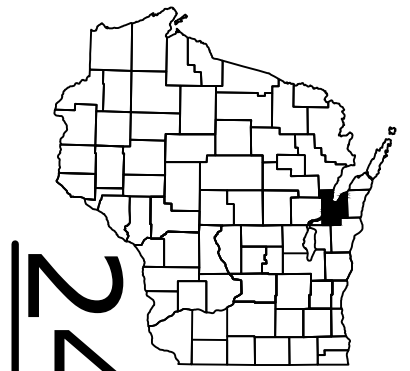


ORDER OF SHEETS

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

TOTAL SHEETS = 64



24

DESIGN DESIGNATION

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

CONVENTIONAL SYMBOLS

PLAN

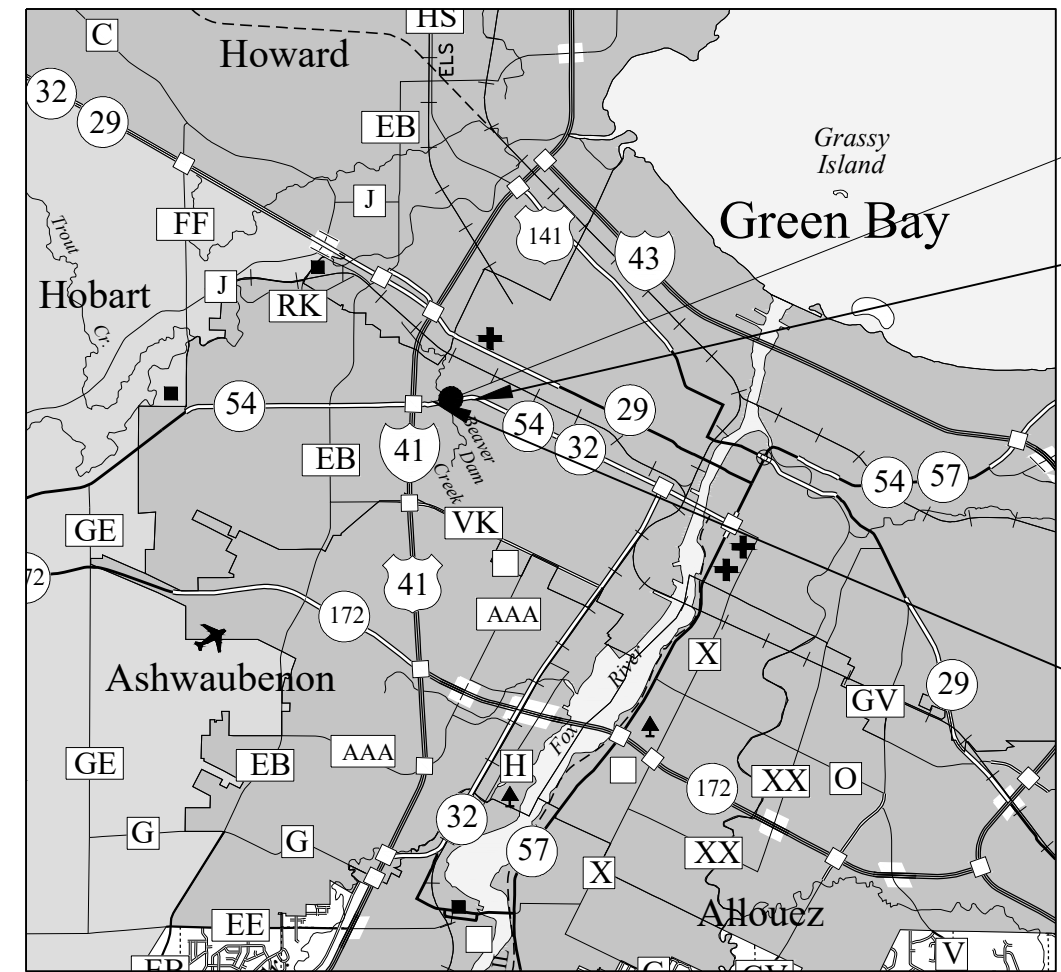
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 PLAN OF PROPOSED IMPROVEMENT
 W MASON ST, CITY OF GREEN BAY
 BEAVER DAM CREEK BR
 STH 32
 BROWN COUNTY

STATE PROJECT NUMBER
 9210-19-71



LAYOUT
 SCALE 0 2 MI
 TOTAL NET LENGTH OF CENTERLINE = 0.03 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BROWN 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 PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9210-19-71		

STRUCTURE B-5-284
 STH 32 OVER BEAVER DAM CREEK

END PROJECT
 STA 57+99.00'WB'
 Y= 570,951.775
 X= 84,501.922

BEGIN PROJECT
 STA 56+35.00'WB'
 Y= 570,927.326
 X= 84,339.754

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

PREPARED BY	Surveyor	NE REGION
Designer	M. JEHRING	
Project Manager	K. BERG	
Regional Examiner	REGIONAL EXAMINER	
Regional Supervisor	D. SEGERSTROM	

APPROVED FOR THE DEPARTMENT
 DATE: 10/27/2022

E

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.

THE EXACT CONSTRUCTION LIMITS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ORDER OF SECTION 2 DETAIL SHEETS

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

DNR LIASION

JIM DOPERALSKI JR.
NORTHEAST REGION
2984 SHAWANO AVE
GREEN BAY, WI 54313
(920) 412-0165
james.doperalski@wisconsin.gov

CITY OF GREEN BAY CONTACT

JENNIFER MCCARTNEY
DEPARTMENT OF PUBLIC WORKS
100 N. JEFFERSON ST, ROOM 300
GREEN BAY, WI 54301
(920) 448-3100
jennifer.mccartney@greenbaywi.gov

BROWN COUNTY HIGHWAY COMMISSIONER

PAUL FONTECCHIO
BROWN COUNTY HIGHWAY DEPT.
2198 GLENDALE AVE.
GREEN BAY, WI 54303
(920) 492-4925
bc_highway@co.brown.wi.us

NE REGION SURVEY COORDINATOR

CORMAC MCINNIS, RLS
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920)492-5638
cormac.mcinnis@dot.wi.gov

NE REGION DESIGN PROJECT MANAGER

KRISTEN BERG, PE
944 VANDERPERREN WAY
GREEN BAY, WI 54303
(920)492-0139
kristen.berg@dot.wi.gov

UTILITIES CONTACTS

COMMUNICATIONS

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205 S JEFFERSON RD
GREEN BAY, WI 54301
(920) 433-4250
sg2528@att.com

BROWN COUNTY TECHNOLOGY SERVICES
DAN BECKER
P.O. BOX 11064
GREEN BAY, WI 54307
(920) 301-7902
dbecker@mcewi.com

CHARTER COMMUNICATIONS
VINCE ALBIN
350 DESTINATION DR
APPLETON, WI 54915
(920) 831-9249
vince.albin@charter.com

SEWER

CITY OF GREEN BAY
MATTHEW HECKENLAIBLE
100 N JEFFERSON ST, ROOM 300
GREEN BAY, WI 54301
(920) 448-3100
matt.heckenlaible@greenbaywi.gov

WATER

CITY OF GREEN BAY
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631 S ADAMS ST
Green Bay, WI 54301
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kristin.romanowicz@greenbaywi.gov

ELECTRIC

WISCONSIN PUBLIC SERVICE CORPORATION
ROBERT SMITH
2850 S ASHLAND AVE
GREEN BAY, WI 54304
(920) 617-5284
robert.smith@wisconsinpublicservice.com

GAS/PETROLEUM

WISCONSIN PUBLIC SERVICE CORPORATION
JIM EIDEN
2850 S ASHLAND AVE
GREEN BAY, WI 54304
(920) 617-5231
james.eiden@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	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	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											

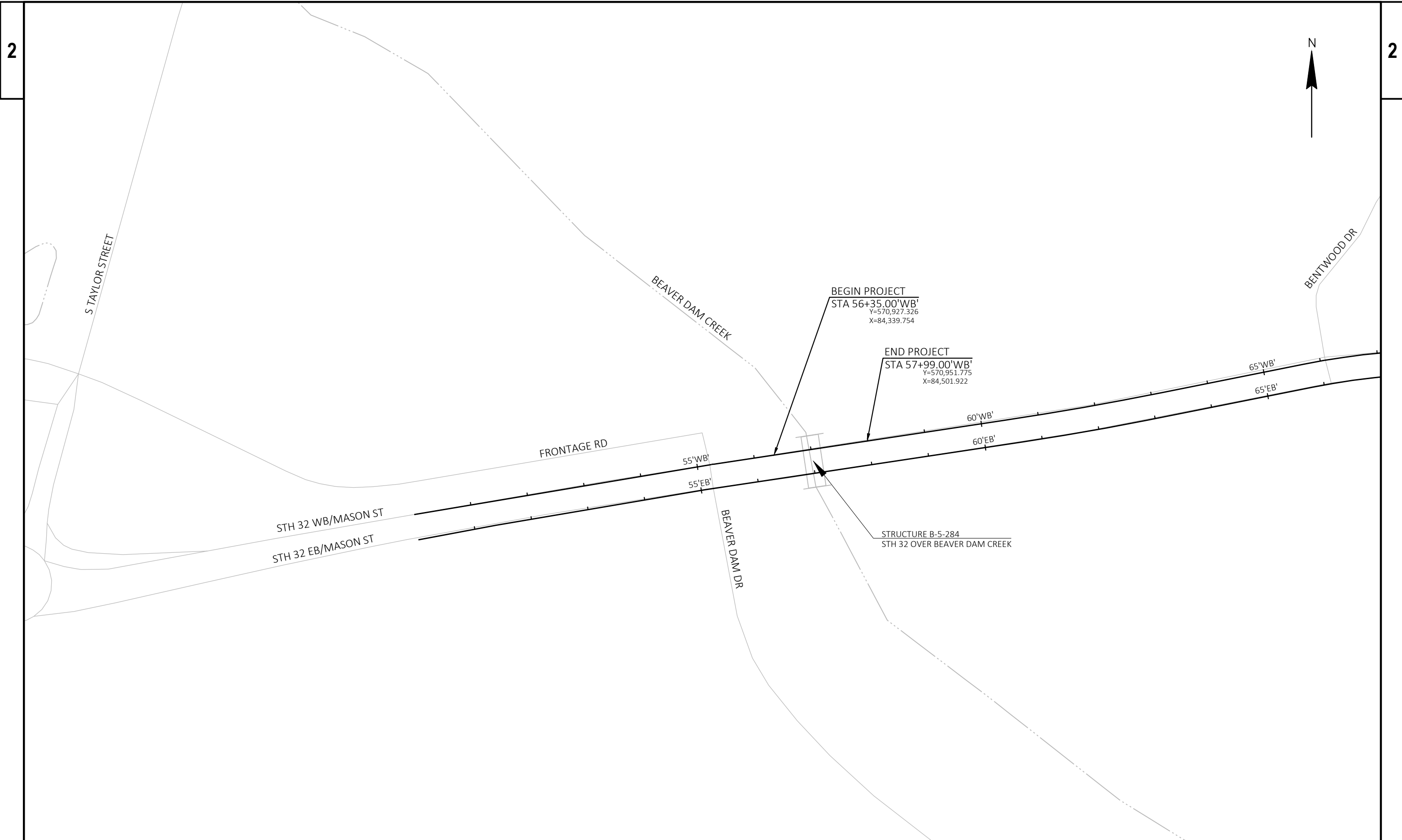
TOTAL PROJECT AREA = _____ ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = _____ ACRES



Dial 811 or (800)242-8511

www.DiggersHotline.com



2

2

PROJECT NO: 9210-19-71	HWY: STH 32	COUNTY: BROWN	PROJECT OVERVIEW	SHEET	E
------------------------	-------------	---------------	------------------	-------	---

FILE NAME : N:\PDS\C3D\92101900\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 020201-po

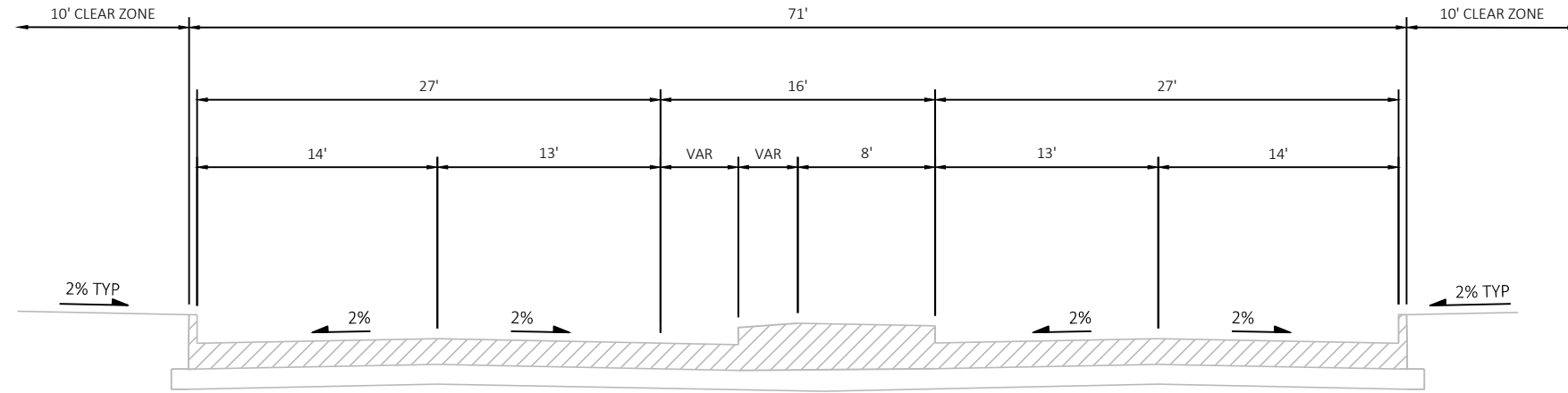
PLOT DATE : 5/23/2022 1:45 PM

PLOT BY : SMITH, JENNIFER B

PLOT NAME :

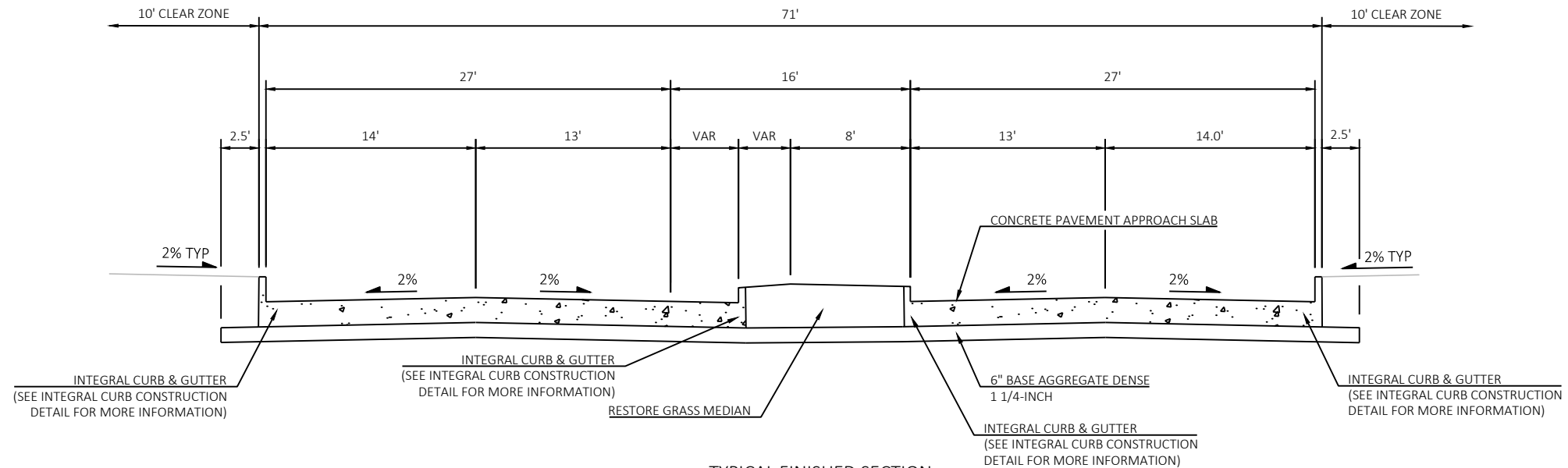
PLOT SCALE : 1 IN: 150 FT

WISDOT/CADD SHEET 42

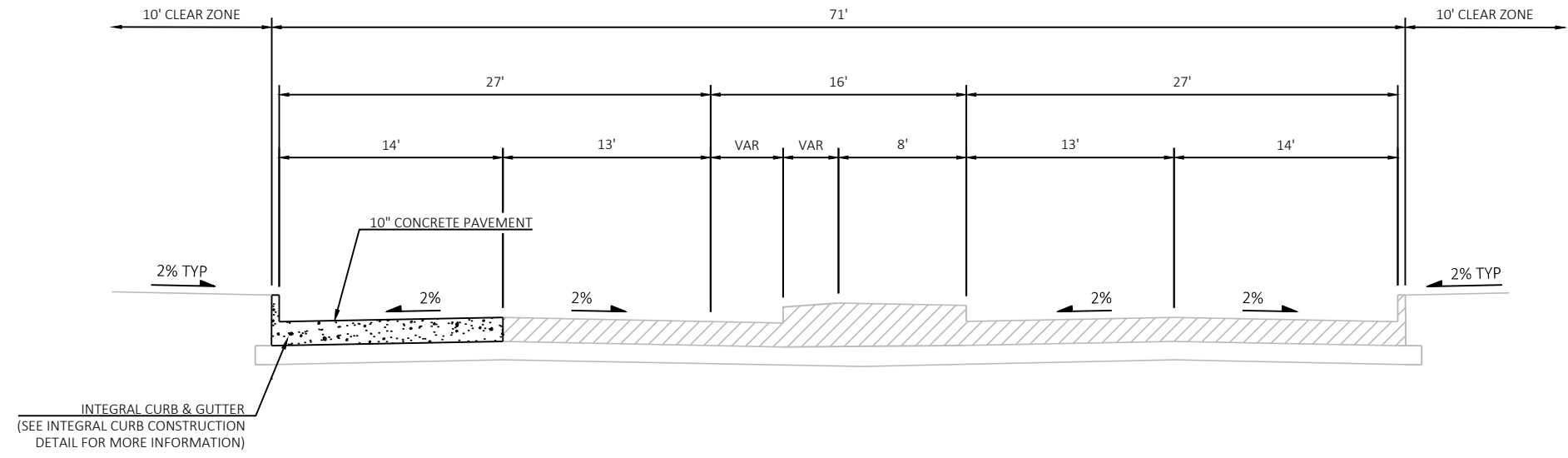


*EXISTING PAVEMENT DEPTHS AND MATERIALS UNKNOWN

***TYPICAL EXISTING SECTION**
 STA 57'WB'+16 TO STA 57'WB'+49
 STA 57'EB'+16 TO STA 57'EB'+36

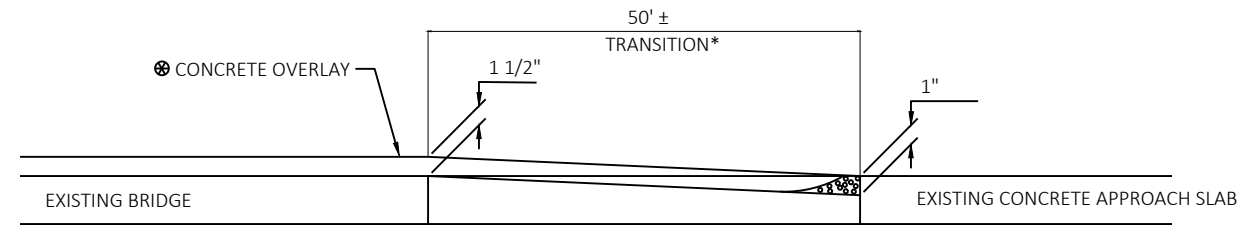


TYPICAL FINISHED SECTION
 STA 57'WB'+16 TO STA 57'WB'+36
 STA 57'EB'+16 TO STA 57'EB'+36



* EXISTING PAVEMENT DEPTHS AND MATERIALS UNKNOWN

*TYPICAL FINISHED SECTION
STA 57'WB'+36 TO STA 57'WB'+49

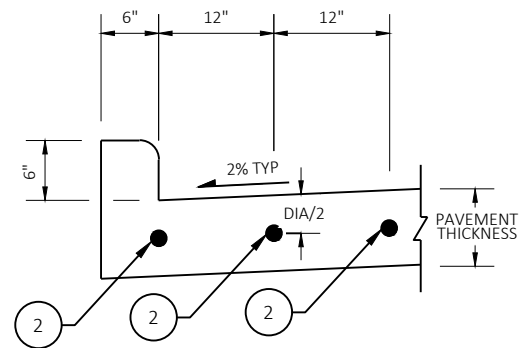


⊗ SEE STRUCTURE PLANS FOR OVERLAY THICKNESS

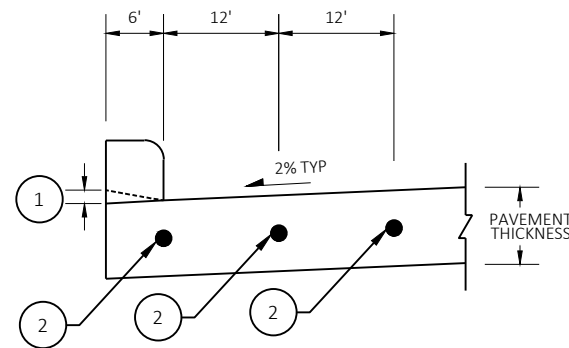
*TRANSITION LENGTH TO BE DETERMINED IN THE FIELD TO BEST FIT EXISTING ROADWAY AND NEW OVERLAY PROFILE.
 **WORK ASSOCIATED WITH THIS DETAIL WILL BE PAID FOR USING THE BID ITEMS 509.0600 AND 509.2600.

CONCRETE APPROACH DETAIL

STA 56+35 TO STA 56+85



NORMAL



AT DRIVEWAY OPENING & CURB RAMPS

INTEGRAL CURB DETAIL

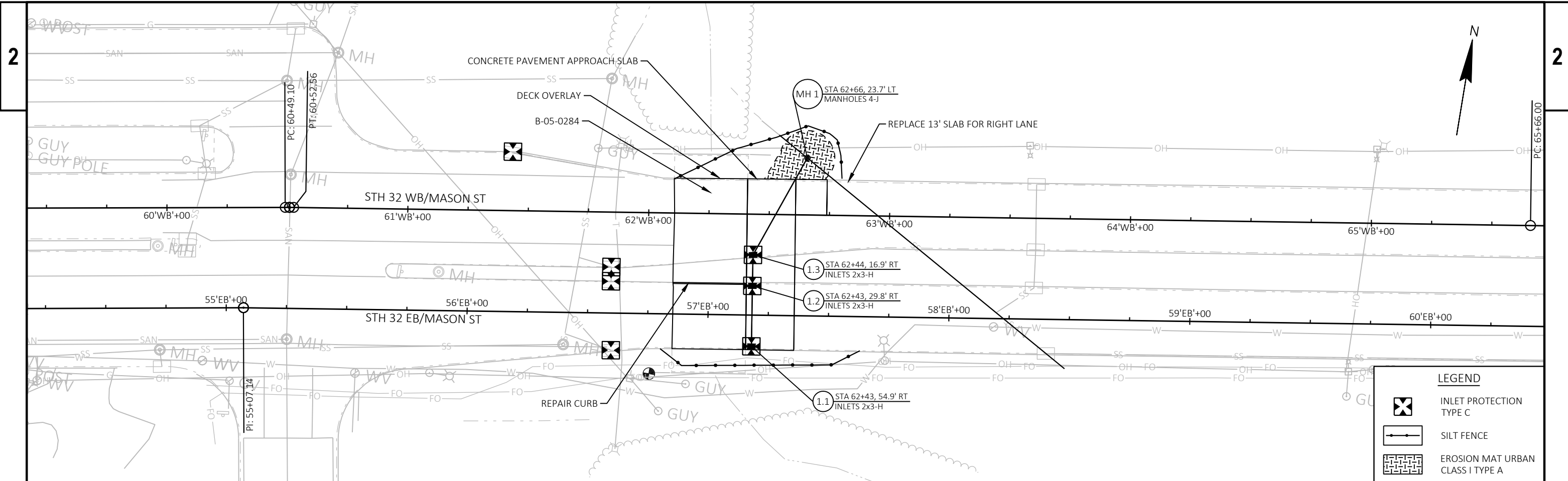
NOTES:

CONTRACTION JOINTS SHALL BE SAWED EVERY 15' MAXIMUM OR AS DESIGNATED BY ENGINEER IN FIELD.

6" X 6" EXPANSION JOINTS (3/4") SHALL BE PLACED AT CURB HEAD AT END OF RADII.

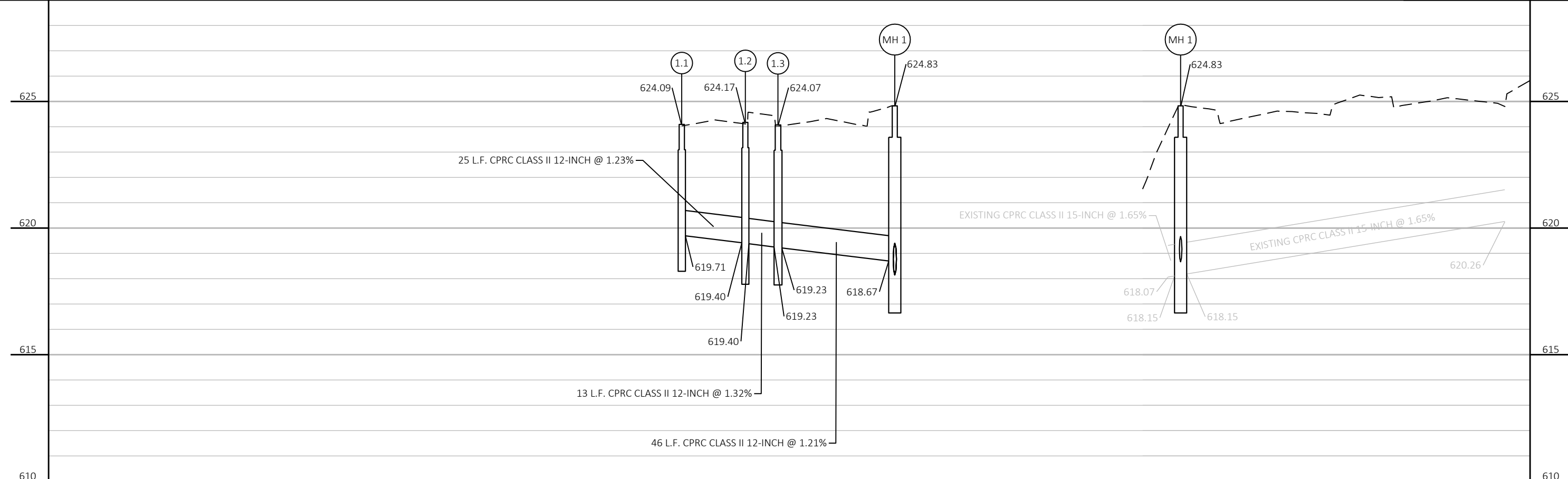
1 1-1/2" AT DRIVEWAY OPENINGS, 1/2" AT CURB RAMPS.

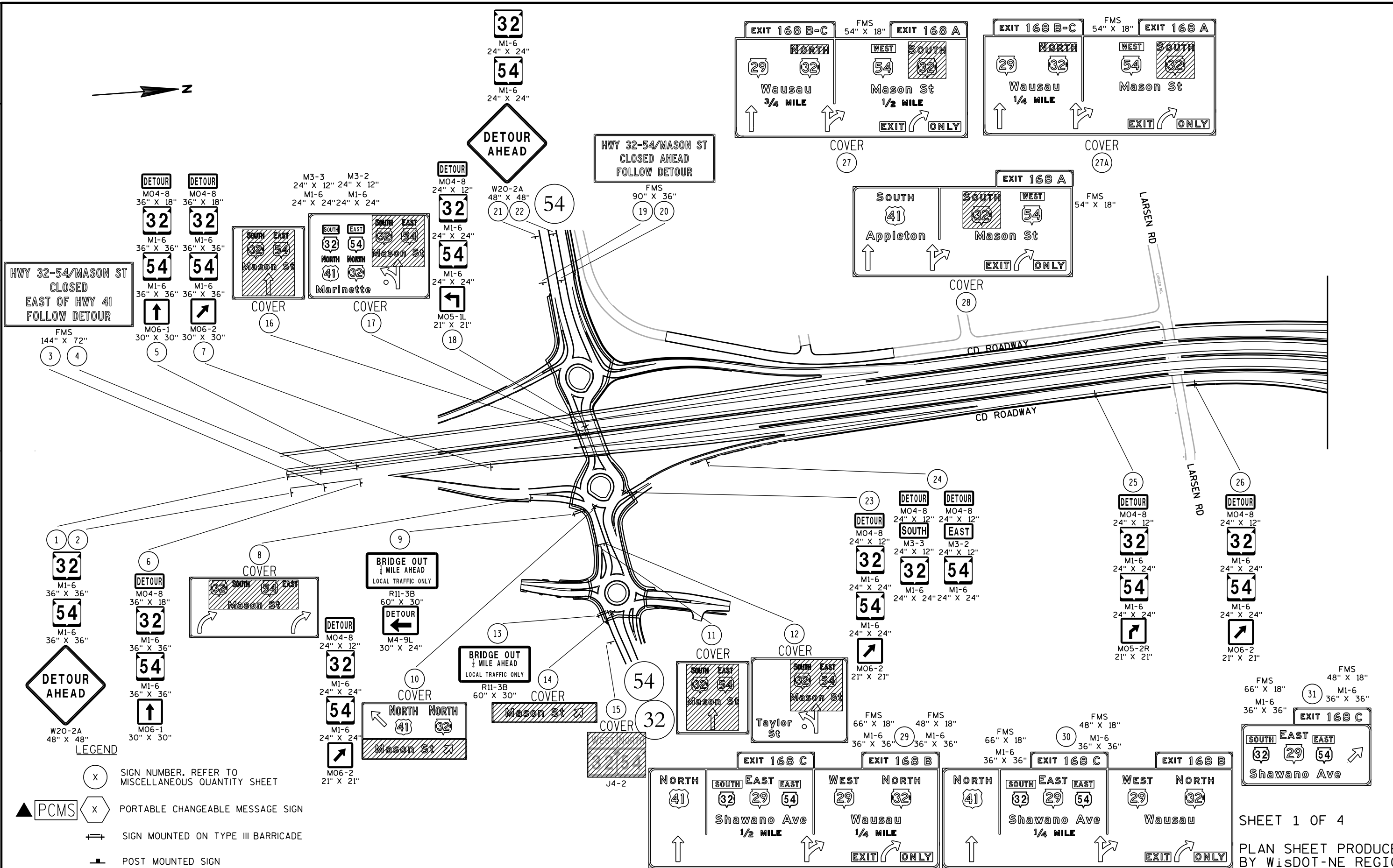
2 1-1/4" X 18" SMOOTH EPOXY COATED DOWEL BARS NECESSARY AT CONTRACTION JOINTS (TYPICAL ACROSS PAVEMENT SECTION).



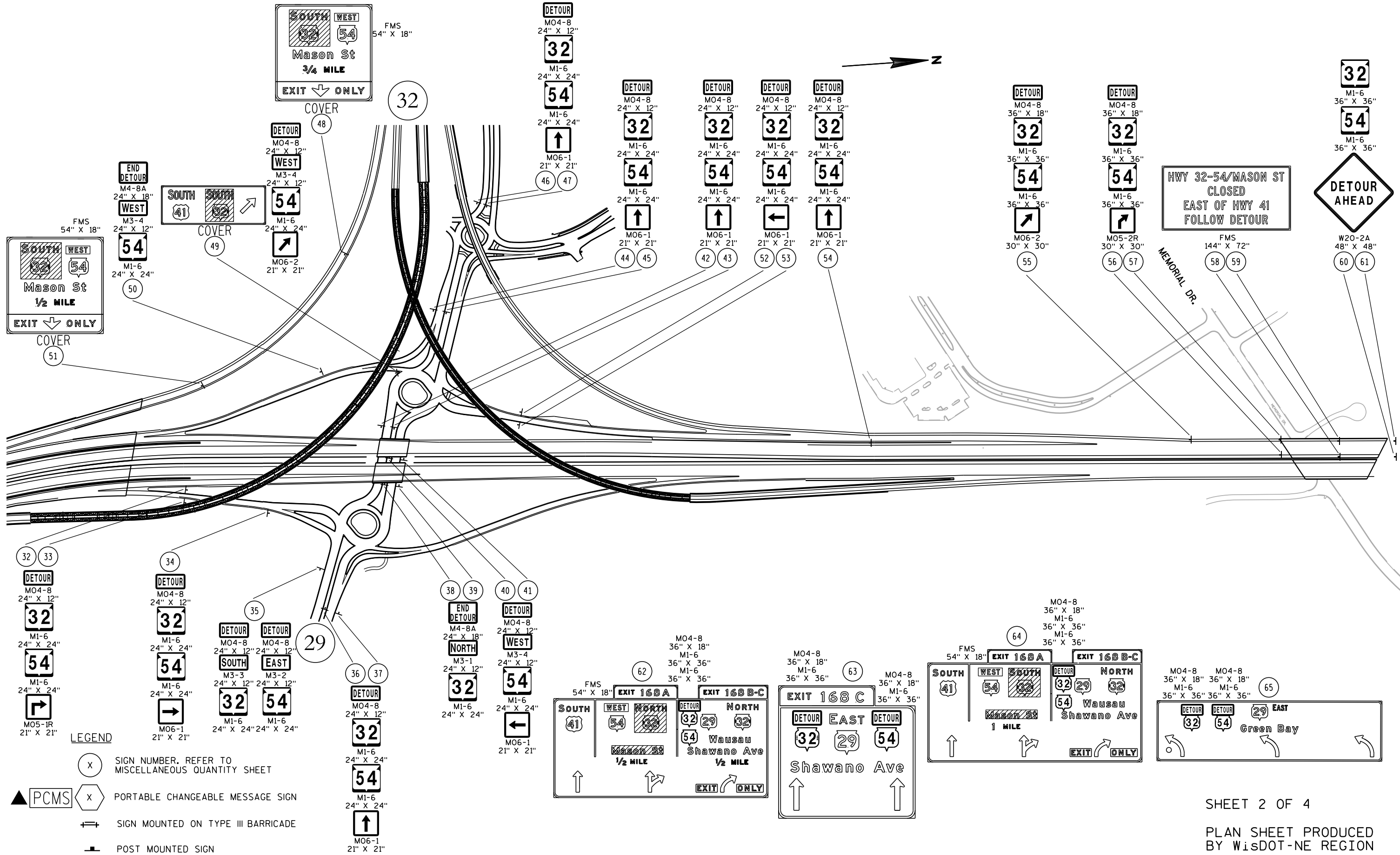
LEGEND

	INLET PROTECTION TYPE C
	SILT FENCE
	EROSION MAT URBAN CLASS I TYPE A





SHEET 1 OF 4
 PLAN SHEET PRODUCED BY WISDOT-NE REGION



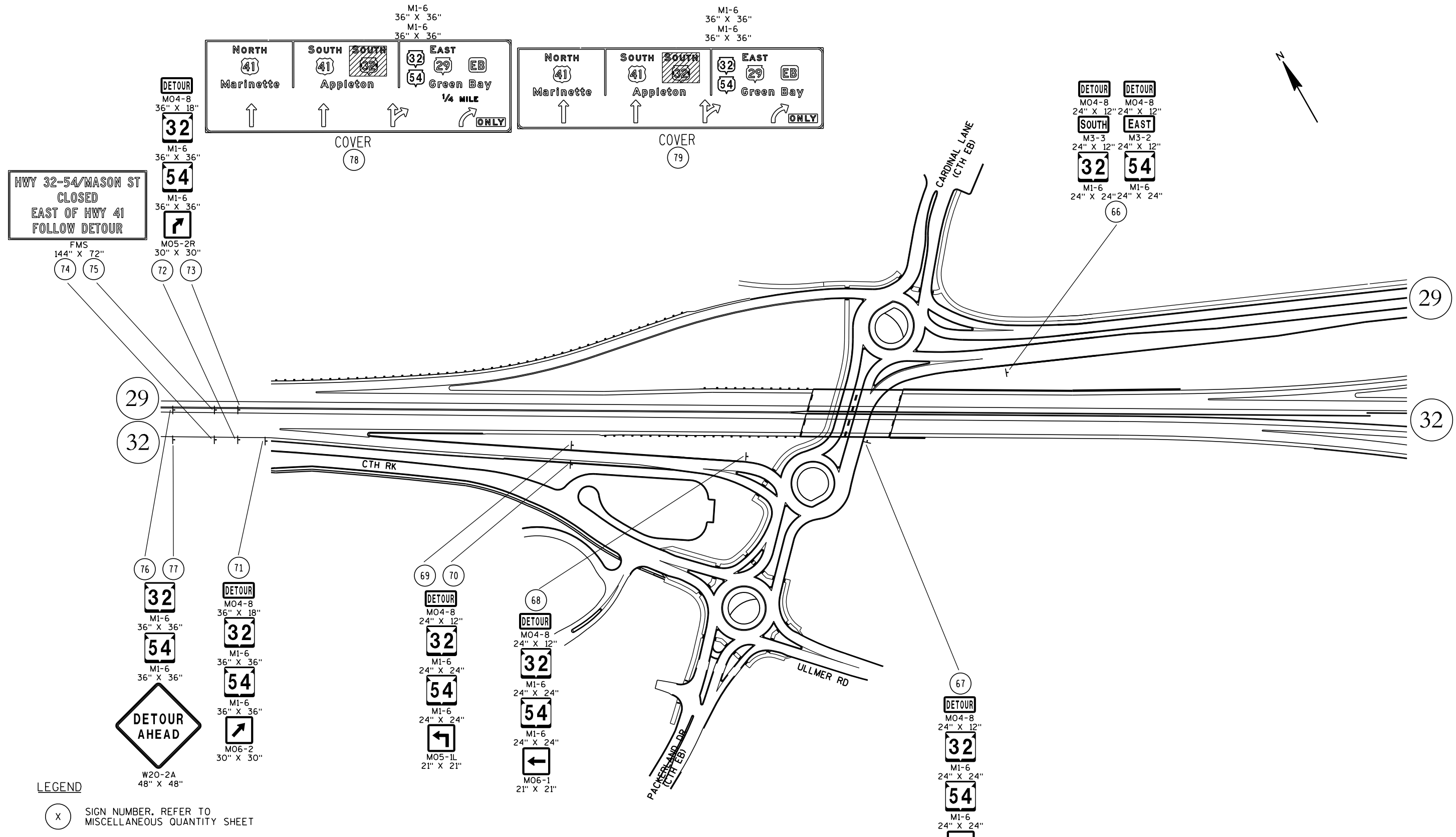
HWY 32-54/MASON ST
CLOSED
EAST OF HWY 41
FOLLOW DETOUR

DETOUR
AHEAD

MEMORIAL DR.

