Section No.

Section No.

Section No.

Section No.

TOTAL SHEETS = 140

#### **NOVEMBER 2025 STATE OF WISCONSIN** Section No. **DEPARTMENT OF TRANSPORTATION** Section No. Typical Sections and Details

PLAN OF PROPOSED IMPROVEMENT

# **CHIPPEWA FALLS - CORNELL**

**OLSON DRIVE TO CASHMAN DRIVE** 

# **STH 178 CHIPPEWA COUNTY**

STATE PROJECT NUMBER 8600-00-74

R-8-W Lake Wissota **END PROJECT** STA 125+50 AVE T-28-N (0) Chippewa 50TH AVE 8  $\mathbf{D}$ 124

STATE PROJECT CONTRACT WISC 2026068 8600-00-74 1

FEDERAL PROJECT

DESIGN DESIGNATION 8600-00-04

Estimate of Quantities

Miscellaneous Quantities

Standard Detail Drawings

AADT (2022) = 12500A.A.D.T. (2032)= 13,500 = 1,210 D.H.V. D.D. = 50/50 = 13.7% DESIGN SPEED = 50 MPH

### CONVENTIONAL SYMBOLS

CORPORATE LIMITS PROPERTY LINE LOTLINE 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

GRADE LINE ORIGINAL GROUND MARSH OR ROCK PROFILE (To be noted as such)

SPECIAL DITCH GRADE ELEVATION CULVERT (Profile View) UTILITIES ELECTRIC FIBER OPTIC SANITARY SEWER STORM SEWER TELEPHONE UTILITY PEDESTAL POWER POLE ₫ Ø TELEPHONE POLE

**BEGIN PROJECT** 

STA 103+10

Y = 129536.881

X = 179893.287

SCALE I TOTAL NET LENGTH OF CENTERLINE = 0.000 MI

7/31/2025 5:15 PM

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), CHIPPEWA COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET, POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

BRADLEY L
BECKER
E-46067
EAU CLAIRE
WI William STONAL Fried Bradley L. Becker

ORIGINAL PLANS PREPARED BY

### STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PREPARED BY CBS SQUARED, INC Surveyor Designer Project Manage Regional Examine TOU YANG, PE

PPROVED FOR THE DEPARTMENT 8/4/2025

FILE NAME: N:\PDS\C3D\86000004\SHEETS\010101-TI.DWG

BRAD BECKER

#### **UTILITY CONTACTS**

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EMAIL: RP4514@ATT.COM

SPECTRUM

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PHONE: (715) 726-2736 EMAIL: BTCESAFSKY@CHIPPEWAFALLS-WI.GOV

COMMUNICATION SUNNY RICHARDSON 1201 MCCANN DRIVE ALTOONA, WI 54720 PHONE: (715) 896-6503

EMAIL: SUNNY.RICHARDSON@CHARTER.COM

TDS METROCOM COMMUNICATION **BRANDON SUCHLA** 525 JUNCTION ROAD MADISON, WI 53717 PHONE: (608) 370-1608 EMAIL: BRANDON.SUCHLA@TDSTELCOM.COM

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### WISDOT

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#### DESIGNER

BRAD BECKER

770 TECHNOLOGY WAY, SUITE 1A CHIPPEWA FALLS, WI 54729 PHONE: (715) 563-8233 EMAIL: BBECKER@CBSSQUAREDINC.COM

### **ORDER OF SECTION 2 DETAIL SHEETS**

GENERAL NOTES PROJECT OVERVIEW TYPICAL SECTIONS CONSTRUCTION DETAILS INTERSECTION DETAILS **CURB RAMP DETAILS** PAVING GRADES **EROSION CONTROL** PERMANENT SIGNING LIGHTING PLAN TRAFFIC SIGNAL PLAN PAVEMENT MARKING TRAFFIC CONTROL

### **GENERAL NOTES**

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

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

RADII, ELEVATIONS, AND DIMENSIONS ARE GIVEN AT PAVEMENT EDGE, UNLESS OTHERWISE NOTED.

### RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = <u>2.746</u> ACRES TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.111 ACRES Dial or (800)242-8511 www.DiggersHotline.com

PROJECT NO: 8600-00-74 HWY: STH 178 COUNTY: CHIPPEWA **GENERAL NOTES** 

SHEET

Ε

LAYOUT NAME - 01

FILE NAME :

N:\PDS\C3D\86000004\SHEETS\020101-GN.DWG

PLOT DATE :

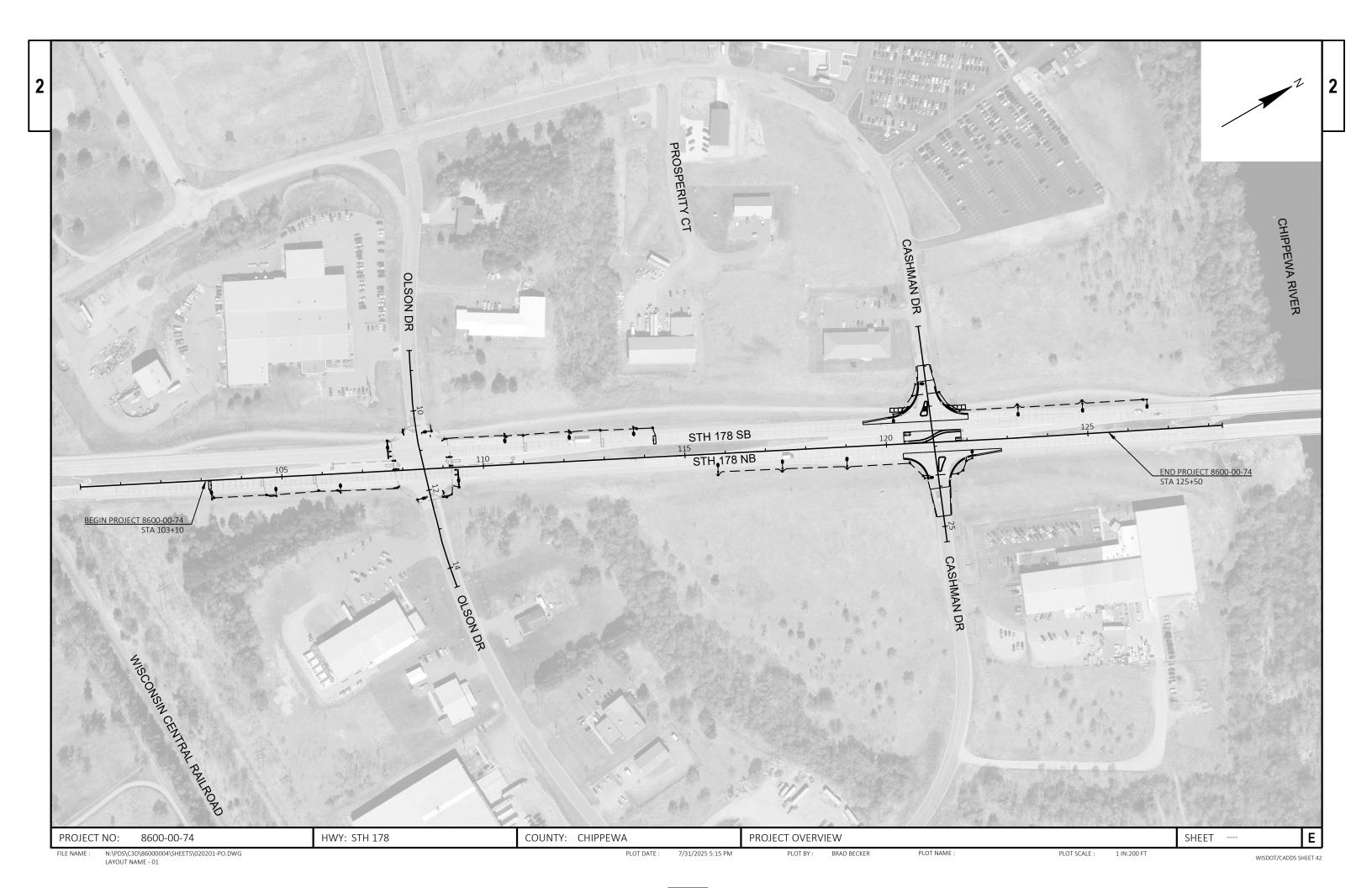
9/22/2025 2:53 PM

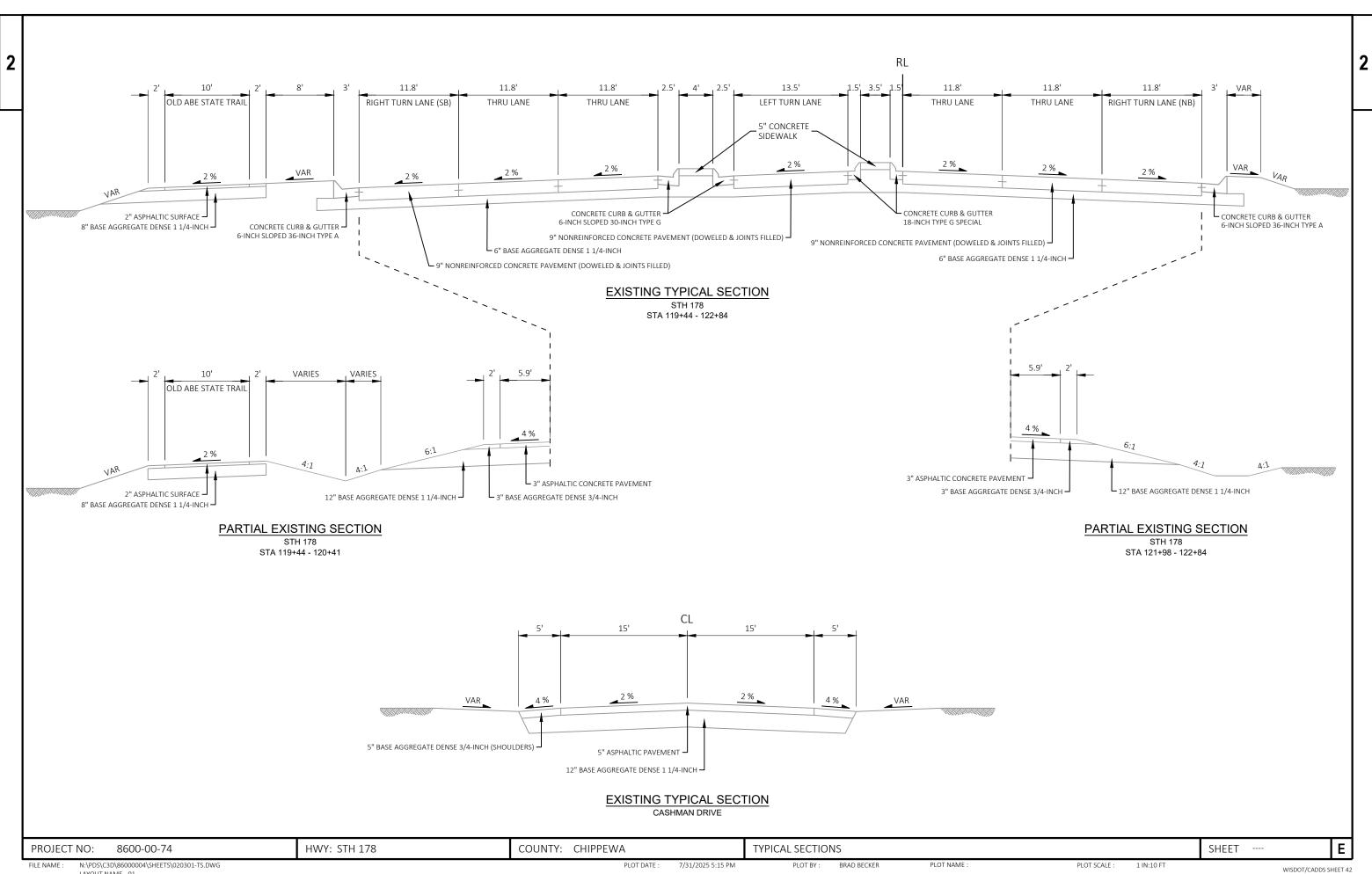
PLOT BY:

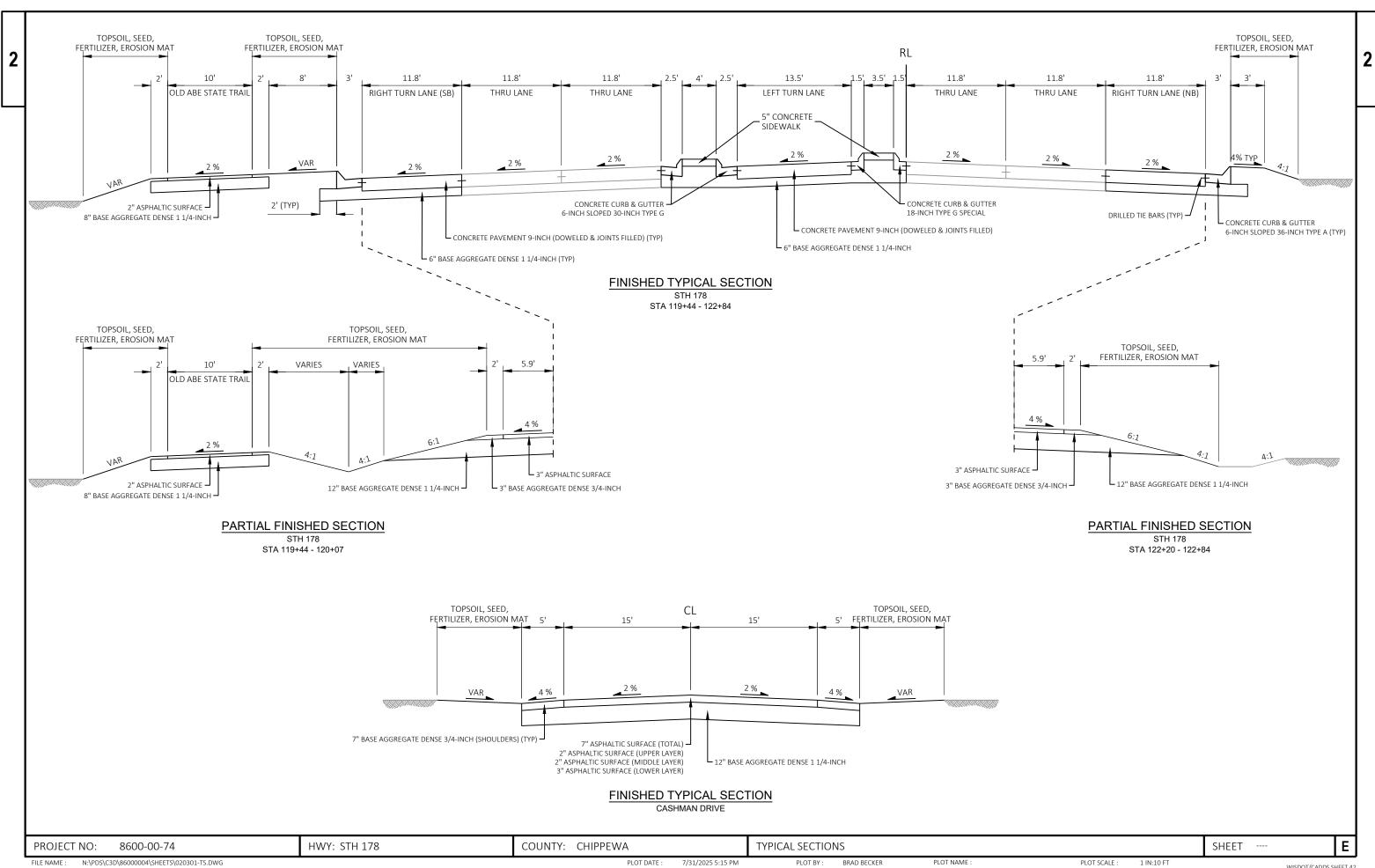
MATT PAYNE

PLOT NAME

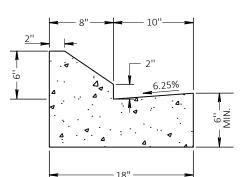
PLOT SCALE :







WISDOT/CADDS SHEET 42

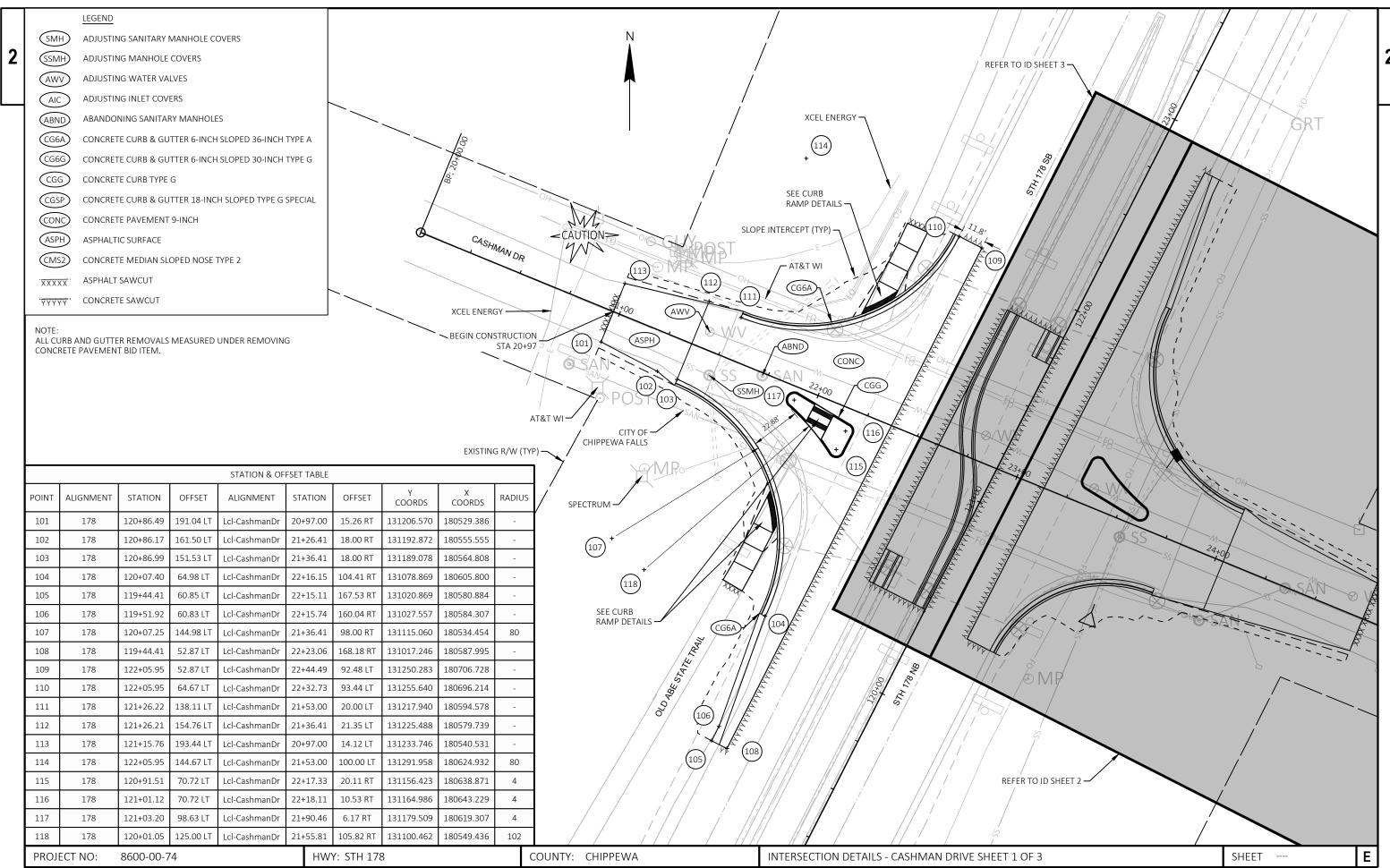


### CONCRETE CURB & GUTTER 18-INCH TYPE G SPECIAL

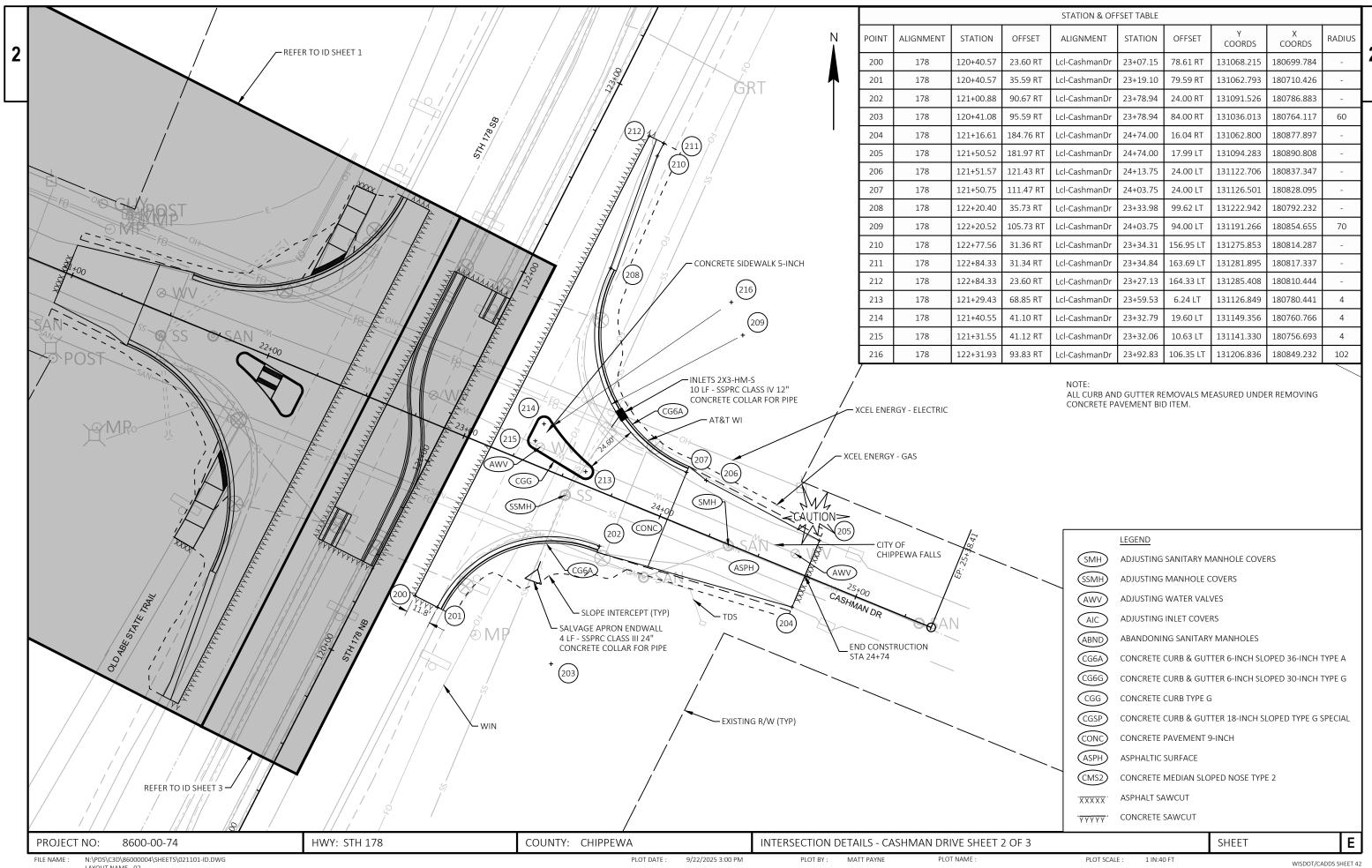
(SEE TYPICAL SECTIONS AND PLAN DETAIL SHEETS FOR LOCATIONS)

HWY: STH 178 COUNTY: CHIPPEWA SHEET Ε PROJECT NO: 8600-00-74 CONSTRUCTION DETAILS

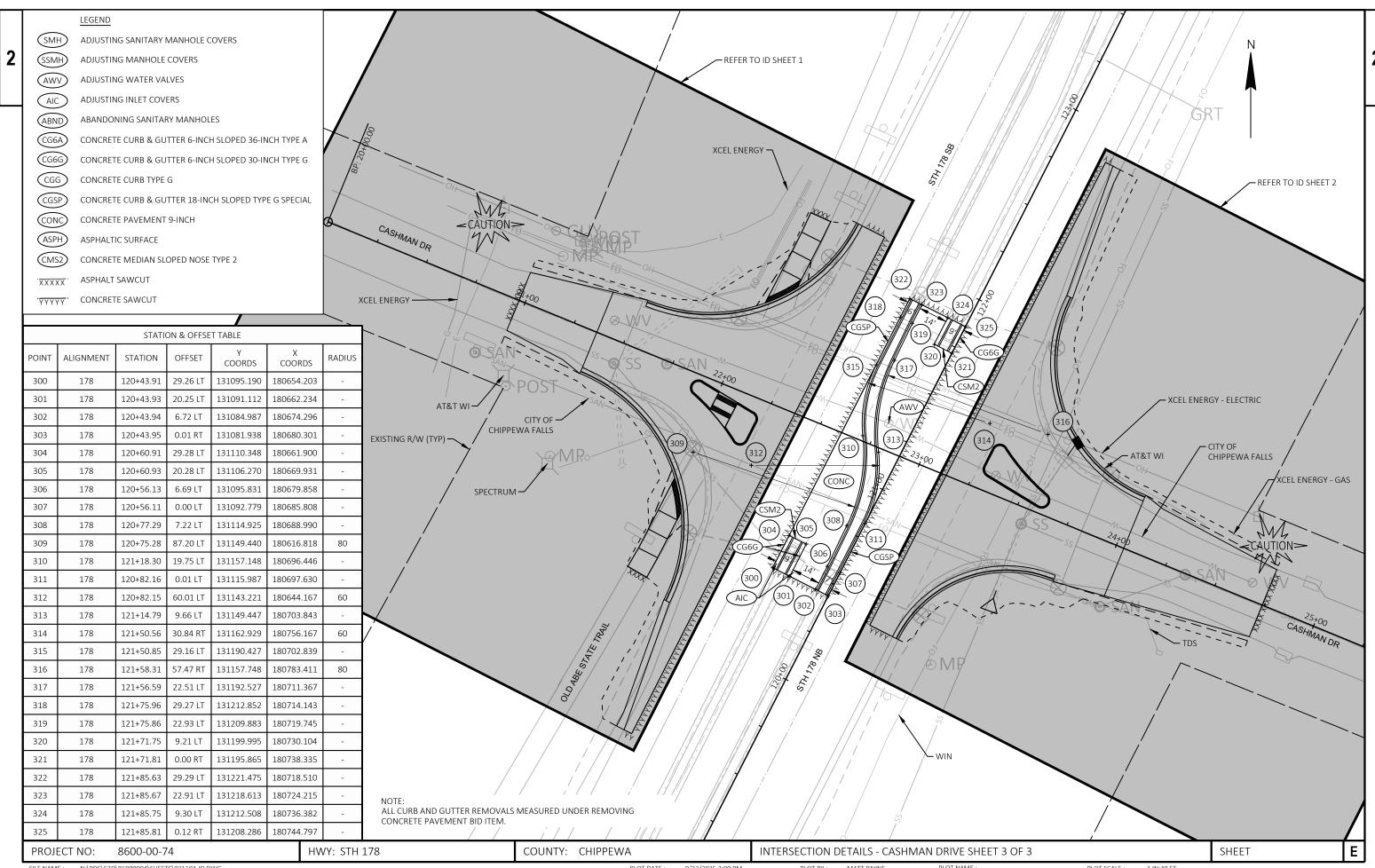
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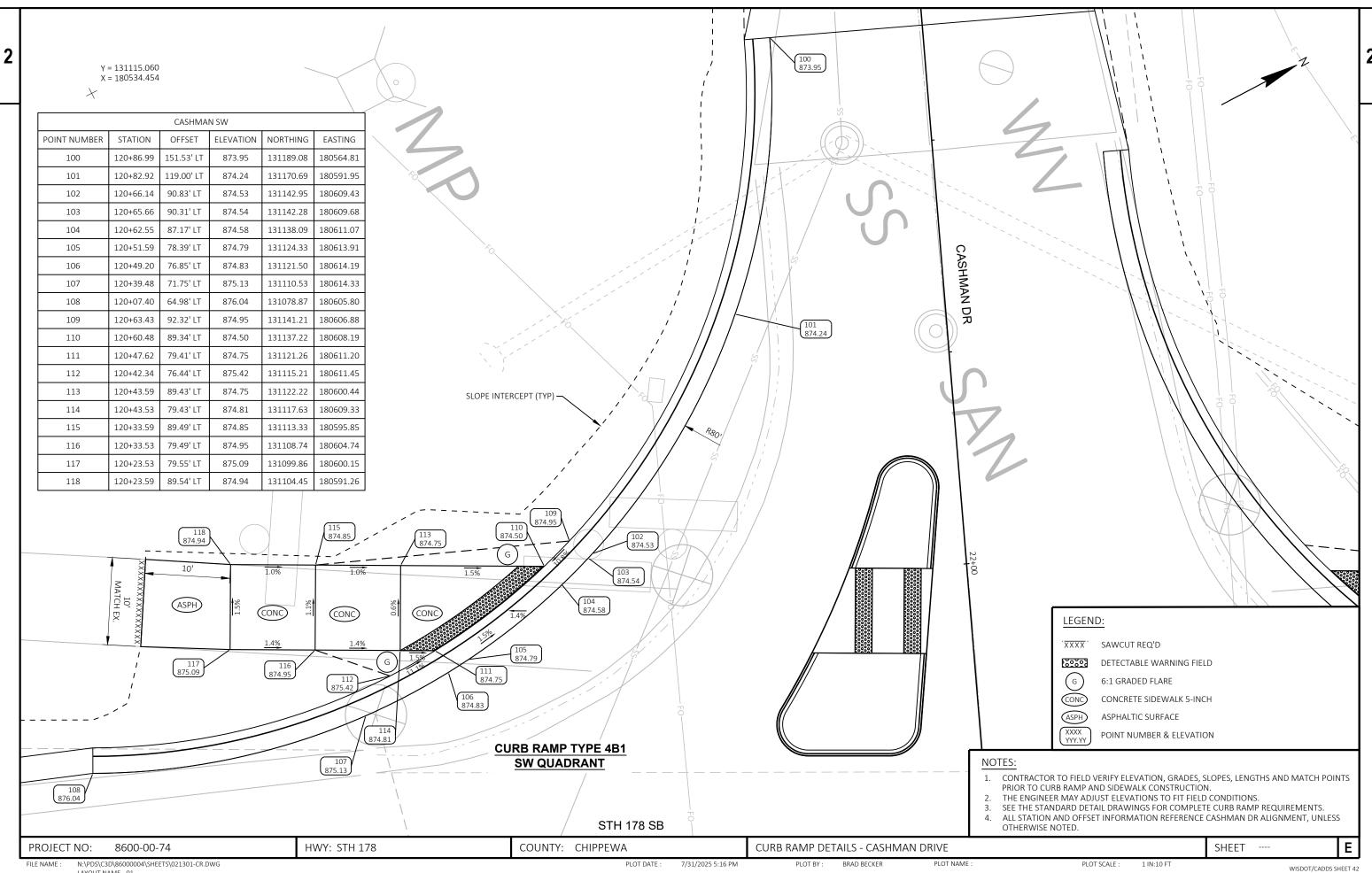
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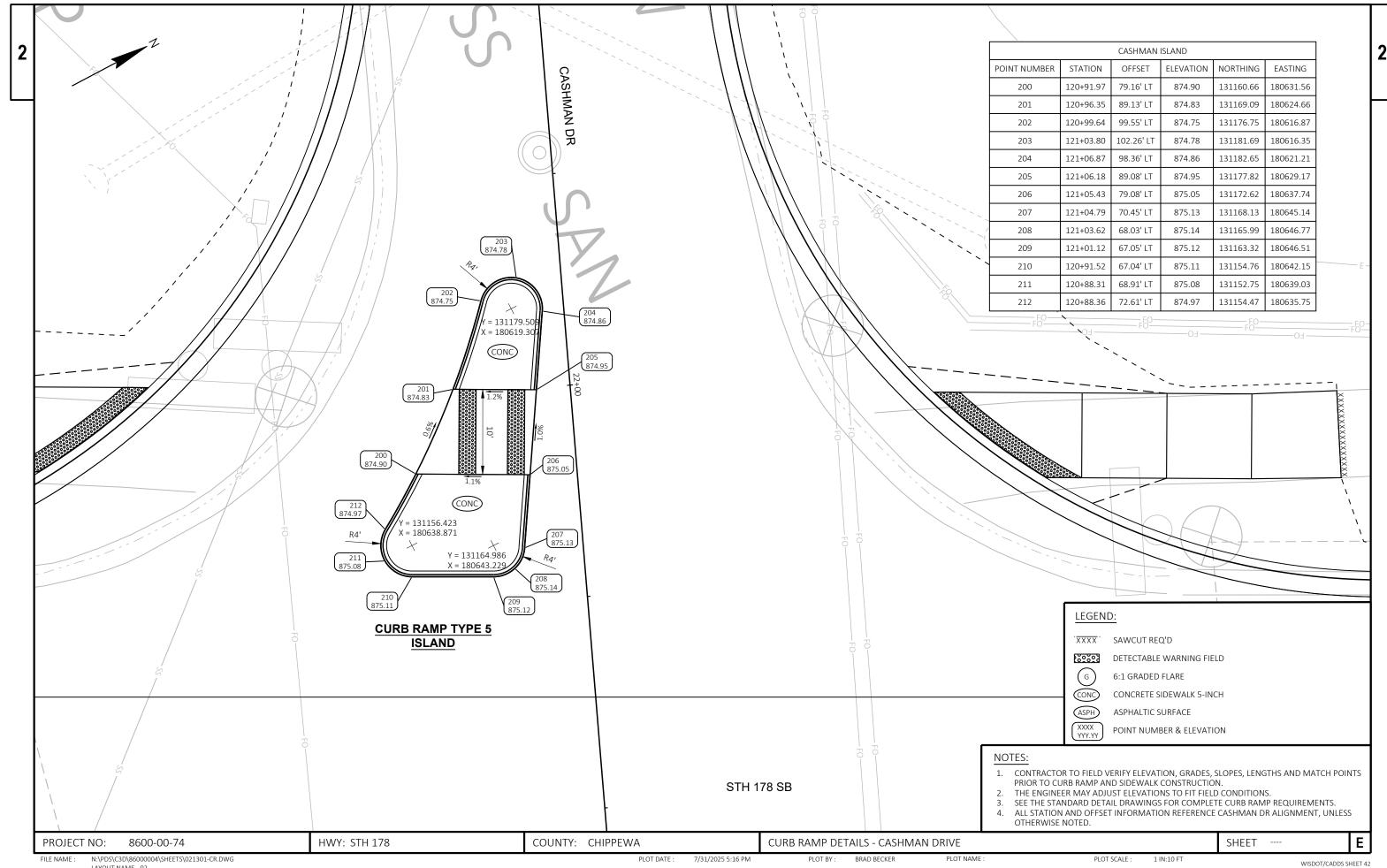
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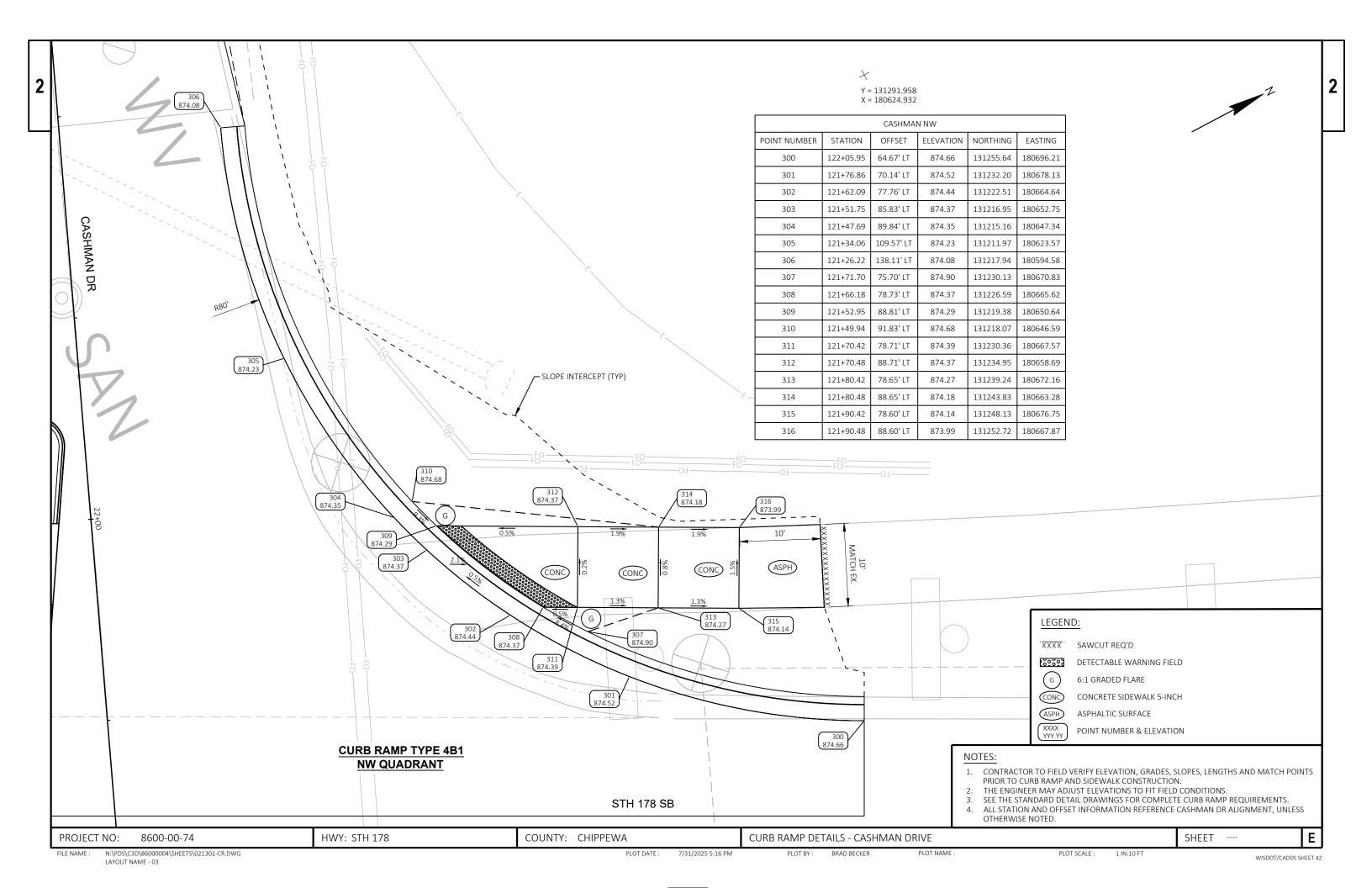


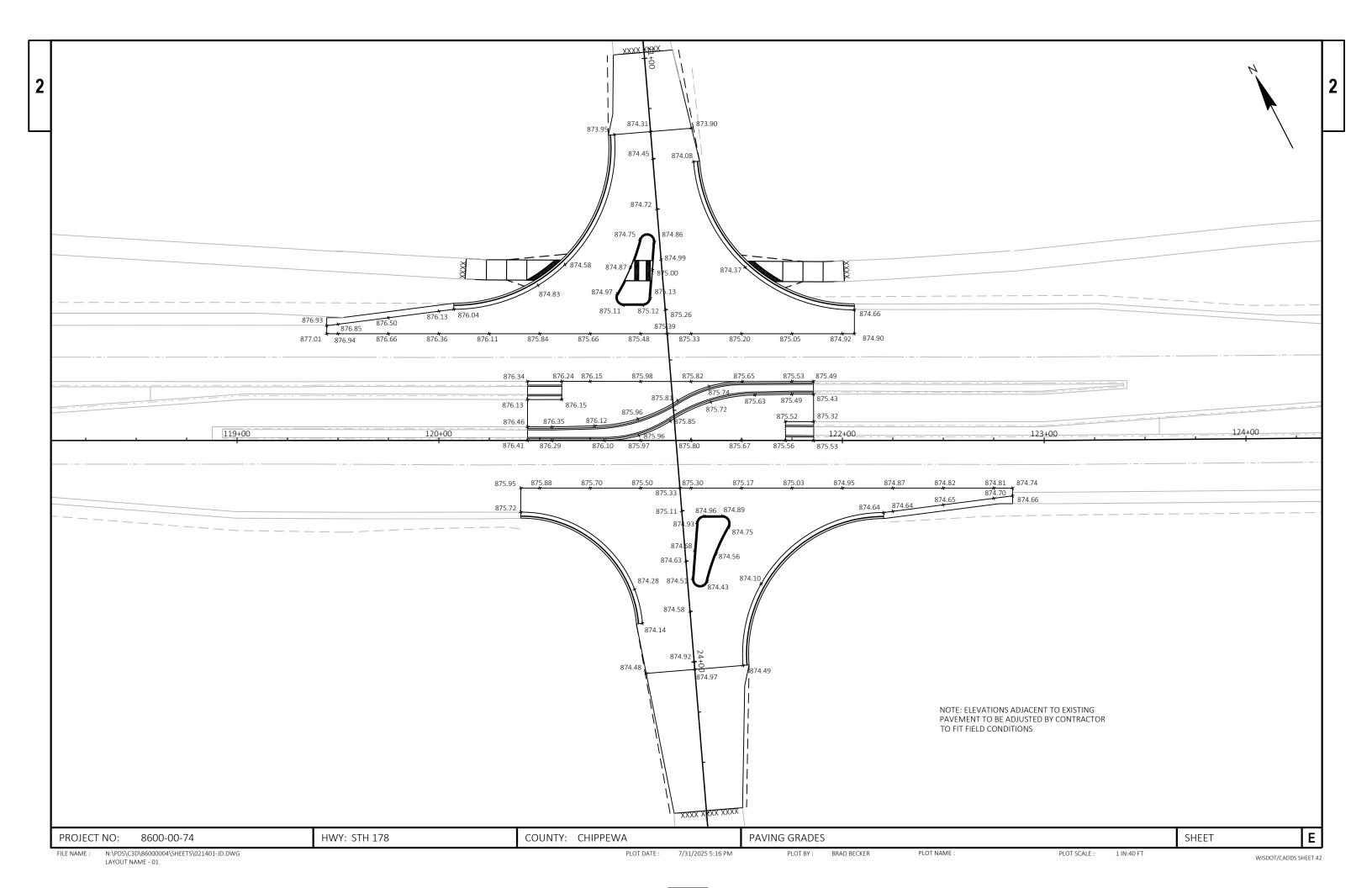
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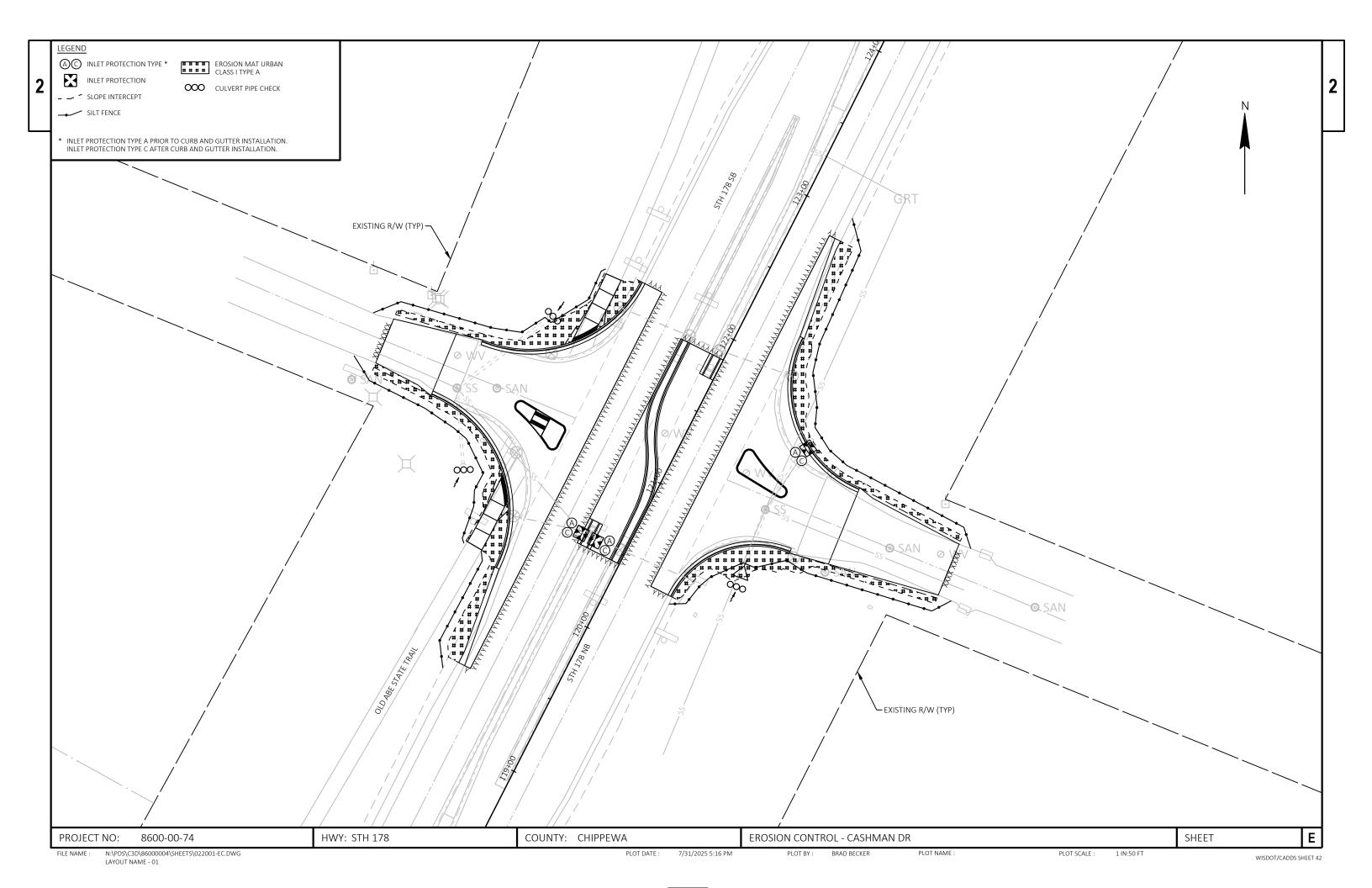


