

PROJECT ID: 2250-12-75
WITH:

COUNTY: RACINE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
MAIN STREET, VILLAGE OF WATERFORD
1ST STREET INTERSECTION
STH 20
RACINE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2250-12-75		

ORDER OF SHEETS

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

TOTAL SHEETS = 170



DESIGN DESIGNATION

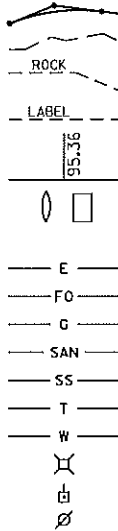
STH 20/MAIN ST	
A.A.D.T. (2014)	= 15,150
A.A.D.T. (2034)	= 18,140
D.H.V. (2034)	= 1,814
D.D.	= 59/41
T.	= 12.2%
DESIGN SPEED	= 25 MPH
ESALS	= 1,335,900

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 PROJECT NUMBER
2250-12-75

BEGIN PROJECT
STA 101+50.0
X=518,688.285
Y=202,035.262

END PROJECT
STA 109+60.0
X=519,498.251
Y=202,039.910

BEGIN PROJECT
STA 4+43.6
X=524,440.099
Y=199,244.036

END PROJECT
STA 6+08.7
X=524,496.634
Y=199,125.599

END CONSTRUCTION
STA 11+13.7
X=524,609.047
Y=199,234.808

LAYOUT
SCALE 0 250 FT.

TOTAL NET LENGTH OF CENTERLINE = 0.0 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RACINE COUNTY, NAD 1983 (2007).
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (2007).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	WISDOT/R.A. SMITH NATIONAL
Designer	WISDOT
Project Manager	JANET CANNON
Regional Examiner	
Regional Supervisor	JAMES FORSETH
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 5/1/14
(Signature)

E

UTILITY CONTACTS:

MR. LATROY BRUMFIELD, PROJECT MANAGER
WE ENERGIES (ELECTRIC)
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203

PHONE: (414) 221-5617
FAX: (414) 221-2336
LATROY.BRUMFIELD@WE-ENERGIES.COM
FIELD CONTACT: PAM RAKAUSKAS
PHONE: (414)531-0839
PAMELA.RAKAUSKAS@WE-ENERGIES.COM

MR. LATROY BRUMFIELD, PROJECT MANAGER
WE ENERGIES (GAS)
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203

PHONE: (414) 221-5617
FAX: (414) 221-2336
LATROY.BRUMFIELD@WE-ENERGIES.COM
FIELD CONTACT: SCOTT HOLSTEIN
PHONE: (262)949-0490
SCOTT.HOLSTEIN@WE-ENERGIES.COM

MR. MICHAEL JOHNSON, OSP ENGINEERING
TDS TELECOM
20875 CROSSROADS CIRCLE, SUITE 800
WAUKESHA, WI 53186

PHONE: (262) 754-3052
FAX: (262) 717-6002
MICHAEL.JOHNSON@TDSTELECOM.COM

TW CABLE ENGINEERING
TIME WARNER CABLE
1320 N. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212

PHONE: (414) 277-4045
FAX: (414) 277-0638
WIS.ENGINEERING@TWCABLE.COM
FIELD CONTACT: LUKE LACROSSE
PHONE: (414)908-4766
MOBILE PHONE: (414)430-9321

MR. ERIC PEREA
WISDOT TRAFFIC LIGHTING
141 NW BARSTOW
PO BOX 798
WAUKESHA, WI 53187 0798
PHONE: (262)-547-5422
ERIC.PEREA@DOT.WI.GOV

MR. JOHN ROONEY, ENGINEERING
RACINE DPW, CITY OF
730 WASHINGTON AVENUE, ROOM 304
RACINE, WI 53403
PHONE: (262) 636-9191
FAX: (262) 636-9545
JOHN.ROONEY@CITYOFRACINE.ORG
WAUKESHA, WI 53187 0798

MS. ELIZABETH LLOYD-WEIS
WISDOT SIGNALS
141 NW BARSTOW
PO BOX 798
PHONE: (262) 521-4404
ELIZABETH.LLOYD-WEIS@DOT.WI.GOV

MR. JEFF DOLEZAL, WATER DEPARTMENT
WATERFORD DPW, VILLAGE OF
123 N RIVER STREET
WATERFORD, WI 53185
PHONE: (262) 534-4069
FAX: (262) 534-3554

MS. BETTY NOVY, TOWN CLERK
ROCHESTER, TOWN OF
PO BOX 352
ROCHESTER, WI 53167

PHONE: (262) 534-5742
FAX: (262) 534-4084
ROCHESTERTOWN@TECHHEAD2.COM

MS. DEBBIE NELSON
WATERFORD SANITARY DIST., TOWN OF
415 N. MILWAUKEE
WATERFORD, WI 53185

PHONE: (262) 534-4646
WFD@TDS.NET

NOT A UTILITY - FOR INFORMATION ONLY
MR. JERRY MEHLHAFF
FOX RIVER AIRPORT
32032 WASHINGTON ST.
ROCHESTER, WI 53167

PHONE: (262) 534-6315
FAX: (262) 534-2395
ACAC@EXECPC.COM

OTHER CONTACTS:

DISTRICT DNR AREA LIAISON
WISCONSIN DEPARTMENT OF
NATURAL RESOURCES
MS. KRISTINA BETZOLD
2300 N. MARTIN LUTHER KING DRIVE
MILWAUKEE, WI 53212
PHONE 414.263.8517
KRISTINA.BETZOLD@WISCONSIN.GOV

WISCONSIN DEPARTMENT OF
TRANSPORTATION SE REGION
MS. JANET CANNON, PROJECT MANAGER
141 NW BARSTOW STREET
WAUKESHA, WI 53187
PHONE 262.548.6890
JANET.CANNON@DOT.WI.GOV

GENERAL NOTES:

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

2.THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START
OF WORK.

3.TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

4.NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

5.ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OF REMOVAL
OF EXISTING STRUCTURES SHALL BE FILLED WITH GRANULAR BACKFILL.

6.EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS.
THE ENGINEER MAY MODIFY LOCATIONS AS NEEDED. CROSS SECTIONS SHOWN INCLUDE THE
THICKNESS OF TOPSOIL OR SALVAGED TOPSOIL WHERE REQUIRED.

7.INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE
ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY
EXISTING INVERTS PRIOR TO ORDERING STORM SEWER AND STRUCTURES.

8.CURB AND GUTTER GRADES, RADII, AND PAVING PLAN DISTANCES ARE MEASURED TO THE FLANGE.

9.CURB HEIGHTS AT THE END OF CURB AND GUTTER SHALL TAPER FROM 0 TO 6 INCHES IN 10 FEET.

10.DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED BY DIRECTION OF ENGINEER
WITH THE FOLLOWING FINISH ITEMS: TOPSOIL AND FERTILIZER,
OR TOPSOIL, SEED, MULCH AND FERTILIZER. DISTURBED AREAS SHALL HAVE
FINISHING ITEMS APPLIED WITHIN 5 WORKING DAYS AFTER GRADING WORK IS COMPLETED.

11.RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING
IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH TOP-SOILED AREAS,
AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL.
IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH
TEMPORARY SEED.

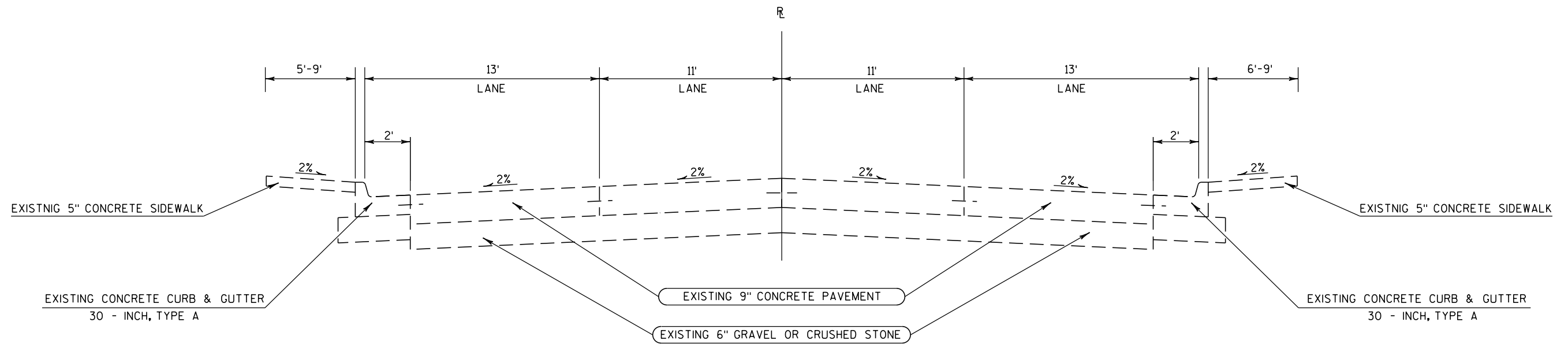
12.STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS
AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL
IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

13.EROSION CONTROL BMP’S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED
BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP’S SHALL BE MAINTAINED
UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP
IS NO LONGER REQUIRED.

DETAIL SHEET INDEX:

- GENERAL NOTES
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVALS
- PLAN DETAILS
- EROSION CONTROL
- STORM SEWER
- PERMANENT SIGNING
- LIGHTING PLAN
- TRAFFIC SIGNALS
- PAVEMENT MARKING
- TRAFFIC CONTROL AND CONSTRUCTION STAGING
- ALIGNMENT PLAN



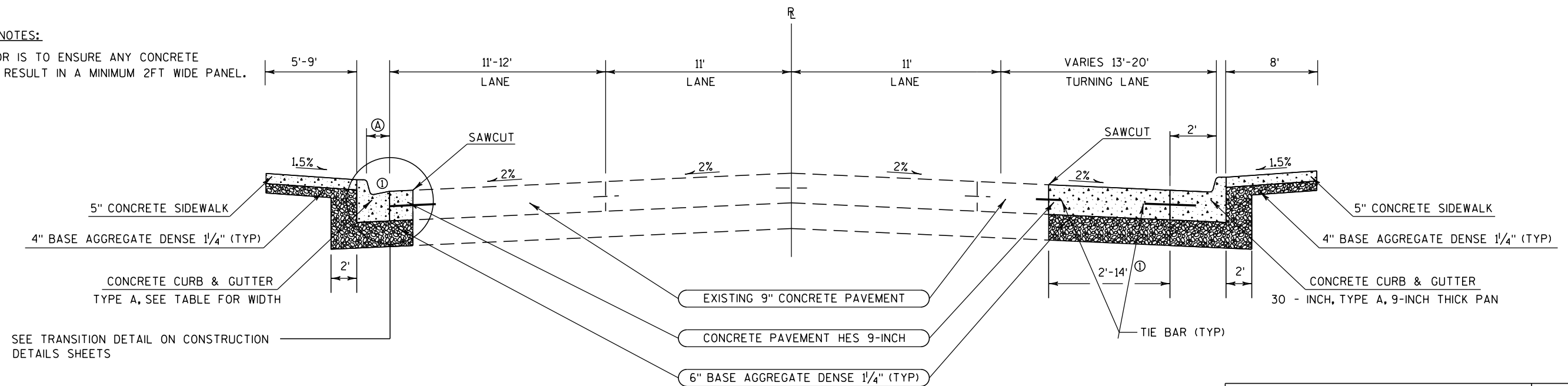


EXISTING 1ST STREET/MAIN STREET TYPICAL SECTION

STA 4+43.6 TO STA 6+08.7
STA 10+00.0 TO STA 11+13.7

GENERAL NOTES:

- CONTRACTOR IS TO ENSURE ANY CONCRETE WORK WILL RESULT IN A MINIMUM 2FT WIDE PANEL.



① THROUGH THE RADIUS

PROPOSED MAIN STREET TYPICAL SECTION

STA 4+43.6 to STA 5+00.0

LOCATION		① INCHES	LENGTH FEET
ROAD NAME	STATION		
STH 20	4+43.6 to 4+51.9	30-18	8
STH 20	4+51.9 to 5+00.0*	18	49
MAIN ST	SEE MAIN ST TYPICAL SECTION		

*STATION EQUATION STA 5+00.0 = STA 10+00.0

PROJECT NO: 2250-12-75

HWY: STH 20

COUNTY: RACINE

TYPICAL SECTIONS

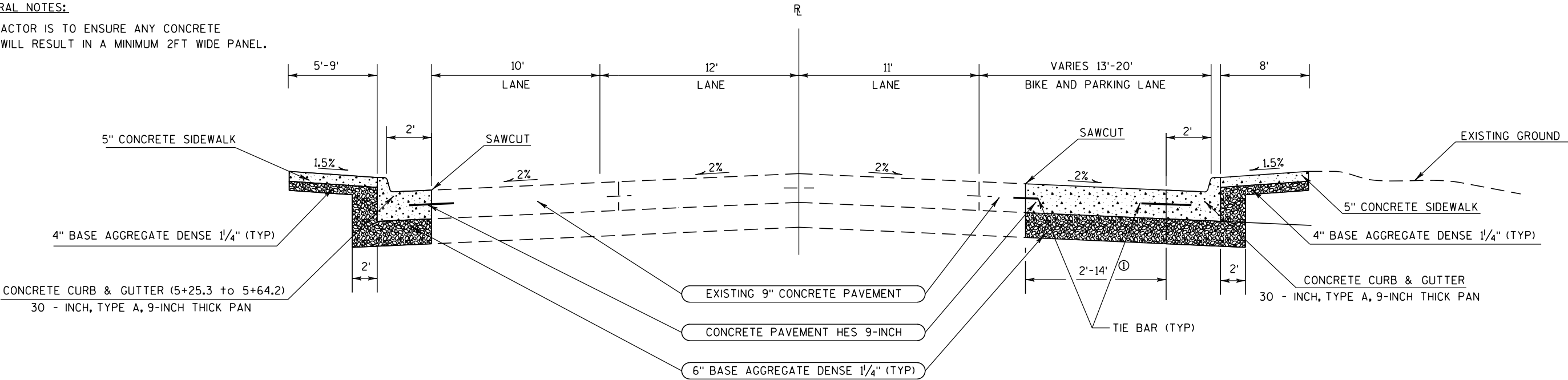
NOT TO SCALE

SHEET

E

GENERAL NOTES:

1. CONTRACTOR IS TO ENSURE ANY CONCRETE WORK WILL RESULT IN A MINIMUM 2FT WIDE PANEL.



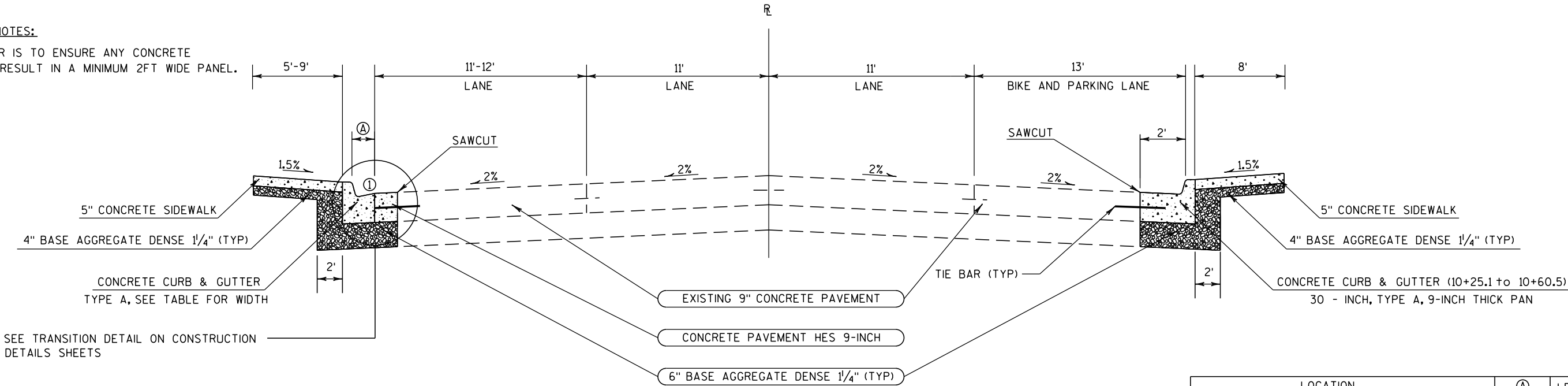
PROPOSED 1ST STREET TYPICAL SECTION

STA 5+00.0 to STA 6+08.7

① THROUGH THE RADIUS

GENERAL NOTES:

1. CONTRACTOR IS TO ENSURE ANY CONCRETE WORK WILL RESULT IN A MINIMUM 2FT WIDE PANEL.

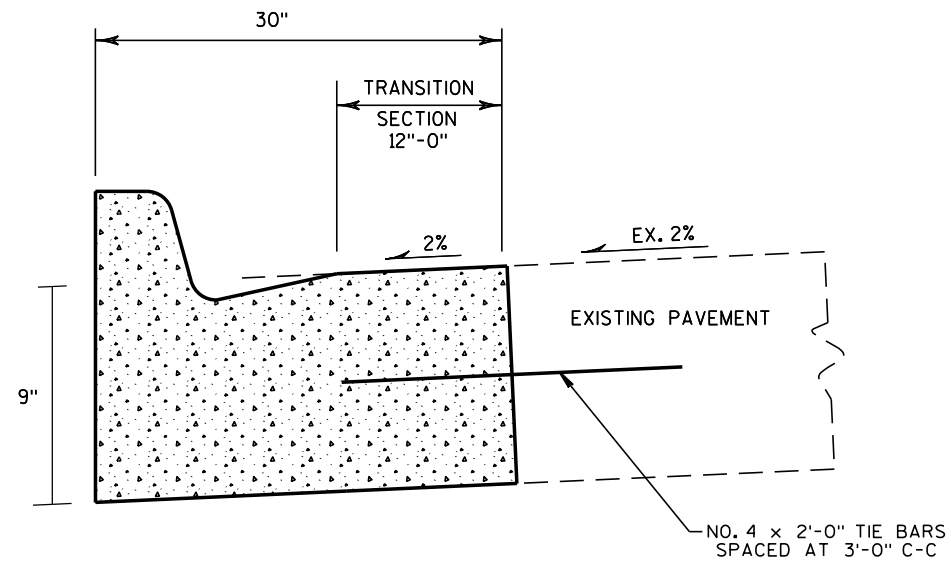


PROPOSED MAIN STREET TYPICAL SECTION

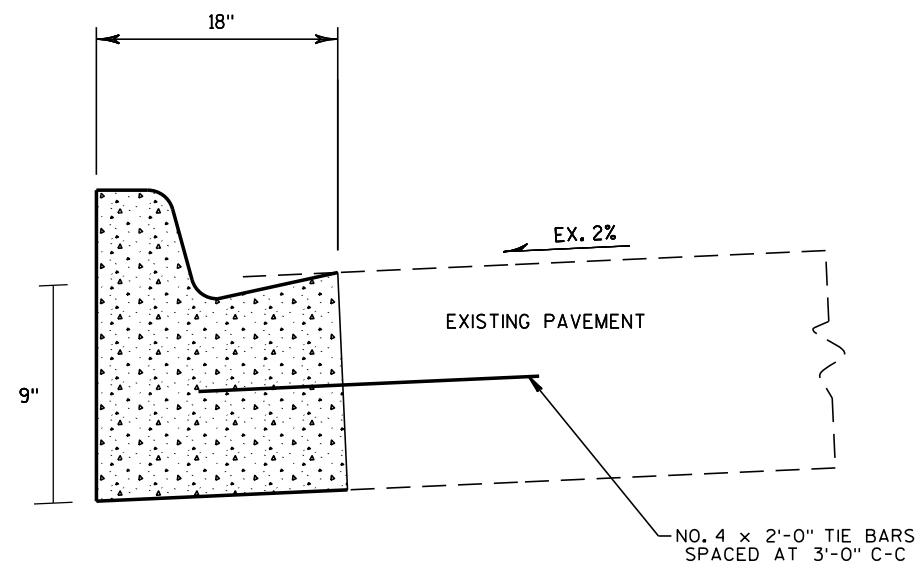
STA 10+00.0 to STA 11+13.7

LOCATION		① INCHES	LENGTH FEET
ROAD NAME	STATION		
STH 20	SEE STH 20 TYPICAL SECTION		
MAIN ST.	*10+00.0 to 11+05.6	18	106
MAIN ST.	11+05.6 to 11+13.7	18-30	8

*STATION EQUATION STA 5+00.0 = STA 10+00.0

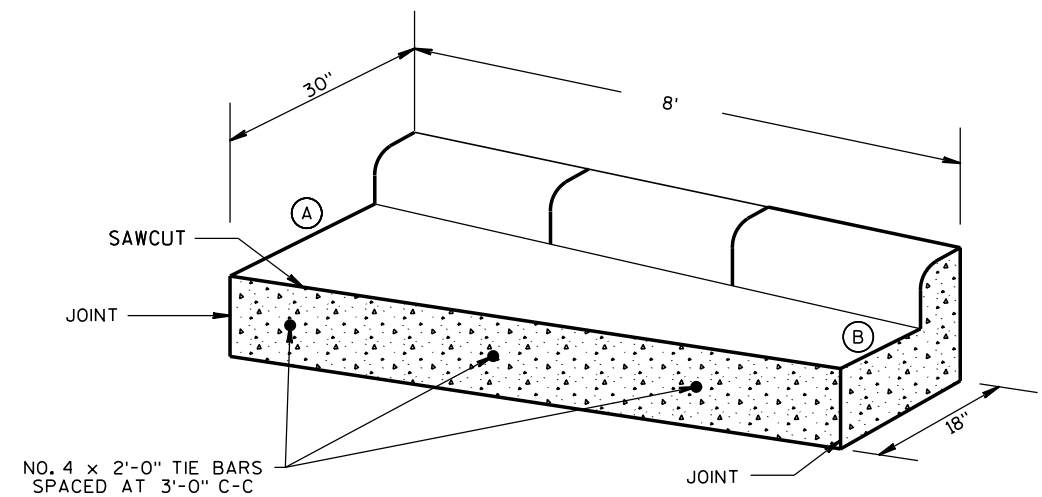


Ⓐ TRANSITION PROFILE VIEW



Ⓑ TRANSITION PROFILE VIEW

TRANSITION DETAIL



TRANSITION DETAIL

30" TYPE "A" CURB & GUTTER TO 18" TYPE "A" CURB & GUTTER
(TO BE MEASURED & PAID FOR AS CONCRETE CURB & GUTTER 30", TYPE A)

General Notes:

- 1. SIDEWALK CROSS-SLOPE NOT TO EXCEED 1.5%.
- 2. RAMP RUNNING SLOPE NOT TO EXCEED 7.1% EXCEPT WHERE NOTED.

STH 20/83 HIGH DR

4+00 (STH 20)

5+00 (STH 20)
10+00 (MAIN ST)

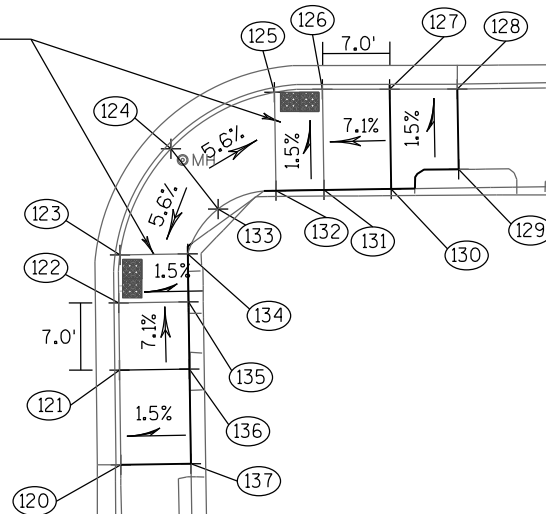
11+00 (MAIN ST)



PEDESTRIAN CURB RAMP TYPE 7A

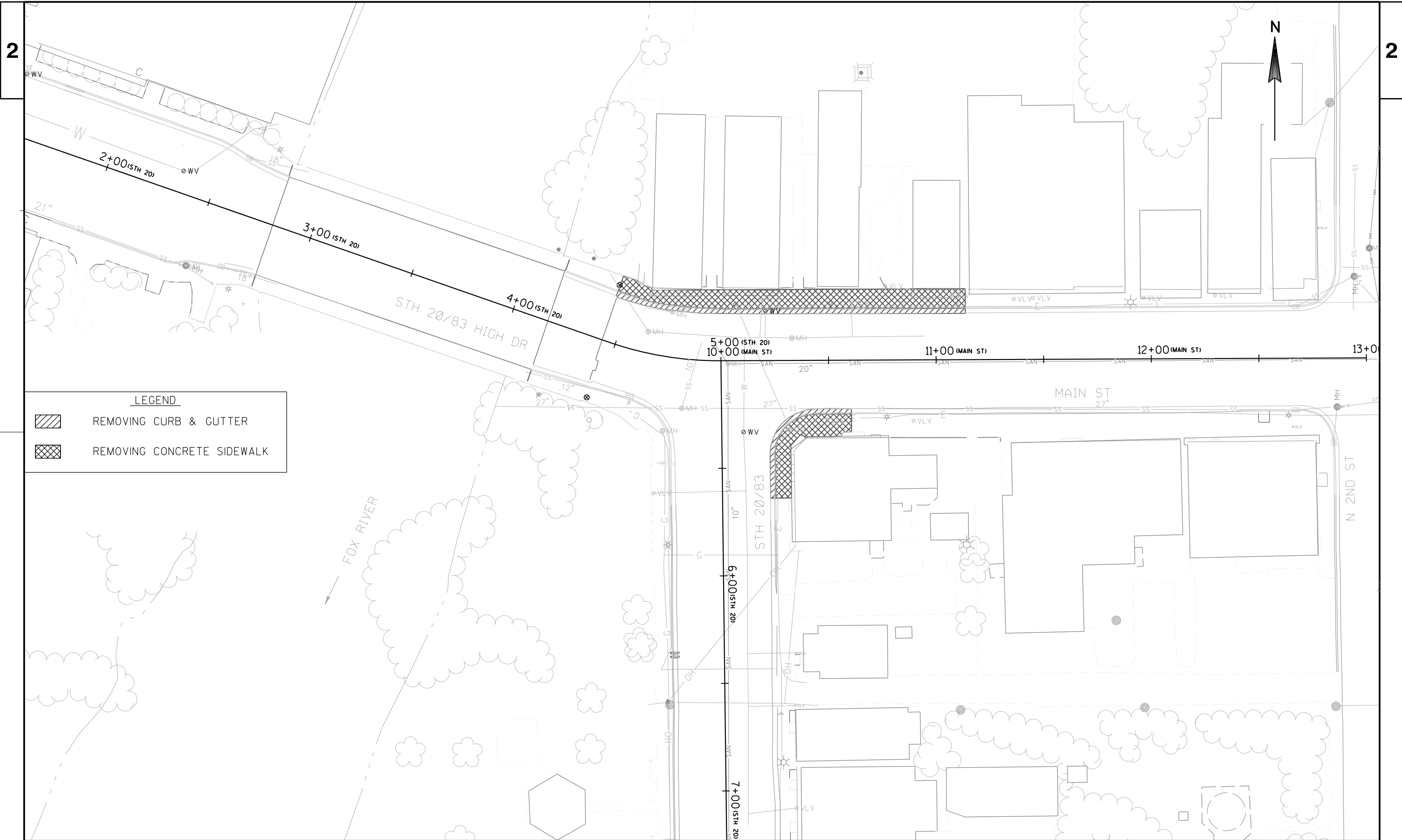
PEDESTRIAN CURB RAMP TYPE 7A

POINT	STATION (STH 20)	OFFSET (STH 20)	REMARKS
100	4+44.2	29.6' RT	MATCH EXISTING
101	5+36.6	48.6' RT	BEGIN RAMP
102	5+42.5	44.9' RT	BOTTOM OF RAMP/LANDING AREA
103	5+47.5	42.3' RT	BOTTOM OF RAMP/LANDING AREA
104	5+57.0	38.2' RT	BEGIN RAMP
105	6+08.7	32.0' RT	MATCH EXISTING
106	6+08.7	24.4' RT	MATCH EXISTING
107	5+53.9	29.9' RT	BEGIN RAMP
108	5+47.5	32.5' RT	BOTTOM OF RAMP/LANDING AREA
109	5+42.5	35.0' RT	BOTTOM OF RAMP/LANDING AREA
110	5+31.7	41.5' RT	BEGIN RAMP
111	5+19.6	51.4' RT	BOTTOM OF RAMP/LANDING AREA
112	5+15.6	55.4' RT	BOTTOM OF RAMP/LANDING AREA
113	5+24.4	58.0' RT	BOTTOM OF RAMP/LANDING AREA
114	5+29.0	54.1' RT	BOTTOM OF RAMP/LANDING AREA
115	5+11.2	63.1' RT	MATCH EXISTING



POINT	STATION (MAIN ST)	OFFSET (MAIN ST)	REMARKS
140	4+43.3	24.0' LT	MATCH EXISTING
141	10+34.6	23.7' LT	BEGIN RAMP
142	10+41.6	23.7' LT	BOTTOM OF RAMP/LANDING AREA
143	10+46.6	23.7' LT	BOTTOM OF RAMP/LANDING AREA
144	10+53.6	23.7' LT	BEGIN RAMP
145	11+13.6	24.2' LT	MATCH EXISTING
146	11+13.6	33.0' LT	MATCH EXISTING
147	10+53.7	33.0' LT	BEGIN RAMP
148	10+46.7	33.0' LT	BOTTOM OF RAMP/LANDING AREA
149	10+41.7	33.0' LT	BOTTOM OF RAMP/LANDING AREA
150	10+34.7	33.0' LT	BEGIN RAMP
151	4+42.4	31.4' LT	MATCH EXISTING
152	4+49.9	31.4' LT	BOTTOM OF RAMP/LANDING AREA
153	4+56.1	30.3' LT	BOTTOM OF RAMP/LANDING AREA
154	4+49.9	24.0' LT	BOTTOM OF RAMP/LANDING AREA
155	4+56.5	23.9' LT	BOTTOM OF RAMP/LANDING AREA
156	4+65.1	23.8' LT	BEGIN RAMP
157	4+64.7	29.8' LT	BEGIN RAMP

POINT	STATION (STH 20)	OFFSET (STH 20)	REMARKS
120	5+64.2	24.8' LT	MATCH EXISTING
121	5+54.3	24.8' LT	BEGIN RAMP
122	5+47.3	24.8' LT	BOTTOM OF RAMP/LANDING AREA
123	5+42.3	24.9' LT	BOTTOM OF RAMP/LANDING AREA
124	5+31.3	30.4' LT	BEGIN RAMP
125	5+25.6	41.2' LT	BOTTOM OF RAMP/LANDING AREA
126	5+25.3	46.2' LT	BOTTOM OF RAMP/LANDING AREA
127	5+25.4	53.2' LT	BEGIN RAMP
128	5+24.9	60.3' LT	MATCH EXISTING
129	5+33.8	60.4' LT	MATCH EXISTING
130	5+35.8	53.3' LT	BEGIN RAMP
131	5+35.8	46.3' LT	BOTTOM OF RAMP/LANDING AREA
132	5+35.8	41.3' LT	BOTTOM OF RAMP/LANDING AREA
133	5+37.7	35.2' LT	BEGIN RAMP
134	5+42.3	32.0' LT	BOTTOM OF RAMP/LANDING AREA
135	5+47.3	32.0' LT	BOTTOM OF RAMP/LANDING AREA
136	5+54.3	32.0' LT	BEGIN RAMP
137	5+64.2	32.1' LT	MATCH EXISTING



PROJECT NO: 2250-12-75

HWY: STH 20

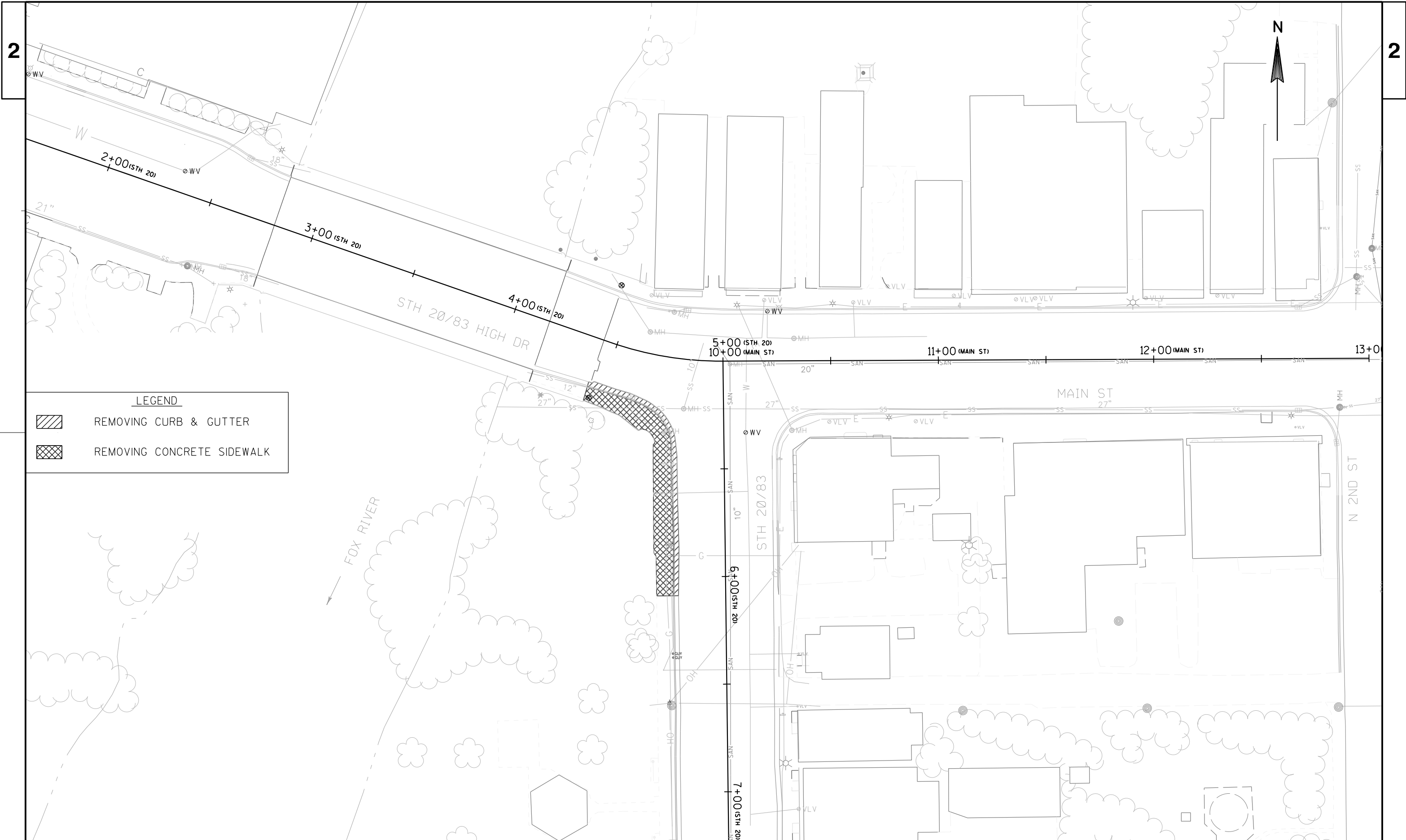
COUNTY: RACINE

REMOVAL PLANS STAGE 1

SCALE, FEET 0 20 40

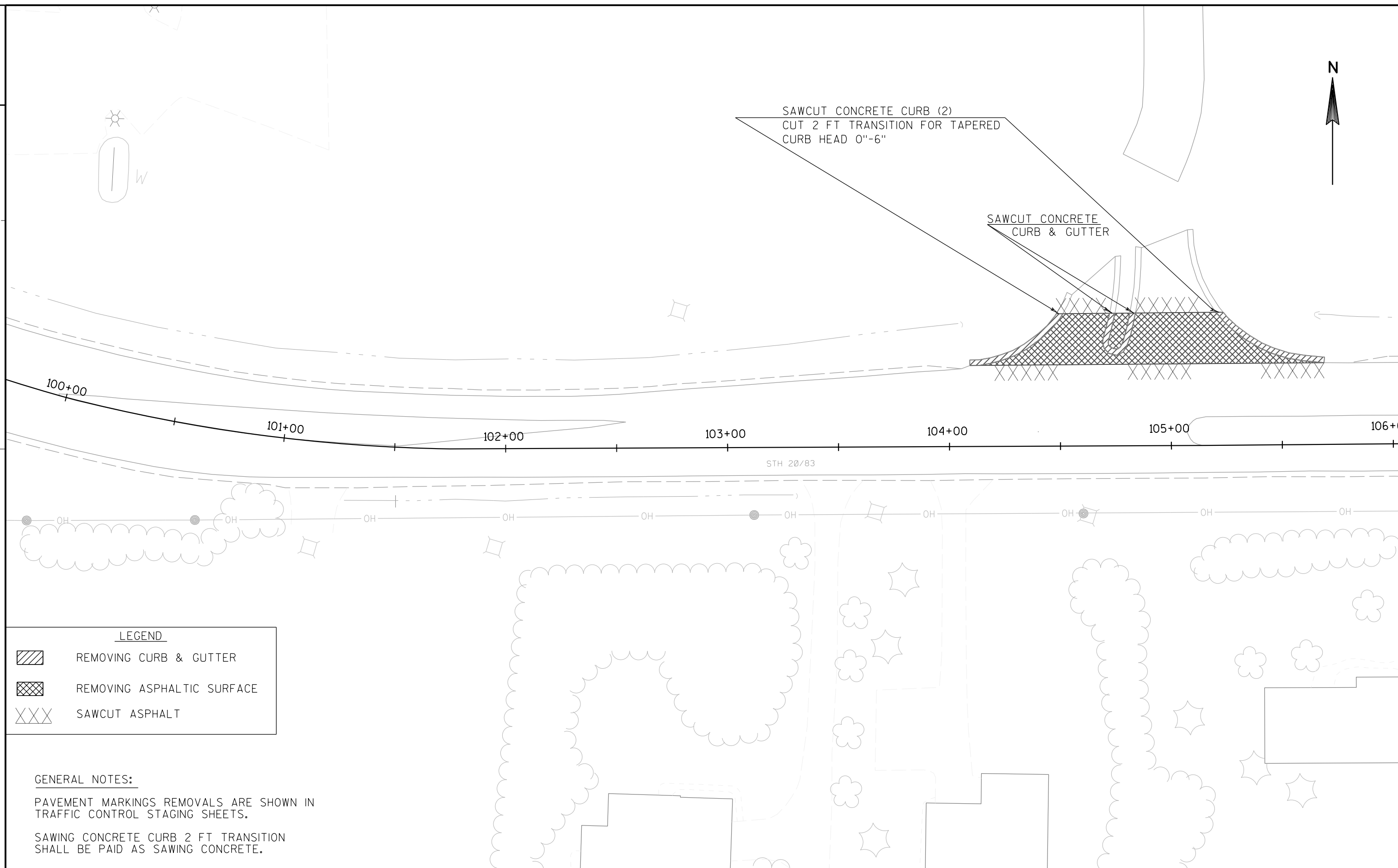
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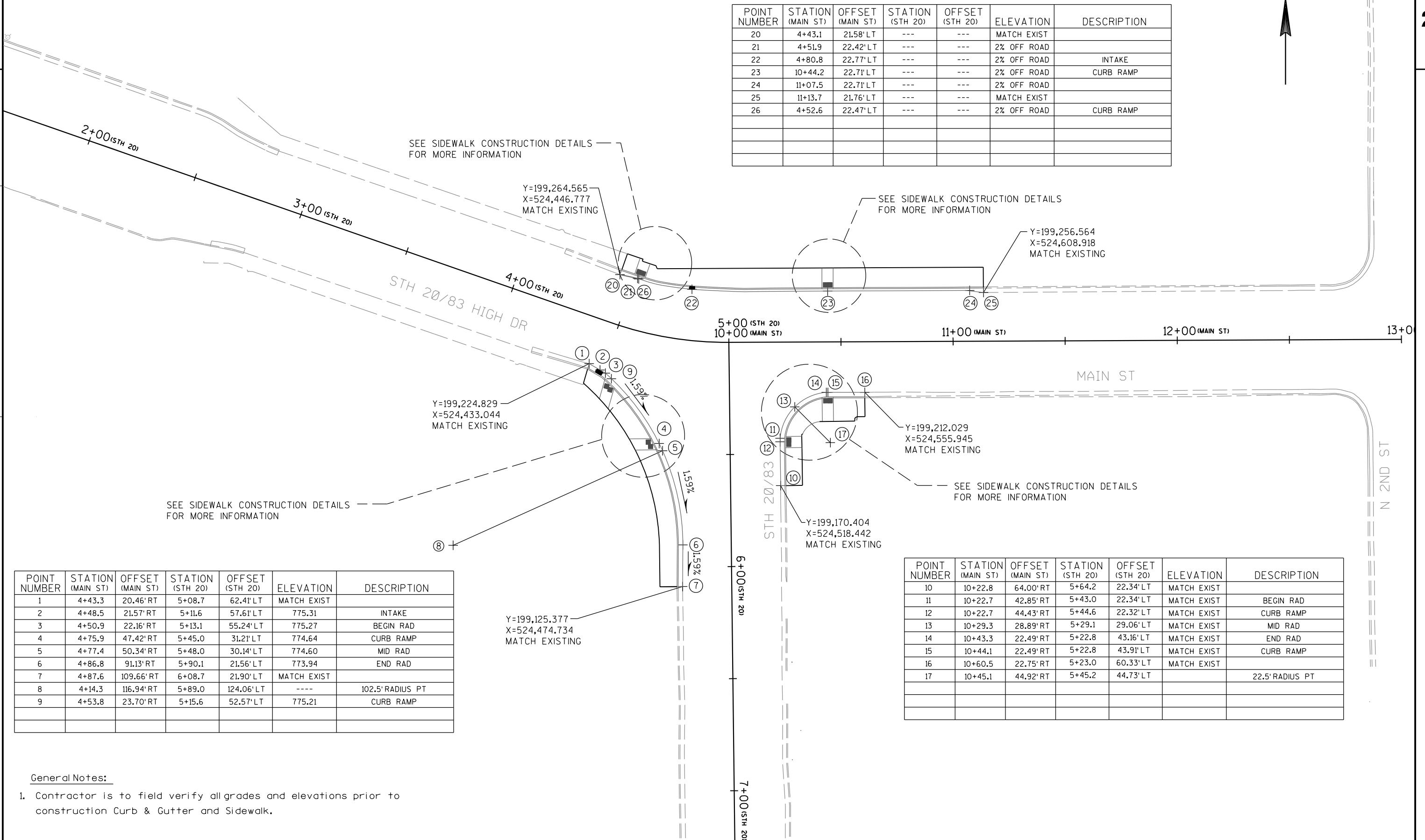
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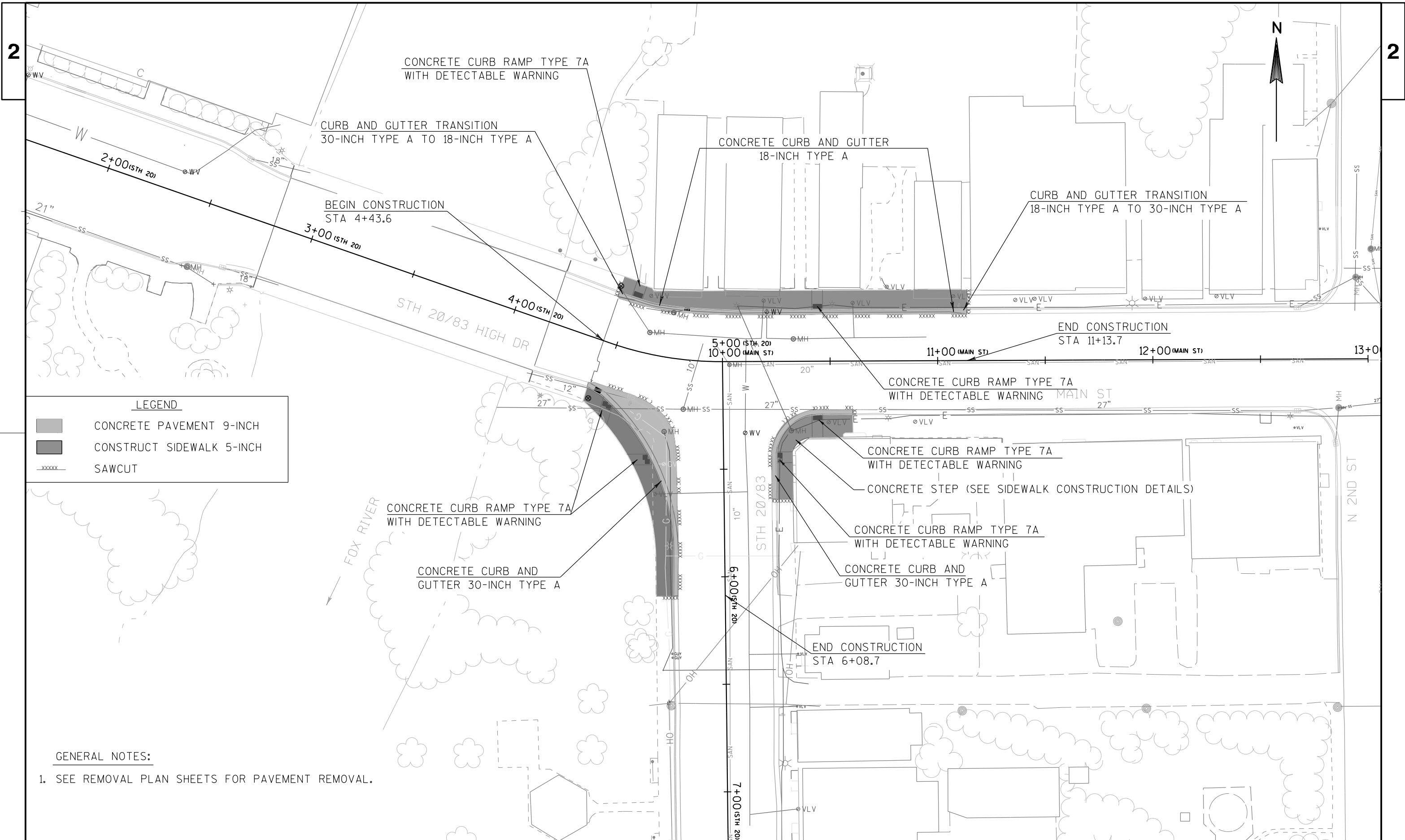


LEGEND

-  REMOVING CURB & GUTTER
-  REMOVING CONCRETE SIDEWALK







LEGEND

- CONCRETE PAVEMENT 9-INCH
- CONSTRUCT SIDEWALK 5-INCH
- SAWCUT

GENERAL NOTES:

- 1. SEE REMOVAL PLAN SHEETS FOR PAVEMENT REMOVAL.

2 |



FILE NAME : N:\PDS\Projects\22501200\Main&FirstIntProject\DGN\021202_PD.dgn

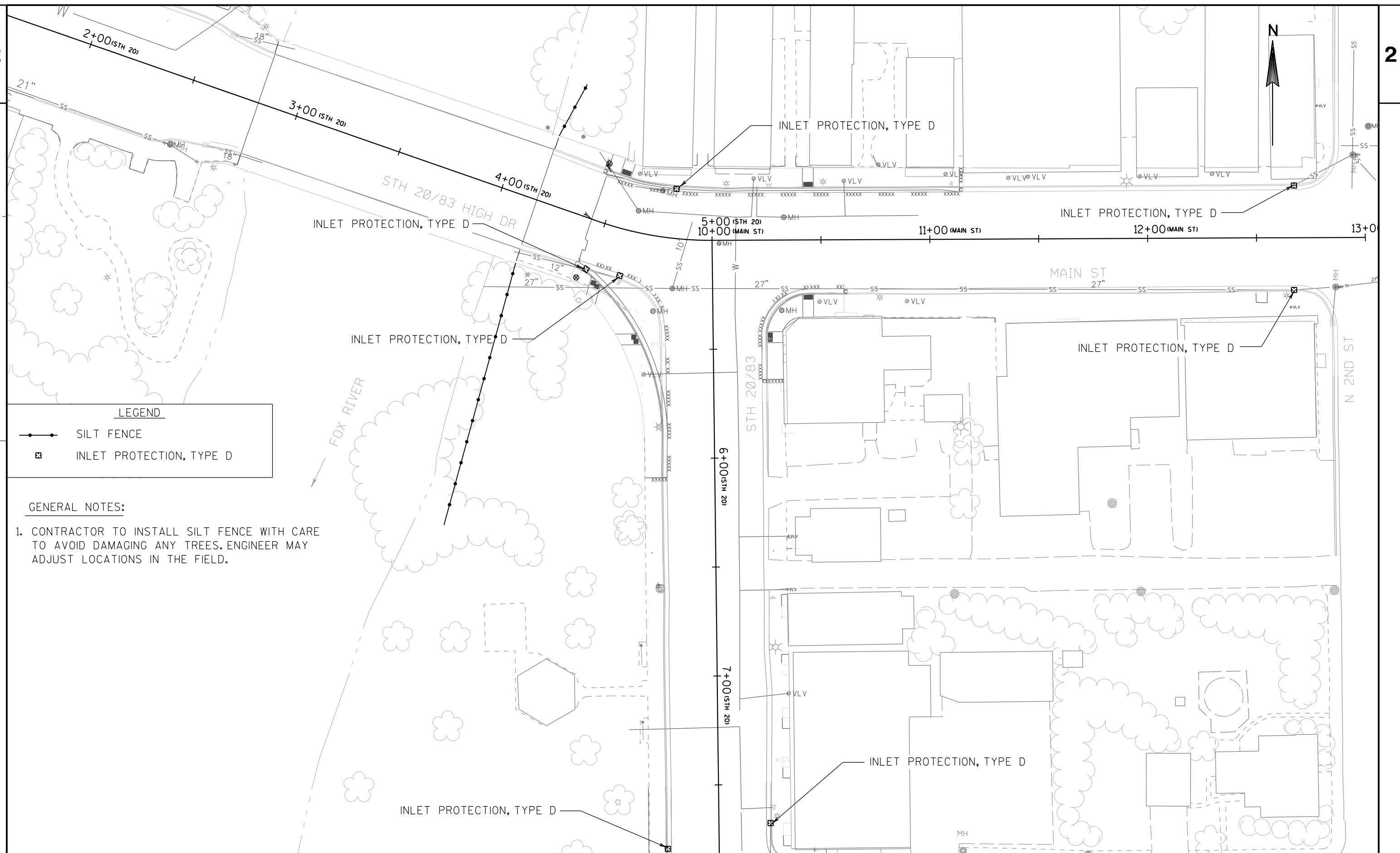
PLOT DATE : 4/28/2014

PLOT BY :

PLOT NAME :

PLOT SCALE : 40.0000 sf / in.

WISDOT/CADDIS SHEET 43

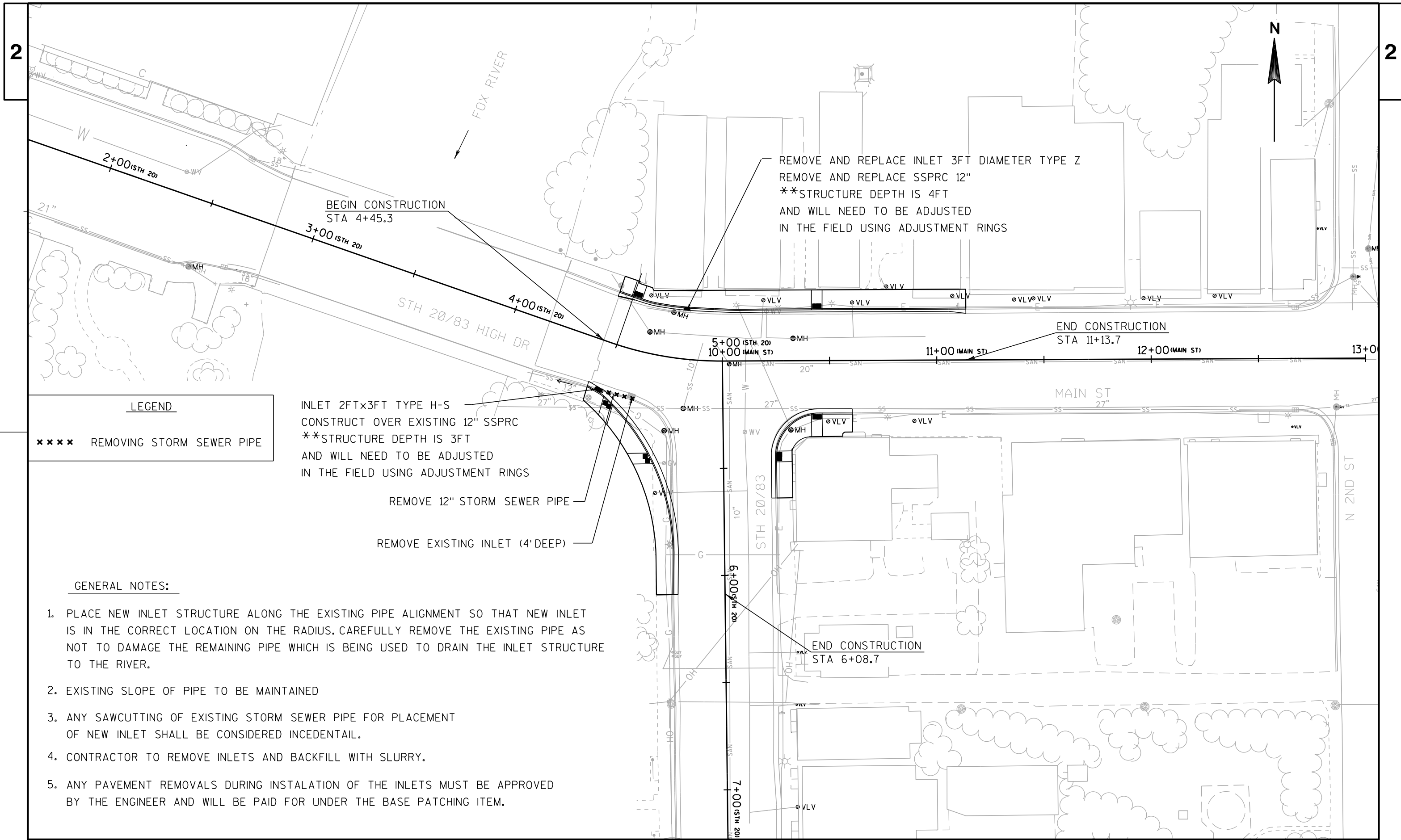


LEGEND

—●— SILT FENCE
 ☒ INLET PROTECTION, TYPE D

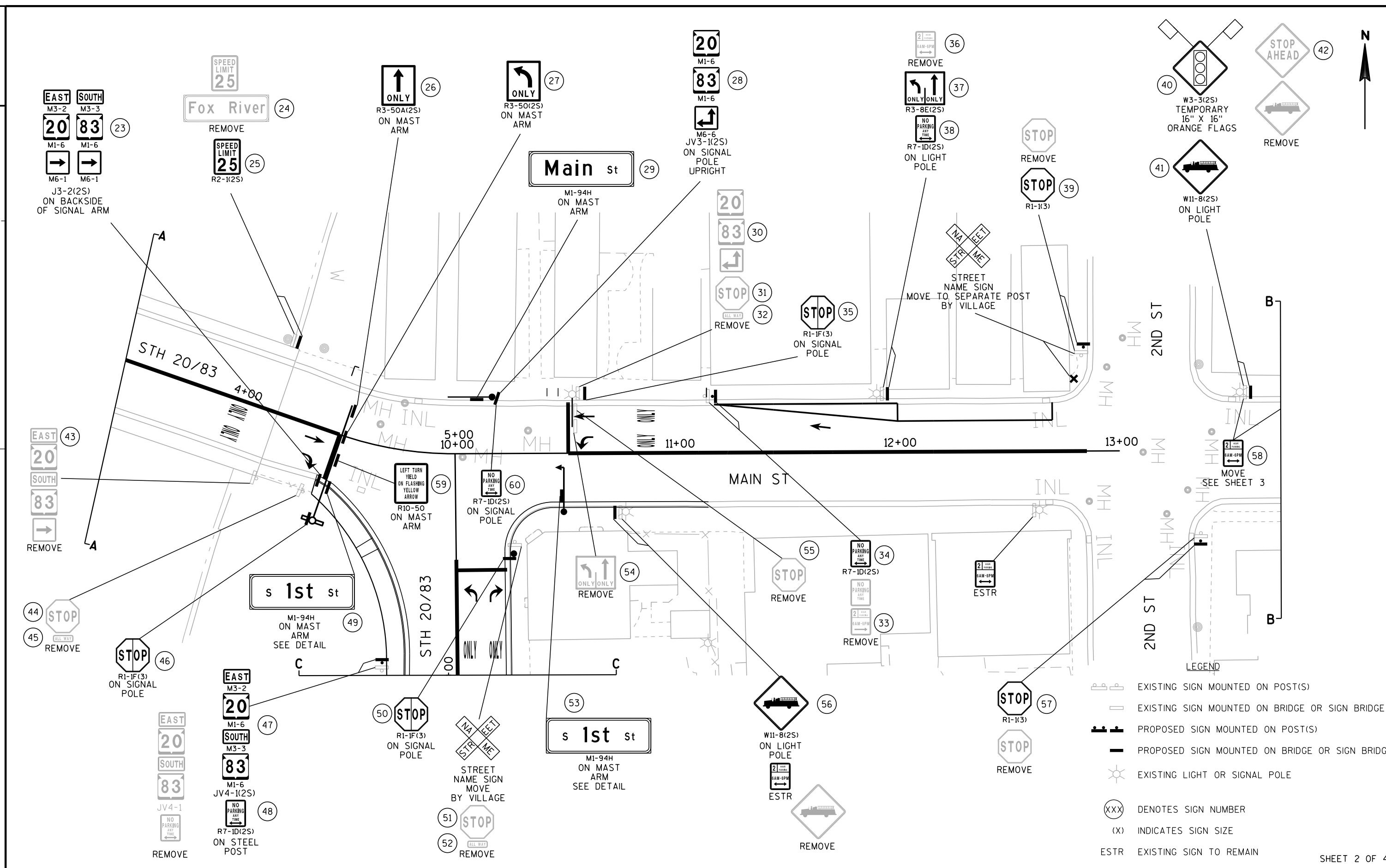
GENERAL NOTES:

1. CONTRACTOR TO INSTALL SILT FENCE WITH CARE TO AVOID DAMAGING ANY TREES. ENGINEER MAY ADJUST LOCATIONS IN THE FIELD.

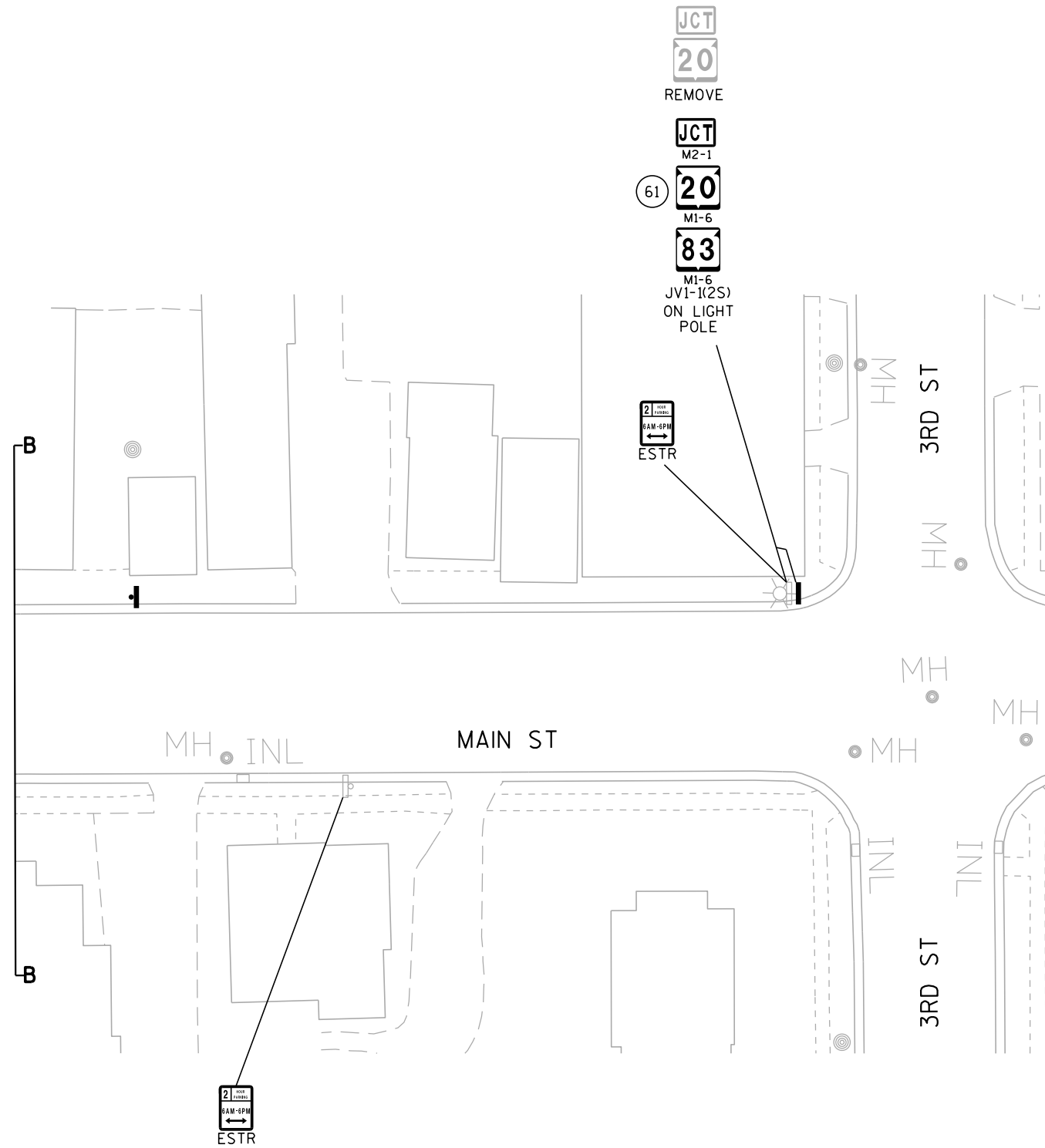


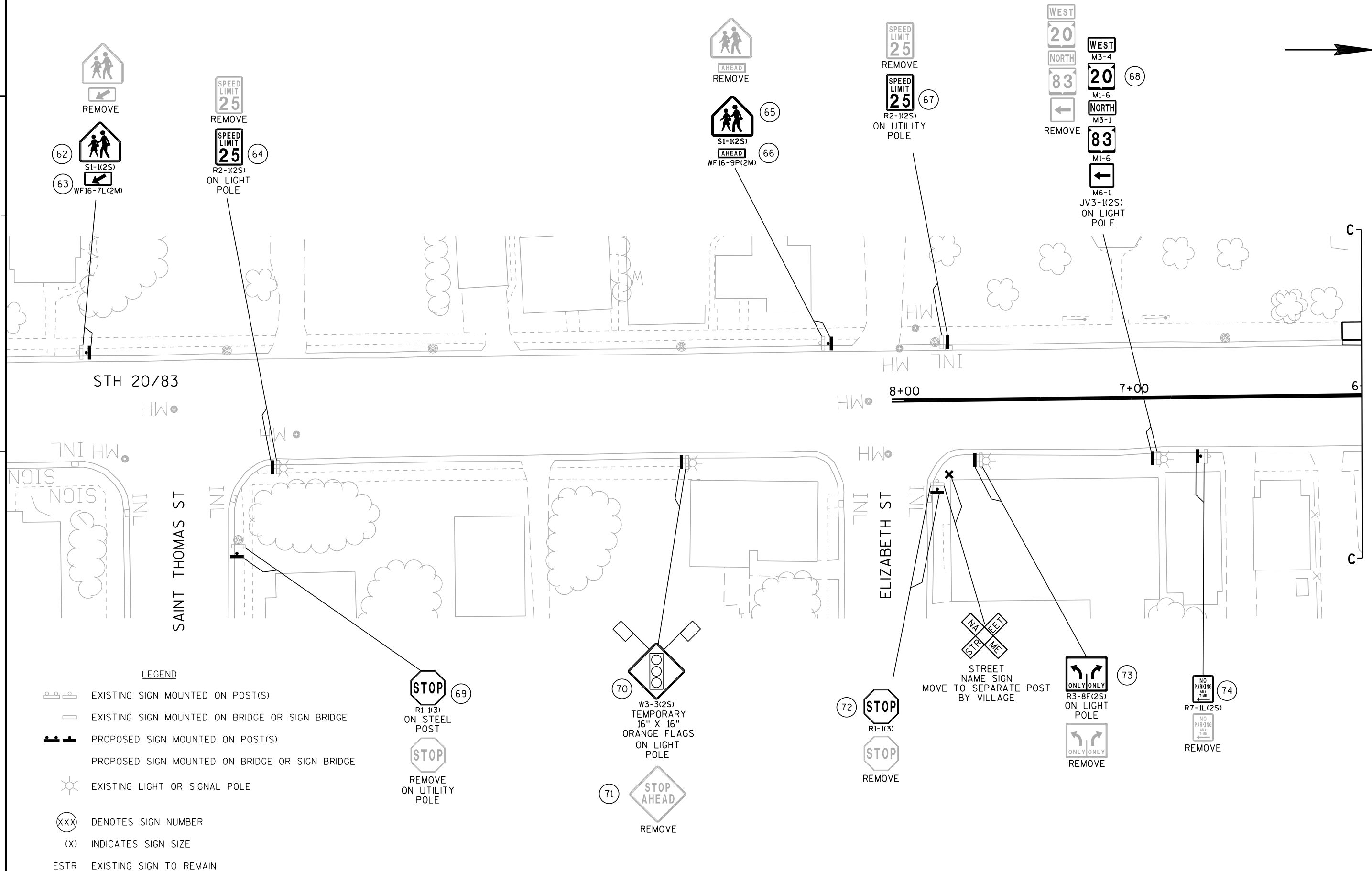
- GENERAL NOTES:
1. PLACE NEW INLET STRUCTURE ALONG THE EXISTING PIPE ALIGNMENT SO THAT NEW INLET IS IN THE CORRECT LOCATION ON THE RADIUS. CAREFULLY REMOVE THE EXISTING PIPE AS NOT TO DAMAGE THE REMAINING PIPE WHICH IS BEING USED TO DRAIN THE INLET STRUCTURE TO THE RIVER.
 2. EXISTING SLOPE OF PIPE TO BE MAINTAINED
 3. ANY SAWCUTTING OF EXISTING STORM SEWER PIPE FOR PLACEMENT OF NEW INLET SHALL BE CONSIDERED INCEDENTAIL.
 4. CONTRACTOR TO REMOVE INLETS AND BACKFILL WITH SLURRY.
 5. ANY PAVEMENT REMOVALS DURING INSTALATION OF THE INLETS MUST BE APPROVED BY THE ENGINEER AND WILL BE PAID FOR UNDER THE BASE PATCHING ITEM.





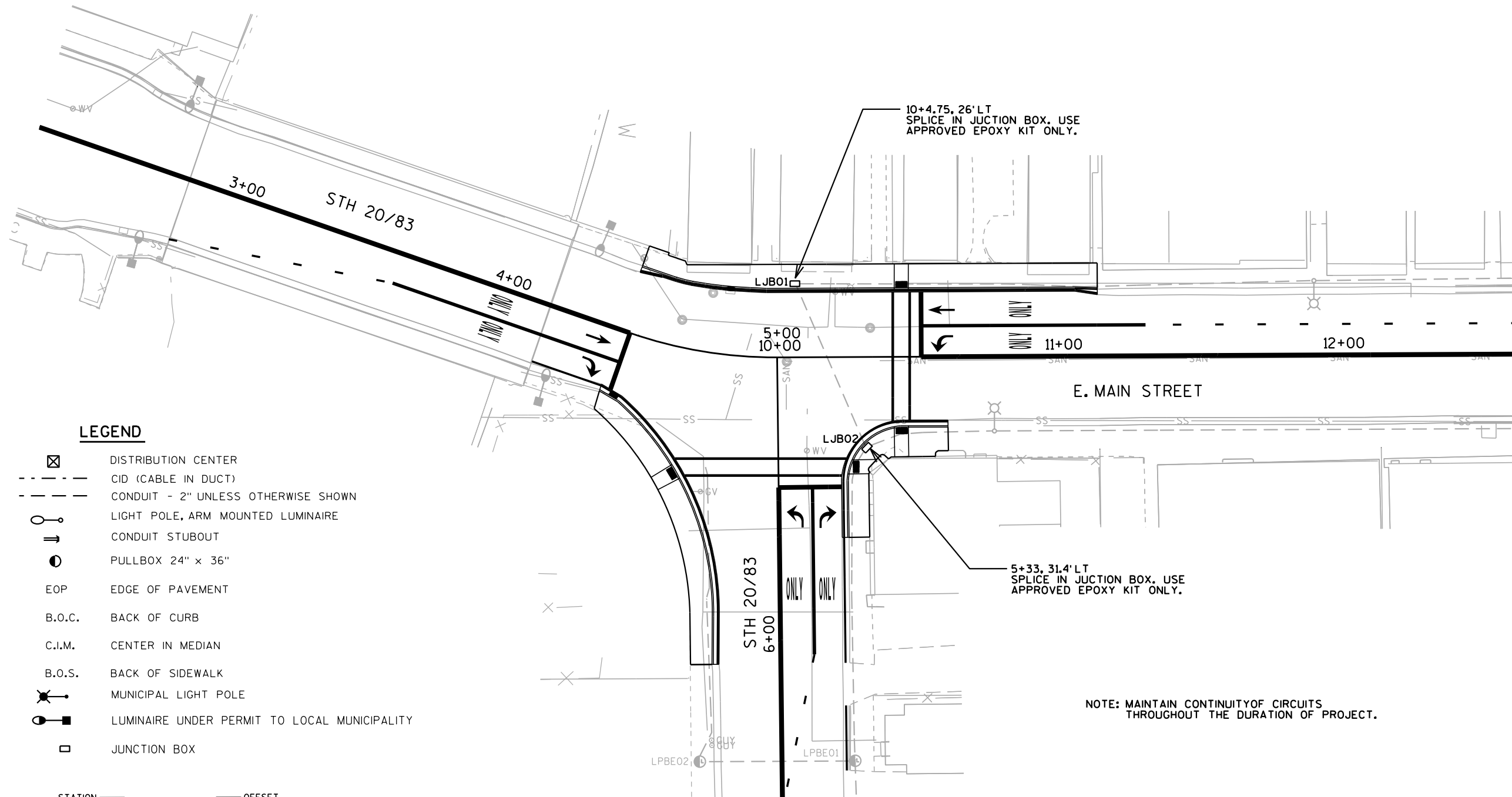
- LEGEND
- EXISTING SIGN MOUNTED ON POST(S)
 - EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 - PROPOSED SIGN MOUNTED ON POST(S)
 - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 - EXISTING LIGHT OR SIGNAL POLE
 - XXX DENOTES SIGN NUMBER
 - (X) INDICATES SIGN SIZE
 - ESTR EXISTING SIGN TO REMAIN



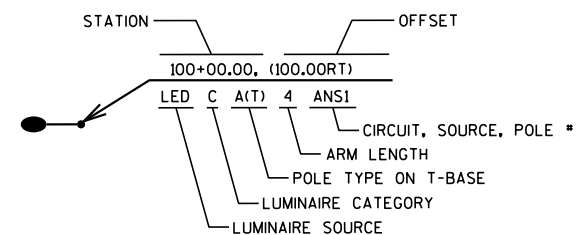




SHEET 1 OF 1

**LEGEND**

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 36"
- EOP EDGE OF PAVEMENT
- B.O.C. BACK OF CURB
- C.I.M. CENTER IN MEDIAN
- B.O.S. BACK OF SIDEWALK
- MUNICIPAL LIGHT POLE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- JUNCTION BOX



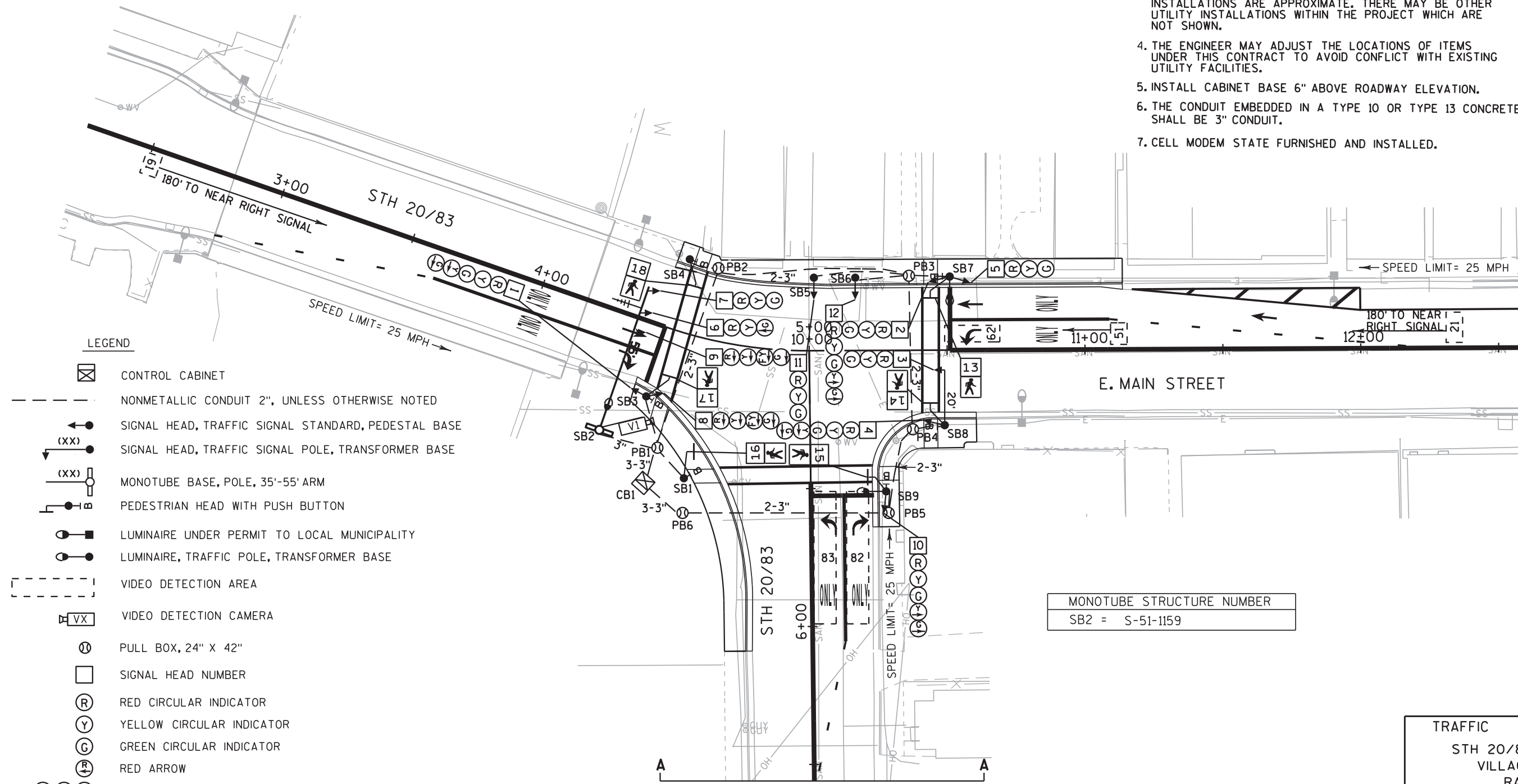
NOTE: GREYSHADE REPRESENTS EXISTING

LIGHTING PLAN DESIGNED BY
WISDOT SE REGION 10/13
DATE

SHEET 1 OF 1

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170
2. ALL LUMINAIRES ARE "LED" UNLESS OTHERWISE NOTED.
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
5. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
6. THE CONDUIT EMBEDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3" CONDUIT.
7. CELL MODEM STATE FURNISHED AND INSTALLED.



MONOTUBE STRUCTURE NUMBER
SB2 = S-51-1159

TRAFFIC CONTROL SIGNAL
STH 20/83 & E. MAIN STREET
VILLAGE OF WATERFORD
RACINE COUNTY

SIGNAL NO. S51-1394
CABINET TYPE: TS2
CONTROLLER TYPE: EPAC

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 5/1/14
APPROVED
Date 5/1/14

REGION CONTACT: D. WOLFORD
DESIGNED BY: M. BORCK
REVISED BY:

SHEET

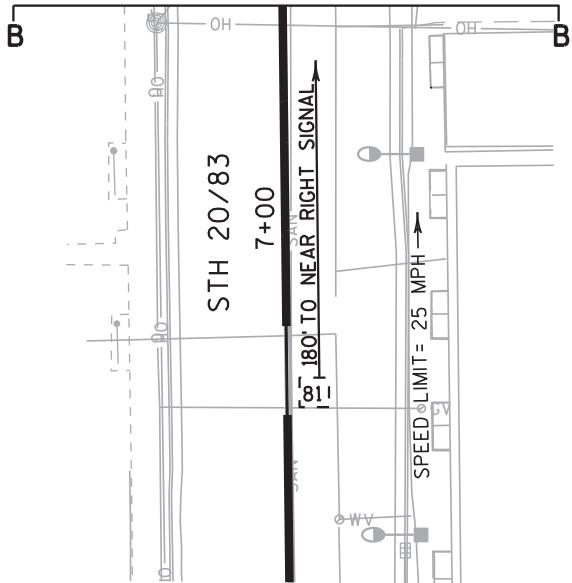
PAGE 1 OF 3
22

PROJECT NO: 2250-12-75

HWY: STH 20/83

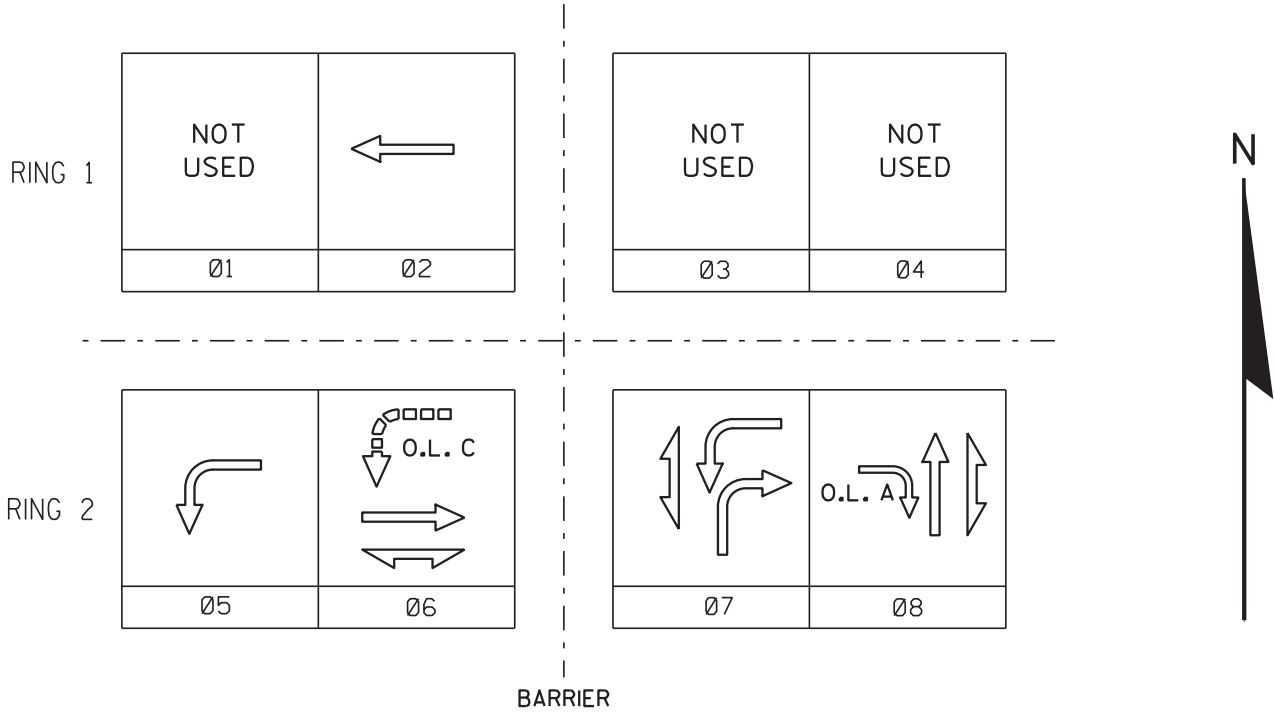
COUNTY: RACINE

TRAFFIC SIGNAL PLAN



TRAFFIC CONTROL SIGNAL STH 20/83 & E. MAIN STREET VILLAGE OF WATERFORD RACINE COUNTY	
SIGNAL NO. S51-1394	
REGION CONTACT: D. WOLFORD DESIGNED BY: M. BORCK REVISED BY:	PAGE 2 OF 3

	HEAD NUMBERS	FLASH
Ø1		
Ø2	5,6,7	R
Ø3		
Ø4		
Ø5	8,9	-
Ø6	1,2,3,4	R
Ø7	8,9,10,12	-
Ø8	10,11,12	R
Ø2P		
Ø6P	15,16	
Ø7P	17,18	
Ø8P	13,14	
OLA	1,4	-
OLB		
OLC	8,9	R
OLD		



PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2	X	6	MIN	x
3				
4				x
5		2		x
6	X	2	MIN	x
7				x
8				x

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR*	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	x

TYPE OF COORDINATION	
NONE	
TBC	x
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO: S51-1394	
SIGNAL SYSTEM #: SS- 01 - 75	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	x
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	x
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

DETECTOR LOGIC

DETECTOR INPUT	3	1	5	7	11	9	15	13
PLAN LOOP DETECTOR *(S)	21	51	61	62	81	82		
ASSIGNED PHASE	2	5	6	6	8	8		
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH		
SWITCH				5				
EXTEND					X			
DELAY		X			X	X		

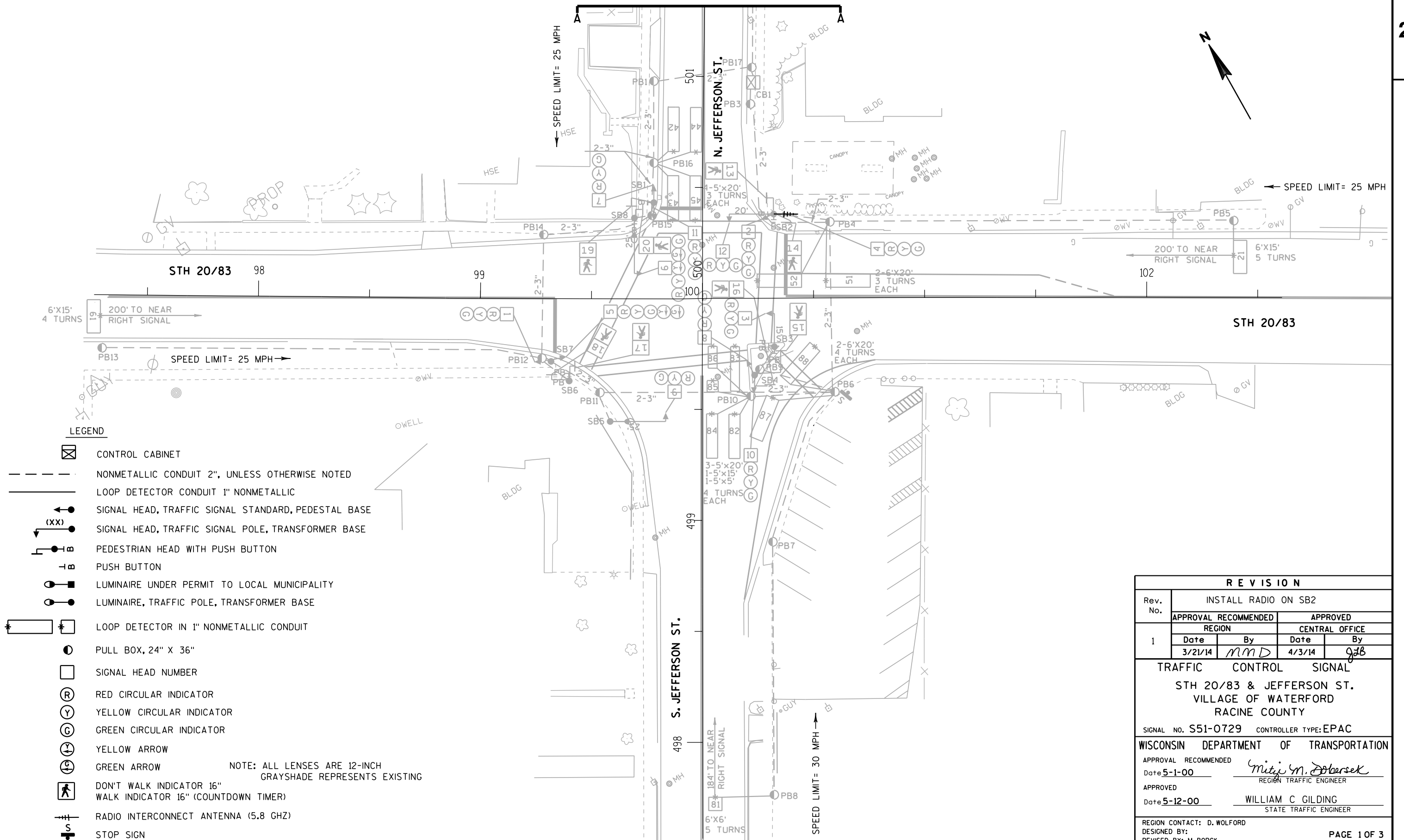
DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR *(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR *(S)						83		
ASSIGNED PHASE						8		
OPERATION MODE						VEH		
SWITCH								
EXTEND								
DELAY								

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR *(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

GENERAL NOTES:
1. PHASE 7 CALLED BY PEDESTRIAN PUSH BUTTONS

STH 20/83 & E. MAIN STREET VILLAGE OF WATERFORD RACINE COUNTY	
SIGNAL NO. S51-1394	CABINET TYPE: TS2
CONTROLLER TYPE: EPAC	
DATE 4/14	PAGE NO. 3 OF 3 24



LEGEND

- ☒ CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) ● SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- * [] * LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (Y) YELLOW ARROW
- (G) GREEN ARROW
- NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING
- DON'T WALK INDICATOR 16"
- WALK INDICATOR 16" (COUNTDOWN TIMER)
- RADIO INTERCONNECT ANTENNA (5.8 GHZ)
- STOP SIGN

REVISION				
Rev. No.	INSTALL RADIO ON SB2			
1	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
	Date	By	Date	By
	3/21/14	<i>mmd</i>	4/3/14	<i>gdb</i>
TRAFFIC CONTROL SIGNAL				
STH 20/83 & JEFFERSON ST.				
VILLAGE OF WATERFORD				
RACINE COUNTY				
SIGNAL NO. S51-0729 CONTROLLER TYPE:EPAC				
WISCONSIN DEPARTMENT OF TRANSPORTATION				
APPROVAL RECOMMENDED				
Date	5-1-00	<i>Mitzi M. Dohrsek</i>		
		REGION TRAFFIC ENGINEER		
APPROVED				
Date	5-12-00	WILLIAM C GILDING		
		STATE TRAFFIC ENGINEER		
REGION CONTACT: D. WOLFORD				
DESIGNED BY:				
REVISED BY: M. BORCK				

PAGE 1 OF 3

PROJECT NO: 2250-12-75

HWY: STH 20/83

COUNTY: RACINE

TRAFFIC SIGNAL PLAN

SHEET

25

E

FILE NAME : J:\projects\22501220\Signal\S0729\S0729a.DGN

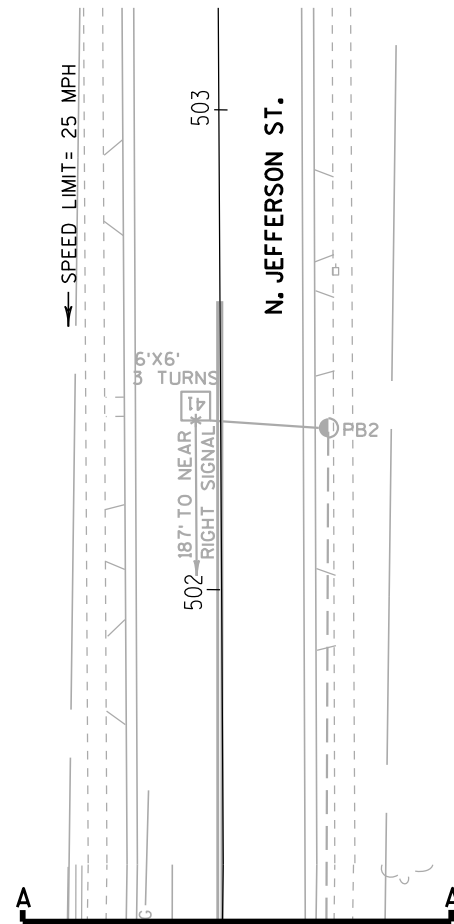
PLOT DATE : 30-APR-2014 06:11

PLOT BY : dotbgw

PLOT NAME :

PLOT SCALE : 40:1

WISDOT/CADDs SHEET 42



TRAFFIC CONTROL SIGNAL
STH 20/83 & JEFFERSON ST.
VILLAGE OF WATERFORD
RACINE COUNTY

SIGNAL NO. S51-0729

REGION CONTACT: D. WOLFORD

DESIGNED BY:

REVISED BY: M. BORCK

PAGE 2 OF 3

PROJECT NO: 2250-12-75

HWY: STH 20/83

COUNTY: RACINE

TRAFFIC SIGNAL PLAN

SHEET 26

E

2

SEQUENCE OF OPERATION

NOT USED

NOT USED

RING 1

	HEAD NUMBERS	Ø1				Ø2				Ø3				Ø4			
		R/W	CLEAR TO			R/W	CLEAR TO			R/W	CLEAR TO			R/W	CLEAR TO		
			**				**				**				**		
Ø1																	
Ø2	4,5,6						G	Y	R				R	R	R		
Ø3																	
Ø4	7,8,9						R	R	R				G	Y	R		
Ø5	5,6						-	-	-				-	-	-		
Ø6	1,2,3						R	R	R				R	R	R		
Ø7																	
Ø8	10,11,12						R	R	R				R	R	R		
Ø2P	13,20						*	D	D				D	D	D		
Ø4P	17,19						D	D	D				*	D	D		
Ø6P	16,18						D	D	D				D	D	D		
Ø8P	14,15						D	D	D				D	D	D		

RING 2

	HEAD NUMBERS	Ø5				Ø6				Ø7				Ø8			
		R/W	CLEAR TO			R/W	CLEAR TO			R/W	CLEAR TO			R/W	CLEAR TO		
			**				**				**				**		
Ø1																	
Ø2	4,5,6	R	R	R			R	R	R				R	R	R		
Ø3																	
Ø4	7,8,9	R	R	R			R	R	R				R	R	R		
Ø5	5,6	G	Y	-			-	-	-				-	-	-		
Ø6	1,2,3	R	R	R			G	Y	R				R	R	R		
Ø7																	
Ø8	10,11,12	R	R	R			R	R	R				G	Y	R		
Ø2P	13,20	D	D	D			D	D	D				D	D	D		
Ø4P	17,19	D	D	D			D	D	D				D	D	D		
Ø6P	16,18	D	D	D			*	D	D				D	D	D		
Ø8P	14,15	D	D	D			D	D	D				*	D	D		

FLASH

R

R

-

R

R

NOT USED

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1		
2	5 OR 6	4,8
3		
4	8	2,5,6
5	2	4,6,8
6	2	4,5,8
7		
8	4	2,5,6

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.

2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1AT LEFT.)

STH 20/83 & JEFFERSON ST.

VILLAGE OF WATERFORD

RACINE COUNTY

SIGNAL NO.S51-0729

CONTROLLER TYPE: EPAC

DATE 4/2014

PAGE NO. 3 OF 3

PROJECT NO:2250-12-75

HWY: STH 20/83

COUNTY: RACINE

TRAFFIC SIGNAL PLAN

SHEET 27

E

FILE NAME : J:\projects\02_22501220\Signal\S0729\S0729a.DGN

PLOT DATE : 30-APR-2014 06:11

PLOT BY : dotbgw

PLOT NAME :

PLOT SCALE : 40:1

WISDOT/CADDs SHEET 42

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
21	1	X			2	2				6'X15'	5
41	2			X		4			X	6'X6"	3
42	3	X			4	4		X		5'X20'	3
43	3	X			4	4		X		5'X20'	3
44	4	X			4	4				5'X20'	3
45	4	X			4	4				5'X20'	3
51	5	X			5	5				6'X20'	3
52	6	X			5	5		X		6'X20'	3
61	7	X			6	6				6'X15'	4
81	8			X		8			X	6'X6'	5
82	9	X			8	8				5'X20'	4
83	9	X			8	8				5'X20'	4
84	10	X			8	8				5'X20'	4
85	11	X			8	8		X		5'X5'	4
86	11	X			8	8		X		5'X15'	4
87	12	X			8	8		X	X	6'X20'	4
88	12	X			8	8		X	X	6'X20'	4

TYPE OF INTERCONNECT COMMUNICATION

NONE	
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	x
*LOCATION OF MASTER CONTROLLER NO: S51-1394	
SIGNAL SYSTEM #: SS- 01 - 75	

TYPE OF PRE-EMPT

NONE	x
RAILROAD	
EMERGENCY VEHICLE	
3M	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF LIGHTING

BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	x
IN SEPARATE DOT LIGHTING CABINET	

OVERLAPS

O.L. "A" =

O.L. "B" =

O.L. "C" =

O.L. "D" =

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2	X	6	MIN.	X
3				
4		8		X
5		2		X
6	X	2	MIN.	X
7				
8		4		X

3

PROJECT ID:	2250-12-75
INTERSECTION:	STH 20/83 & E. Main Street

Signal Wire Color	BLK - black	RED - red	GRN - green
Coding	WHT - white	BLU - blue	ORG - orange

CB1 TO	AWG14 # OF CONDUCTORS	HEAD NO.	SIGNAL INDICATION WIRE COLOR								D/WALK	WALK	PED BUTTON	OTHER
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING> <YELLOW>					
SB1	7	16									BLK	BLU		
		BUTTON											WHT/BLK	
SB2	12	6	RED	ORG	GRN									
		7	RED	ORG	GRN									
		9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT					
SB3	15	1	RED	ORG	GRN		BLU/WHT	GRN/WHT						
		8				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT					
		17									BLK	BLU		
		BUTTON											WHT/BLK	
SB4	12	18									BLK	BLU		
		BUTTON											WHT/BLK	
SB5	7	11	RED	ORG	GRN									
SB6	12	12	RED	ORG	GRN		ORG/BLK	GRN/BLK						
SB7	12	2	RED	ORG	GRN									
		5	RED/BLK	ORG/BLK	GRN/BLK									
		13									BLK	BLU		
		BUTTON											WHT/BLK	
SB8	12	3	RED	ORG	GRN									
		4	RED	ORG	GRN		ORG/BLK	GRN/BLK						
		14									BLK	BLU		
		BUTTON											WHT/BLK	
SB9	12	10	RED	ORG	GRN		ORG/BLK	GRN/BLK						
		15									BLK	BLU		
		BUTTON											WHT/BLK	

Equipment grounding conductor 10 AWG Green XLP	
From	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	CB1

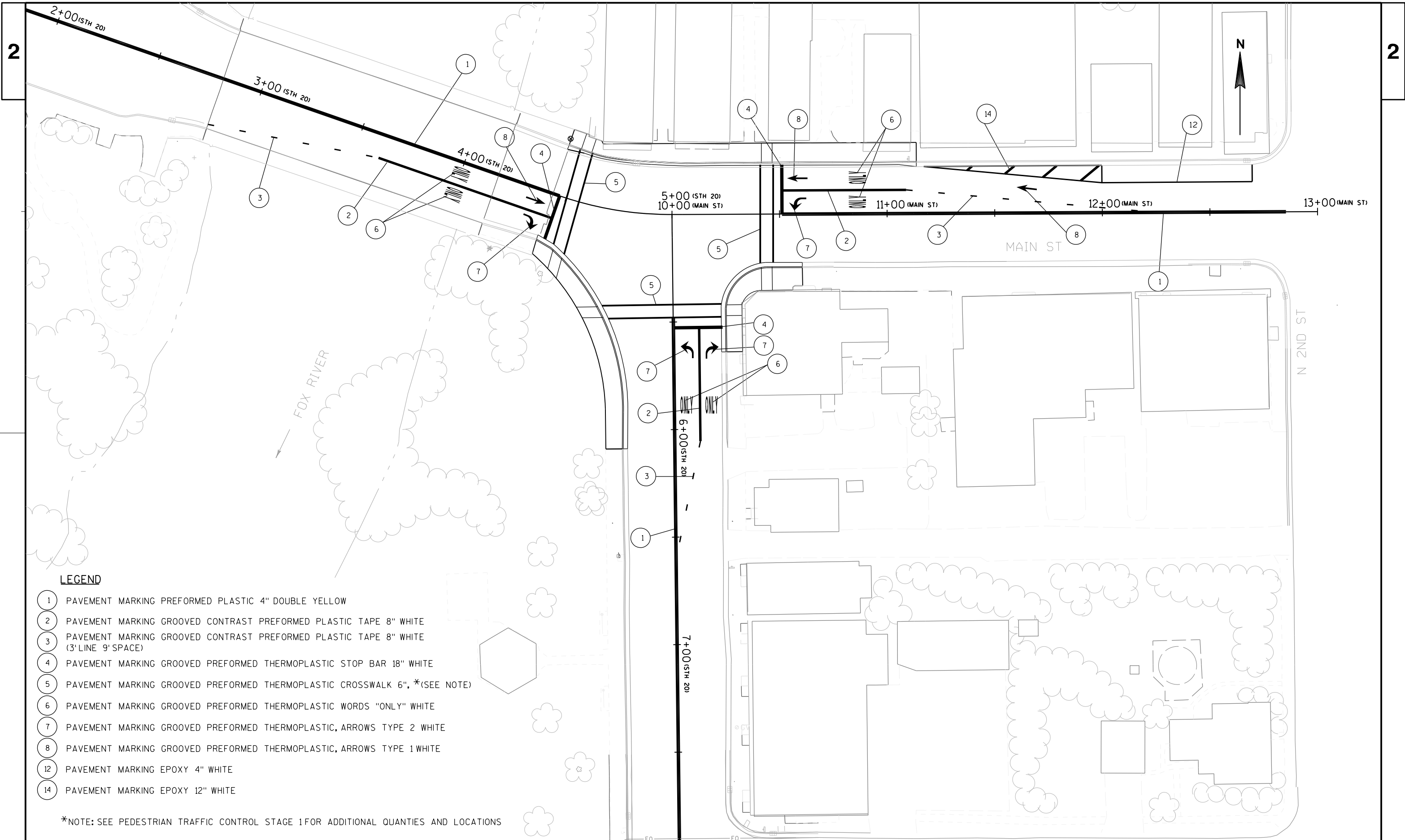
Lighting UF #12 w/ground	
From	To
CB1	SB2
SB2	SB7
CB1	SB9

Pull Box Bonding Jumper 10 AWG Green XLP	
From	To
PB1	SB2
PB2	SB4
PB3	SB7
PB4	SB8
PB5	SB9
PB6	CB1

Video Detection Cable	
From	To
CB1	SB2

- *Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
- *Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.
- *At the signal bases, connect one terminal from the pedestrian push buttons to the color indicated in the chart. Connect the other terminal to the grounded conductor.
- *Reconnect the grounding conductors wherever the circuit has been interrupted to ensure the grounding circuit is complete.