SHEET 2 OF 4

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

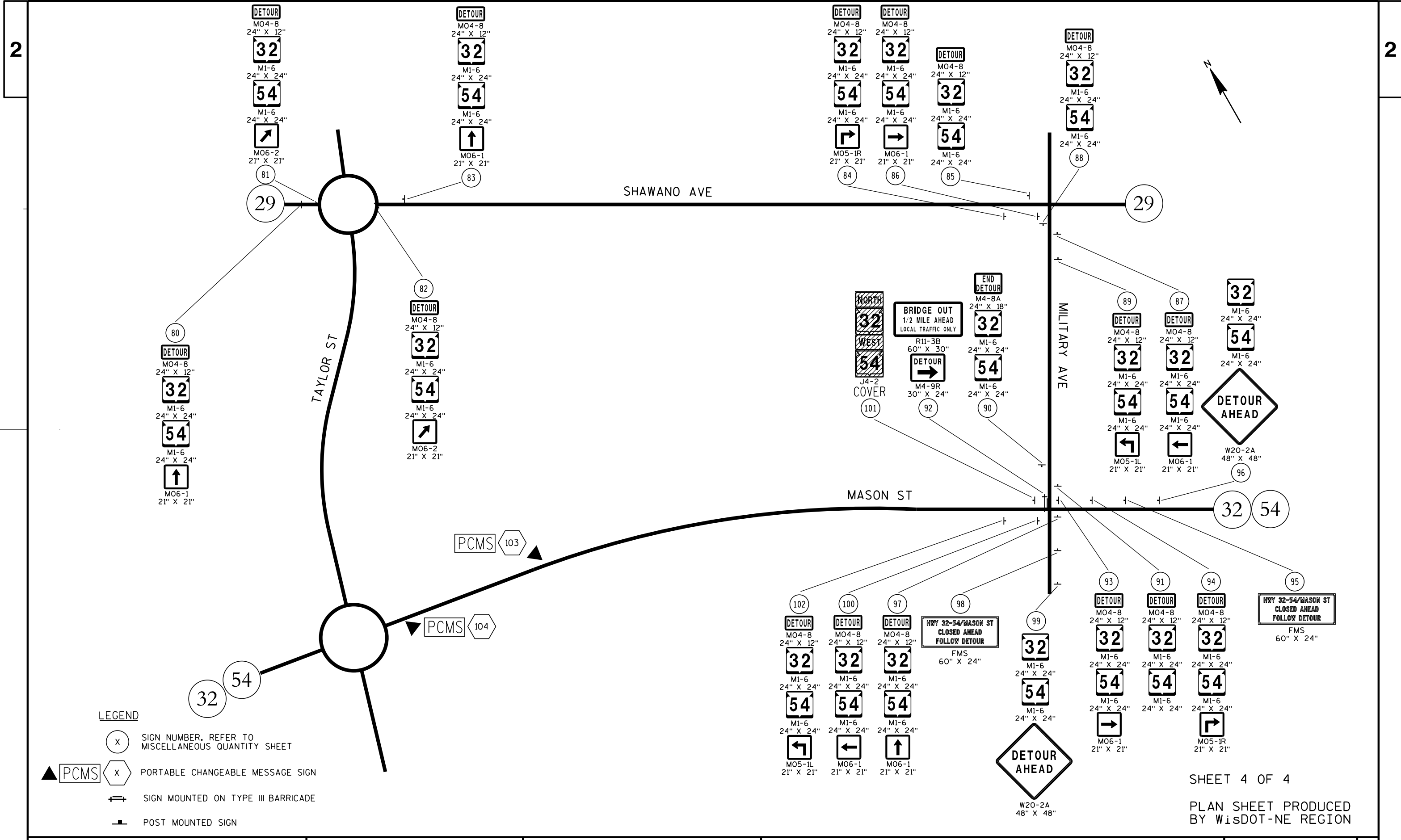


**HWY 32-54/MASON ST
CLOSED
EAST OF HWY 41
FOLLOW DETOUR**

LEGEND

- (X) SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 3 OF 4
PLAN SHEET PRODUCED
BY WISDOT-NE REGION



SHEET 4 OF 4
 PLAN SHEET PRODUCED
 BY WISDOT-NE REGION

Estimate Of Quantities

9210-19-71

Line	Item	Item Description	Unit	Total	Qty
0002	204.0100	Removing Concrete Pavement	SY	130.000	130.000
0004	204.0245	Removing Storm Sewer (size) 01. 15-Inch	LF	7.000	7.000
0006	205.0100	Excavation Common	CY	34.000	34.000
0008	213.0100	Finishing Roadway (project) 01. 9210-19-71	EACH	1.000	1.000
0010	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	76.000	76.000
0012	415.0410	Concrete Pavement Approach Slab	SY	130.000	130.000
0014	416.0610	Drilled Tie Bars	EACH	5.000	5.000
0016	416.0620	Drilled Dowel Bars	EACH	59.000	59.000
0018	416.1710	Concrete Pavement Repair	SY	21.000	21.000
0020	502.3200	Protective Surface Treatment	SY	207.000	207.000
0022	509.0200	Preparation Approaches	SY	10.000	10.000
0024	509.0301	Preparation Decks Type 1	SY	30.000	30.000
0026	509.0302	Preparation Decks Type 2	SY	12.000	12.000
0028	509.0500	Cleaning Decks	SY	207.000	207.000
0030	509.0600	Cleaning Approaches	SY	147.000	147.000
0032	509.1200	Curb Repair	LF	31.000	31.000
0034	509.2500	Concrete Masonry Overlay Decks	CY	14.000	14.000
0036	509.2600	Concrete Masonry Overlay Approaches	CY	6.000	6.000
0038	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0040	601.0452	Concrete Curb & Gutter Integral 30-Inch Type D	LF	93.000	93.000
0042	608.0212	Storm Sewer Pipe Reinforced Concrete Class II 12-Inch	LF	84.000	84.000
0044	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0046	611.0624	Inlet Covers Type H	EACH	3.000	3.000
0048	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0050	611.3230	Inlets 2x3-FT	EACH	3.000	3.000
0052	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9210-19-71	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	625.0100	Topsoil	SY	25.000	25.000
0058	625.0500	Salvaged Topsoil	SY	54.000	54.000
0060	628.1504	Silt Fence	LF	222.000	222.000
0062	628.1520	Silt Fence Maintenance	LF	222.000	222.000
0064	628.2006	Erosion Mat Urban Class I Type A	SY	60.000	60.000
0066	628.7015	Inlet Protection Type C	EACH	7.000	7.000
0068	629.0210	Fertilizer Type B	CWT	0.080	0.080
0070	630.0140	Seeding Mixture No. 40	LB	2.000	2.000
0072	630.0500	Seed Water	MGAL	3.000	3.000
0074	642.5001	Field Office Type B	EACH	1.000	1.000
0076	643.0300	Traffic Control Drums	DAY	900.000	900.000
0078	643.0420	Traffic Control Barricades Type III	DAY	850.000	850.000
0080	643.0705	Traffic Control Warning Lights Type A	DAY	1,200.000	1,200.000
0082	643.0715	Traffic Control Warning Lights Type C	DAY	900.000	900.000
0084	643.0900	Traffic Control Signs	DAY	15,150.000	15,150.000
0086	643.0910	Traffic Control Covering Signs Type I	EACH	12.000	12.000
0088	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0090	643.1000	Traffic Control Signs Fixed Message	SF	587.000	587.000
0092	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	646.1020	Marking Line Epoxy 4-Inch	LF	244.000	244.000
0098	650.4000	Construction Staking Storm Sewer	EACH	4.000	4.000

Estimate Of Quantities

9210-19-71

Line	Item	Item Description	Unit	Total	Qty
0100	650.7000	Construction Staking Concrete Pavement	LF	70.000	70.000
0102	650.9911	Construction Staking Supplemental Control (project) 01. 9210-19-71	EACH	1.000	1.000
0104	690.0250	Sawing Concrete	LF	72.000	72.000
0106	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0108	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. STA 57+10	EACH	1.000	1.000

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 50 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING TYPE I SIGNS EACH	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
1	I-41, S. OF STH 32/54, PLACE 1/2 MILE S. OF STH 32/54 EXIT RAMP IN MEDIAN	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								
2	I-41, S. OF STH 32/54, PLACE 1/2 MILE S. OF STH 32/54 EXIT RAMP ON RIGHT SHOULDER	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								
3	I-41, S. OF STH 32/54, PLACE 1/4 MILE S. OF STH 32/54 EXIT RAMP ON RIGHT SHOULDER	FMS	144"x72"	1	50				72					SEE SIGN DETAIL SHEET
4	I-41, S. OF STH 32/54, PLACE 1/4 MILE S. OF STH 32/54 EXIT RAMP IN MEDIAN	FMS	144"x72"	1	50				72					SEE SIGN DETAIL SHEET
5	I-41, S. OF STH 32/54, PLACE 150' S. OF STH 32/54 EXIT RAMP IN MEDIAN	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	MO 6-1	30"x30"	1	50	50								AHEAD
6	I-41, S. OF STH 32/54, PLACE 150' S. OF STH 32/54 EXIT RAMP ON RIGHT SHOULDER	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	MO 6-1	30"x30"	1	50	50								AHEAD
7	I-41, AT CD ROADWAY EXIT, PLACE 150' S. OF CD ROADWAY EXIT RAMP	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	MO 6-2	30"x30"	1	50	50								TILT RIGHT
8	STH 32/54 EXIT RAMP FROM I-41, COVER EXISTING OH SIGN AS SHOWN										1	1		COVER SIGN AS SHOWN
9	STH 32/54, PLACE ON RIGHT SHOULDER IN SW QUADRANT OF INTERSECTION	R 11-3B	60"x30"	1	50	50	50	100						1/4 MILE AHEAD
	"	M 4-9L	30"x24"	1	50	50								
10	STH 32/54, AT EAST LEG RAMP RAB, PLACE/COVER SPLITTER ISLAND SIGN AS SHOWN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								
	"	MO 6-2	21"x21"	1	50	50								TILT RIGHT
	"										1		1	COVER "MASON ST"
11	STH 32/54, W. OF TAYLOR ST, COVER EXISTING OH SIGN AS SHOWN										1	1		COVER ENTIRE SIGN
12	STH 32/54, W. OF TAYLOR ST, COVER EXISTING OH SIGN AS SHOWN										1	1		COVER EXISTING SIGN AS SHOWN
13	STH 32/54, PLACE ON RIGHT SHOULDER IN SW QUADRANT OF INTERSECTION	R 11-3B	60"x30"	1	50	50	50	100						1/4 MILE AHEAD
14	STH 32/54, AT EAST LEG RAMP TAYLOR ST RAB, PLACE/COVER SPLITTER ISLAND SIGN AS SHOWN										1		1	COVER ENTIRE SIGN
15	STH 32/54, E. OF TAYLOR ST, COVER EXISTING J4-2 SIGN AS SHOWN										1		1	COVER ENTIRE SIGN
16	STH 32/54, AT I-41 STRUCTURE, COVER EXISTING OH SIGN AS SHOWN										1	1		COVER ENTIRE SIGN
17	STH 32/54, AT I-41 STRUCTURE, COVER EXISTING OH SIGN AS SHOWN										1	1		COVER EXISTING SIGN AS SHOWN
	"	M 3-3	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 3-2	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								54
18	STH 32/54, AT I-41 STRUCTURE, PLACE IN MEDIAN BETWEEN RAMP INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 5-1L	21"x21"	1	50	50								
19	STH 54, W. OF I-41 SB RAMP, PLACE W. OF I-41 RAB RAMP ON RIGHT SHOULDER	FMS	90"x36"	1	50				22.5					SEE SIGN DETAIL SIGN
20	STH 54, W. OF I-41 SB RAMP, PLACE 750' W. OF I-41 RAB RAMP IN MEDIAN	FMS	90"x36"	1	50				22.5					SEE SIGN DETAIL SIGN
21	STH 54, W. OF I-41 SB RAMP, PLACE 1500' W. OF I-41 RAB RAMP ON RIGHT SHOULDER	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								

PAGE SUBTOTALS

40

1,800

100

200

189.0

0

5

3

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

PROJECT NUMBER: 9210-19-71

HWY: STH 32/54

COUNTY: BROWN

MISCELLANEOUS QUANTITIES

SHEET

E

3

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD	643.0900 SIGNS	643.0420 BARRICADES TYPE III	643.0705 WARNING LIGHTS TYPE A	643.1000 FIXED MESSAGE SIGN	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE	NO. OF CYCLES	643.0910 COVERING TYPE I SIGNS	643.0920 COVERING TYPE II SIGNS	REMARKS
					50 DAYS	DAYS	DAYS	DAYS	CHANGABLE MESSAGE DAYS	EACH		EACH		
22	STH 54, W. OF I-41 SB RAMP, PLACE 1500' W. OF I-41 RAB RAMP IN MEDIAN	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								
23	STH 32/54, AT I-41 SB RAMP, PLACE NEXT TO SPLITTER ISLAND SIGN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-2	21"x21"	1	50	50								TILT RIGHT
24	STH 32/54 RAMP TO I-41 SB, PLACE 350' N. OF RAMP RAB INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 3-3	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	MO 4-8	24"x12"	1	50	50								
	"	M 3-2	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								54
25	I-41 CD ROADWAY, PLACE 500' S. OF LARSEN RD OVERPASS	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 5-2R	21"x21"	1	50	50								
26	I-41 CD ROADWAY, PLACE IN FRONT OF S-05-183 SIGN STRUCTURE	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-2	21"x21"	1	50	50								TILT RIGHT
27	I-41 NB, S. OF STH 32/54, PLACE/COVER EXISTING OH SIGN AS SHOWN	FMS	54"x18"	1	50				6.75		1	1		WEST
27A	I-41 NB, S. OF STH 32/54, PLACE/COVER EXISTING OH SIGN AS SHOWN	FMS	54"x18"	1	50				6.75		1	1		WEST
28	I-41 SB, N. OF STH 32/54, PLACE/COVER EXISTING OH SIGN AS SHOWN	FMS	54"x18"	1	50				6.75		1	1		WEST
29	I-41 CD ROADWAY, PLACE ON EXISTING OH SIGN AS SHOWN	FMS	66"x18"	1	50				8					SOUTH
	"	M 1-6	36"x36"	1	50	50								32
	"	FMS	48"x18"	1	50	50			6					EAST
	"	M 1-6	36"x36"	1	50	50								54
30	I-41 CD ROADWAY, PLACE ON EXISTING OH SIGN AS SHOWN	FMS	66"x18"	1	50	50			8					SOUTH
	"	M 1-6	36"x36"	1	50	50								32
	"	FMS	48"x18"	1	50	50			6					EAST
	"	M 1-6	36"x36"	1	50	50								54
31	I-41 CD ROADWAY, PLACE ON EXISTING OH SIGN AS SHOWN	FMS	66"x18"	1	50	50			8					SOUTH
	"	M 1-6	36"x36"	1	50	50								32
	"	FMS	48"x18"	1	50	50			6					EAST
	"	M 1-6	36"x36"	1	50	50								54
32	I-41 OFF-RAMP TO SHAWANO AVE, PLACE 700' PRIOR TO RAMP RAB INTERSECTION ON LEFT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 5-1R	21"x21"	1	50	50								
33	I-41 OFF-RAMP TO SHAWANO AVE, PLACE 700' PRIOR TO RAMP RAB INTERSECTION ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 5-1R	21"x21"	1	50	50								
34	I-41 OFF-RAMP TO SHAWANO AVE, PLACE 300' PRIOR TO RAMP RAB INTERSECTION ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								RIGHT
35	STH 29/SHAWANO AVE, PLACE 150' E. OF I-41 NB RAMP INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 3-3	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	MO 4-8	24"x12"	1	50	50								
	"	M 3-2	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								54

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PLAN SHEET PRODUCED

PAGE SUBTOTALS

54

2,500

0

0

63

0

3

0

BY WisDOT - NE REGION

PROJECT NUMBER: 9210-19-71

HWY: STH 32/54

COUNTY: BROWN

MISCELLANEOUS QUANTITIES

SHEET

E

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 50 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING TYPE I SIGNS EACH	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
36	STH 29/SHAWANO AVE, PLACE IN FRONT OF S-5-252 E. OF RAMP RAB IN MEDIAN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
37	STH 29/SHAWANO AVE, PLACE IN FRONT OF S-5-252 E. OF RAMP RAB ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
38	STH 29/SHAWANO AVE, PLACE BETWEEN RAMP RAB, PLACE IN FRONT OF S-5-250 IN MEDIAN	M 4-8A	24"x18"	1	50	50								
	"	M 3-1	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
39	STH 29/SHAWANO AVE, PLACE BETWEEN RAMP RAB, PLACE IN FRONT OF S-5-250 ON RIGHT SHOULDER	M 4-8A	24"x18"	1	50	50								
	"	M 3-1	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
40	STH 29/SHAWANO AVE, PLACE BETWEEN RAMP RAB, PLACE BETWEEN I-41 STRUCTURES IN MEDIAN	MO 4-8	24"x12"	1	50	50								
	"	M 3-4	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								LEFT
41	STH 29/SHAWANO AVE, PLACE BETWEEN RAMP RAB, PLACE BETWEEN I-41 STRUCTURES ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 3-4	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								LEFT
42	STH 29/SHAWANO AVE, PLACE BETWEEN RAMP RAB, PLACE 100' BEYOND EXIT ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
43	STH 29/SHAWANO AVE, PLACE BETWEEN RAMP RAB, PLACE 100' BEYOND EXIT IN MEDIAN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
44	STH 29/SHAWANO AVE, PLACE W. OF I-41 SB RAMP RAB, PLACE IN FRONT OF S-5-248 ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
45	STH 29/SHAWANO AVE, PLACE W. OF I-41 SB RAMP RAB, PLACE IN FRONT OF S-5-248 IN MEDIAN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
46	STH 29/SHAWANO AVE, PLACE W. OF I-41 SB RAMP RAB, PLACE IN FRONT OF S-5-274 ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
47	STH 29/SHAWANO AVE, PLACE W. OF I-41 SB RAMP RAB, PLACE IN FRONT OF S-5-274 IN MEDIAN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
48	STH 32, FLY OVER RAMP TO I-41 SB, PLACE/COVER EXISTING OH TYPE I SIGN	FMS	54"x18"	1	50				6.75		1	1		WEST
PAGE SUBTOTALS				47		2,300	0	0	6.75	0	1	1	0	

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PLAN SHEET PRODUCED

BY WisDOT - NE REGION

PROJECT NUMBER: 9210-19-71	HWY: STH 32/54	COUNTY: BROWN	MISCELLANEOUS QUANTITIES	SHEET	E
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TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 50 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING TYPE I SIGNS EACH	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
49	STH 29/SHAWANO AVE, PLACE/COVER EXISTING SPLITTER ISLAND SIGN										1		1	COVER "SOUTH 32"
	"	MO 4-8	24"x12"	1	50	50								
	"	M 3-4	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-2	21"x21"	1	50	50								TILT RIGHT
50	STH 29 ON-RAMP TO I-41 SB, PLACE 150' PAST RAMP RAB INTERSECTION	M 4-8A	24"x18"	1	50	50								
	"	M 3-4	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								54
51	STH 32, FLY OVER RAMP TO I-41 SB, PLACE/COVER EXISTING OH TYPE I SIGN	FMS	54"x18"	1	50				6.75		1	1		
52	I-41 SB OFF-RAMP TO STH 29/SHAWANO AVE, PLACE 375' PRIOR TO RAMP RAB INTERSECTION ON LEFT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								LEFT
53	I-41 SB OFF-RAMP TO STH 29/SHAWANO AVE, PLACE 375' PRIOR TO RAMP RAB INTERSECTION ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								LEFT
54	I-41 SB OFF-RAMP TO STH 29/32, PLACE IN FRONT OF LEFT COLUMN OF S-05-186	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
55	I-41, AT OFF-RAMP TO STH 29/32, PLACE IN FRONT OF RIGHT COLUMN OF S-05-187	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	MO 6-2	30"x30"	1	50	50								TILT RIGHT
56	I-41, N. OF OFF-RAMP TO STH 29/32, PLACE 1000' N. OF OFF-RAMP TO STH 29/32 IN MEDIAN	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	MO 5-2R	30"x30"	1	50	50								
57	I-41, N. OF OFF-RAMP TO STH 29/32, PLACE 1000' N. OF OFF-RAMP TO STH 29/32 ON RIGHT SHOULDER	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	MO 5-2R	30"x30"	1	50	50								
58	I-41, N. OF OFF-RAMP TO STH 29/32, PLACE 1750' N. OF OFF-RAMP TO STH 29/32 IN MEDIAN	FMS	144"x72"	1	50				72					SEE SIGN DETAIL SHEET
59	I-41, N. OF OFF-RAMP TO STH 29/32, PLACE 1750' N. OF OFF-RAMP TO STH 29/32 ON RIGHT SHOULDER	FMS	144"x72"	1	50				72					SEE SIGN DETAIL SHEET
60	I-41, N. OF OFF-RAMP TO STH 29/32, PLACE 1/2 MILE N. OF OFF-RAMP TO STH 29/32 IN MEDIAN	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								
61	I-41, N. OF OFF-RAMP TO STH 29/32, PLACE 1/2 MILE N. OF OFF-RAMP TO STH 29/32 ON RIGHT SHOULDER	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								
62	I-41, BETWEEN STH 29/32 AND VEP AVE, PLACE ON EXISTING OH TYPE I SIGN AS SHOWN	FMS	54"x18"	1	50				6.75					WEST
	"	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
63	I-41 SB OFF-RAMP TO STH 29/32, PLACE ON EXISTING OH TYPE I SIGN AS SHOWN	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								54

PLAN SHEET PRODUCED

PAGE SUBTOTALS

48

2,200

0

0

157.50

0

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1

BY WisDOT - NE REGION

PROJECT NUMBER: 9210-19-71

HWY: STH 32/54

COUNTY: BROWN

MISCELLANEOUS QUANTITIES

SHEET

E

3

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 50 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING TYPE I SIGNS EACH	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
64	I-41, BETWEEN STH 29/32 AND VELD AVE, COVER/PLACE ON EXISTING OH TYPE I SIGN AS SHOWN	FMS	54"x18"	1	50				6.75					WEST
	"	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
65	I-41 SB OFF-RAMP TO STH 29/32, PLACE ON EXISTING OH TYPE I SIGN AS SHOWN	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								54
66	STH 29/SHAWANO AVE, E. OF CTH EB, PLACE RIGHT OF EXISTING J4-1 SIGN	MO 4-8	24"x12"	1	50	50								
	"	M 3-3	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	MO 4-8	24"x12"	1	50	50								
	"	M 3-2	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								54
67	STH 29/PACKERLAND DR, BETWEEN RAMP RAB, PLACE RIGHT OF EXISITNG S-05-273	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								RIGHT
68	STH 29 TO PACKERLAND DR OFF-RAMP, PLACE LEFT OF EXISITNG S-05-268	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								LEFT
69	STH 29 TO PACKERLAND DR OFF-RAMP, PLACE 600' PRIOR TO RAMP RAB INTERSECTION ON LEFT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 5-1L	21"x21"	1	50	50								
70	STH 29 TO PACKERLAND DR OFF-RAMP, PLACE 600' PRIOR TO RAMP RAB INTERSECTION ON RIGHT SHOULDER	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 5-1L	21"x21"	1	50	50								
71	STH 29/32, AT PACKERLAND DR OFF-RAMP, PLACE ON RIGHT SHOULDER AT PACKERLAND DR OFF-RAMP	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	MO 6-2	30"x30"	1	50	50								TILT RIGHT
72	STH 29/32, W. OF PACKERLAND DR OFF-RAMP, PLACE 750' W. OF OFF-RAMP ON RIGHT SHOULDER	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								
	"	MO 5-2R	30"x30"	1	50	50								
73	STH 29/32, W. OF PACKERLAND DR OFF-RAMP, PLACE 750' W. OF OFF-RAMP IN MEDIAN	MO 4-8	36"x18"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								
	"	M 1-6	36"x36"	1	50	50								
	"	MO 5-2R	30"x30"	1	50	50								
74	STH 29/32, W. OF PACKERLAND DR OFF-RAMP, PLACE 1750' W. OF OFF-RAMP ON RIGHT SHOULDER	FMS	144"x72"	1	50				72					SEE SIGN DETAIL SHEET
75	STH 29/32, W. OF PACKERLAND DR OFF-RAMP, PLACE 1750' W. OF OFF-RAMP IN MEDIAN	FMS	144"x72"	1	50				72					SEE SIGN DETAIL SHEET
76	STH 29/32, W. OF PACKERLAND DR OFF-RAMP, PLACE 1/2 MILE W. OF OFF-RAMP IN MEDIAN	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								

PAGE SUBTOTALS

47

2,200

0

0

150.75

0

0

0

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

PROJECT NUMBER: 9210-19-71

HWY: STH 32/54

COUNTY: BROWN

MISCELLANEOUS QUANTITIES

SHEET

E

3

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY

3

3

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 50 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING TYPE I SIGNS EACH	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
77	STH 29/32, W. OF PACKERLAND DR OFF-RAMP, PLACE 1/2 MILE W. OF OFF-RAMP ON RIGHT SHOULDER	M 1-6	36"x36"	1	50	50								32
	"	M 1-6	36"x36"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								
78	STH 29/32, W. OF PACKERLAND DR OFF-RAMP, PLACE/COVER ON EXISTING OH TYPE I SIGN	M 1-6	36"x36"	1	50	50								
	"	M 1-6	36"x36"	1	50	50					1	1		COVER "SOUTH 32"
79	STH 29/32, W. OF PACKERLAND DR OFF-RAMP, PLACE/COVER ON EXISTING OH TYPE I SIGN	M 1-6	36"x36"	1	50	50								
	"	M 1-6	36"x36"	1	50	50					1	1		COVER "SOUTH 32"
80	STH 29, W. OF TAYLOR ST, PLACE ACROSS FROM S-05-278 IN MEDIAN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
81	STH 29, AT TAYLOR ST, PLACE NEXT TO EXISTING SPLITTER ISLAND SIGN ON WEST LEG EXIT	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-2	21"x21"	1	50	50								TILT RIGHT
82	STH 29, AT TAYLOR ST, PLACE NEXT TO EXISTING SPLITTER ISLAND SIGN ON EAST LEG EXIT	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-2	21"x21"	1	50	50								TILT RIGHT
83	STH 29, W. OF TAYLOR ST, PLACE ON RIGHT SHOULDER AT S-05-280	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
84	STH 29, W. OF MILITARY AVE, PLACE 750' W. OF MILITARY AVE INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 5-1R	21"x21"	1	50	50								
85	STH 29, W. OF MILITARY AVE, PLACE 200' W. OF MILITARY AVE INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
86	STH 29, W. OF MILITARY AVE, PLACE 150' W. OF MILITARY AVE INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								RIGHT
87	MILITARY AVE, S. OF STH 29, PLACE 500' W. OF MILITARY AVE INTERSECTION IN MEDIAN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								LEFT
88	MILITARY AVE, S. OF STH 29, PLACE 200' W. OF MILITARY AVE INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
89	MILITARY AVE, S. OF STH 29, PLACE 1/4 MILE W. OF MILITARY AVE INTERSECTION IN MEDIAN	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								
	"	MO 5-1L	21"x21"	1	50	50								

PAGE SUBTOTALS

45

2,250

0

0

0.0

0

2

0

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

PROJECT NUMBER: 9210-19-71

HWY: STH 32/54

COUNTY: BROWN

MISCELLANEOUS QUANTITIES

SHEET

E

3

3

TRAFFIC CONTROL DETOUR SIGN SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 50 DAYS	643.0900 SIGNS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.1000 FIXED MESSAGE SIGN SF	643.1050 PORTABLE CHANGEABLE MESSAGE DAYS	NO. OF CYCLES	643.0910 COVERING TYPE I SIGNS EACH	643.0920 COVERING TYPE II SIGNS EACH	REMARKS
90	MILITARY AVE, N. OF STH 32/54, PLACE 1000' N. OF STH 32/54 INTERSECTION	M 4-8A	24"x18"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
91	MILITARY AVE, N. OF STH 32/54, PLACE 200' N. OF STH 32/54 INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
92	STH 32/54, AT MILITARY AVE, PLACE IN NW QUADRANT OF INTERSECTION	R 11-3B	60"x30"	1	50	50	50	100						1/2 MILE AHEAD
	"	M 4-9R	30"x24"	1	50	50								
93	STH 32/54, E. OF MILITARY AVE, PLACE 150' E. OF MILITARY AVE INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								RIGHT
94	STH 32/54, E. OF MILITARY AVE, PLACE 1000' E. OF MILITARY AVE INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 5-1R	21"x21"	1	50	50								
95	STH 32/54, E. OF MILITARY AVE, PLACE 1750' E. OF MILITARY AVE INTERSECTION	FMS	60"x24"	1	50				10					SEE SIGN DETAIL SHEET
96	STH 32/54, E. OF MILITARY AVE, PLACE 1/2 MILE E. OF MILITARY AVE INTERSECTION	MO 4-8	24"x24"	1	50	50								32
	"	MO 4-8	24"x24"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								
97	MILITARY AVE, S. OF STH 32/54, PLACE 500' S. OF STH 32/54 INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								AHEAD
98	MILITARY AVE, S. OF STH 32/54, PLACE 1250' S. OF STH 32/54 INTERSECTION	FMS	60"x24"	1	50				10					SEE SIGN DETAIL SHEET
99	MILITARY AVE, S. OF STH 32/54, PLACE 2000' S. OF STH 32/54 INTERSECTION	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	W 20-2A	48"x48"	1	50	50								
100	STH 32/54, W. OF MILITARY AVE, PLACE 200' W. OF MILITARY AVE INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								32
	"	M 1-6	24"x24"	1	50	50								54
	"	MO 6-1	21"x21"	1	50	50								LEFT
101	STH 32/54, W. OF MILITARY AVE, COVER EXISTING J4-2 SIGN AS SHOWN										1		1	COVER ENTIRE SIGN
102	STH 32/54, W. OF MILITARY AVE, PLACE 700' W. OF MILITARY AVE INTERSECTION	MO 4-8	24"x12"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								
	"	M 1-6	24"x24"	1	50	50								
	"	MO 5-1L	21"x21"	1	50	50								
103	STH 32/54, E. OF TAYLOR ST, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7				PLACE IN ADVANCE OF CLOSURE
104	STH 32/54, E. OF TAYLOR ST, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7				PLACE IN ADVANCE OF CLOSURE
PAGE SUBTOTALS				38		1,700	50	100	20.0	14		0	1	
TOTALS				319		14,950	150	300	587	14		12	5	

ADDITIONAL QUANTITIES SHOWN UNDER THE TRAFFIC CONTROL ITEMS ON THE MISCELLANEOUS QUANTITIES SHEET FOR BID ITEMS 643.0420, 643.0705, AND 643.0900

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

PROJECT NUMBER: 9210-19-71	HWY: STH 32/54	COUNTY: BROWN	MISCELLANEOUS QUANTITIES	SHEET	E
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TRAFFIC CONTROL ITEMS

LOCATION	643.0300		643.0420*		643.0705*		643.0715		643.0900*		643.5000	REMARKS
	TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL EACH	
	NO. IN SERVICE	DAY	NO. IN SERVICE	DAY	NO. IN SERVICE	DAY	NO. IN SERVICE	DAY	NO. IN SERVICE	DAY	EACH	
STH 32	-	-	-	-	-	-	-	-	-	-	1	
STH 32	10	50	8	50	10	50	10	50	2	50	-	WEST PROJECT LIMITS
STH 32	8	50	6	50	8	50	8	50	2	50	-	EAST PROJECT LIMITS
TOTAL	900		700		900		900		200		1	

*ADDITIONAL QUANTITIES SHOWN UNDER TRAFFIC CONTROL DETOUR SIGN SUMMARY

EXCAVATION

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4000	650.7000	650.9911.01
				CONSTRUCTION STAKING STORM SEWER EACH	CONSTRUCTION STAKING CONCRETE PAVEMENT LF	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 9210-19-71) EACH
56+85	-	57+49	STH 32	4	70	1
PROJECT TOTAL				4	70	1

STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	REMARKS
57+16	-	57+49	STH 32 EB	14	EXSITING BASE AGGREGATE
57+16	-	57+36	STH 32 WB	20	EXSITING BASE AGGREGATE
PROJECT TOTAL				34	

MISC

618.0100.01 619.1000 642.5001 999.2000.S.01

REMOVALS

STATION	TO	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	690.0250 SAWING CONCRETE LF
57+16	-	57+49	STH 32, WB	69	44
57+16	-	57+36	STH 32, EB	60	28
PROJECT TOTAL				130	72

STATION	TO	STATION	LOCATION	618.0100.01 EACH	619.1000 MOBILIZATION EACH	642.5001 FIELD OFFICE TYPE B EACH	999.2000.S.01 (STATION) (01. STA 57+10) EACH
56+85	-	57+36	STH 32, B-05-0284	1	1	1	-
PROJECT TOTAL				1	1	1	1

BASE AGGREGATE

STATION	TO	STATION	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4- INCH TON
57+16	-	57+49	STH 32, WB	30
57+16	-	57+36	STH 32, EB	20
57+16	-	57+36	STH 32, MEDIAN	25
PROJECT TOTAL				76

CONCRETE ITEMS

STATION	TO	STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1710 CONCRETE PAVEMENT REPAIR SY	509.0200 PREPARATION APPROACHES SY	509.0600 CLEANING APPROACHES SY	509.2600 CONCRETE MASONRY OVERLAY APPROACHES CY	601.0452 CONCRETE CURB & GUTTER INTEGRAL 30- INCH TYPE D LF	REMARKS
57+16	-	57+36	STH 32 WB	70	-	17	-	-	-	-	40	WB EAST CONCRETE APPROACH SLAB
57+36	-	57+49	STH 32 WB	-	5	14	21	-	-	-	13	WB RIGHT LANE PAVEMENT REPLACEMENT
57+16	-	57+36	STH 32 EB	60	-	28	-	-	-	-	40	EB EAST CONCRETE APPROACH SLAB
56+64	-	56+85	STH 32 WB	-	-	-	-	5	64	3	-	WB WEST CONCRETE APPROACH SLAB
56+64	-	56+85	STH 32 EB	-	-	-	-	5	83	3	-	EB WEST CONCRETE APPROACH SLAB
PROJECT TOTAL				130	5	59	21	10	147	6	93	

PAVEMENT MARKINGS

STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF
56+85	-	57+49	STH 32 WB	131
56+85	-	57+36	STH 32 EB	113
PROJECT TOTAL				244

STORM SEWER ITEMS

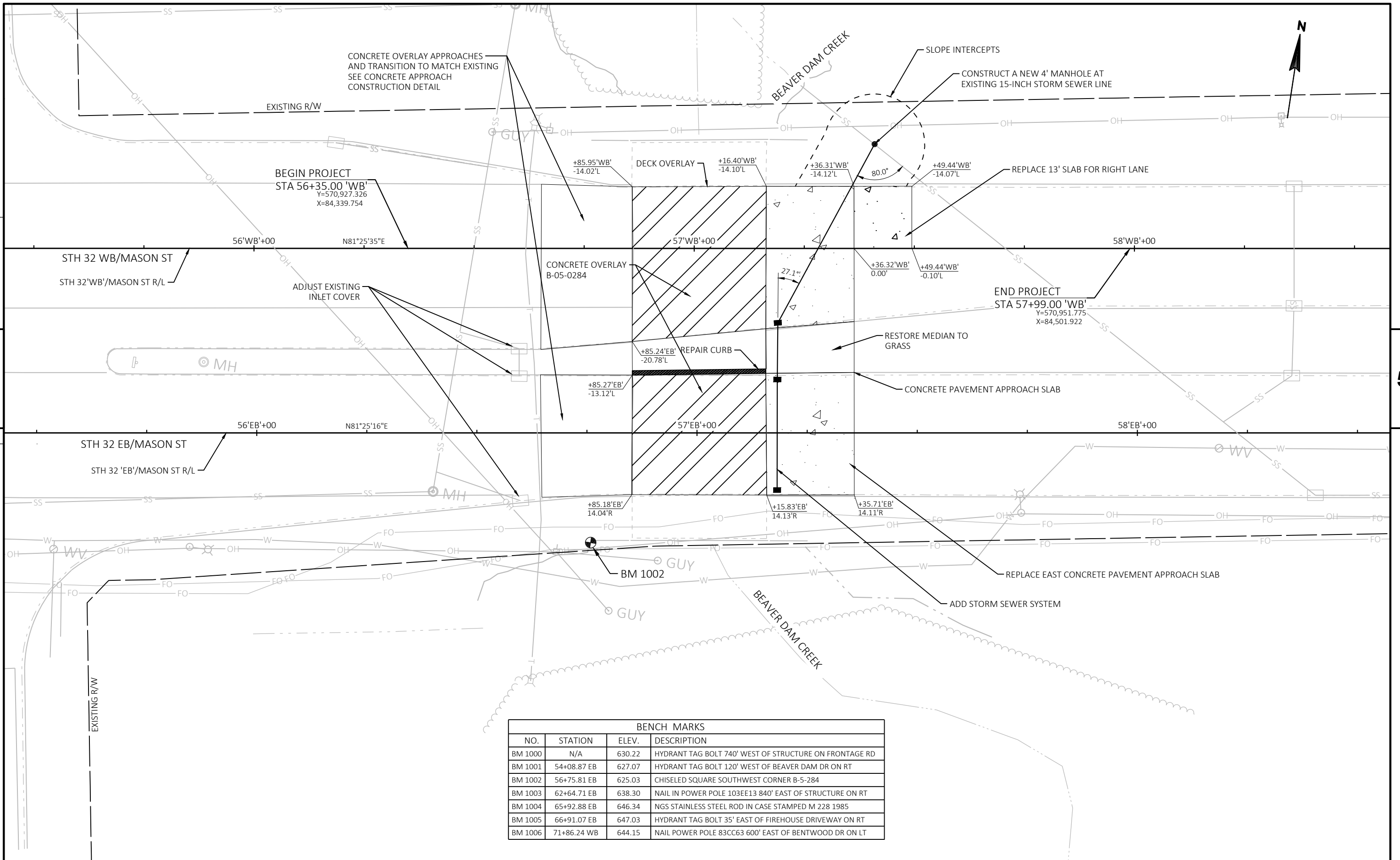
STATION	TO	STATION	LOCATION	204.0245.01	520.8000	608.0212	611.0530	611.0624	611.2004	611.3230
				REMOVING STORM SEWER (SIZE) (01. 15" RCP) LF	CONCRETE COLLARS FOR PIPE EACH	STORM SEWER PIPE REINFORCED CONCRETE CLASS II 12- INCH LF	MANHOLE COVERS TYPE J EACH	INLET COVERS TYPE H EACH	MANHOLES 4-FT DIAMETER EACH	INLETS 2X3-FT EACH
57 EB+18	-	57 EB+18	INLET 1.1	-	-	-	-	1	-	1
57 EB+18	-	57 EB+18	INLET 1.1 - INLET 1.2	-	-	25	-	-	-	-
57 EB+18	-	57 EB+18	INLET 1.2	-	-	-	-	1	-	1
57 EB+18	-	57 WB+19	INLET 1.2 - INLET 1.3	-	-	13	-	-	-	-
57 WB+19	-	57 WB+19	INLET 1.3	-	-	-	-	1	-	1
57 WB+19	-	57 WB+41	INLET 1.3 - MH1	-	-	46	1	-	1	-
57 WB+41	-	57 WB+41	MH1	7	2	-	-	-	-	-
PROJECT TOTAL				7	2	84	1	3	1	3

RESTORATION

STATION	TO	STATION	LOCATION	625.0100	625.0500	629.0210	630.0140	630.0500
				TOPSOIL SY	SALVAGED TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 40 LB	SEED WATER MGAL
57+16	-	57+55	STH 32 WB	-	49	0.03	0.9	1.1
57+16	-	57+36	STH 32 EB	-	4	0.01	0.1	0.1
57+16	-	57+36	MEDIAN	25	-	0.02	0.1	0.5
			UNDISTRIBUTED	-	-	0.02	0.3	0.4
PROJECT TOTAL				25	54	0.08	2.0	3.0

EROSION CONTROL

STATION	TO	STATION	LOCATION	628.1504	628.1520	628.2006	628.7015
				SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT URBAN CLASS I TYPE A SY	INLET PROTECTION TYPE C EACH
56+85	-	57+82	STH 32 WB	87	87	48	-
56+80	-	57+88	STH 32 EB	90	90	-	-
56+15	-	57+25	STH 32 WB	-	-	-	3
56+50	-	57+25	STH 32 EB	-	-	-	4
			UNDISTRIBUTED	44	44	12	-
PROJECT TOTAL				222	222	60	7



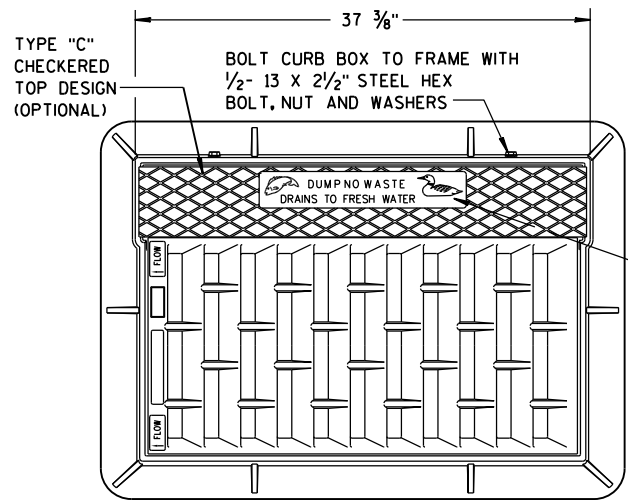
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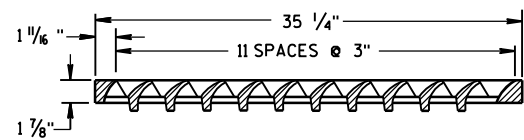
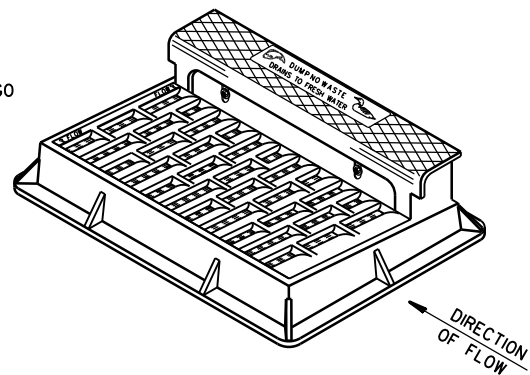
BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM 1000	N/A	630.22	HYDRANT TAG BOLT 740' WEST OF STRUCTURE ON FRONTAGE RD
BM 1001	54+08.87 EB	627.07	HYDRANT TAG BOLT 120' WEST OF BEAVER DAM DR ON RT
BM 1002	56+75.81 EB	625.03	CHISELED SQUARE SOUTHWEST CORNER B-5-284
BM 1003	62+64.71 EB	638.30	NAIL IN POWER POLE 103EE13 840' EAST OF STRUCTURE ON RT
BM 1004	65+92.88 EB	646.34	NGS STAINLESS STEEL ROD IN CASE STAMPED M 228 1985
BM 1005	66+91.07 EB	647.03	HYDRANT TAG BOLT 35' EAST OF FIREHOUSE DRIVEWAY ON RT
BM 1006	71+86.24 WB	644.15	NAIL POWER POLE 83CC63 600' EAST OF BENTWOOD DR ON LT