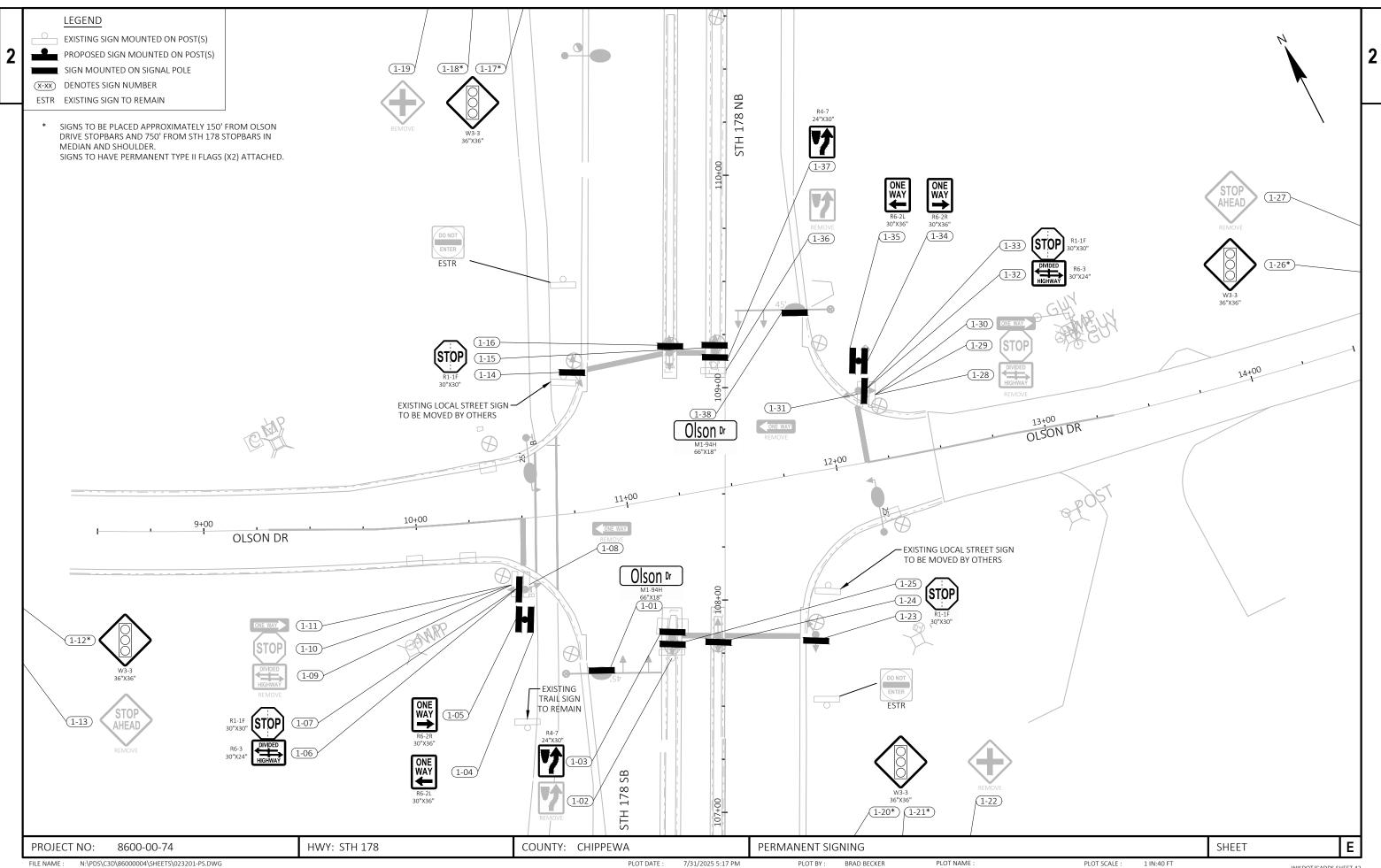
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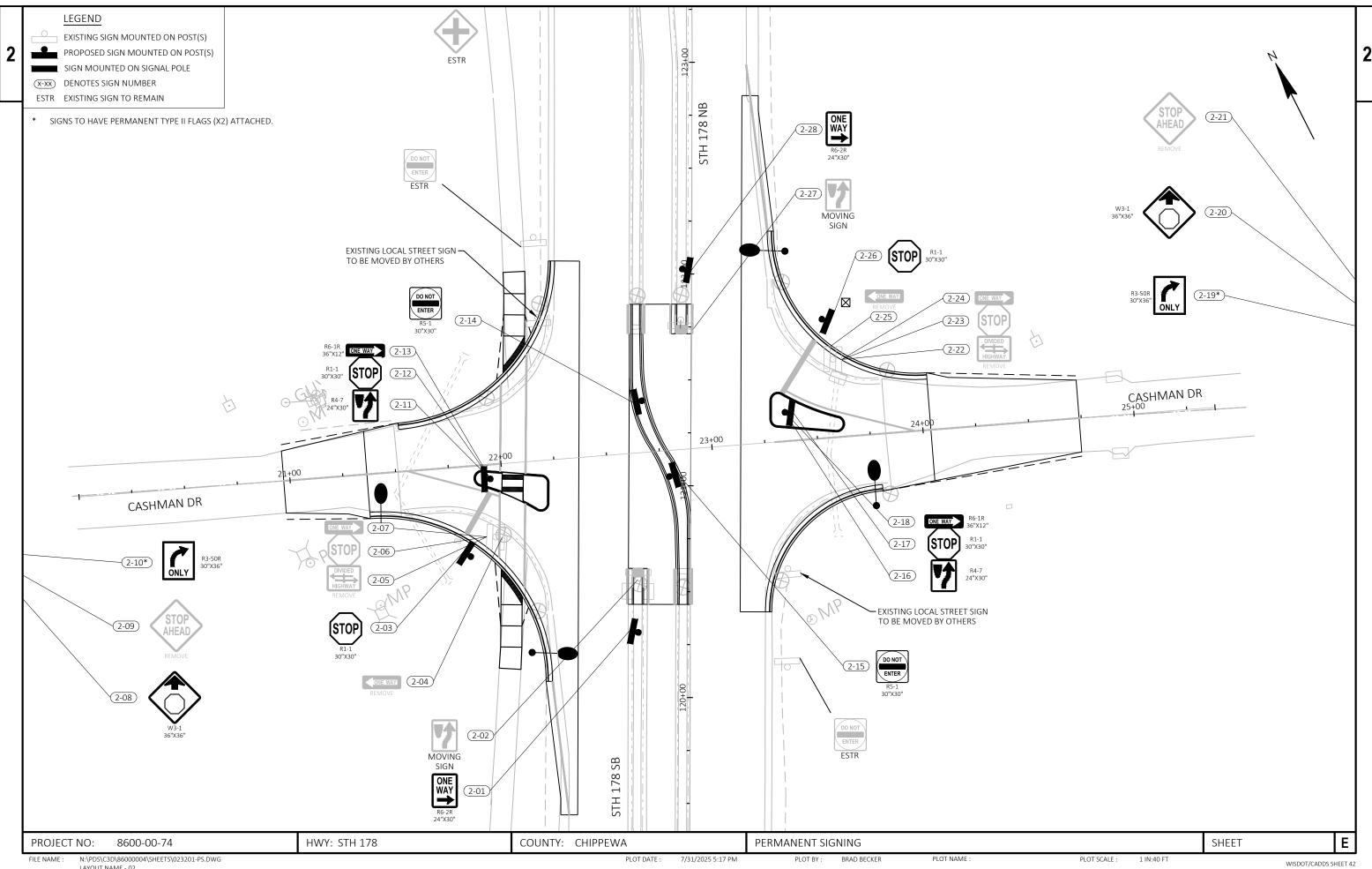


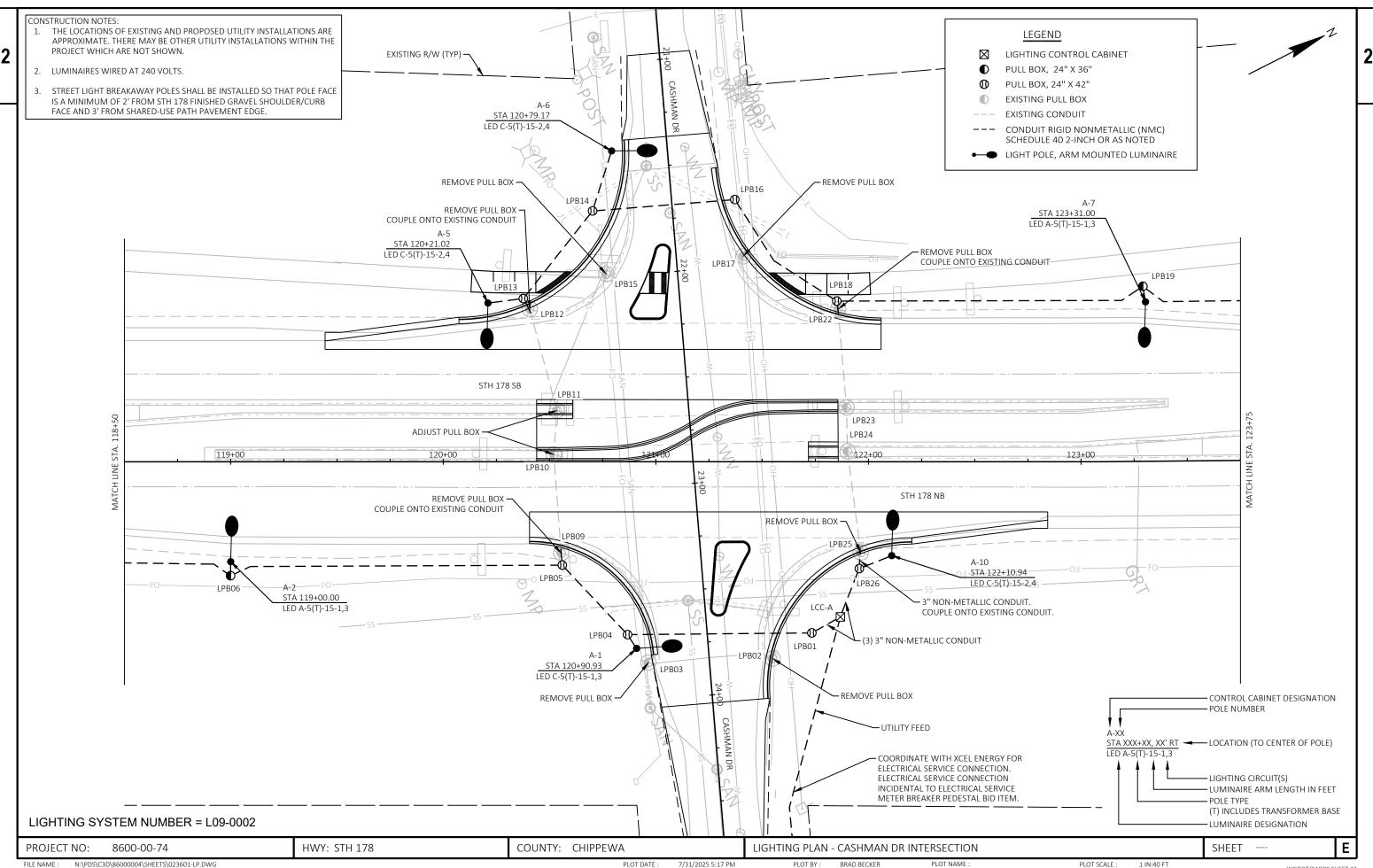


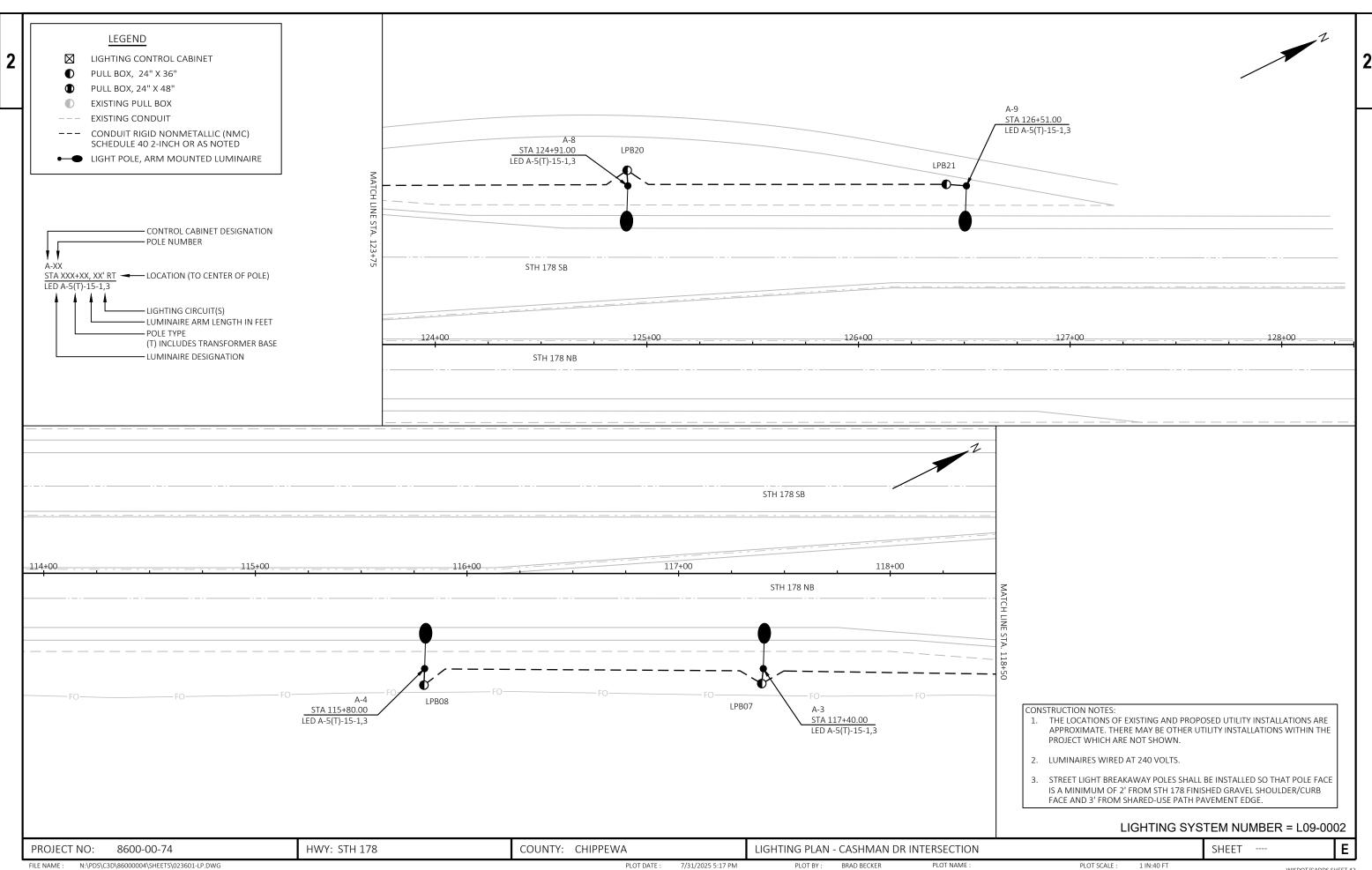


1 IN:40 FT

WISDOT/CADDS SHEET 42



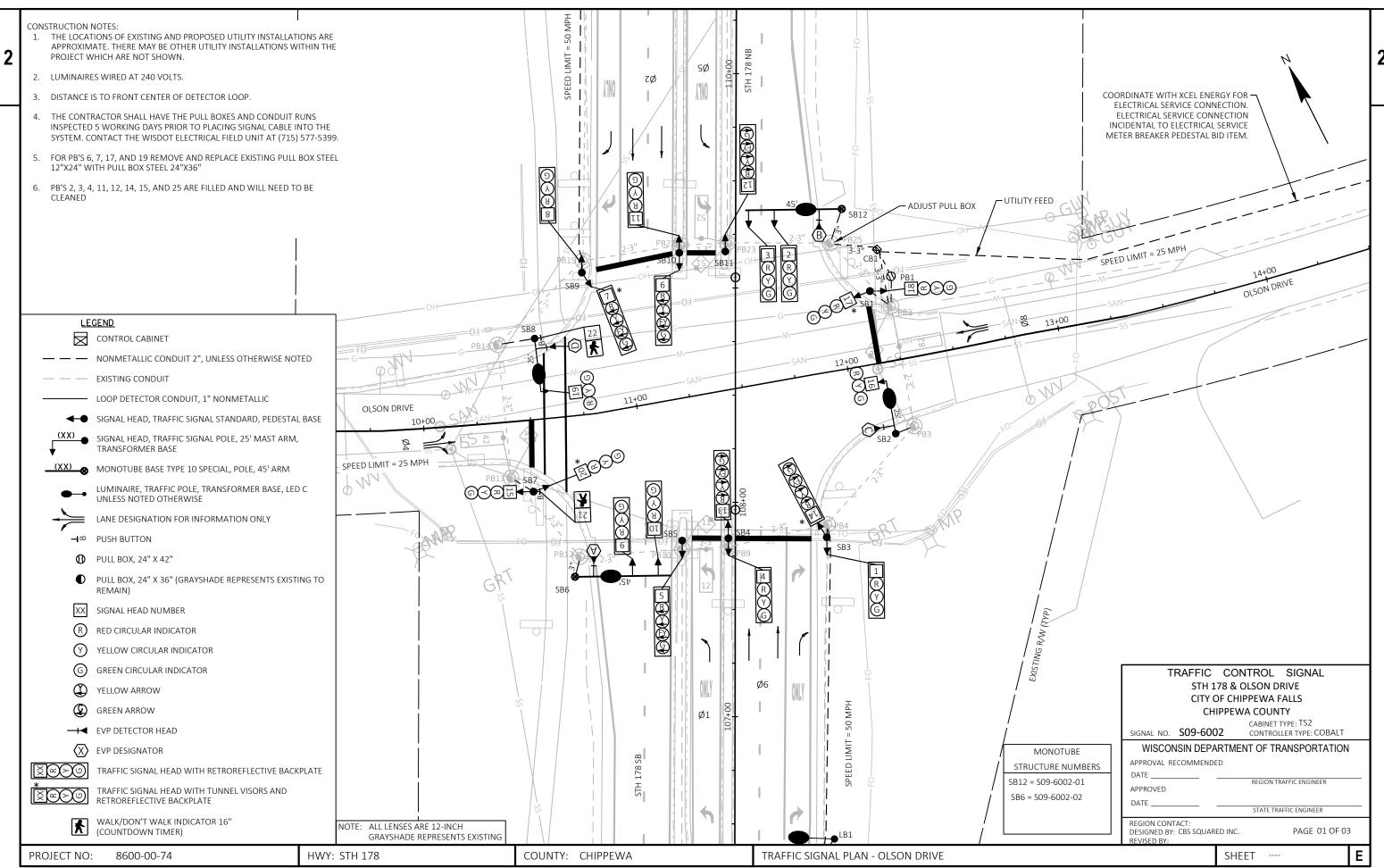




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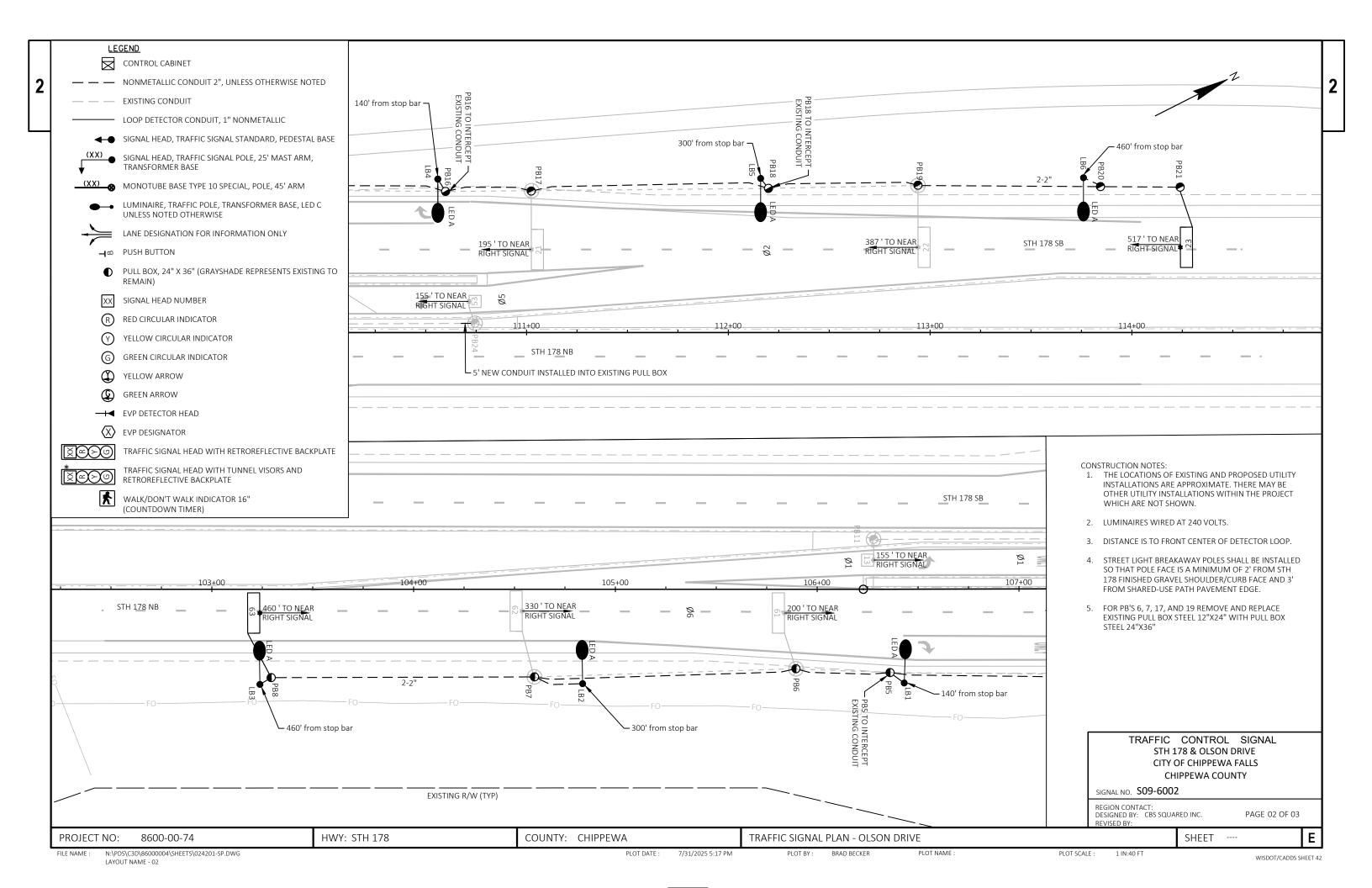
LAYOUT NAME - 02-lp

WISDOT/CADDS SHEET 42



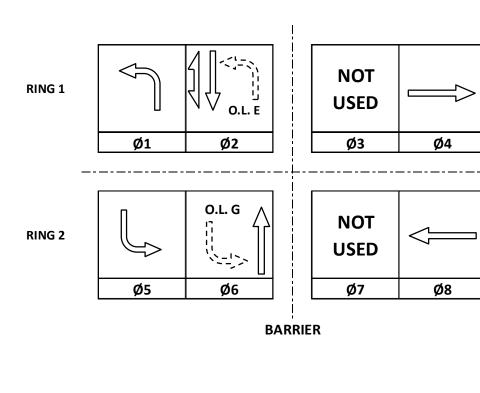
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LAYOUT NAME - 01



DETECTOR INPUT

3



### **CONTROLLER LOGIC**

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		Х
2	х	6	MIN.	Х
4		8		Х
5		2		Χ
6	Х	2	MIN.	Х
8		4		Х

FIBER OPTIC (ETHERNET)	
RADIO	
CELL MODEM	Х
TYPE OF COORDINATI	ION
TYPE OF COORDINATI	ION X
NONE	

TYPE OF INTERCONNECT/COMMUNICATION

NONE

CLOSED LOOP

TWISTED PAIR FIBER OPTIC\*

\*LOCATION OF MASTER

CONTROLLER NO: SIGNAL SYSTEM NO:

TYPE OF LIGHTING				
BY OTHER AGENCY				
IN TRAFFIC CABINET	Х			
IN SEPARATE DOT LIGHTING CABINET				

SS-

TYPE OF PRE-EMPT						
IONE						
RAILROAD						
MERGENCY VEHICLE	х					
GTT						
TOMAR						
HARDWIRE						
OTHER						
CONFIRMATION LIGHTS						
IFT BRIDGE						
DUFUE DETECTION						

**EMERGENCY VEHICLE PREEMPTION SEQUENCE** 

EMERGENCY VEHICLE PREEMPTOR	А	В	С	D
MOVEMENT	\ \ \	7		₩
PHASE	2+5	6+1	4	8

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL **RETURN TO PHASES 2+6.** AFTER PREEMPTION SEQUENCE 4 OR 8, CONTROLLER SHALL RETURN TO PHASES 2+6.

PLAN LOOP DETECTOR\*(S)

29 DETECTOR INPUT

### **DETECTOR LOGIC**

19

17

23

21

27

PLAN LOOP DETECTOR*(S)	11	13	22	41	51	53	62	81
CALLED PHASE	1	1	2	4	5	5	6	8
CALL OPTION	Х	Х	Х	Х	Х		Х	Х
DELAY TIME								
EXTENTION OPTION	Х	Х	Х	Х	Х	Х	Х	Х
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE	2	2			6			
DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12	21	23	42	52	61	63	82
CALLED PHASE	1	2	2	4	5	6	6	8
CALL OPTION	Х	X		Х	Х	Х		Х
DELAY TIME								
EXTENTION OPTION	Х	Х	Х	Х	Х	Х	Х	Х
EXTEND TIME	•							
USE ADDED INITIAL	•							
CROSS SWITCH PHASE	2				6			

11

9

15

13

								CALLED PHASE
								_CALL OPTION
								DELAY TIME
								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE
								_
20	18	24	22	28	26	32	30	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								PLAN LOOP DETECTOR*(S) CALLED PHASE
								<del>-</del>
								CALLED PHASE
								CALLED PHASE CALL OPTION
								CALLED PHASE CALL OPTION DELAY TIME
								CALLED PHASE CALL OPTION DELAY TIME EXTENTION OPTION

25

31

N

**GENERAL NOTES:** 

STH 178 & OLSON DRIVE CITY OF CHIPPEWA FALLS **CHIPPEWA COUNTY** SIGNAL NO: S09-6002 **CABINET TYPE: TS2** CONTROLLER TYPE: COBALT DATE: PAGE NUMBER: 3 OF 3 8/2025 SHEET NO:

**HWY: STH 178 COUNTY: CHIPPEWA SEQUENCE OF OPERATIONS** PROJECT NO: 8600-00-74

PLOT SCALE: 1:1

2

 PROJECT ID:
 8600-00-74

 INTERSECTION:
 STH 178 & Olson Drive

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

				SIGNAL INDICATION WIRE COLOR										
	AWG14 # OF	HEAD								<flashing< td=""><td></td><td></td><td>PED BI</td><td>JTTON</td></flashing<>			PED BI	JTTON
CB1 TO	CONDUCTORS	NO.	PHASE	RED	YELLOW	GREEN	<red></red>	<yellow></yellow>	<green></green>	YELLOW>	D/WALK	WALK		
004	40	47		050	0.00	001								
SB1	12	17 18	<u>4</u> 8	RED RED/BLK	ORG ORG/BLK	GRN GRN/BLK								
		10	•	KED/BLK	URGIBLE	GRN/BLK								
SB2	7	16	4	RED	ORG	GRN								
	i i		,	.,	0.,0	0,								
SB3	12	1	6	RED	ORG	GRN								
		14	5				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
SB4	12	4	6	RED	ORG	GRN								
		13	5				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
SB5	7	5	1				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
353	<b>'</b>	<u> </u>	'				KED/BEK	ONG/BER	GRIV/DER	DEO/DER				
SB6	5	9	2	RED	ORG	GRN								
		10	2	RED	ORG	GRN								
SB7	12	15	4	RED	ORG	GRN								
		20	8	RED/BLK	ORG/BLK	GRN/BLK								
		21	2								BLK	BLU		
SB8	12	19	8	RED	ORG	GRN								
300	12	22	2	KED	UKG	GRN					BLK	BLU		
											DEIX	DE0		
SB9	12	7	1				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		8	2	RED	ORG	GRN								
SB10	12	6	1				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
		11	2	RED	ORG	GRN		-						
0044	7	40					DED/DL14	000/01 14	ODN/DL '	DI IVDI K				
SB11	<del>                                     </del>	12	5				RED/BLK	ORG/BLK	GRN/BLK	BLU/BLK				
SB12	5	2	6	RED	ORG	GRN								
0512		3	6	RED	ORG	GRN								
		-		.,		· · · · ·								

PROJECT NO: 8600-00-74 HWY: STH 178 COUNTY: CHIPPEWA CABLE ROUTING SHEET: **E** 

2

2

Equipment						
<b>Grounding Conductor</b>						
10 AWG (	Green XLP					
From	То					
CB1	SB1					
SB1	SB2					
SB2	SB3					
SB3	SB4					
SB4	SB5					
SB5	SB6					
SB6	SB7					
SB7	SB8					
SB8	SB9					
SB9	SB10					
SB10	SB11					
SB11	SB12					
SB12	CB1					

Pull Box							
Bondir	Bonding Jumper						
10 AWG	Green XLP						
From	То						
PB1	SB1						
PB2	SB1						
PB3	SB2						
PB4	SB3						
PB9	SB4						
PB10	SB5						
PB12	SB6						
PB13	SB7						
PB14	SB8						
PB15	SB9						
PB22	SB10						
PB23	SB11						
PB25	SB12						

ting
0 AWG
nded
То
SB2
SB6
LB1
LB2
LB3
SB12
SB8
LB4
LB5
LB6

Ped Button (Loop Lead-in)								
From	То							
CB1	SB11 SB12							
CB1								
-								

Emergency Vehicle										
Preemption										
From	То									
CB1	SB6 (HEAD A)									
CB1	SB12 (HEAD B)									
CB1	SB2 (HEAD C)									
CB1	SB8 (HEAD D)									

Video									
Detection									
Cable (Cat 5E)									
From	То								
CB1	SB6								
CB1	SB12								

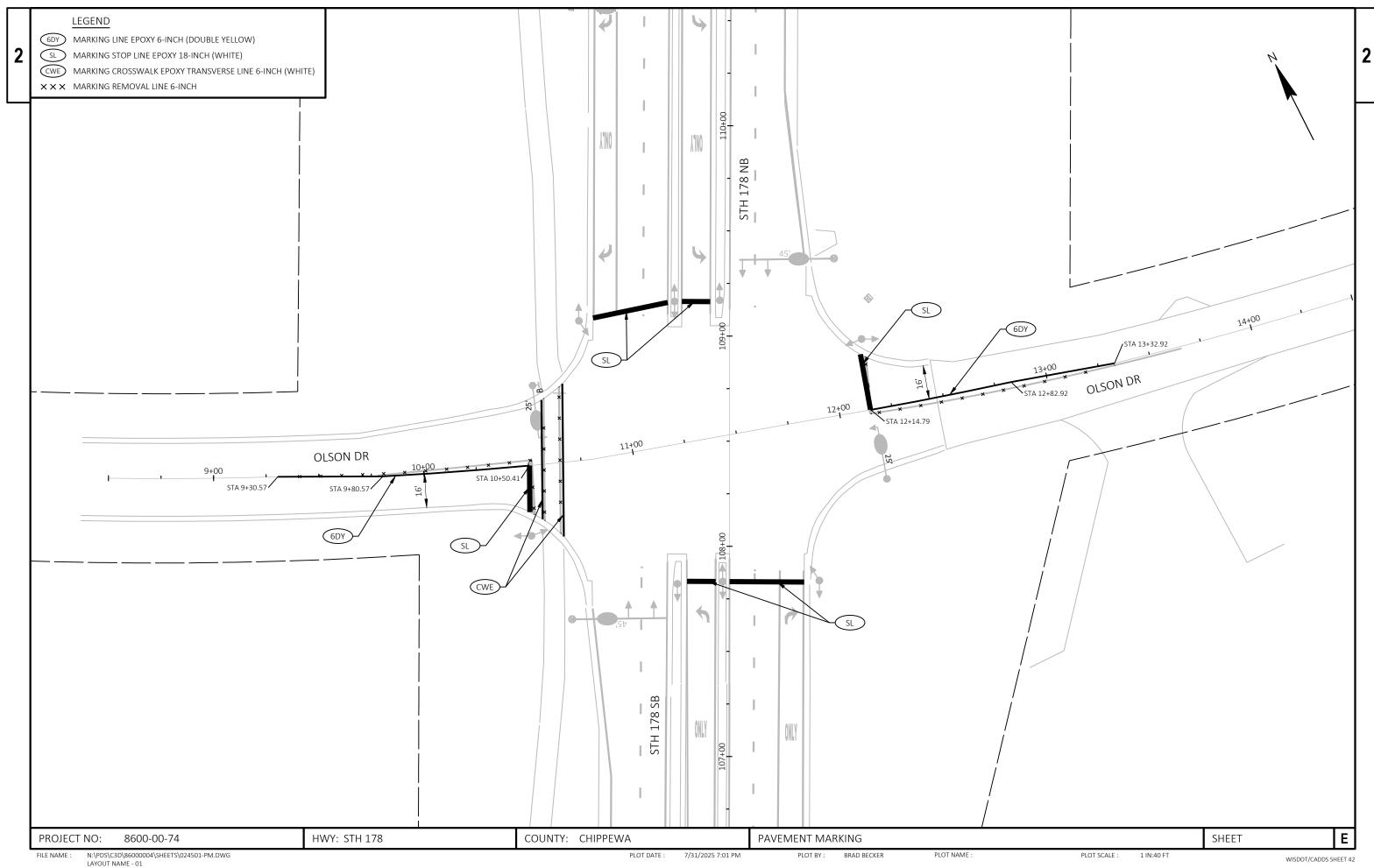
PROJECT NO: 8600-00-74 HWY: STH 178 COUNTY: CHIPPEWA CABLE ROUTING SHEET: **E** 

<sup>\*</sup>Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications

<sup>\*</sup>Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.

<sup>\*</sup>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.

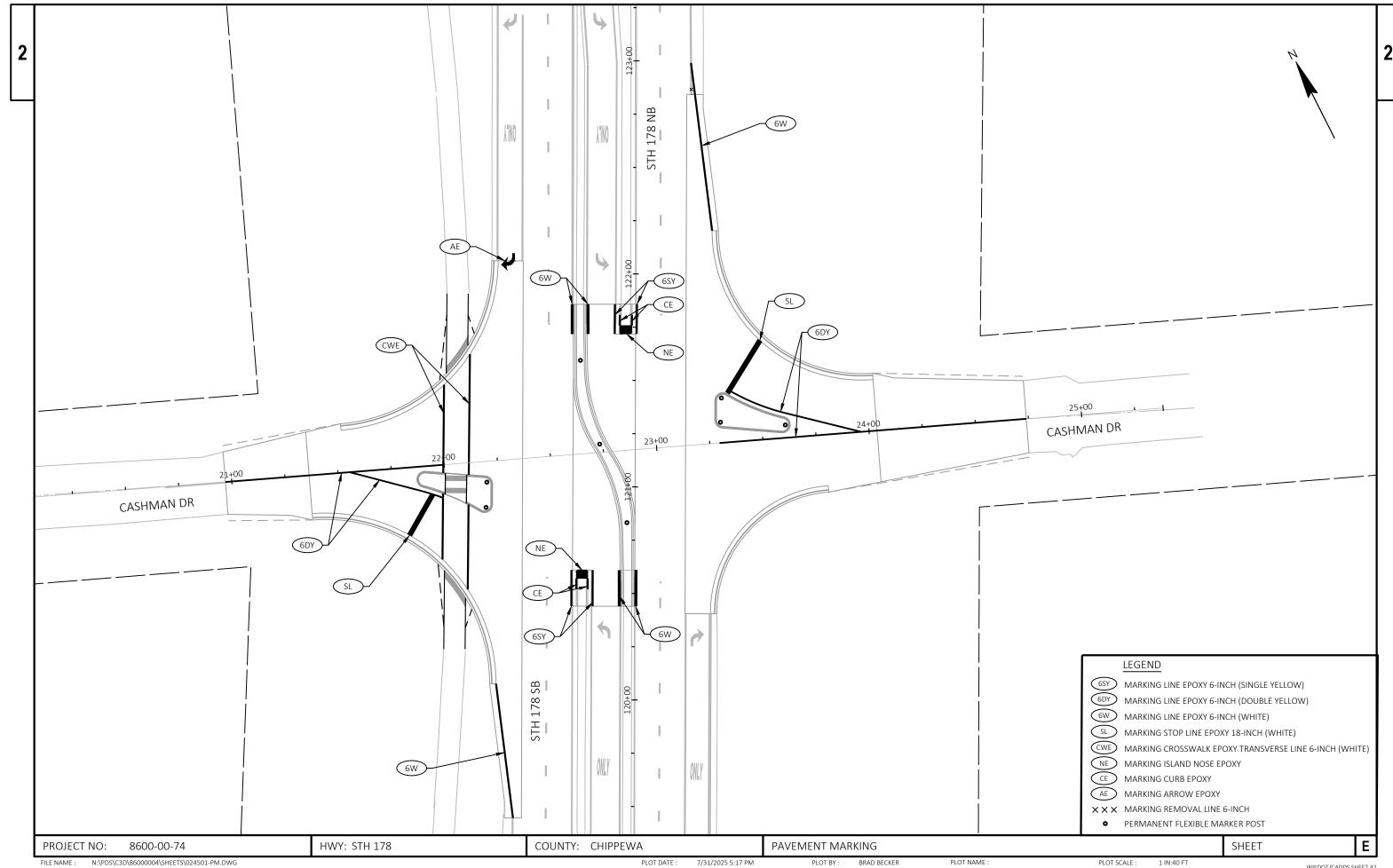
<sup>\*</sup>Reconnect the grounding conductors wherever the circuit has been interrupted to ensure the grounding circuit is complete.



PLOT NAME :

PLOT SCALE :

WISDOT/CADDS SHEET 42



#### CONSTRUCTION STAGING OPERATIONS

PLACE PORTABLE CHANGEABLE MESSAGE SIGNS AT THE PROJECT TERMINI 7 DAYS PRIOR TO CONSTRUCTION START AND CASHMAN DR CLOSURE.

STAGE 1A: CONSTRUCT LOOP DETECTORS HALF AT A TIME ALONG STH 178 FOR OLSON DR INTERSECTION, UTILIZING SINGLE LANE CLOSURE ALONG THE INSIDE LANE OF STH 178. CLOSE STH 178 LEFT TURN LANES AT OLSON DR INTERSECTION. PLACE R3-1 SIGNS AT BEGINNING OF LEFT TURN LANE TAPERS. INSTALL TRAFFIC SIGNALS IN MEDIAN AT OLSON DR INTERSECTION UTILIZING EXISTING PULL BOXES IN MEDIAN. MAINTAIN ACCESS ALONG SHARED-USE PATH.

STAGE 1B: CONSTRUCT LOOP DETECTORS HALF AT A TIME ALONG STH 178 FOR OLSON DR INTERSECTION UNDER SINGLE LANE CLOSURE ALONG THE OUTSIDE LANE OF STH 178. BEGIN INSTALLATION OF TRAFFIC SIGNALS AND STREET LIGHTS UNDER OUTSIDE LANE CLOSURE, KEEP 6' MINIMUM WIDTH OPEN ALONG OLD ABE STATE TRAIL AT ALL TIMES.

STAGE 1C: FINISH PROPOSED WORK IN ALL FOUR QUADRANTS OF OLSON DR INTERSECTION UNDER SHOULDER CLOSURE. KEEP 6' MINIMUM WIDTH OPEN ALONG OLD ABE STATE TRAIL AT ALL TIMES.

STAGE 2A: AFTER ALL PROPOSED WORK AT THE OLSON DR INTERSECTION HAS BEEN COMPLETED, CONSTRUCT WEST AND EAST APPROACHES AT CASHMAN DR UNDER FULL SIDEROAD CLOSURES.

UTILIZE OUTSIDE SINGLE LANE CLOSURES FOR STH NB & SB. CLOSE STH 178 TURN LANES AT CASHMAN DR INTERSECTION. R3-1 AND R3-2 SIGNS SHOULD BE PLACED AT BEGINNING OF RESPECTIVE TURN LANE TAPERS. CONSTRUCT CURB RAMPS FOR SHARED-USE PATH. LEAVE EXISTING RIGHT TURN LANE AND SHOULDER AT WEST APPROACH IN-PLACE FOR PEDESTRIANS TO UTILIZE. SEE "TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS" SHEET FOR MORE INFORMATION.

STAGE 2B: KEEP SIDEROAD APPROACHES AND 178 TURN LANES CLOSED AT CASHMAN DR INTERSECTION. KEEP OUTSIDE SINGLE LANE CLOSURES FOR STH NB & SB. CONSTRUCT STH 178 RIGHT TURN LANE AND SHOULDER ALONG WEST APPROACH AT CASHMAN DR. PEDESTRIANS TO UTILIZE NEW CURB RAMPS AND CROSSWALK.

STAGE 3: CONSTRUCT CENTER RAISED MEDIAN AT CASHMAN DR INTERSECTION UNDER LEFT TURN LANE AND INSIDE SINGLE LANE CLOSURES FOR STH 178 NB & SB.

#### **GENERAL NOTES:**

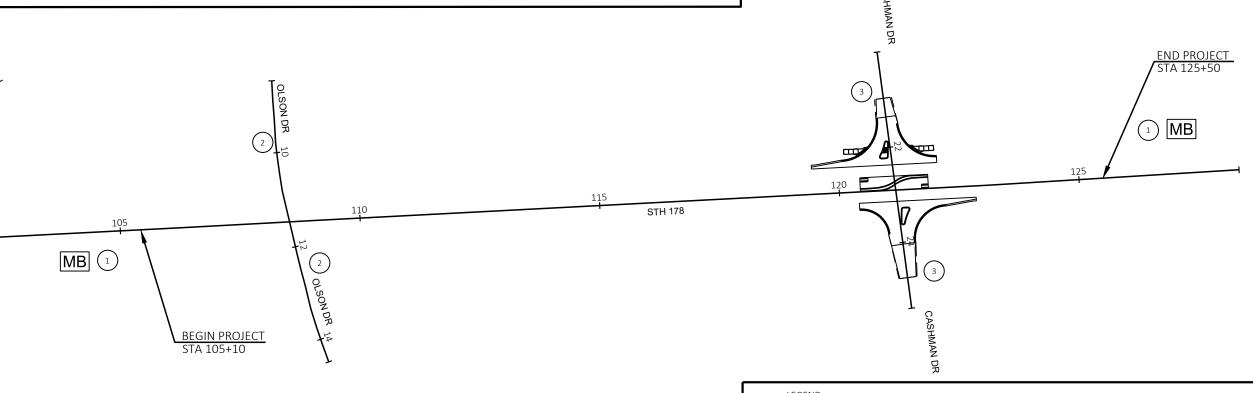
ALL TRAFFIC CONTROL SIGNS AND DEVICES AND THEIR LOCATION SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD), THE PLANS, SPECIFICATIONS, CONTRACT AND APPLICABLE STANDARD DETAIL DRAWINGS.

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

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

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

ALL SIGNS INAPPROPRIATE TO THE WORK ZONE, INCLUDING PRE-EXISTING SIGNING, SHALL BE COVERED, REMOVED, OR ALTERED AS SPECIFIED IN THE PLANS AND/OR SPECIALS PROVISONS OR AS DIRECTED BY THE ENGINEER.