3



LEGEND

- 1 PAVEMENT MARKING PREFORMED PLASTIC 4" DOUBLE YELLOW
- 2 PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE 8" WHITE
- 3 PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE 8" WHITE (3' LINE 9' SPACE)
- 4 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP BAR 18" WHITE
- 5 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6", *(SEE NOTE)
- 6 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS "ONLY" WHITE
- 7 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC, ARROWS TYPE 2 WHITE
- 8 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC, ARROWS TYPE 1 WHITE
- 12 PAVEMENT MARKING EPOXY 4" WHITE
- 14 PAVEMENT MARKING EPOXY 12" WHITE

*NOTE: SEE PEDESTRIAN TRAFFIC CONTROL STAGE 1 FOR ADDITIONAL QUANTIES AND LOCATIONS

PROJECT NO: 2250-12-75

HWY: STH 20

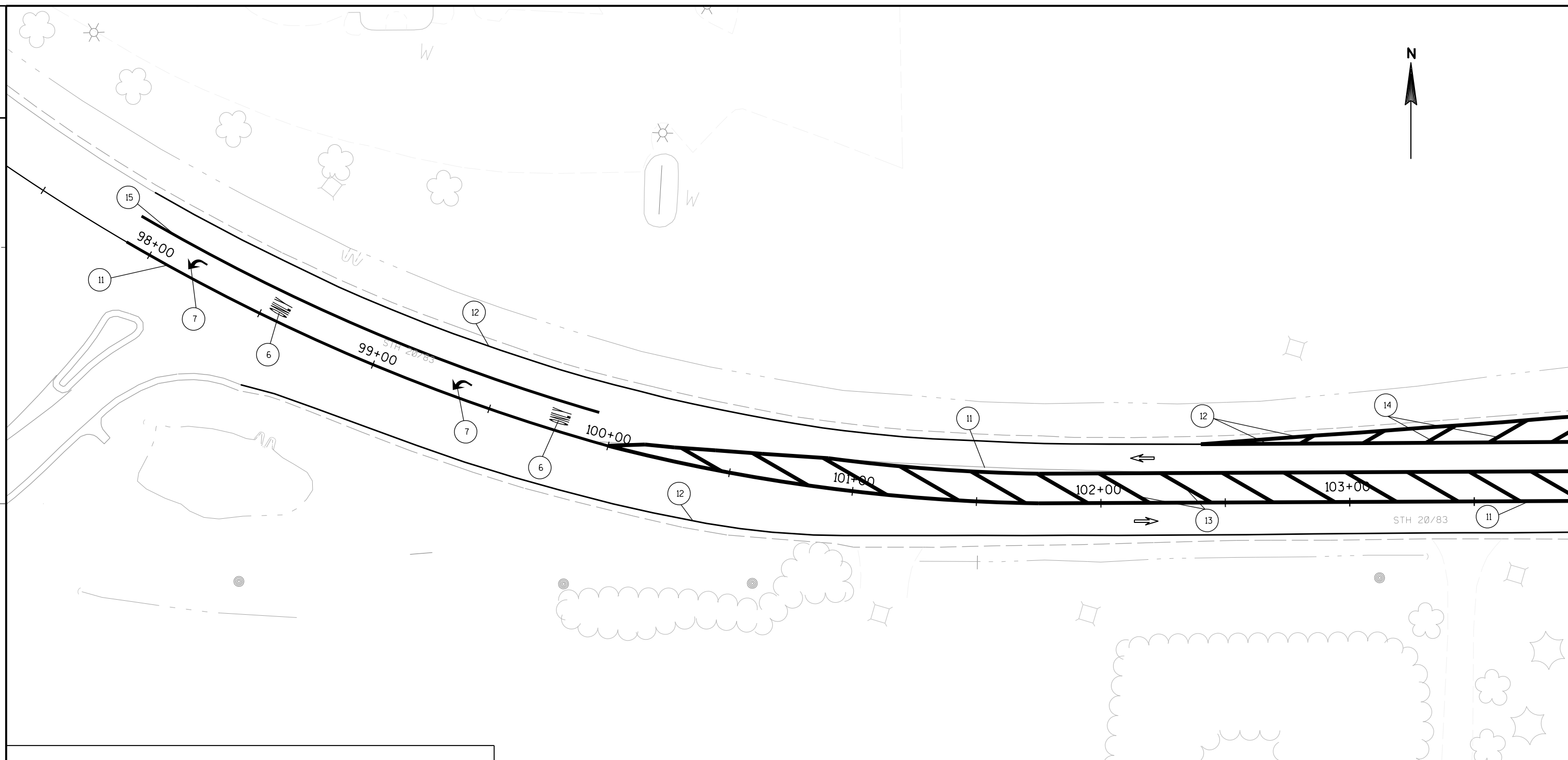
COUNTY: RACINE

PERMENANT PAVEMENT MARKING

SHEET

29

E

**LEGEND**

- 6 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC, WORDS "ONLY"
- 7 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC, ARROWS TYPE 2
- 11 PAVEMENT MARKING EPOXY 4-INCH YELLOW, DOUBLE
- 12 PAVEMENT MARKING EPOXY 4-INCH WHITE
- 13 PAVEMENT MARKING EPOXY 12-INCH YELLOW
- 14 PAVEMENT MARKING EPOXY 12-INCH WHITE
- 15 PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE, 8-INCH WHITE

PROJECT NO: 2250-12-75

HWY: STH 20

COUNTY: RACINE

PERMENANT PAVEMENT MARKING

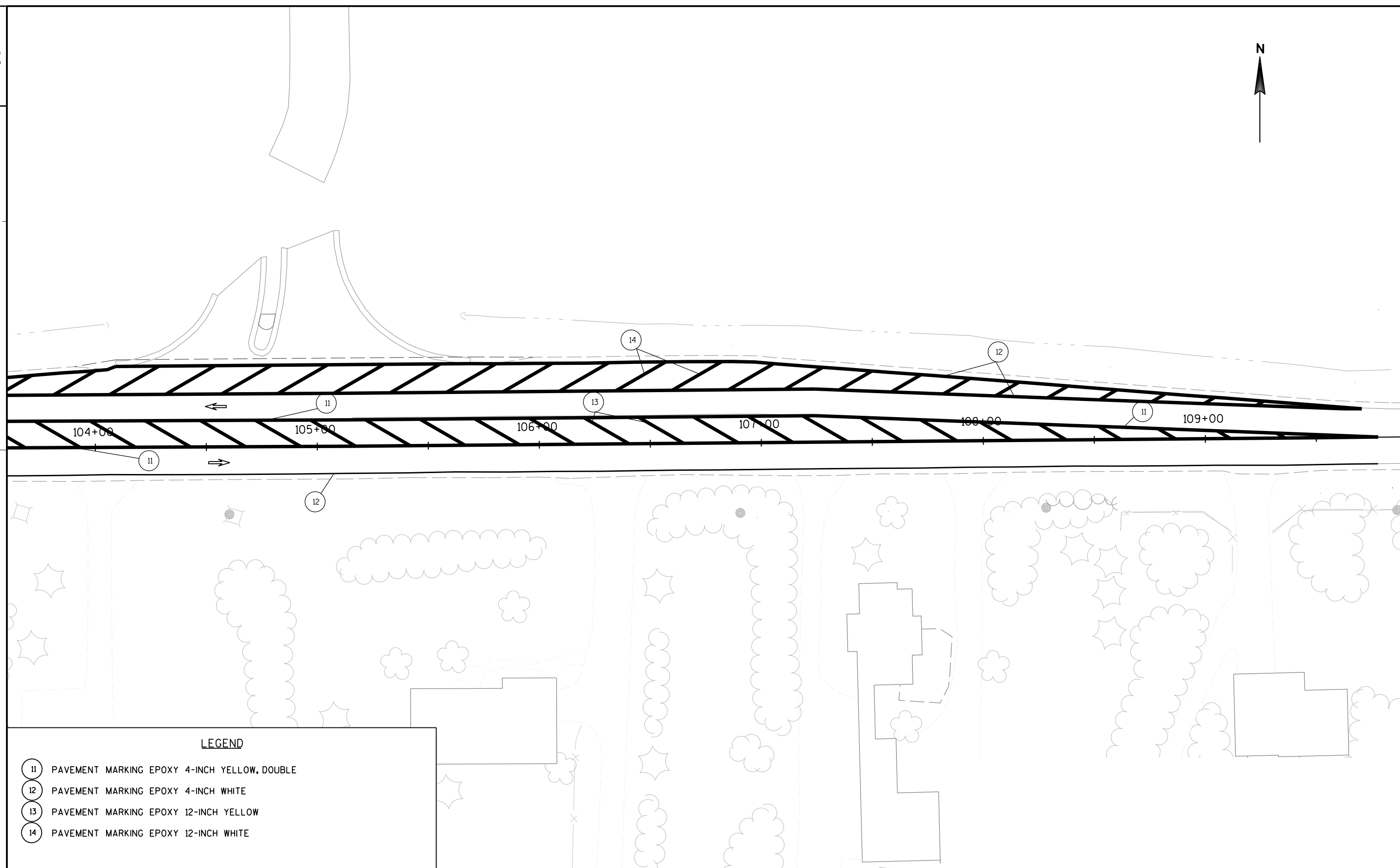
SCALE, FEET

0 20 40

SHEET

30

E



LEGEND

- 11 PAVEMENT MARKING EPOXY 4-INCH YELLOW, DOUBLE
- 12 PAVEMENT MARKING EPOXY 4-INCH WHITE
- 13 PAVEMENT MARKING EPOXY 12-INCH YELLOW
- 14 PAVEMENT MARKING EPOXY 12-INCH WHITE

PROJECT NO: 2250-12-75

HWY: STH 20

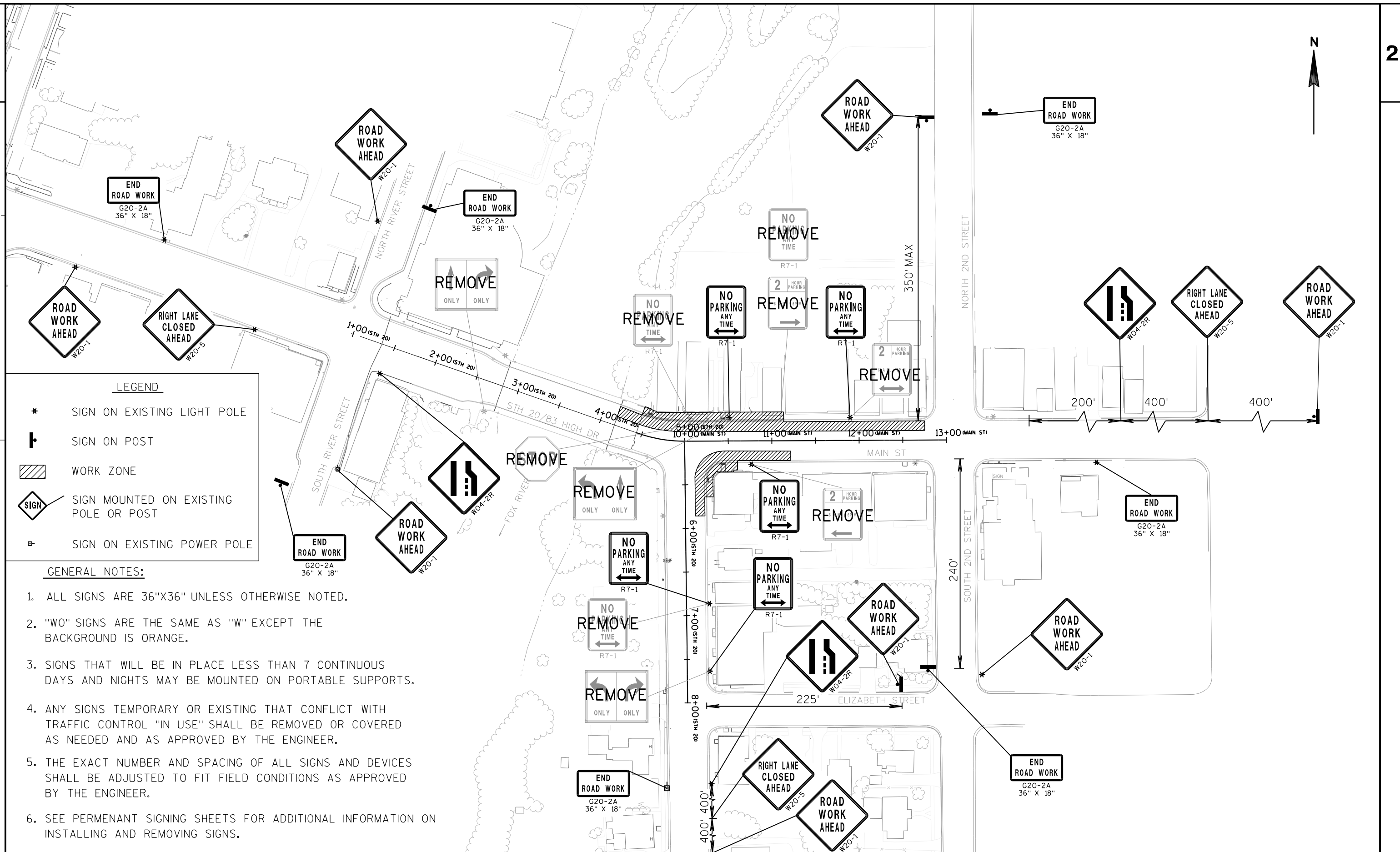
COUNTY: RACINE

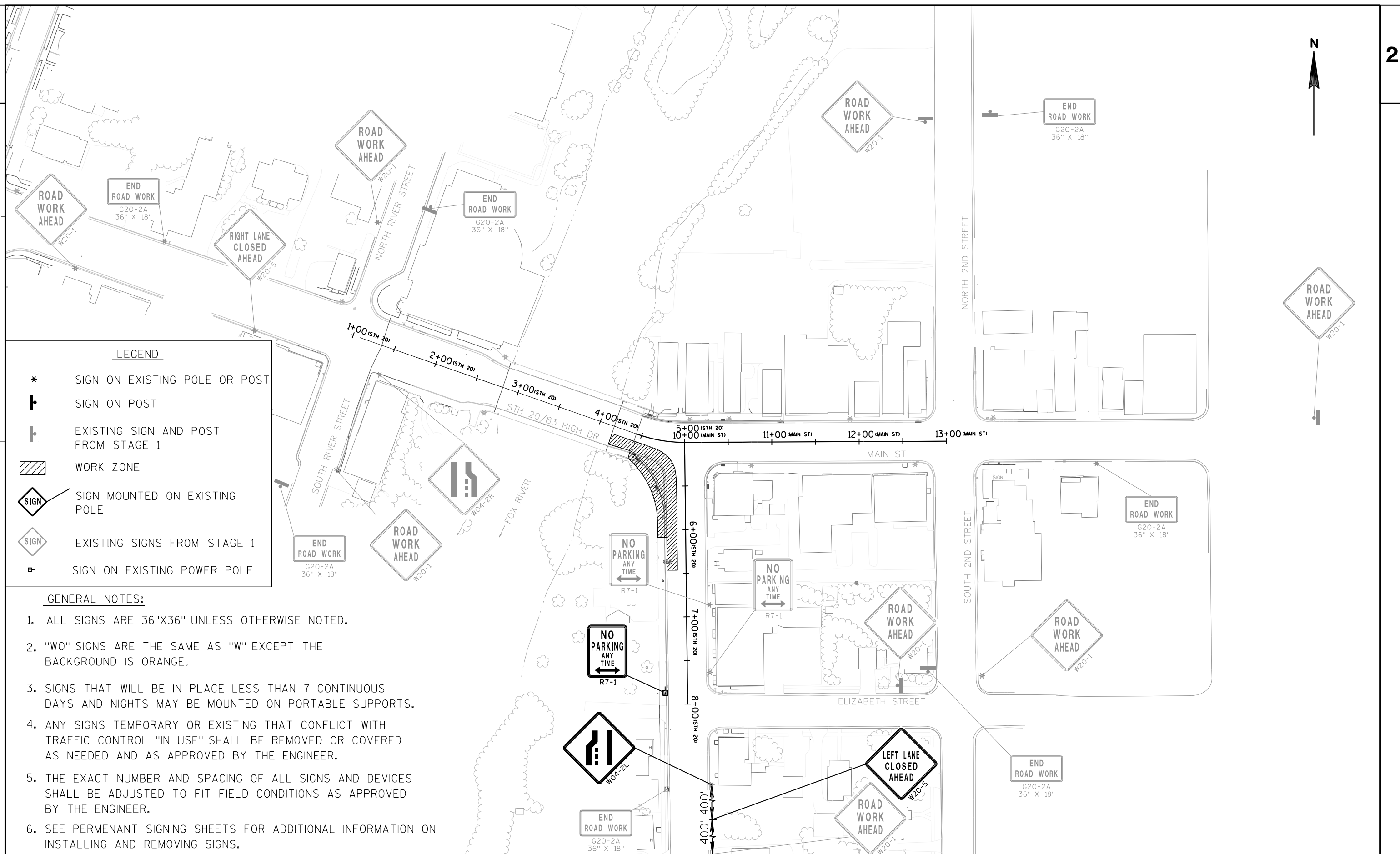
PERMENANT PAVEMENT MARKING

SCALE, FEET

SHEET 31

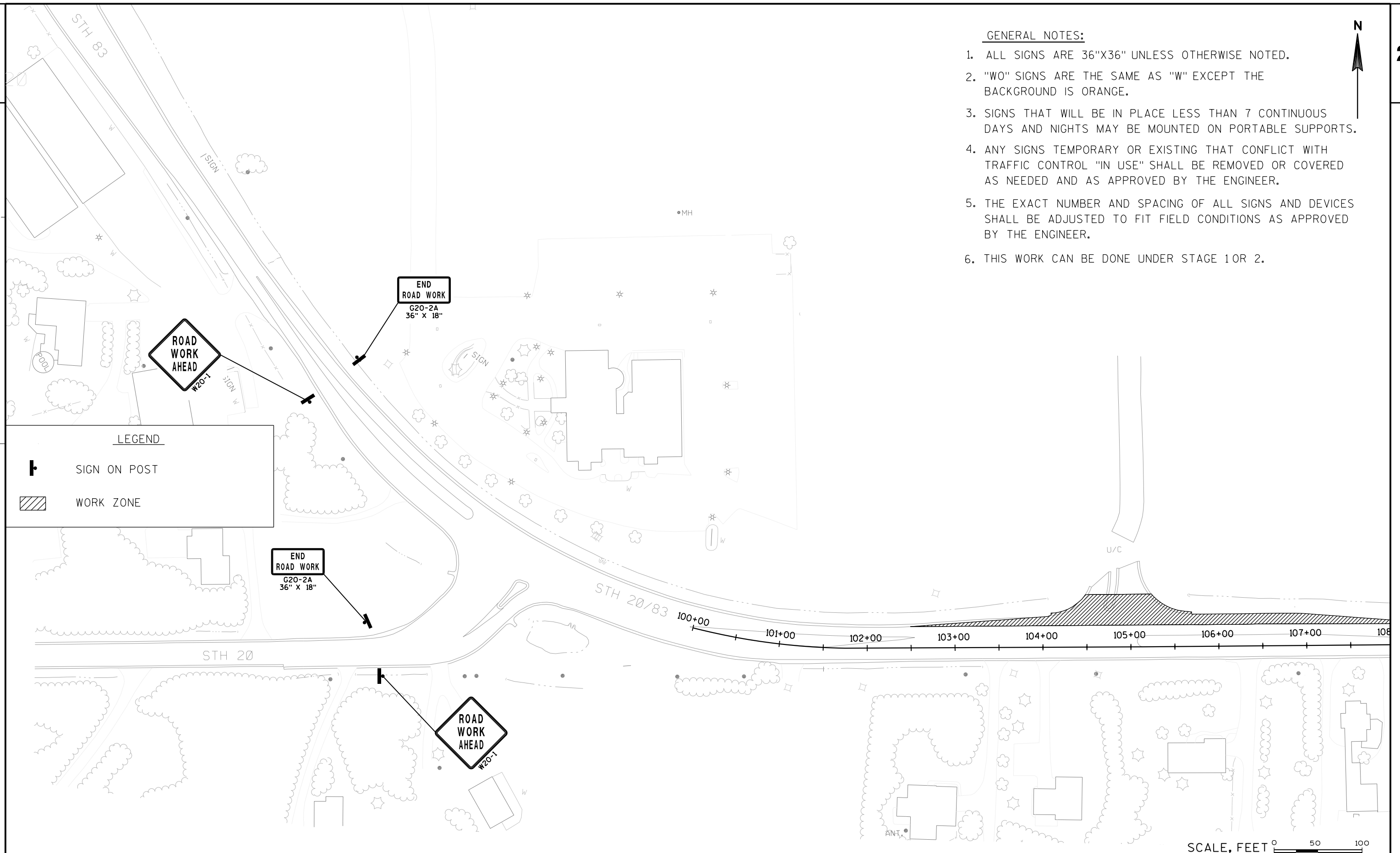
E





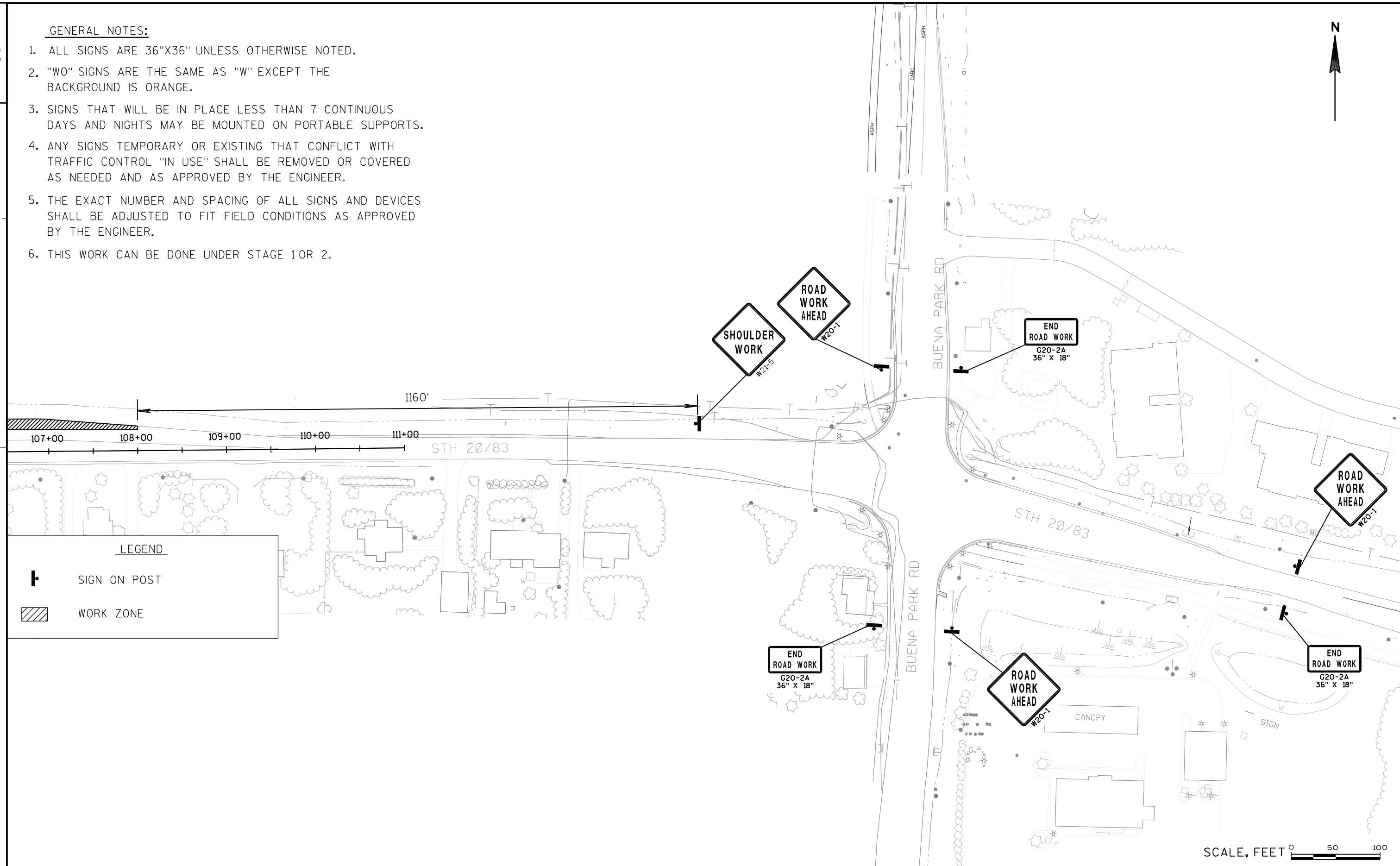
GENERAL NOTES:

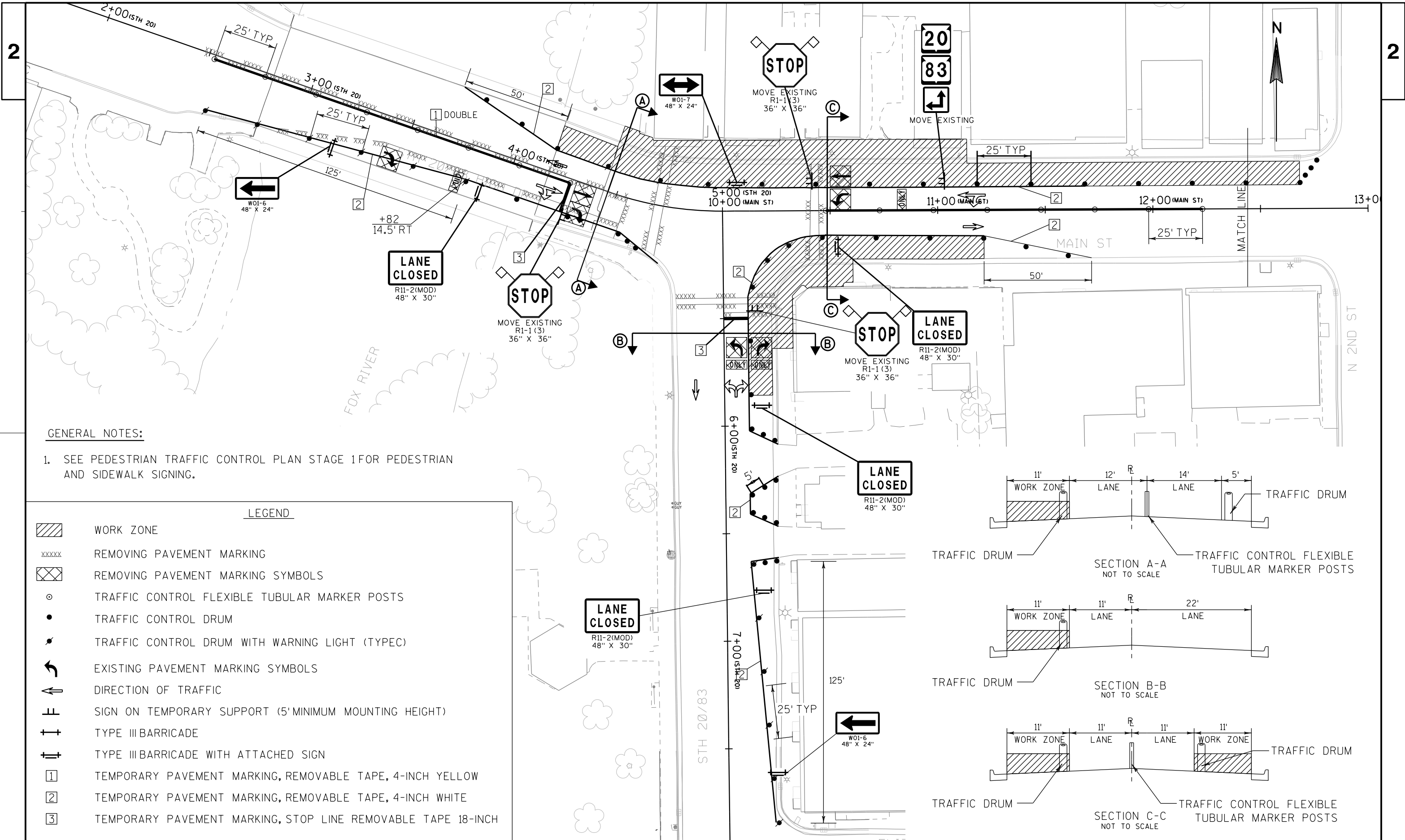
1. ALL SIGNS ARE 36"X36" UNLESS OTHERWISE NOTED.
2. "WO" SIGNS ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
3. SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
4. ANY SIGNS TEMPORARY OR EXISTING THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
5. THE EXACT NUMBER AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
6. THIS WORK CAN BE DONE UNDER STAGE 1 OR 2.



GENERAL NOTES:

1. ALL SIGNS ARE 36"X36" UNLESS OTHERWISE NOTED.
2. "W0" SIGNS ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
3. SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
4. ANY SIGNS TEMPORARY OR EXISTING THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
5. THE EXACT NUMBER AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
6. THIS WORK CAN BE DONE UNDER STAGE 1 OR 2.



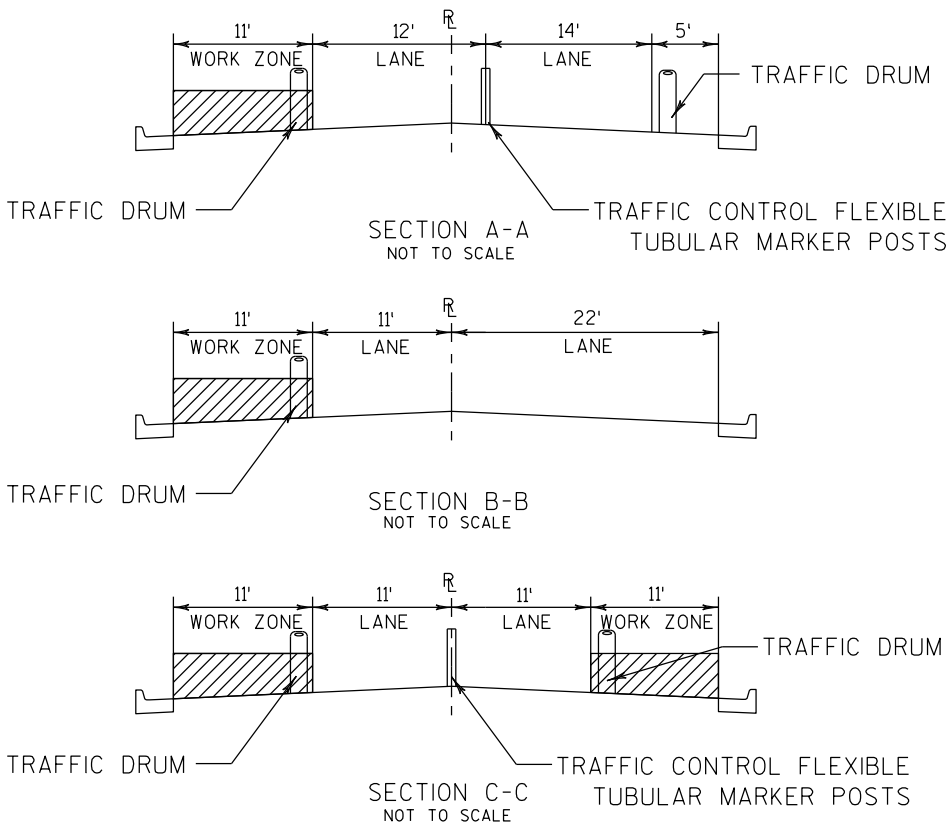


GENERAL NOTES:

- SEE PEDESTRIAN TRAFFIC CONTROL PLAN STAGE 1 FOR PEDESTRIAN AND SIDEWALK SIGNING.

LEGEND

- WORK ZONE
- REMOVING PAVEMENT MARKING
- REMOVING PAVEMENT MARKING SYMBOLS
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT (TYPE C)
- EXISTING PAVEMENT MARKING SYMBOLS
- DIRECTION OF TRAFFIC
- SIGN ON TEMPORARY SUPPORT (5' MINIMUM MOUNTING HEIGHT)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE, 4-INCH YELLOW
- TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE, 4-INCH WHITE
- TEMPORARY PAVEMENT MARKING, STOP LINE REMOVABLE TAPE 18-INCH



PROJECT NO: 2250-12-75

HWY: STH 20

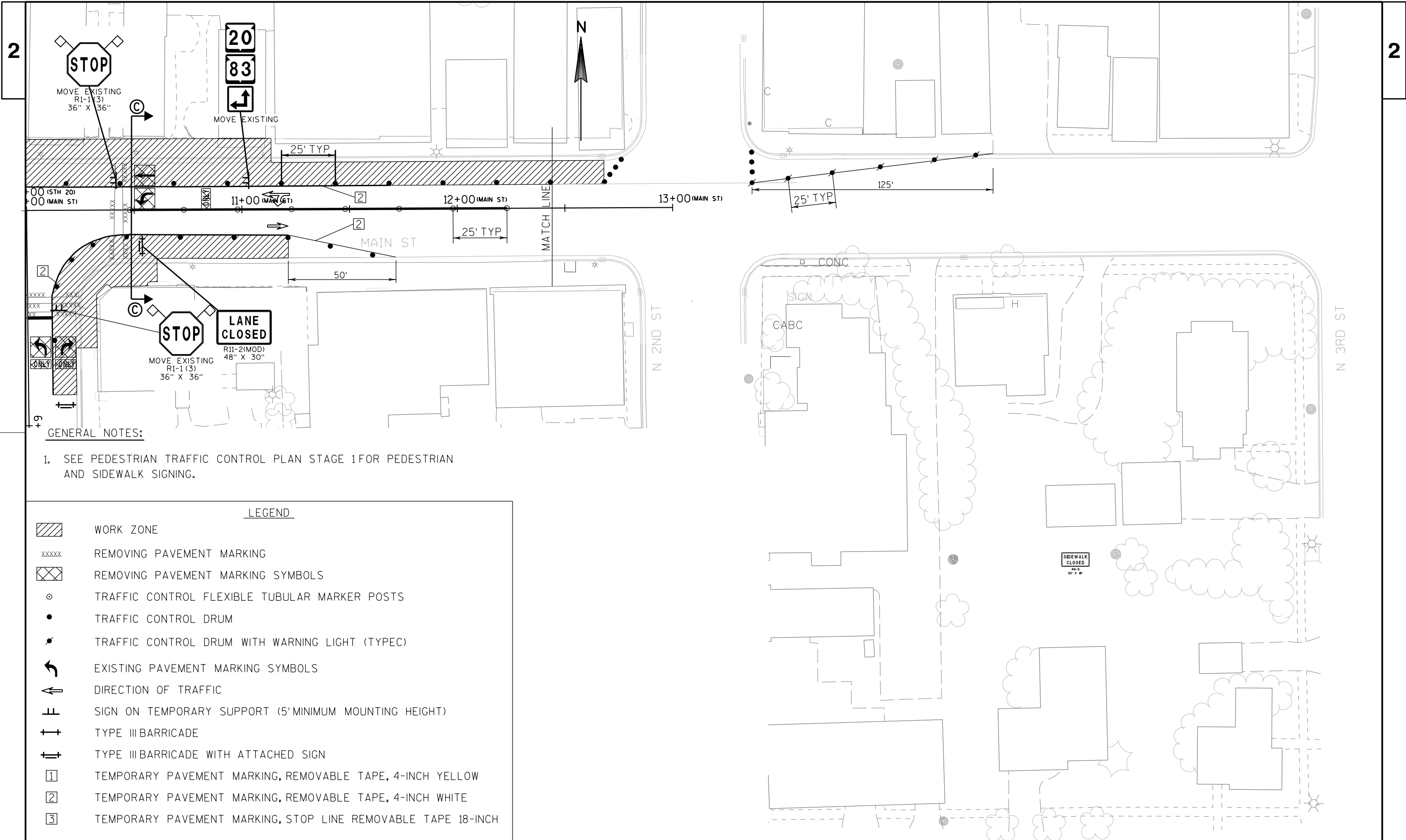
COUNTY: RACINE

TRAFFIC CONTROL STAGE 1

SCALE, FEET

SHEET 36

E



GENERAL NOTES:

1. SEE PEDESTRIAN TRAFFIC CONTROL PLAN STAGE 1 FOR PEDESTRIAN AND SIDEWALK SIGNING.

LEGEND

- WORK ZONE
- REMOVING PAVEMENT MARKING
- REMOVING PAVEMENT MARKING SYMBOLS
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT (TYPE C)
- EXISTING PAVEMENT MARKING SYMBOLS
- DIRECTION OF TRAFFIC
- SIGN ON TEMPORARY SUPPORT (5' MINIMUM MOUNTING HEIGHT)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE, 4-INCH YELLOW
- TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE, 4-INCH WHITE
- TEMPORARY PAVEMENT MARKING, STOP LINE REMOVABLE TAPE 18-INCH

PROJECT NO: 2250-12-75

HWY: STH 20

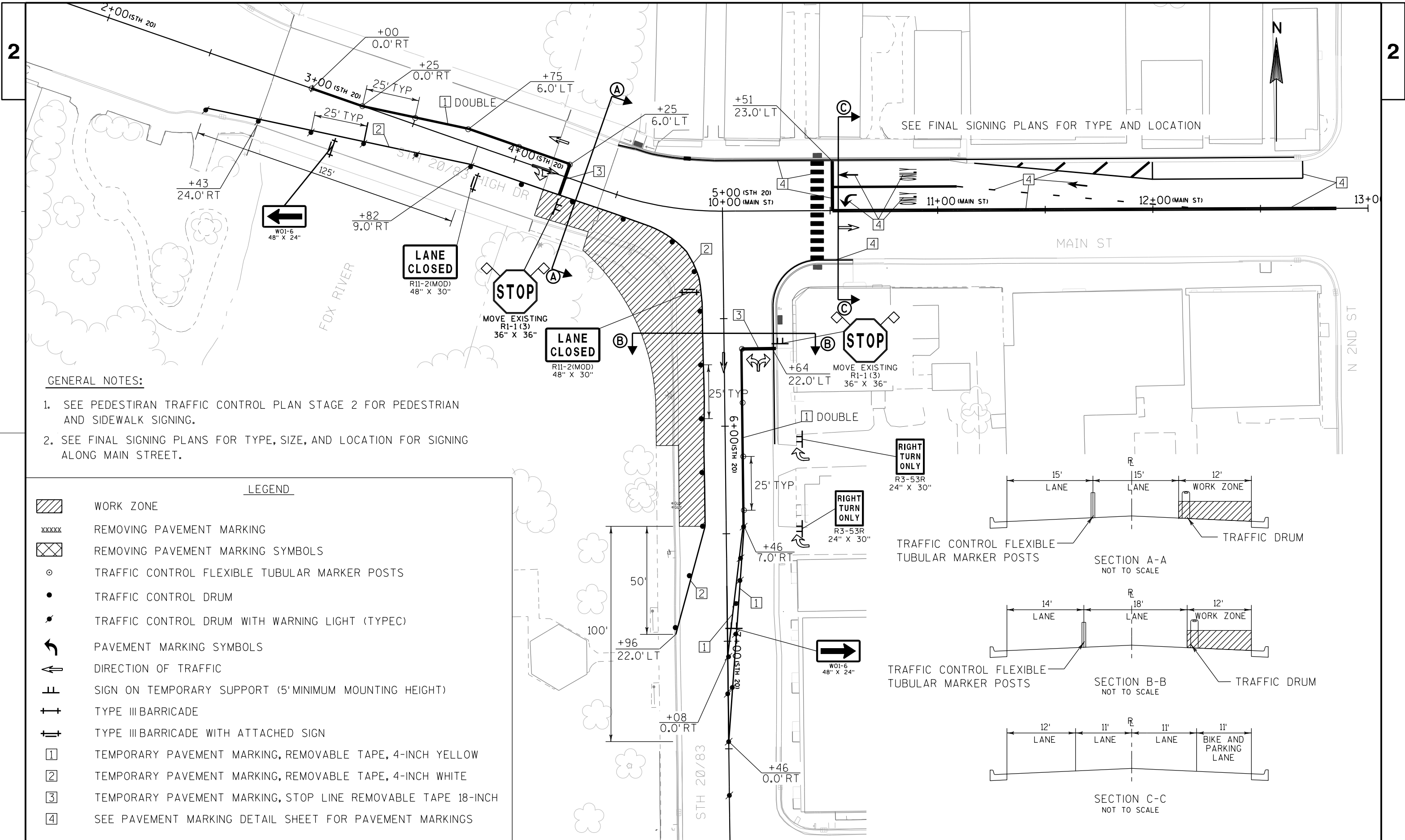
COUNTY: RACINE

TRAFFIC CONTROL STAGE 1

SCALE, FEET

SHEET 37

E



GENERAL NOTES:

1. SEE PEDESTRIAN TRAFFIC CONTROL PLAN STAGE 2 FOR PEDESTRIAN AND SIDEWALK SIGNING.
2. SEE FINAL SIGNING PLANS FOR TYPE, SIZE, AND LOCATION FOR SIGNING ALONG MAIN STREET.

LEGEND

- WORK ZONE
- REMOVING PAVEMENT MARKING
- REMOVING PAVEMENT MARKING SYMBOLS
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT (TYPE C)
- PAVEMENT MARKING SYMBOLS
- DIRECTION OF TRAFFIC
- SIGN ON TEMPORARY SUPPORT (5' MINIMUM MOUNTING HEIGHT)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE, 4-INCH YELLOW
- TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE, 4-INCH WHITE
- TEMPORARY PAVEMENT MARKING, STOP LINE REMOVABLE TAPE 18-INCH
- SEE PAVEMENT MARKING DETAIL SHEET FOR PAVEMENT MARKINGS

PROJECT NO: 2250-12-75

HWY: STH 20

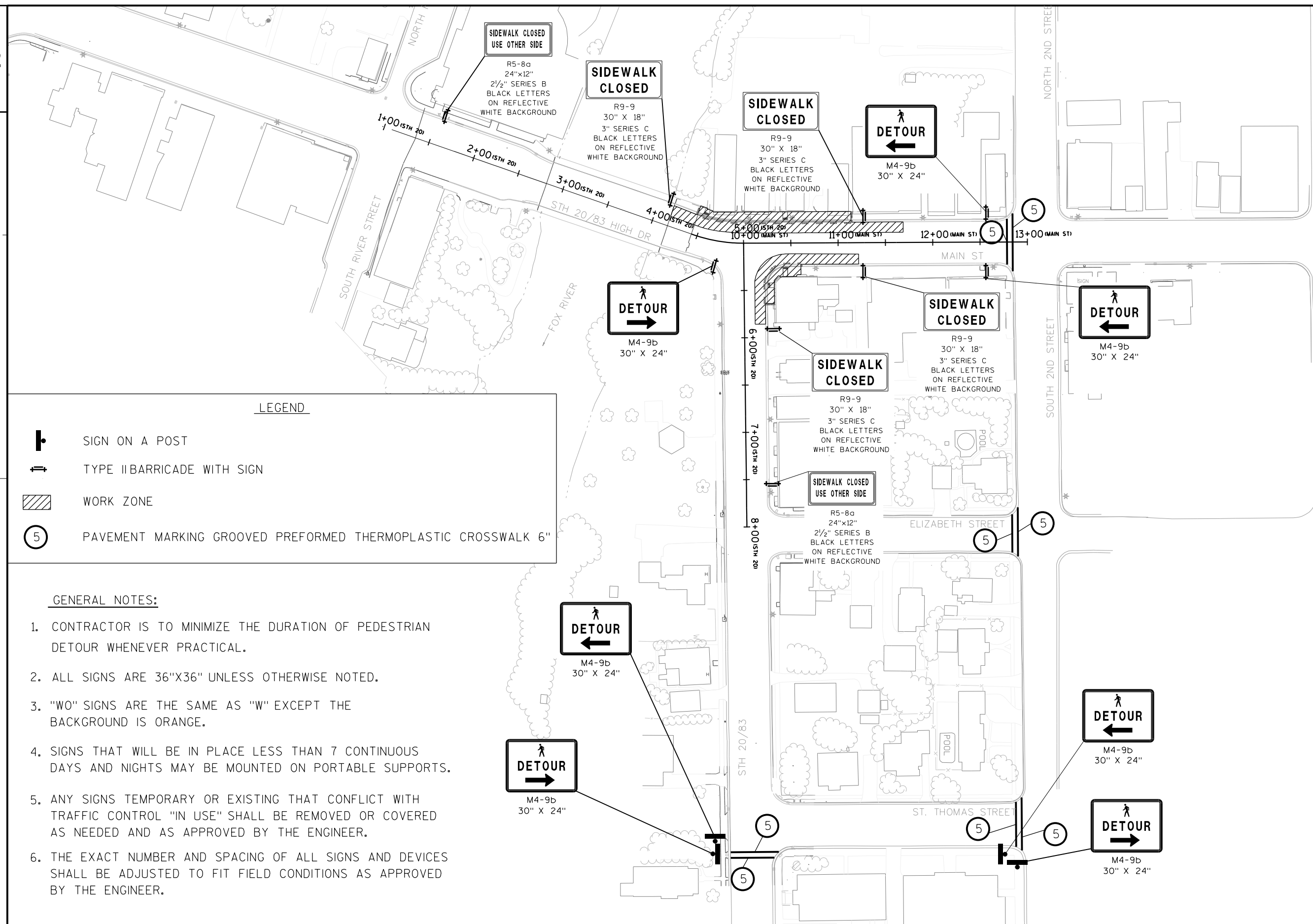
COUNTY: RACINE

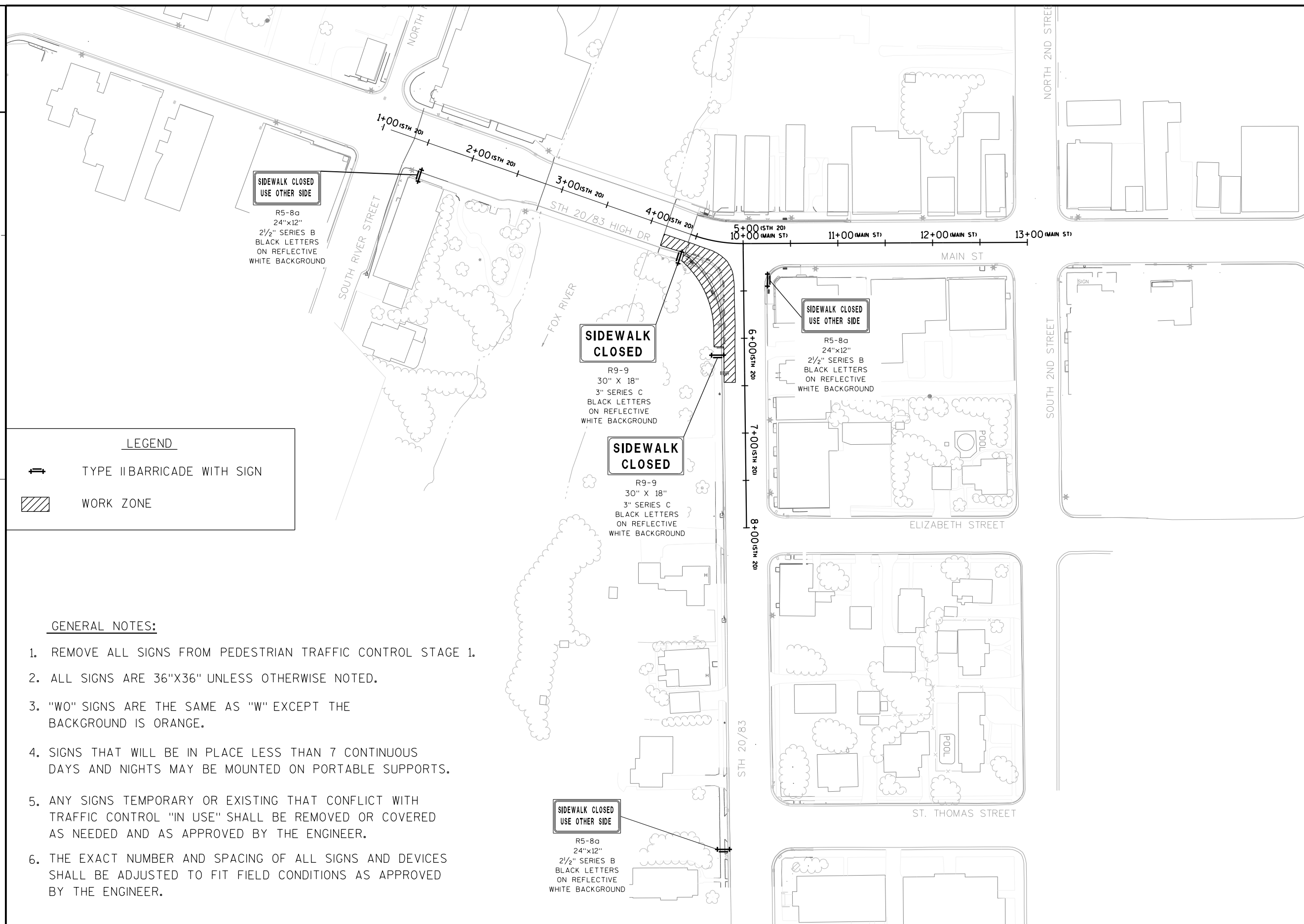
TRAFFIC CONTROL STAGE 2

SCALE, FEET

SHEET 38

E



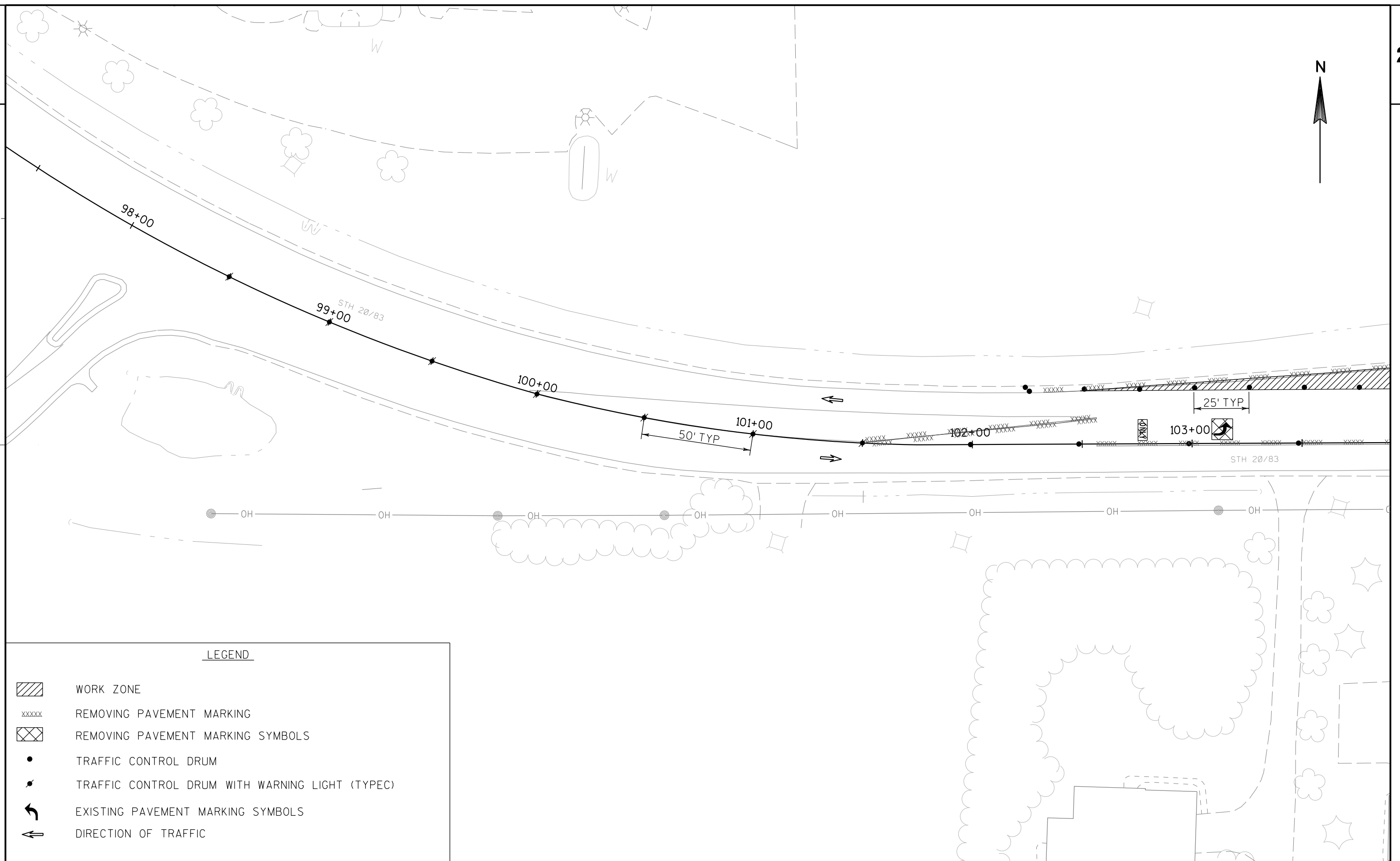


LEGEND

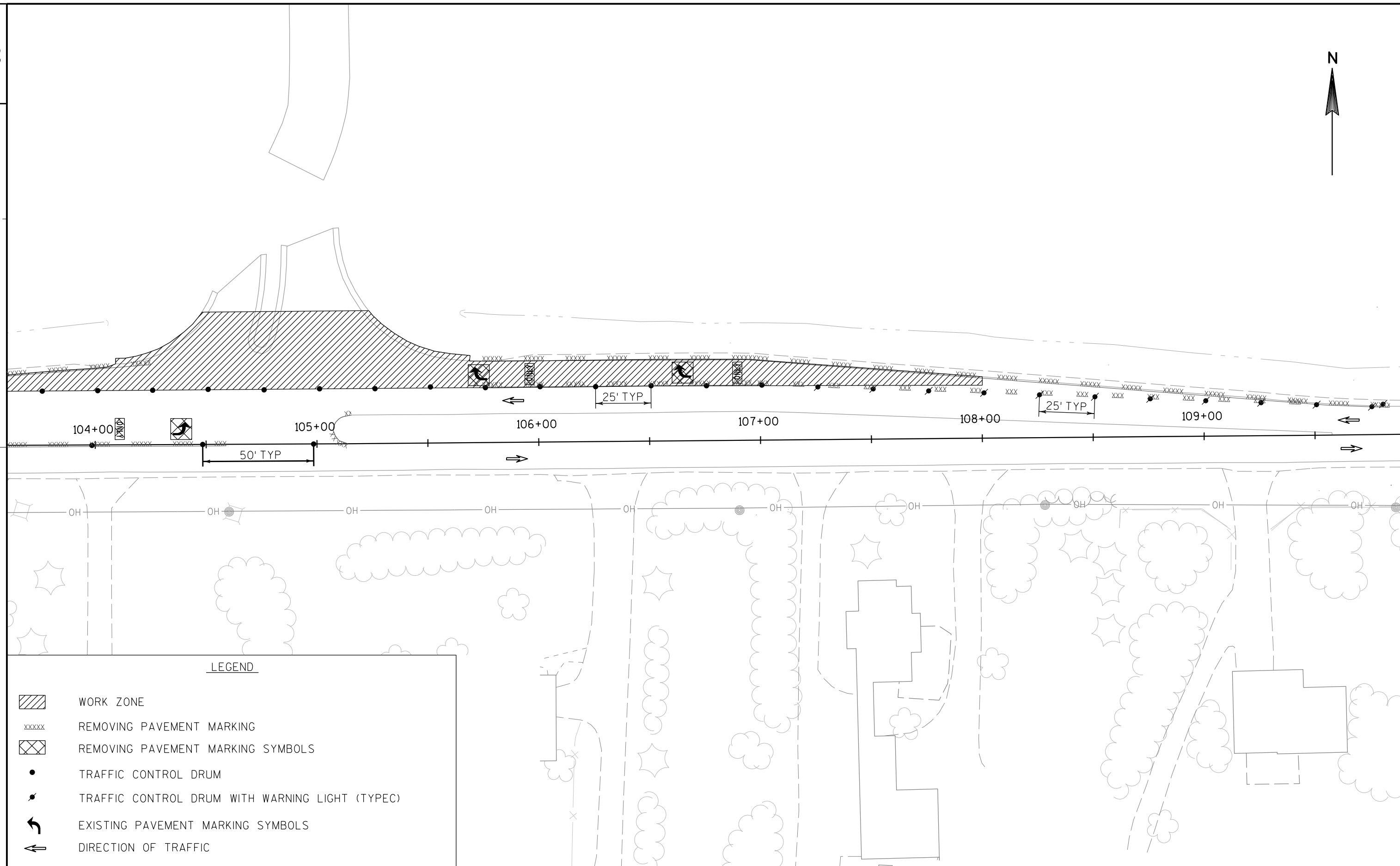
- TYPE II BARRICADE WITH SIGN
- WORK ZONE

GENERAL NOTES:

1. REMOVE ALL SIGNS FROM PEDESTRIAN TRAFFIC CONTROL STAGE 1.
2. ALL SIGNS ARE 36"X36" UNLESS OTHERWISE NOTED.
3. "W0" SIGNS ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
4. SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
5. ANY SIGNS TEMPORARY OR EXISTING THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
6. THE EXACT NUMBER AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



N



LEGEND

- WORK ZONE
- REMOVING PAVEMENT MARKING
- REMOVING PAVEMENT MARKING SYMBOLS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT (TYPE C)
- EXISTING PAVEMENT MARKING SYMBOLS
- DIRECTION OF TRAFFIC

PROJECT NO: 2250-12-75

HWY: STH 20

COUNTY: RACINE

TRAFFIC CONTROL WEST INTERSECTION

SCALE, FEET 0 20 40

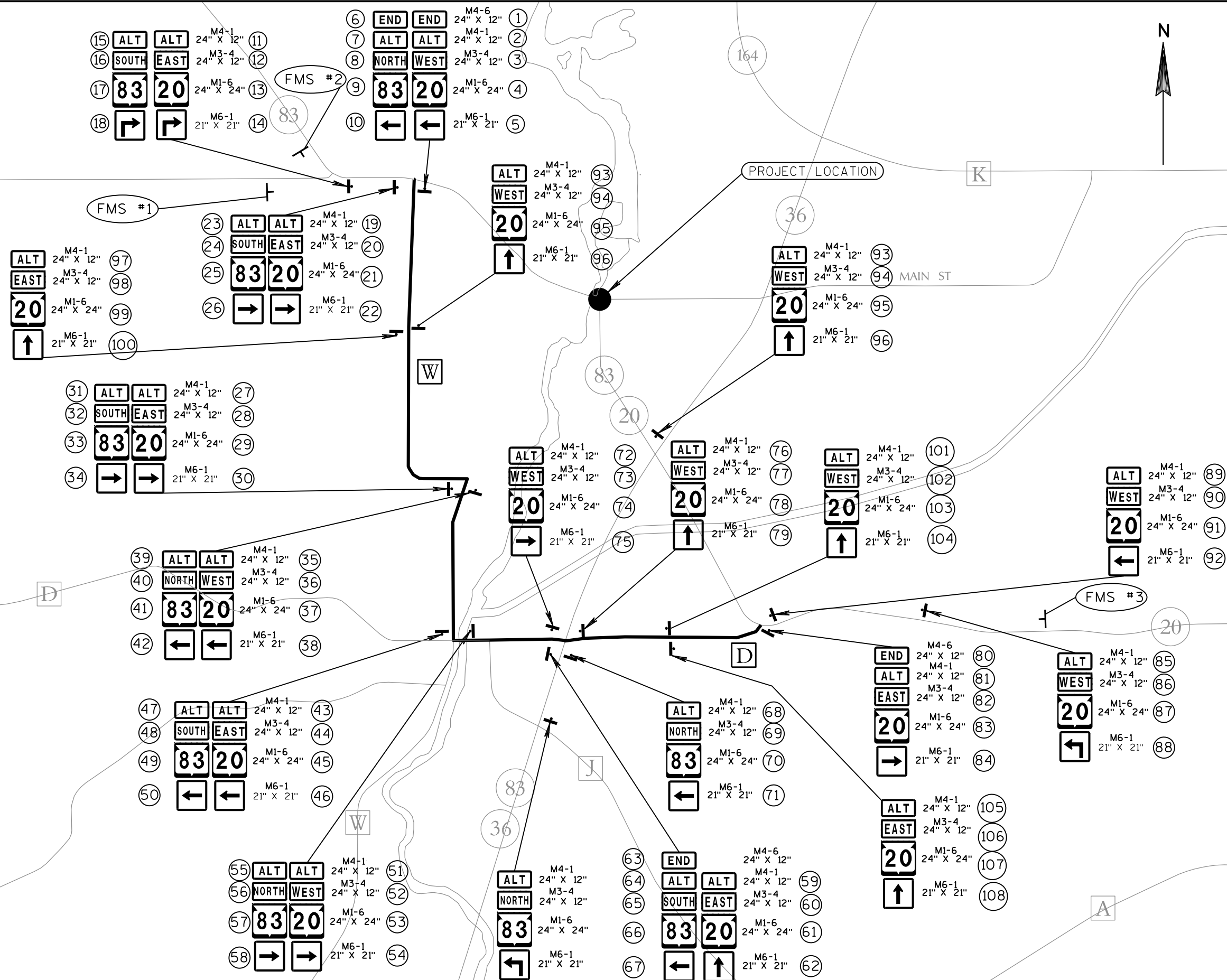
SHEET

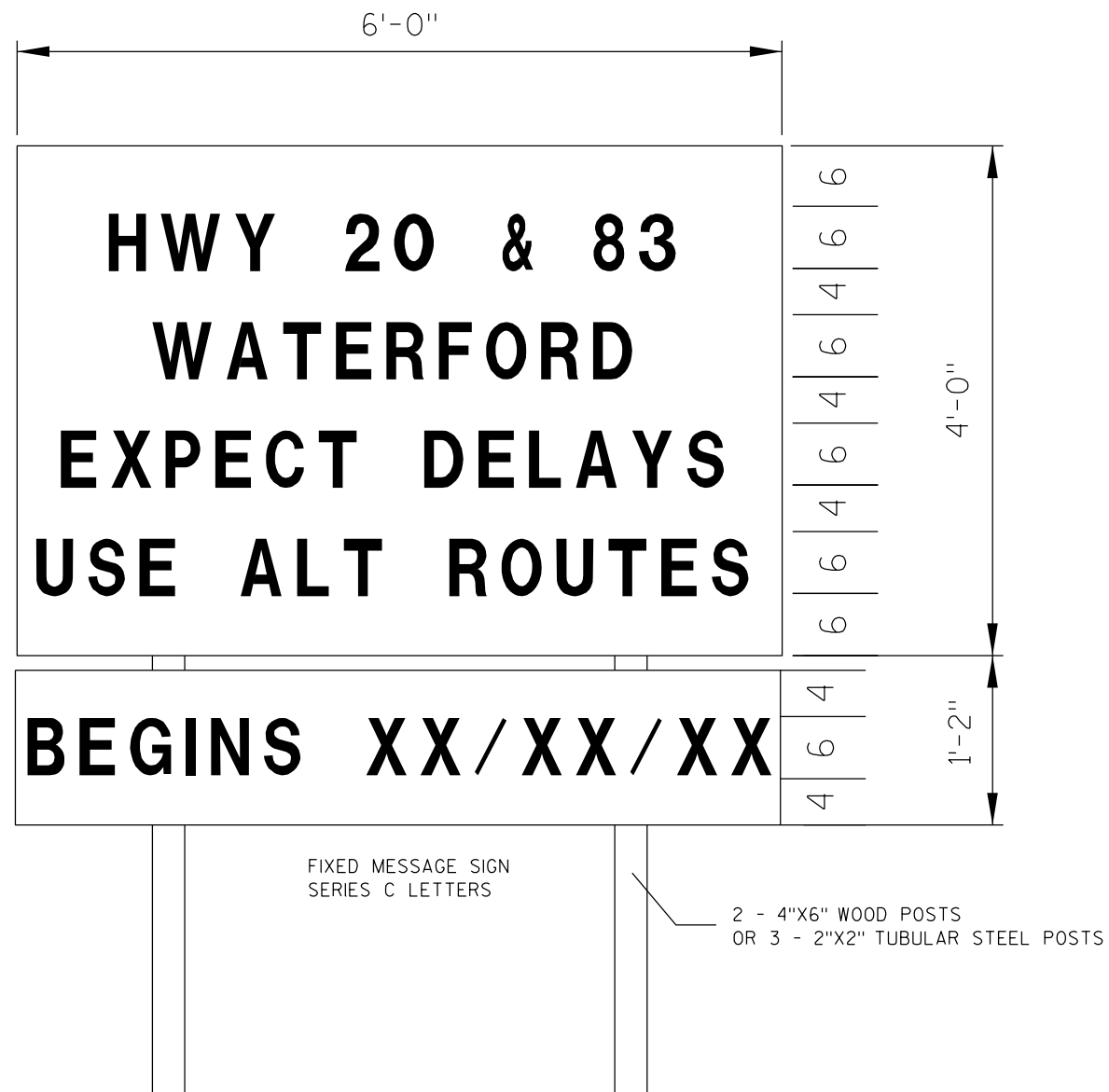
42

E

VILLAGE OF
WATERFORD

- LEGEND**
- ① SIGN NUMBER CORRESPONDS TO MISC. QUANTITY
- ALTERNATE ROUTE
- SIGN POST
- FIXED MESSAGE SIGN (FMS)



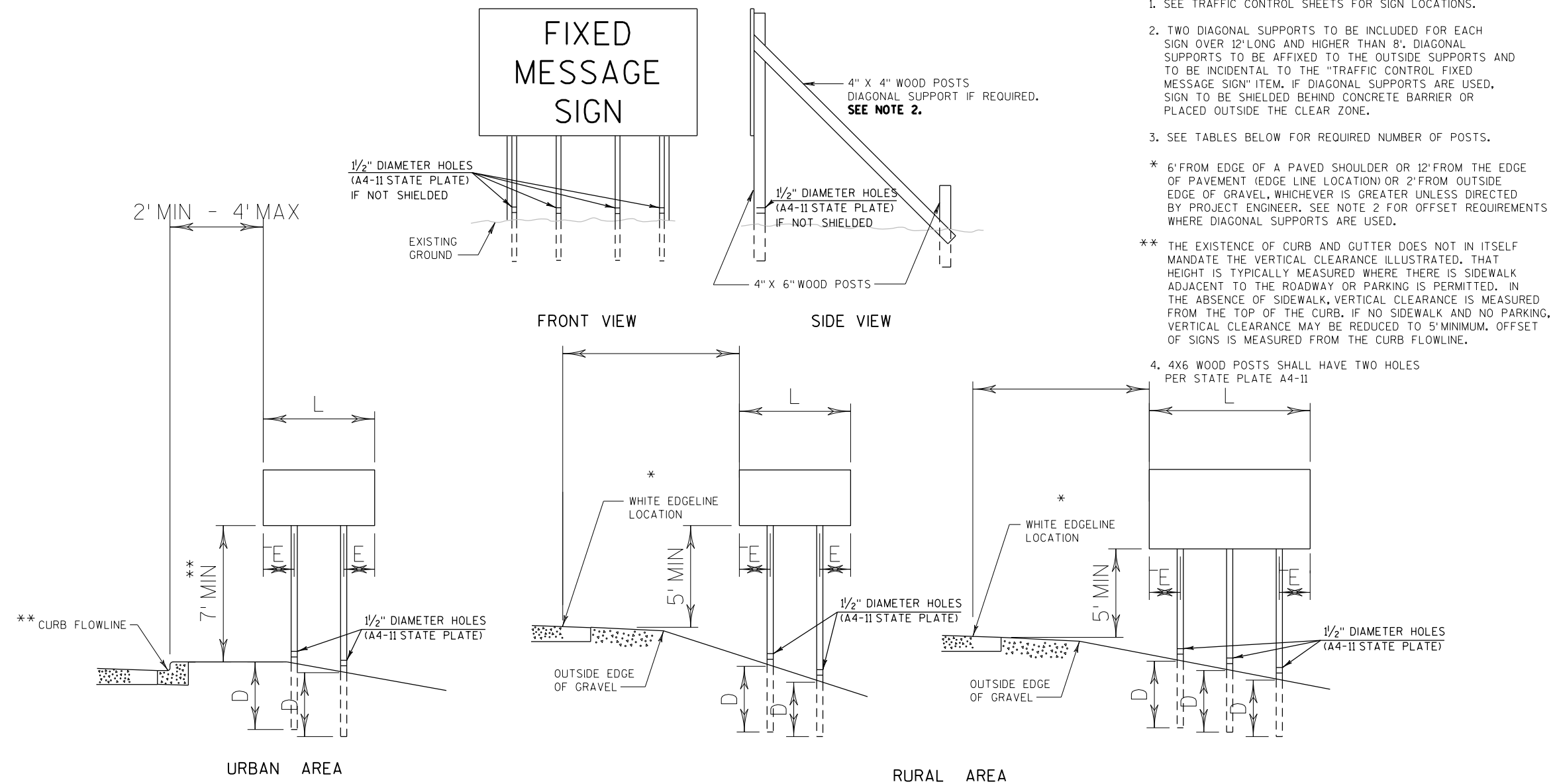


FIXED MESSAGE SIGNS

GENERAL NOTES:

1. ALL SIGNS TO HAVE FLUORESCENT REFLECTIVE SHEETING - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.
2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.
3. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6"). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.
4. SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."
5. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND.
6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
12" CAPS SHALL BE SERIES "D"
6" CAPS SHALL BE SERIES "C"
7. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.
8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.
9. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.
10. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

(X) = SIGN NUMBER



NOTES

- SEE TRAFFIC CONTROL SHEETS FOR SIGN LOCATIONS.
- TWO DIAGONAL SUPPORTS TO BE INCLUDED FOR EACH SIGN OVER 12' LONG AND HIGHER THAN 8'. DIAGONAL SUPPORTS TO BE AFFIXED TO THE OUTSIDE SUPPORTS AND TO BE INCIDENTAL TO THE "TRAFFIC CONTROL FIXED MESSAGE SIGN" ITEM. IF DIAGONAL SUPPORTS ARE USED, SIGN TO BE SHIELDED BEHIND CONCRETE BARRIER OR PLACED OUTSIDE THE CLEAR ZONE.
- SEE TABLES BELOW FOR REQUIRED NUMBER OF POSTS.
- * 6' FROM EDGE OF A PAVED SHOULDER OR 12' FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) OR 2' FROM OUTSIDE EDGE OF GRAVEL, WHICHEVER IS GREATER UNLESS DIRECTED BY PROJECT ENGINEER. SEE NOTE 2 FOR OFFSET REQUIREMENTS WHERE DIAGONAL SUPPORTS ARE USED.
- ** THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5' MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
GREATER THAN 48" LESS THAN 60"	12"
60" TO 120"	L/5

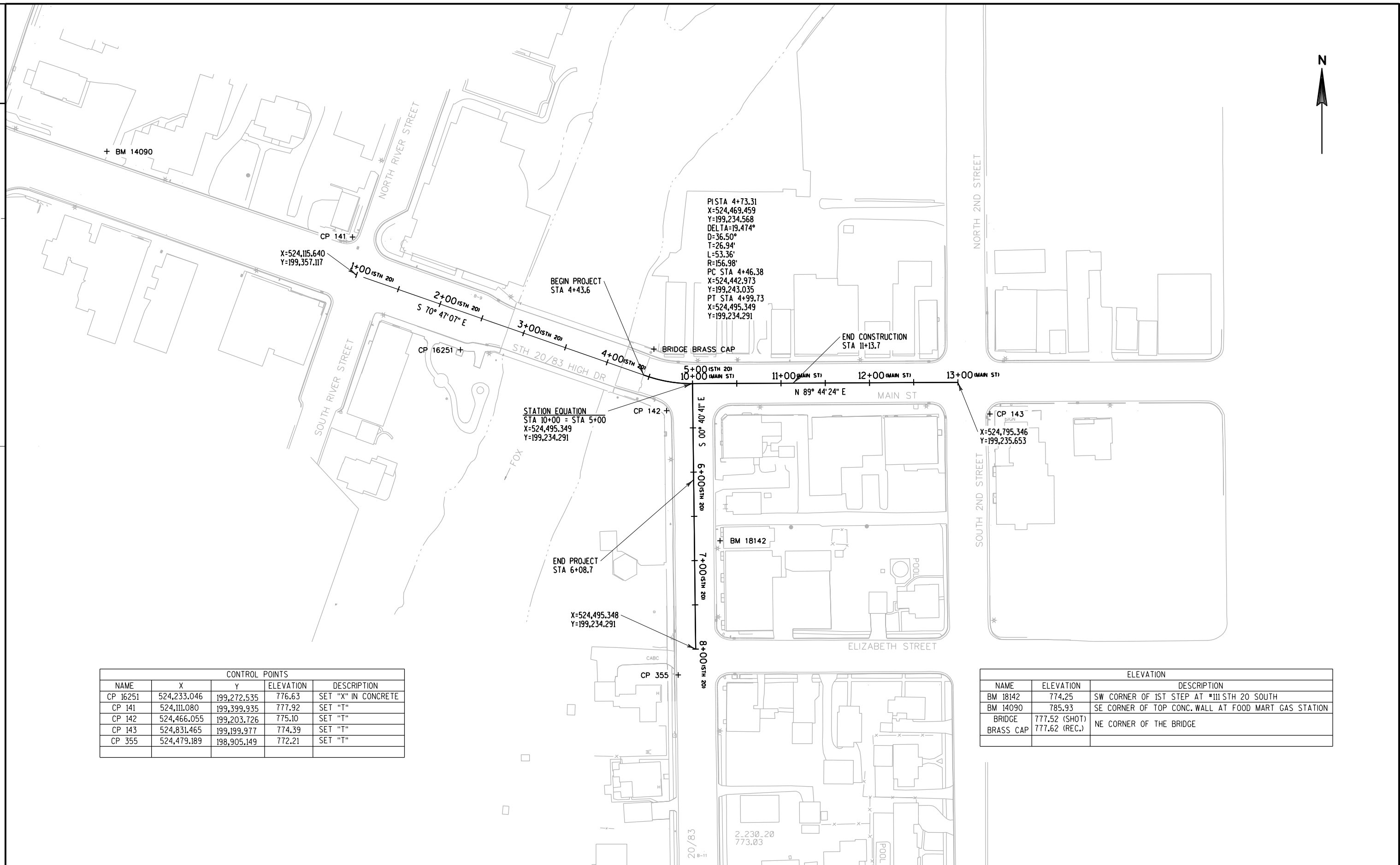
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
GREATER THAN 120" LESS THAN 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" AND GREATER	12"

POST EMBEDMENT DEPTH

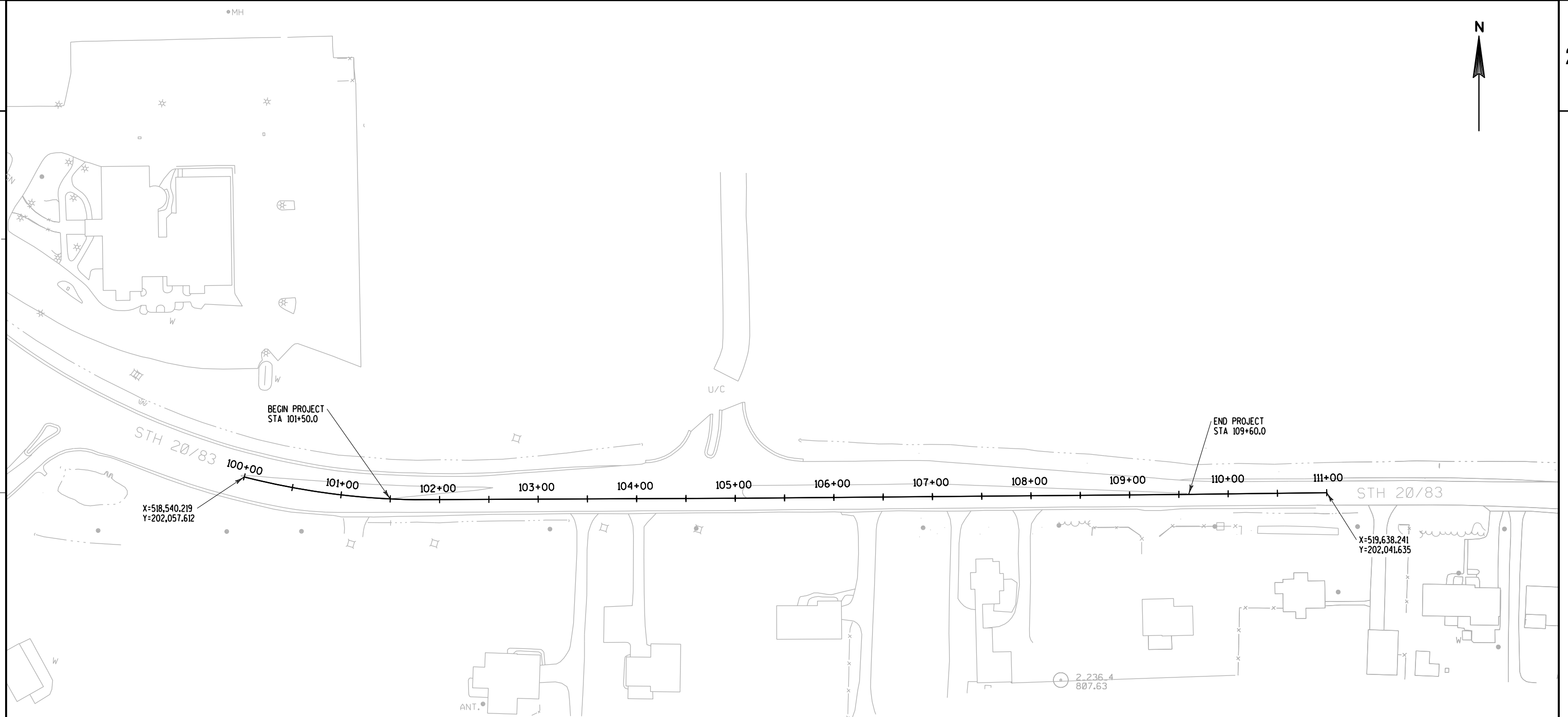
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

POST MOUNTING DETAIL FOR TRAFFIC CONTROL FIXED MESSAGE SIGNS



CONTROL POINTS				
NAME	X	Y	ELEVATION	DESCRIPTION
CP 16251	524,233.046	199,272.535	776.63	SET "X" IN CONCRETE
CP 141	524,111.080	199,399.935	777.92	SET "T"
CP 142	524,466.055	199,203.726	775.10	SET "T"
CP 143	524,831.465	199,199.977	774.39	SET "T"
CP 355	524,479.189	198,905.149	772.21	SET "T"

ELEVATION		
NAME	ELEVATION	DESCRIPTION
BM 18142	774.25	SW CORNER OF 1ST STEP AT #111 STH 20 SOUTH
BM 14090	785.93	SE CORNER OF TOP CONC. WALL AT FOOD MART GAS STATION
BRIDGE	777.52 (SHOT)	NE CORNER OF THE BRIDGE
BRASS CAP	777.62 (REC.)	



3

DATE 10JUN14		E S T I M A T E O F Q U A N T I T I E S			
LINE					2250-12-75
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0110	REMOVING ASPHALTIC SURFACE	SY	230.000	230.000
0020	204.0150	REMOVING CURB & GUTTER	LF	510.000	510.000
0030	204.0155	REMOVING CONCRETE SIDEWALK	SY	325.000	325.000
0040	204.0195	REMOVING CONCRETE BASES	EACH	2.000	2.000
0050	204.0220	REMOVING INLETS	EACH	2.000	2.000
0060	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	14.000	14.000
0070	205.0100	EXCAVATION COMMON **p**	CY	130.000	130.000
0080	213.0100	FINISHING ROADWAY (PROJECT) 01. 2250-12-75	EACH	1.000	1.000
0090	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	20.000	20.000
0100	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	170.000	170.000
0110	390.0403	BASE PATCHING CONCRETE SHES	SY	70.000	70.000
0120	415.1090	CONCRETE PAVEMENT HES 9-INCH **p**	SY	70.000	70.000
0130	416.0610	DRILLED TIE BARS	EACH	120.000	120.000
0140	416.0620	DRILLED DOWEL BARS	EACH	30.000	30.000
0150	520.8000	CONCRETE COLLARS FOR PIPE	EACH	2.000	2.000
0160	601.0405	CONCRETE CURB & GUTTER 18-INCH TYPE A	LF	140.000	140.000
0170	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	360.000	360.000
0180	601.0600	CONCRETE CURB PEDESTRIAN	LF	130.000	130.000
0190	602.0410	CONCRETE SIDEWALK 5-INCH	SF	2,960.000	2,960.000
0200	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	60.000	60.000
0210	608.0212	STORM SEWER PIPE REINFORCED CONCRETE CLASS II 12-INCH	LF	16.000	16.000
0220	611.0639	INLET COVERS TYPE H-S	EACH	1.000	1.000
0230	611.0666	INLET COVERS TYPE Z	EACH	1.000	1.000
0240	611.3003	INLETS 3-FT DIAMETER	EACH	1.000	1.000
0250	611.3230	INLETS 2X3-FT	EACH	1.000	1.000
0260	619.1000	MOBILIZATION	EACH	1.000	1.000
0270	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	5.000	5.000
0280	625.0100	TOPSOIL	SY	800.000	800.000
0290	627.0200	MULCHING	SY	800.000	800.000
0300	628.1504	SILT FENCE	LF	200.000	200.000
0310	628.1520	SILT FENCE MAINTENANCE	LF	200.000	200.000
0320	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0330	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0340	628.7020	INLET PROTECTION TYPE D	EACH	10.000	10.000
0350	628.7504	TEMPORARY DITCH CHECKS	LF	120.000	120.000
0360	629.0210	FERTILIZER TYPE B	CWT	0.500	0.500
0370	630.0130	SEEDING MIXTURE NO. 30	LB	10.000	10.000
0380	630.0140	SEEDING MIXTURE NO. 40	LB	7.000	7.000
0390	630.0200	SEEDING TEMPORARY	LB	15.000	15.000
0400	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	1.000	1.000
0410	634.0816	POSTS TUBULAR STEEL 2X2-INCH X 16-FT	EACH	13.000	13.000
0420	637.0620	SIGN FLAGS PERMANENT TYPE II	EACH	8.000	8.000
0430	637.2210	SIGNS TYPE II REFLECTIVE H	SF	251.550	251.550
0440	637.2215	SIGNS TYPE II REFLECTIVE H FOLDING	SF	22.380	22.380
0450	637.2230	SIGNS TYPE II REFLECTIVE F	SF	110.000	110.000
0460	638.2102	MOVING SIGNS TYPE II	EACH	1.000	1.000
0470	638.2602	REMOVING SIGNS TYPE II	EACH	58.000	58.000
0480	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	16.000	16.000
0490	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0500	643.0100	TRAFFIC CONTROL (PROJECT) 01. 2250-12-75	EACH	1.000	1.000
0510	643.0300	TRAFFIC CONTROL DRUMS	DAY	4,320.000	4,320.000

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DATE 10JUN14		E S T I M A T E O F Q U A N T I T I E S			
LINE				2250-12-75	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0520	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	450.000	450.000
0530	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	780.000	780.000
0540	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	30.000	30.000
0550	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	30.000	30.000
0560	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	1,560.000	1,560.000
0570	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	1,830.000	1,830.000
0580	643.0900	TRAFFIC CONTROL SIGNS	DAY	3,330.000	3,330.000
0590	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	8.000	8.000
0600	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	93.000	93.000
0610	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	15.000	15.000
0620	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 2250-12-75	EACH	1.000	1.000
0630	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	5,760.000	5,760.000
0640	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	8,605.000	8,605.000
0650	646.0109	PAVEMENT MARKING PREFORMED PLASTIC 4-INCH	LF	1,330.000	1,330.000
0660	646.0600	REMOVING PAVEMENT MARKINGS	LF	2,216.000	2,216.000
0670	646.0883.S	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH	LF	200.000	200.000
0680	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	1,130.000	1,130.000
0690	647.0955	REMOVING PAVEMENT MARKINGS ARROWS	EACH	13.000	13.000
0700	647.0965	REMOVING PAVEMENT MARKINGS WORDS	EACH	10.000	10.000
0710	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	2,480.000	2,480.000
0720	649.1200	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	LF	70.000	70.000
0730	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	360.000	360.000
0740	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 2250-12-75	LS	1.000	1.000
0750	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 2250-12-75	LS	1.000	1.000
0760	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	41.000	41.000
0770	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	LF	115.000	115.000
0780	652.0605	CONDUIT SPECIAL 2-INCH	LF	77.000	77.000
0790	652.0615	CONDUIT SPECIAL 3-INCH	LF	578.000	578.000
0800	653.0140	PULL BOXES STEEL 24X42-INCH	EACH	6.000	6.000
0810	654.0101	CONCRETE BASES TYPE 1	EACH	5.000	5.000
0820	654.0102	CONCRETE BASES TYPE 2	EACH	3.000	3.000
0830	654.0113	CONCRETE BASES TYPE 13	EACH	1.000	1.000
0840	654.0217	CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	EACH	1.000	1.000
0850	655.0230	CABLE TRAFFIC SIGNAL 5-14 AWG	LF	378.000	378.000
0860	655.0240	CABLE TRAFFIC SIGNAL 7-14 AWG	LF	326.000	326.000
0870	655.0260	CABLE TRAFFIC SIGNAL 12-14 AWG	LF	933.000	933.000
0880	655.0270	CABLE TRAFFIC SIGNAL 15-14 AWG	LF	47.000	47.000
0890	655.0305	CABLE TYPE UF 2-12 AWG GROUNDED	LF	463.000	463.000
0900	655.0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	1,117.000	1,117.000
0910	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	378.000	378.000
0920	655.0700	LOOP DETECTOR LEAD IN CABLE	LF	36.000	36.000

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DATE 10JUN14		E S T I M A T E O F Q U A N T I T I E S			
LINE				2250-12-75	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0930	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. STH 20/83 & E. MAIN ST.	LS	1.000	1.000
0940	657.0100	PEDESTAL BASES	EACH	5.000	5.000
0950	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	3.000	3.000
0960	657.0305	POLES TYPE 2	EACH	1.000	1.000
0970	657.0310	POLES TYPE 3	EACH	2.000	2.000
0980	657.0425	TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	EACH	3.000	3.000
0990	657.0430	TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	EACH	2.000	2.000
1000	657.0590	TROMBONE ARMS 20-FT	EACH	1.000	1.000
1010	657.0609	LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT	EACH	2.000	2.000
1020	657.0640	LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 15-FT	EACH	1.000	1.000
1030	657.1360	INSTALL POLES TYPE 13	EACH	1.000	1.000
1040	657.1555	INSTALL MONOTUBE ARMS 55-FT	EACH	1.000	1.000
1050	657.1815	INSTALL LUMINAIRE ARMS STEEL 15-FT	EACH	1.000	1.000
1060	658.0110	TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	EACH	6.000	6.000
1070	658.0115	TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	EACH	2.000	2.000
1080	658.0120	TRAFFIC SIGNAL FACE 5-12 INCH VERTICAL	EACH	4.000	4.000
1090	658.0215	BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	EACH	6.000	6.000
1100	658.0220	BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	EACH	2.000	2.000
1110	658.0225	BACKPLATES SIGNAL FACE 5 SECTION 12-INCH	EACH	4.000	4.000
1120	658.0416	PEDESTRIAN SIGNAL FACE 16-INCH	EACH	6.000	6.000
1130	658.0500	PEDESTRIAN PUSH BUTTONS	EACH	6.000	6.000
1140	658.0600	LED MODULES 12-INCH RED BALL	EACH	10.000	10.000
1150	658.0605	LED MODULES 12-INCH YELLOW BALL	EACH	10.000	10.000
1160	658.0610	LED MODULES 12-INCH GREEN BALL	EACH	9.000	9.000
1170	658.0615	LED MODULES 12-INCH RED ARROW	EACH	2.000	2.000
1180	658.0620	LED MODULES 12-INCH YELLOW ARROW	EACH	8.000	8.000
1190	658.0625	LED MODULES 12-INCH GREEN ARROW	EACH	7.000	7.000
1200	658.0635	LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	EACH	6.000	6.000
1210	658.5069	SIGNAL MOUNTING HARDWARE (LOCATION) 01. STH 20/83 & E. MAIN ST.	LS	1.000	1.000
1220	659.1125	LUMINAIRES UTILITY LED C	EACH	3.000	3.000
1230	690.0150	SAWING ASPHALT	LF	300.000	300.000
1240	690.0250	SAWING CONCRETE	LF	510.000	510.000
1250	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000	500.000
1260	SPV.0045	SPECIAL 01. TEMPORARY CROSSWALK/SIDEWALK	DAY	14.000	14.000
1270	SPV.0060	SPECIAL 02. INSTALL STATE FURNISHED RADIO ANTENNA 5.8 GHZ	EACH	2.000	2.000
1280	SPV.0060	SPECIAL 03. INSTALL MONOTUBE ARM, 15-FT WITH CLAMP BRACKET	EACH	1.000	1.000
1290	SPV.0060	SPECIAL 04. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	EACH	8.000	8.000
1300	SPV.0060	SPECIAL 05. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 1	EACH	3.000	3.000
1310	SPV.0060	SPECIAL 06. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2	EACH	6.000	6.000
1320	SPV.0060	SPECIAL 07. JUNCTION BOXES 16X16X16-INCH	EACH	2.000	2.000
1330	SPV.0060	SPECIAL 08. LAMP DISPOSAL HIGH INTENSITY DISCHARGE	EACH	2.000	2.000
1340	SPV.0060	SPECIAL 09. REMOVING JUNCTION BOXES	EACH	2.000	2.000
1350	SPV.0060	SPECIAL 10. REMOVING LIGHTING UNITS	EACH	2.000	2.000

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DATE 10JUN14		E S T I M A T E O F Q U A N T I T I E S			
LINE		2250-12-75			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1360	SPV.0060	SPECIAL 11. BACKFILL SLURRY	EACH	3.000	3.000
1370	SPV.0090	SPECIAL 01. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH	LF	80.000	80.000
1380	SPV.0090	SPECIAL 02. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH	LF	1,040.000	1,040.000
1390	SPV.0090	SPECIAL 03. REMOVING ELECTRICAL WIRES FROM EXISTING CONDUIT	LF	170.000	170.000
1400	SPV.0090	SPECIAL 04. PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE 8-INCH	LF	300.000	300.000
1410	SPV.0105	SPECIAL 01. REMOVING OVERHEAD SIGN SUPPORTS	LS	1.000	1.000
1420	SPV.0105	SPECIAL 06. TRANSPORTING TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS	LS	1.000	1.000
1430	SPV.0105	SPECIAL 07. TRANSPORTING AND INSTALLING STATE FURNISHED VIDEO DETECTION SYSTEM	LS	1.000	1.000
1440	SPV.0105	SPECIAL 08. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET, STH 20/83 & E. MAIN ST	LS	1.000	1.000

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REMOVING ASPHALTIC SURFACE					
CATEGORY	STATION TO STATION	LOCATION	204.0110 SY	REMARKS	
0010	104+09 - 105+69	STH 20, WEST PROJECT	230		
TOTAL 0010			230		
REMOVING CURB & GUTTER					
CATEGORY	STATION TO STATION	LOCATION	204.0150 LF	REMARKS	
0010	104+09 - 104+51	STH 20, WEST PROJECT, LT.	50	WEST RADIUS	
0010	104+69 - 104+84	STH 20, WEST PROJECT, LT.	45	MEDIAN CURB	
0010	105+20 - 105+69	STH 20, WEST PROJECT, LT.	55	EAST RADIUS	
0010	4+43 - 5+00	STH 20, INTERSECTION, LT.	60	NORTH SIDE	
0010	10+00 - 11+13	STH 20, INTERSECTION, LT.	115	NORTH SIDE	
	5+24 - 5+64	STH 20, INTERSECTION, LT.	70	SE RADIUS	
0010	4+44 - 6+08	STH 20, INTERSECTION, RT.	115	SW RADIUS	
TOTAL 0010			510		
REMOVING CONCRETE SIDEWALK					
CATEGORY	STATION TO STATION	LOCATION	204.0155 SY	REMARKS	
0010	4+43 - 5+00	STH 20, INTERSECTION, LT.	55	NORTH SIDE	
0010	10+00 - 11+14	STH 20, INTERSECTION, LT.	100	NORTH SIDE	
0010	4+44 - 6+08	STH 20, INTERSECTION, RT.	60	SW RADIUS	
0010	5+23 - 5+64	STH 20, INTERSECTION, LT.	110	SE RADIUS	
0010					
TOTAL 0010			325		
REMOVING INLETS					
CATEGORY	STATION	LOCATION	204.0220 EACH	REMARKS	
0010	4+62	STH 20, INTERSECTION, RT.	1	SOUTHWEST RADIUS	
0010	4+80	STH 20, INTERSECTION, LT.	1	NORTH SIDE	
0010					
TOTAL 0010			2		

REMOVING STORM SEWER 12-INCH					
CATEGORY	STATION TO	STATION	LOCATION	204.0245 LF	REMARKS
0010	4+48	- 4+62	STH 20, INTERSECTION, RT.	14	12" STORM SEWER
TOTAL 0010				14	
EXCAVATION COMMON **P**					
CATEGORY	STATION TO	STATION	LOCATION	205.0100 CY	REMARKS
0010	4+43	- 6+08	RT. Southwest Radius	85	
0010	4+43	- 5+00	LT. North	10	
0010	10+00	- 11+13	LT. North	20	
0010	5+24	- 5+64	LT. Southeast Radius	15	
TOTAL 0010				130	
EXCAVATION DEPTH FOR CURB AND GUTTER = 9 INCHES EXCAVATION DEPTH FOR SIDEWALK = 4 INCHES EXCAVATION DEPTH FOR CONC. PAVEMENT = 21 INCHES					
BASE AGGREGATE DENSE 3/4-INCH					
CATEGORY	STATION TO	STATION	LOCATION	305.0110 TON	REMARKS
0010	104+10	- 105+60	STH 20, WEST PROJECT, RT.	20	
TOTAL 0010				20	
BASE AGGREGATE DENSE 1 1/4-INCH					
CATEGORY	STATION TO	STATION	LOCATION	305.0120 TON	REMARKS
0010	4+43	- 6+08	STH 20, INT. SOUTHWEST	70	
0010	4+43	- 5+00	STH 20, INT. NORTH	35	
0010	10+00	- 11+13	STH 20, INT. NORTH	35	
0010	5+24	- 5+64	STH 20, INT. SOUTHEAST	30	
TOTAL 0010				170	

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CONCRETE PAVEMENT HES 9-INCH **P**					
				415.1090	
CATEGORY	STATION TO STATION		LOCATION	SY	REMARKS
0010	4+43 - 6+09		STH 20, INTERSECTION, RT.	70	
TOTAL 0010				70	
DRILLED TIE BARS					
				416.061	
CATEGORY	STATION TO	STATION	LOCATION	EACH	REMARKS
0010	4+44 -	6+08	STH 20, INTERSECTION, RT	37	
0010	4+43 -	5+00	STH 20, INTERSECTION, LT	19	
0010	5+24 -	5+64	STH 20, INTERSECTION, LT	22	
0010	10+00 -	11+13	STH 20, INTERSECTION, LT	37	
0010	UNDISTRIBUTED			5	
TOTAL 0010				120	
CONCRETE CURB & GUTTER 18-INCH TYPE A					
				601.0405	
CATEGORY	STATION TO	STATION	LOCATION	LF	REMARKS
0010	4+65 -	11+05	STH 20, INTERSECTION	140	NORTH SIDE
TOTAL 0010				140	
CONCRETE CURB & GUTTER 30-INCH TYPE A					
				601.0409	
CATEGORY	STATION TO	STATION	LOCATION	LF	REMARKS
0010	4+44 -	6+08	STH 20, INTERSECTION, RT	115	
0010	5+24 -	5+64	STH 20, INTERSECTION, LT	70	
0010	4+43 -	5+00	STH 20, INTERSECTION, LT	60	
0010	10+00 -	11+13	STH 20, INTERSECTION, LT	115	
0010					
TOTAL 0010				360	

CONCRETE CURB PEDESTRIAN				
				601.0600
CATEGORY	STATION TO STATION	LOCATION	LF	REMARKS
0010	4+43 - 4+65	STH 20, INTERSECTION, LT	20	
0010	10+34 - 10+53	STH 20, INTERSECTION, LT	20	
0010	4+44 - 5+57	STH 20, INTERSECTION, LT	50	
0010	5+25 - 5+47	STH 20, INTERSECTION, LT	40	
TOTAL 0010			130	

CONCRETE SIDEWALK 5-INCH					
				602.0410	
CATEGORY	STATION TO	STATION	LOCATION	SF	REMARKS
0010	4+44 -	6+08	STH 20, INTERSECTION, RT	930	
0010	4+43 -	5+00	STH 20, INTERSECTION, LT	500	
0010	5+24 -	5+64	STH 20, INTERSECTION, LT	600	
0010	10+00 -	11+13	STH 20, INTERSECTION, RT	930	
TOTAL 0010				2960	

CURB RAMP DETECTABLE WARNING FIELD YELLOW				
				602.0505
CATEGORY	STATION	LOCATION	SF	REMARKS
0010	4+55	STH 20, INTERSECTION, LT	10	
0010	4+55	STH 20, INTERSECTION, RT	10	
0010	5+38	STH 20, INTERSECTION, LT	10	
0010	5+38	STH 20, INTERSECTION, RT	10	
0010	10+43	STH 20, INTERSECTION, LT	10	
0010	10+43	STH 20, INTERSECTION, RT	10	
TOTAL 0010			60	

STORM SEWER PIPE REINFORCED CONCRETE CLASS II 12-INCH				
				608.0212
CATEGORY	STATION	LOCATION	LF	REMARKS
0010	4+43	23' RT., STH 20, INTERSECTION	8	23' RT.
0010	4+63	23' LT., STH 20, INTERSECTION	8	23' LT.
TOTAL 0010			16	

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<u>INLET COVERS TYPE H-S</u>				
CATEGORY	STATION	LOCATION	611.0639 EACH	REMARKS
0010	4+43	STH 20, INTERSECTION, 23' RT	1	
TOTAL 0010			<u>1</u>	

<u>INLET COVERS TYPE Z</u>				
CATEGORY	STATION	LOCATION	611.0666 EACH	REMARKS
0010	4+75	STH 20, INTERSECTION, 23' LT	1	
TOTAL 0010			<u>1</u>	

<u>INLETS 3-FT DIAMETER</u>				
CATEGORY	STATION	LOCATION	611.3003 EACH	REMARKS
0010	4+75	STH 20, INTERSECTION, 23' LT.	1	
TOTAL 0010			<u>1</u>	

<u>INLETS 2X3-FT</u>				
CATEGORY	STATION	LOCATION	611.3230 EACH	REMARKS
0010	4+43	STH 20, INTERSECTION, 23' RT.	1	
TOTAL 0010			<u>1</u>	

<u>CONCRETE MEDIAN SLOPED NOSE</u>				
CATEGORY	STATION	LOCATION	620.0300 SF	REMARKS
0010	104+75	WEST PROJECT, LT. 55' LT	5	
TOTAL 0010			<u>5</u>	

TOPSOIL						
CATEGORY	STATION TO	STATION	LOCATION	625.0100 SY	REMARKS	
0010	4+45 -	6+08	STH 20, INTERSECTION, RT	300	SOUTHWEST RADIUS	
0010	104+00 -	105+75	WEST PROJECT, LT	410		
0010			UNDISTRIBUTED	90		
TOTAL 0010				800		

MULCHING						
CATEGORY	STATION TO	STATION	LOCATION	627.0200 SY	REMARKS	
0010	4+45 -	6+08	STH 20, INTERSECTION, RT	300	SOUTHWEST RADIUS	
0010	104+00 -	105+75	WEST PROJECT, LT	410		
0010			UNDISTRIBUTED	90		
TOTAL 0010				800		

SILT FENCE						
CATEGORY	STATION	LOCATION	628.1504 LF	REMARKS		
0010	4+25	STH 20, INTERSECTION, LT.	50			
0010	4+25	STH 20, INTERSECTION, RT.	100			
0010		UNDISTRIBUTED	50			
TOTAL 0010			200			

SILT FENCE MAINTENANCE						
CATEGORY	STATION	LOCATION	628.1520 LF	REMARKS		
0010	4+25	STH 20, INTERSECTION, LT	50			
0010	4+25	STH 20, INTERSECTION, RT	100			
0010		UNDISTRIBUTED	50			
TOTAL 0010			200			

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MOBILIZATIONS EROSION CONTROL				
CATEGORY	LOCATION	628.1905 EACH	REMARKS	
0010	PROJECT 2250-12-75	3		
TOTAL 0010		3		

MOBILIZATIONS EMERGENCY EROSION CONTROL				
CATEGORY	LOCATION	628.1910 EACH	REMARKS	
0010	PROJECT 2250-12-75	2		
TOTAL 0010		2		

INLET PROTECTION TYPE D				
CATEGORY	LOCATION	628.7020 EACH	REMARKS	
0010	UNDISTRIBUTED	10		
TOTAL 0010		10		

TEMPORARY DITCH CHECKS				
CATEGORY	STATION	LOCATION	628.7504 LF	REMARKS
0010	104+00	WEST PROJECT, LT	60	
0010	105+75	WEST PROJECT, LT	60	
TOTAL 0010			120	

FERTILIZER TYPE B					
CATEGORY	STATION TO	STATION	LOCATION	629.0210 CWT	REMARKS
0010	4+45	- 6+08	STH 20, INTERSECTION, RT	0.18	
0010	104+00	- 105+75	WEST PROJECT, LT	0.26	
0010			UNDISTRIBUTED	0.06	
TOTAL 0010				0.50	

BASE PATCHING CONCRETE SHES					
		390.0403			
CATEGORY	LOCATION	SY	REMARKS		
0010	UNDISTRIBUTED	70			
TOTAL 0010		70			

SEEDING MIXTURE NO. 40					
		630.0140			
CATEGORY	STATION TO	STATION	LOCATION	LB	REMARKS
0010	4+45	- 6+08	STH 20, INTERSECTION, RT	5	
0010			UNDISTRIBUTED	2	
TOTAL 0010				7	

SEEDING TEMPORARY					
		630.0200			
CATEGORY	STATION TO	STATION	LOCATION	LB	REMARKS
0010	4+45	- 6+08	STH 20, INTERSECTION, RT.	8	
0010	104+00	- 105+75	WEST PROJECT, LT.	5	
0010			UNDISTRIBUTED	2	
TOTAL 0010				15	

SEEDING MIXTURE NO. 30					
		630.0130			
CATEGORY	STATION TO	STATION	LOCATION	LB	REMARKS
0010	104+00	- 105+75	WEST PROJECT, LT	8	
0010			UNDISTRIBUTED	2	
TOTAL 0010				10	

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643-TRAFFIC CONTROL

CATEGORY	STAGE	LOCATION	DRUMS	BARRICADE	BARRICADE	WARNING LIGHT	WARNING LIGHT	SIGNS	REMARKS
			643.0300	TYPE II	TYPE III	TYPE A	TYPE C	643.0900	
			DAY	643.0410	643.0420	643.0705	643.0715	DAY	
				DAY	DAY	DAY	DAY		
0010	STAGE 1	STH 20, INTERSECTION	2040	270	540	1080	780	1440	SEE TRAFFIC CONTROL PLAN
0010	STAGE 2	STH 20, INTERSECTION	840	180	240	480	480	1230	SEE TRAFFIC CONTROL PLAN
0010		WEST PROJECT	1440				570	660	SEE TRAFFIC CONTROL PLAN
TOTAL 0010			4320	450	780	1560	1830	3330	

TRAFFIC CONTROL FLEXIBLE TUBULAR MARKERS POSTS AND BASES

CATEGORY	STATION TO STATION	LOCATION	POSTS	BASES	REMARKS
			643.0500	643.0600	
			EACH	EACH	
0010	2+50 - 4+25	CENTER LINE	8	8	STAGE 1
0010	5+50 - 12+25	CENTER LINE	8	8	STAGE 1
0010	3+00 - 4+25	LT.	6	6	STAGE 2
0010	5+75 - 6+50	LT.	4	4	STAGE 2
0010		UNDISTRIBUTED	4	4	
TOTAL 0010			30	30	

