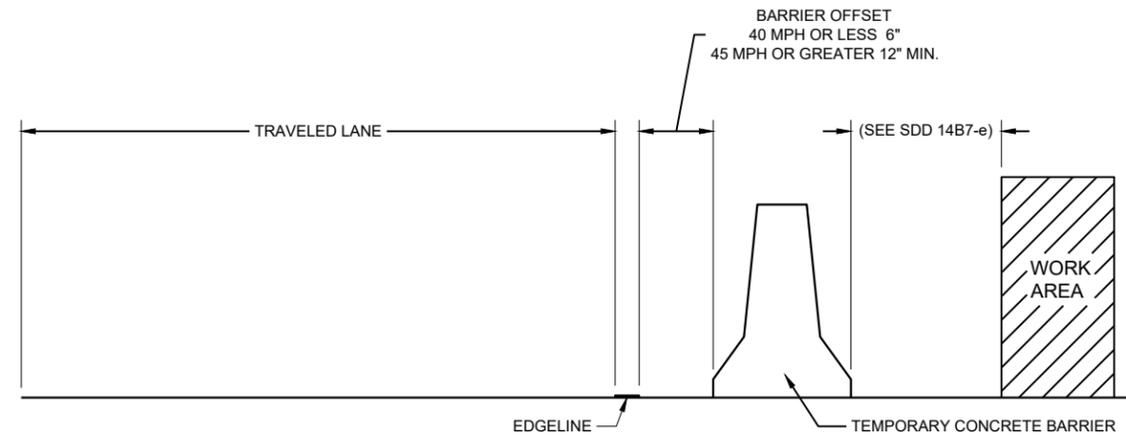
SDD 15C08-23a

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Jeannie Silver  
DATE STATEWIDE SIGNING AND MARKING ENGINEER

FHWA



**TEMPORARY BARRIER OFFSET FROM EDGELINE**

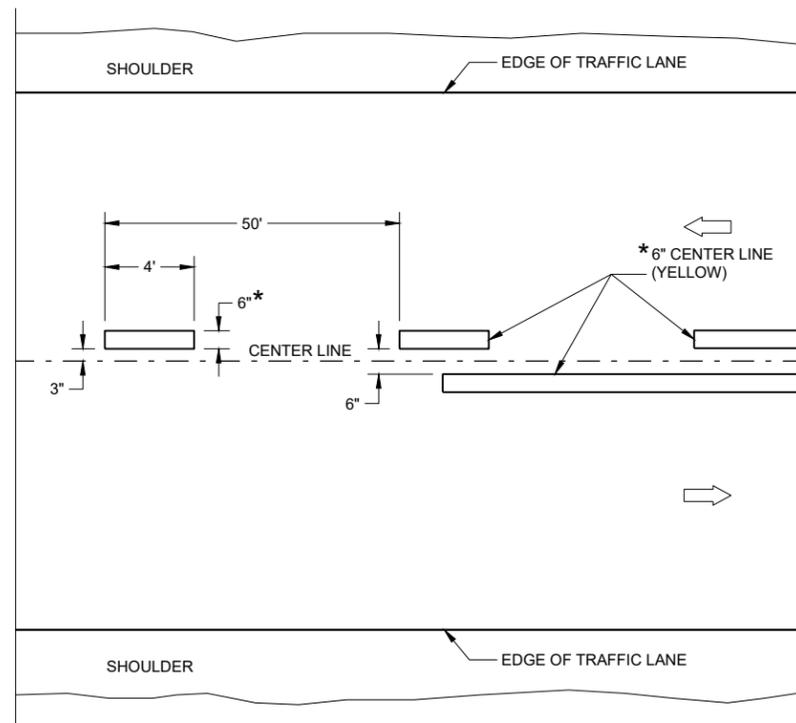
**GENERAL NOTES**

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

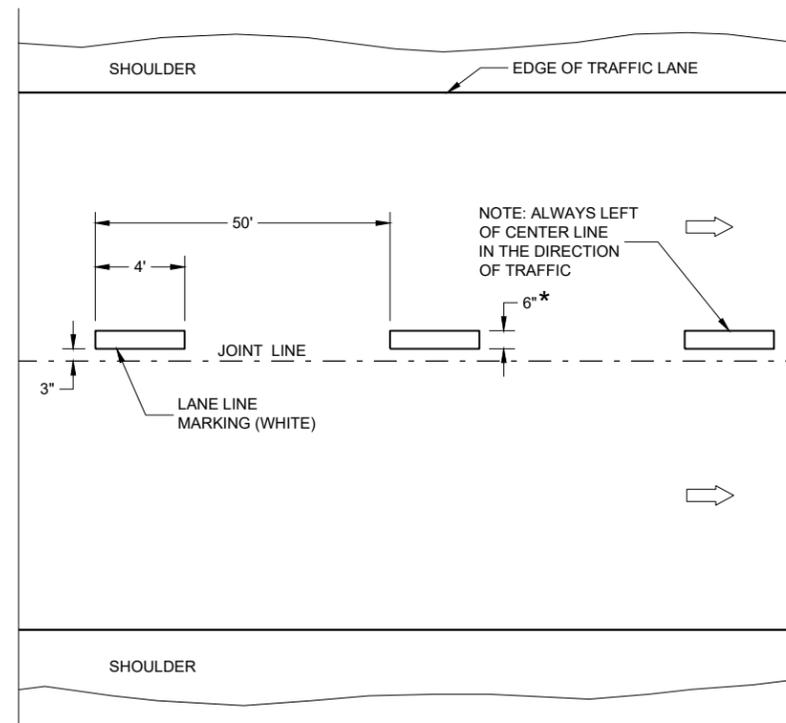
**LEGEND**

➔ DIRECTION OF TRAFFIC

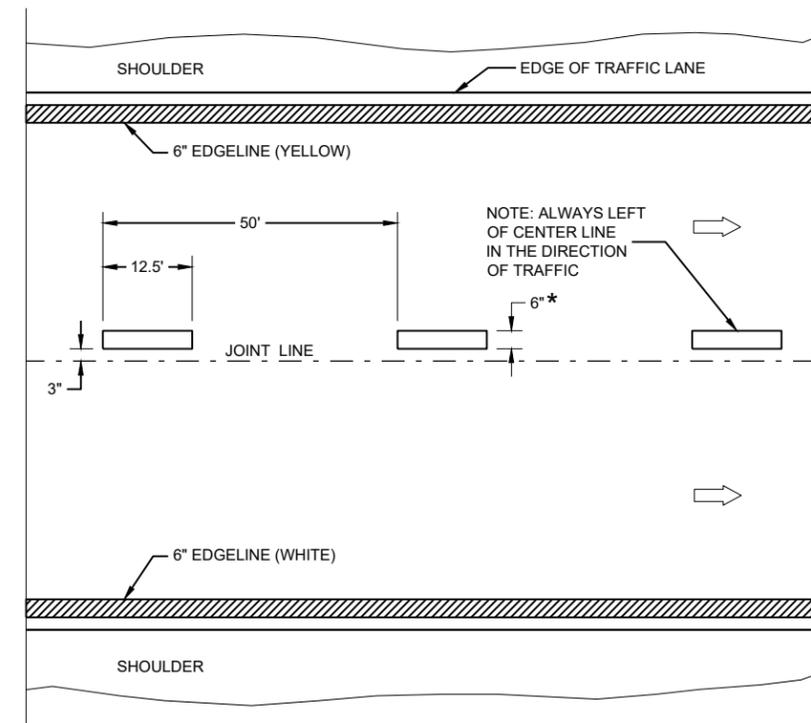
\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**



**FREEWAYS AND EXPRESSWAYS**

**TEMPORARY PAVEMENT MARKING**

**TEMPORARY LONGITUDINAL PAVEMENT MARKING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Jeannie Silver  
DATE STATEWIDE SIGNING AND MARKING  
ENGINEER

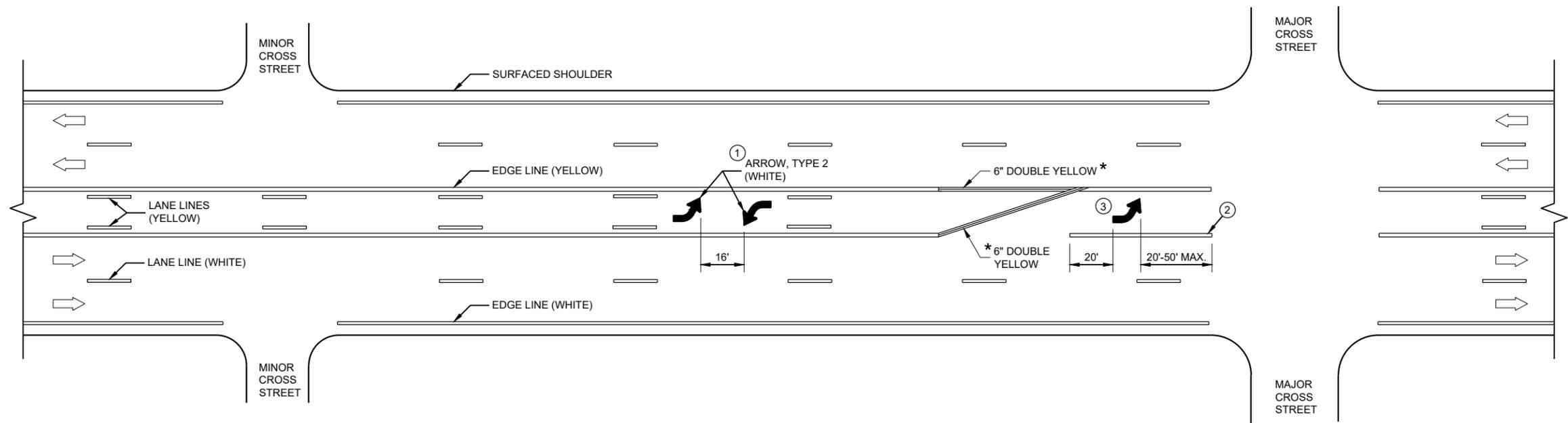
FHWA

**GENERAL NOTES**

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 10" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

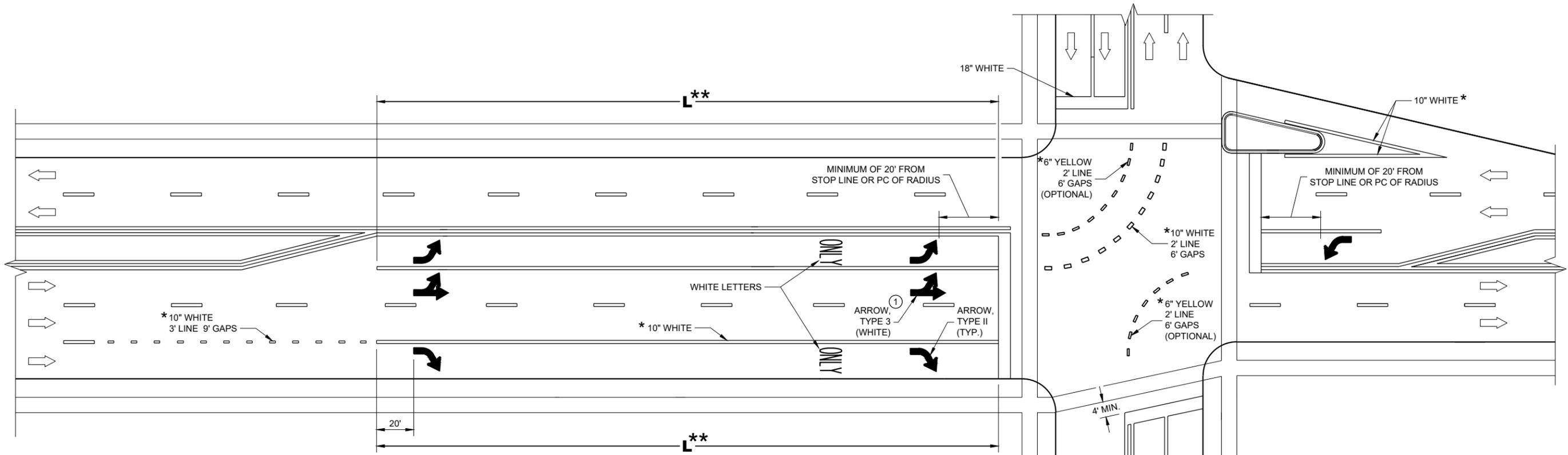
➡ DIRECTION OF TRAFFIC

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



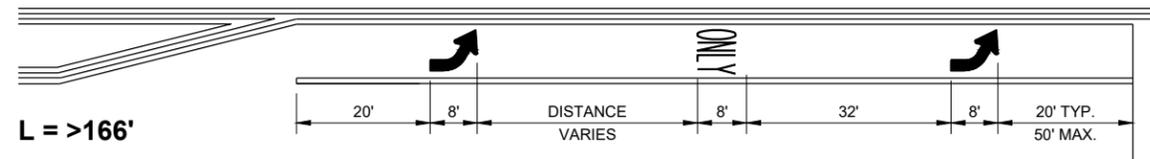
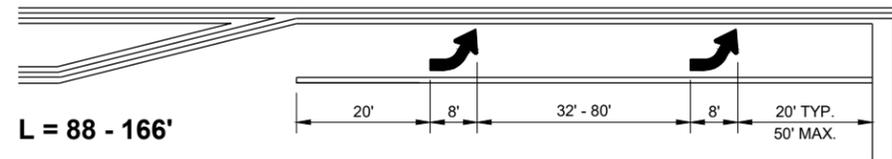
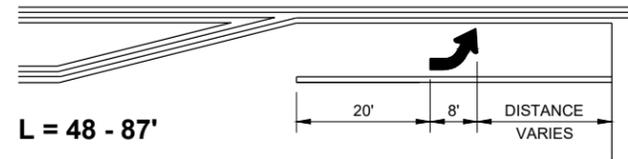
**TWO WAY LEFT TURN LANE**

<b>PAVEMENT MARKING (TURN LANES)</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



**TURN LANE OPTIONS**

LENGTH OF TURN BAY ( **L** ) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



\*\* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

**GENERAL NOTES**

① QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

➡ DIRECTION OF TRAFFIC

**L** = LENGTH OF TURN BAY

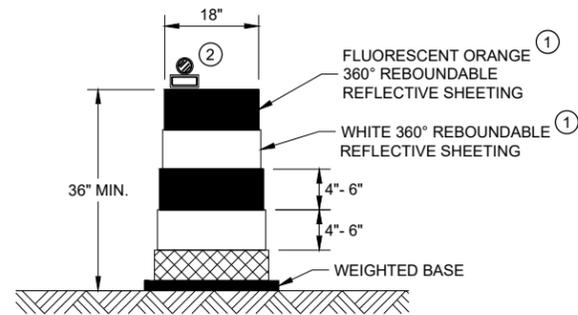
\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

**PAVEMENT MARKING (TURN LANES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

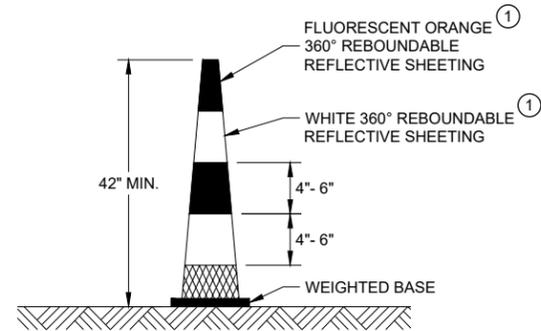
**GENERAL NOTES**

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



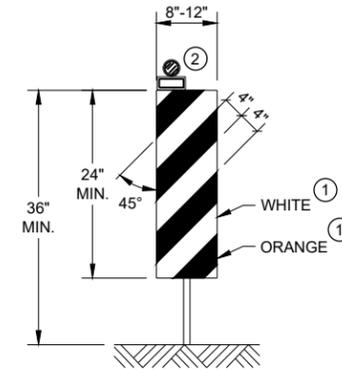
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



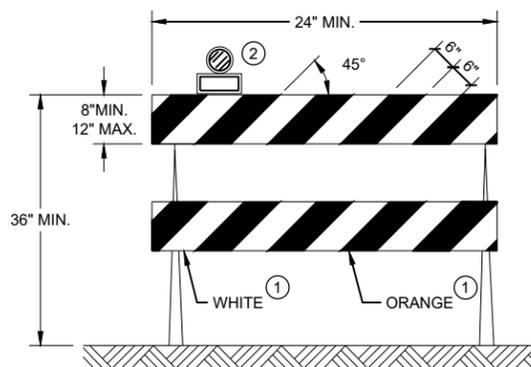
**42" CONE**

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"



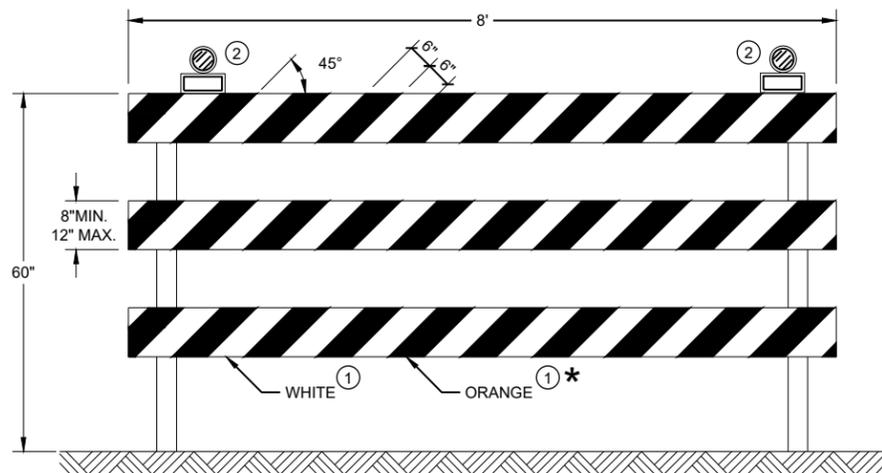
**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO  
THE TRAFFIC SIDE FOR CHANNELIZATION.



**TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES  
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD  
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



**TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP  
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

<b>CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**LEGEND**

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

**GENERAL NOTES**

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR 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.

**FLAGGING**

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

**TEMPORARY PORTABLE RUMBLE STRIPS**

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

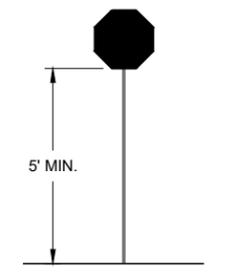
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



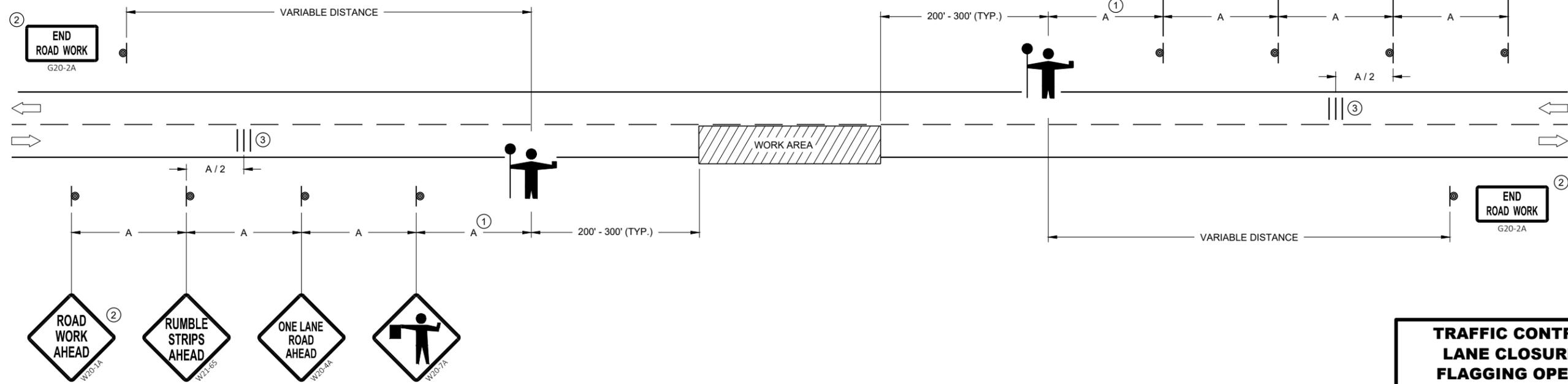
**STOP/SLOW PADDLE ON SUPPORT STAFF**

**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



6

6

SDD 15C12 - 09a

SDD 15C12 - 09a

**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED \_\_\_\_\_ /S/ Andrew Heidtke  
DATE \_\_\_\_\_ WORK ZONE ENGINEER

FHWA

**GENERAL NOTES**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL CONE 42-INCH
-  TRAFFIC CONTROL DRUM
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

**GENERAL NOTES**

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR 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.

**FLAGGING**

IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

- ① SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- ② IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

**TEMPORARY PORTABLE RUMBLE STRIPS**

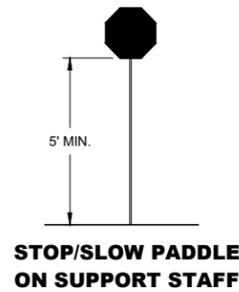
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

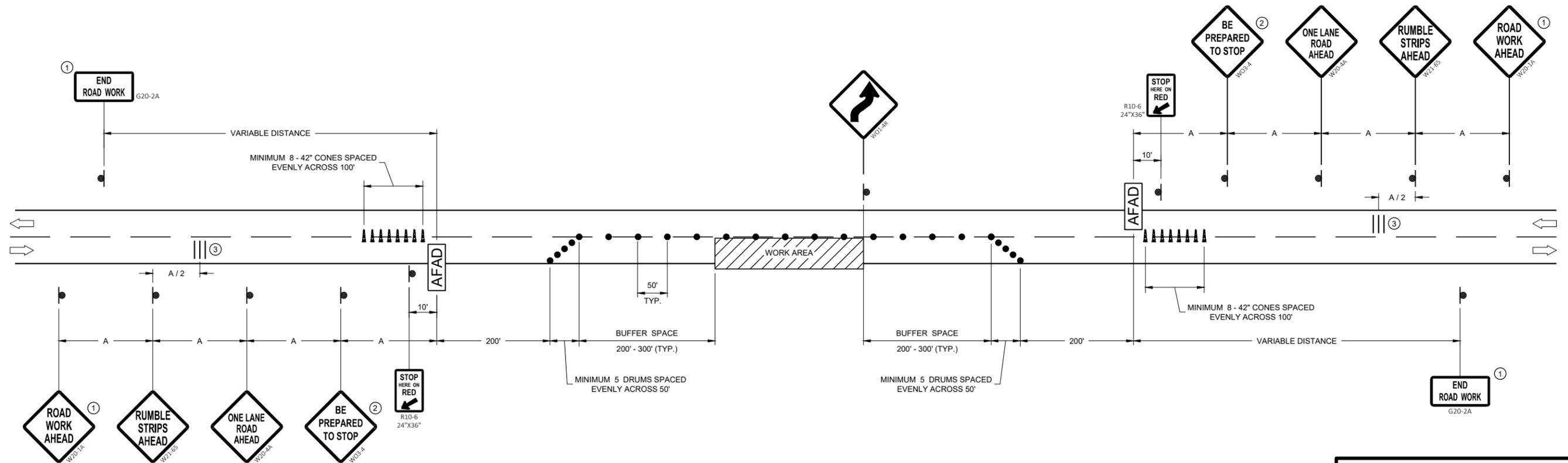
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.



**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



**TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

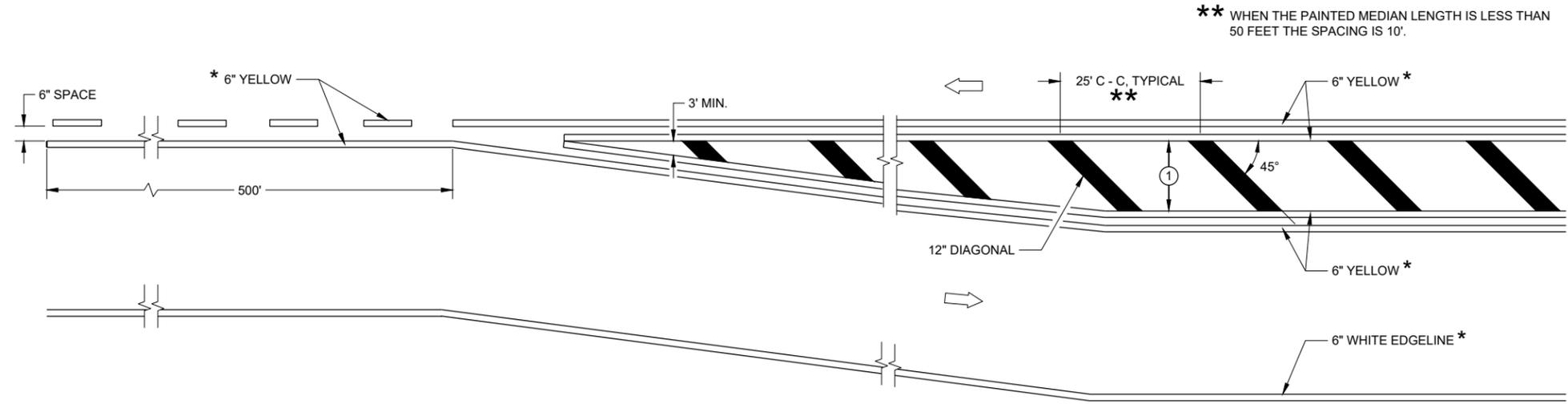
FHWA

6

6

SDD 15C12 - 09b

SDD 15C12 - 09b



**MEDIAN ISLAND DETAIL**

**\*\*** WHEN THE PAINTED MEDIAN LENGTH IS LESS THAN 50 FEET THE SPACING IS 10'.

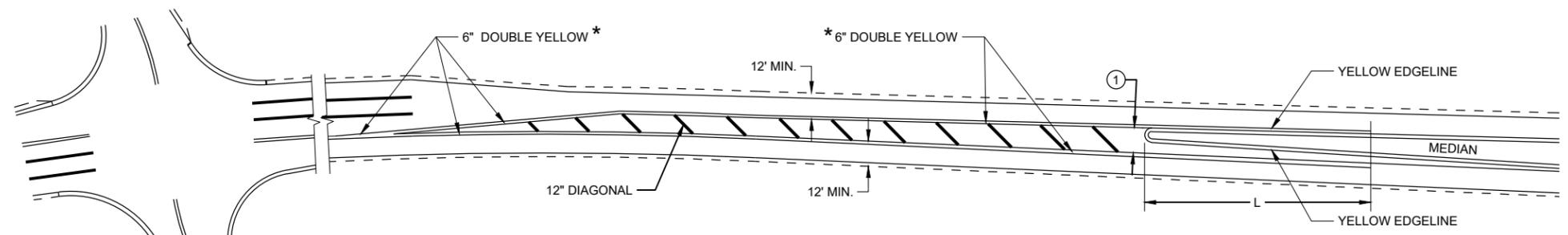
**GENERAL NOTES**

① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

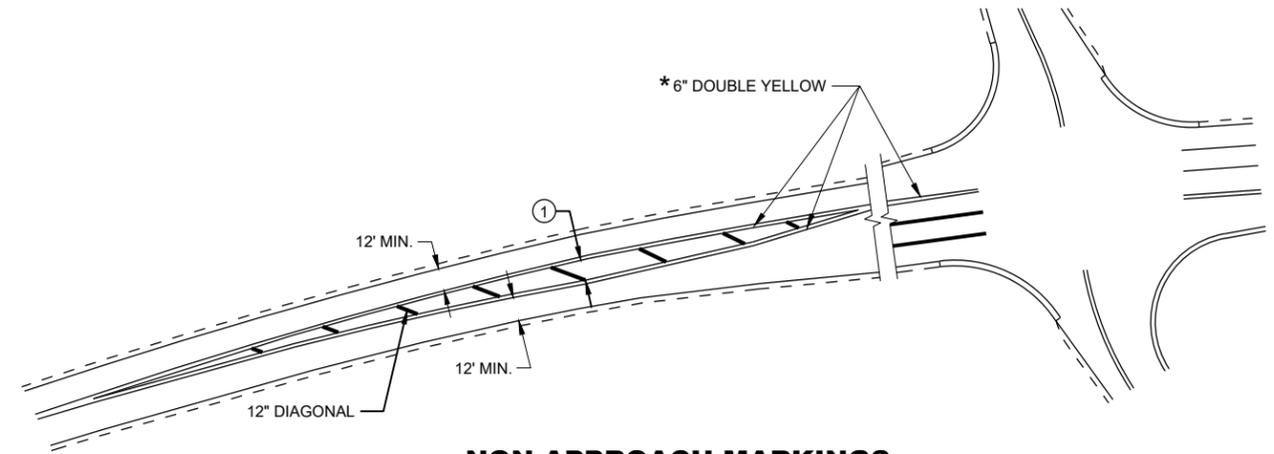
➔ DIRECTION OF TRAVEL

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

SPEED LIMIT	L
<35 MPH	5'
35> MPH	50'



**APPROACH MARKINGS FOR OTHER MEDIAN TYPES**



**NON-APPROACH MARKINGS**

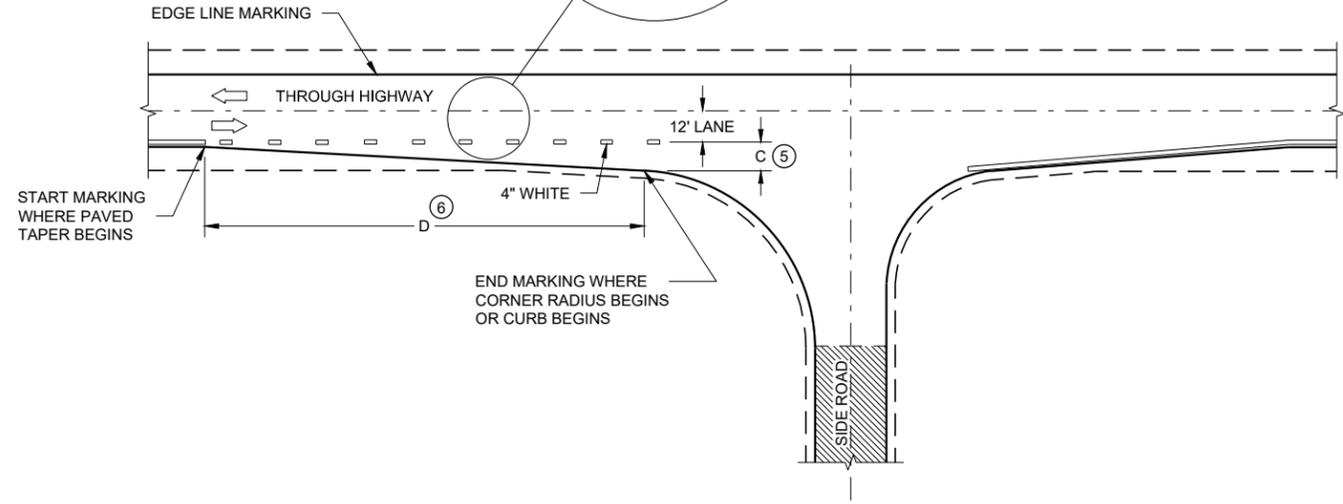
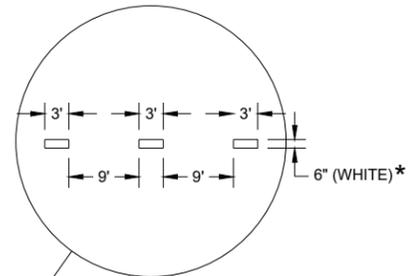
6

6

SDD 15C18-08a

SDD 15C18-08a

<b>MEDIAN ISLAND PAVEMENT MARKINGS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver STATE SIGNING AND MARKING ENGINEER
<small>FHWA</small>	