Standard Detail Drawing List

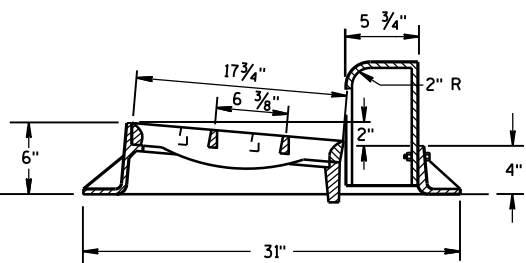
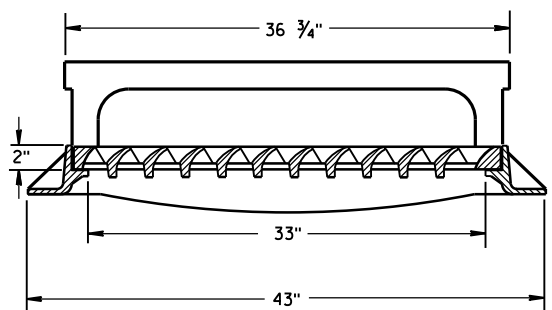
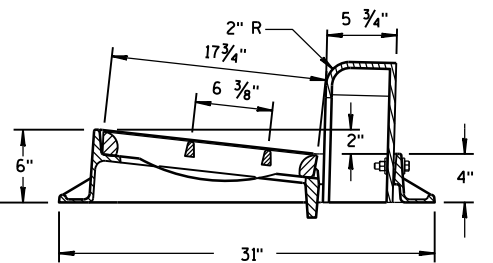
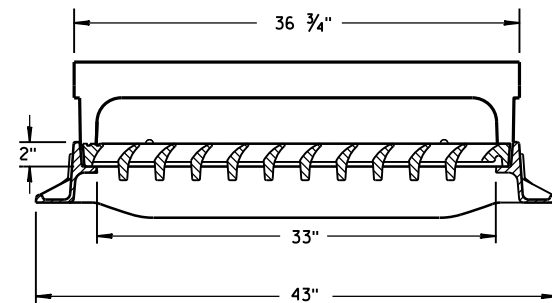
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-10	URBAN DOWELED CONCRETE PAVEMENT
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-22A	LONGITUDINAL MARKING (MAINLINE)



**NOTE:
GRATE IS REVERSIBLE.**

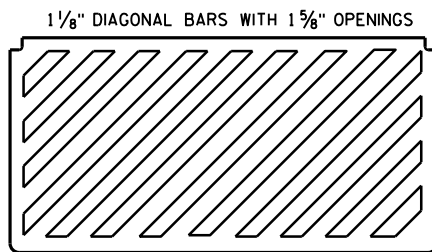


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

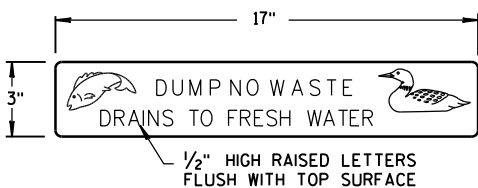


TYPE "H"

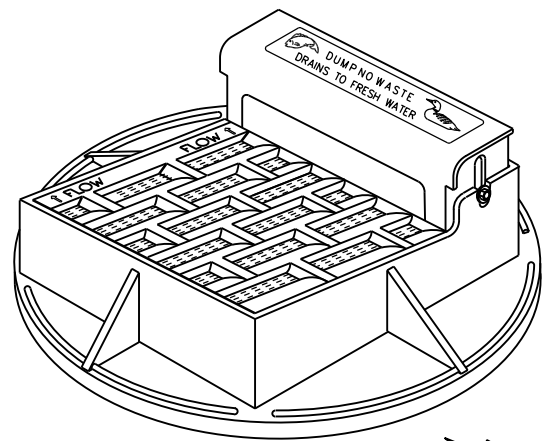
NOTE: EITHER CASTING IS ACCEPTABLE



**SPECIAL GRATE FOR
TYPE "H" COVER**
(MEASURES 35 1/4" X 17 3/4" X 2")
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

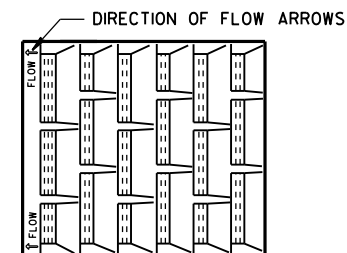


LOGO DETAIL

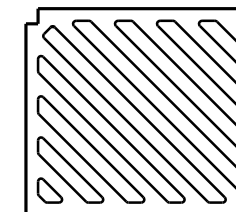


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

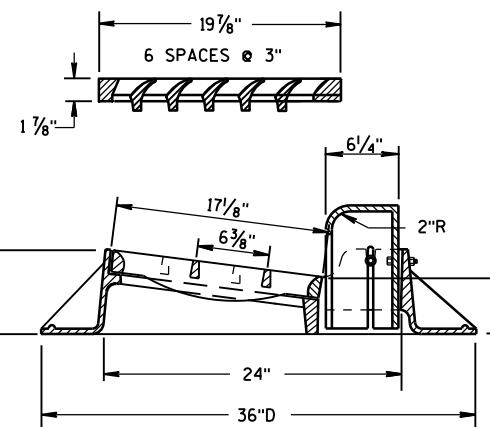
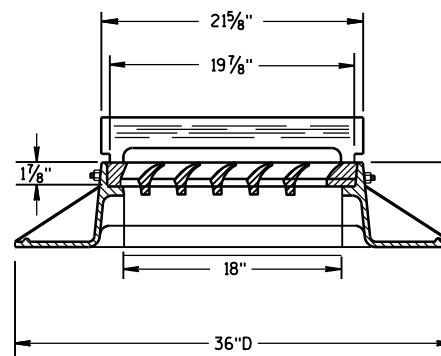
**NOTE:
GRATE IS REVERSIBLE.**



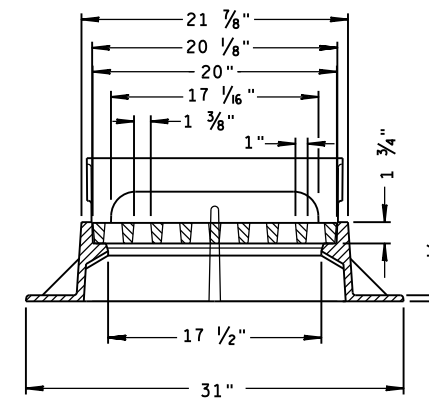
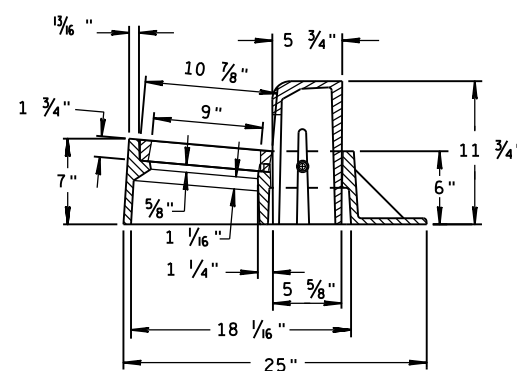
**1" DIAGONAL BARS
WITH 1 1/2" OPENINGS**



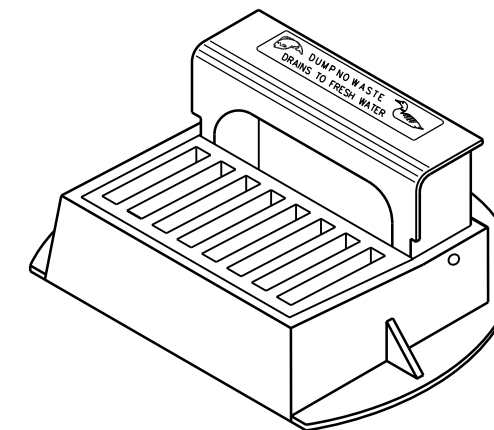
**SPECIAL GRATE FOR
TYPE "A" COVER**
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



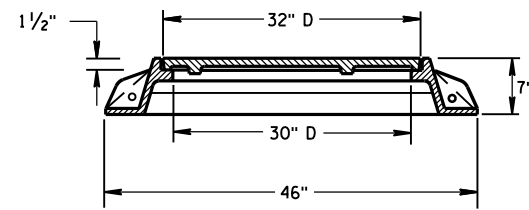
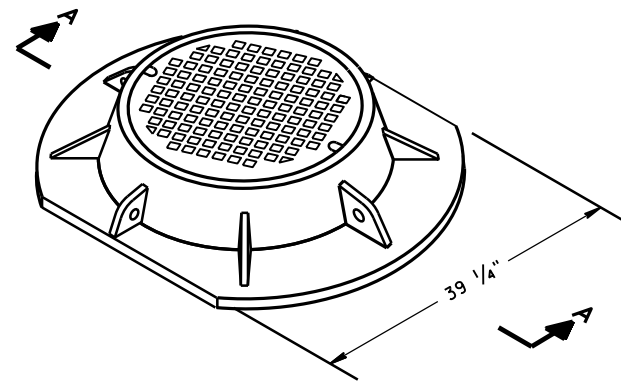
TYPE "Z"



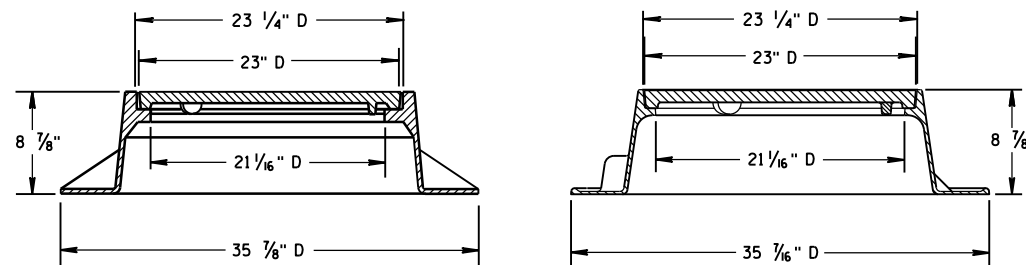
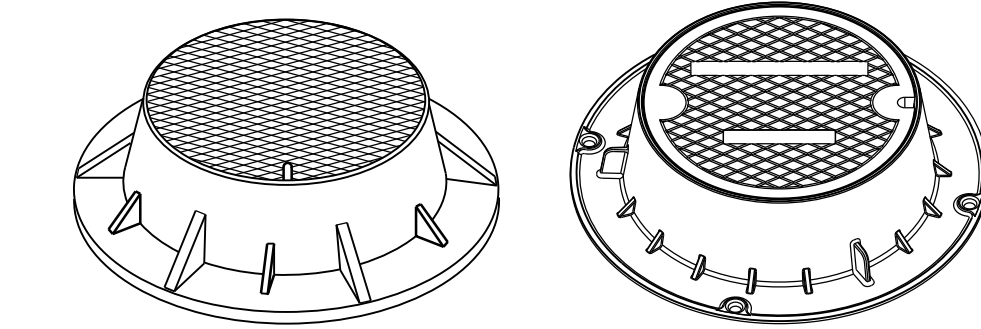
**INLET COVERS
TYPE A, H, A-S, H-S & Z**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
11-27-13
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



SECTION A-A
TYPE "K"



TYPE "J"

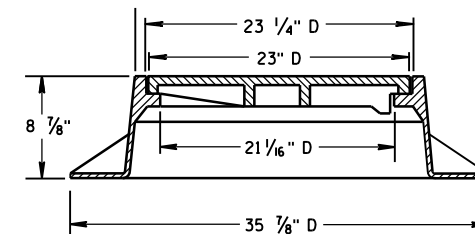
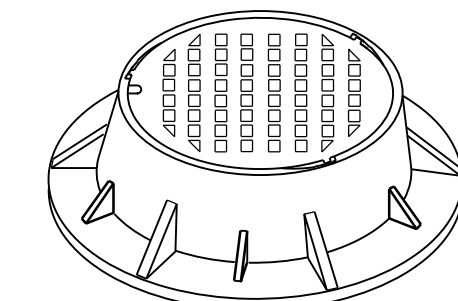
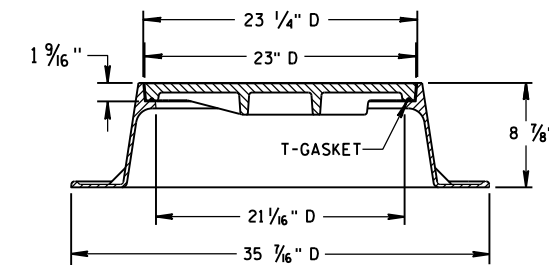
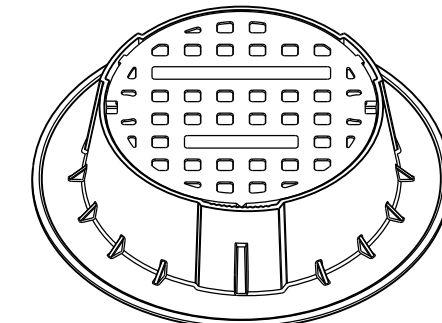
NOTE: EITHER CASTING IS ACCEPTABLE

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

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



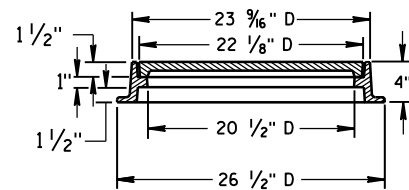
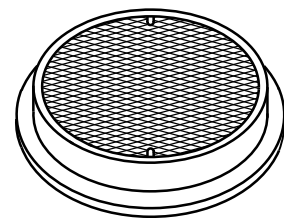
TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID

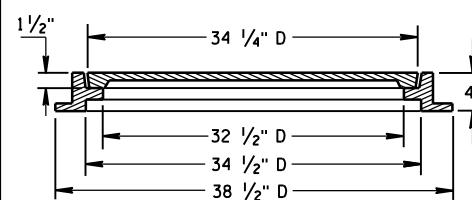
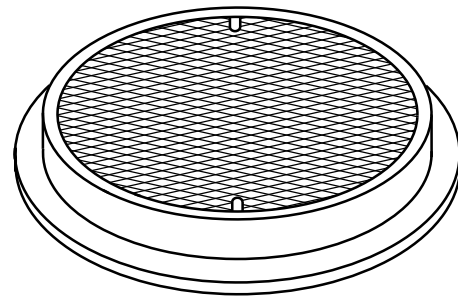
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

NOTE: EITHER CASTING IS ACCEPTABLE

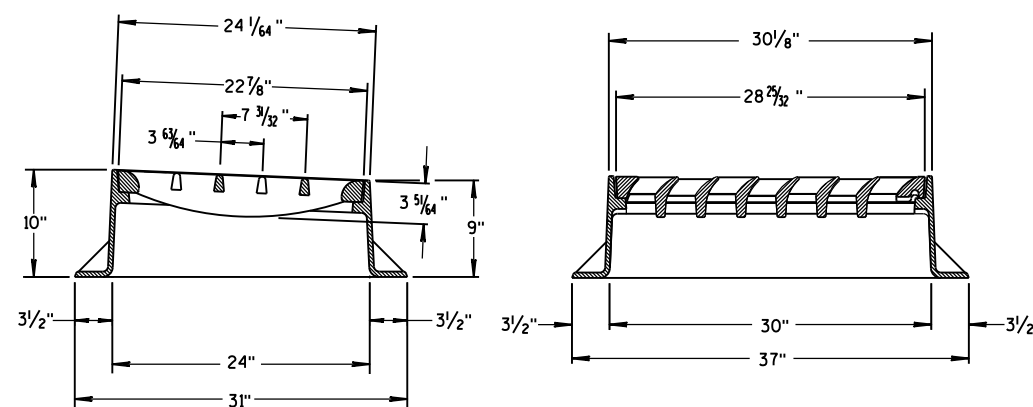
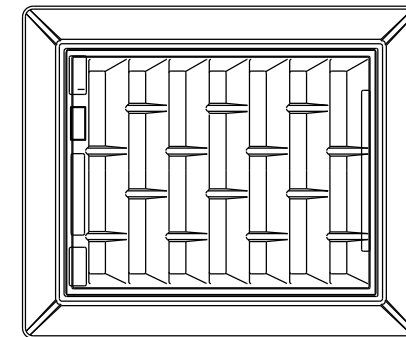
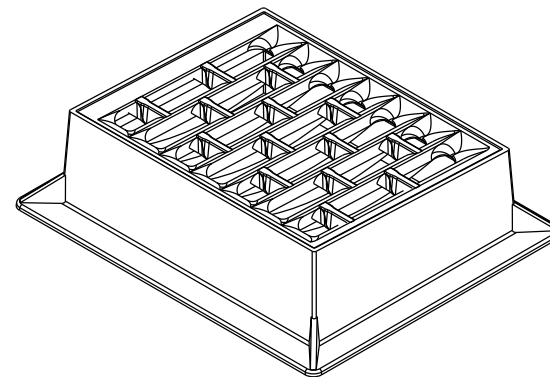
6



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

6

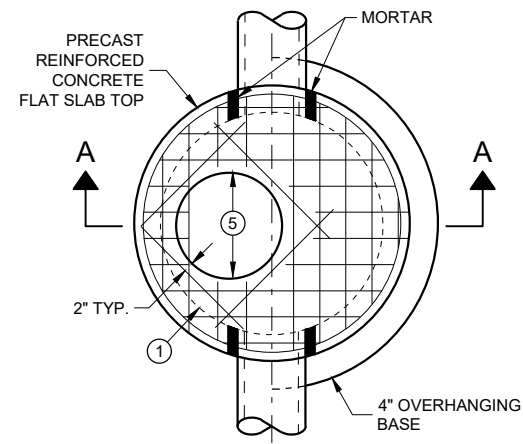
S.D.D. 8 A 5-19d

S.D.D. 8 A 5-19d

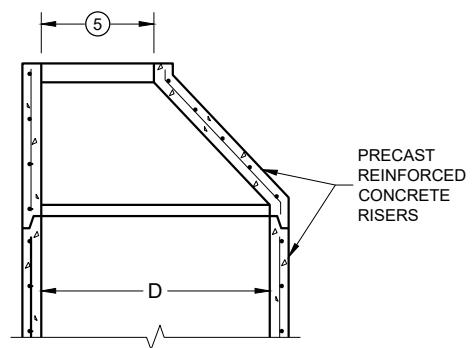
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

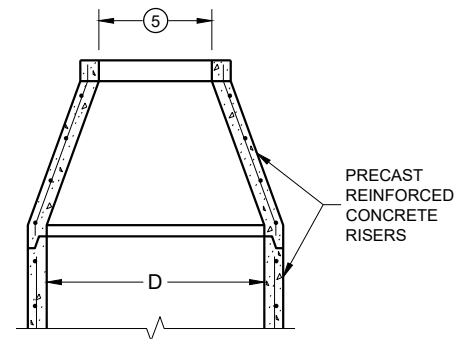
APPROVED
11/27/2013
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



PLAN VIEW CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

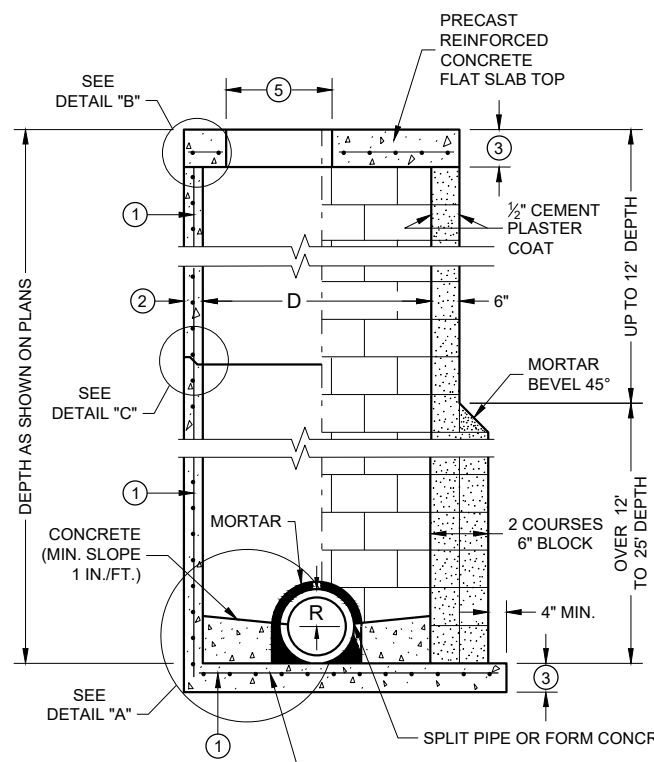
MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE / OPENING SIZE (FT.)	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42*	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.

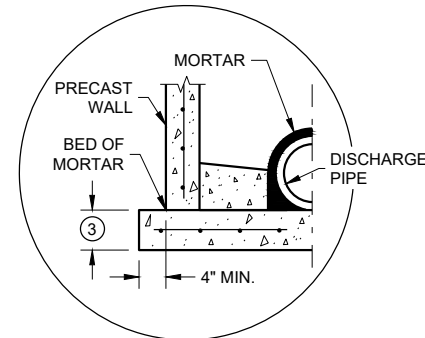


SECTION A - A

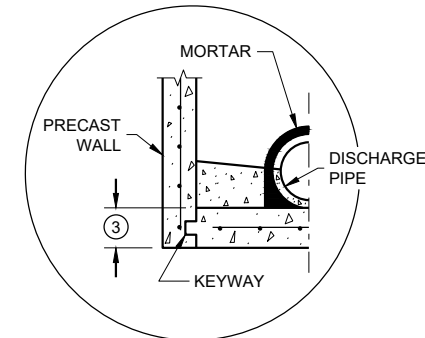
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

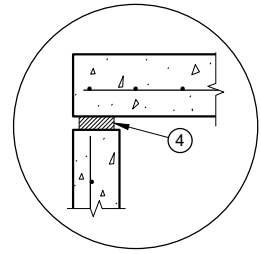


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

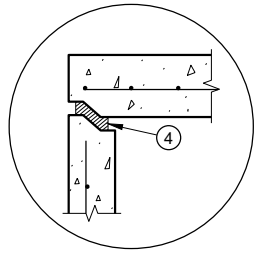


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

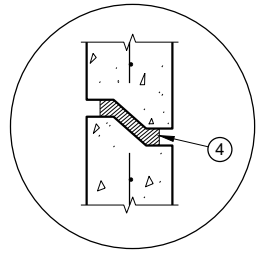
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

DETAIL "C"

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

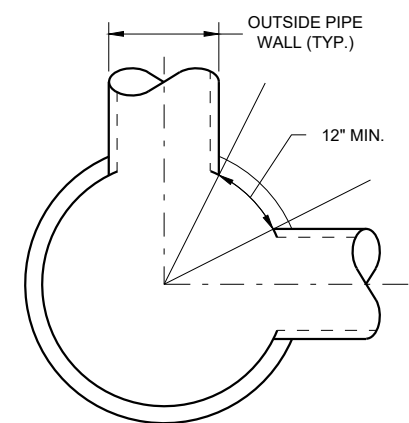
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

- ① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ② SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES
- ③ SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.
- ④ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.).
- ⑤ SEE MANHOLE COVER OPENING MATRIX.



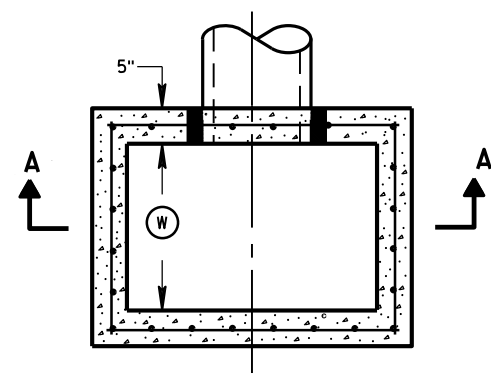
MINIMUM HORIZONTAL PIPE SEPARATION

MANHOLES, 3-FT, 4-FT 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

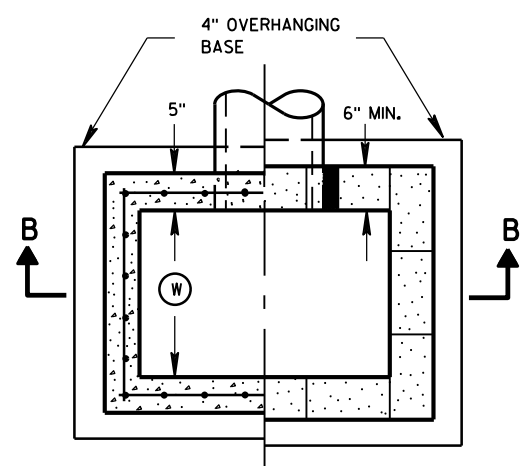
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED November 2021 DATE /S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER

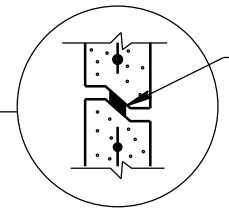
FHWA



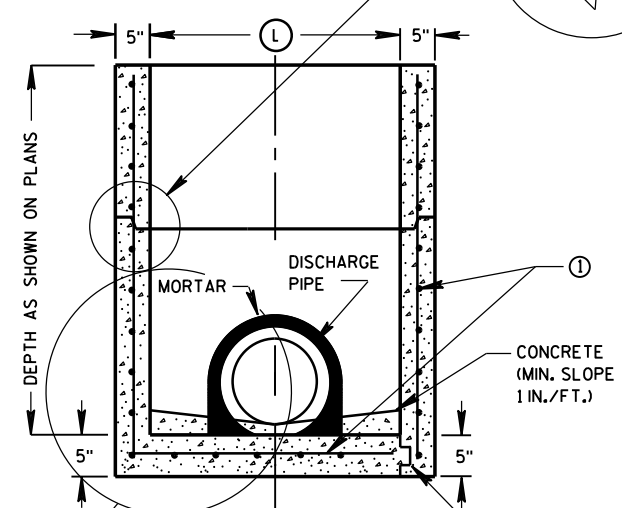
PLAN VIEW



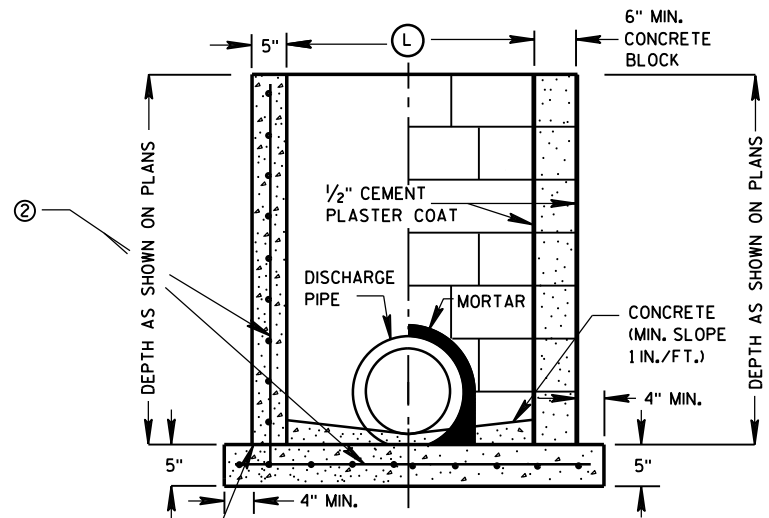
PLAN VIEW



RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



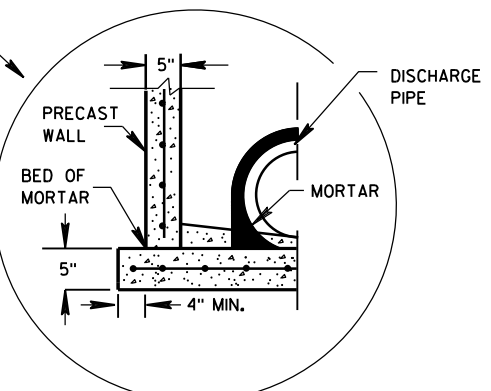
SECTION A-A



SECTION B-B

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE
 PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE
 KEYWAY

CONSTRUCTION JOINT
 CAST-IN-PLACE REINFORCED CONCRETE
 CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ①



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

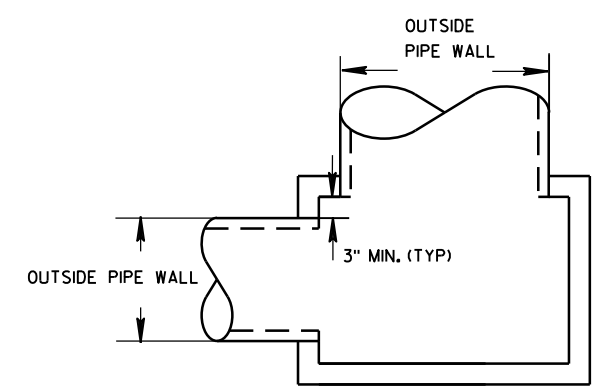
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE	INLET COVER TYPE		ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



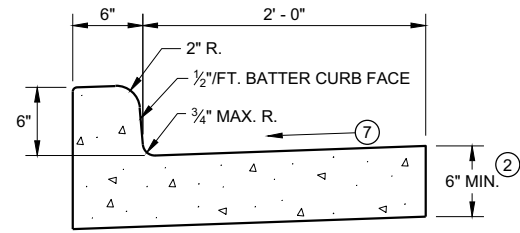
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

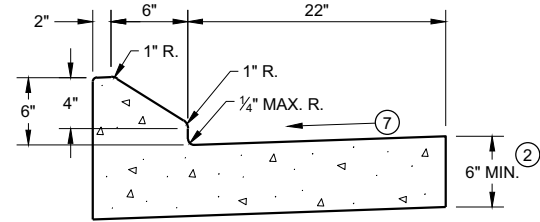
**INLETS 2X2-FT, 2X2.5-FT,
2X3-FT AND 2.5X3-FT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

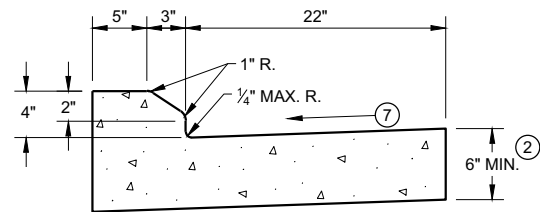
APPROVED
 Sept., 2016 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT
 FHWA UNIT SUPERVISOR



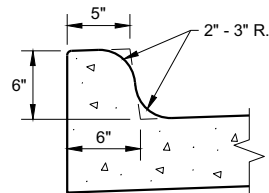
TYPES A^① & D



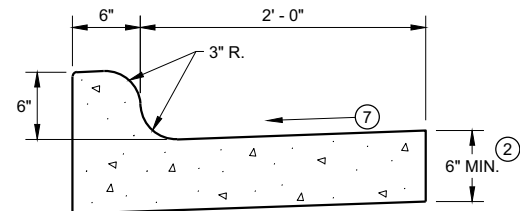
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

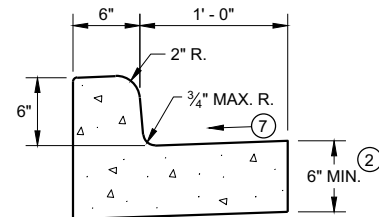


TYPES K^① & L
(OPTIONAL CURB SHAPE)



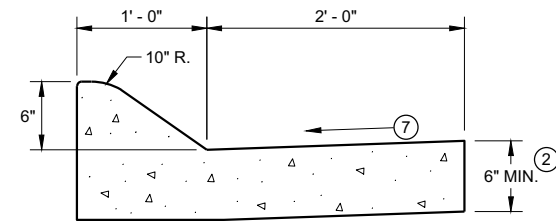
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

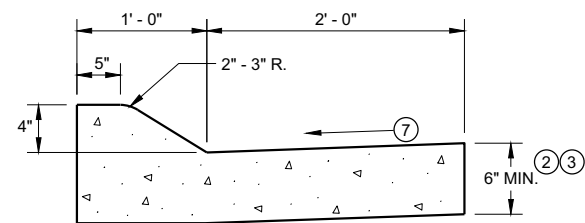


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

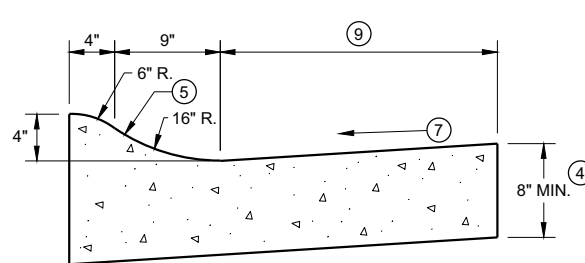


6" SLOPED CURB TYPES A^① & D



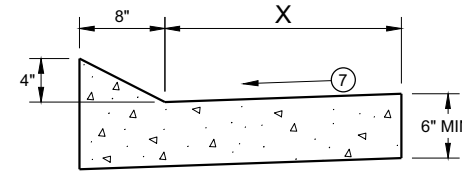
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

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

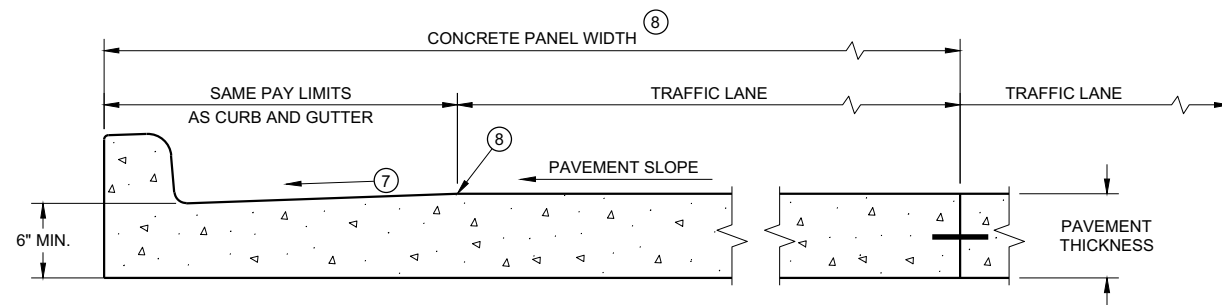


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

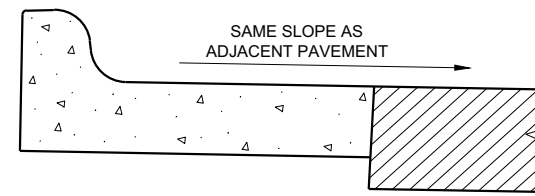
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

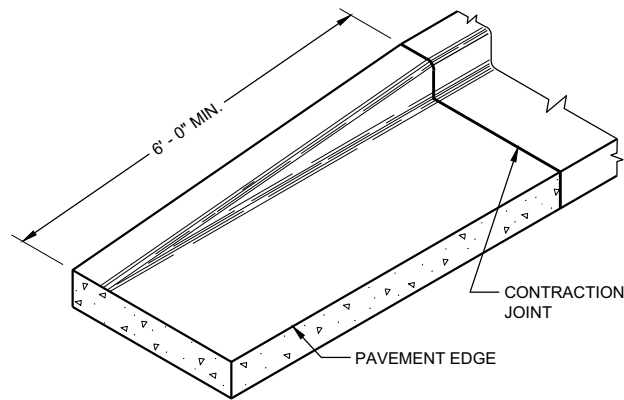
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

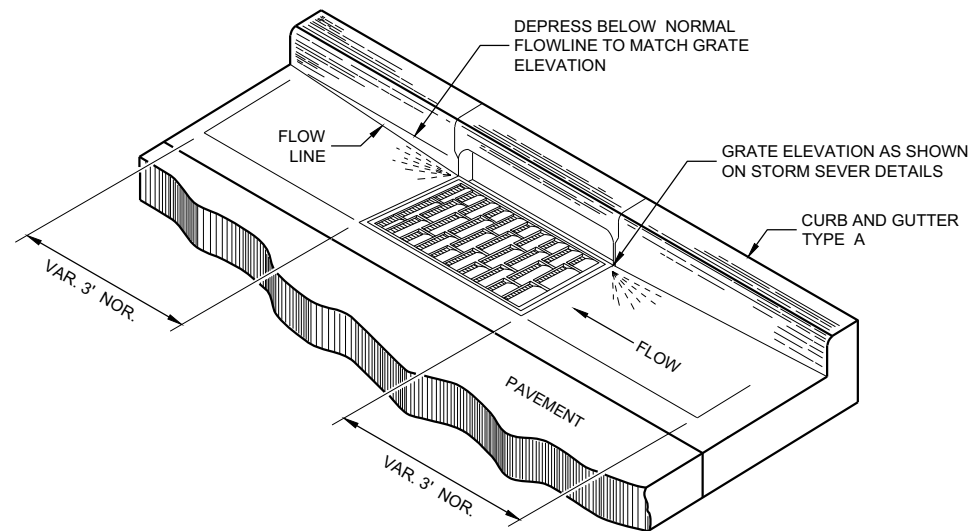
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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)

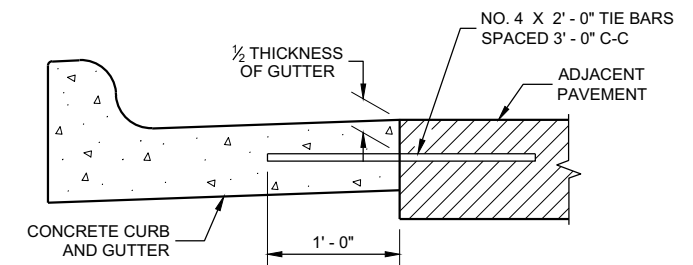
GENERAL NOTES

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

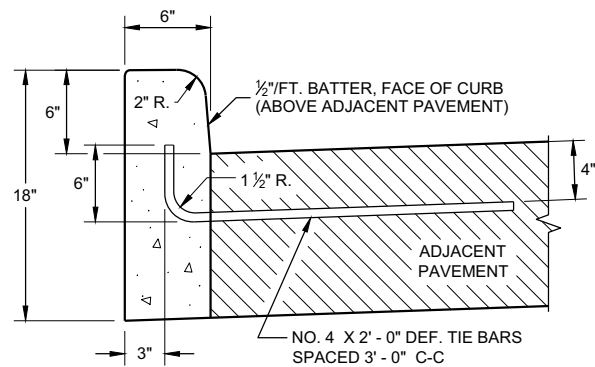
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

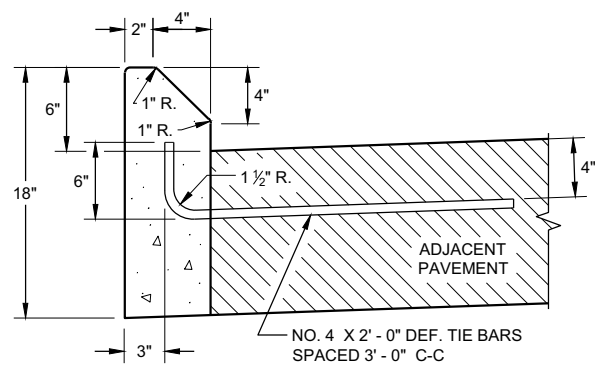
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION ①