TRAFFIC CONTROL SIGNS FIXED MESSAGE

CATEGORY	LOCATION	643.1000	REMARKS
		SF	
0010	STH 20 EAST BOUND	31	SEE ALTERNATE ROUTE PLAN
0010	STH 83 SOUTH BOUND	31	SEE ALTERNATE ROUTE PLAN
0010	STH 20 & 83 WEST BOUND	31	SEE ALTERNATE ROUTE PLAN
TOTAL 0010		93	

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	LOCATION	643.0920	REMARKS
		EACH	
0010	UNDISTRIBUTED	4	STAGE 1
0010	UNDISTRIBUTED	4	STAGE 2
TOTAL 0010		8	

TRAFFIC CONTROL DETOUR SIGNS

CATEGORY	LOCATION	643.3000	REMARKS
		DAY	
0010	PROJECT 2250-12-75	5760	SEE ALTERNATE ROUTE PLAN
TOTAL 0010		5760	

TRAFFIC CONTROL SIGNS PCMS

CATEGORY	STATION	LOCATION	643.1050	REMARKS
			DAY	
0010	1+00	STH 20, INTERSECTION, RT.	5	
0010	7+80	STH 20, INTERSECTION, LT.	5	
0010	12+80	STH 20, INTERSECTION, LT.	5	
TOTAL 0010			15	

CONCRETE COLLARS FOR PIPE

CATEGORY	STATION	LOCATION	520.8000	REMARKS
			EACH	
0010	4+48	STH 20, INTERSECTION, RT.	1	
0010	4+80	STH 20, INTERSECTION, LT.	1	
TOTAL 0010			2	

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REMOVING PAVEMENT MARKINGS					
		646.0600			
CATEGORY	STATION	LOCATION	LF	REMARKS	
0010	101+50 - 102+57	WEST PROJECT, LT.	102		
0010	102+33 - 104+25	WEST PROJECT, CL	192		
0010	102+55 - 104+55	WEST PROJECT, LT.	200		
0010	105+06 - 105+16	WEST PROJECT, LT.	10		
0010	105+25 - 109+85	WEST PROJECT, LT.	460		
0010	105+65 - 109+85	WEST PROJECT, LT.	420		
0010	2+50 - 4+55	STH 20, INTERSECTION, CL	205		
0010	2+90 - 4+55	STH 20, INTERSECTION, RT.	165		
0010	4+55	STH 20, INTERSECTION, RT.	52	STOP LINE	
0010	4+68 - 4+73	STH 20, INTERSECTION	100	BOTH CROSSWALK	
0010	5+40 - 5+46	STH 20, INTERSECTION	90	BOTH CROSSWALK	
0010	5+48	STH 20, INTERSECTION, LT.	66	STOP LINE	
0010	10+38 - 10+44	STH 20, INTERSECTION	88	BOTH CROSSWALK	
0010	10+48	STH 20, INTERSECTION, LT.	66	STOP LINE	
TOTAL 0010			2216		

PAVEMENT MARKING EPOXY 4-INCH					
		646.0106			
CATEGORY	STATION TO	STATION	LOCATION	LF	REMARKS
0010	97+95 -	102+50	WEST PROJECT	460	WHITE
0010	97+95 -	99+95	WEST PROJECT	400	DOUBLE YELLOW
0010	97+95	102+50	WEST PROJECT	455	WHITE - EDGELINE
0010	97+95 -	110+00	WEST PROJECT	1210	WHITE - EDGELINE
0010	102+50 -	110+00	WEST PROJECT	1500	DOUBLE WHITE - EDGELINE
0010	99+95 -	109+85	WEST PROJECT, MEDIAN	4000	DOUBLE YELLOW ON BOTH SIDES OF MEDIAN
0010	97+95 -	99+95	WEST PROJECT, CENTERLINE	400	DOUBLE YELLOW
0010	11+15 -	12+70	STH 20, INTERSECTION	180	WHITE
TOTAL 0010				8605	

PAVEMENT MARKING PREFORMED PLASTIC 4-INCH					
		646.0109			
CATEGORY	STATION TO	STATION	LOCATION	LF	REMARKS
0010	2+45 -	4+42	STH 20, INTERSECTION	400	DOUBLE YELLOW
0010	5+46 -	7+64	STH 20, INTERSECTION	440	DOUBLE YELLOW
0010	10+46 -	12+90	STH 20, INTERSECTION	490	DOUBLE YELLOW
TOTAL 0010				1330	

PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH				
		646.0883.S		
CATEGORY	STATION TO STATION	LOCATION	LF	REMARKS
0010	97+95 - 99+95	WEST PROJECT, RT.	200	
TOTAL 0010			200	

PAVEMENT MARKING DIAGONAL EPOXY 12-INCH				
		647.0726		
CATEGORY	STATION TO STATION	LOCATION	LF	REMARKS
0010	100+00 - 109+60	WEST PROJECT, CL	700	YELLOW
0010	102+50 - 109+25	WEST PROJECT, LT.	400	WHITE
0010	11+30 - 12+00	STH 20, INTERSECTION, LT.	30	WHITE
TOTAL 0010			1130	

SPECIAL (04.PAVEMENT MARKING GROOVED CONTRAST PREFORMED PLASTIC TAPE 8 - INCH)				
		SPV.0090.04		
CATEGORY	STATION TO STATION	LOCATION	LF	REMARKS
0010	3+60 - 4+45	STH 20, INTERSECTION, RT.	85	
0010	10+52 - 11+32	STH 20, INTERSECTION, LT.	80	
0010	5+48 - 6+08	STH 20, INTERSECTION, LT.	60	
0010	2+80 - 3+62	STH 20, INTERSECTION, RT.	24	SKIPS
0010	6+06 - 6+70	STH 20, INTERSECTION, LT.	18	SKIPS
0010	11+21 - 12+80	STH 20, INTERSECTION, LT.	33	SKIPS
TOTAL 0010			300	

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REMOVING PAVEMENT MARKINGS ARROWS					
			647.0955		
CATEGORY	STATION	LOCATION	EACH	REMARKS	
0010	98+18	WEST PROJECT, LT.	1		
0010	99+35	WEST PROJECT, LT.	1		
0010	103+25	WEST PROJECT, LT.	1		
0010	104+40	WEST PROJECT, LT.	1		
0010	105+60	WEST PROJECT, LT.	1		
0010	106+20	WEST PROJECT, LT.	1		
0010	3+45	STH 20, INTERSECTION, RT.	1		
0010	4+35	STH 20, INTERSECTION, RT.	2		
0010	5+60	STH 20, INTERSECTION, LT.	2		
0010	10+55	STH 20, INTERSECTION, LT.	2		
TOTAL 0010			13		

REMOVING PAVEMENT MARKINGS WORDS					
			647.0965		
CATEGORY	STATION	LOCATION	EACH	REMARKS	
0010	98+55	WEST PROJECT, LT.	1		
0010	99+75	WEST PROJECT, LT.	1		
0010	102+77	WEST PROJECT, LT.	1		
0010	104+10	WEST PROJECT, LT.	1		
0010	105+97	WEST PROJECT, LT.	1		
0010	106+50	WEST PROJECT, LT.	1		
0010	3+75	STH 20, INTERSECTION, RT	1		
0010	5+70	STH 20, INTERSECTION, LT	2		
0010	10+82	STH 20, INTERSECTION, LT	1		
TOTAL 0010			10		

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH					
			649.0400		
CATEGORY	STATION TO	STATION	LOCATION	LF	REMARKS
0010	2+50 -	4+28	STH 20, INTERSECTION	360	DOUBLE YELLOW
0010	2+80 -	4+76	STH 20, INTERSECTION, RT	230	WHITE
0010	3+67 -	5+00	STH 20, INTERSECTION, LT	140	WHITE
0010	5+12 -	6+09	STH 20, INTERSECTION, LT	260	WHITE, SE RADIUS
0010	6+23 -	6+47	STH 20, INTERSECTION, LT	40	WHITE
0010	6+60 -	7+77	STH 20, INTERSECTION, LT	125	WHITE
0010	10+00 -	12+68	STH 20, INTERSECTION, LT	270	WHITE
0010	2+50 -	4+91	STH 20, INTERSECTION, RT	400	WHITE, SW RADIUS
0010	3+00 -	4+28	STH 20, INTERSECTION, LT	160	DOUBLE YELLOW
0010	5+65 -	7+46	STH 20, INTERSECTION, LT	380	DOUBLE YELLOW
0010			MAIN STREET, LT.	115	WHITE
TOTAL 0010			2480		

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH						
			649.1200			
CATEGORY	STATION	LOCATION	LF	REMARKS		
0010	4+25	STH 20, INTERSECTION, RT.	15	STAGE 1		
0010	5+50	STH 20, INTERSECTION, LT.	12	STAGE 1		
0010	10+45	STH 20, INTERSECTION, LT.	13	STAGE 1		
0010	4+25	STH 20, INTERSECTION, RT.	15	STAGE 2		
0010	5+65	STH 20, INTERSECTION, LT.	15	STAGE 2		
TOTAL 0010			70			

SPECIAL (04. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS)						
			SPV.0060.04			
CATEGORY	STATION	LOCATION	EACH	REMARKS		
0010	4+00	STH 20 INTERSECTION, RT.	1	ONLY		
0010	4+00	STH 20 INTERSECTION, RT.	1	ONLY		
0010	5+82	STH 20 INTERSECTION, LT.	1	ONLY		
0010	5+82	STH 20 INTERSECTION, LT.	1	ONLY		
0010	10+85	STH 20 INTERSECTION, LT.	1	ONLY		
0010	10+85	STH 20 INTERSECTION, LT.	1	ONLY		
0010	98+52	WEST PROJECT, LT.	1	ONLY		
0010	99+75	WEST PROJECT, LT.	1	ONLY		
TOTAL 0010			8			

SPECIAL (05. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 1)						
			SPV.0060.05			
CATEGORY	STATION	LOCATION	EACH	REMARKS		
0010	4+42	STH 20, INTERSECTION, RT.	1			
0010	10+60	STH 20, INTERSECTION, LT.	1			
0010	11+60	STH 20, INTERSECTION, LT.	1			
TOTAL 0010			3			

SPECIAL (06. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2)						
			SPV.0060.06			
CATEGORY	STATION	LOCATION	EACH	REMARKS		
0010	4+42	STH 20, INTERSECTION, RT.	1			
0010	5+60	STH 20, INTERSECTION, LT.	2			
0010	10+60	STH 20, INTERSECTION, LT.	1			
0010	98+25	WEST PROJECT, LT.	1			
0010	99+32	WEST PROJECT, LT.	1			
TOTAL 0010			6			

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SPECIAL (01.PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH)				
SPV.0090.01				
CATEGORY	STATION	LOCATION	LF	REMARKS
0010	4+45	STH 20, INTERSECTION	25	
0010	5+45	STH 20, INTERSECTION	25	
0010	10+50	STH 20, INTERSECTION	30	
TOTAL 0010			80	

SPECIAL (02. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH)				
SPV.0090.02				
CATEGORY	STATION	LOCATION	LF	REMARKS
0010	4+50	STH 20, INTERSECTION	100	CROSSWALK
0010	4+55	STH 20, INTERSECTION	100	CROSSWALK
0010	5+35	STH 20, INTERSECTION	130	CROSSWALK
0010	5+44	STH 20, INTERSECTION	120	CROSSWALK
0010	10+40	STH 20, INTERSECTION	90	CROSSWALK
0010	10+47	STH 20, INTERSECTION	90	CROSSWALK
0010	12+80	STH 20, INTERSECTION	110	CROSSWALK
0010		ELIZABETH STREET	90	CROSSWALK
0010		ST. THOMAS STREET	110	CROSSWALK
0010		STH 20/83 - SOUTH	100	CROSSWALK
TOTAL 0010			1040	

CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER				
650.5500				
CATEGORY	STATION TO STATION	LOCATION	LF	REMARKS
0010	4+44 - 6+08	STH 20, INTERSECTION, RT.	115	
0010	4+43 - 5+00	STH 20, INTERSECTION, LT.	70	
0010	5+24 - 5+64	STH 20, INTERSECTION, LT.	60	
0010	10+00 - 11+13	STH 20, INTERSECTION, LT.	115	
TOTAL 0010			360	

SAWING CONCRETE				
690.0250				
CATEGORY	STATION TO STATION	LOCATION	LF	REMARKS
0010	104+50	WEST PROJECT, LT.	5	
0010	104+72	WEST PROJECT, LT.	5	
0010	104+80	WEST PROJECT, LT.	5	
0010	105+22	WEST PROJECT, LT.	5	
0010	4+43 - 6+08	STH 20, INTERSECTION	150	SOUTHWEST RADIUS
0010	4+43 - 5+00	STH 20, INTERSECTION	60	NORTH
0010	5+24 - 5+64	STH 20, INTERSECTION	70	SOUTHEAST RADIUS
0010	10+00 - 11+13	STH 20, INTERSECTION	115	NORTH
0010		UNDISTRIBUTED	95	
TOTAL 0010			510	

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT)			
650.9910			
CATEGORY	LOCATION	LS	REMARKS
0010	PROJECT 2250-12-75	1	
TOTAL 0010		1	

SAWING ASPHALT				
690.0150				
CATEGORY	STATION	LOCATION	LF	REMARKS
0010	104+08 - 105+68	WEST PROJECT, 36' LT.	160	
0010	104+51 - 104+72	WEST PROJECT, 60' LT.	20	
0010	104+83 - 105+20	WEST PROJECT, 60' LT.	36	
0010		UNDISTRIBUTED	84	
TOTAL 0010			300	

CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT)			
650.8500			
CATEGORY	LOCATION	LS	REMARKS
0010	PROJECT 2250-12-75	1	
TOTAL 0010		1	

3

DRILLED DOWEL BARS

CATEGORY	LOCATION	416.0620 EACH	REMARKS
0010	UNDISTRIBUTED	30	
TOTAL 0010		30	

3

SPECIAL (01. TEMPORARY CROSSWALK/SIDEWALK)

CATEGORY	LOCATION	SPV.0045 DAY	REMARKS
0010	UNDISTRIBUTED	14	
TOTAL 0010		14	

SPECIAL (11. BACKFILL SLURRY)

CATEGORY	STATION	LOCATION	SPV.0060.11 EACH	REMARKS
0010	4+48	STH 20, INTERSECTION, RT.	1	
0010	4+62	STH 20, INTERSECTION, RT.	1	
0010	4+80	STH 20, INTERSECTION, LT.	1	
TOTAL 0010			3	

3

TYPE II PERMANENT SIGNING - CATEGORY CODE 0010														2250-12-75	STH 20/83	
SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2215	637.2230	638.2602	638.3000	634.0816	634.0618	637.0620	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
			W [IN.]	x	H [IN.]	SIGNS TYPE II REFLECTIVE H	SIGNS TYPE II REFLECTIVE H FOLDING	SIGNS TYPE II REFLECTIVE F	REMOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	TUBULAR STEEL POSTS 2" X 2' X 16'	WOOD POSTS 4" X 6" X 18'	PERMANENT ORANGE FLAGS 16" X 16"	MOVE SIGNS TYPE II		
						(SF)	(SF)	(SF)	(EA)	(EA)	(EA)	(EA)	(EA)	(EA)		
1	W11-2 (2S)	(PED CROSSING)	30	x	30	--	--	6.250	1	--	--	--	--	--	--	MOUNT ON LIGHT POLE
2	W16-7R (2S)	RIGHT DIAG DOWN ARROW	24	x	12	--	--	2.000	1	--	--	--	--	--	--	MOUNT ON LIGHT POLE
3	W11-2 (2S)	(PED CROSSING)	30	x	30	--	--	6.250	1	--	--	2	--	--	--	MOUNT ON LIGHT POLE
4	W16-7L (2S)	LEFT DIAG DOWN ARROW	24	x	12	--	--	2.000	1	--	--	--	--	--	--	MOUNT ON LIGHT POLE
5	R7-1D (2S)	NO PARKING	18	x	24	3.000	--	--	1	1	1	--	--	--	--	--
6	R6-26 (2S)	ONE WAY RIGHT	24	x	30	5.000	--	--	1	--	--	--	--	--	5	--
7	W11-2 (2S)	(PED CROSSING)	30	x	30	--	--	6.250	1	1	1	--	2	--	--	--
8	W16-7L (2S)	LEFT DIAG DOWN ARROW	24	x	12	--	--	2.000	1	--	--	--	--	--	7	--
9	JV4-1 (2S)	--	24	x	72	12.000	--	--	1	--	--	--	--	--	--	MOUNT ON EXISTING POLE
	M3-4	WEST	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	20	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M3-1	NORTH	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	83	24	x	24	--	--	--	--	--	--	--	--	--	--	--
10	JV4-1 (2S)	--	24	x	72	12.000	--	--	1	1	--	1	--	--	--	--
	M3-2	EAST	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	20	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	83	24	x	24	--	--	--	--	--	--	--	--	--	--	--
11	W11-2 (2S)	(PED CROSSING)	30	x	30	--	--	6.250	1	--	--	--	2	--	--	REUSE POST
12	W16-7L (2S)	LEFT DIAG DOWN ARROW	24	x	12	--	--	2.000	1	--	--	--	--	--	11	--
13	R1-1 (3)	STOP	36	x	36	7.460	--	--	1	1	1	--	--	--	--	--
14	W11-2 (2S)	(PED CROSSING)	30	x	30	--	--	6.250	1	--	--	--	2	--	--	ON LIGHT POLE
15	W16-7L (2S)	LEFT DIAG DOWN ARROW	24	x	12	--	--	2.000	1	--	--	--	--	--	--	ON LIGHT POLE
16	W11-2 (2S)	(PED CROSSING)	30	x	30	--	--	6.250	1	--	--	--	--	--	--	ON LIGHT POLE
17	W16-7R (2S)	RIGHT DIAG DOWN ARROW	24	x	12	--	--	2.000	1	--	--	--	--	--	--	ON LIGHT POLE
18	W3-3 (2S)	(SIGNAL AHEAD)	36	x	36	--	--	9.000	1	1	1	--	--	--	--	16 X 16 TEMPORARY ORANGE FLAGS - INCIDENTAL
19	R3-8D (2S)	LANE USE	36	x	30	7.500	--	--	1	--	--	--	--	--	--	ON LIGHT POLE
20	J2-2 (2S)	--	48	x	57	19.000	--	--	1	--	--	--	--	--	--	ON EXISTING POLE
	M3-2	EAST	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	20	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M5-1R	(ARROW)	21	x	21	--	--	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	83	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M5-1R	(ARROW)	21	x	21	--	--	--	--	--	--	--	--	--	--	--

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TYPE II PERMANENT SIGNING - CATEGORY CODE 0010														2250-12-75 STH 20/83		
SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] [IN.]			637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	638.2602 REMOVING SIGNS TYPE II (EA)	638.3000 REMOVING SMALL SIGN SUPPORTS (EA)	634.0816 TUBULAR STEEL POSTS 2" X 2' X 16' (EA)	634.0618 WOOD POSTS 4" X 6" X 18' (EA)	637.0620 PERMANENT ORANGE FLAGS 16" X 16" (EA)	638.2102 MOVE SIGNS TYPE II (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
21	W3-1 (2S)	STOP AHEAD	--	x	--	--	--	--	1	--	--	--	--	--	--	ON EXISTING POLE
22	I3-1	FOX RIVER	--	x	--	--	--	--	1	--	--	--	--	--	--	ON EXISTING POLE
23	J3-2 (2S)	--	48	x	57	19.000	--	--	--	--	--	--	--	--	--	ON BACKSIDE ON SIGNAL ARM - BRACKETS INCIDENTAL
	M3-2	EAST	24	x	12	--	--	--	--	--	--	--	--	--	--	
	M1-6	20	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M6-1	(ARROW)	21	x	21	--	--	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	83	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M6-1	(ARROW)	21	x	21	--	--	--	--	--	--	--	--	--	--	--
24	I3-1	FOX RIVER	--	x	--	--	--	--	1	--	--	--	--	--	--	ON EXISTING POLE
25	R2-1 (2S)	SPEED LIMIT 25	24	x	30	5.000	--	--	1	--	--	--	--	--	--	ON EXISTING POLE
26	R3-50A	AHEAD ONLY	30	x	36	7.500	--	--	--	--	--	--	--	--	--	ON MAST ARM - BRACKETS INCIDENTAL
27	R3-50L	LEFT ONLY	30	x	36	7.500	--	--	--	--	--	--	--	--	--	ON MAST ARM - BRACKETS INCIDENTAL
28	JV3-1 (2S)	--	24	x	69	11.500	--	--	--	--	--	--	--	--	--	ON SIGNAL POLE UPRIGHT
	M1-6	20	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M1-6	83	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M6-6	(ARROW)	21	x	21	--	--	--	--	--	--	--	--	--	--	--
29	M1-94H	MAIN ST	54	x	18	6.750	--	--	--	--	--	--	--	--	--	ON MAST ARM - BRACKETS
30	JV3-1	20/83/ARROW	--	x	--	--	--	--	1	--	--	--	--	--	--	ON EXISTING SIGN SUPPORT
31	R1-1	STOP	--	x	--	--	--	--	1	--	--	--	--	--	--	ON EXISTING SIGN SUPPORT
32	R1-4	ALL WAY	--	x	--	--	--	--	1	--	--	--	--	--	--	ON EXISTING SIGN SUPPORT
33	LOCAL	NO PARKING 6-6	--	x	--	--	--	--	1	--	--	--	--	--	--	--
34	R7-1D (2S)	NO PARKING	18	x	24	3.000	--	--	1	1	1	--	--	--	--	--
35	R1-1F (3)	FOLDING STOP	36	x	36	--	7.460	--	--	--	--	--	--	--	--	ON SIGNAL POLE
36	LOCAL	NO PARKING 6-6	--	x	--	--	--	--	1	--	--	--	--	--	--	--
37	R3-8E (2S)	LANE USE	36	x	30	7.500	--	--	1	1	1	--	--	--	--	--
38	R7-1D (2S)	NO PARKING	18	x	24	3.000	--	--	--	--	--	--	--	--	37	--
39	R1-1 (3)	STOP	36	x	36	7.460	--	--	1	1	1	--	--	--	--	--
40	W3-3 (2S)	(SIGNAL AHEAD)	36	x	36	--	--	9.000	--	--	--	--	--	--	--	ON LIGHT POLE - 16 X 16 TEMPORARY ORANGE FLAGS - INCIDENTAL
41	W11-8 (2S)	FIRETRUCKS ENTERING	30	x	30	--	--	6.250	1	--	--	--	--	--	--	ON LIGHT POLE
42	W3-1A	STOP AHEAD	--	x	--	--	--	--	1	--	--	--	--	--	--	ON LIGHT POLE
43	JV3-1	E 20/S 83/ ARROW	--	x	--	--	--	--	1	--	--	--	--	--	--	ON EXISTING POLE
44	R1-1	STOP	--	x	--	--	--	--	1	1	--	--	--	--	--	--
45	R1-4	ALL WAY	--	x	--	--	--	--	1	--	--	--	--	--	--	--

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TYPE II PERMANENT SIGNING -			CATEGORY CODE 0010										2250-12-75 STH 20/83			
SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]			637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	638.2602 REMOVING SIGNS TYPE II (EA)	638.3000 REMOVING SMALL SIGN SUPPORTS (EA)	634.0816 TUBULAR STEEL POSTS 2" X 2' X 16' (EA)	634.0618 WOOD POSTS 4" X 6" X 18' (EA)	637.0620 PERMANENT ORANGE FLAGS 16" X 16" (EA)	638.2102 MOVE SIGNS TYPE II (EA)	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
46	R1-1F (3)	FOLDING STOP	36	x	36	--	7.460	--	--	--	--	--	--	--	--	ON SIGNAL POLE
47	JV4-1 (2S)	--	24	x	72	12.000	--	--	1	--	--	--	--	--	--	ON LIGHT POLE
	M3-2	EAST	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	20	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	83	24	x	24	--	--	--	--	--	--	--	--	--	--	--
48	R7-1D (2S)	NO PARKING	18	x	24	3.000	--	--	1	--	--	--	--	--	80	ON LIGHT POLE
49	M1-94H	S 1ST ST	54	x	18	6.750	--	--	--	--	--	--	--	--	--	ON MAST ARM - BRACKETS INCIDENTAL
50	R1-1F (3)	FOLDING STOP	36	x	36	--	7.460	--	--	--	--	--	--	--	--	--
51	R1-1	STOP	--	x	--	--	--	--	1	1	--	--	--	--	--	--
52	R1-4	ALL WAY	--	x	--	--	--	--	1	--	--	--	--	--	--	--
53	M1-94H	S 1ST ST	54	x	18	6.750	--	--	--	--	--	--	--	--	--	ON MAST ARM - BRACKETS INCIDENTAL
54	R3-8E (2S)	LANE USE	--	x	--	--	--	--	1	--	--	--	--	--	--	ON OVERHEAD EXISTING SIGN SUPPORT
55	R1-1	STOP	--	x	--	--	--	--	1	--	--	--	--	--	--	ON OVERHEAD EXISTING SIGN SUPPORT
56	W11-8 (2S)	FIRETRUCKS ENTERING	30	x	30	--	--	6.250	1	--	--	--	--	--	--	ON LIGHT POLE
57	R1-1 (3)	STOP	36	x	36	7.460	--	--	1	1	1	--	--	--	--	--
58	LOCAL	NO PARKING 6-6	--	x	--	--	--	--	--	--	--	--	--	1	--	--
59	R10-50	LT TURN YIELD ON FLASHING	30	x	36	7.500	--	--	--	--	--	--	--	--	--	ON MAST ARM - BRACKETS INCIDENTAL
60	R7-1D (2S)	NO PARKING	18	x	24	3.000	--	--	--	--	--	--	--	--	--	ON SIGNAL POLE
61	JV1-1 (2S)	--	24	x	60	10.000	--	--	1	--	--	--	--	--	--	ON LIGHT POLE
	M2-1	JCT	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	20	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M1-6	83	21	x	24	--	--	--	--	--	--	--	--	--	--	--
62	S1-1 (2S)	SCHOOL ADVANCE	36	x	36	--	--	6.750	1	1	1	--	--	--	--	--
63	S16-7L (2M)	LEFT DOWN DIAG ARROW	30	x	18	--	--	3.750	1	--	--	--	--	--	62	--
64	R2-1 (2S)	SPEED LIMIT 25	24	x	30	5.000	--	--	1	--	--	--	--	--	--	ON LIGHT POLE
65	S1-1 (2S)	SCHOOL ADVANCE	36	x	36	--	--	6.750	1	1	1	--	--	--	--	--

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TYPE II PERMANENT SIGNING -			CATEGORY CODE 0010					2250-12-75 STH 20/83								
SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2215	637.2230	638.2602	638.3000	634.0816	634.0618	637.0620	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
			W [IN.]	x	H [IN.]	SIGNS TYPE II REFLECTIVE H (SF)	SIGNS TYPE II REFLECTIVE H FOLDING (SF)	SIGNS TYPE II REFLECTIVE F (SF)	REMOVING SIGNS TYPE II (EA)	REMOVING SMALL SIGN SUPPORTS (EA)	TUBULAR STEEL POSTS 2" X 2' X 16' (EA)	WOOD POSTS 4" X 6" X 18' (EA)	PERMANENT ORANGE FLAGS 16" X 16" (EA)	MOVE SIGNS TYPE II (EA)		
66	S16-9P (2M)	AHEAD	30	x	18	--	--	3.750	1	--	--	--	--	--	65	--
67	R2-1 (2S)	SPEED LIMIT 25	24	x	30	5.000	--	--	1	--	--	--	--	--	--	ON UTILITY POLE
68	JV3-1 (2S)	--	24	x	93	15.500	--	--	1	--	--	--	--	--	--	ON LIGHT POLE
	M3-4	WEST	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	20	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M3-1	NORTH	24	x	12	--	--	--	--	--	--	--	--	--	--	--
	M1-6	83	24	x	24	--	--	--	--	--	--	--	--	--	--	--
	M6-1	(ARROW)	21	x	21	--	--	--	--	--	--	--	--	--	--	--
69	R1-1 (3)	STOP	36	x	36	7.460	--	--	1	1	1	--	--	--	--	--
70	W3-3 (2S)	(SIGNAL AHEAD)	36	x	36	--	--	9.000	--	--	--	--	--	--	--	ON LIGHT POLE - TEMPORARY 16 X16 ORANGE FLAGS - INCIDENTAL
71	W3-1A	STOP AHEAD	--	x	--	--	--	--	1	--	--	--	--	--	--	ON LIGHT POLE
72	R1-1 (3)	STOP	36	x	36	7.460	--	--	1	1	1	--	--	--	--	--
73	R3-8F	LANE USE	36	x	30	7.500	--	--	1	--	--	--	--	--	--	ON LIGHT POLE
74	R7-1L (2S)	NO PARKING	18	x	24	3.000	--	--	1	1	1	--	--	--	--	--
		--	--	x	--	--	--	--	--	--	--	--	--	--	--	--
TOTALS						251.550	22.380	110.000	58	16	13	1	8	1	--	

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OVERHEAD SIGN SUPPORTS - MISC QUANTITIES

2250-12-75

20/83 Waterford

LOCATION	SPV.0105.01 REMOVING OVERHEAD SIGN SUPPORTS (L.S.)
MAIN ST WB AT JCT 20/83	1
TOTAL	1

LIGHTING REMOVAL
CATEGORY 0010

- 204.0195 REMOVING CONCRETE BASES
- SPV.0060.08 LAMP DISPOSAL HIGH INTENSITY DISCHARGE
- SPV.0060.09 REMOVING JUNCTION BOXES
- SPV.0060.10 REMOVING LIGHTING UNITS
- SPV.0090.03 REMOVING ELECTRICAL WIRES FROM EXISTING CONDUIT

SYSTEM	LOCATION	204.0195 REMOVING CONCRETE BASES EACH	SPV.0060.08 LAMP DISPOSAL EACH	SPV.0060.09 REMOVING JUNCTION BOXES EACH	SPV.0090.03 REMOVING ELECTRICAL WIRES FROM EXISTING CONDUIT LF	SPV.0060.10 REMOVING LIGHTING UNITS EACH
LOCAL	LP1 AND LP2	2	2	--	--	2
LOCAL	5+22, 27.8'RT	--	--	2	--	--
LOCAL	LP1 TO LPBE02 TO LPBE01	--	--	--	170	--
TOTAL		2	2	2	170	2

LIGHTING JUNCTION BOXES
CATEGORY 0010

SPV.0060.07 JUNCTION BOX 16X16X16-INCH

SYSTEM	LOCATION	SEQUENCE	SPV.0060.07 JUNCTION BOX 16X16X16-INCH EACH
LOCAL	5+33, 31.4' LT	LJB02	1
LOCAL	10+4.75, 26' LT	LJB01	1
TOTAL			2

STH 20/83 & E. MAIN STREET
S51-1394

3

STATE FURNISHED MATERIALS SUMMARY	
EACH	DESCRIPTION
1	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8 PHASE
1	TRAFFIC SIGNAL CABINET
1	POLES, TYPE 13
1	55' MONOTUBE ARM
1	LUMINAIRE 15' ARMS
1	VIDEO CAMERA
1	RADIO ANTENNA 5.8 GHZ
1	15' CLAMP ON CAMERA ARM

STATE FURNISHED FOR INFORMATION ONLY						
SIG. BASE NO.	POLE TYPE 13 EACH	MONO 55' ARM EACH	VIDEO CAMERA EACH	LUMIN. 15' ARMS EACH	15' CLAMP ON CAMERA ARM EACH	RADIO ANTENNA 5.8 GHZ EACH
SB2	1	1	1	1	1	1
TOTAL	1	1	1	1	1	1

PULL BOXES		
PULL BOX NO.	LOCATION**	653.0140 PULL BOXES STEEL 24x42-INCH EACH
PB1	4+56.0, 42.7' RT	1
PB2	4+60.3, 25.9' LT	1
PB3	10+36.2, 27.0' LT	1
PB4	10+37.3, 28.7' RT	1
PB5	10+28.2, 59.0' RT	1
PB6	4+65.8, 63.7' RT	1
TOTAL		6

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

		CONDUIT			
		652.0225 CONDUIT NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT NONMETALLIC SCHEDULE 40 3-INCH L.F.	652.0605 CONDUIT SPECIAL 2-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
FROM	TO				
CB1	PB1		39		
PB1	SB1	15			
PB1	SB2		22		
PB1	SB3	19			
PB1	PB2				138
PB2	PB3				136
PB2	SB4	7			
PB3	SB5			32	
PB3	SB6			17	
PB3	SB7			13	
PB3	PB4				104
PB4	SB8			9	
PB4	PB5				58
PB5	SB9			6	
PB5	PB6				142
PB6	CB1		54		
TOTAL		41	115	77	578

		CONCRETE BASES			
		654.0101 CONCRETE BASES TYPE 1 EACH	654.0102 CONCRETE BASES TYPE 2 EACH	654.0113 CONCRETE BASES TYPE 13 EACH	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
SIGNAL BASE NO.	LOCATION**				
CB1	4+55.2, 55.6' RT				1
SB1	4+65.3, 51.1' RT	1			
SB2	4+36.5, 43.2' RT			1	
SB3	4+48.4, 26.1' RT	1			
SB4	4+47.3, 26.0' LT	1			
SB5	10+01.7, 26.5' LT	1			
SB6	10+16.7, 26.4' LT	1			
SB7	10+50.9, 26.6' LT		1		
SB8	10+48.8, 27.2' RT		1		
SB9	10+27.3, 51.1' RT		1		
TOTAL		5	3	1	1

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

* QUANTITY SHOWN ELSEWHERE
ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

SHEET 1 OF 4

3

STH 20/83 & E. MAIN STREET
S1394

3

POLES														
SIGNAL BASE NO.	657.0100 PEDESTAL BASE EACH	657.0255 TRANSFORMER BASE EACH	657.0305 POLE TYPE 2 EACH	657.0310 POLE TYPE 3 EACH	657.0425 15-FOOT STANDARD EACH	657.0430 10-FOOT STANDARD EACH	657.0590 20-FOOT TROMBONE ARM EACH	657.0609 LUMINAIRE ARM SINGLE MEMBER 4-INCH CLAMP 6-FT EACH	657.0640 LUMINAIRE ARM SINGLE MEMBER 6-INCH CLAMP 15-FT EACH	657.1360 INSTALL POLE TYPE 13 EACH	657.1555 INSTALL MONOTUBE 55' ARM EACH	657.1815 INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500 PUSH BUTTON EACH	659.1125 LUMINAIRES UTILITY LED C EACH
SB1	1					1							1	
SB2									1	1	1	1		1
SB3	1				1								1	
SB4	1					1							1	
SB5	1				1									
SB6	1				1									
SB7		1		1				1					1	1
SB8		1	1				1						1	
SB9		1		1				1					1	1
TOTAL	5	3	1	2	3	2	1	2	1	1	1	1	6	3

FACES															
SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110 3-12 INCH VERTICAL EACH	658.0115 4-12 INCH VERTICAL EACH	658.0120 5-12 INCH VERTICAL EACH	658.0215 BACKPLATE 3 SECTION EACH	658.0220 BACKPLATE 4 SECTION EACH	658.0225 BACKPLATE 5 SECTION EACH	658.0416 PEDESTRIAN SIGNAL FACE 16 INCH EACH	658.0600 RED BALL EACH	658.0605 YELLOW BALL EACH	658.0610 GREEN BALL EACH	658.0615 RED ARROW EACH	658.0620 YELLOW ARROW EACH	658.0625 GREEN ARROW EACH	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16 INCH EACH
1	SB3			1			1		1	1	1		1	1	
2	SB7	1			1				1	1	1				
3	SB8	1			1				1	1	1				
4	SB8			1			1		1	1	1		1	1	
5	SB7	1			1				1	1	1				
6	SB2	1			1				1	1				1	
7	SB2	1			1				1	1	1				
8	SB3		1			1						1	2	1	
9	SB2		1			1						1	2	1	
10	SB9			1			1		1	1	1		1	1	
11	SB5	1			1				1	1	1				
12	SB6			1			1		1	1	1		1	1	
13	SB7							1							1
14	SB8							1							1
15	SB9							1							1
16	SB1							1							1
17	SB3							1							1
18	SB4							1							1
TOTAL		6	2	4	6	2	4	6	10	10	9	2	8	7	6

* QUANTITY SHOWN ELSEWHERE
ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

SHEET 2 OF 4

3

STH 20/83 & E. MAIN STREET
S1394

SIGNAL CABLE AND WIRE						
		655.0240	655.0260	655.0270	655.0305	655.0515
		CABLE TRAFFIC SIGNAL 7-14 AWG	CABLE TRAFFIC SIGNAL 12-14 AWG	CABLE TRAFFIC SIGNAL 15-14 AWG	CABLE TYPE UF 2-12 AWG GROUNDED	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG
LOC.	TO LOC.	L.F.	L.F.	L.F.	L.F.	L.F.
CB1	SB1	42				
CB1	SB2		51			
CB1	SB3			47		
CB1	SB4		125			
CB1	SB5	239				
CB1	SB6		223			
CB1	SB7		217			
CB1	SB8		184			
CB1	SB9		133		133	133
CB1	SB1					42
SB1	SB2					53
SB2	SB3					58
SB3	SB4					132
SB4	SB5					151
SB5	SB6					71
SB6	SB7					49
SB7	SB8					113
SB8	SB9					80
SB9	CB1					133
CB1	PB1					13
PB1	SB2					23
PB2	SB4					12
PB3	SB7					15
PB4	SB8					12
PB5	SB9					8
PB6	CB1					19
CB1	SB2				77	
SB2	SB7				253	
TOTALS*		239	933	47	463	1117

TRAFFIC SIGNAL MOUNTING HARDWARE	
LOCATION	658.5069 SIGNAL MOUNTING HARDWARE L.S.
STH 20/83 & E. MAIN ST.	1
TOTAL	1

METER BREAKER PEDESTAL	
LOCATION**	656.0200 METER BREAKER PEDESTAL L.S.
STH 20/83 & E. MAIN ST.	1
TOTAL	1

** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER
IN THE FIELD

* QUANTITY SHOWN ELSEWHERE
ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

SHEET 3 OF 4

3

STH 20/83 & E. MAIN STREET
S1394

SIGNAL CABLE AND WIRE				
		655.0230	655.0240	655.0610
		CABLE	CABLE	ELECTRICAL
		TRAFFIC SIGNAL	TRAFFIC SIGNAL	WIRE
		5-14 AWG	7-14 AWG	LIGHTING
		L.F.	L.F.	12 AWG
LOC.	TO	LOC.		L.F.
SB1		HEAD 16		
SB1		BUTTON		6
SB2		HEAD 6		
SB2		HEAD 7		
SB2		HEAD 9		
SB2		LUMINAIRE		144
SB3		HEAD 1	23	
SB3		HEAD 8		
SB3		HEAD 17		
SB3		BUTTON		6
SB4		HEAD 18		
SB4		BUTTON		6
SB5		HEAD 11		
SB6		HEAD 12	23	
SB7		LUMINAIRE		117
SB7		HEAD 2		
SB7		HEAD 5		
SB7		HEAD 13		
SB7		BUTTON		6
SB8		HEAD 3		
SB8		HEAD 4	27	
SB7		HEAD 14		
SB8		BUTTON		6
SB9		HEAD 10	14	
SB9		HEAD 15		
SB9		LUMINAIRE		117
SB9		BUTTON		6
TOTALS*		378	87	378
				36

INSTALL STATE FURNISHED RADIO ANTENNA 5.8 GHZ	
SPV 0060.02 INSTALL STATE FURNISHED RADIO ANTENNA 5.8 GHZ EACH	
LOCATION	
SB2	1
TOTAL*	1

INSTALL MONOTUBE ARM, 15-FT WITH CLAMP BRACKET	
SPV 0060.03 INSTALL MONOTUBE ARM, 15-FT WITH CLAMP BRACKET EACH	
LOCATION	
SB2	1
TOTAL	1

TRANSPORTING TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS	
SPV.0105.06 TRANSPORTING TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS L.S.	
LOCATION	
STH 20/83 & E. MAIN ST.	1
TOTAL	1

TRANSPORTING AND INSTALLING STATE FURNISHED VIDEO DETECTION SYSTEM	
SPV.0105.07 TRANSPORTING AND INSTALLING STATE FURNISHED VIDEO DETECTION SYSTEM L.S.	
LOCATION	
STH 20/83 & E. MAIN ST.	1
TOTAL	1

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET	
SPV.0105.08 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET L.S.	
LOCATION	
STH 20/83 & E. MAIN ST.	1
TOTAL	1

* QUANTITY SHOWN ELSEWHERE
ALL ITEMS ON THIS PAGE ARE CATEGORY 0010 SHEET 4 OF 4

3

3

STATE FURNISHED MATERIALS SUMMARY	
EACH	DESCRIPTION
1	RADIO INTERCONNECT ANTENNA 5.8 GHZ

STATE FURNISHED FOR INFORMATION ONLY	
SIG. BASE NO.	RADIO ANTENNA 5.8 GHZ EACH
SB2	1
TOTAL *	1

3

INSTALL STATE FURNISHED RADIO ANTENNA 5.8 GHZ	
	SPV 0060.02 *
	INSTALL STATE
	FURNISHED RADIO
	ANTENNA 5.8 GHZ
LOCATION	EACH
SB2	1
TOTAL*	1

* QUANTITY SHOWN ELSEWHERE
ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

SHEET 1 OF 1

CONVENTIONAL ABBREVIATIONS

ACCESS POINT	AP	PROPERTY LINE	PL
ACCESS RIGHTS	AR	RECORDED AS	PL
ACRES	AC	REFERENCE LINE	R/L
AHEAD	AH	RELEASE OF RIGHTS	ROR
ALUMINUM	ALUM.	REFERENCE	REF
AND OTHERS	ET.AL.	REMAINING	REM
BACK	BK	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC
CERTIFIED SURVEY MAP	CSM	SQUARE FEET	SQ. FT.
CHISELED CROSS	CHIS	SOUTHEAST	SE
CONCRETE	CONC	SOUTHWEST	SW
CORNER	COR	STATE TRUNK HIGHWAY	STH
CONVEYANCE OF RIGHTS	CR	STATION	STA
DOCUMENT	DOC	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE	VOLUME	V
HIGHWAY EASEMENT	HE		
IRON PIPE	IP	<u>CURVE DATA</u>	
IRON ROD	IR	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON	RADIUS	R
NORTHEAST	NE	DEGREE OF CURVE	D
NORTHWEST	NW	CENTRAL ANGLE OR DELTA	DELTA
PAGE	P	LENGTH OF CURVE	L
PERMANENT LIMITED EASEMENT	PLE	TANGENT	TAN
POINT OF CURVE	PC		
POINT OF INTERSECTION	PI		
POINT OF TANGENCY	PT		

CONVENTIONAL UTILITY SYMBOLS

WATER	_____W_____	
GAS	_____G_____	
TELEPHONE	_____T_____	
OVERHEAD	_____OH_____	
TRANSMISSION LINES		
ELECTRIC	_____E_____	
CABLE TELEVISION	_____TV_____	
FIBER OPTIC	_____FO_____	
SANITARY SEWER	_____SAN_____	
STORM SEWER	_____SS_____	
	NON	
	COMPENSABLE	COMPENSABLE
POWER POLE		⚡
TELEPHONE POLE	⚡	⚡
TELEPHONE PEDESTAL	⌘	⌘
ELECTRIC TOWER	⊠	

SCHEDULE OF LANDS & INTERESTS REQUIRED

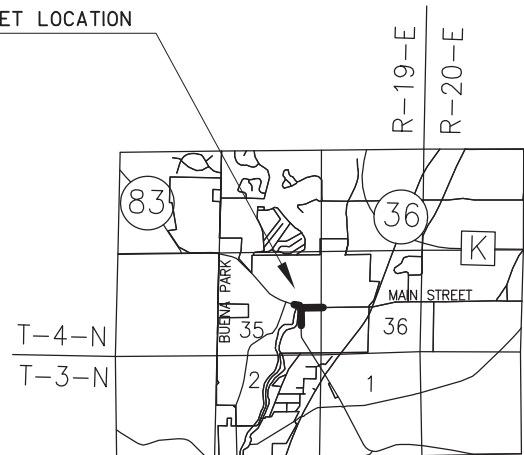
[illegible]

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY,
AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND
AND INTERESTS TO DOT.

CONVENTIONAL SYMBOLS

FOUND TRON PIPE/PIN	16 (IF UNLESS NOTED)	PROPOSED R/W LINE	_____
R/W MONUMENT	• •(SET)	EXISTING H.W. LINE	_____
R/W STANDARD	▲ •(SET)	PROPERTY LINE	_____
SIGN	ISIGN	LOT & TIE LINES	_____
SECTION CORNER MONUMENT	⊙	SLOPE INTERCEPTS	____/____
SECTION CORNER SYMBOL		CORPORATE LIMITS	____/____
FEE (HATCH VARIO)		ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)	 _____
TEMPORARY LIMITED EASEMENT		ACCESS RESTRICTED (BY ACQUISITION)	 _____
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	 _____
R/W BOUNDARY POINT		SECTION LINE	_____
PARCEL NUMBER		QUARTER LINE	_____
UTILITY PARCEL NUMBER		SIXTEENTH LINE	_____
SIGN NUMBER (OFF PREMISE)		EXISTING CENTERLINE	_____
BUILDING		PROPOSED REFERENCE LINE	_____
		PARALLEL OFFSET	 _____

SHEET LOCATION



PNT	STATION	OUT	Y	X
RW500	6+13.57	33.00'	199120.34	524463.69
RW501	5+32.76	33.00'	199201.14	524462.74
RW502	4+13.10	56.39'	199200.83	524392.74
RW503	6+12.88	128.00'	199119.91	524368.69

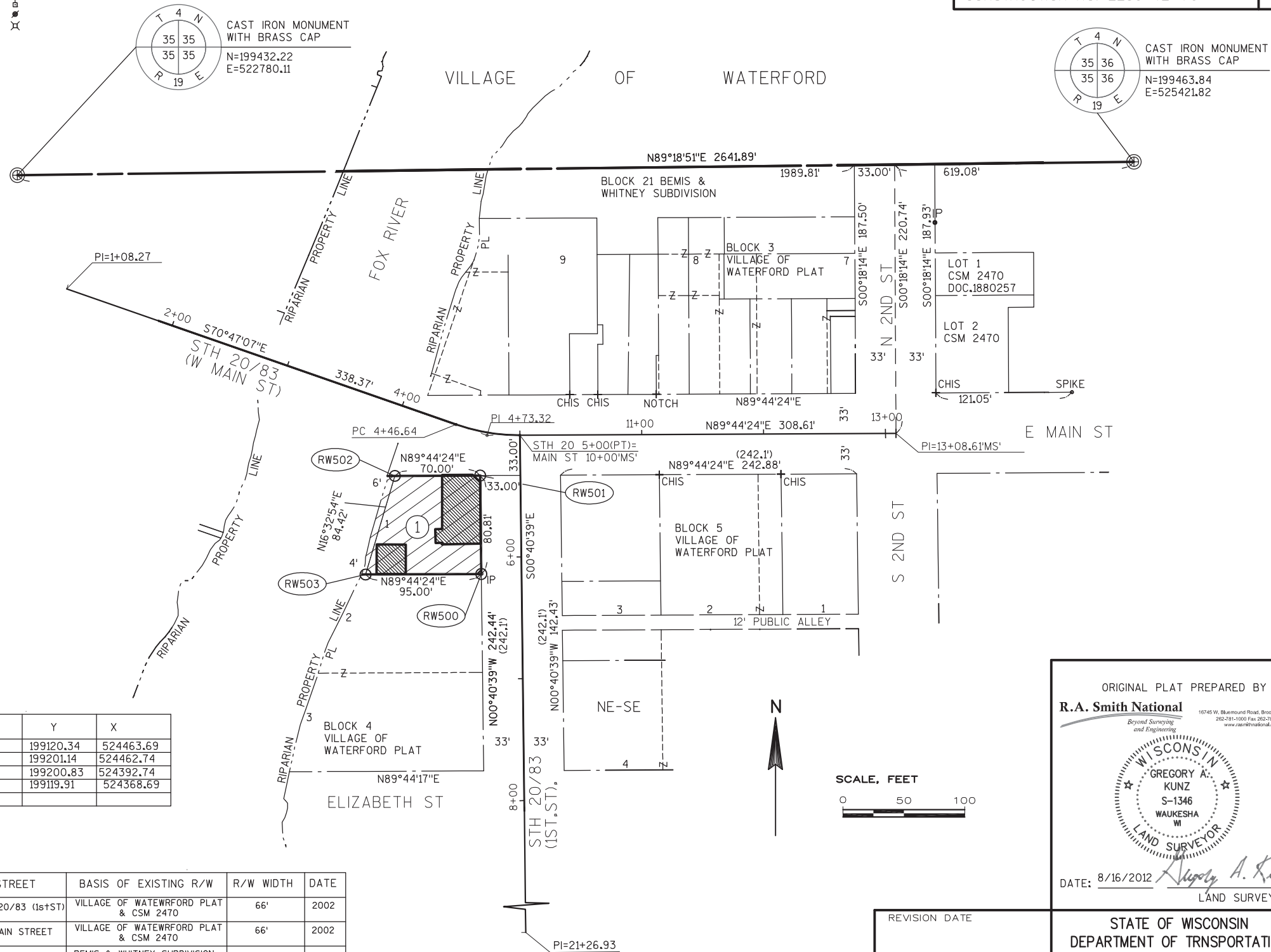
NOTES

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, RACINE COUNTY ZONE, NAD83 (2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GROUND COORDINATES AND ARE TO BE USED AS GROUND VALUES ON THIS PLAT.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT, BY WISDOT.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE OF U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

STREET	BASIS OF EXISTING R/W	R/W WIDTH	DATE
STH 20/83 (1st ST)	VILLAGE OF WATEWRFORD PLAT & CSM 2470	66'	2002
E. MAIN STREET	VILLAGE OF WATEWRFORD PLAT & CSM 2470	66'	2002
N 2ND STREET	BEMIS & WHITNEY SUBDIVISION, VILLAGE OF WATEWRFORD PLAT, & CSM 2470	66'	2002



ORIGINAL PLAT PREPARED BY

R.A. Smith Surveying

*Beyond Surveying
and Engineering*

16745 W. Bluemound Road, Brookfield WI 53005
262-781-1000 Fax: 262-781-8486
www.raasurveying.com

WISCONSIN
GREGORY A.
KUNZ
S-1346
WAUKESHA
WI
LAND SURVEYOR

DATE: 8/16/2012 Nigoly A. Xiong
LAND SURVEYOR

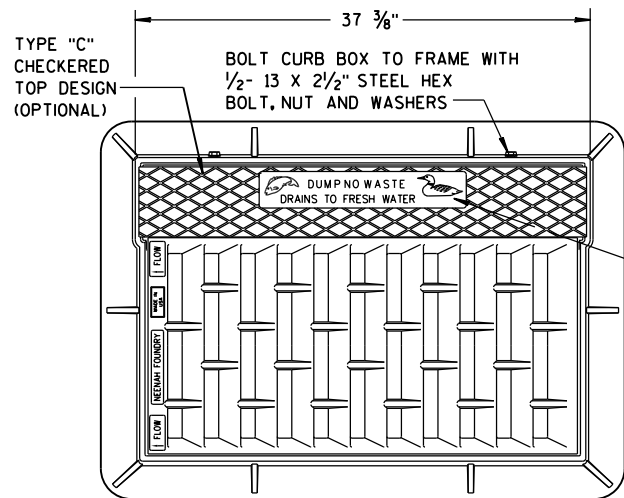
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR DISTRICT OFFICE:

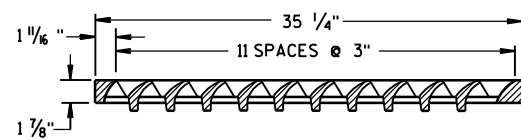
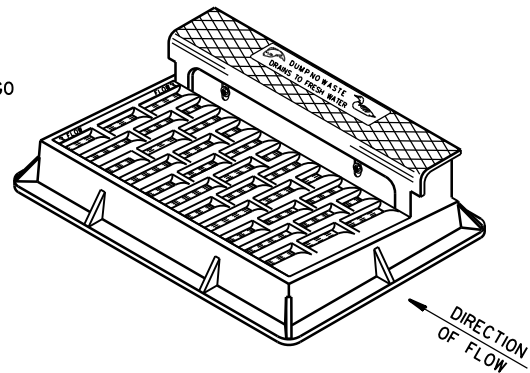
DATE: 10/16/12 *Robert A. Duffek*
(Signature)

Standard Detail Drawing List

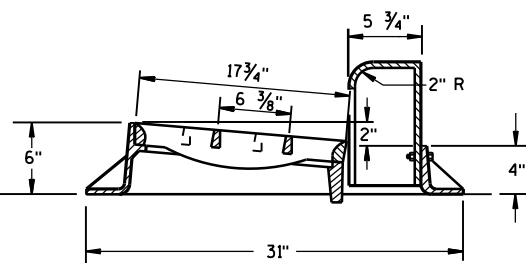
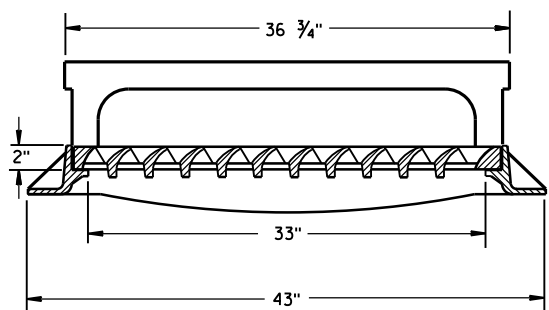
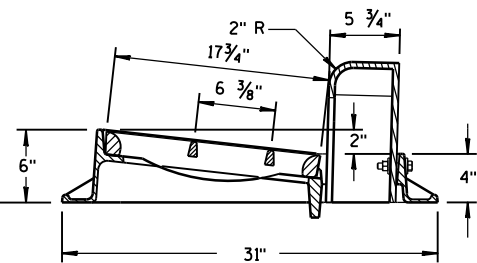
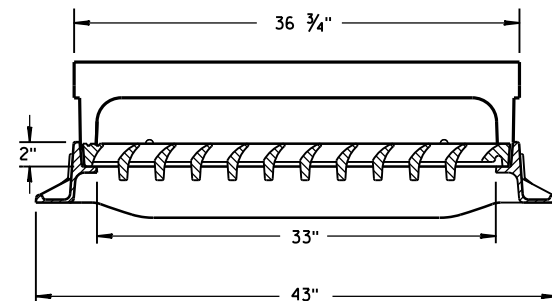
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-10	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09C06-06	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-04A	CONCRETE BASE TYPE 10
09C12-04B	CONCRETE BASE TYPE 13
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09E01-12A	POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2
09E01-12B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-12G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E05-06	TRAFFIC SIGNAL STANDARD ORNAMENTAL BRACKET MOUNTINGS TYPICAL FOR 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-04D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-04E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
11B02-02	CONCRETE MEDIAN NOSE
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02C	CONCRETE PAVEMENT JOINT TIES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C18-03	MEDIAN ISLAND MARKING
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



**NOTE:
GRATE IS REVERSIBLE.**

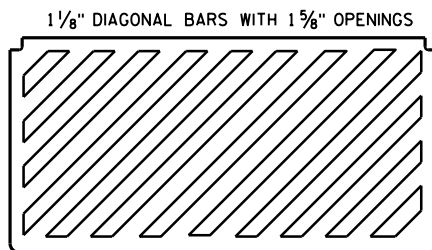


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



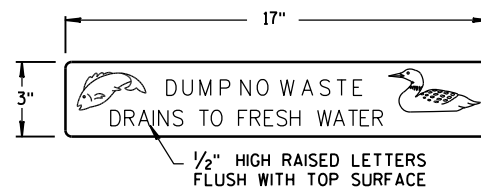
TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

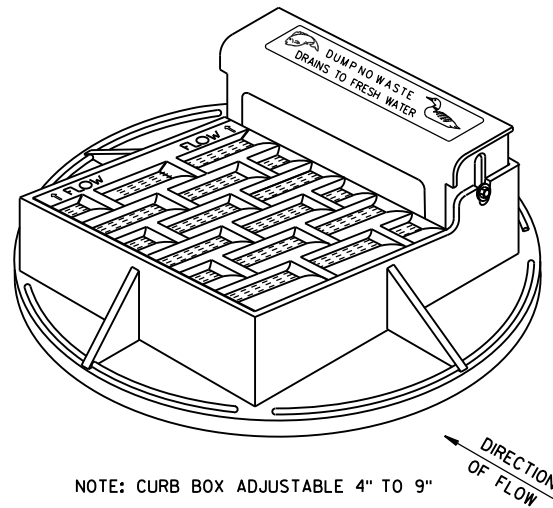


**SPECIAL GRATE FOR
TYPE "H" COVER**

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

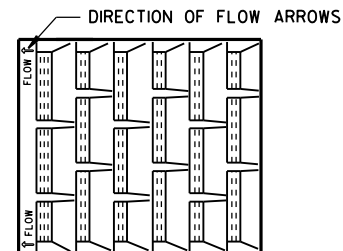


LOGO DETAIL

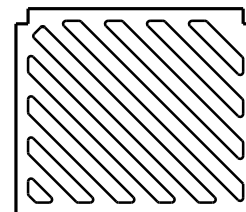


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

**NOTE:
GRATE IS REVERSIBLE.**

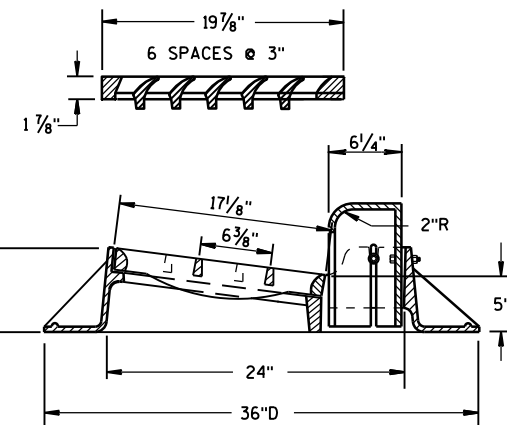
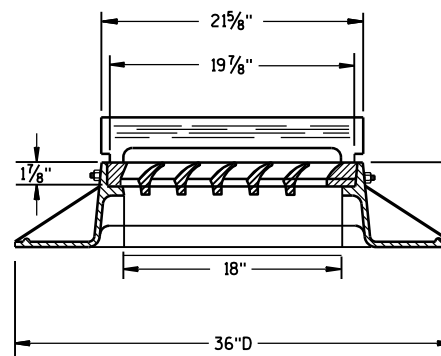


1" DIAGONAL BARS
WITH 1 1/2" OPENINGS

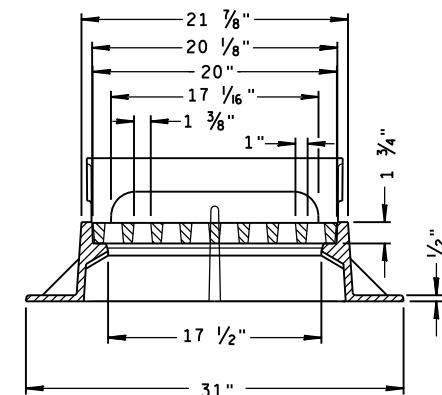
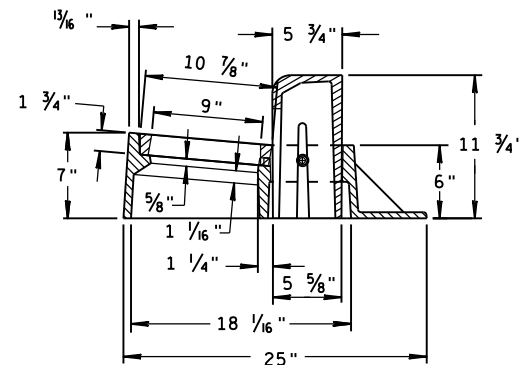


**SPECIAL GRATE FOR
TYPE "A" COVER**

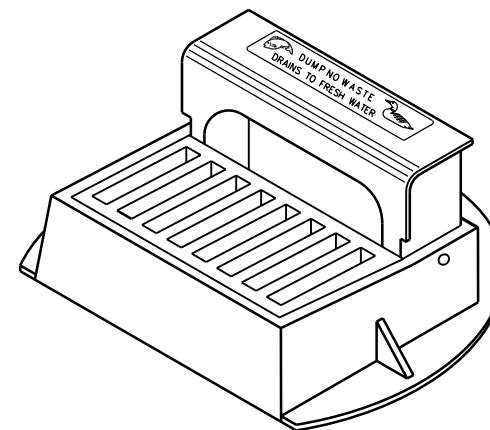
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



TYPE "Z"



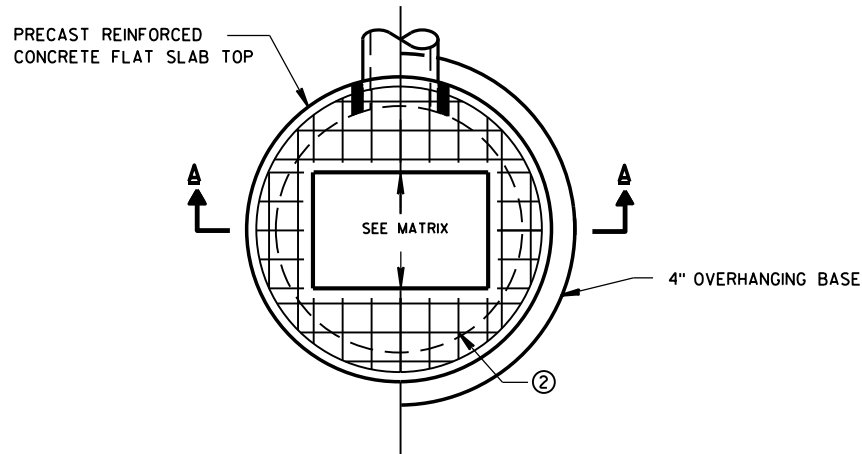
**INLET COVERS
TYPE A, H, A-S, H-S & Z**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

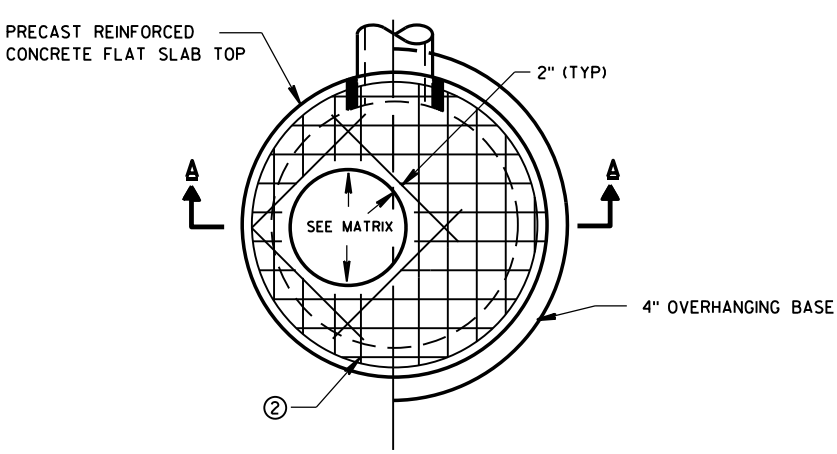
APPROVED
II-27-13
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

ENT

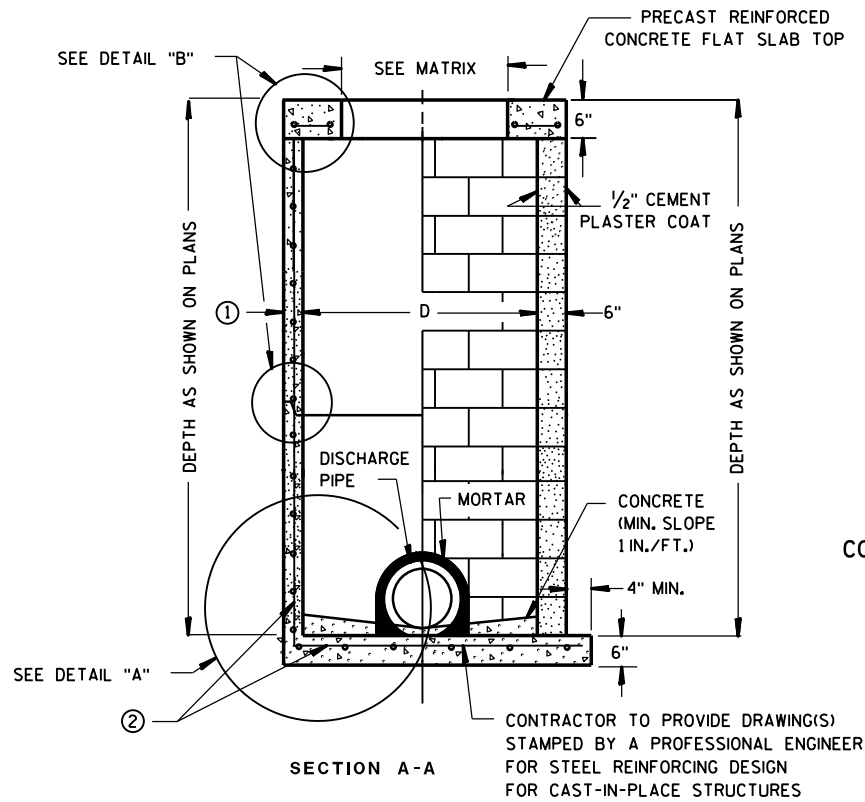


PLAN VIEW RECTANGULAR OPENING



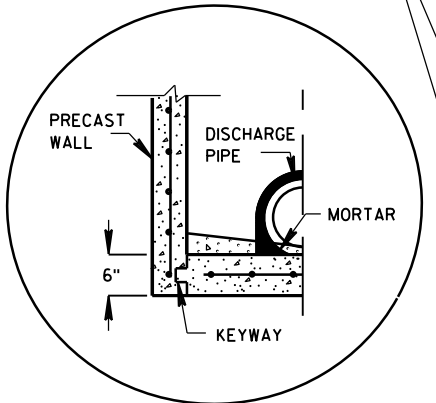
PLAN VIEW CIRCULAR OPENING

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

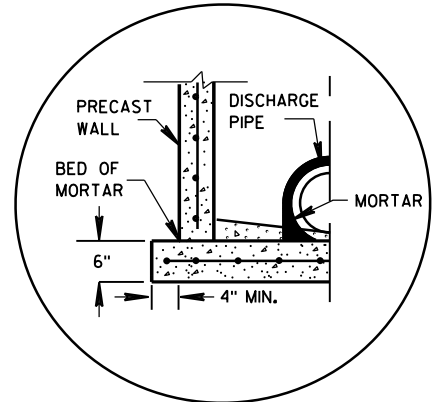


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE **CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②**

CIRCULAR INLETS W/ FLAT TOP

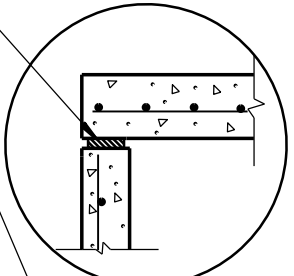


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

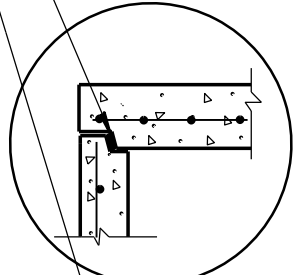


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

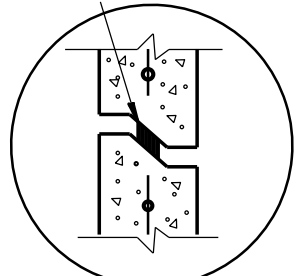
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

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 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 GRANULAR 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.

ALL PRECAST INLET 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.

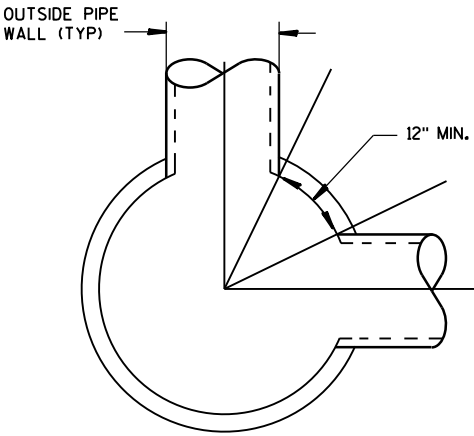
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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 "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X	X	X	X	
	2X2.5			X								
	2X3						X					
	2.5X3					X						



DETAIL "C"

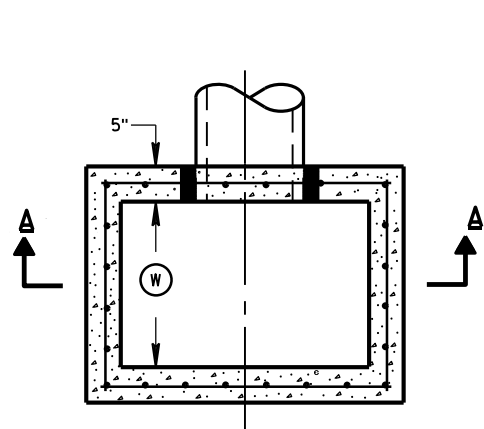
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

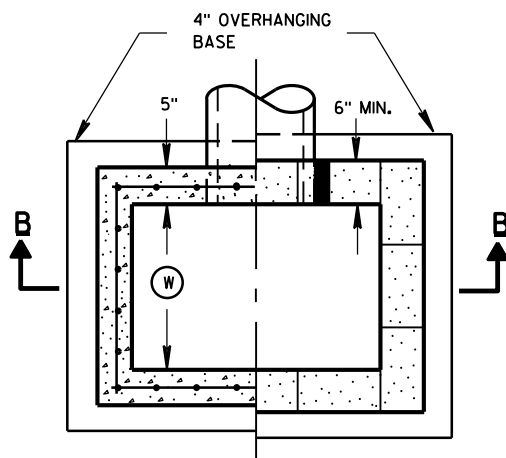
INLETS 3-FT AND 4-FT DIAMETER

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
6/5/2012 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER 75
FHWA

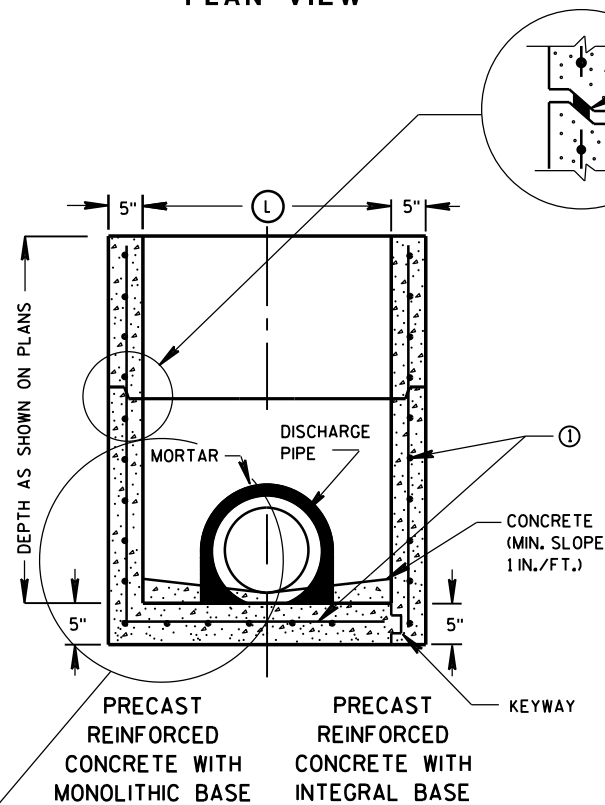


PLAN VIEW

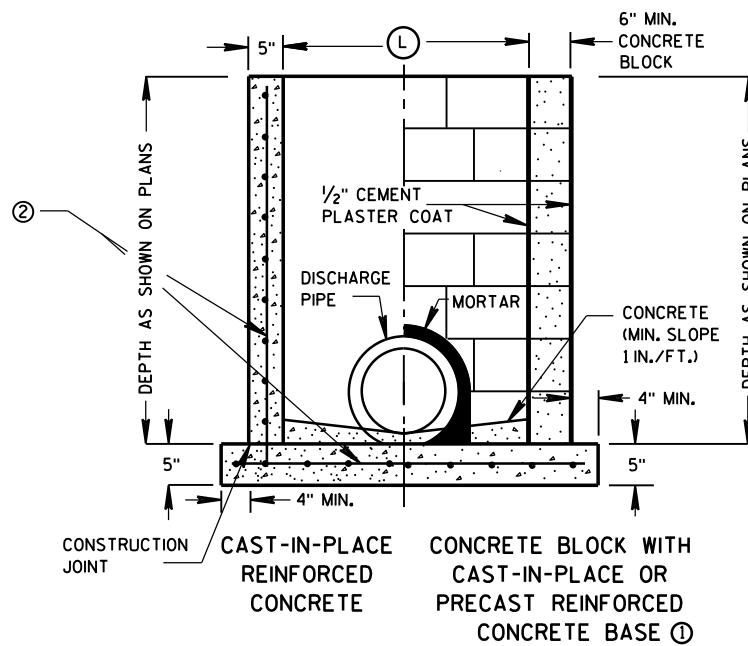


PLAN VIEW

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

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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

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 GRANULAR 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.

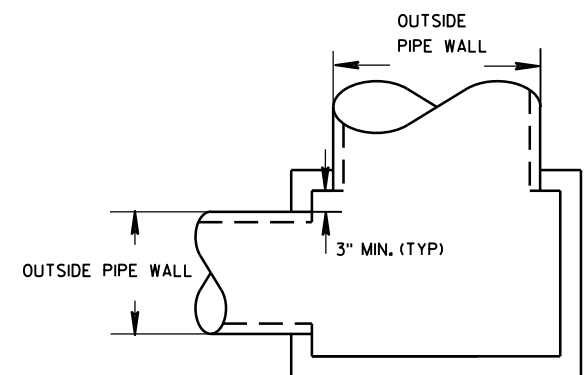
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH ① (FT)	LENGTH ② (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

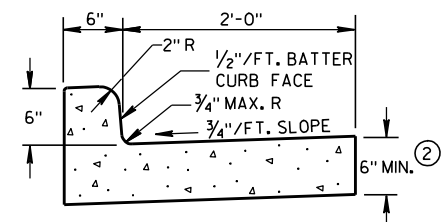


DETAIL "A"

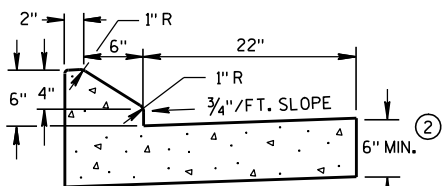
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

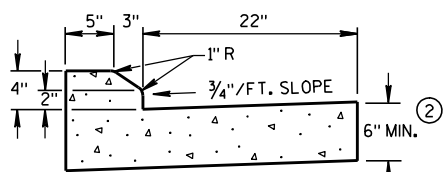
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DE
FHWA ENGINEER 76



TYPES A & D ①



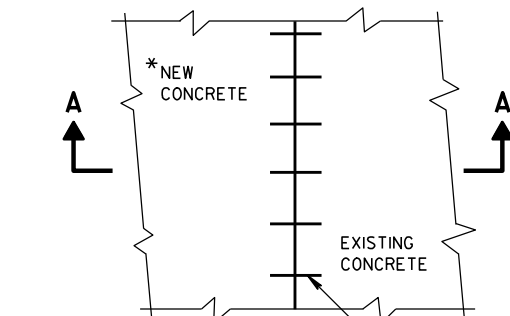
6" SLOPED CURB TYPES G & J ①



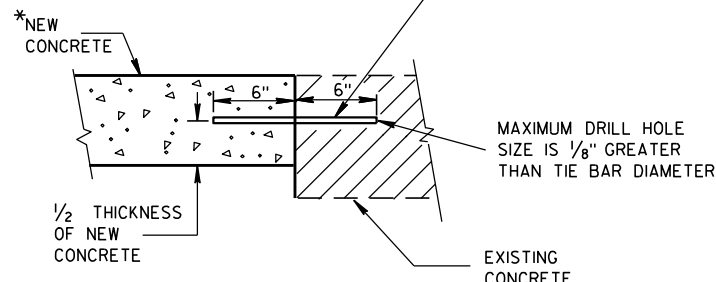
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.



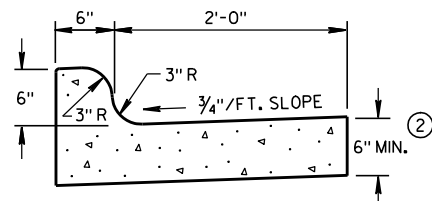
PLAN VIEW

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

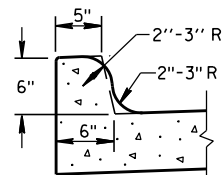
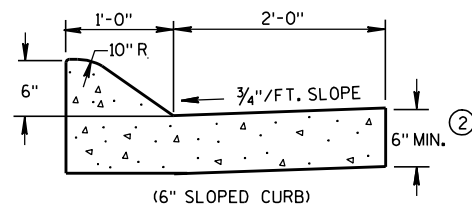
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

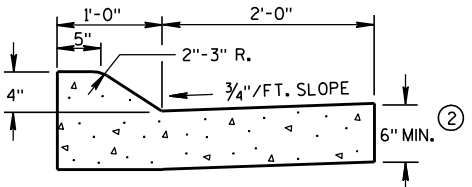
EXISTING
CONCRETE



TYPES K & L ①

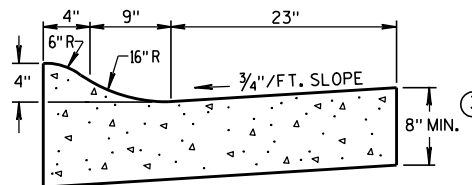
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)

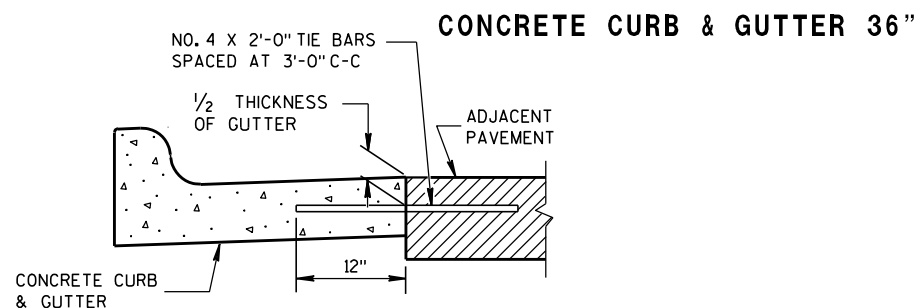


(4" SLOPED CURB)

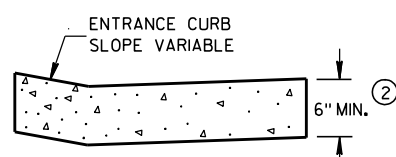
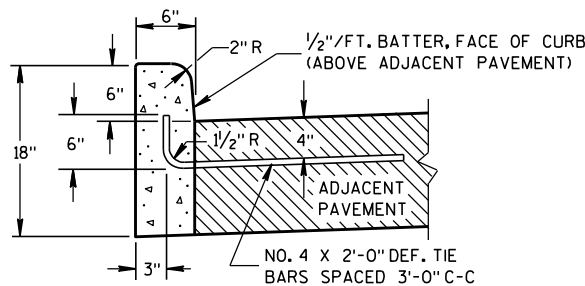
TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

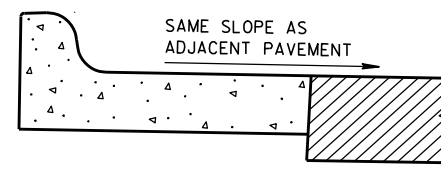
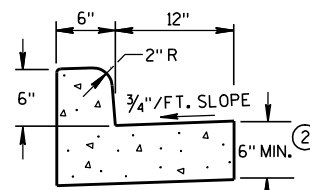
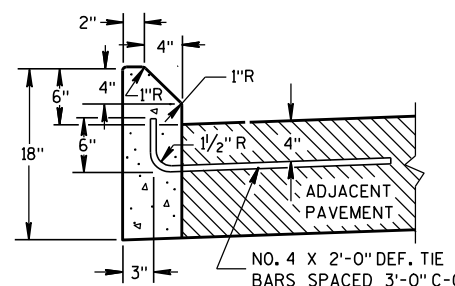


TYPICAL TIE BAR LOCATION ①

DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

TYPES A & D ①

CONCRETE CURB

REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

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

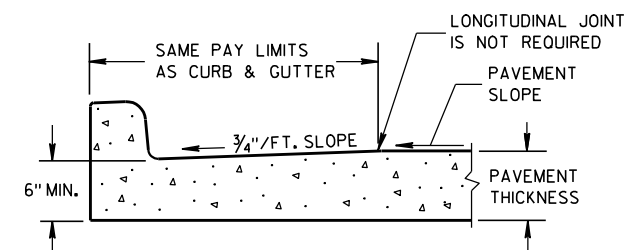
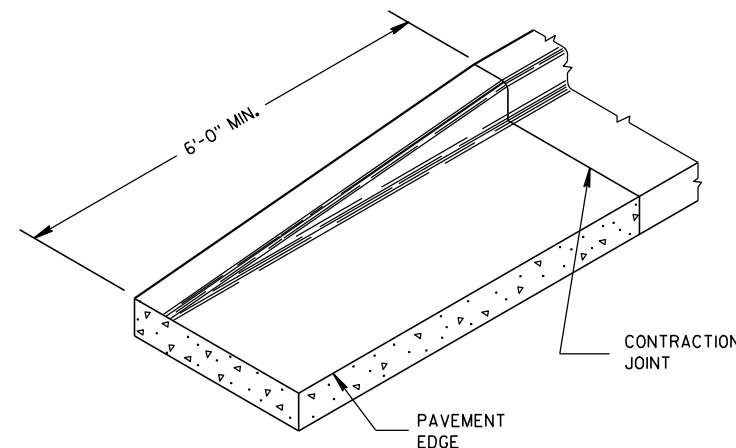
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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 GUTTER TYPES A, G, K AND R.
- 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 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.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

DATE

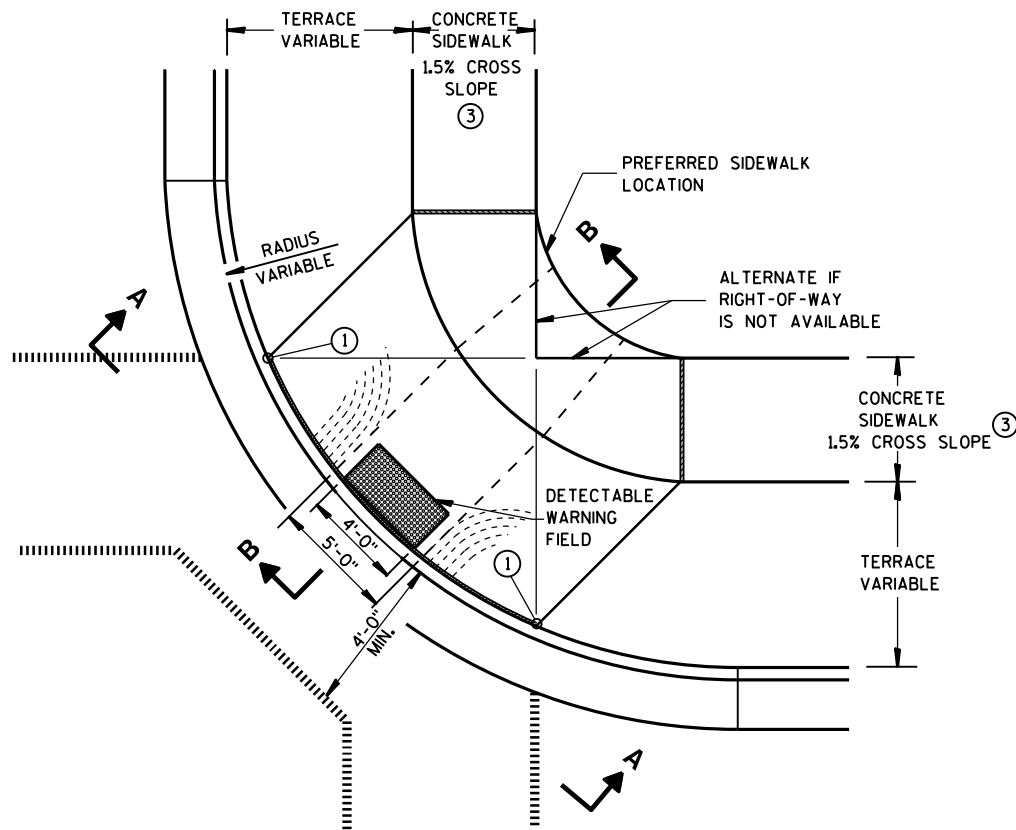
FHWA

/S/ Jerry H. 77

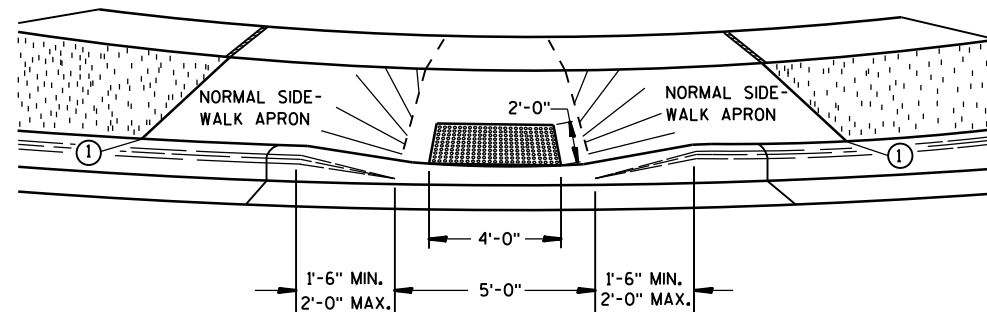
ROADWAY STANDARDS

ENGINEER

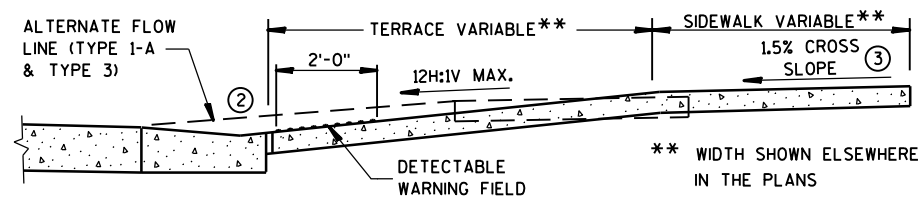
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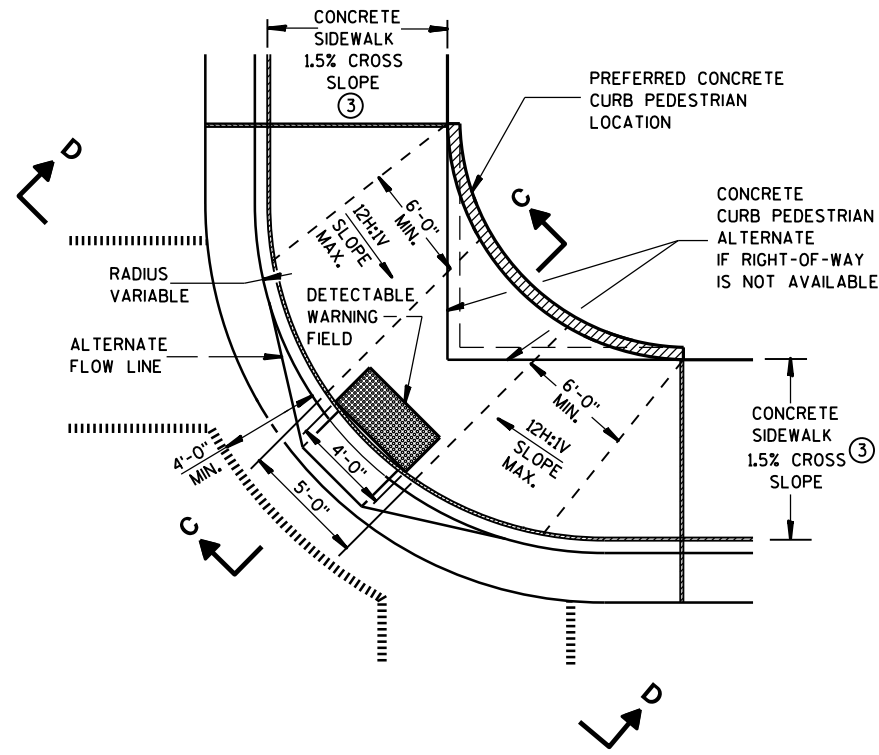
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



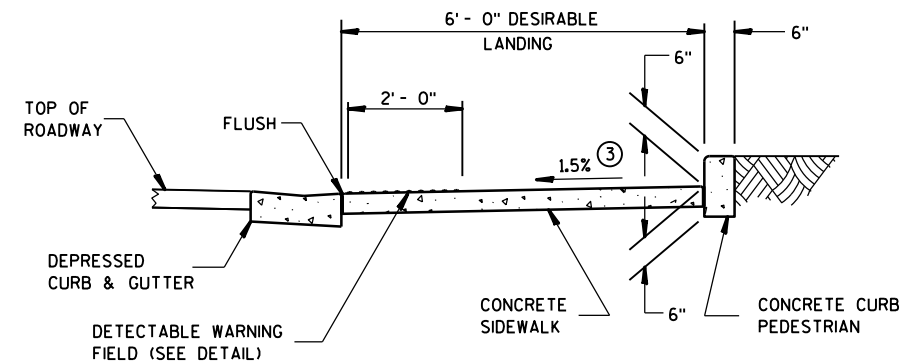
VIEW A-A



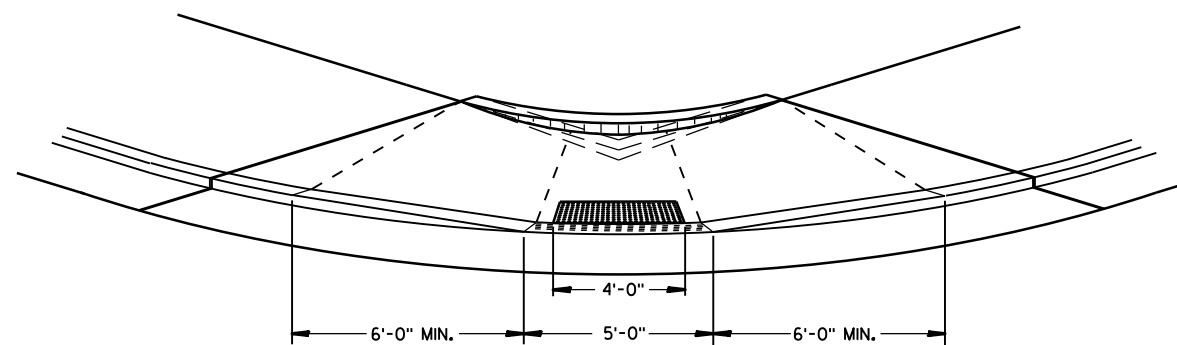
SECTION B-B



**PLAN VIEW
TYPE 1-A RAMP**
(NO TERRACE)



SECTION C-C



VIEW D-D

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

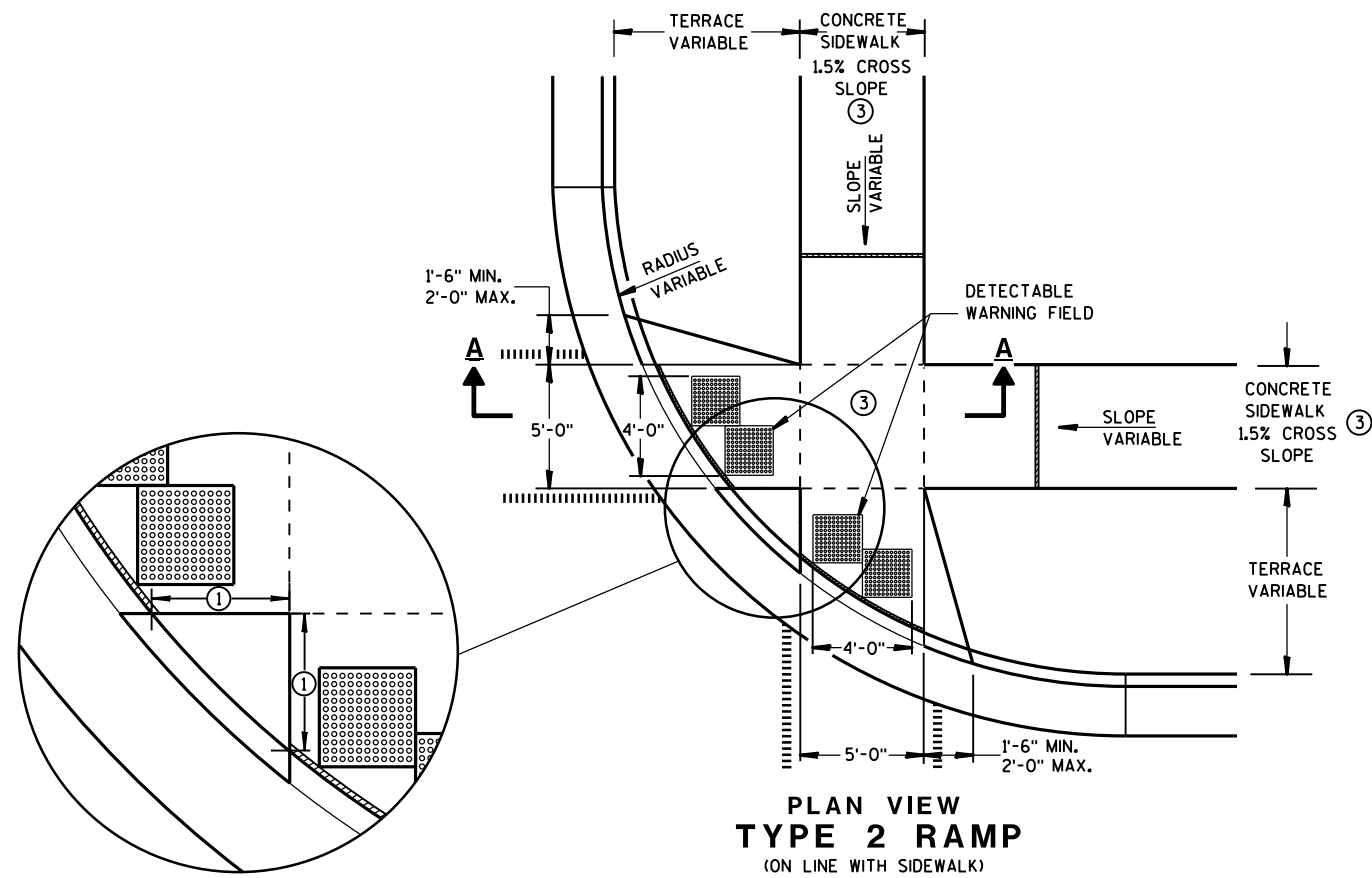
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

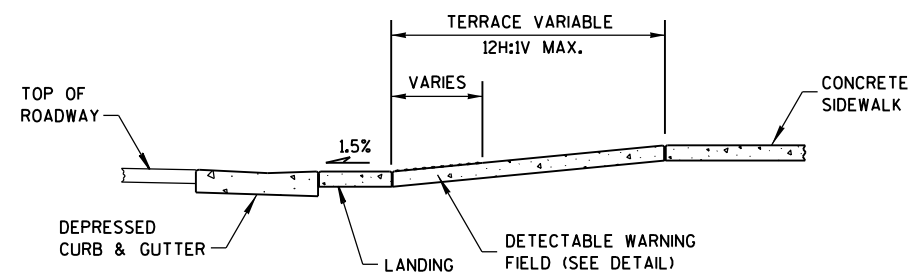
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS
TYPES 1 AND 1-A**

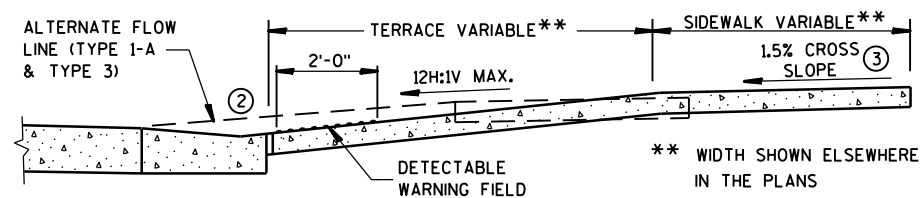
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW
TYPE 2 RAMP**
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

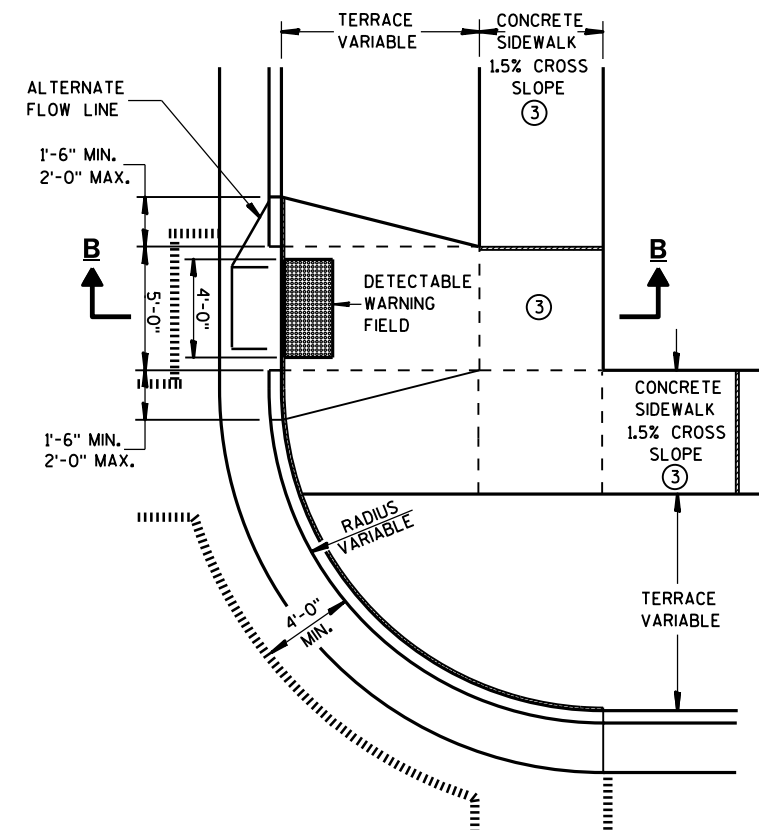
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



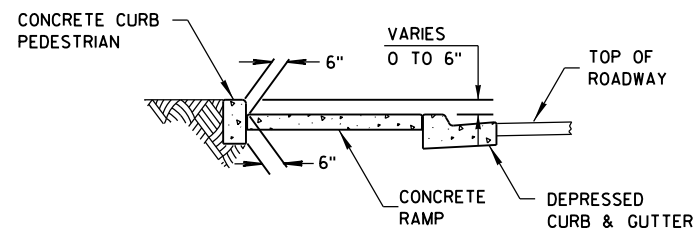
**PLAN VIEW
TYPE 3 RAMP**
(OUTSIDE OF CROSSWALK AREA)

**CURB RAMPS
TYPES 2 AND 3**

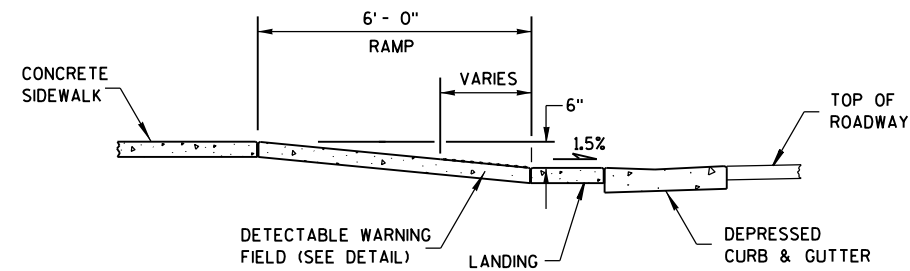
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 4A
PLAN VIEW