**MINOR INTERSECTION**

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

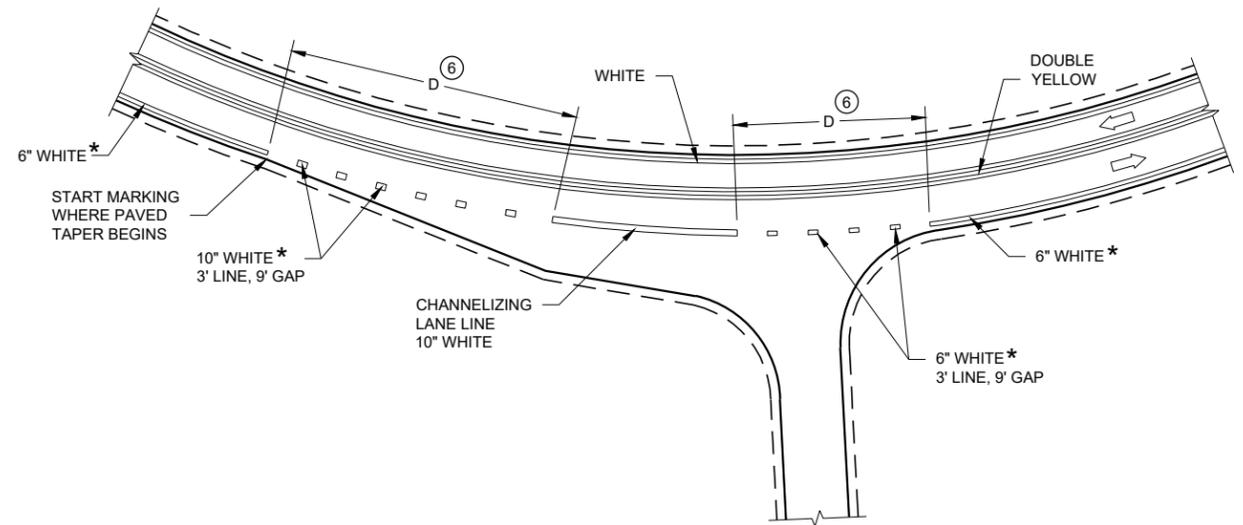
**GENERAL NOTES**

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

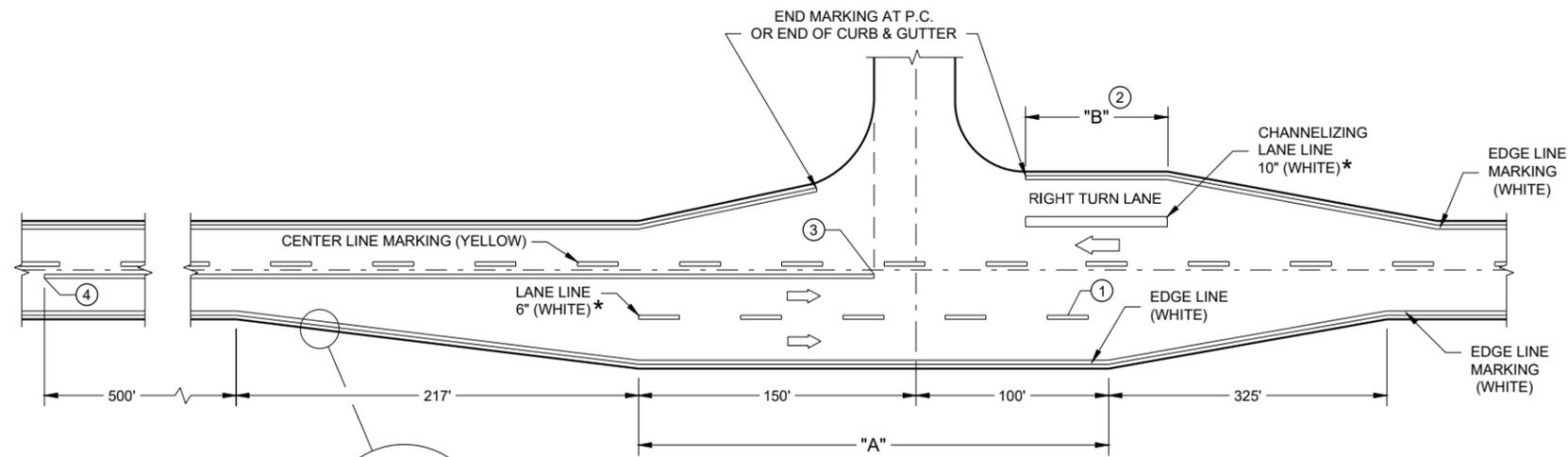
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

**LEGEND**

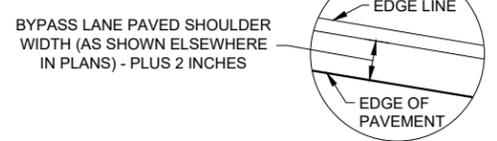
➔ DIRECTION OF TRAVEL



**INTERSECTION ON OUTSIDE OF CURVE**



**MAJOR INTERSECTIONS  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)**



**PAVEMENT MARKING  
(INTERSECTIONS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

## 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.

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.

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

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

"WO" 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.

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 AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 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.

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

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 ONE HALF 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.

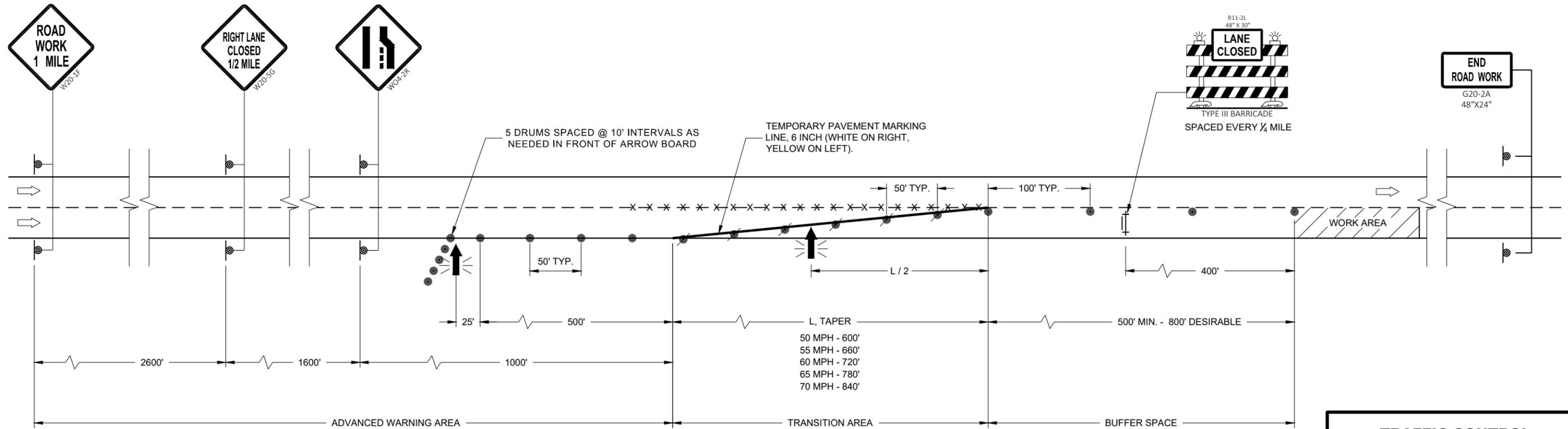
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

## LEGEND

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

6

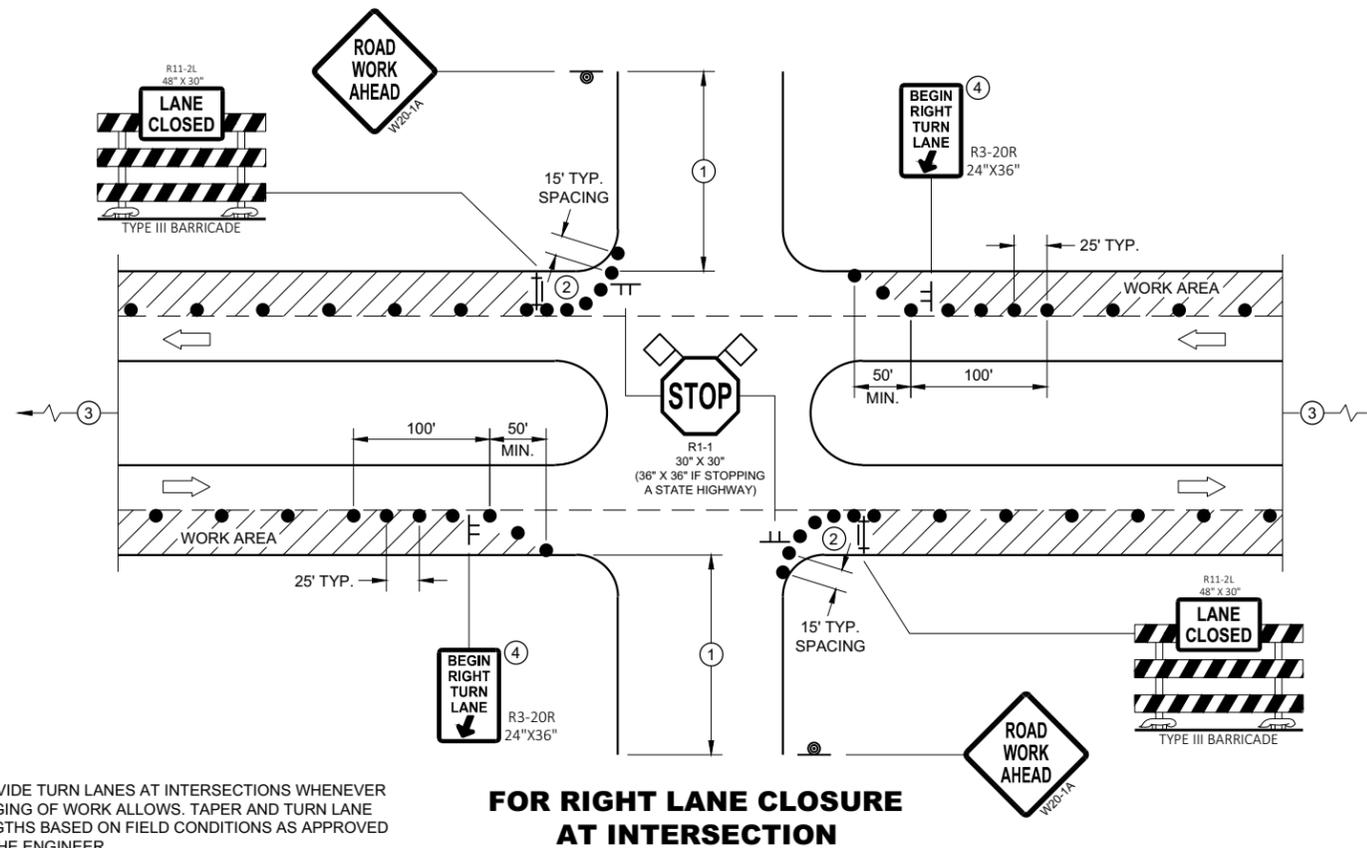
SDD 15D12 - 11a



6

SDD 15D12 - 11a

<b>TRAFFIC CONTROL LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

### GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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 TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

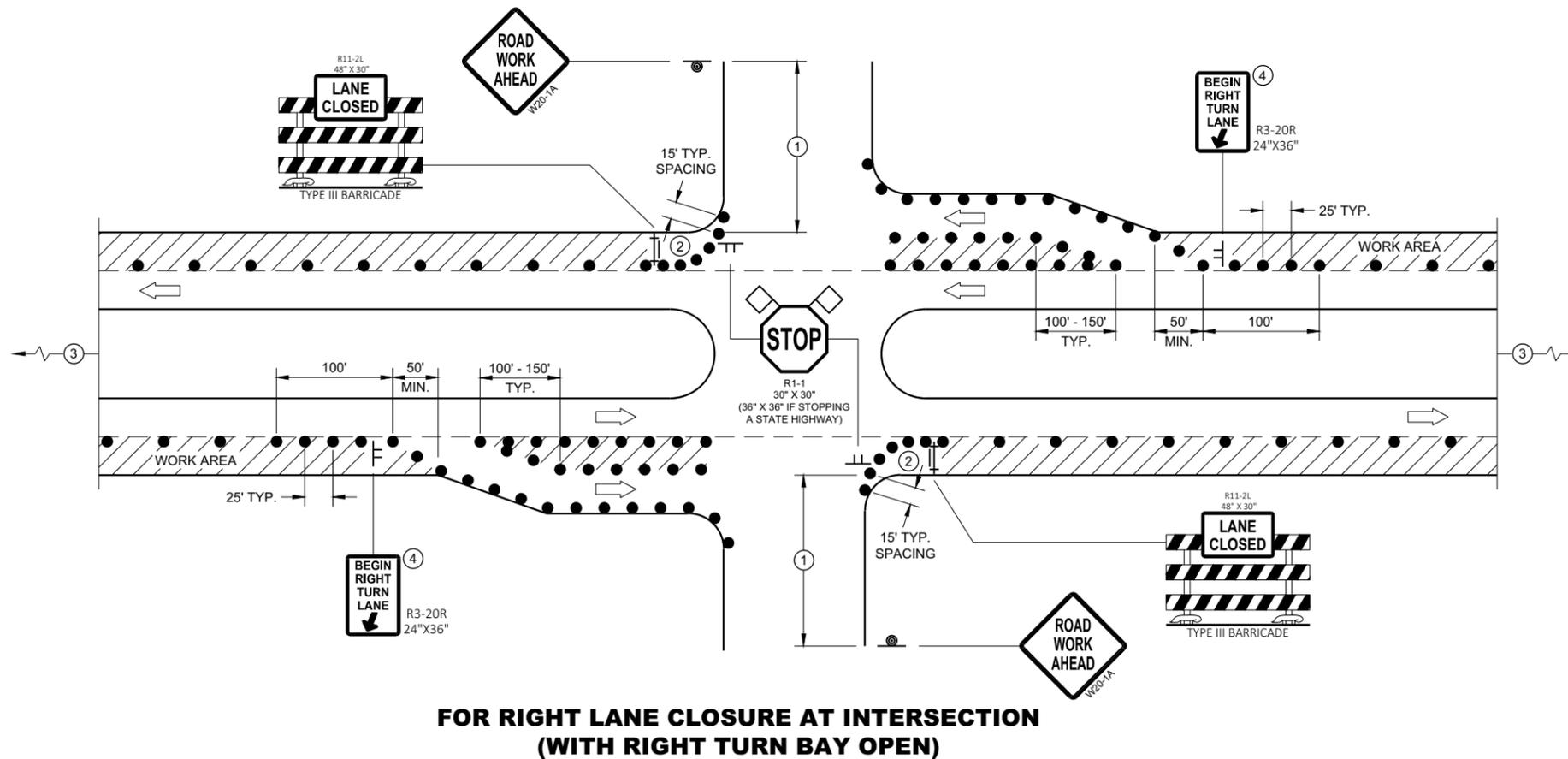
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

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

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.  
350' IF 35 - 40 MPH.  
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



### LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

### TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

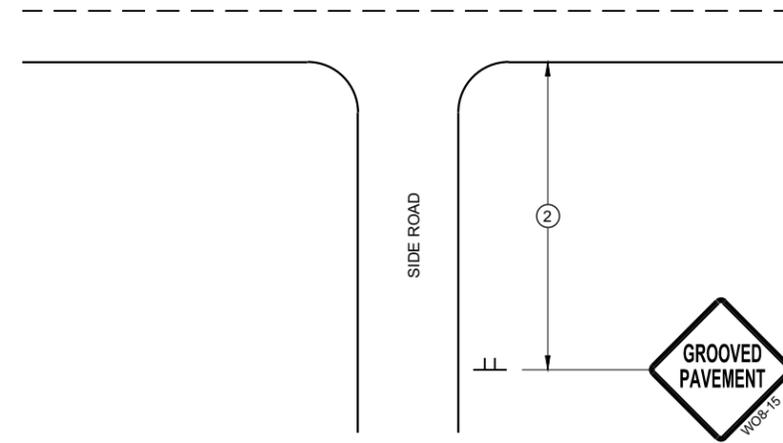
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