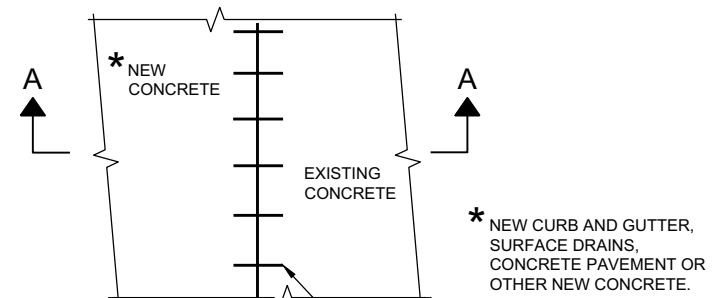


TYPES A ① & D

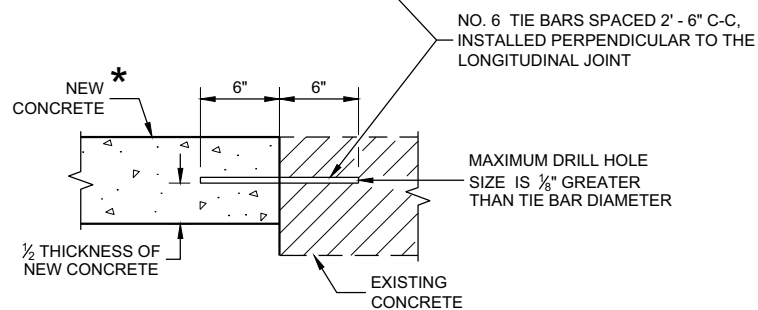


TYPES G ① & J

CONCRETE CURB

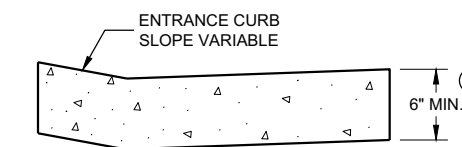


PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



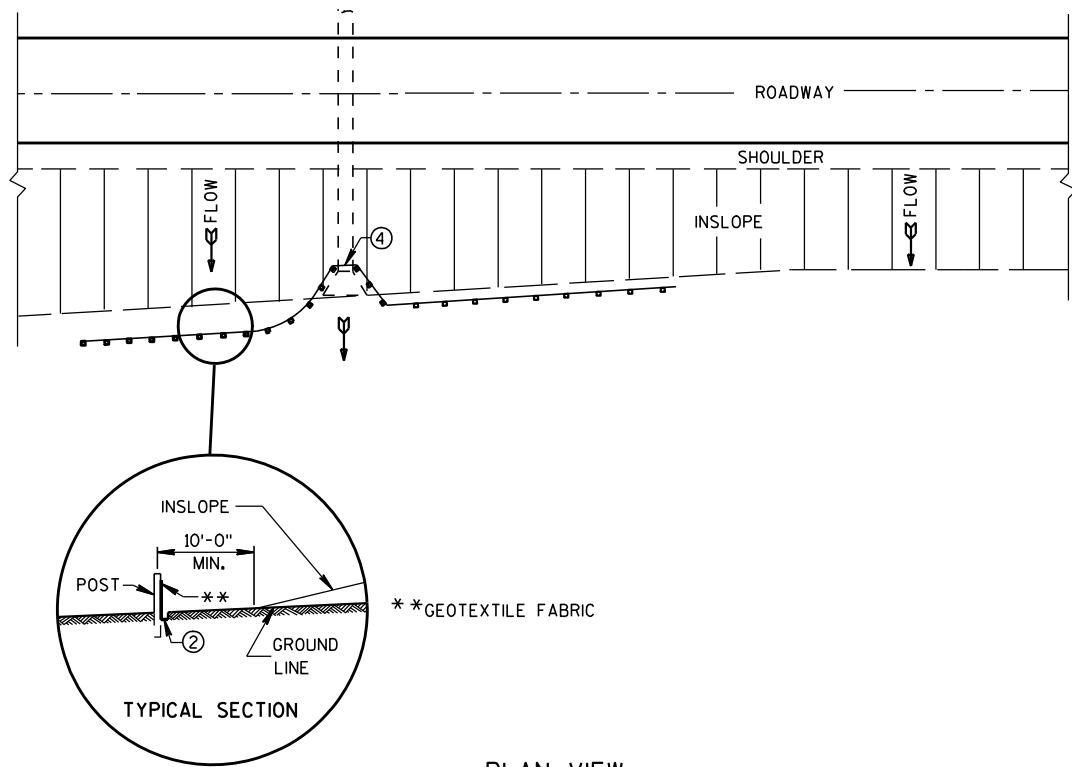
DRIVEWAY ENTRANCE CURB ⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

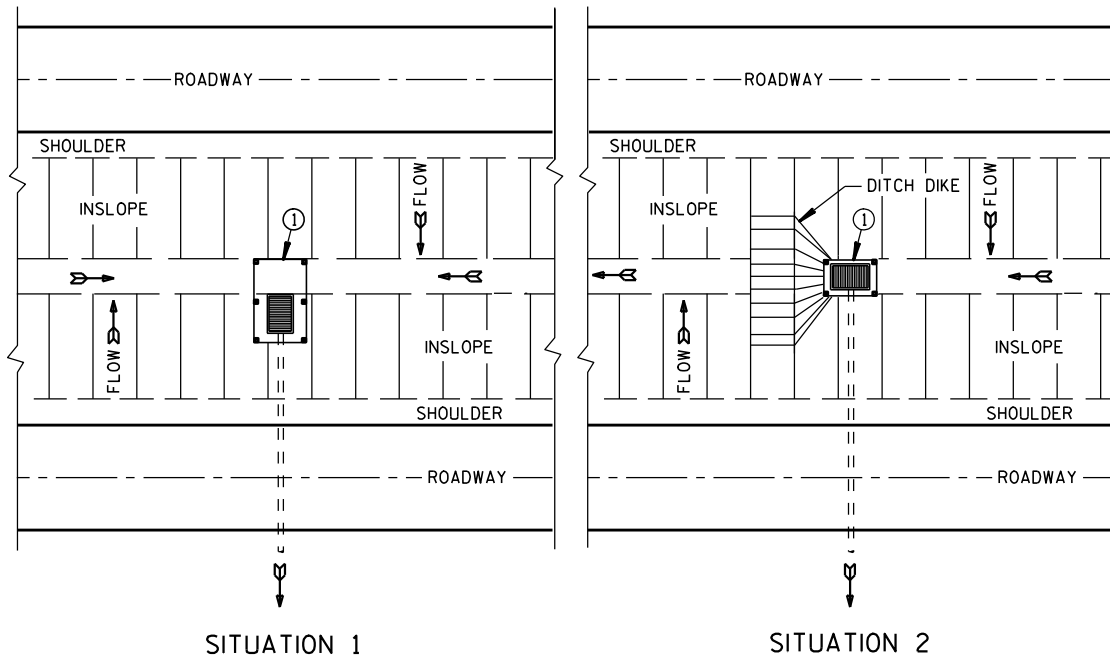
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

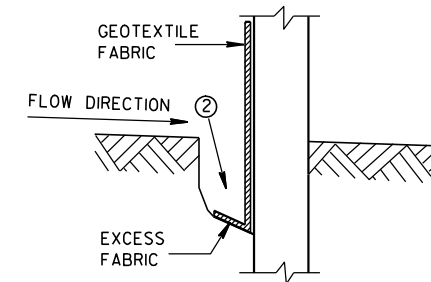


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

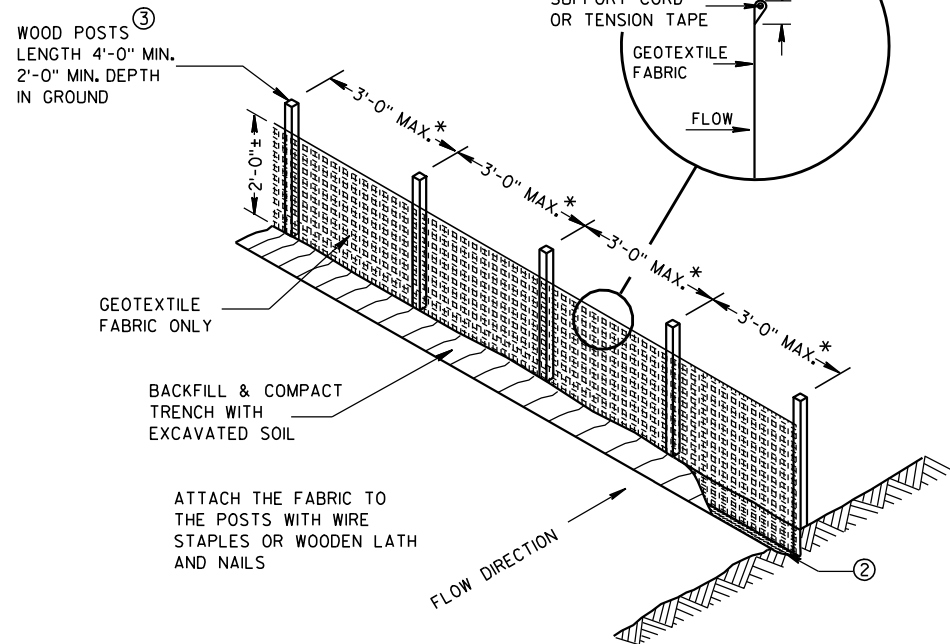
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



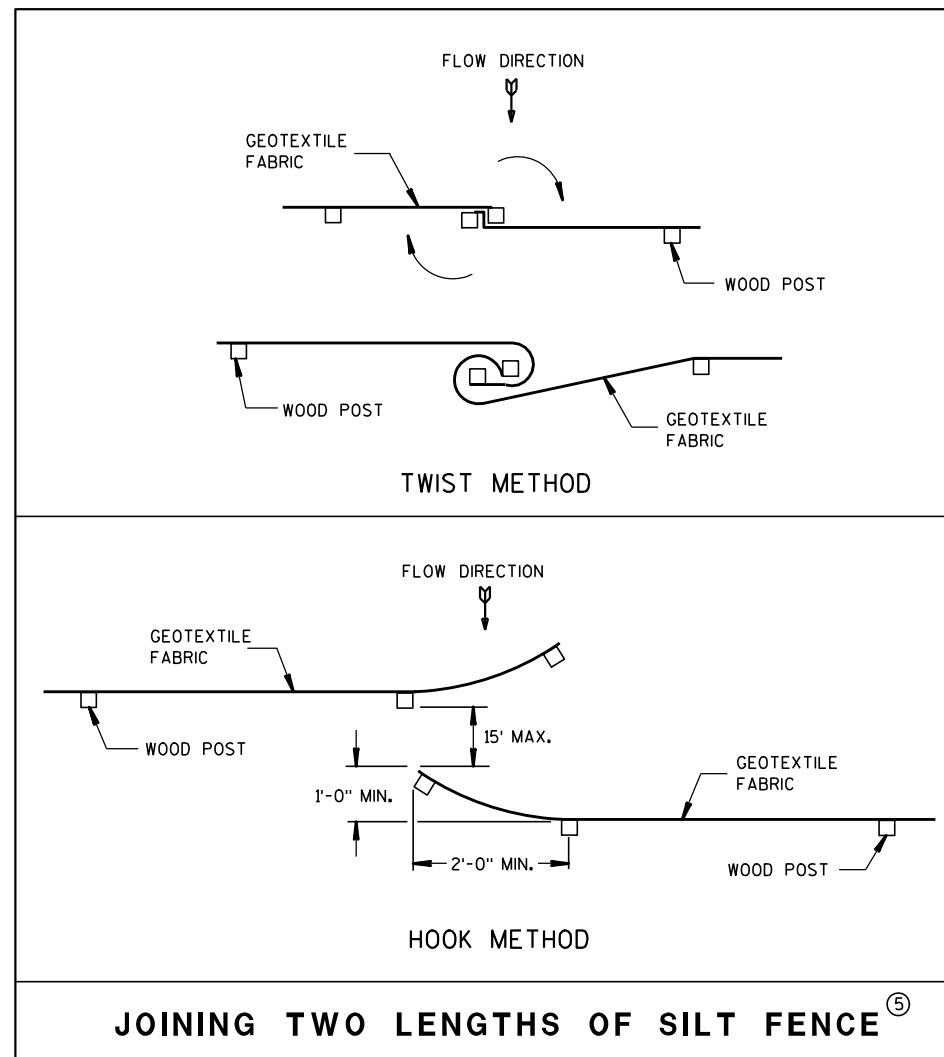
TRENCH DETAIL

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

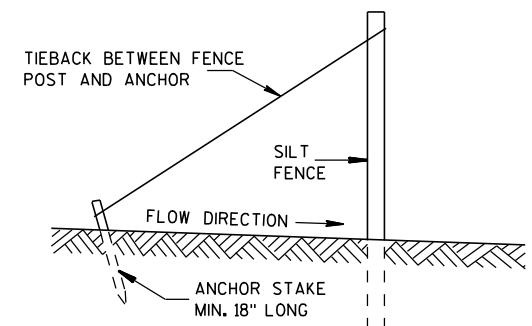


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

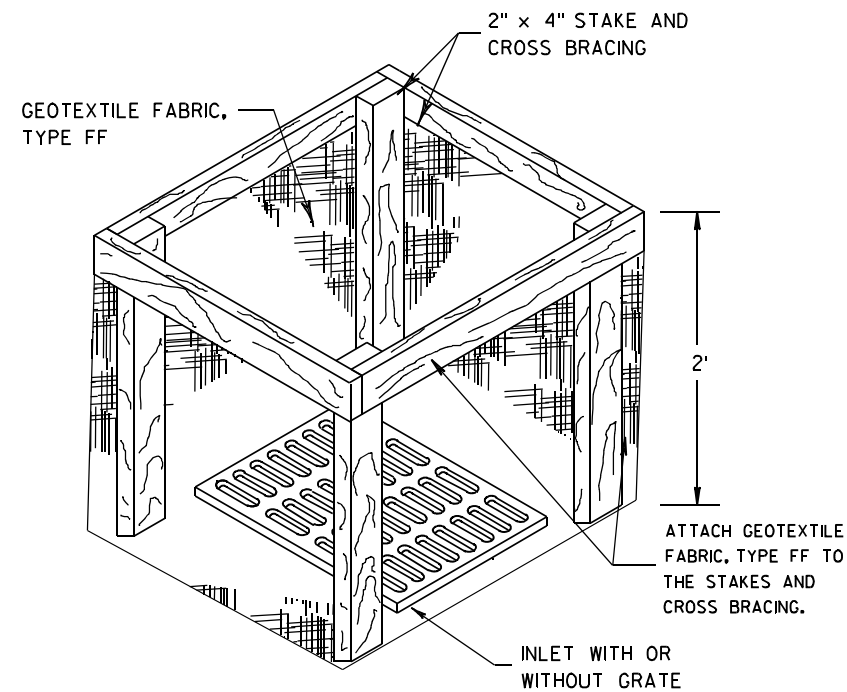
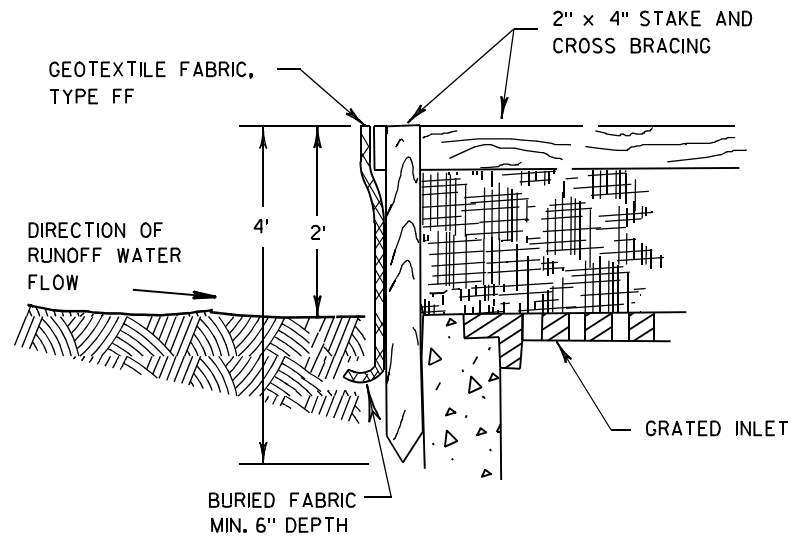


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Canestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



INLET PROTECTION, TYPE A

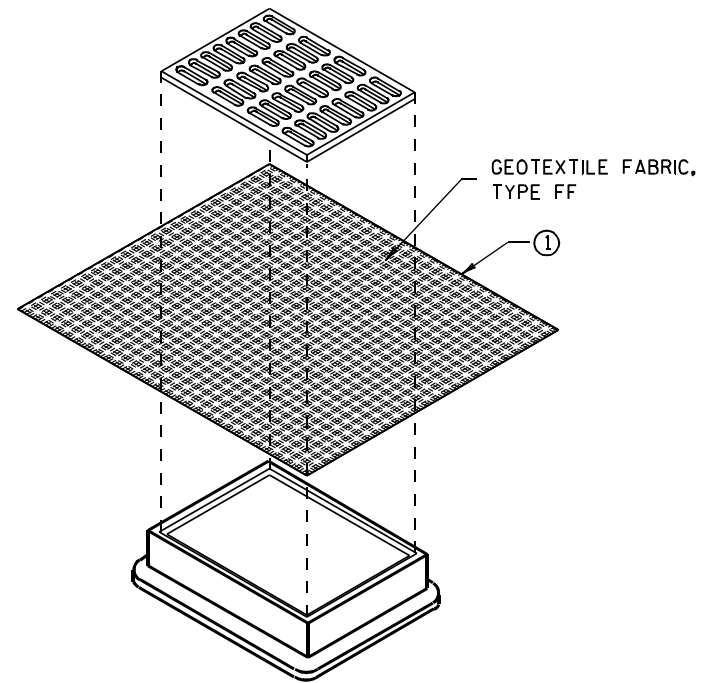
GENERAL NOTES

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.

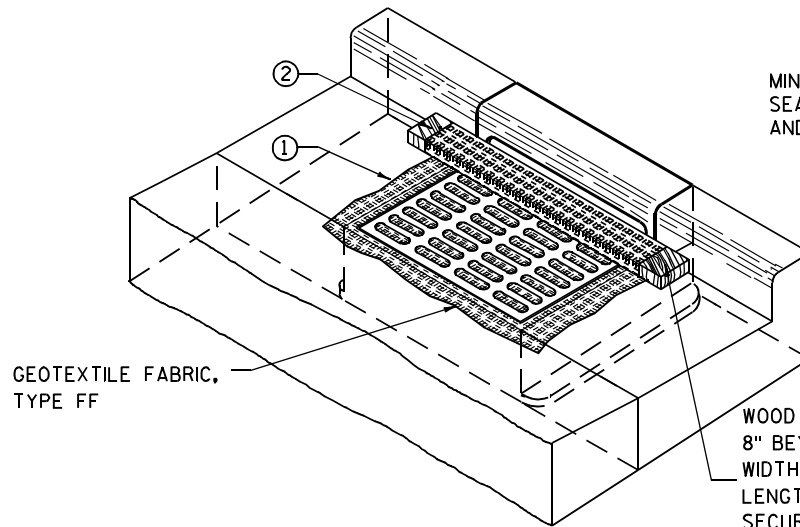
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

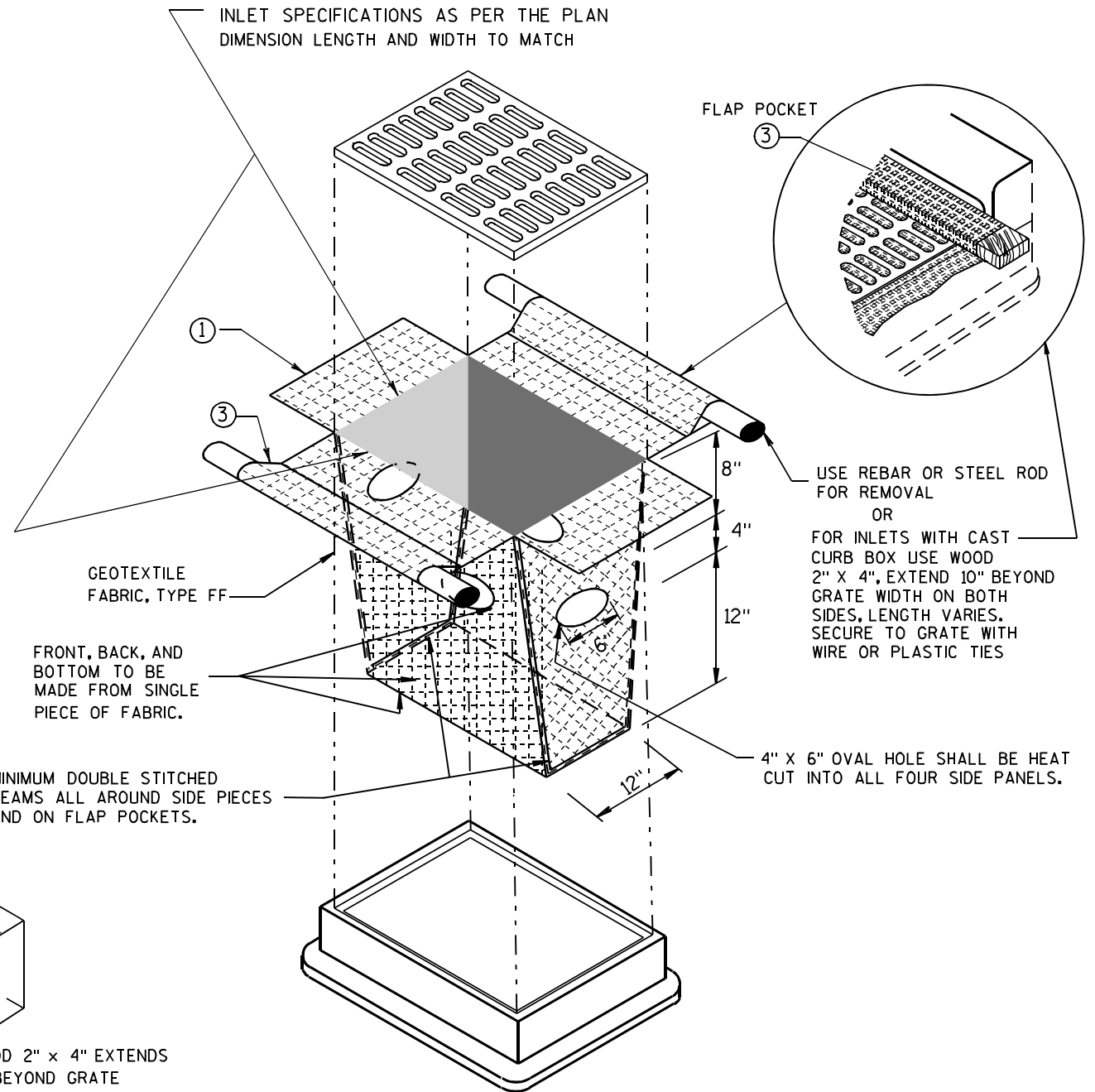
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



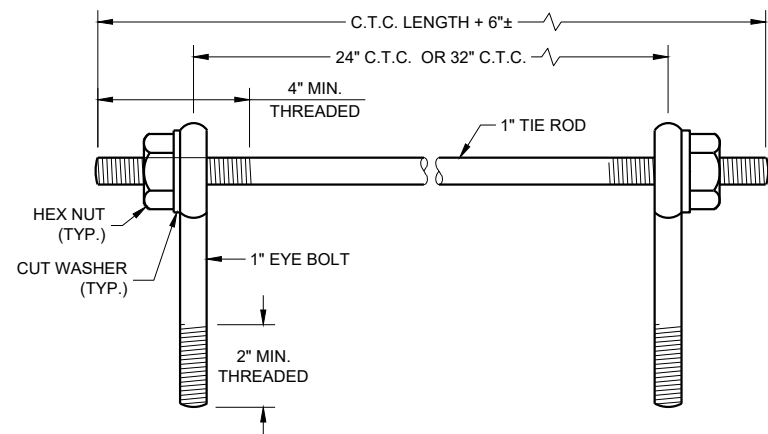
INLET PROTECTION, TYPE D

(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**

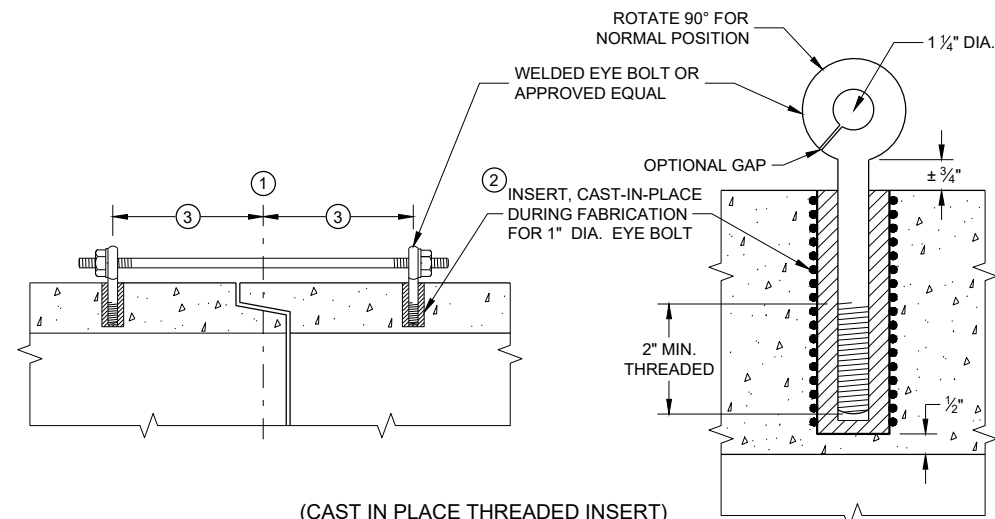
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

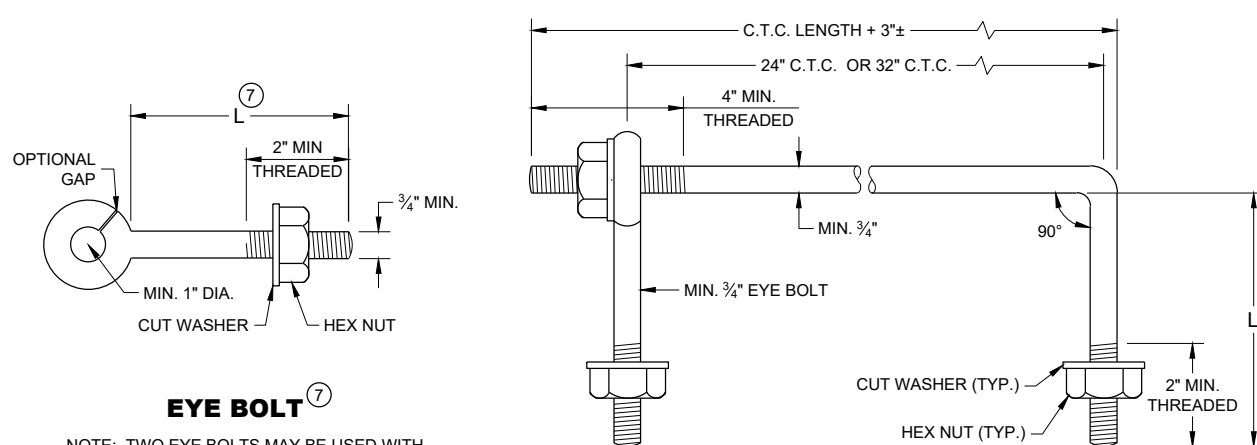
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

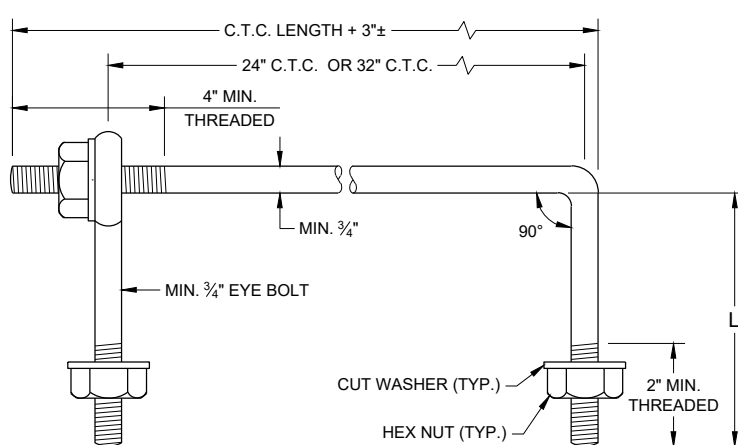
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

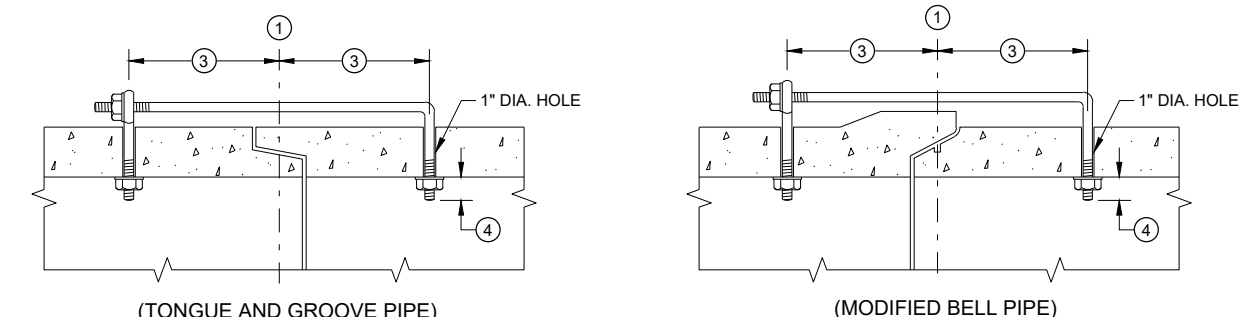


EYE BOLT ⑦

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30\"/>



EYE BOLT AND TIE ROD



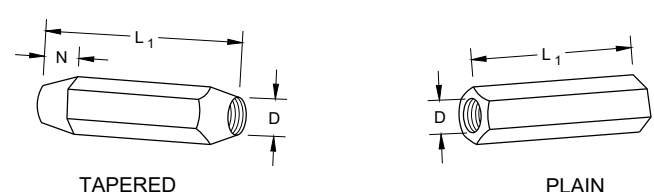
LONGITUDINAL SECTION
(JOINT TIES FOR 18\"/>

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

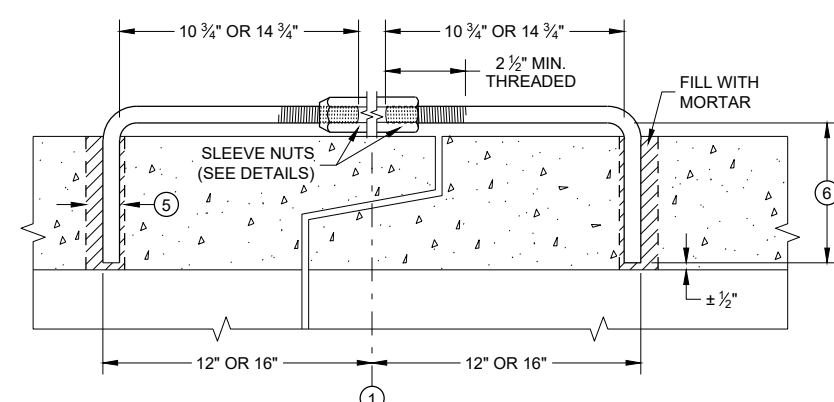
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES

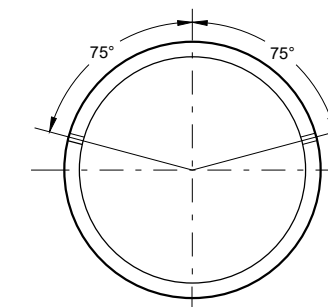


RIGHT AND LEFT THREADS SLEEVE NUTS



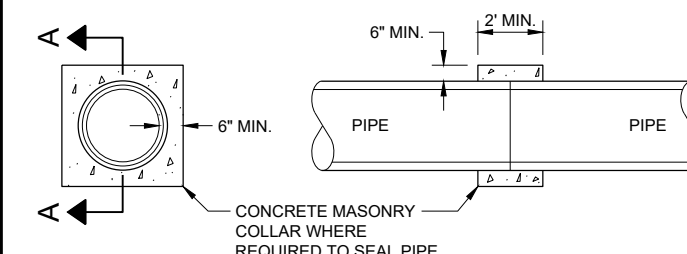
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



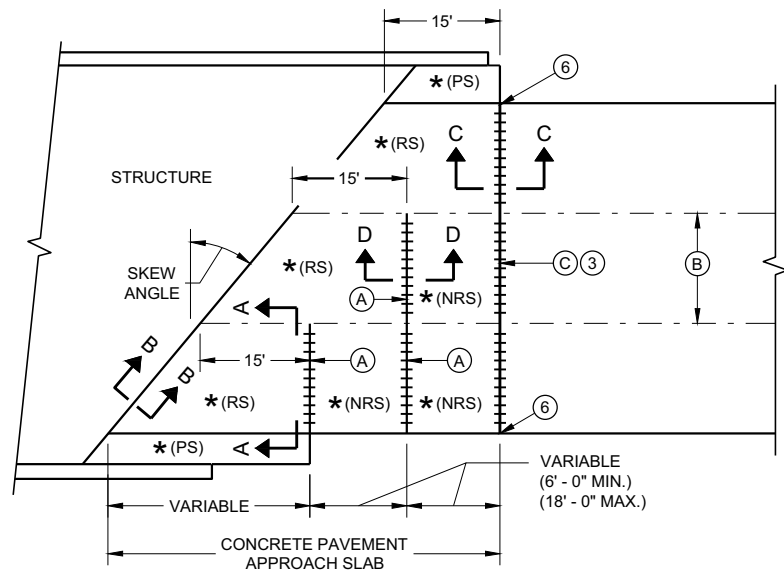
SECTION A - A
CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

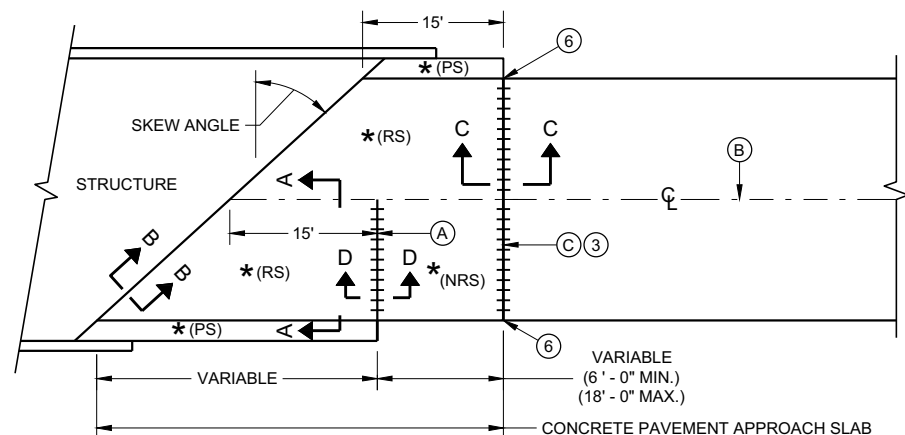
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

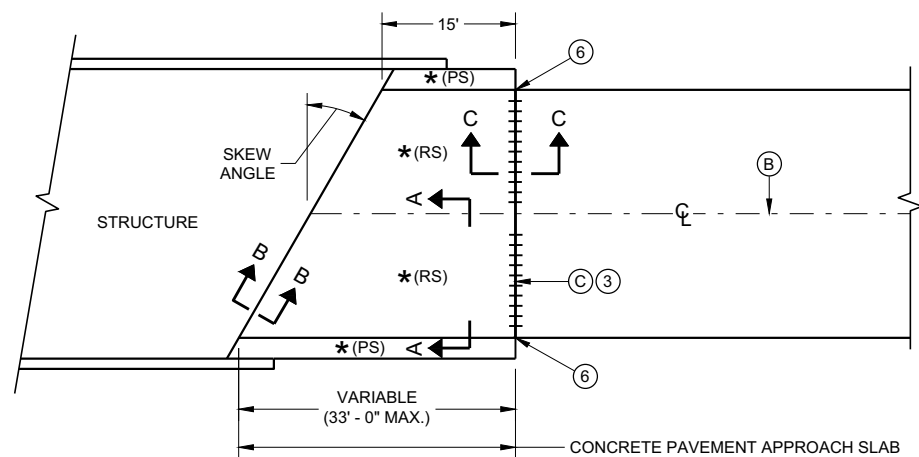
FHWA



**SKewed APPROACH
(PAVEMENT MORE THAN TWO LANES)**

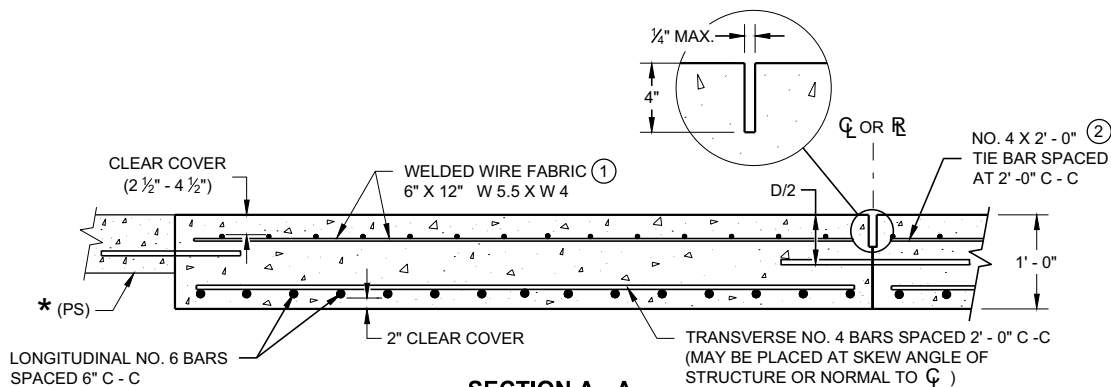


**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**

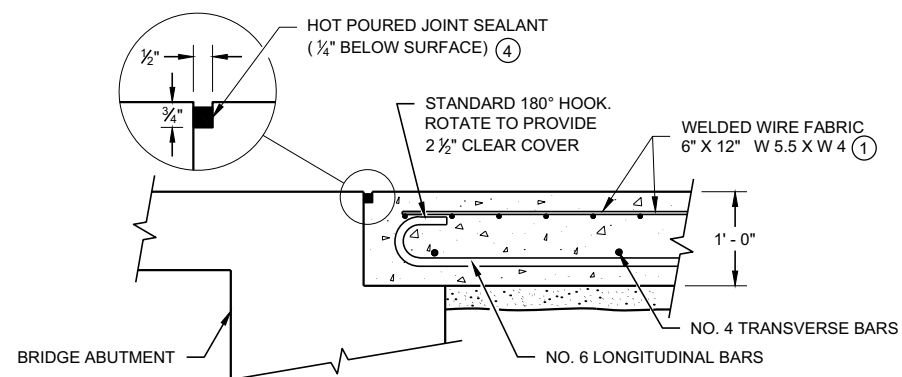


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**
APPROACH SLAB AND ADJACENT PAVEMENT

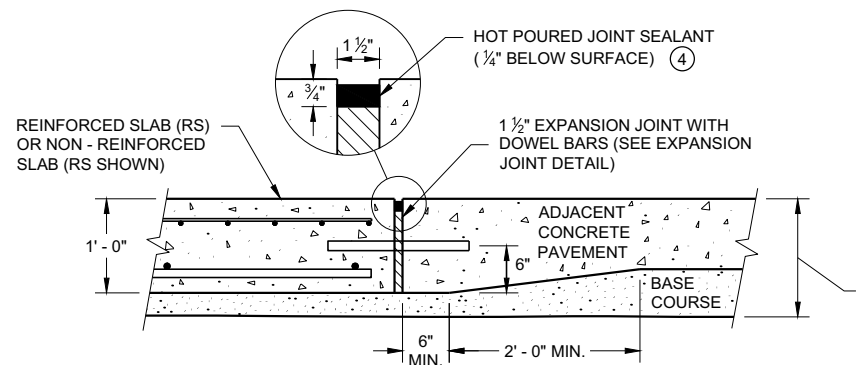
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



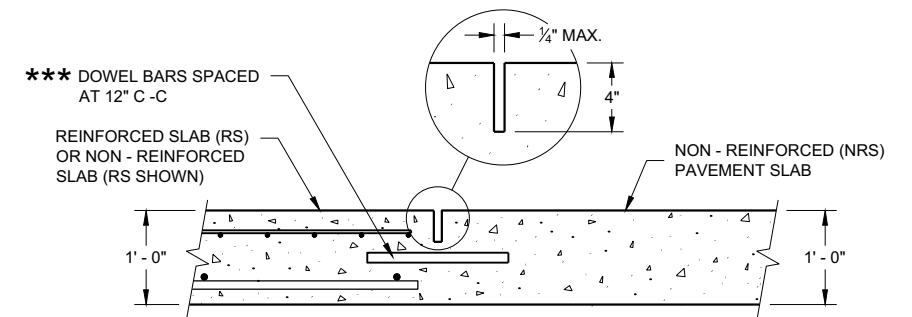
**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



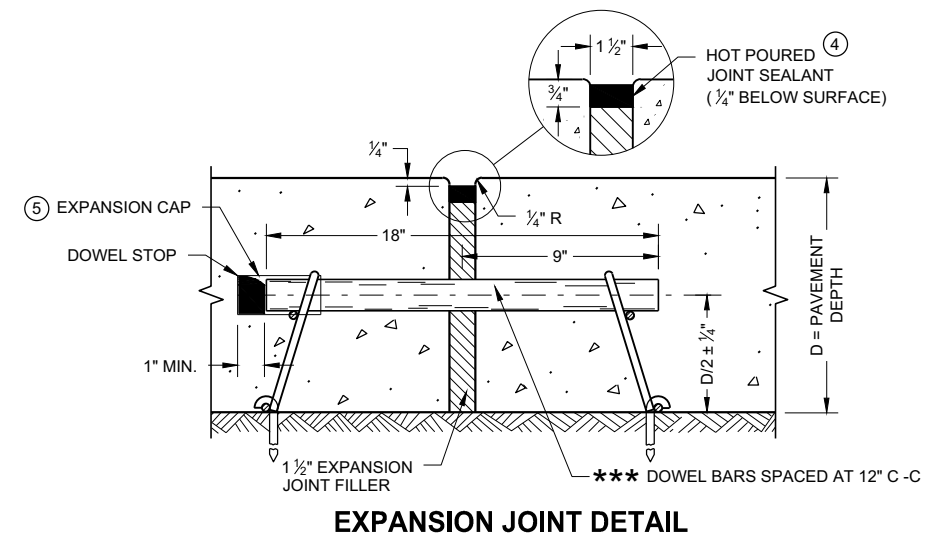
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

- THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.
- TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.
- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
 - ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
 - ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
 - ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
 - ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
 - ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
 - (A) STANDARD CONTRACTION JOINT NORMAL TO \bar{C} OR \bar{R} .
 - (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
 - (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO \bar{C} OR \bar{R} .