PCMS	MESSAGE	OVERVIEW	

SICN OWNER	PCMS SITE	7 DAYS F CONSTRUC	7 DAYS		TO CASHMAN OSURE	STA	GE 1	STAGE 2 & 3		
SIGN OWNER	NO. (DIR.)			FRAME 2 (2 SEC)	FRAME 1 (2 SEC)	FRAME 2 (2 SEC)	FRAME 1 (2 SEC)	FRAME 2 (2 SEC)		
CONTRACTOR	STH 178 SB	ROAD WORK BEGINS	XXXXDAY XX/XX	CASHMAN DR TO CLOSE		XXXXDAY XX/XX	NO LEFT TURN TO OLSON DR	USE CASHMAN DR	CASHMAN DR CLOSED	USE OLSON DR
CONTRACTOR	STH 178 NB	ROAD WORK BEGINS	XXXXDAY XX/XX	l .	MAN DR XXXXDAY CLOSE XX/XX		NO LEFT TURN TO OLSON DR	USE CASHMAN DR	CASHMAN DR CLOSED	USE OLSON DR
PROJECT NO	O: 8600	)-00-74			HWY: STH 178					CHIPPEWA

LEGEND:

1 ) SEE SDD "TRAFFIC CONTROL, LANE CLOSURE"

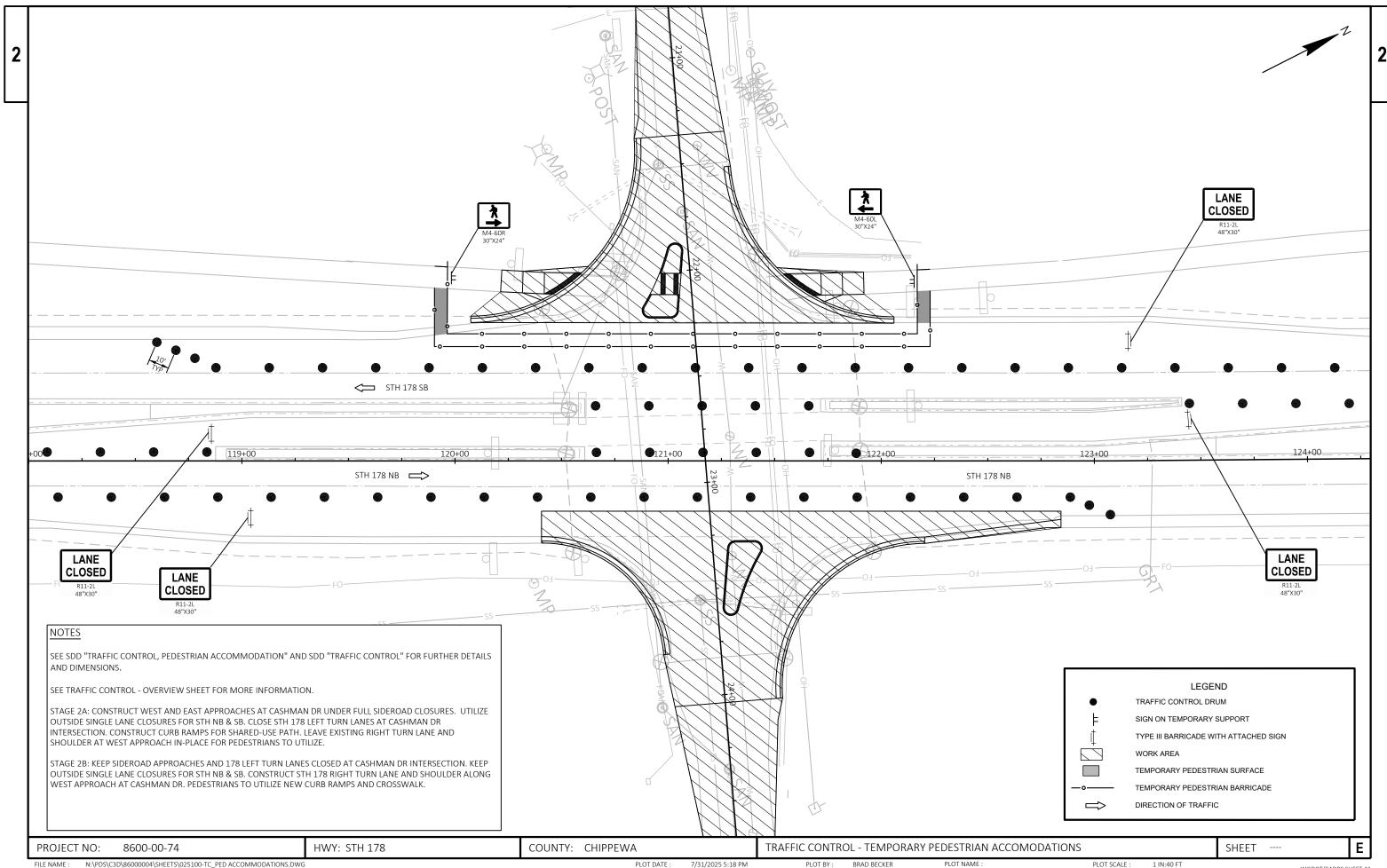
OLSON DRIVE ADVANCE SIGNING SHALL BE PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC"

( 3 ) SEE SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" FOR CASHMAN DR APPROACH WORK

MAINTAIN PEDESTRIAN AND BICYCLE ACCESS AT ALL TIMES ALONG OLD ABE STATE TRAIL. UTILIZE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION," AND "TRAFFIC CONTROL - TEMPORARY PEDESTRIAN ACCOMMODATIONS" PLAN SHEET FOR CASHMAN DR. KEEP 6' MINIMUM WIDTH OF OLD ABE STATE TRAIL OPEN TO PEDESTRIANS AND BICYCLISTS DURING WORK AT OLSON DR. UTILIZE PEDESTRIAN BARRICADE TO SEPARATE WORK ZONE FROM OPEN PORTION OF PATH.

UTILIZE SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" FOR SHOULDER CLOSURES ALONG STH 178.

SEE SDD "ADVANCED WIDTH RESTRICTION SIGNING" FOR ADDITIONAL WIDTH RESTRICTION SIGNING REQ'D ON STH 178.



860	$\cap$	ገՈ	71

					8600-00-74	
Line	Item	Item Description	Unit	Total	Qty	
0002	204.0100	Removing Concrete Pavement	SY	2,098.000	2,098.000	
0004	204.0155	Removing Concrete Sidewalk	SY	19.000	19.000	
0006	204.0220	Removing Inlets	EACH	1.000	1.000	
8000	205.0100	Excavation Common	CY	1,485.000	1,485.000	
0010	213.0100	Finishing Roadway (project) 01. 8600-00-74	EACH	1.000	1.000	
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	14.000	14.000	
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,328.000	1,328.000	
0016	415.0090	Concrete Pavement 9-Inch	SY	2,162.000	2,162.000	
0018	415.4100	Concrete Pavement Joint Filling	SY	2,404.000	2,404.000	
0020	416.0610	Drilled Tie Bars	EACH	220.000	220.000	
0022	416.0620	Drilled Dowel Bars	EACH	40.000	40.000	
0024	455.0605	Tack Coat	GAL	78.000	78.000	
0026	465.0105	Asphaltic Surface	TON	224.000	224.000	
0028	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000	
0030	524.0624	Apron Endwalls for Culvert Pipe Salvaged 24-Inch	EACH	1.000	1.000	
0032	601.0115	Concrete Curb Type G	LF	181.000	181.000	
0034	601.0413	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type G	LF	62.000	62.000	
0036	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	444.000	444.000	
0038	602.0410	Concrete Sidewalk 5-Inch	SF	2,033.000	2,033.000	
0040	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	40.000	40.000	
0042	602.0605	Curb Ramp Detectable Warning Field Radial Yellow	SF	67.000	67.000	
0044	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	4.000	4.000	
0046	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	10.000	10.000	
0048	611.0636	Inlet Covers Type HM-S	EACH	1.000	1.000	
0050	611.3230	Inlets 2x3-FT	EACH	1.000	1.000	
0052	611.8110	Adjusting Manhole Covers	EACH	2.000	2.000	
0054	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000	
0056	619.1000	Mobilization	EACH	1.000	1.000	
0058	620.0300	Concrete Median Sloped Nose	SF	53.000	53.000	
0060	624.0100	Water	MGAL	17.000	17.000	
0062	625.0100	Topsoil	SY	683.000	683.000	
0064	627.0200	Mulching	SY	785.000	785.000	
0066	628.1504	Silt Fence	LF	1,070.000	1,070.000	
0068	628.1520	Silt Fence Maintenance	LF	1,070.000	1,070.000	
0070	628.1905	Mobilizations Erosion Control	EACH	7.000	7.000	
0070	628.1910	Mobilizations Emergency Erosion Control	EACH	7.000	7.000	
0072	628.2006	Erosion Mat Urban Class I Type A	SY	683.000	683.000	
0074	628.7005	Inlet Protection Type A	EACH	4.000	4.000	
0078	628.7005	Inlet Protection Type C	EACH	4.000	4.000	
0078	628.7555	Culvert Pipe Checks		12.000		
		•	EACH		12.000	
0082	629.0210	Fertilizer Type B	CWT	0.950	0.950	
0084	630.0120	Seeding Mixture No. 20	LB	66.050	66.050	
0086	630.0500	Seed Water Markers Permanent Flexible	MGAL	16.530	16.530	
8800	633.5350		EACH	8.000	8.000	
0090	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	22.000	22.000	
0092	637.0620	Sign Flags Permanent Type II	EACH	16.000	16.000	
0094	637.2210	Signs Type II Reflective H	SF	147.250	147.250	
0096	637.2215	Signs Type II Reflective H Folding	SF	50.000	50.000	
0098	637.2230	Signs Type II Reflective F	SF	72.000	72.000	

8600-00-74

					8600-00-74	
Line	Item	Item Description	Unit	Total	Qty	
0100	638.2102	Moving Signs Type II	EACH	2.000	2.000	
0102	638.2602	Removing Signs Type II	EACH	24.000	24.000	
0104	638.3000	Removing Small Sign Supports	EACH	10.000	10.000	
0106	638.4000	Moving Small Sign Supports	EACH	2.000	2.000	
0108	642.5001	Field Office Type B	EACH	1.000	1.000	
0110	643.0300	Traffic Control Drums	DAY	5,532.000	5,532.000	
0112	643.0420	Traffic Control Barricades Type III	DAY	592.000	592.000	
0114	643.0705	Traffic Control Warning Lights Type A	DAY	775.000	775.000	
0116	643.0715	Traffic Control Warning Lights Type C	DAY	605.000	605.000	
0118	643.0810	Traffic Control Connected Arrow Boards	DAY	119.000	119.000	
0120	643.0900	Traffic Control Signs	DAY	1,118.000	1,118.000	
0122	643.0920	Traffic Control Covering Signs Type II	EACH	8.000	8.000	
0124	643.1050	Traffic Control Signs PCMS	DAY	104.000	104.000	
0126	643.1220	Traffic Control Connected Work Zone Start and End Location Markers	DAY	119.000	119.000	
0128	643.5000	Traffic Control	EACH	1.000	1.000	
0130	644.1440	Temporary Pedestrian Surface Matting	SF	220.000	220.000	
0132	644.1810	Temporary Pedestrian Barricade	LF	580.000	580.000	
0134	646.2020	Marking Line Epoxy 6-Inch	LF	1,460.000	1,460.000	
0136	646.5020	Marking Arrow Epoxy	EACH	1.000	1.000	
0138	646.6120	Marking Stop Line Epoxy 18-Inch	LF	198.000	198.000	
0140	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	298.000	298.000	
0142	646.8120	Marking Curb Epoxy	LF	20.000	20.000	
0144	646.8220	Marking Island Nose Epoxy	EACH	2.000	2.000	
0146	646.9002	Marking Removal Line 6-Inch	LF	419.000	419.000	
0148	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000	
0150	650.5000	Construction Staking Base	LF	110.000	110.000	
0152	650.7000	Construction Staking Concrete Pavement	LF	362.000	362.000	
0154	650.8501	Construction Staking Electrical Installations (project) 01. 8600-00-74	EACH	1.000	1.000	
0156	650.9000	Construction Staking Curb Ramps	EACH	4.000	4.000	
0158	650.9500	Construction Staking Sidewalk (project) 01. 8600-00-74	EACH	1.000	1.000	
0160	650.9911	Construction Staking Supplemental Control (project) 01. 8600-00-74	EACH	1.000	1.000	
0162	650.9920	Construction Staking Slope Stakes	LF	300.000	300.000	
0164	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	3,086.000	3,086.000	
0166	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	304.000	304.000	
0168	652.0700.S	<u> </u>	EACH	14.000	14.000	
0170	652.0800	Conduit Loop Detector	LF	1,367.000	1,367.000	
0172		Pull Boxes Steel 24x36-Inch	EACH	18.000	18.000	
0174	653.0140	Pull Boxes Steel 24x42-Inch	EACH	19.000	19.000	
0176	653.0900	Adjusting Pull Boxes	EACH	3.000	3.000	
0178	653.0905	Removing Pull Boxes	EACH	22.000	22.000	
0180	654.0101	Concrete Bases Type 1	EACH	8.000	8.000	
0182	654.0102	Concrete Bases Type 2	EACH	2.000	2.000	
0184	654.0105	Concrete Bases Type 5	EACH	16.000	16.000	
0186	654.0120	Concrete Bases Type 10-Special	EACH	2.000	2.000	
0188	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000	
0190	654.0230	Concrete Control Cabinet Bases Type L30	EACH	1.000	1.000	
0192	655.0230	Cable Traffic Signal 5-14 AWG	LF	1,023.000	1,023.000	
0194	655.0240	Cable Traffic Signal 7-14 AWG	LF	719.000	719.000	
0196	655.0260	Cable Traffic Signal 12-14 AWG	LF	1,629.000	1,629.000	

8600-00-74

					8600-00-74	
Line	Item	Item Description	Unit	Total	Qty	
0198	655.0305	Cable Type UF 2-12 AWG Grounded	LF	2,612.000	2,612.000	
0200	655.0320	Cable Type UF 2-10 AWG Grounded	LF	4,076.000	4,076.000	
0202	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	1,584.000	1,584.000	
0204	655.0610	Electrical Wire Lighting 12 AWG	LF	2,880.000	2,880.000	
0206	655.0700	Loop Detector Lead In Cable	LF	6,971.000	6,971.000	
0208	655.0800	Loop Detector Wire	LF	4,618.000	4,618.000	
0210	655.0900	Traffic Signal EVP Detector Cable	LF	1,037.000	1,037.000	
0212	656.0201	Electrical Service Meter Breaker Pedestal (location) 01. STH 178 & Cashman Drive	EACH	1.000	1.000	
0214	656.0201	Electrical Service Meter Breaker Pedestal (location) 02. STH 178 & Olson Drive	EACH	1.000	1.000	
0216	657.0100	Pedestal Bases	EACH	8.000	8.000	
0218	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	18.000	18.000	
0220	657.0310	Poles Type 3	EACH	2.000	2.000	
0222	657.0322	Poles Type 5-Aluminum	EACH	16.000	16.000	
0224	657.0352	Poles Type 10-Special	EACH	2.000	2.000	
0226	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	8.000	8.000	
0228	657.0546	Monotube Arms 45-FT-Special	EACH	2.000	2.000	
0230	657.0595	Trombone Arms 25-FT	EACH	2.000	2.000	
0232	657.0714	Luminaire Arms Truss Type 4-Inch Clamp 15-FT	EACH	2.000	2.000	
0234	657.0715	Luminaire Arms Truss Type 4 1/2-Inch Clamp 15-FT	EACH	16.000	16.000	
0236	657.0815	Luminaire Arms Steel 15-FT	EACH	2.000	2.000	
0238	658.0173	Traffic Signal Face 3S 12-Inch	EACH	14.000	14.000	
0240	658.0174	Traffic Signal Face 4S 12-Inch	EACH	6.000	6.000	
0242	658.0416	Pedestrian Signal Face 16-Inch	EACH	2.000	2.000	
0244	658.5070	Signal Mounting Hardware (location) 01. STH 178 & Olson Drive	EACH	1.000	1.000	
0246	659.1115	Luminaires Utility LED A	EACH	12.000	12.000	
0248	659.1125	Luminaires Utility LED C	EACH	8.000	8.000	
0250	659.2130	Lighting Control Cabinets 120/240 30-Inch	EACH	1.000	1.000	
0252	690.0150	Sawing Asphalt	LF	99.000	99.000	
0254	690.0250	Sawing Concrete	LF	1,050.000	1,050.000	
0256	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	650.000	650.000	
0258	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000	
0260	ASP.1T0G	,	HRS	300.000	300.000	
0262	SPV.0060	Special 01. Install State Furnished EVP Detector Heads	EACH	1.000	1.000	
0264	SPV.0060	Special 02. Adjusting Water Valves	EACH	4.000	4.000	
0266	SPV.0060	Special 03. Adjusting Sanitary Manhole Covers	EACH	1.000	1.000	
0268		Special 04. Abandoning Sanitary Manholes	EACH	1.000	1.000	
0270	SPV.0060	Special 05. Utility Line Opening	EACH	8.000	8.000	
0272	SPV.0060	Special 06. Install State Furnished APS Push Button Stations	EACH	2.000	2.000	
0274	SPV.0060	Special 07. Clean Existing Pull Boxes	EACH	8.000	8.000	
0276	SPV.0060	Special 08. Bell Ends for Rigid Non-Metallic Conduit	EACH	55.000	55.000	
0278	SPV.0060	Special 09. Test Existing Loops	EACH	16.000	16.000	
0280	SPV.0090	Special 01. Concrete Curb & Gutter 18-Inch Type G Special	LF	292.000	292.000	
0282	SPV.0090	Special 02. Install CAT-5E Cable	LF	453.000	453.000	
0284	SPV.0090	Special 03. Clean and Proof Existing Conduit	LF	1,495.000	1,495.000	

### EXCAVATION

					205.0100				EXPANDED	
					EXCAVATION COMMON	SALVAGED/UNUSABLE MATERIAL	AVAILABLE MATERIAL	UNEXPANDED FILL	FILL (1.25 FACTOR)	
CATEGORY	STATION	TO	STATION	LOCATION	CY	CY	CY	CY	CY	REMARKS
0010	20+97	-	22+37	CASHMAN DR	591	251	340	10	13	
0010	120+44	-	121+86	STH 178, MEDIAN	192	116	76	-	-	
0010	23+14	-	24+74	CASHMAN DR	702	250	452	12	15	
					-					
				TOTAL 0010	1,485	617	868	22	28	

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				REMOVALS									BASE AGGREGATE			
					204.0100 REMOVING CONCRETE PAVEMENT	204.0155 REMOVING CONCRETE SIDEWALK							305.0110 BASE AGGREGATE DENSE 3/4-INCH	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	624.0100 WATER	
CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	MGAL	REMARKS
							LOOP DETECTOR									LOOP DETECTOR
0010	103+25	-	113+75	STH 178	89	-	LOCATIONS	0010	103+25	-	113+75	STH 178	4	-	1	LOCATIONS
0010	119+44	-	122+06	STH 178, LT	815	-		0010	20+97	-	21+36	CASHMAN DR	6	126	2	
0010	120+44	-	121+86	STH 178	442	-	MEDIAN	0010	24+04	-	24+74	CASHMAN DR	8	256	3	
0010	120+44	-	120+56	STH 178	-	11	MEDIAN	0010	119+44	-	122+84	STH 178, LT	-	415	5	
0010	121+76	-	121+86	STH 178	-	8	MEDIAN	0010	119+44	-	122+84	STH 178, RT	-	376	4	
0010	120+41	-	122+84	STH 178, RT	752	-		0010	119+44	-	122+84	STH 178 MEDIAN	-	155	2	
				TOTAL 0010	2,098	19	_					TOTAL 0010	18	1,328	17	

NCRETE	PAVEMENT	

CONCRETE PAVEMENT											<u>ASPHALT</u>							
					415.0090 CONCRETE PAVEMENT 9-INCH	415.4100  CONCRETE PAVEMENT JOINT FILLING	416.0610 DRILLED TIE BARS	416.0620  DRILLED DOWEL BARS		CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON	REMARKS	
CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	EACH	EACH	REMARKS									
										0010	103+00	-	114+00	STH 178	-	4	LOOP DETECTOR LOCATIONS	
0010	103+00	-	114+00	STH 178	89	89	20	80	LOOP DETECTOR LOCATIONS	0010	119+44	-	120+07	STH 178, LT	-	4	PAVED SHOULDER	
0010	119+44	-	122+84	STH 178, LT	963	1,051	87	10		0010	122+20	-	122+84	STH 178	-	4	PAVED SHOULDER	
0010	119+44	-	122+84	STH 178	313	393	52	20		0010	20+97	-	21+36	CASHMAN DR	36	99		
0010	119+44	-	122+84	STH 178, RT	886	960	81	10		0010	24+03	-	24+74	CASHMAN DR	42	117		
										0010	120+18	-	120+24	STH 178, LT	-	2	OLD ABE STATE TRAIL	
				TOTAL 0010	2,162	2,404	220	40		0010	121+90	-	121+96	STH 178, LT	-	2	OLD ABE STATE TRAIL	
														TOTAL 0010	78	224		

HWY: STH 178 COUNTY: CHIPPEWA SHEET E PROJECT NO: 8600-00-74 MISCELLANEOUS QUANTITIES

FILE NAME : N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG LAYOUT NAME - 01

PLOT DATE : 9/23/2025 7:56 AM

PLOT BY: MATT PAYNE

PLOT NAME :

PLOT SCALE : 1" = 1'

| 2

## CURB AND GUTTER

					601.0115	601.0413	601.0555 CONCRETE CURB &	SPV.0090.01	
					CONCRETE CURB TYPE G	CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G		SPECIAL (01. CONCRETE CURB & GUTTER 18-INCH TYPE G SPECIAL)	
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	LF	LF	REMARKS
0010	120+07	-	120+85	STH 178, LT	-	-	129	-	SW QUADRANT
0010	120+41	-	120+99	STH 178, RT	-	-	87	-	SE QUADRANT
0010	120+44	-	121+86	STH 178, MEDIAN	-	62	-	292	
0010	121+28	-	122+06	STH 178, LT	-	-	116	-	NW QUADRANT
0010	121+53	-	122+20	STH 178, RT	-	-	112	-	NE QUADRANT
0010	21+87	-	22+22	CASHMAN DR, RT	91	-	-	-	PORK CHOP ISLAND
0010	23+28	-	23+63	CASHMAN DR, LT	90	-	-	-	PORK CHOP ISLAND
				TOTAL 0010	181	62	444	292	

### SIDEWALK

					602.0410	602.0505	602.0605 CURB RAMP DETECTABLE	
					CONCRETE SIDEWALK	CURB RAMP DETECTABLE	WARNING FIELD RADIAL	
					5-INCH	WARNING FIELD YELLOW	YELLOW	
CATEGORY	STATION	TO	STATION	LOCATION	SF	SF	SF	REMARKS
0010	120+44	-	121+86	STH 178, MEDIAN	733	-	-	
0010	120+24	-	120+60	STH 178, LT	310	-	33	OLD ABE STATE TRAIL RAMP
0010	121+53	-	121+90	STH 178, LT	314	-	34	OLD ABE STATE TRAIL RAMP
0010	21+87	-	22+22	CASHMAN DR, RT	344	40	-	PORK CHOP ISLAND/CURB RAMP
0010	23+28	-	23+63	CASHMAN DR, LT	332	-	-	PORK CHOP ISLAND
				TOTAL 0010	2,033	40	67	

## RESTORATION

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0500 SEED WATER MGAL	REMARKS
0010	119+44	-	120+87	STH 178, LT	163	-	163	0.11	7.34	1.84	SW QUADRANT
0010	120+41	-	121+15	STH 178, RT	118	-	118	0.08	5.31	1.33	SE QUADRANT
0010	121+19	-	122+06	STH 178, LT	124	-	124	0.08	5.58	1.40	NW QUADRANT
0010	121+53	-	122+84	STH 178, RT	141	-	141	0.09	6.35	1.59	NE QUADRANT
0010		PROJECT		STH 178	-	628	-	0.40	28.26	7.06	CONDUIT TRENCHES & BASES
				UNDISTRIBUTED	137	157	137	0.19	13.21	3.31	
				TOTAL 0010	683	785	683	0.95	66.05	16.53	

PROJECT NO: 8600-00-74 HWY: STH 178 COUNTY: CHIPPEWA MISCELLANEOUS QUANTITIES SHEET **E** 

### PERMANENT SIGNING

0.750000	0.01.11				GN SIZE (I		634.0616 POSTS WOOD 4X6-INCH X 16-FT	637.0620 SIGN FLAGS PERMANENT TYPE II	637.2210 SIGNS TYPE II REFLECTIVE H	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING	637.2230 SIGNS TYPE II REFLECTIVE F	638.2102 MOVING SIGNS TYPE II	638.2602 REMOVING SIGNS TYPE II	SUPPORTS		SIGN MOUNTED ON	951 11 81/9
CATEGORY	SIGN #	SIGN CODE	DESCRIPTION	W	X	<u>H</u>	EACH	EACH	SF	SF	SF	EACH	EACH	EACH	EACH	SAME POST AS	REMARKS
0010	1-01	M1-94H	OVERHEAD STREET NAME [OLSON DR]	66	Χ	18	-	-	8.25	-	-	-	-	-	-		MOUNTED ON SIGNAL POLE
0010	1-02	R4-7	KEEP RIGHT	24	X	30	-	-	-	-	-	-	1	1	-		A AGUINTED ON GIONAL DOLE
0010	1-03	R4-7	KEEP RIGHT	24	X	30	-	-	5.00	-	-	-	-	-	-	1.05	MOUNTED ON SIGNAL POLE
0010 0010	1-04 1-05	R6-2L R6-2R	ONE WAY LEFT ARROW ONE WAY RIGHT ARROW	30 30	X	36 36	1	-	7.50 7.50	-	-	-	-	-	-	1-05 1-04	
0010	1-05	R6-3	DIVIDED HIGHWAY CROSSING SIGN AND INTERSECTION	30	X	24	-		5.00	-			-			1-07	MOUNTED ON SIGNAL POLE
0010	1-07	R1-1F	STOP [FOLDING]	30	X	30	-	-	-	6.25	-	-	-	-	-	1-06	MOUNTED ON SIGNAL POLE
0010	1-08	R6-1-L	ONE WAY LEFT ARROW	36	Χ	12	-	-	-	-	-	-	1	1	-	1-09, 1-10, 1-11	
0010	1-09	R6-3	DIVIDED HIGHWAY CROSSING SIGN AND INTERSECTION	30	Χ	24	-	-	-	-	-	-	1	-	-	1-08, 1-10, 1-11	
0010	1-10	R1-1	STOP	30	Х	30	-	-	-	-	-	-	1	-	-	1-08, 1-09, 1-11	
0010	1-11	R6-1-R	ONE WAY RIGHT ARROW	36	X	12	-	-	-	-	-	-	1	-	-	1-08, 1-09, 1-10	
0010	1-12 1-13	W3-3 W3-1	SIGNALS AHEAD STOP AHEAD	36 36	X	36 36	1	2	-	-	9.00	-	-	- 1	-		
0010 0010	1-13 1-14	VV 3-1 R1-1F	STOP AHEAD STOP [FOLDING]	30	X	30	-	-	-	- 6.25	-	-	1	1	-		MOUNTED ON SIGNAL POLE
0010	1-14 1-15	R1-1F R1-1F	STOP [FOLDING]	30	X	30	-	-	-	6.25	-	-	-	-	-		MOUNTED ON SIGNAL POLE
0010	1-15	R1-1F	STOP [FOLDING]		X	30	-	-	-	6.25	-	-	_	_	-		MOUNTED ON SIGNAL POLE
0010	1-17	W3-3	SIGNALS AHEAD	30 36	X	36	1	2	-	-	9.00	-	-	-	-		5525 514 51614 121 012
0010	1-18	W3-3	SIGNALS AHEAD	36	Χ	36	1	2	-	-	9.00	-	-	-	-		
0010	1-19	W2-1	CROSS ROAD	36	Χ	36	-	-	-	-	-	-	1	1	-		
0010	1-20	W3-3	SIGNALS AHEAD	36	Χ	36	1	2	-	-	9.00	-	-	-	-		
0010	1-21	W3-3	SIGNALS AHEAD	36 36	Χ	36	1	2	-	-	9.00	-	-	-	-		
0010	1-22	W2-1	CROSS ROAD STOP [FOLDING]		X	36	-	-	-	-	-	-	1	1	-		
0010	1-23	R1-1F	STOP [FOLDING] STOP [FOLDING]		X	30	-	-	-	6.25	-	-	-	-	-		MOUNTED ON SIGNAL POLE
0010	1-24	R1-1F	STOP [FOLDING] STOP [FOLDING]		X	30 30	-	-	-	6.25	-	-	-	-	-		MOUNTED ON SIGNAL POLE
0010 0010	1-25 1-26	R1-1F W3-3	SIGNALS AHEAD	30 36	X	36		- 2	-	6.25	9.00	-	-	-	-		MOUNTED ON SIGNAL POLE
0010	1-20	W3-1	STOP AHEAD	36	X	36	_	-			9.00 -	-	1	1	-		
0010	1-28	R6-3	DIVIDED HIGHWAY CROSSING SIGN AND INTERSECTION	30	X	24	-	_	-	_	-	-	1	1	-	1-29, 1-30, 1-31	
0010	1-29	R1-1	STOP	30	X	30	-	-	-	-	-	-	1	-	-	1-28, 1-30, 1-31	
0010	1-30	R6-1-R	ONE WAY RIGHT ARROW	36	Χ	12	-	-	-	-	-	-	1	-	-	1-28, 1-29, 1-31	
0010	1-31	R6-1-L	ONE WAY LEFT ARROW	36	Χ	12	-	-	-	-	-	-	1	-	-	1-28, 1-29, 1-30	
0010	1-32	R6-3	DIVIDED HIGHWAY CROSSING SIGN AND INTERSECTION	30	Χ	24	-	-	5.00	-	-	-	-	-	-		MOUNTED ON SIGNAL POLE
0010	1-33	R1-1F	STOP [FOLDING]	30	X	30	-	-	-	6.25	-	-	-	-	-		MOUNTED ON SIGNAL POLE
0010	1-34	R6-2R	ONE WAY RIGHT ARROW	30	X	36	1	-	7.50	-	-	-	-	-	-	1-35	
0010 0010	1-35 1-36	R6-1L R4-7	ONE WAY LEFT ARROW  KEEP RIGHT	30 24	X	36 30	1	-	7.50	-	-	-	- 1	- 1	-	1-34	
0010	1-36	R4-7	KEEP RIGHT KEEP RIGHT	24	X	30	1	-	- 5.00	-	-	-	1	1	-		
0010	1-37	M1-94H	OVERHEAD STREET NAME [OLSON DR]	66	X	16	-	_	8.25	_	_	_	_	_	_		MOUNTED ON SIGNAL POLE
0010	2-01	R6-2R	ONE WAY RIGHT ARROW	24	X	30	1	-	5.00	-	_	-	_	-	_		MOONTED ON SIGNAL FOLE
0010	2-02	R4-7	KEEP RIGHT	24	Χ	30	-	-	-	-	-	1	-	-	1		
0010	2-03	R1-1	STOP	30	Х	30	1	-	6.25	-	-	-	-	-	-		
0010	2-04	R6-1L	ONE WAY LEFT ARROW	36	Χ	12	-	-	-	-	-	-	1	1	-	2-05, 2-06, 2-07	
0010	2-05	R6-3	DIVIDED HIGHWAY CROSSING SIGN AND INTERSECTION	30	Χ	24	-	-	-	-	-	-	1	-	-	2-04, 2-06, 2-07	
0010	2-06	R1-1	STOP	30	X	30	-	-	-	-	-	-	1	-	-	2-04, 2-05, 2-07	
0010	2-07	R6-1R	ONE WAY RIGHT ARROW	36	X	12 36	- 1	-	-	-	- 0.00	-	1	-	-	2-04, 2-05, 2-06	
0010	2-08 2-09	W3-1 W3-1	STOP AHEAD STOP AHEAD	36 36	X V	36 36	1	-	-	-	9.00	-	- 1	-	-		
0010 0010	2-09 2-10	R3-50R	RIGHT TURN ONLY	30	X	36	- 1	- 2	- 7.50	-	-	-	_	-	-		
0010	2-10	R4-7	KEEP RIGHT	24	X	30	1	-	5.00	-	-	-	_	_	-	2-12, 2-13	
0010	2-12	R1-1	STOP	30	X	30			6.25							2-11, 2-13	
0010	2-13	R6-1R	ONE WAY RIGHT ARROW	36	Χ	21	-	-	5.25	-	-	-	-	-	-	2-11, 2-12	
0010	2-14	R5-1	DO NOT ENTER	30	Χ	30	1	-	6.25	-	-	-	-	-	-		
0010	2-15	R5-1	DO NOT ENTER	30	Χ	30	1	-	6.25	-	-	-	-	-	-		
0010	2-16	R4-7	KEEP RIGHT	24	X	30	1	-	5.00	-	-	-	-	-	-	2-17, 2-18	
0010	2-17	R1-1	STOP	30	X	30	-	-	6.25	-	-	-	-	-	-	2-16, 2-18	
				21112	BTOTAL 0	010	18	14	125.50	50.00	63.00	1	19	9	1	-	
				301	SIOIAL U	010	10	14	123.30	50.00	05.00	1	13	J	7		

HWY: STH 178 COUNTY: CHIPPEWA SHEET E PROJECT NO: 8600-00-74 MISCELLANEOUS QUANTITIES FILE NAME : N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG LAYOUT NAME - 03 PLOT BY: MATT PAYNE PLOT DATE : 9/23/2025 7:56 AM PLOT NAME : PLOT SCALE : 1" = 1' WISDOT/CADDS SHEET 42

3	)
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REMARKS

	634.0616	637.0620	637.2210	637.2215	637.2230	638.2102	$\epsilon$
		SIGN FLAGS		SIGNS TYPE II			
	POSTS WOOD	PERMANENT	SIGNS TYPE II	REFLECTIVE H	SIGNS TYPE II	MOVING SIGNS	RE
SIGN SIZE (IN)	4X6-INCH X 16-FT	TYPE II	REFLECTIVE H	FOLDING	REFLECTIVE F	TYPE II	SIG

TOTAL 0010

KEEP RIGHT

ONE WAY RIGHT ARROW

638.2602 638.3000 638.4000 REMOVING REMOVING SMALL SIGN MOVING SMALL

72.00

24

10

SUPPORTS SIGN MOUNTED ON SIGN SIZE (IN) REFLECTIVE H REFLECTIVE F SIGNS TYPE II CATEGORY SIGN CODE DESCRIPTION SIGN # EACH SF SF SF EACH EACH 2-18 R6-1R ONE WAY RIGHT ARROW 3.00 2-16, 2-17 0010 36 Χ 12 0010 2-19 R3-50R RIGHT TURN ONLY 30 36 7.50

0010 STOP AHEAD 36 Χ 36 9.00 2-20 W3-1

0010 2-21 W3-1 STOP AHEAD 36 Χ 36 2-23, 2-24, 2-25 DIVIDED HIGHWAY CROSSING SIGN AND INTERSECTION 0010 R6-3 0010 2-23 R1-1 STOP 30 30 2-22, 2-24, 2-25 Χ 2-22, 2-23, 2-25 0010 2-24 R6-1R ONE WAY RIGHT ARROW 12 0010

22

ONE WAY LEFT ARROW 36 2-22, 2-23, 2-24 2-25 R6-1L Χ 12 2-26 R1-1 STOP 30 Χ 30 6.25

16

PERMANENT SIGNING CONTINUED FROM PREVIOUS PAGE

30 5.00 24 Χ SUBTOTAL 0010 21.75 9.00 5

50.00

**EROSION CONTROL** 

147.25

					628.1504	628.1520 SILT FENCE	628.1905 MOBILIZATIONS	628.1910 MOBILIZATIONS EMERGENCY EROSION	628.7005	628.7015 INLET PROTECTION	628.7555 CULVERT PIPE	
					SILT FENCE	MAINTENANCE	EROSION CONTROL	CONTROL	TYPE A	TYPE C	CHECKS	
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	EACH	EACH	EACH	EACH	EACH	REMARKS
0010	119+44	-	120+87	STH 178, LT	238	238	-	-	-	-	3	SW QUADRANT
0010	120+41	-	121+15	STH 178, RT	192	192	-	-	-	-	3	SE QUADRANT
0010	121+19	-	122+06	STH 178, LT	163	163	-	-	-	-	3	NW QUADRANT
0010	121+53	-	122+84	STH 178, RT	263	263	-	-	1	1	-	NE QUADRANT
0010	120+44	-	121+86	STH 178, MEDIAN	-	-	-	-	2	2	-	
				PROJECT	-	-	5	5	-	-	-	
				UNDISTRIBUTED	214	214	2	2	1	1	3	
				TOTAL 0010	1,070	1,070	7	7	4	4	12	-

TRAFFIC CONTROL

			643	3.0300	643	3.0420	643	.0705	643	3.0715	643	.0810	643	.0900	643.0920	643	.1050		3.1220 CONTROL	643.5000	644.1440 TEMPORARY	644.1810	
		DURATION		C CONTROL RUMS		C CONTROL ADES TYPE III	WARNIN	CONTROL NG LIGHTS PE A	WARNII	CONTROL NG LIGHTS /PE C	CONNECT	CONTROL ED ARROW ARDS		CONTROL GNS	TRAFFIC CONTROL COVERING SIGNS TYPE II		CONTROL S PCMS	START AND	D WORK ZONE END LOCATION RKERS	TRAFFIC CONTROL	PEDESTRIAN SURFACE MATTING	TEMPORARY PEDESTRIAN BARRICADE	
CATEGORY	STAGE	DAYS	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	EACH	DAY	EACH	DAY	EACH	SF	LF	REMARKS
0010	PROJECT	-	-	-	-	-	-	-	-	-	-	-	-	-	8	2	14	-	-	1	-	-	PCMS 7 DAYS PRIOR TO CONSTRUCTION START
0010	1A	11	77	847	4	44	8	88	10	110	2	22	16	176	-	-	-	2	22	-	-	-	
0010	1B	11	102	1122	4	44	8	88	10	110	2	22	16	176	-	-	-	2	22	-	-	-	
0010	1C	5	30	150	-	-	-	-	-	-	2	10	8	40	-	2	14	2	10	-	-	-	PCMS 7 DAYS PRIOR TO STAGE 2A
0010	2A	20	90	1800	14	280	16	320	10	200	2	40	20	400	-	2	40	2	40	-	220	580	
0010	2B	7	90	630	14	98	16	112	10	70	2	14	20	140	-	2	14	2	14	-	-	-	
0010	3	6	80	480	12	72	16	96	10	60	-	-	14	84	-	2	12	-	-	-	-	-	
0010	UNDISTRIBUTED	-	-	503	-	54	-	71	-	55	-	11	-	102	-	-	10	-	11	-	-	-	
		TOTAL 0010		5,532	_	592	_	775	_	605	_	119	_	1,118	8	-	104	-	119	1	220	580	

HWY: STH 178 Ε PROJECT NO: 8600-00-74 COUNTY: CHIPPEWA MISCELLANEOUS QUANTITIES SHEET

0010

0010

0010

2-27

2-28

R4-7

R6-2R

SAWING

			620.0300 CONCRETE MEDIAN SLOPED NOSE						690.0150 SAWING ASPHALT	690.0250 SAWING CONCRETE	
CATEGORY	STATION	LOCATION	SF	CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	REMARKS
0010	120+58	STH 178, MEDIAN STH 178, MEDIAN	26	0010 0010	103+00 113+50		103+50 114+00	STH 178, RT STH 178, LT	12 12	81 85	LOOP DETECTOR
0010	121+75	STH 178, IVIEDIAN	27	0010	113130	119+44	114100	STH 178, LT	5	-	LOOF BETEGION
		TOTAL 0010	53	0010	119+44	-	122+06	STH 178, LT	-	280	
		101/12 0010	33	0010	120+41	-	122+84	STH 178, RT	-	261	
				0010	120+44	-	121+86	STH 178, MEDIAN	-	343	
				0010		122+84		STH 178, RT	6	-	
				0010		20+97		CASHMAN DR	30	-	
				0010		2474.00		CASHMAN DR	34	-	
								TOTAL 0010	99	1,050	-

### PAVEMENT MARKINGS

					633.5350 MARKERS	646.2020		646.5020	646.6120	646.7420	646.8120	646.8220	646.9002	
					PERMANENT FLEXIBLE	MARKING L 6-IN		MARKING ARROW EPOXY	MARKING STOP LINE EPOXY 18-INCH	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH	MARKING CURB EPOXY	MARKING ISLAND NOSE EPOXY	MARKING REMOVAL LINE 6-INCH	
						YELLOW	WHITE							
CATEGORY	STATION	TO	STATION	LOCATION	EACH	LF	LF	EACH	LF	LF	LF	EACH	LF	REMARKS
0010		107+88		STH 178	-	-	-	-	49	-	-	-	-	NB
0010		109+09		STH 178	-	-	-	-	49	-	-	-	-	SB
0010	119+44	-	122+99	STH 178	2	62	205	1	-	-	20	2	-	
0010	9+30	-	10+81	OLSON DR	-	240	-	-	22	129	-	-	274	
0010	11+83	-	13+33	OLSON DR	-	237	-	-	27	-	-	-	145	
0010	20+97	-	22+25	CASHMAN DR	3	296	-	-	22	169	-	-	-	
0010	23+26	-	24+74	CASHMAN DR	3	420	-	-	29	-	-	-	-	
				SUBTOTAL 0010	-	1255	205	-	-	-	-	-	-	
				TOTAL 0010	8	1,40	60	1	198	298	20	2	419	

### CONSTRUCTION STAKING

					650.4000	650.5000	CONSTRUCTION	650.8501.01 CONSTRUCTION STAKING ELECTRICA INSTALLATIONS (PROJECT) (01.		650.9500.01  CONSTRUCTION STAKING SIDEWALK (PROJECT) (01.	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT)	650.9920  CONSTRUCTION
					STAKING STORM SEWER	CONSTRUCTION STAKING BASE	STAKING CONCRETE PAVEMENT	8600-00-74)	CONSTRUCTION STAKING CURB RAMPS	8600-00-74)	(01. 8600-00-74)	STAKING SLOPE STAKES
CATEGORY	STATION	TO	STATION	LOCATION	EACH	LF	LF	EACH	EACH	EACH	EACH	LF
0010	103+00	-	114+00	STH 178	-	-	30	-	-	-	-	-
0010	20+97	-	22+37	CASHMAN DR	-	40	100	-	4	-	-	140
0010	120+44	-	121+86	STH 178, MEDIAN	-	-	142	-	-	-	-	-
0010	23+14	-	24+74	CASHMAN DR	1	70	90	-	-	-	-	160
				PROJECT	-	-	-	1	-	1	1	-
				TOTAL 0010	1	110	362	1	4	1	1	300

HWY: STH 178 COUNTY: CHIPPEWA SHEET E PROJECT NO: 8600-00-74 MISCELLANEOUS QUANTITIES FILE NAME : N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG LAYOUT NAME - 05 PLOT BY: MATT PAYNE PLOT DATE : 9/23/2025 7:56 AM PLOT NAME : PLOT SCALE : 1" = 1' WISDOT/CADDS SHEET 42

WISDOT/CADDS SHEET 42

### STORM SEWER PIPES

CATEGORY	STATION	OFFSET	LOCATION	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	REMARKS
0010 0010	23+64 23+56	38' LT 49' RT	CASHMAN DR CASHMAN DR TOTAL 0010	1 1	4	10 -	NE QUADRANT; MATCH EXISTING ELEVATION & SLOPE SE QUADRANT; MATCH EXISTING ELEVATION & SLOPE

### STORM SEWER STRUCTURES

				204.0220 REMOVING	524.0624 APRON ENDWALLS FOR CULVERT PIPE SALVAGED II	611.0636 NLET COVERS TYPE	611.3230	611.8110 ADJUSTING MANHOLE	611.8115 ADJUSTING				
				INLETS	24-INCH	HM-S	INLETS 2X3-FT	COVERS	INLET COVERS	RIM	INVERT	DEPTH	
CATEGORY	STATION	OFFSET	LOCATION	EACH	EACH	EACH	EACH	EACH	EACH	ELEVATION	ELEVATION	FT	REMARKS
0010	21+49	11' RT	CASHMAN DR	-	-	-	-	1	-	874.23	-	-	
0010	23+55	8' RT	CASHMAN DR	-	-	-	-	1	-	874.50	-	-	
0010	23+64	38' LT	CASHMAN DR	1	-	1	1	-	-	873.95	870.97	2	NE QUADRANT
0010	23+56	49' RT	CASHMAN DR	-	1	-	-	-	-	-	-	-	SE QUADRANT
0010	120+50	28' LT	STH 178	-	-	-	-	-	1	876.16	-	-	MEDIAN
0010	120+50	21' LT	STH 178	-	-	-	-	-	1	876.06	-	-	
			TOTAL 0010	1	1	1	1	2	2	_			

## NOTES:

STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE. RIM ELEVATION IS AT THE INLET CCOVER FLOWLINE LOCATION. INVERT ELEVATION IS THE LOWEST PIPE FLOW LINE.