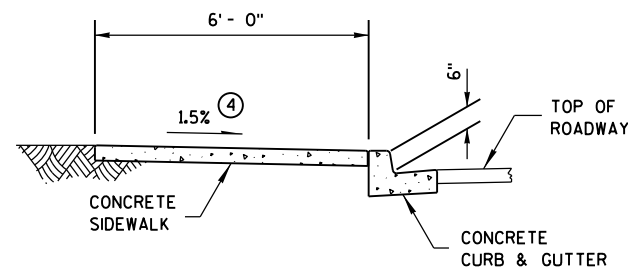
SECTION C-C FOR TYPE 4A



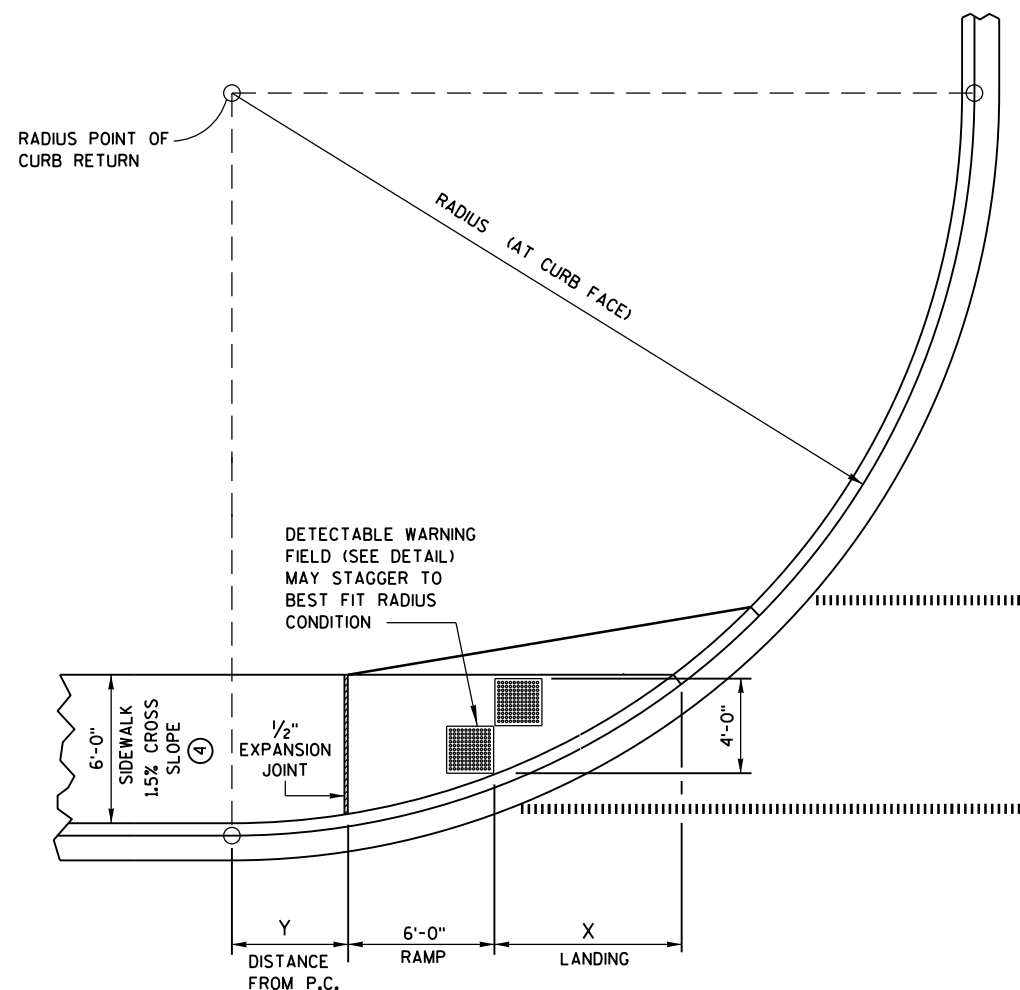
SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1 $\frac{3}{4}$ "	2'-7 $\frac{1}{4}$ "
30 FEET	7'-11 $\frac{3}{4}$ "	4'-8 $\frac{1}{4}$ "
40 FEET	9'-5 $\frac{1}{4}$ "	6'-5"
50 FEET	10'-8 $\frac{3}{4}$ "	7'-11 $\frac{1}{4}$ "
60 FEET	11'-10 $\frac{1}{4}$ "	9'-3 $\frac{1}{2}$ "

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW

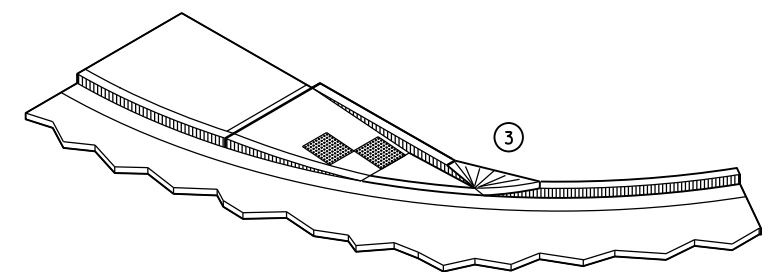
GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

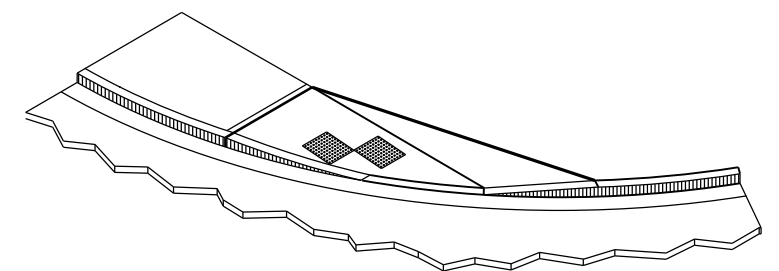
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.)
DO NOT MARK TRANSITION NOSE.
- ④ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



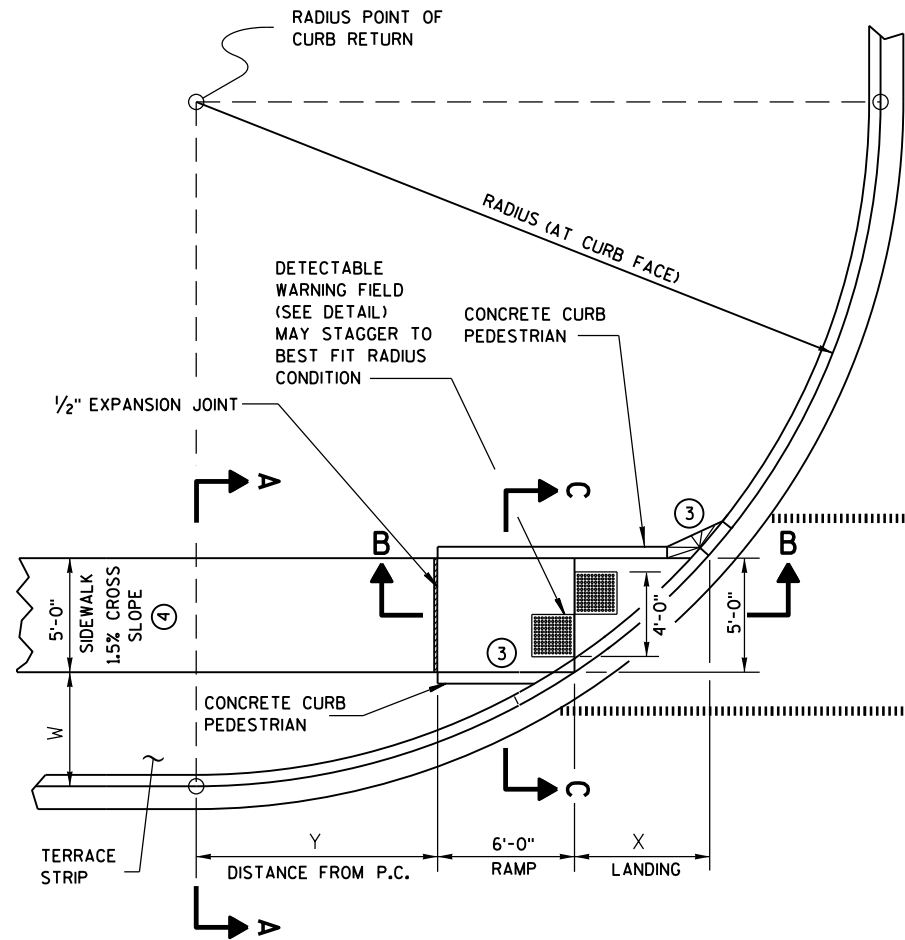
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

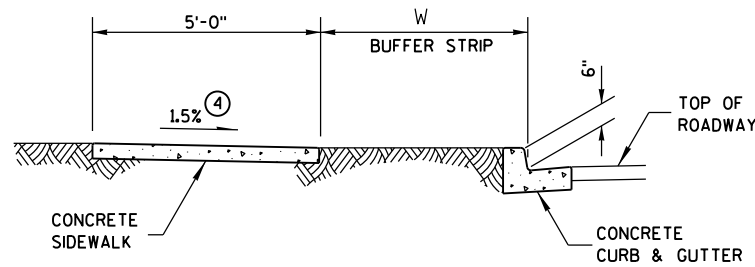
- 1/2" EXPANSION JOINT-SIDEWALK
 CONTRACTION JOINT FIELD LOCATED
 PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

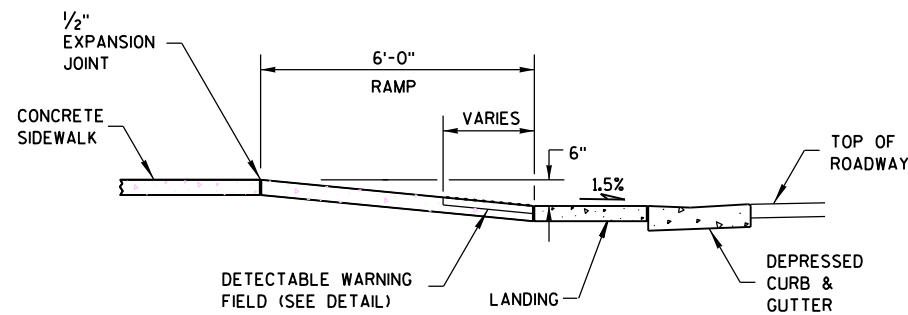
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁸⁰



**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A FOR TYPE 4B

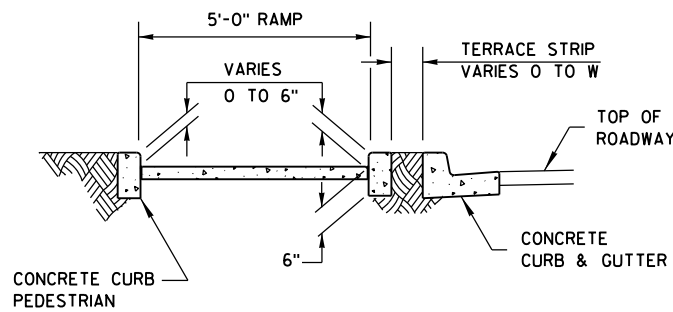


SECTION B-B FOR TYPE 4B

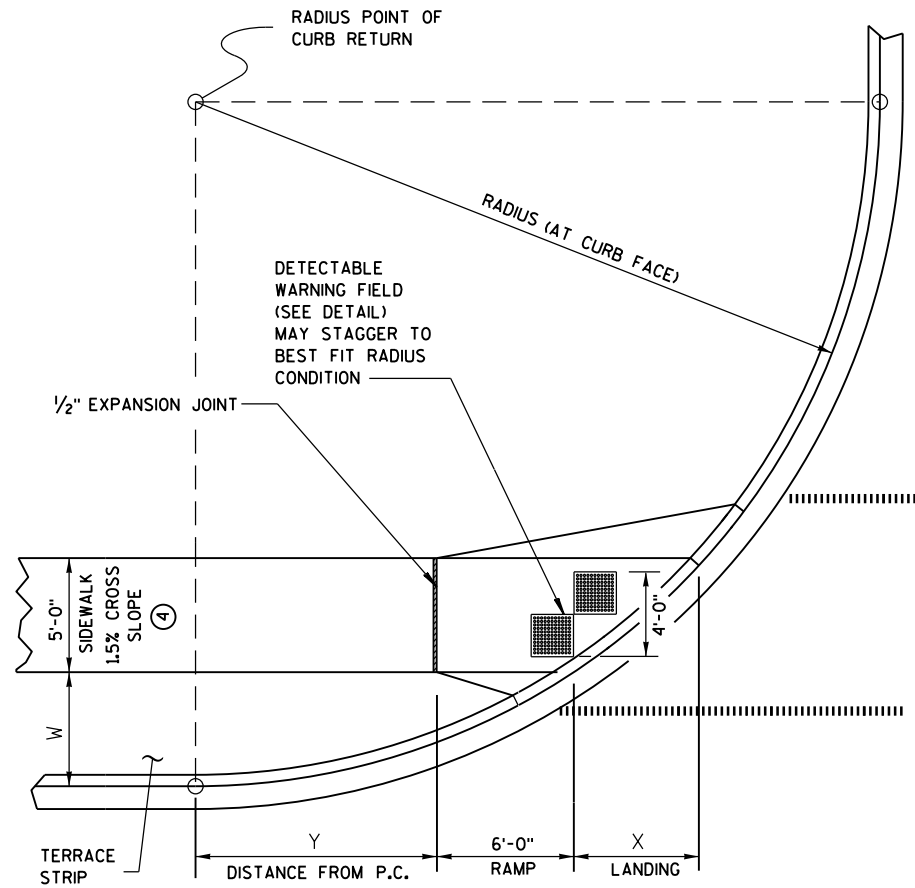
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3/4"	11'-3/4"	9'-1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

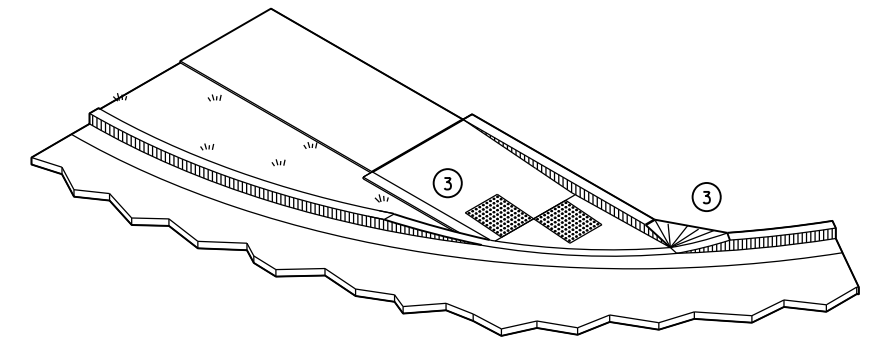
INTERMEDIATE RADII CAN BE INTERPOLATED



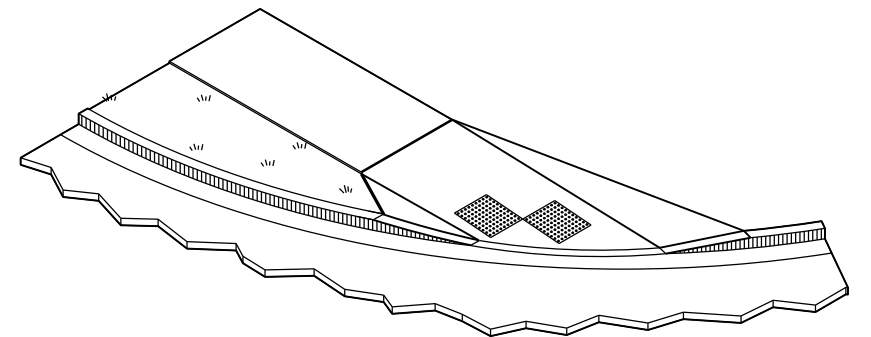
SECTION C-C FOR TYPE 4B



**CURB RAMP TYPE 4B1
PLAN VIEW**



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

**CURB RAMPS
TYPE 4B AND 4B1**

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DEPARTMENT OF TRANSPORTATION

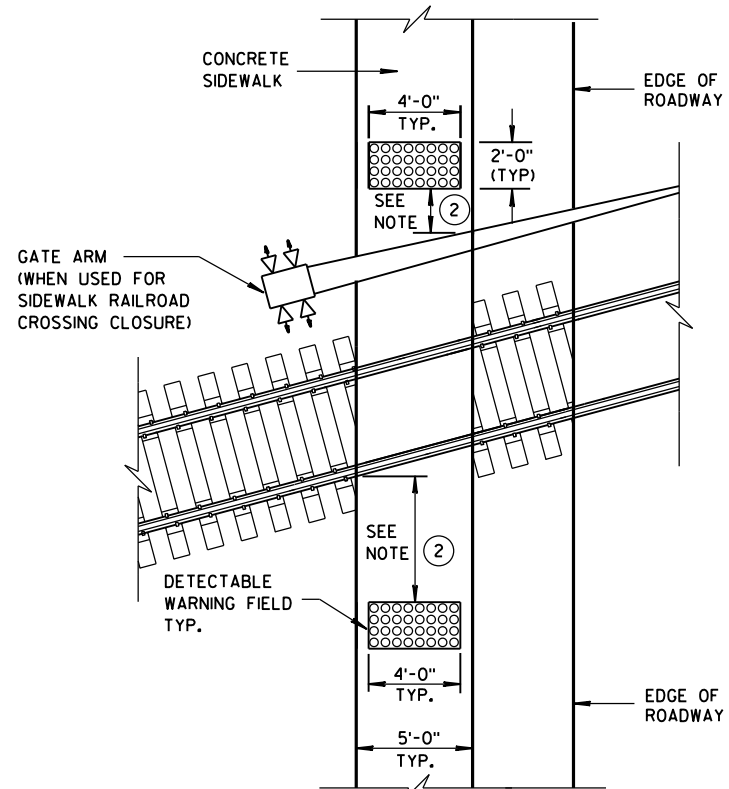
GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

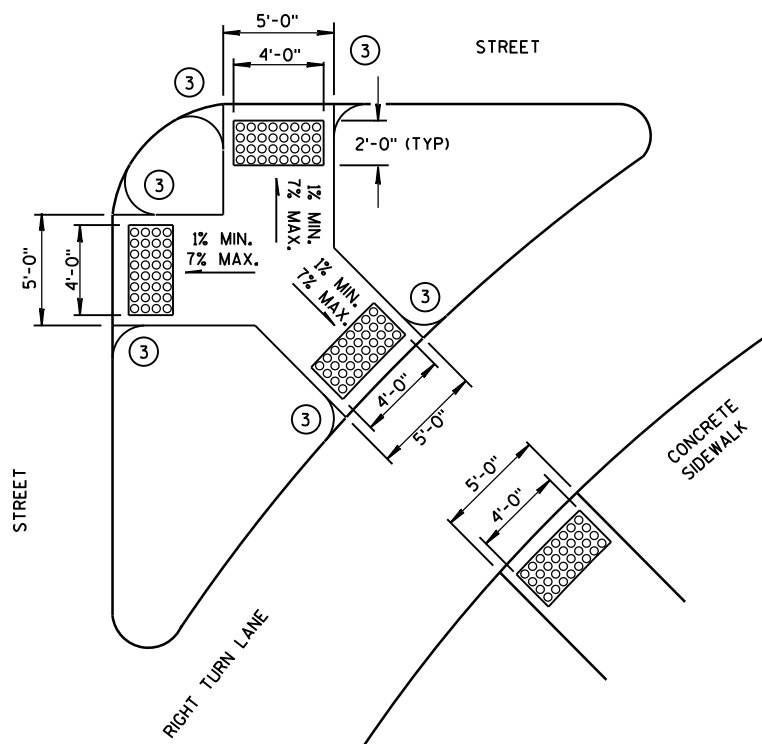
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

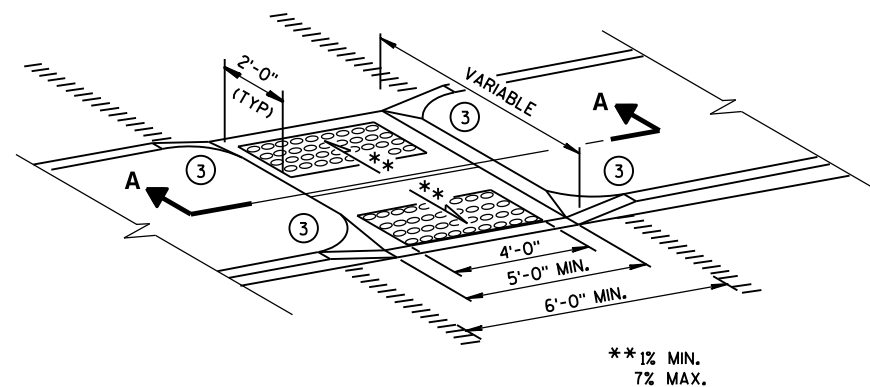
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



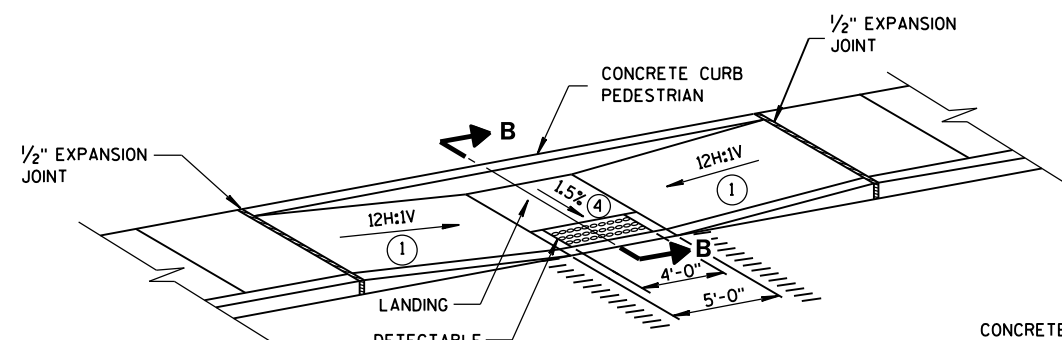
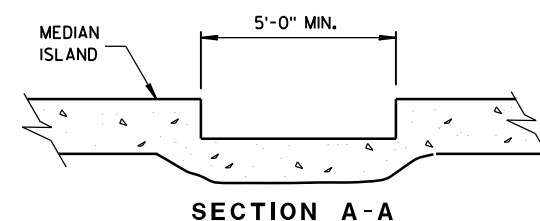
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



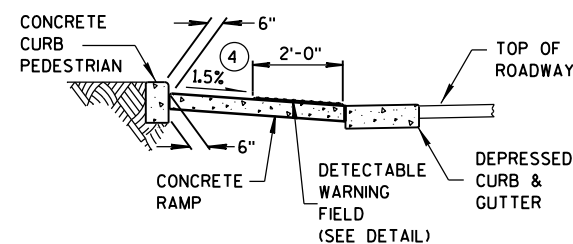
TYPE 6
DETECTABLE WARNING AT ISLANDS



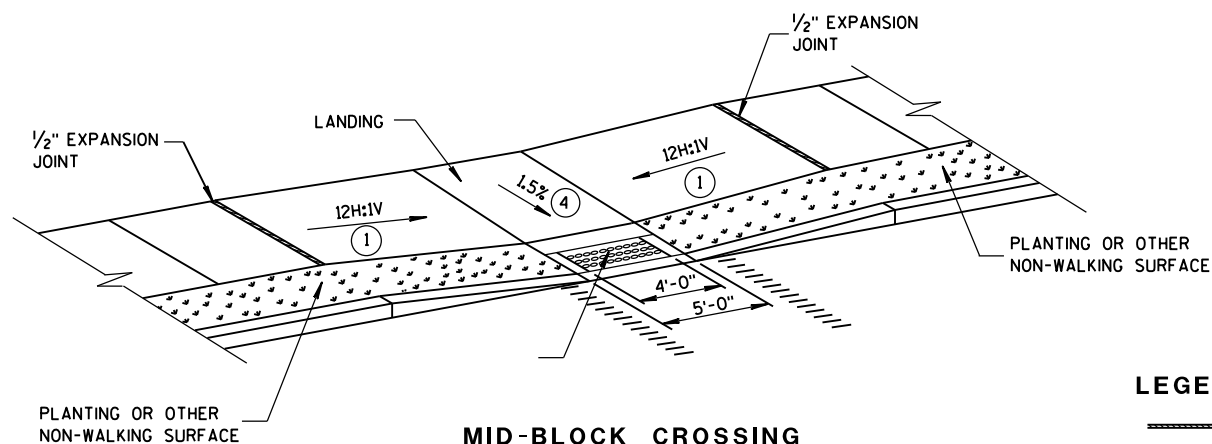
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

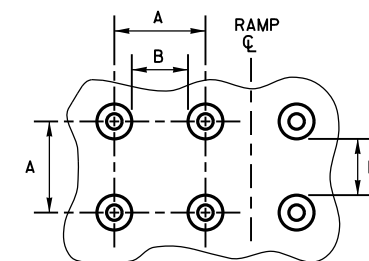
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

GENERAL NOTES

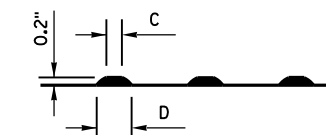
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ① SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ② THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET $\pm$ 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- ④ $\pm$ 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



PLAN VIEW

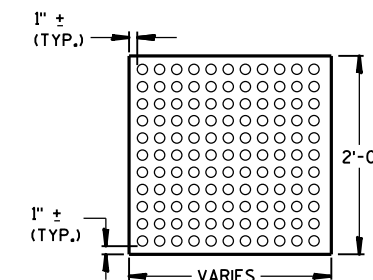


ELEVATION VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW
DETECTABLE WARNING
FIELD (TYPICAL)

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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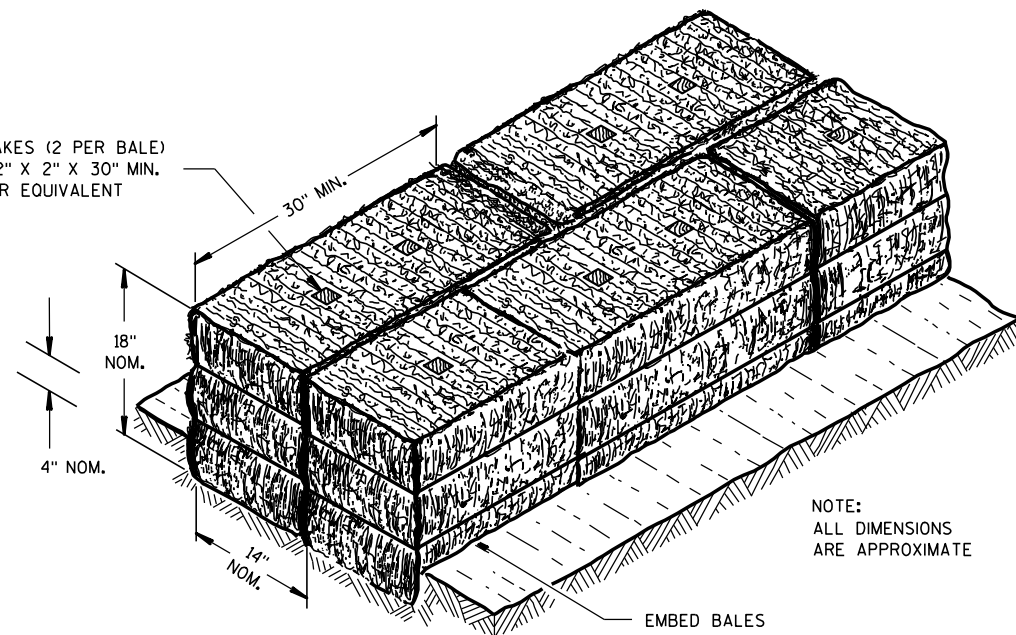
2-6-2013
DATE

FHWA

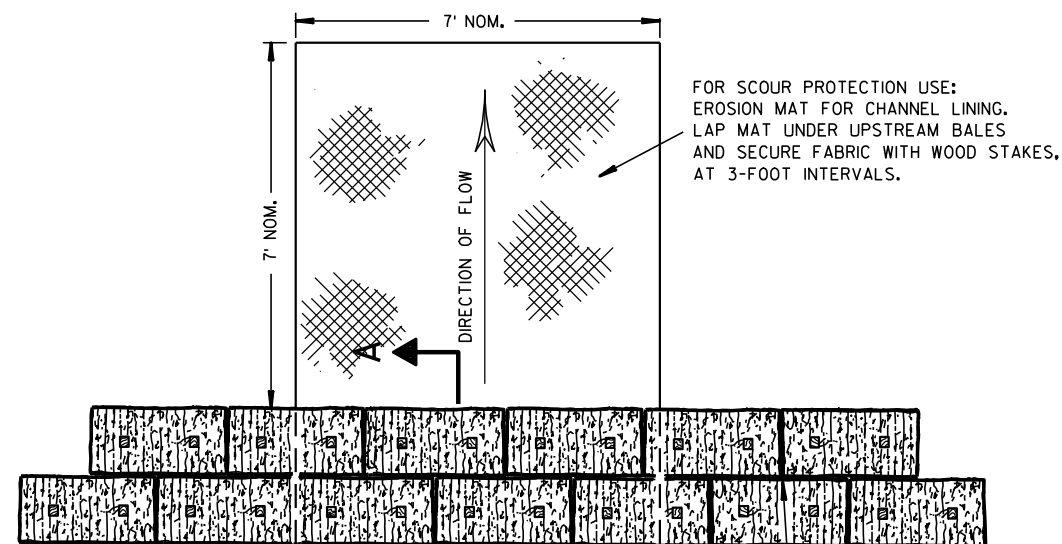
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

82 INT

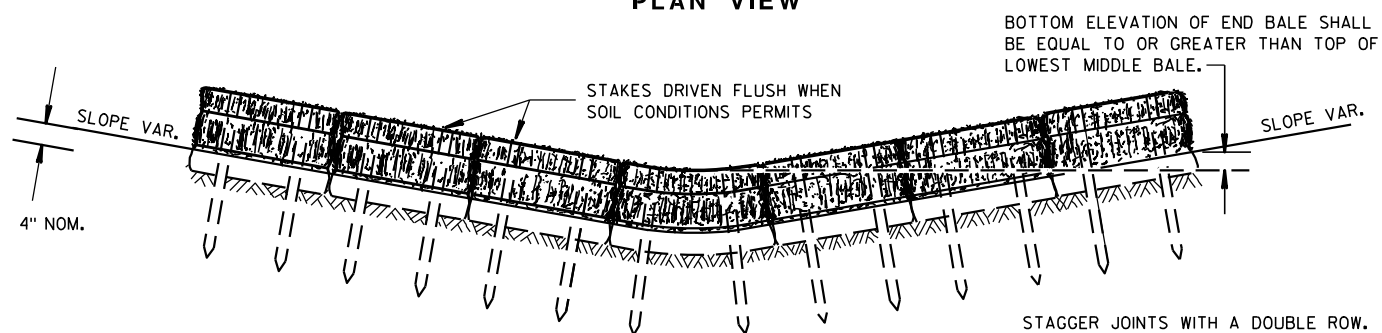
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



SECTION A-A



PLAN VIEW



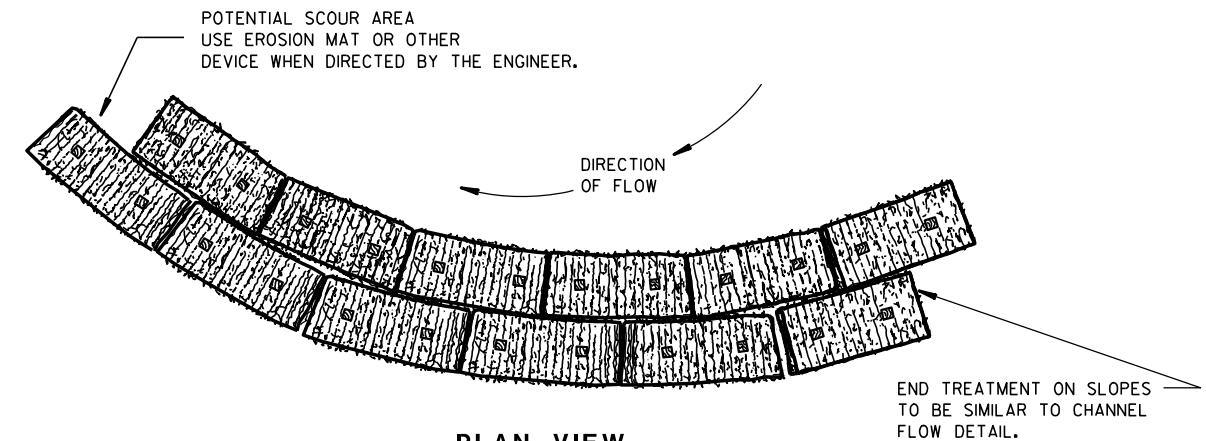
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

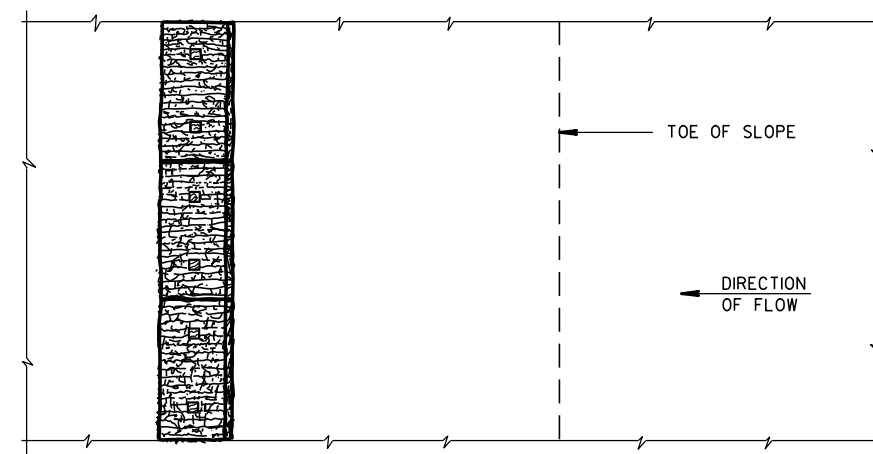
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

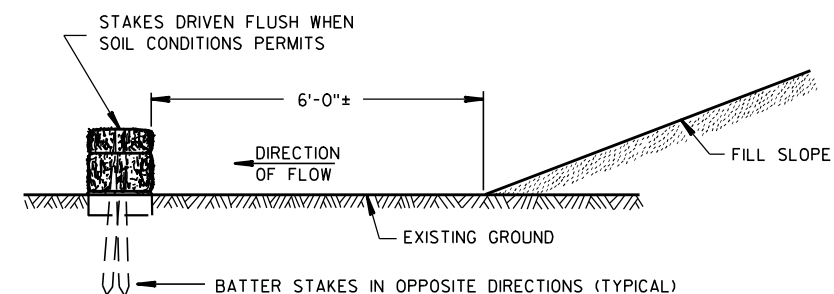


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

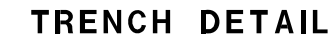
/S/ Beth Conn
CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA



- 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 1½" X 1½" 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.



SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

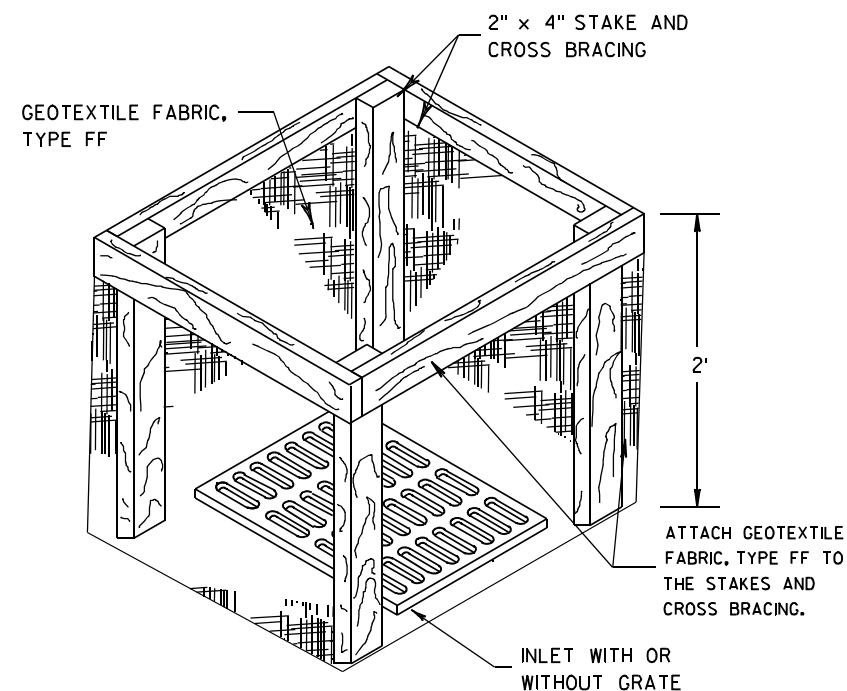
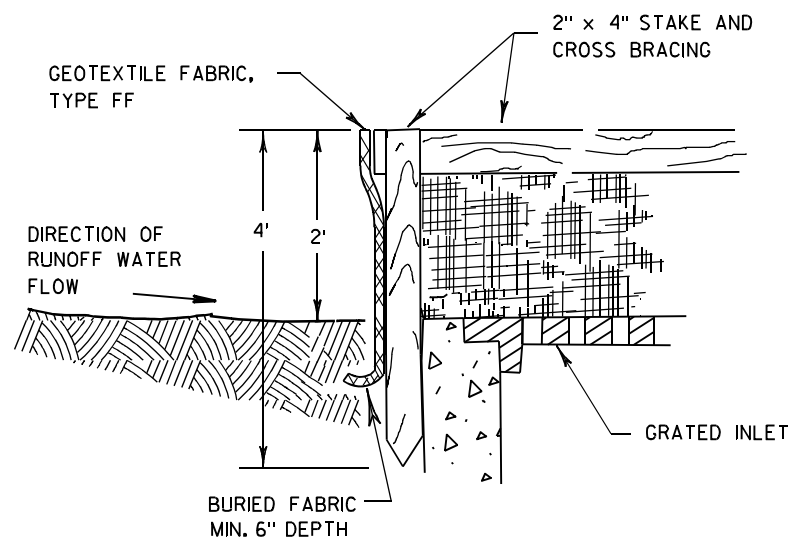
APPROVED
4-29-05
DATE

/S/ Beth Connolly
CHIEF ROADWAY DEVELOPMENT

84

ENGINEER

FHWA



INLET PROTECTION, TYPE A

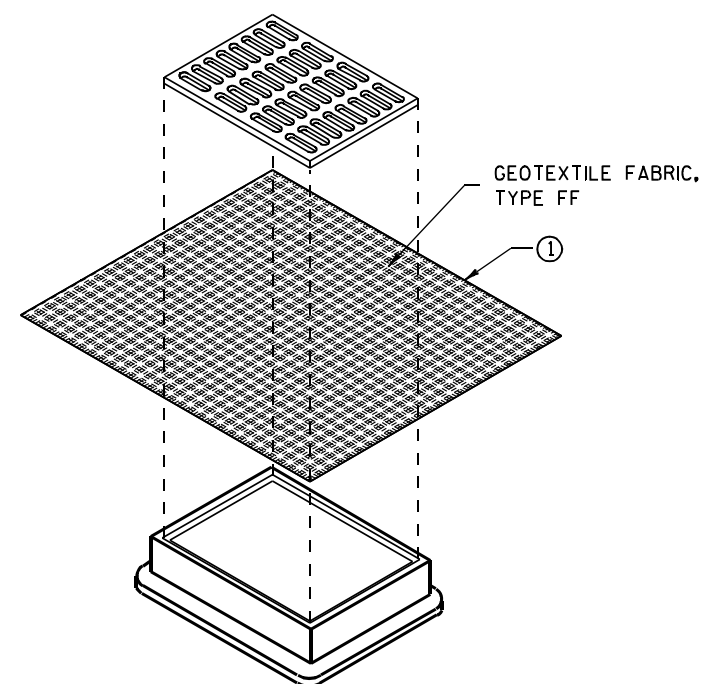
GENERAL NOTES

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.

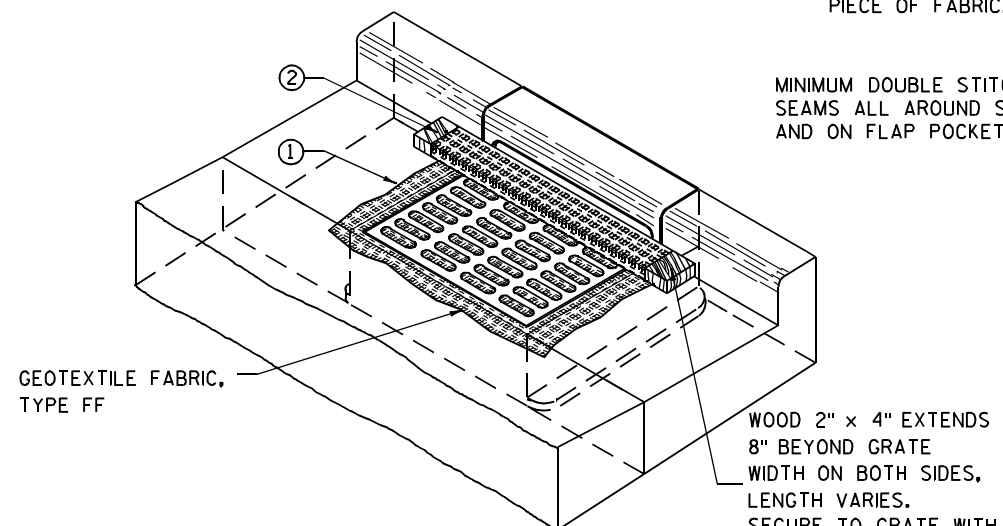
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

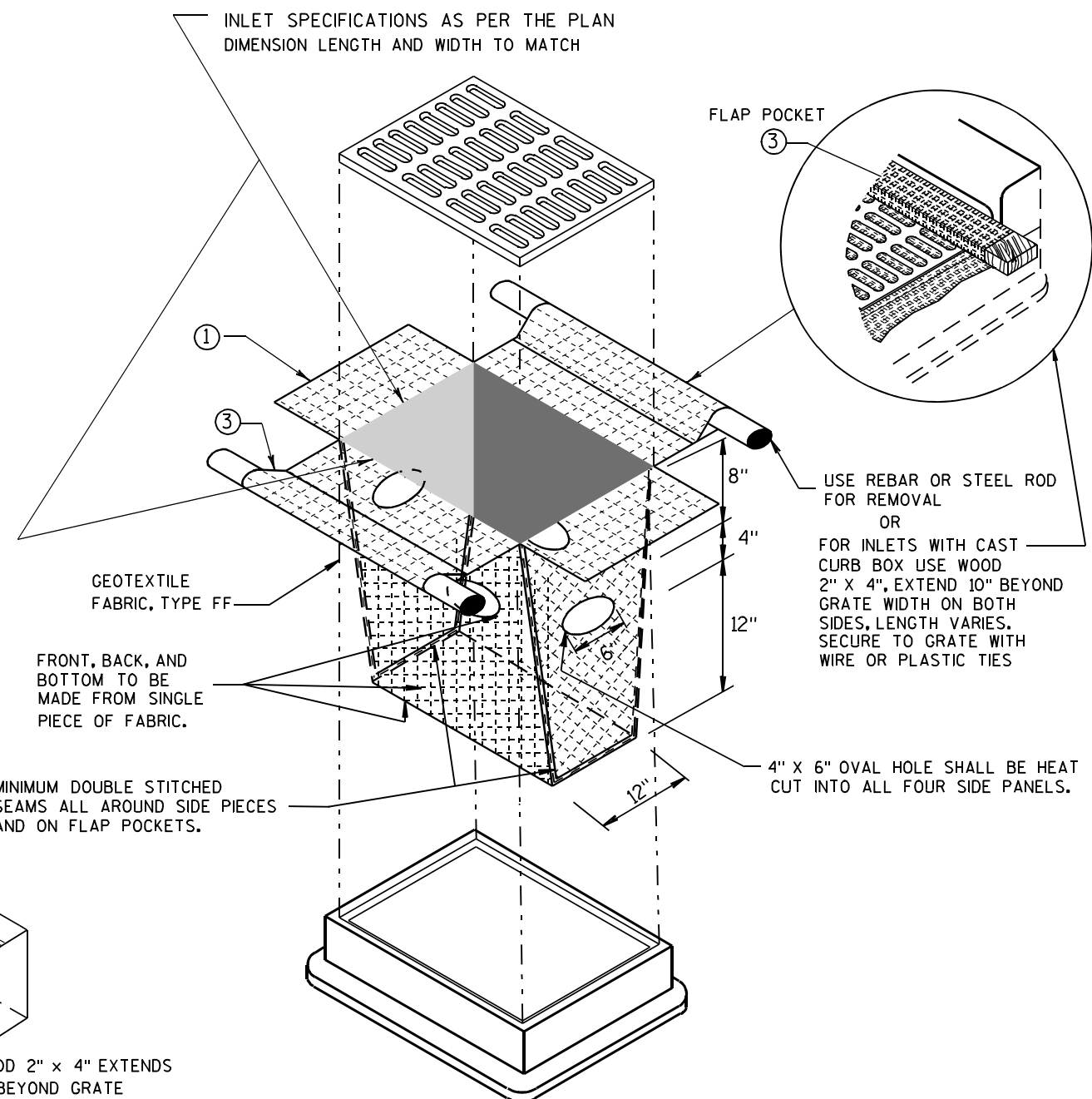
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



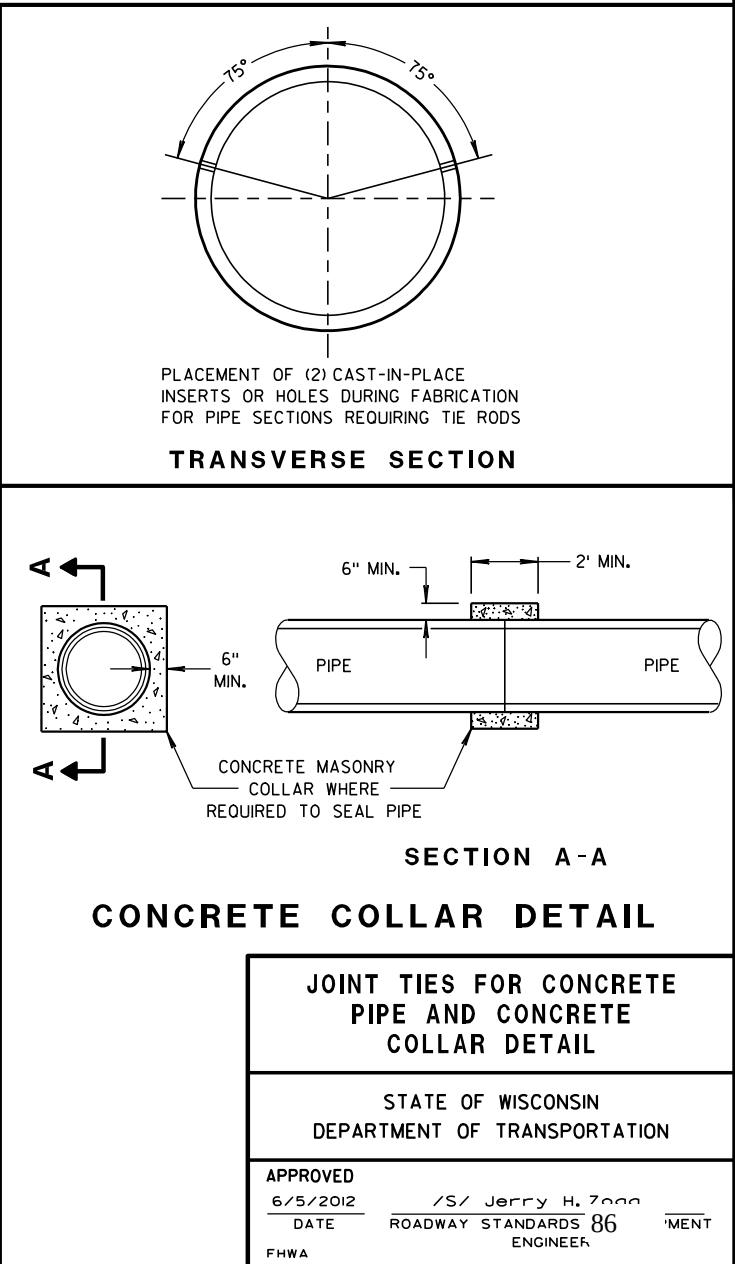
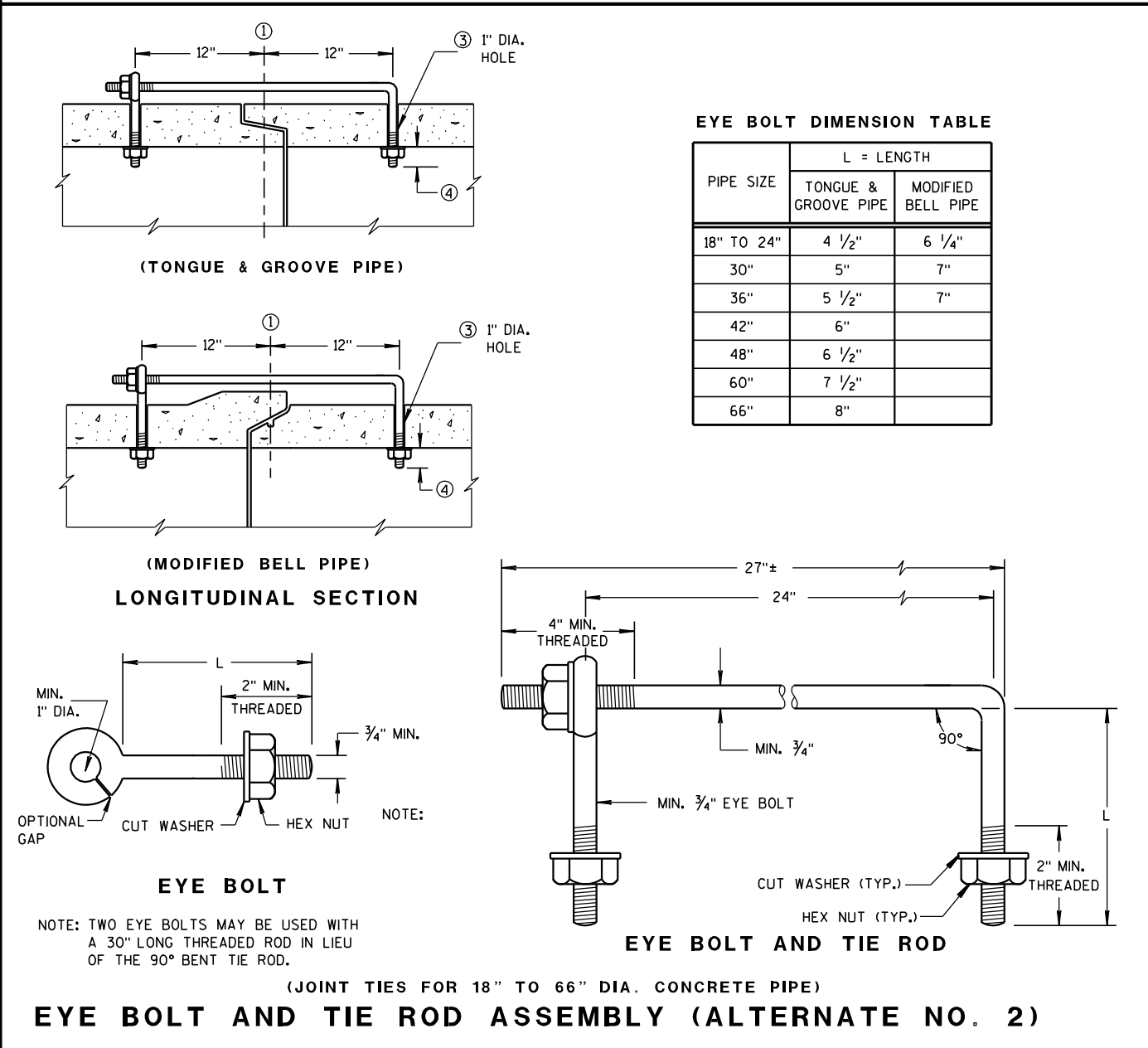
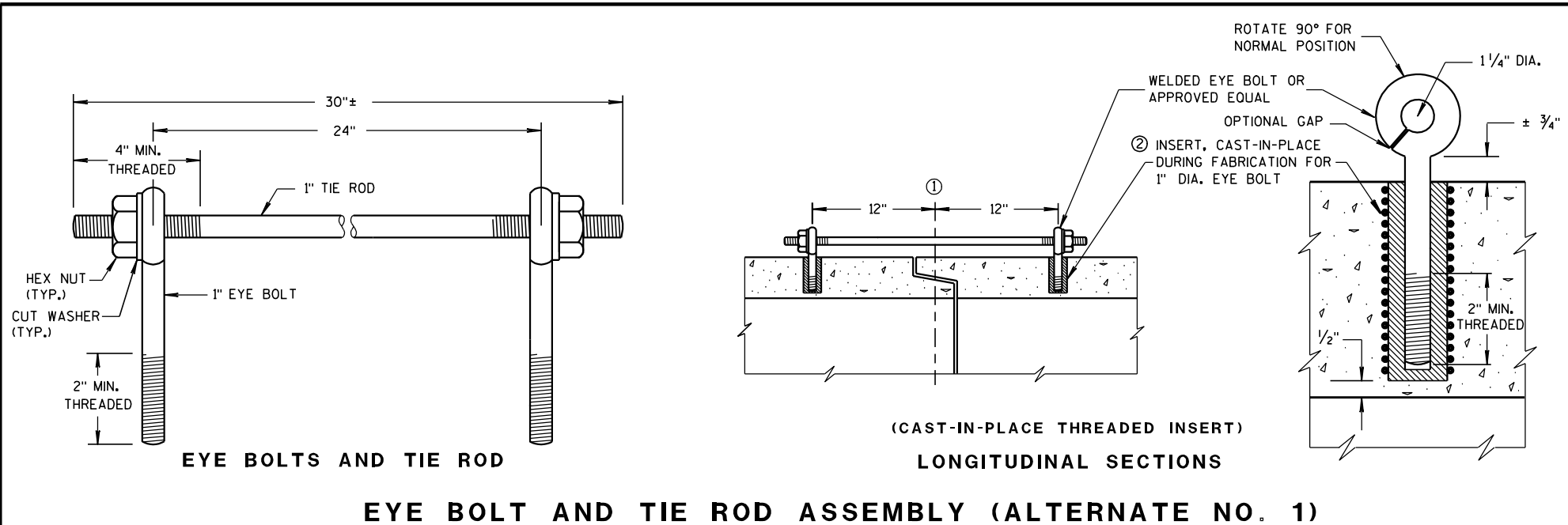
INLET PROTECTION, TYPE D

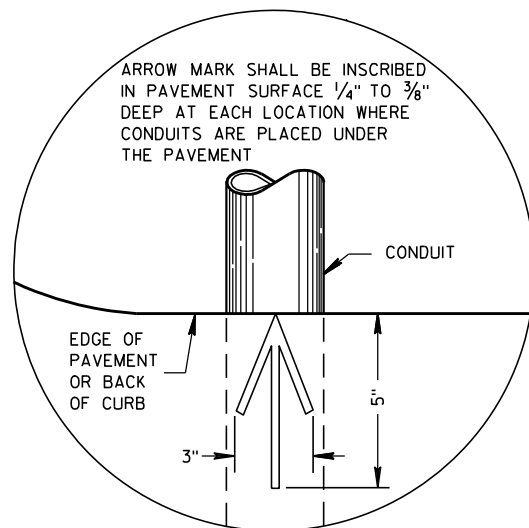
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

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

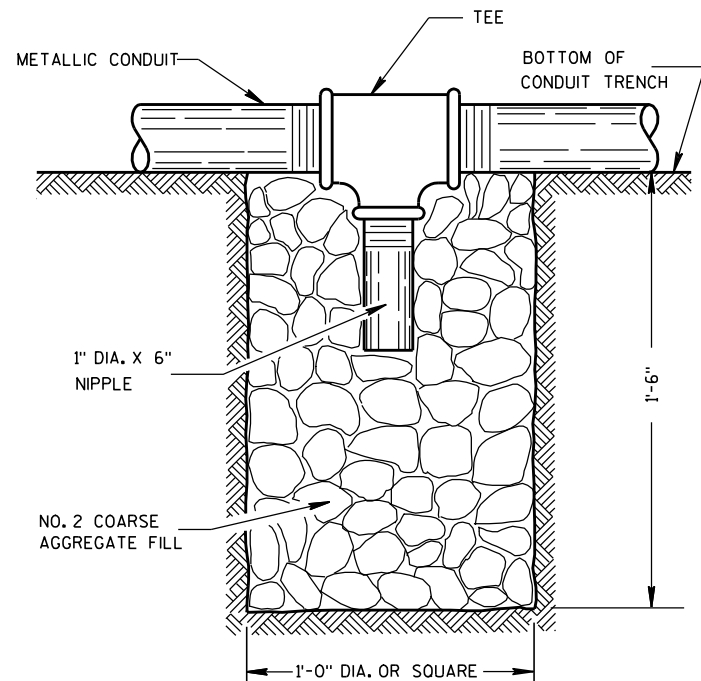
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 85
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



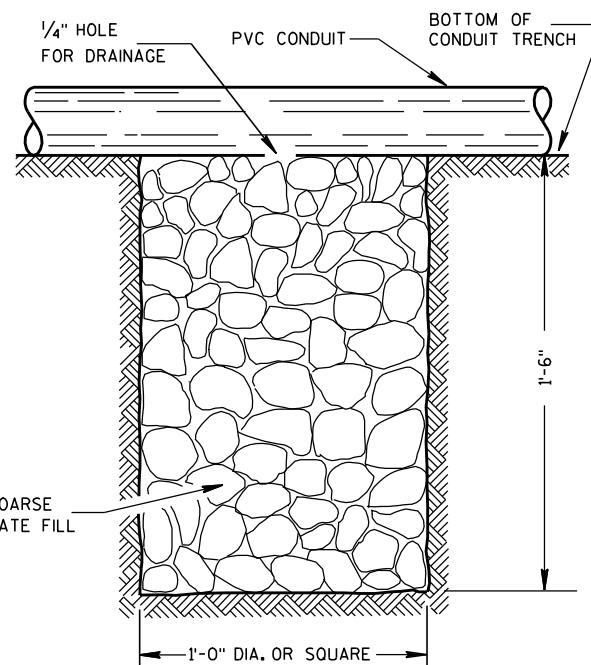


PLAN VIEW
ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSON TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

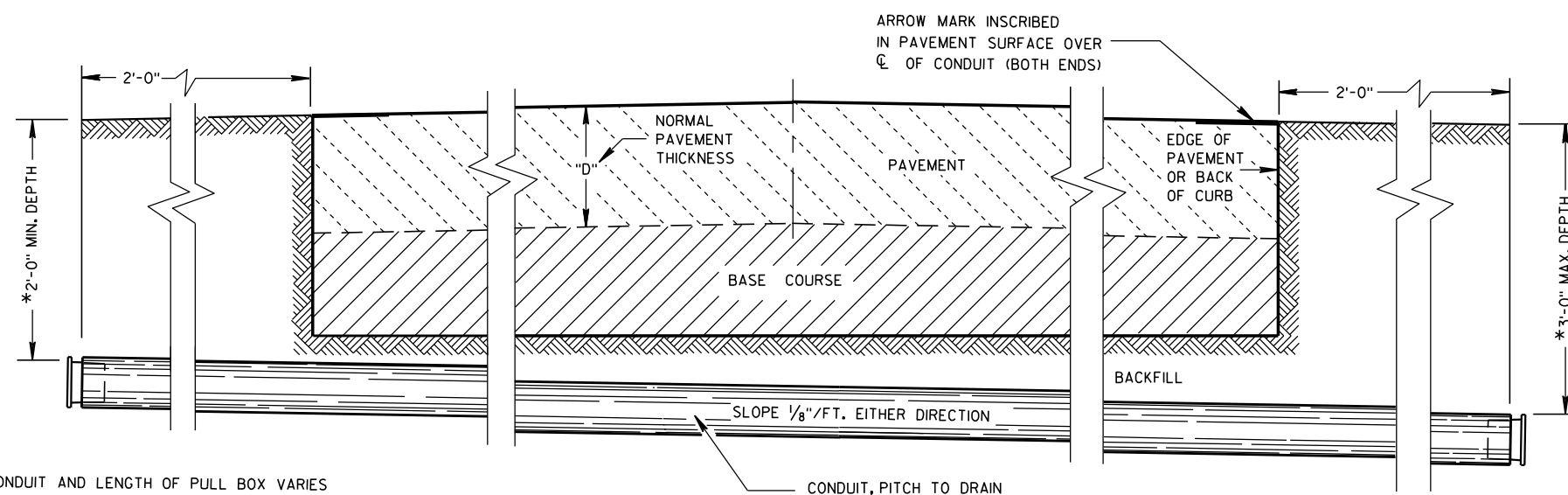
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03

DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER

87 HWYS

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

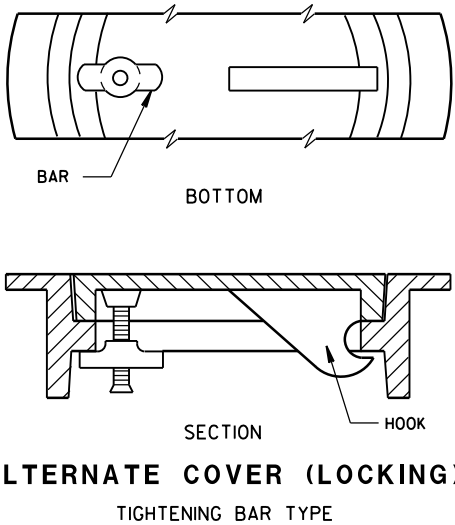
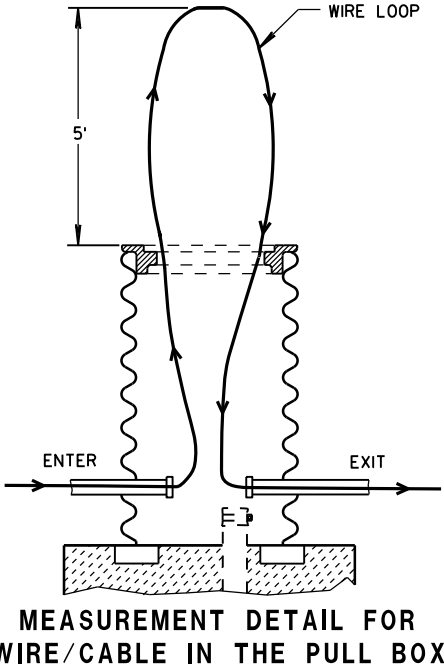
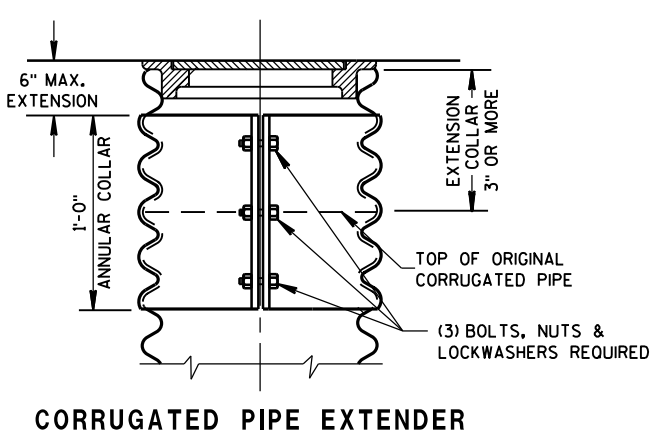
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

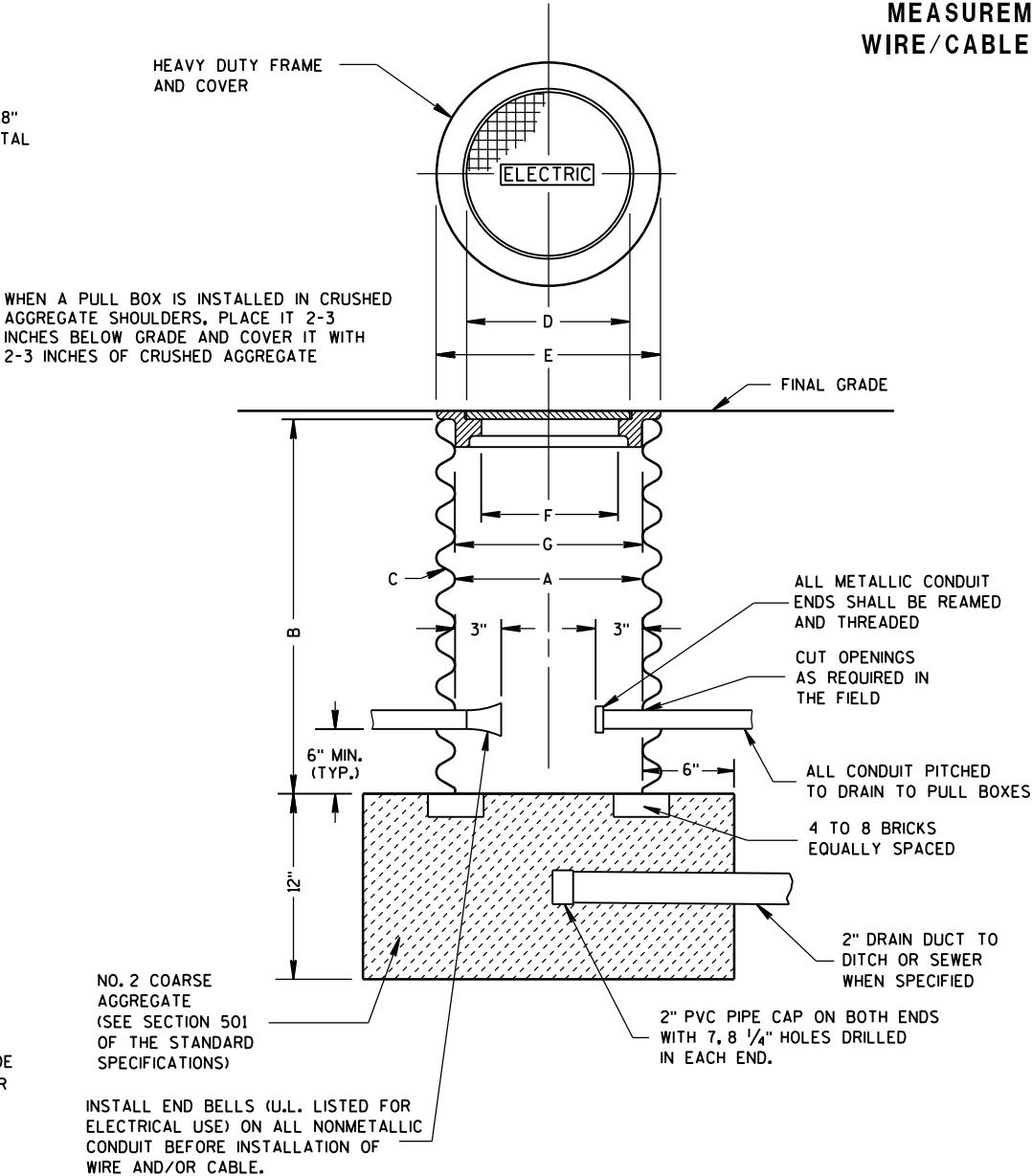
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

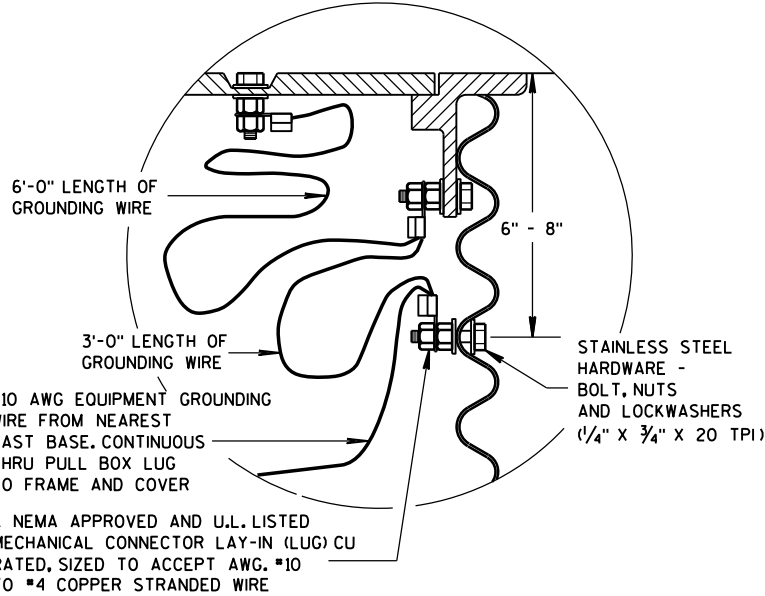
WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



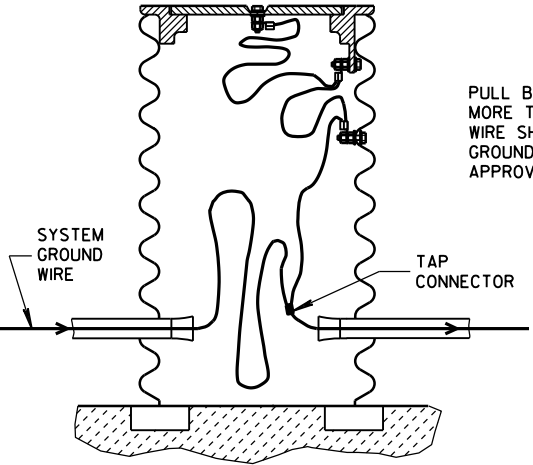
ALTERNATE COVER (LOCKING)
TIGHTENING BAR TYPE



PULL BOX



EQUIPMENT GROUNDING LUG AND
LOCATION IN STEEL PULL BOXES

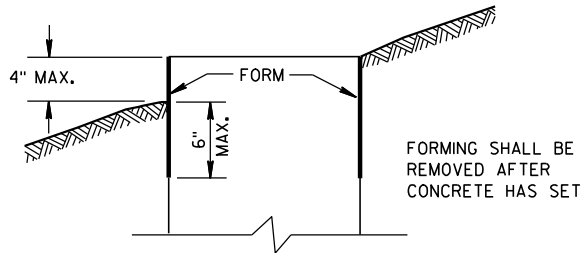


EQUIPMENT GROUNDING LUG AND
LOCATION IN STEEL PULL BOXES

PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-7-2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL 88
FHWA	

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD, ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

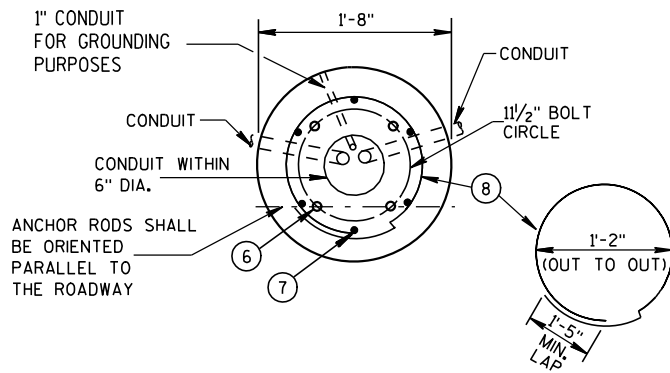
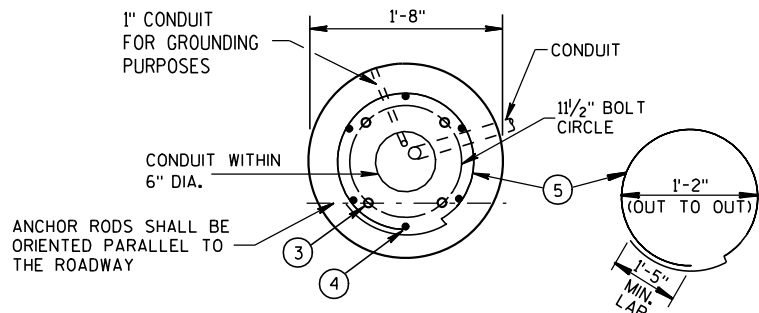
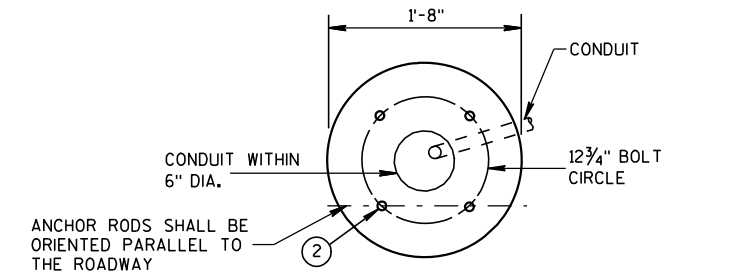
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

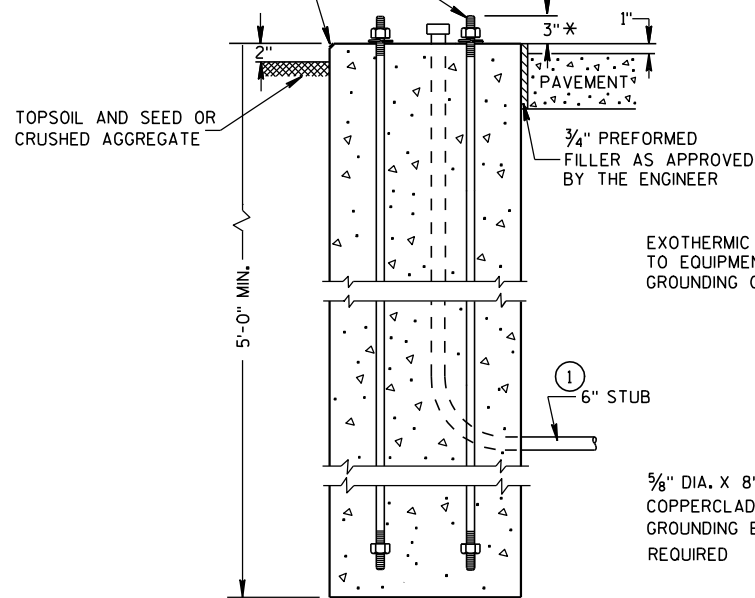
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.
- 2 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 3 (4) 1" DIA. X 5'-0" ANCHOR RODS.
- 4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
- 5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- 6 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
- 8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



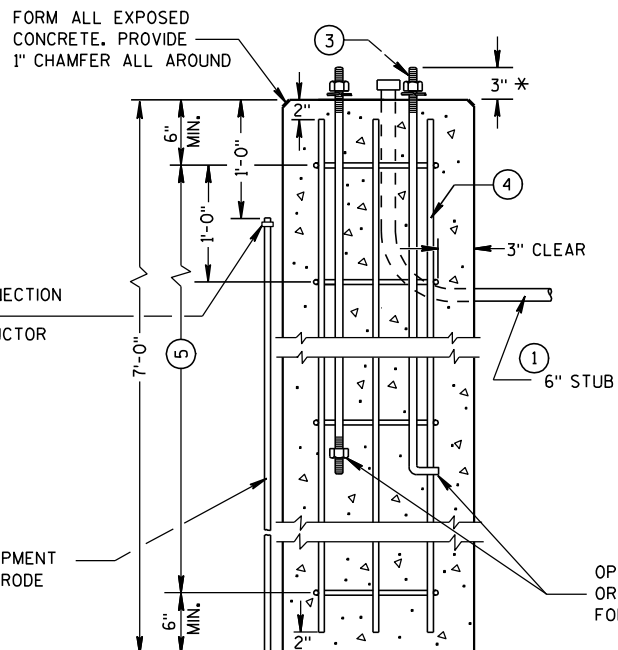
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2 & 5)

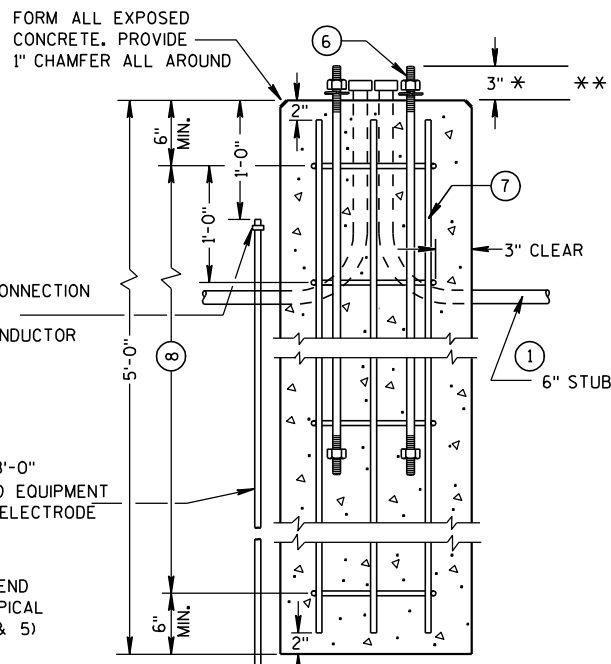
HALF SECTION IN PAVEMENT (TYPICAL FOR TYPES 1, 2 & 5)



TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10

DATE

FHWA

/S/ Joanna L. Bush

STATE ELECTRICAL ENGR 89

HWYS

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

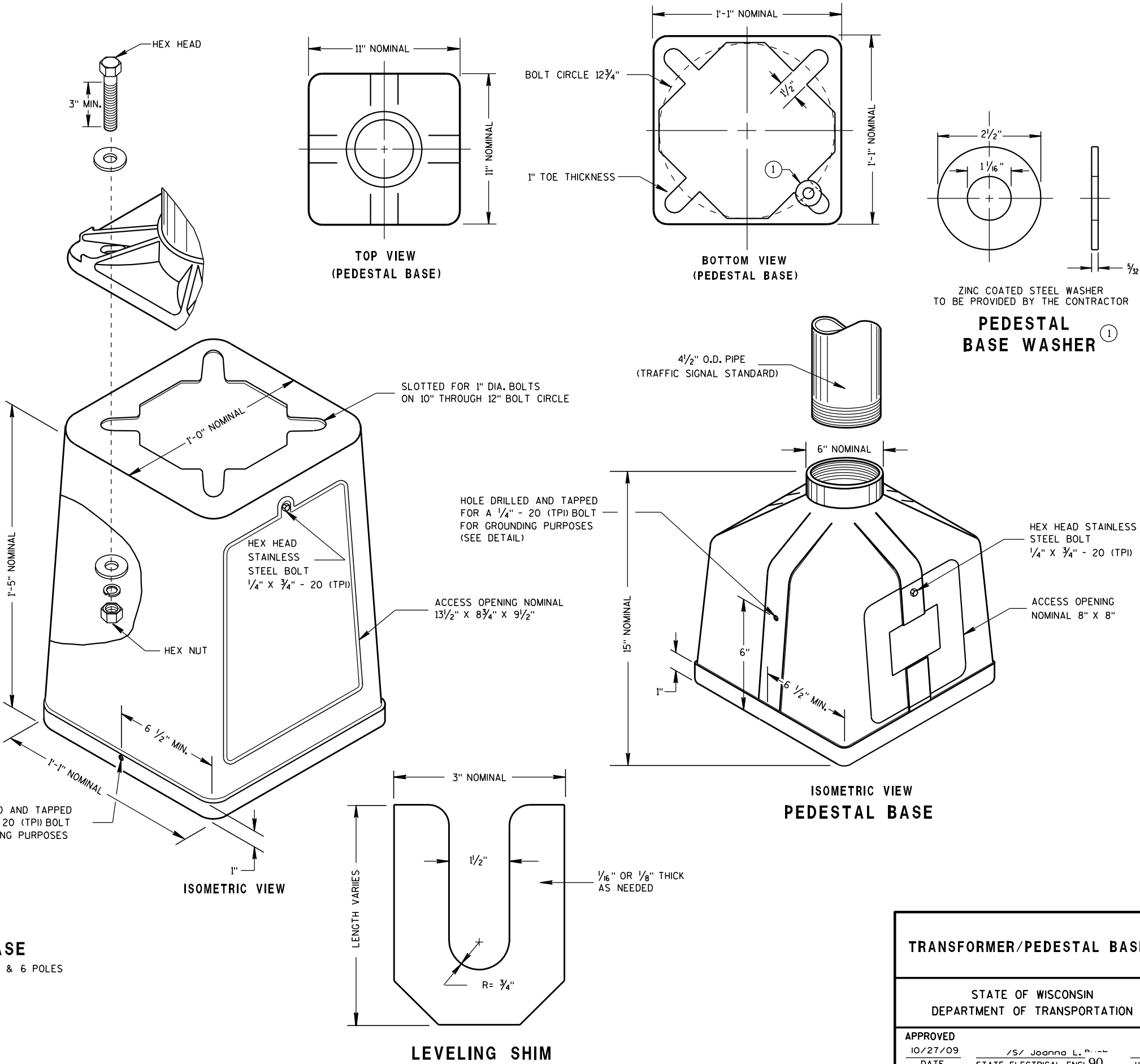
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



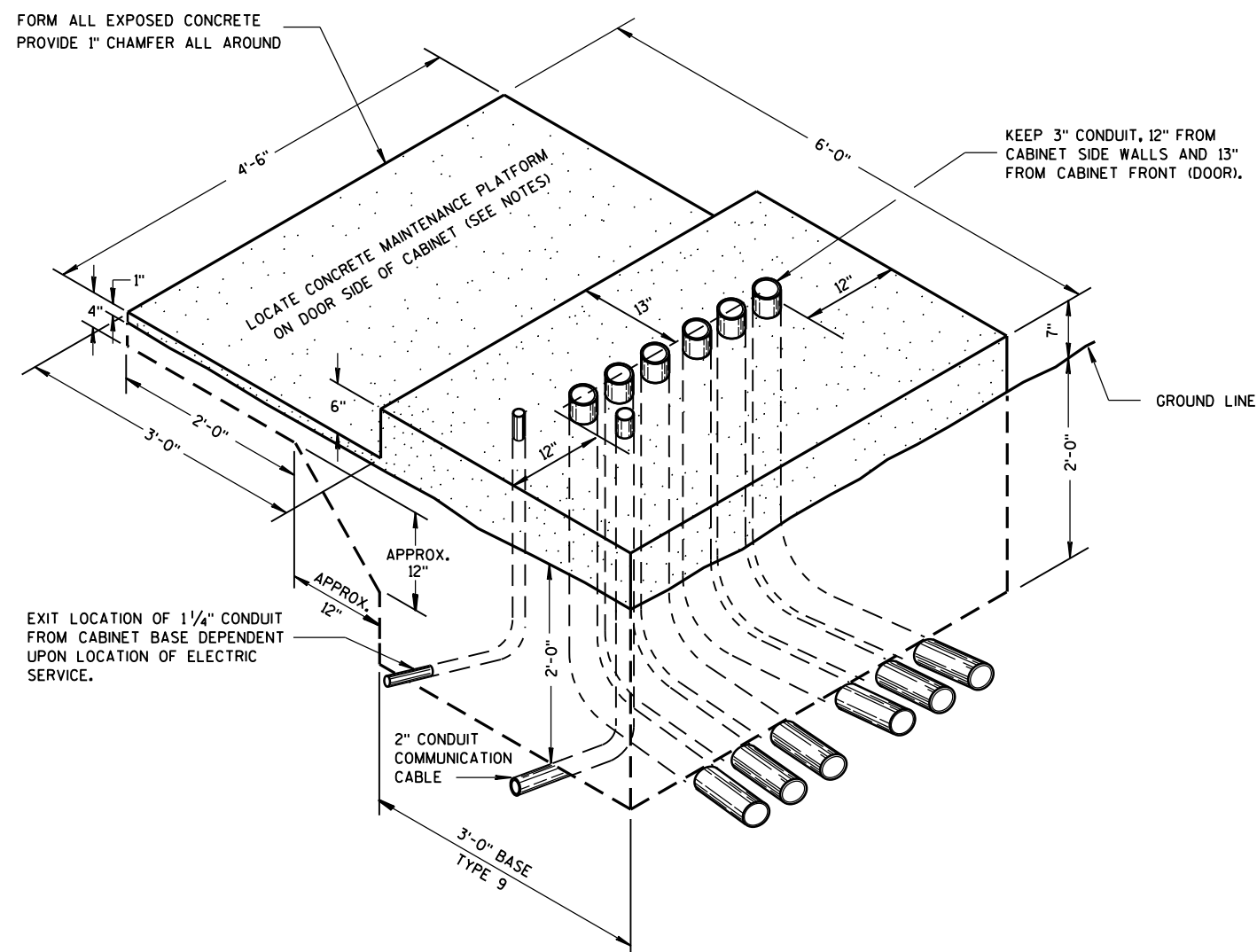
TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

TRANSFORMER/PEDESTAL BASES

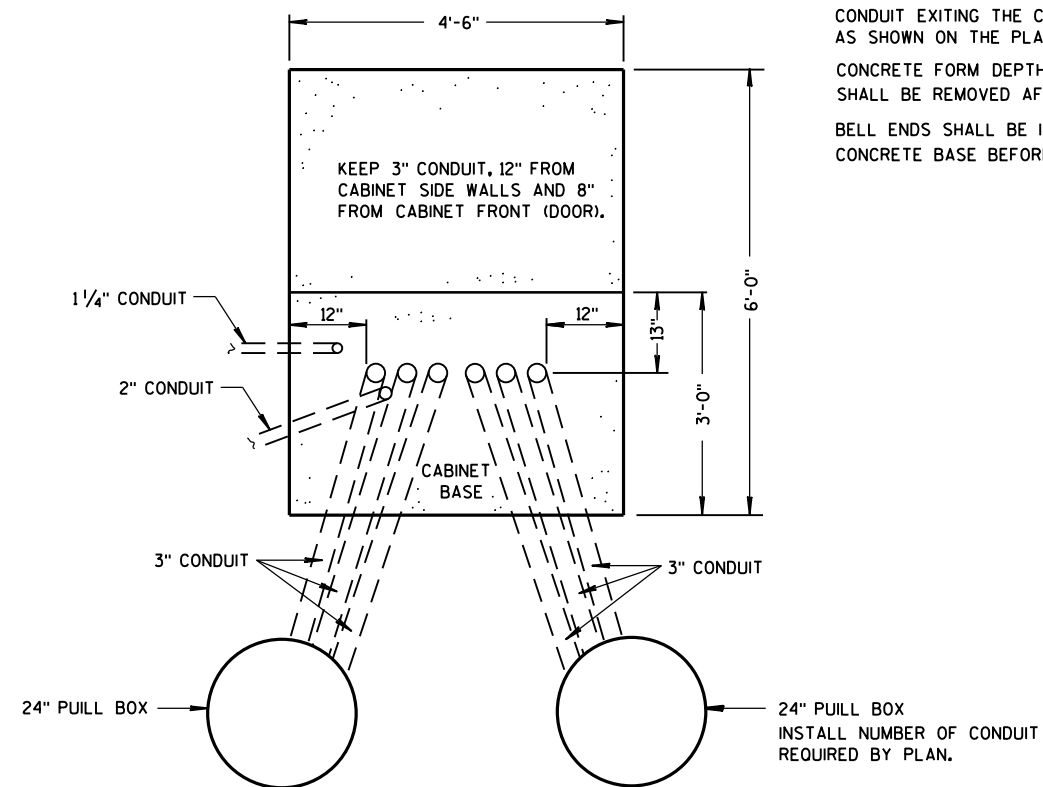
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09
DATE
/S/ Joanna L. P...
STATE ELECTRICAL ENGR 90
HWYS
FHWA



**ISOMETRIC VIEW
TYPE 9, SPECIAL**

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

**CONCRETE CONTROL CABINET
BASE, TYPE 9, SPECIAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

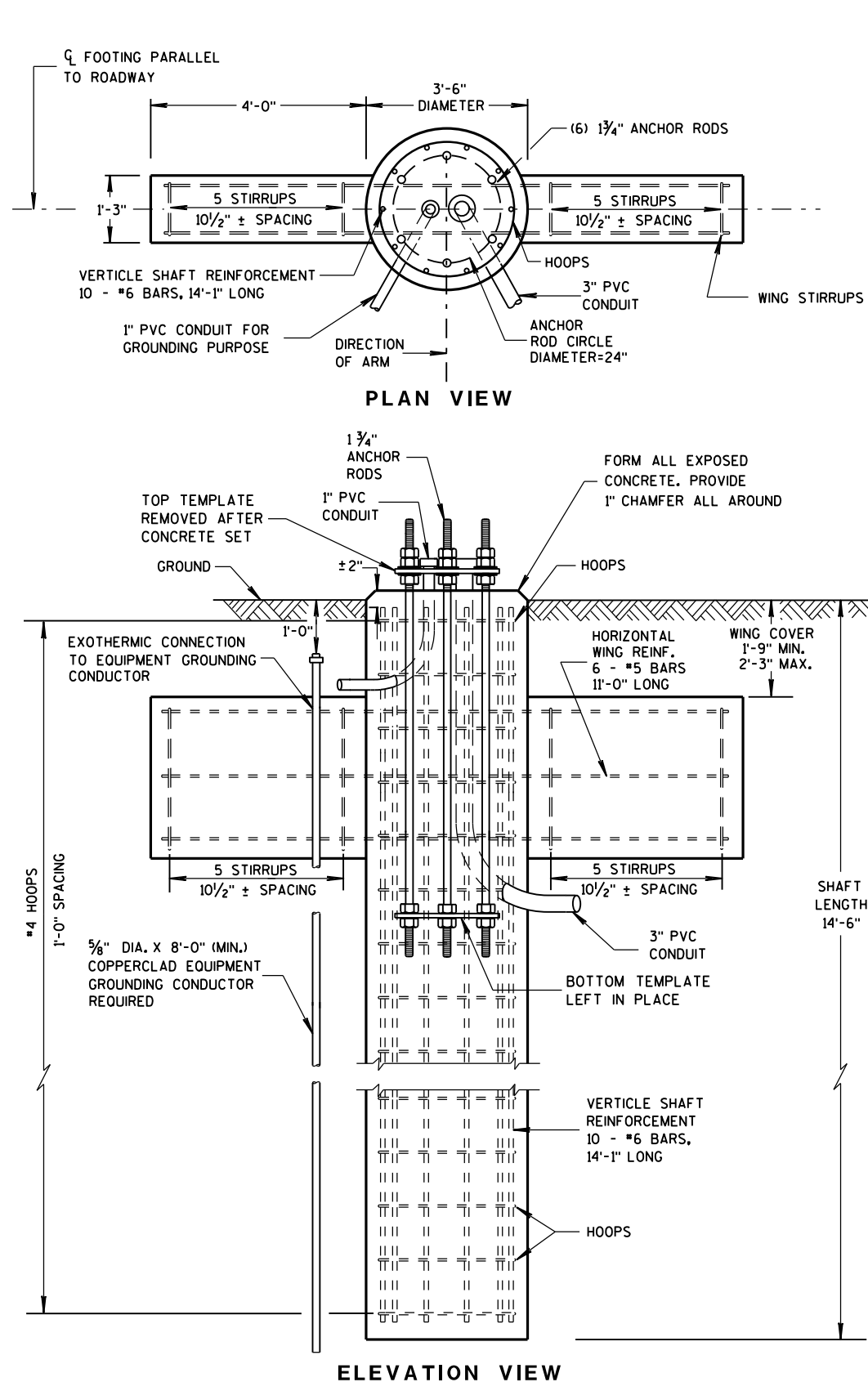
APPROVED

11/26/2013

DATE

FHWA

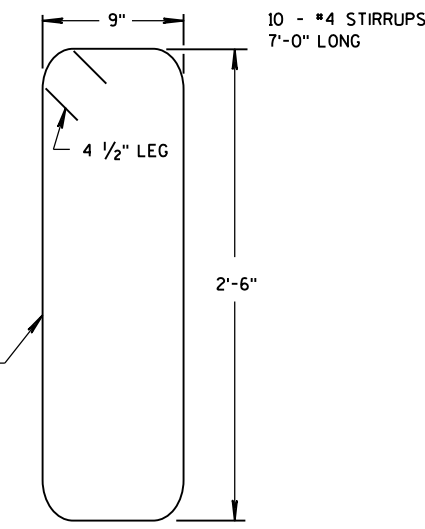
/S/ Ahmet Demirelek
STATE ELECTRICAL 91



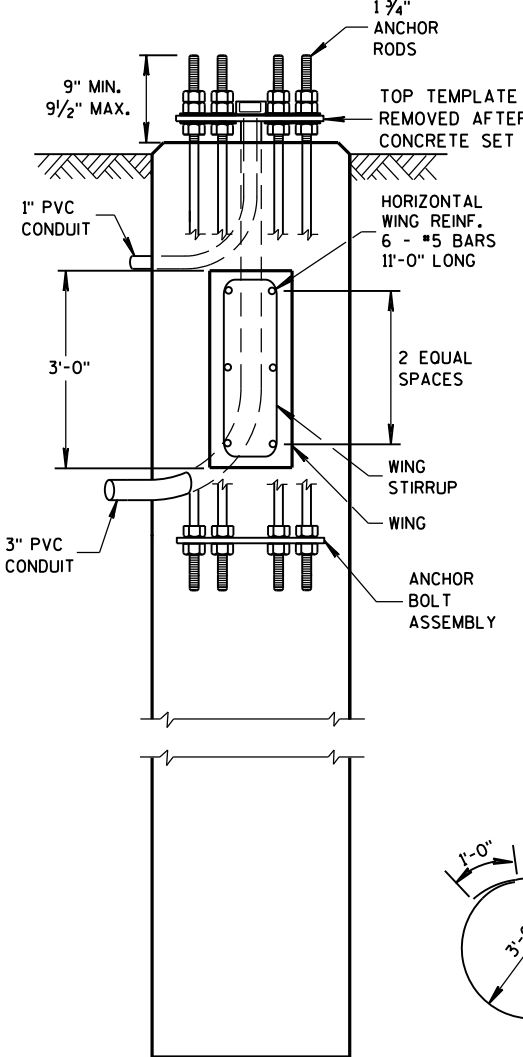
(FOR TYPE 12 & 13 POLES)

CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 433 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

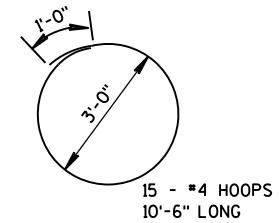


WING STIRRUP



SIDE VIEW

DOES NOT SHOW HOOPS OR VERTICAL SHAFT REINFORCEMENT



HOOP DETAIL

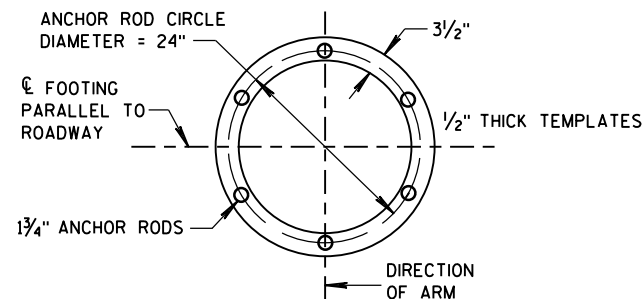
GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.
- BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.
- USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.
- THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
- WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.
- BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.
- TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.
- CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.
- MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.
- CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 1/2" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.
- ALL CONDUIT ENDS AT THE TOP OF THE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.
- BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.
- WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.
- A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).
- THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.
- BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.
- THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

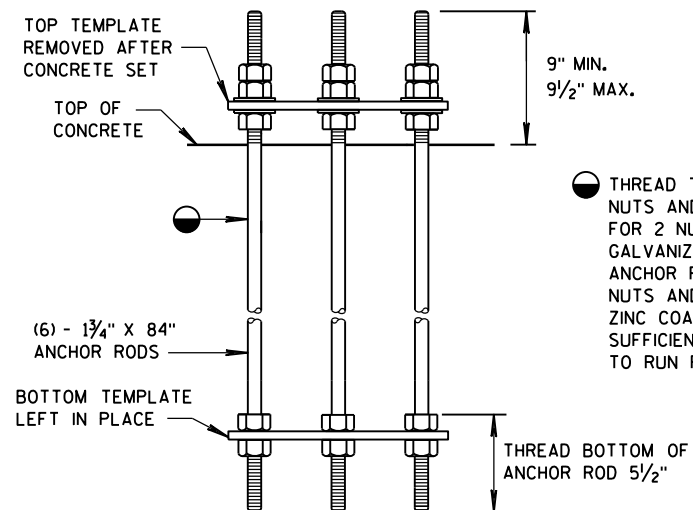
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

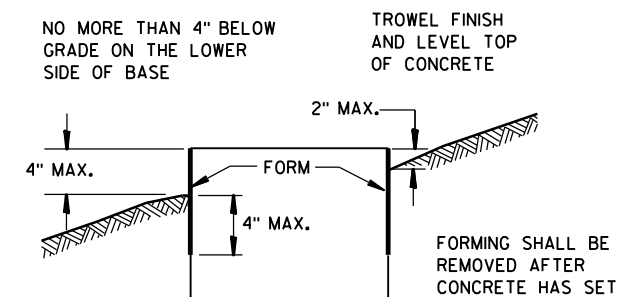


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY

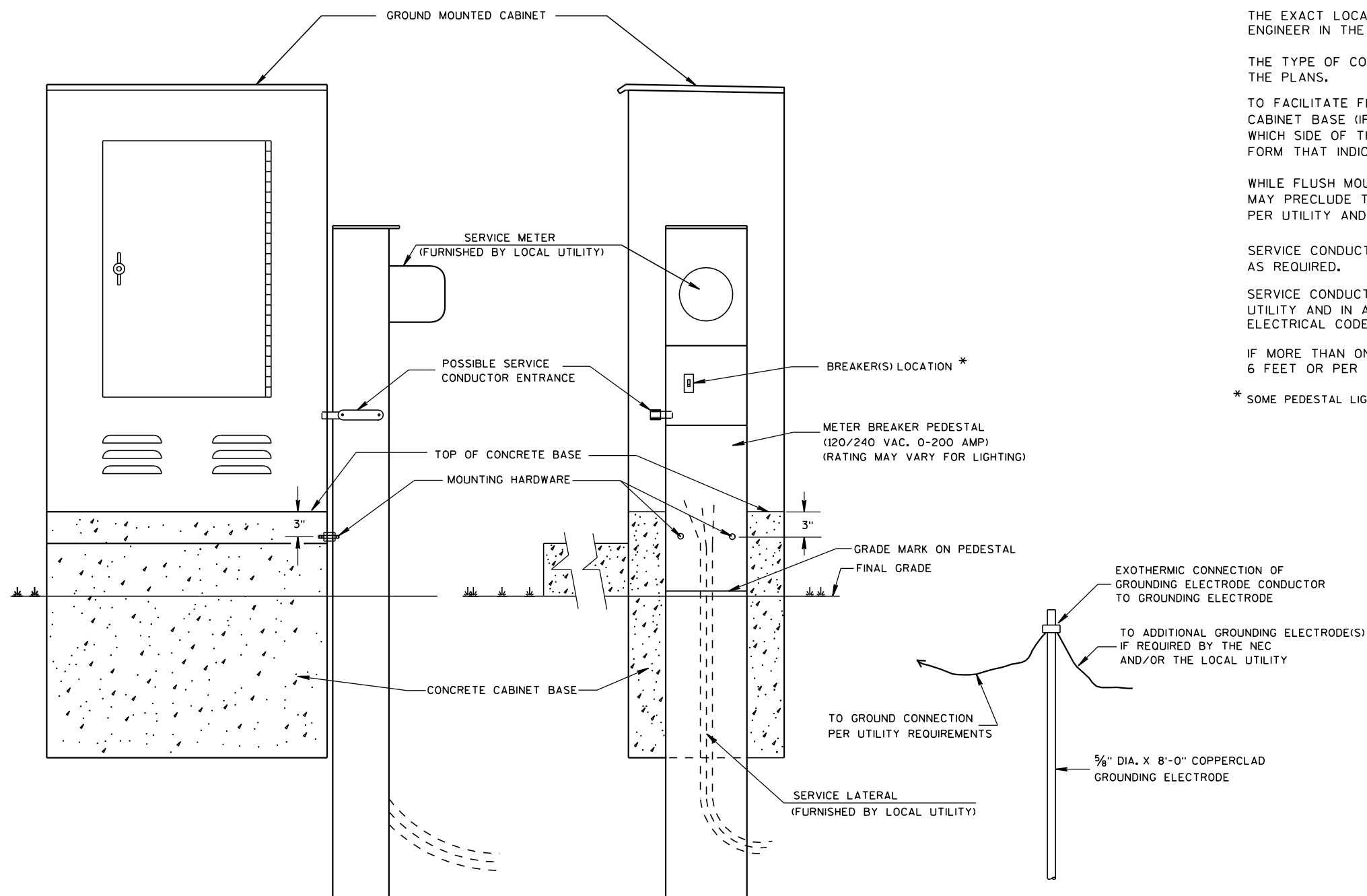


FORMING DETAIL

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 11-26-2013
STATE ELECTRICAL 93
FHWA



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE, CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH, THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

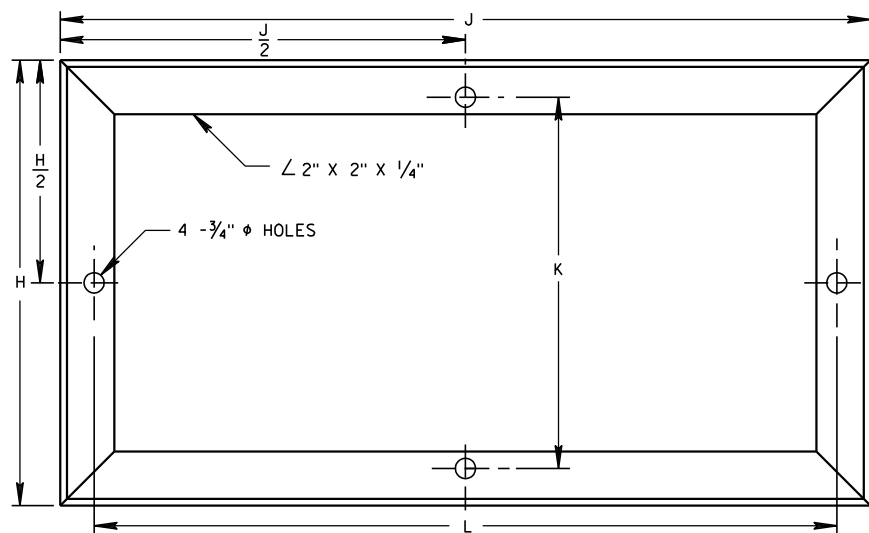
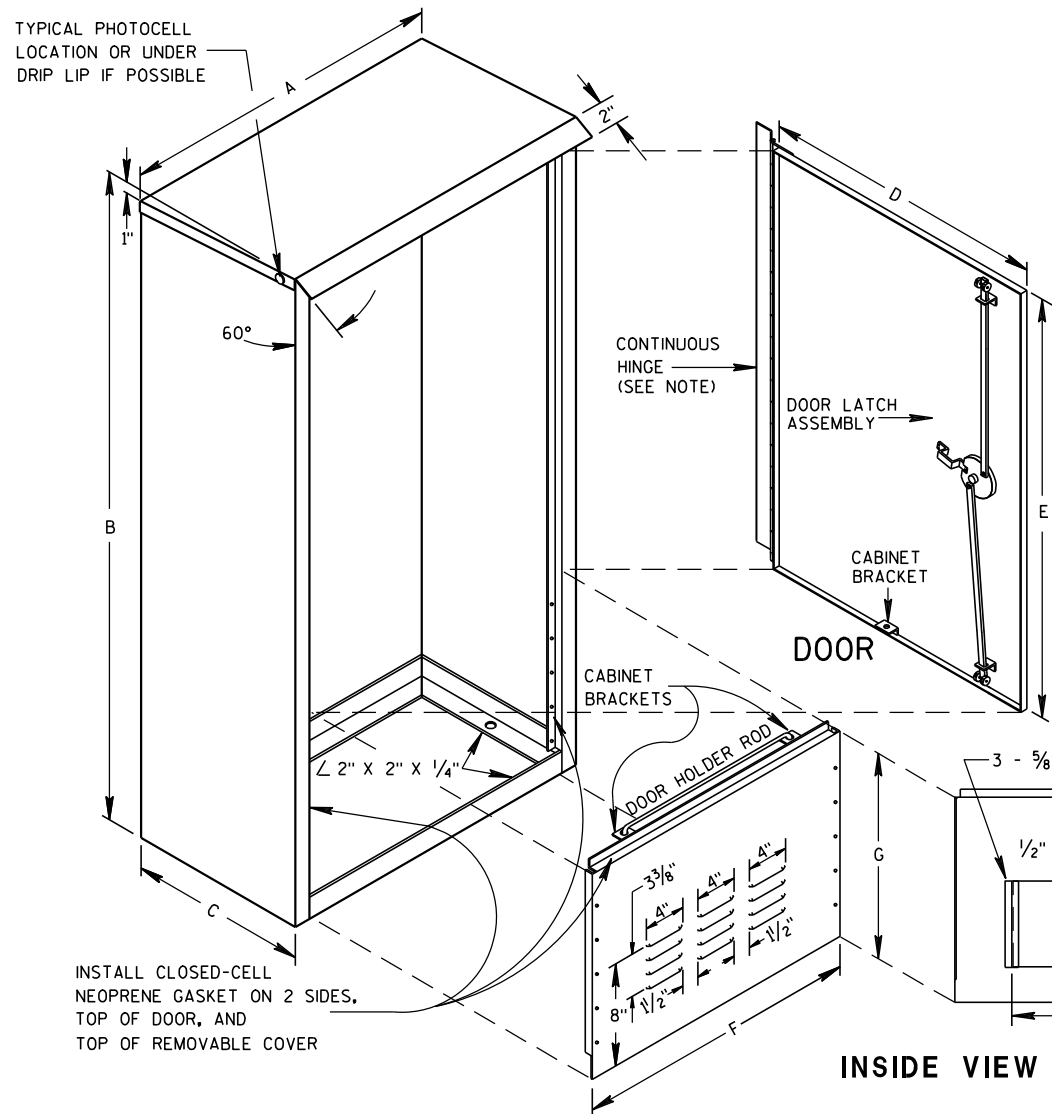
IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

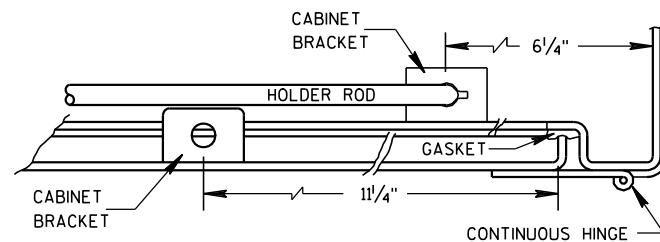
CABINET SERVICE INSTALLATION
(METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

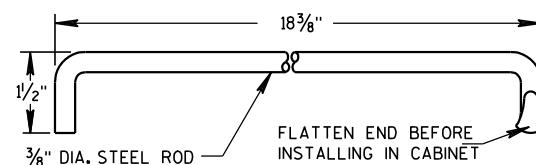
APPROVED
10/27/09
DATE
/S/ Joanna L. Bush
STATE ELECTRICAL ENGINEER
94
HWYS
FHWA



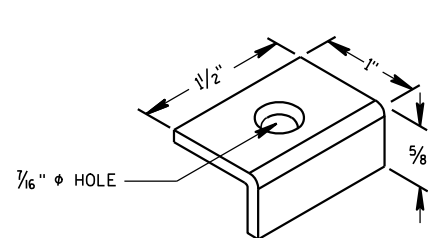
MOUNTING BASE



HINGE & DOOR HOLDER



HOLDER ROD

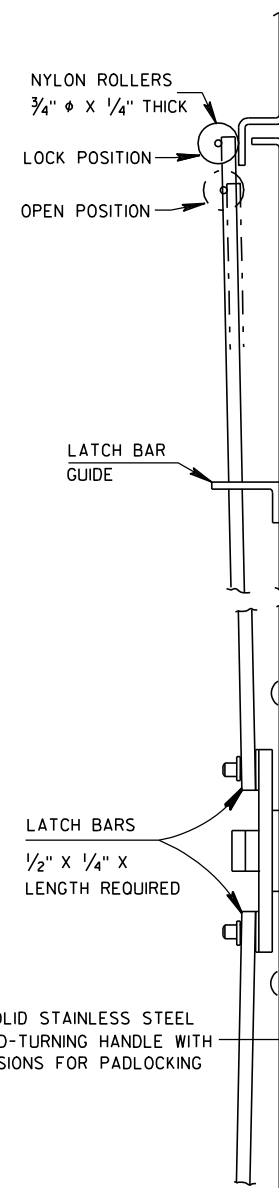


CABINET BRACKET

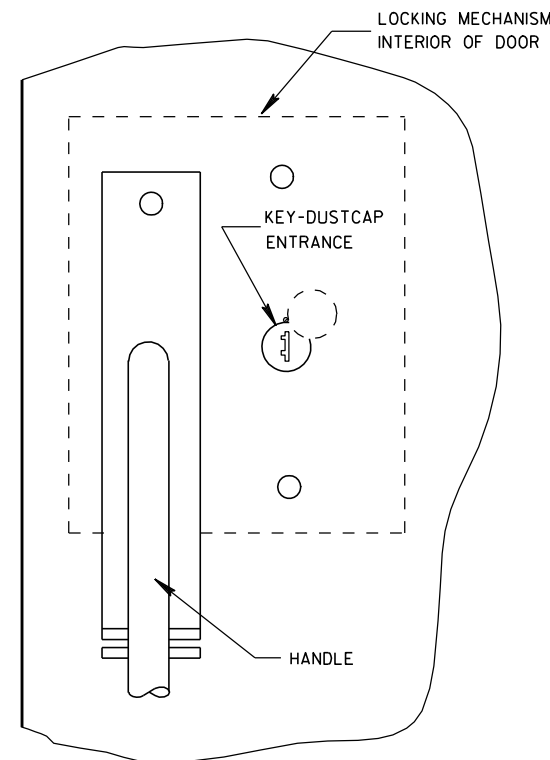
INSIDE VIEW SHOWING FILTER

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2

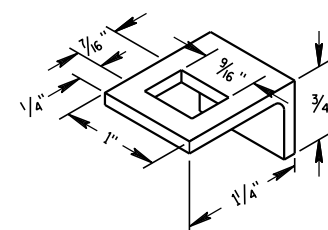


SIDE VIEW



FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

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.