**SECTION D - D
CONTRACTION JOINT**



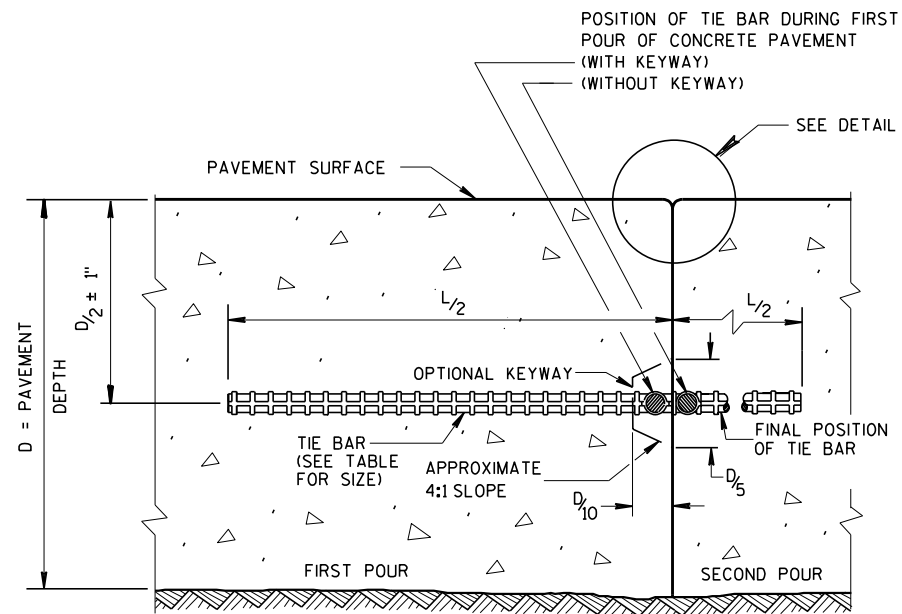
EXPANSION JOINT DETAIL

**CONCRETE PAVEMENT
APPROACH SLAB**

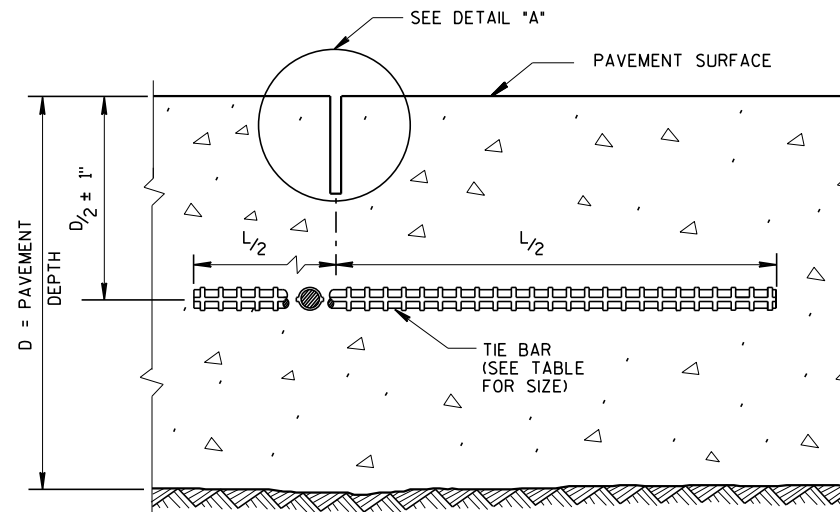
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR

FHWA



CONSTRUCTION JOINT



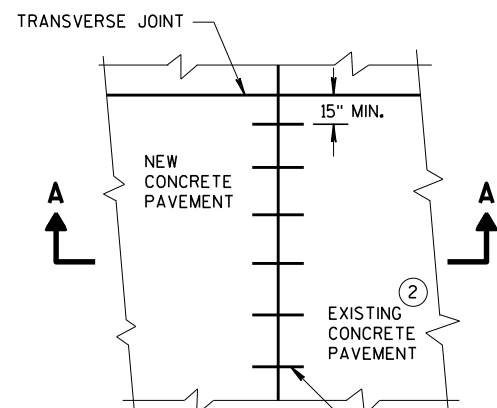
SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

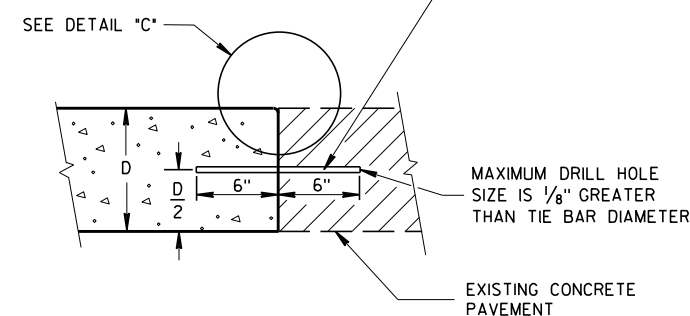
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

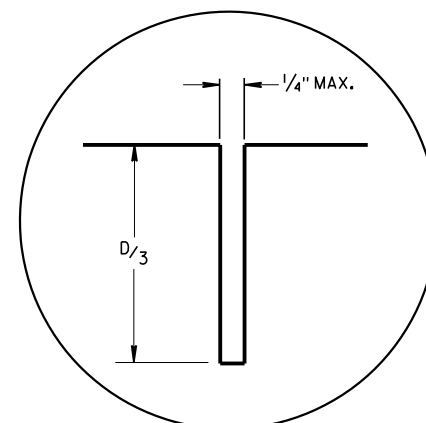


PLAN VIEW

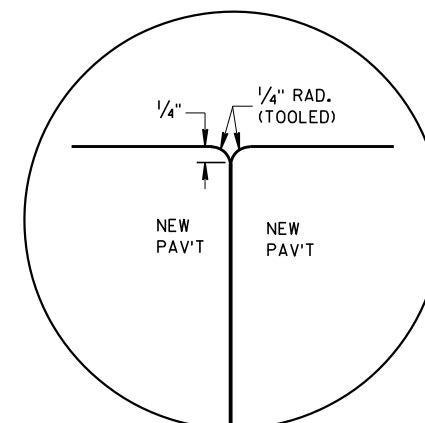
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



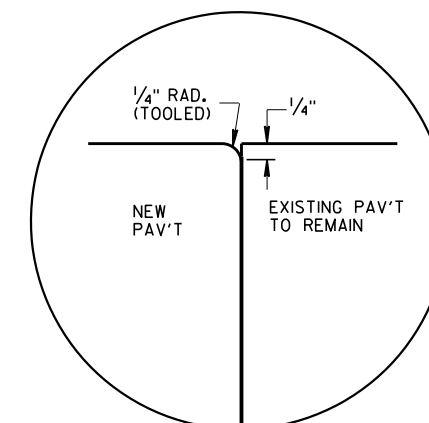
**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"



DETAIL "B"



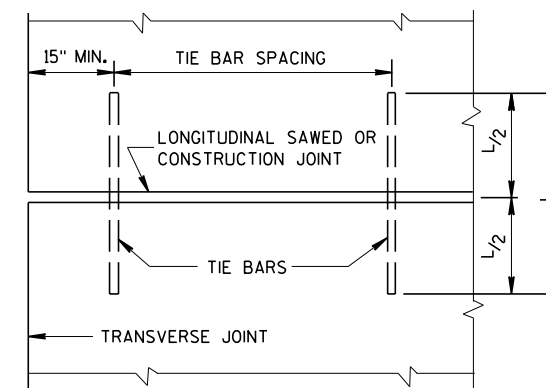
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

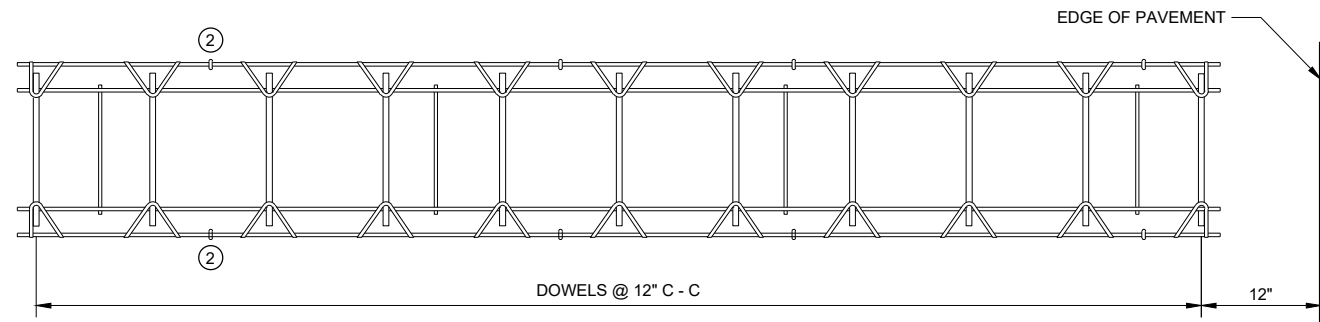


**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

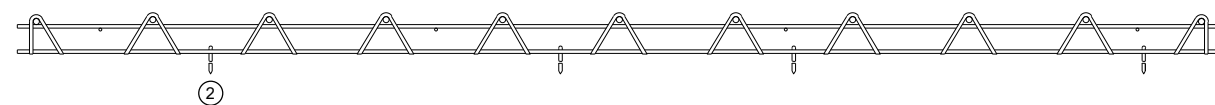
**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA

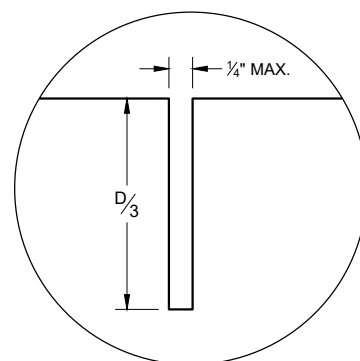


PLAN VIEW



SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

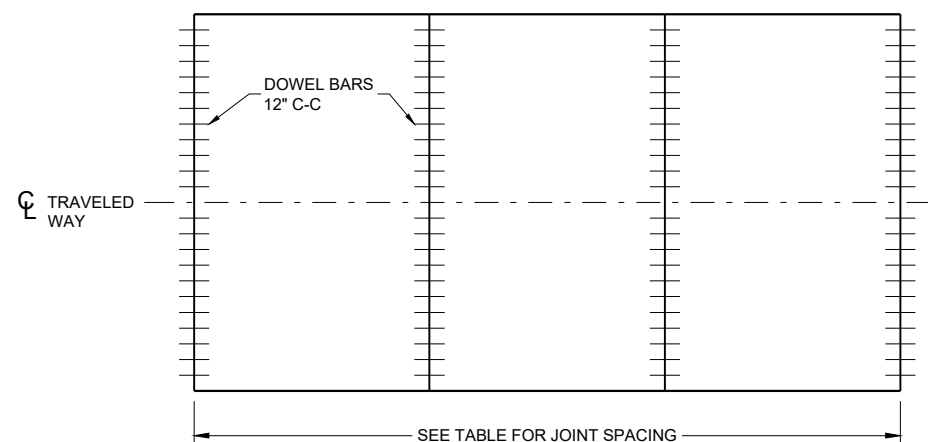
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

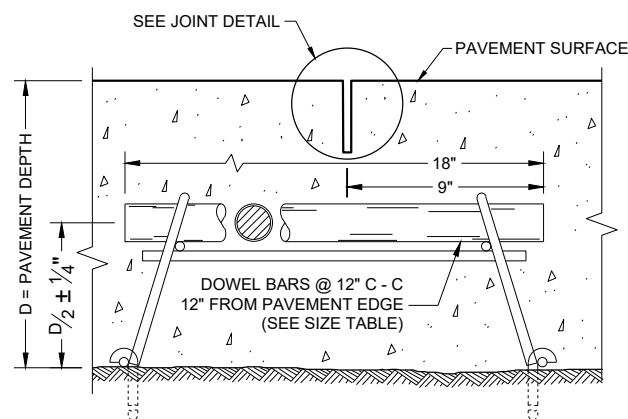
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4" RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



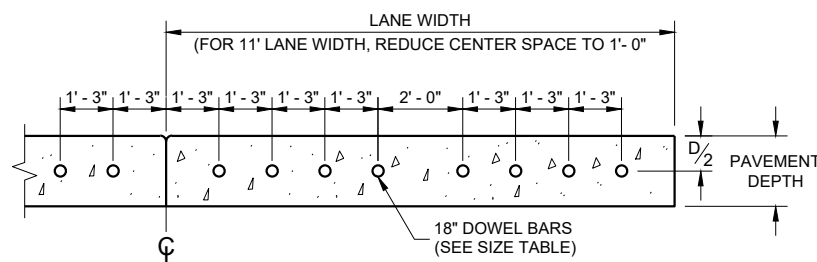
CONTRACTION JOINT LOCATIONS



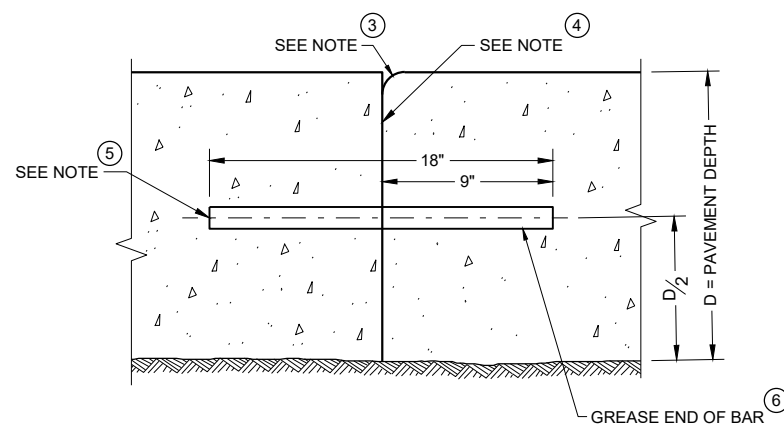
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9" & ABOVE	1 1/4"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



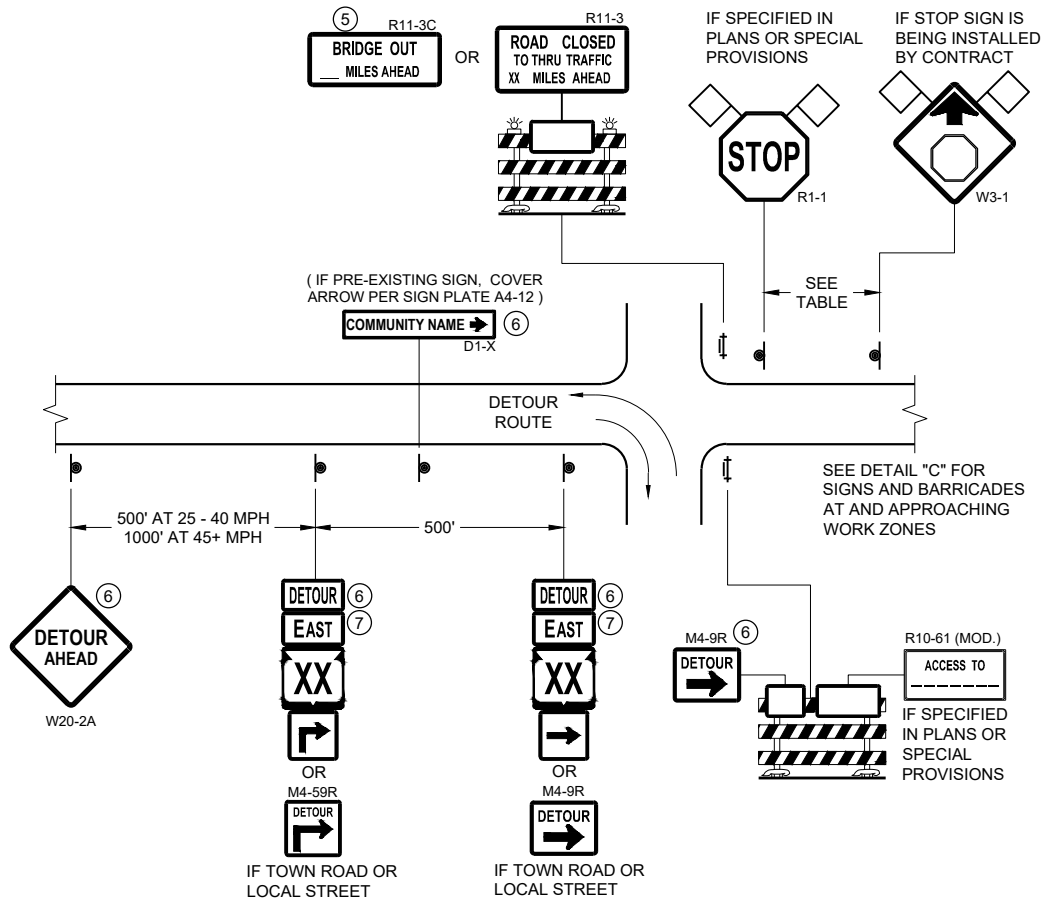
TRANSVERSE CONSTRUCTION JOINT

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

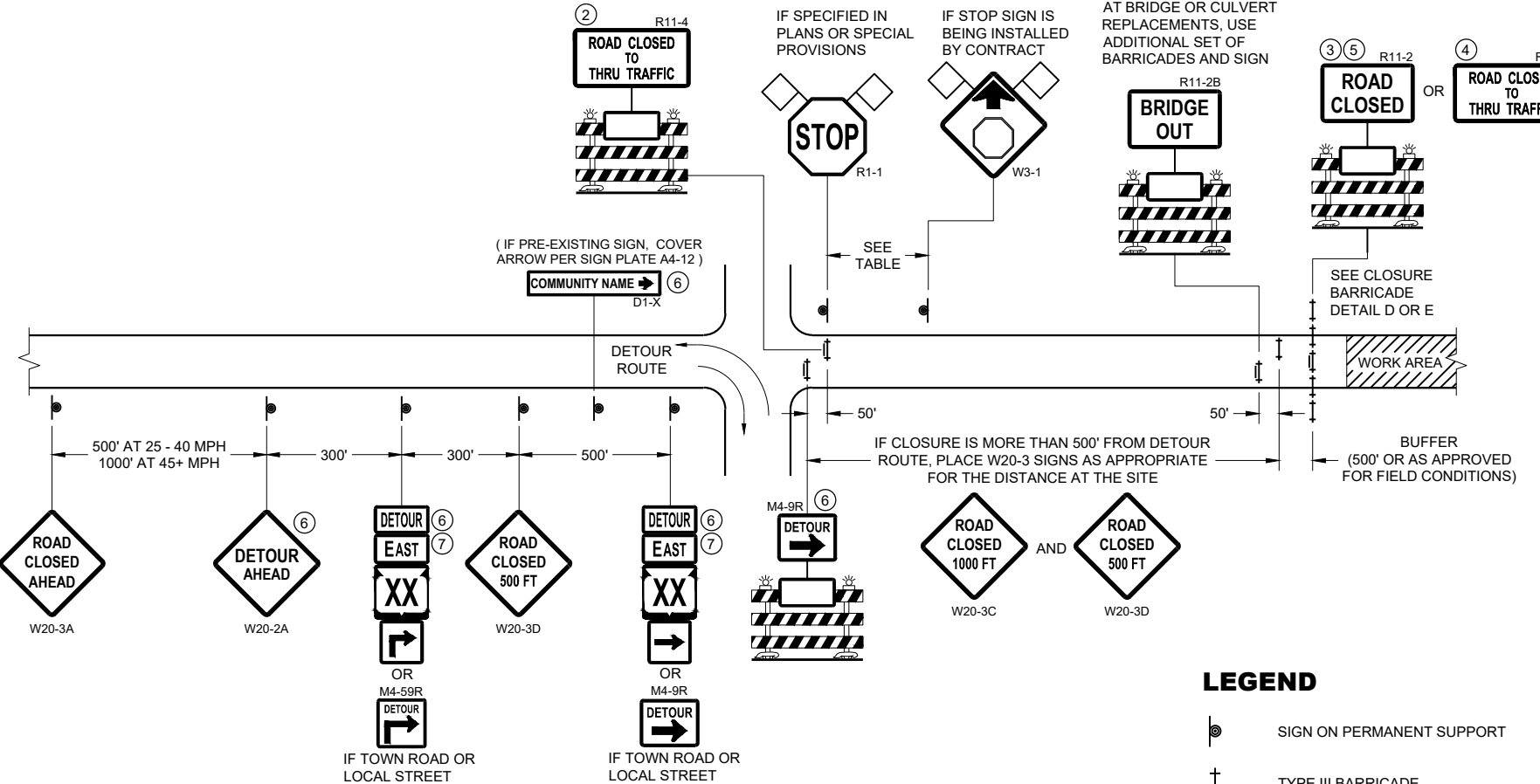
APPROVED
DATE May 2022 /S/ Peter Kemp P.E.
PAVEMENT SUPERVISOR

FHWA



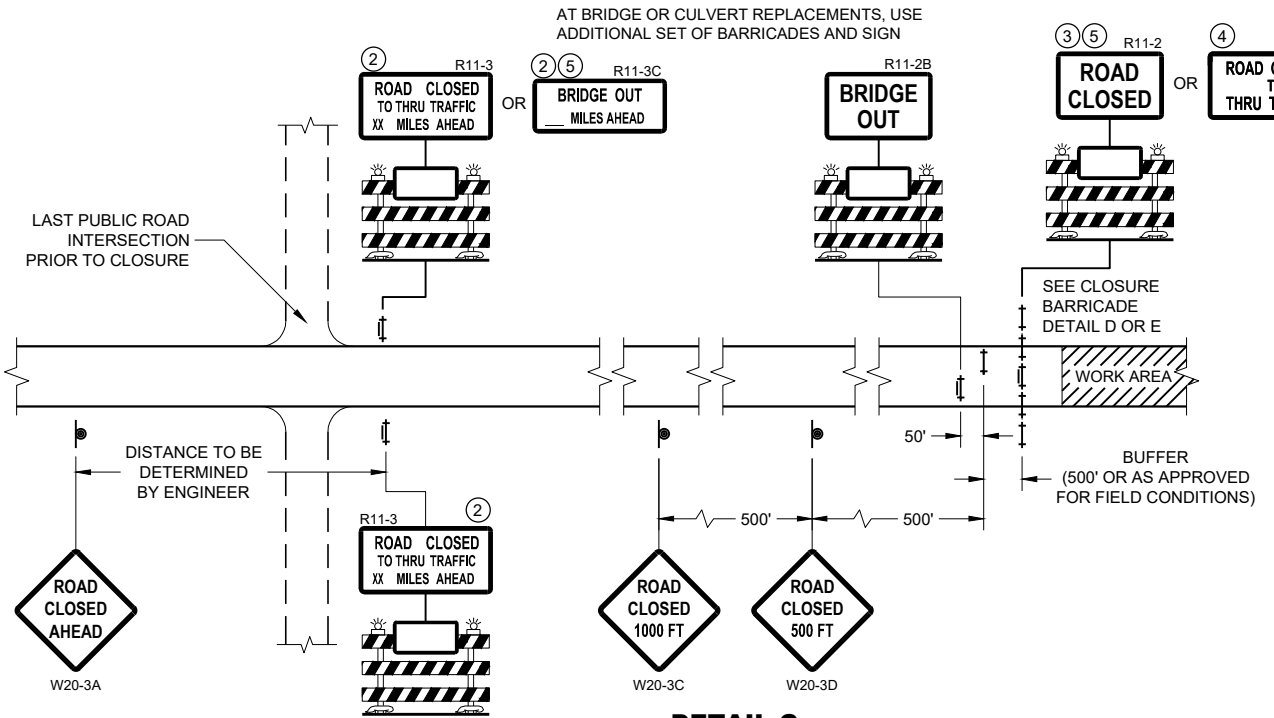
**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- M4 - 8
- M3 - X
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M06 - 1

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

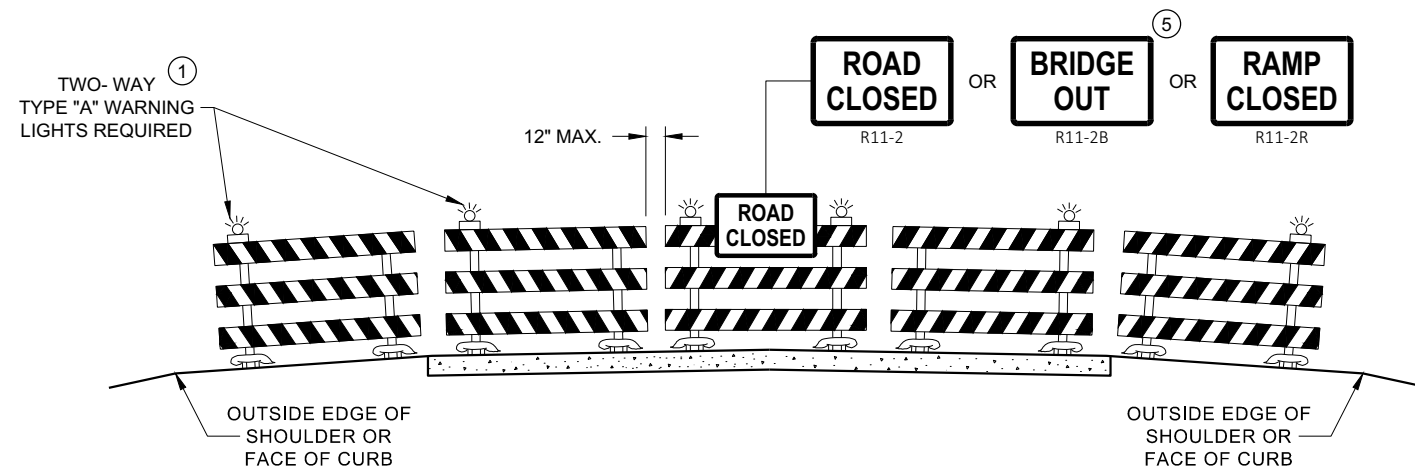
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

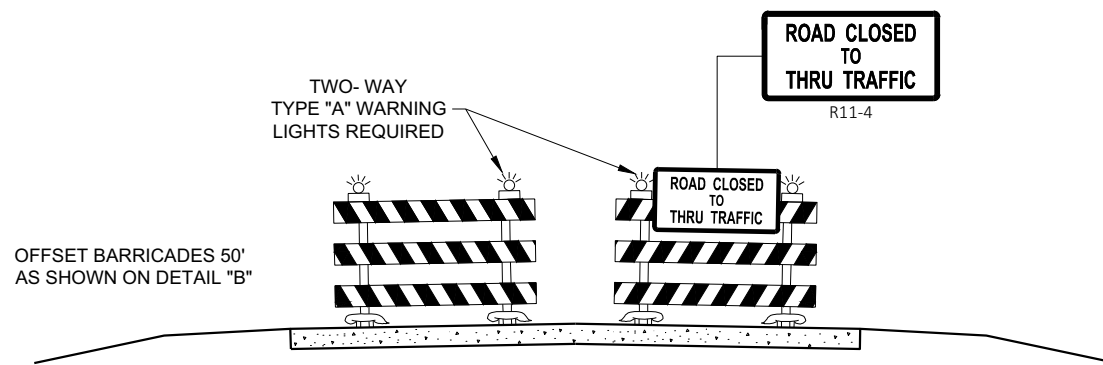
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

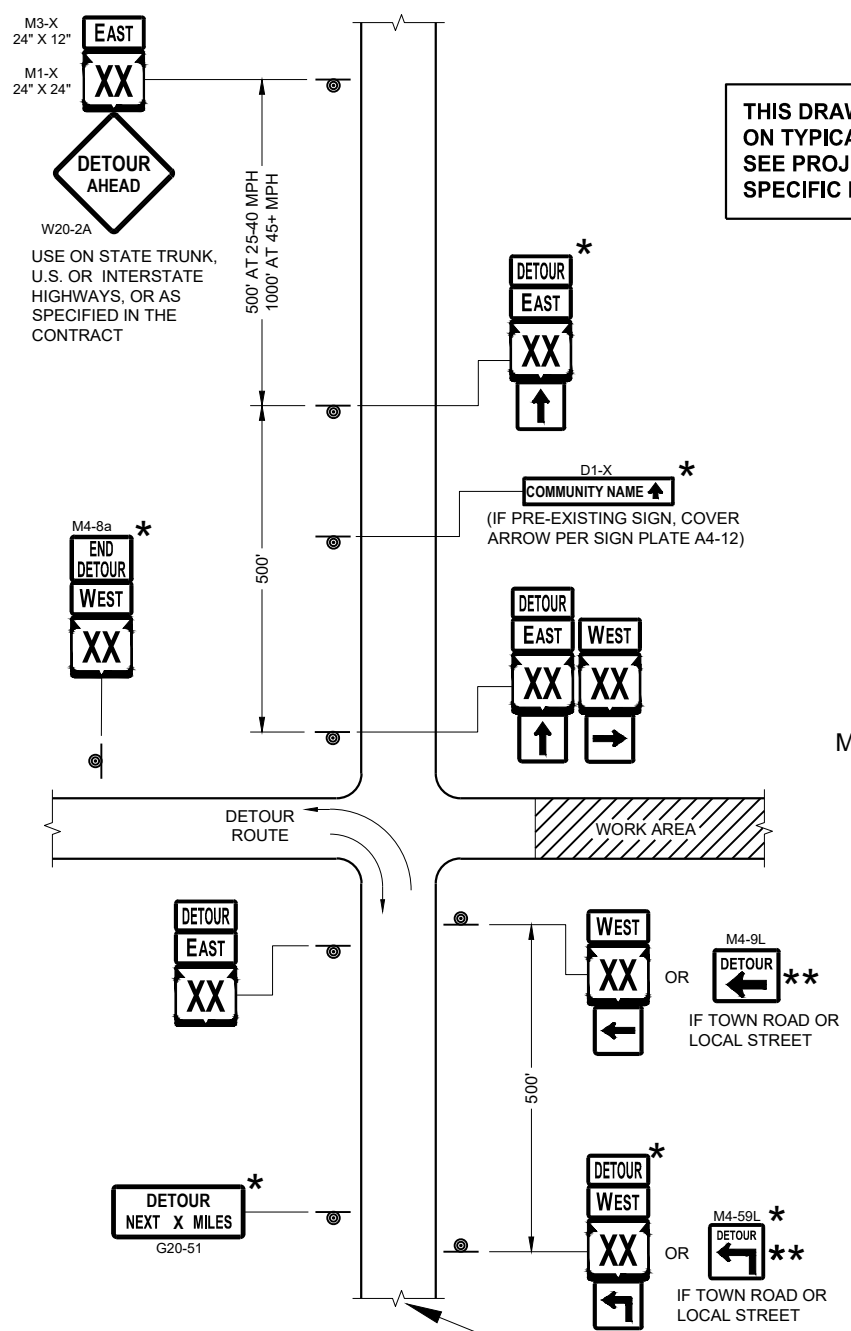
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

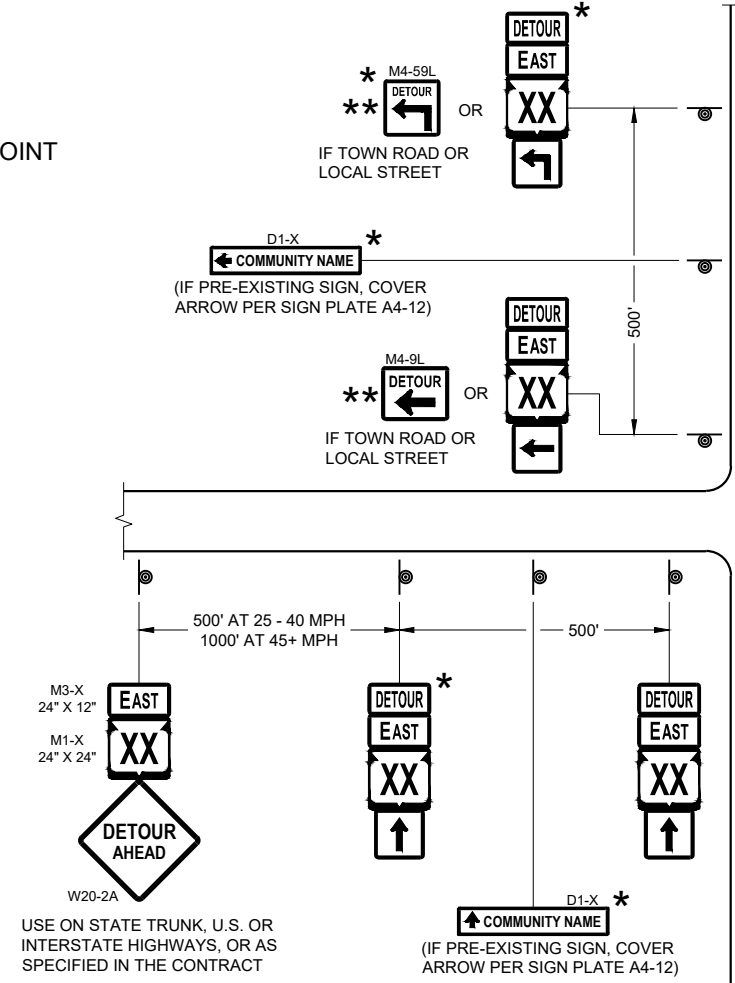
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

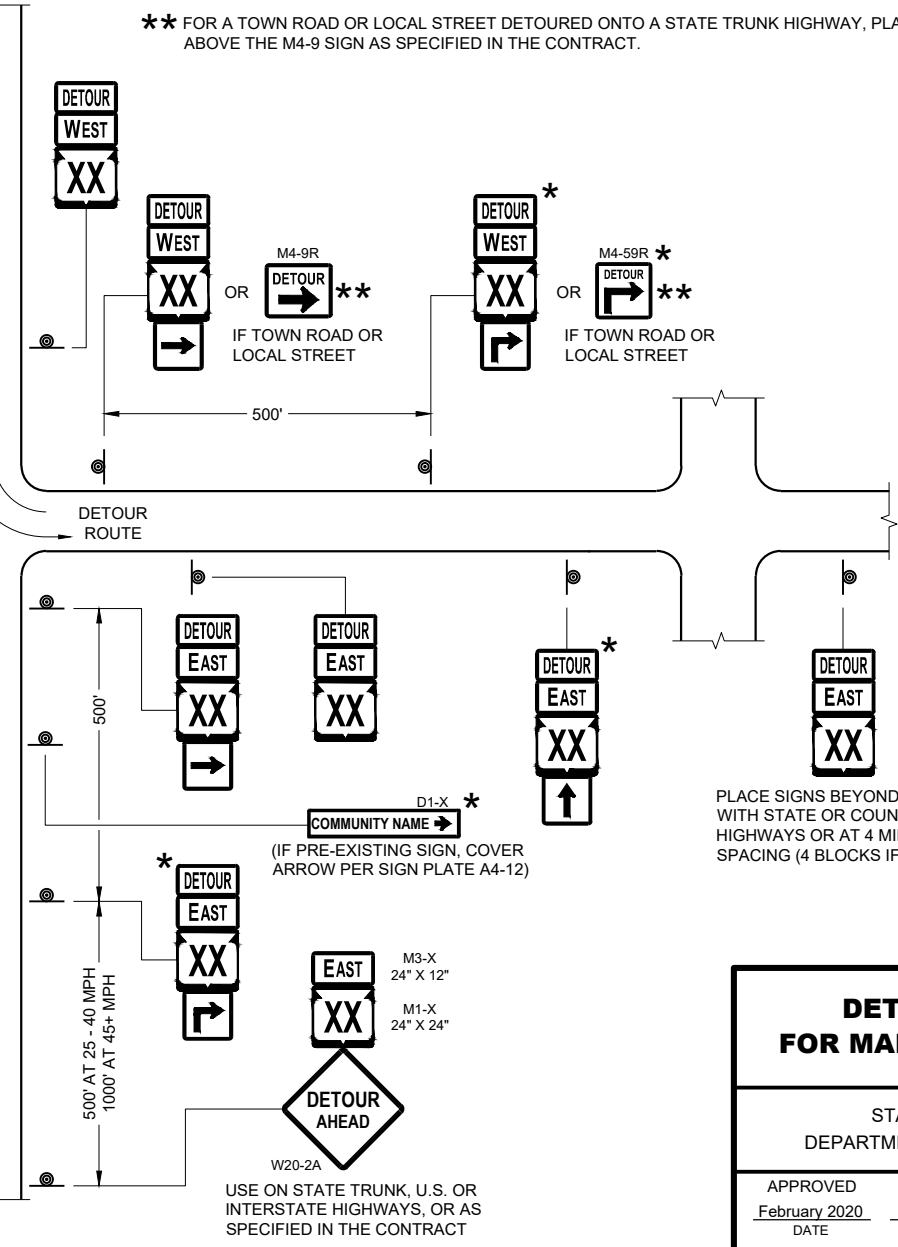
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

MATCH POINT



**DETAIL F
DETOUR SIGNING**



**DETOUR SIGNING
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

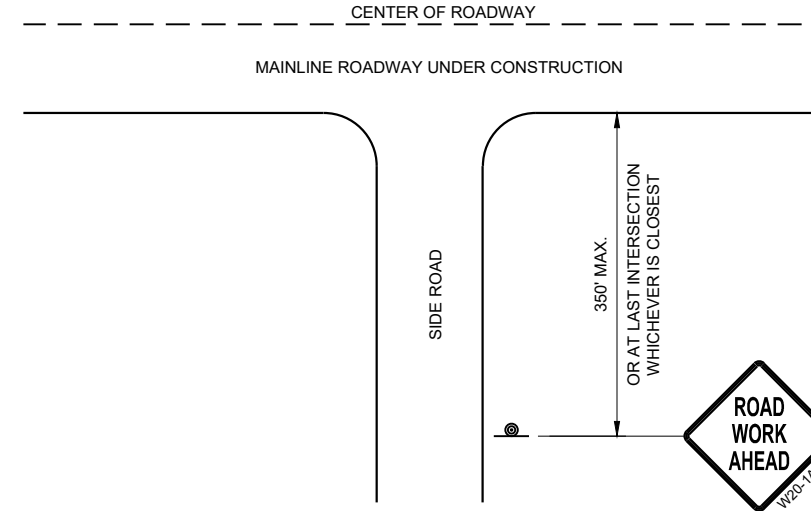
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

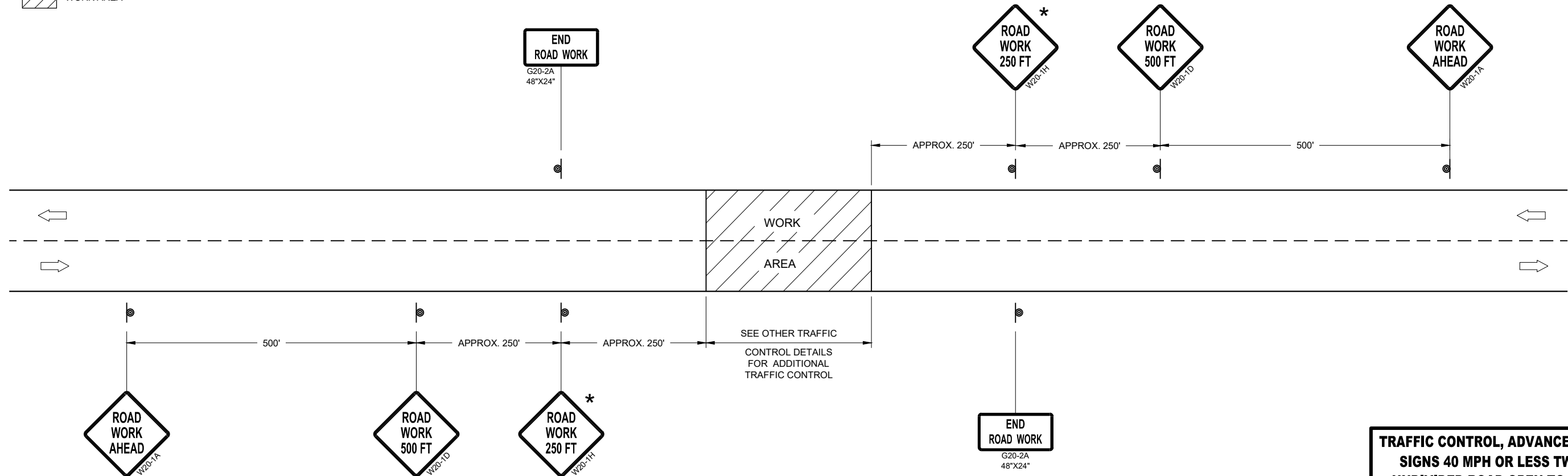
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

**TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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




FHWA

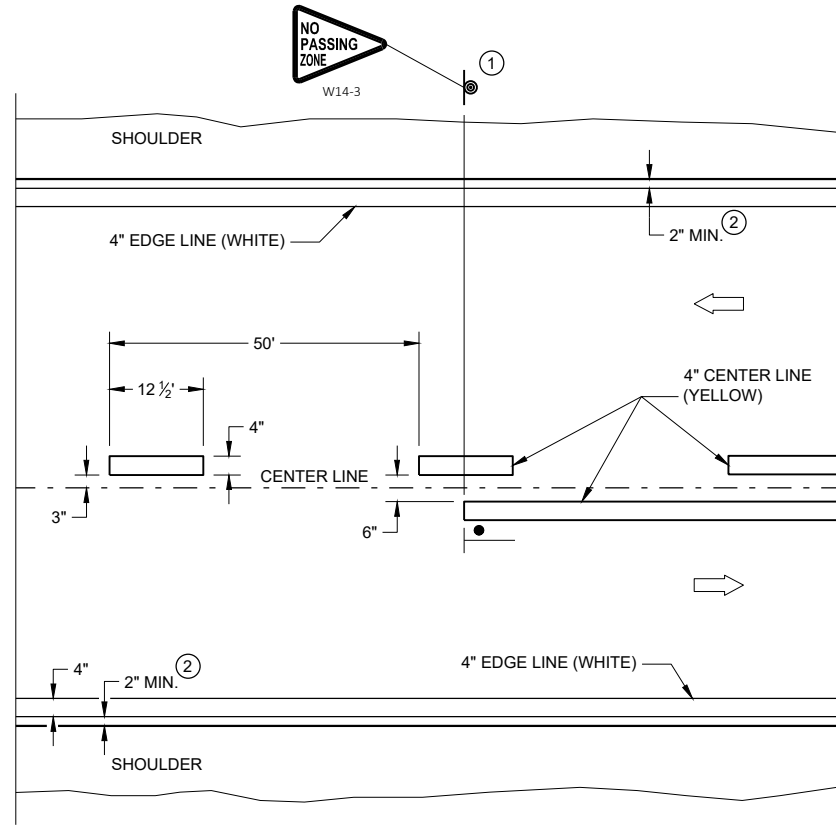
GENERAL NOTES

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

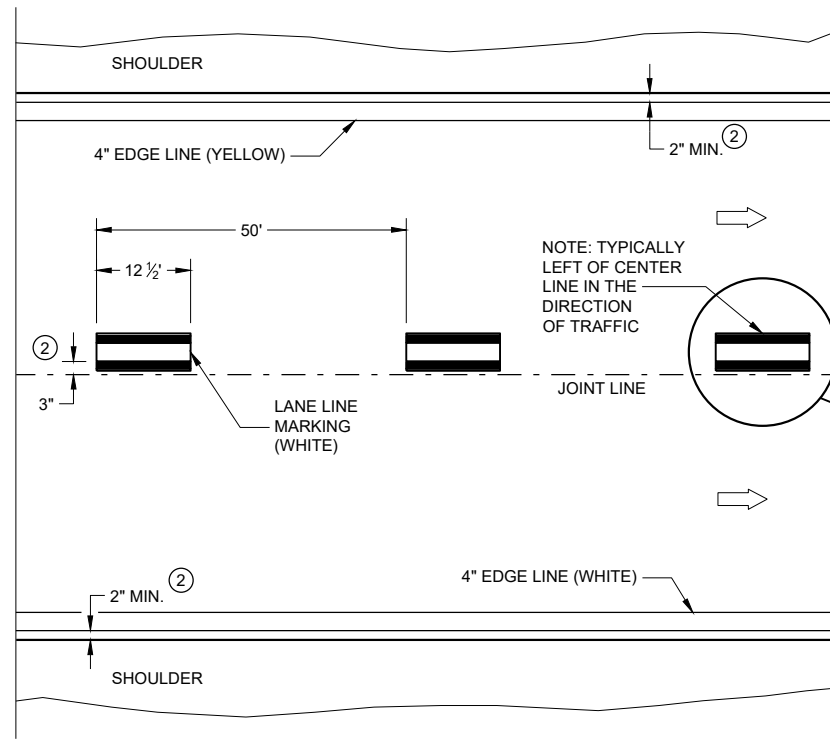
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

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

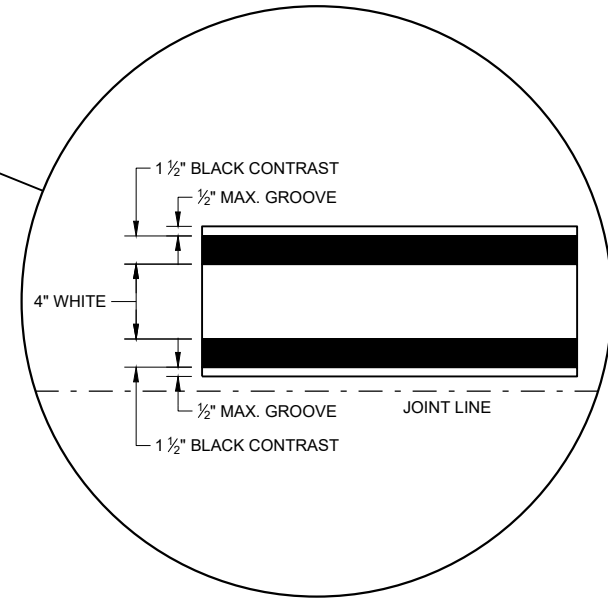


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



6

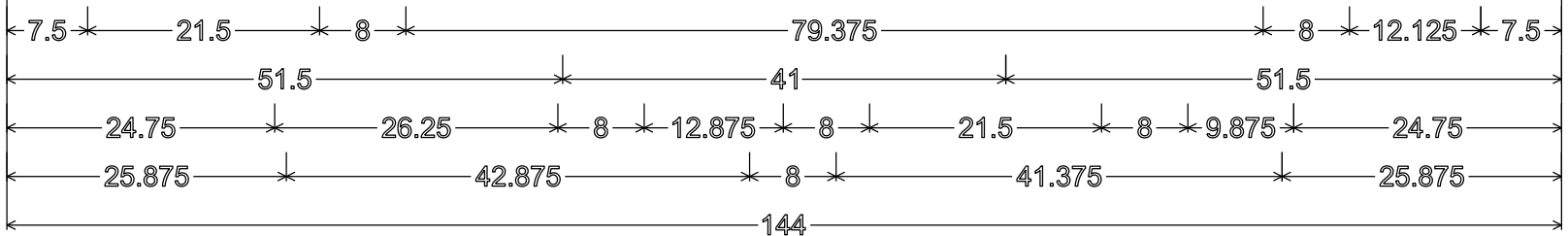
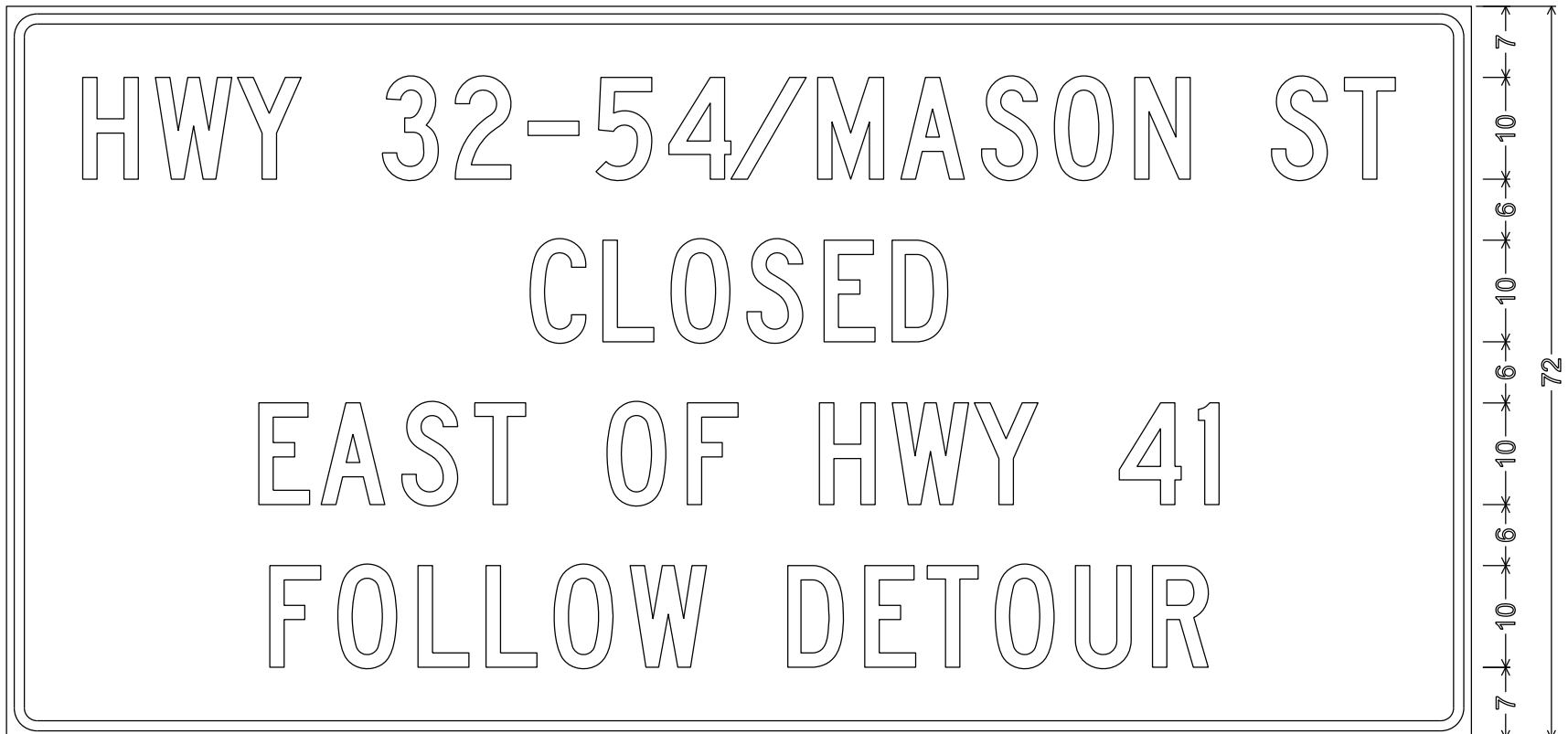
6

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

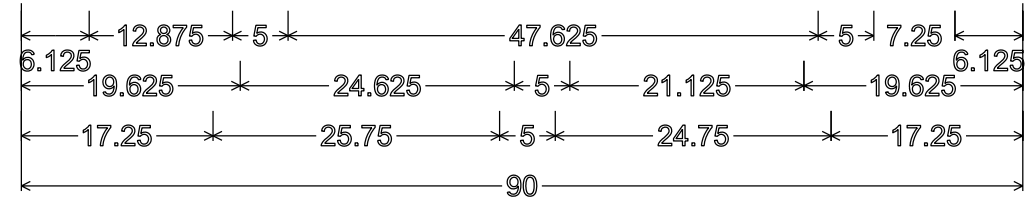
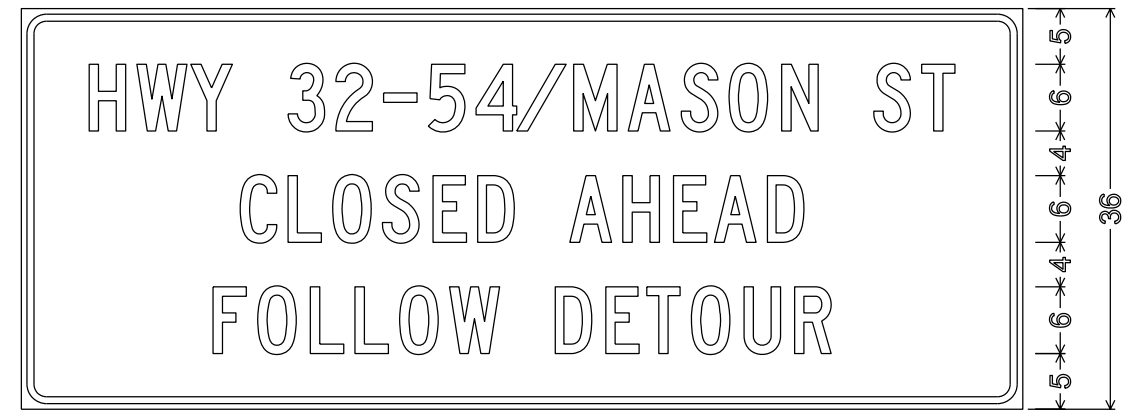
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2022 /S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER

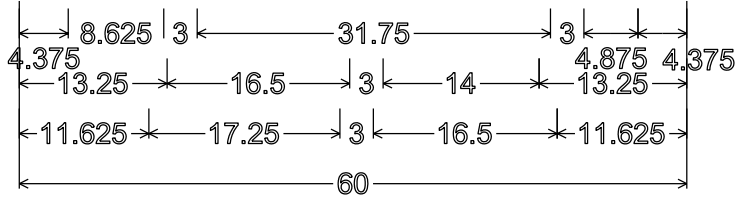
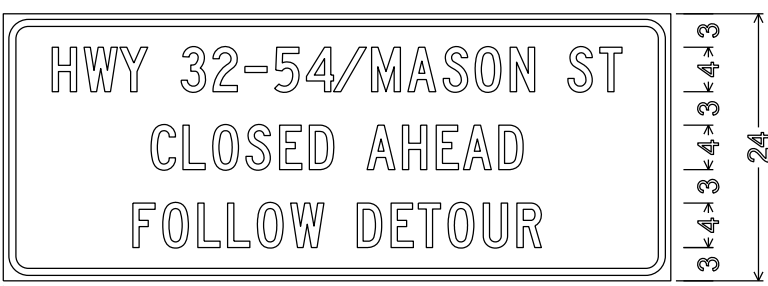
FHWA



3.000" Radius, 1.000" Border, 0.750" Indent



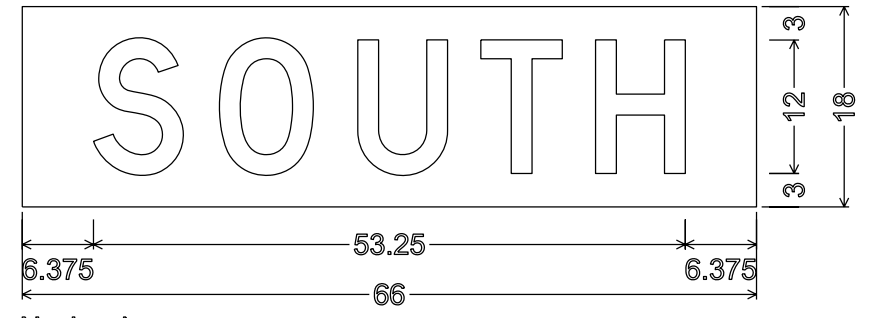
2.250" Radius, 0.625" Border, 0.500" Indent



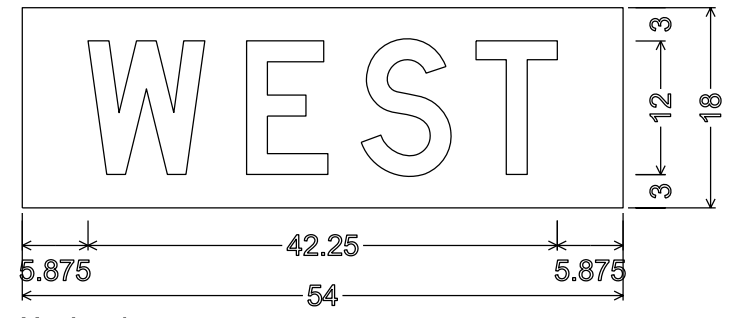
2.250" Radius, 0.625" Border, 0.500" Indent

NOTES

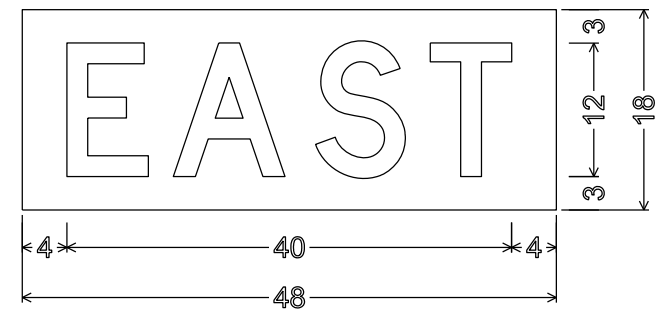
1. Fixed Message Type II Signs - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C except as noted



No border,
"SOUTH" D



No border,
"WEST" D



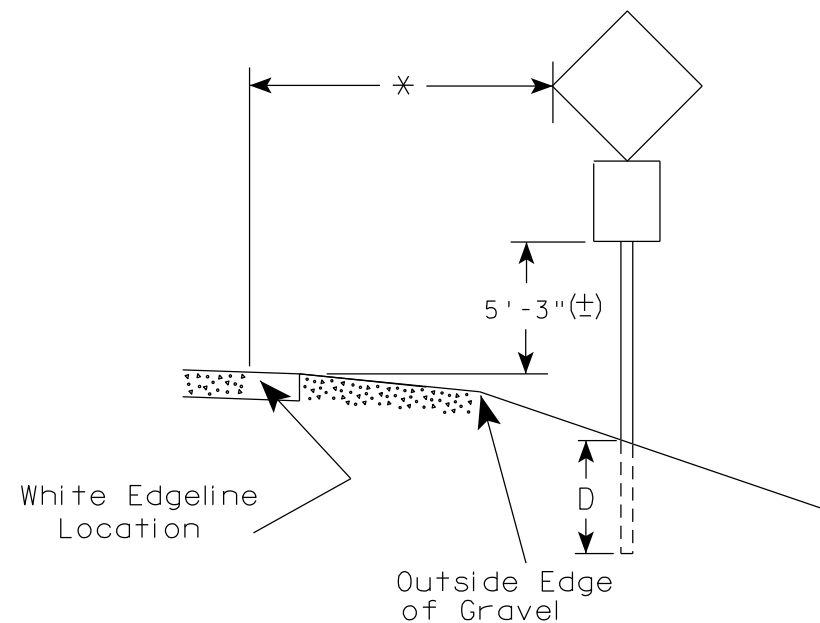
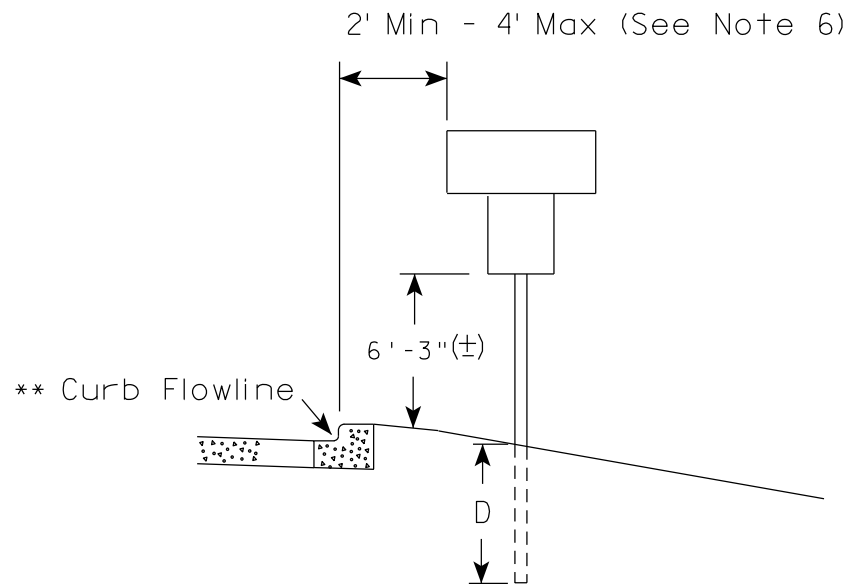
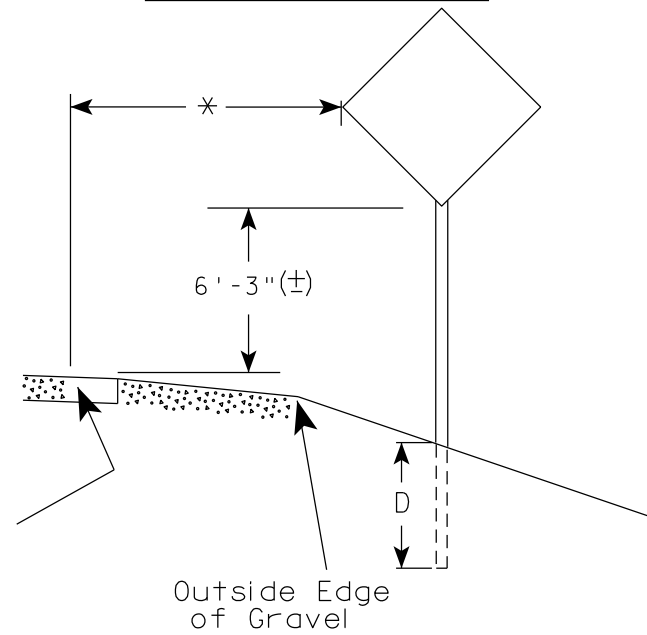
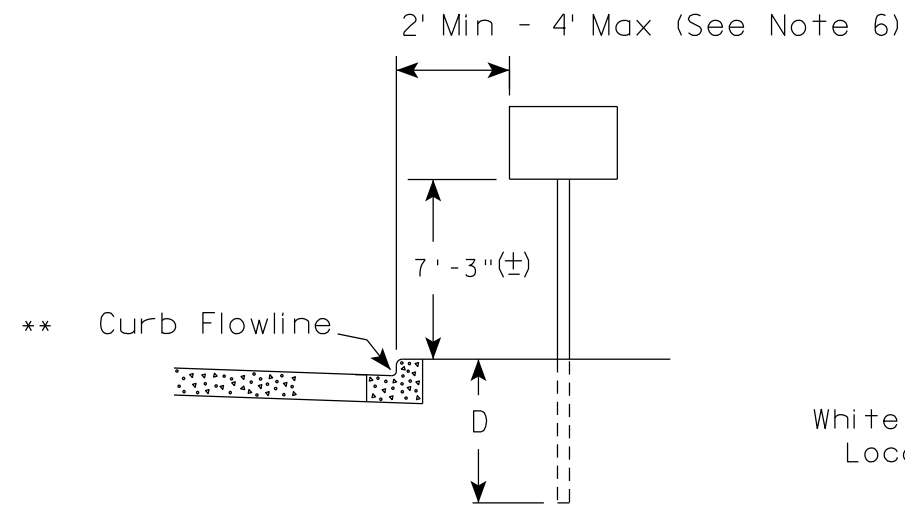
No border,
"EAST" D

7

7

URBAN AREA

RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

- 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.

* * 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.

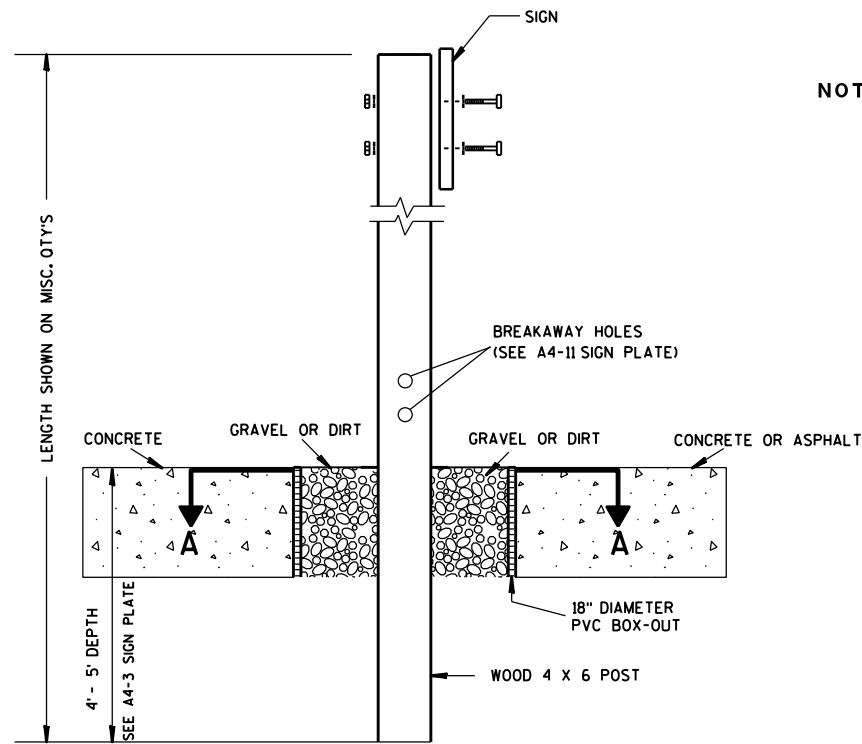
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

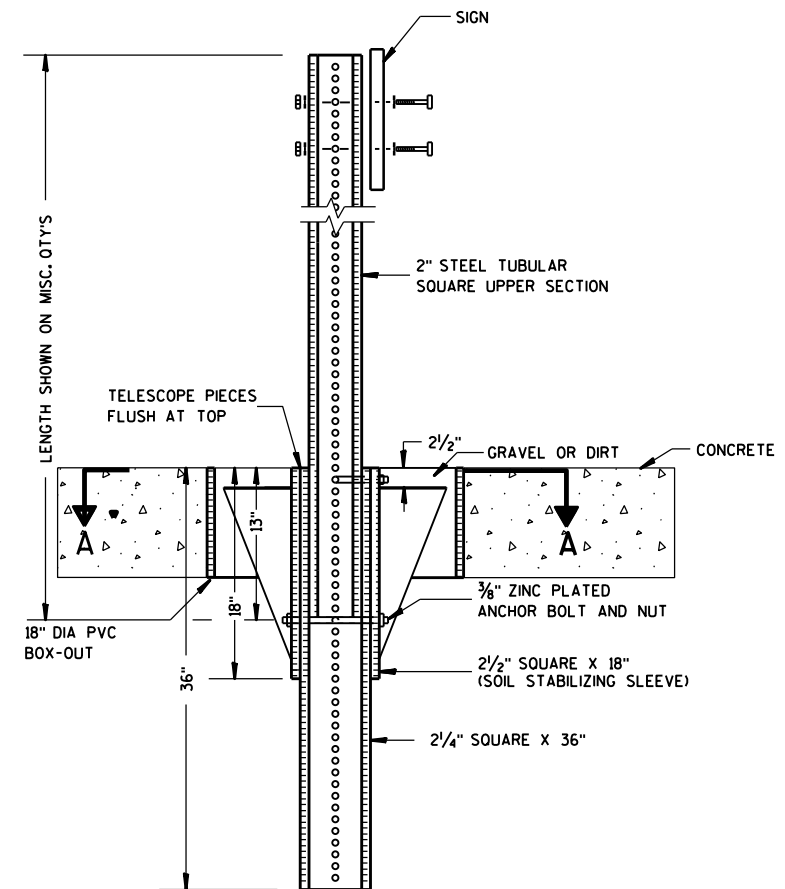
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

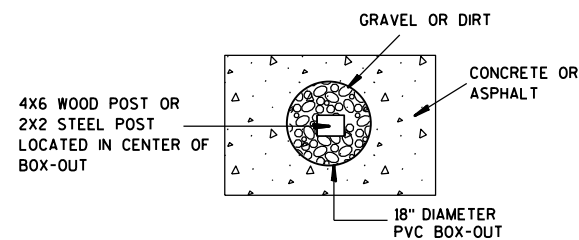
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

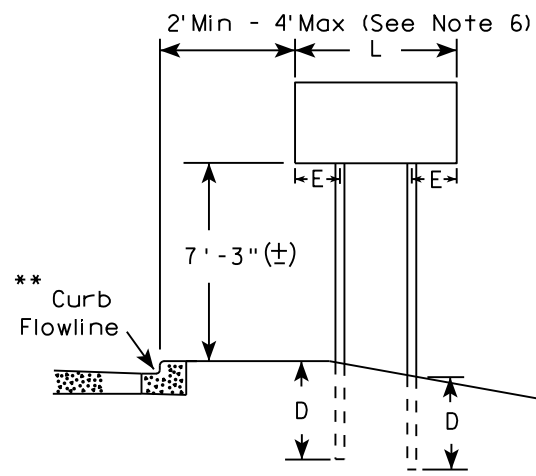
FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

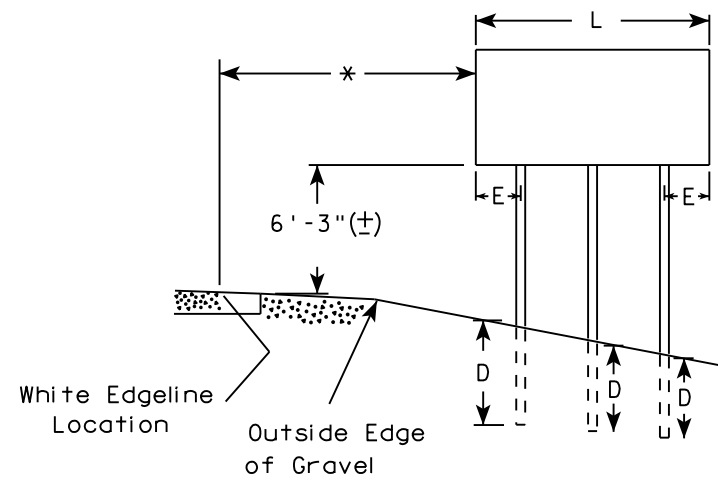
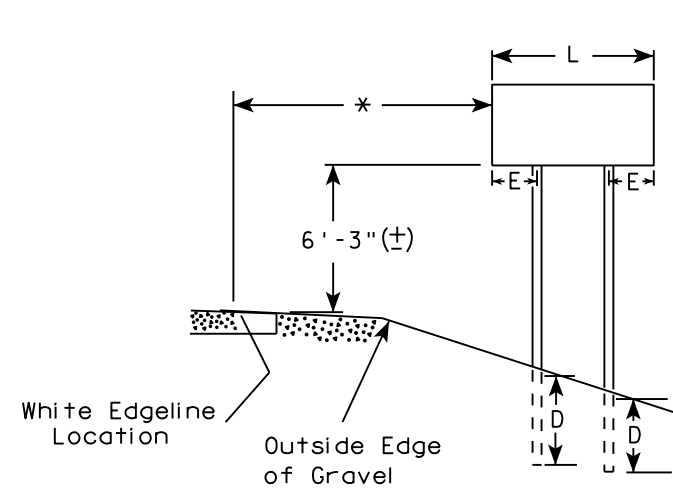
GENERAL NOTES

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" (±).

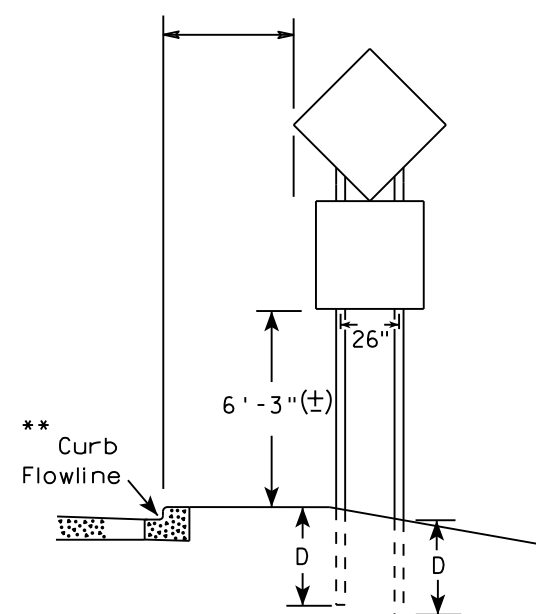
URBAN AREA



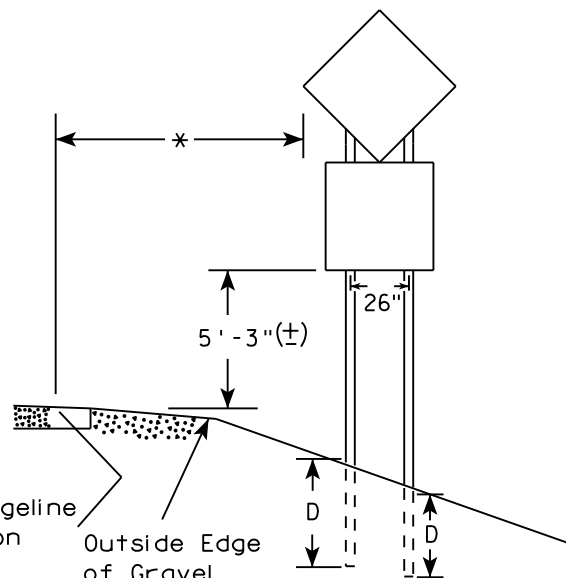
RURAL AREA (See Note 3)



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

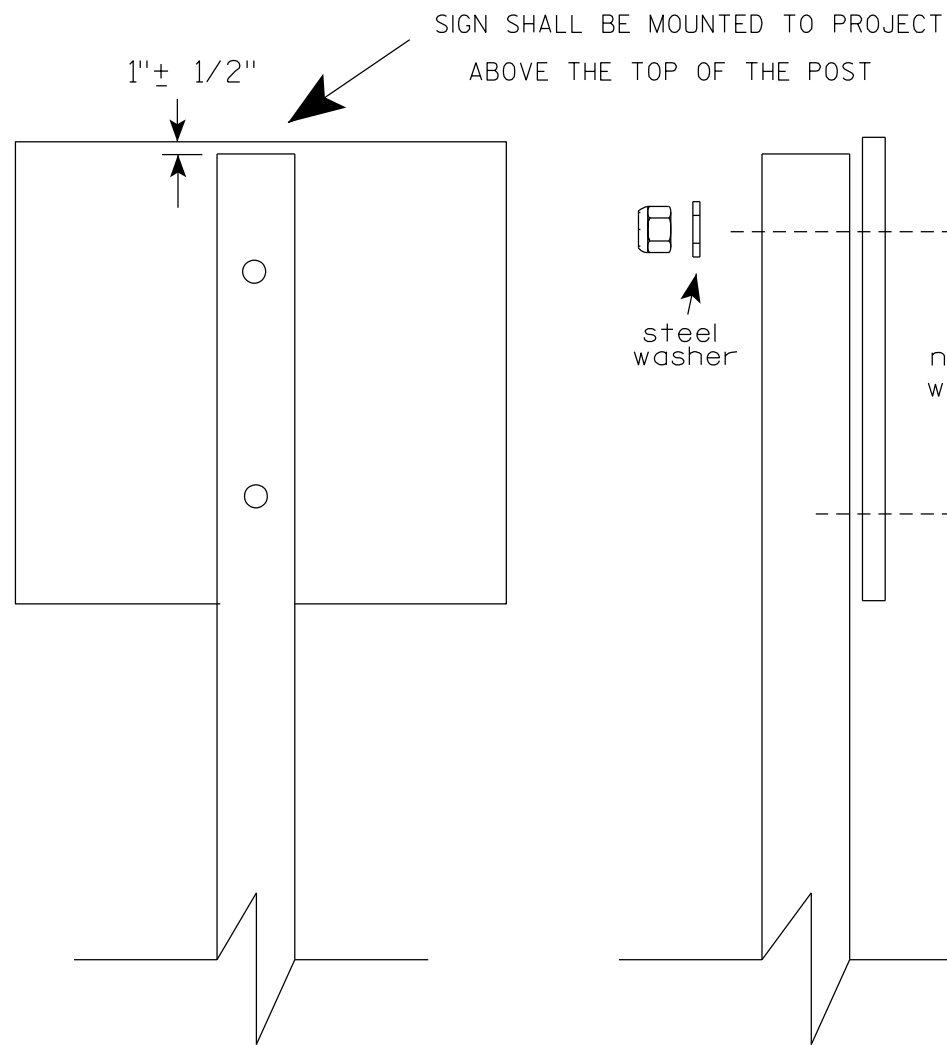
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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

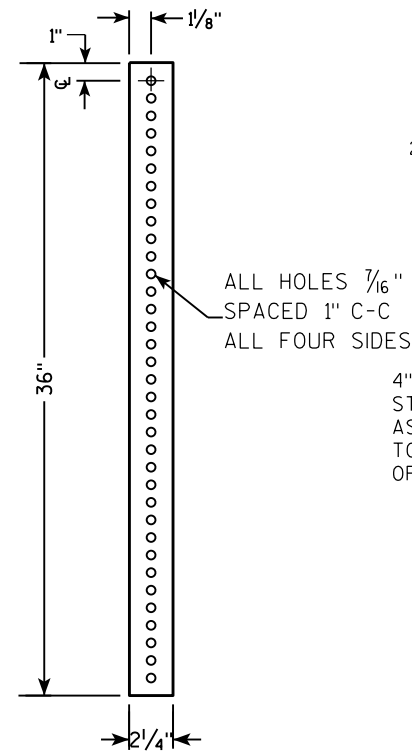
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

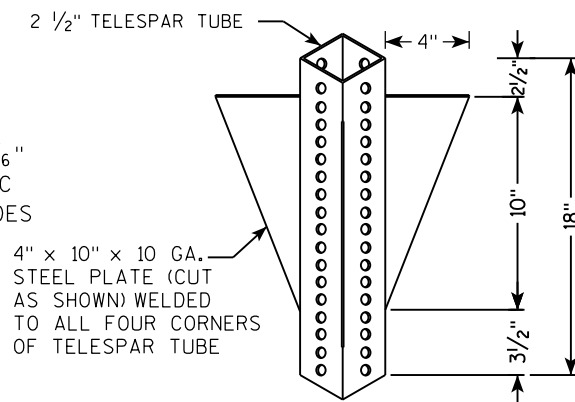
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

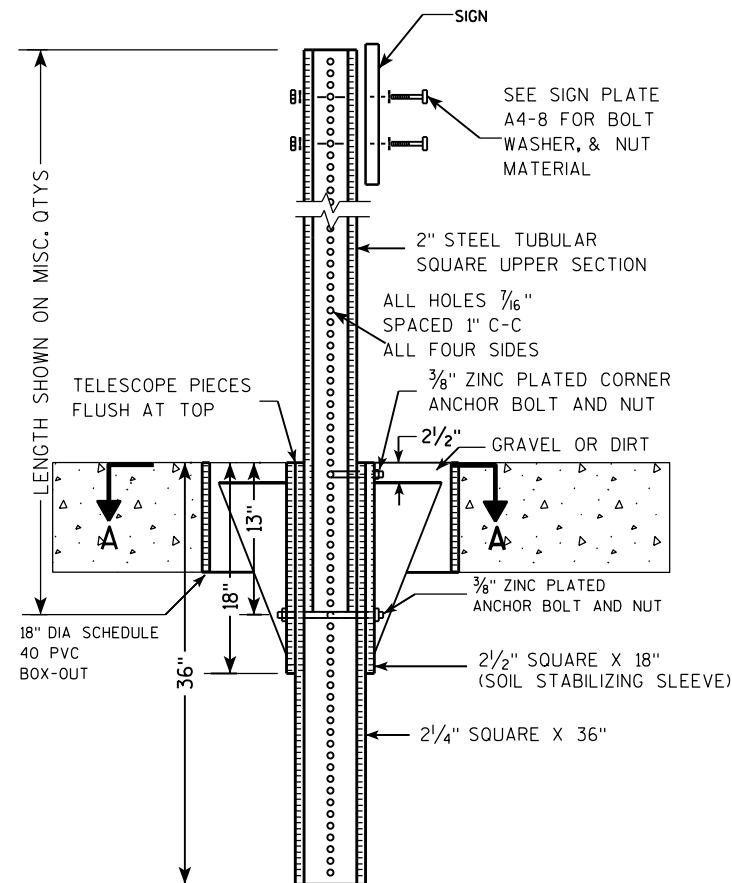
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