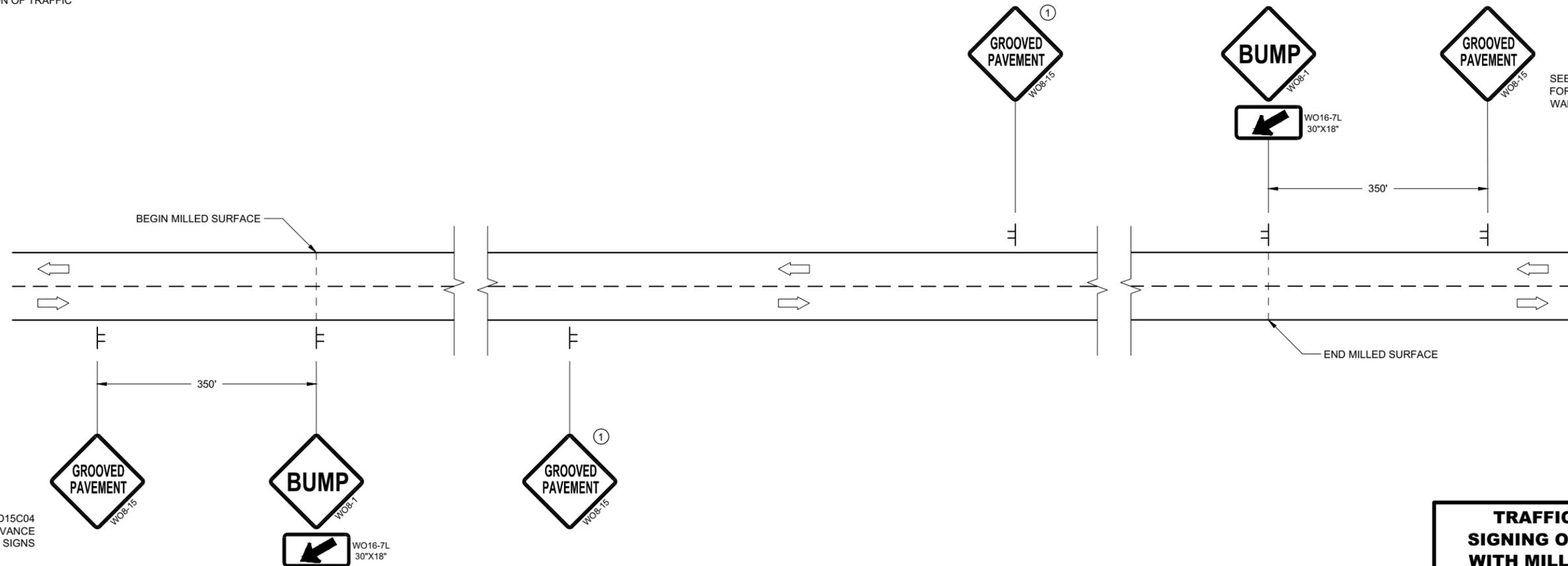
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



SEE SDD15C04 FOR ADVANCE WARNING SIGNS

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

**DETAIL FOR SIGNING ON MILLED SURFACES**

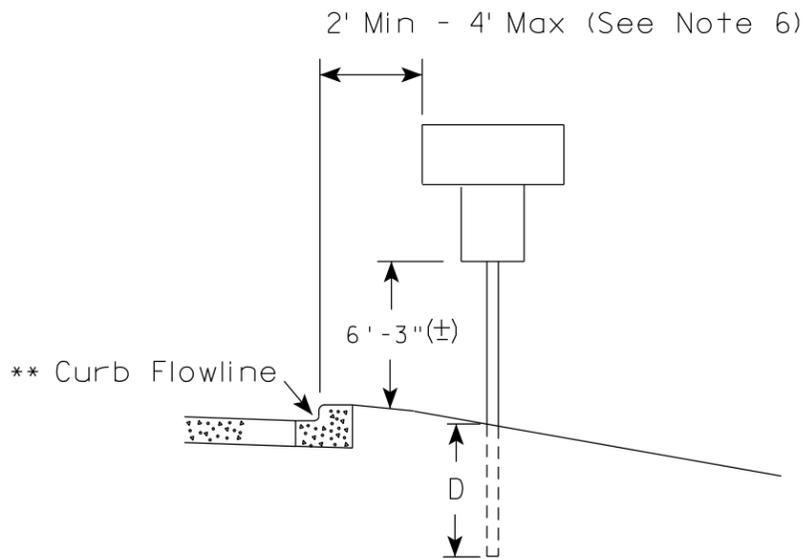
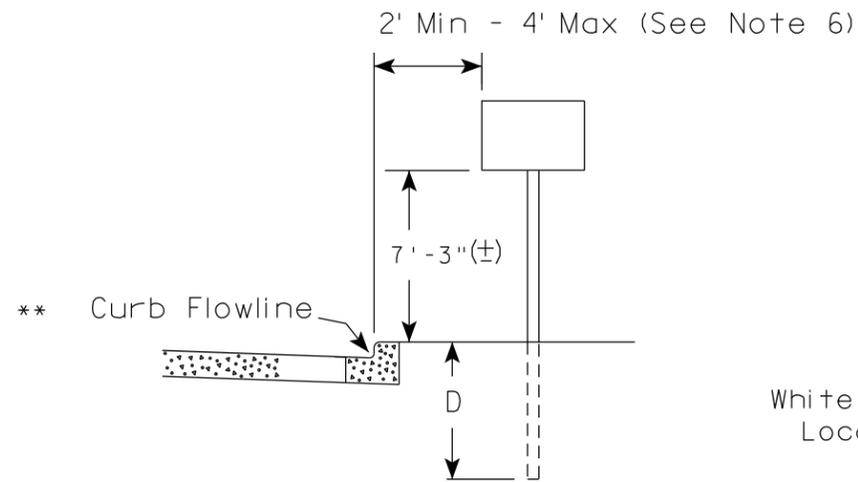
**TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

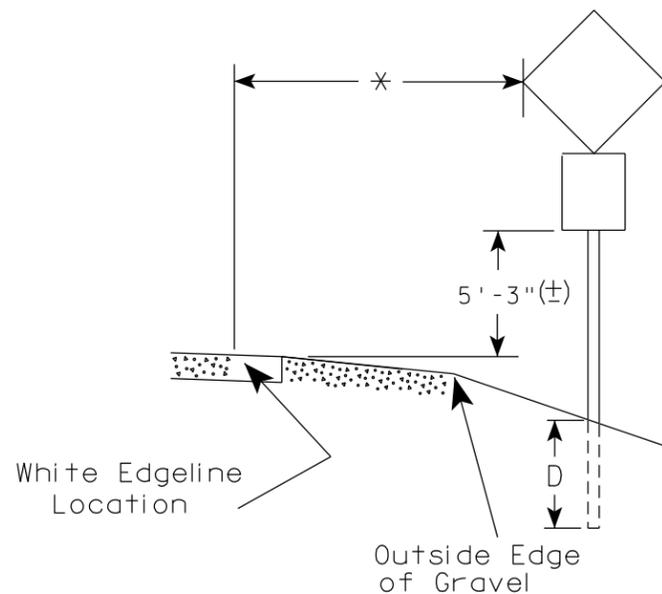
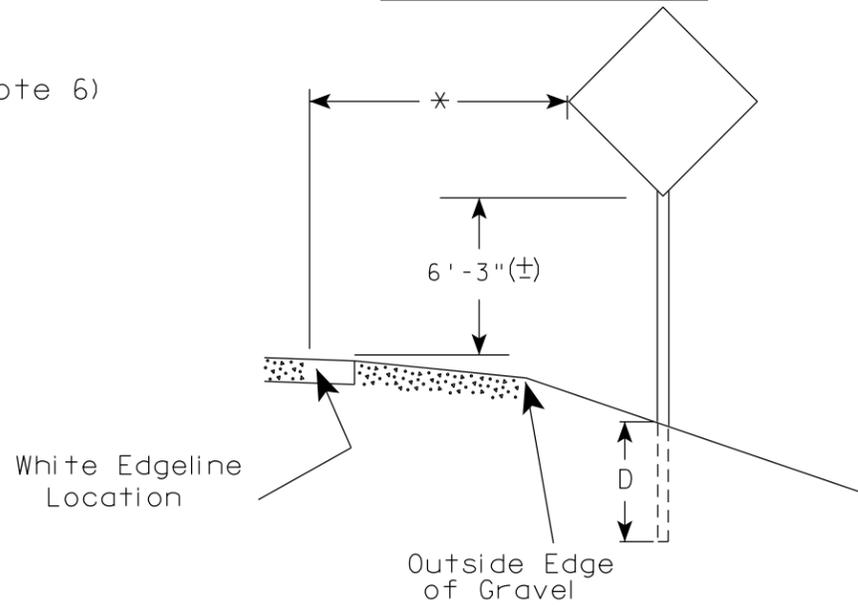
APPROVED  
February 2020 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.  
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

\* \* 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. Offset of signs is measured from the flow line.

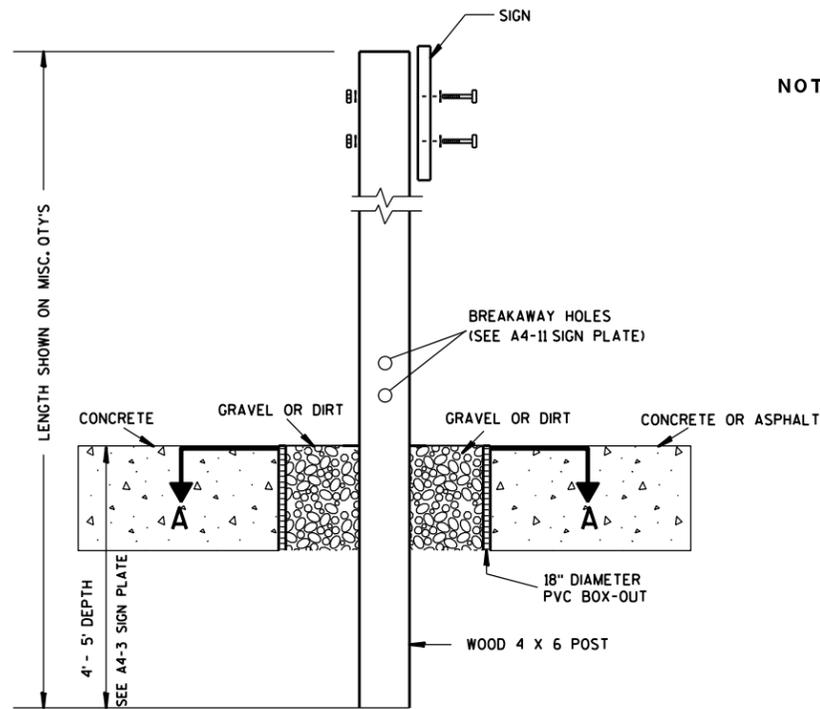
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

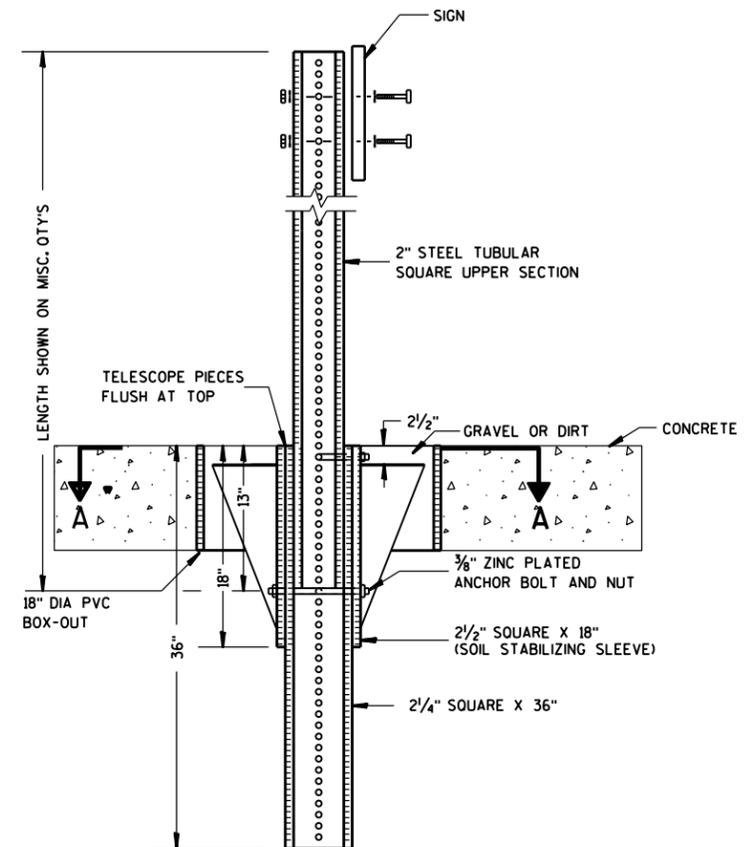
DATE 5/13/2020 PLATE NO. A4-3.22



**ELEVATION VIEW**

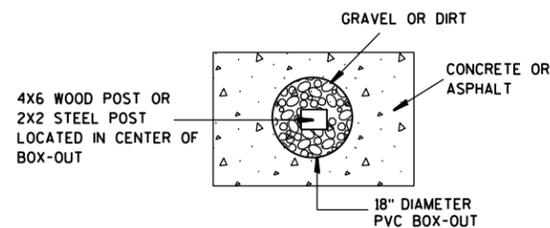
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
  2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
  3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



**ELEVATION VIEW**

**DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT**



**PLAN VIEW**

**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

**SIGN POST  
BOX-OUTS  
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

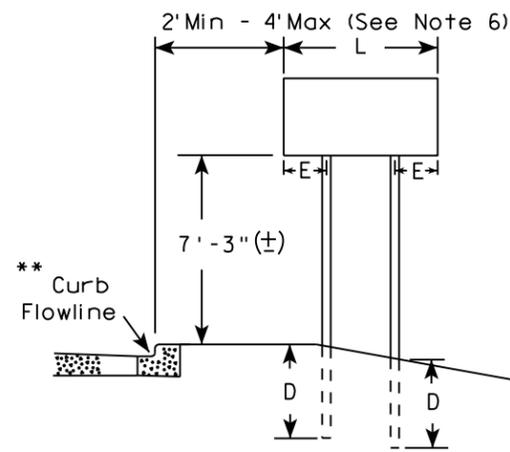
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

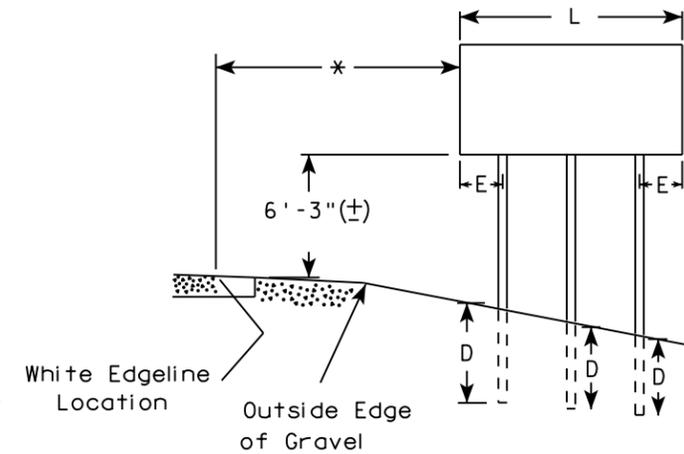
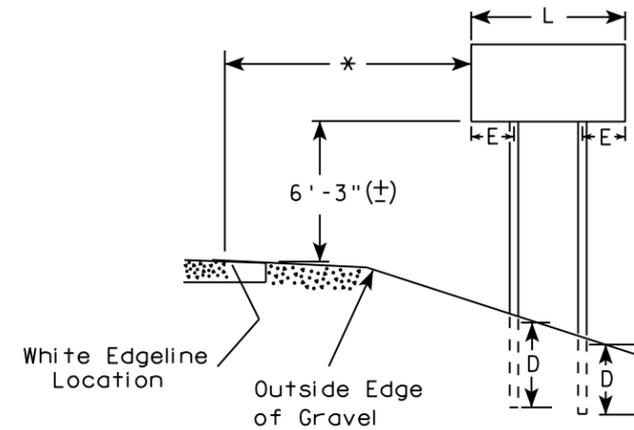
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

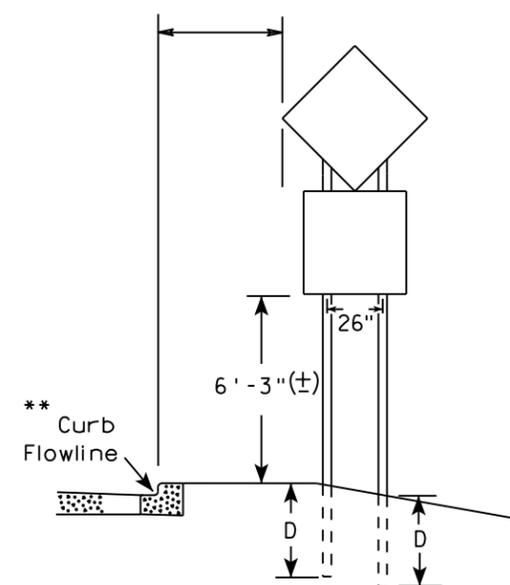
URBAN AREA



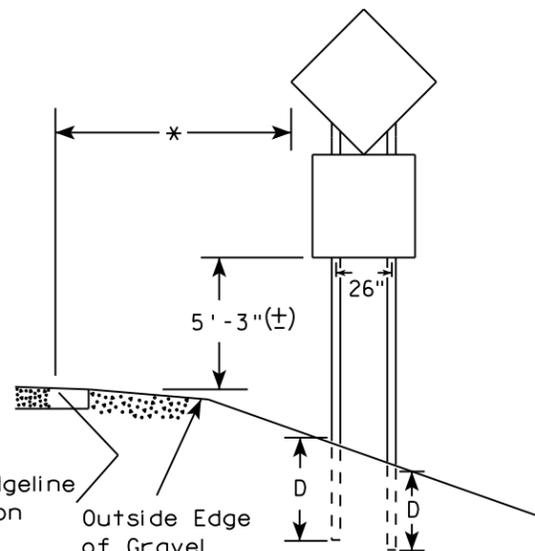
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

\*\* 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. Offset of signs is measured from the flow line.