DEPTH = RIM ELEV - COVER HEIGHT - 6" ADJUSTMENT RING HEIGHT - INVERT ELEV - PIPE WALL THICKNESS

### SANITARY AND WATER

				SPV.0060.02	SPV.0060.03 SPECIAL (03. ADJUSTING	SPV.0060.04
				SPECIAL (02. ADJUSTING WATER VALVES)	SANITARY MANHOLE COVERS)	SPECIAL (04. ABANDONING SANITARY MANHOLES)
CATEGORY	STATION	OFFSET	LOCATION	EACH	EACH	EACH
0020	21+42	8' LT	CASHMAN DR	1	-	-
0020	21+72	1' RT	CASHMAN DR	-	-	1
0020	23+35	9' LT	CASHMAN DR	1	-	-
0020	24+35	1' RT	CASHMAN DR	-	1	-
0020	24+66	8' RT	CASHMAN DR	1	-	-
0020	121+29	12' LT	STH 178	1	-	-
			TOTAL 0020	4	1	1

HWY: STH 178 Ε COUNTY: CHIPPEWA MISCELLANEOUS QUANTITIES SHEET PROJECT NO: 8600-00-74 N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG LAYOUT NAME - 06 FILE NAME : PLOT DATE : 9/23/2025 7:56 AM PLOT BY: MATT PAYNE PLOT NAME : PLOT SCALE : 1" = 1'

CONTROL CABINET

	**	**	CONCRETE CONTROL CABINET BASES TYPE L30	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) (01. STH 178 & CASHMAN DRIVE)	LIGHTING CONTROL CABINETS 120/240 30-INCH				SPV.0060.05 SPECIAL (05. UTILITY LINE OPENING)
ABINET #	STATION	LOCATION	EACH	EACH	EACH	_	CATEGORY	LOCATION	EACH
LCC-A	121+84	70' RT	1	1	1		0010 0010	OLSON DRIVE INTERSECTION CASHMAN DRIVE INTERSECTION	4 4
		TOTAL 0010	1	1	1			TOTAL 0010	
		BINET # STATION	BINET # STATION LOCATION  LCC-A 121+84 70' RT	** ** TYPE L30 BINET # STATION LOCATION EACH  LCC-A 121+84 70' RT 1	** ** ** TYPE L30 CASHMAN DRIVE)  BINET # STATION LOCATION EACH EACH  LCC-A 121+84 70' RT 1 1  CONCRETE CONTROL CABINET BASES PEDESTAL (LOCATION) (01. STH 178 & CASHMAN DRIVE)  EACH EACH	CONCRETE CONTROL CABINET BASES PEDESTAL (LOCATION) (01. STH 178 & CABINETS 120/240  ** ** TYPE L30 CASHMAN DRIVE) 30-INCH  BINET # STATION LOCATION EACH EACH EACH  LCC-A 121+84 70' RT 1 1 1	CONCRETE CONTROL CABINET BASES PEDESTAL (LOCATION) (01. STH 178 & CABINETS 120/240  ** ** TYPE L30 CASHMAN DRIVE) 30-INCH  BINET # STATION LOCATION EACH EACH EACH  LCC-A 121+84 70' RT 1 1 1	CONCRETE CONTROL CABINET BASES PEDESTAL (LOCATION) (01. STH 178 & CABINETS 120/240  ** ** TYPE L30 CASHMAN DRIVE) 30-INCH  BINET # STATION LOCATION EACH EACH EACH CATEGORY  LCC-A 121+84 70' RT 1 1 1 1 0010  0010	CONCRETE CONTROL CABINET BASES PEDESTAL (LOCATION) (01. STH 178 & CABINETS 120/240  ** ** TYPE L30 CASHMAN DRIVE) 30-INCH  BINET # STATION LOCATION EACH EACH EACH CATEGORY LOCATION  LCC-A 121+84 70' RT 1 1 1 1 0010 CASHMAN DRIVE INTERSECTION  O010 CASHMAN DRIVE INTERSECTION

LIGHTING PULL BOXES

					*	*	*	*	
					653.0135	653.0140 PULL BOXES	653.0900	653.0905	
			**	**	PULL BOXES STEEL 24X36-INCH	STEEL 24X42-INCH	ADJUSTING PULL BOXES	REMOVING PULL BOXES	
CAT	EGORY	PULL BOX #	STATION	LOCATION	EACH	EACH	EACH	EACH	REMARKS
C	0010	LPB01	121+73.33	80.5', RT	-	1	-	-	
C	0010	LPB02	121+54.88	92.6', RT	-	-	-	-	EXISTING PULLBOX
C	0010	LPB03	120+96.52	94.4', RT	-	-	-	1	EXISTING PULLBOX
C	0010	LPB04	120+86.65	81.3', RT	-	1	-	1	
	0010	LPB05	120+55.98	48.6', RT	-	1	-	-	
	0010	LPB06	118+99.93	53.6', RT	1	-	-	-	_
C	0010	LPB07	117+39.27	52.1', RT	1	-	-	-	
C	0010	LPB08	115+79.66	52.8', RT	1	-	-	-	
C	0010	LPB09	120+55.44	43', RT	-	-	-	-	EXISTING PULLBOX
	0010	LPB10	120+52.01	3.4', LT	-	-	-	1	EXISTING PULLBOX
C	0010	LPB11	120+53.48	24.1', LT	-	-	1	-	EXISTING PULLBOX
C	0010	LPB12	120+40.69	71.8', LT	-	-	1	-	EXISTING PULLBOX
C	0010	LPB13	120+37.66	76.8', LT	-	1	-	1	
C	0010	LPB14	120+70.21	118', LT	-	1	-	-	
	0010	LPB15	120+76.67	88.3', LT	-	-	-	-	EXISTING PULLBOX
C	0010	LPB16	121+37.13	123.3', LT	-	1	-	1	
C	0010	LPB17	121+41.09	96.6', LT	-	-	-	-	EXISTING PULLBOX
C	0010	LPB18	121+85.09	75.6', LT	-	1	-	1	
C	0010	LPB19	123+29.83	82.3', LT	1	-	-	1	
	0010	LPB20	124+90.69	82.3', LT	1	-	-	-	
	0010	LPB21	126+41.46	75.7', LT	1	-	-	-	
	0010	LPB22	121+85.70	71.8', LT	-	-	-	-	EXISTING PULLBOX
	0010	LPB23	121+89.69	25.5', LT	-	-	-	-	EXISTING PULLBOX
	0010	LPB24	121+90.14	4.9', LT	-	-	-	-	EXISTING PULLBOX
	0010	LPB25	121+96.37	42.7', RT	-	-	-	-	EXISTING PULLBOX
	0010	LPB26	121+95.68	50.3', RT	-	1	-	1	
C	0010		UNDISTRIBUTE	)	2	2	-	2	
				TOTAL 0010	8	10	2	10	_
				101ML 0010	Ü	10	2	10	

\* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

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

HWY: STH 178 E COUNTY: CHIPPEWA SHEET PROJECT NO: 8600-00-74 MISCELLANEOUS QUANTITIES PLOT DATE : 9/23/2025 7:56 AM

FILE NAME : N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG LAYOUT NAME - 07

PLOT BY: MATT PAYNE

PLOT NAME :

PLOT SCALE : 1" = 1'

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74
J

LIGHTING EQUIPMENT

							LIGHTING EC	QUIPMENT								
						*	*		*		*		*	*		
						654.0105	657.025	5	657.0322		657.0715		659.1115	659.1125		
							TRANSFORME	R BASES			NAIRE ARMS TR	USS				
				**	**	CONCRETE BASES TYPE 5	BREAKAWAY 11 BOLT CIRC		POLES TYPE 5-ALUMINUM	TYPE	4 1/2-INCH CLA 15-FT		JMINAIRES FILITY LED A	LUMINAIRES UTILITY LED C		
			GHT UNIT					,				01				
	CAT	TEGORY	#	STATION	LOCATION	EACH	EACH		EACH		EACH		EACH	EACH		
	C	0010	A-1	120+91	87.8', RT	1	1		1		1		-	1		
		0010	A-2	119+00	47', RT	1	1		1		1		1	-		
		0010	A-3	117+40 115+80	45', RT 45', RT	1	1		1		1		1	-		
		0010 0010	A-4 A-5	120+21	74.6', LT	1 1	1		1		1 1		1	1		
		0010	A-6	120+79	146.2 <sup>'</sup> , LT	1	1		1		1		-	1		
		0010	A-7	123+31	75', LT	1	1		1		1		-	1		
		0010 0010	A-8 A-9	124+91 126+51	75', LT 75', LT	1 1	1 1		1		1 1		1 1	-		
		0010	A-10	120+31	44.2', RT	1	1		1		1		1	-		
					TOTAL 0010	10	10		10		10		6	4		
													LIGHTING CONE	DUIT AND WIRE		
	LIGHT	POLE WIRE														
				*										* 652.0225	* 652.0235	655.0305
				655.0610										CONDUIT RIGID	CONDUIT RIGID	
				CTRICAL WIRE									# OF	NONMETALLIC SCHEDULE 40 2-INCH		CABLE TYPE UF 2-12 AWG GROUNDED
LOC	TO	LOC	LIGI	HTING 12 AWG LF				CATEGOR	XY LOC	TO	LOC	LENGTH	CONDUITS		LF	LF
							_									
A-1	-	LUMIN		144				0010 0010	LCC-A LPB01	-	LPB01 LPB04	11 83	3 1	- 83	33	123 113
A-2 A-3	-	LUMIN LUMIN		144 144				0010	LPB01 LPB04	-	A-1	65 4	1	4	-	27
A-4	-	LUMIN		144				0010	LPB04	-	LPB05	41	1	41	-	71
A-5	-	LUMIN		144			-	0010	LPB05	-	LPB06	153	1	153	-	183
A-6 A-7	-	LUMIN LUMIN		144 144				0010 0010	LPB06 LPB06	-	A-2 LPB07	3 160	1 1	3 160	-	26 190
A-7 A-8	-	LUMIN		144				0010	LPB07	-	A-3	4	1	4	-	27
A-9	-	LUMIN		144				0010	LPB07	-	LPB08	160	1	160	-	190
A-10	-	LUMIN		144			-	0010	LPB08	-	A-4	<u>4</u> 6	1 1	<u>4</u> 6	-	27
		TOTAL 0010	n ———	1,440				0010 0010	LPB05 LPB09	-	LPB09 LPB10	43	1	-	-	36 73
		101712 0011	J	,				0010	LPB10	-	LPB11	17	1	-	-	30
								0010	LPB11	-	LPB12	46	1	-	-	30
							-	0010 0010	LPB12 LPB13	-	LPB13 A-5	6 13	<u>1</u> 1	6 13	-	36 36
								0010	LPB13	-	LPB14	49	1	49	- -	79
								0010	LPB14	-	A-6	26	1	26	-	49
								0010	LPB14	-	LPB16	63	1	63	-	93
							-	0010 0010	LPB16 LPB18	-	LPB18 LPB19	65 142	<u>1</u> 1	65 142	-	95 172
								0010	LPB19	-	A-7	4	1	4	-	27
								0010	LPB19	-	LPB20	162	1	162	-	192
								0010	LPB20	-	A-8	4	1	4	-	27
							-	0010 0010	LPB20 LPB21	-	LPB21 A-9	149 6	1 1	149 6	-	179 29
								0010	LPB21 LPB18	-	LPB22	4	1	4	-	34
								0010	LPB22	-	LPB23	43	1	43	-	73
								0010	LPB23	-	LPB24	17	1	17	-	47
							-	0010	LPB24	-	LPB25	44	1	44	- 0	74

\* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

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

PROJECT NO: 8600-00-74 HWY: STH 178 COUNTY: CHIPPEWA SHEET Ε MISCELLANEOUS QUANTITIES N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG LAYOUT NAME - 08 FILE NAME : PLOT DATE : 9/23/2025 7:56 AM PLOT BY: MATT PAYNE PLOT NAME : PLOT SCALE : WISDOT/CADDS SHEET 42

LPB26

A-10

LCC-A

UNDISTRIBUTED

8

13

20

TOTAL 0010

13

143

1571

8

60

11

112

38

36

150

2612

0010

0010

0010

0010

LPB25

LPB26

LPB26

3

652.0225 652.0235 SPV.0090.03 SPECIAL (03. CONDUIT RIGID CONDUIT RIGID SPV.0060.08 CLEAN AND NONMETALLIC SCHEDULE NONMETALLIC SCHEDULE SPECIAL (08. BELL ENDS FOR RIGID PROOF EXISTING 40 2-INCH 40 3-INCH NON-METALLIC CONDUIT) CONDUIT) FROM TO CATEGORY LOCATION EACH CATEGORY LOC TO CB1 PB1 14 0010 PB2 PB3 53 0010 PB2 CB1 PB2 81 0010 PB3 0010 PB3 PB4 57 PB2 PB1 14 PB4 0010 PB5 0010 PB4 150 PB2 SB1 12 0010 PB5 0010 PB5 PB6 43 PB3 SB2 0010 PB6 0010 PB7 126 PB4 SB3 6 PB7 0010 0010 PB4 PB9 43 PB4 PB5 154 0010 PB9 0010 PB9 PB10 18 PB5 PB6 57 PB10 0010 0010 PB10 PB11 148 -PB5 LB1 0010 PB11 0010 PB10 PB12 44 PB6 PB7 130 0010 PB12 0010 PB12 PB13 45 PB7 PB8 260 0010 PB13 0010 PB13 PB14 60 PB7 LB2 25 0010 PB14 0010 PB14 PB15 52 PB8 LB3 0010 PB15 PB16 143 0010 PB15 PB9 SB4 0010 PB16 0010 PB16 PB17 38 PB10 SB5 0010 PB17 0010 PB17 PB18 114 PB12 SB6 10 0010 PB18 0010 PB18 PB19 70 PB13 SB7 12 0010 PB19 44 0010 PB15 PB22 PB14 SB8 18 0010 PB22 0010 PB22 PB23 18 PB15 SB9 6 0010 PB23 0010 PB23 PB24 144 PB15 PB16 0010 PB24 0010 PB23 PB25 44 PB16 PB17 42 0010 PB25 0010 PB25 PB2 41 PB16 LB4 PB17 PB18 118 1,495 TOTAL 0010 55 PB18 PB19 75 PB18 LB5 PB19 PB20 180 PB20 PB21 40 PB20 LB6 10 PB22 SB10 4 PB23 SB11 PB23 PB24 5 PB25 SB12 17 PB25 CB1 66 UNDISTRIBUTED 138 18 TOTAL 0010 1515 192 **PULL BOXES** 653.0135 653.0140 SPV.0060.07 653.0900 653.0905 SPECIAL (07. CLEAN PULL BOXES STEEL PULL BOXES STEEL ADJUSTING PULL \*\* \*\* **PULL BOX** 24x36-INCH 24x42-INCH REMOVING PULL BOXES EXISTING PULL BOXES) **BOXES PULL BOX** STATION LOCATION NO. EACH EACH CATEGORY LOC EACH EACH CATEGORY LOC EACH NO. 72.57' RT PB1 109+05.69 0010 PB25 1 PB6 0010 PB2 PB5 106+36.01 41.19' RT PB7 0010 PB3 1 PB6 105+89.46 39.37' RT **TOTAL 0010** PB17 0010 PB4 PB7 104+59.86 43.40' RT PB19 0010 PB11 PB8 43.75' RT 103+29.87 UNDISTRIBUTED 0010 PB12 8 PB16 110+59.84 69.88' LT 0010 PB14 PB15 PB17 111+02.29 70.09' LT TOTAL 12 0010 PB18 112+19.88 71.40' LT 0010 PB25 PB19 112+93.95 72.93' LT 113+84.40 PB20 72.27' LT TOTAL 0010 PB21 114+23.90 72.02' LT UNDISTRIBUTED TOTAL 0010 10 \* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN \*\* FINAL LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD PROJECT NO: 8600-00-74 HWY: STH 178 COUNTY: CHIPPEWA MISCELLANEOUS QUANTITIES SHEET N:\PD\$\C3D\86000004\SHEET\$\030201-MQ.DWG MATT PAYNE PLOT NAME : PLOT DATE : 9/23/2025 7:56 AM PLOT BY: PLOT SCALE :

FILE NAME : LAYOUT NAME - 09

CONDUIT

WISDOT/CADDS SHEET 42

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3

CONCRETE BASES	
*	MONOTUBE STRUCTURES

SIGNAL

BASE NO.

SB6

SB12

TOTAL 0010

			654.0101 CONCRETE BASES	654.0102 CONCRETE BASES	654.0105 CONCRETE BASES	654.0120 CONCRETE BASES	654.0217 CONCRETE CONTROL CABINET BASES TYPE
SIGNAL	**	**	TYPE 1	TYPE 2	TYPE 5	TYPE 10 SPECIAL	9 SPECIAL
BASE NO.	STATION	LOCATION	EACH	EACH	EACH	EACH	EACH
CB1	109+17.85	65.64' RT					1
SB1	108+98.54	62.73' LT	1				
SB2	108+32.03	74.82' LT		1			
SB3	107+83.74	42.67' LT	1				
SB4	107+83.20	03.27' RT	1				<u></u>
SB5	107+82.11	24.82' RT	1				<del></del>
SB6	107+65.14	74.78' RT				1	
SB7	108+04.96	94.21' RT	1				
SB8	108+76.41	93.68' LT		1			
SB9	109+06.91	71.68' LT	1				
SB10	109+16.32	26.59' LT	1				
SB11	109+16.98	04.72' LT	1				
SB12	109+37.04	49.48' LT				1	
LB1	106+43.00	46.47' LT			1		
LB2	104+83.74	46.75' LT			1		
LB3	103+23.82	47.11' LT			1		
LB4	110+56.00	76.00' RT			1		
LB5	112+16.00	76.33' RT			1		
LB6	113+76.00	76.66' RT			1		
		TOTAL 0010	8	2	6	2	1

POLES

					<del>-</del>	<del></del>					
		*		*				*		*	*
	657.0100	657.0255	657.0310	657.0322	657.0425	657.0595	657.0714	657.0715	SPV.0060.06	659.1115	659.1125
		TRANSFORMER BASES			TRAFFIC SIGNAL		LUMINAIRE ARMS	LUMINAIRE ARMS TRUSS	SPECIAL (06. INSTALL STATE		
		BREAKAWAY 11 1/2-INCH BOI	.T	POLES TYPE	STANDARDS ALUMINUM		TRUSS TYPE 4-INCH	TYPE 4 1/2-INCH CLAMP	FURNISHED APS PUSH	LUMINAIRE UTILITY	LUMINAIRE UTILITY
SIGNAL	PEDESTAL BASES	CIRCLE	POLES TYPE 3	5-ALUMINUM	15-FT	TROMBONE ARMS 25-FT	CLAMP 15-FT	15-FT	BUTTON STATIONS)	LED A	LED C
BASE NO.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
SB1	1				1						
SB2		1	1			1	1				1
SB3	1				1						
SB4	1				1						
SB5	1				1						
SB7	1				1				1		
SB8		1	1			1	1		1		1
SB9	1				1						
SB10	1				1						
SB11	1				1						
LB1		1		1				1		1	
LB2		1		1				1		1	
LB3		1		1				1		1	
LB4		1		1				1		1	
LB5		1		1				1		1	
LB6		1		1				1		1	
TOTAL 0010	8	8	2	6	8	2	2	6	2	6	2

\* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

657.0815

15-FT

EACH

1

1

LUMINAIRE ARMS STEEL LUMINAIRE UTILITY

659.1125

LED C

EACH

1

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

Ε PROJECT NO: 8600-00-74 HWY: STH 178 COUNTY: CHIPPEWA MISCELLANEOUS QUANTITIES SHEET FILE NAME: N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG PLOT DATE : 9/23/2025 7:56 AM PLOT BY: MATT PAYNE PLOT SCALE : 1" = 1'

LAYOUT NAME - 10

PLOT NAME :

657.0352

EACH

1

657.0546

EACH

1

POLES TYPE 10-SPECIAL MONOTUBE ARMS 45-FT-SPECIAL

WISDOT/CADDS SHEET 42

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				TRAFFIC SIGNAL CABLE A	AND WIRE					TRAFFIC SIGNA	L CABLE AND WIRE
		* 655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	AWG	12-14 AWG	GROUNDED	CABLE	DETECTOR CABLE	SPV.0090.02 SPECIAL (.02 INSTALL CAT-5E CABLE)	FROM	T0	655.0515 ELECTRICAL WIRE TRAFFIO SIGNALS 10 AWG
ROM	TO	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	FROM	ТО	L.F.
CB1	SB1			72					CB1	SB1	72
CB1	SB2		141		141		141	 	SB1	SB2	115
CB1	SB3			215				 	SB2	SB3	113
CB1	SB4			275				 	SB3	SB4	94
CB1	SB5		312	273				 	SB4	SB5	66
CB1	SB6	381					381	381	SB5	SB6	98
CB1	SB7			378		378			SB6	SB7	107
CB1	SB8			306		306	306		SB7	SB8	145
CB1	SB9			223					SB8	SB9	116
CB1	SB10			160					SB9	SB10	92
CB1	SB11		122					<del></del>	SB10	SB11	66
CB1	SB12	72			72		72	72	SB11	SB12	105
SB2	LB1				293				SB12	CB1	72
LB1	LB2				608				PB2	SB1	30
LB2	LB3				735				PB3	SB2	28
SB8	LB4				290			<del></del>	PB4	SB3	24
LB4	LB5				573				PB9	SB4	22
LB5	LB6				772				PB10	SB5	22
SB2	SB6				291				PB12	SB6	28
SB12	SB8				301				PB13	SB7	30
									PB14	SB8	36
	TOTAL 0010	453	575	1629	4076	684	900	453	PB15	SB9	24
									PB22	SB10	22
									PB23	SB11	22

TRAFFIC SIGNAL CABLE AND WIRE

		655.0230 CABLE TRAFFIC SIGNAL 5-1 AWG	655.0240 4 CABLE TRAFFIC SIGNAL 7-14 AWG	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE
FROM	TO	L.F.	L.F.	L.F.
SB1	HEAD 17	23		
SB1	HEAD 18	23		
SB2	HEAD 16	51		
SB2	EVP HEAD C			31
SB3	HEAD 1	23		
SB3	HEAD 14		24	
SB4	HEAD 4	23		
SB4	HEAD 13		24	
SB5	HEAD 5		24	
SB6	HEAD 9	54		
SB6	HEAD 10	66		
SB6	EVP HEAD A			36
SB7	HEAD 15	23		
SB7	HEAD 20	23		
SB7	HEAD 21	15		
SB8	HEAD 19	51		
SB8	HEAD 22	15		
SB8	EVP HEAD D			32
SB9	HEAD 7		24	
SB9	HEAD 8	23		
SB10	HEAD 6		24	
SB10	HEAD 11	23		
SB11	HEAD 12		24	
SB12	HEAD 2	59		
SB12	HEAD 3	75		
SB12	EVP HEAD B			38
	TOTAL 0010	570	144	137

## TRAFFIC SIGNAL CABLE AND WIRE

TOTAL 0010

SB12

PB25

		655.0610 ELECTRICAL WIRE LIGHTING 12
		AWG
FROM	TO	L.F.
SB4	LUMIN	144
SB6	LUMIN	144
SB10	LUMIN	144
SB12	LUMIN	144
LB1	LUMIN	144
LB2	LUMIN	144
LB3	LUMIN	144
LB4	LUMIN	144
LB5	LUMIN	144
LB6	LUMIN	144
_		
	TOTAL 0010	1440

\* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

35

1584

HWY: STH 178 COUNTY: CHIPPEWA SHEET E PROJECT NO: 8600-00-74 MISCELLANEOUS QUANTITIES PLOT DATE : 9/23/2025 7:57 AM

FILE NAME : N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG LAYOUT NAME - 11

PLOT BY: MATT PAYNE

PLOT NAME :

PLOT SCALE : 1" = 1'

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#### LOOP DETECTOR SCHEDULE

LOOP	НОМЕ			SIZE	NO. OF	PAVEMENT	SDD INSTALLATION		652.0800 CONDUIT LOOP DETECTOR	655.0700 LOOP DETECTOR LEAD IN CABLE	655.0800 LOOP DETECTOR WIRE	SPV.0060.09 SPECIAL (09. TEST EXISTING LOOPS)
NUMBER	RUN PB	STATION	LOCATION	(FT)X(FT)	TURNS	TYPE	REFERENCE		LF	LF	LF	EACH
11	PB10	107+94.03	13.42' LT	6X6	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		52	319	218	1
12	PB10	107+78.03	13.50' LT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		74	316	232	1
13	PB11	106+28.04	14.42' LT	6X6	5	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		46	480	240	1
21	PB17	111+02.33	41.08' LT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		90	450	280	1
22	PB19	112+93.98	42.24' LT	6X20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		94	675	386	1
23	PB21	114+24.01	42.19' LT	6X20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		94	835	386	1
41	PB13	108+31.52	92.26' LT	6X6	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		66	383	274	1
42	PB13	108+30.08	108.28' LT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		90	381	280	1
51	PB23	109+07.09	16.08' LT	6X6	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		62	134	196	1
52	PB23	109+23.12	16.00' LT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		76	127	238	1
53	PB24	110+71.50	15.42' LT	6X6	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		42	292	178	1
61	PB6	105+83.77	11.75' RT	6X20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		90	389	370	1
62	PB7	104+53.82	10.78' RT	6X20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		100	601	410	1
63	PB8	103+23.72	11.75' RT	6X20	4	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		102	747	418	1
81	PB2	108+69.99	60.68' RT	6X6	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		74	82	232	1
82	PB2	108+72.75	76.46' RT	6X20	3	CONCRETE	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)		90	76	280	1
			UNDISTRIBUTED						125	-	-	-
								TOTAL 0010	1367	6287	4618	16

#### FACES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH EACH	NOTES
47	CD4	4			WITH THANKS MICORG
17	SB1	1			WITH TUNNEL VISORS
18	SB1	1			
16	SB2	1			
1	SB3	1			WITH RETROREFLECTIVE BACKPLATE
14	SB3		1		WITH RETROREFLECTIVE BACKPLATE AND TUNNEL VISORS
4	SB4	1			WITH RETROREFLECTIVE BACKPLATE
13	SB4		1		WITH RETROREFLECTIVE BACKPLATE
5	SB5		1		WITH RETROREFLECTIVE BACKPLATE
9	SB6	1			WITH RETROREFLECTIVE BACKPLATE
10	SB6	1			WITH RETROREFLECTIVE BACKPLATE
15	SB7	1			
20	SB7	1			WITH TUNNEL VISORS
21	SB7			1	
19	SB8	1			
22	SB8			1	
7	SB9		1		WITH RETROREFLECTIVE BACKPLATE AND TUNNEL VISORS
8	SB9	1			WITH RETROREFLECTIVE BACKPLATE
6	SB10		1		WITH RETROREFLECTIVE BACKPLATE
11	SB10	1			WITH RETROREFLECTIVE BACKPLATE
12	SB11		1		WITH RETROREFLECTIVE BACKPLATE
2	SB12	1			WITH RETROREFLECTIVE BACKPLATE
3	SB12	1			WITH RETROREFLECTIVE BACKPLATE
J	2017	1			WITH REMOREI ELCTIVE DACKI EATE
	TOTAL 0010	14	6	2	_

\* ADDITIONAL QUANTITY SHOWN ELSEWHERE ON PLAN

658.5070.01 SIGNAL MOUNTING

HARDWARE (LOCATION) (01. STH 178 & OLSON DRIVE)

EACH

1

TOTAL 0010

HWY: STH 178 E COUNTY: CHIPPEWA SHEET PROJECT NO: 8600-00-74 MISCELLANEOUS QUANTITIES N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG LAYOUT NAME - 12 PLOT SCALE : 1" = 1' FILE NAME : PLOT DATE : 9/23/2025 7:57 AM PLOT BY: MATT PAYNE PLOT NAME :

LOCATION

STH 178 & OLSON DRIVE

WISDOT/CADDS SHEET 42

3

656.0201.02 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) SPV.0060.01 SPECIAL (01. INSTALL STATE FURNISHED EVP DETECTOR HEADS)

(02. STH 178 & OLSON DRIVE) LOCATION EACH STH 178 & OLSON DRIVE 1

TOTAL 0010

652.0700.S INSTALL CONDUIT INTO EXISTING ITEM CATEGORY LOCATION EACH 0010 PB2 0010 PB3 0010 PB4 0010 PB9 0010 PB10 0010 PB12 0010 PB13 PB14 0010 0010 PB15 0010 PB22 0010 PB23 0010 PB24 0010 PB25 TOTAL 0010 14

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

8600-00-74 HWY: STH 178 COUNTY: CHIPPEWA Ε PROJECT NO: MISCELLANEOUS QUANTITIES SHEET N:\PDS\C3D\86000004\SHEETS\030201-MQ.DWG PLOT DATE : 9/23/2025 7:57 AM PLOT BY: MATT PAYNE PLOT NAME : PLOT SCALE : FILE NAME : WISDOT/CADDS SHEET 42

LAYOUT NAME - 13

LOCATION

STH 178 & OLSON DRIVE

TOTAL 0010

EACH

1

## Standard Detail Drawing List

08A05-22C	INLET COVERS TYPE F, HM, HM-S, S, T, HM-GJ & HM-GJ-S
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-22A	CURB RAMPS TYPES 1 AND 1-A
08D05-22B	CURB RAMPS TYPES 2 AND 3
08D05-22C	CURB RAMPS TYPES 4A AND 4A1
08D05-22D	CURB RAMPS TYPE 4B AND 4B1
08D05-22E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-22F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-22G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09B04-13	PULL BOX
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C05-10	CONCRETE CONTROL CABINET BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C15-02	CONCRETE BASE TYPE 10 SPECIAL
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09D04-03	LIGHTING CONTROL CABINET 120/240 VOLT
09D05-02	L30 LIGHTING CONTROL CABINET 240/480 VOLT
09E01-15A	POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2
09E01-15B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-15C	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4
09E01-15D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-06	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09Е08-09Н	TYPE 10 SPECIAL POLE 45' MONOTUBE ARM
09E08-09K	GENERAL NOTES, HARDWARE DETAILS FOR TYPE 9/10,9/10 SPECIAL, 12 & 13 POLES W/MONOTUBE ARMS
09E12-02K	GENERAL NOTES AND HARDWARE FOR OVER HEIGHT TYPE 9, 10, 9/10 SPECIAL, 12 AND 13 POLES WITH MONOTUBE ARMS
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
11B02-02	CONCRETE MEDIAN NOSE
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C18-08D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
13C18-08E 13C18-08F	CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS  CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
13C18-08F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CORB AND GUTTER  CONCRETE PAVEMENT JOINTING ACCELERATION/DECELERATION LANE
15A04-08D	CHANNELIZING DEVICES, PERMANENT FLEXIBLE TUBULAR MARKER POST
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES  BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09F	ADVANCED WIDTH RESTRICTION SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-16C	PAVEMENT MARKING ARROWS
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-09A	MEDIAN ISLAND PAVEMENT MARKINGS
15С18-09В	PAVEMENT MARKINGS, MEDIAN ISLAND NOSE
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D12-15A	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D27-04	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-11A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

## Standard Detail Drawing List

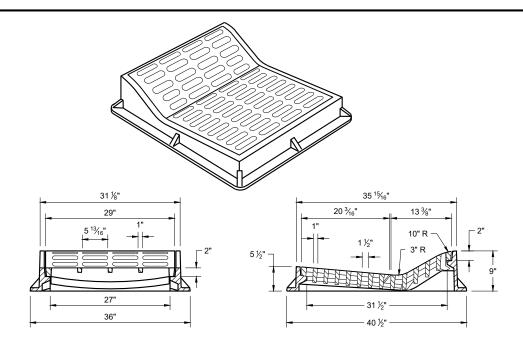
15D30-11B	TRAFFIC	CONTROL,	PEDESTRIAN	ACCOMMODATION
15D30-11C	TRAFFIC	CONTROL,	PEDESTRIAN	ACCOMMODATION
15D30-11D	TRAFFIC	CONTROL,	<b>PEDESTRIAN</b>	ACCOMMODATION
15D30-11H	TRAFFIC	CONTROL,	<b>PEDESTRIAN</b>	ACCOMMODATION
15D30-11I	TRAFFIC	CONTROL,	PEDESTRIAN	ACCOMMODATION

6

#### **GENERAL NOTES**

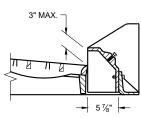
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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



TYPE "F"

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

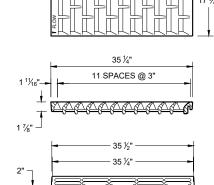


## ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

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

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

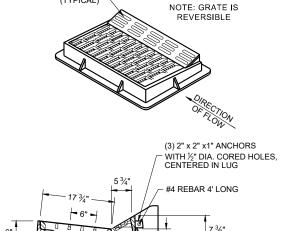
NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.



— DIRECTION OF FLOW ARROWS

TYPE "HM"

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



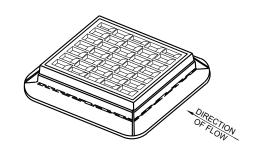
1" X 5 1/8" SLOTS (TYPICAL)

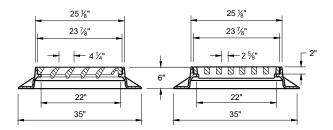
NOTE: SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

31"

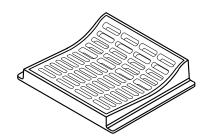
NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.

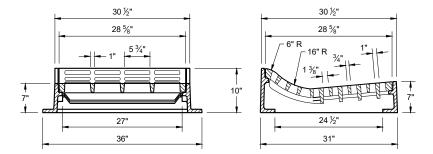
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TYPE "S"





#### TYPE "T"

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

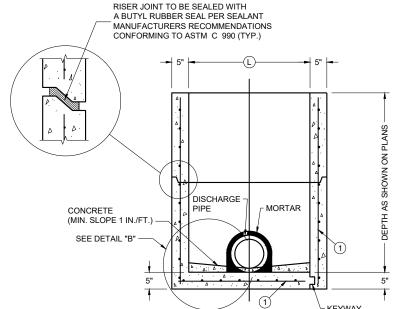
UNIT SUPERVISOR

SDD 08A05-22c

08A05-

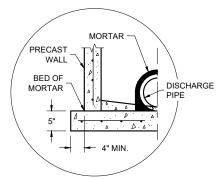
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08C07-03



PRECAST REINFORCED
CONCRETE WITH
MONOLITHIC BASE

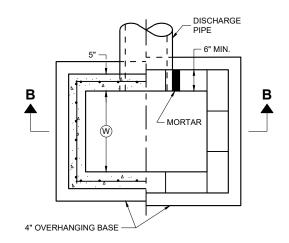
PRECAST REINFORCED
CONCRETE WITH
INTEGRAL BASE



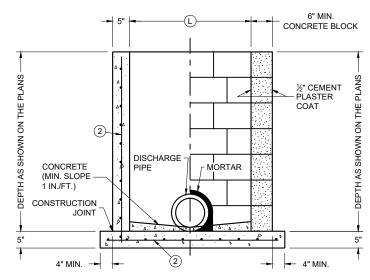
**SECTION A - A** 

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

**DETAIL "B"** 



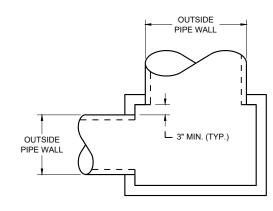
**PLAN VIEW** 



CAST IN PLACE REINFORCED CONCRETE

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

#### **SECTION B - B**



DETAIL "A"

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-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 FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

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

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" 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 AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO
- (2) CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

#### **CATCH BASIN COVER MATRIX**

	INLET	WIDTH	_	_	_	WIDTH	WIDTH	LENGTH	INLET COVER TYPE										
	SIZE	W (FT.)	(FT.)	ALL A'S	ALL B'S	BW	F	ALL H'S	S	Т	٧	WM	V V-B						
	2 X 2-FT	2	2	Х	Х				Х										
	2 X 2.5-FT	2	2.5			Х			Х	х	Х	х							
	2 X 3-FT	2	3					Х											
Ī	2.5 X 3-FT	2.5	3				Х												
	2 X 3.5-FT	2	3.5										Х						

#### **PIPE MATRIX**

	=						
CATCH BASIN	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES						
SIZE	WIDTH (IN)	LENGTH (IN)					
2 X 2-FT	12	12					
2 X 2.5-FT	12	18					
2 X 3-FT	12	24					
2.5 X 3-FT	18	24					
2 X 3.5-FT	12	30					

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

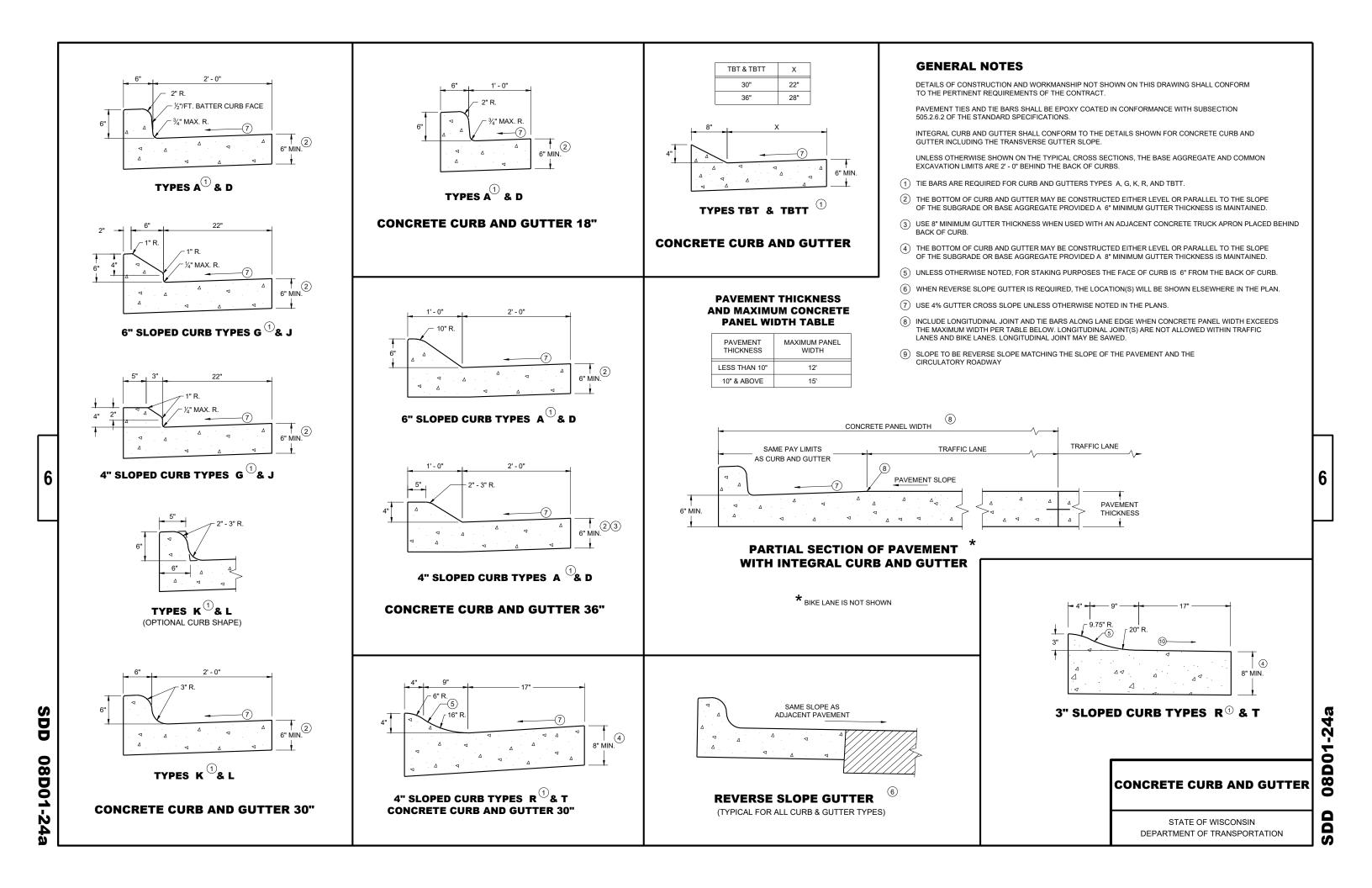
December 2023 /S/ Rodney Taylor

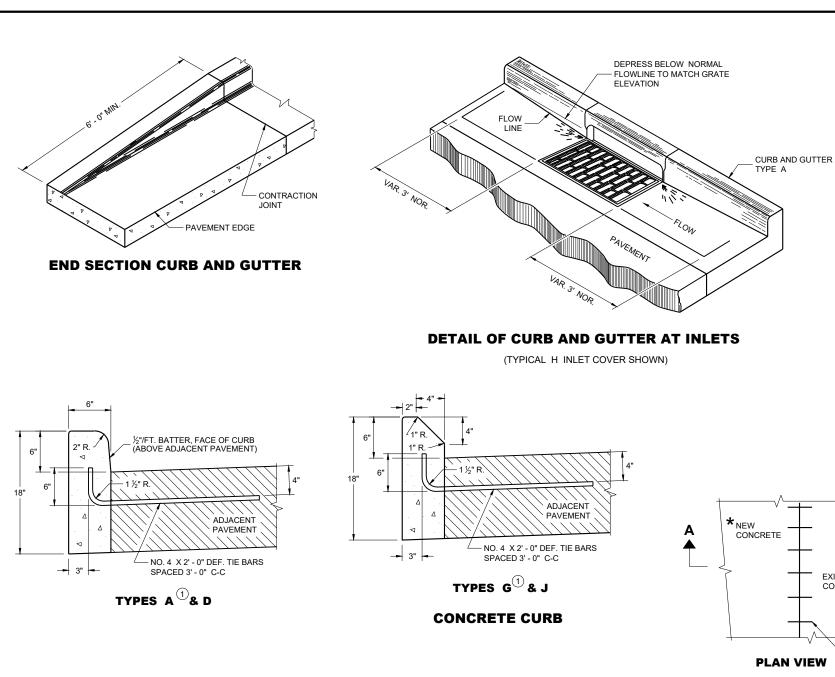
DATE ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

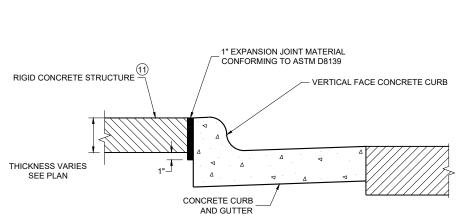
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08D01-24b

EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE 119

### CONCRETE **EXISTING** CONCRETE \* NEW CURB AND GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE. **PLAN VIEW** NO. 6 TIE BARS SPACED 2' - 6" C-C, INSTALLED PERPENDICULAR TO THE CONCRETE MAXIMUM DRILL HOLE SIZE IS 1/8" GREATER THAN TIE BAR DIAMETER 1/2 THICKNESS OF\_ NEW CONCRETE **EXISTING**

TIE BARS DRILLED
INTO EXISTING PAVEMENT

**SECTION A - A** 

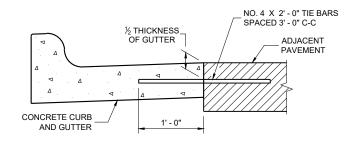
#### **GENERAL NOTES**

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

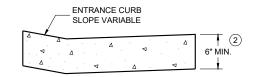
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