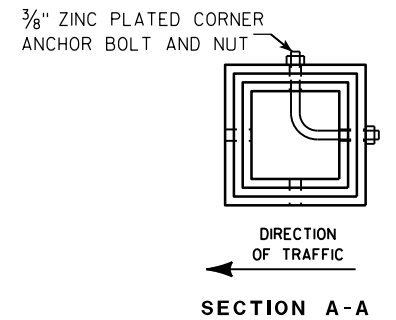
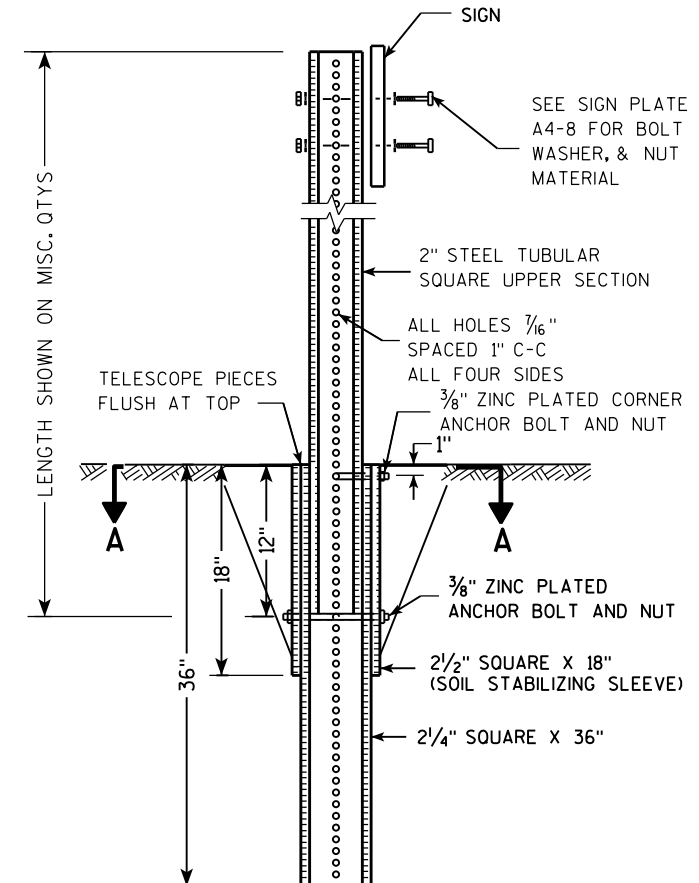
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



**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

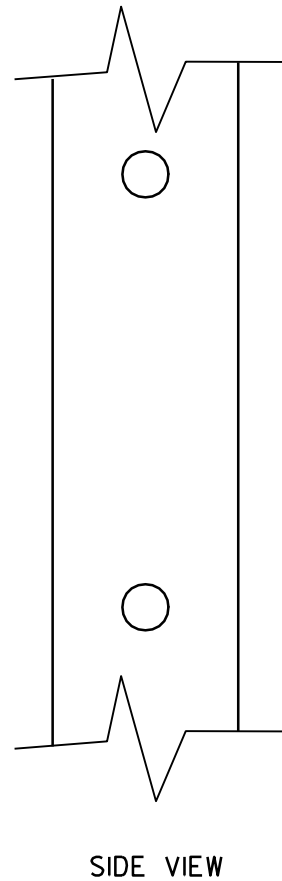
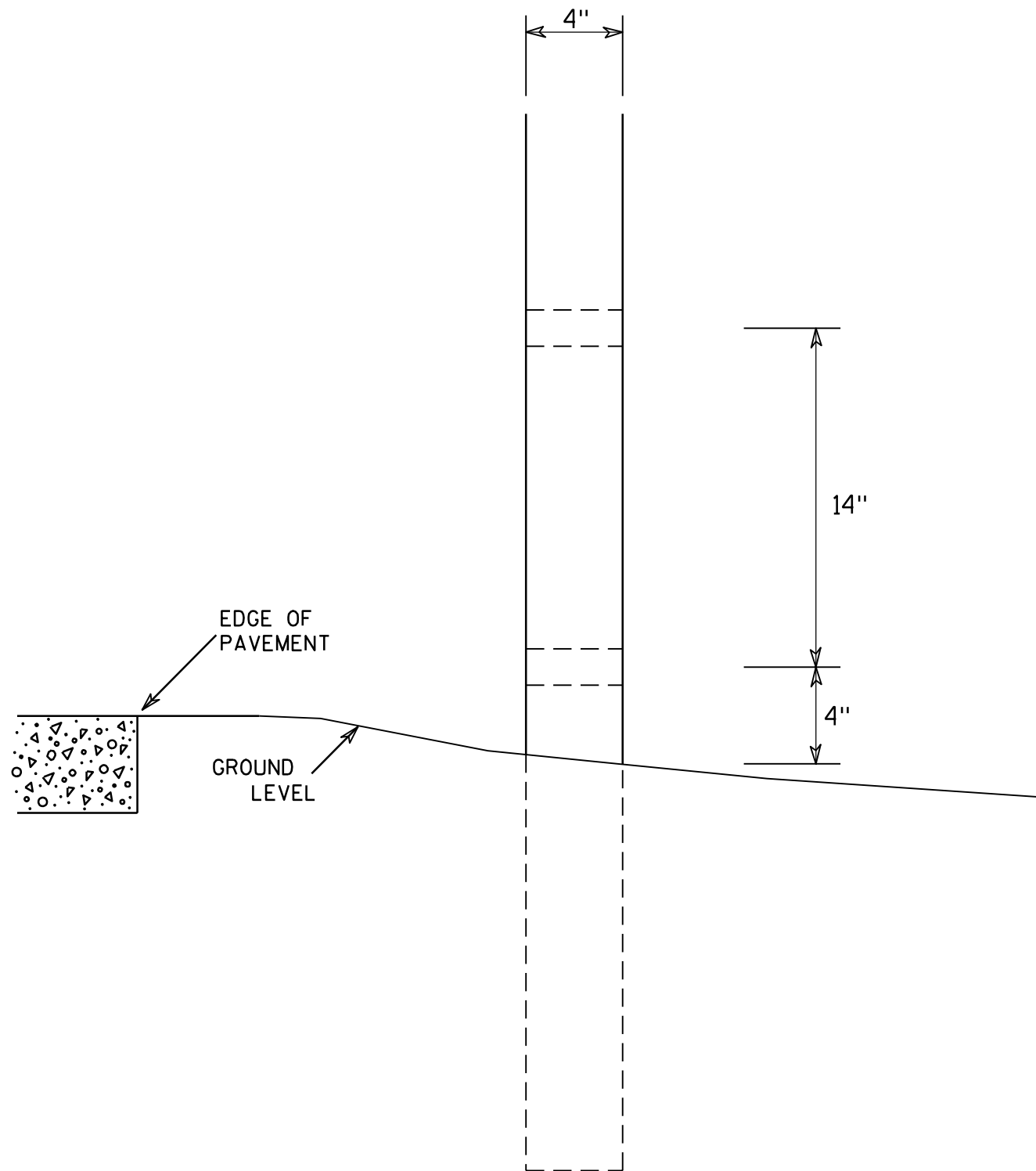
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**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



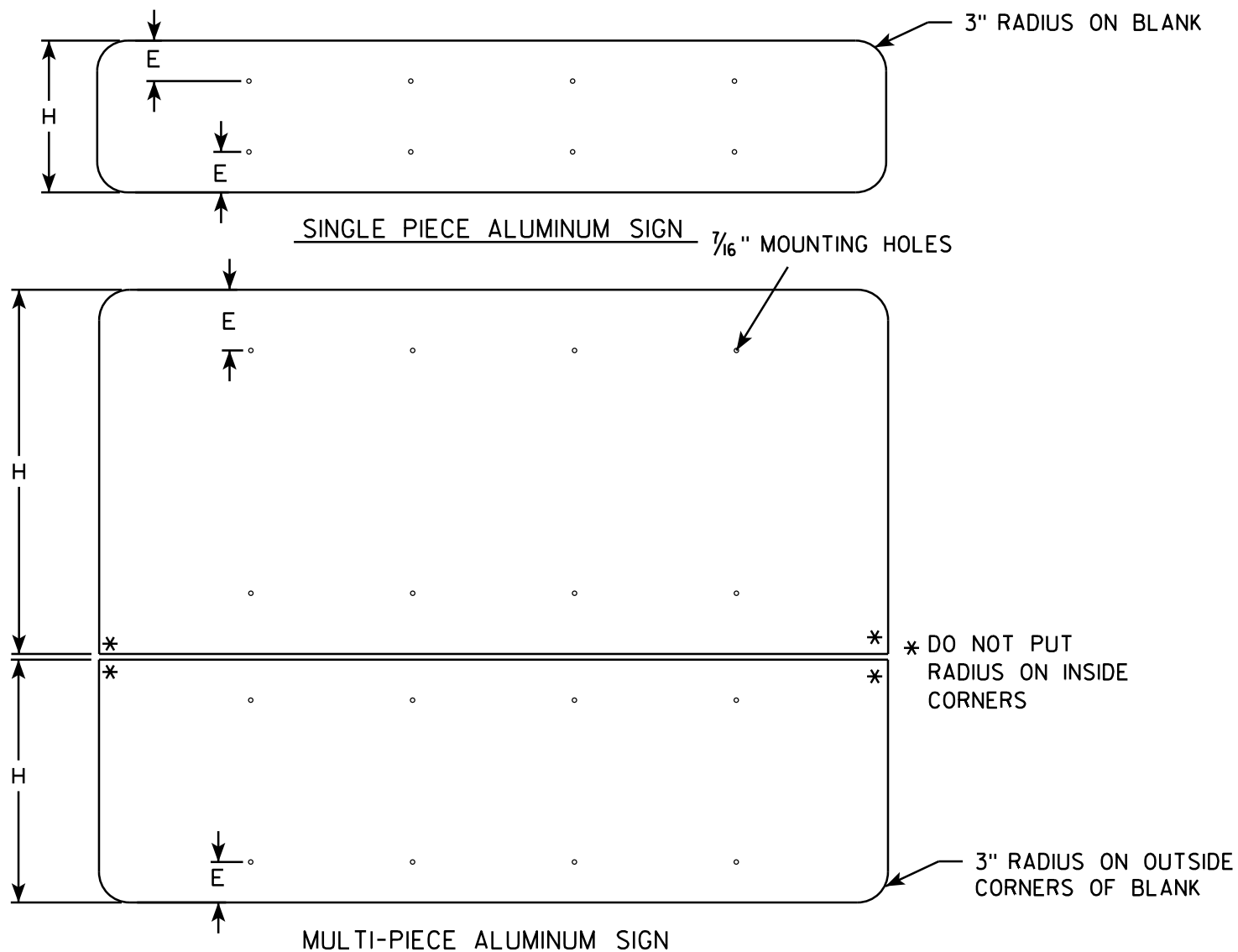
GENERAL NOTES

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



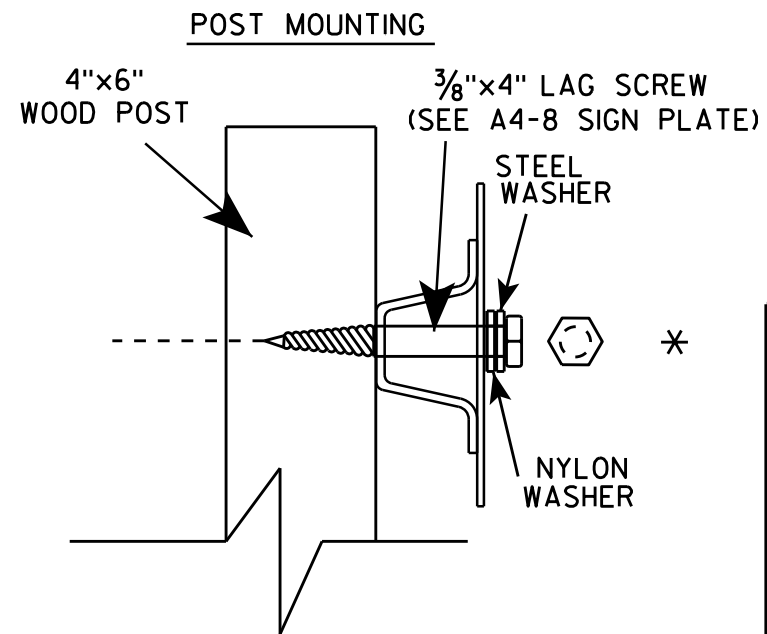
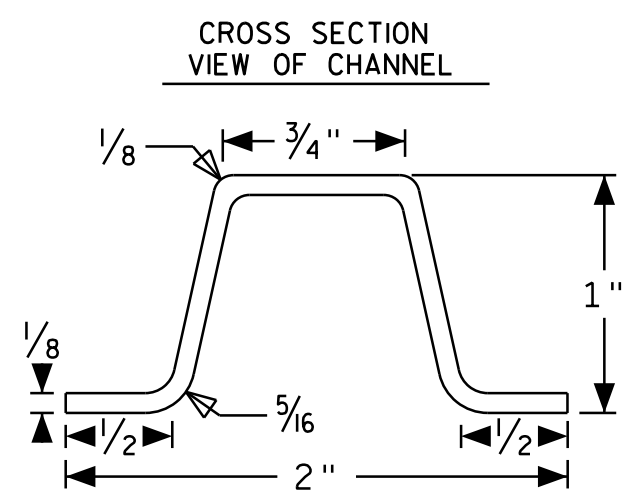
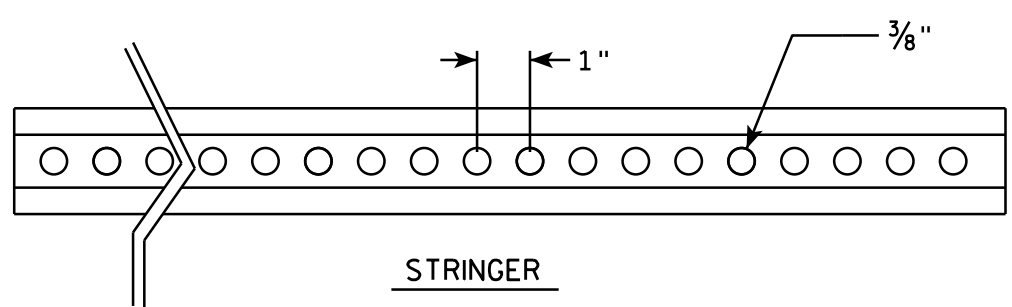
GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE $\frac{7}{16}$ " DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16 $\frac{1}{2}$ " 33 $\frac{1}{2}$ " 50 $\frac{1}{2}$ " 67 $\frac{1}{2}$ "
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19 $\frac{1}{2}$ " 38 $\frac{1}{2}$ " 57 $\frac{1}{2}$ " 76 $\frac{1}{2}$ "
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22 $\frac{1}{2}$ " 43 $\frac{1}{2}$ " 64 $\frac{1}{2}$ " 85 $\frac{1}{2}$ "
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

* DO NOT PUT RADIUS ON INSIDE CORNERS

7



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

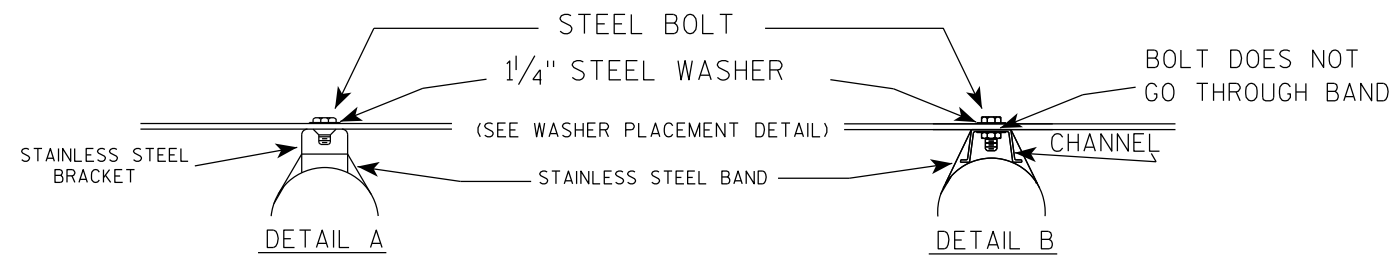
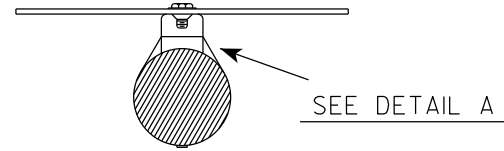
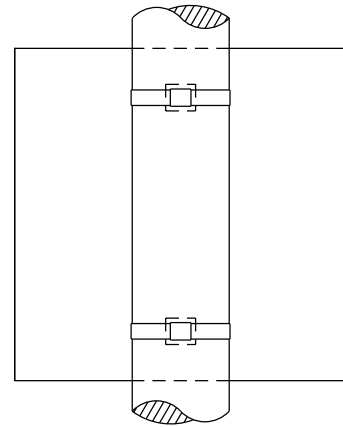
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/26/16 PLATE NO. A4-18.1

7

BANDING

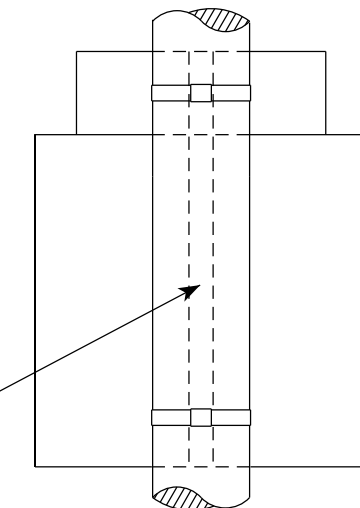
SINGLE SIGN



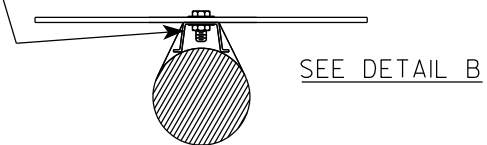
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

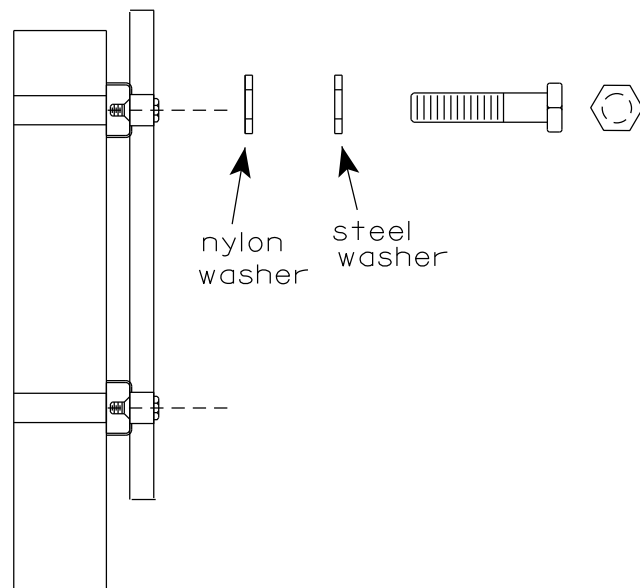
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



WASHER PLACEMENT



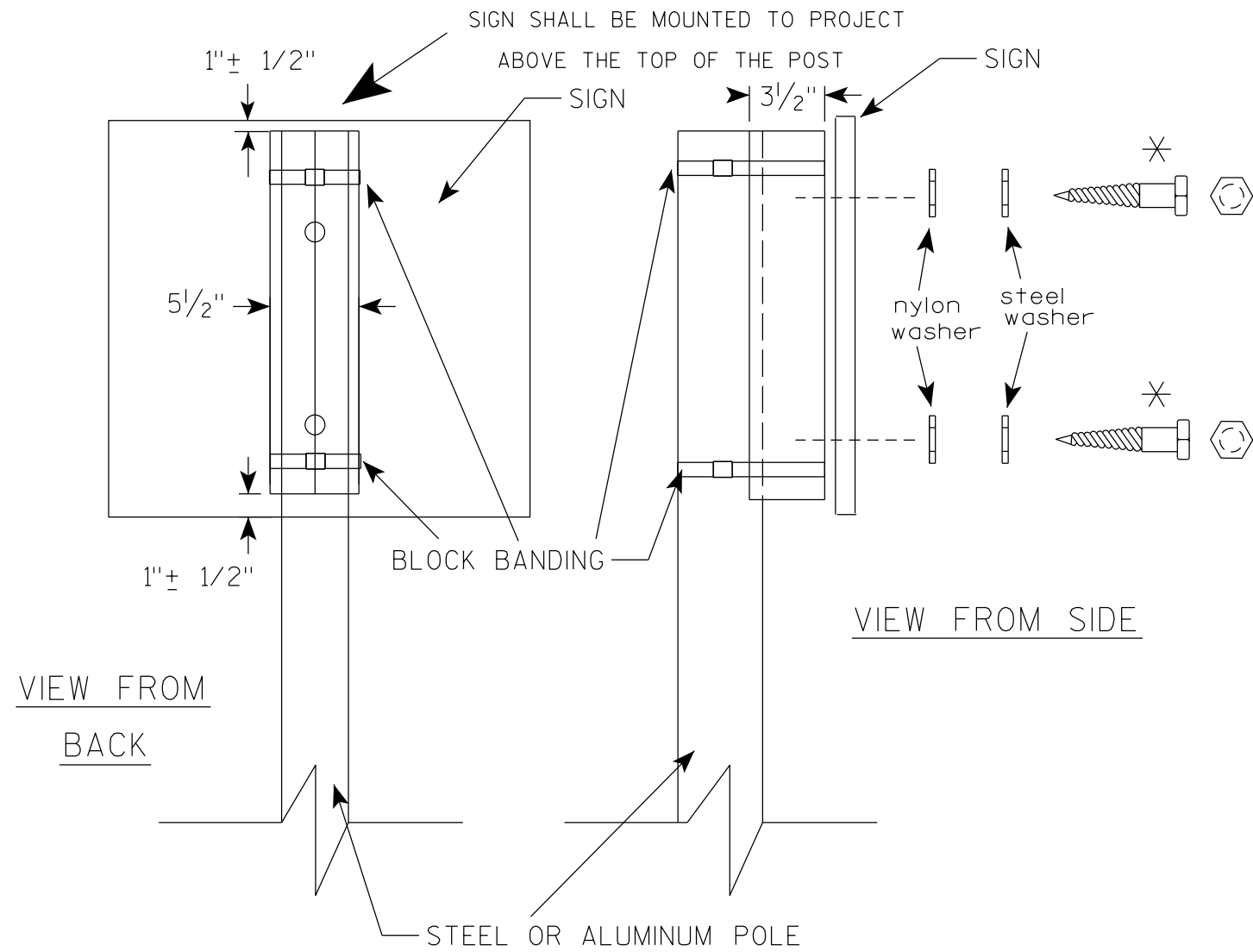
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

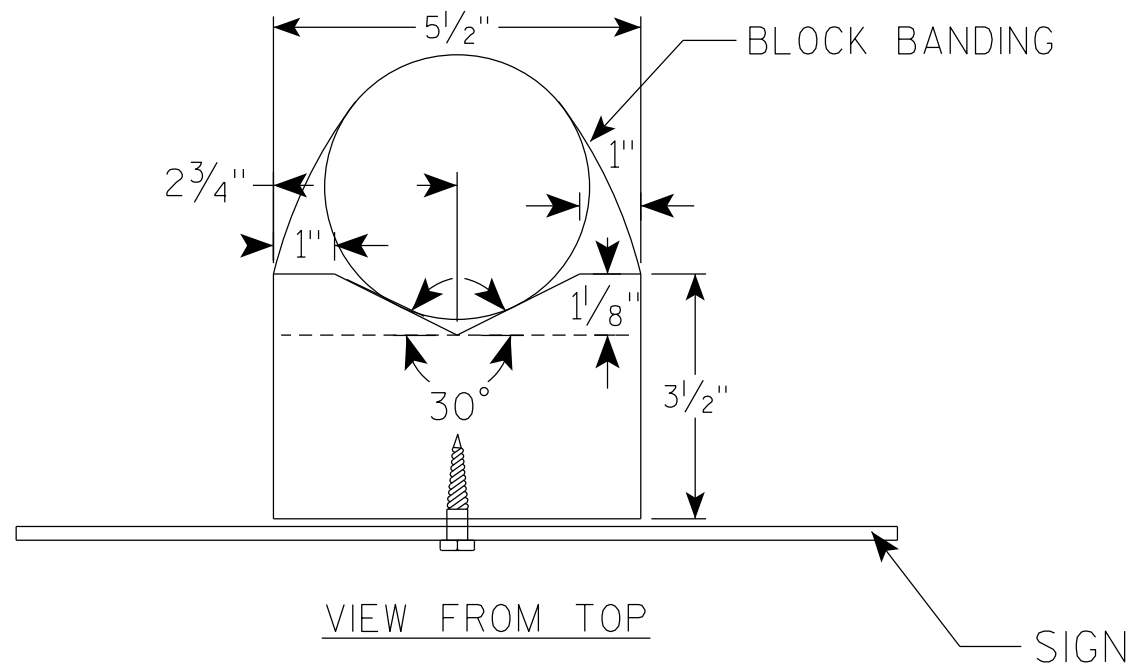
DATE 6/10/19 PLATE NO. A5-9.4



GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

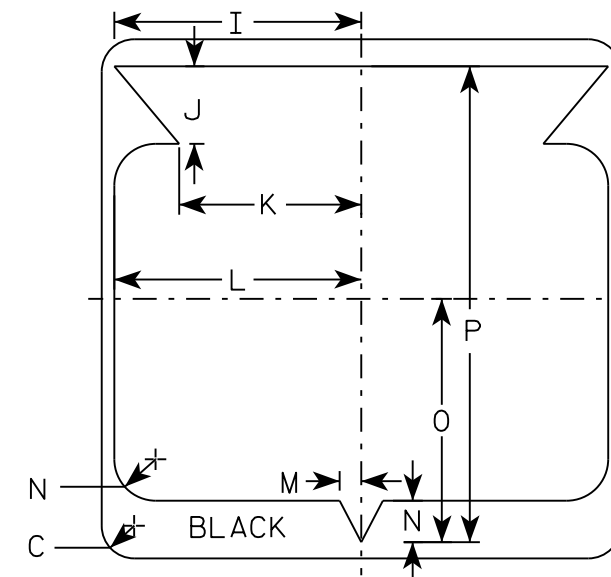
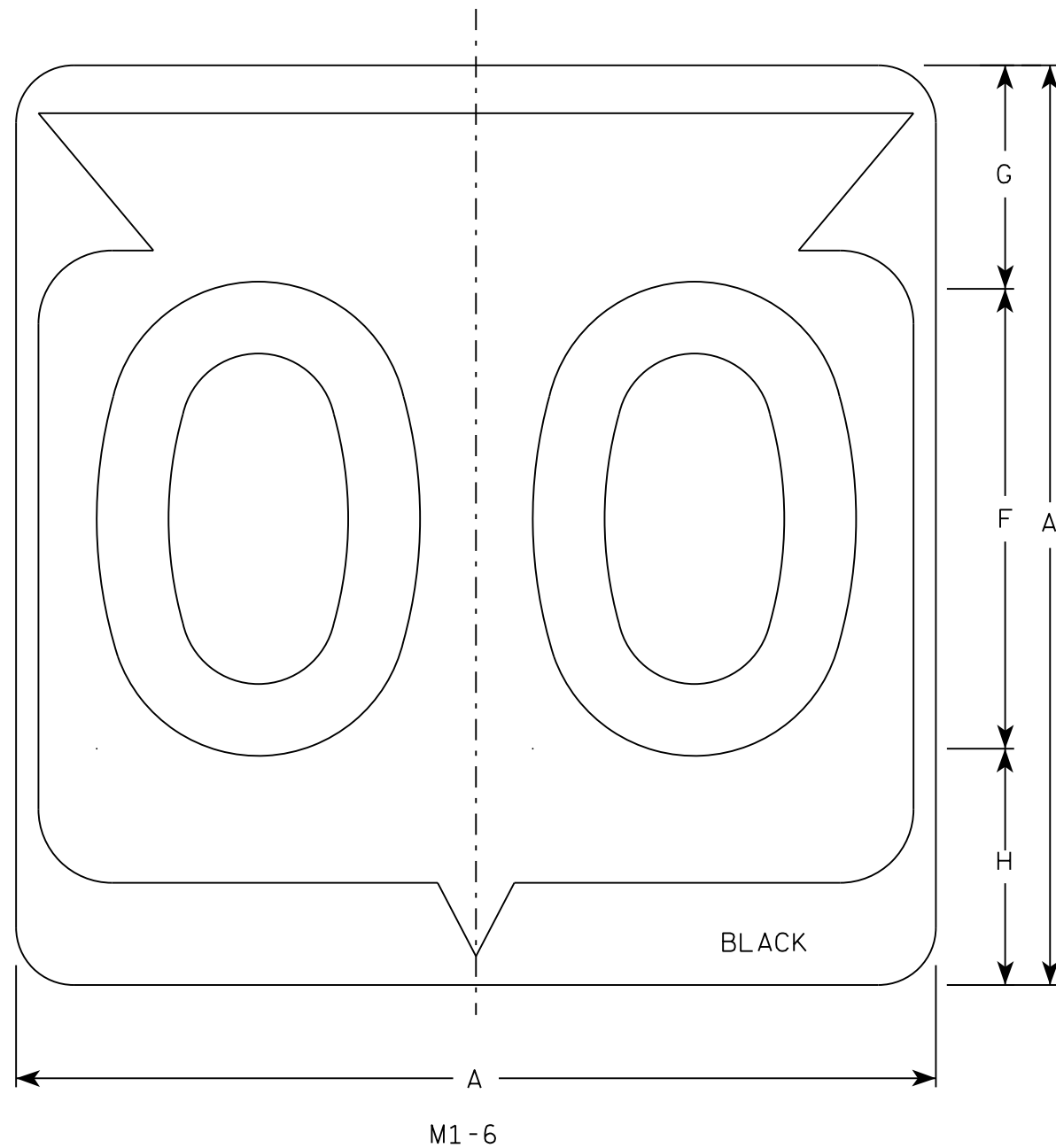
✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



BLOCK BANDING DETAIL (V-BLOCK OPTION)	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C
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.



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																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

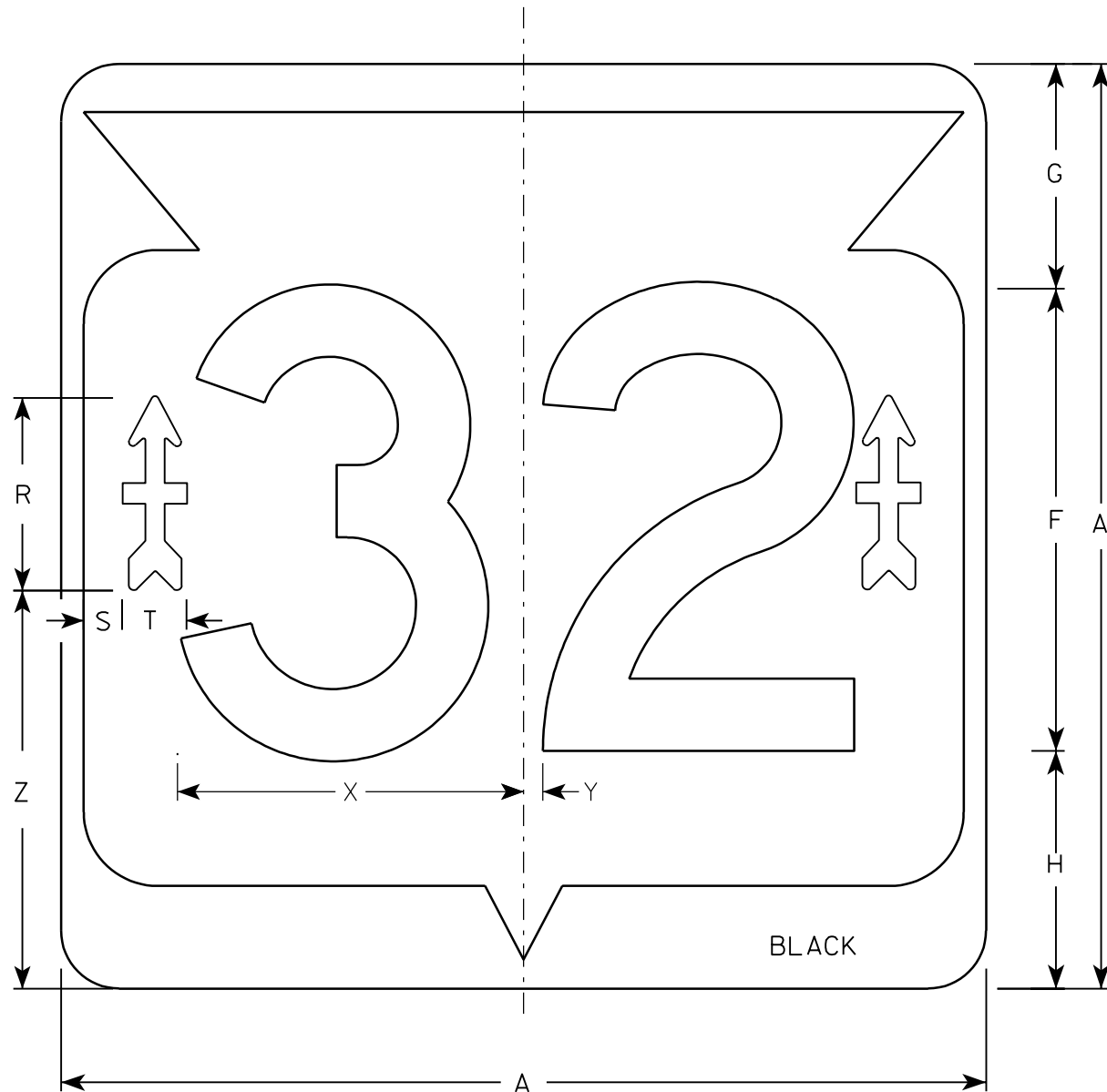
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

7

7



M1-6B

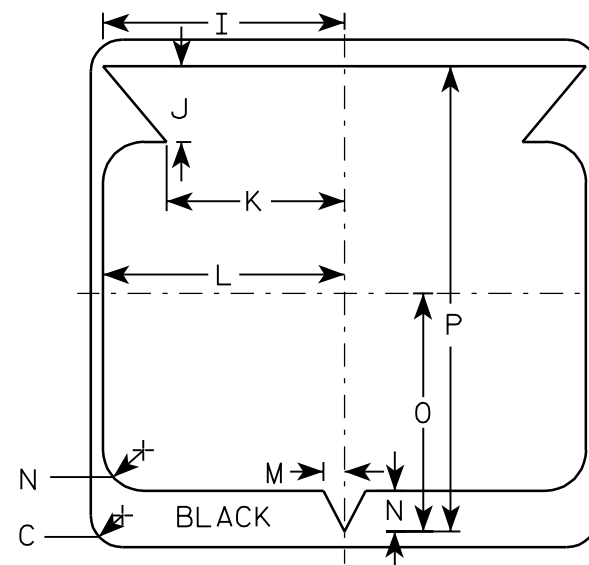
Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

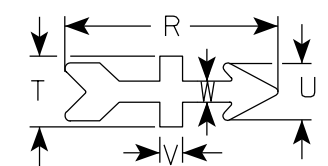
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8		5 1/8	3/4	1 7/8	1 1/2	5/8	5/8	9	1/2	10 1/2	4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33		7 1/2	1 1/2	2 1/2	2	7/8	3/4	13 1/2	3/4	15 1/2	9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33		7 1/2	1 1/2	2 1/2	2	7/8	3/4	13 1/2	3/4	15 1/2	9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33		7 1/2	1 1/2	2 1/2	2	7/8	3/4	13 1/2	3/4	15 1/2	9.0	.81

NOTES

- Sign is Type II - Type H - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black
Message - Black
Arrow - Type H Reflective Red
- Message Series - D
- 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.



32nd DIVISION ARROW
ACTUAL SIZE



STATE ROUTE MARKER "32"
M1-6B FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/5/05 PLATE NO. M1-6B.2

PROJECT NO:

HWY:

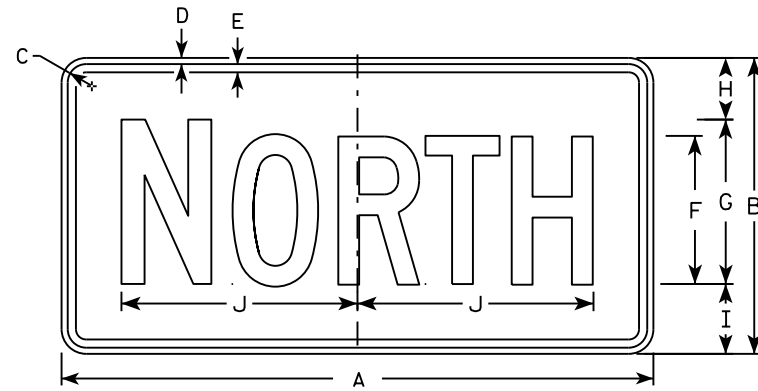
COUNTY:

SHEET NO:

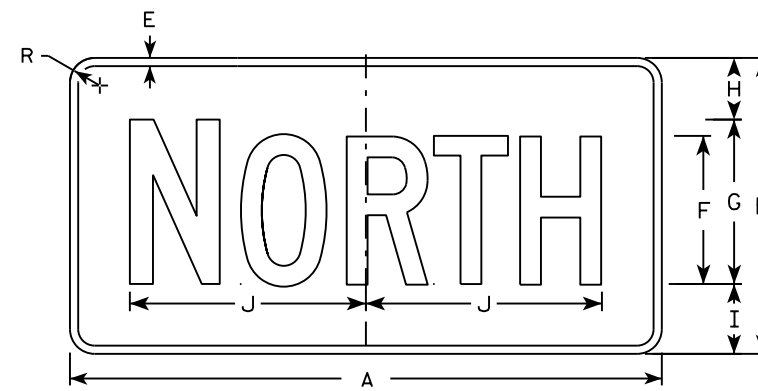
E

NOTES

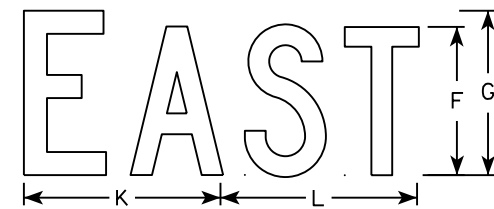
- All Signs Type II - Type H
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4 Background - White
 Message - Black
 MB3-1 thru MB3-4 Background - Blue
 Message - White
 MK3-1 thru MK3-4 Background - Green
 Message - White
 MM3-1 thru MM3-4 Background - White
 Message - Green
 MN3-1 thru MN3-4 Background - Brown
 Message - White
 MP3-1 thru MP3-4 Background - White
 Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.



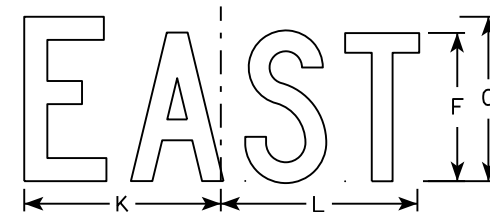
M3-1
MM3-1
MP3-1



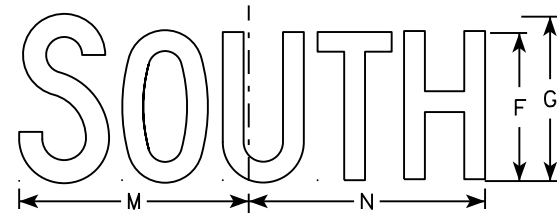
MB3-1
MK3-1
MN3-1



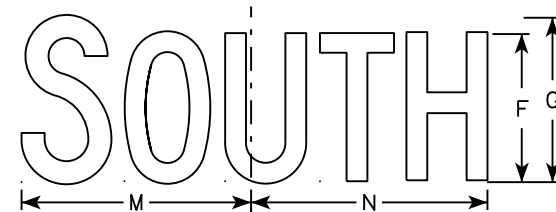
M3-2
MM3-2
MP3-2



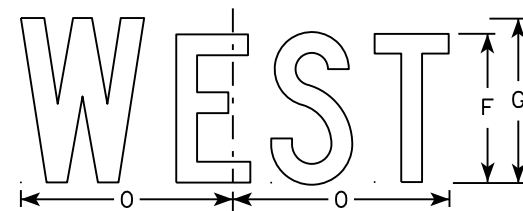
MB3-2
MK3-2
MN3-2



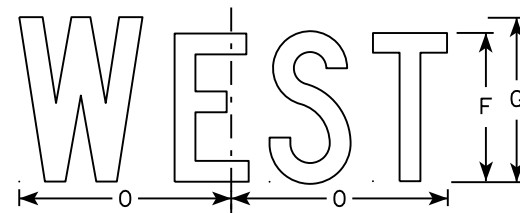
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

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																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

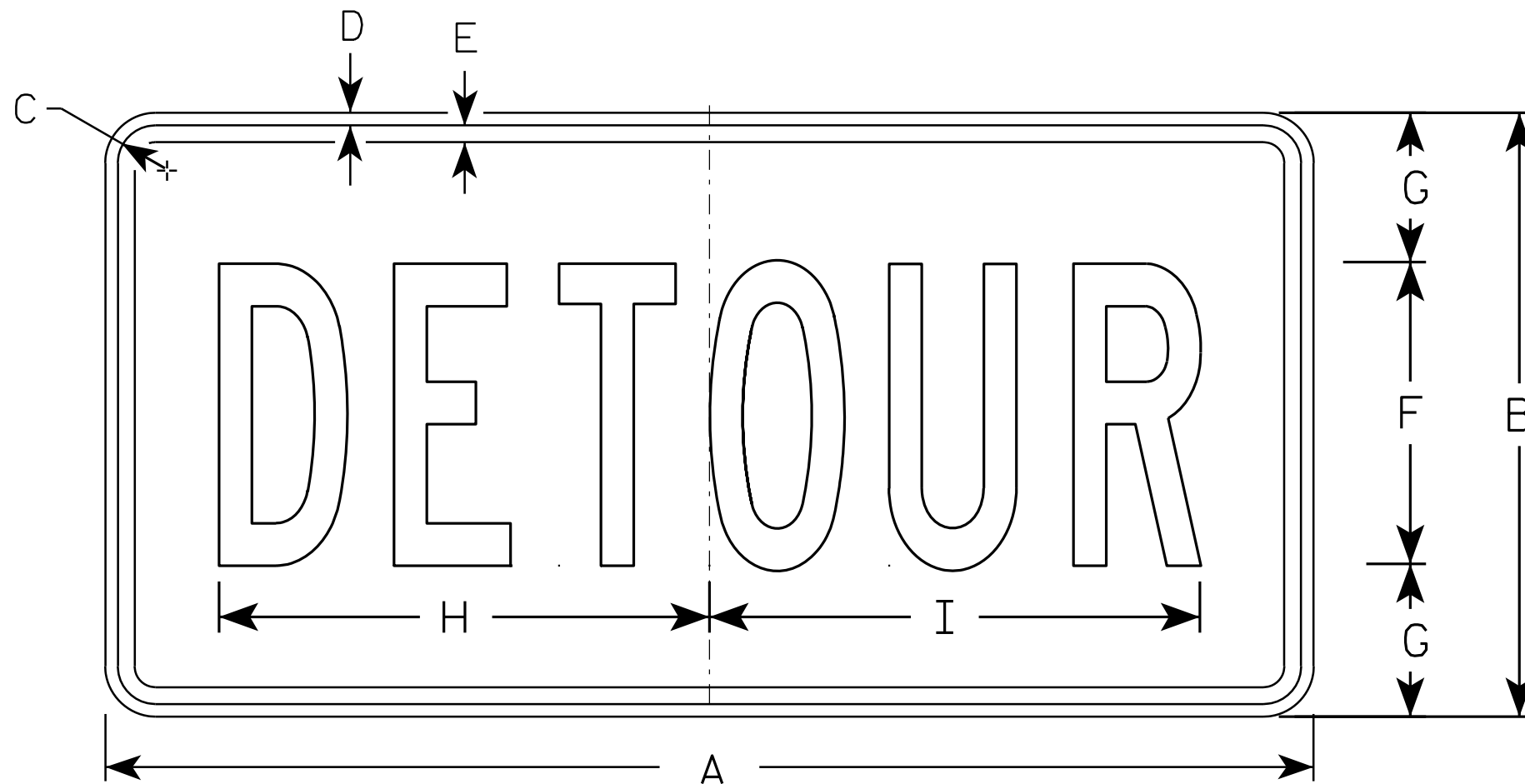
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

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 - B
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.