\*\*\* See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

\*\*\*

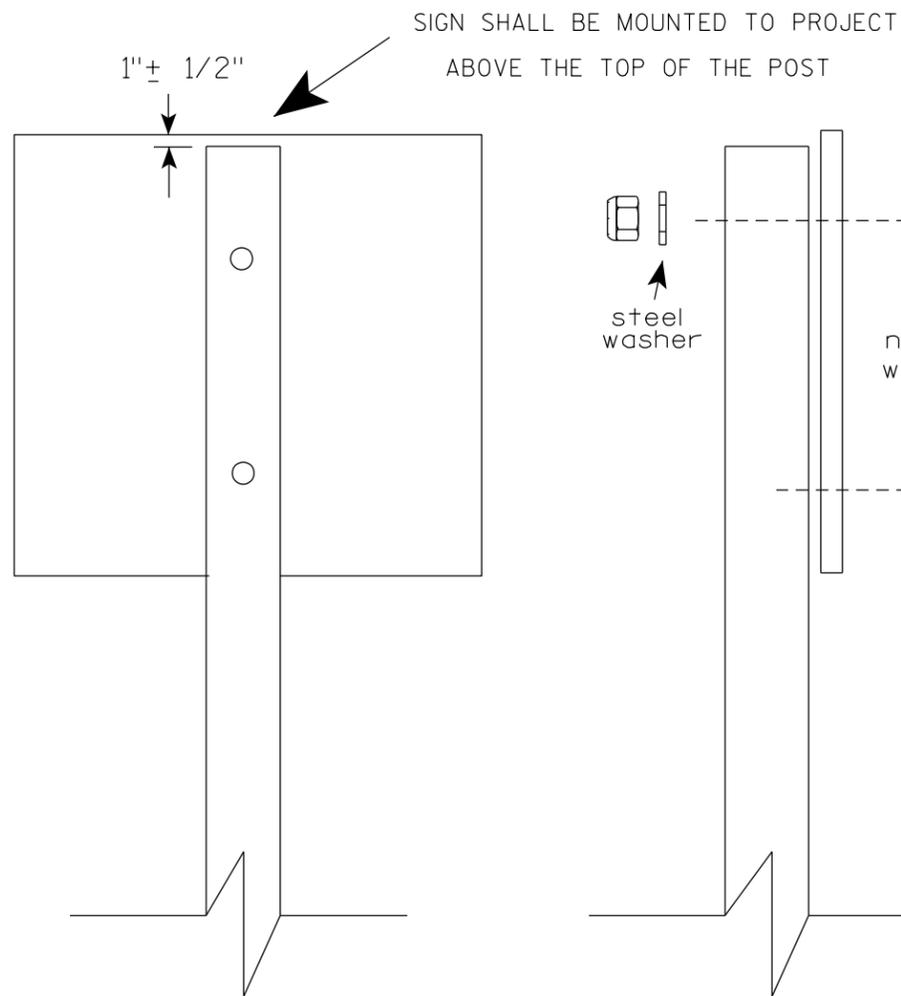
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

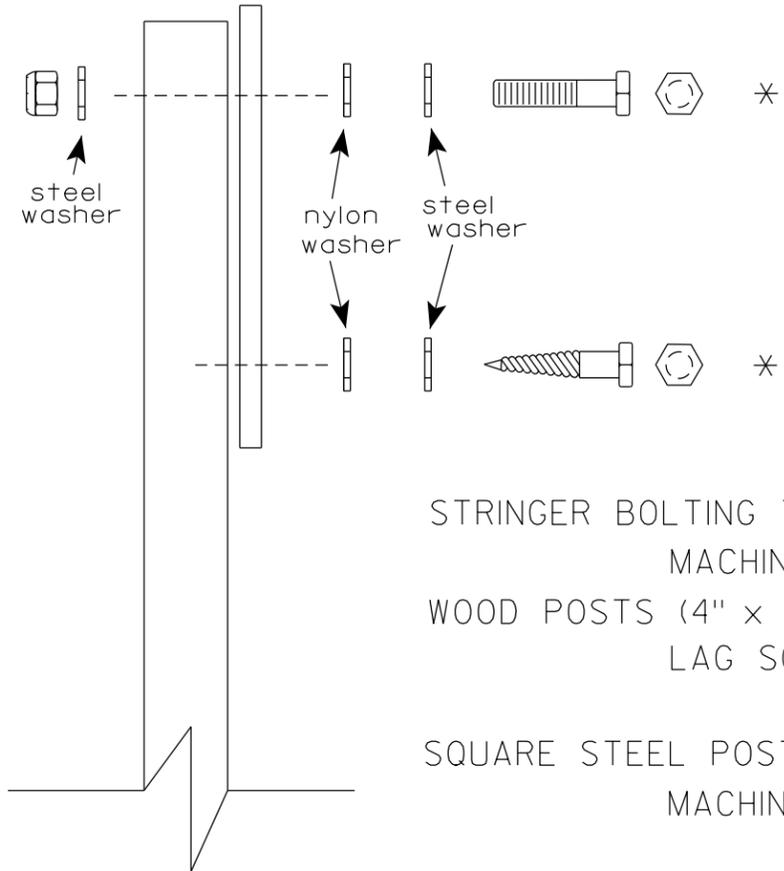
WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer  
 DATE 8/21/17 PLATE NO. A4-4.15



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.



STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)  
 3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)  
 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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) -

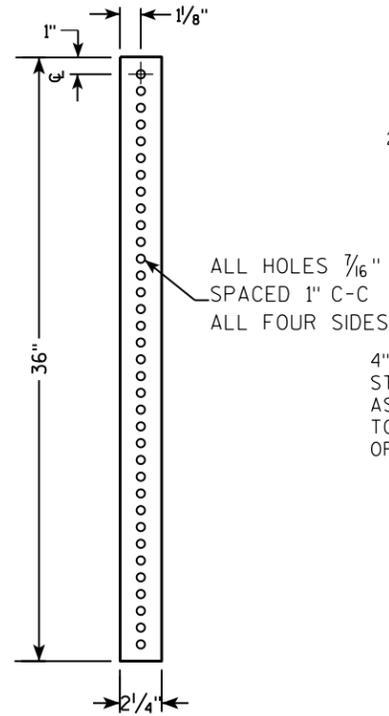
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON

\* 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, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

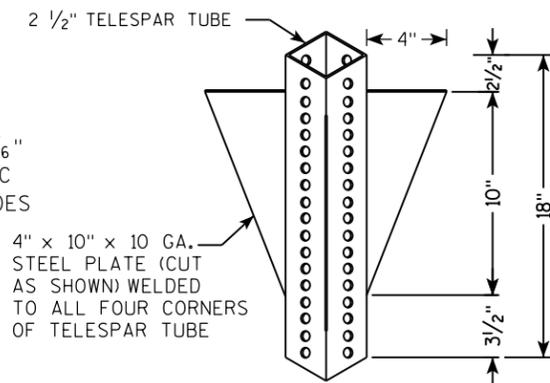
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

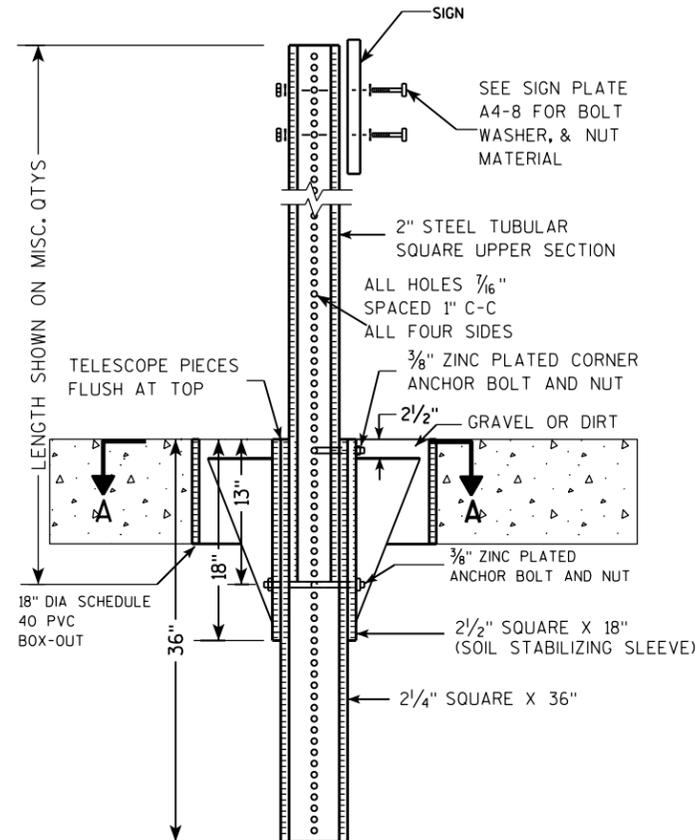
**2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH**



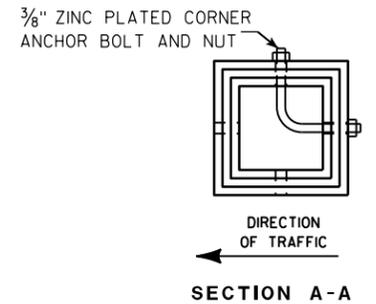
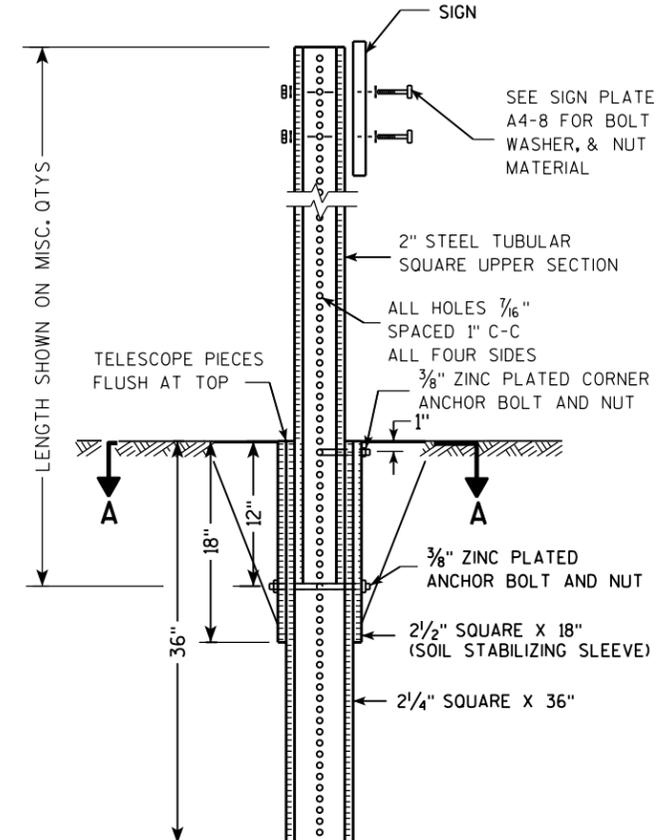
**2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH**



**DETAIL OF TUBULAR STEEL SIGN POST  
(IN POURED CONCRETE OR ASPHALT)**



**DETAIL OF TUBULAR STEEL SIGN POST  
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



Area of Sign Installation (Sq. Ft.)	Number of Required 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).

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

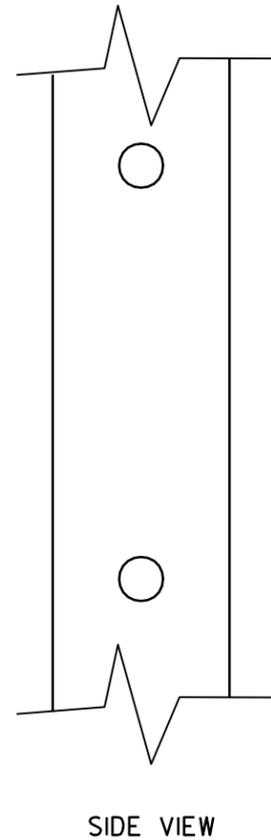
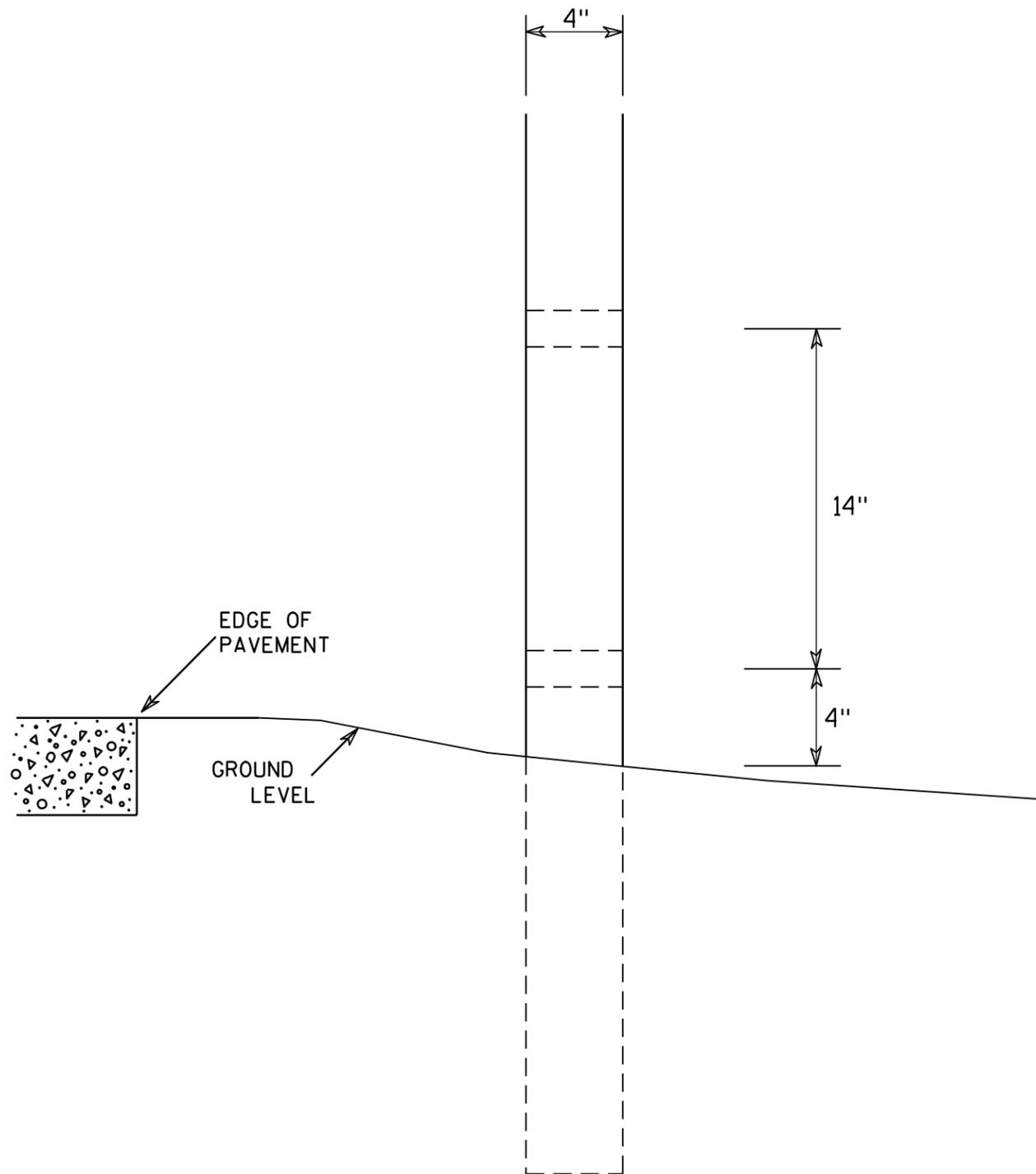
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