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE AN APPROVED TYPE.

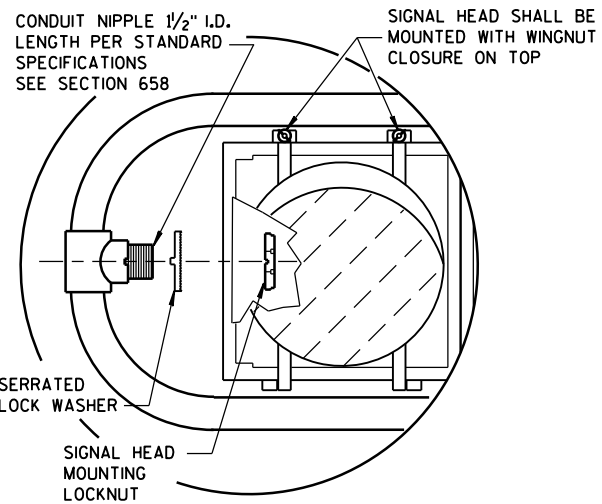
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

LOCK NO. 2510
WITH 2 KEYS AND
DUST CAP.
KEY NO. IR6380

SIGNAL OR LIGHTING
CONTROL CABINET

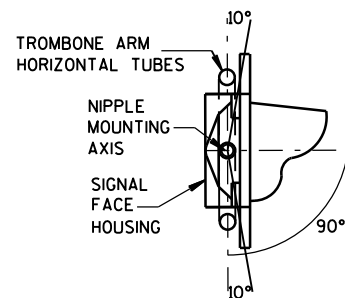
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/21/96 /S/ Balu Ananthanarayanan
DATE STATE ELECTRICAL ENGR 95 HWYS
FHWA



HORIZONTAL SIGNAL HEAD MOUNTING DETAIL *

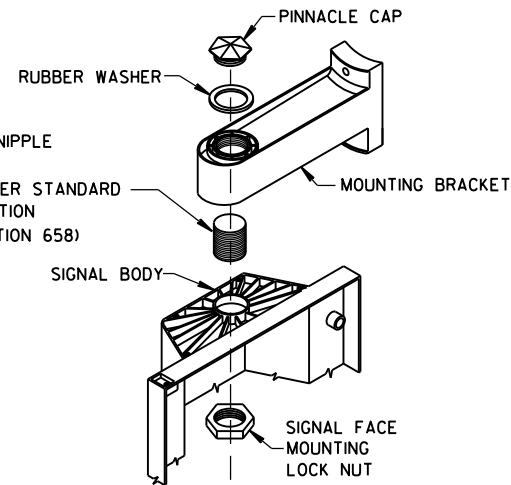
* SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR



SECTION A-A

(10 DEGREES TILT REQUIREMENT OF
FACE(S) IN THE TROMBONE MOUNTING)

CONDUIT NIPPLE
1/2" I.D.
LENGTH PER STANDARD
SPECIFICATION
(SEE SECTION 658)



SIGNAL FACE MOUNTING DETAIL (BANDED)

GENERAL NOTES

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

POLES SHALL BE EITHER ALUMINUM OR GALVANIZED STEEL AS CALLED FOR IN THE CONTRACT.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652 SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

TYPE 2 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

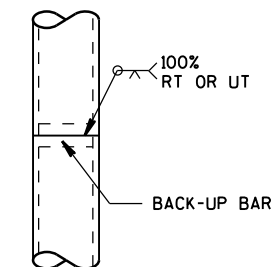
WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

- ① 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" X 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)
- ③ GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 1/4" HOLE IN POLE SHAFT FOR WIRING.
- ④ SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
- ⑤ POLE MOUNTED SIGNAL FACES SHALL REQUIRE 10R MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACES.
- ⑥ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ⑦ MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1/2 INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658).
- ⑧ VERTICAL STRUT (ADJUSTABLE), ONE (1) SET SCREW (1/4" X 3/4" LONG-20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.
- ⑨ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑩ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑪ USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

*MOUNTING HEIGHT LIMITATION DIMENSIONS OF THE TROMBONE MAST ARM WILL BE DEPENDENT UPON THE USE/NON-USE OF A TRANSFORMER BASE.

FOR MANUFACTURERS USE ONLY

WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.



POLE SPLICE DETAIL

POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

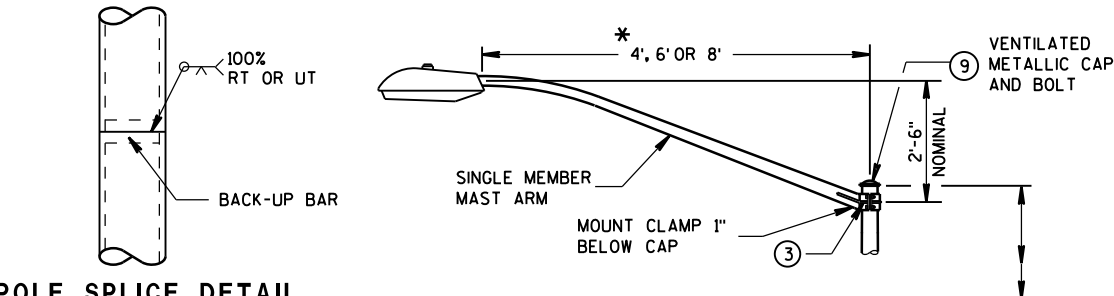
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

FOR MANUFACTURERS USE ONLY

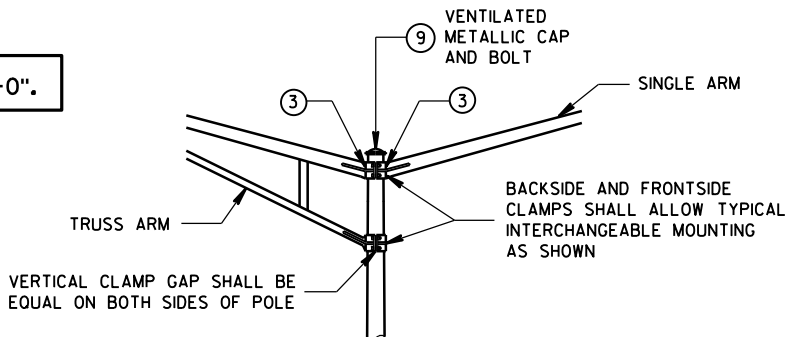
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.

* RISE FOR 4' ARM SHALL BE 2'-0".

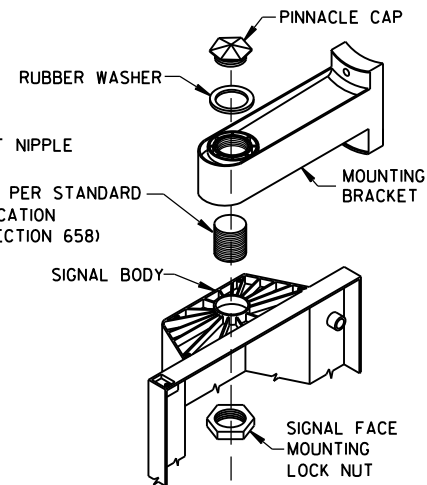
POLE SPLICE DETAIL



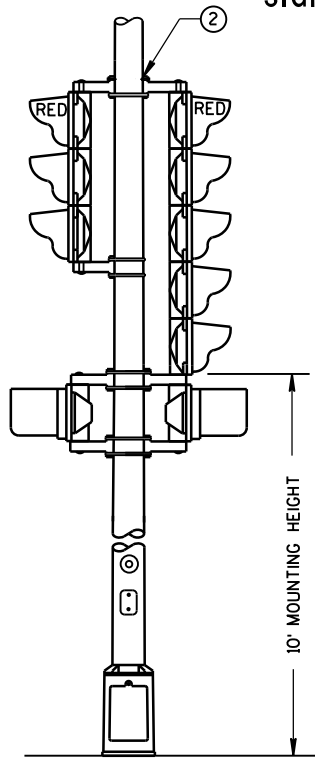
INTERCHANGEABLE MOUNTING DETAIL



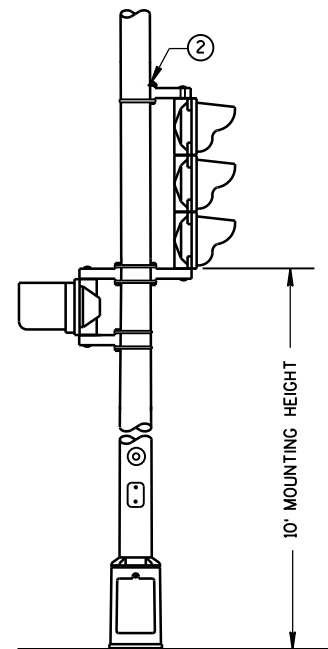
LUMINAIRE
WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.



SIGNAL FACE MOUNTING DETAIL (BANDED)



TYPICAL MOUNTING OF BACK TO BACK
3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION
SIGNAL FACE

TYPE 3 POLE MOUNTING CONFIGURATION

GENERAL NOTES

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

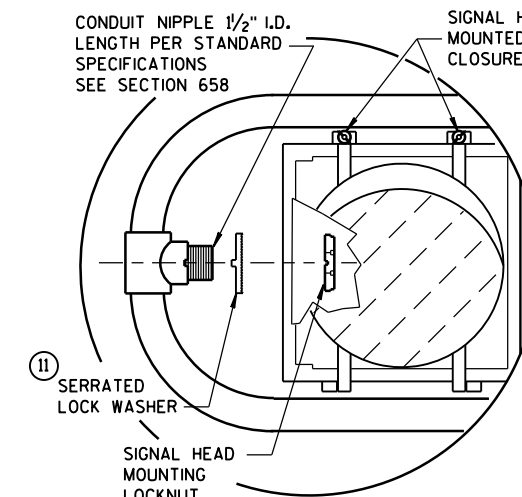
SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652, SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8" INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

- 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" X 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)
- GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
- POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.
- TYPE 3 POLE CONFIGURATIONS SHALL BE MOUNTED DIRECTLY TO THEIR CONCRETE BASES.
- MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1/2" INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)
- VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.
- FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.
- USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

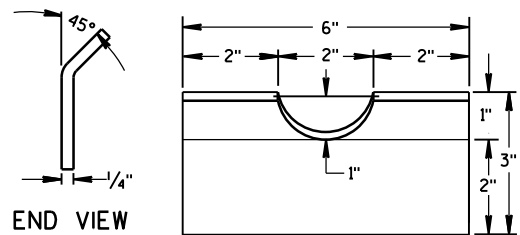


HORIZONTAL SIGNAL HEAD MOUNTING DETAIL **

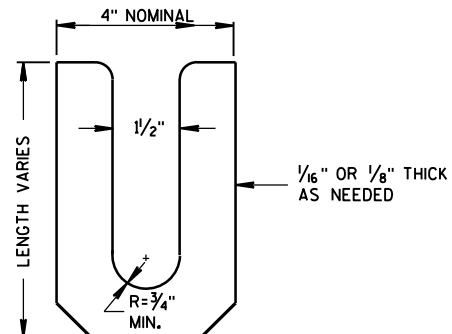
** SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR

POLE MOUNTINGS FOR
TRAFFIC SIGNALS AND
LIGHTING UNITS, TYPE 3
(HEAVY DUTY)

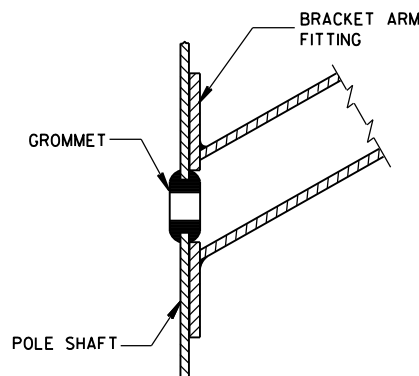
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



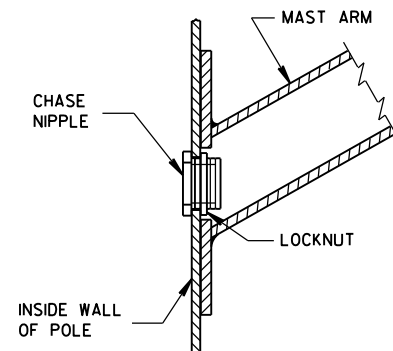
FRONT VIEW
RECTANGULAR CLAMP SHIM
(4 TO A SET)



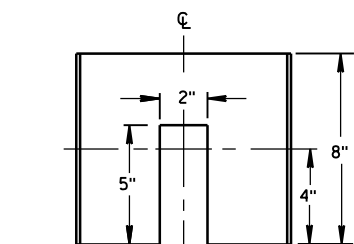
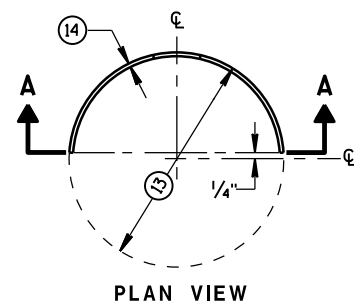
LEVELING SHIM (15)
SHALL BE ALUMINUM



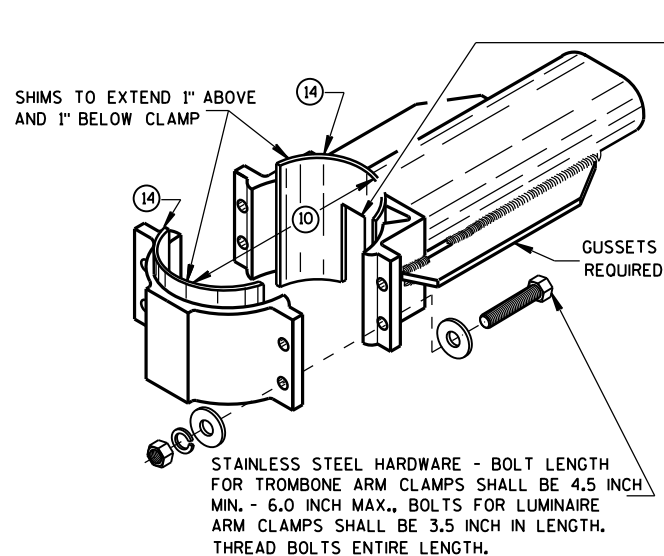
TYPICAL APPLICATION OF
GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF
CHASE NIPPLE IN POLE SHAFT

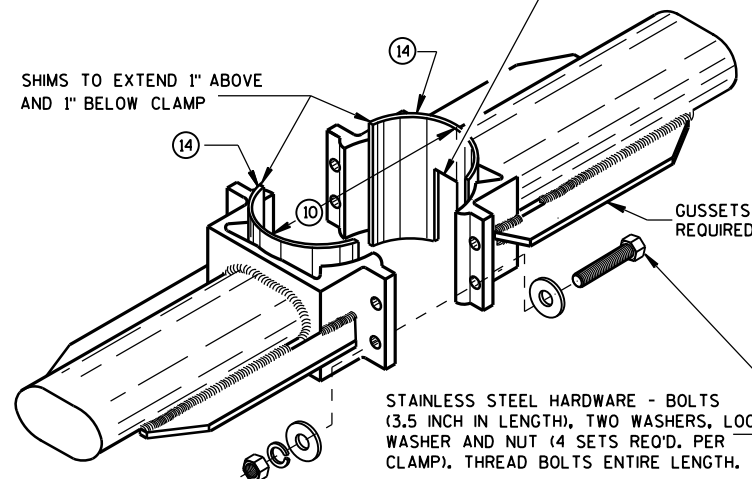


SECTION A-A
CIRCULAR CLAMP SHIM
(2 TO A SET)



TYPICAL TROMBONE MAST ARM AND SINGLE
LUMINAIRE MAST ARM MOUNTING CLAMP

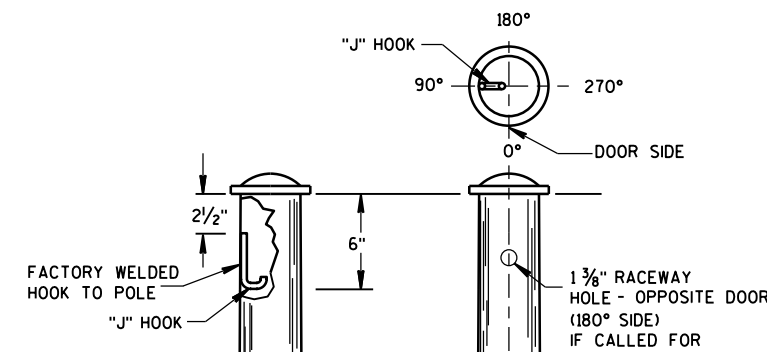
2" SLOT IN ALL SHIMS TO MATCH RACEWAY
ENTRANCE INTO ARM. ENTRANCE INTO ARM
RACEWAY SHALL BE 2" MINIMUM.



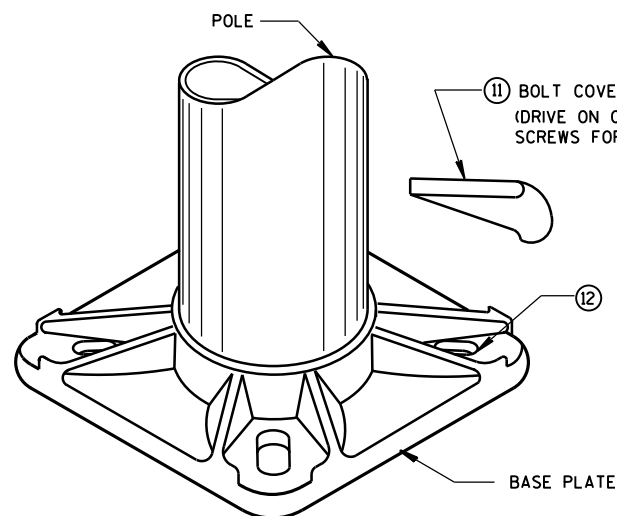
TYPICAL LUMINAIRE MAST ARM
(DOUBLE) MOUNTING BRACKETS

GENERAL NOTES
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT
STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF
PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

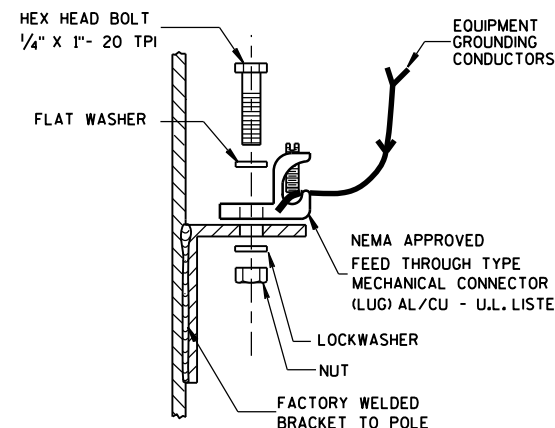
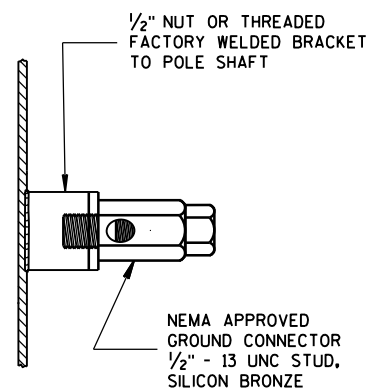
- (10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- (11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- (12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT
CIRCLE USING 1" DIAMETER ANCHOR RODS.
- (13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)
- (14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")
SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35",
0.53" OR 0.70".
SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10",
0.25" OR 0.35".
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.
SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS
SHALL BE 1/4" HIGH AND LEGIBLE.
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS
TO THE ENGINEER FOR APPROVAL.
- (15) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING
POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT
ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE
CONCRETE BASE AND A METALLIC BASE PLATE.
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE
AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



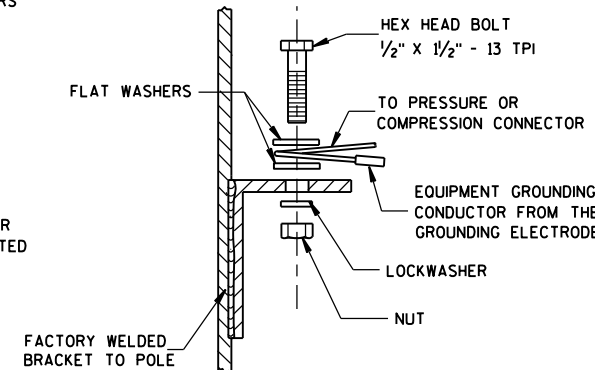
TYPICAL "J" HOOK LOCATION



BASE PLATE



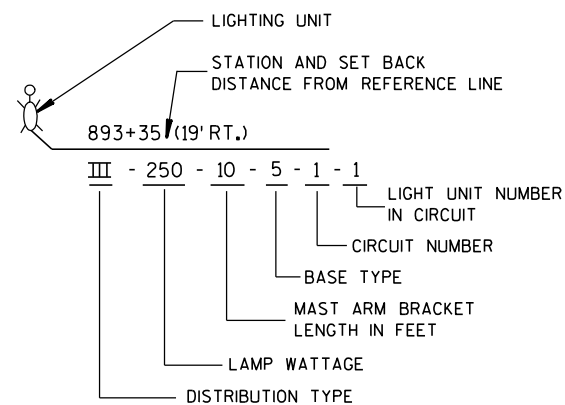
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



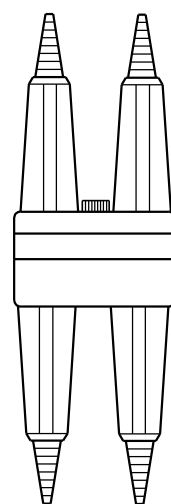
HARDWARE DETAILS FOR
POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

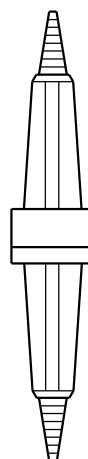
APPROVED
2/7/2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL 98
FHWA



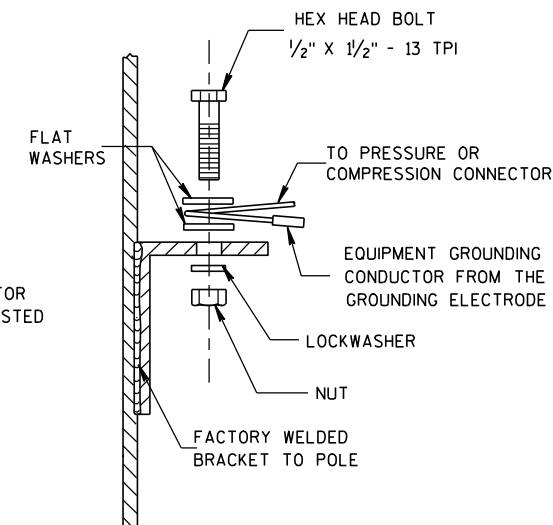
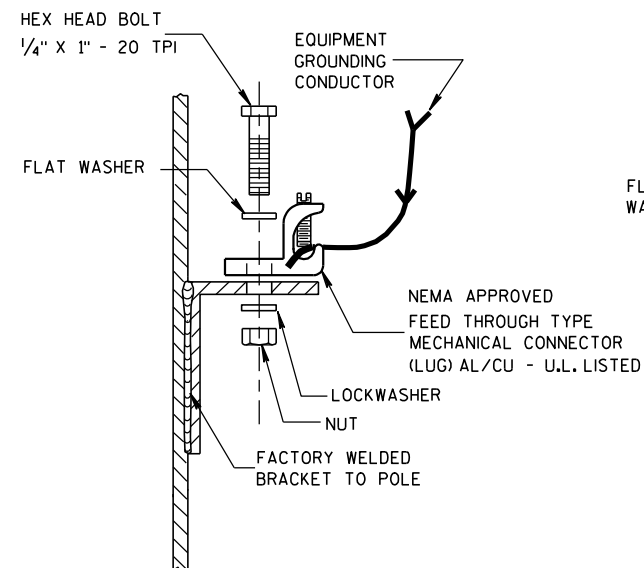
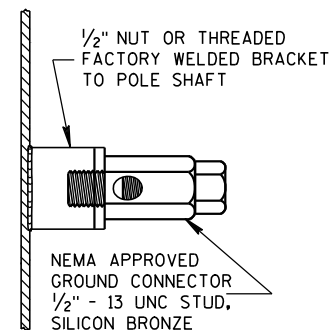
LIGHTING UNIT CODE
(TYPICAL)



DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

ADDITIONAL CONDUCTORS
AND FUSE FOR TWIN
LIGHTING UNITS

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPLICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E. RATED,
XLP INSULATED. SINGLE
LIGHTING UNIT SHOWN

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE SINGLE POLE FUSE ASSEMBLY.
600 VAC, WITH 5 AMP FNO FUSE
(SEE DETAIL "B")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTOR AND FUSEHOLDER

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDED
CIRCUIT CONDUCTOR PASSING
THROUGH THIS POLE

3 WIRE - 120, 240 OR 480 VAC (UNGROUND CONDUCTOR)
WITH GROUNDED CONDUCTOR AND
WITH EQUIPMENT GROUNDING CONDUCTOR

UNGROUND CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E.
RATED, XLP INSULATED.
SINGLE LIGHTING UNIT SHOWN

TWIN LIGHTING UNITS REQUIRE
INDIVIDUAL SETS OF UNGROUNDED
CONDUCTORS AND FUSE ASSEMBLY.

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPLICE CONNECTOR.

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)
TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

2 WIRE - 240 OR 480 VAC (UNGROUND CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE FUSE ASSEMBLY
TWO POLE, 600 VAC,
WITH 5 AMP FNO FUSES
(SEE DETAIL "A")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTORS AND FUSEHOLDERS

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

NON-FREWAY LIGHTING UNIT
POLE WIRING

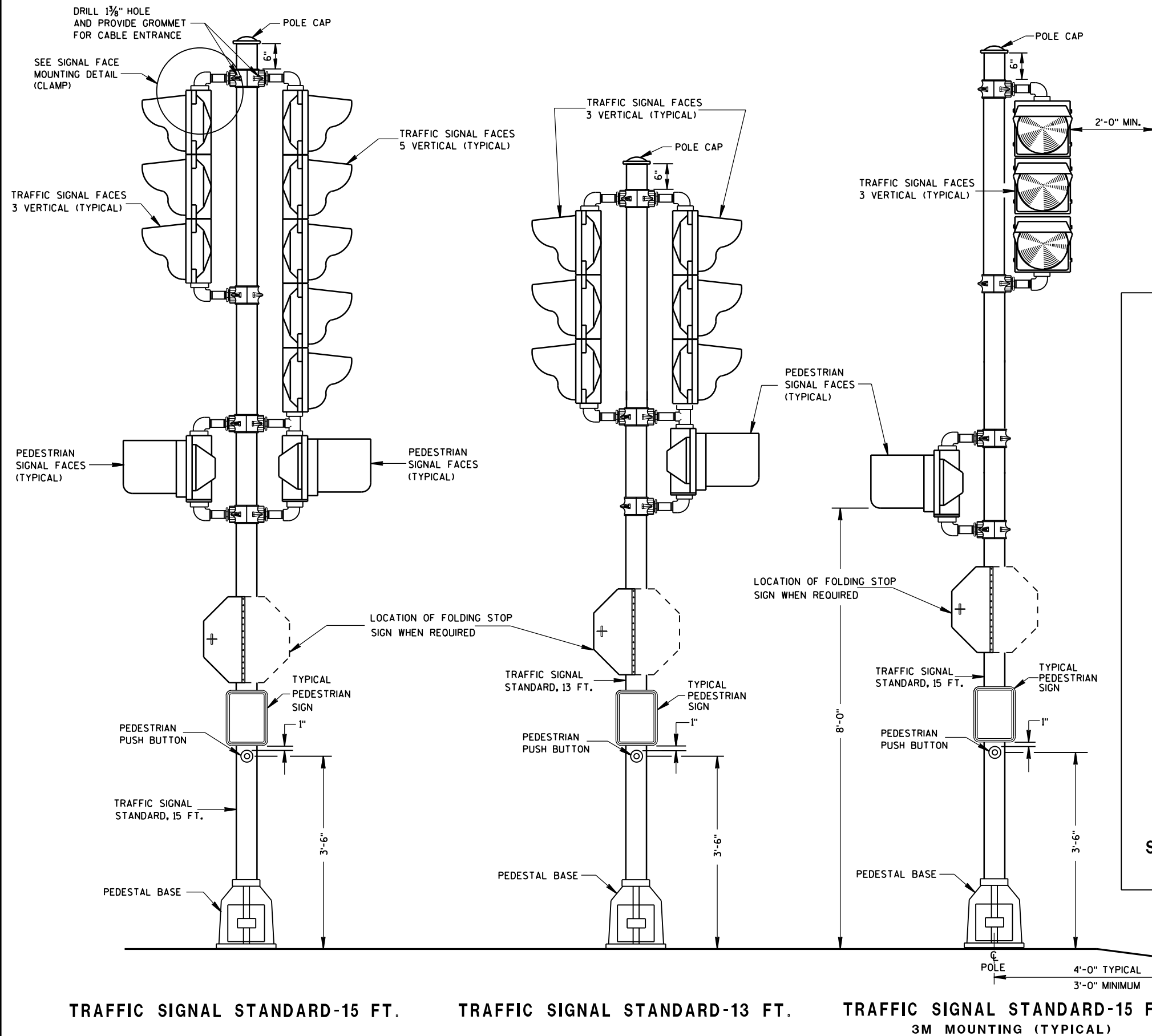
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE

/S/ Thomas J. Gosselin
STATE ELECTRICAL ENGR 99

FHWA



GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLE CLAMP (AS SHOWN) MOUNTING BRACKETS SHALL BE USED.

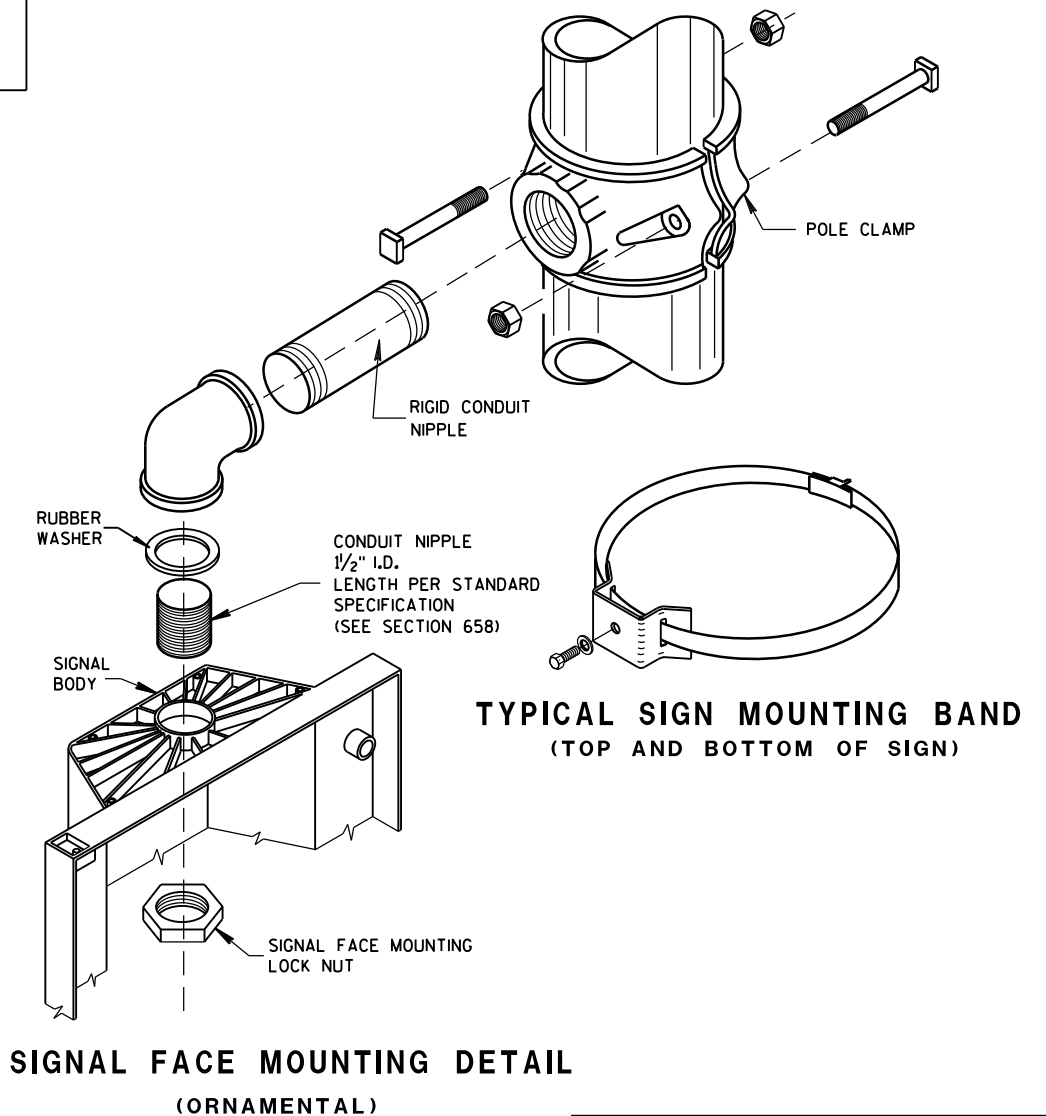
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

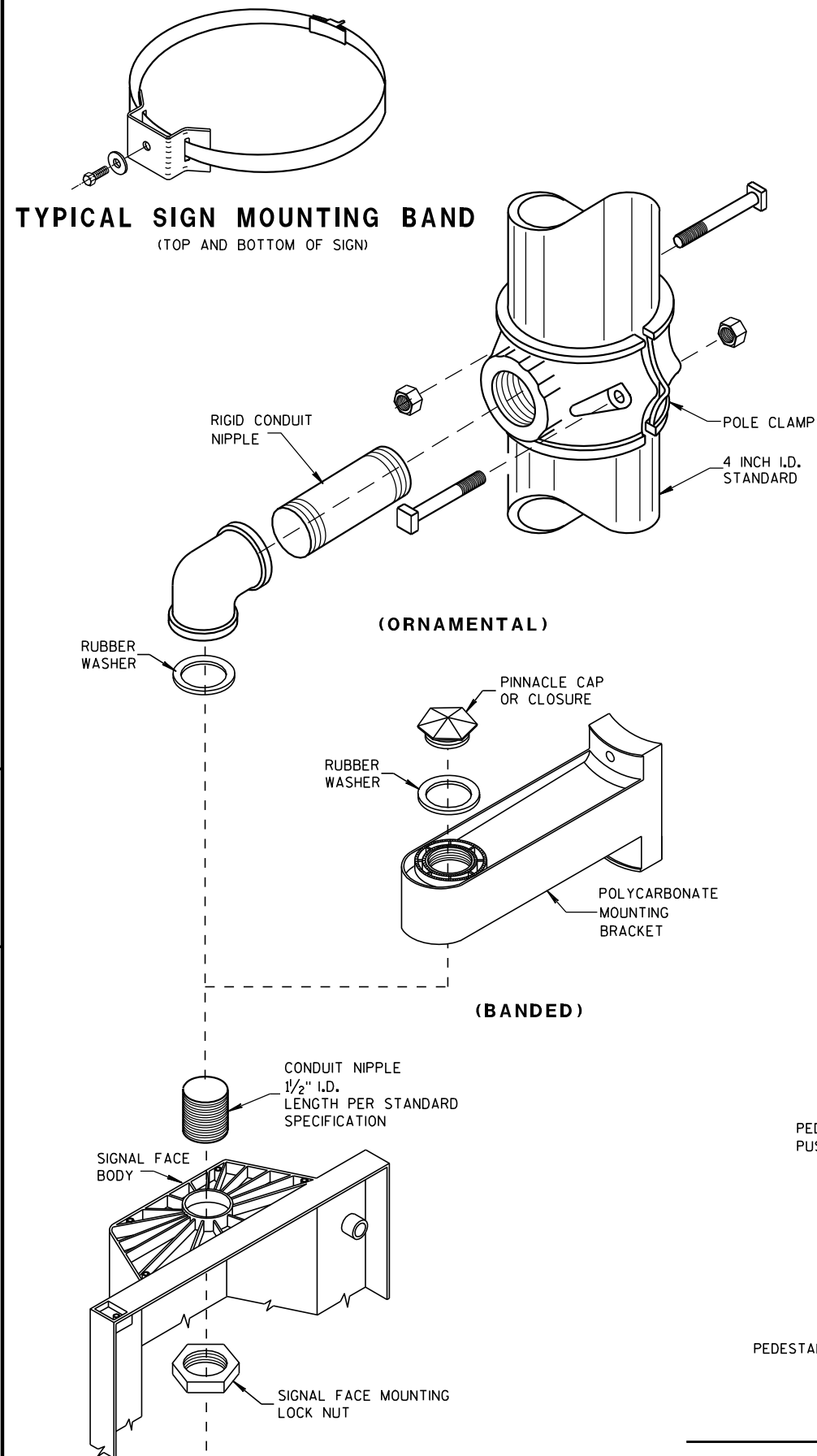
FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



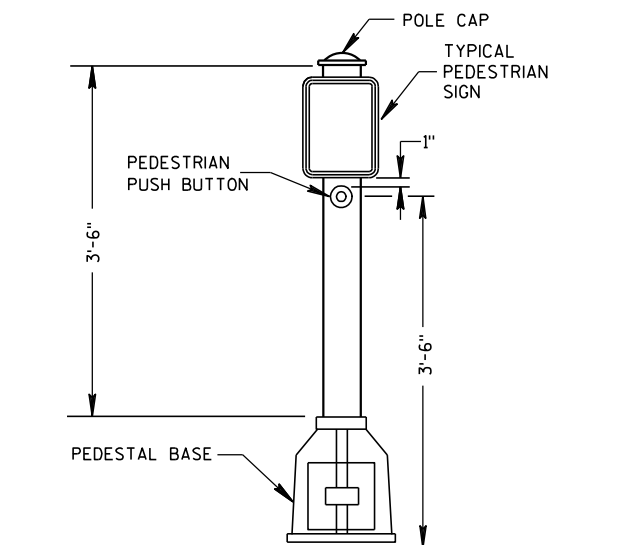
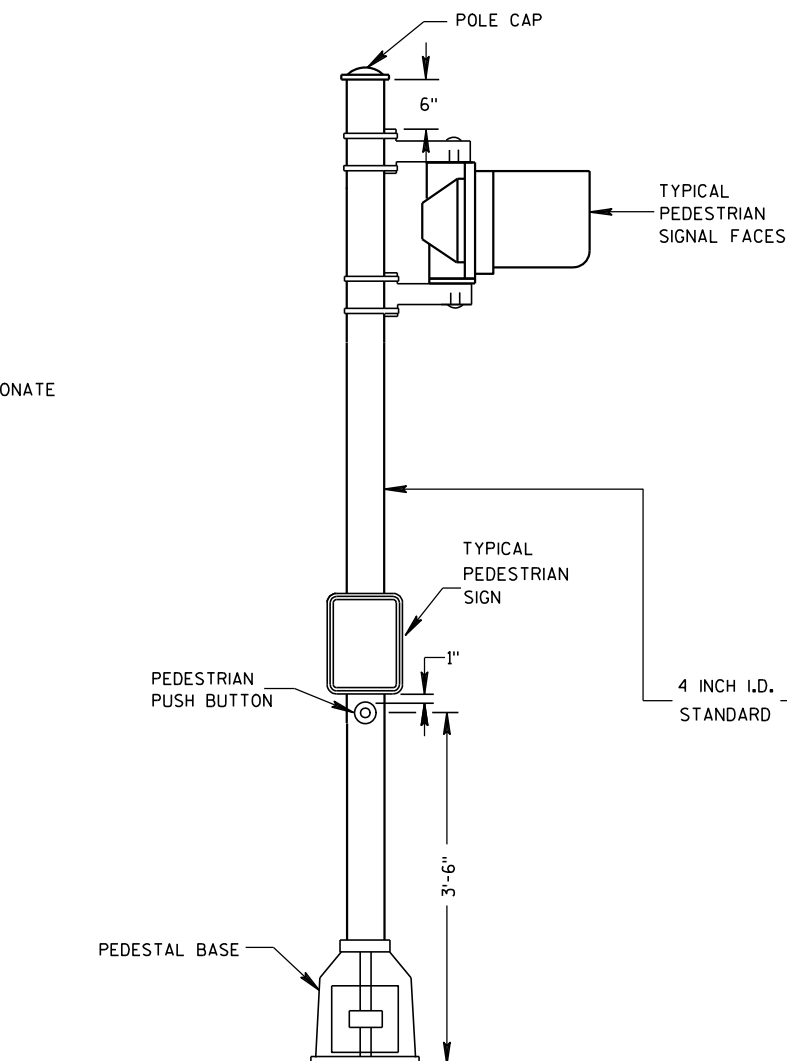
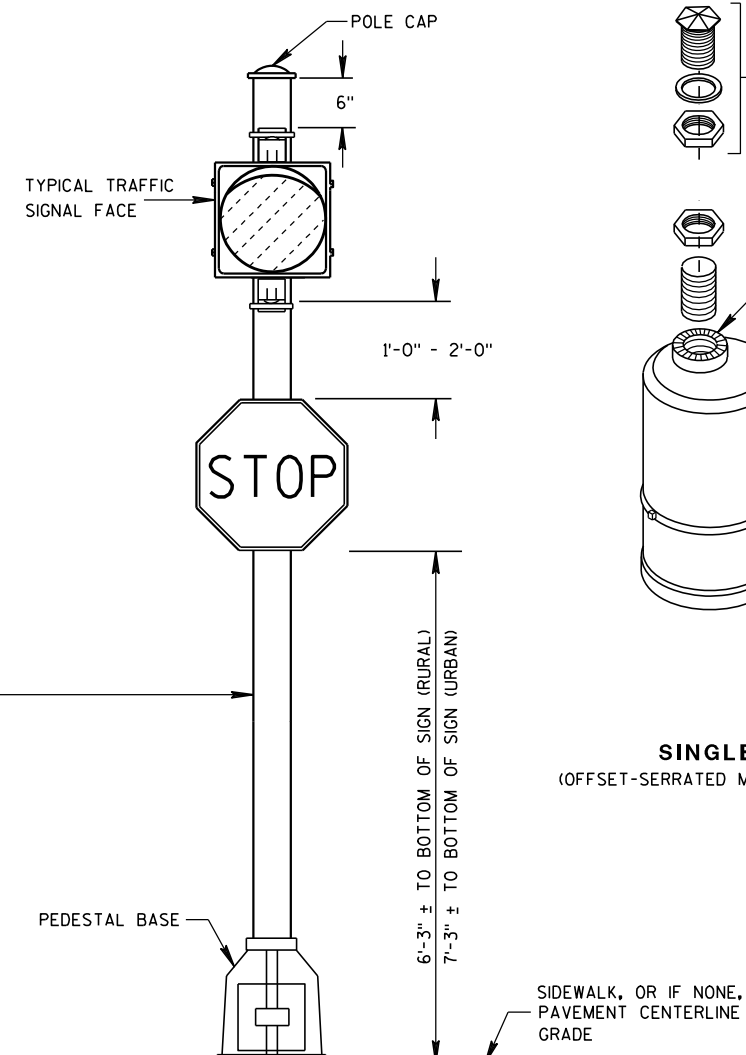
TRAFFIC SIGNAL STANDARD
ORNAMENTAL BRACKET MOUNTINGS
TYPICAL FOR 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/28/2013
DATE /S/ Ahmet Demirbilek
STATE ELECTRICAL 100
FHWA



SIGNAL FACE MOUNTING DETAILS

PEDESTRIAN PUSH BUTTON
TYPICAL MOUNTINGPEDESTRIAN FACE STANDARD-10 FT.
(WALK-DON'T WALK)STANDARD FLASHER.
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

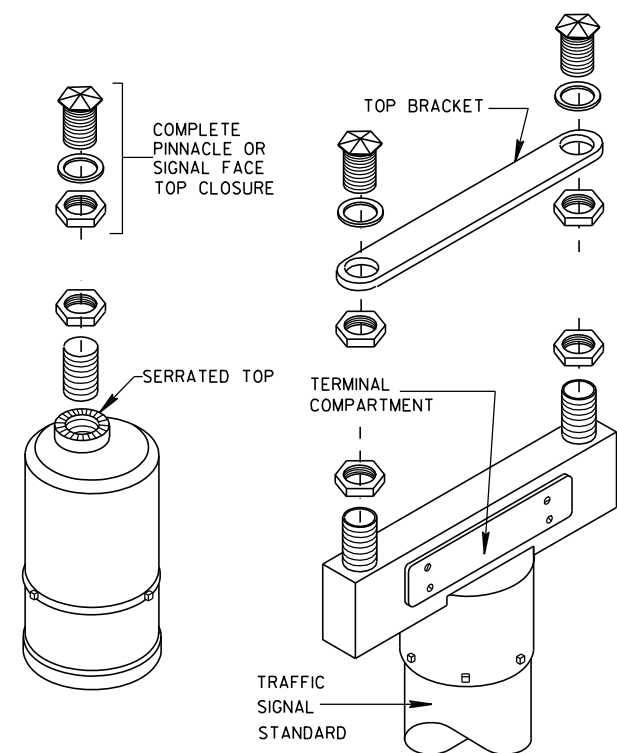
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

SINGLE
(OFFSET-SERRATED MOUNTING)DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD
PEDESTRIAN AND FLASHER
TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/11/10
DATE

FHWA

/S/ John Corbett
STATE ELECTRICAL ENGR 101

HWYS



GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE LATEST AASHTO AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

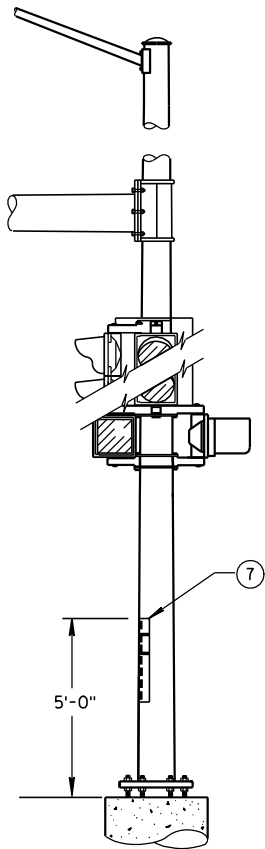
- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH 3/4" S.S. BANDING AROUND THE LEVELING NUTS.

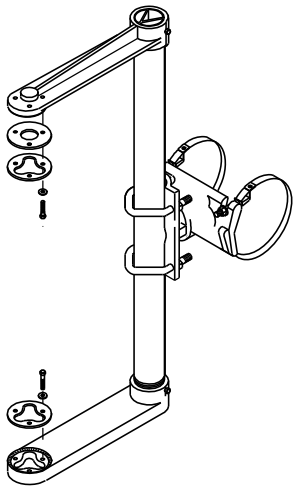
INDENT PRINT (NOMINAL 1/2" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

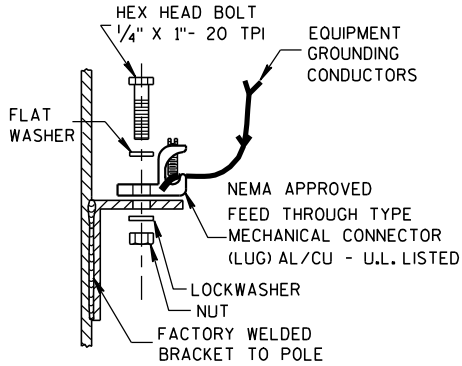


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



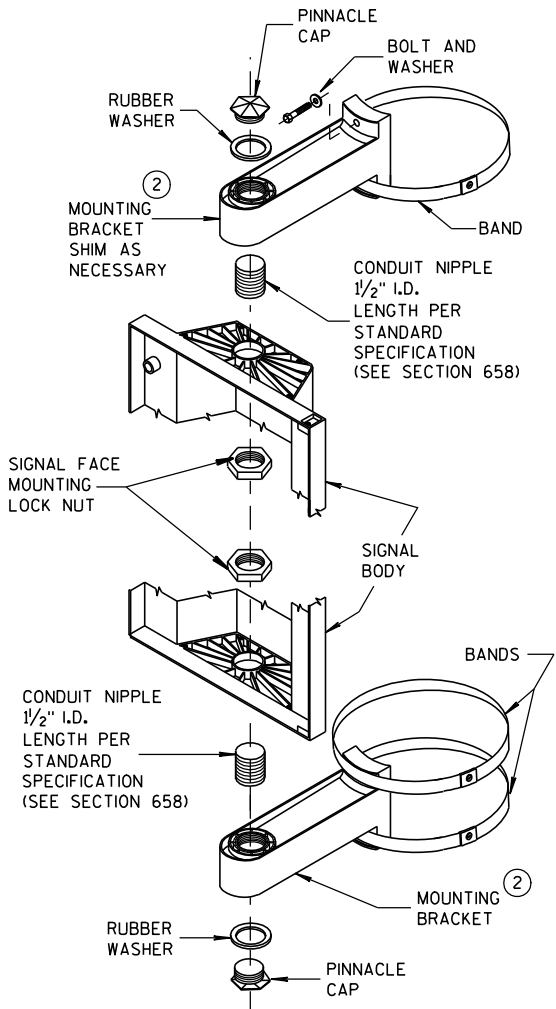
SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

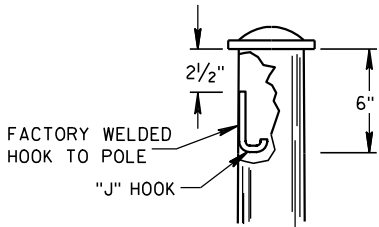


TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



SIGNAL FACE
VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT

GENERAL NOTES AND HARDWARE
DETAILS FOR TYPE 9, 10, 12 & 13
POLES WITH MONOTUBE ARMS

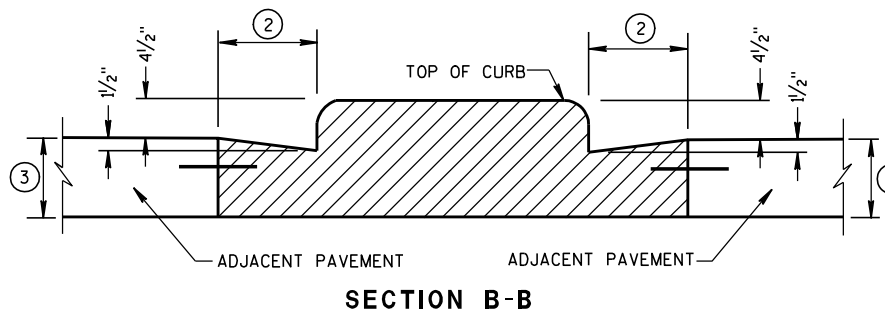
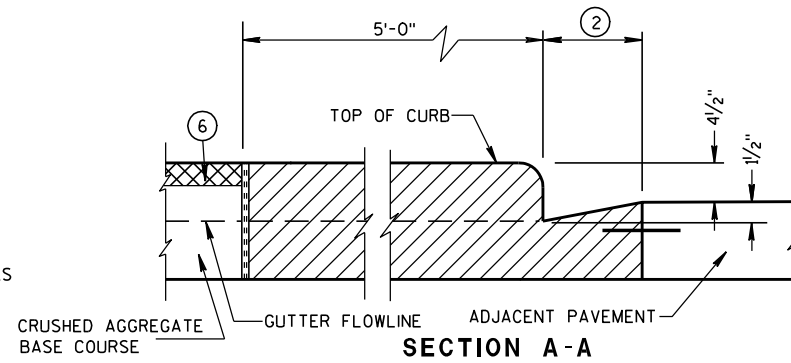
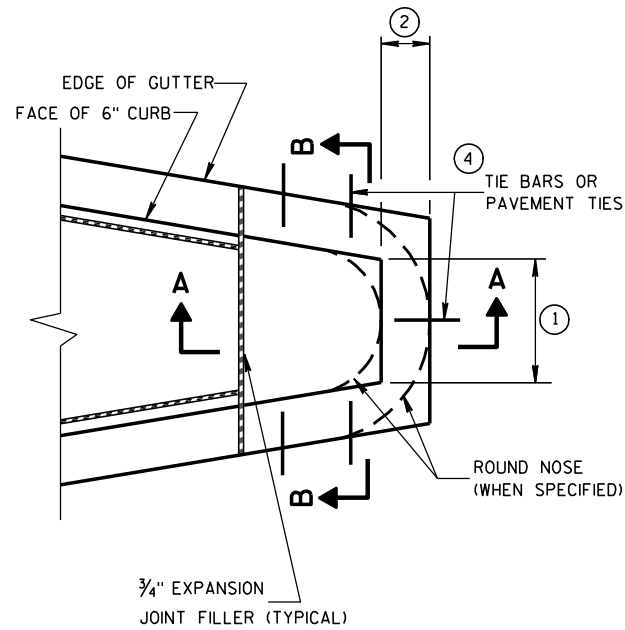
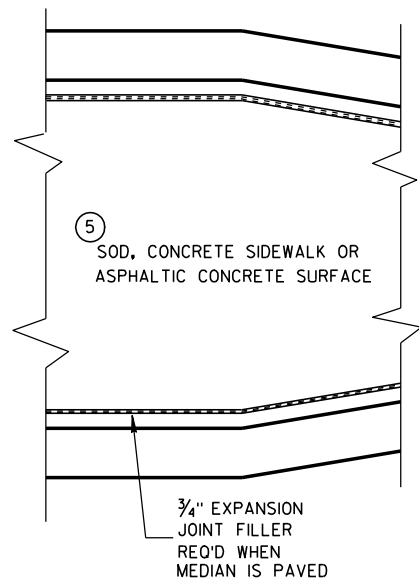
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

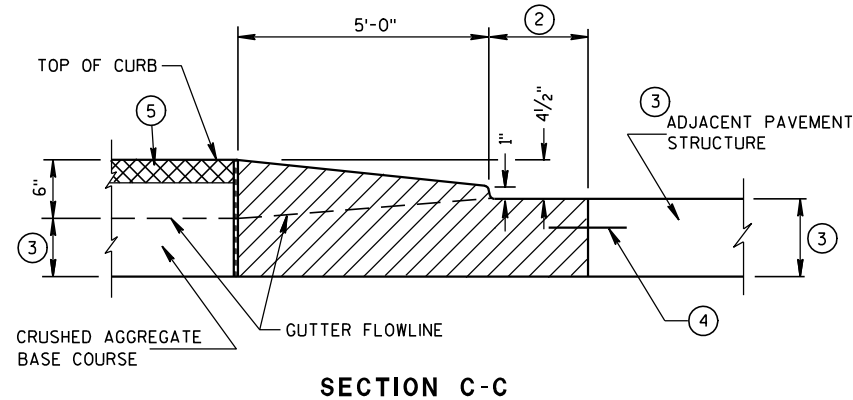
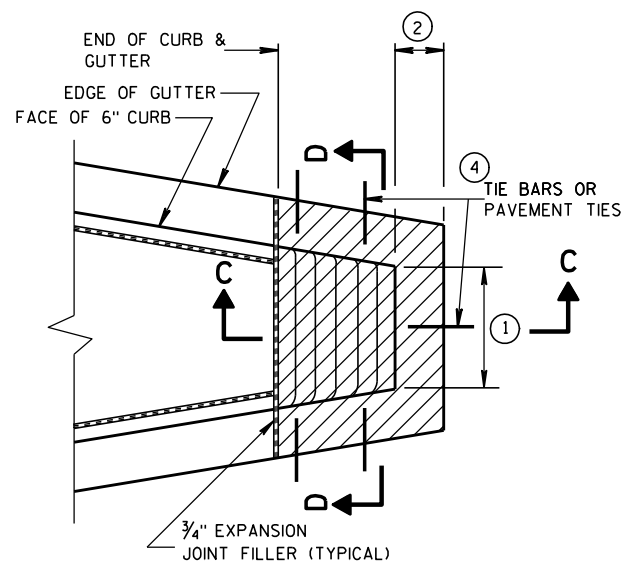
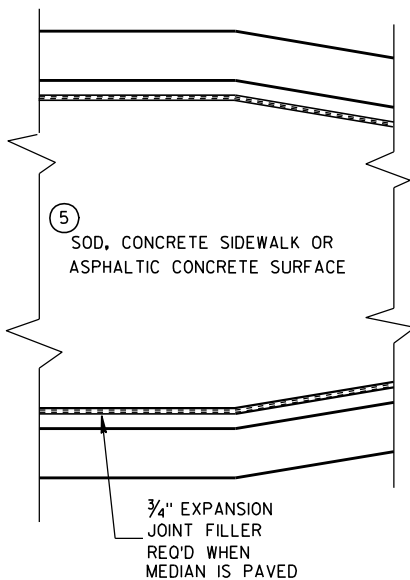
3/2/2011
DATE

/S/ Thomas J. Cassin
STATE ELECTRICAL ENGI 103 HWYS

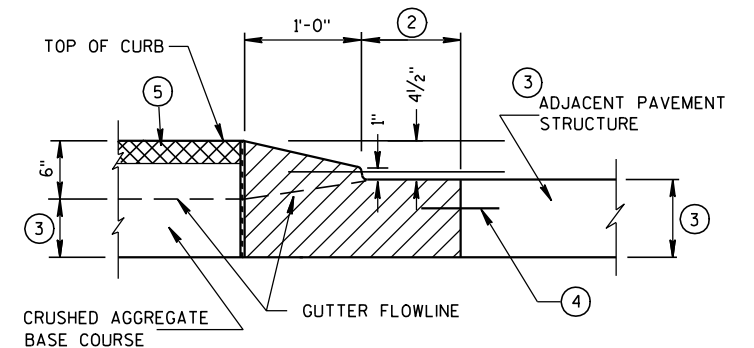
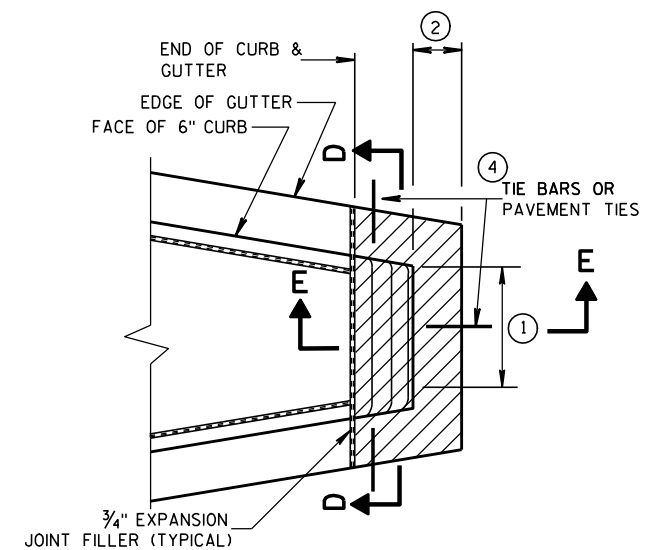
FHWA



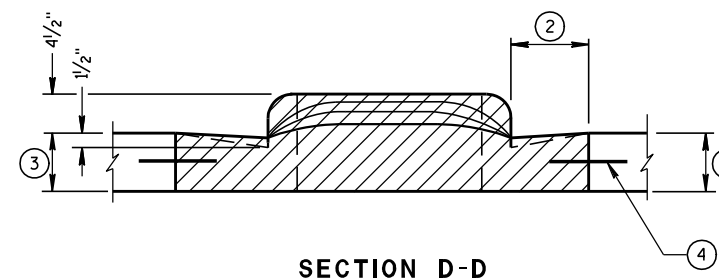
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



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.

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006

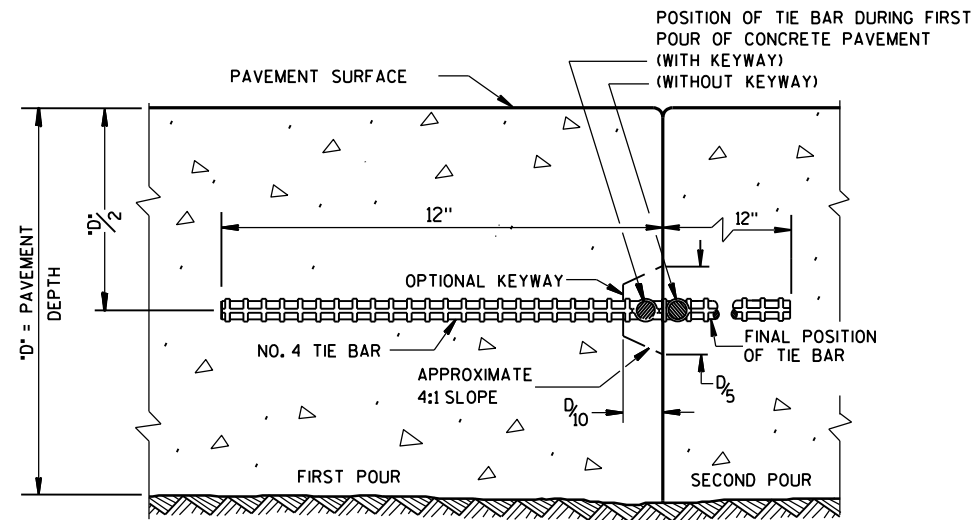
DATE

/S/ Jerry H. 7----

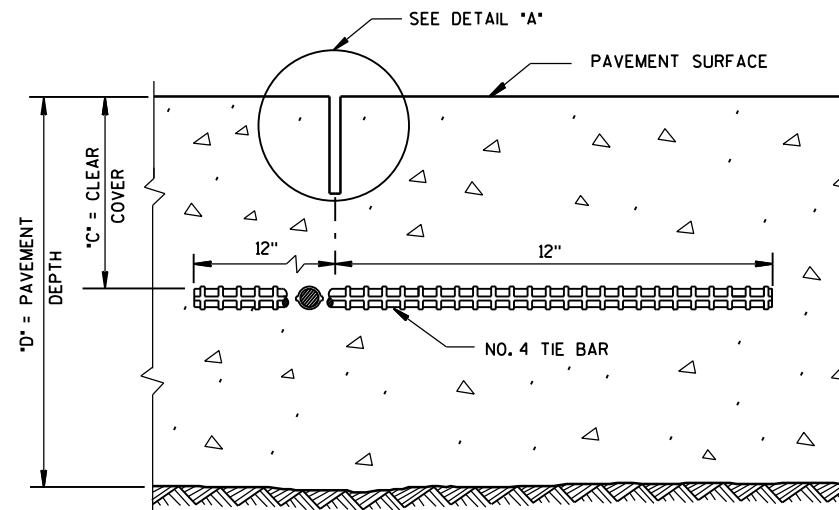
ROADWAY STANDARDS 104

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FHWA



CONSTRUCTION JOINT



SAWED JOINT

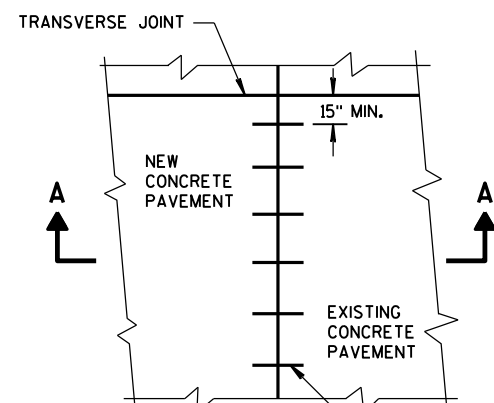
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

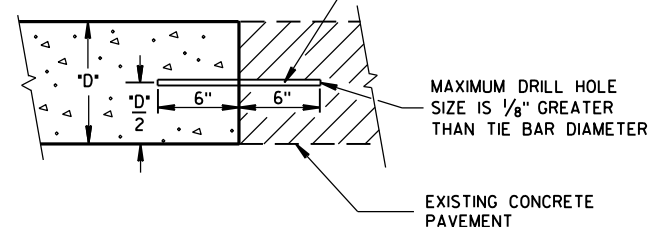
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

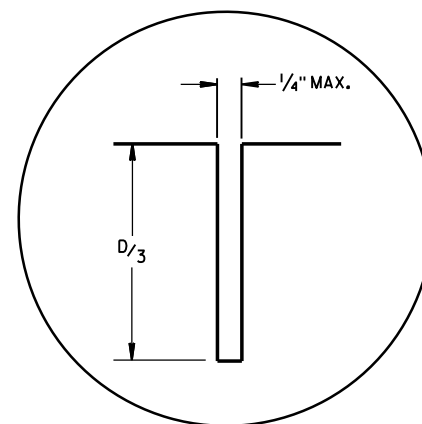


PLAN VIEW

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



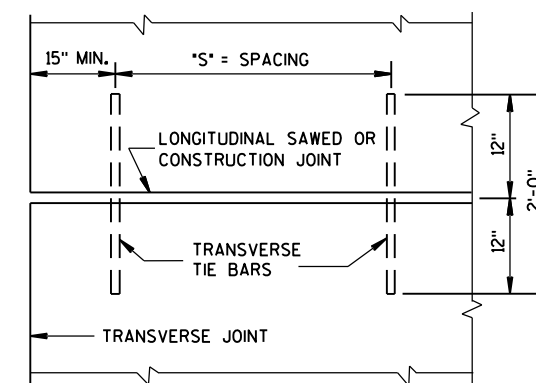
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

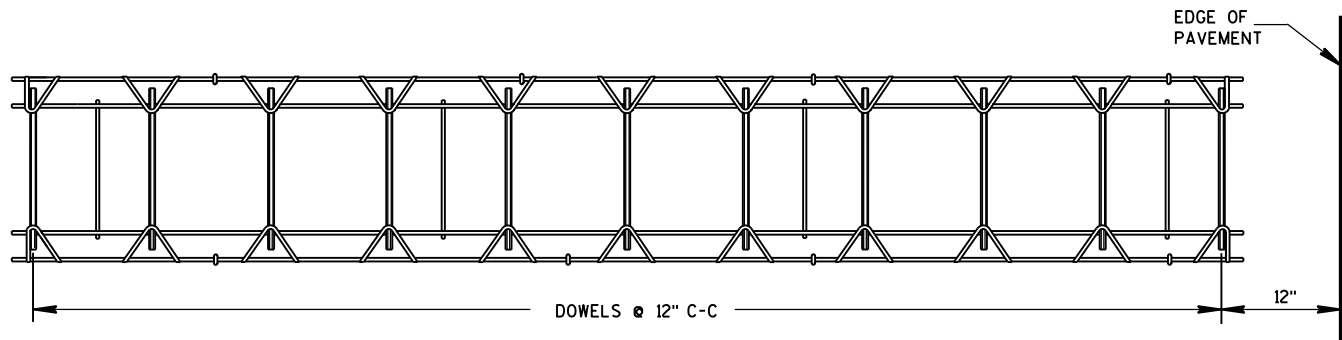
APPROVED

5-3-2013
DATE

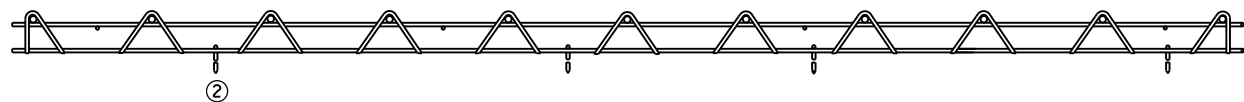
/S/ Deb Bischoff
PAVEMENT POLICY & DE 105

VEER

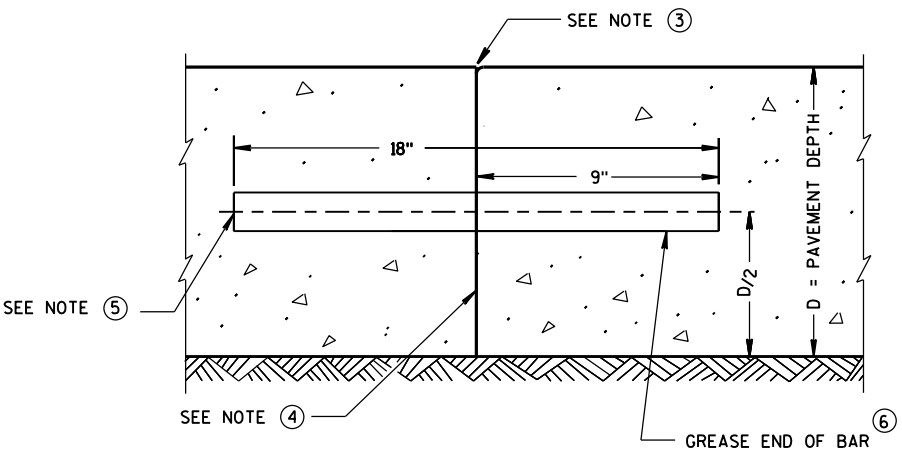
FHWA



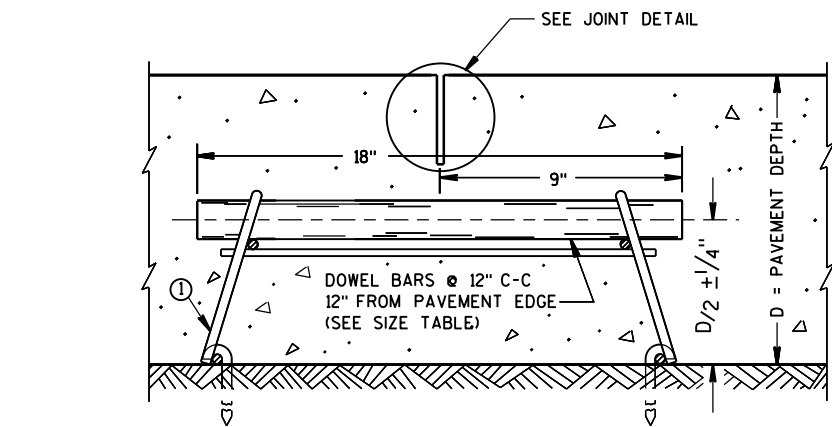
PLAN VIEW



SIDE VIEW
CONTRACTION JOINT DOWEL ASSEMBLY



TRANSVERSE CONSTRUCTION JOINT



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", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

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.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

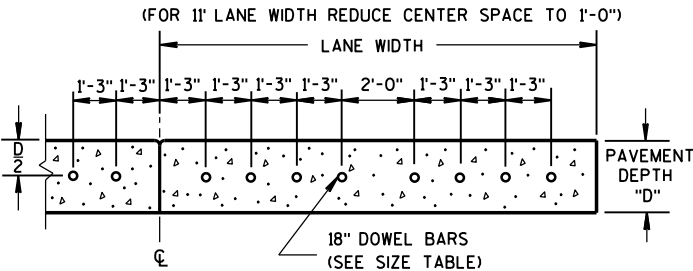
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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 AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

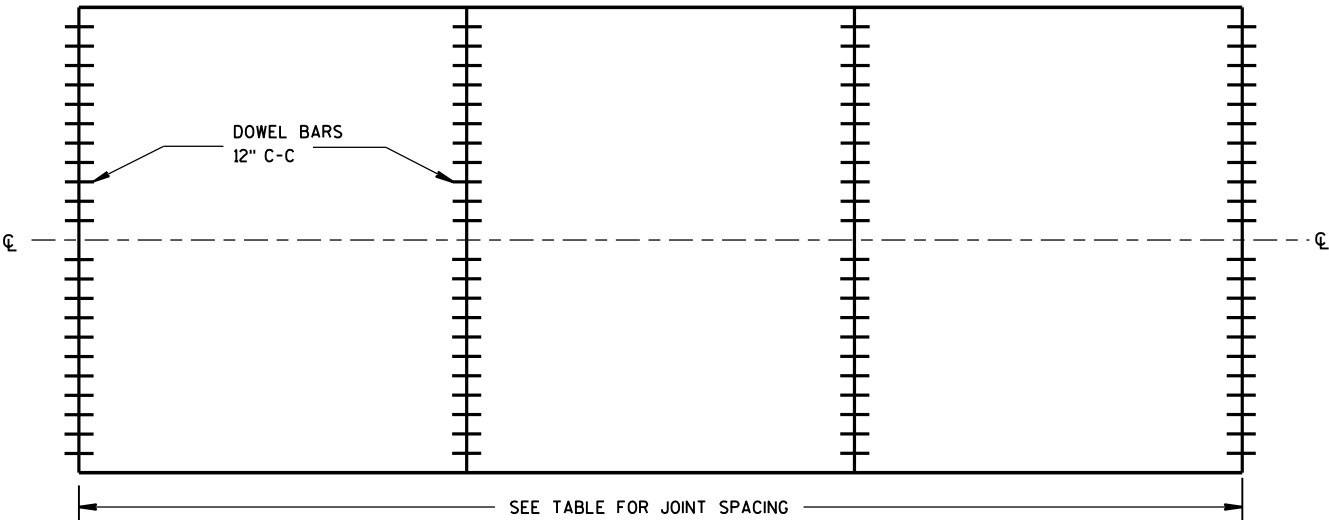
CONSTRUCTION JOINTS

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

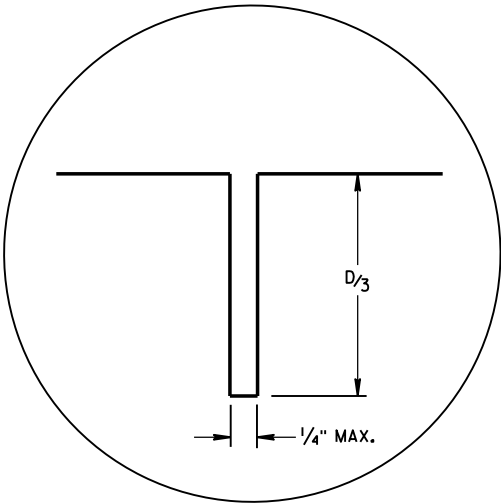
- OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- 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 *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.
- APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DRILLED DOWEL BAR CONSTRUCTION JOINT



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

URBAN DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

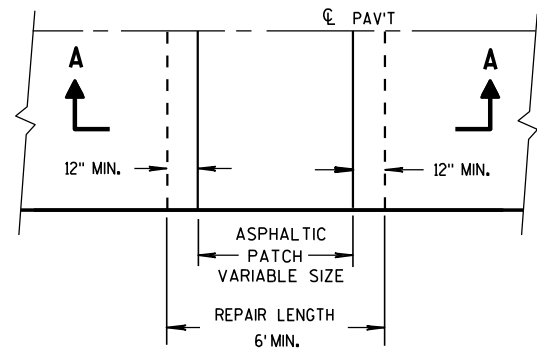
APPROVED

5/3/2013
DATE

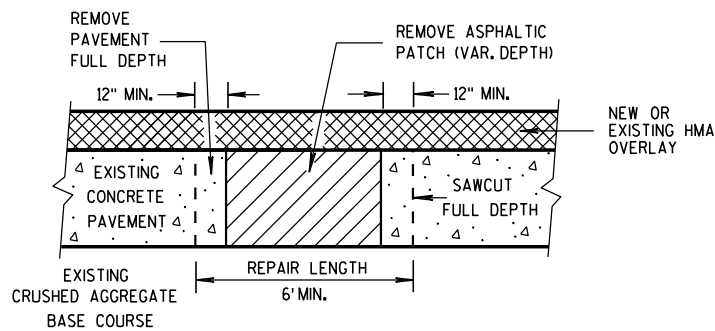
FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DE 106

JEER

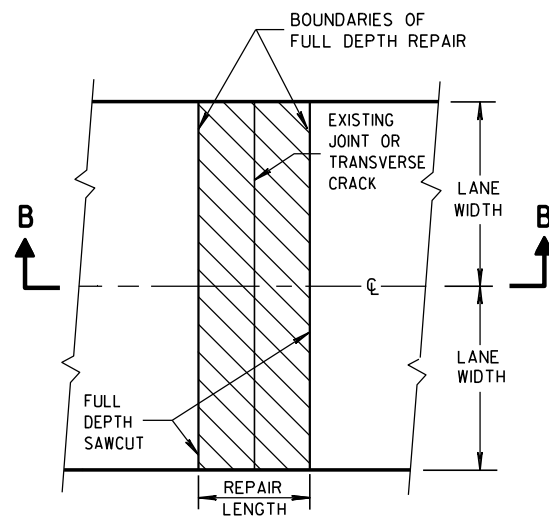


PLAN VIEW

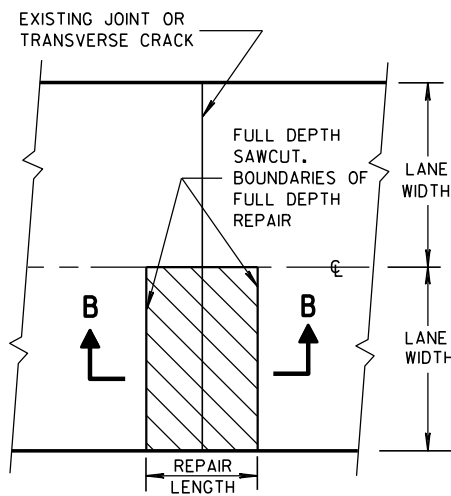


SECTION A-A

HMA PATCH REMOVAL



PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)

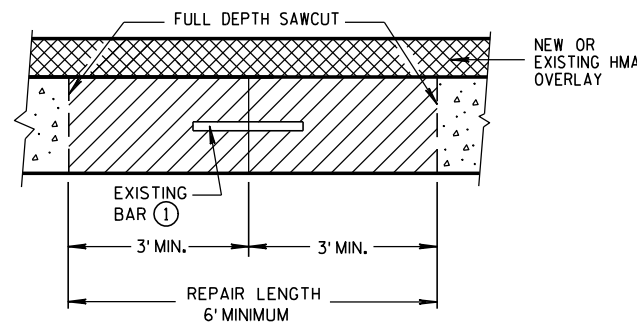
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

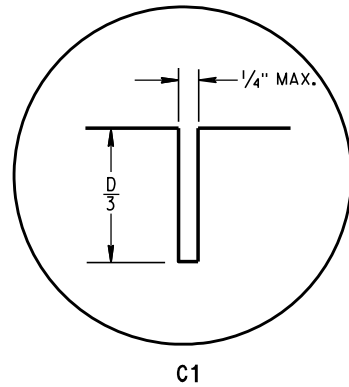
① DOWEL BARS MIGHT NOT EXIST.



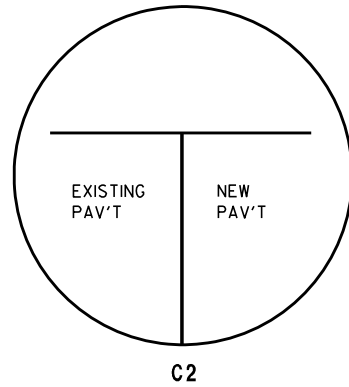
SECTION B-B
CONCRETE REMOVAL

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

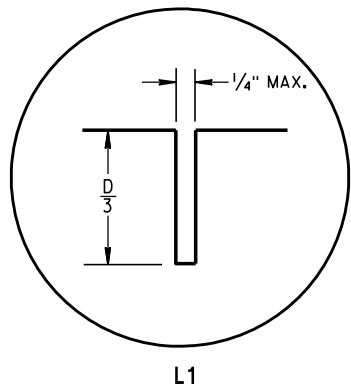


C1

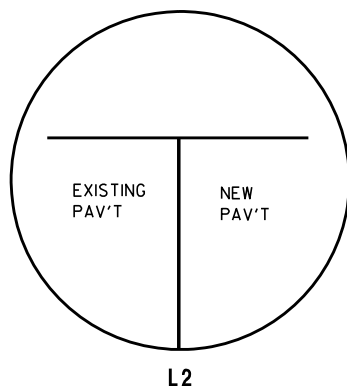


C2

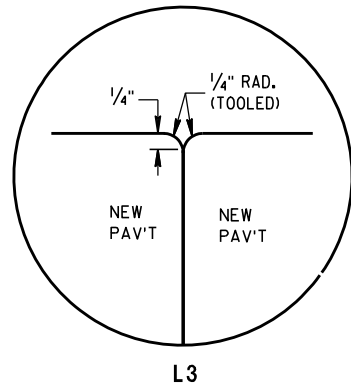
TRANSVERSE JOINTS



L1

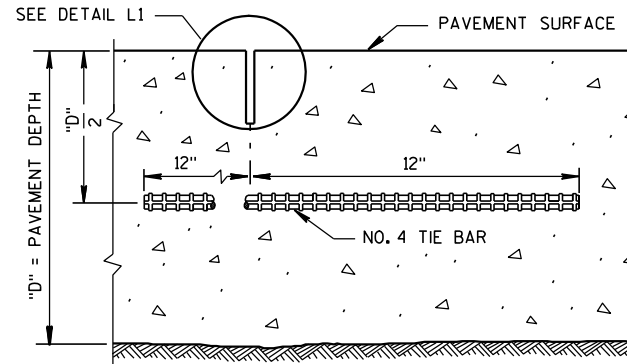


L2

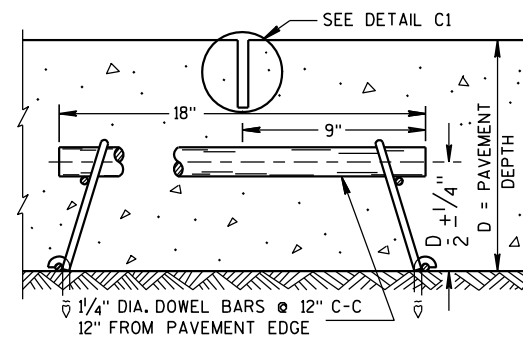


L3

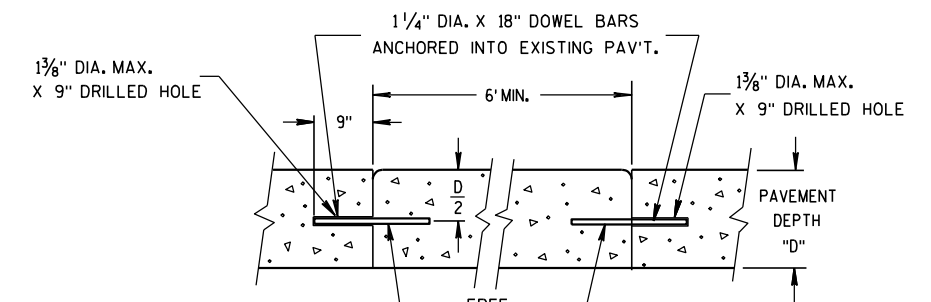
LONGITUDINAL JOINTS



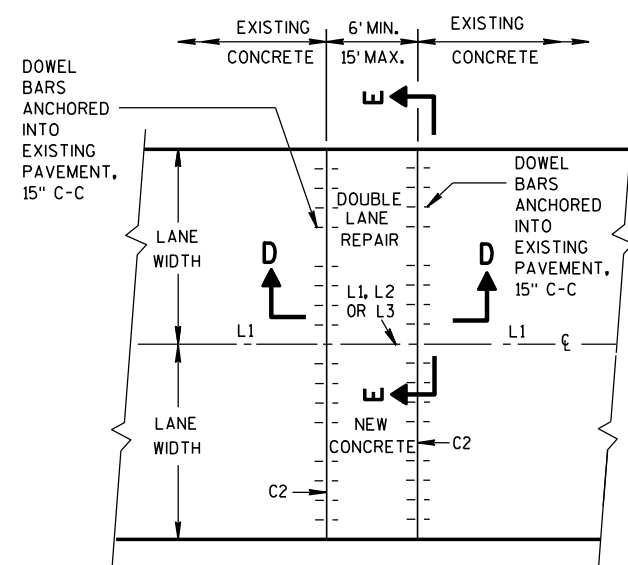
SECTION C-C
SAWED LONGITUDINAL JOINT



SECTION F-F
CONTRACTION JOINT

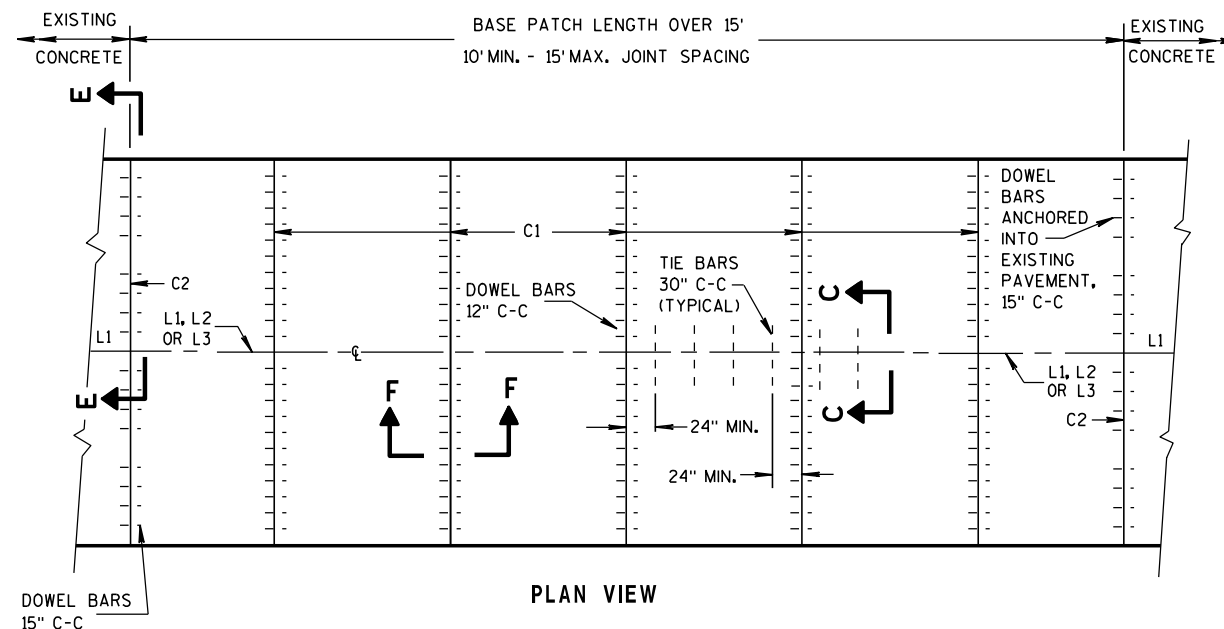


SECTION D-D



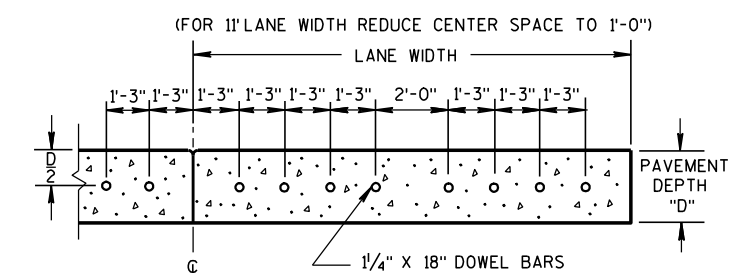
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH



SECTION E-E
SPACING OF DOWEL BARS
ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

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

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

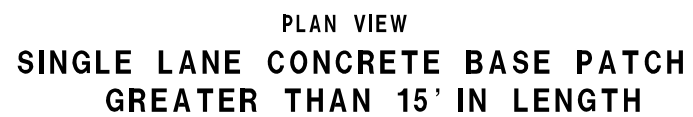
DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

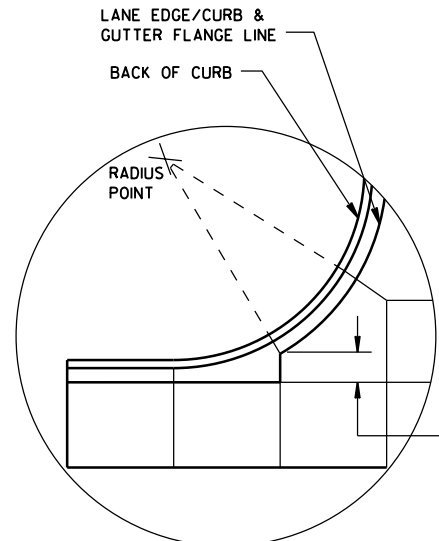
PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

- APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

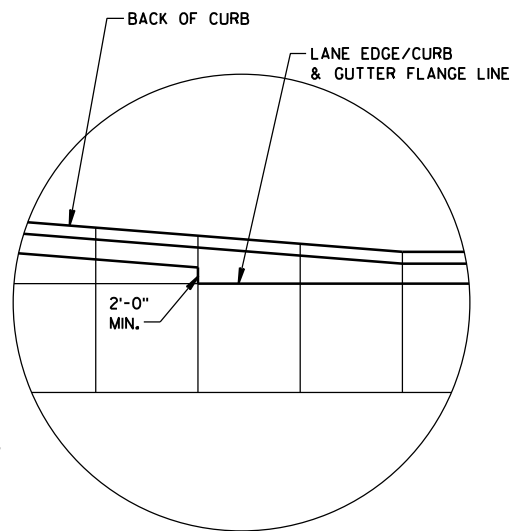
- ① USE AN ENGINEER-APPROVED BOND BREAKER FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.
- ② WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.