M4-8

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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

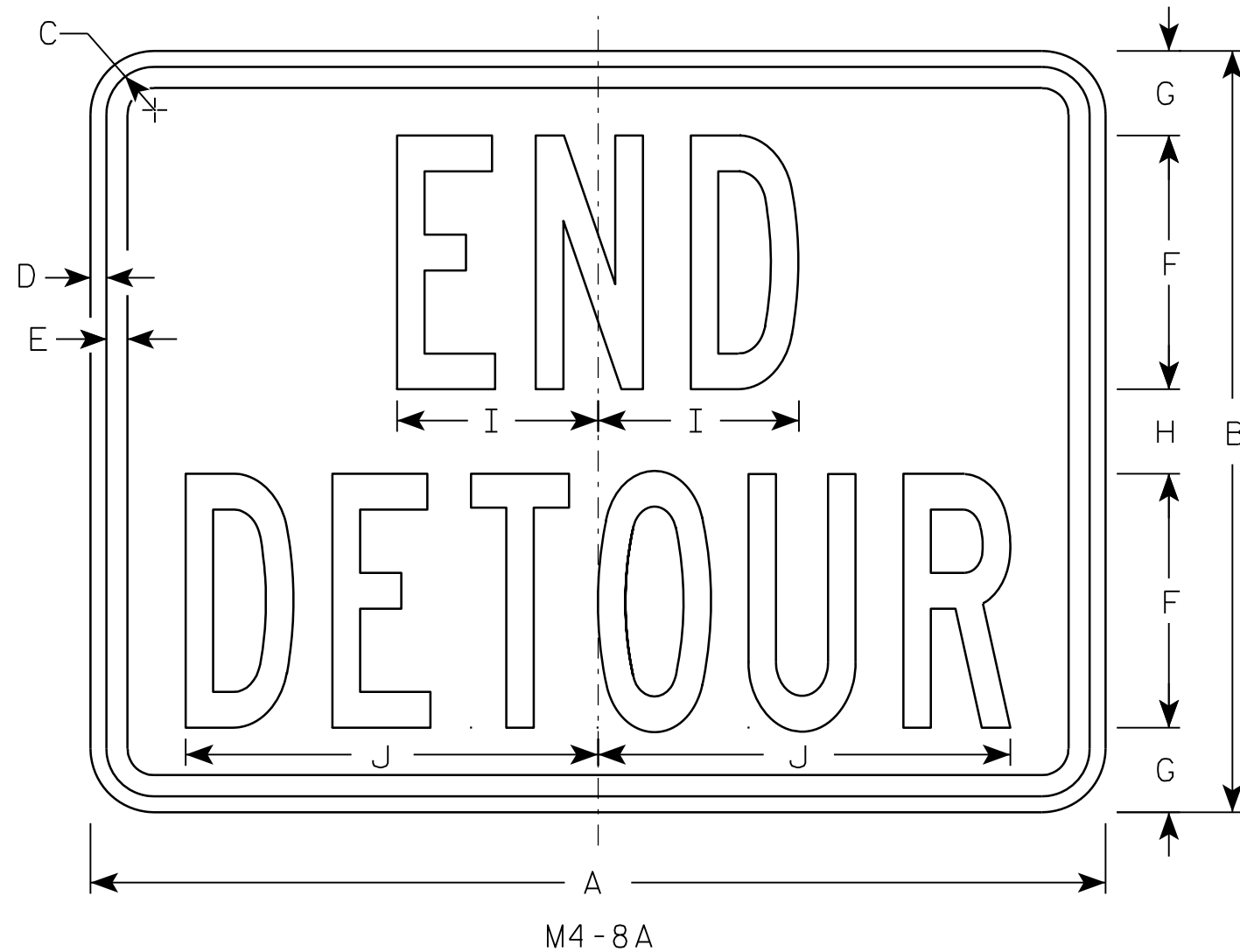
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

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. Message Series - B
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.



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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

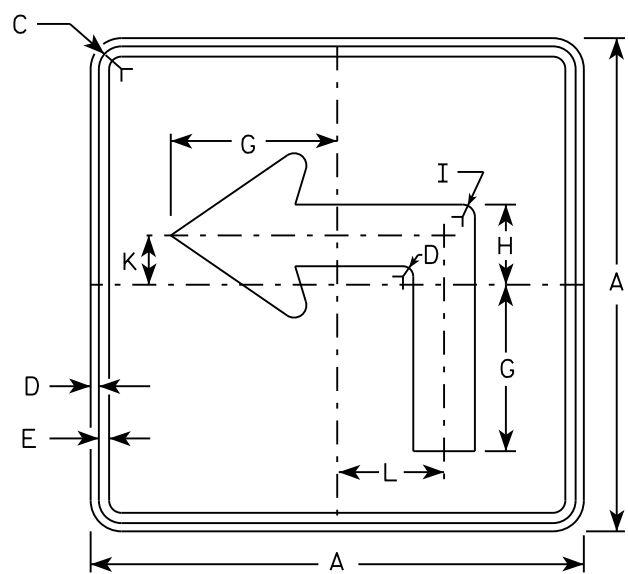
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

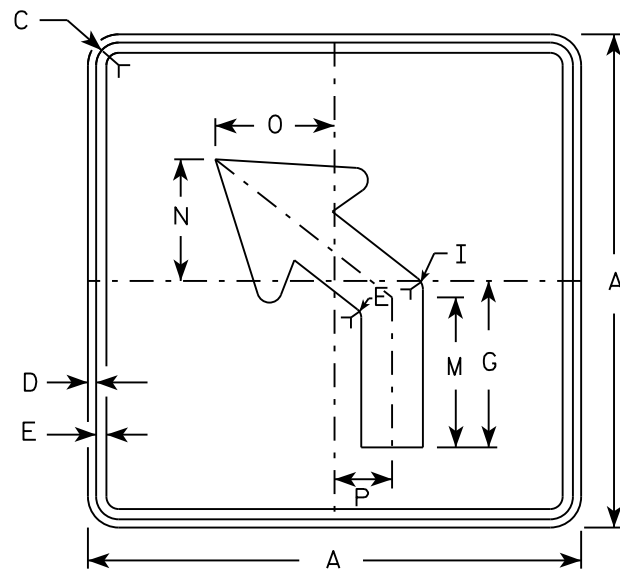
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

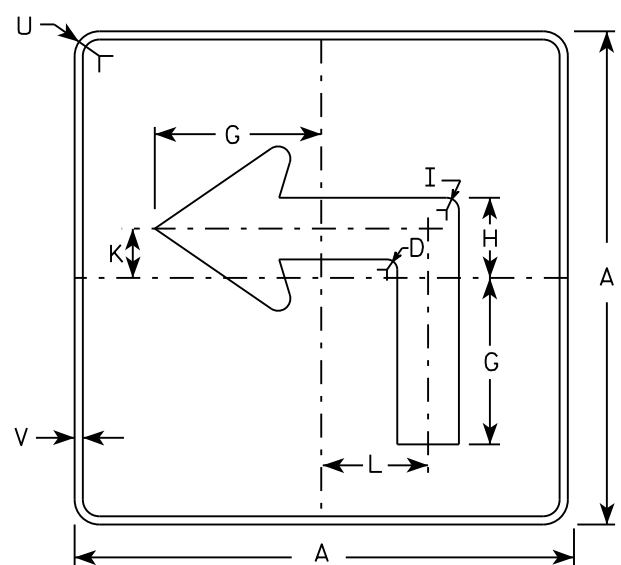
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



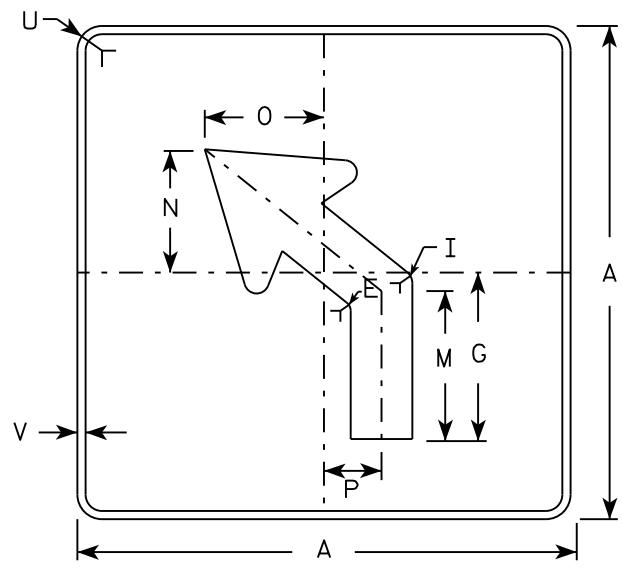
M5-1L
MM5-1L
M05-1L
MP5-1L



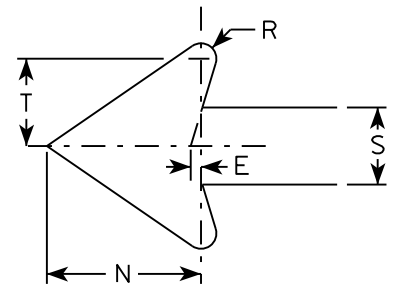
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 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.
- | | |
|-----------------|---|
| M5-1 and M5-2 | Background - White |
| | Message - Black |
| MB5-1 and MB5-2 | Background - Blue |
| | Message - White |
| MK5-1 and MK5-2 | Background - Green |
| | Message - White |
| MM5-1 and MM5-2 | Background - White |
| | Message - Green |
| MN5-1 and MN5-2 | Background - Brown |
| | Message - White |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
| | Message - Black |
| MP5-1 and MP5-2 | Background - White - Type H Reflective |
| | Message - Blue |
| MR5-1 and MR5-2 | Background - Brown |
| | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

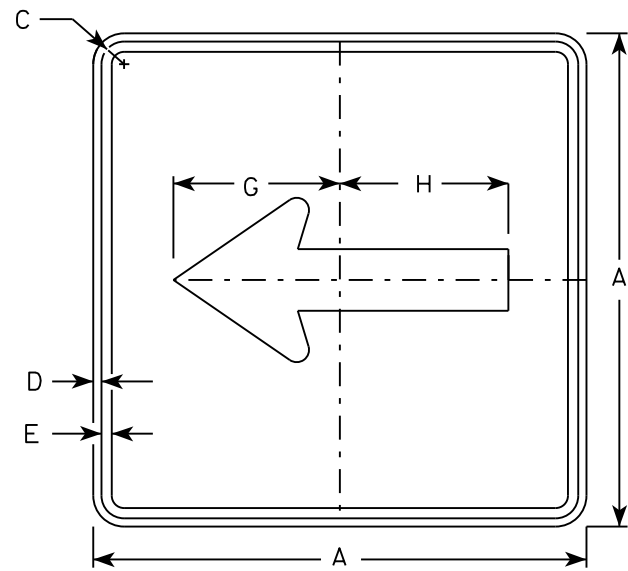
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

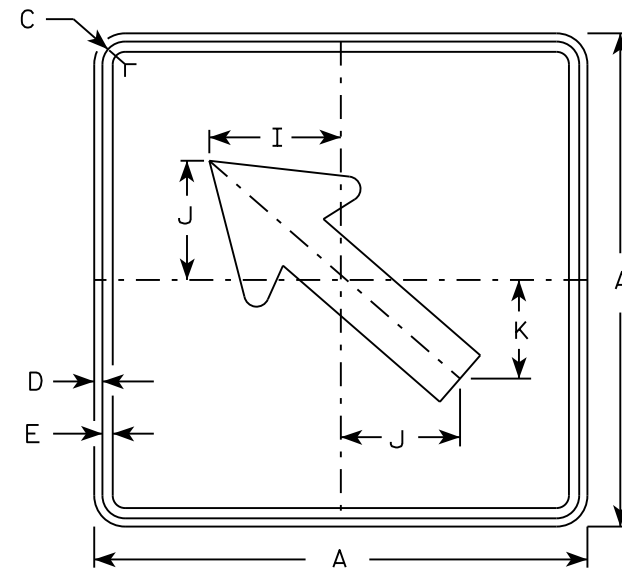
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

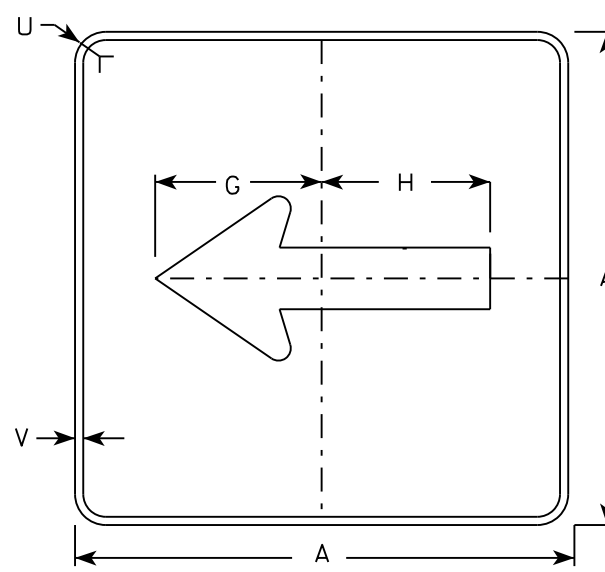
DATE 10/15/15 PLATE NO. M5-1.13



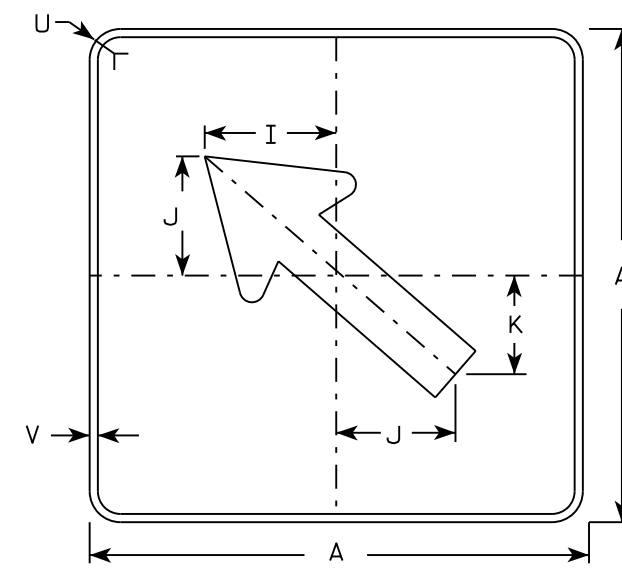
M6-1
MM6-1
M06-1
MP6-1



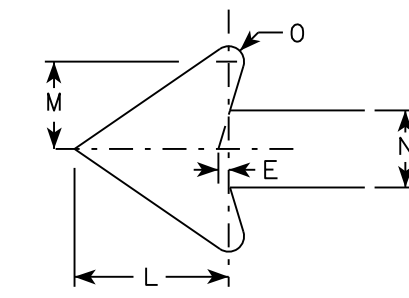
M6-2
MM6-2
M06-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 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.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

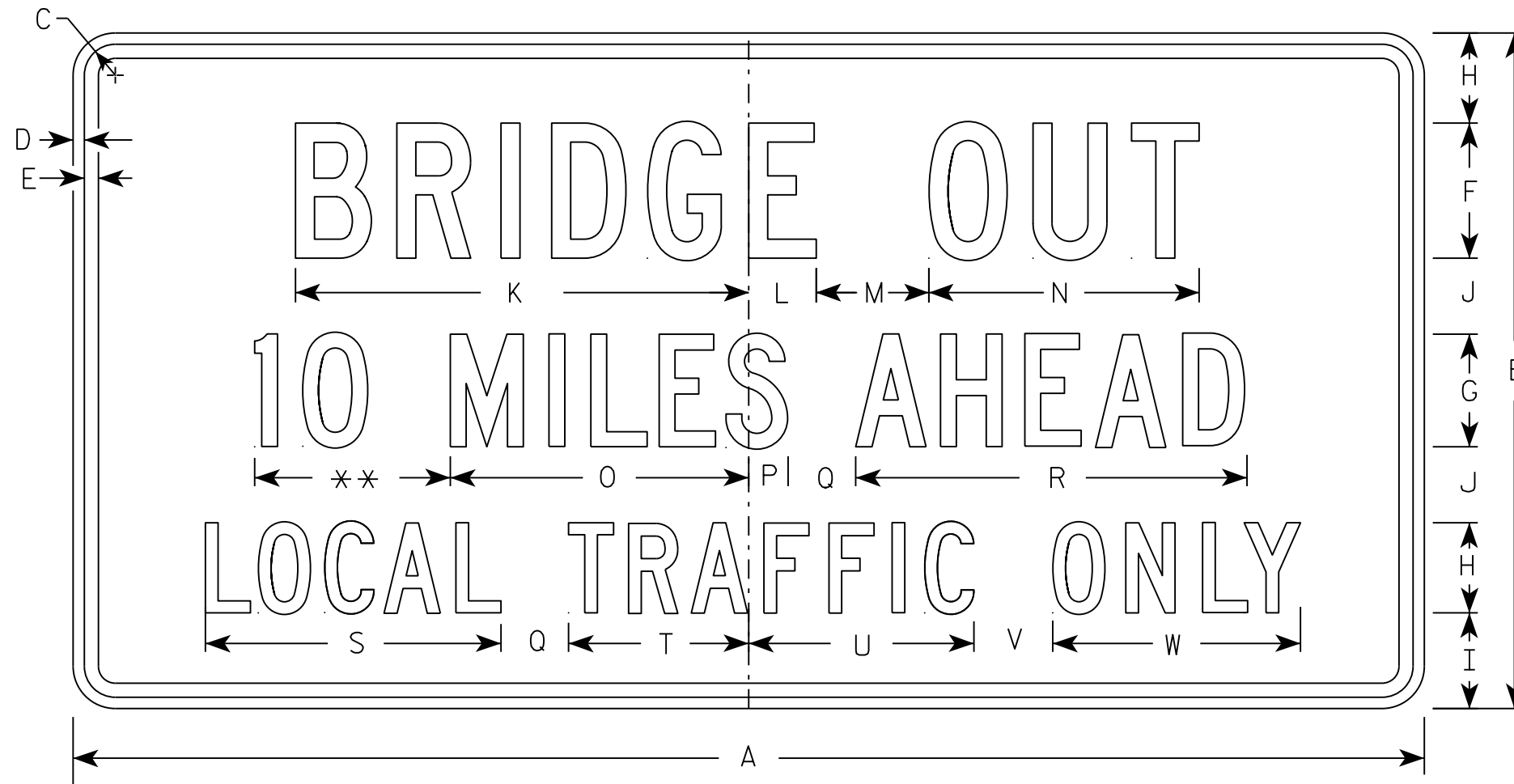
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

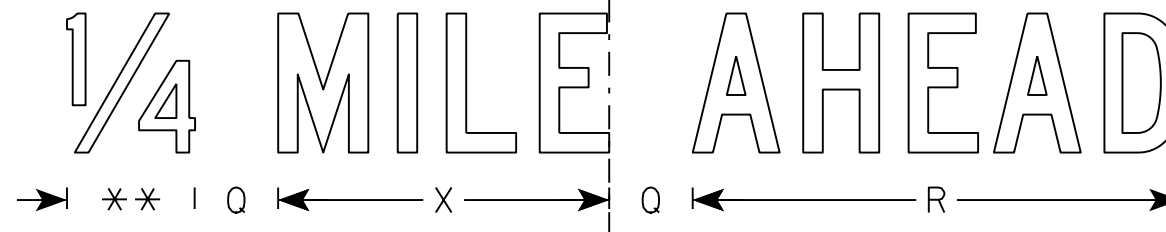
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - C
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 to nearest quarter mile and optically adjust spacing to achieve proper balance.



** See Note 5

R11-3B



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	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8		4.5	
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8		12.5	
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8		12.5	
3																											
4																											
5																											

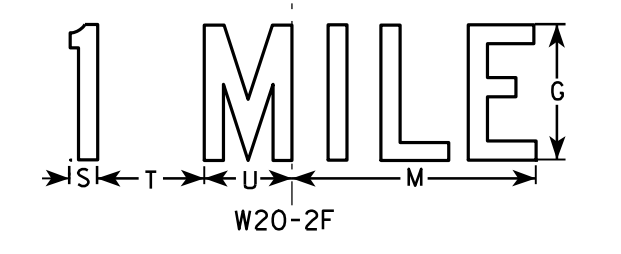
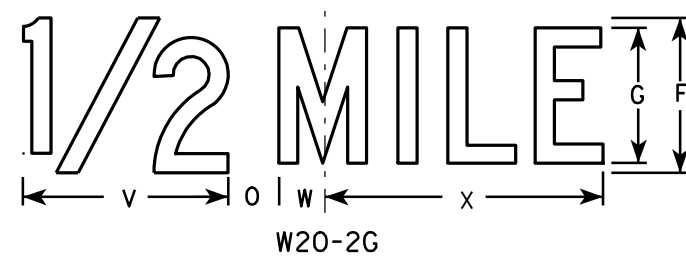
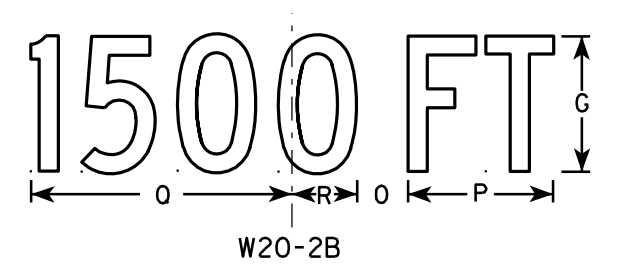
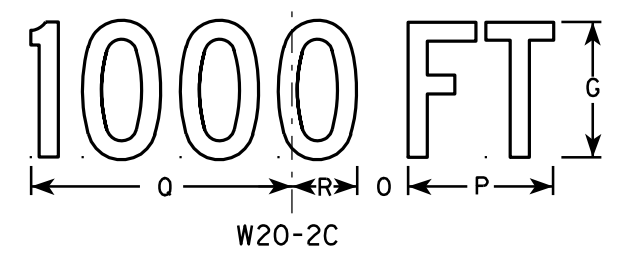
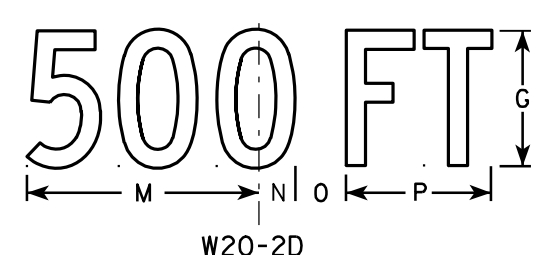
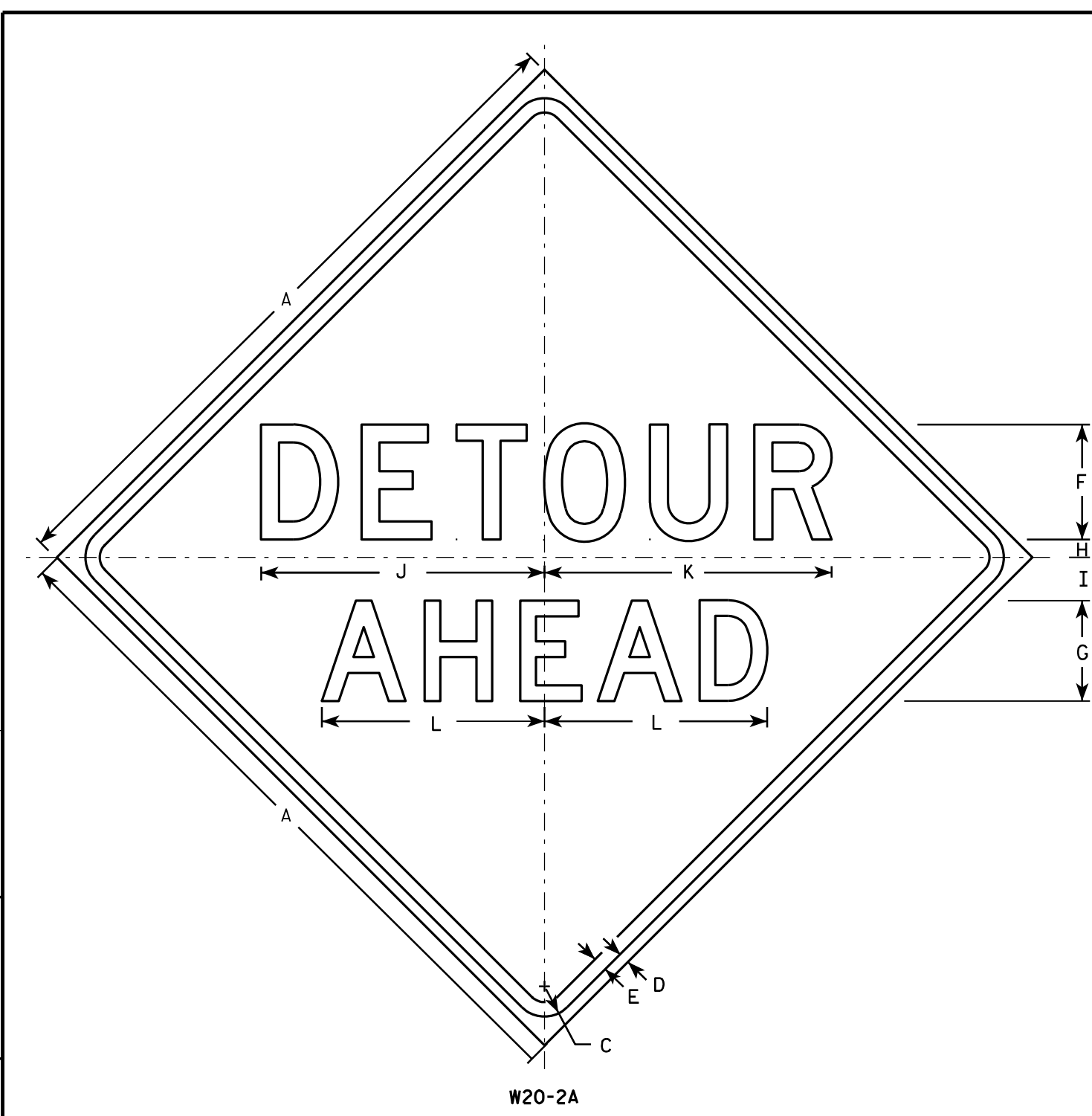
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

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. Message Series - See note 5
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. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

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	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raub*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E

DESIGN DATA

LIVE LOAD:

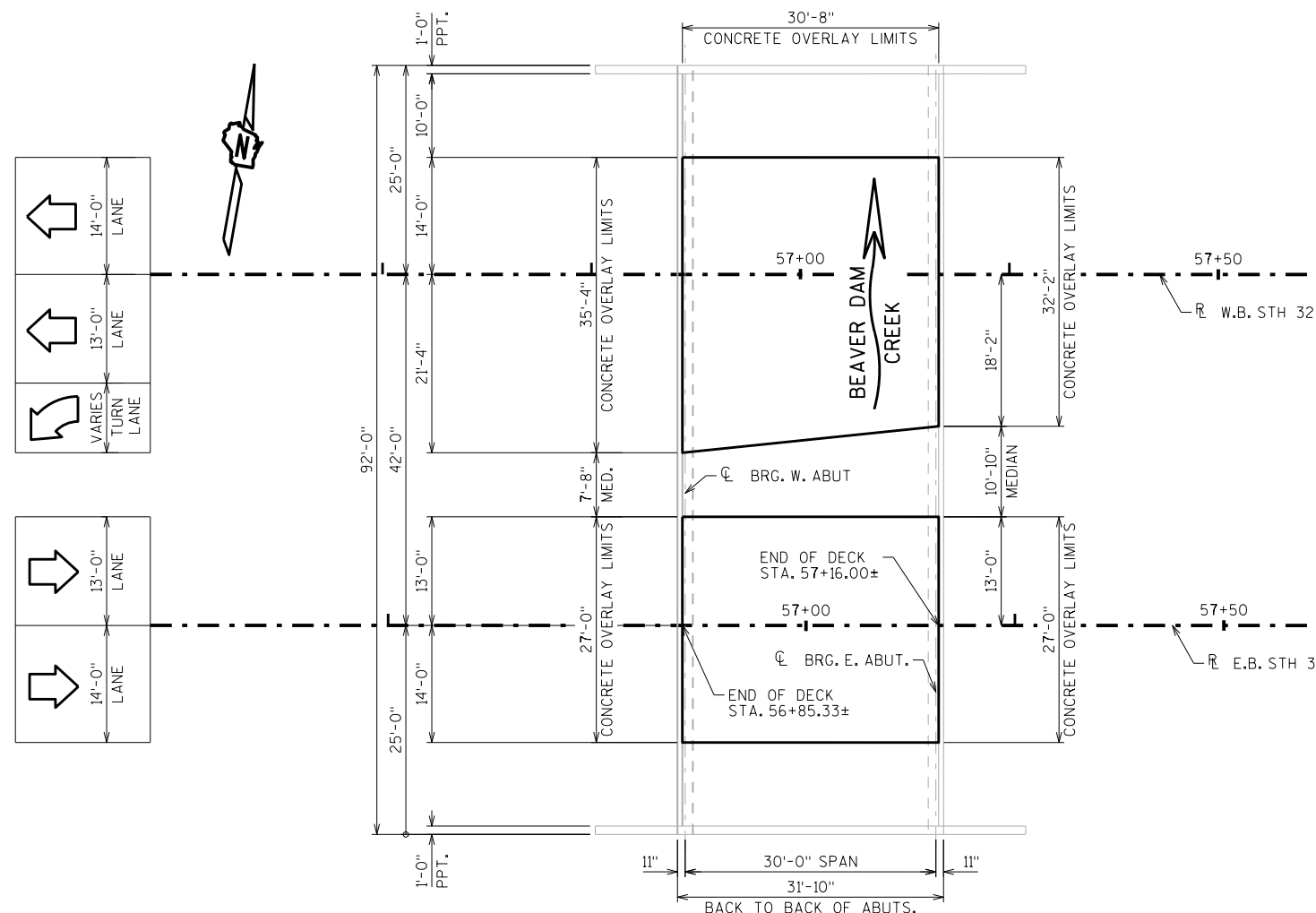
INVENTORY RATING FACTOR: RF = HS-21
 OPERATING RATING FACTOR: RF = HS-35
 WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 190 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS f'c = 4,000 P.S.I.

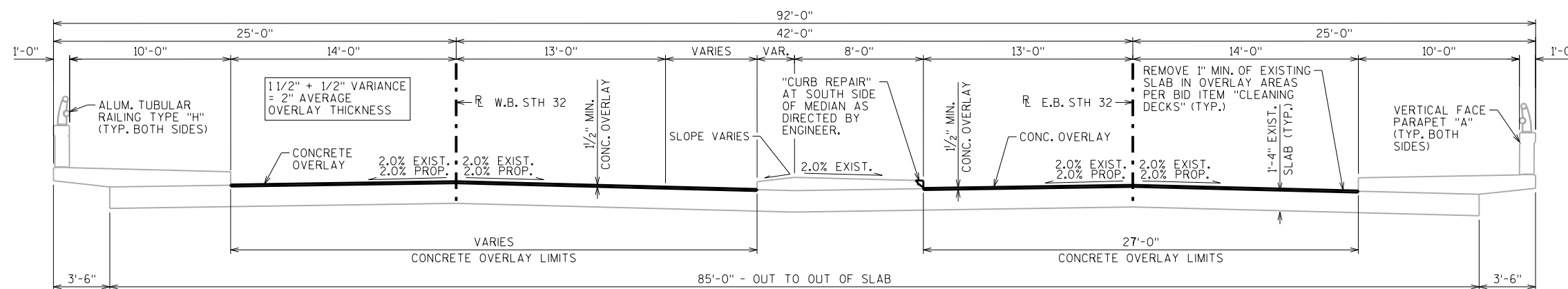
NOTES

- DRAWINGS SHALL NOT BE SCALED.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF THE NEW CONCRETE OVERLAY.
- SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".
- A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".
- THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS 1/2-INCH TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.
- PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2 ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AREAS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".
- ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".
- PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2" (OR AS GIVEN ON PLANS). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.
- EXISTING BAR STEEL REINFORCEMENT IN TOP OF SLAB IS EPOXY COATED. WHERE TOP STEEL IS EXPOSED IN DECK PREPARATION AREAS, DAMAGED/DE-BONDED EPOXY COATING SHALL BE REPAIRED/RE-COATED IN ACCORDANCE WITH SECTION 509.3.1 OF THE STANDARD SPECIFICATIONS. PREPARE/CLEAN STEEL AS REQUIRED TO APPLY NEW COATING.



PLAN

CONCRETE OVERLAY - SINGLE SPAN SLAB



SECTION THROUGH ROADWAY

LOOKING EAST

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	207
509.0301	PREPARATION DECKS TYPE 1	SY	30
509.0302	PREPARATION DECKS TYPE 2	SY	12
509.0500	CLEANING DECKS	SY	207
509.1200	CURB REPAIR	LF	31
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	14

TRAFFIC VOLUME

STH 32 W MASON STREET
 ADT = 22,520 (2044)
 R.D.S. = 40 M.P.H.


LIST OF DRAWINGS

- 1. CONCRETE OVERLAY
- 2. SLAB CONDITION SURVEY

STRUCTURE DESIGN CONTACTS:

CHRISTOPHER DOLL (608) 266-3229
 LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY


BUREAU OF STRUCTURES
 ACCEPTED *[Signature]* LLS **12/31/22**
 CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-05-284

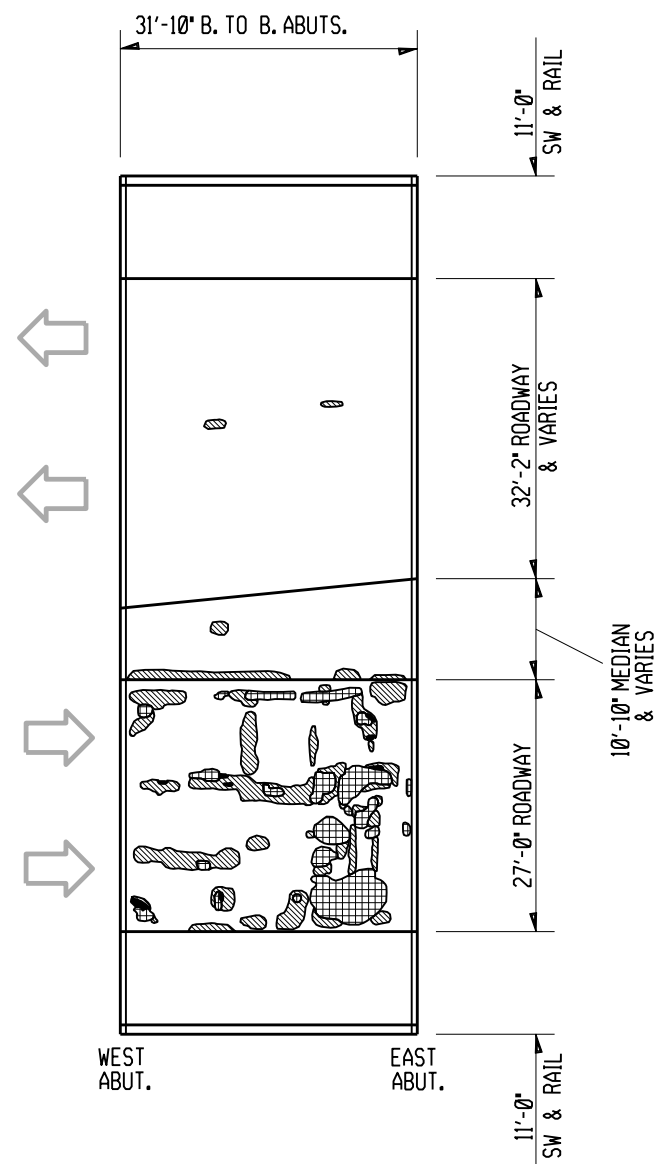
STH 32 OVER BEAVER DAM CREEK

COUNTY BROWN CITY GREEN BAY

DESIGN SPEC. REHABILITATION N/A







DESIGNED BY PJR DESIGNED CK'D. CAD DRAWN BY PJR PLANS CK'D. CAD

CONCRETE OVERLAY SHEET 1 OF 2



PLAN
DECK INSPECTION RESULTS

STRUCTURE NO.
B-5-284

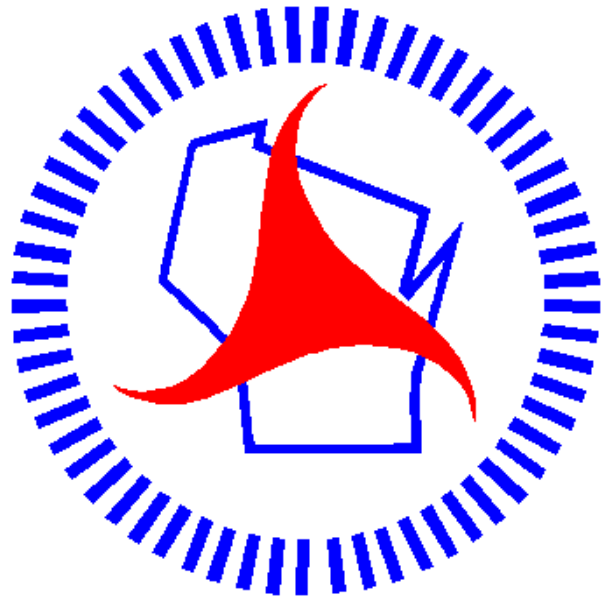
FIELD OBSERVATIONS SUMMARY	UNIT	ROADWAY		MEDIAN		SIDEWALKS		LEGEND
		QUANT.	%	QUANT.	%	QUANT.	%	
TOTAL AREA	ft ²	1934		283		612		DELAMINATION 
SHADE/DEBRIS	ft ²	0		0		0		SPALL 
DELAMINATION	ft ²	139	7.2	22	7.8	0	0	DEBOND/SCALING 
SPALL	ft ²	4	0.2	0	0	0	0	SEALANT/AC PATCH 
DEBOND/SCALING	ft ²	N/A	N/A	N/A	N/A	N/A	N/A	CONCRETE PATCH 
SEALANT/AC PATCH	ft ²	102	5.3	0	0	0	0	SHADE/DEBRIS 
CONCRETE PATCH	ft ²	0	0	0	0	0	0	

NOTES

SURVEY IS SHOWN FOR INFORMATION PURPOSES ONLY AND MAY NOT BE ALL INCLUSIVE. ADDITIONAL PATCHING/PREPARATION MAY BE REQUIRED AND SHALL BE PERFORMED AS DIRECTED BY THE ENGINEER.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-05-284			
DRAWN BY		PJR	PLANS CK'D. CAD
SLAB CONDITION SURVEY			SHEET 2



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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