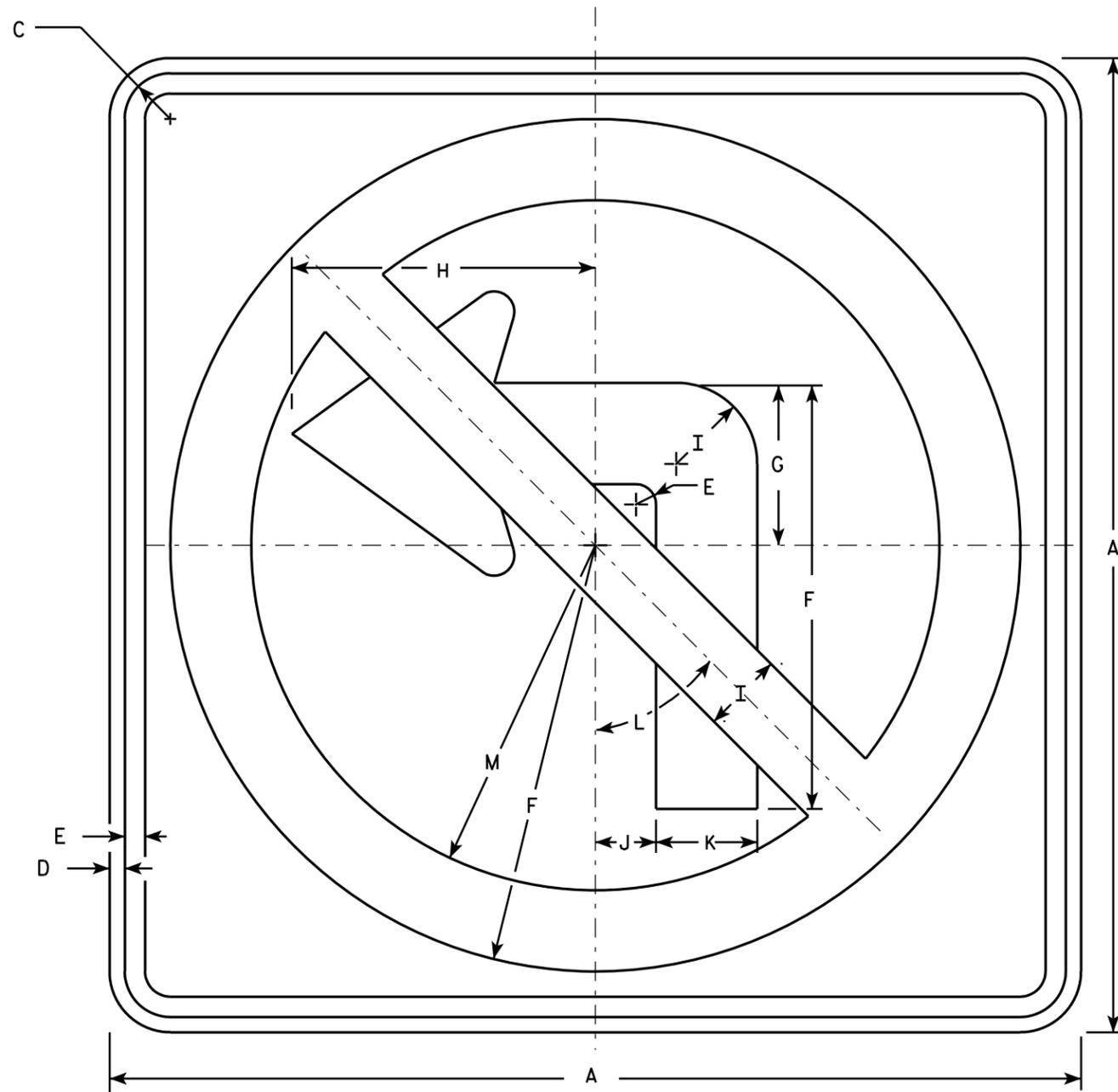
GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

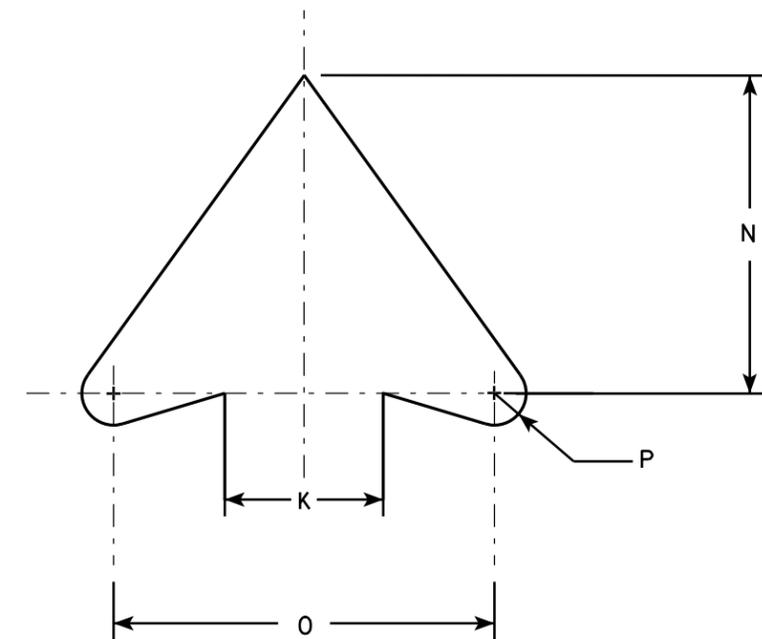
4 X 6 WOOD POST MODIFICATIONS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE 3/27/97	PLATE NO. A4-11.2



R3-2

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. Ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

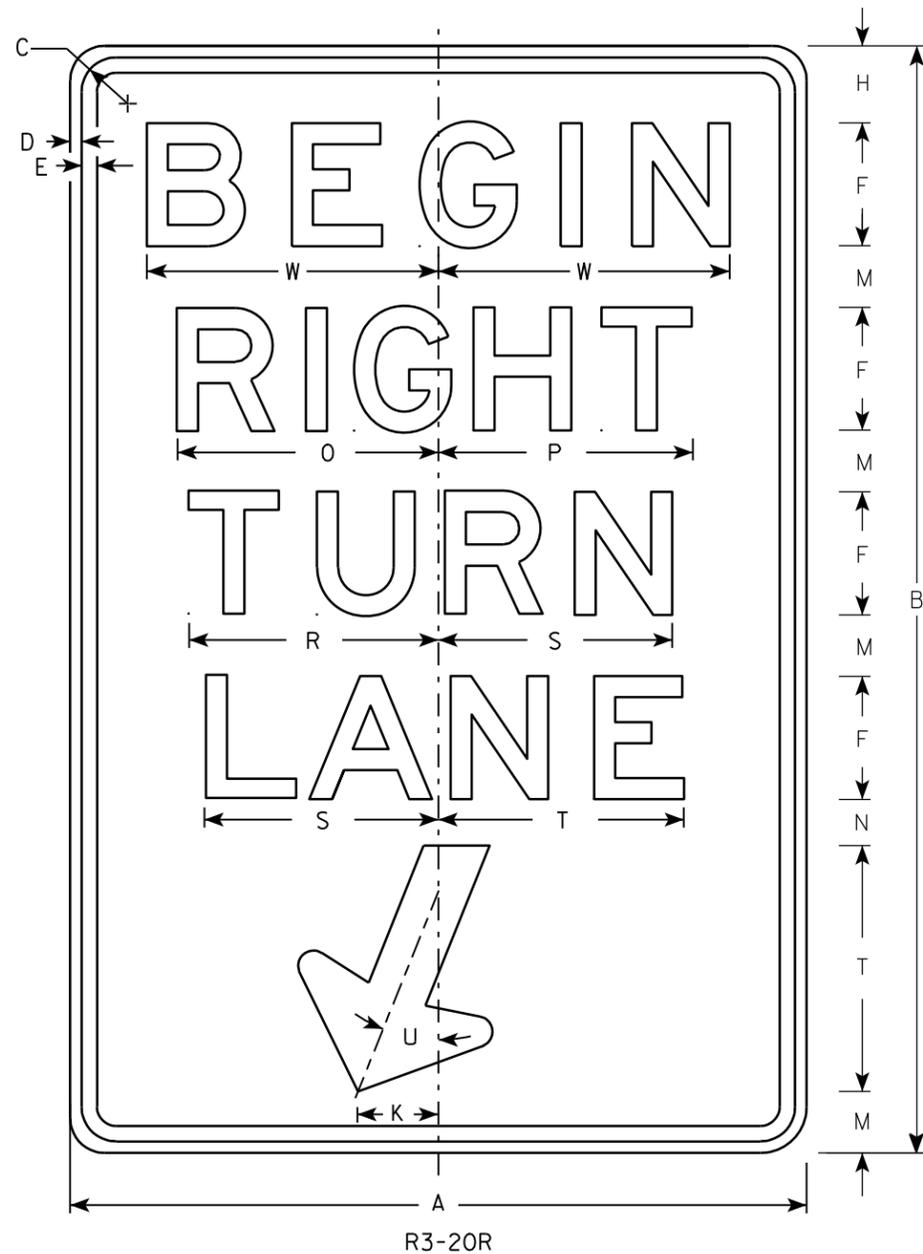
**STANDARD SIGN**  
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

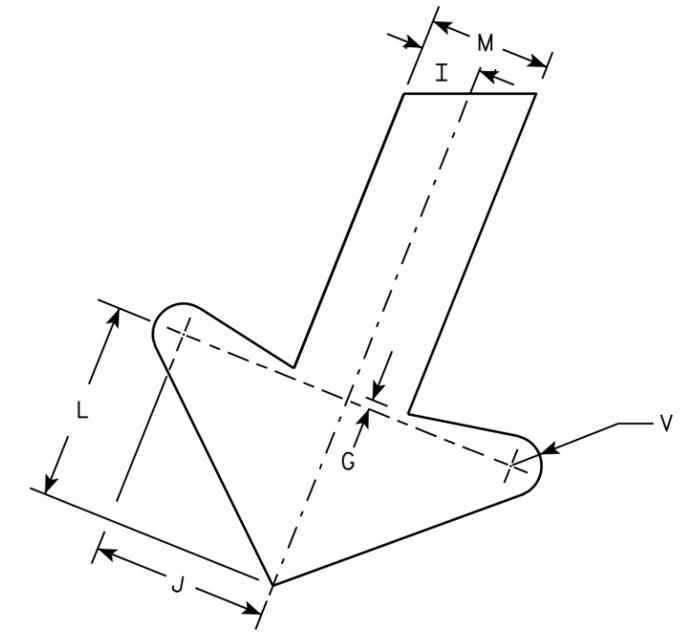
DATE 12/08/10 PLATE NO. R3-2.10

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	
1																												
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0	
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5	
4																												
5																												

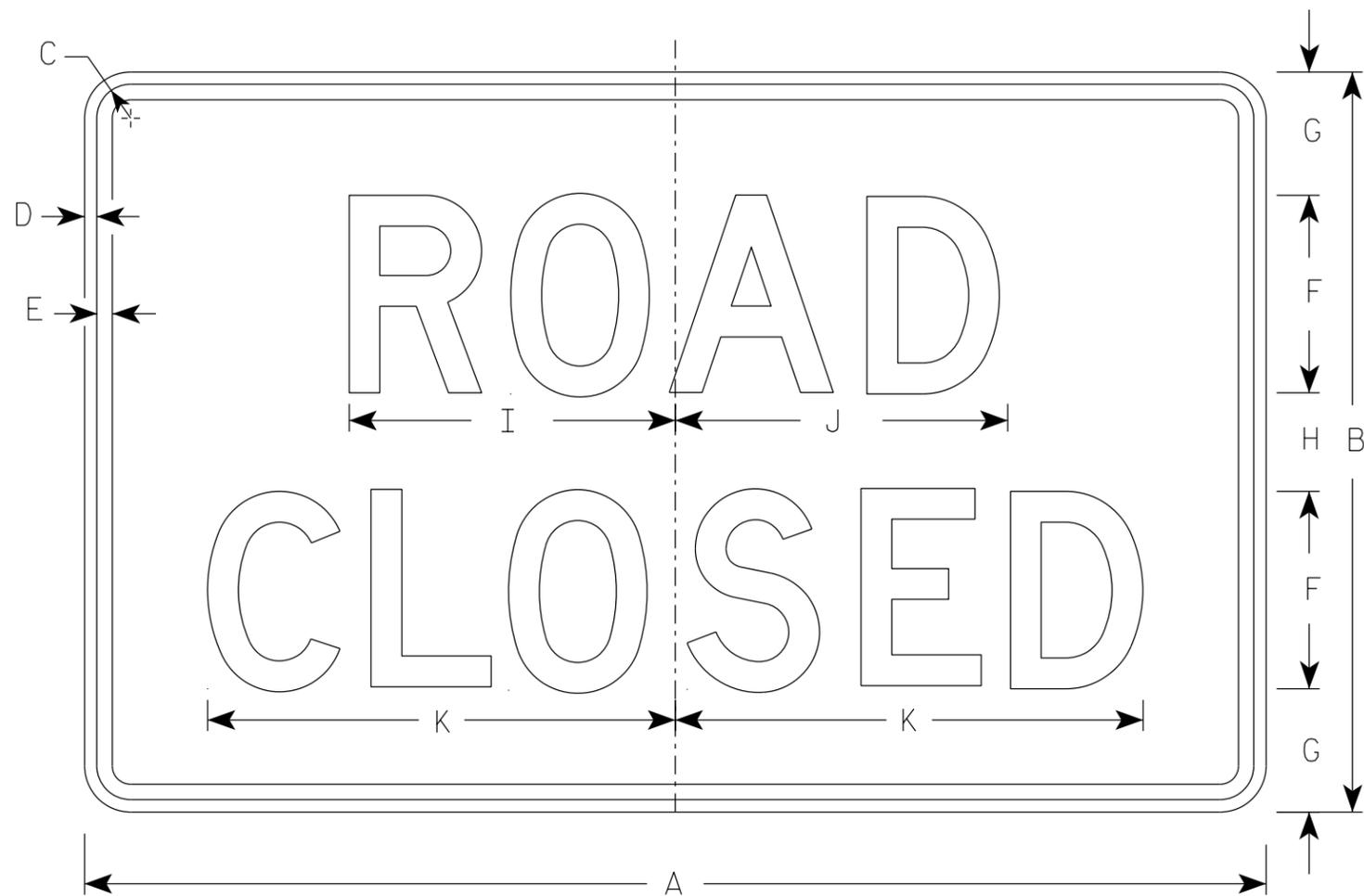
STANDARD SIGN  
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

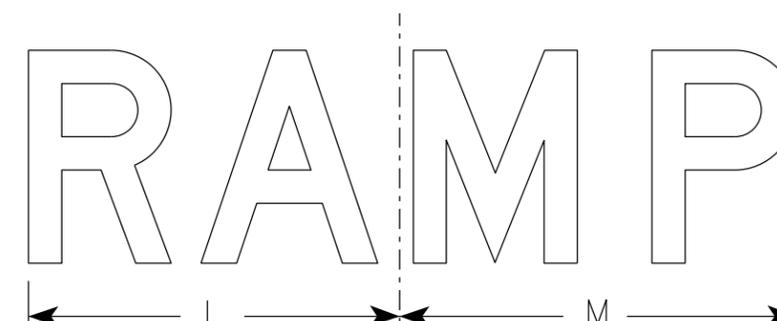
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

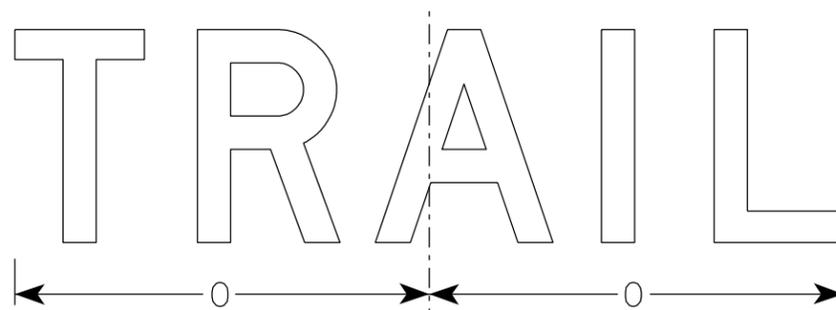
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