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



TYPICAL TIE BAR LOCATION



DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

# CONCRETE CURB, TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

AND CURB AND GUTTER APPLICATIONS

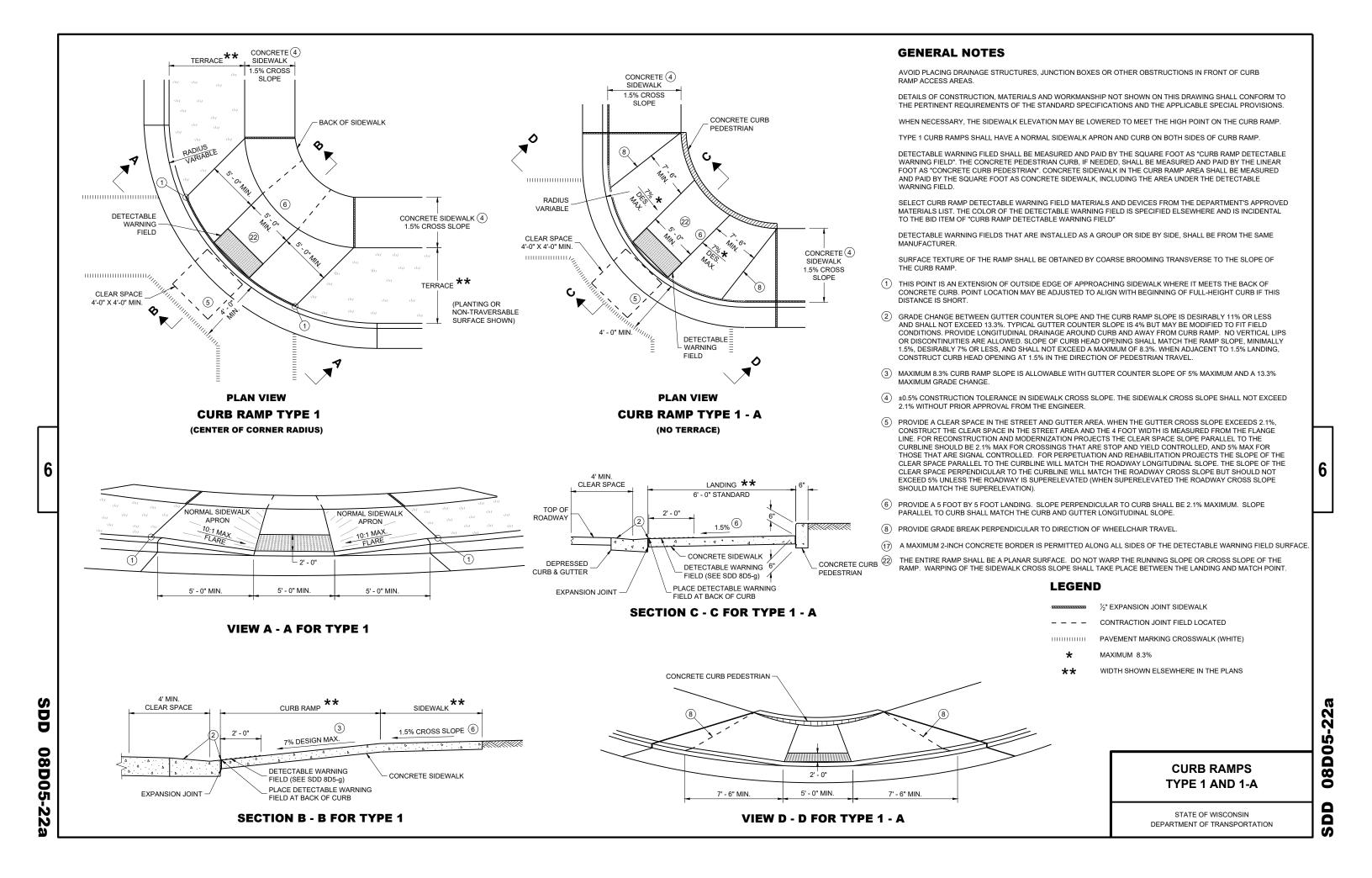
 APPROVED
 /S/ Rodnery Taylor

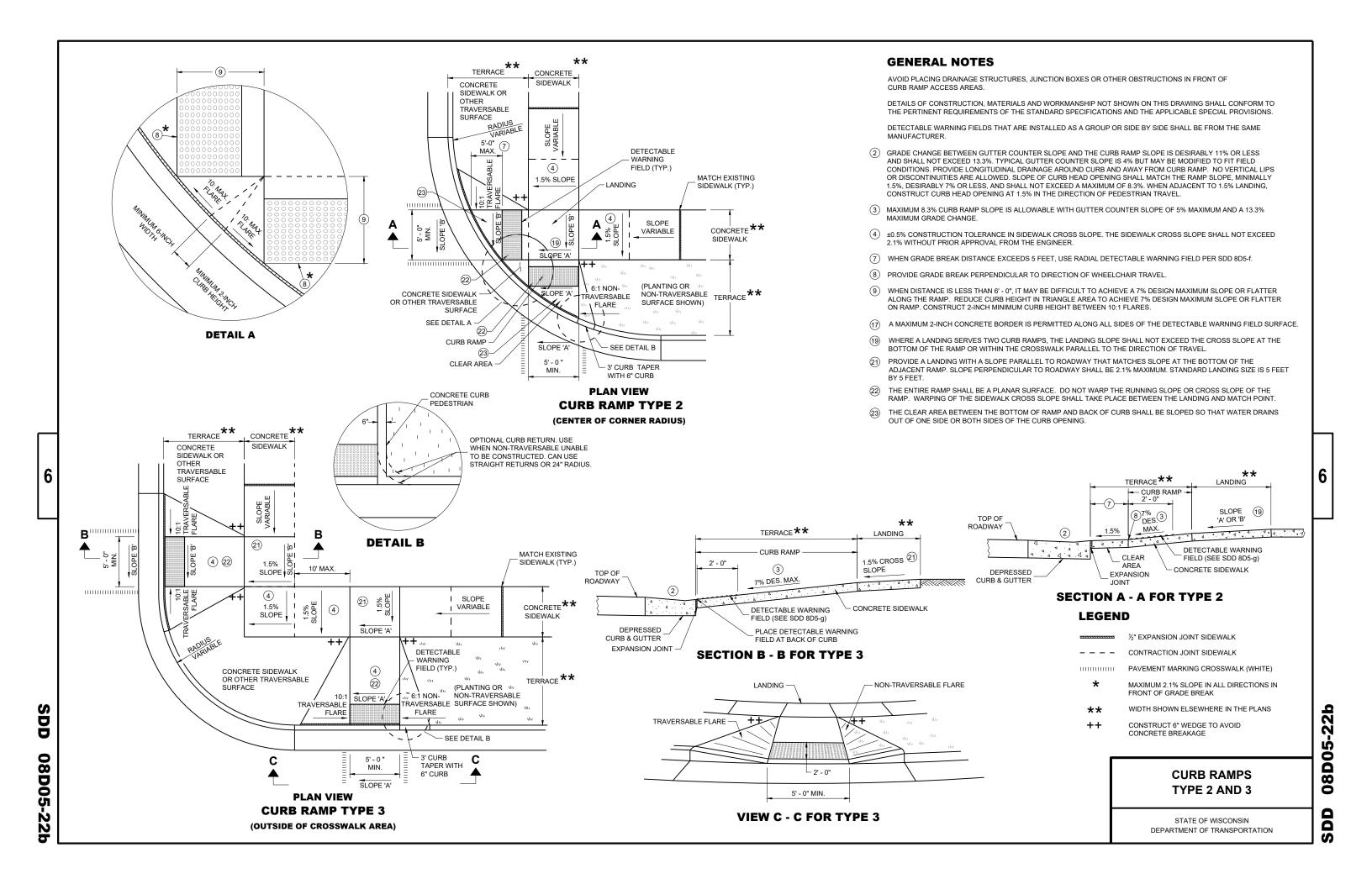
 February 2025
 /S/ Rodnery Taylor

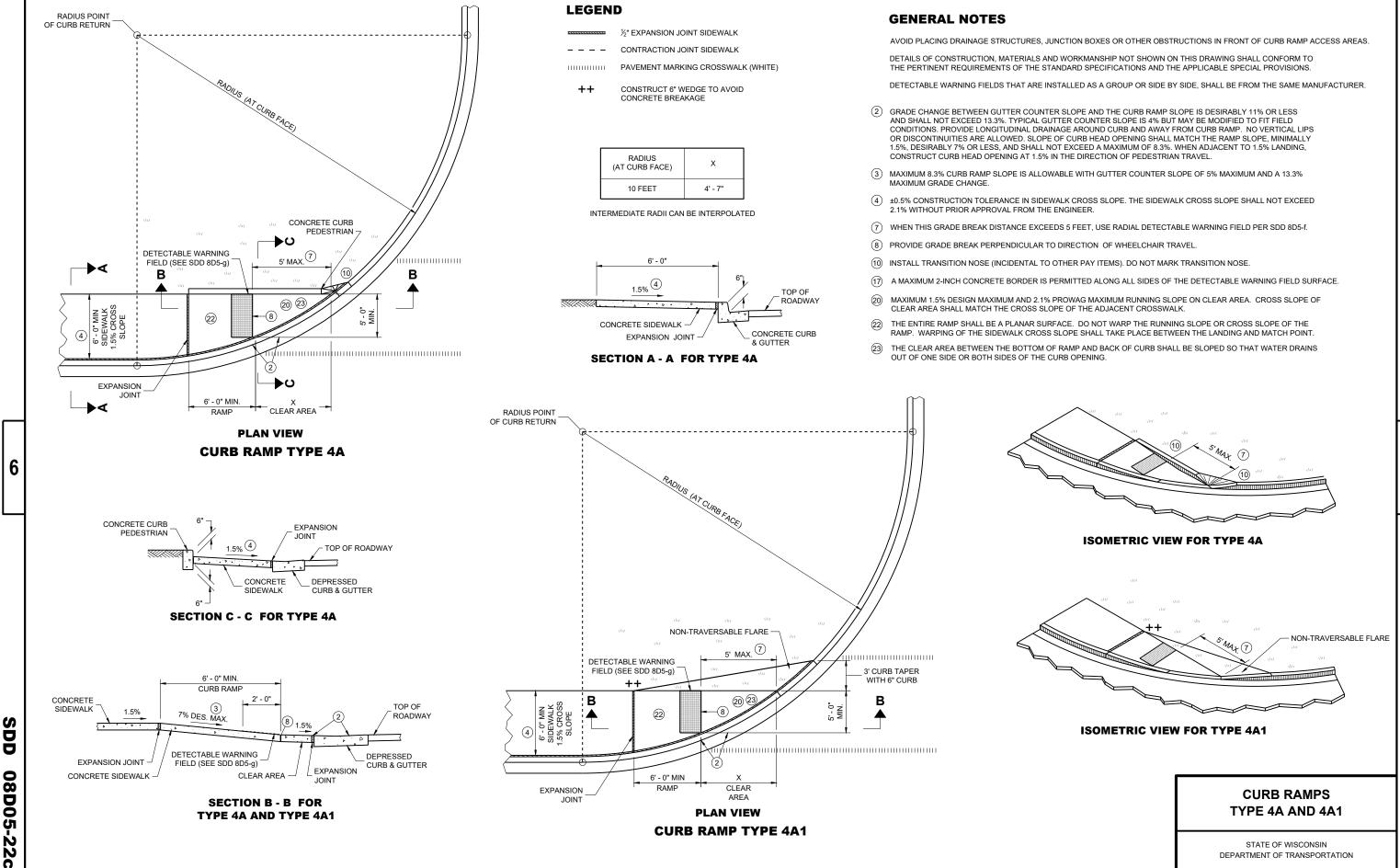
 DATE
 ROADWAY STANDARDS DEVELOPMENT

 UNIT SUPERVISOR

DD 08D01-24b

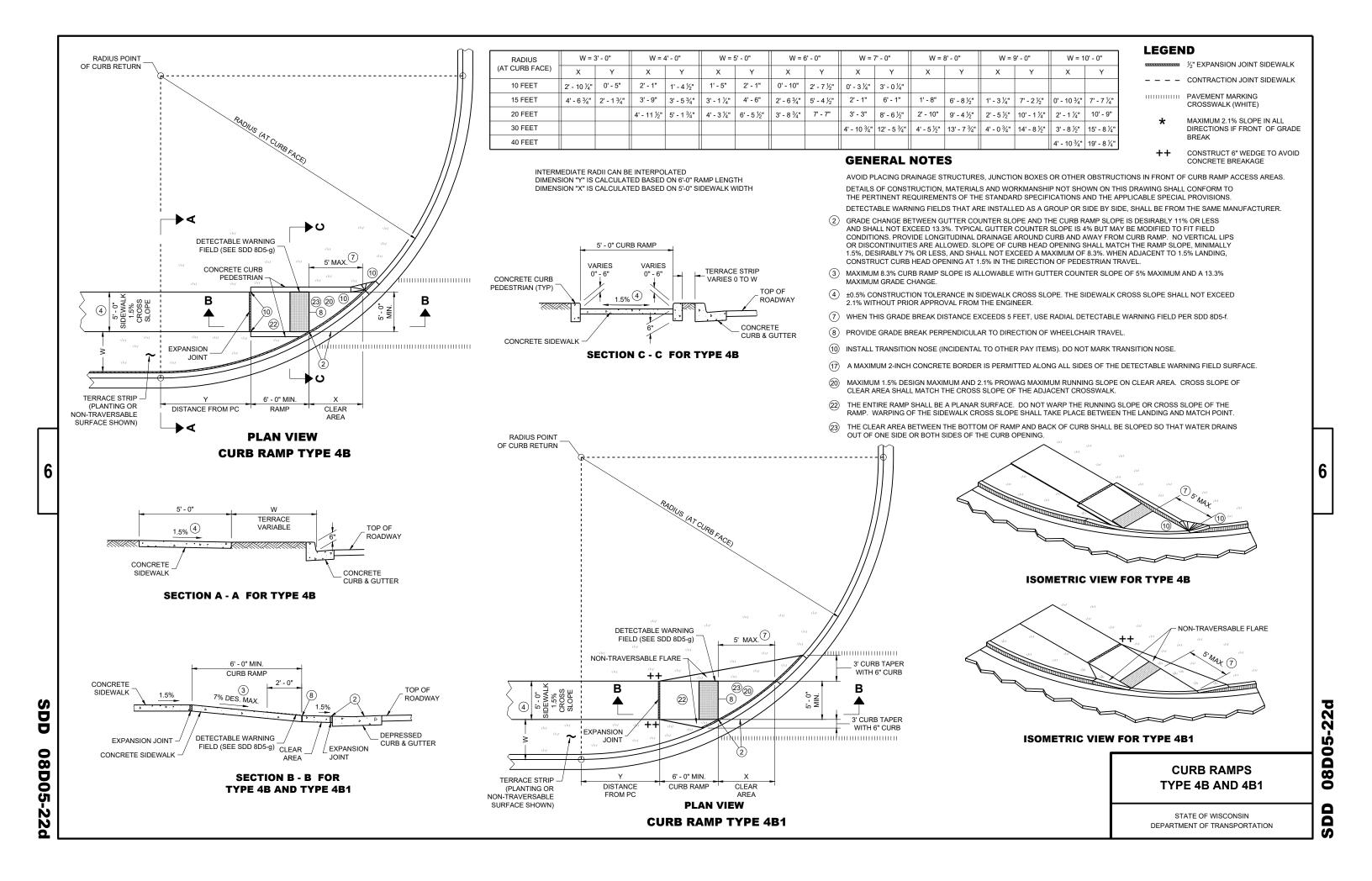


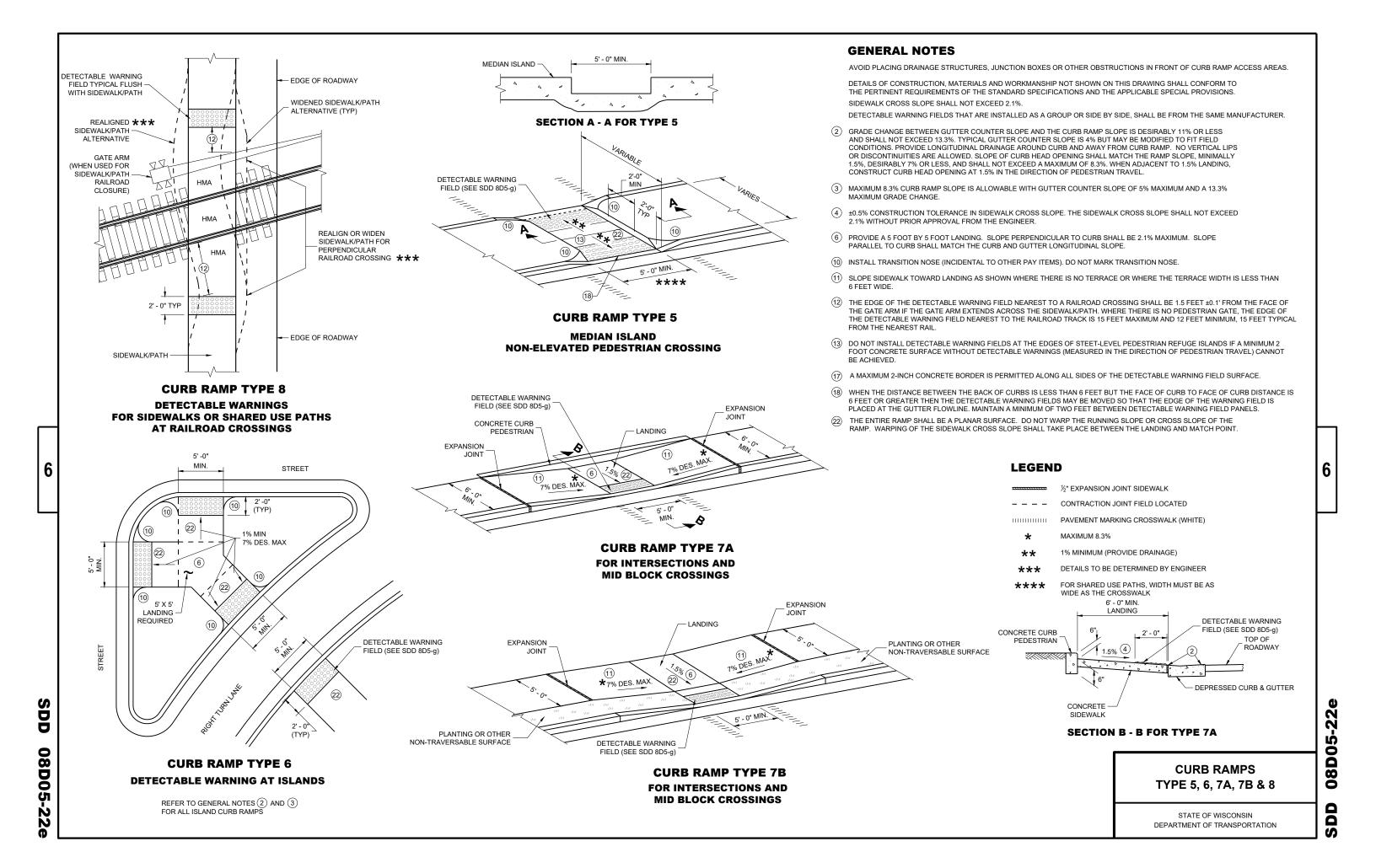


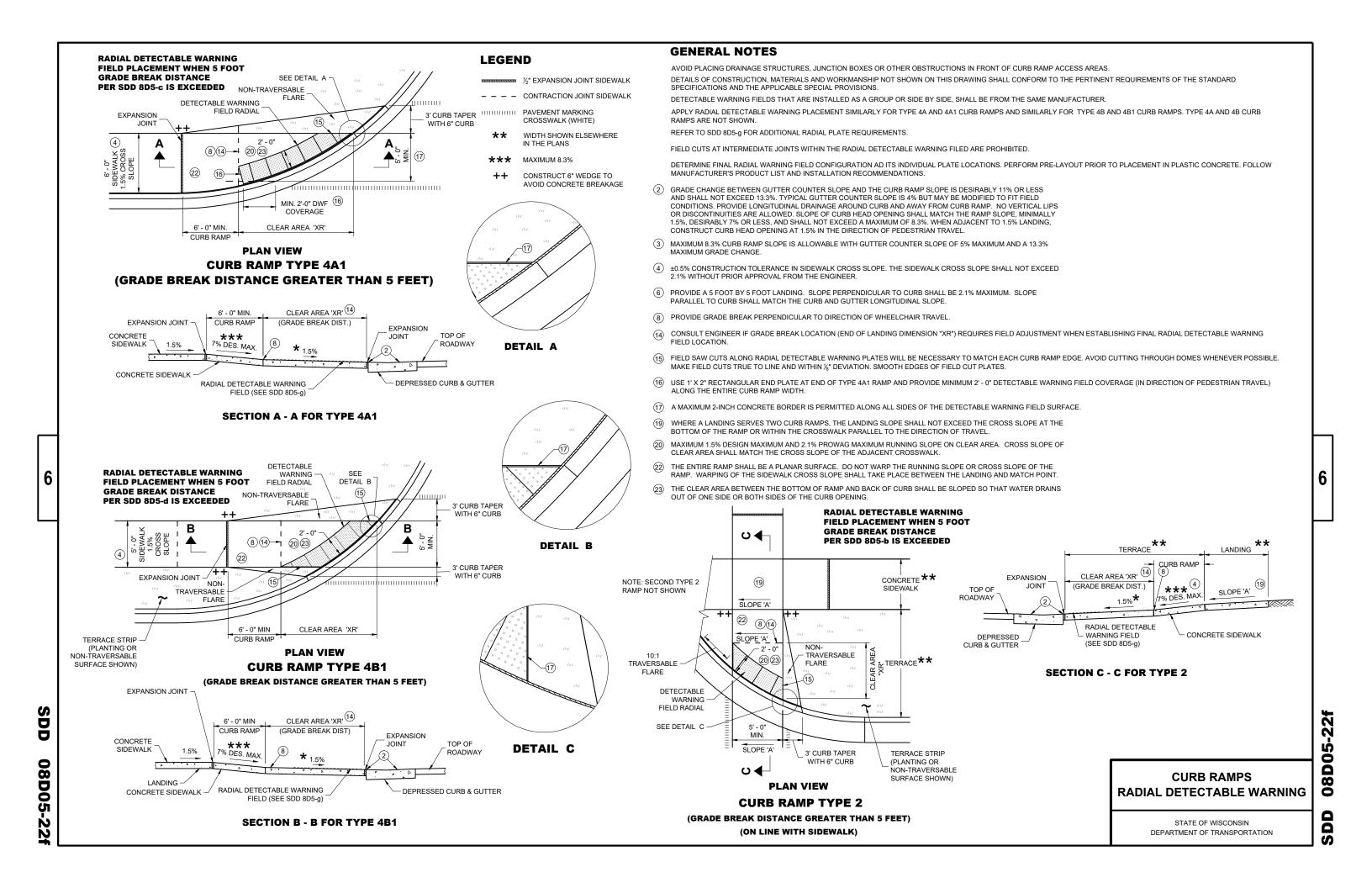


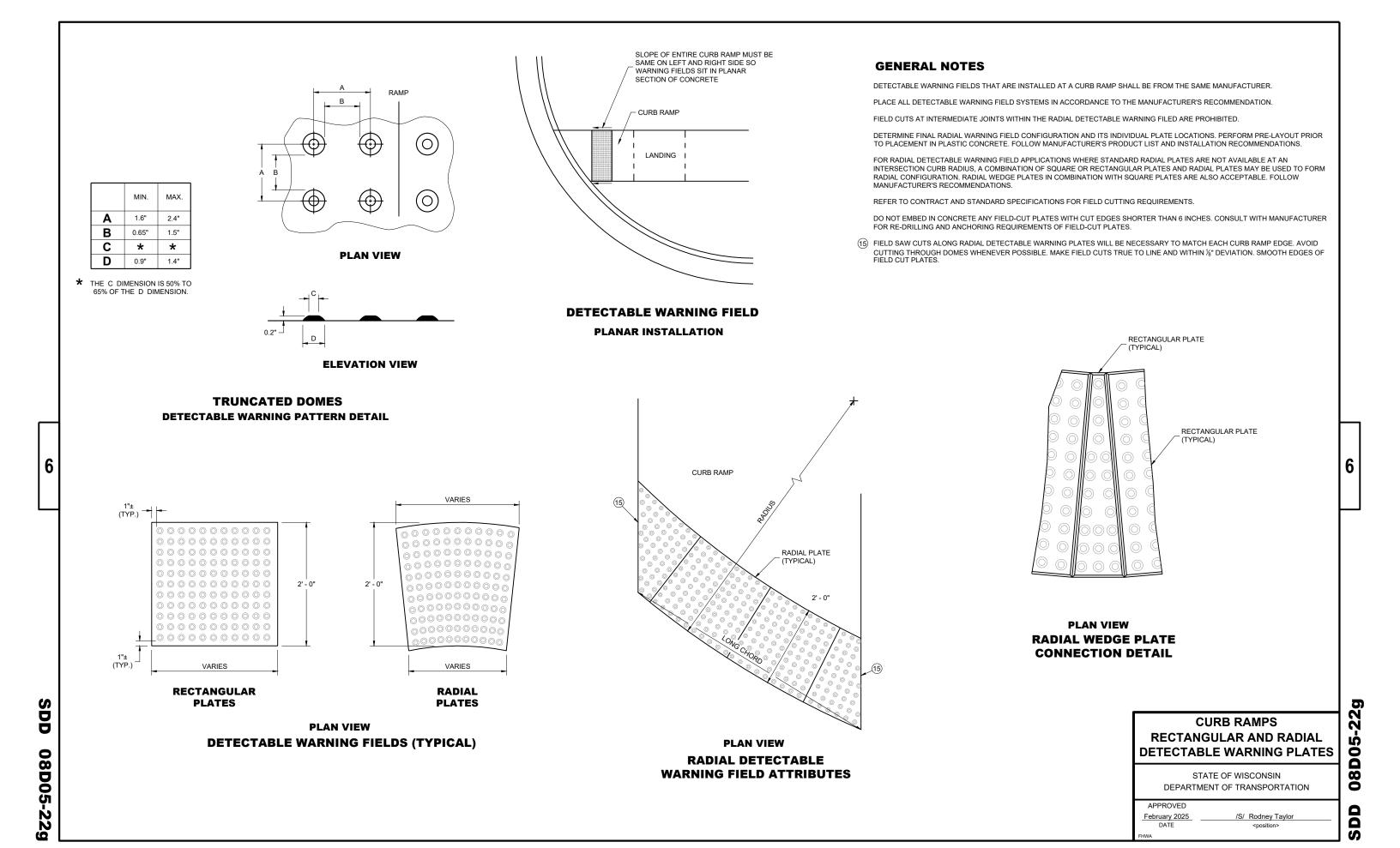
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION









## TYPICAL APPLICATION OF SILT FENCE

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## PLAN VIEW SILT FENCE AT MEDIAN SURFACE DRAINS



#### GENERAL NOTES

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

- $\bigcirc$  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 11/8" X 11/8" OF OAK OR HICKORY.
- 4) SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- (5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK

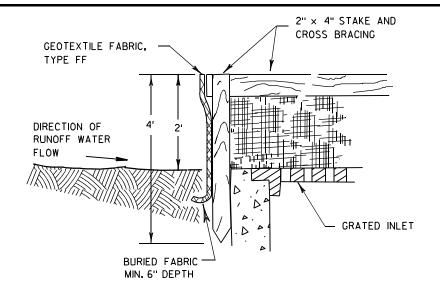
(WHEN REQUIRED BY THE ENGINEER)

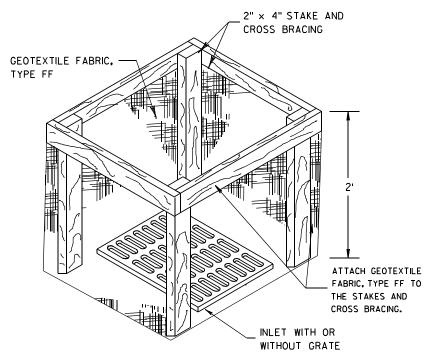


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D.D. 8 E 9-6





#### INLET PROTECTION, TYPE A

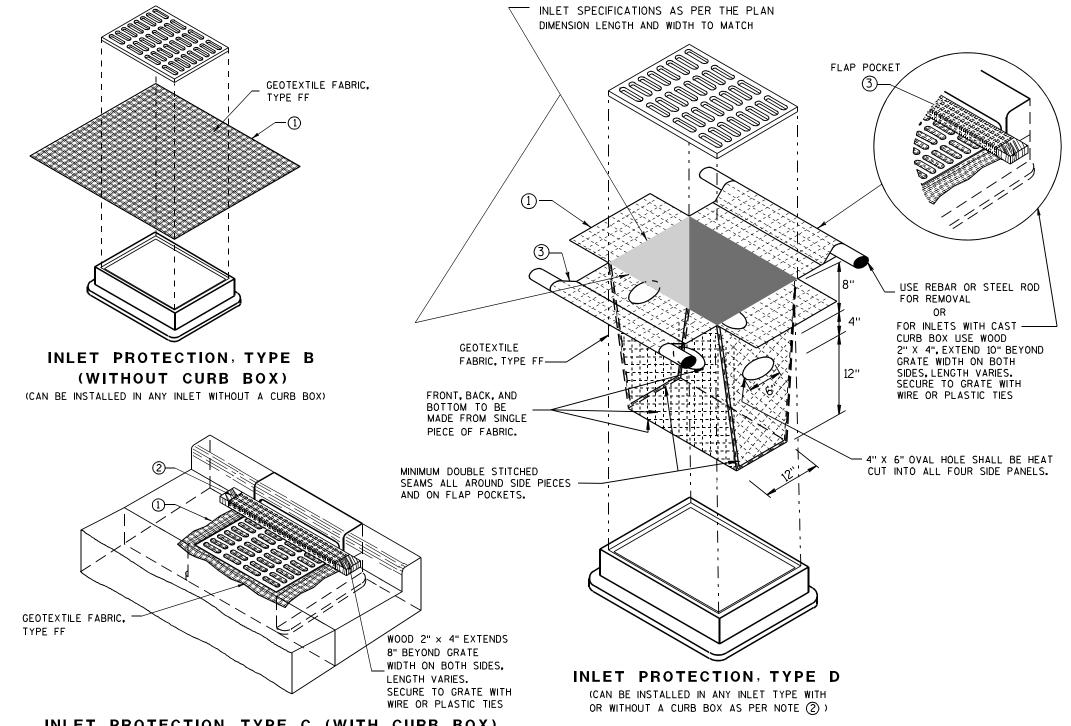
#### **GENERAL NOTES**

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

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 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 A, B, C, AND D

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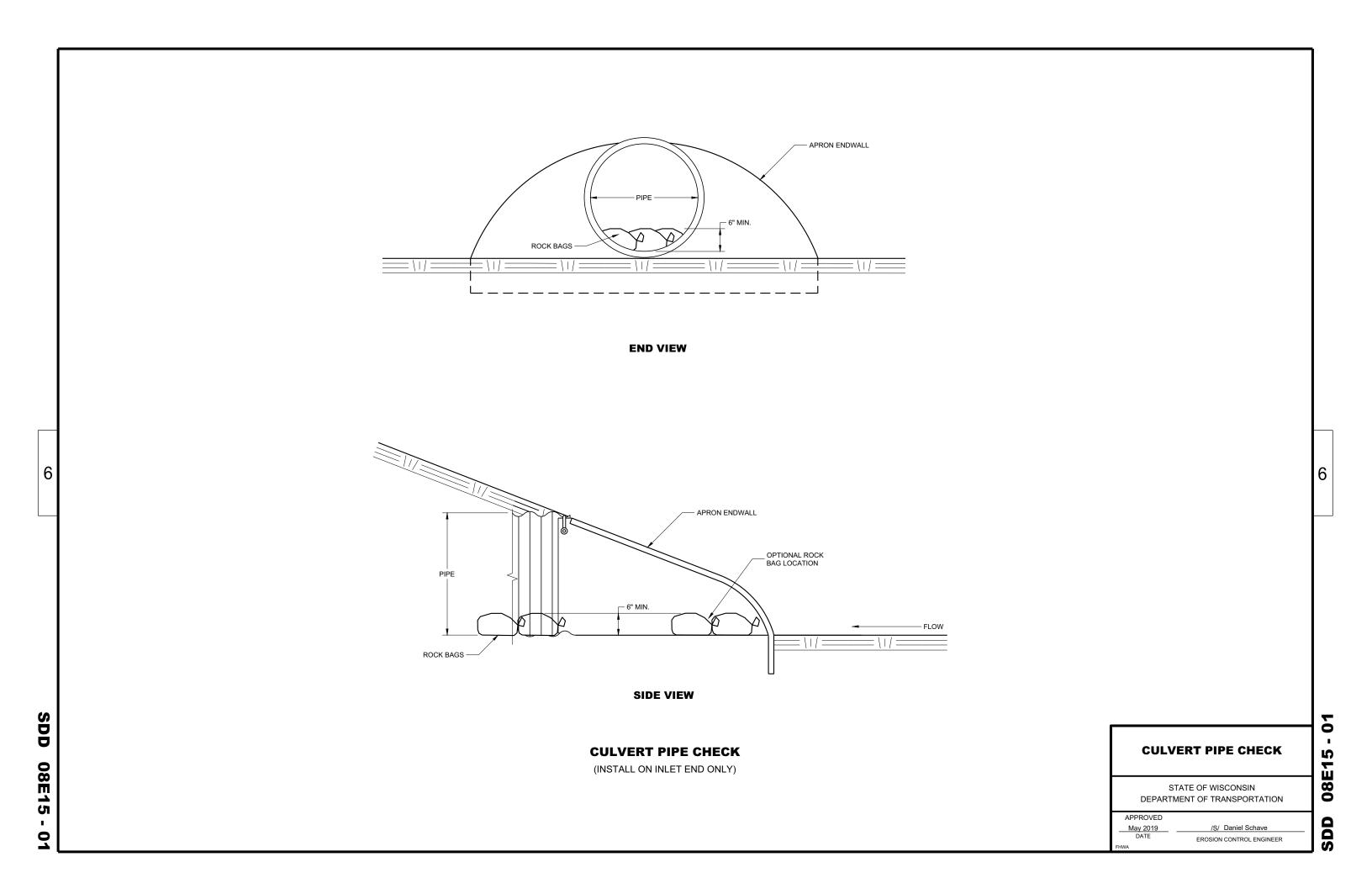
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER

10/16/02



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END CORNER

1/16" DIA. HOLES FOR

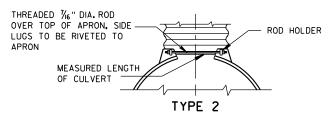
BOLTS OR RIVETS -

12" C-C MAX. SPACING

	METAL APRON ENDWALLS												
PIPE	PIPE MIN. THICK.				APPROX.								
DIA. (IN.)	(Inches) STEEL ALUM.				A (±]")	B (MAX.)	H (±]")	L (±1 ½")	<u>1</u> ()	L 2	₩ (±2")	SLOPE	BODY
12	.064	.060	6	6	6	21	12	171/2	24	2½+o 1	1Pc.		
15	.064	.060	7	8	6	26	14	213/4	30	21/2+o 1	1 Pc.		
18	.064	.060	8	10	6	31	15	281/4	36	$2\frac{1}{2}$ to 1	1Pc.		
21	.064	.060	9	12	6	36	18	29%	42	$2\frac{1}{2}$ to 1	1Pc.		
24	.064	.075	10	13	6	41	18	371/4	48	21/2+0 1	1Pc.		
30	.079	.075	12	16	8	51	18	521/4	60	2½+o 1	1Pc.		
36	.079	<b>.</b> 105	14	19	9	60	24	59¾	72	2½+o 1	2 Pc.		
42	.109	<b>.</b> 105	16	22	11	69	24	75%	84	21/2+o 1	2 Pc.		
48	.109	.105	18	27	12	78	24	81	90	2 <sup>1</sup> / <sub>4</sub> †o 1	3 Pc.		
54	.109	.105	18	30	12	84	30	851/2	102	2 <sup>1</sup> / <sub>4</sub> †o 1	3 Pc.		
60	.109×	.105×	18	33	12	87	_	_	114	2 to 1	3 Pc.		
66	.109×	.105×	18	36	12	87	_	_	120	2 to 1	3 Pc.		
72	.109×	.105×	18	39	12	87	_	_	126	2 to 1	3 Pc.		
78	.109×	.105×	18	42	12	87	_	_	132	11/2+0 1	3 Pc.		
84	.109×	.105×	18	45	12	87	_	_	138	1½+o 1	3 Pc.		
90	.109×	.105×	18	37	12	87	_	_	144	11/2 to 1	3 Pc.		
96	.109×	.105×	18	35	12	87	ı	ı	150	1½+0 1	3 Pc.		

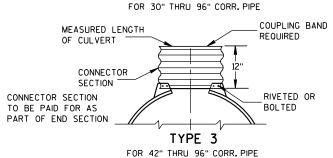
	REINFORCED CONCRETE APRON ENDWALLS											
PIPE			DIM	Ensions	(Inches)			APPROX.				
DIA.	T	A	В	ВС		E	G	SLOPE				
12	2	4	24	48 1/8	721/8	24	2	3 to 1				
15	21/4	6	27	46	73	30	21/4	3 to 1				
18	$2\frac{1}{2}$	9	27	46	73	36	21/2	3 to 1				
21	23/4	9	36	371/2	731/2	42	23/4	3 to 1				
24	3	91/2	431/2	30	731/2	48	3	3 to 1				
27	31/4	101/2	$49^{1}/_{2}$	24	731/2	54	31/4	3 to 1				
30	$3\frac{1}{2}$	12	54	193⁄4	731/2	60	31/2	3 to 1				
36	4	15	63	34¾	973/4	72	4	3 to 1				
42	$4\frac{1}{2}$	21	63	35	98	78	41/2	3 to 1				
48	5	24	72	26	98	84	5	3 to 1				
54	51/2		65	* ** 331/4-35	8 <sup>1</sup> /4- 100	90	51/2	2% to 1				
60	6	* ** 30-35	60	39	99	96	5	2 to 1				
66	61/2		* ** 72-78	* * * 21-27	99	102	51/2	2 to 1				
72	7	* ** 24-36	78	21	99	108	6	2 to 1				
78	71/2	* ** 24-36	78	21	99	114	61/2	2 to 1				
84	8	36	901/2	21	1111/2	120	61/2	11/2 to 1				
90	81/2	41	871/2	24	1111/2	132	61/2	11/2+0 1				

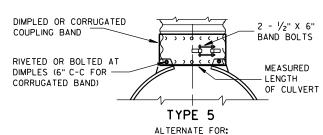
END SECTION CONNECTOR STRAP THREADED 76" DIA. ROD AROUND CULVERT & THROUGH CONNECTOR TANK TYPE CONNECTOR LUG LUG OR ALTERNATE CONNECTOR STRAP (SEE DETAIL) MEASURED LENGTH OF CULVERT



TYPE 1

FOR 12" THRU 24" CORR. PIPE





ALL SIZES CORRUGATED CIRCULAR PIPE

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

> FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

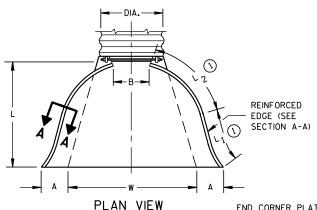
CONNECTION DETAILS

1" WIDE. 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT ALTERNATE FOR TYPE 1 CONNECTION

\*MINIMUM \*\*MAXIMUM

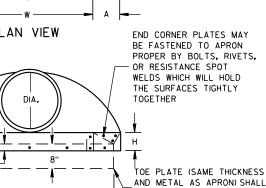
OPTIONAL

DESIGN



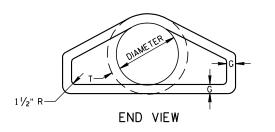
\* EXCEPT CENTER PANEL

SEE GENERAL NOTES

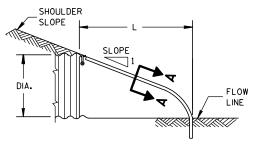


BE FURNISHED WHEN CALLED

FOR ON THE PLANS

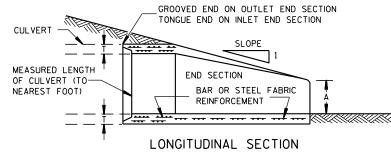


PLAN

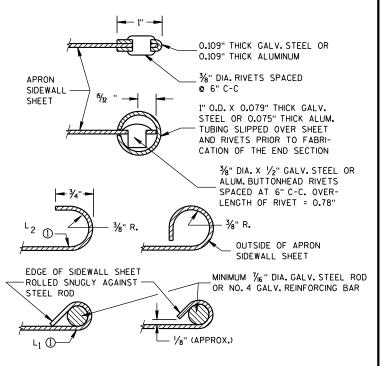


END VIEW





CONCRETE ENDWALLS



#### SECTION A-A

#### 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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA, GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES. THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

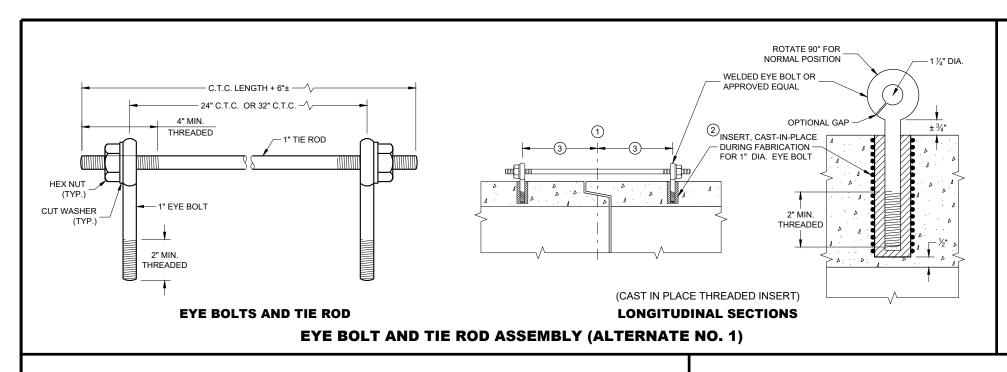
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

(1) FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.



STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

11/30/94 /S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER



#### **GENERAL NOTES**

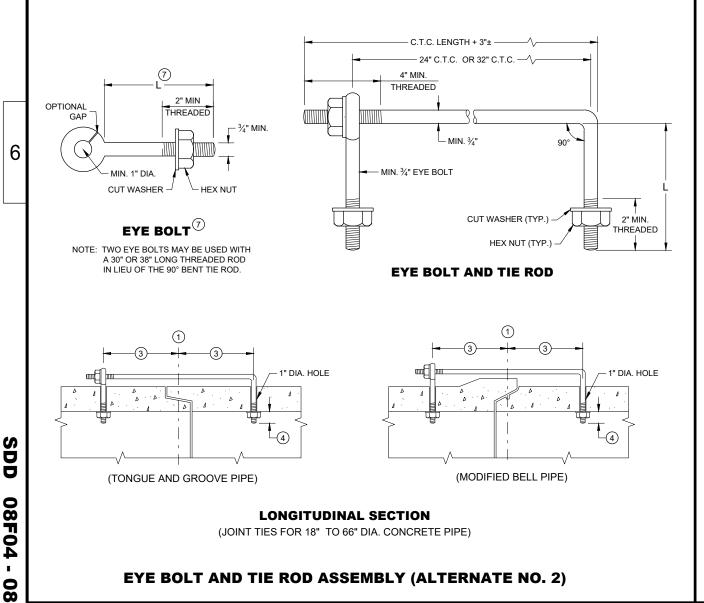
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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

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

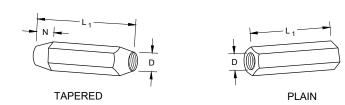
- 1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- 2 THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- (3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- 5 OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- 6 LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.
- (7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.



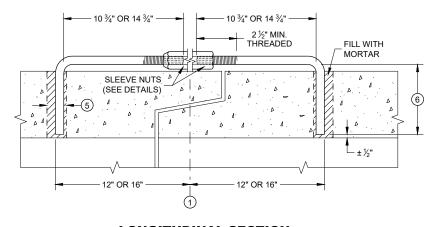
#### TIE ROD DIAMETER DIAMETER 5 12 - 60 5

ADJUSTABLE TIE ROD TABLE

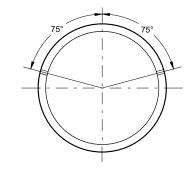
DIMENSIONS SHOWN ARE IN INCHES



RIGHT AND LEFT THREADS **SLEEVE NUTS** 

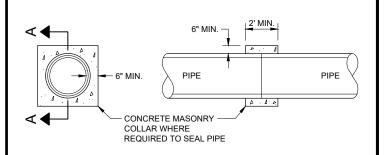


**LONGITUDINAL SECTION ADJUSTABLE TIE ROD (ALTERNATE NO. 3)** 



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

#### TRANSVERSE SECTION



**SECTION A - A** 

#### **CONCRETE COLLAR DETAIL**

#### **JOINT TIES FOR CONCRETE** PIPE AND CONCRETE **COLLAR DETAIL**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED /S/ Rodney Taylor

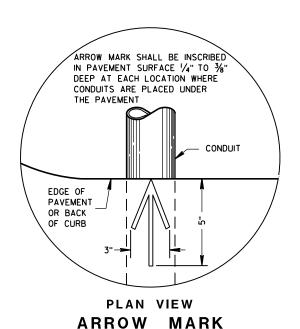
ROADWAY STANDARDS DEVELOPMENT
ENGINEER November 2021 DATE

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#### ARROW MARK INSCRIBED IN PAVEMENT SURFACE OVER € OF CONDUIT (BOTH ENDS) — 2'-0"*—*∕ NORMAL PAVEMENT EDGE OF THICKNESS **PAVEMENT** PAVEMENT OR BACK OF CURB BASE COURSE BACKFILL SLOPE 1/8"/FT. EITHER DIRECTION \*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES - CONDUIT, PITCH TO DRAIN WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

#### SIDE ELEVATION DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

#### **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 EMERSION 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 REIN-STALLED 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

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.).

TRACER 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.

CONDUIT

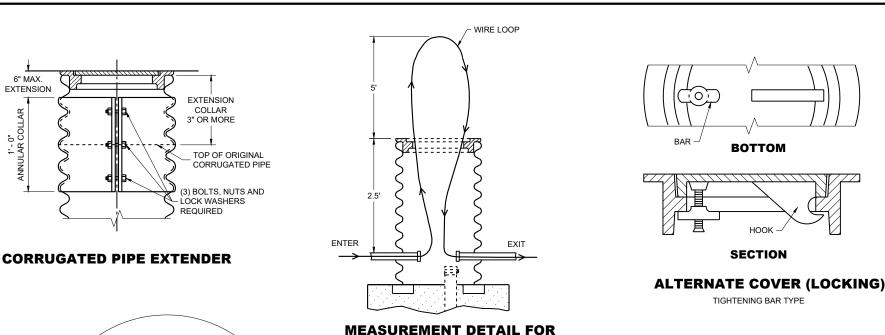
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

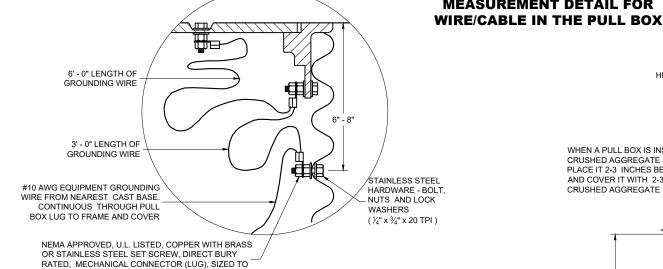
APPROVED	
March, 2017	/S/ Ahmet Demirbilek
DATE	STATE ELECTRICAL ENGINEER





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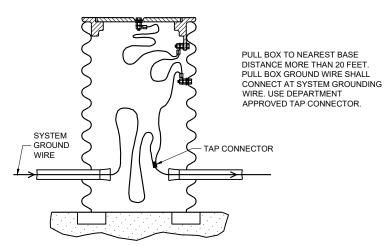


ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE

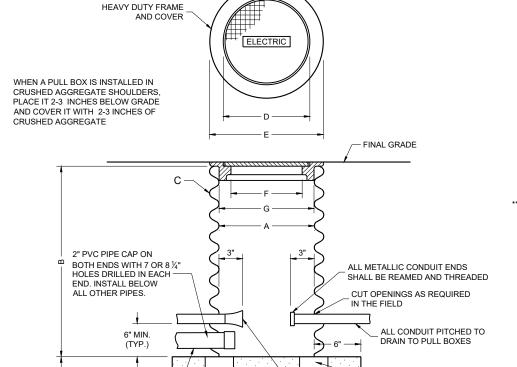
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09B04-

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



2" DRAIN DUCT TO DITCH OR

SEWER WHEN

NO. 2 COARSE AGGREGATE

(SEE SECTION 501 OF THE

STANDARD SPECIFICATIONS)

SPECIFIED

#### **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 ½".

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.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE RUSHED REFORE INSTALL ATION OF THE WIRE AND/OR CABLE

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.

#### **TABLE OF NOMINAL DIMENSIONS AND WEIGHTS**

DIMENSION IN INCHES		CO	RRUG	ATED	STEE	L PIPI	E			
PIPE DIAMETER (INSIDE)	А	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	В	24	30	36	24	30	36	36	42	48
WALL THICKNESS	С	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	Е	14 ½	14 ½	14 ½	20 ½	20 ½	20 ½	26 ½	26 ½	26 ½
FRAME	F	8 ½	8 1/2	8 ½	14 ½	14 ½	14 ½	20 ½	20 ½	20 ½
FRAME	G	11 ½	11 ½	11 ½	17 ½	17 ½	17 ½	23 ½	23 ½	23 ½
WEIGHT IN POUNDS*										
FRAME AND COVE	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.