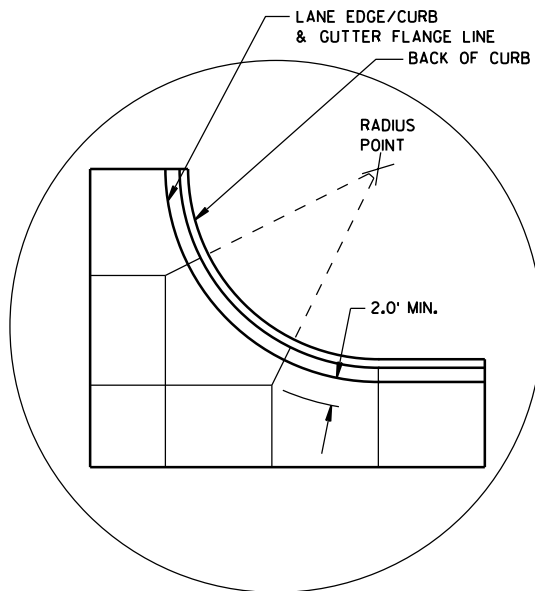
BASE PATCHING CONCRETE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>12-II-2009</u> DATE	/S/ Deb Bischoff PAVEMENT POLICY & DE 109 NEER
FHWA	



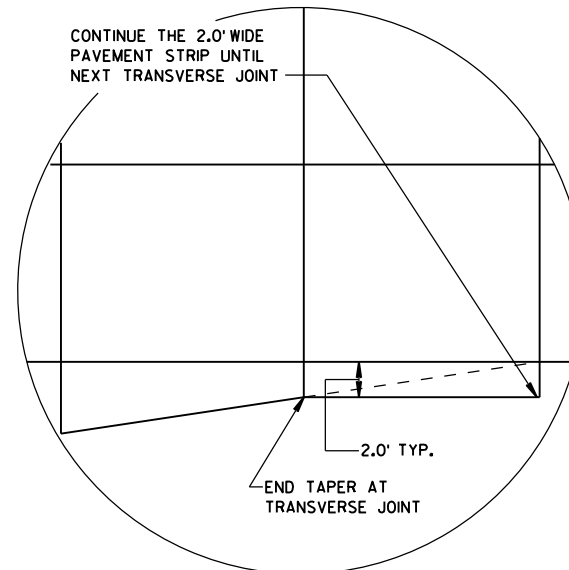
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

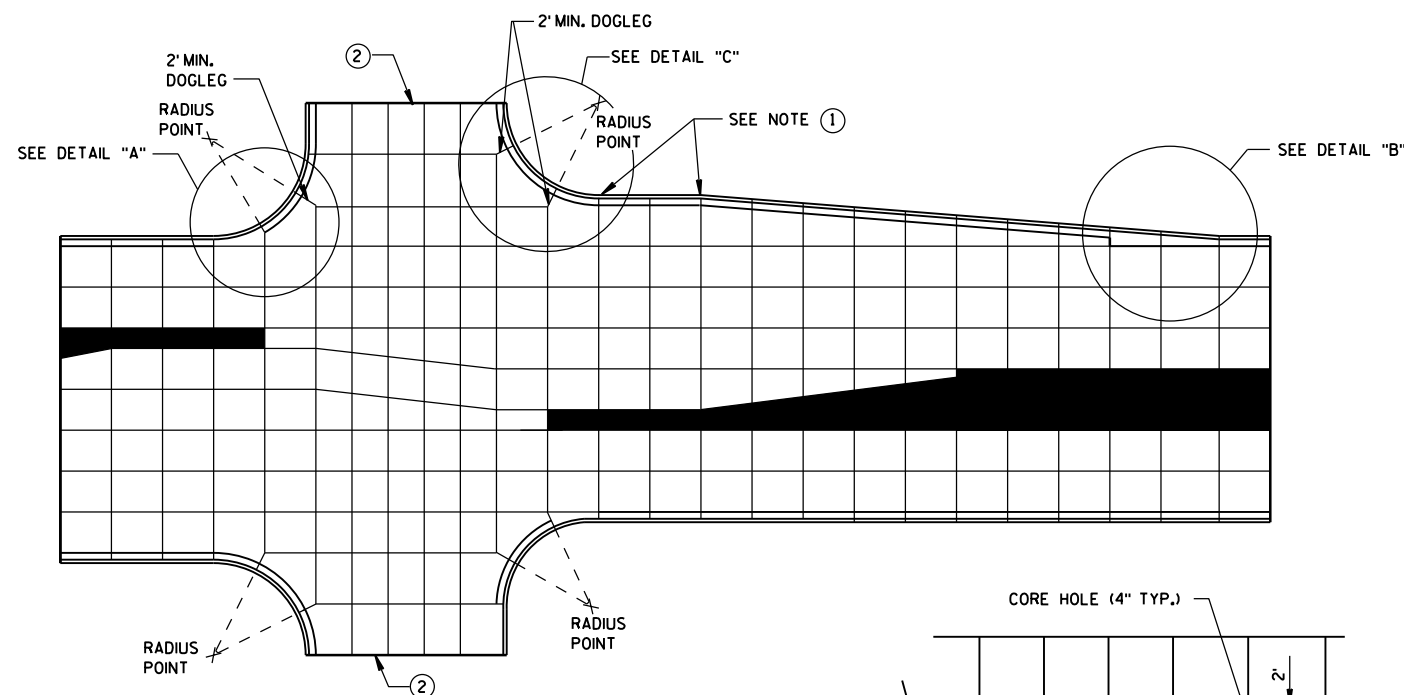
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

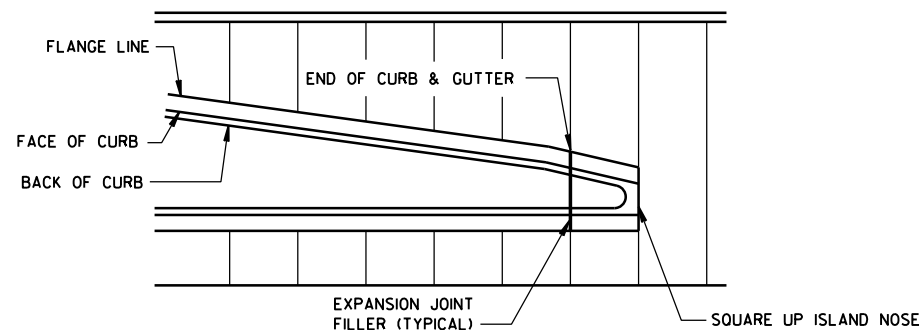
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

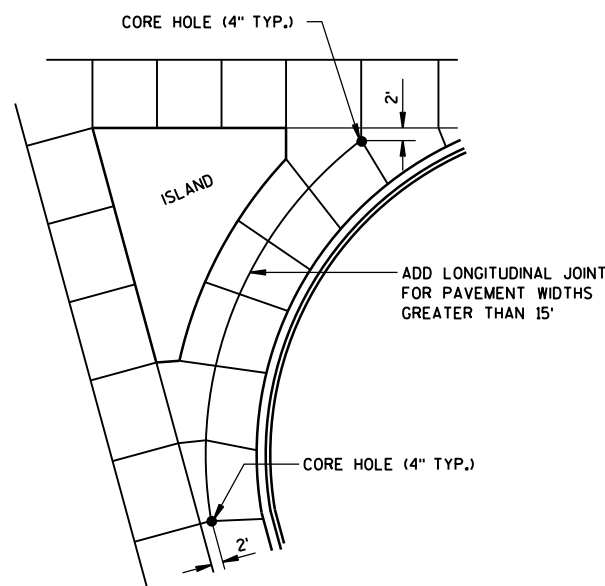
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



STANDARD INTERSECTION



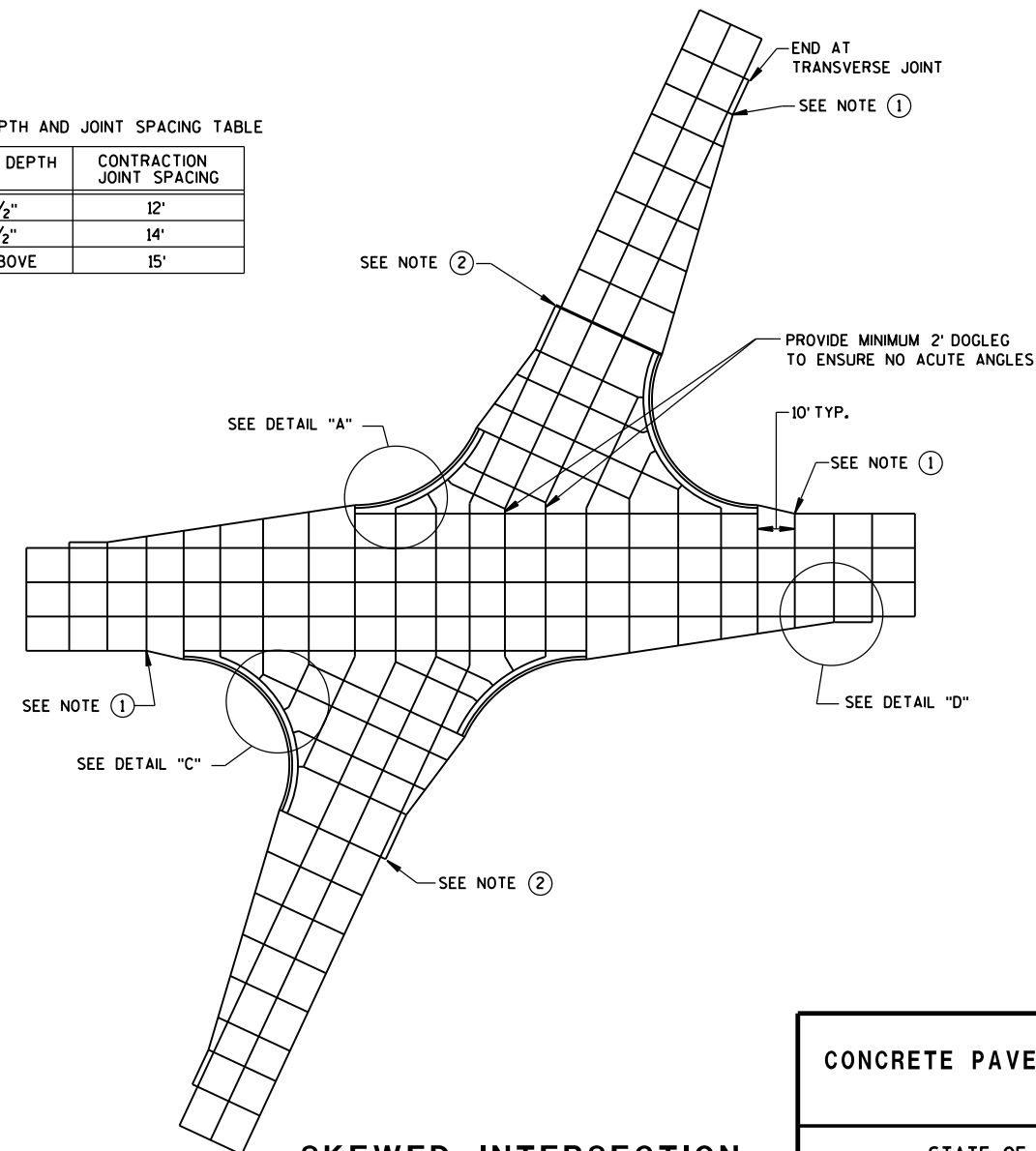
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

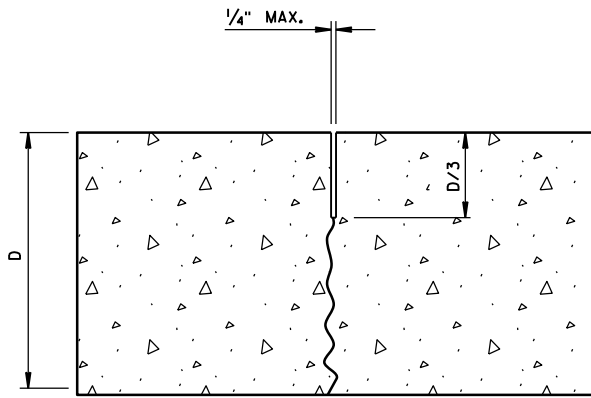
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



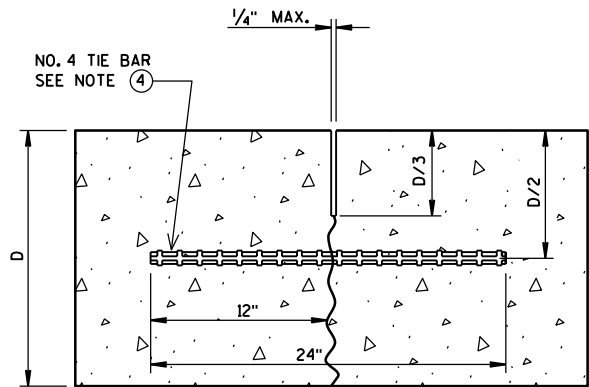
SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

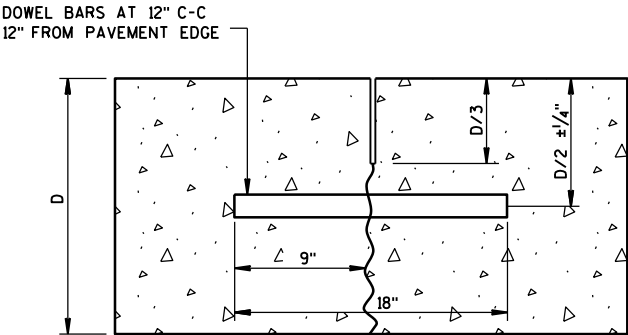
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



UNDOWELED-TRANSVERSE



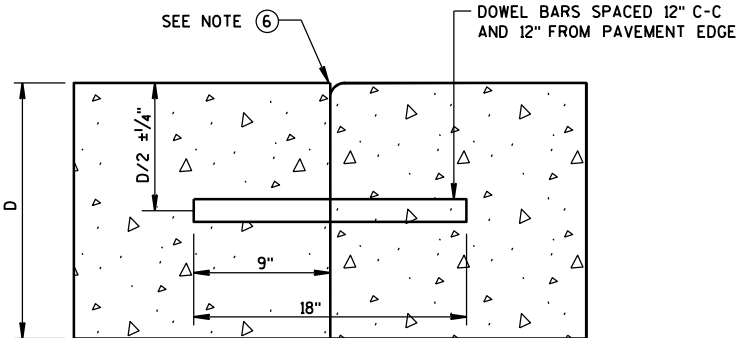
TIED LONGITUDINAL



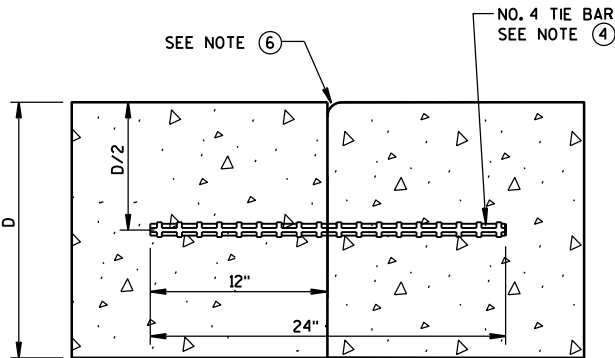
DOWELED-TRANSVERSE

CONTRACTION JOINTS

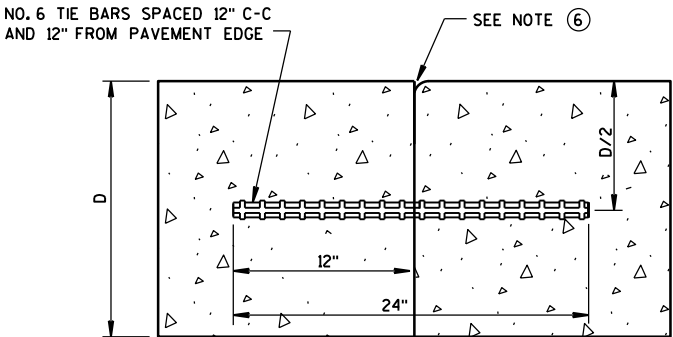
SEE NOTE ②



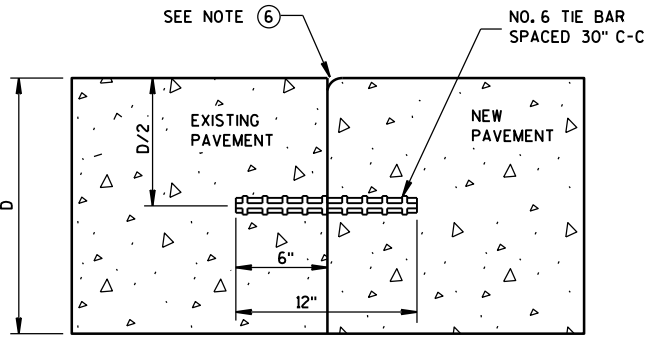
DOWELED TRANSVERSE



TIED LONGITUDINAL



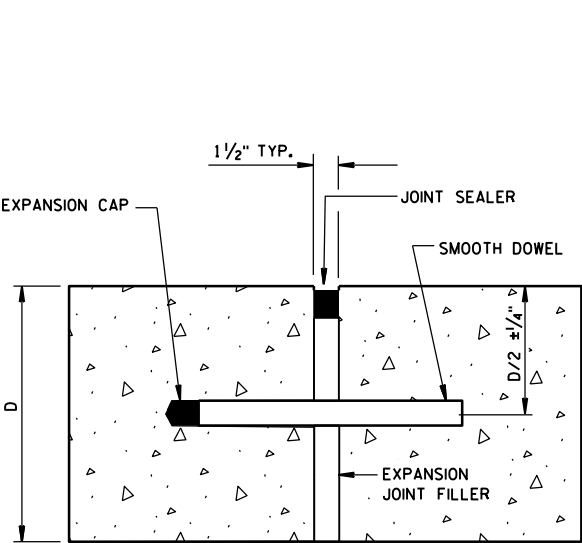
TIED TRANSVERSE
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



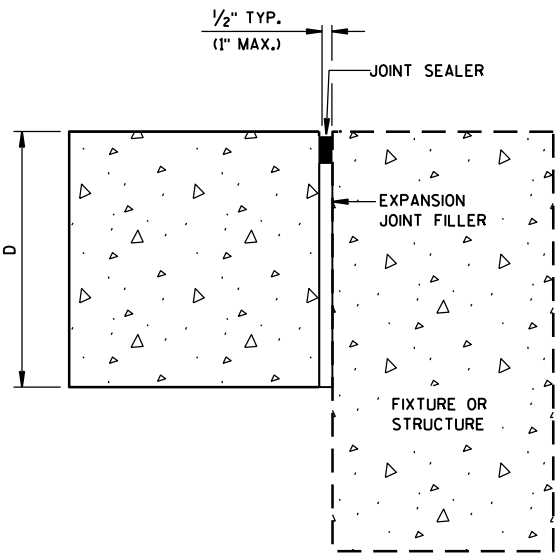
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE ⑤



DOWELED-TRANSVERSE
SEE NOTE ①



UNTIED-LONGITUDINAL

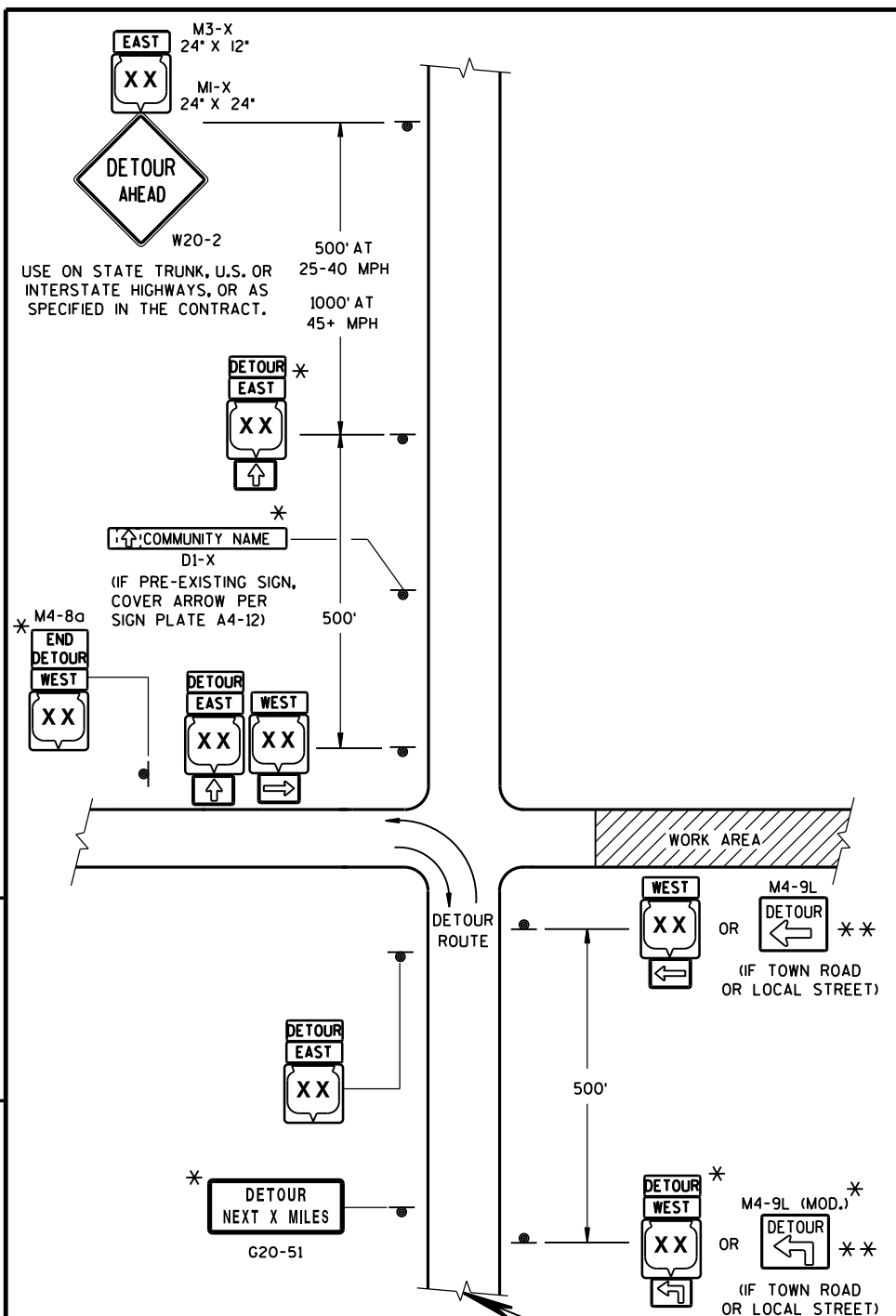
EXPANSION JOINTS

GENERAL NOTES

1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

CONCRETE PAVEMENT
JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 111



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

MATCH POINT

DETAIL F
DETOUR SIGNING

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.

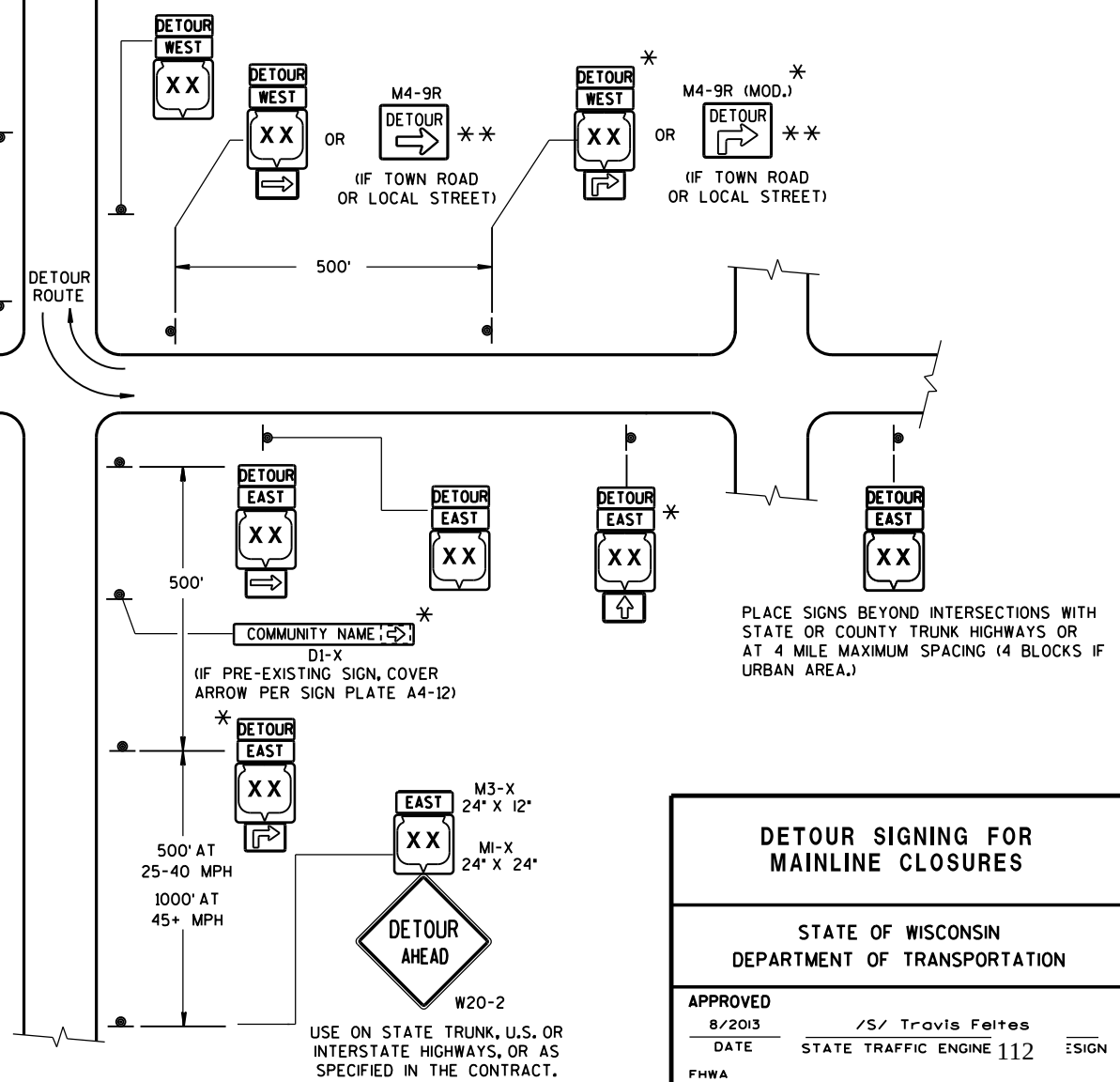
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

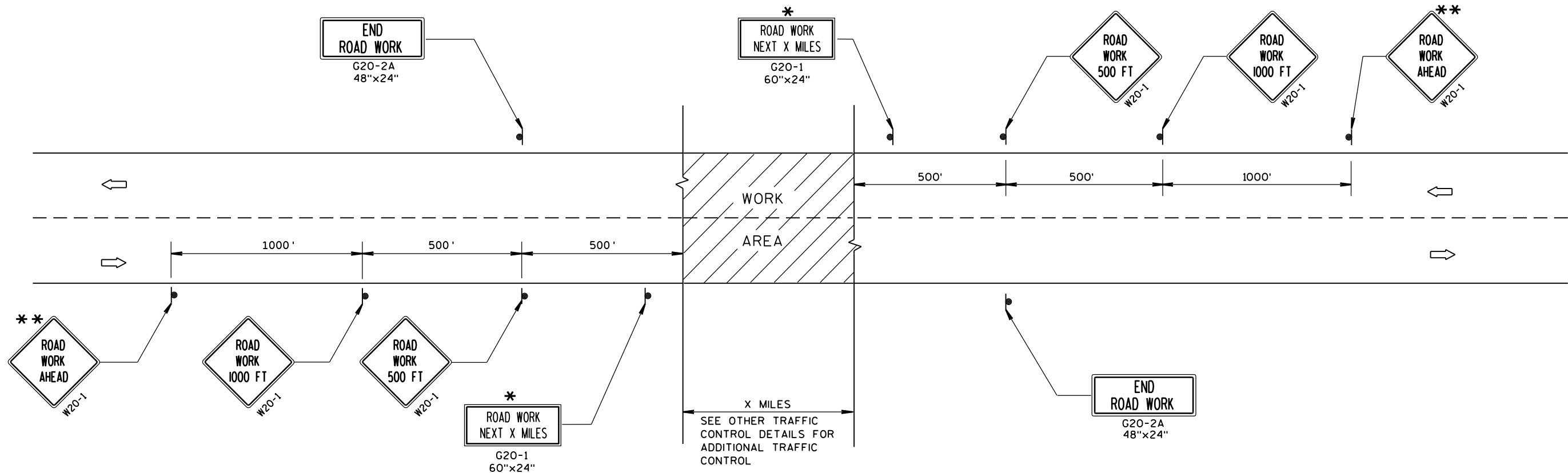
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 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.



DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINE 112 SIGN
FHWA	



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

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.

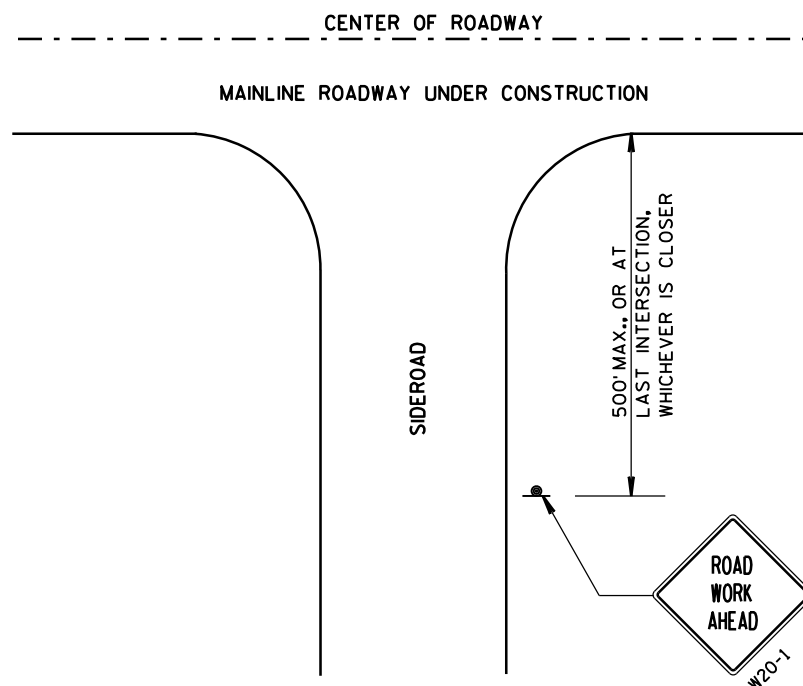
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 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 RE-ESTABLISHED.

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

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



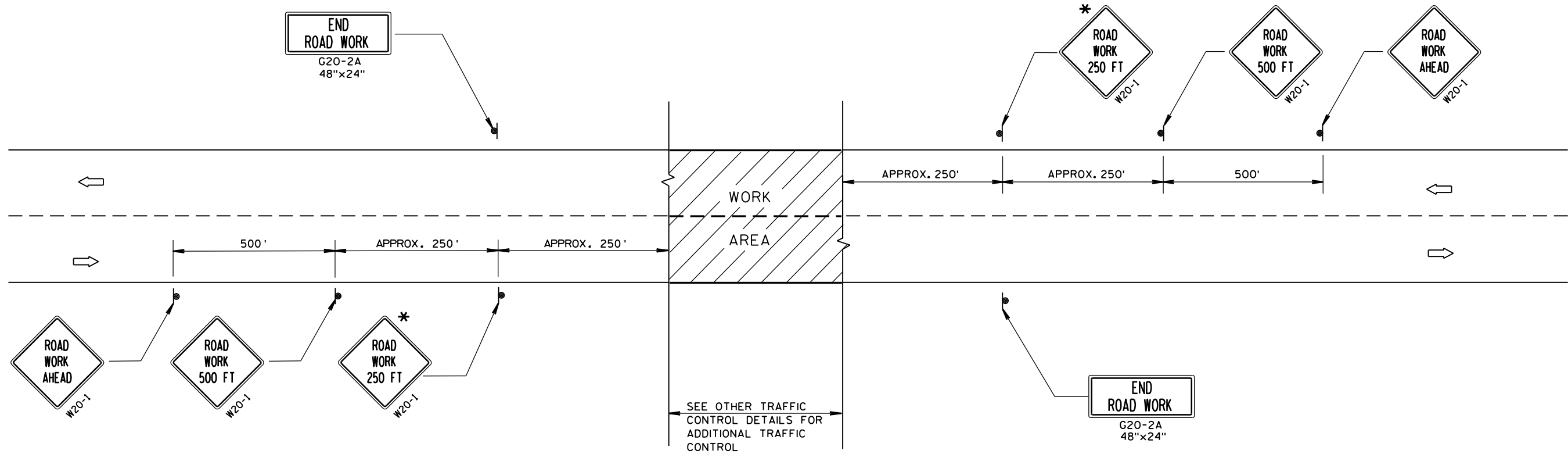
LEGEND

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

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 113 SIGN
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

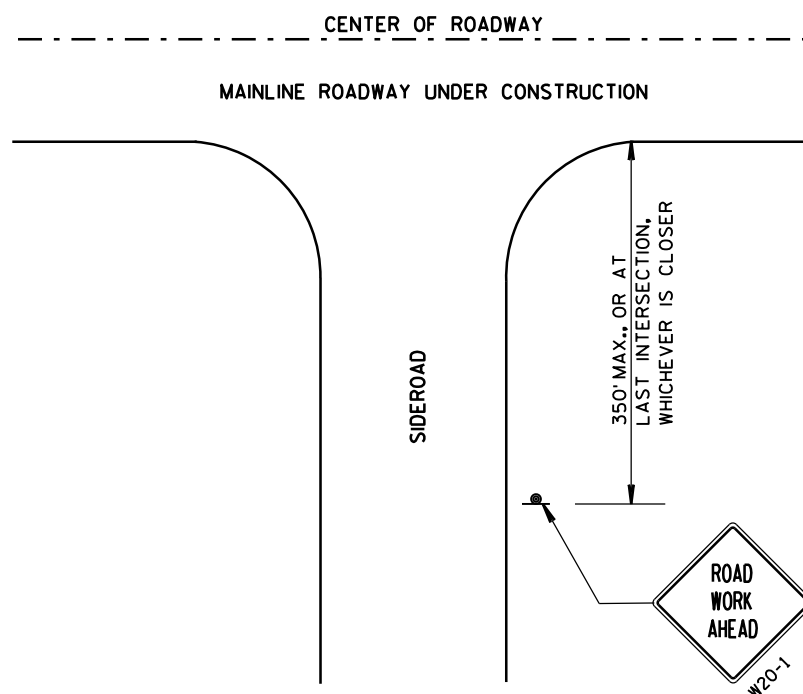
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 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 RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" 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

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 40 M.P.H.
OR LESS TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

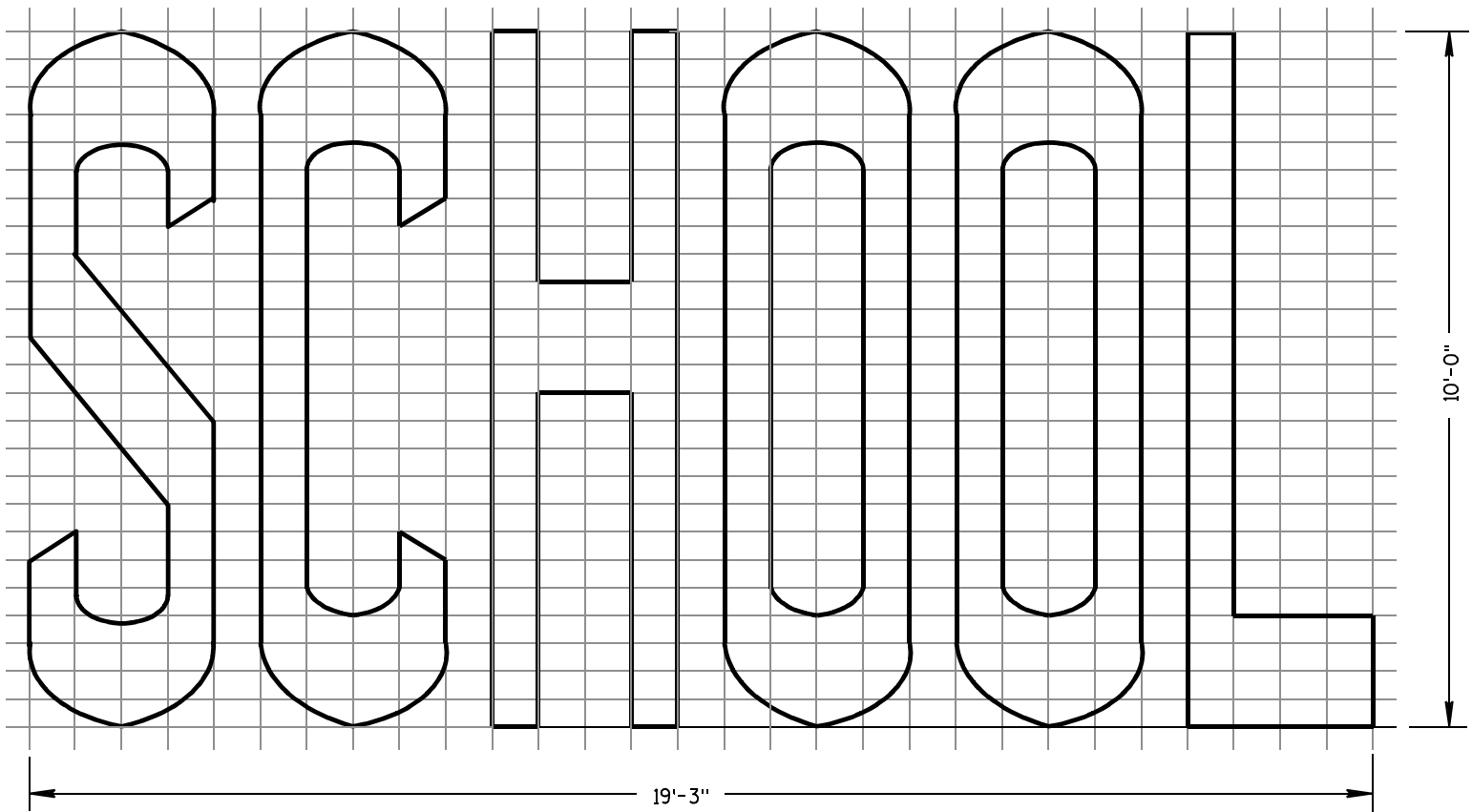
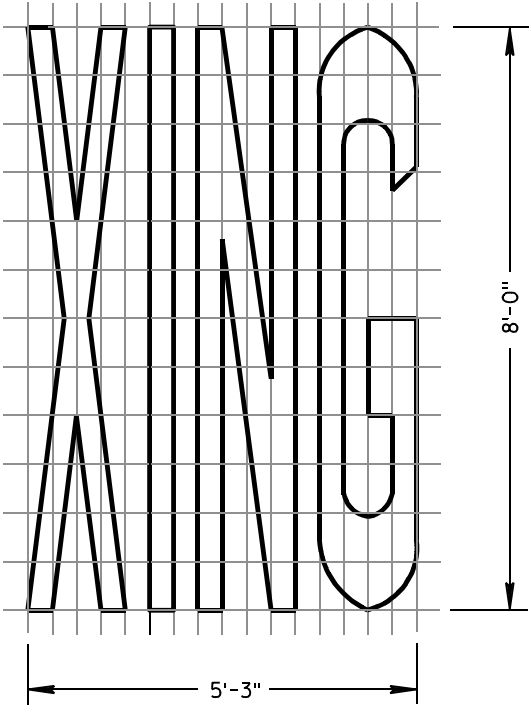
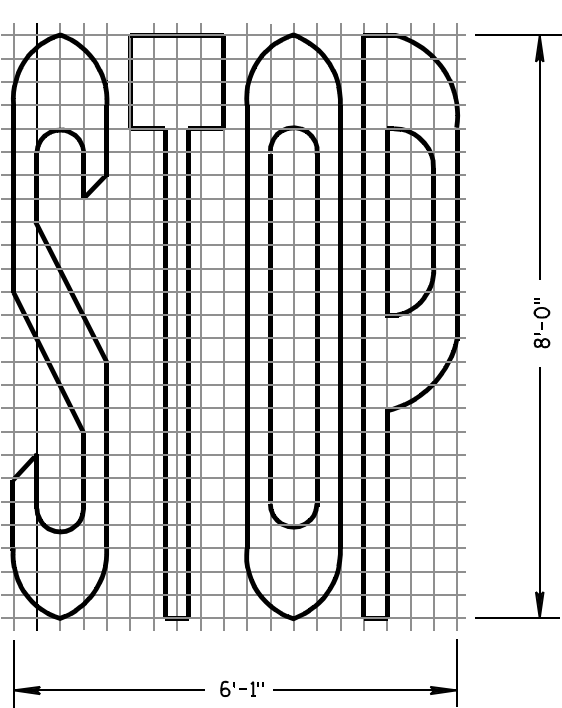
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER SIGN

FHWA

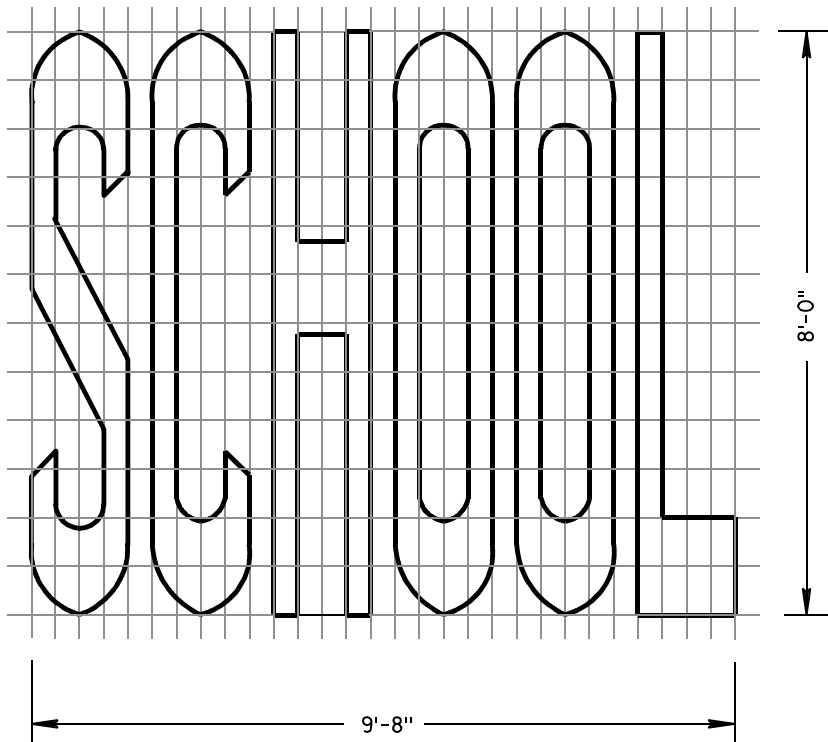
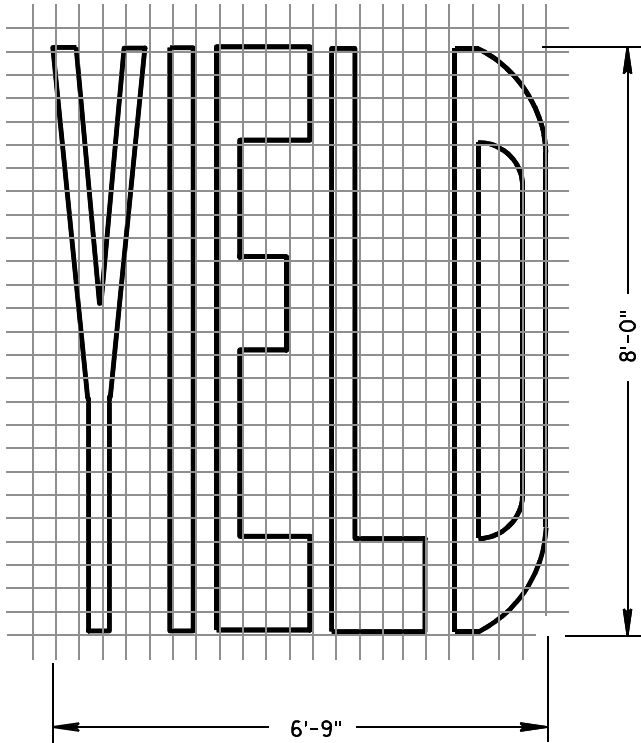
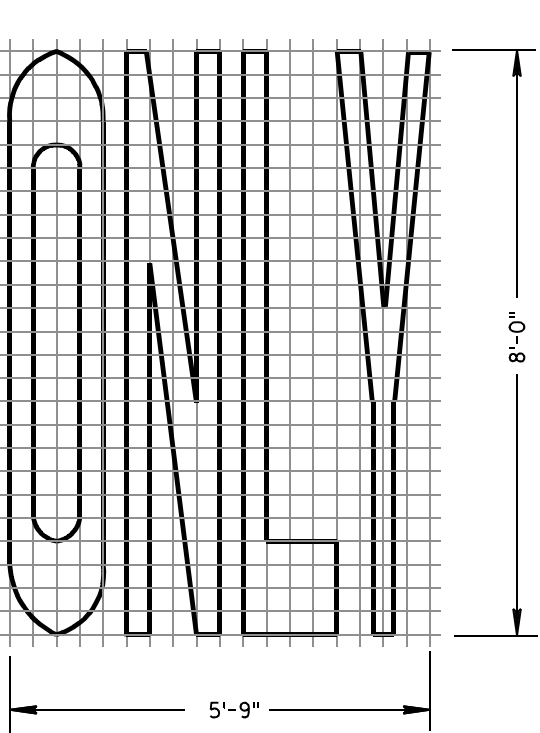
GENERAL NOTES

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

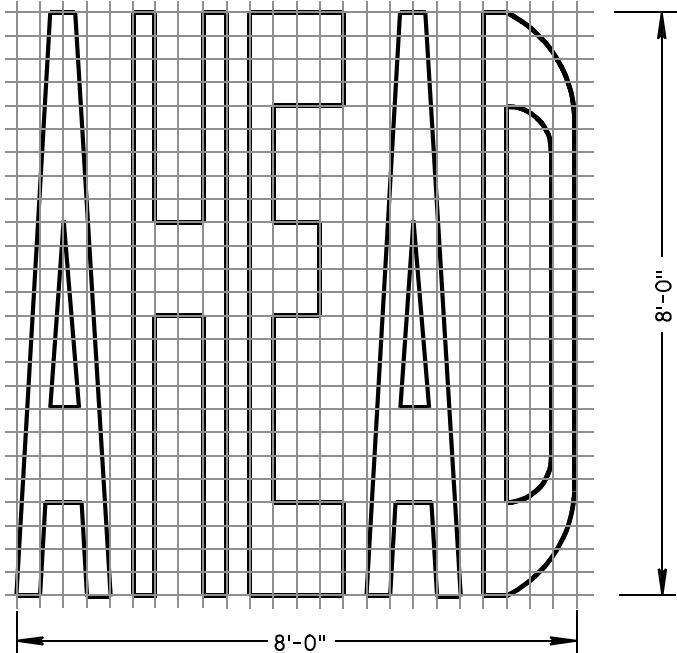
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

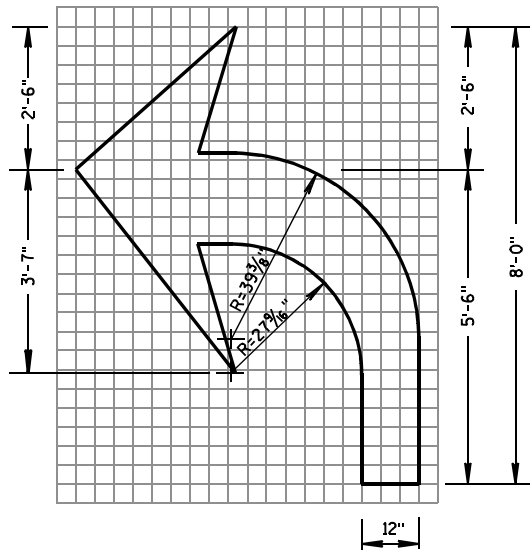
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

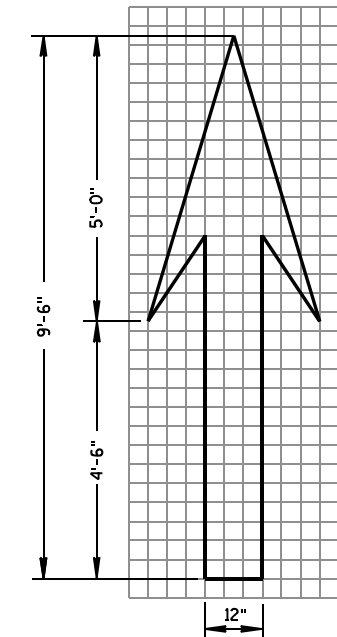
7-1-11
DATE

/S/ Thomas N. Nothmann
STATE TRAFFIC ENGINEER 115 IGN

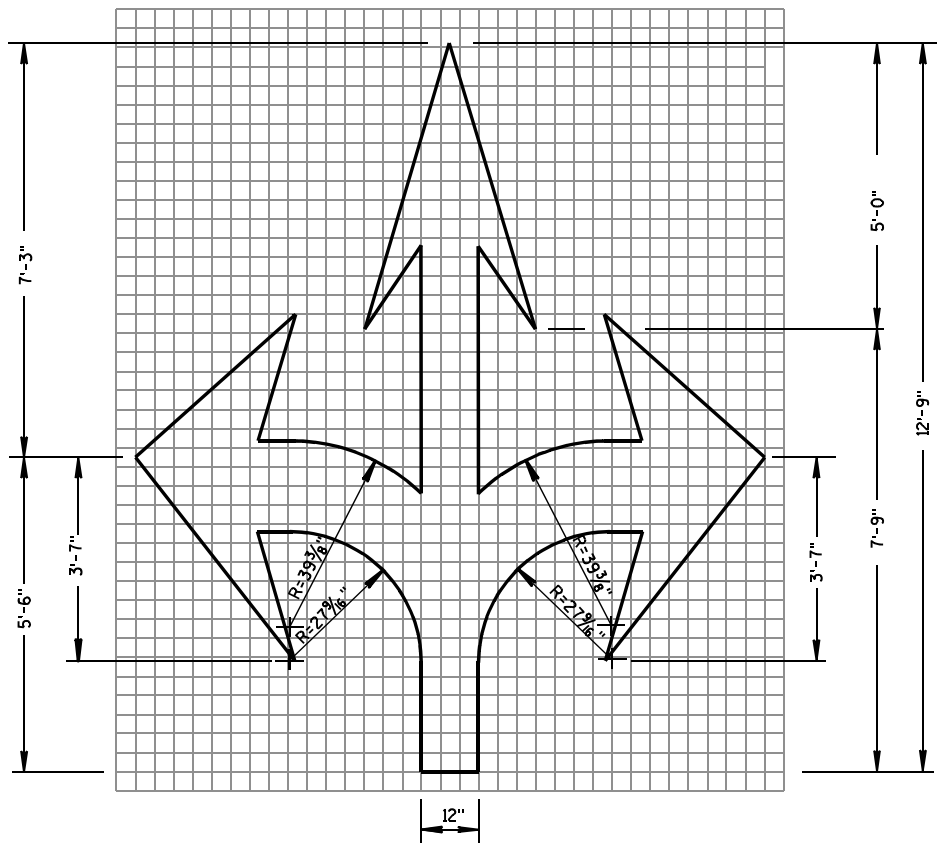
FHWA



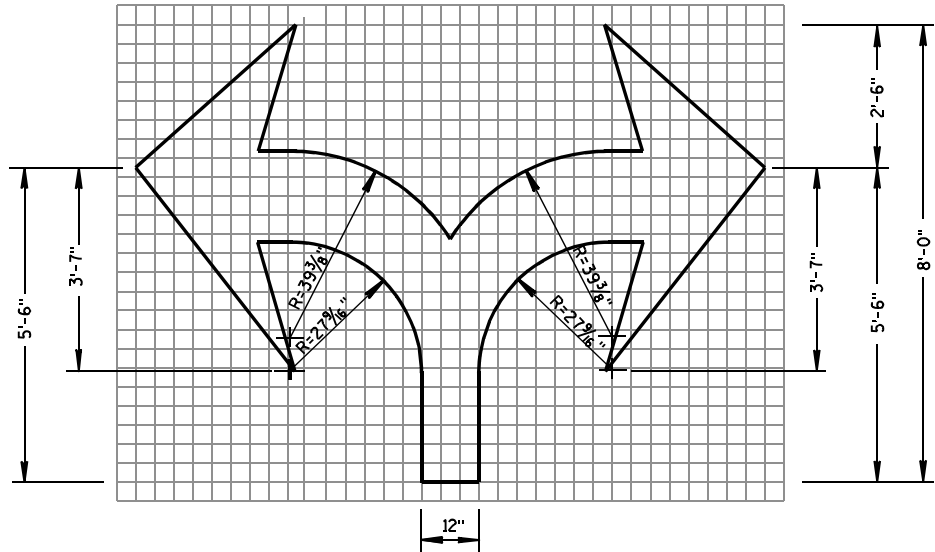
TYPE 2



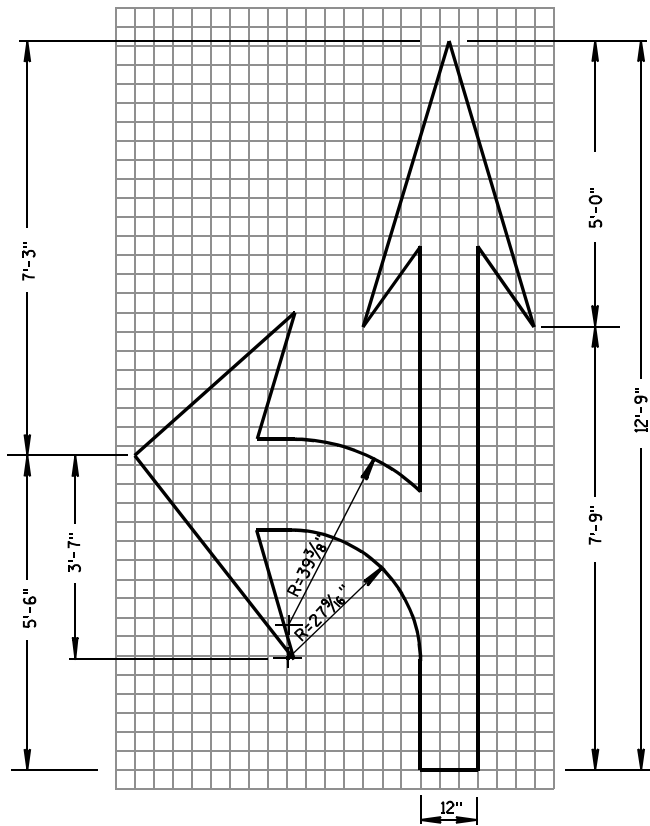
TYPE 1



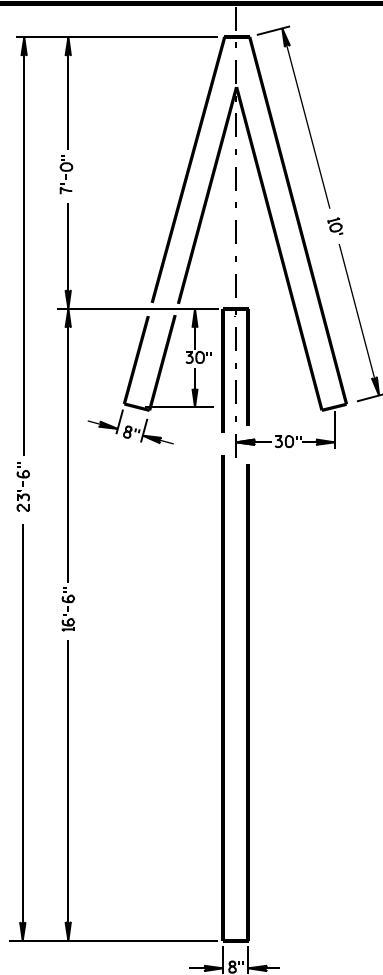
TYPE 6



TYPE 7



TYPE 3

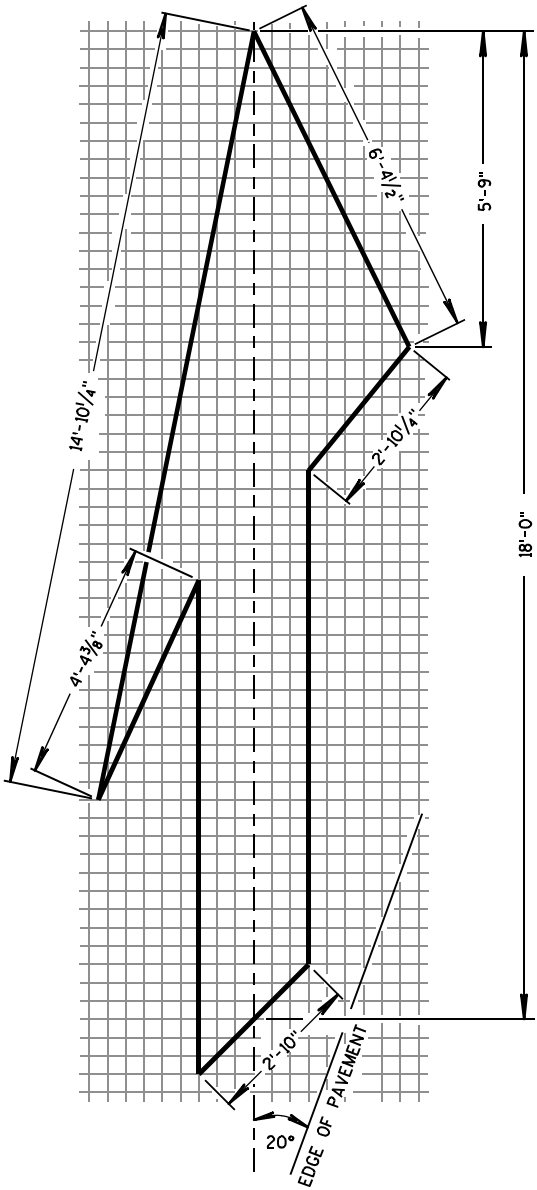


TYPE 4

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

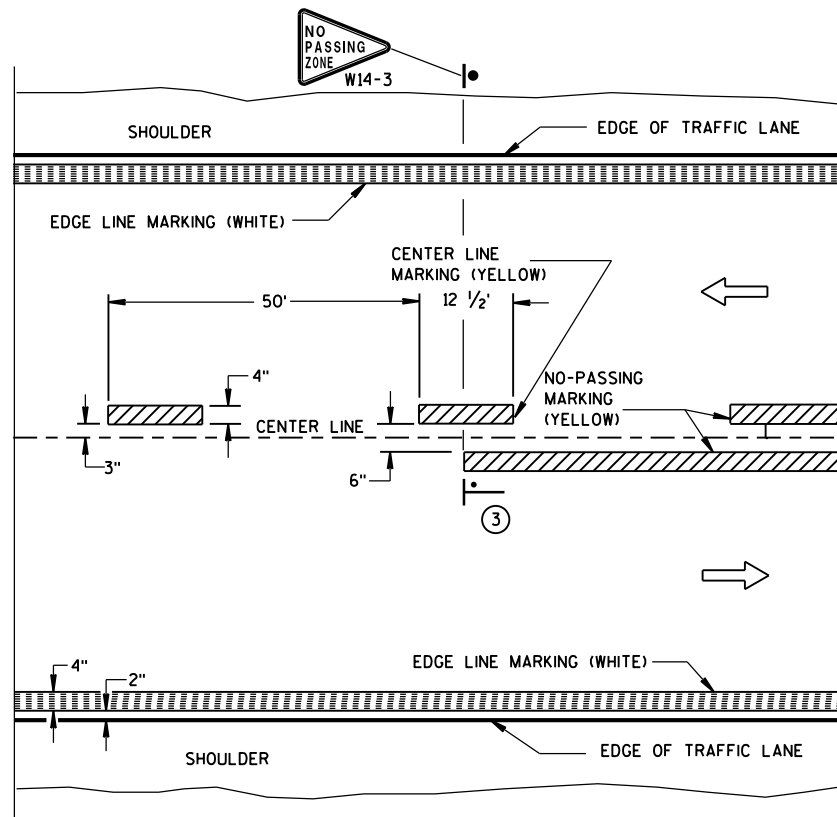


TYPE 5 LANE DROP ARROW

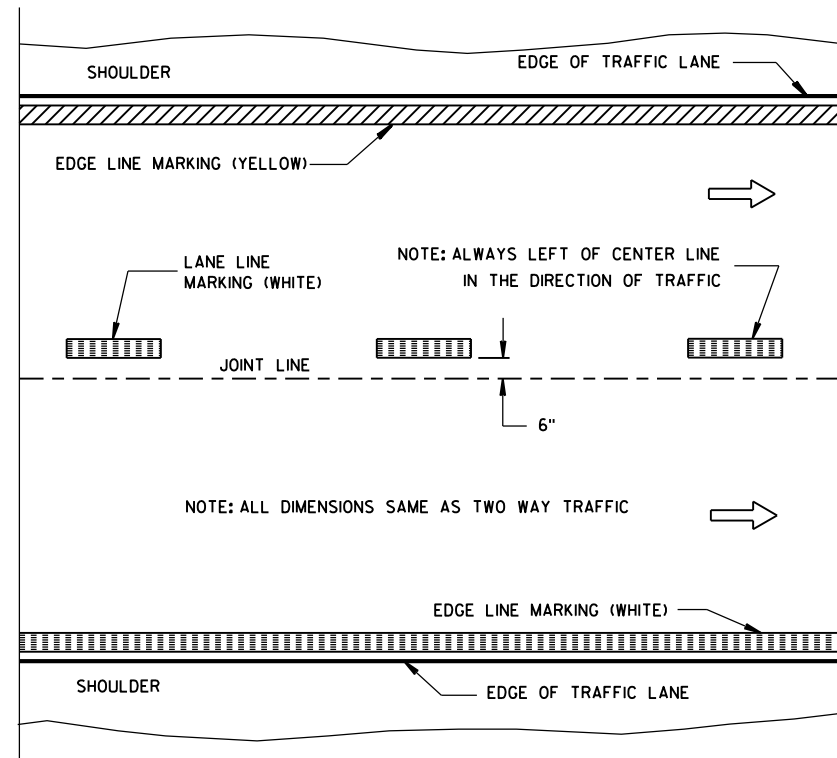
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 7/1/11
/S/ Thomas N. Nathahn
STATE TRAFFIC ENGINE 116 SIGN
FHWA

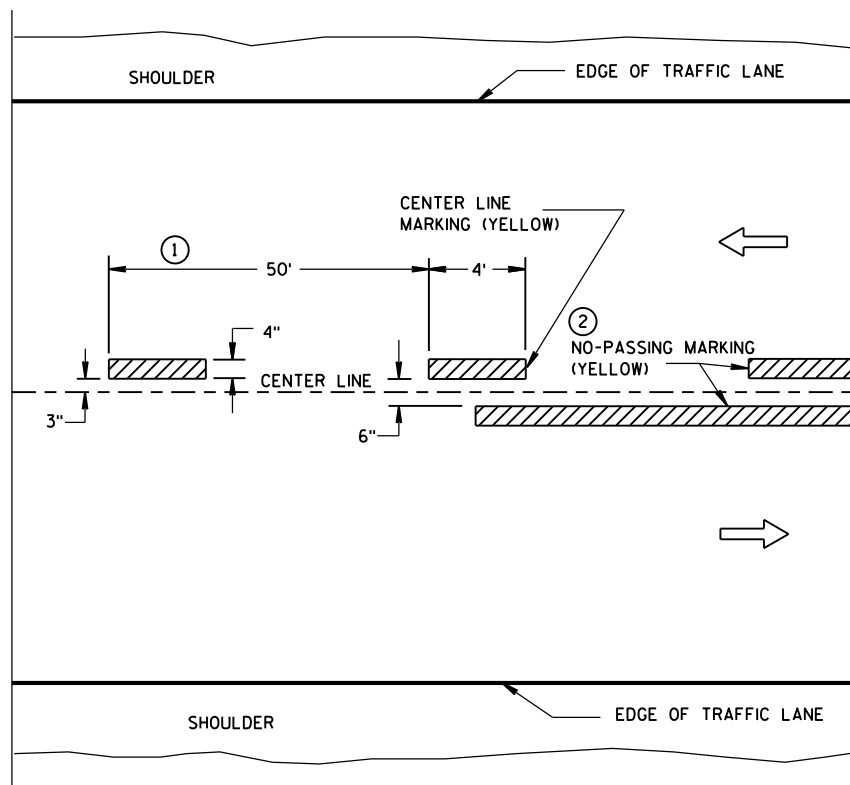


TWO WAY TRAFFIC

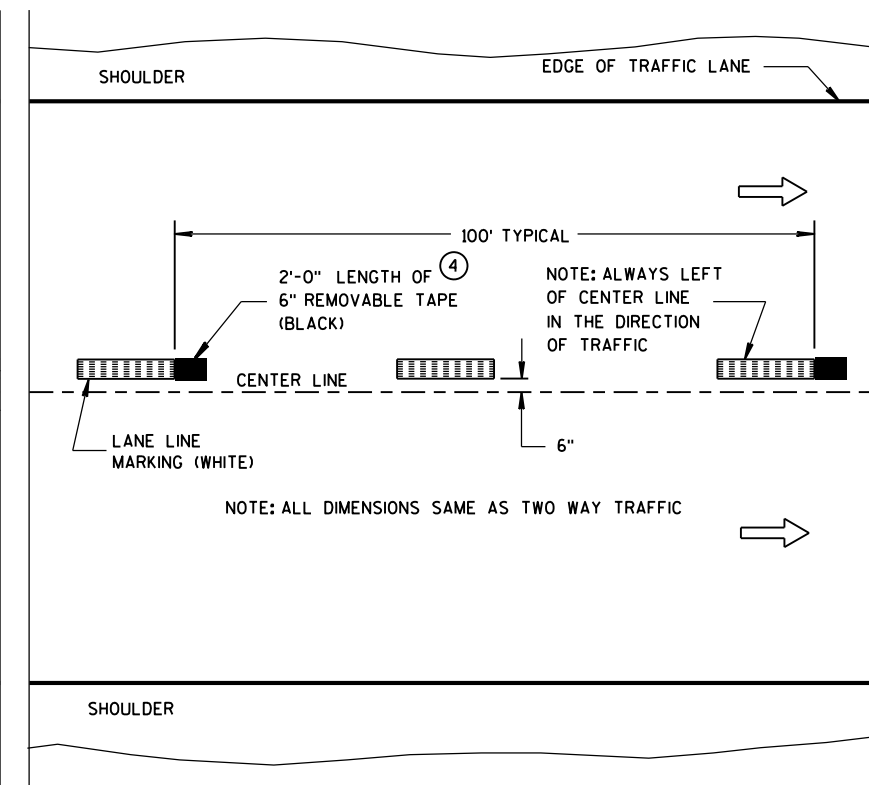


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

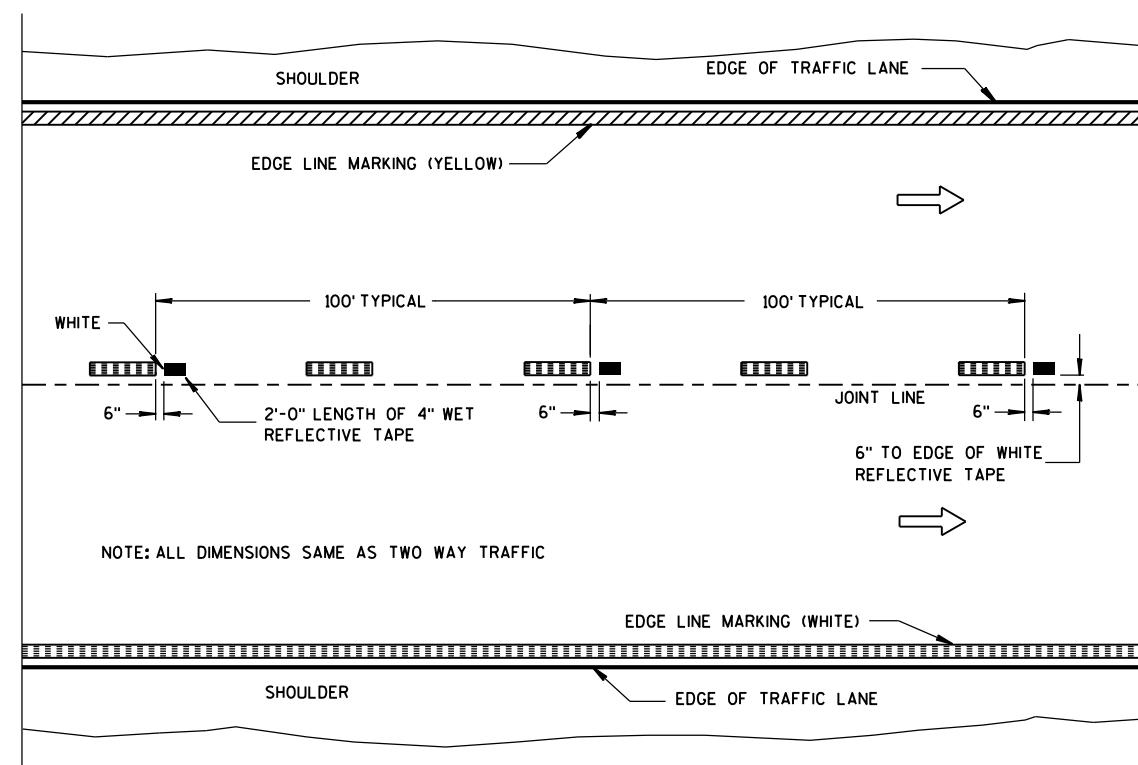
GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

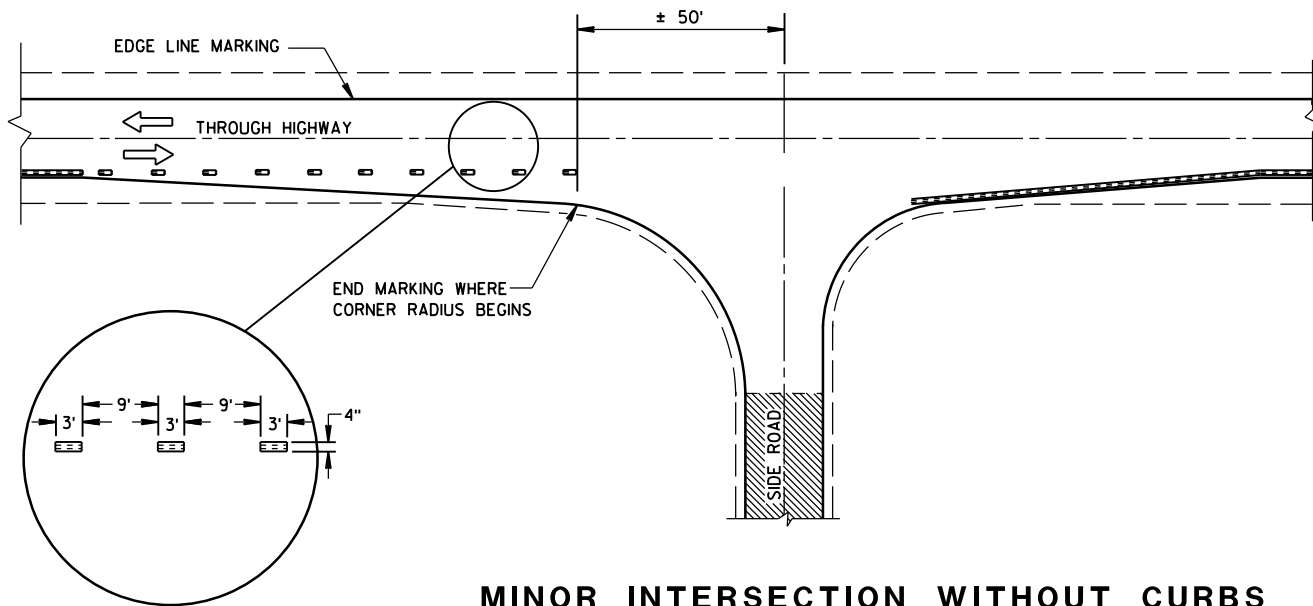
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

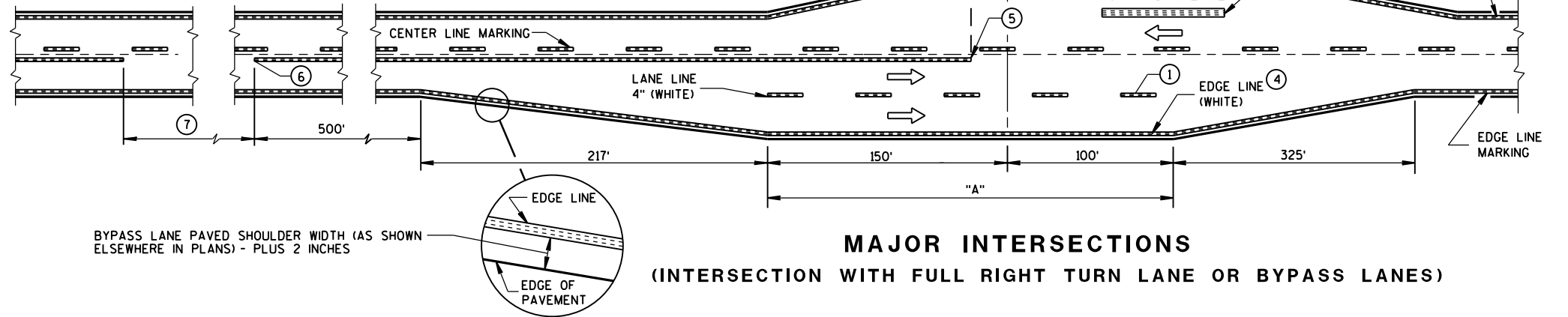
FHWA

/S/ Travis Feltes
STATE TRAFFIC E 117



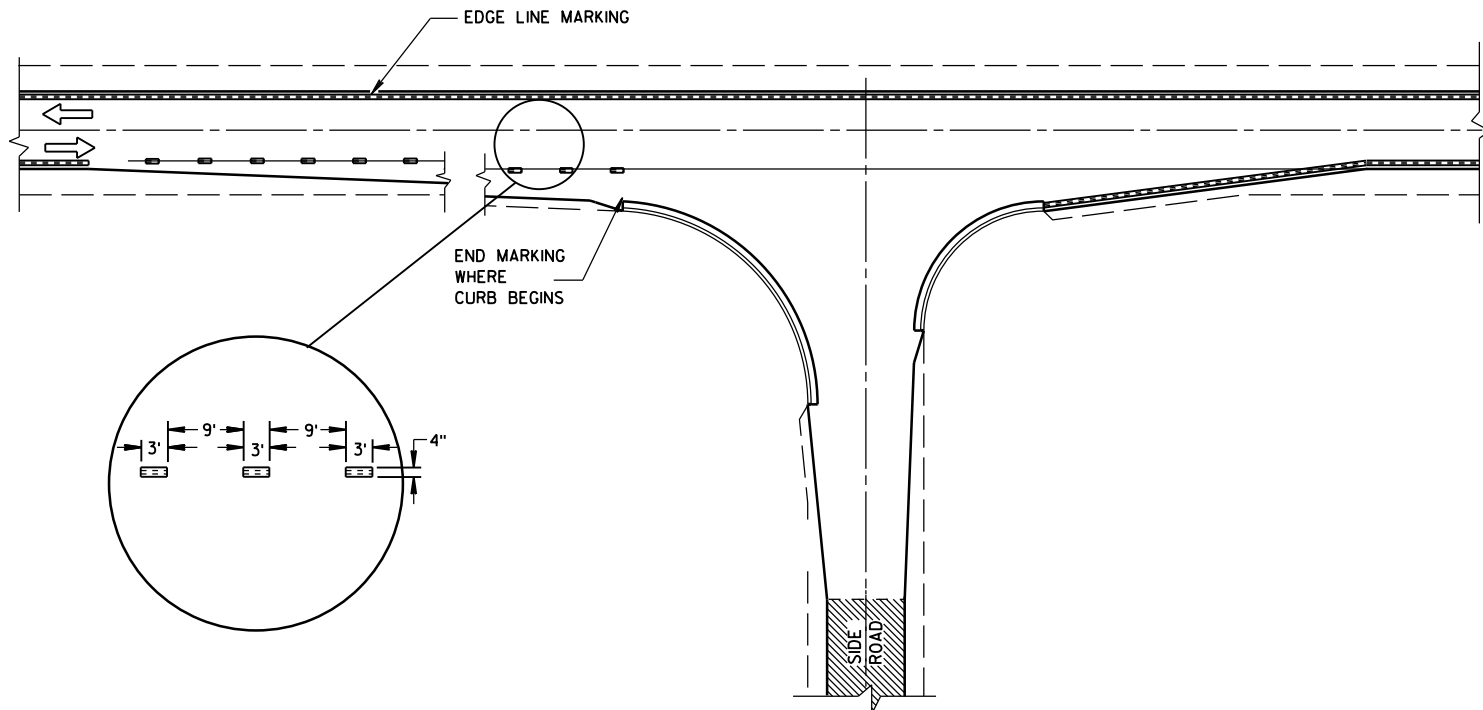
MINOR INTERSECTION WITHOUT CURBS

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792

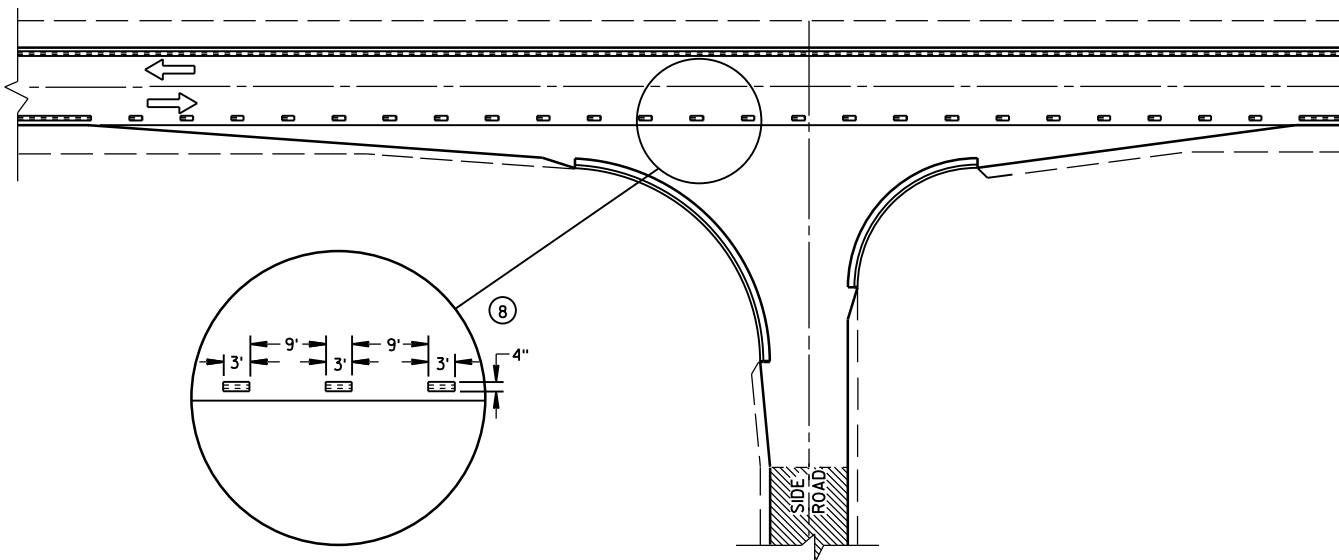


MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



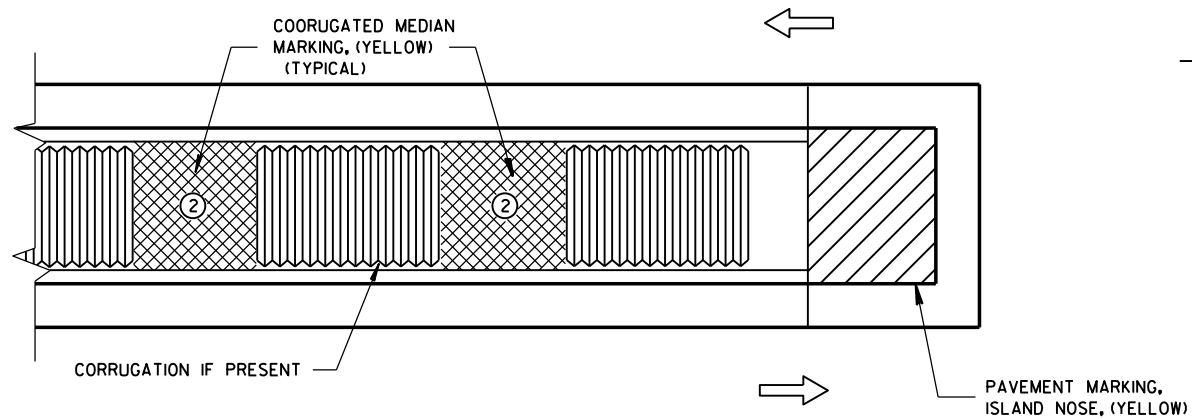
MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



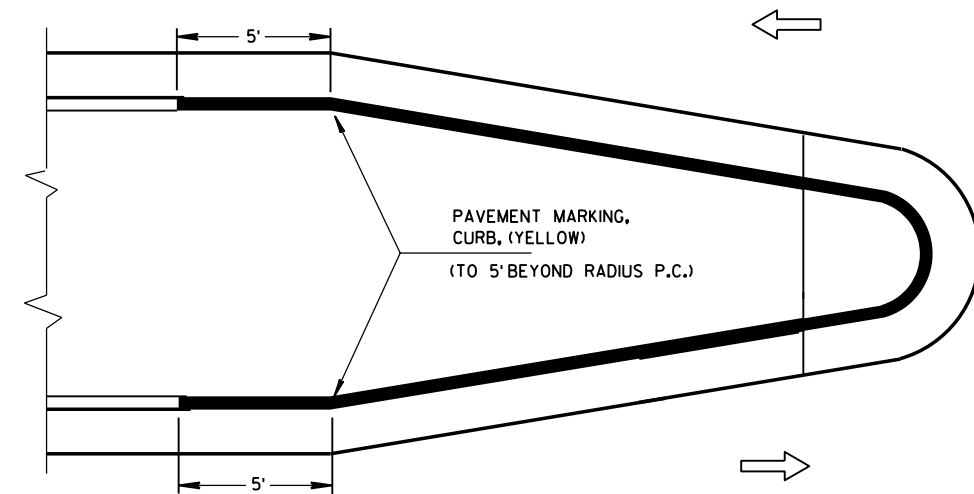
MINOR INTERSECTION WITH CURBS
(FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

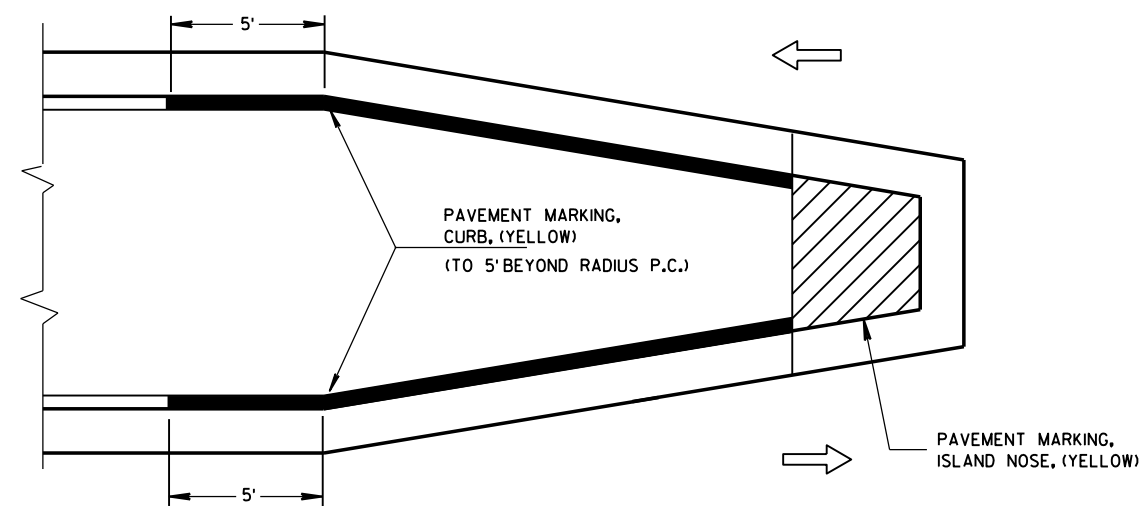
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- 1 WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - 2 WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - 3 ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - 4 THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - 5 BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - 6 BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - 7 IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - 8 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

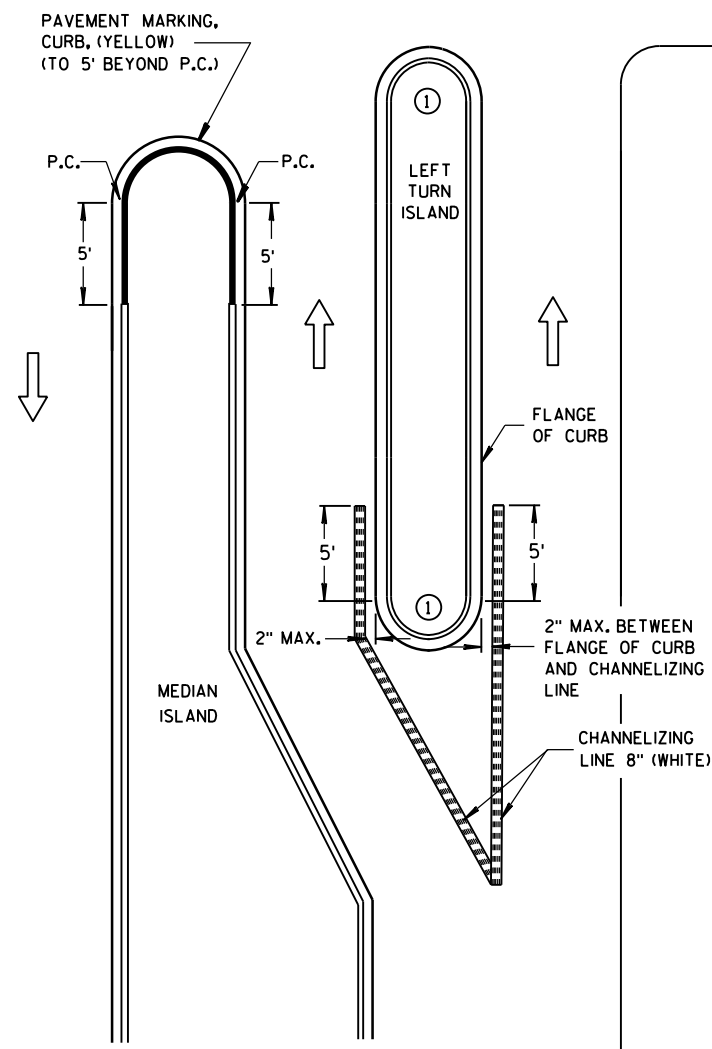


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

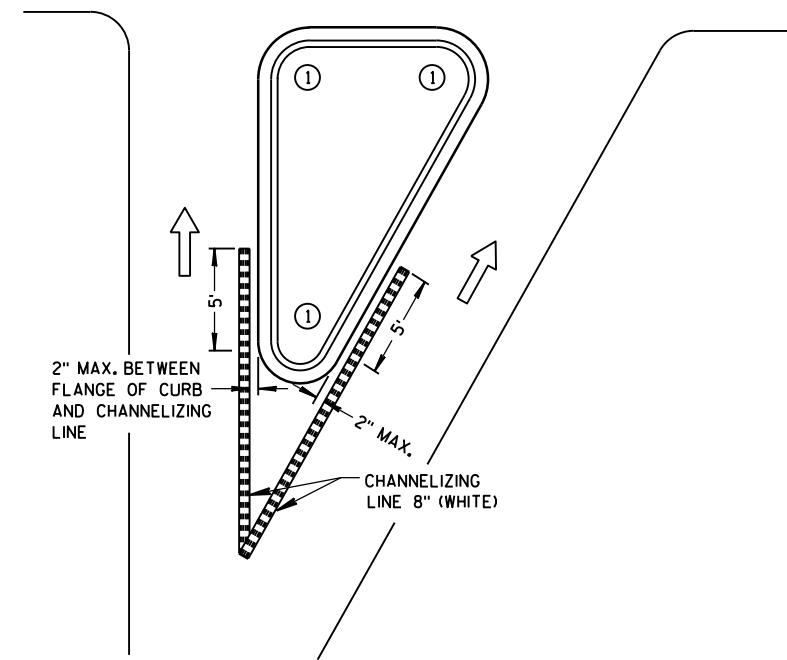
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



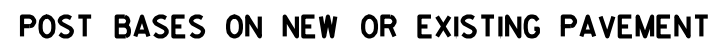
RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

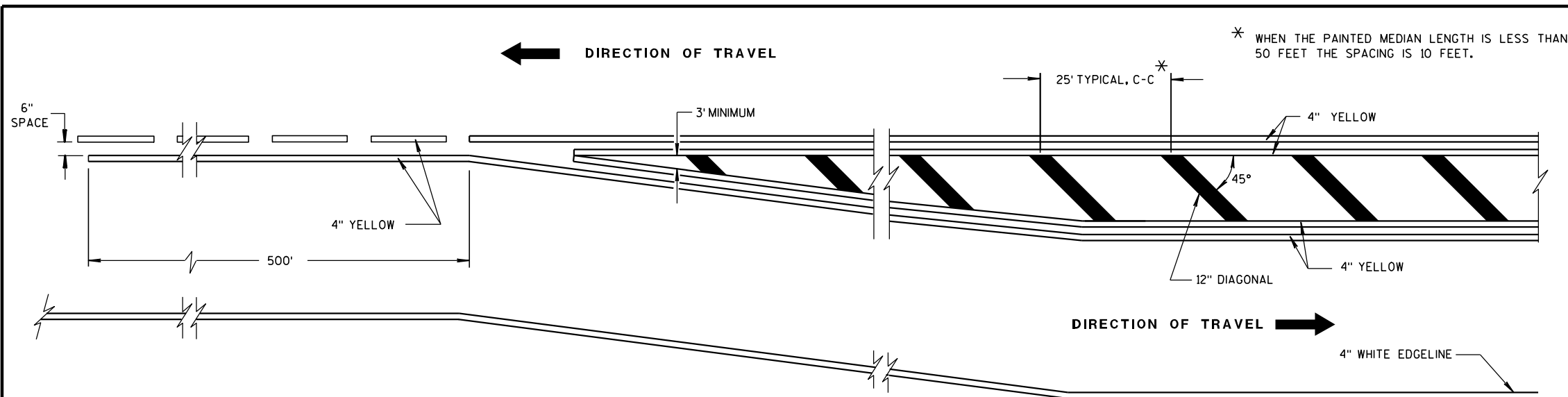
PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SECTION B-B

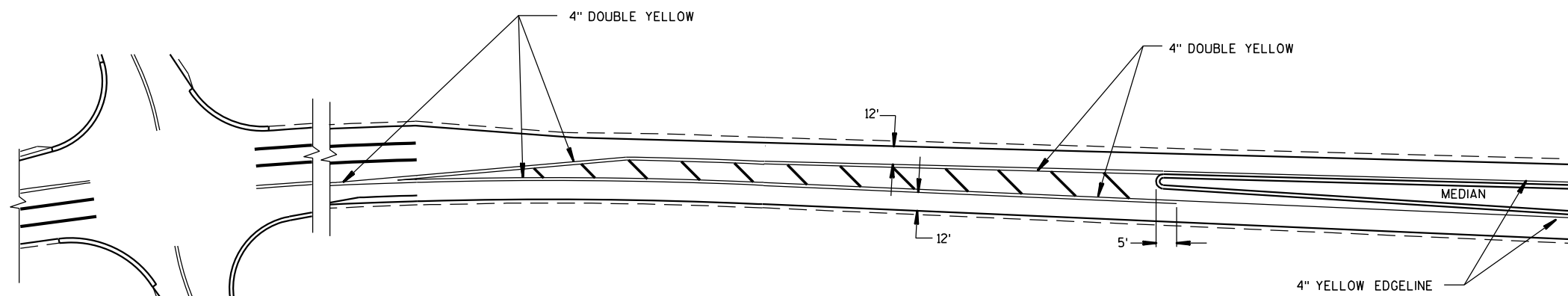
ALTERNATIVE SHAPES



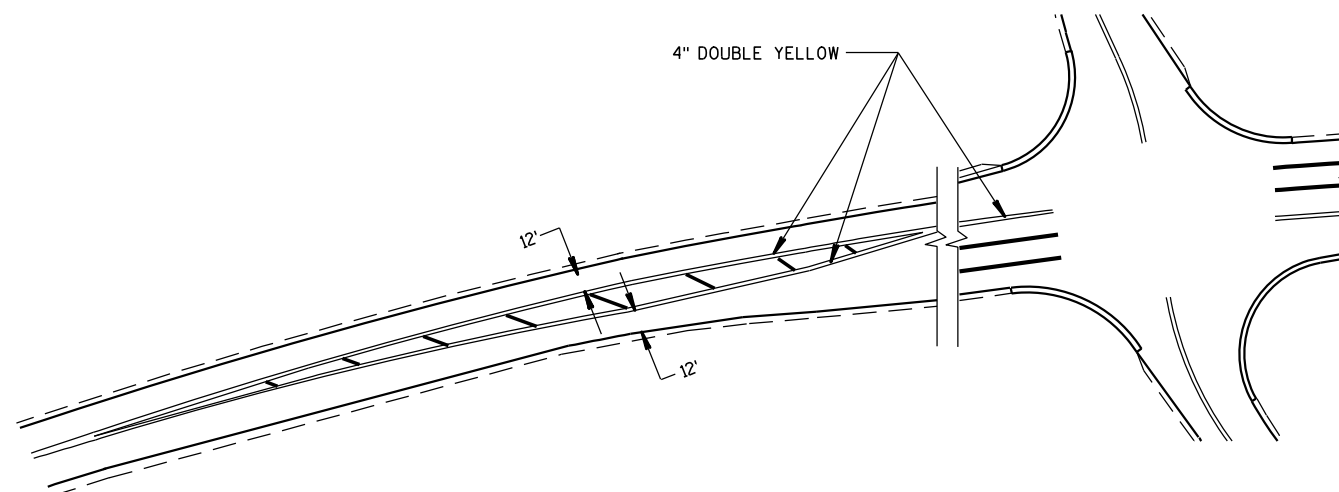
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

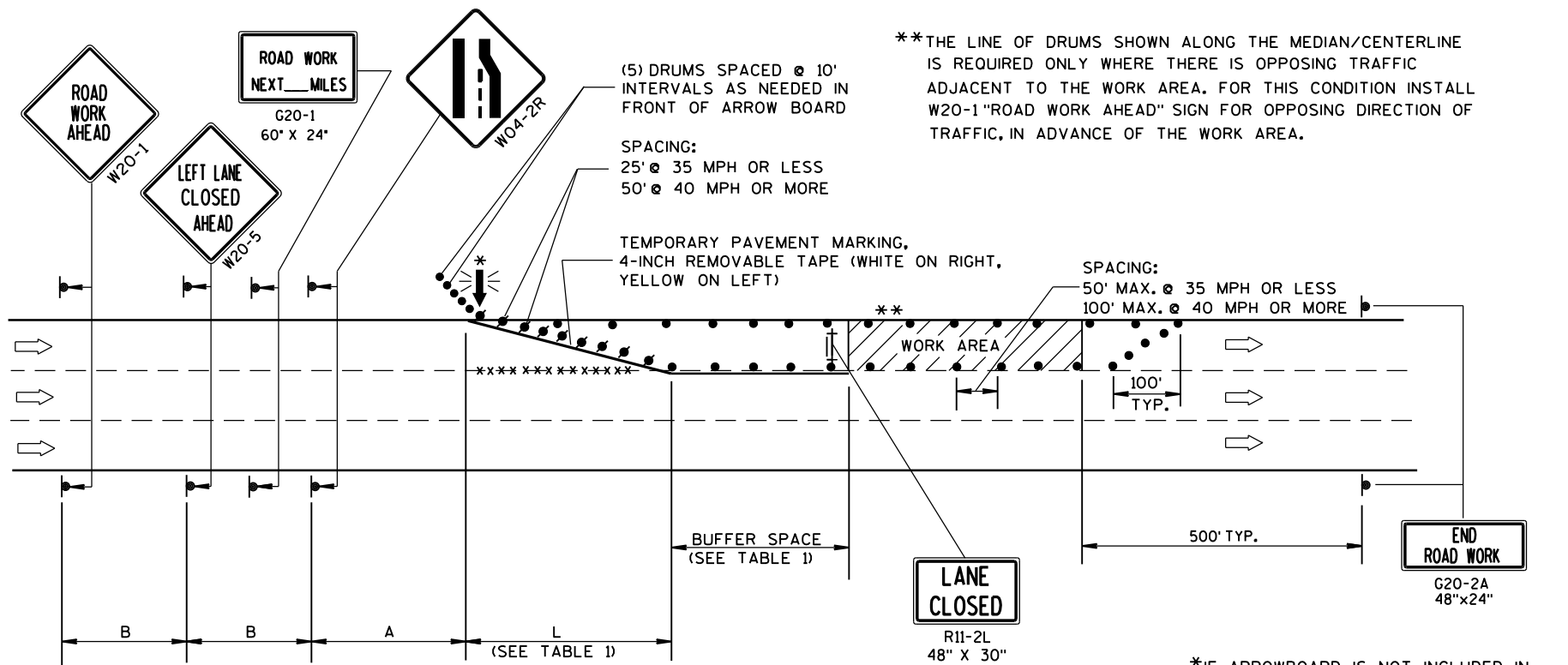
2-5-09

DATE

/S/ Thomas N. Nothohm

STATE TRAFFIC ENGINEE 121 IGN

FHWA



B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

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

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

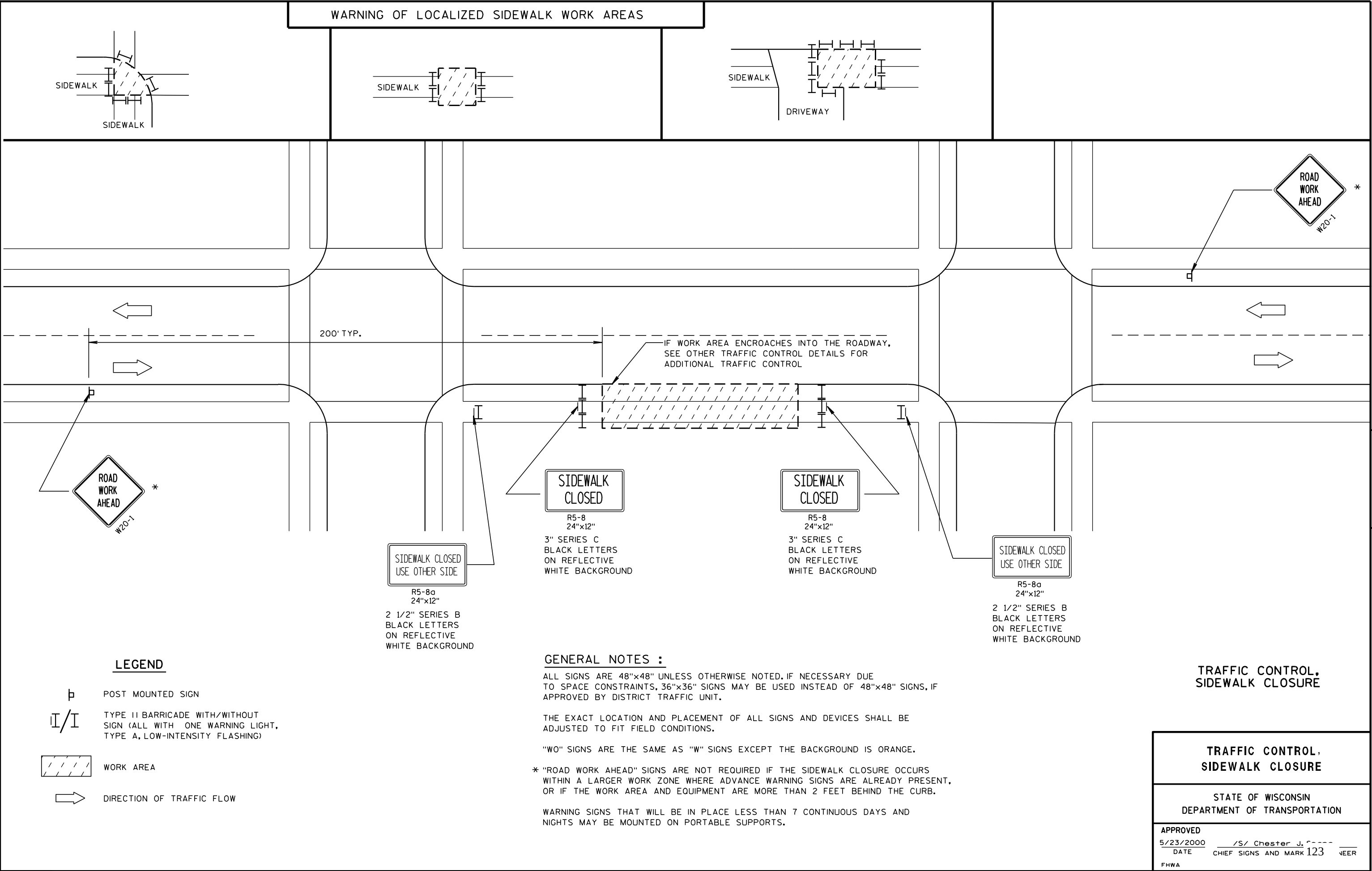
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 122 :SIGN
FHWA





M4-9mb
PEDESTRIAN DETOUR

* SERIES 2000 STANDARD ALPHABETS

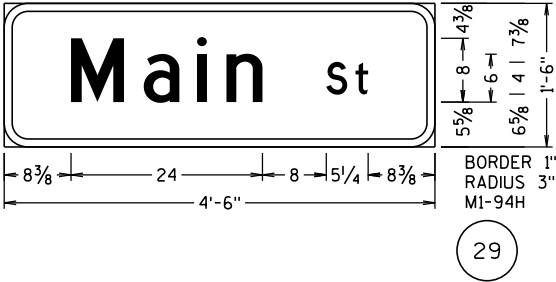
A	B	C	D	E	F	G	H	J	K	L	M	N	P
30	24	0.5	0.75	2	7.205	1	5 D	3.802	5	12.169	7	2	1.875

NOTES:

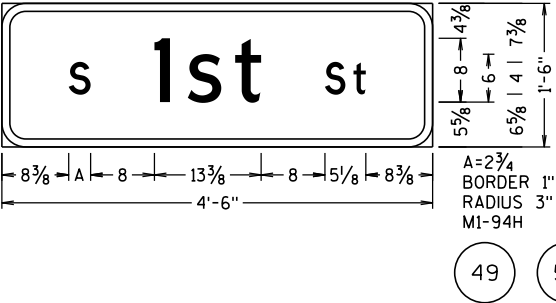
- SIGN IS A TYPE II - SEE NOTE 3 - REFERENCE WIS DOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION LATEST EDITION.
- CORNERS MAY BE SQUARE OR ROUNDED WHEN BASE MATERIAL IS PLYWOOD BUT BORDERS SHALL BE ROUNDED AS SHOWN. WHEN BASE MATERIAL IS METAL, THE CORNERS AND BORDERS SHALL BE ROUNDED.
- COLOR:
BACKGROUND - ORANGE REFLECTIVE
MESSAGE - BLACK

GENERAL NOTES:

- 1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
- 2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".
- 3. UNLESS OTHERWISE NOTED, TYPE I SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.
- 4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
- 5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.
- 6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"
- 7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
- 8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
- 9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
- 10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10
- 11. DO NOT SCALE.