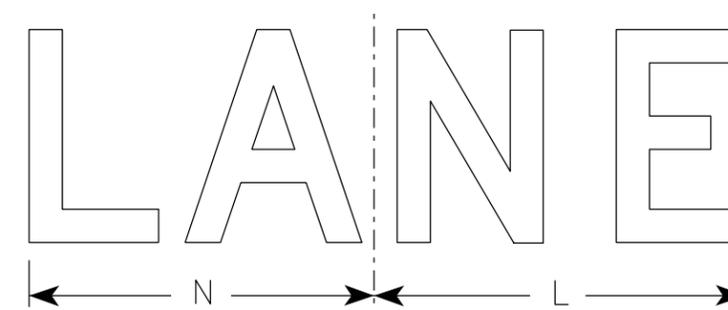
R11-2



R11-2R



R11-2T



R11-2L

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

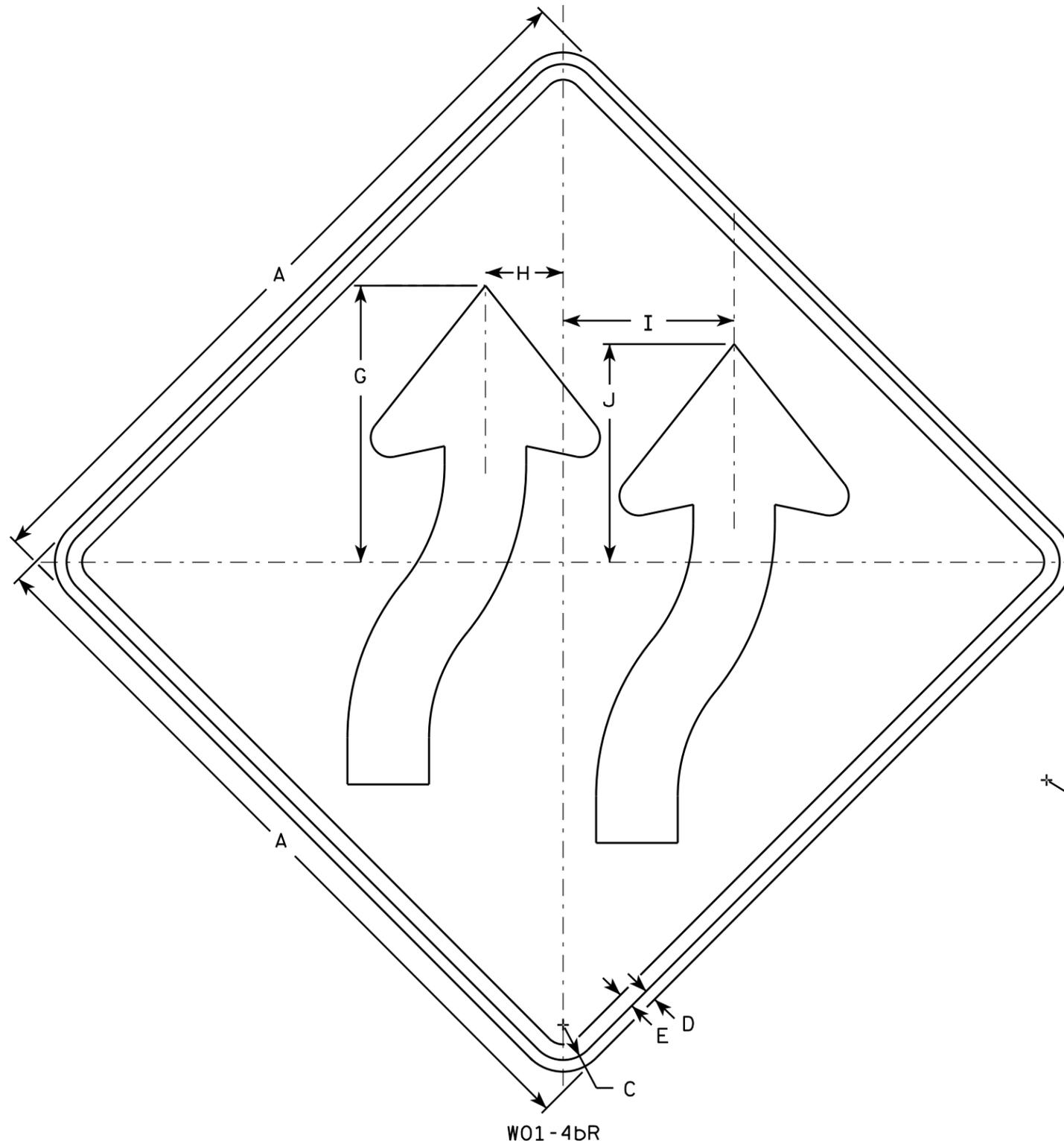
STANDARD SIGN  
R11-2

WISCONSIN DEPT OF TRANSPORTATION

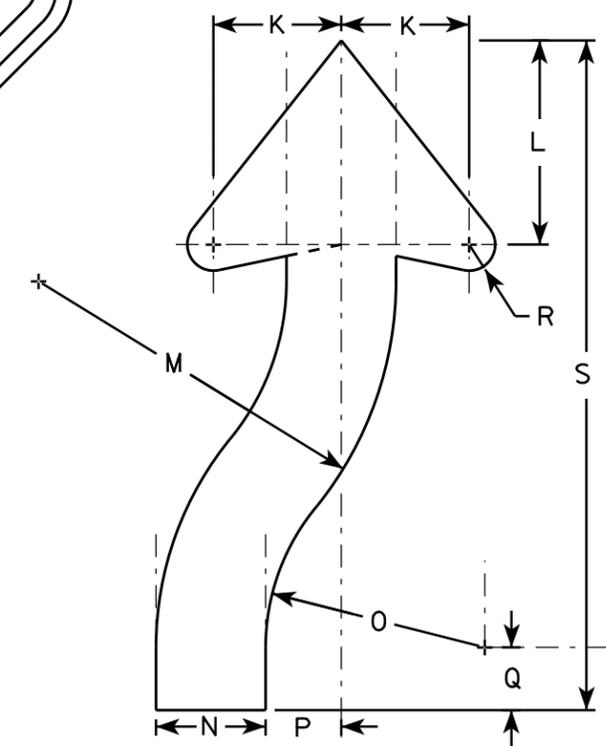
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**



- NOTES**
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
  2. Color:  
Background - Orange  
Message - Black
  3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
  4. W01-4bL is the same as W014-bR except arrows are reversed along the vertical centerline



W01-4bR

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		13 3/8	3 3/4	8 1/4	10 1/2	4 5/8	7 3/8	12 7/8	3 7/8	7 7/8	2 3/4	2 1/4	7/8	24								9.0
2S	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
2M	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
3	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
4	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
5	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0

**STANDARD SIGN**  
W01-4b

WISCONSIN DEPT OF TRANSPORTATION

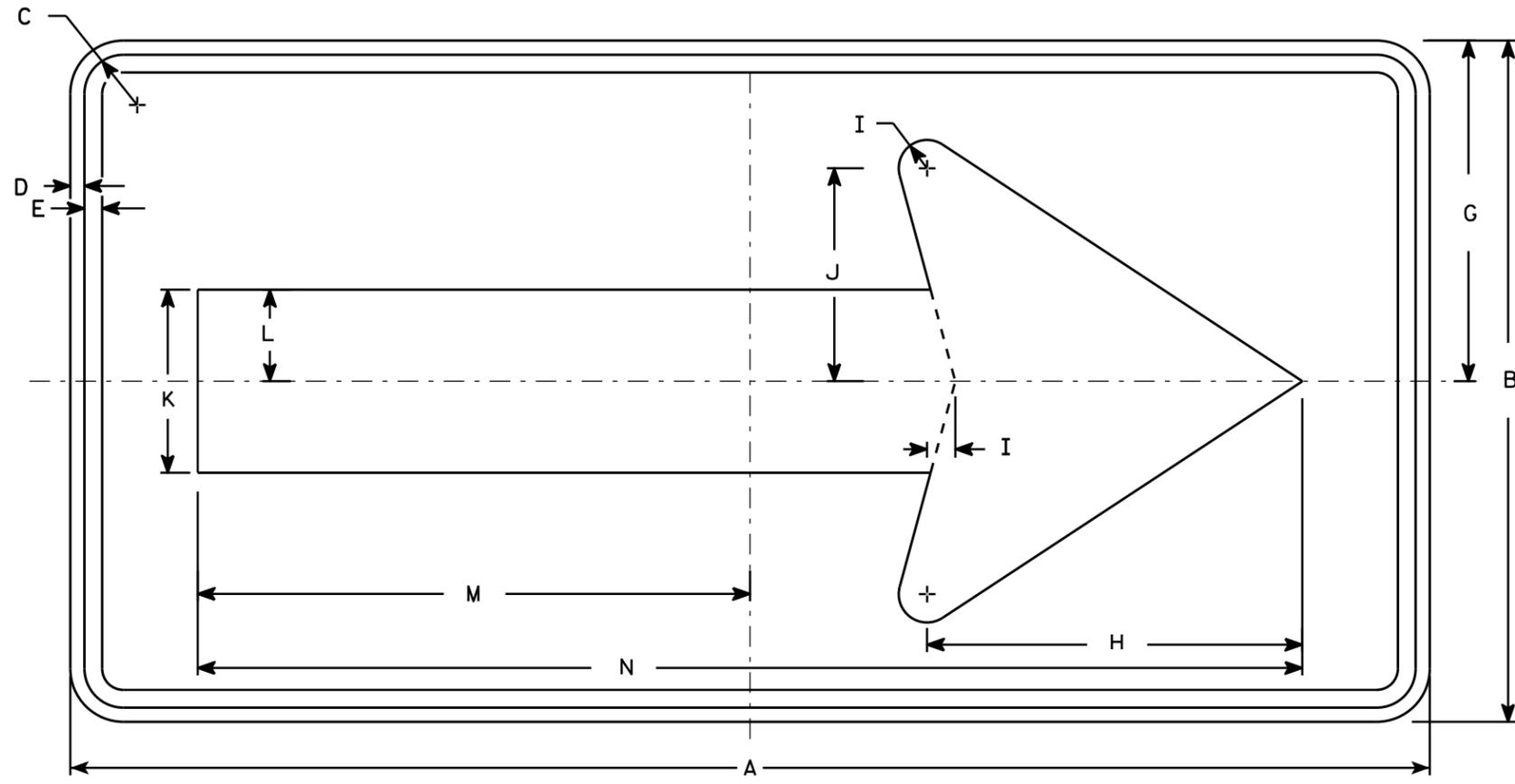
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4b.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W01-6

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

**STANDARD SIGN**  
**W01-6**

*WISCONSIN DEPT OF TRANSPORTATION*

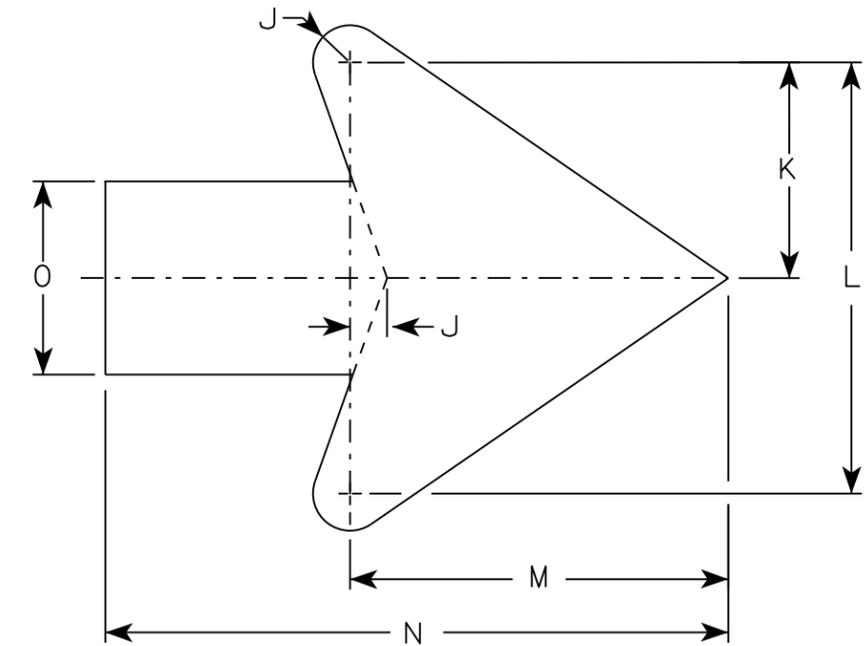
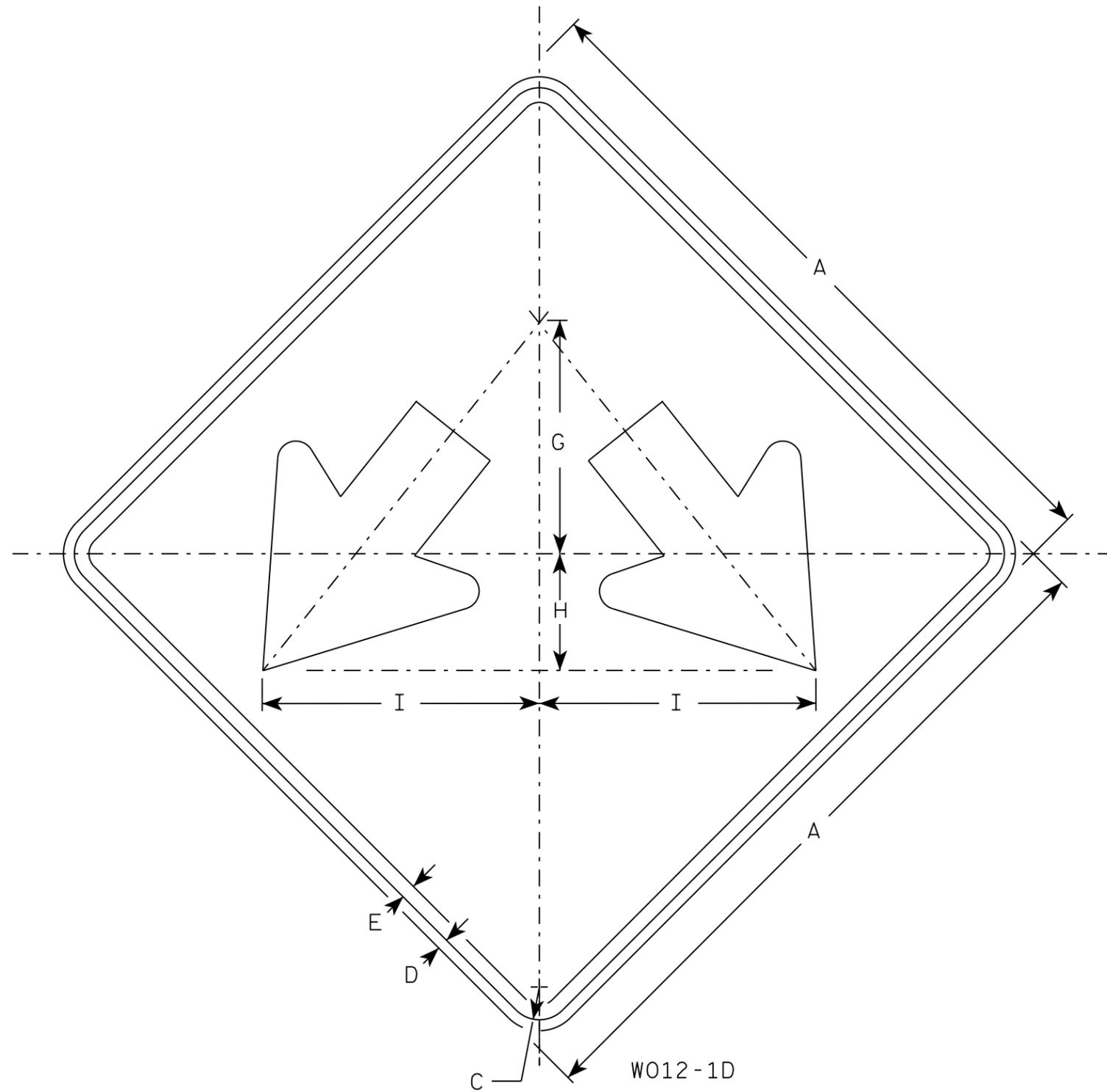
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