#### **PULL BOX**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

November 2024
DATE

STATE ELECTRICAL ENGINEER

STATE STA

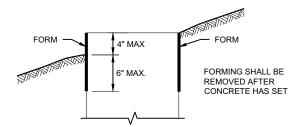
**PULL BOX** 

4 TO 8 BRICKS EQUALLY SPACED

OF WIRE AND/OR CABLE

INSTALL END BELLS (U.L. LISTED FOR ELECTRICAL USE)

ON ALL NON-METALLIC CONDUIT BEFORE INSTALLATIÓN



<b>FORMING</b>	<b>DETAIL</b>

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
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

1" CONDUIT

**PURPOSES** 

CONDUIT WITHIN

6" DIA.

FOR GROUNDING

#### **GENERAL NOTES**

CONDUIT

11 1/2" BOLT CIRCLE

(OUT TO OUT)

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWINGSHALL 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 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 A THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FRO FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

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

1" CONDUIT

**PURPOSES** 

6" DIA.

ANCHOR RODS SHALL BE

ORIENTED PARALLEL TO

THE ROADWAY

CONDUIT

11 1/2" BOLT CIRCLE

FOR GROUNDING

CONDUIT WITHIN

CONDUIT

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 NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED

L 2"

**TYPE 5 & 6** 

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

WHEN REQUIRED TO CONNECT NON-METALLIC 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, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES 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

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 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH"L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND 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).

- 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 OF THE ENGINEER.
- (2) (4) 1" DIA. X 3' 6" ANCHOR RODS.
- (3) (4) 1" DIA. X 5' 0" ANCHOR RODS.
- (6) NO. 6 X 6' 8" BAR STEEL REINFORCEMENT.
- (7) NO. 4 X 5' 1" BAR STEEL REINFORCEMENT @ 1' 0" C C.
- (4) 1" DIA. X 3' 6" ANCHOR RODS.
- (6) NO. 4 X 4' 8" BAR STEEL REINFORCEMENT.
- (8) (5) NO. 4  $\times$  5' 1" BAR STELL REINFORCEMENT @ 1' 0" C -C.
- EXOTHERMIC CONNECTION TO EUIPMENT GROUNDING CONDUCTOR
- (10) 5/8" DIA. X 8'-0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED
- 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.
- 12) FOR NON BREAKAWAY INSTALLATIONS, 4 ½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS, RODENT SCREEN REQUIRED.

#### **CONCRETE BASES TYPES 1, 2, 5, & 6**

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2

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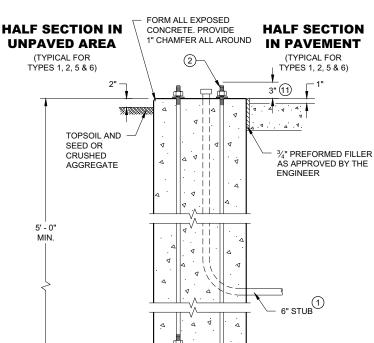
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

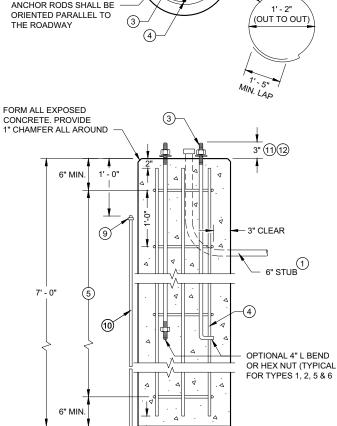
APPROVED May 2019 DATE STATE ELECTRICAL ENGINEER

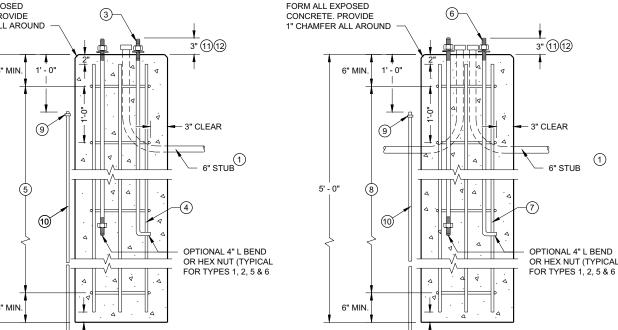
CONDUIT CONDUIT WITHIN 12 3/4" BOLT CIRCLE 6" DIA ANCHOR RODS SHALL BE ORIENTED PARALLEL TO THE ROADWAY



TYPE 1



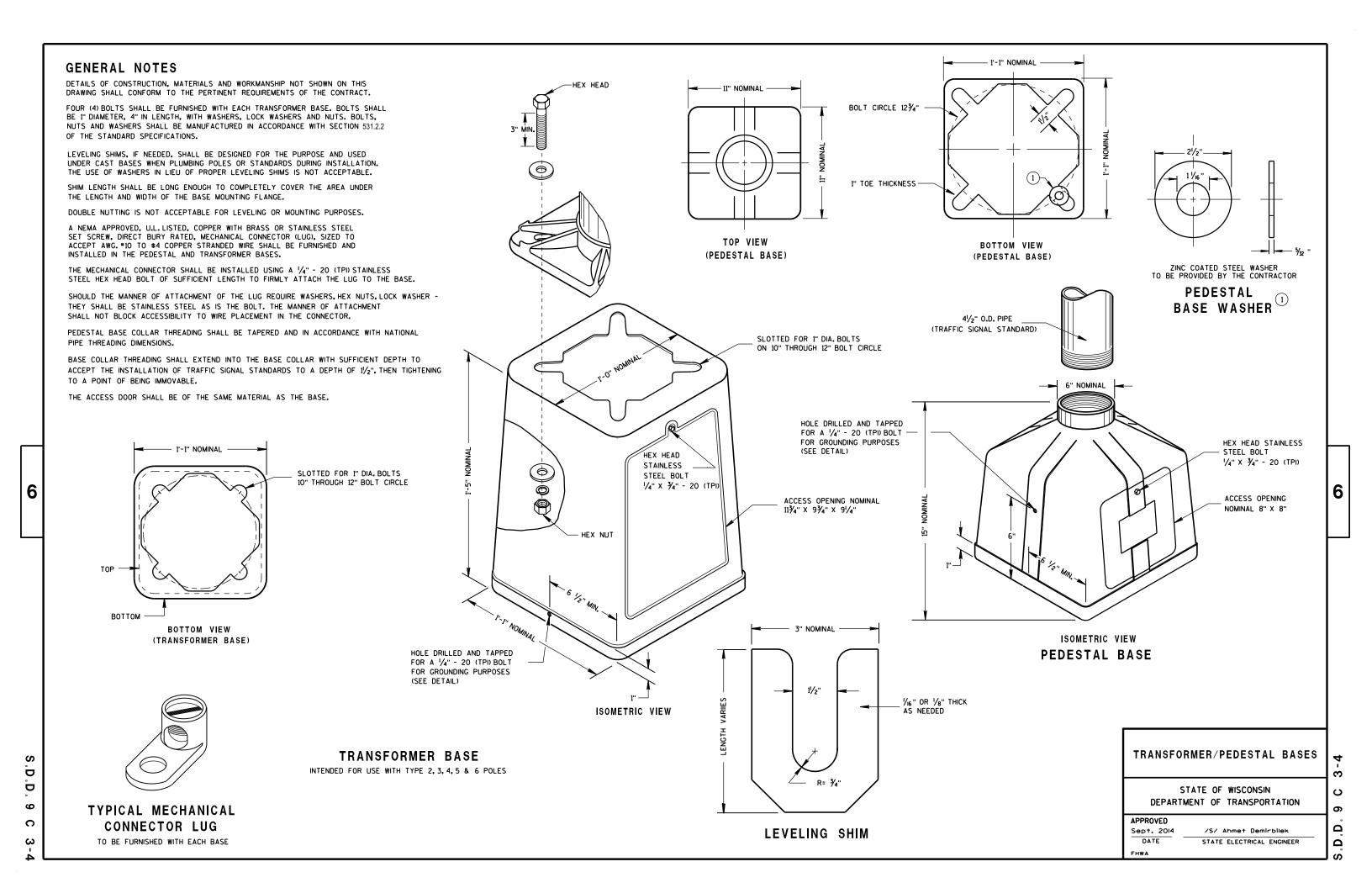




**CONCRETE BASES** 

TYPE 2

6



ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

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

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

INSTALL FOUR (4) 1/2" INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. 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 NON - METALLIC CONDUIT TO METALLIC CONDUIT, ONLY

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES

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

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

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR

SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM

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

ADAPTER FITTINGS, U. L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS

SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED

GROUND

STUB

(4) - 6" STUBS SPACED

2" MIN. APART TO ALLOW

FOR PLACEMENT OF CAPS.

**BUSHING OR COUPLINGS** 

**GENERAL NOTES** 

AND 36 INCHES MAXIMUM.

THE ENGINEER.

FINISHED AND LEVEL

MINIMUM AND 36 INCHES MAXIMUM.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

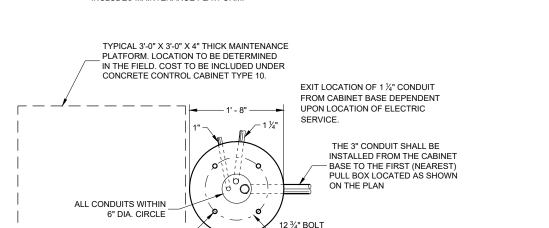
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6". ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2 OF THE STANDARD SPECIFICATIONS.

#### **DIMENSIONS** CUBIC YARD CONTROL CABINET CONCRETE (APPROX. BASE TYPE I J K TYPE 6 - 30" CABINET 34" 60" 10" 17" 42" 60" 10" 21" TYPE 7 - 38" CABINET .93 42" 72" 12" 21" TYPE 8 - 38" CABINET 1.29 TYPE 9 - VARIABLE 54" 72" 14" 27" 1.56 .65\* TYPE 10 - POST MOUNT AS SHOWN

\*INCLUDES MAINTENANCE PLATFORM.

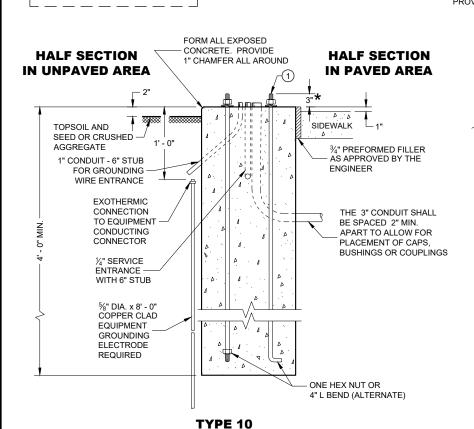
(1)



2" CONDUIT 3" CONDUIT 6" MIN 

#### **CONDUIT LOCATIONS IN 24" X 36" PULL BOX**

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



 $^ullet$ ANY ANCHOR ROD PROJECTION SHORTER THAN 2 m %" OR LONGER THAN 3 m %" SHALL

REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND. 6" STUB 2" CONDUIT COMMUNICATION -CABLE EXIT LOCATION OF 11/4" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE.

> **ISOMETRIC VIEW TYPE 6, 7, 8 AND 9**

**CONCRETE CABINET CONTROL BASES** 

#### **CONCRETE CABINET CONTROL BASES**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED September 2016 DATE

/S/ Ahmet Demerbilek STATE ELECTRICAL ENGINEER

ÖD 09C05

S 0 Ü 0 Ŏ 

2" CONDUIT COMMUNICATION CABLE

( C.Y. CONCRETE = APPROX. 1.56 )

#### **GENERAL NOTES**

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

INSTALL FOUR INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. 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 NON - METALLIC 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 LEVEL.

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

MINIMUM BENDING RADIUS OF CONDUIT EQUALS 6 TIMES 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 NON - METALLIC 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 NON - METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

CONDUIT EXITING THE CONCRETE BASE (SIX 3") SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

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

# 1½" CONDUIT 12" 12" CABINET BASE 3" CONDUIT 3" CONDUIT

KEEP 3" CONDUIT 12" FROM CABINET SIDE WALLS AND 13" FROM CABINET FRONT

**PLAN VIEW** 

24" PULL BOX

CONCRETE CONTROL CABINET BASE, TYPE 9 SPECIAL

INSTALL NUMBER OF CONDUITS REQUIRED BY PLAN.

# CONCRETE CONTROL CABINET BASE TYPE 9, SPECIAL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

September 2014 /S/ Ahmet Demerbilek

DATE STATE ELECTRICAL ENGINEER

0 - 90060

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THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF BASE REQUIRES A DEEP FORM BÉCAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING. A STEEL CASING OR CORRUGATED METAL PIPE IS ALLOWED TO REMAIN, BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BASE IN LAYERS OF ONE FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

ANY DAMAGE TO THE CONCRETE BASE AND ANCHOR RODS DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

THE REINFORCEMENT AND ANCHOR RODS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR RODS STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

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

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

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

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

FORM ALL EXPOSED CONCRETE CORNERS WITH 1" CHAMFER ALL AROUND. TOP OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS

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

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4  $\frac{1}{2}$ " INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NON-METALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED ALL CONDUIT SHALL SLOPE TO PULL BOX

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC 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 NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

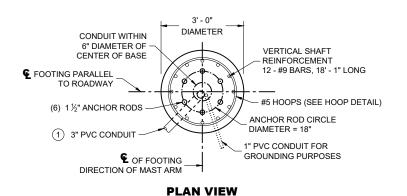
A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD)

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.

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 A THE ENTRANCE OF THE BASE

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 (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER RUN) EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.

CONCRETE MASONRY	fc = 3,500 p.s.i
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 p.s
ANCHOR RODS, ASTM F1554 GRADE 55	
(IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SI	PECIFICATION)
TÈMPLATES, ASTM A709, GRADE 36	



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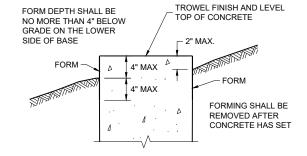
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**ELEVATION VIEW** 

(CONDUITS NOT SHOWN ON

THIS VIEW FOR CLARITY)





#### **FORMING DETAIL**

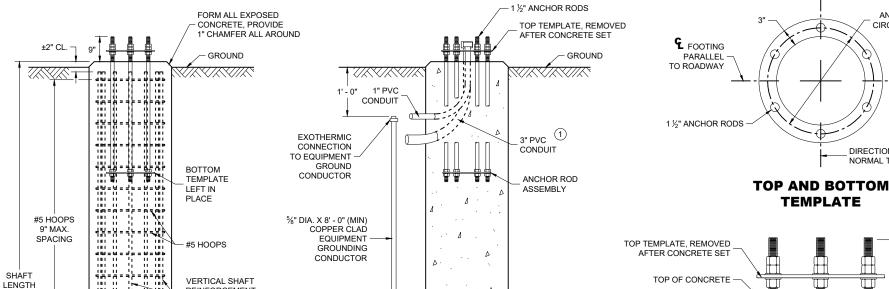
ANCHOR ROD

CIRCLE DIA. = 18"

DIRECTION OF ARM

NORMAL TO ROADWAY

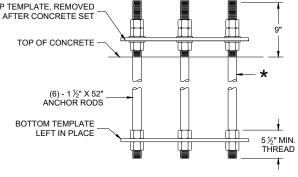
**TEMPLATES** 



SIDE VIEW

(HOOPS AND VERTICAL SHAFT REINFORCEMENT

NOT SHOWN ON THIS VIEW FOR CLARITY)



#### **ANCHOR ROD ASSEMBLY DETAILS**

**TEMPLATE** 

★ THREAD TOP 10" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 1/2" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153, USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

#### **CONCRETE BASE, TYPE 10 SPECIAL** (FOR TYPE 9 SPECIAL AND TYPE 10 SPECIAL POLES AND OVER HEIGHT (OH) POLES)

REINFORCEMENT

12 - #9 BARS 18' - 1" LONG

#5 HOOPS

CONCRETE = 4.8 CUBIC YARD H.S. REINFORCEMENT = 979 LBS.

FOR USE WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.

#### **CONCRETE BASE TYPE 10 SPECIAL**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

December 2024 /S/ Alex Crabtree WIND LOADED STRUCTURES PROGRAM LEADER

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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

MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL

UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL

CABINET SERVICE INSTALLATION

STATE OF WISCONSIN

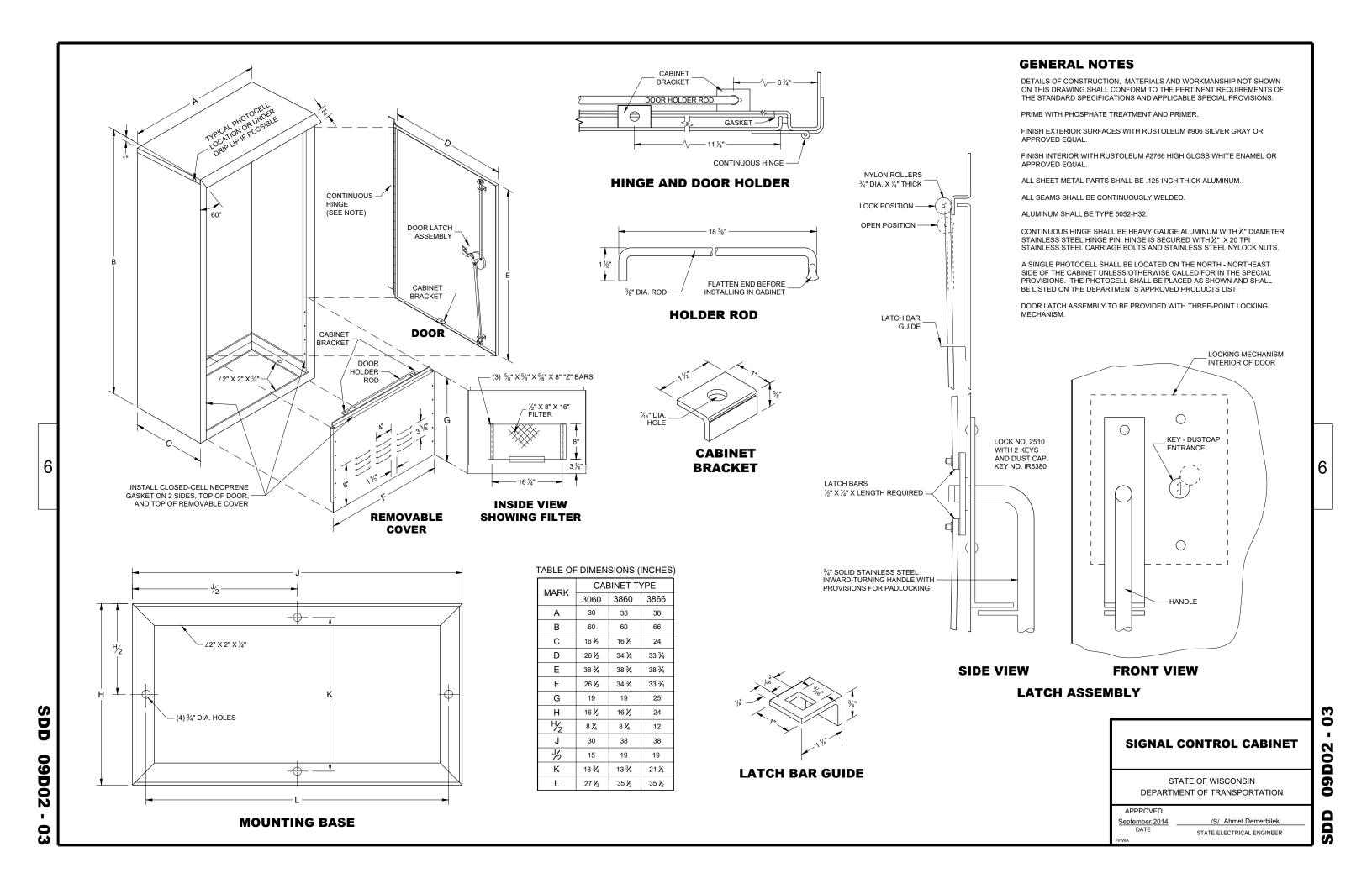
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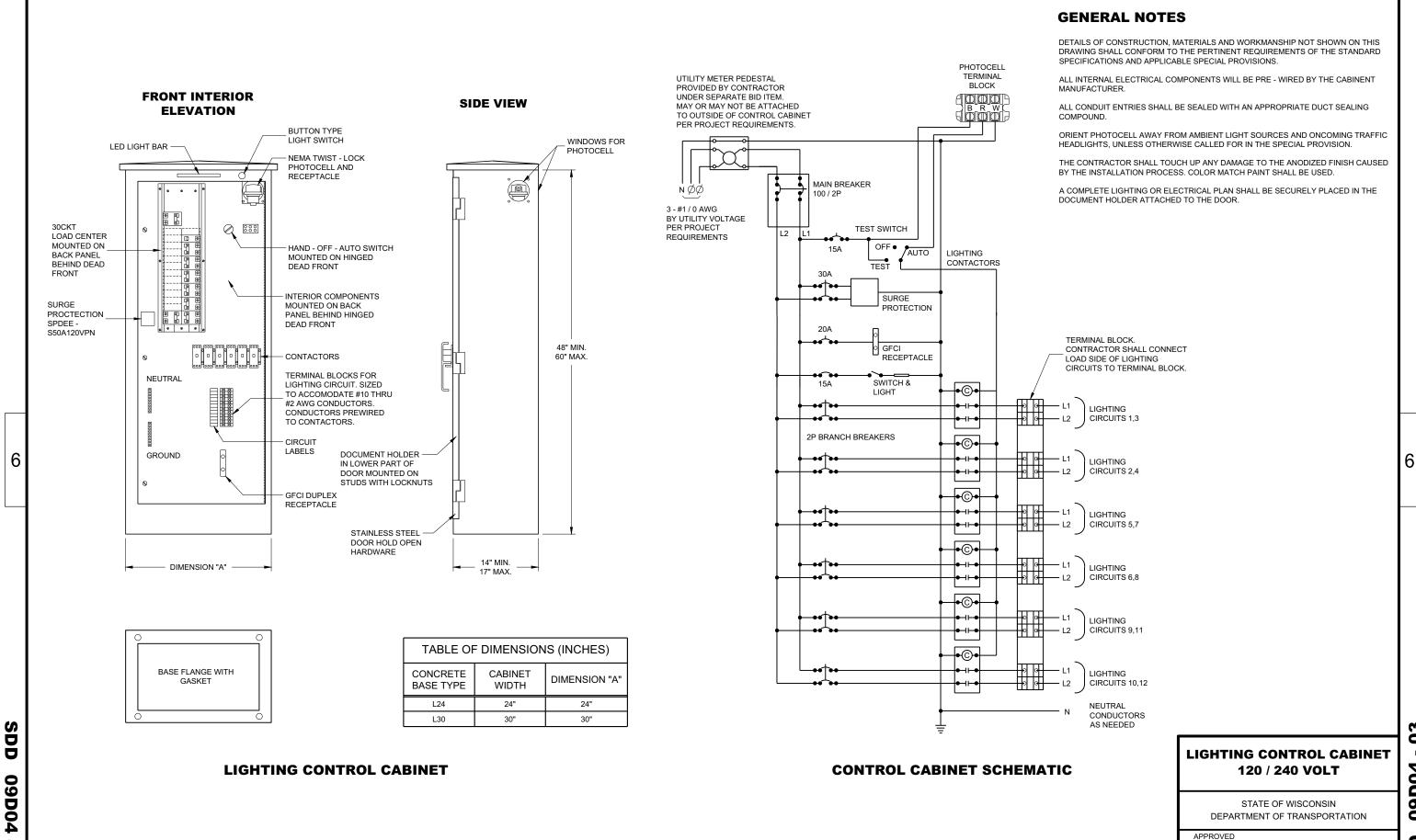
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APPROVED Sept. 2014 /S/ Ahmet Demirbilek

DATE STATE ELECTRICAL ENGINEER FHWA





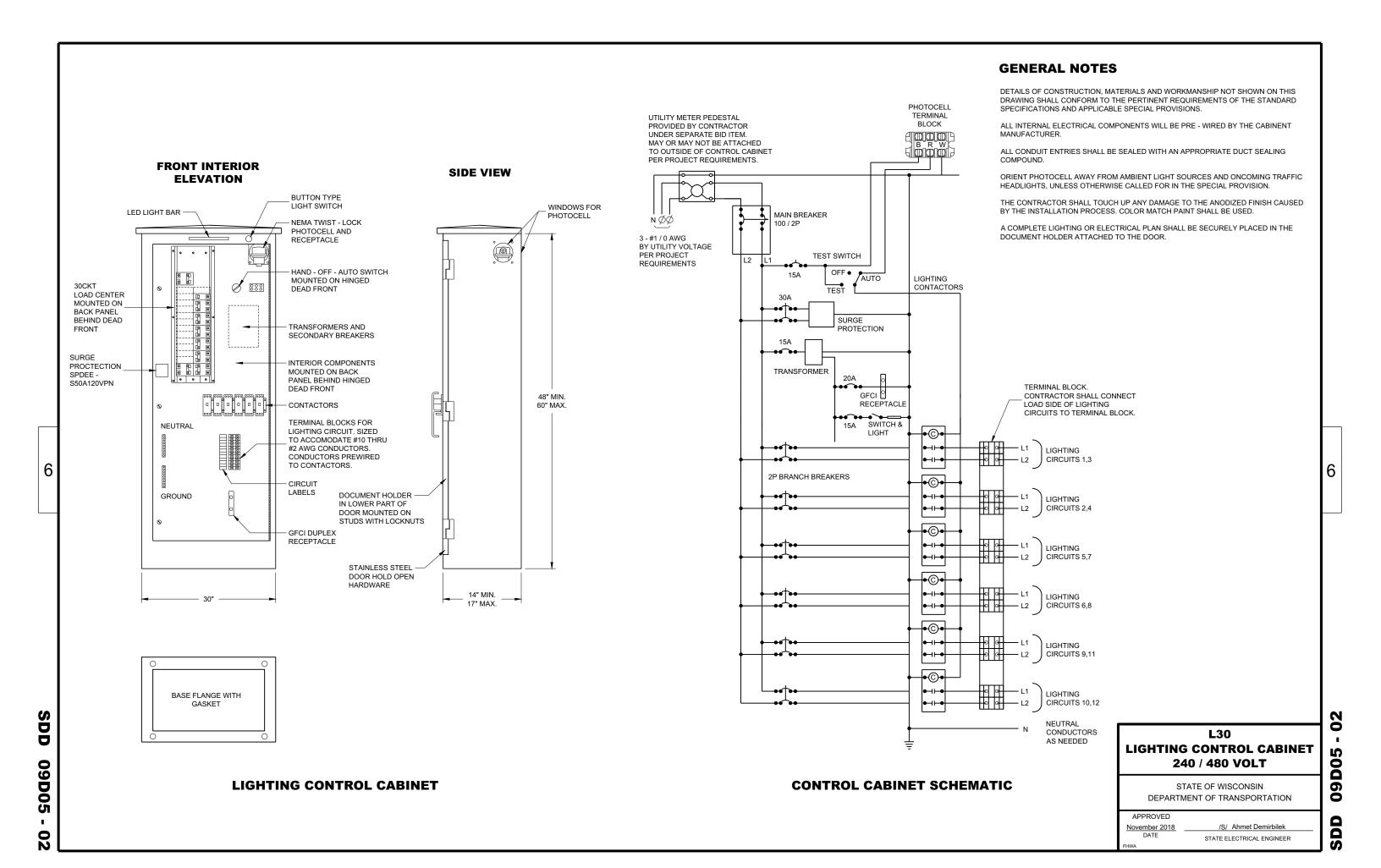
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/S/ Ahmet Demirbilek

STATE ELECTRICAL ENGINEER

November 2018 DATE

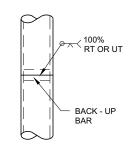


#### **SECTION A-A** (10 DEGREES TILT REQUIREMENT OF

FACE(S) IN THE TROMBONE MOUNTING)

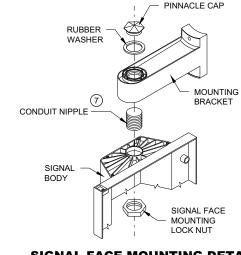
#### FOR MANUFACTURERS USE ONLY

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.

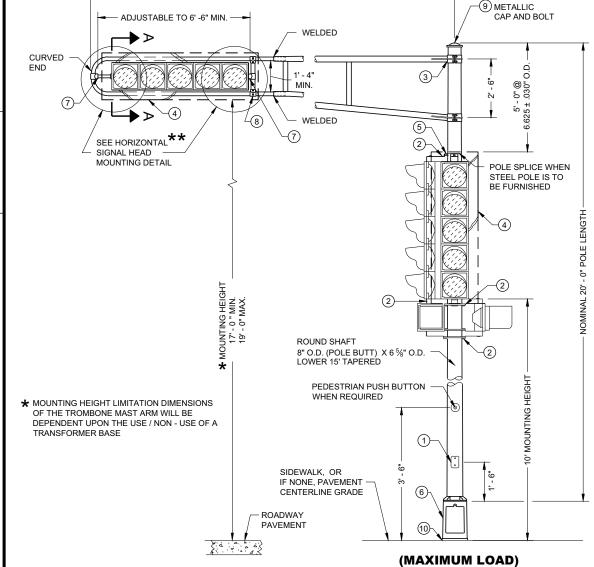


**POLE SPLICE DETAIL** 

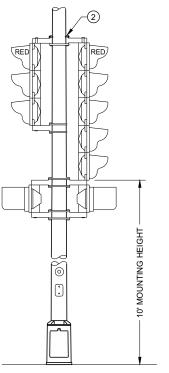
VENTILATED



SIGNAL FACE MOUNTING DETAIL (BANDED)



VARIABI F 25' - 0" LENGTH FOR DESIGN CALCULATION



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

**GENERAL NOTES** 

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

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

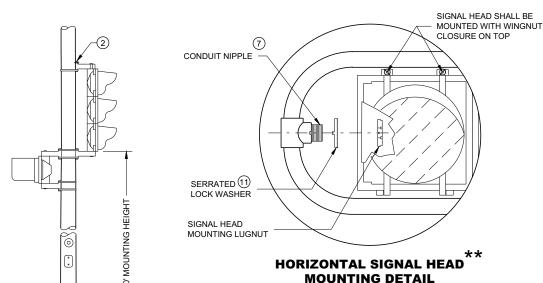
SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE / ROPE 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

- 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2)  $\mbox{$\chi$}$ " 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.
- SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING.
- ③ GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 %" 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 ONE OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) ASREQUIRED, TO PLUMB THE SIGNAL FACES.
- (6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- (7) USE 1 ½" ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOTINTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 ½" OPENING IN SIGNAL FACES AND BRACKET ENDS
- (%) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (¾" X ¾" 20 TPI STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUTIS THE SLIDING TYPE.
- 9 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.
- (1) 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 DETAIL** \*\* SIGNAL HEAD ATTACHMENT ALSO APPLIES TO MOUNTING AT CROSS BAR

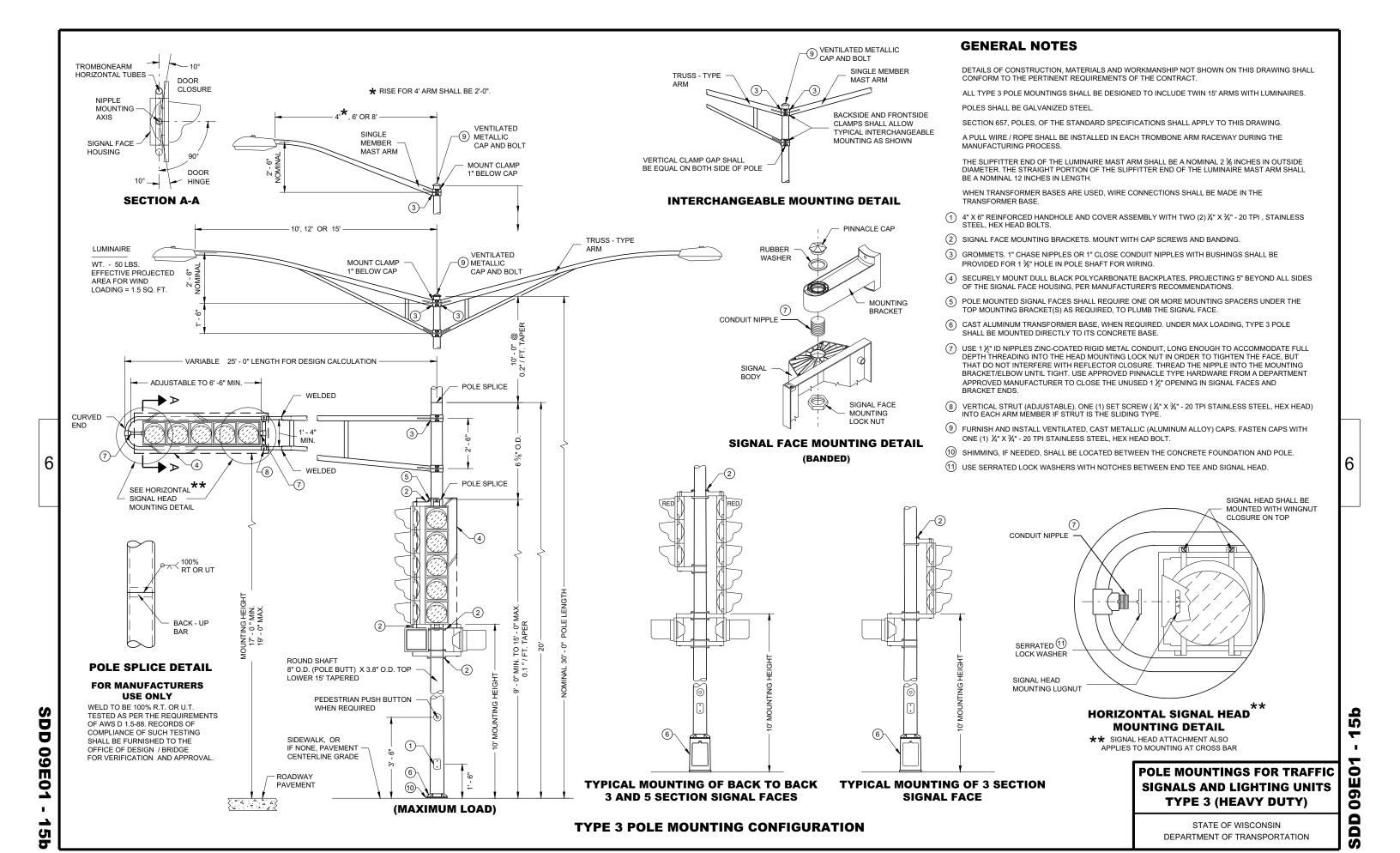
**TYPICAL MOUNTING OF 3 SECTION** SIGNAL FACE

**POLE MOUNTINGS FOR TRAFFIC SIGNALS** TYPE 2

60

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**TYPE 2 POLE MOUNTING CONFIGURATION** 



**TYPE 4 POLE MOUNTING CONFIGURATION** 

<u>60</u>

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

SDD 09E

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

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

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

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063 - T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

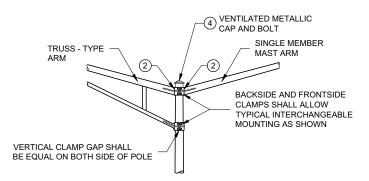
TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.1888".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (0.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 ½ 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

- 1 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) ¼" X ¾" 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.
- 2 GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 ½" HOLE IN POLE SHAFT FOR WIRING.
- $\ensuremath{\ensuremath{\mathfrak{G}}}$  CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- (4) FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- (5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.
- 6 INTERNAL DUMBBELL TYPE VIBRATION DAMPER.

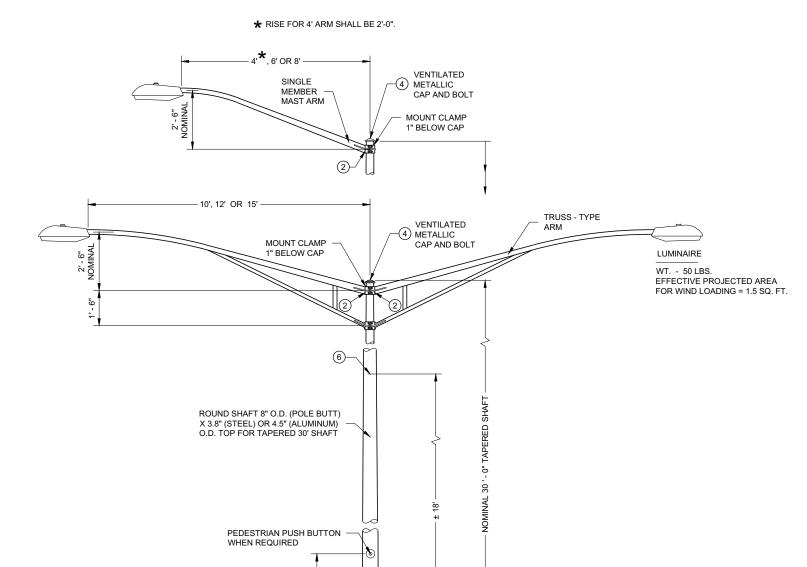


INTERCHANGEABLE MOUNTING DETAIL

### POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 ( 30 FEET )

09E0

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

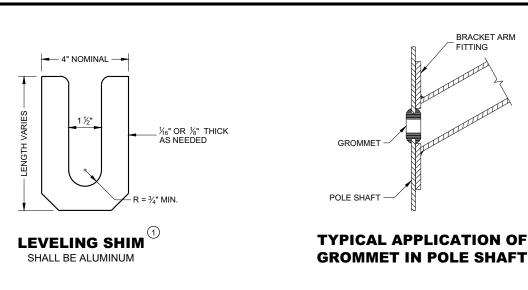
3 5

TOP OF CONCRETE BASE -



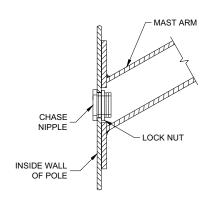






GUSSETS REQUIRED

BOLTS ENTIRE LENGTH



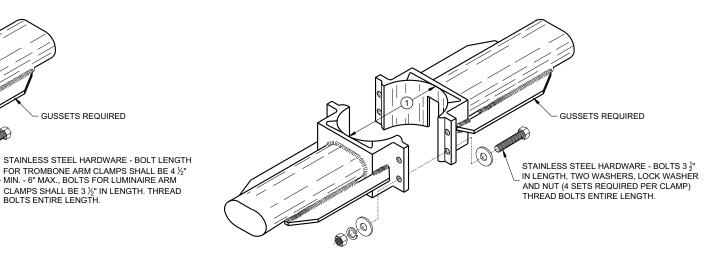
#### **TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT**

#### **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.

- (1) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- (2) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- 3 BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER
- 4 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

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

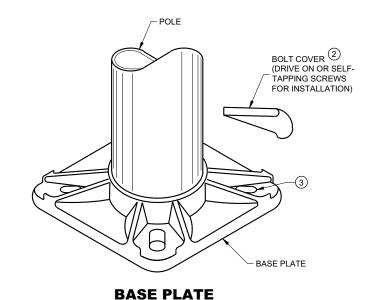


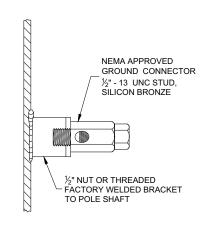
"J " HOOK DOOR SIDE HOOK FACTORY 1 g" RACEWAY HOLE - OPPOSITE WELDED TO POLE DOOR (180° SIDE) IF CALLED FOR

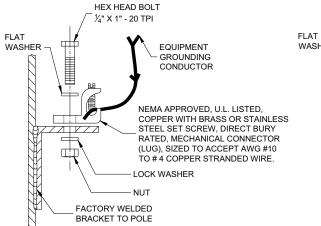
**TYPICAL "J" HOOK LOCATION** 

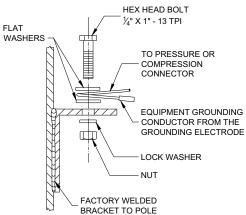
#### TYPICAL TROMBONE MAST ARM AND SINGLE **LUMINAIRE MAST ARM MOUNTING CLAMP**

#### **TYPICAL LUMINAIRE MAST ARM** (DOUBLE) MOUNTING BRACKETS









#### TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

#### **HARDWARE DETAILS FOR POLE MOUNTING**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

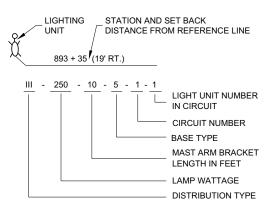
APPROVED November 2018 DATE

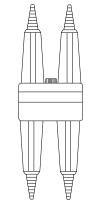
/S/ Ahmet Demirbilel STATE ELECTRICAL ENGINEER

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

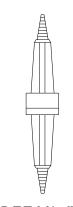
THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

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

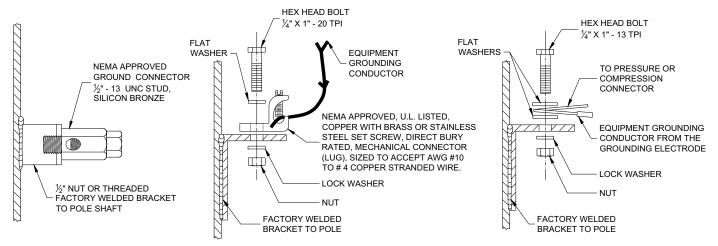








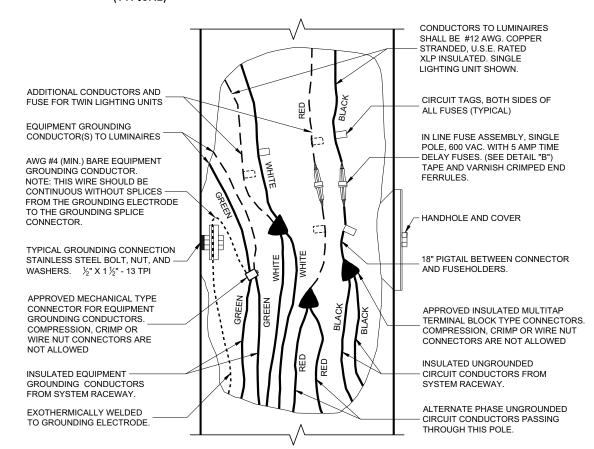
DETAIL "B"
BREAKAWAY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



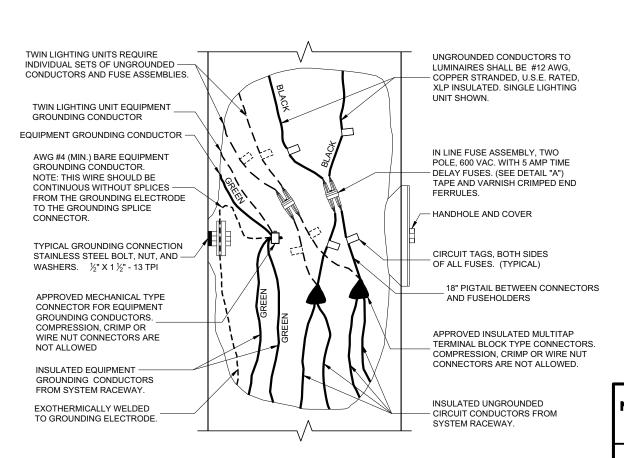
#### TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