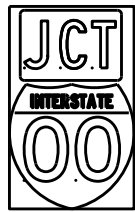
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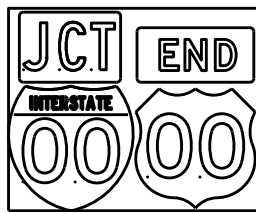
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53

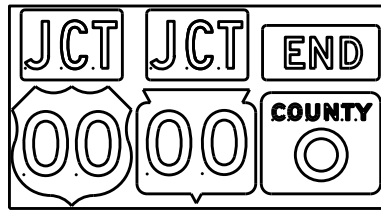
TYPICAL ASSEMBLIES



J1-1



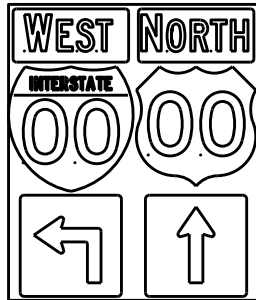
J1-2



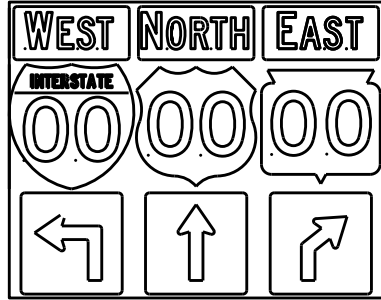
J1-3



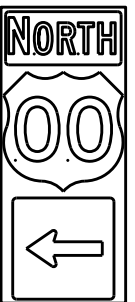
J2-1



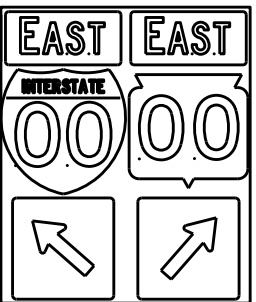
J2-2



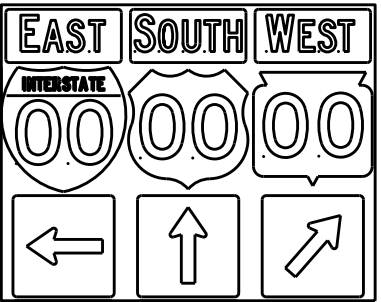
J2-3



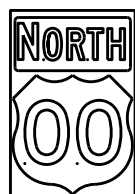
J3-1



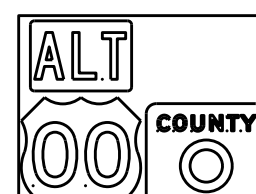
J3-2



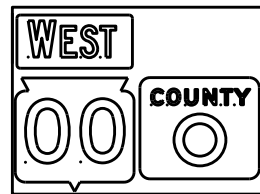
J3-3



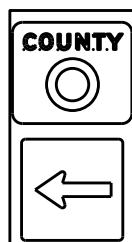
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

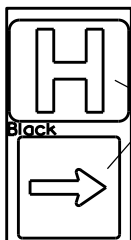


J22-1



JV

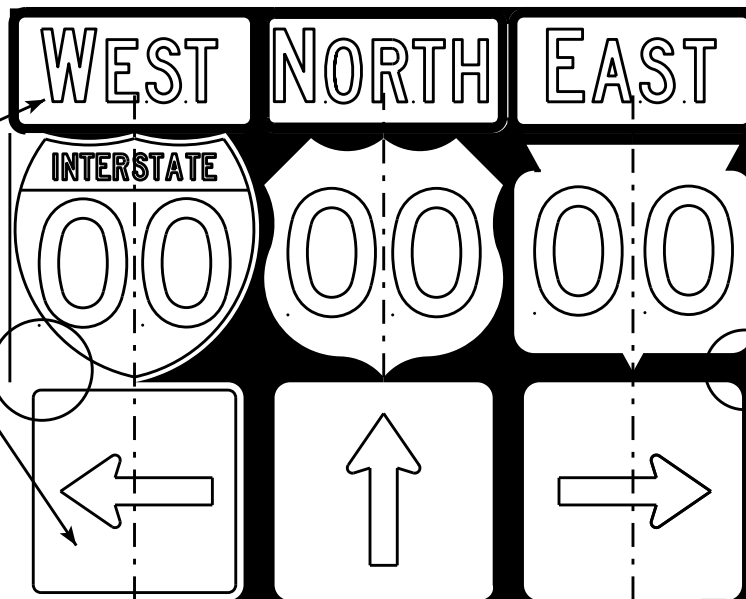
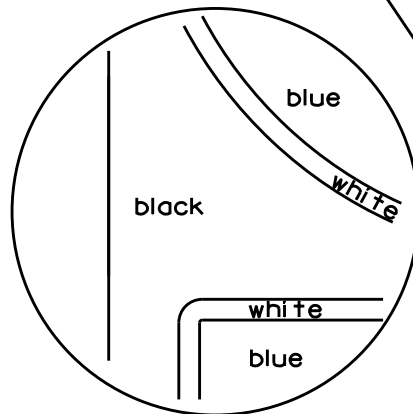
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

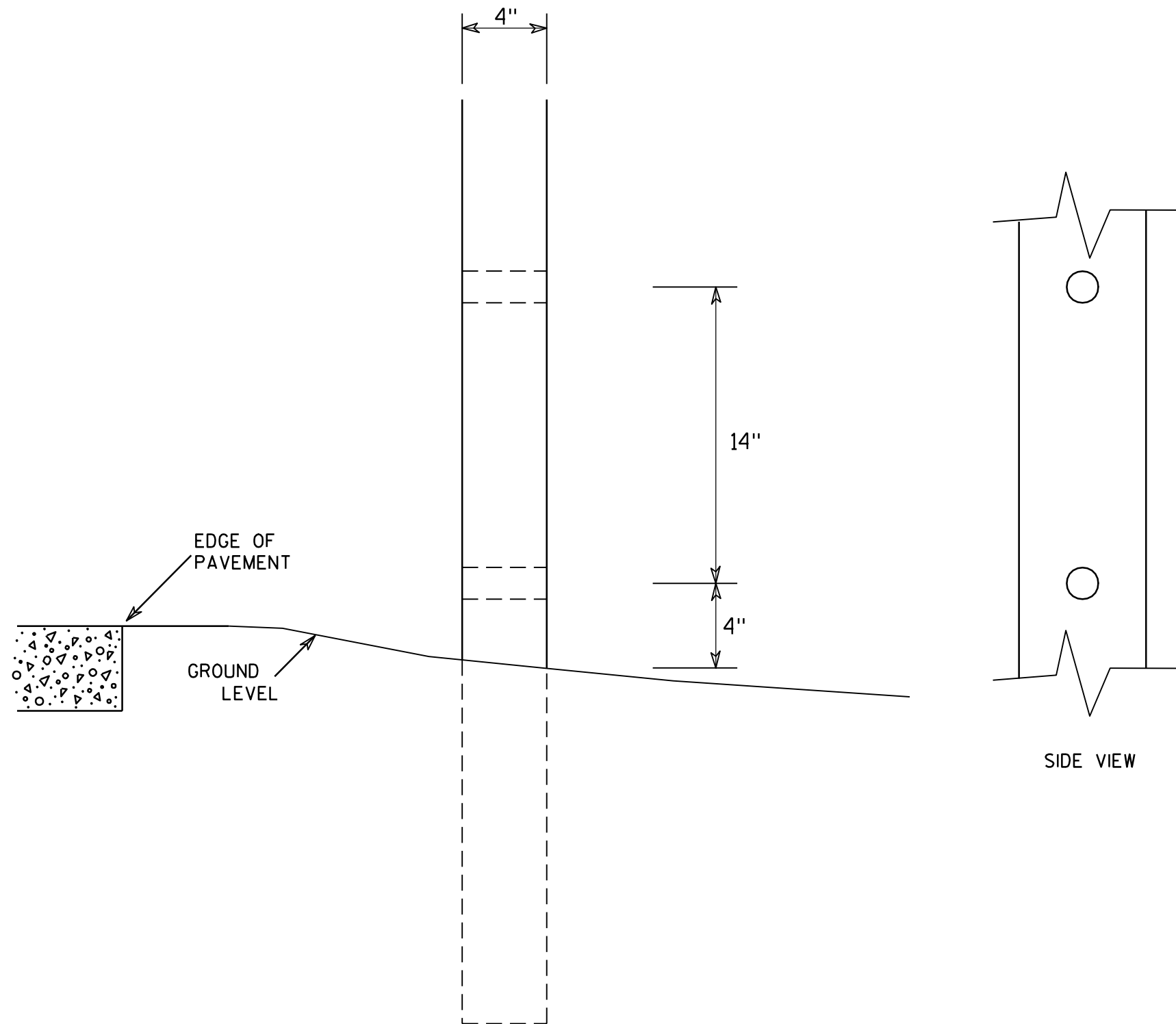
DATE 2/06/14 PL 126 A2-1S.8

SHEET NO: E

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

7



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

4 X 6 WOOD POST
MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

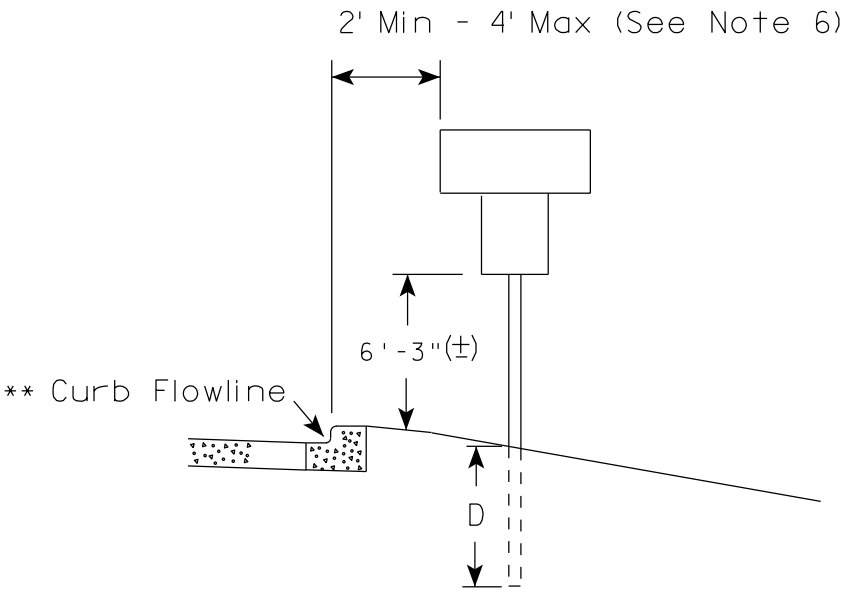
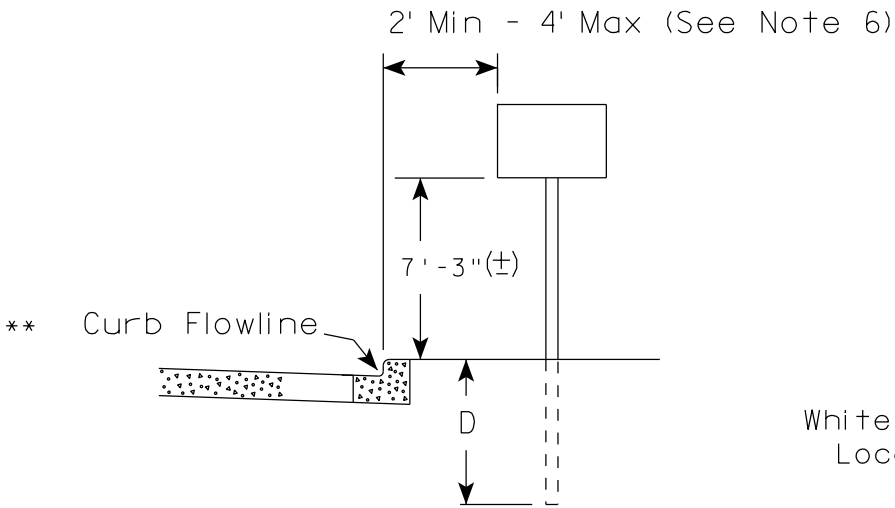
HWY:

COUNTY:

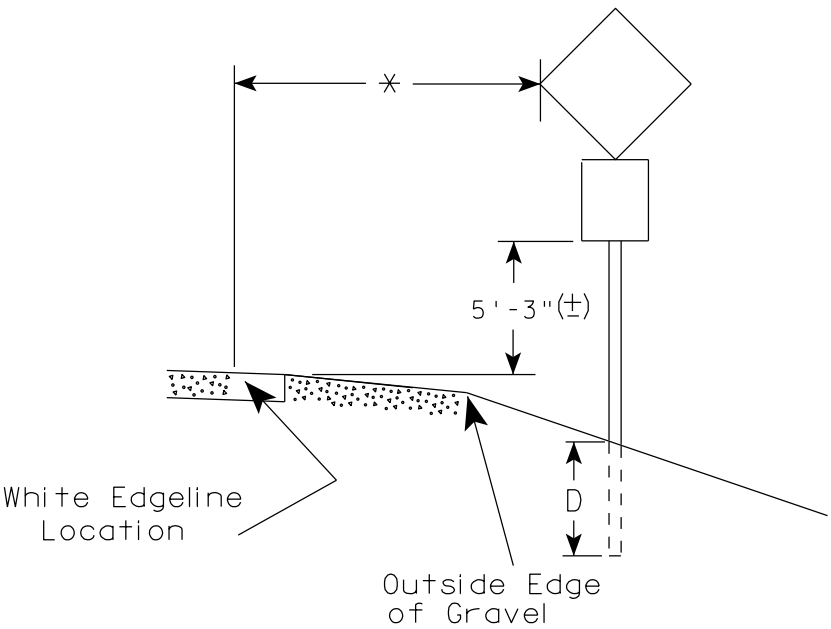
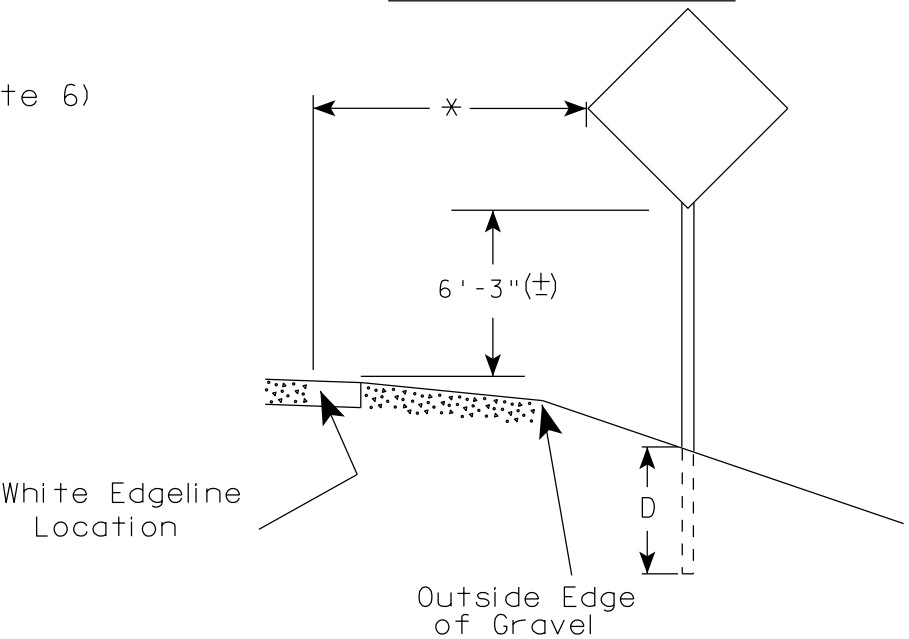
SHEET NO: 127

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
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 J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. 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), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

×× The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

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

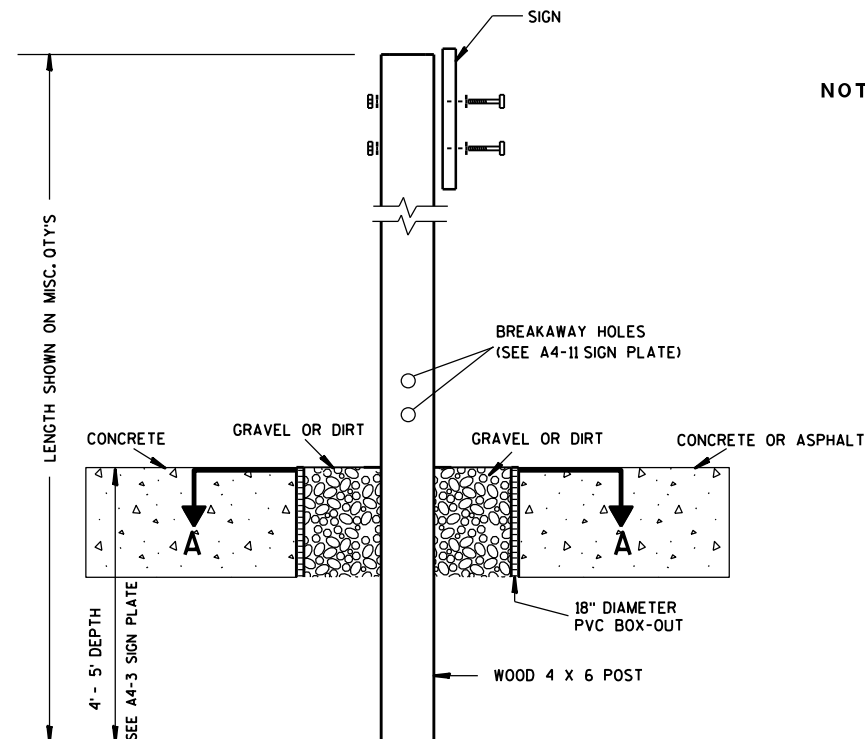
TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

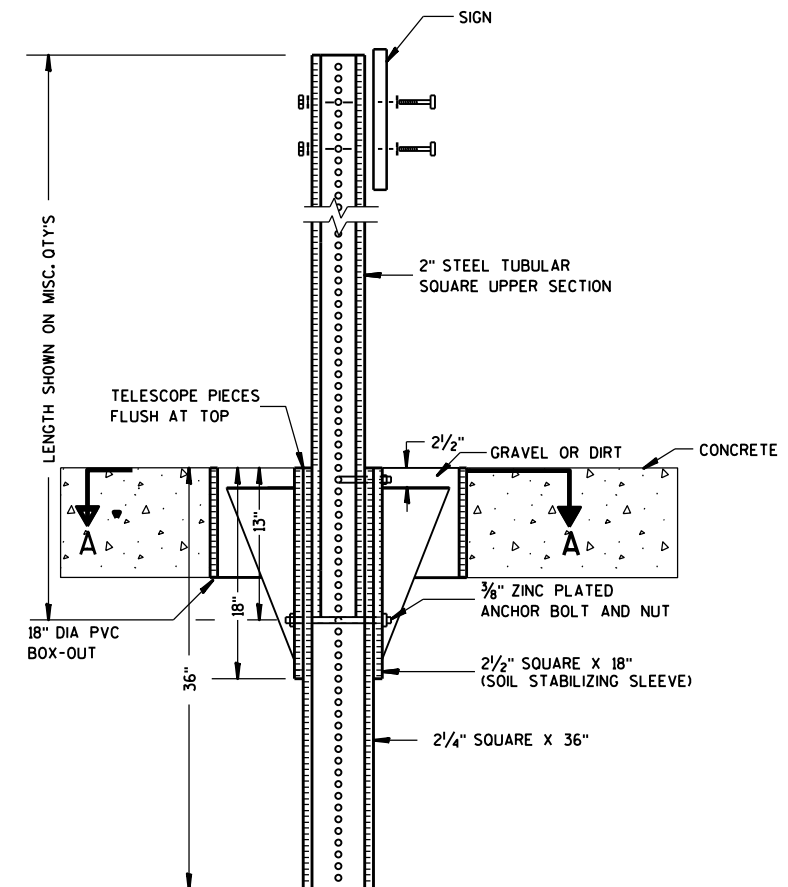
128



ELEVATION VIEW

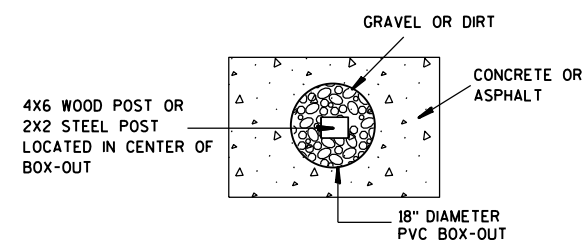
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 129 A4-3B.1

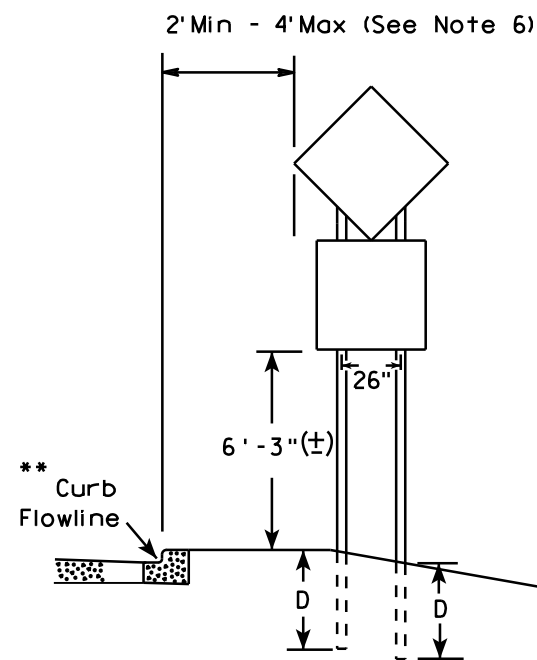
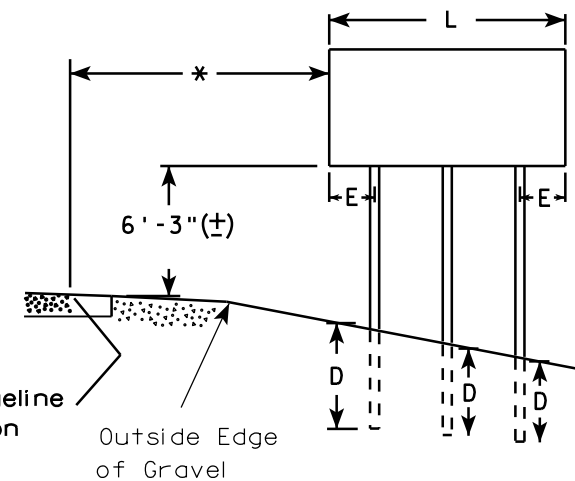
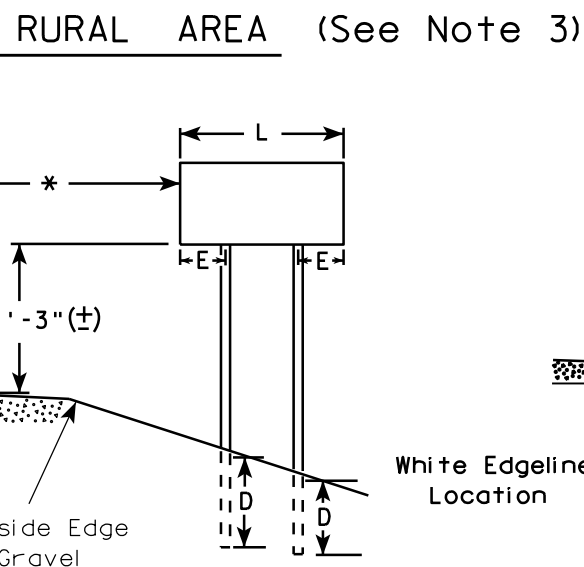
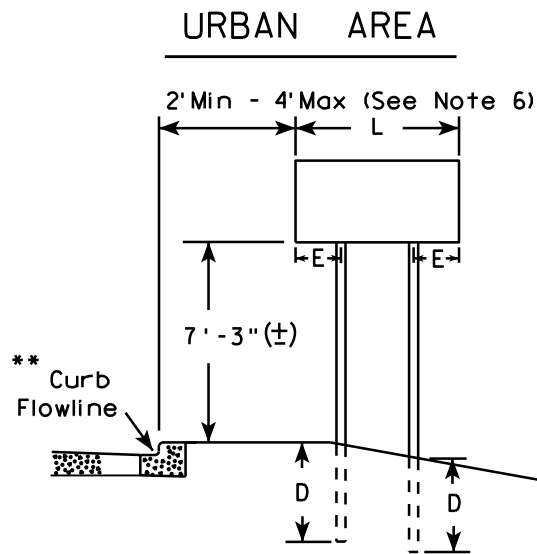
PROJECT NO:

HWY:

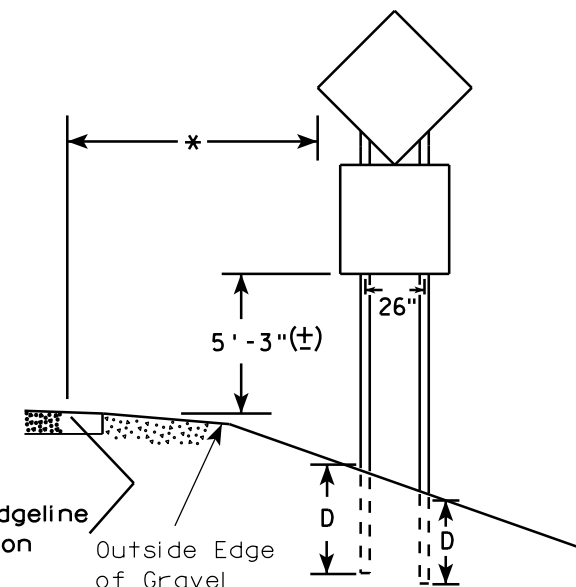
COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

- 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. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

* 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 or 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 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	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 4/29/14 PLATE NO. 130

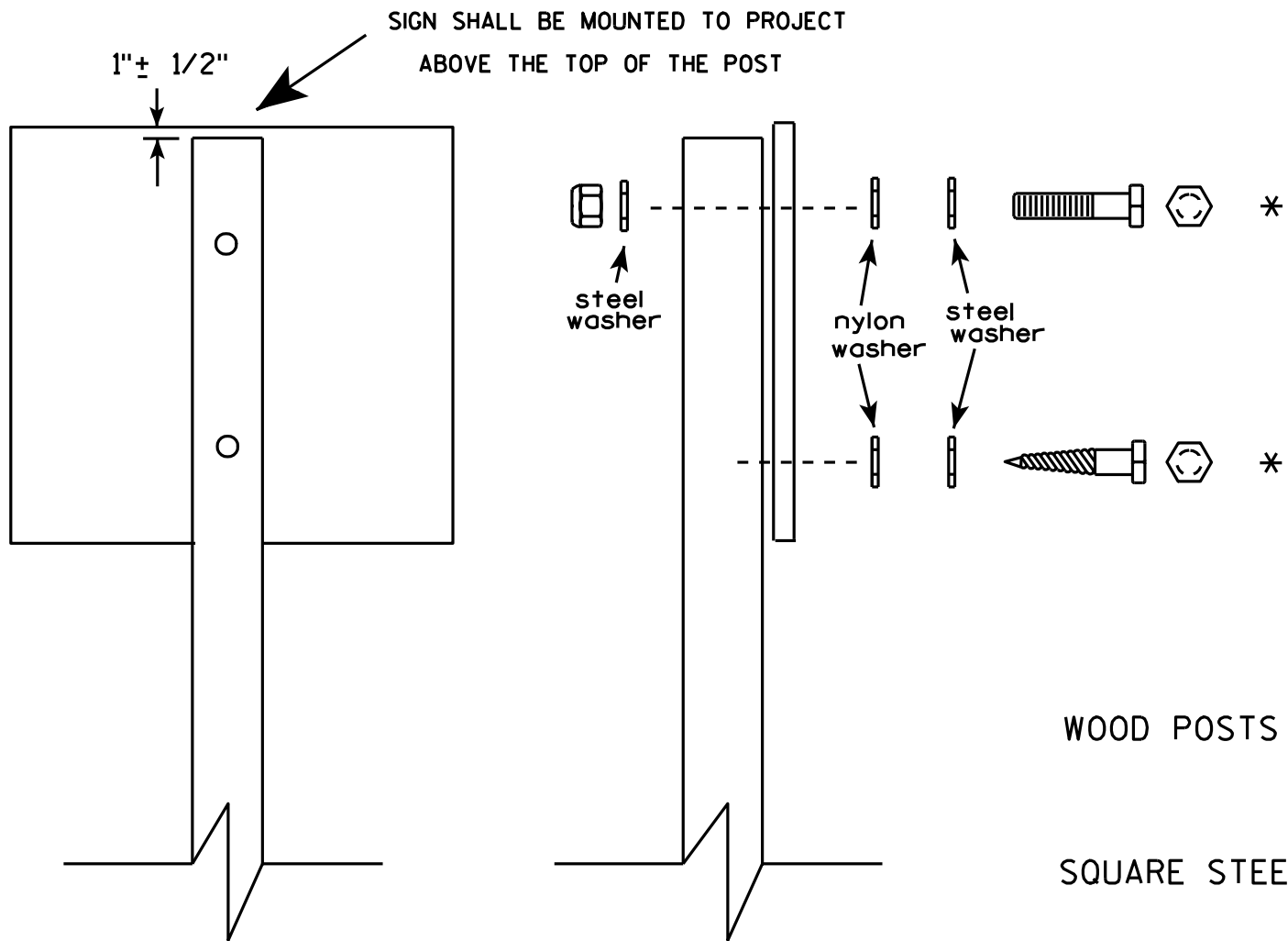
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

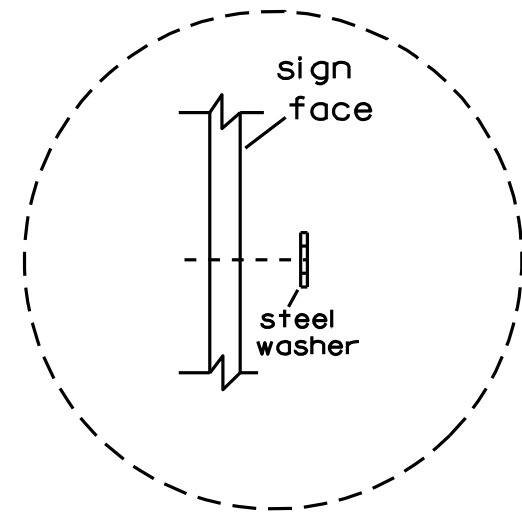


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

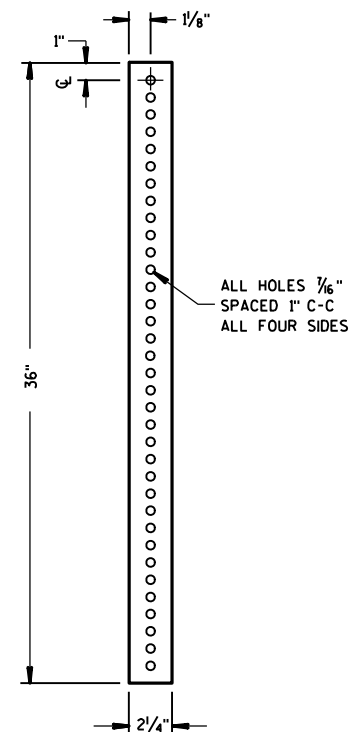


Washer Placement when Sign Has Other Than Type H or Type F Face

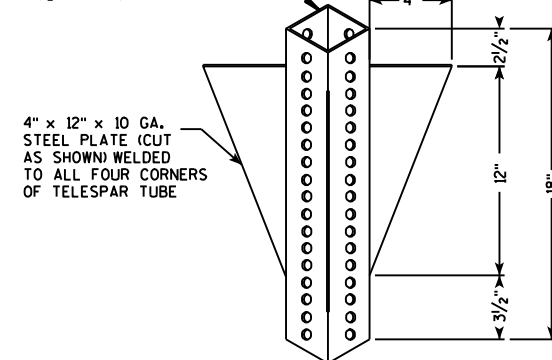
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

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



2 1/2" or 2 1/4" TELESAR TUBE



LENGTH SHOWN ON MISC. QTY'S

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

TELESCOPE PIECES FLUSH AT TOP

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " GRAVEL OR DIRT

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)

$2\frac{1}{4}$ " SQUARE X 36"

18" DIA PVC BOX-OUT

13"

18"

36"

Diagram illustrating the construction of a signpost assembly. The assembly consists of a 2" steel tubular square upper section and a 2 1/4" square x 36" lower section. The upper section has all holes 7/16" spaced 1" center-to-center on all four sides. The lower section is made of 2 1/4" square x 36" material. The assembly is anchored into the ground using 3/8" zinc plated corner anchor bolts and nuts, and 3/8" zinc plated anchor bolts and nuts. The lower section is surrounded by 2 1/2" square x 18" soil stabilizing sleeves. The top of the assembly is flush with the ground, and the sign plate is attached to the top. The diagram also shows a cross-section of the assembly, indicating the use of 18" diameter PVC box-out and 2 1/2" square x 18" soil stabilizing sleeves. Dimensions shown include 13", 18", and 36".

LENGTH SHOWN ON MISC. QTY'S

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

TELESCOPE PIECES FLUSH AT TOP

1"

12"

18"

36"

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

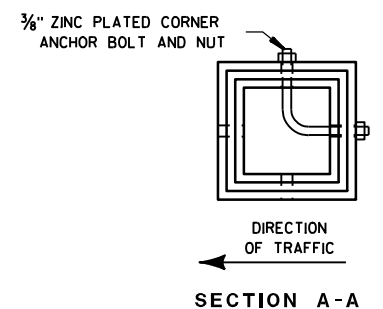
$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)

$2\frac{1}{4}$ " SQUARE X 36"

A

A



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

DATE 5/30/12 PLATE NO. A4-9.7

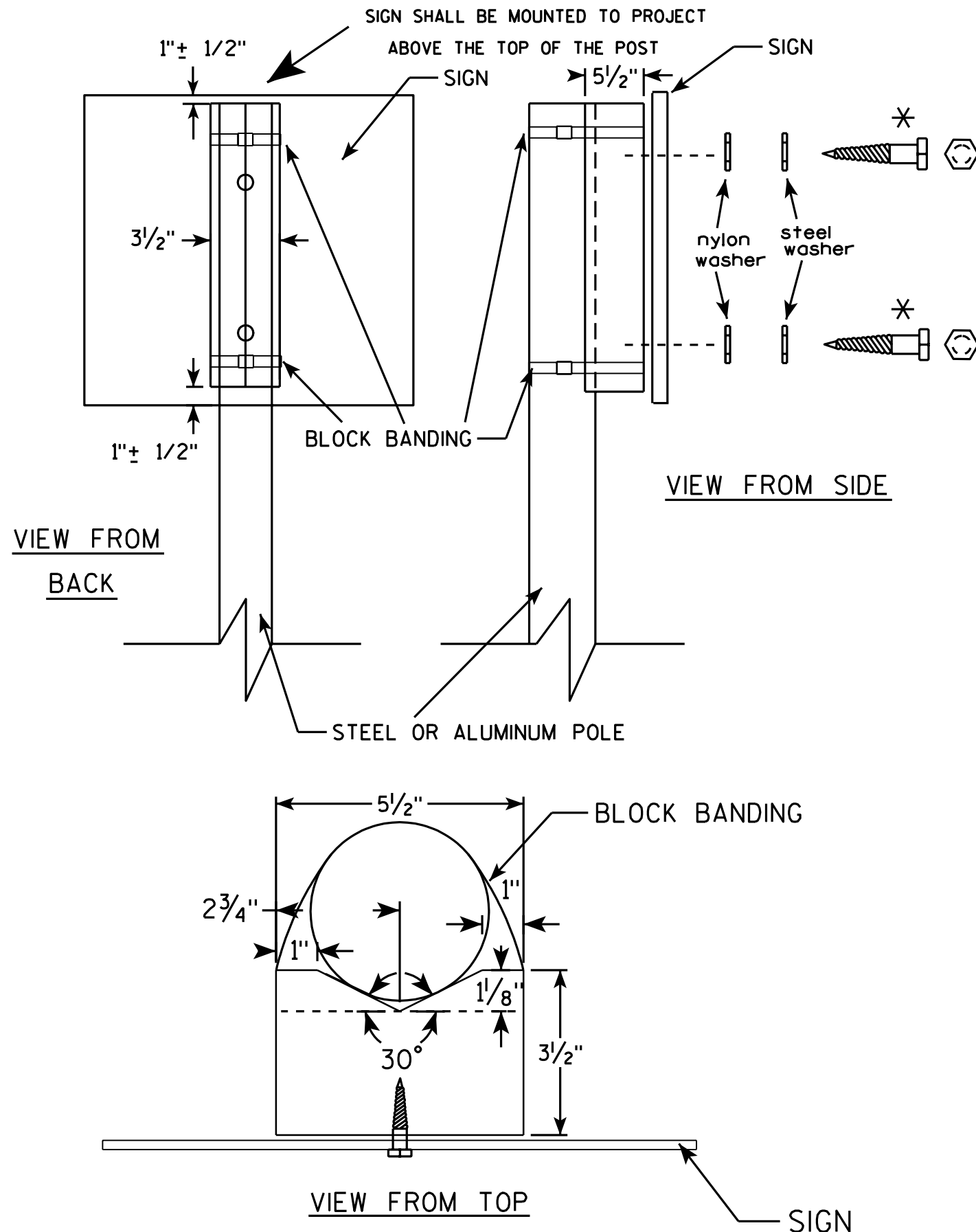
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 132

E



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, $\frac{3}{4}$ " 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, or
 - b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
 - c. 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 $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

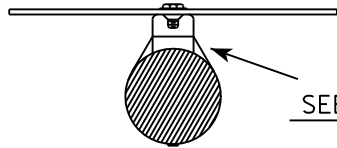
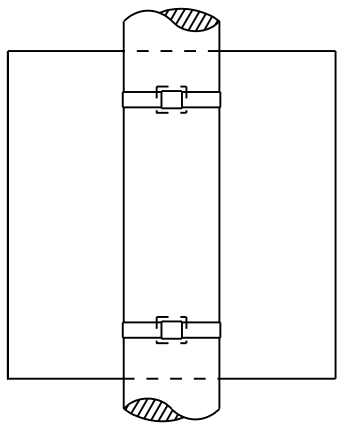
PROJECT NO:

SHEET NO: 133

E

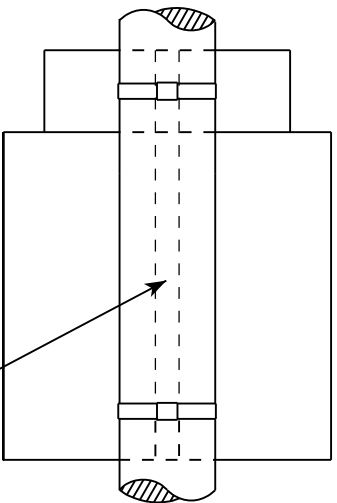
BANDING

SINGLE SIGN

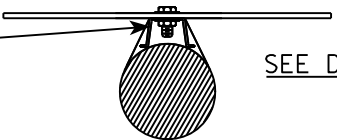


SEE DETAIL A

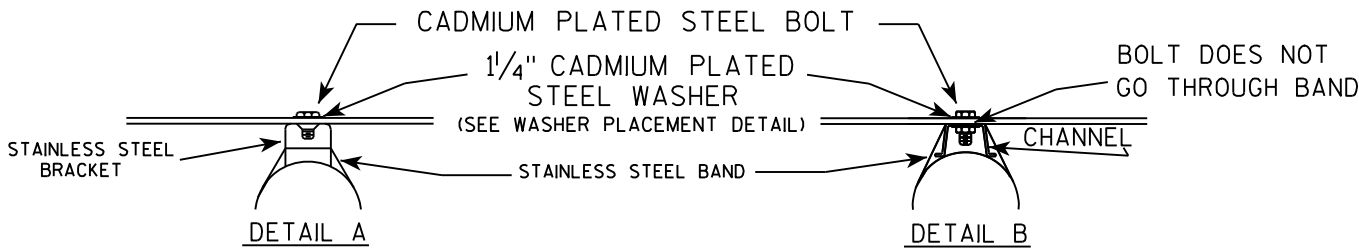
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



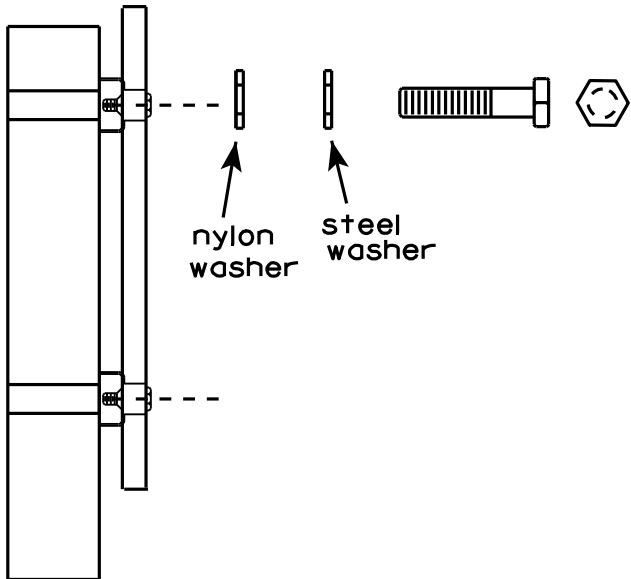
SEE DETAIL B



GENERAL NOTES

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

WASHER PLACEMENT



nylon washer

steel washer

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

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 8/16/13

PLATE NO. A5-9.3

PROJECT NO:

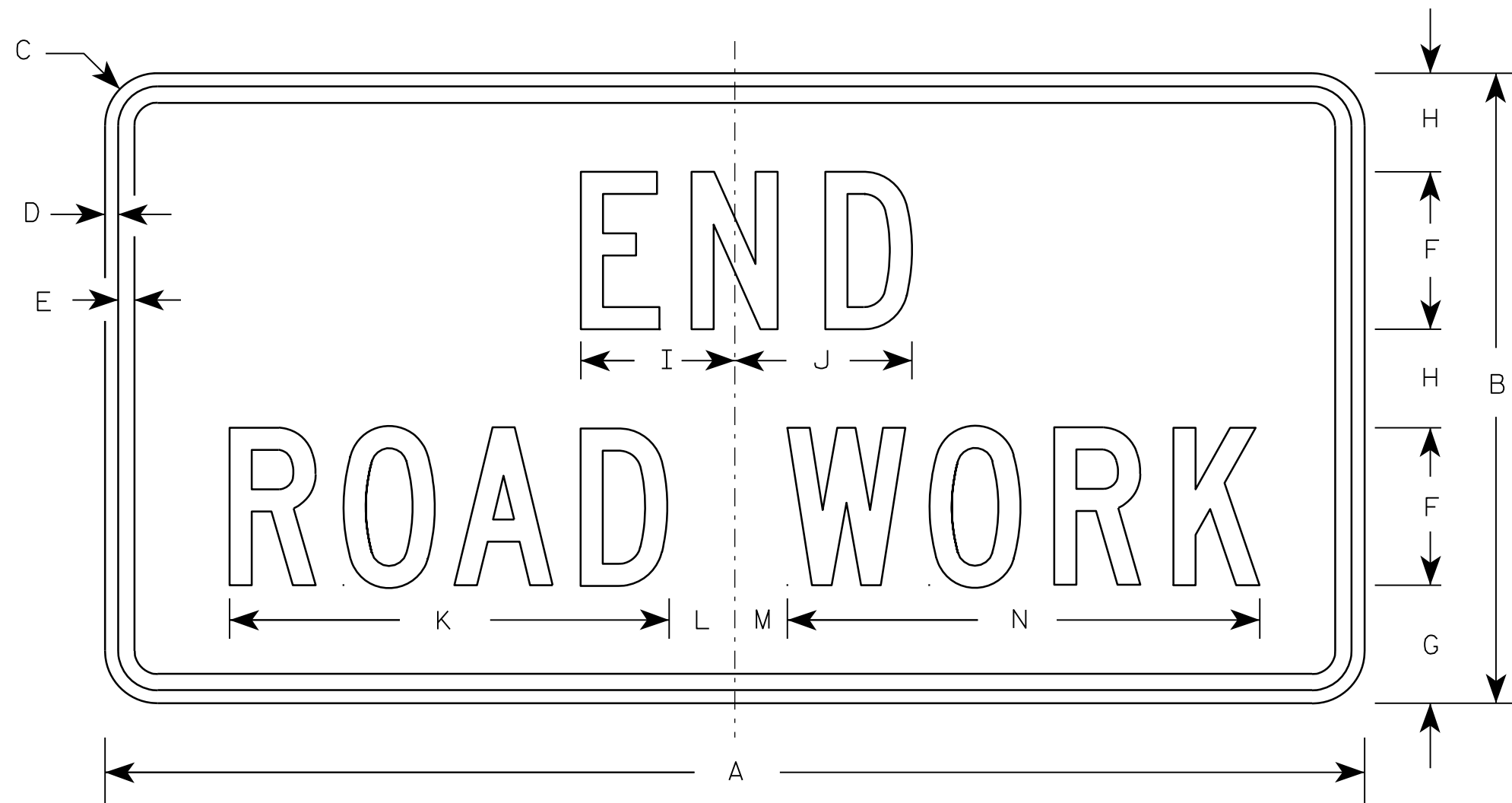
HWY:

COUNTY:

SHEET NO: 134

E

7



G20-2A

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 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 sq. m.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- 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.

7

PROJECT NO:

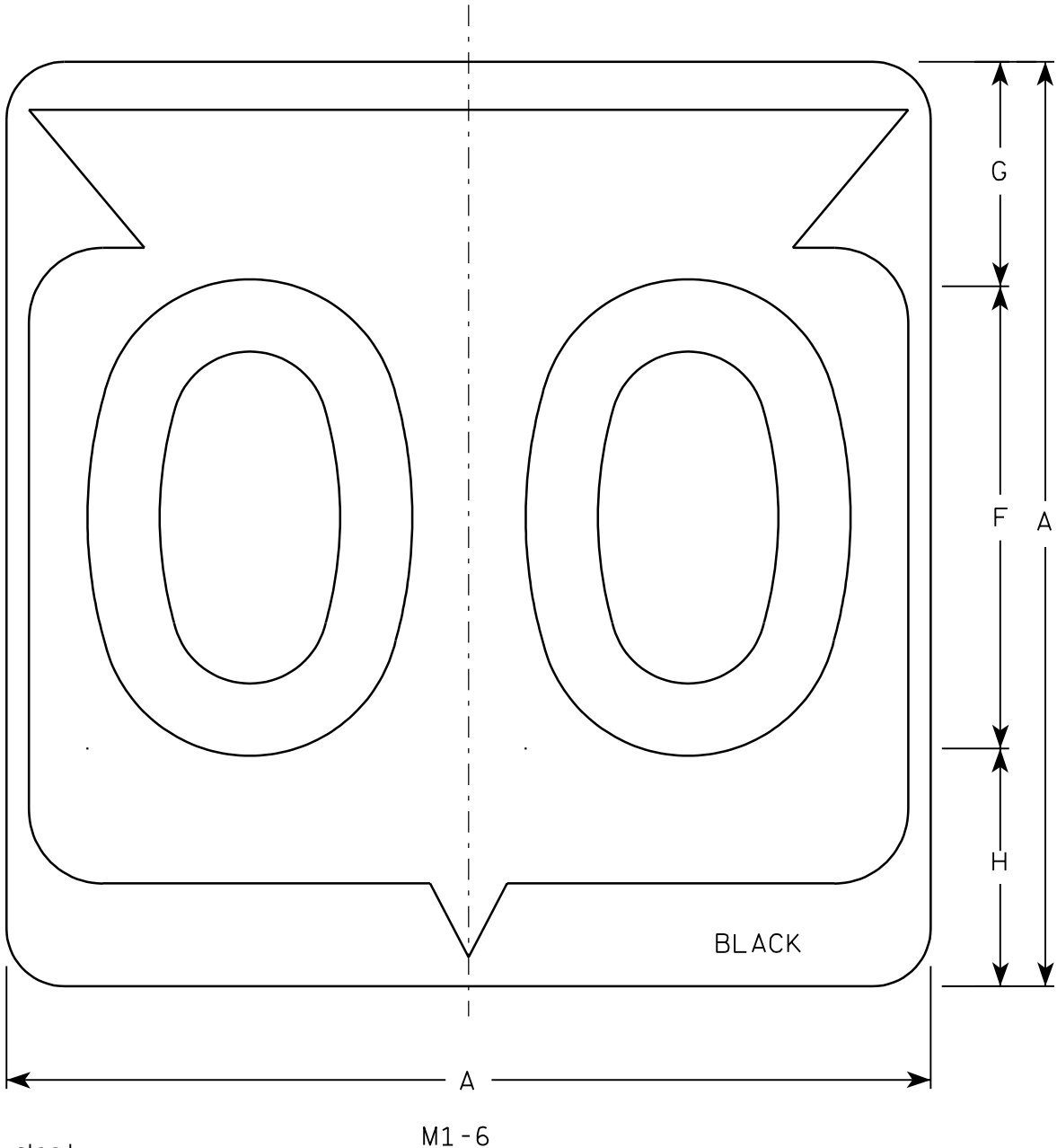
HWY:

COUNTY:

SHEET NO: 135

E

7



Metric equivalent
for this sign is:

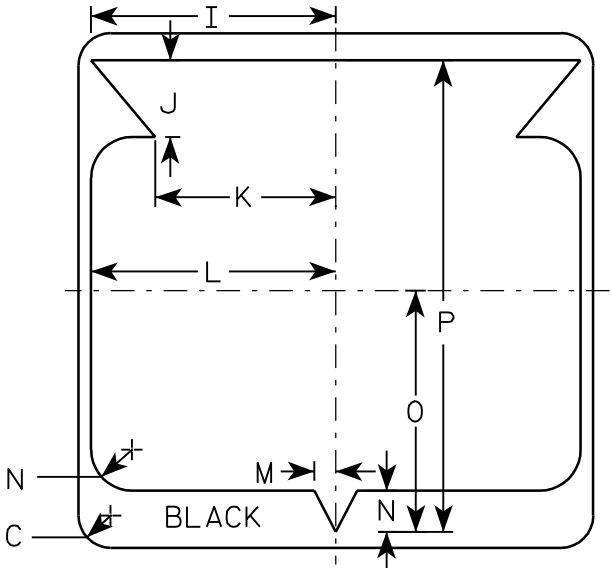
SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

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											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											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											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											9.0	.81

PROJECT NO:				HWY:				COUNTY:																SHEET NO: 136				E
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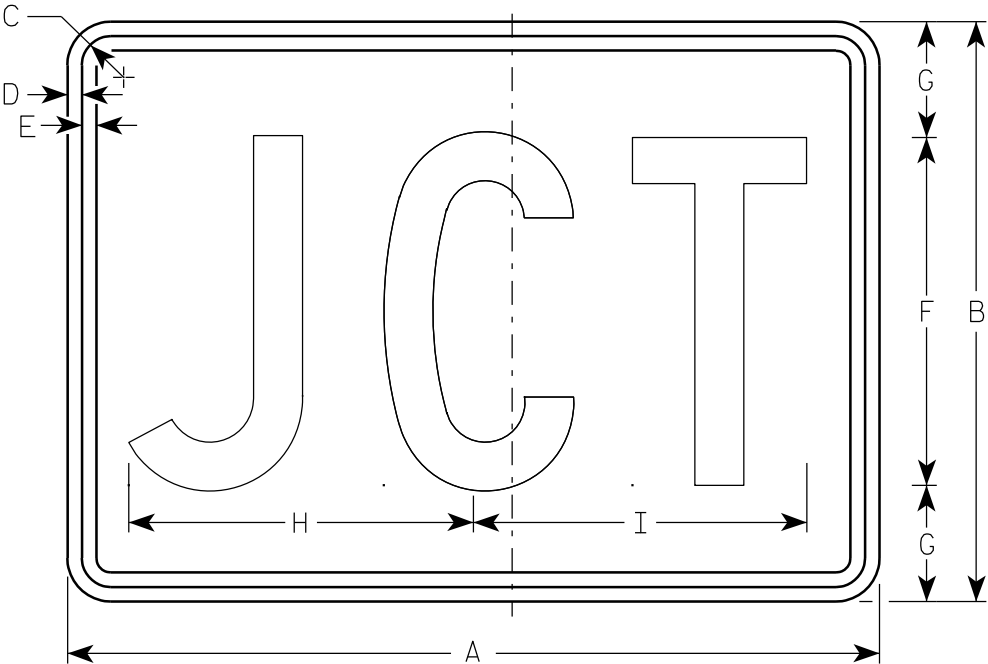
NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
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. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



7

7



M2-1
MK2-1
MM2-1
MR2-1

Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 375 mm
3	750 mm X 525 mm
4	750 mm X 525 mm
5	750 mm X 525 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	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20	0.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20

PROJECT NO:

HWY:

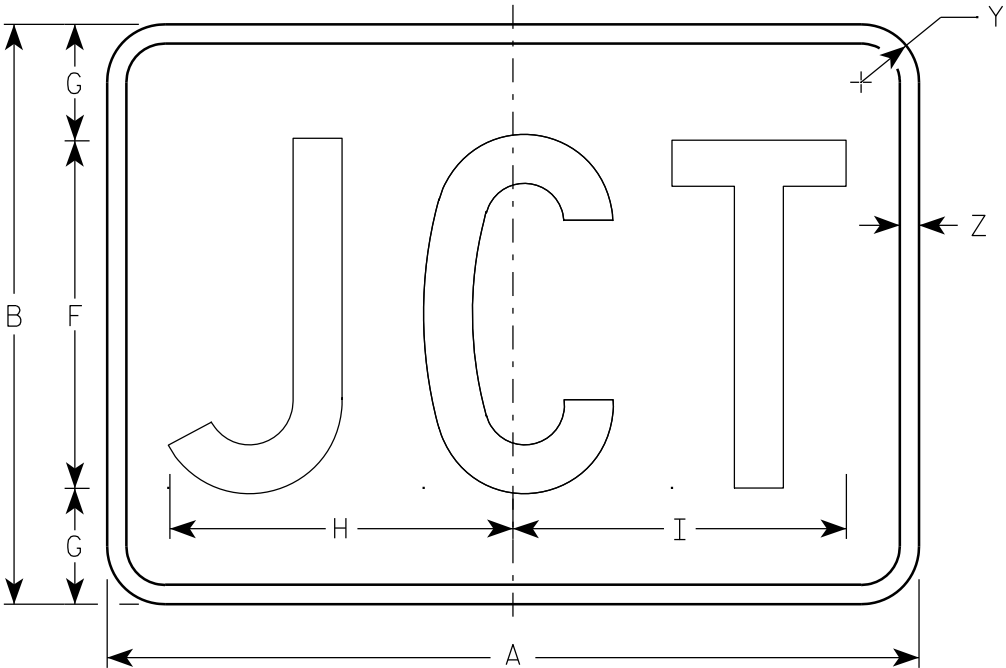
COUNTY:

SHEET NO: 137

E

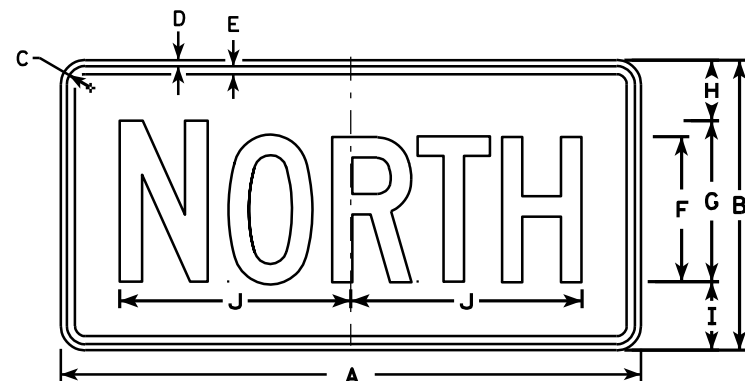
NOTES

1. Sign is Type II - See Note 5 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 5
Message - See note 5
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. M2-1 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB2-1 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG2-1 Background - Green
Message - White - Type H Reflective
MK2-1 Background - Green
Message - White - Type H Reflective
MM2-1 Background - White - Type H Reflective
Message - Green
MN2-1 Background - Brown
Message - White - Type H Reflective
MR2-1 Background - Brown
Message - Yellow - Type H Reflective



MB2-1
MG2-1
MN2-1

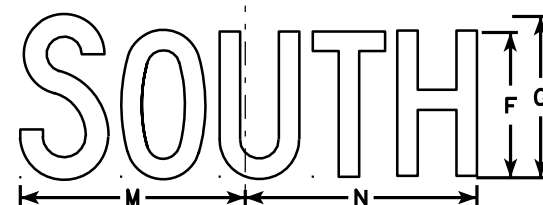
7



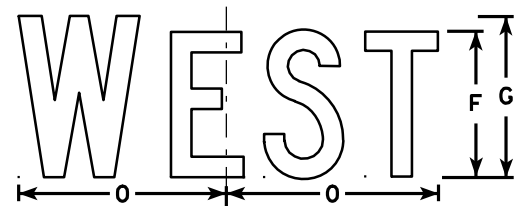
M3-1
MK3-1
M03-1



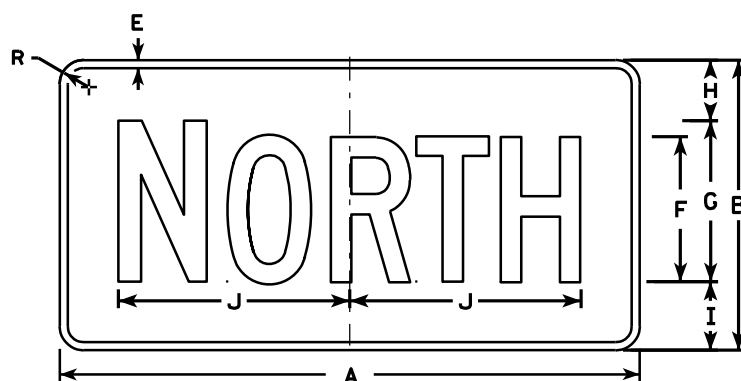
M3-2
MK3-2
M03-2



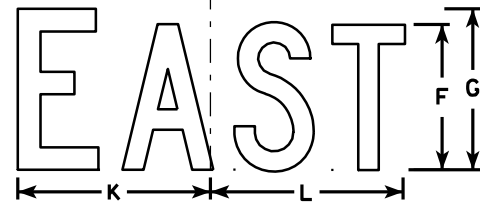
M3-3
MK3-3
M03-3



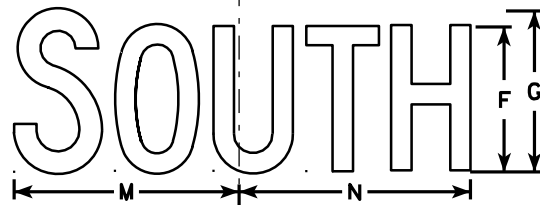
M3-4
MK3-4
M03-4



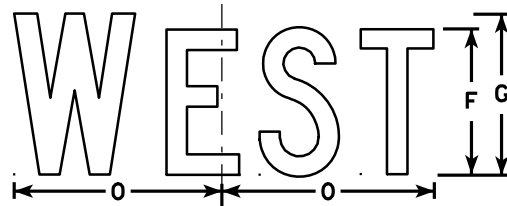
MB3-1
MG3-1
MM3-1
MN3-1



MB3-2
MG3-2
MM3-2
MN3-2



MB3-3
MG3-3
MM3-3
MN3-3



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

- All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 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 - Type H Reflective (Detour or temporary signs - Reflective) Message - Black
MB3-1 thru MB3-4 Background - Blue Message - White - Type H Reflective (Detour or temporary signs - Reflective)
MG3-1 thru MG3-4 Background - Green Message - White - Type H Reflective
MK3-1 thru MK3-4 Background - Green Message - White - Type H Reflective
MM3-1 thru MM3-4 Background - White - Type H Reflective Message - Green
MN3-1 thru MN3-4 Background - Brown Message - White - Type H Reflective
M03-1 thru M03-4 Background - Orange - Reflective Message - Black
- Note the first letter of each direction is larger than the remainder of the message.

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

PROJECT NO: HWY: COUNTY: SHEET NO: 138 E

STANDARD SIGNS M3-1 thru M3-4 SERIES

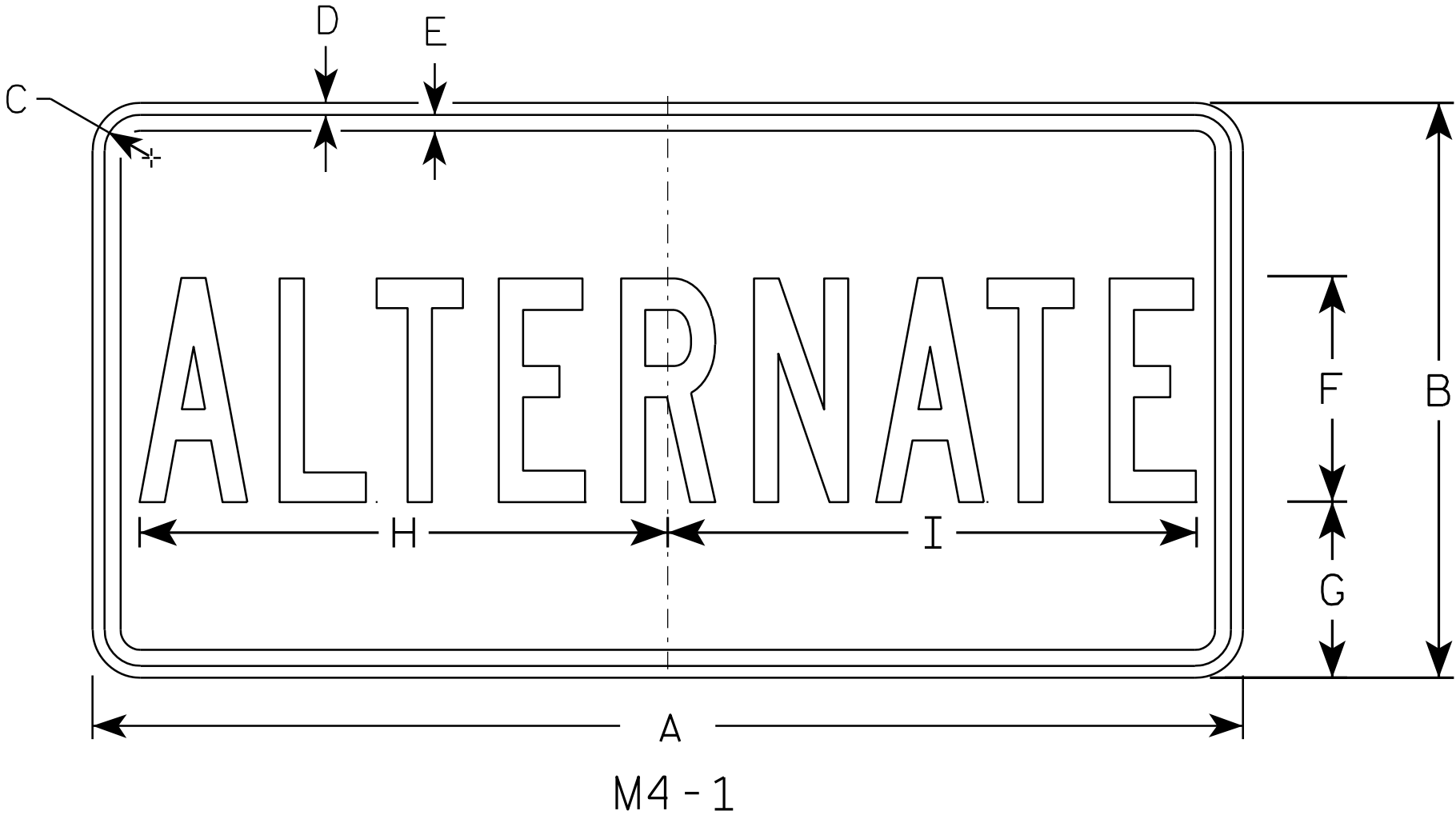
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

NOTES

1. Sign is Type II - See Note 5 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See Note 5
Message - See note 5
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.
5. M4-1 Background - White - Type H Reflective
Message - Black
- MB4-1 Background - Blue
Message - White - Type H Reflective
- M04-1 Background - Orange - Reflective
Message - Black



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 1/2	3/8	3/8	4	4	9 3/4	9 1/2																		2.00
3	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	7	5 1/2	16 3/8	16 1/2																		4.5

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 139	E
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STANDARD SIGN

M4 - 1

WISCONSIN DEPT OF TRANSPORTATION

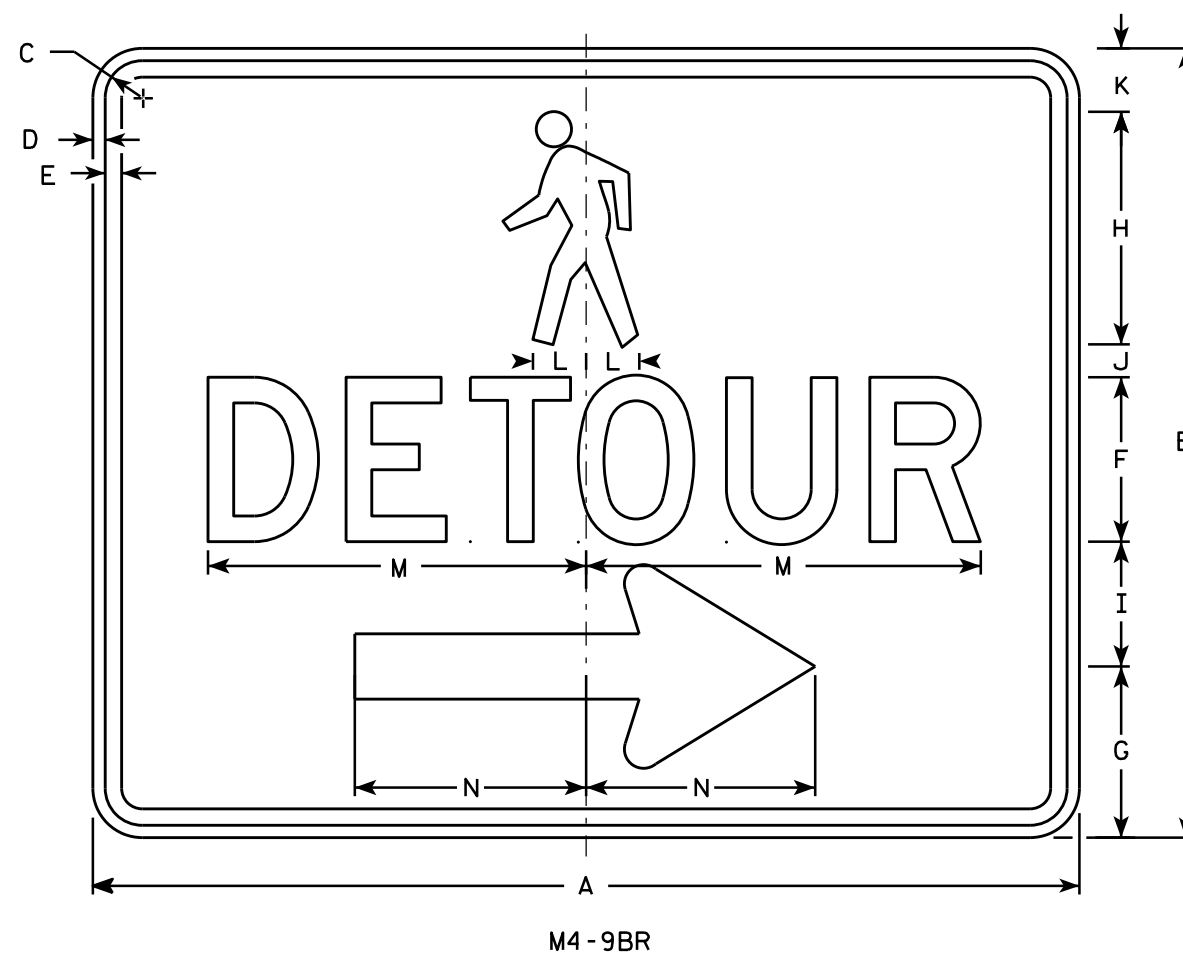
APPROVED

Matthew R. Rauch

for State Traffic Engineer

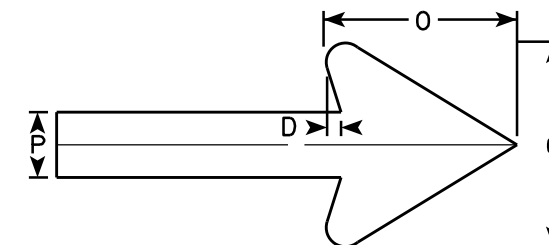
DATE 11/10/10

PLATE NO. M4-1.7



NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- 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.
- M4-9BL is the same as M4-9BR except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.00
3																											
4																											
5																											

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN

M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

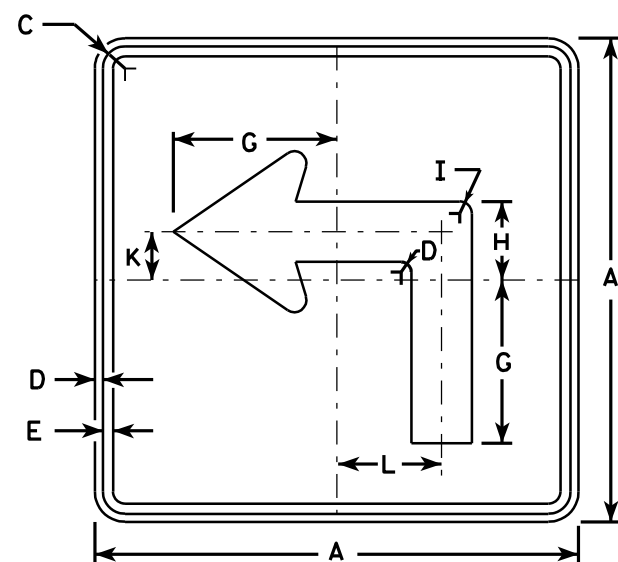
APPROVED *Matthew R. Rauch*

for State Traffic Engineer

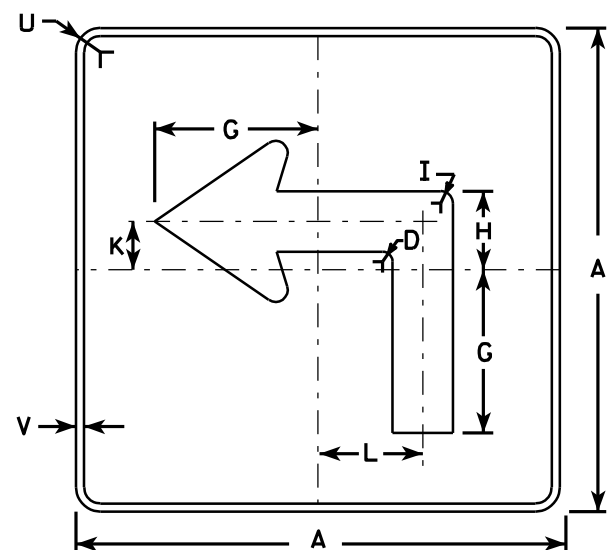
DATE 9/30/13

PLA 140

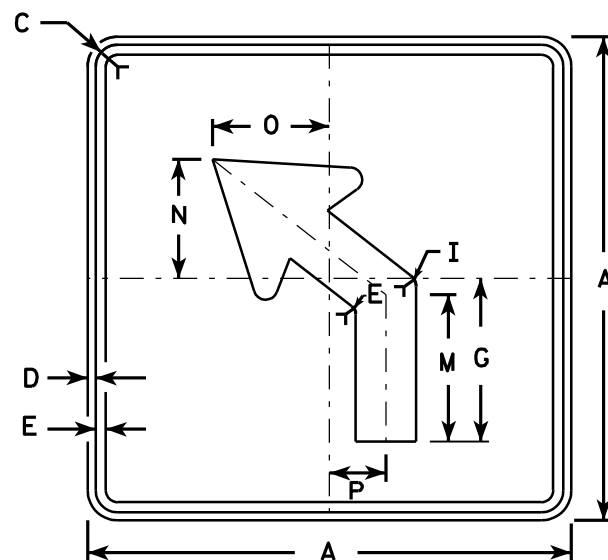
M4-9B.1



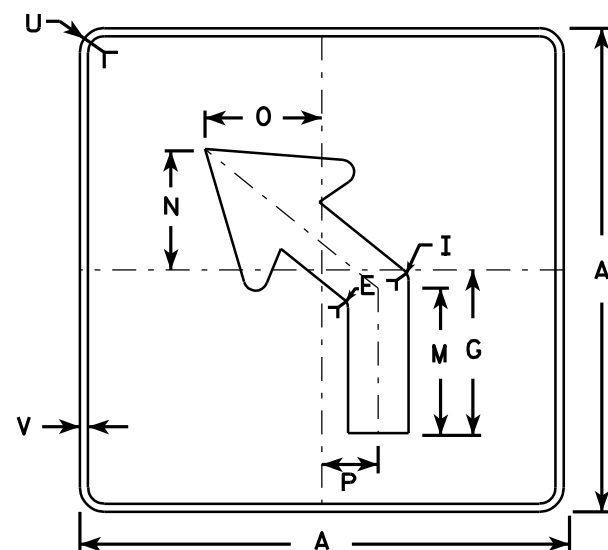
M5-1L
MK5-1L
MM5-1L
M05-1L
MP5-1L
MR5-1L



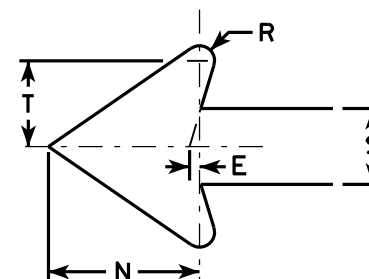
MB5-1L
MG5-1L
MN5-1L



M5-2L
MK5-2L
MM5-2L
M05-2L
MP5-2L
MR5-2L



MB5-2L
MG5-2L
MN5-2L

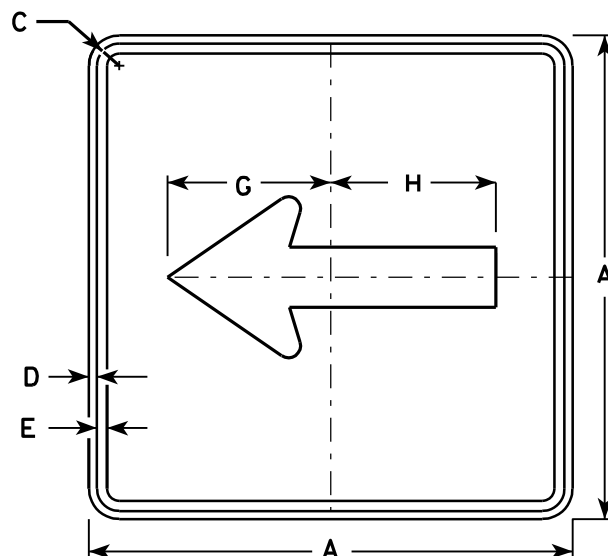


NOTES

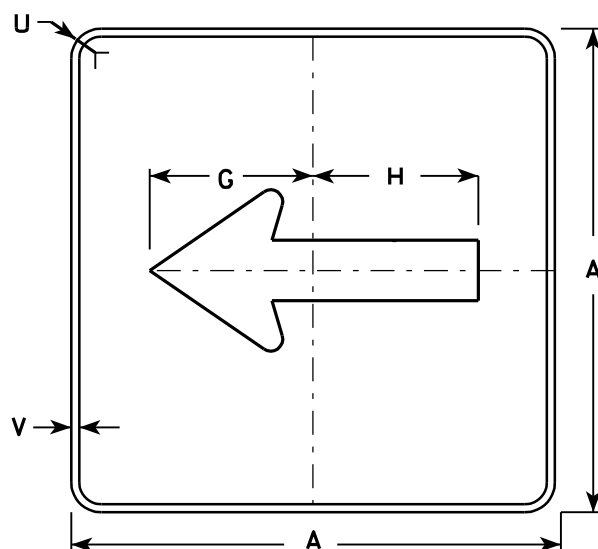
1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 4
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
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 - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. 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

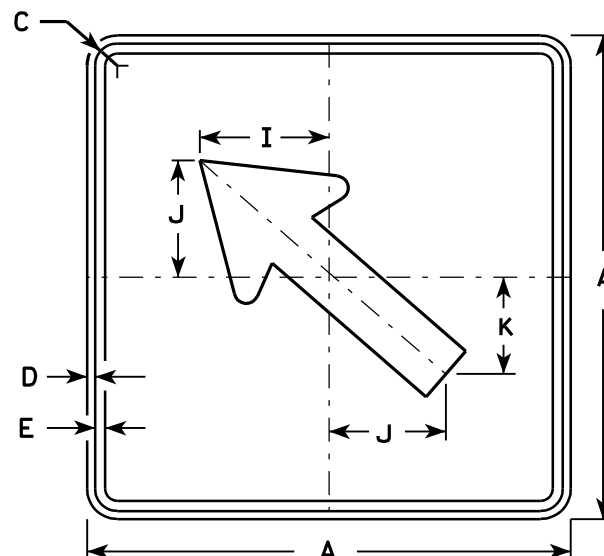
STANDARD SIGN	
M5-1 & M5-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 7/29/13	PLATE NO. M5-1.12



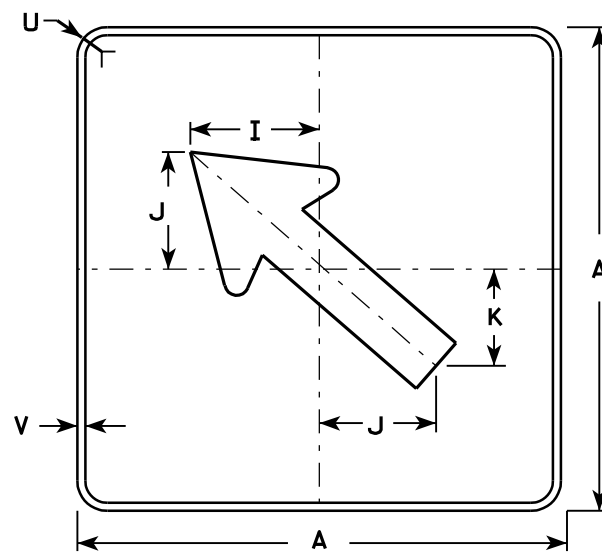
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



MB6-1
MG6-1
MN6-1



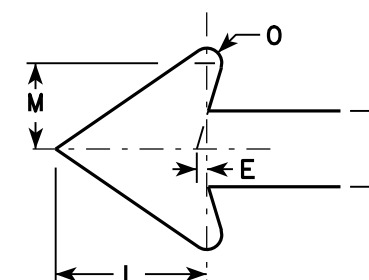
M6-2
MK6-2
MM6-2
MO6-2
MP6-2
MR6-2



MB6-2
MG6-2
MN6-2

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 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 - Type H Reflective Message - Black
 - MB6-1 and MB6-2 Background - Blue Message - White - Type H Reflective
 - MG6-1 and MG6-2 Background - Green Message - White - Type H Reflective
 - MK6-1 and MK6-2 Background - Green Message - White - Type H Reflective
 - MM6-1 and MM6-2 Background - White - Type H Reflective Message - Green
 - MN6-1 and MN6-2 Background - Brown Message - White - Type H Reflective
 - MO6-1 and MO6-2 Background - Orange - Type F Reflective Message - Black
 - MP6-1 and MP6-2 Background - White - Type H Reflective Message - Blue
 - MR6-1 and MR6-2 Background - Brown Message - Yellow - Type H Reflective



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 7/29/13 PLATE NO. M6-1.13

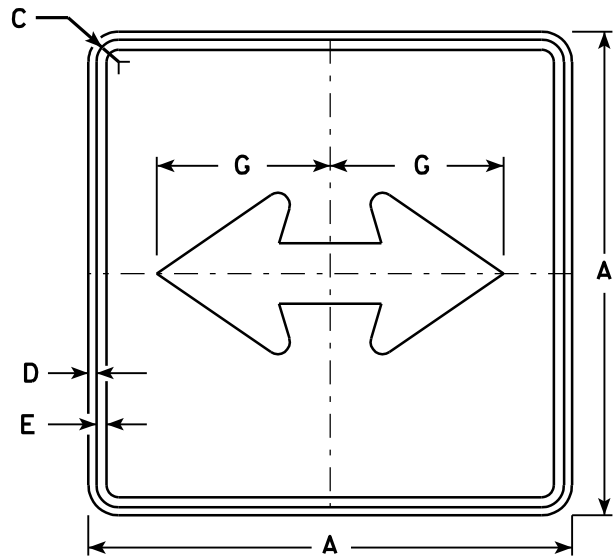
PROJECT NO:

HWY:

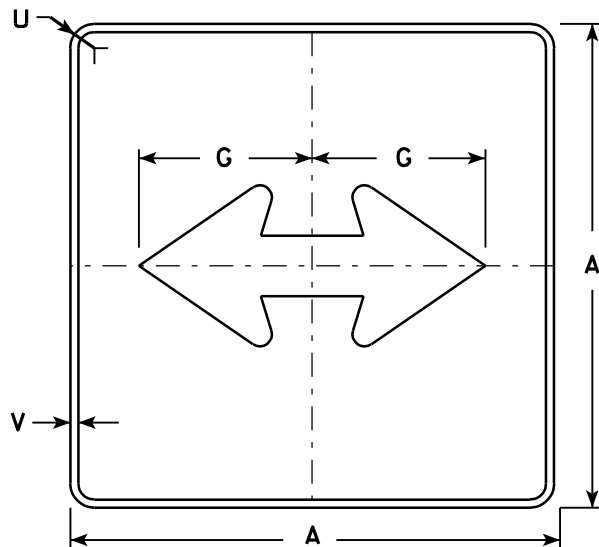
COUNTY:

SHEET NO: 142

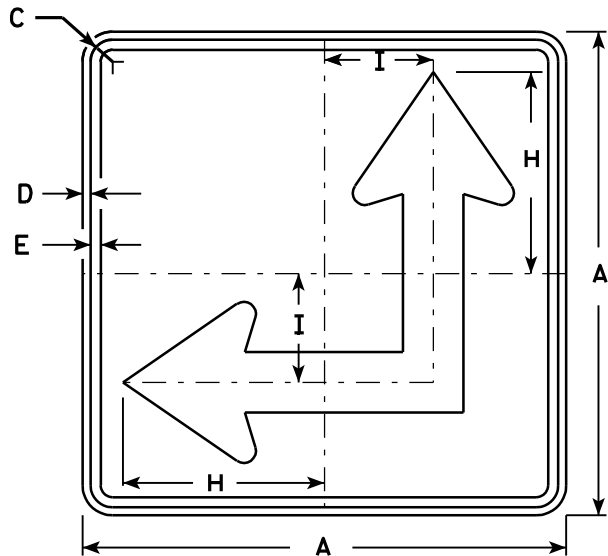
E



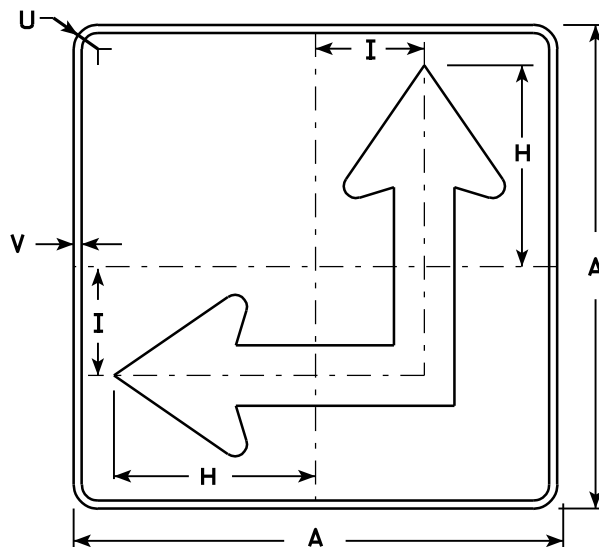
M6 - 4
MK6 - 4
MM6 - 4
MO6 - 4
MP6 - 4
MR6 - 4



MB6 - 4
MG6 - 4
MN6 - 4



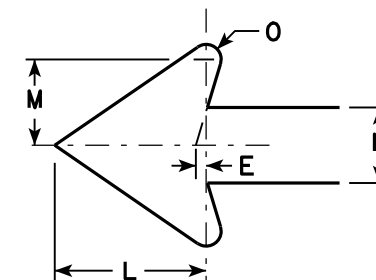
M6 - 6
MK6 - 6
MM6 - 6
MO6 - 6
MP6 - 6
MR6 - 6



MB6 - 6
MG6 - 6
MN6 - 6

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 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.
- M6-4 and M6-6 Background - White - Type H Reflective
Message - Black
MB6-4 and MB6-6 Background - Blue
Message - White - Type H Reflective
MG6-4 and MG6-6 Background - Green
Message - White - Type H Reflective
MK6-4 and MK6-6 Background - Green
Message - White - Type H Reflective
MM6-4 and MM6-6 Background - White - Type H Reflective
Message - Green
MN6-4 and MN6-6 Background - Brown
Message - White - Type H Reflective
MO6-4 and MO6-6 Background - Orange - Type F Reflective
Message - Black
MP6-4 and MP6-6 Background - White - Type H Reflective
Message - Blue
MR6-4 and MR6-6 Background - Brown
Message - Yellow - Type H Reflective
- M6-6R same as M6-6L except arrow points ahead and 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 1/2	8 3/4	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	12 1/2	6 3/4			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	12 1/2	6 3/4			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	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

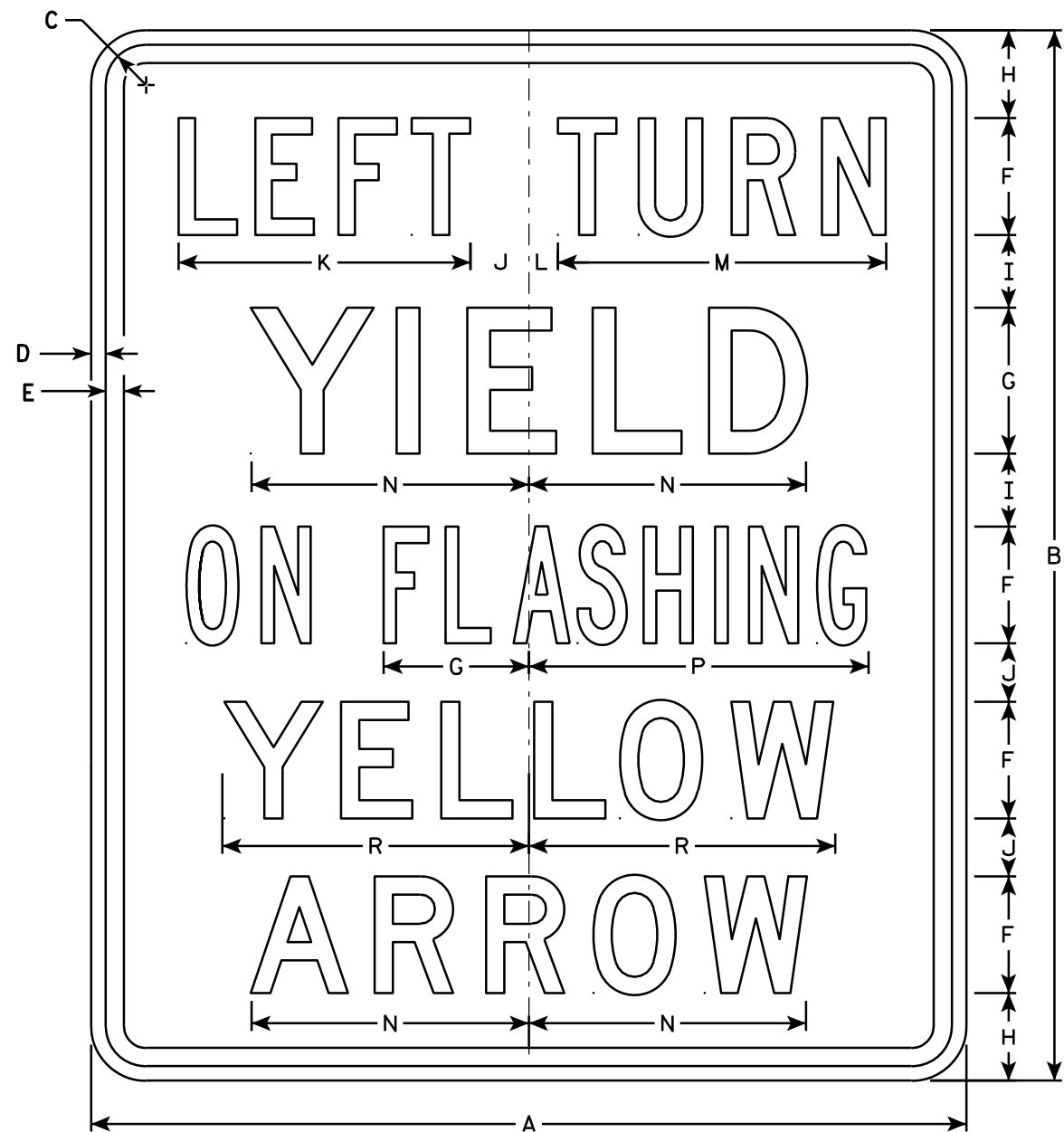
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 143	E
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STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-4.8

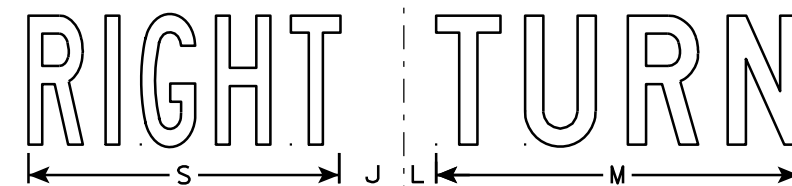


R10-50L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - 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 C.
Lines 2, 4 and 5 are Series D.
Line 3 is Series B.

"RIGHT" Is Series B



R10-50R

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3⁄8	1⁄2	5⁄8	4	5	3	2 1⁄2	2	10	1	11 1⁄4	9 1⁄2	4 1⁄4	11 5⁄8		10 1⁄2	9 5⁄8								7.5
2M	30	36	1 3⁄8	1⁄2	5⁄8	4	5	3	2 1⁄2	2	10	1	11 1⁄4	9 1⁄2	4 1⁄4	11 5⁄8		10 1⁄2	9 5⁄8								7.5
3																											
4																											
5																											

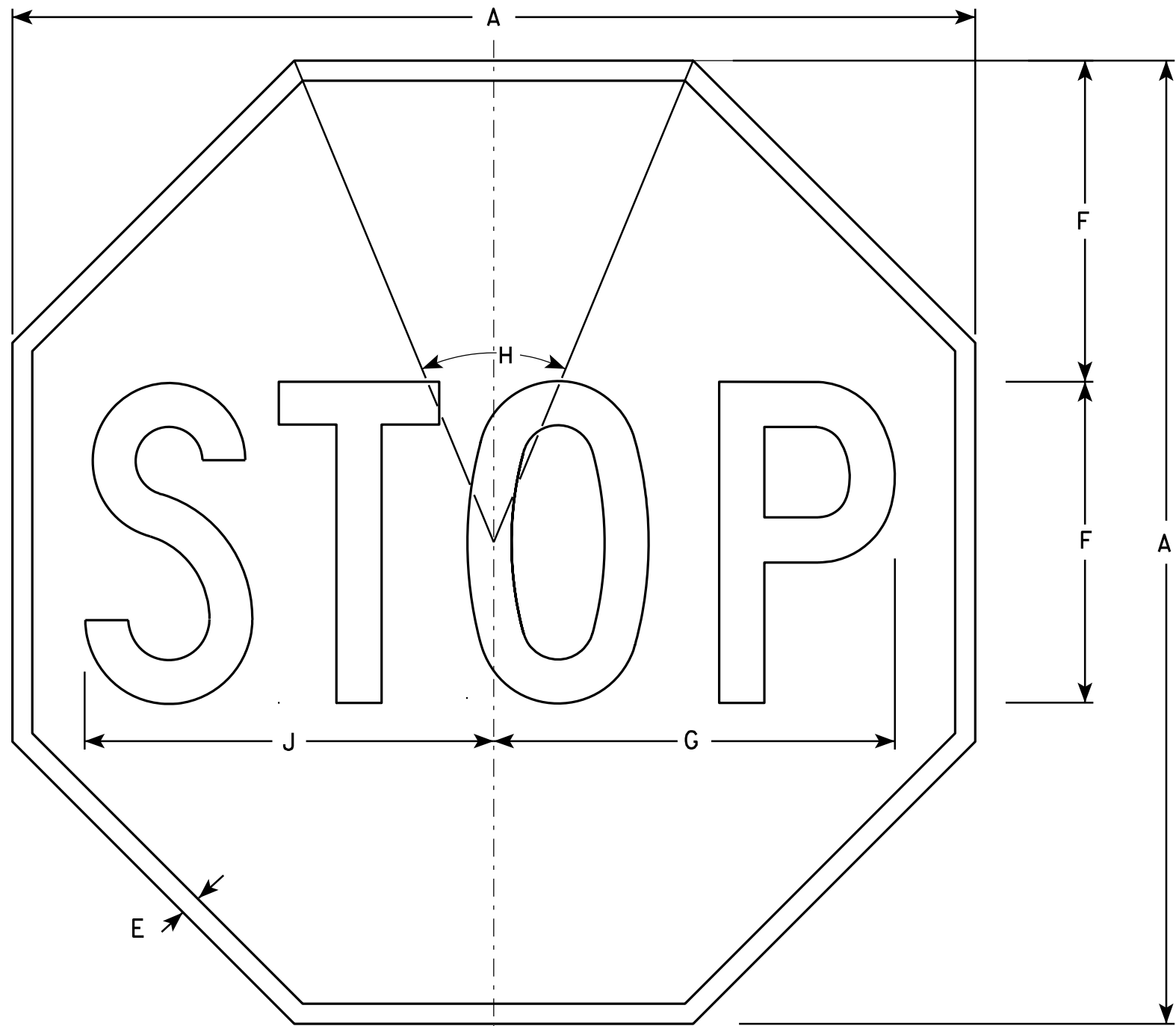
STANDARD SIGN R10-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/11/13 PLATE NO. R10-50.2

PROJECT NO: HWY: COUNTY: SHEET NO: 144 E



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Red
Message - White
- 3. Message Series - C

R1-1

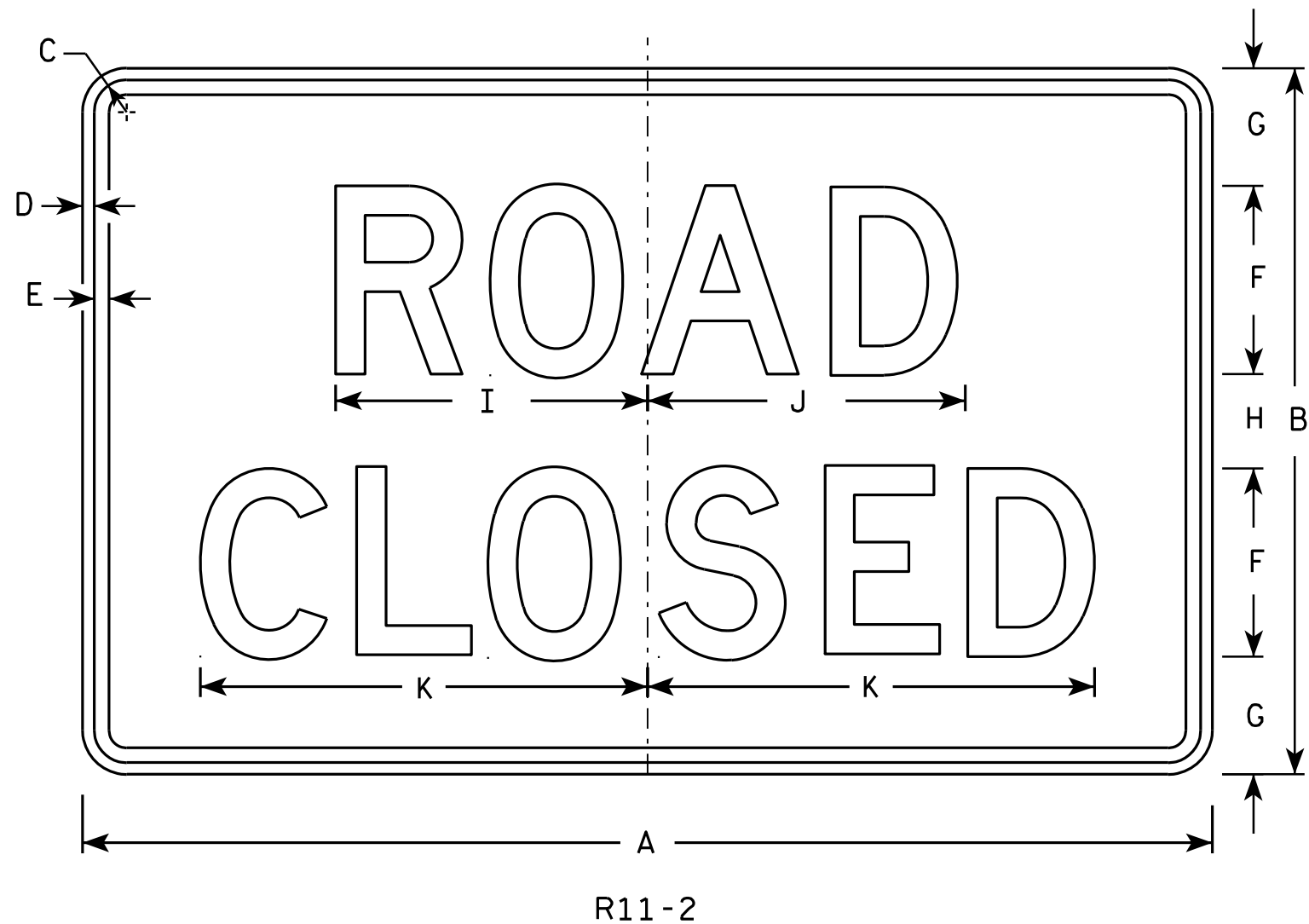
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

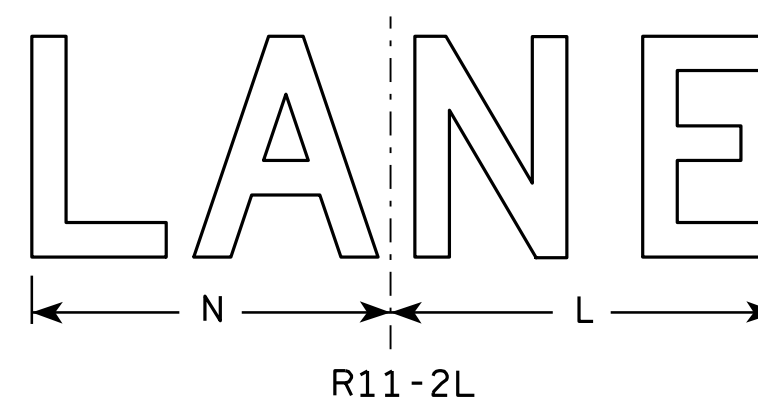
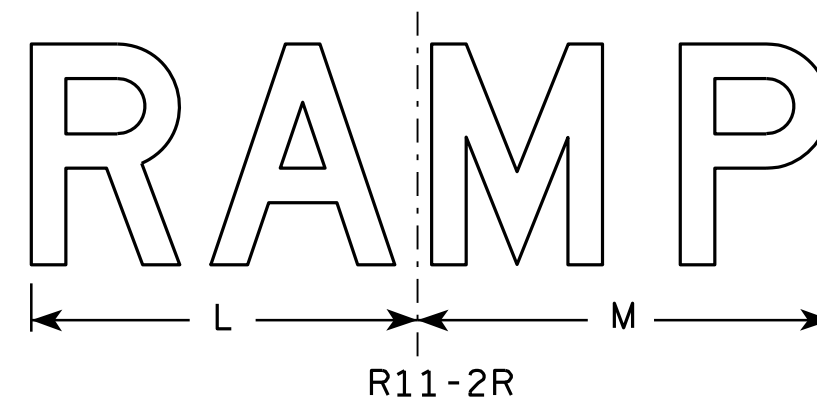
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12



NOTES

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

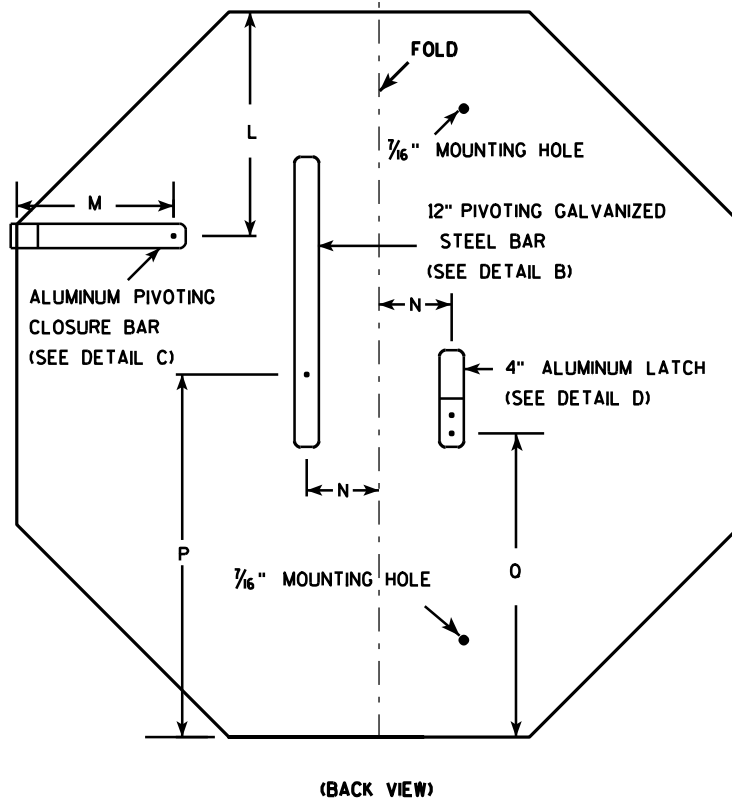
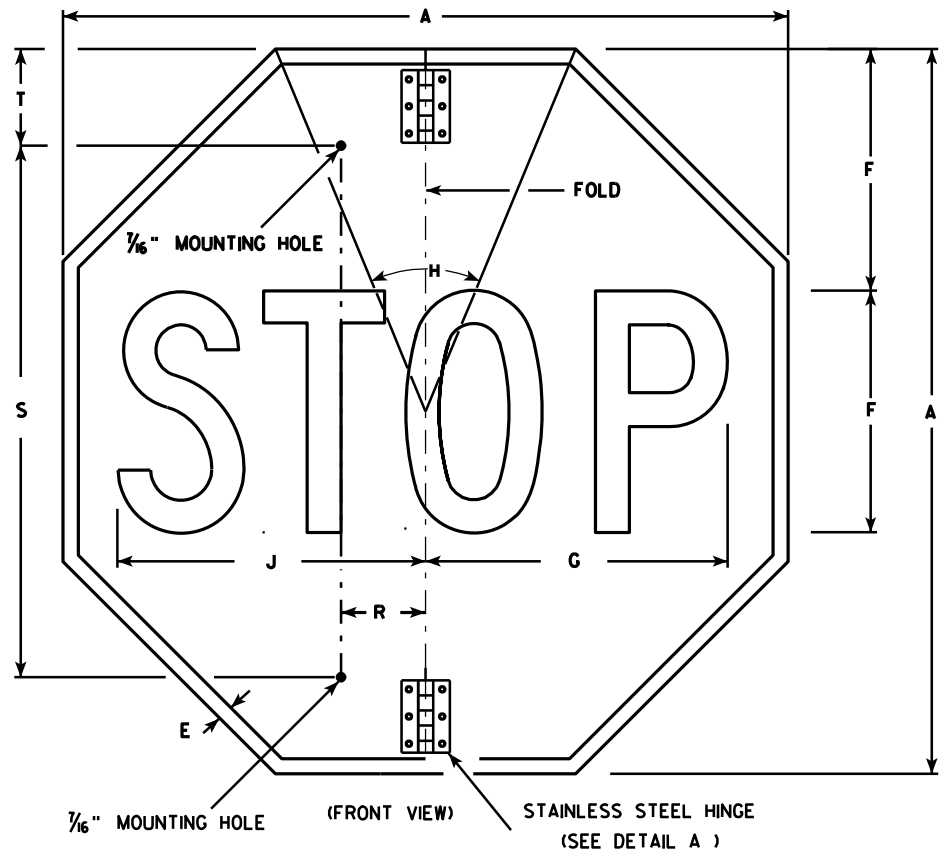


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13				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

STANDARD SIGN R11-2

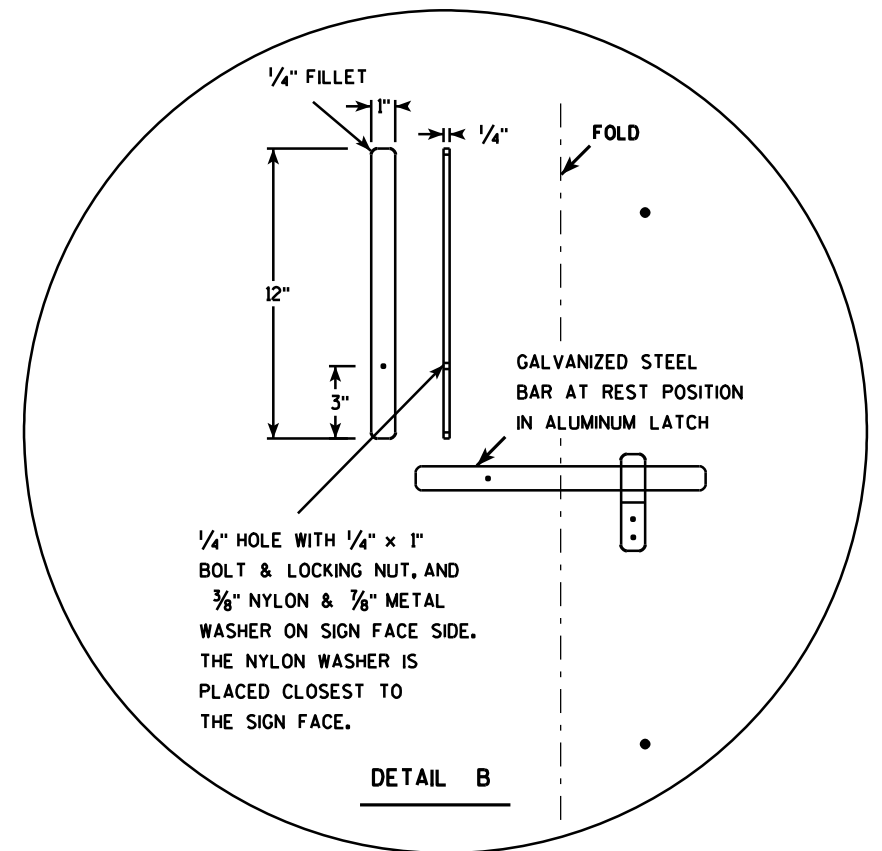
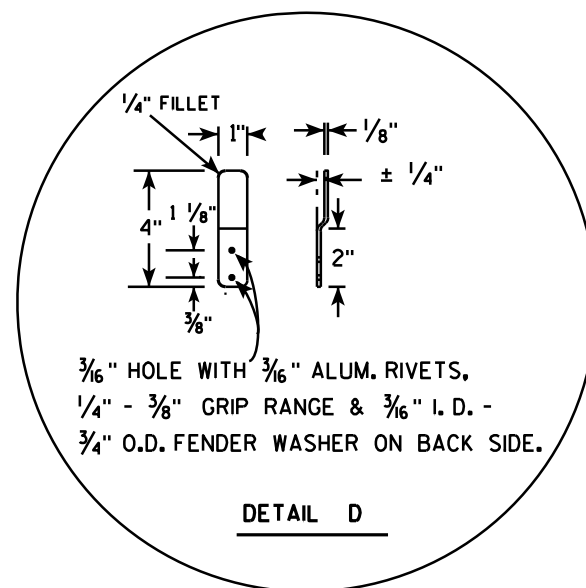
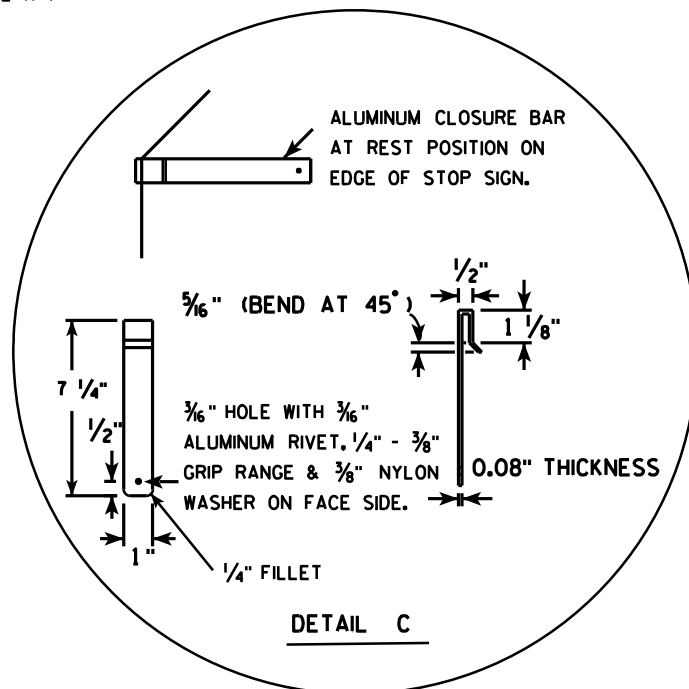
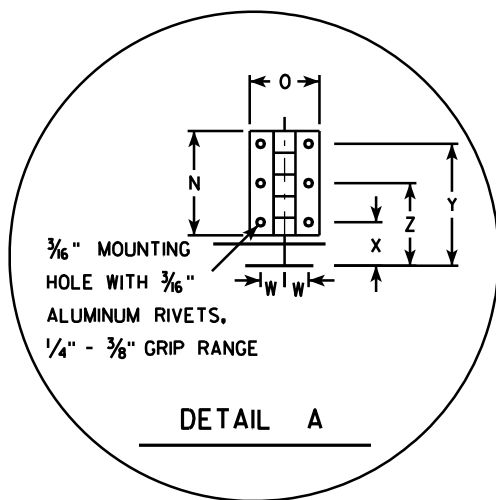
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: HWY: COUNTY: SHEET NO: 146 E



NOTES

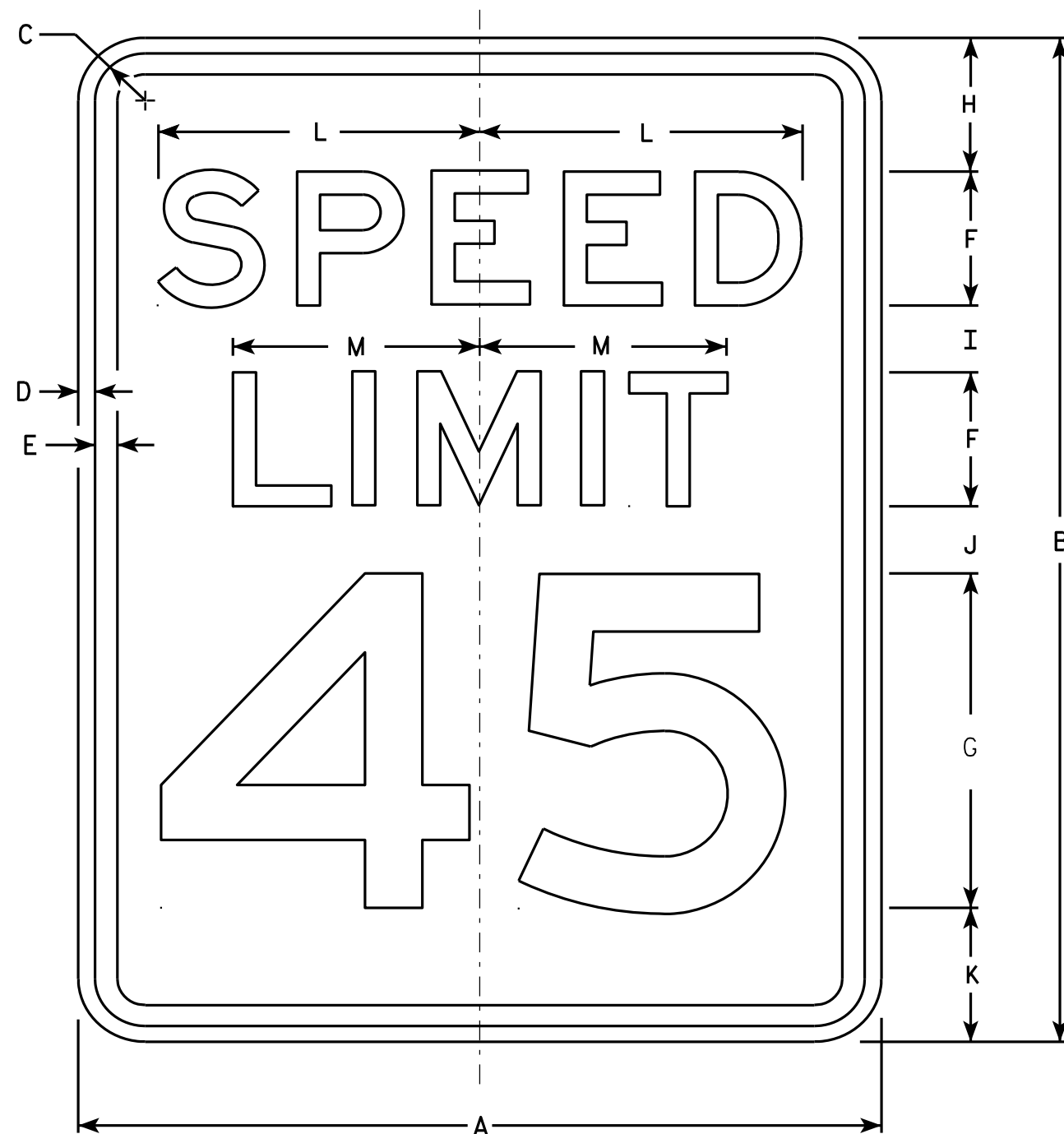
- Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Red
Message - White
- Message Series - C
- All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				$\frac{5}{8}$	10	12 $\frac{1}{2}$	45		12 $\frac{3}{4}$		9 $\frac{1}{4}$	6 $\frac{1}{2}$	3	2	15	12 $\frac{3}{8}$	2 $\frac{1}{2}$	22	5			$\frac{1}{16}$	1 $\frac{1}{4}$	3 $\frac{1}{2}$	2 $\frac{3}{8}$	5.18
2M	36				$\frac{3}{4}$	12	15	45		15 $\frac{3}{8}$		11	6 $\frac{1}{2}$	3	2	18	15 $\frac{3}{8}$	2 $\frac{1}{2}$	26	5			$\frac{1}{16}$	1 $\frac{1}{4}$	3 $\frac{1}{2}$	2 $\frac{3}{8}$	7.46
3	36				$\frac{3}{4}$	12	15	45		15 $\frac{3}{8}$		11	6 $\frac{1}{2}$	3	2	18	15 $\frac{3}{8}$	2 $\frac{1}{2}$	26	5			$\frac{1}{16}$	1 $\frac{1}{4}$	3 $\frac{1}{2}$	2 $\frac{3}{8}$	7.46
4																											
5																											

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 147	E
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STANDARD SIGN R1-1F	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 12/03/10	PLATE NO. R1-1F.3



R2-1

NOTES

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

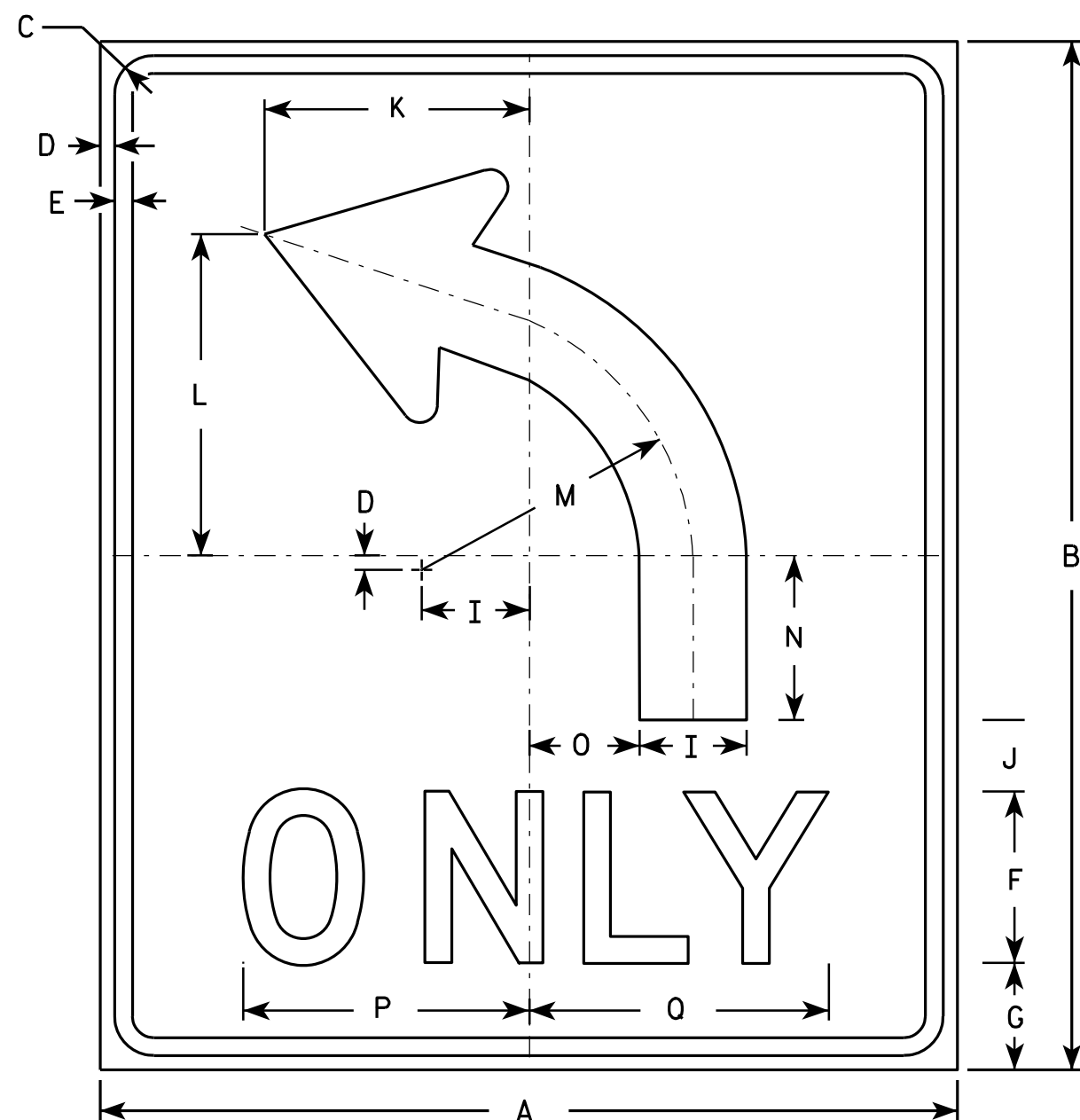
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: 148 E

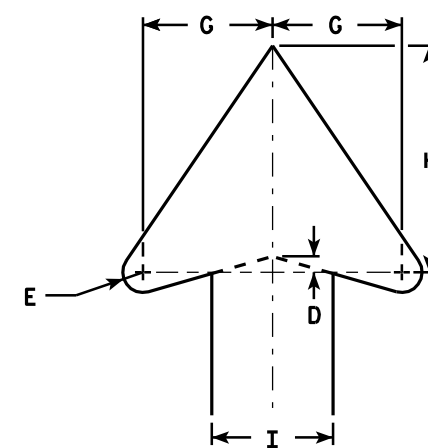
7



R3-50L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R3-50R is the same as R3-50L except curved portion of arrow points right.