Arrow Detail

7

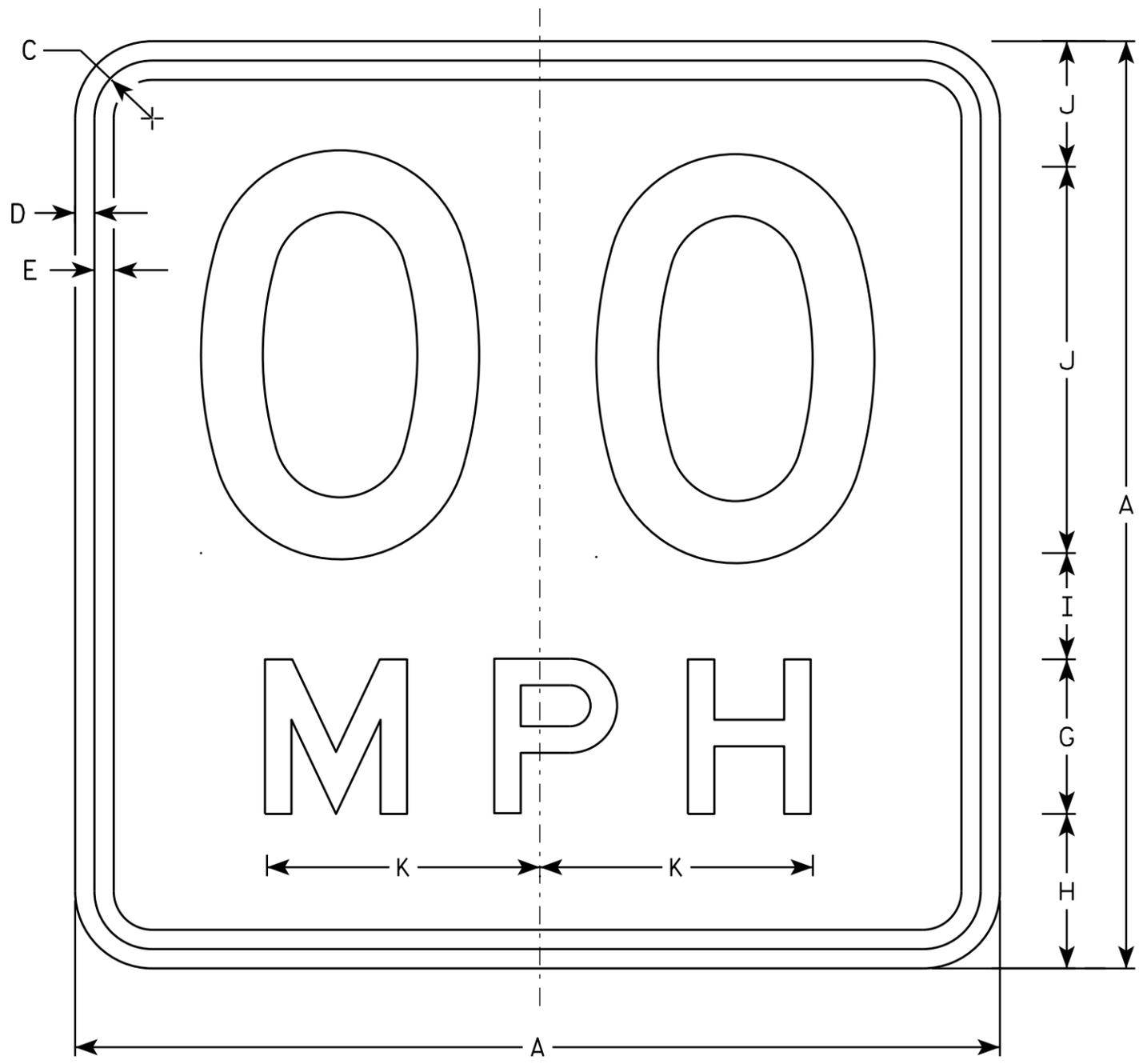
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0

STANDARD SIGN  
W012-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/28/16 PLATE NO. W012-1D.2



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D  
Line 2 is Series E

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

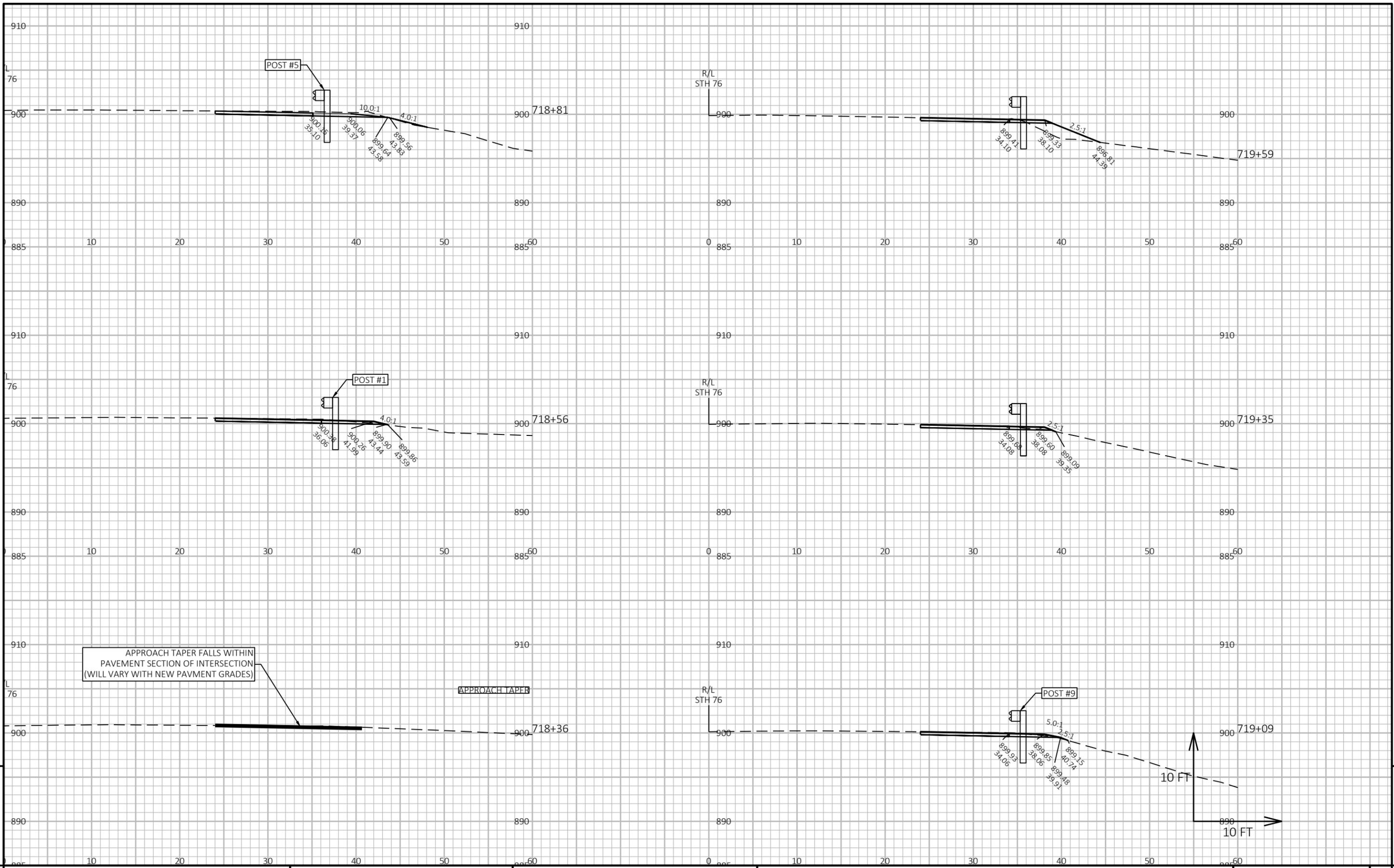
STANDARD SIGN  
W013-1

WISCONSIN DEPT OF TRANSPORTATION

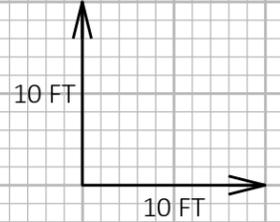
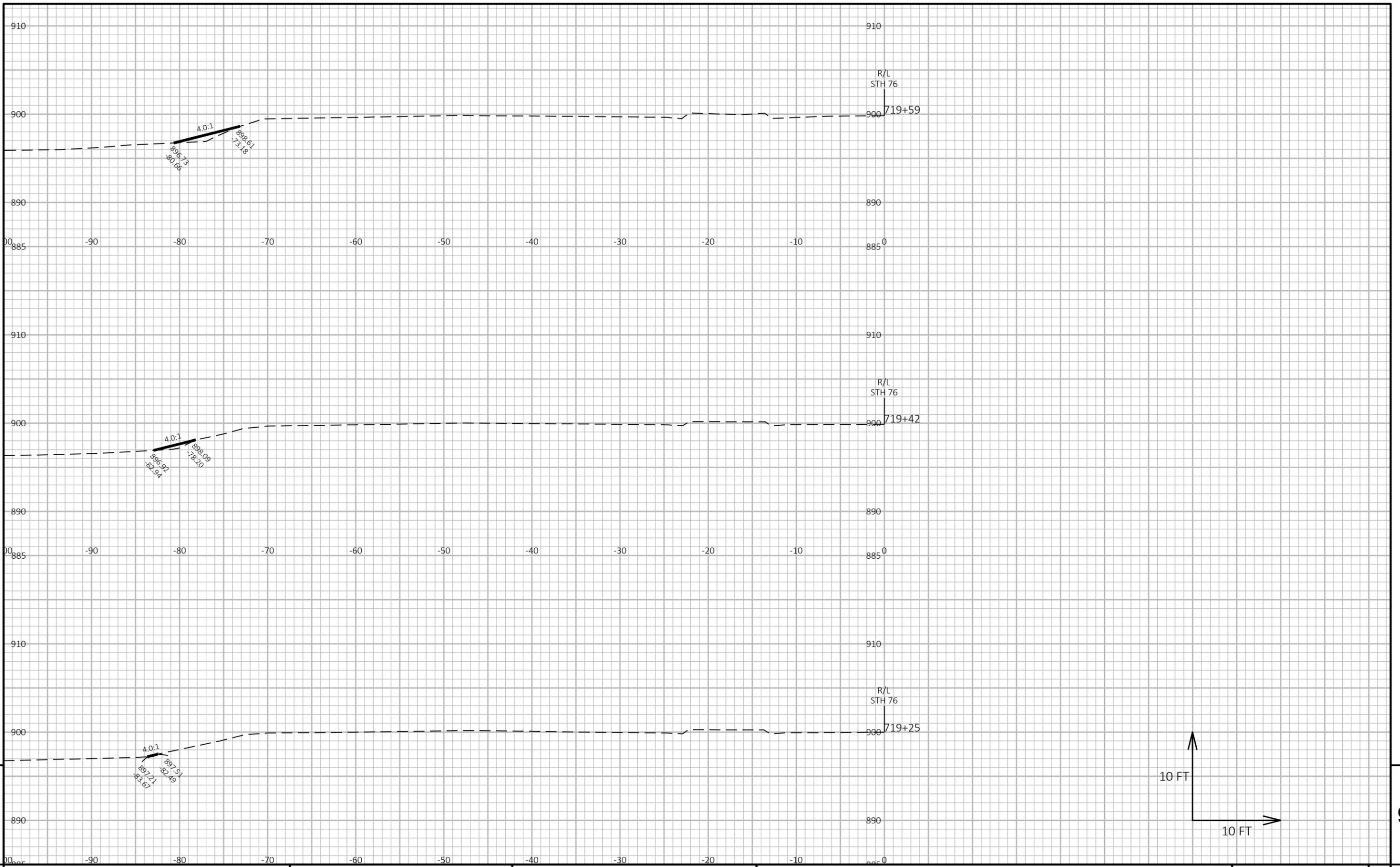
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 11/21/13 PLATE NO. W013-1.1

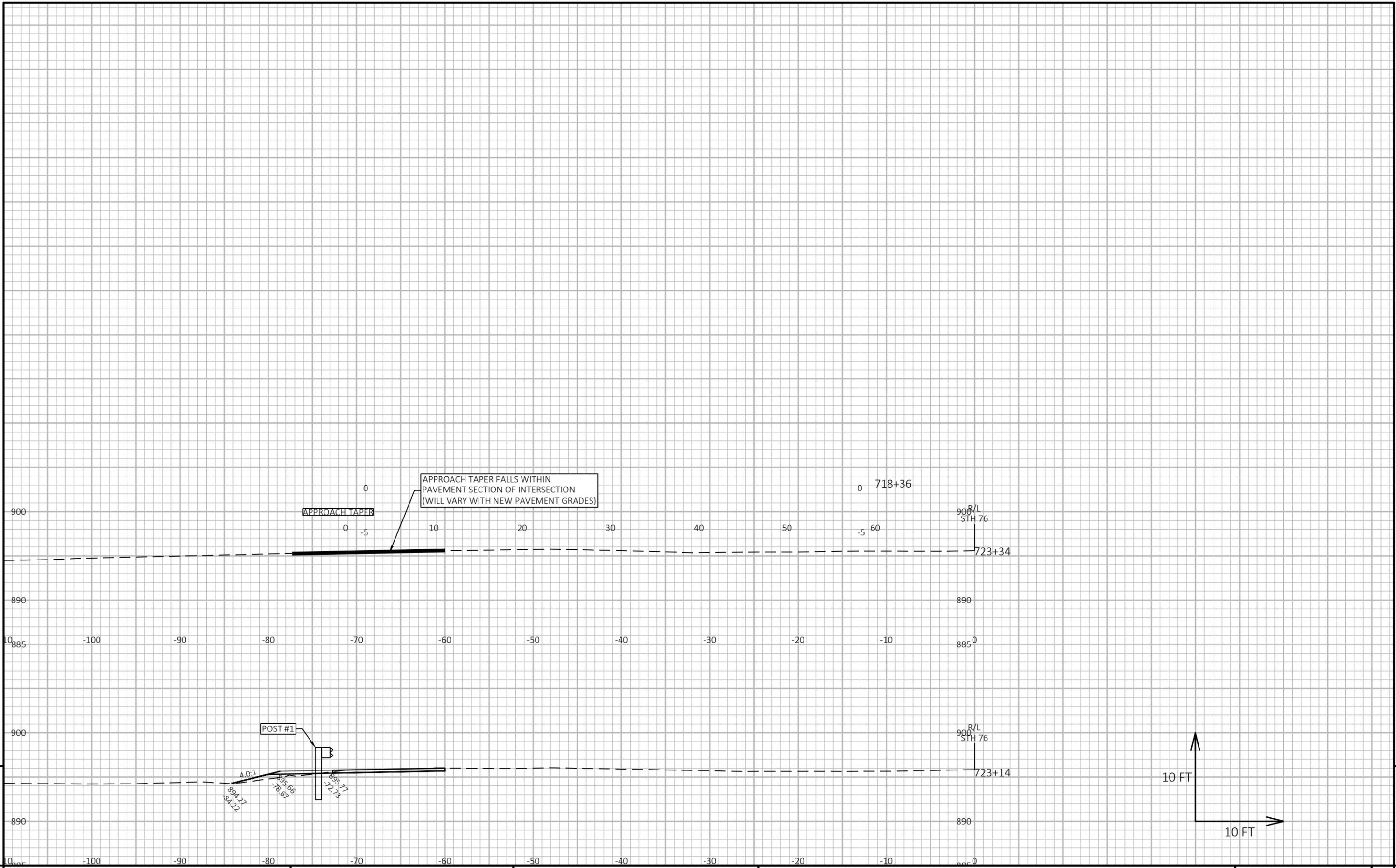
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	CROSS SECTIONS: SOUTHEAST QUADRANT	SHEET	E
------------------------	-------------	-------------------	------------------------------------	-------	---



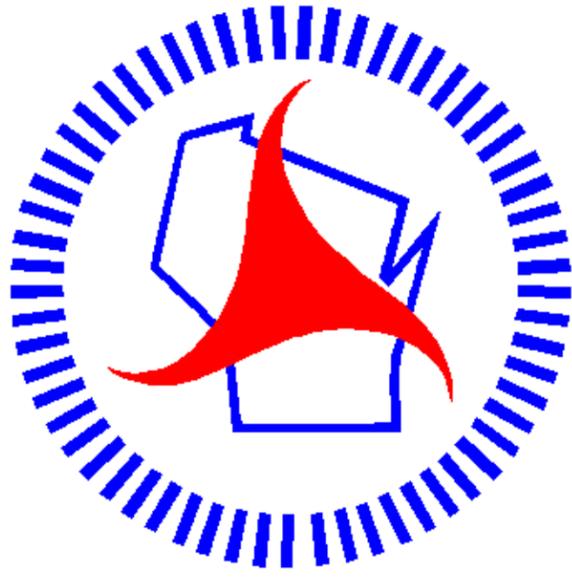




9

9

PROJECT NO: 6430-22-71	HWY: STH 76	COUNTY: WINNEBAGO	CROSS SECTIONS: NORTHWEST QUADRANT	SHEET	E
------------------------	-------------	-------------------	------------------------------------	-------	---



## ***Wisconsin Department of Transportation***

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>