## LIGHTING UNIT CODE (TYPICAL)



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



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

#### NON - FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

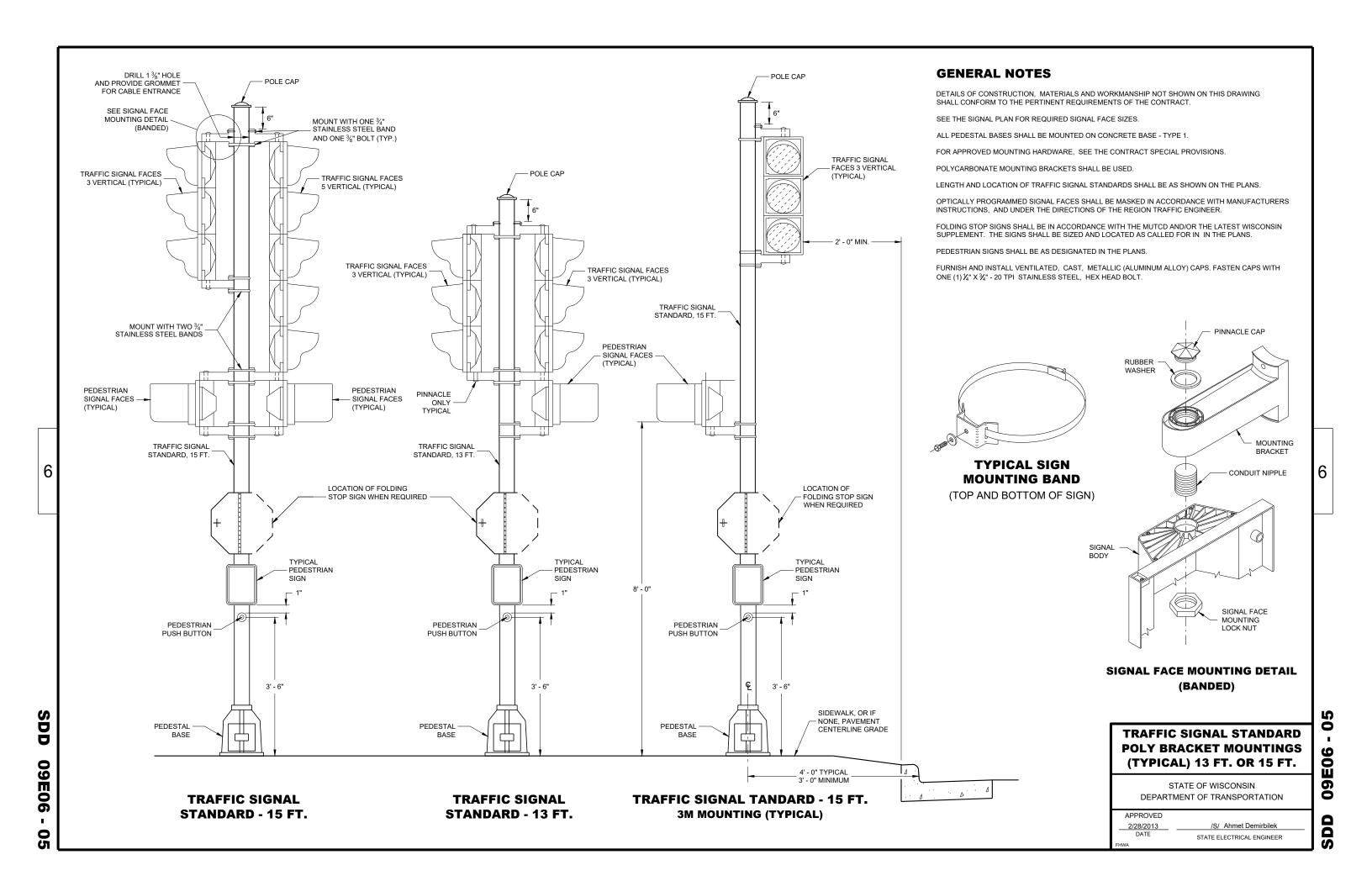
APPROVED

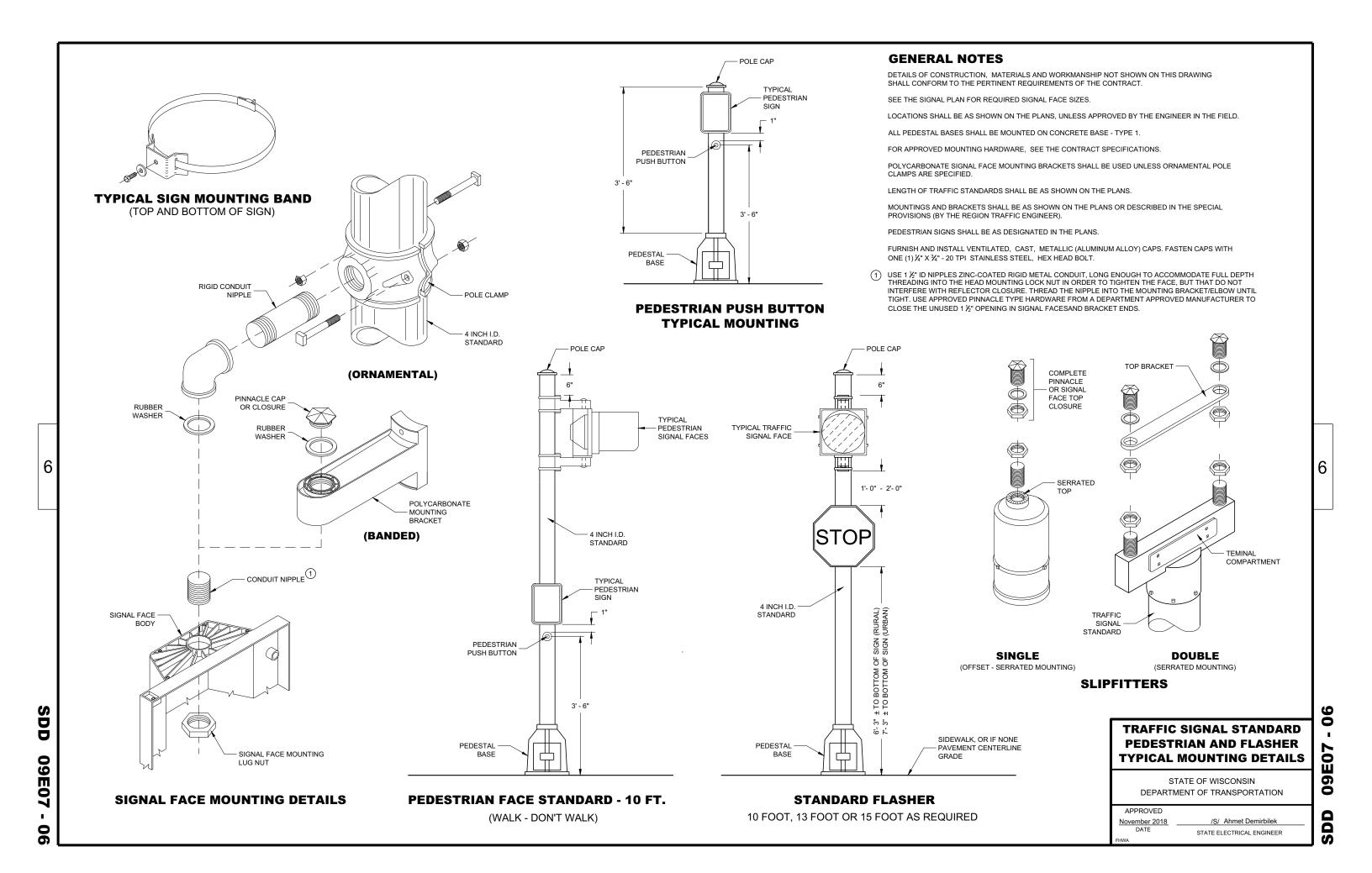
November 2018 /S/ Ahmet Demirbilek

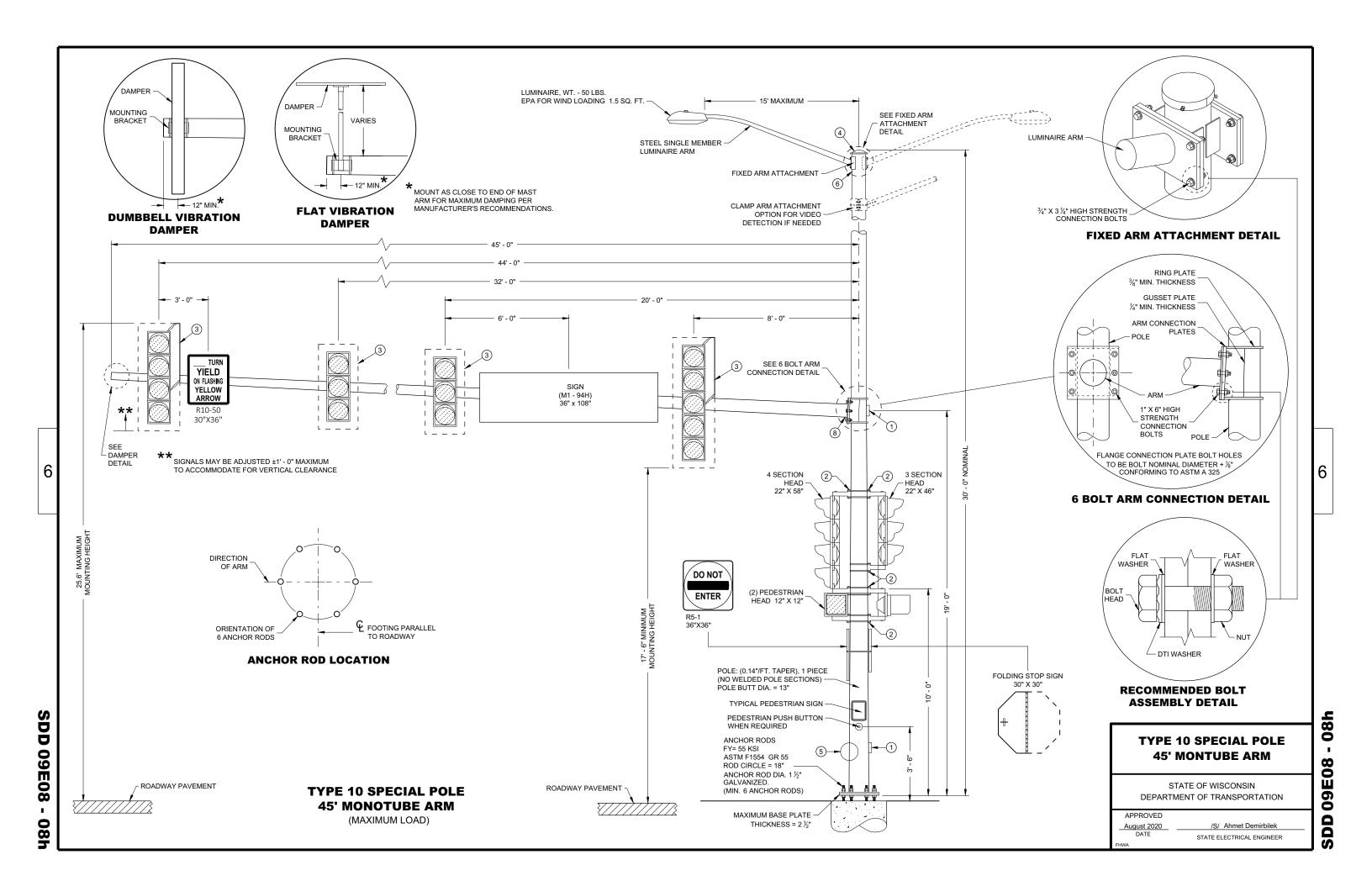
DATE STATE ELECTRICAL ENGINEER

SDD 09E03-06

DD 09E03 -







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

POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT.

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

MONOTUBE POLES AND ARMS SHALL BE GALVANIZED STEEL

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

ONE PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATION 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 AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES

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 TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE

CATEGORY II FATIGUE FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED).

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

INDENT PRINT (NOMINAL  $\chi$ " 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

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

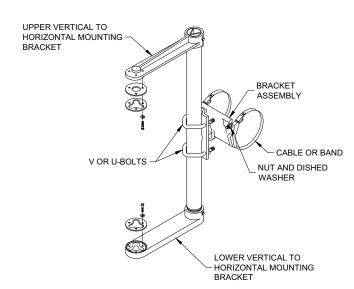
SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

- 1 DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO ¾" X ¾" 20 TPI STAINLESS STEEL
- SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658).
- SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER
- THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR 1/2" X 1/2" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE
- INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

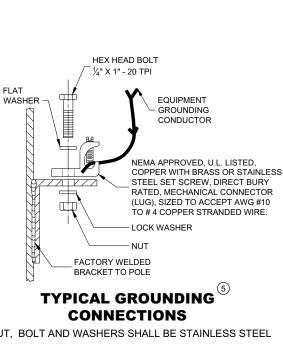
MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED 1/2" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE

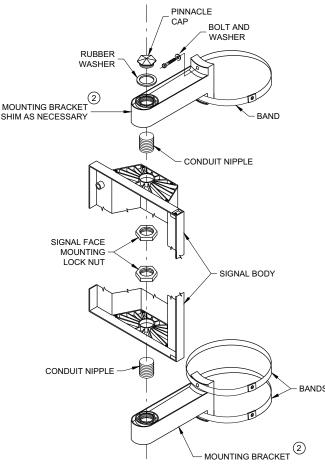


#### SIGNAL FACE MOUNTING BRACKET **DETAIL FOR MONOTUBE ARM**

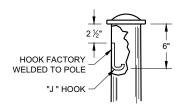
(MOUNT PER MANFACTURER'S RECOMMENDATION)



NUT. BOLT AND WASHERS SHALL BE STAINLESS STEEL



#### SIGNAL FACE VERTICAL **MOUNTING DETAIL**



TYPICAL "J" HOOK **WIRE SUPPORT** 

#### **GENERAL NOTES AND HARDWARE FOR TYPES 9,10,** 9/10 SPECIAL, 12 AND 13 POLES WITH MONOTUBE ARMS

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

STRUCTURAL IDENTIFICATION **PLAQUE PLACEMENT** 

**TT** YY

6' - 0"

DD 09E 08

60 APPROVED August 2020 DATE /S/ Ahmet Demirbilel STATE ELECTRICAL ENGINEER

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

OVER HEIGHT POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT

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

MONOTUBE POLES AND ARMS 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 SPECIFICATION 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 AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES AS

CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF OVER HEIGHT TYPE 9 AND TYPE 10 STRUCTURES.

CATEGORY II FATIGUE LOADS OF TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF OVER HEIGHT TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE MAST ARM.

CATEGORY II FATIGUE FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF OVER HEIGHT TYPE 12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED)

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH  $\frac{3}{4}$ " STAINLESS STEEL BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL 1/8" 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.

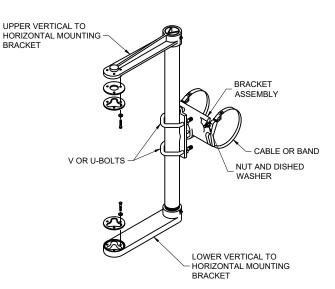
SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

- DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO  $\frac{1}{4}$ " X  $\frac{3}{4}$ " 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658)
- SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

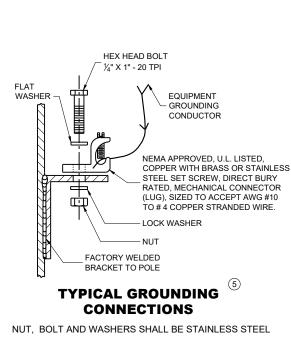
MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

FACTORY DRILLED 1/8" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE

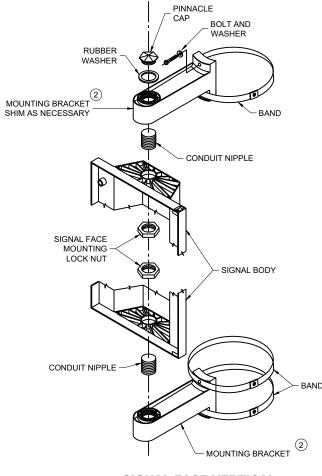


#### SIGNAL FACE MOUNTING BRACKET **DETAIL FOR MONOTUBE ARM**

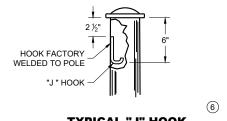
(MOUNT PER MANFACTURER'S RECOMMENDATION)



NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



#### **SIGNAL FACE VERTICAL MOUNTING DETAIL**



**TYPICAL "J" HOOK WIRE SUPPORT** 

#### **GENERAL NOTES AND** HARDWARE FOR OVER HEIGHT **TYPE 9, 10, 9/10 SPECIAL. 12 AND 13 POLES WITH MONOTUBE ARMS**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

AUGUST 2024

/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER

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09E, 12-02

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2-0



6' - 0"

## \*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

#### LOOP DETECTOR INSTALLATION DETAIL

**GENERAL NOTES** 

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

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READING TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

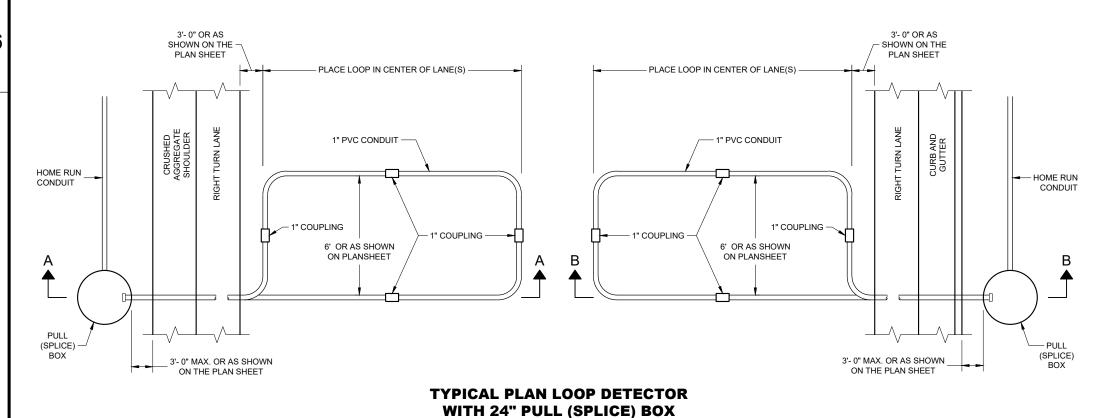
THE #12 AWG LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

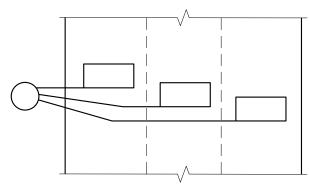
SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE NON-SPLICED. CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER





MULTI-LANE INSTALLATION

IN BASE COURSE WITH
PULL (SPLICE) BOX OFF
ROADWAY (OPTION 2)

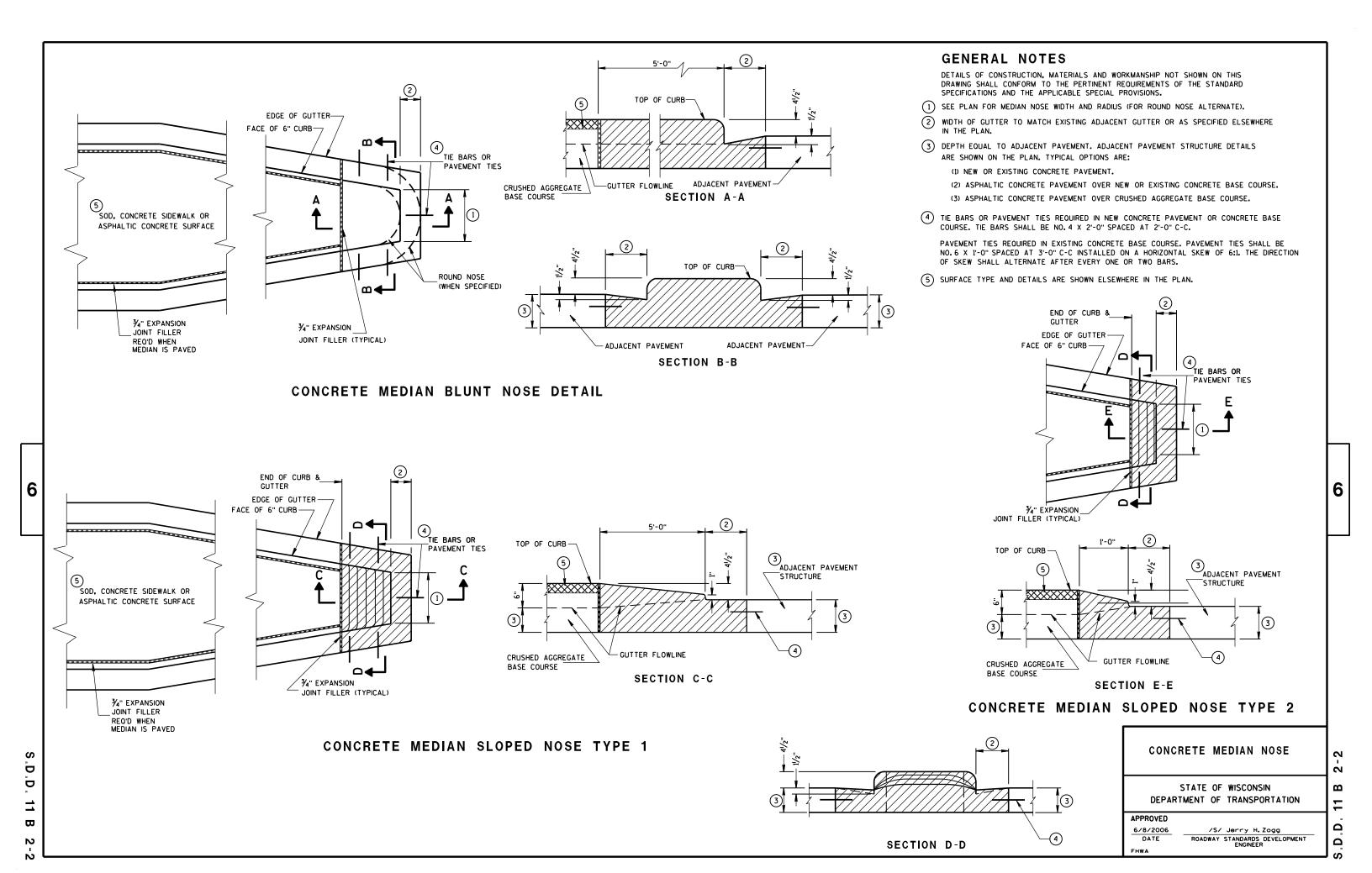
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

SDD 09F15 - 04b

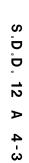
**DD 09F15 - 04b** 

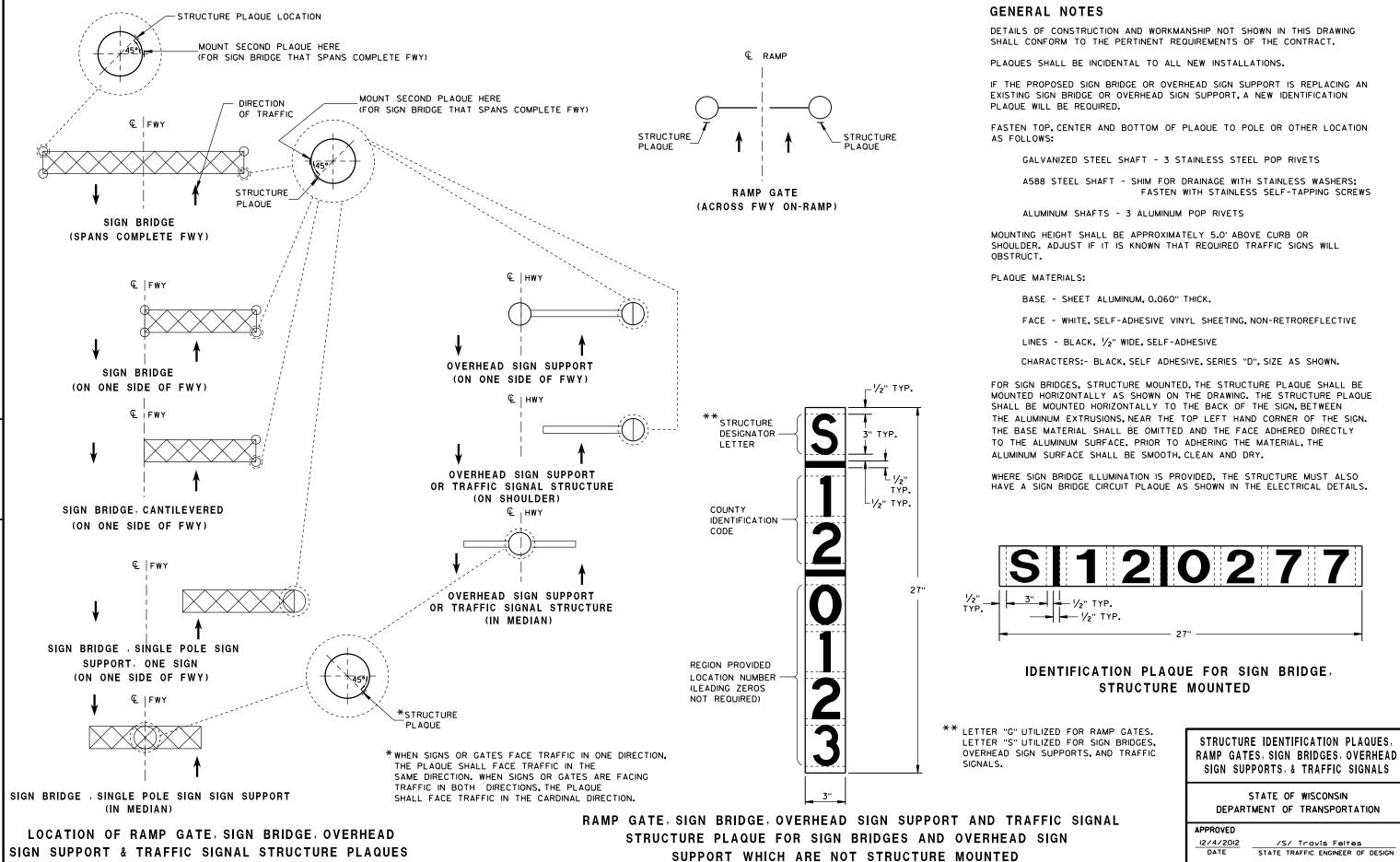


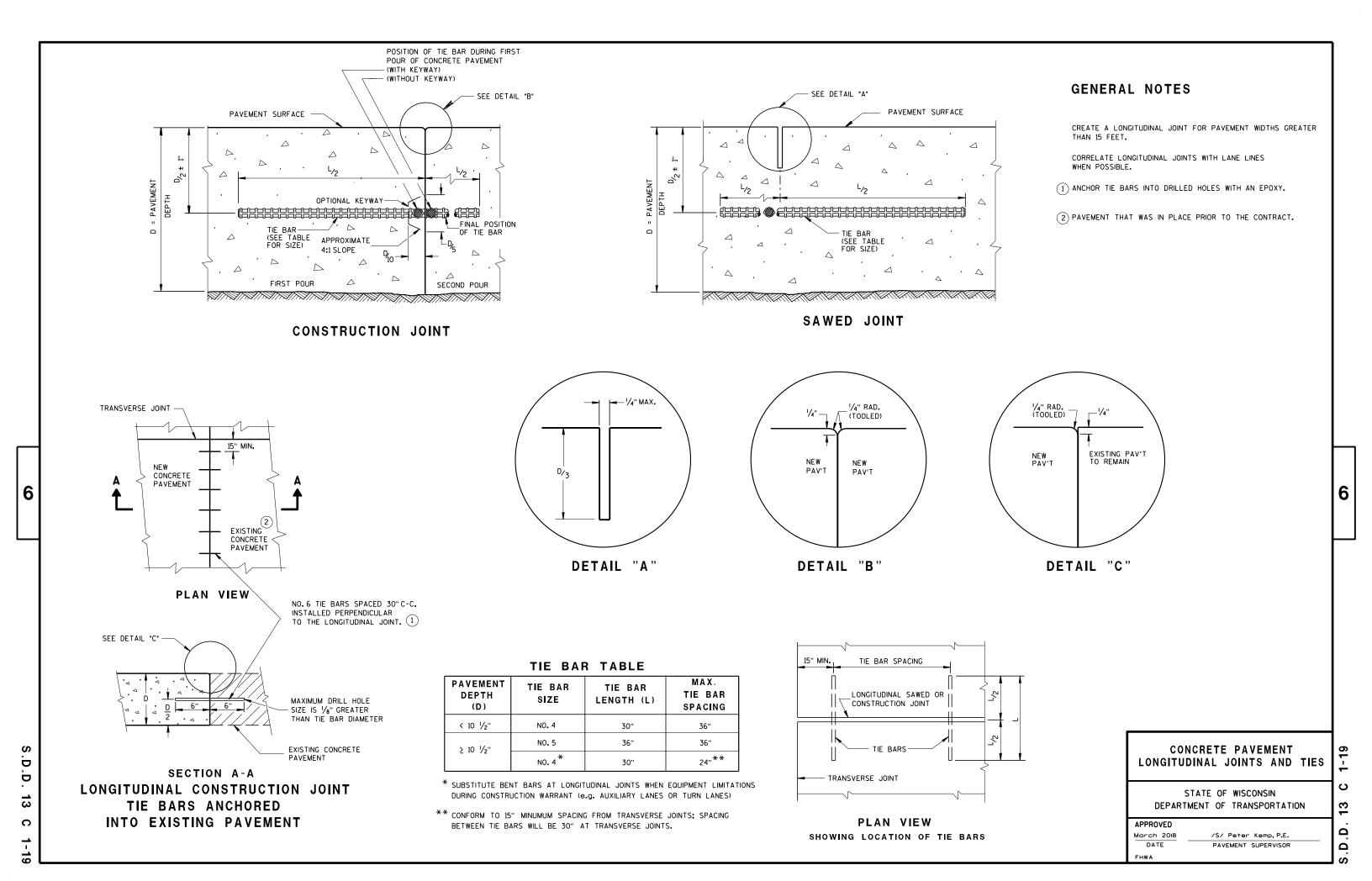


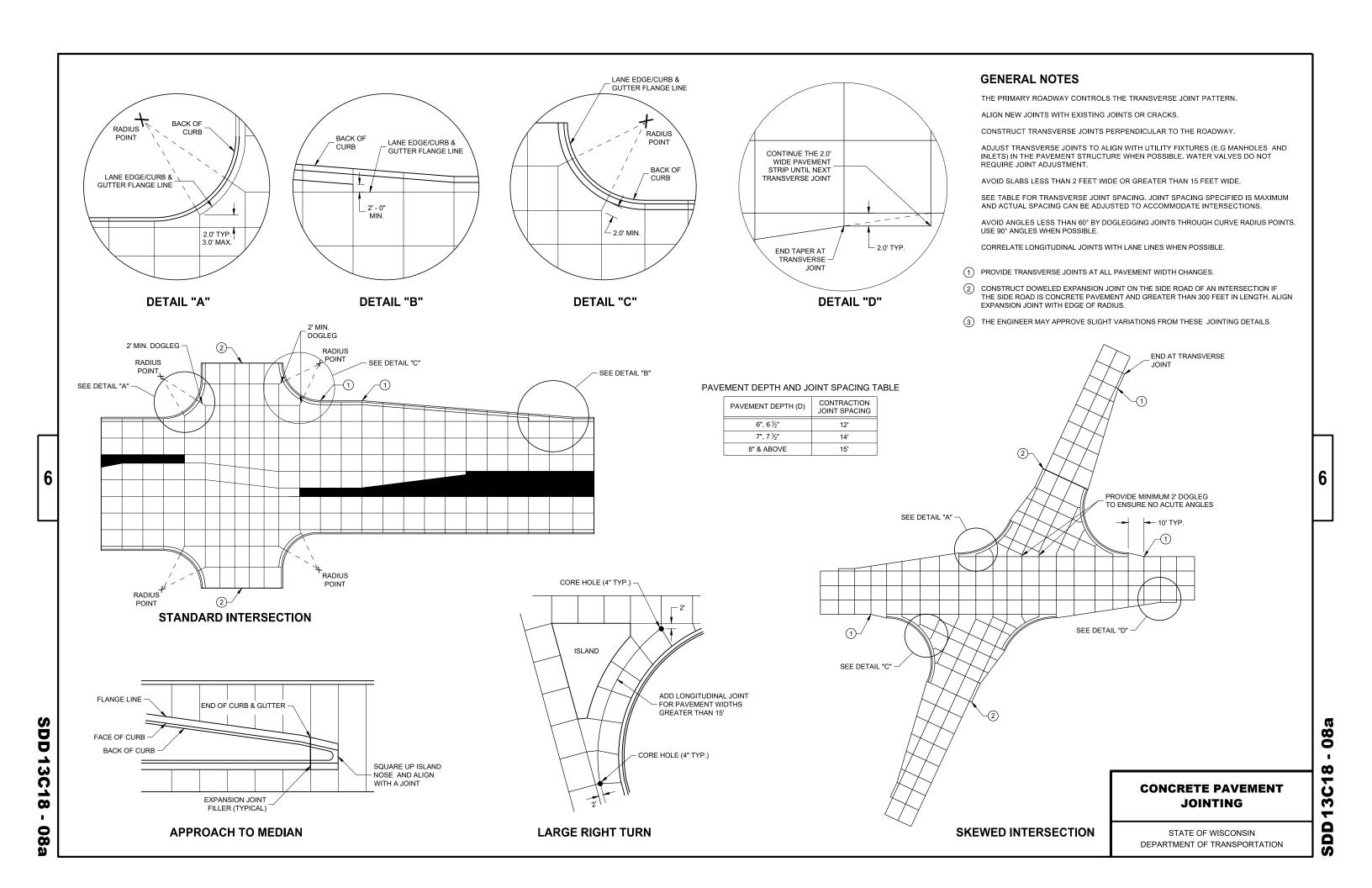
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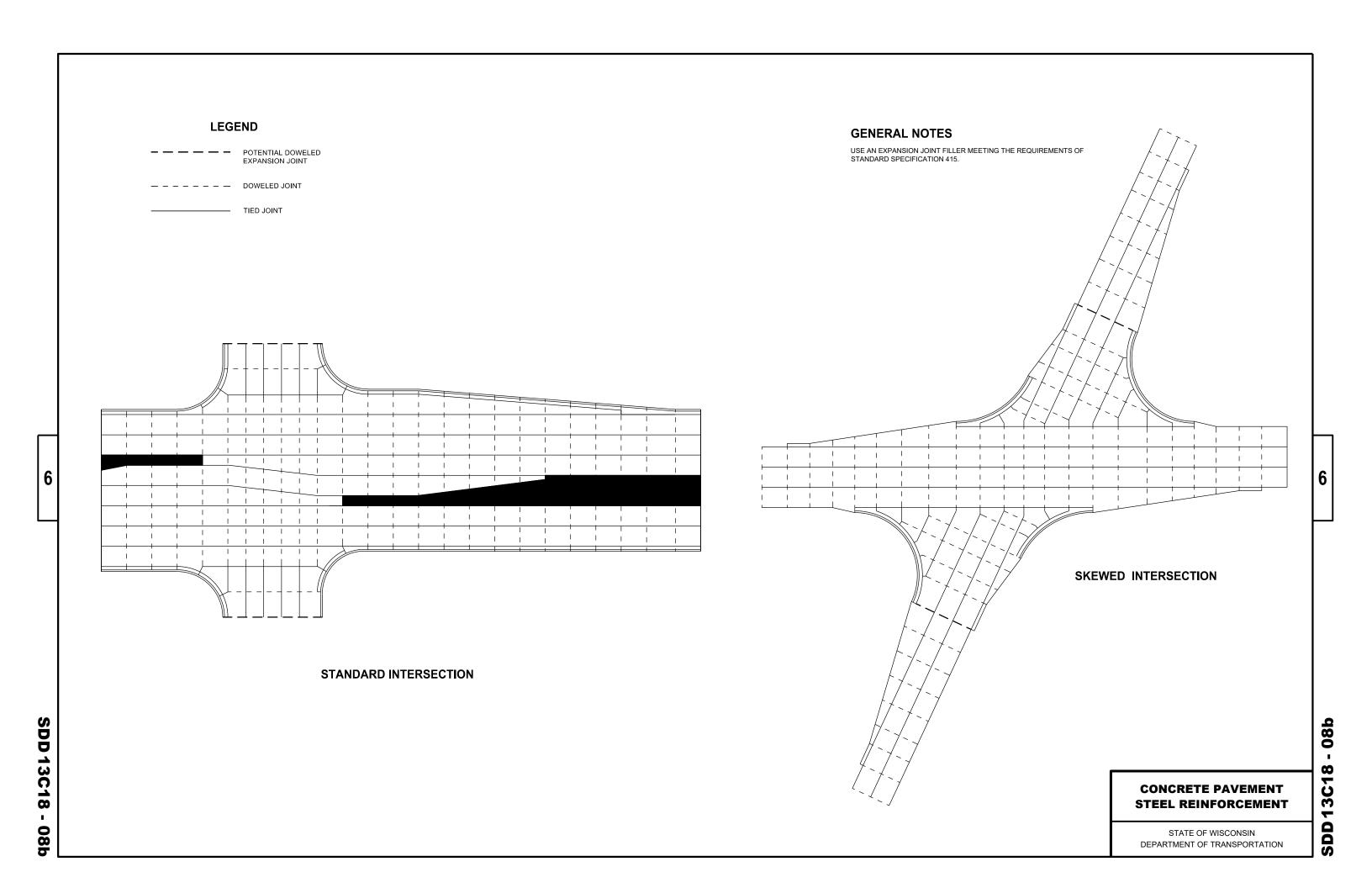
FHWA

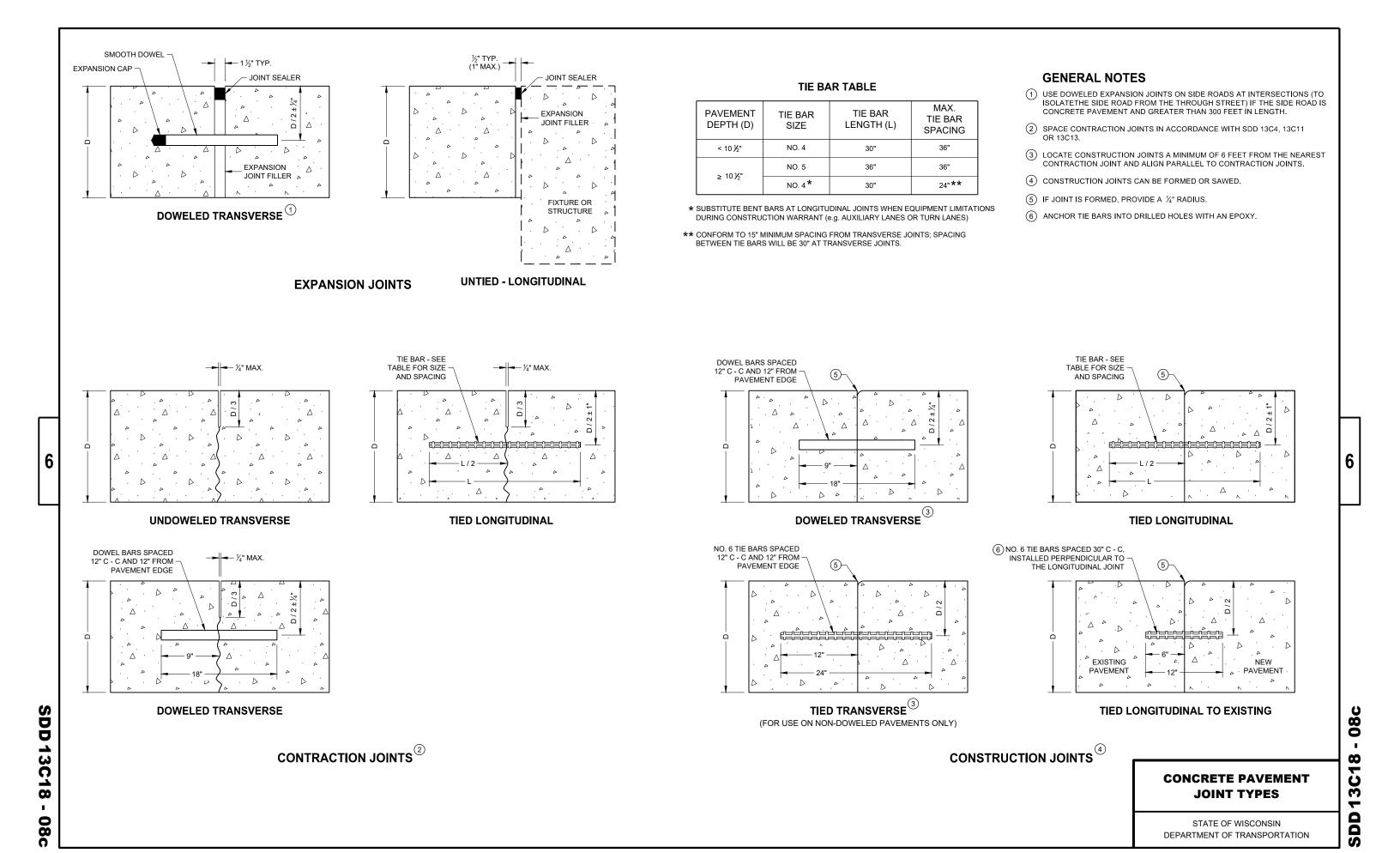


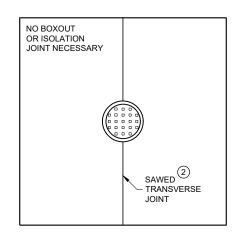




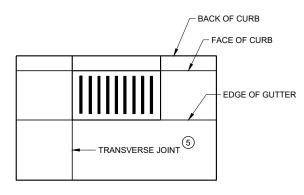






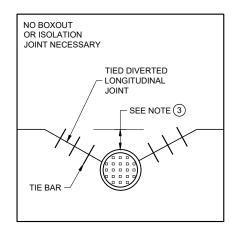


**MANHOLE WITH** TRANSVERSE JOINT

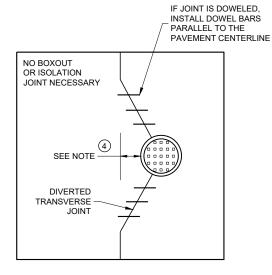


**INLET WITH** TRANSVERSE JOINT

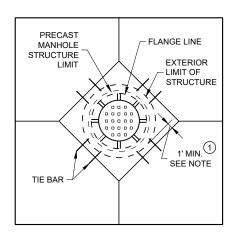
## 6



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



**MANHOLE WITH DIVERTED** TRANSVERSE CONTRACTION JOINT



**DIAGONAL MANHOLE BOXOUT** FOR CONSTRUCTION JOINTS

#### **GENERAL NOTES**

- (1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- 2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- $\ensuremath{\mathfrak{J}}$  IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- (4) IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
- (5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

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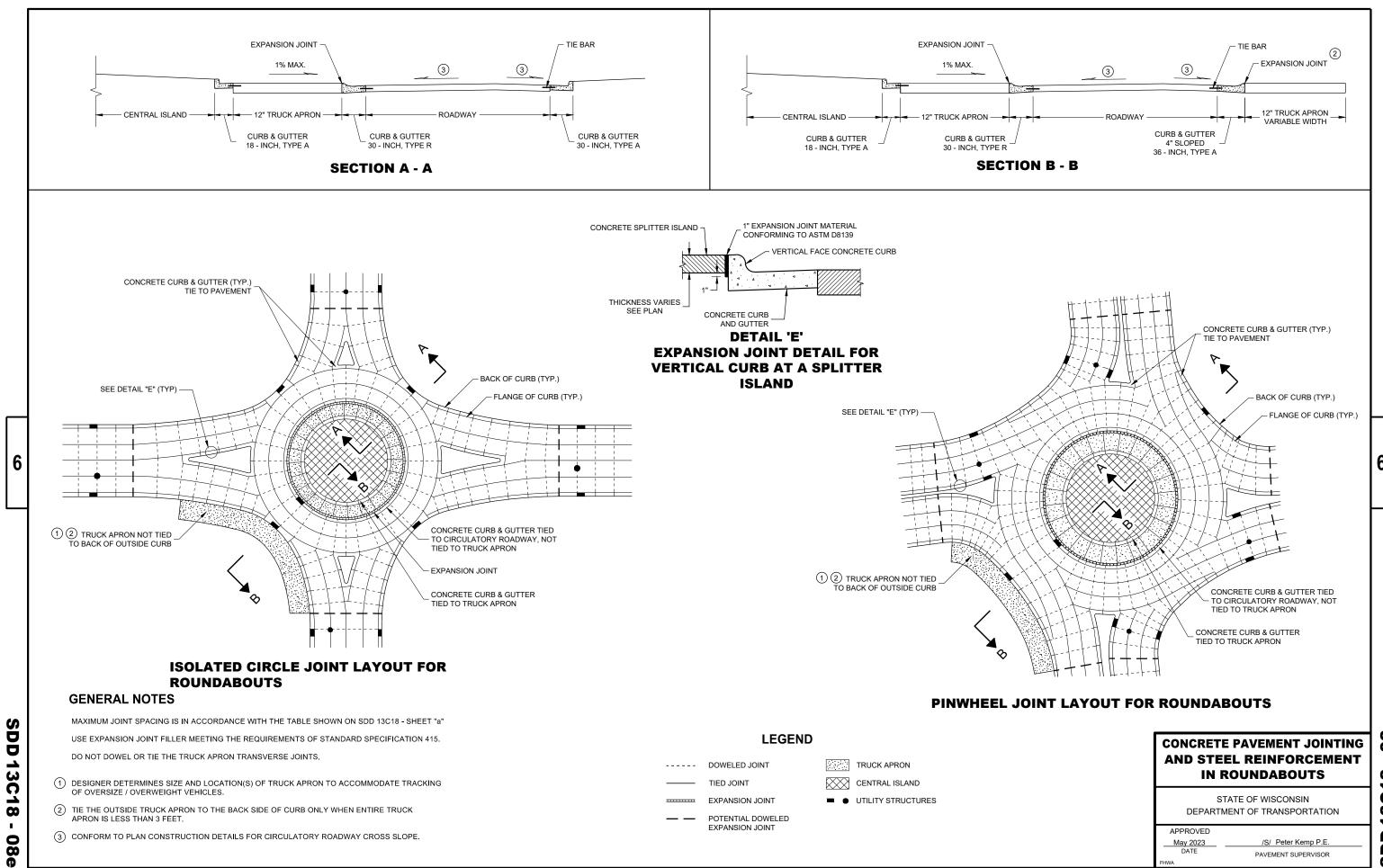
#### **CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