ARROW DETAIL

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 ³ / ₈	¹ / ₂	⁵ / ₈	6	4	7	3 ³ / ₄	2 ¹ / ₂	9 ¹ / ₄	11 ¹ / ₄	9 ¹ / ₂	5 ³ / ₄	3 ⁷ / ₈	10	10 ¹ / ₂										7.5
2M	30	36	1 ³ / ₈	¹ / ₂	⁵ / ₈	6	4	7	3 ³ / ₄	2 ¹ / ₂	9 ¹ / ₄	11 ¹ / ₄	9 ¹ / ₂	5 ³ / ₄	3 ⁷ / ₈	10	10 ¹ / ₂										7.5
3																											
4																											
5																											

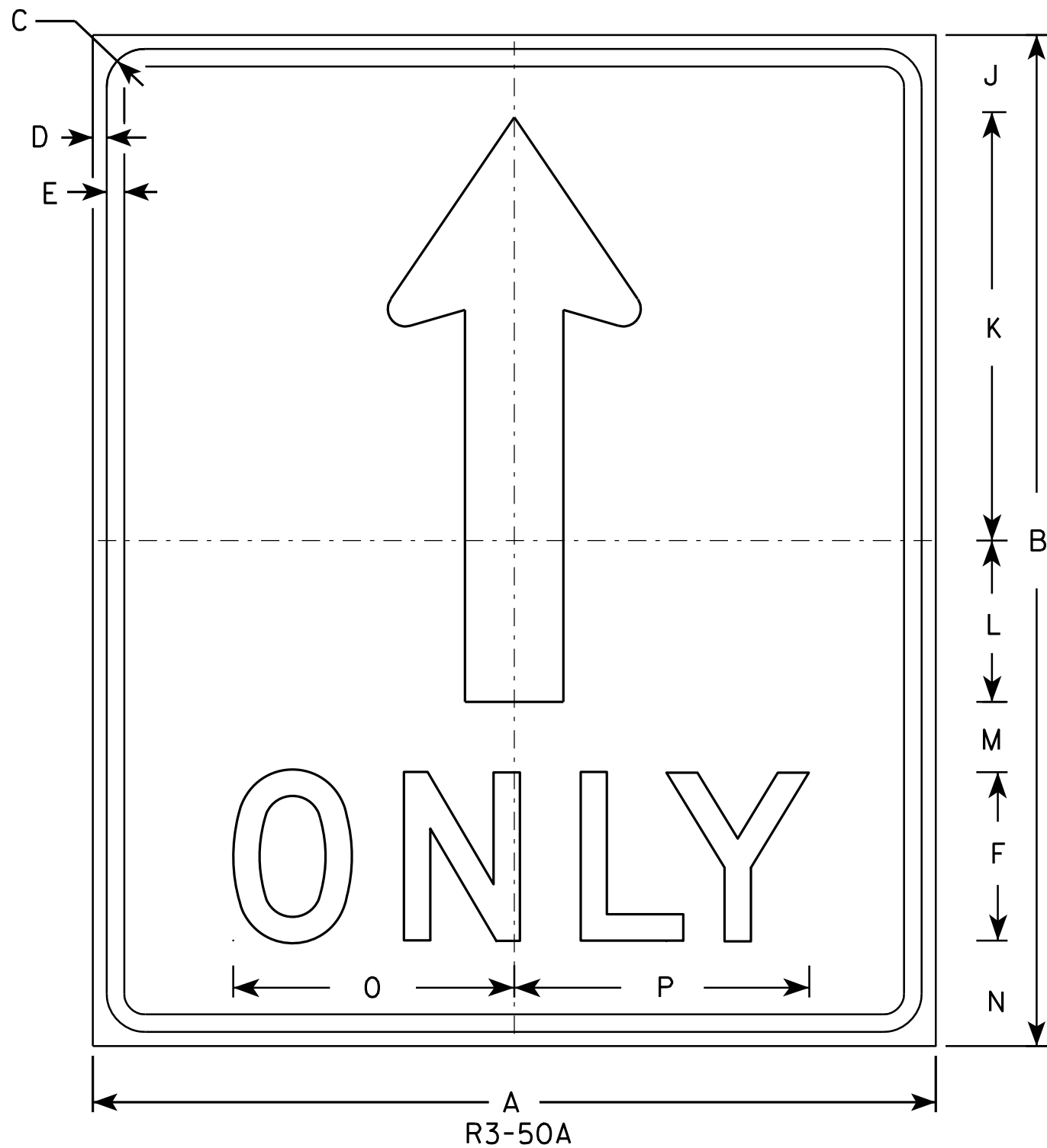
STANDARD SIGN
R3-50

WISCONSIN DEPT OF TRANSPORTATION

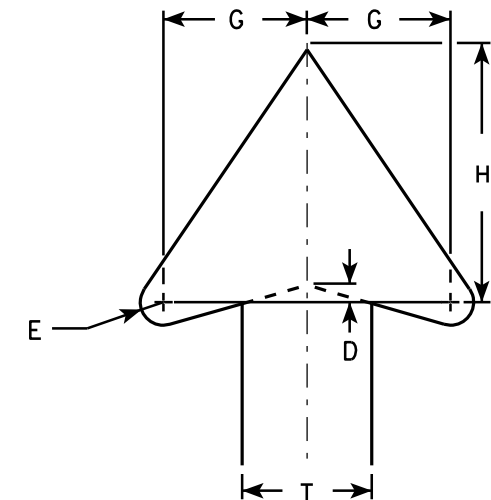
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-50.2

PROJECT NO: HWY: COUNTY: SHEET NO: 149 E



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



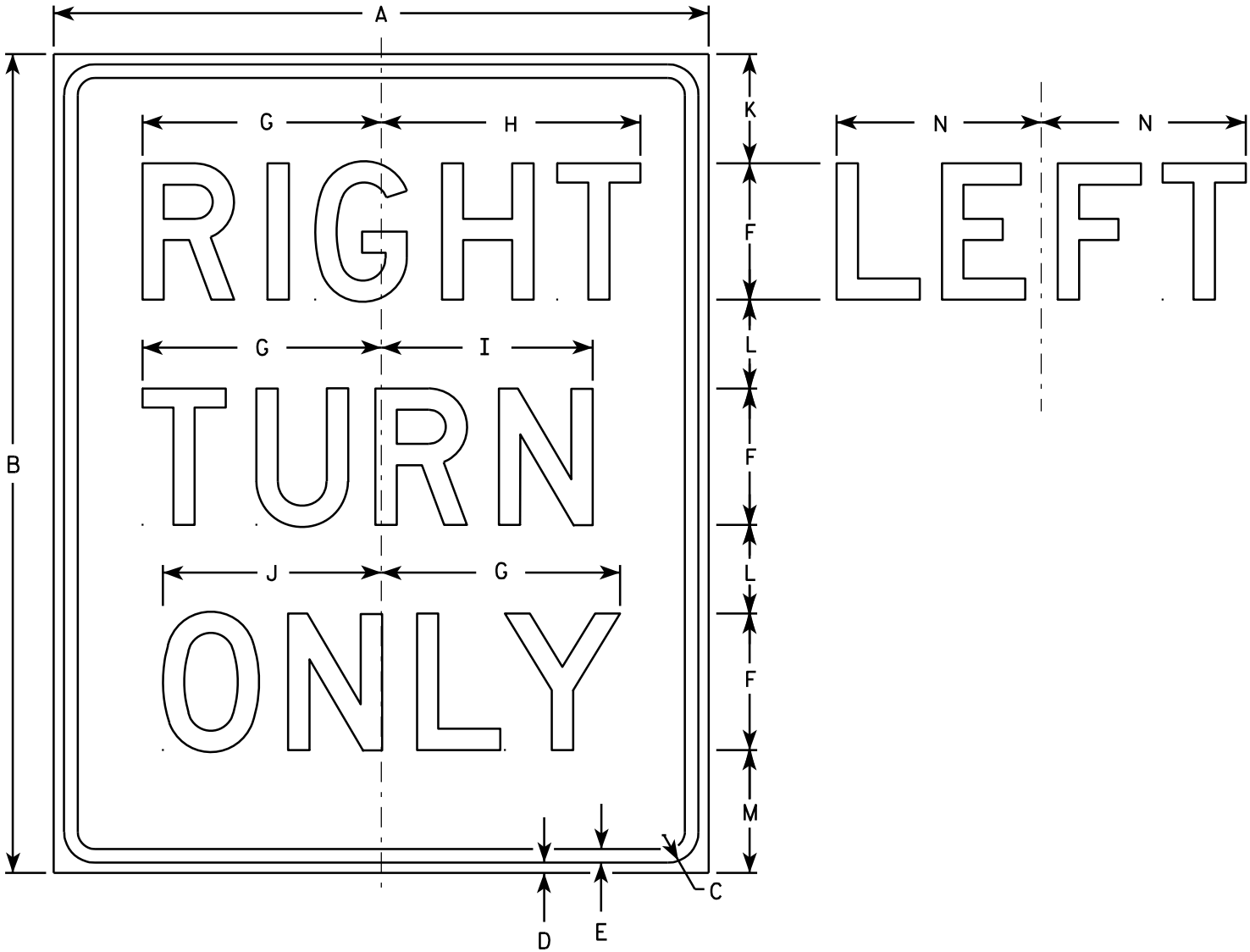
ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3⁄8	1⁄2	5⁄8	6	4	7	3 1⁄2	2 3⁄4	15 1⁄4	5 3⁄4	2 1⁄2	3 3⁄4	10	10 1⁄2											7.5
2M	30	36	1 3⁄8	1⁄2	5⁄8	6	4	7	3 1⁄2	2 3⁄4	15 1⁄4	5 3⁄4	2 1⁄2	3 3⁄4	10	10 1⁄2											7.5
3																											
4																											
5																											

STANDARD SIGN R3-50A	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/24/2011	PLATE NO. R3-50A.3

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. R3-53L same as R3-53R except LEFT is substituted for RIGHT.



R3-53R

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
2M	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
3	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
4																											
5																											

STANDARD SIGN
R3-53

WISCONSIN DEPT OF TRANSPORTATION

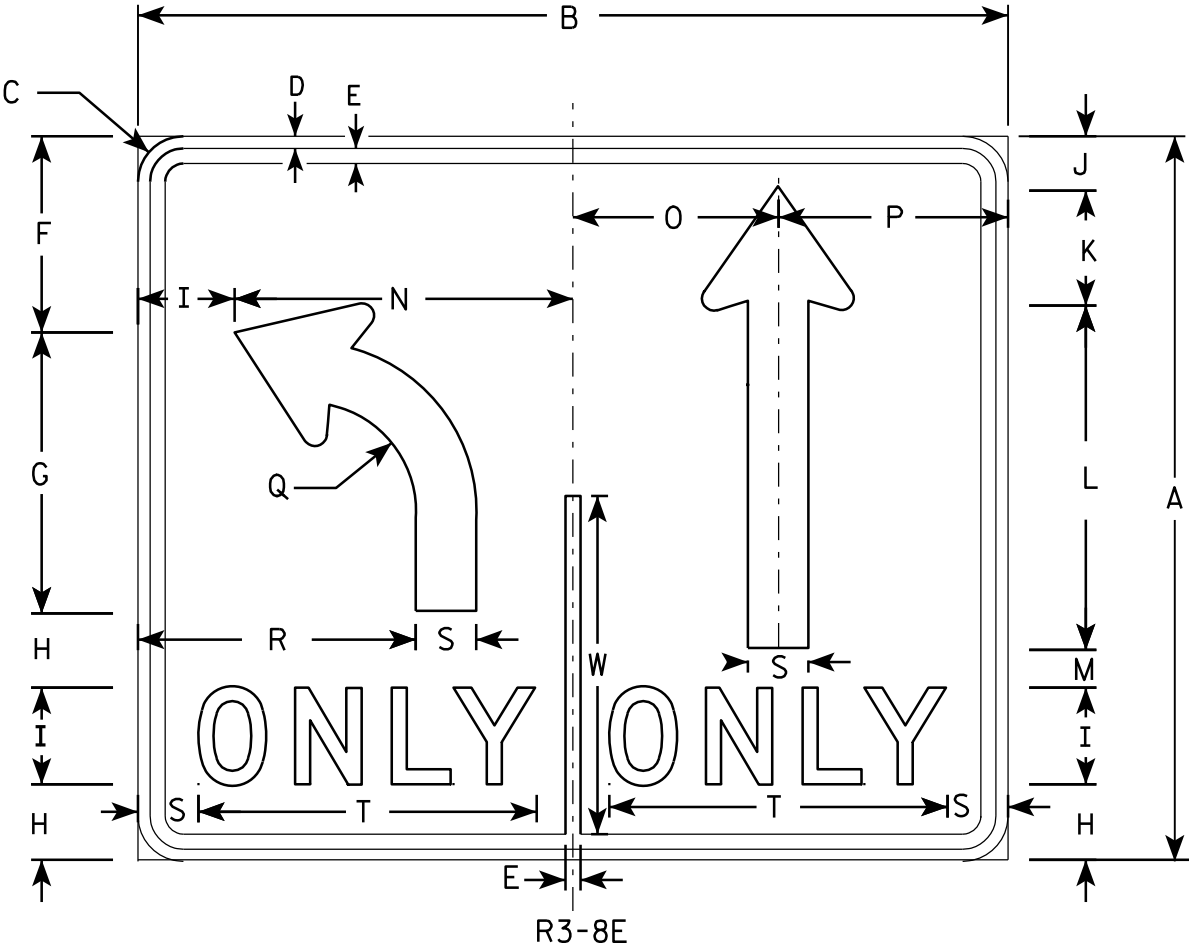
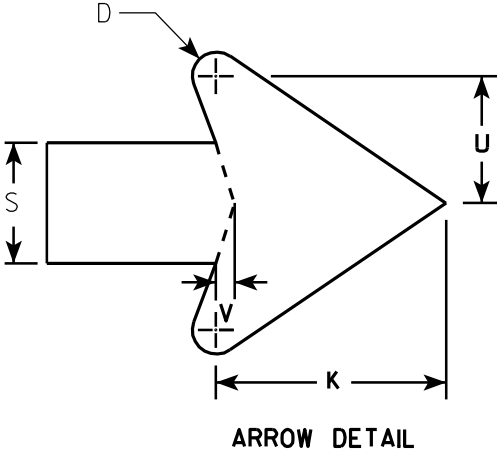
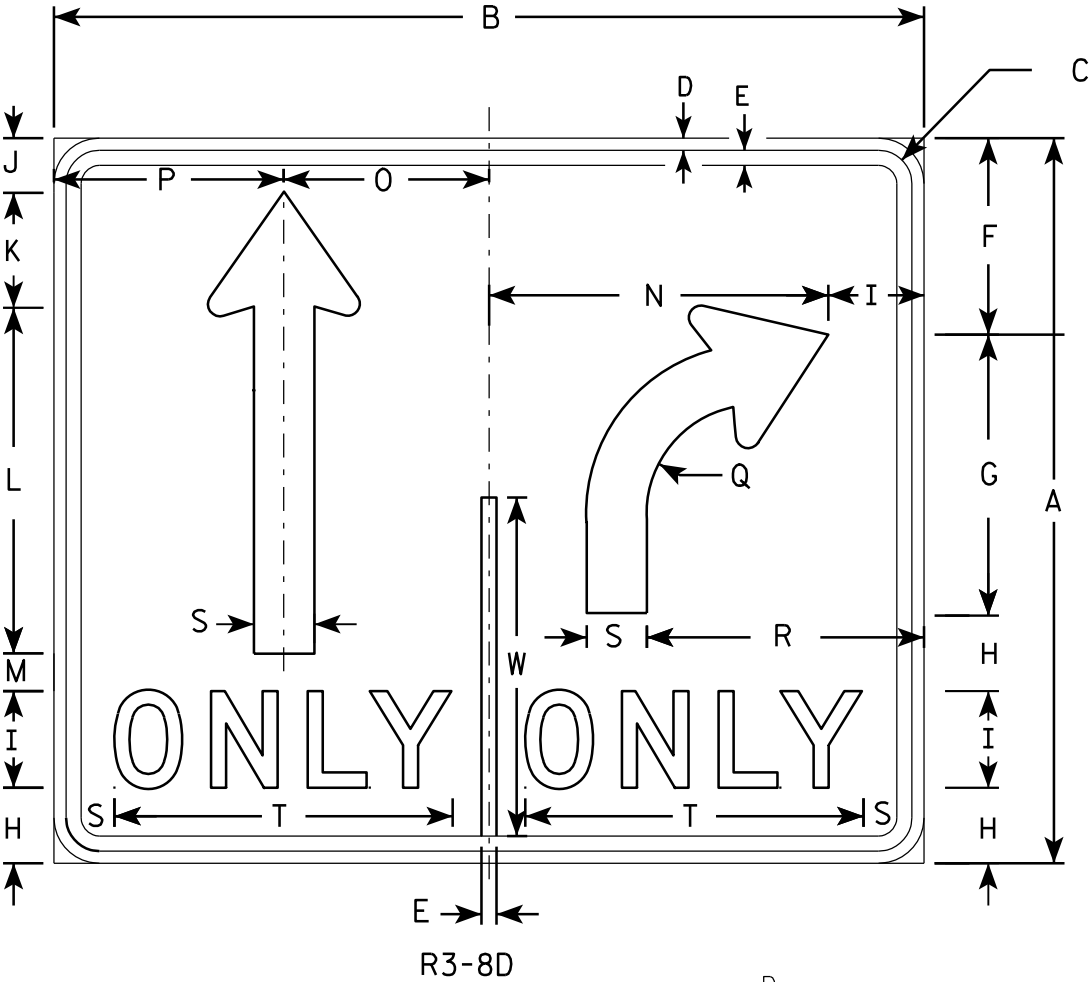
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-53.8

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 151	E
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NOTES

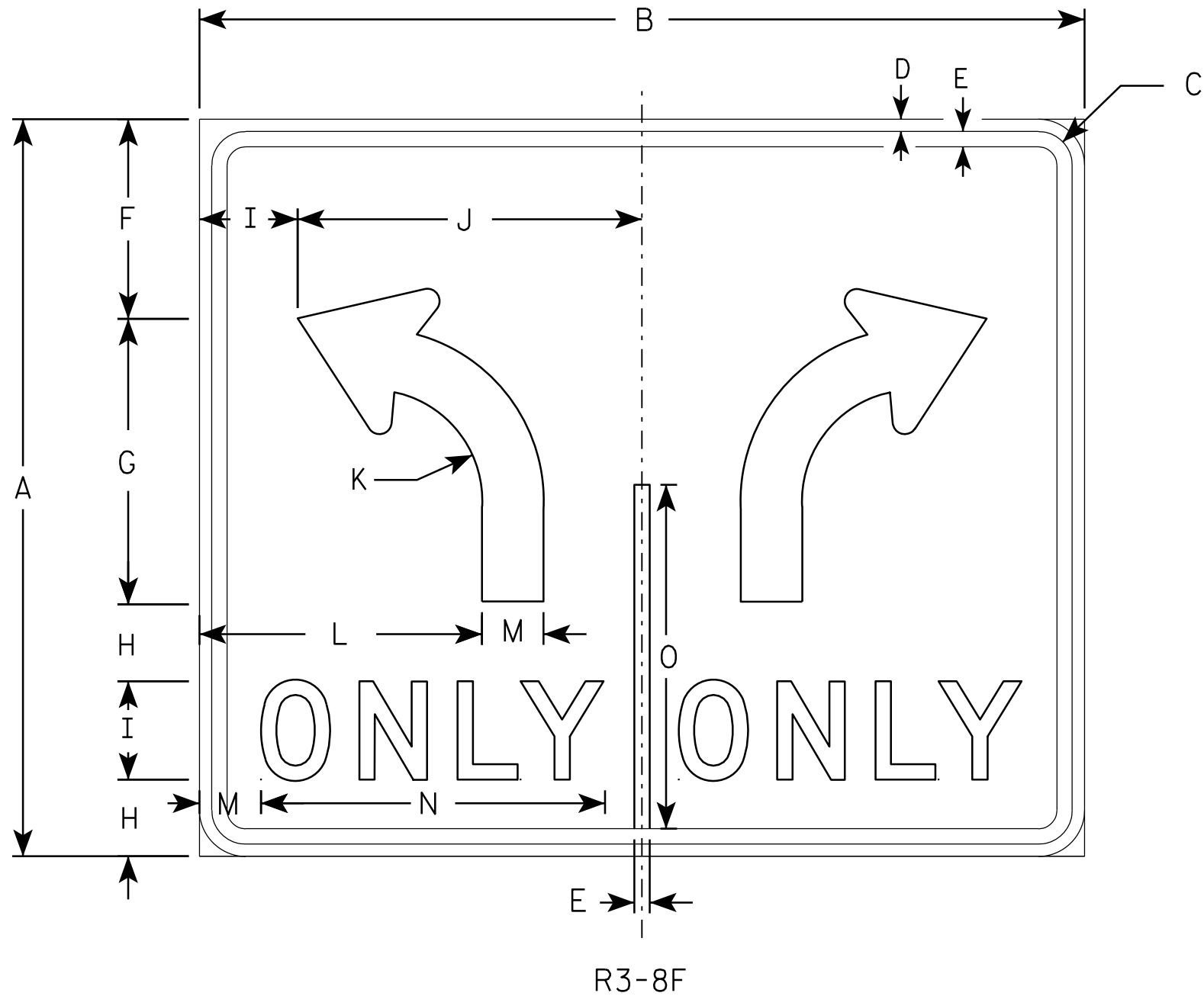
- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - WHITE
Message - BLACK
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3⁄8	1⁄2	5⁄8	8 1⁄8	11 5⁄8	3 1⁄8	4	2 1⁄4	4 3⁄4	14 1⁄4	1 5⁄8	14	8 1⁄2	9 1⁄2	4 1⁄2	11 1⁄2	2 1⁄2	14	2 5⁄8	3⁄8	14				7.5
2M	30	36	1 3⁄8	1⁄2	5⁄8	8 1⁄8	11 5⁄8	3 1⁄8	4	2 1⁄4	4 3⁄4	14 1⁄4	1 5⁄8	14	8 1⁄2	9 1⁄2	4 1⁄2	11 1⁄2	2 1⁄2	14	2 5⁄8	3⁄8	14				7.5
3																											
4	48	54	2 1⁄4	3⁄4	1	13 1⁄4	18 1⁄2	5 1⁄8	6	3 1⁄2	7 1⁄8	21 1⁄2	4 3⁄4	21	12 3⁄4	14 1⁄4	7 1⁄4	17 1⁄8	3 3⁄4	20 5⁄8	4	5⁄8	22 3⁄8				18.0
5	48	54	2 1⁄4	3⁄4	1	13 1⁄4	18 1⁄2	5 1⁄8	6	3 1⁄2	7 1⁄8	21 1⁄2	4 3⁄4	21	12 3⁄4	14 1⁄4	7 1⁄4	17 1⁄8	3 3⁄4	20 5⁄8	4	5⁄8	22 3⁄8				18.0

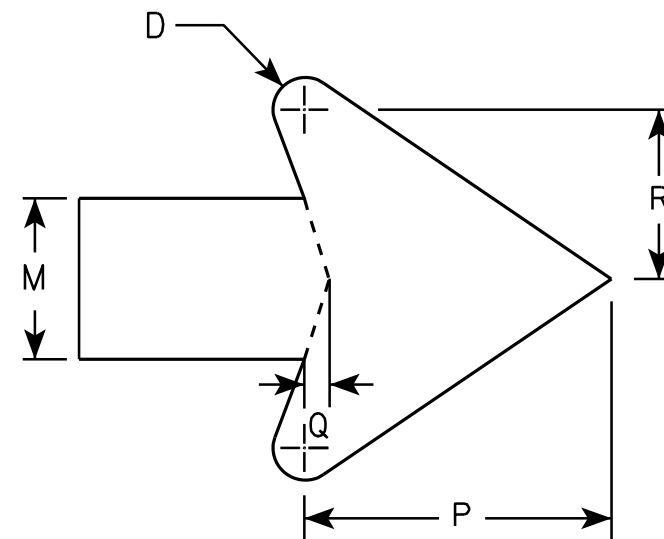
STANDARD SIGN
R3-8D & R3-8E

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/18/2011 PLATE NO. R3-8D.2



NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 ³ / ₈	¹ / ₂	⁵ / ₈	8 ¹ / ₈	11 ⁵ / ₈	3 ¹ / ₈	4	14	4 ¹ / ₂	11 ¹ / ₂	2 ¹ / ₂	14	14	4 ³ / ₄	³ / ₈	2 ⁵ / ₈									7.5
2M	30	36	1 ³ / ₈	¹ / ₂	⁵ / ₈	8 ¹ / ₈	11 ⁵ / ₈	3 ¹ / ₈	4	14	4 ¹ / ₂	11 ¹ / ₂	2 ¹ / ₂	14	14	4 ³ / ₄	³ / ₈	2 ⁵ / ₈									7.5
3																											
4	48	54	2 ¹ / ₄	³ / ₄	1	13 ¹ / ₄	18 ¹ / ₂	5 ¹ / ₈	6	21	7 ¹ / ₄	17 ¹ / ₄	3 ³ / ₄	20 ⁵ / ₈	22 ³ / ₈	7 ¹ / ₈	⁵ / ₈	4									18.0
5	48	54	2 ¹ / ₄	³ / ₄	1	13 ¹ / ₄	18 ¹ / ₂	5 ¹ / ₈	6	21	7 ¹ / ₄	17 ¹ / ₄	3 ³ / ₄	20 ⁵ / ₈	22 ³ / ₈	7 ¹ / ₈	⁵ / ₈	4									18.0

STANDARD SIGN R3-8F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8F.2

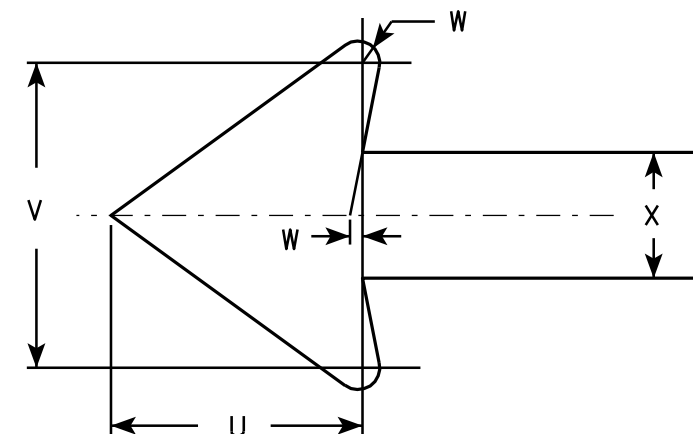
PROJECT NO: HWY: COUNTY: SHEET NO: 153 E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Red
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. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
R7-1L (left arrow)
R7-1R (right arrow)



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	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO: HWY: COUNTY: SHEET NO: 154 E

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - 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.



R9-9

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 ¾	½	½	4	3 ½	3	10 ¾	8 ⅛																	3.75
2M	30	18	1 ¾	½	½	4	3 ½	3	10 ¾	8 ⅛																	3.75
3																											
4																											
5																											

STANDARD SIGN

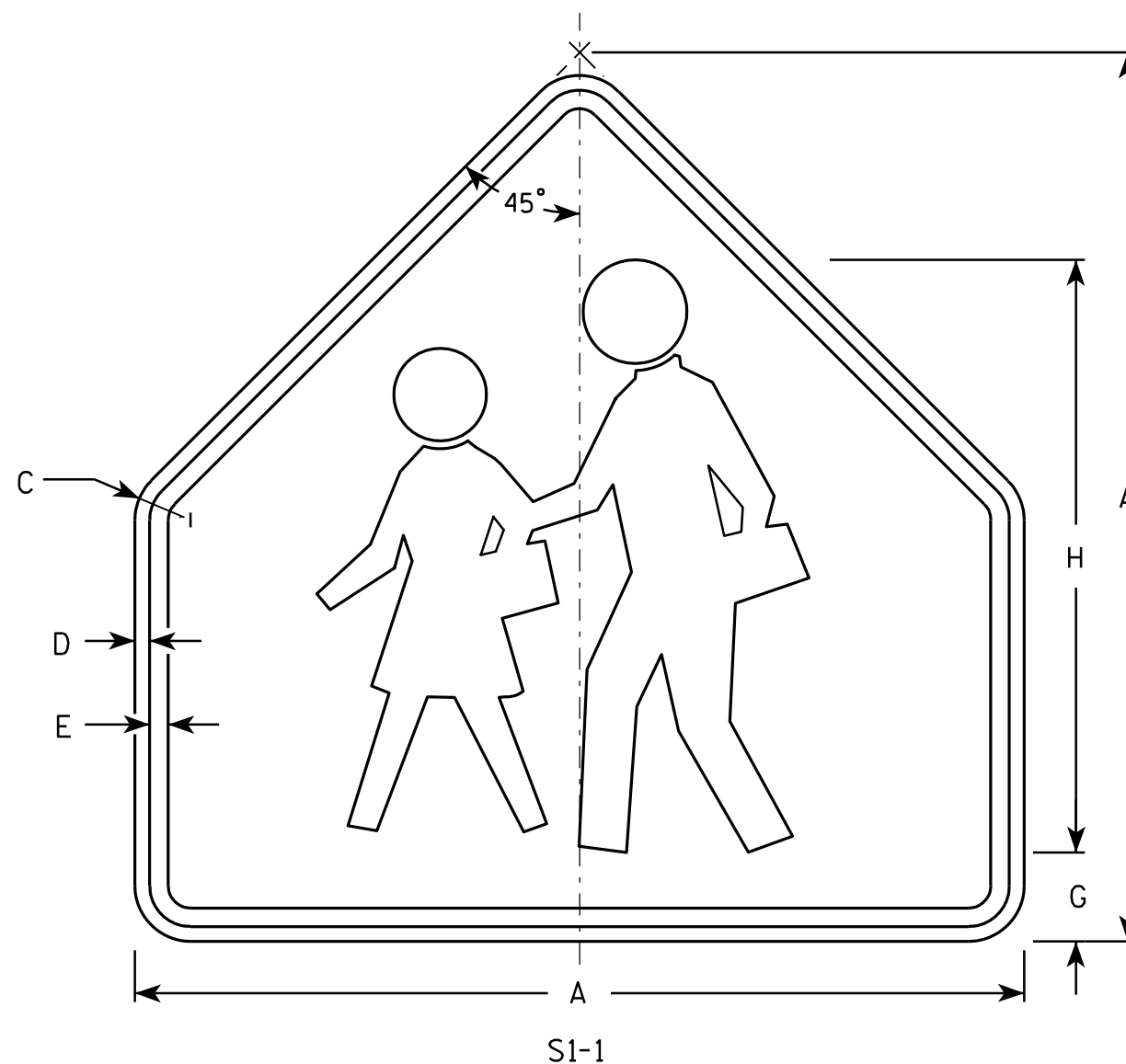
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/2011 PLATE NO. R9-9.5

PROJECT NO: HWY: COUNTY: SHEET NO: 155 E



NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Yellow-Green
Message - Black
- 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	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

STANDARD SIGN S1-1

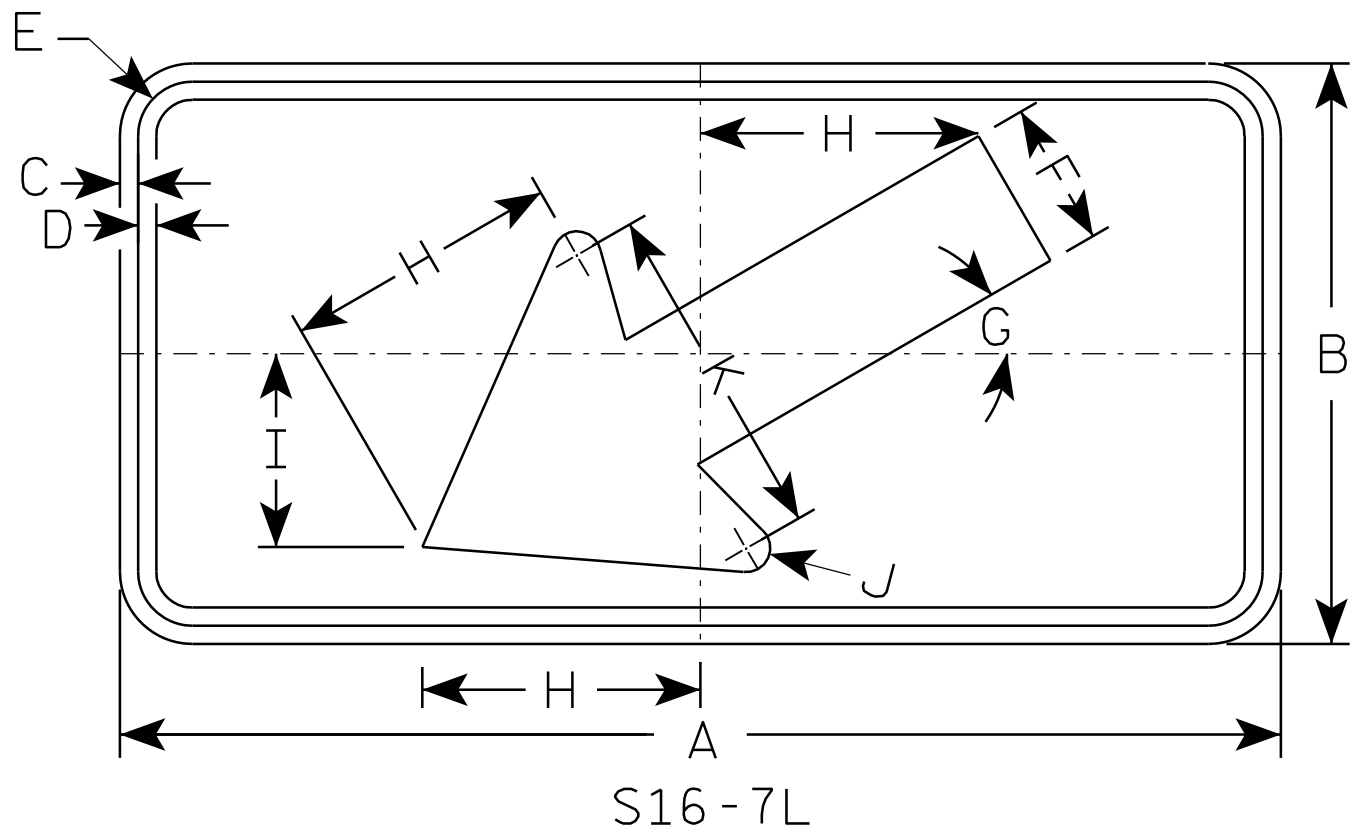
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO: HWY: COUNTY: SHEET NO: 156 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 - Yellow-Green
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. S16-7R are the same as S16-7L except the arrow is reversed along the vertical centerline.

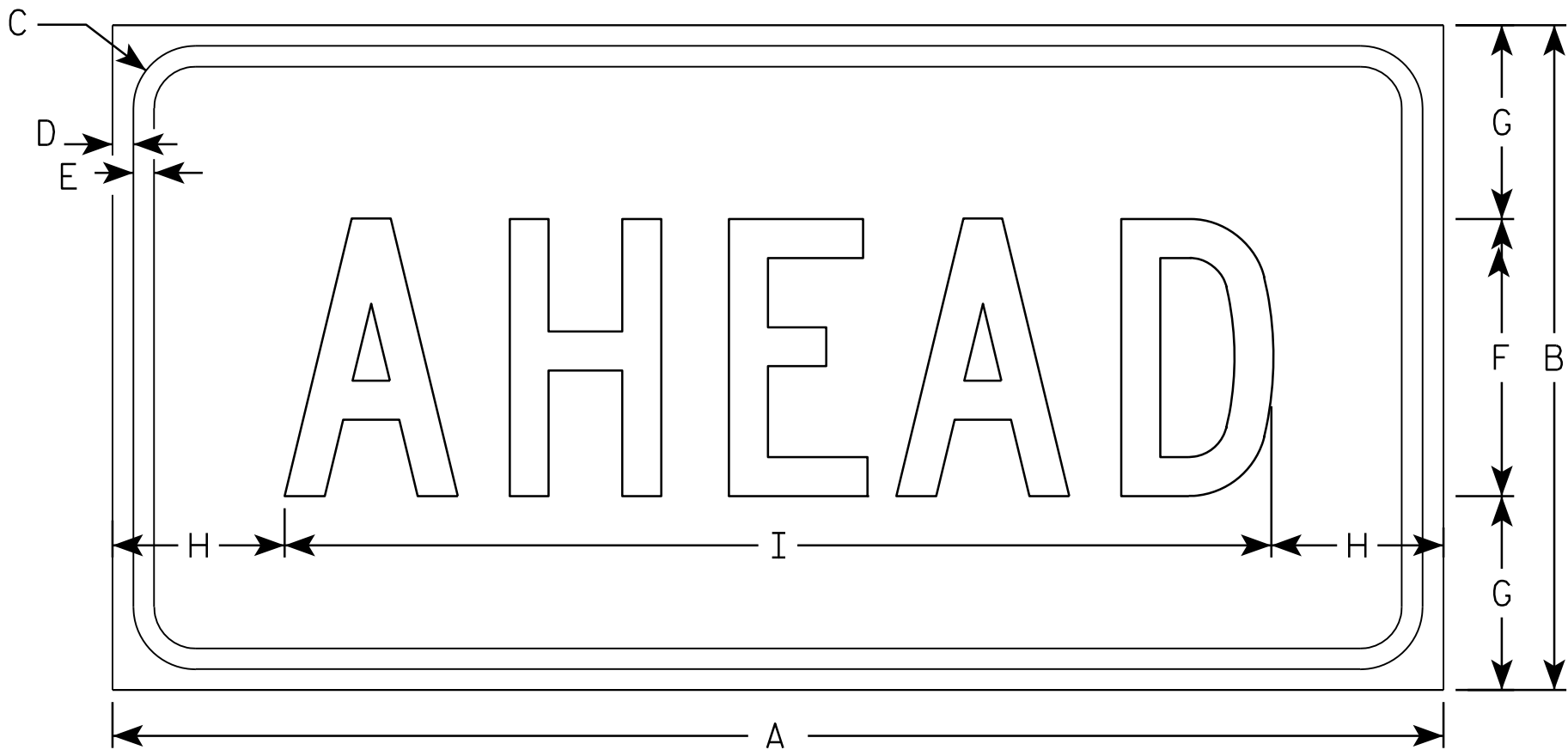


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2S	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
5																											

STANDARD SIGN	
S16-7	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 7/22/13	PLATE NO. S16-7.1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow-Green
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.



S16-9P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2S	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN
S16-9P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/22/13 PLATE NO. S16-9P.1

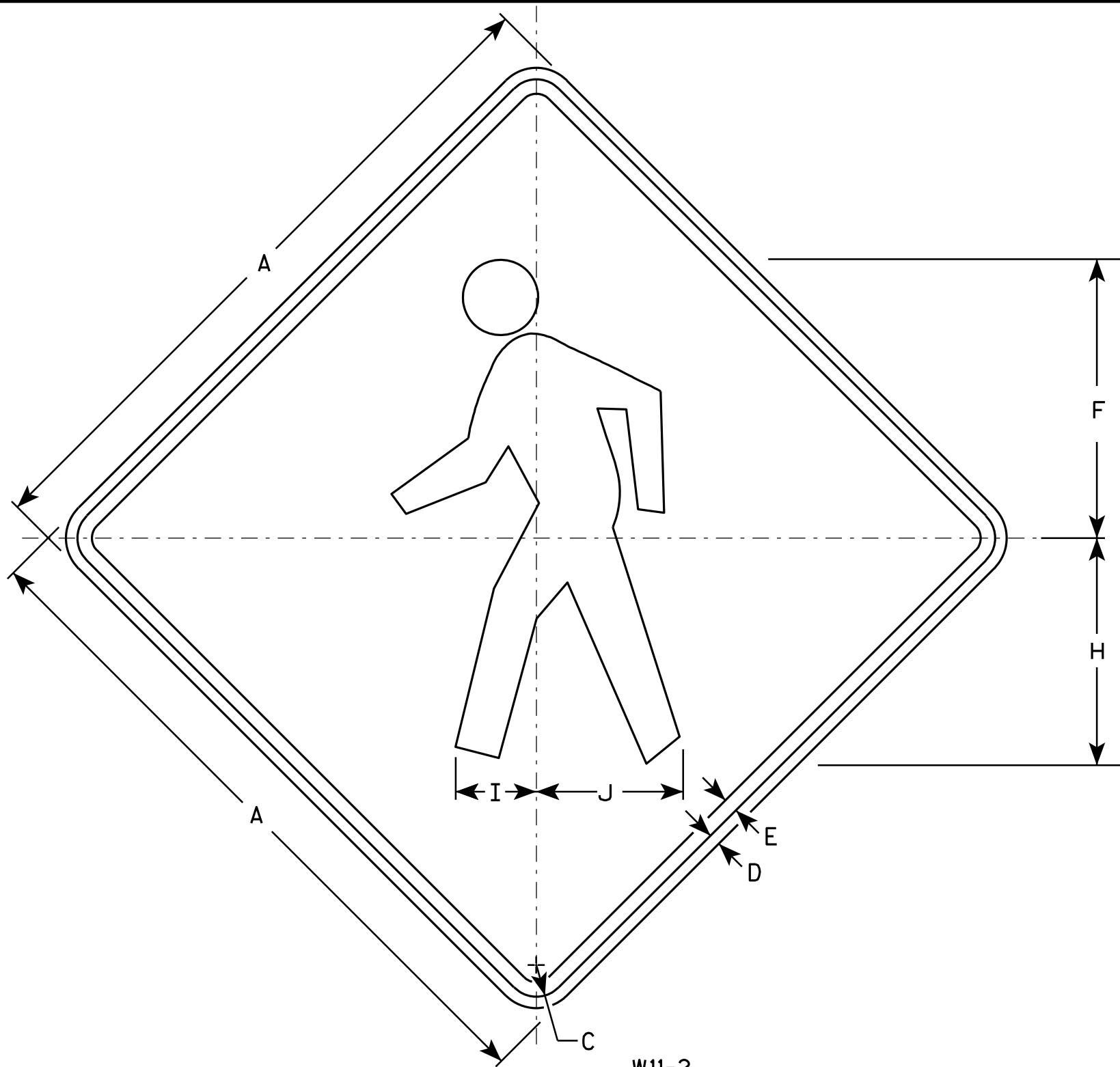
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 158

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 - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

W11-2

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

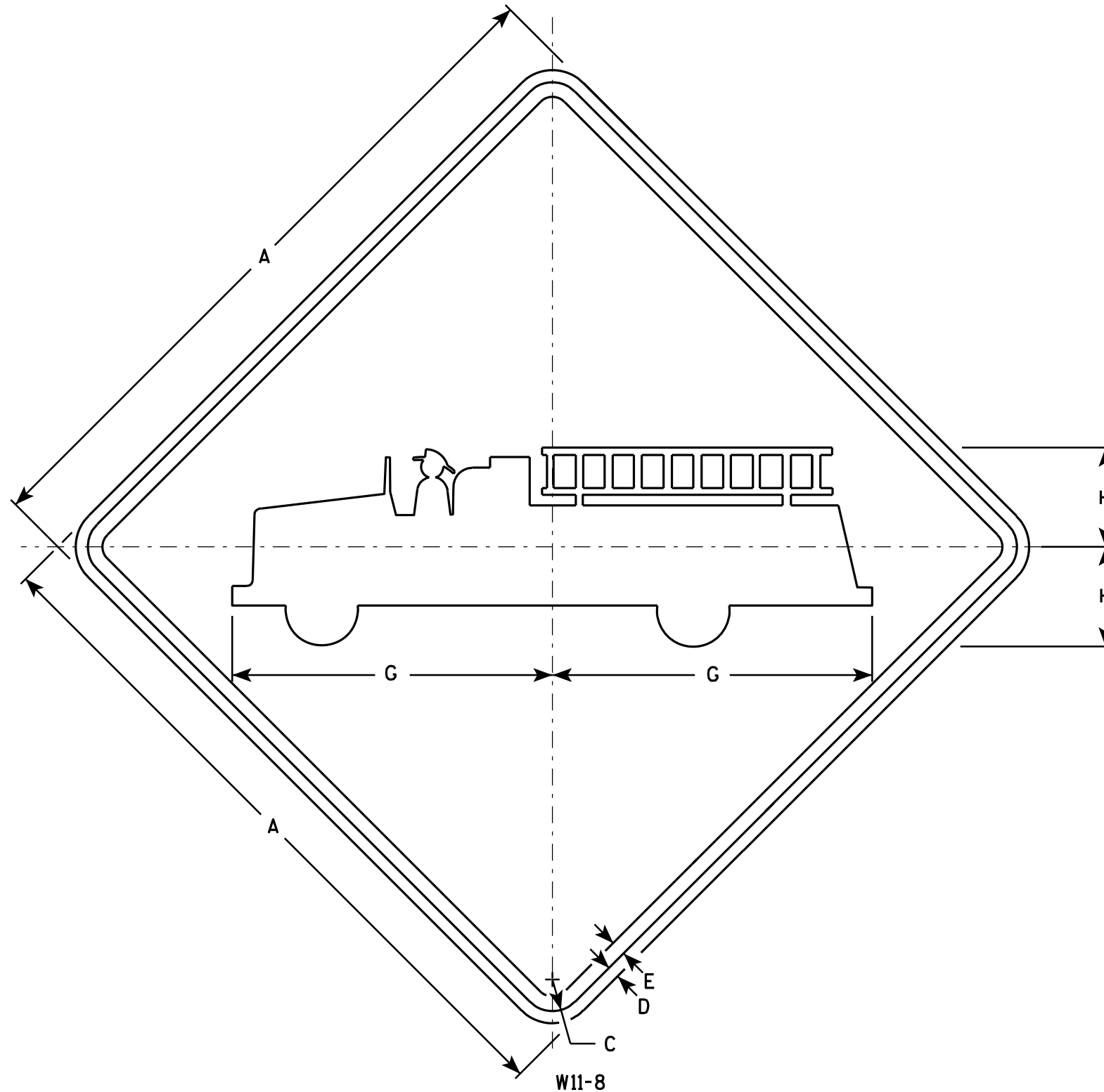
STANDARD SIGN W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

PROJECT NO: HWY: COUNTY: SHEET NO: 159 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 - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

W11-8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		11	3 3/8																			4.0
2S	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
2M	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
3	36		1 5/8	5/8	3/4		16 1/2	5 1/4																			9.0
4	48		2 1/4	3/4	1		22	7																			16.0
5																											

STANDARD SIGN W11-8

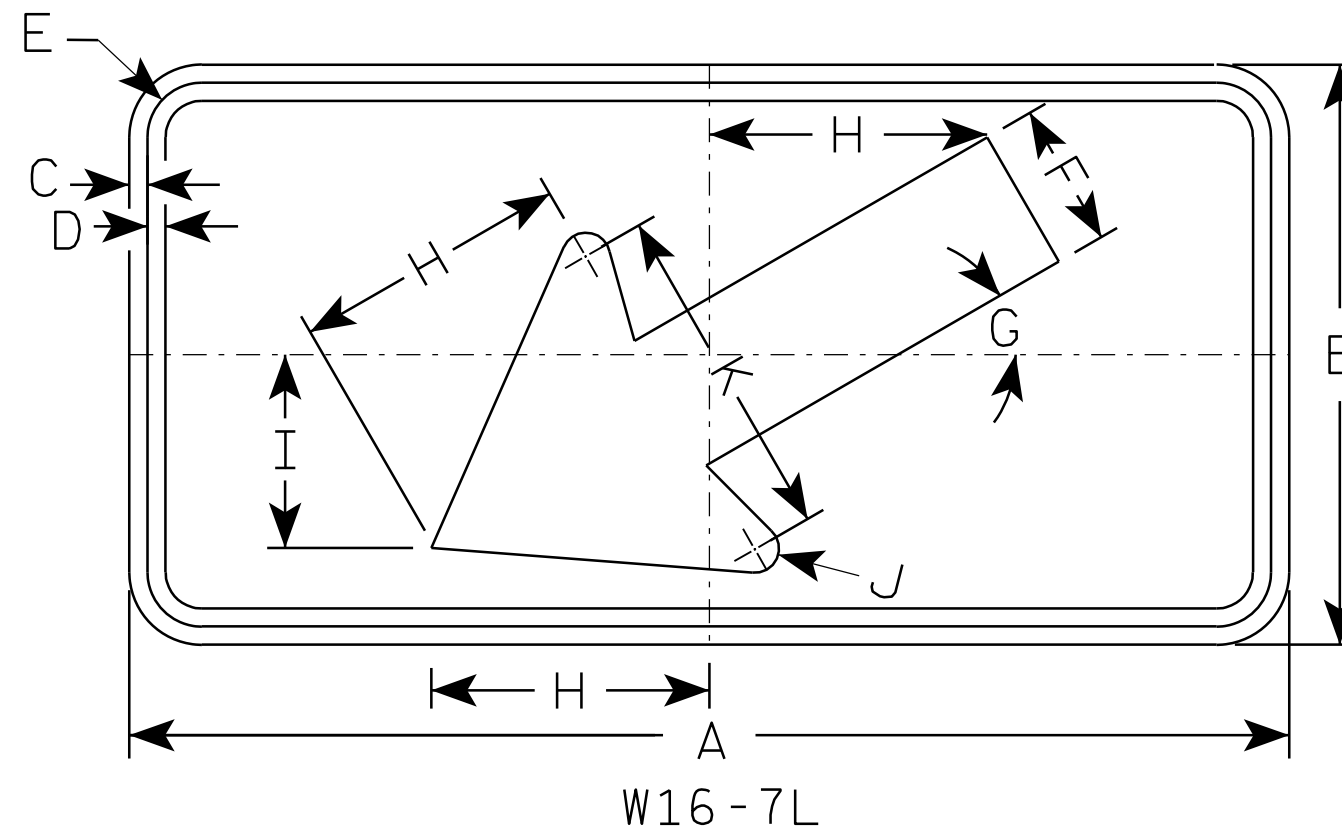
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/13/13 PLATE NO. W11-8.7

PROJECT NO:

SHEET NO: 160

NOTES

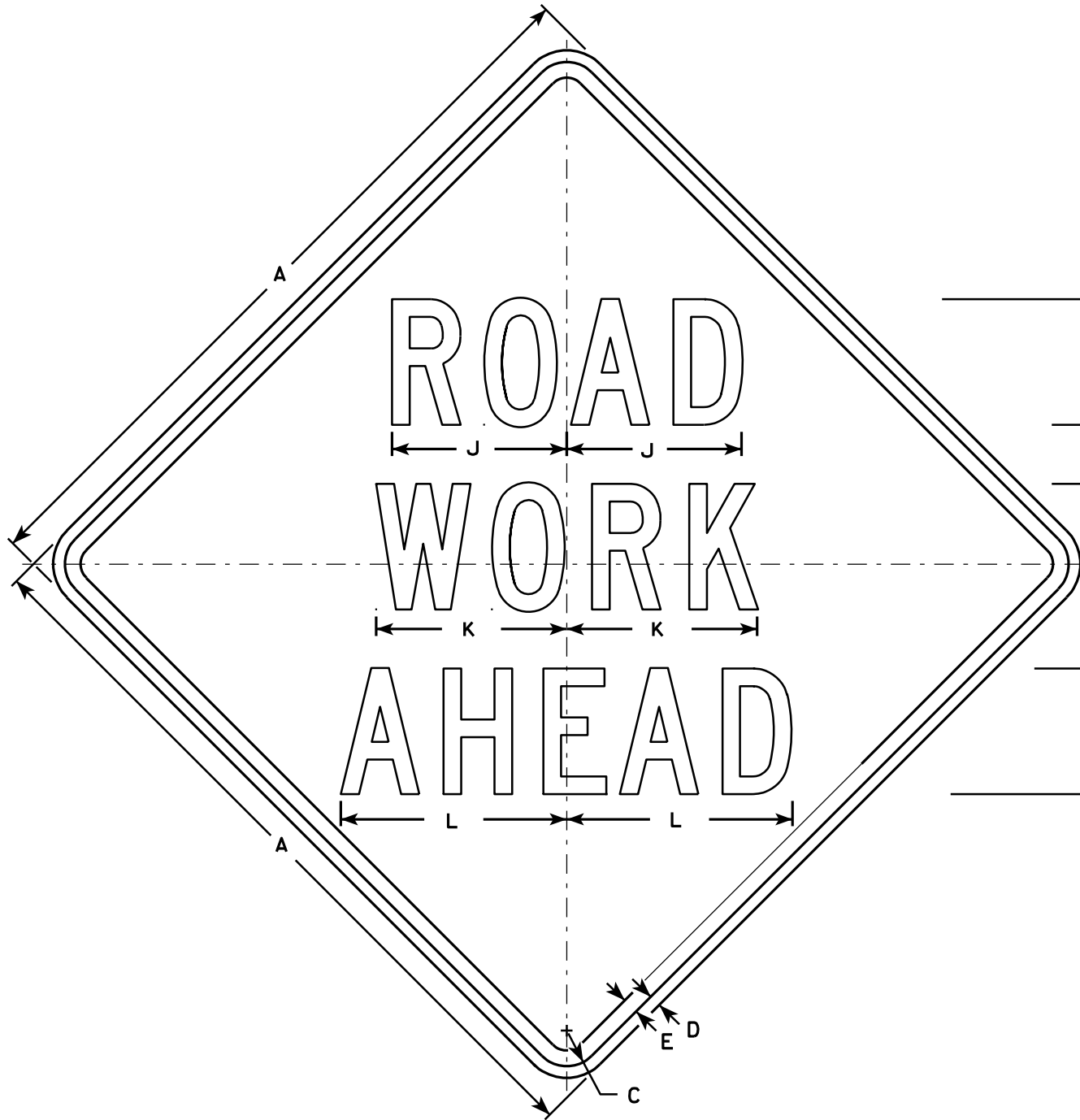
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.



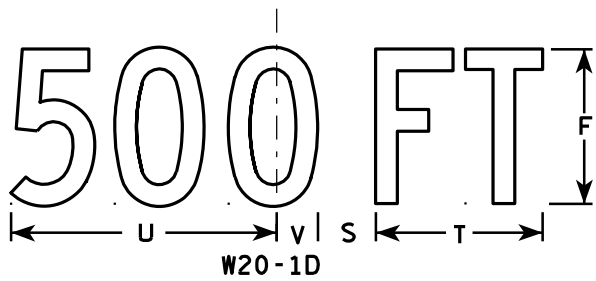
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	$\frac{3}{8}$	$\frac{3}{8}$	1 $\frac{1}{8}$	3	30°	5 $\frac{3}{4}$	4	$\frac{1}{2}$	7																2.0
2M	30	18	$\frac{3}{8}$	$\frac{1}{2}$	1 $\frac{1}{8}$	4 $\frac{1}{2}$	30°	8 $\frac{1}{2}$	6	$\frac{5}{8}$	10 $\frac{1}{4}$																3.75
3	30	18	$\frac{3}{8}$	$\frac{1}{2}$	1 $\frac{1}{8}$	4 $\frac{1}{2}$	30°	8 $\frac{1}{2}$	6	$\frac{5}{8}$	10 $\frac{1}{4}$																3.75
4																											8
5																											8

STANDARD SIGN W16-7	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/02/10	PLATE NO. W16-7.5

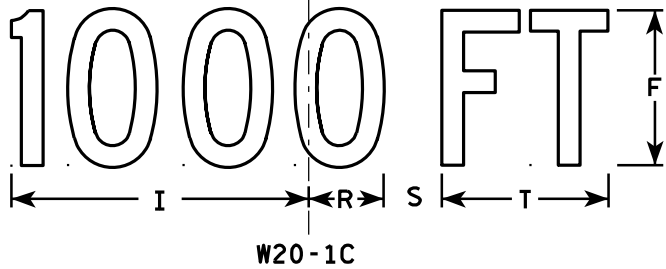
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 161	E
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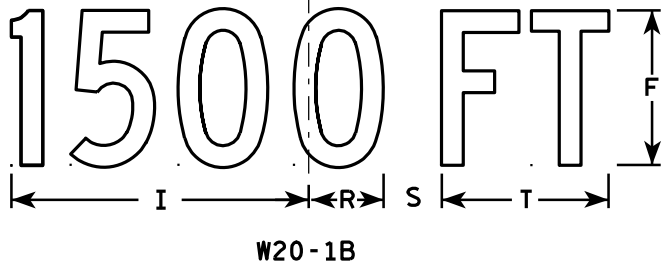
W20-1A



W20-1D



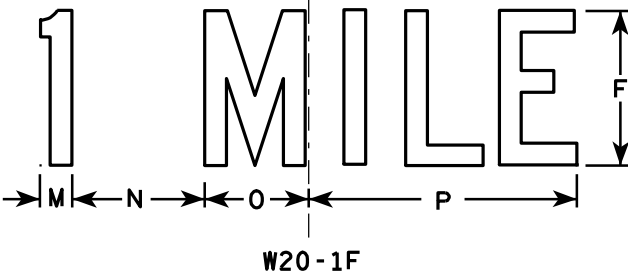
W20-1C



W20-1B



W20-1G



W20-1F

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 - 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	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

PROJECT NO:

SHEET NO: 162

E

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

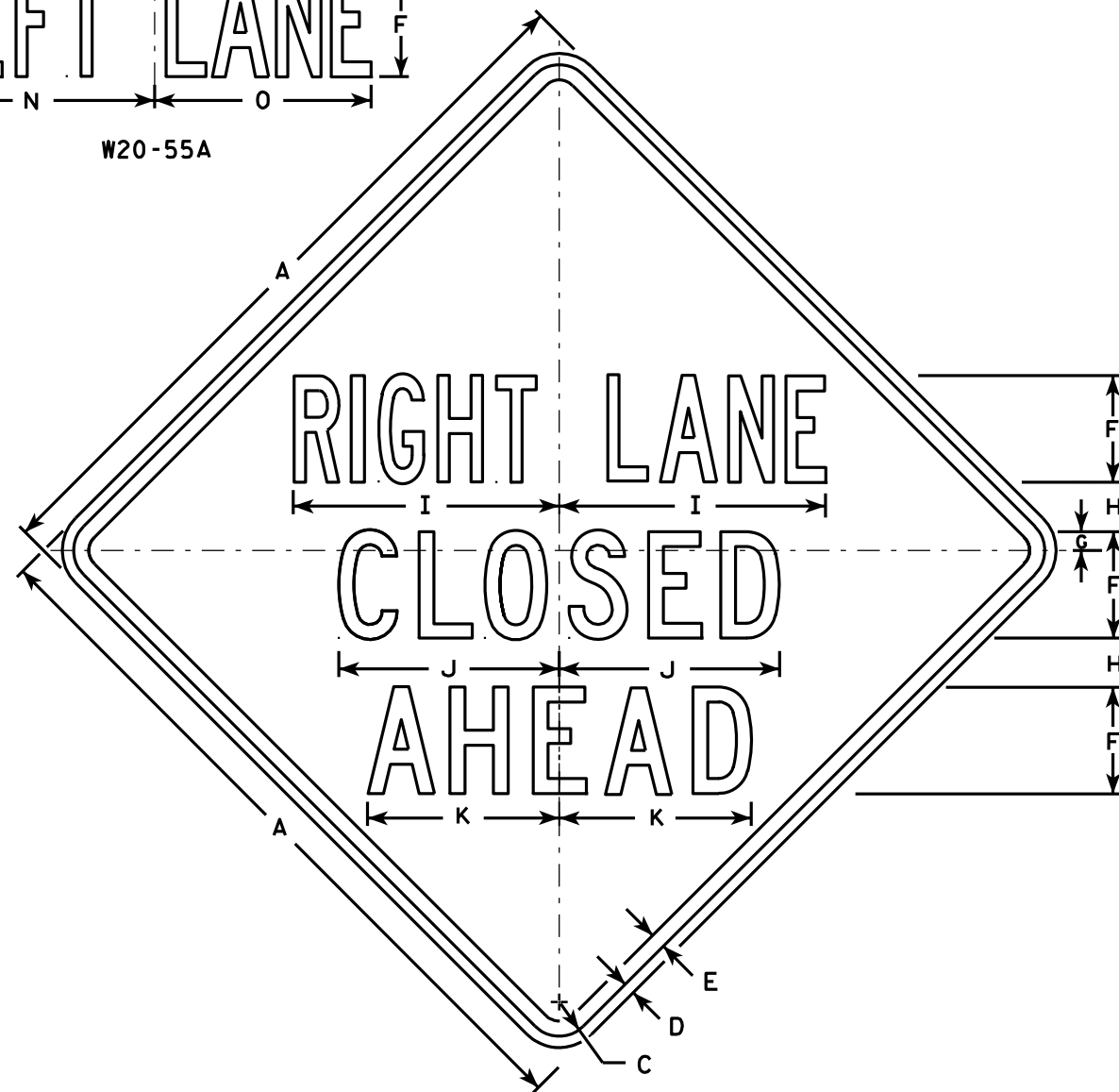
DATE 3/18/11
PLATE NO. W20-19

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

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. "-----LANE" is Series B.
All other copy is Series C.

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	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

PROJECT NO:

HWY:

COUNTY:

STANDARD SIGN
W20-5A, B, C, D, F & G

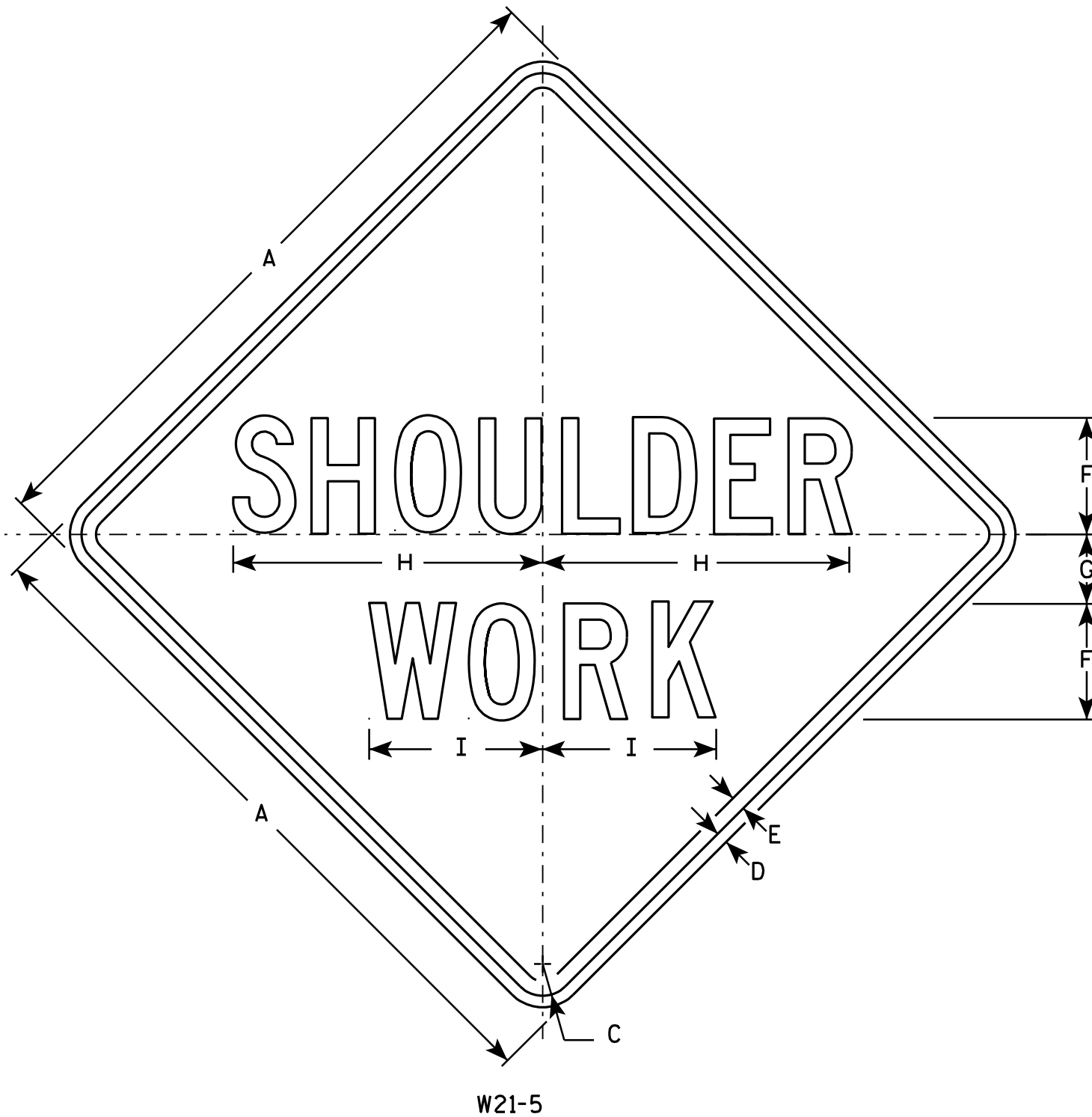
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

SHEET NO: 163

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 - 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.

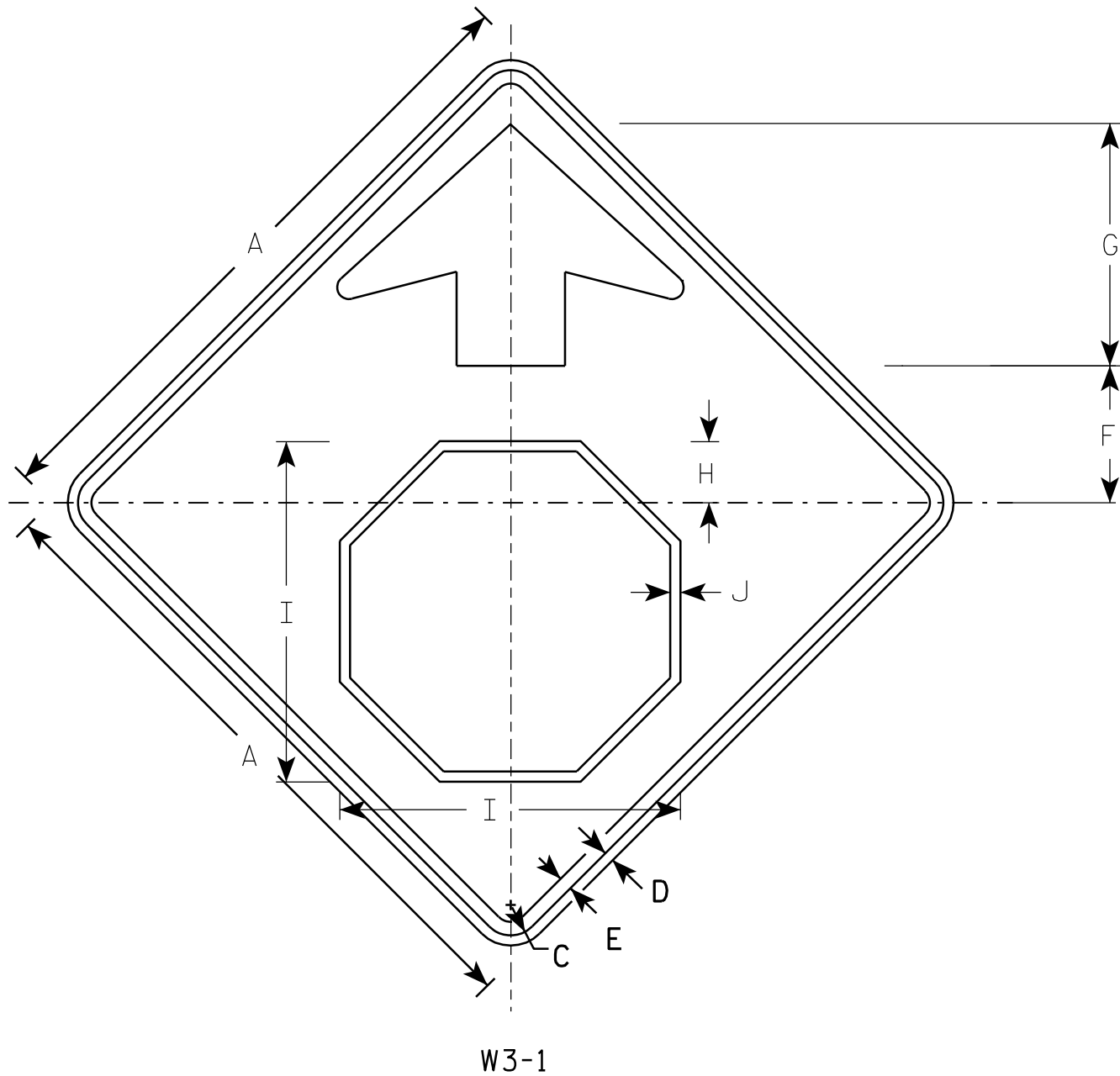
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

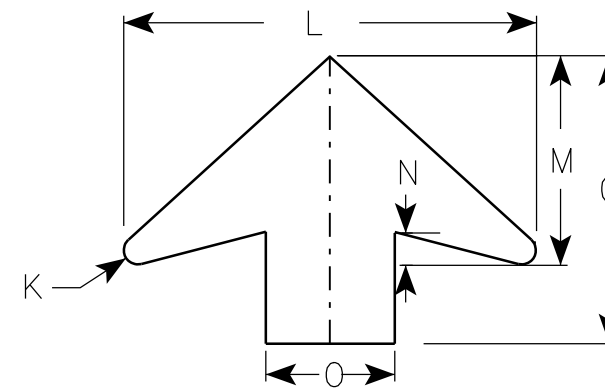
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/21/11 PLATE NO. W21-5.5

PROJECT NO: HWY: COUNTY: SHEET NO: 164 E



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO:

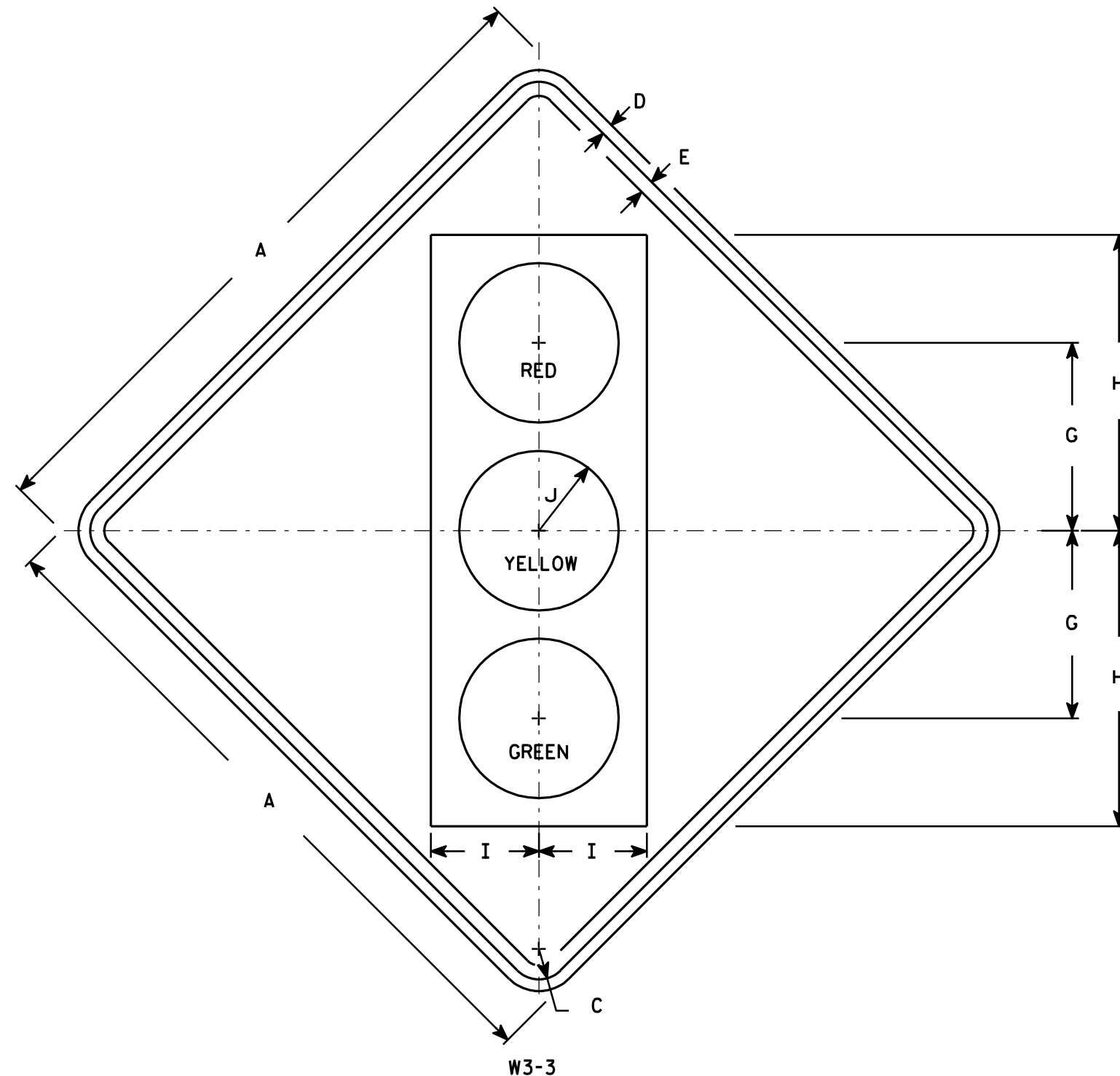
STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO: 165

E



NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Yellow
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.
- Symbol and border are non-reflective black.
Top circle - Type H Reflectorized Red
Center circle - Same as background
Bottom circle - Type H Reflectorized Green

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	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 6/7/10

PLATE NO. W3-3.11

PROJECT NO:

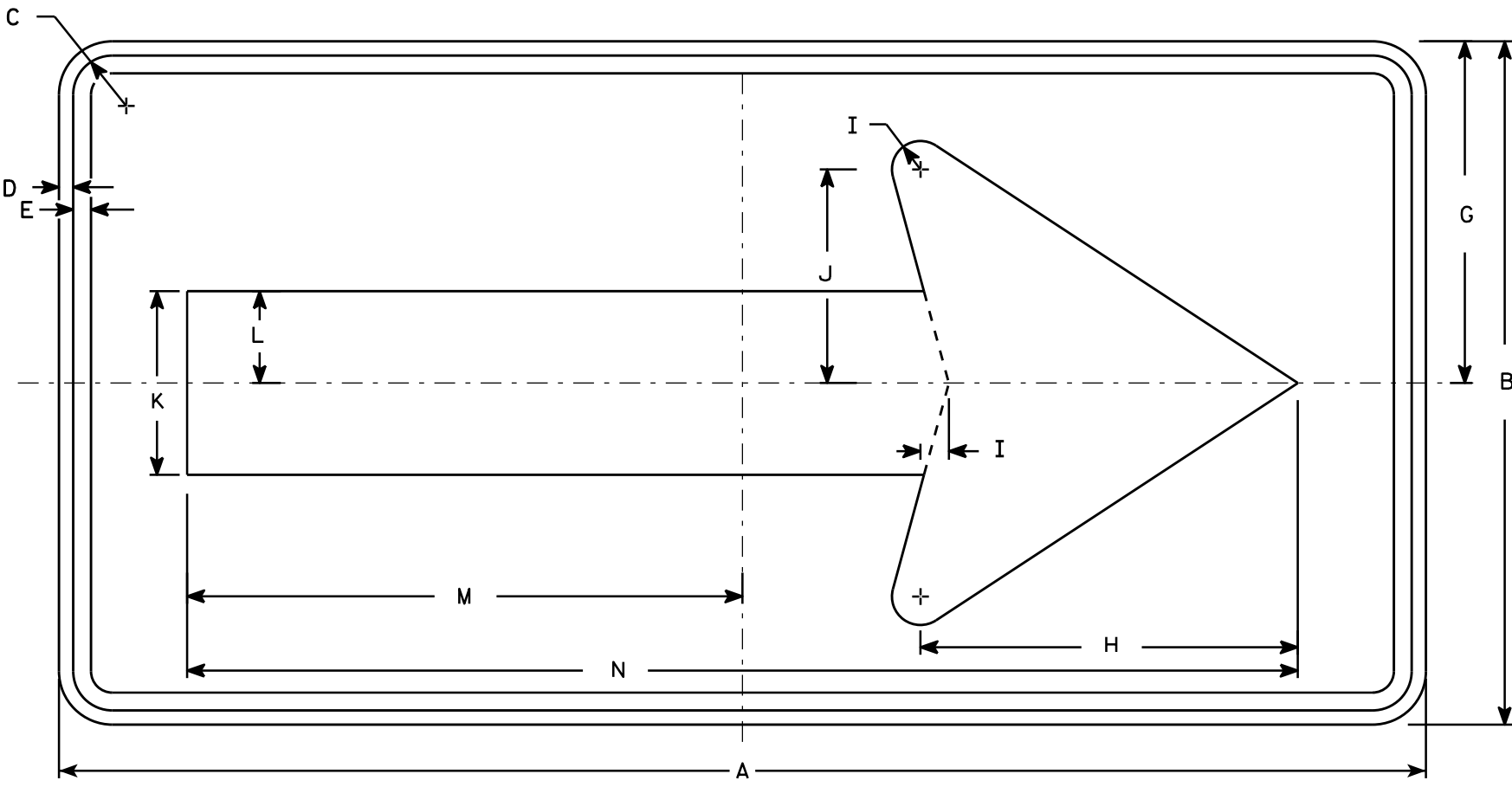
HWY:

COUNTY:

SHEET NO: 166

E

7



W01-6

NOTES

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

7

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

STANDARD SIGN

W01-6

WISCONSIN DEPT OF TRANSPORTATION

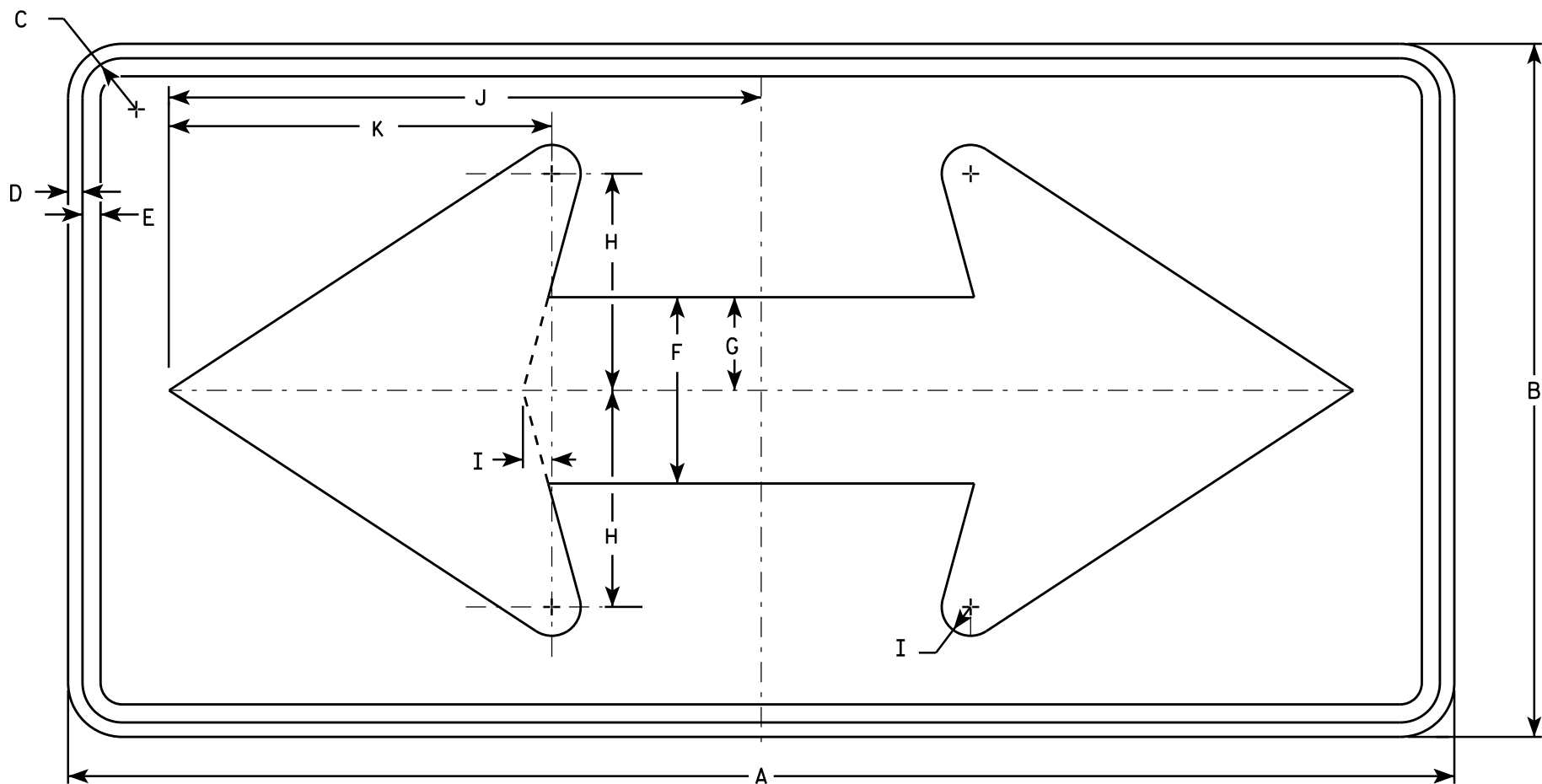
APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 11/18/13

PLATE NO. 167

W01-6.1



W01-7

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3⁄8	1⁄2	5⁄8	6 1⁄2	3 1⁄4	7 1⁄2	1	20 1⁄2	13 1⁄4																8.0
2M	48	24	1 3⁄8	1⁄2	5⁄8	6 1⁄2	3 1⁄4	7 1⁄2	1	20 1⁄2	13 1⁄4																8.0
3	60	30	1 3⁄8	1⁄2	5⁄8	8	4	9 1⁄4	1 1⁄4	25 3⁄8	16 1⁄4																12.5
4	60	30	1 3⁄8	1⁄2	5⁄8	8	4	9 1⁄4	1 1⁄4	25 3⁄8	16 1⁄4																12.5
5	60	30	1 3⁄8	1⁄2	5⁄8	8	4	9 1⁄4	1 1⁄4	25 3⁄8	16 1⁄4																12.5

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

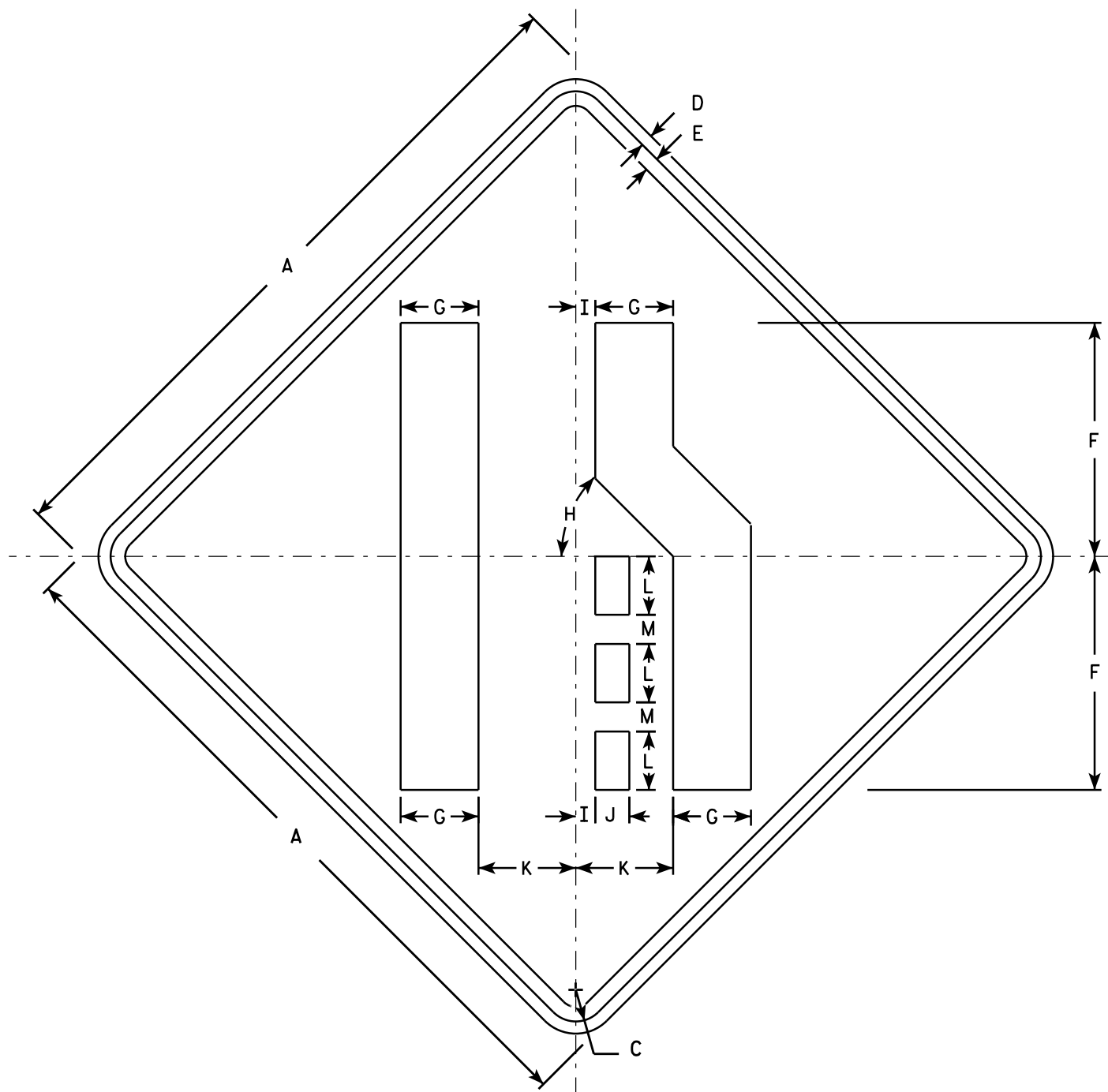
E

STANDARD SIGN
W01-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE 168 11-7.1



W04-2R

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Orange
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

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	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN

W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

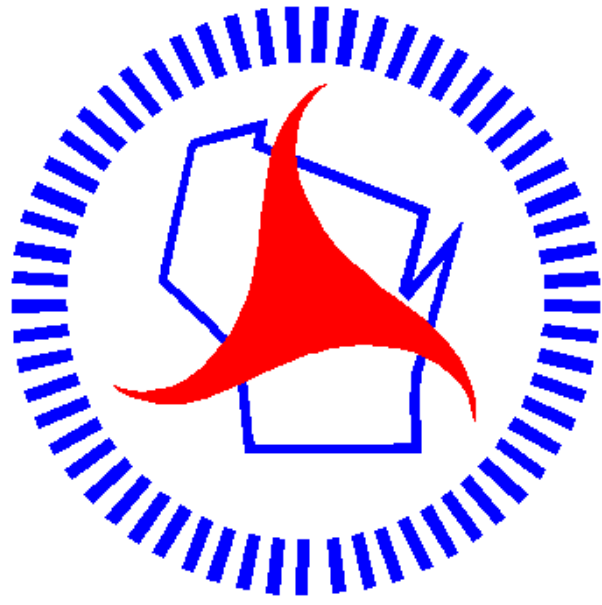
Matthew R. Rauch

For State Traffic Engineer

DATE 11/20/13

PLATE 169

W04-2.1



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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