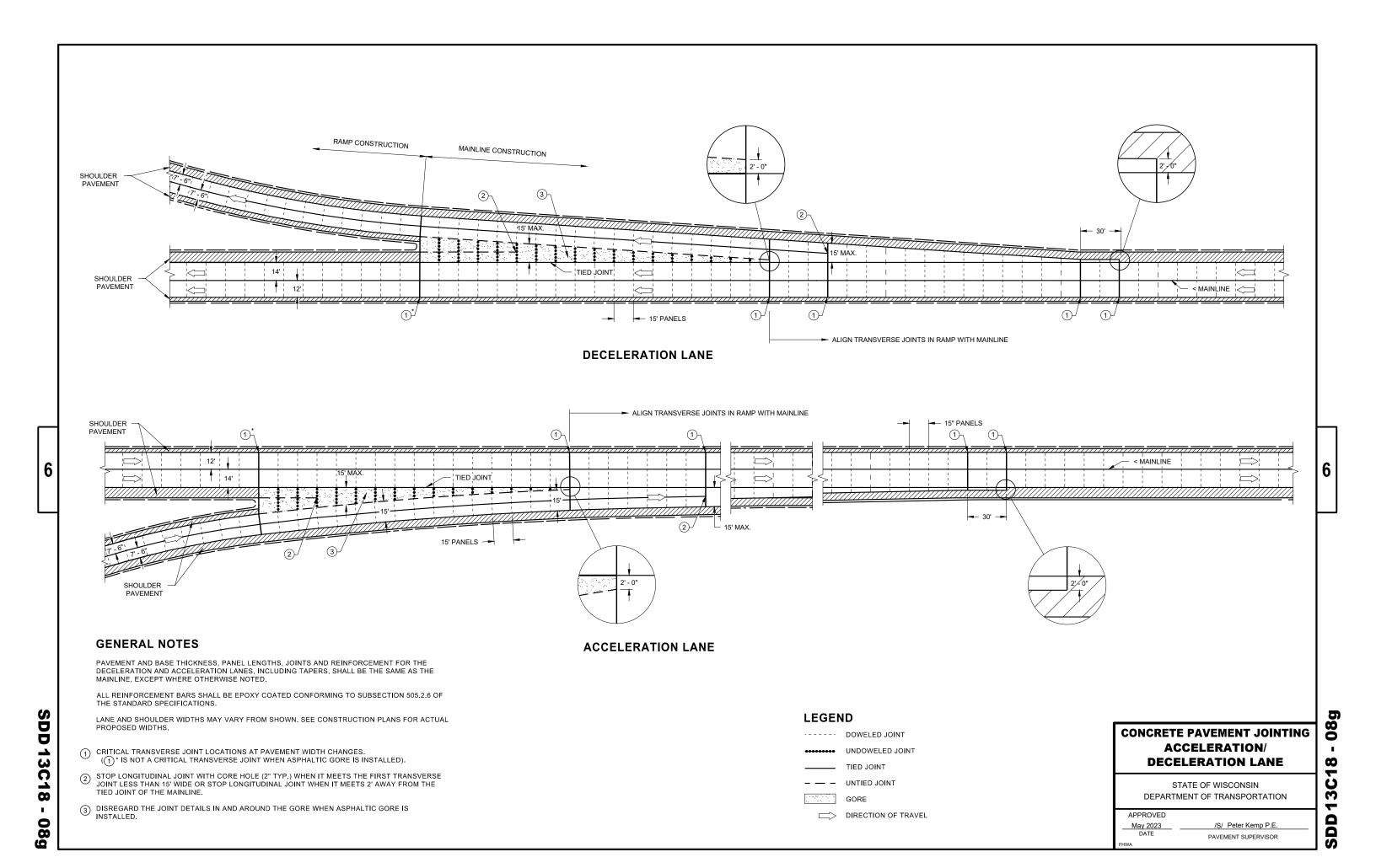
APPROVED May 2023 DATE

**SDD 13C18 08d** 

/S/ Peter Kemp P.E. PAVEMENT SUPERVISOR



SDD 13C18 - 08e



BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION

A04-08d Ŋ

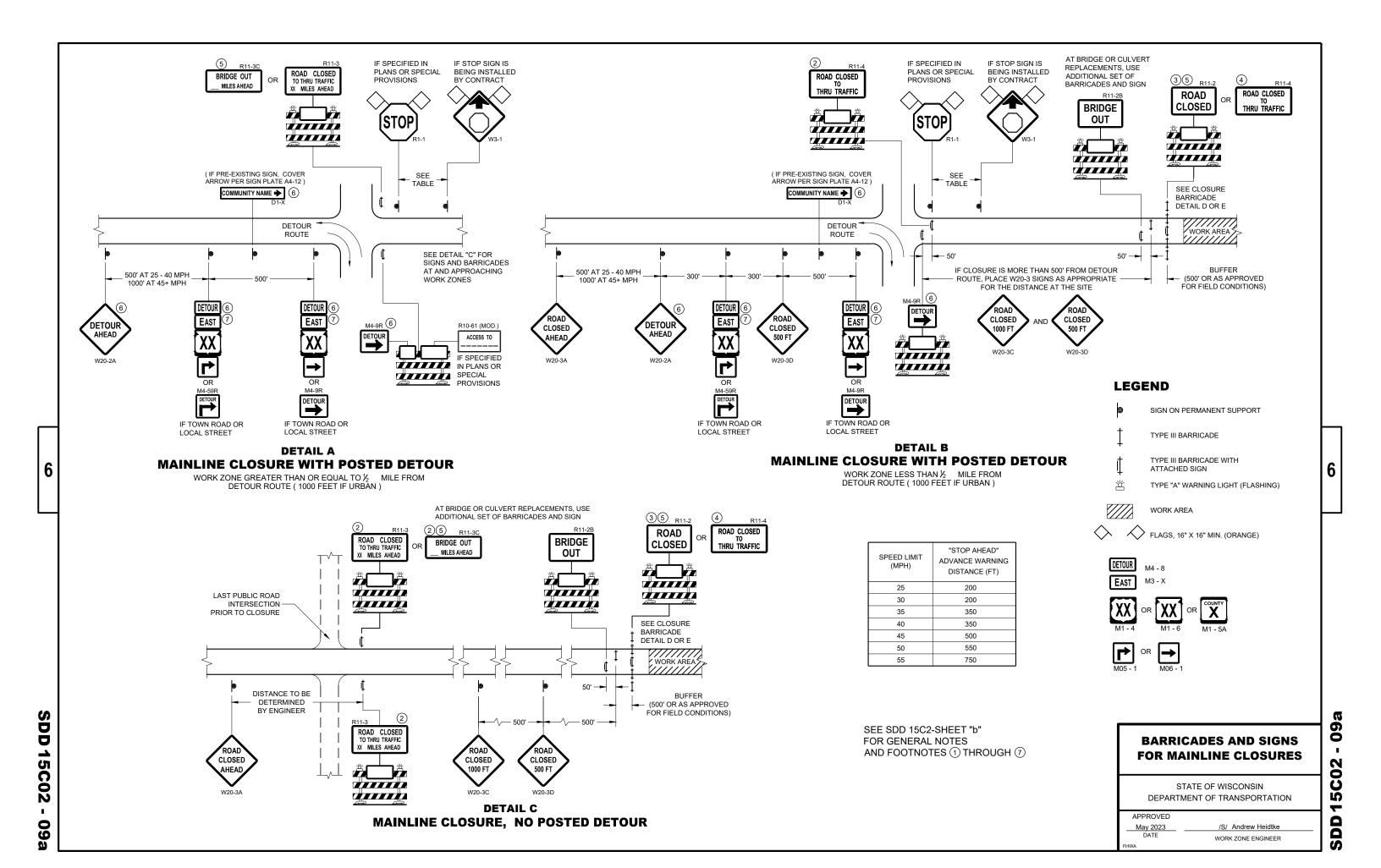
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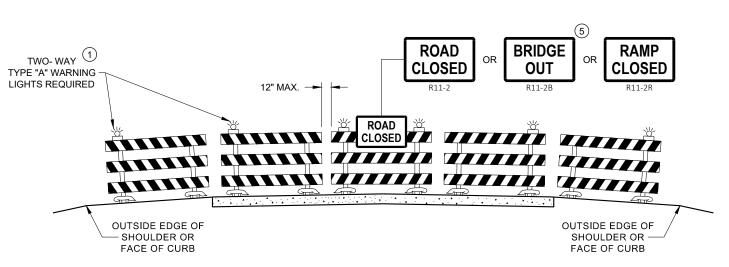
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

March 2024 DATE

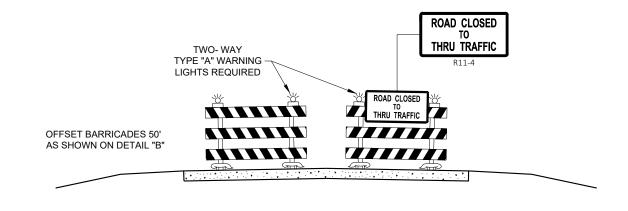
Statewide Pavement Marking Engineer

PERMANENT FLEXIBLE





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



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

SEE SDD 15C2 - SHEET "a" FOR LEGEND

#### **GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

R11 - 2 SHALL BE 48" X 30"

R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"

M4 - 9 SHALL BE 30" X 24"

M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)

MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS) D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

R1 - 1 SHALL BE 36" X 36"

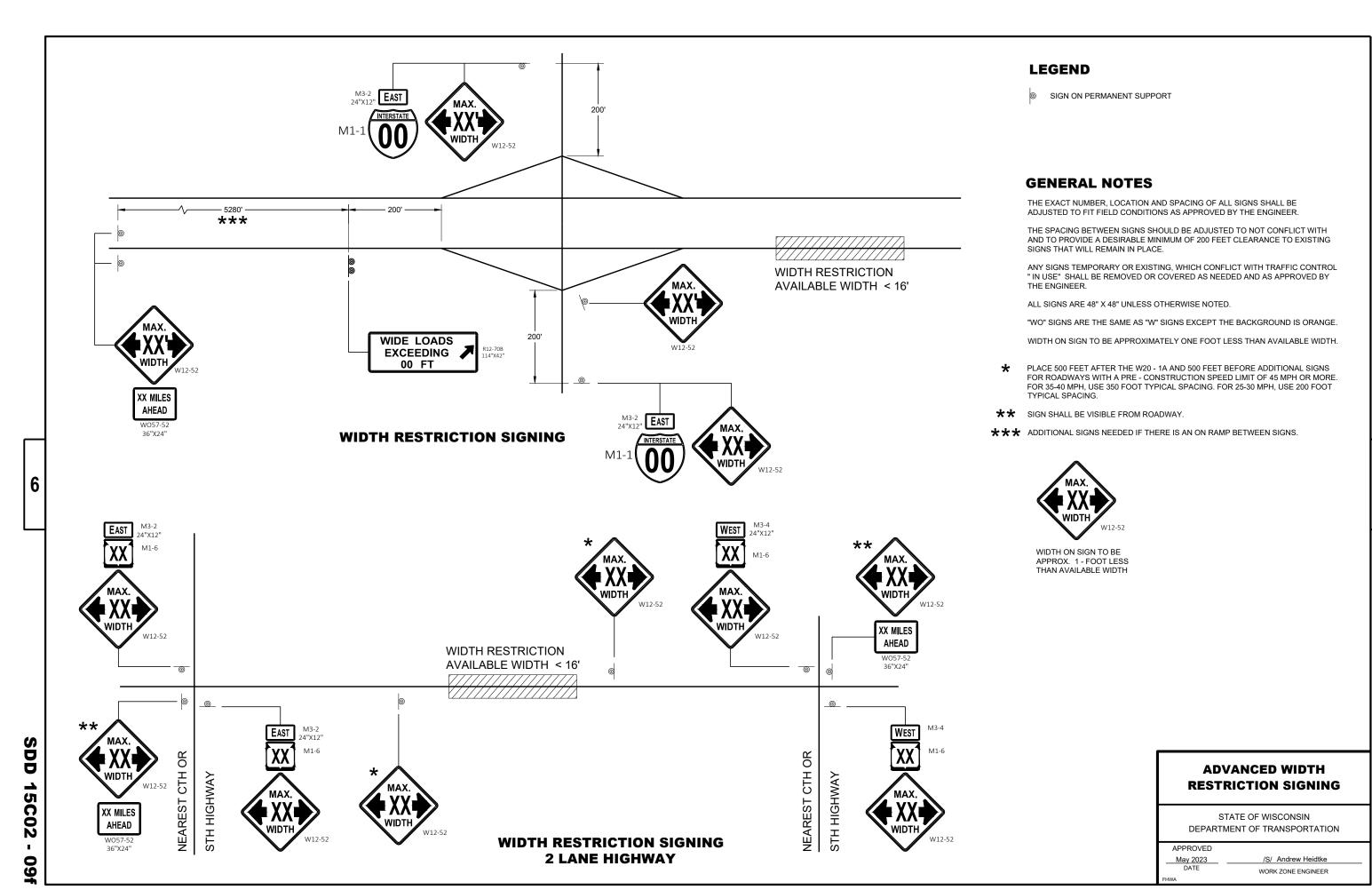
- TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT **SPACING**
- THESE SIGNS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

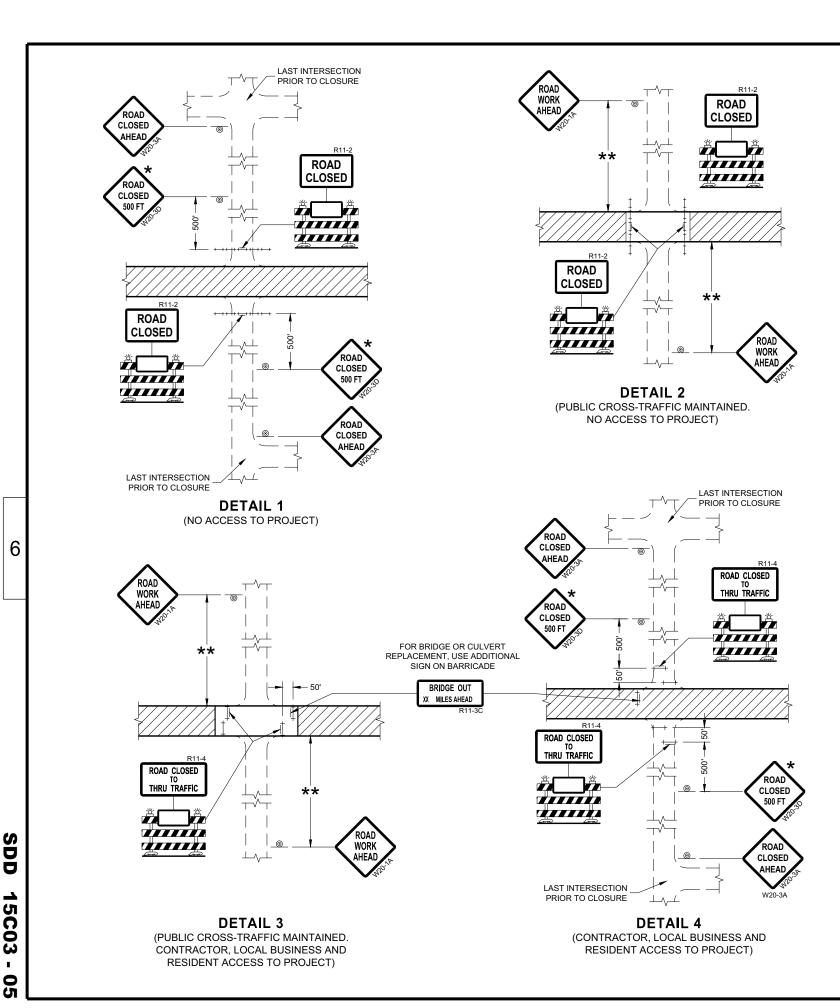
#### **BARRICADES AND SIGNS** FOR **VARIOUS CLOSURES**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**APPROVED** May 2023 DATE WORK ZONE ENGINEER

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#### **GENERAL NOTES**

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW: R11-2 SHALL BE 48" X 30". R11-4 AND R11-3 SHALL BE 60" X 30".

- ★ OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- \*\* 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

#### LEGEND

SIGN ON PERMANENT SUPPORT

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

TYPE "A" WARNING LIGHT (FLASHING)

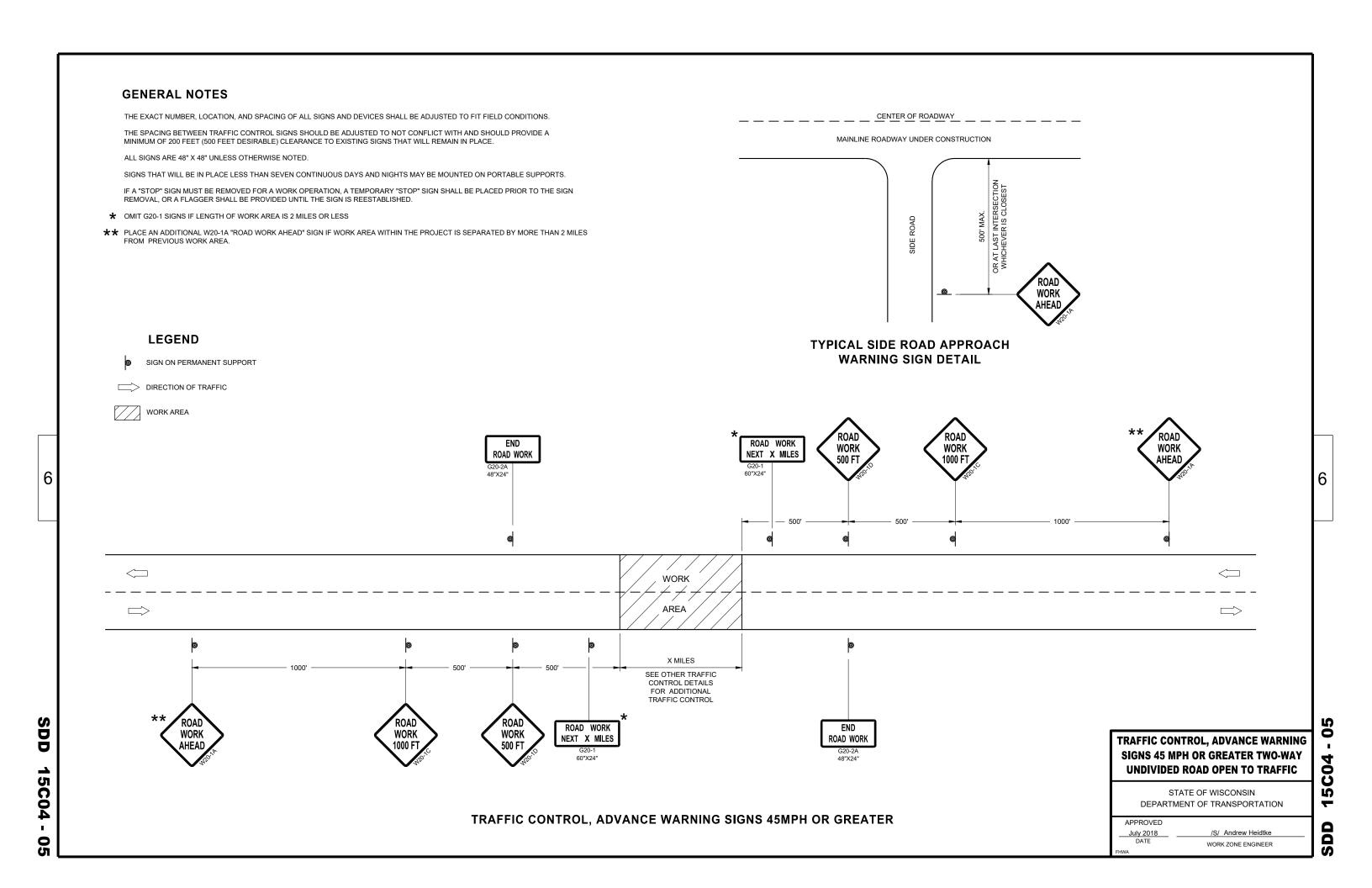
WORK AREA

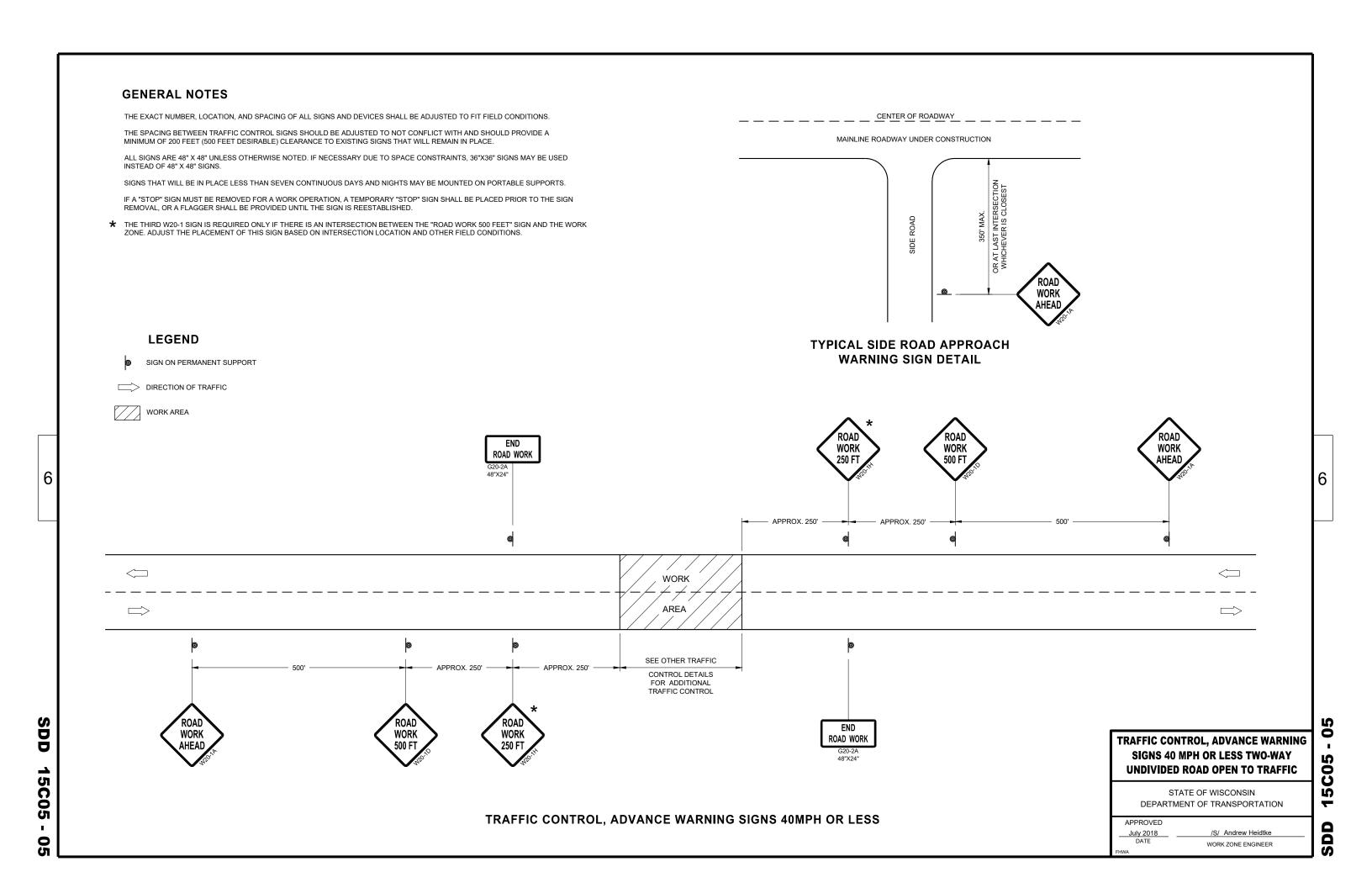
#### **BARRICADES AND SIGNS** FOR **SIDEROAD CLOSURES**

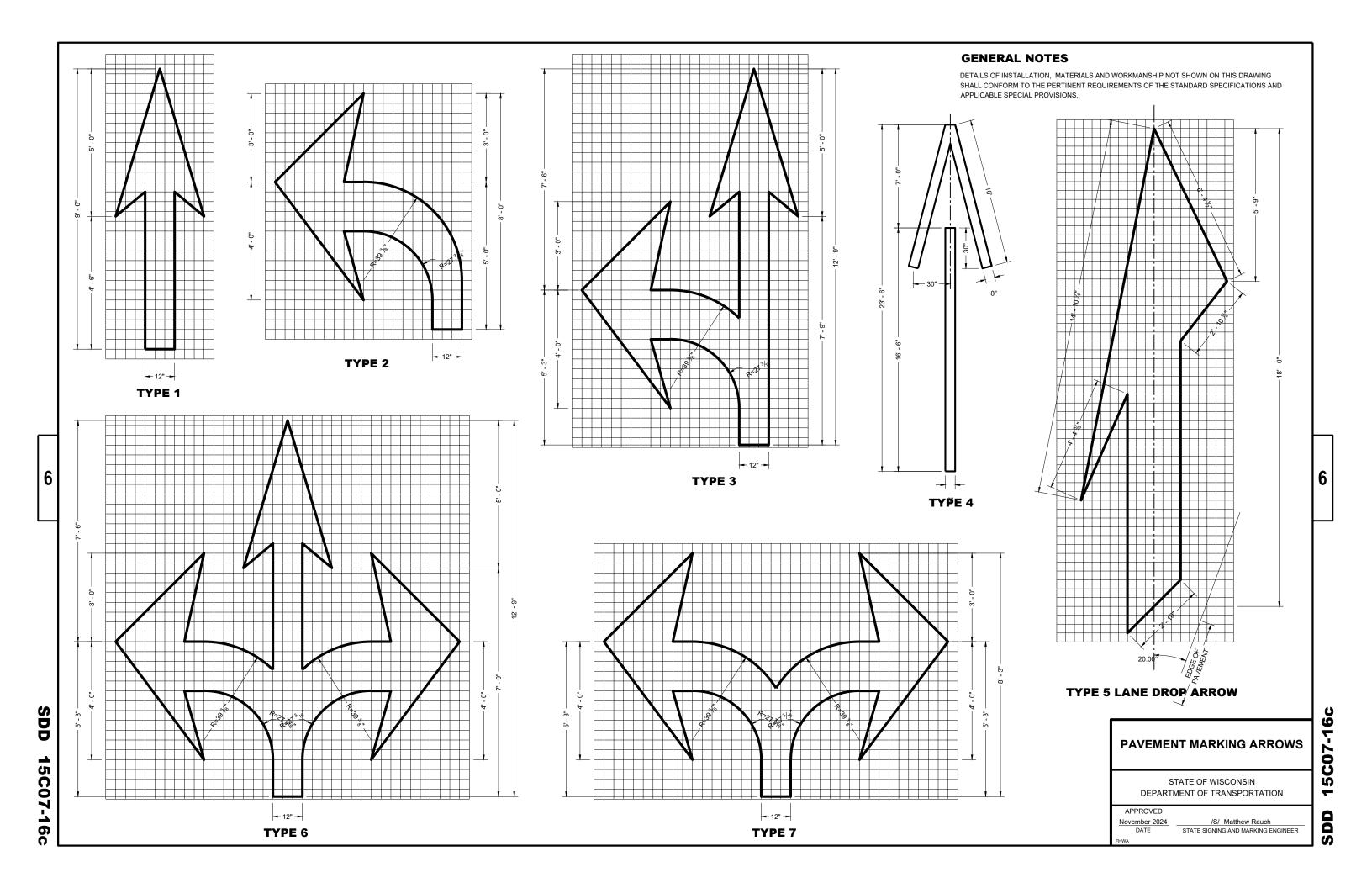
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

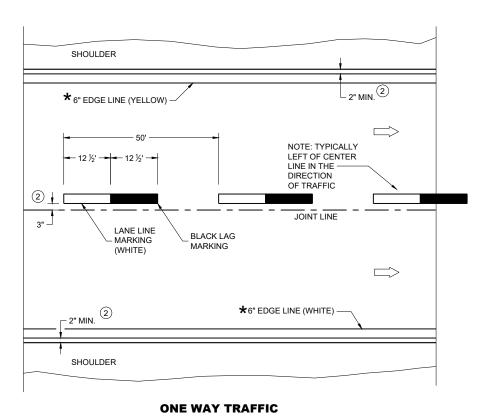
APPROVED July 2018 DATE /S/ Andrew Heidtke WORK ZONE ENGINEER ŭ

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**PERMANENT PAVEMENT MARKING** 

#### **GENERAL NOTES**

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

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

#### **LEGEND**

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

C08-24 5

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PERMANENT LONGITUDINAL **PAVEMENT MARKINGS** 

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

December 2024 /S/ Jeannie Silver DATE

Statewide Pavement Marking Engineer

SDD

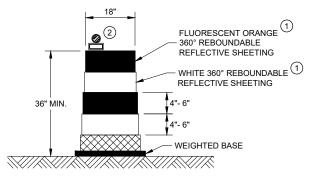
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15C08-24a

# **SDD 15C11**

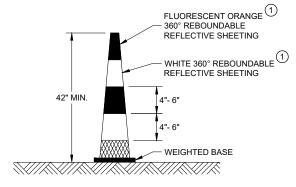
#### **GENERAL NOTES**

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



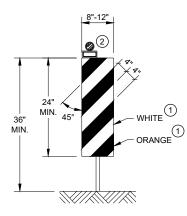
DRUM

BALLAST WIDTHS RANGE FROM 24"-36"



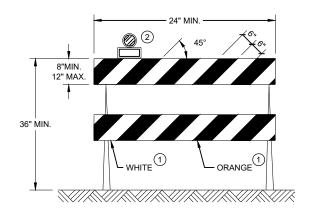
#### **42" CONE**

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



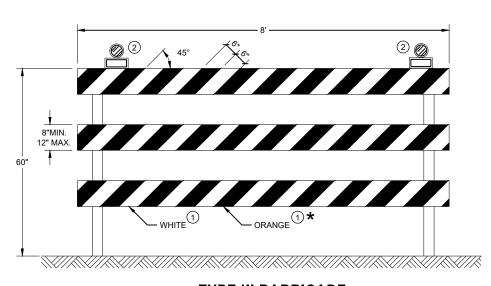
#### **VERTICAL PANEL**

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



#### **TYPE II BARRICADE**

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



#### **TYPE III BARRICADE**

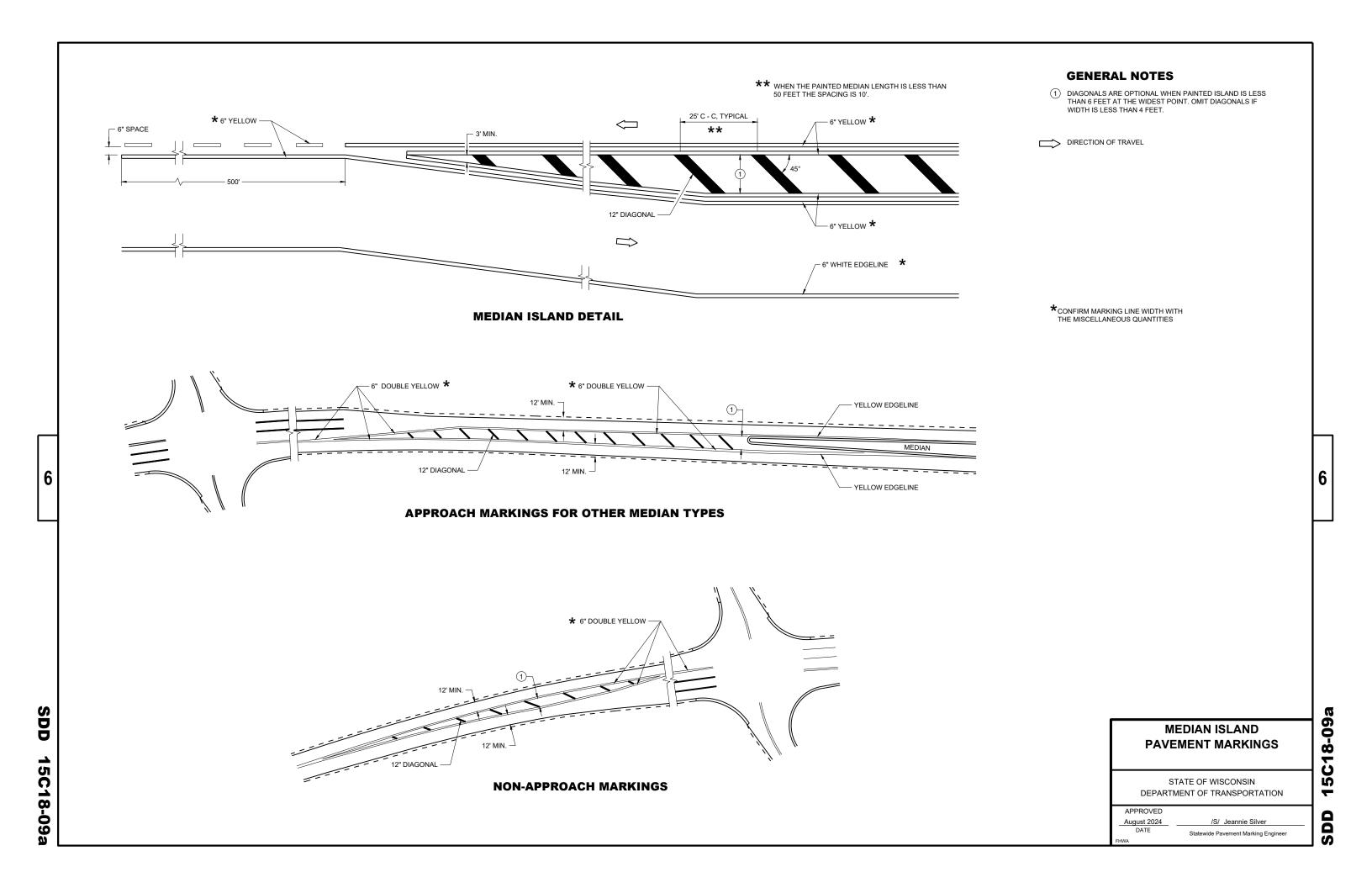
IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

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

#### **CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS**

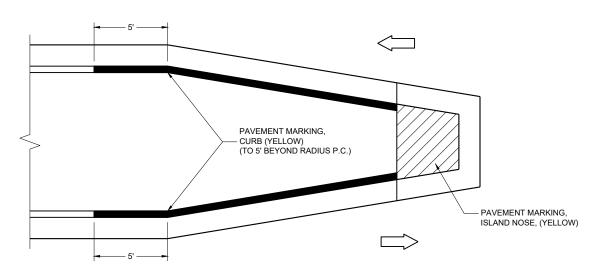
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION 15C

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



CORRUGATED MEDIAN - MARKING, (YELLOW) -

#### **MEDIAN ISLAND WITH ROUND BLUNT NOSE**



**MEDIAN ISLAND WITH SLOPED NOSE** 

SDD

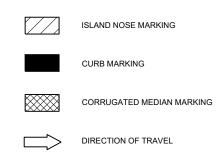
15C18-09b

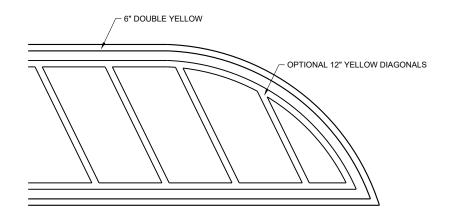
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

#### **GENERAL NOTES**

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.

 $\stackrel{\textstyle \frown}{}$  APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.





#### **FLUSH MEDIAN ISLAND NOSE**

#### PAVEMENT MARKINGS, MEDIAN ISLAND NOSE

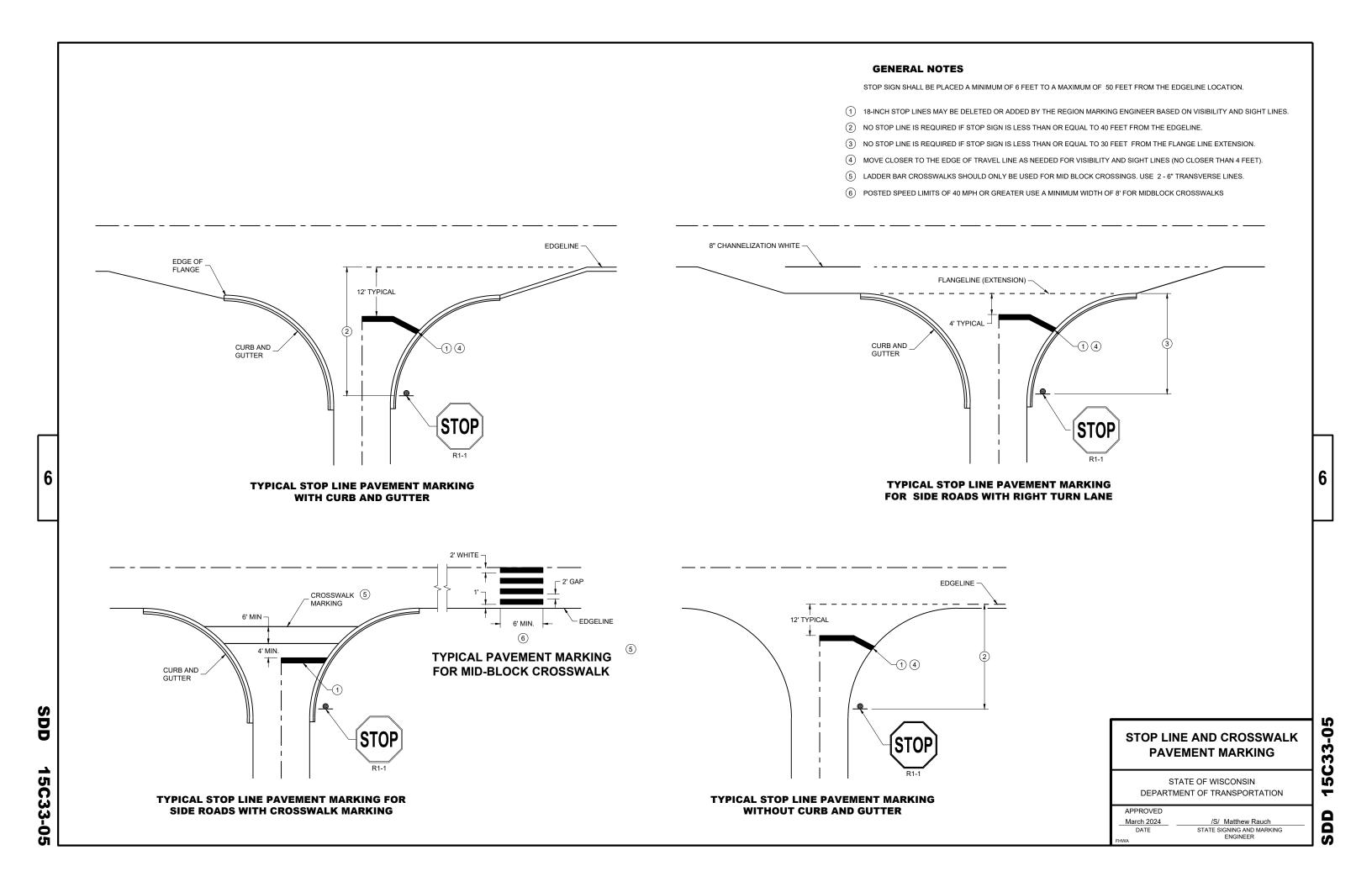
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

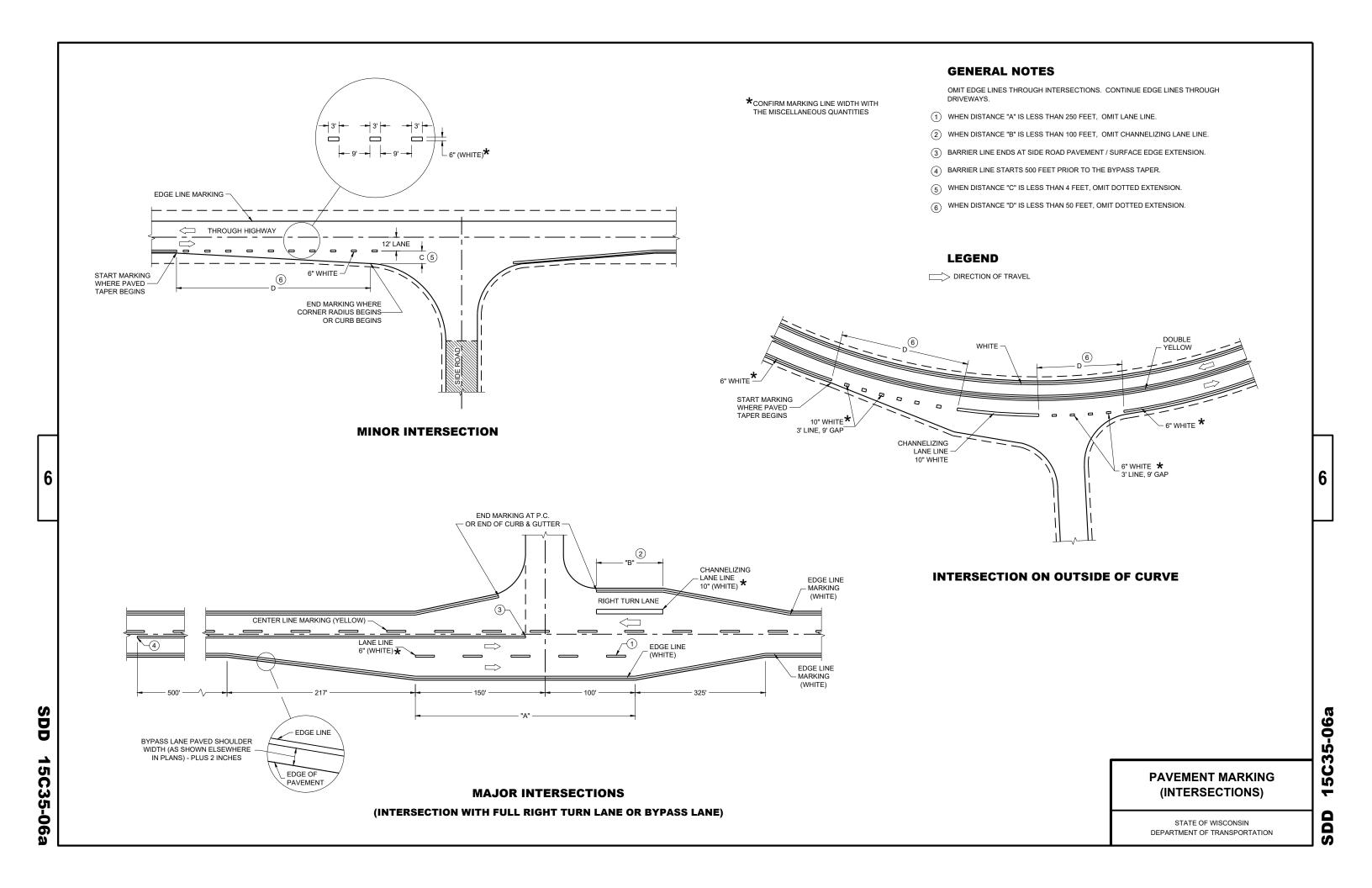
APPROVED August 2024

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

DATE

DD 15C18-09k





#### **GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

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

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

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

#### **LEGEND**

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

TYPE "A" WARNING LIGHT (FLASHING)

-X -X -X REMOVING PAVEMENT MARKINGS

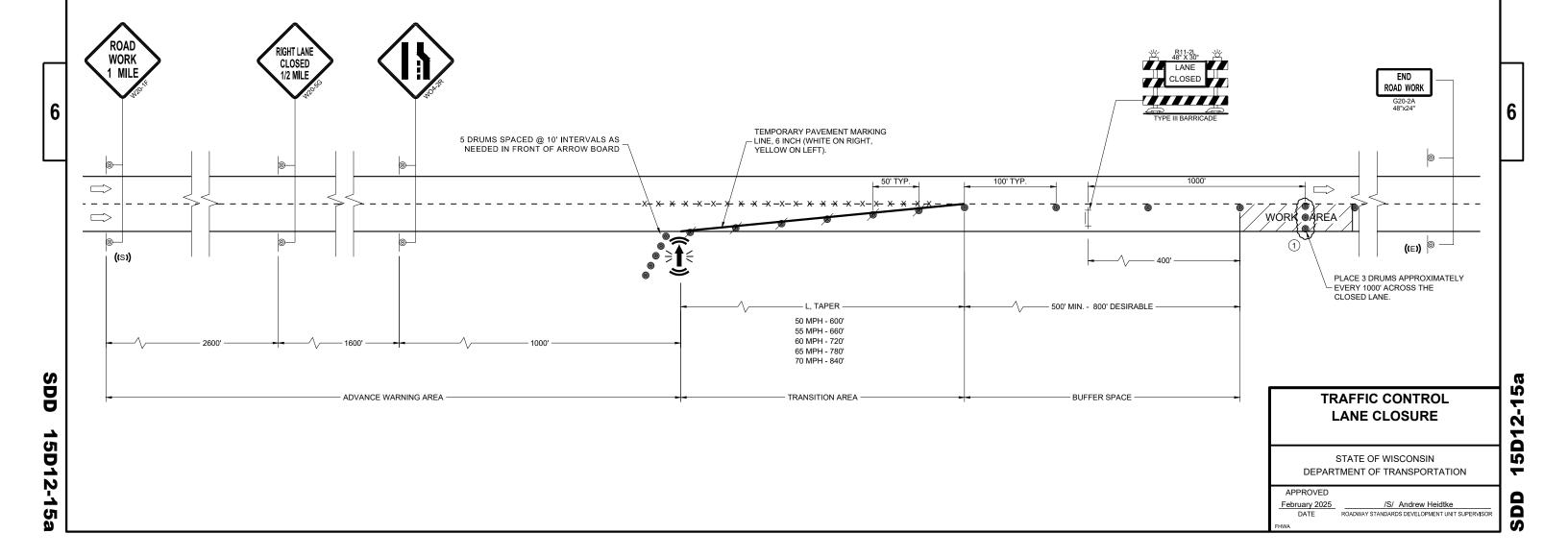
DIRECTION OF TRAFFIC

WORK AREA

(( )) CONNECTED ARROW BOARD

(S)) WZ START LOCATION MARKER

WZ END LOCATION MARKER



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

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

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

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

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

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

> STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

27-0

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/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER February 2025

15D27-04

**GENERAL NOTES** 

BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

#### THE TOP OF THE BARRICADE IS TO BE A SMOOTH CONTINUOUS SURFACE FREE OF SHARP OR ROUGH EDGES INSTALL PEDESTRIAN PLACE CONCRETE BARRIER TEMPORARY PRECAST IF TEMPORARY PEDESTRIAN BARRICADE PER 4' MINIMUM 5' DESIRABLE MANUFACTURERS RECOMMENDATIONS INSTALL PEDESTRIAN ACCESS IS ADJACENT TO AN BARRICADE PER ACTIVE WORK ZONE OR LIVE PEDESTRIAN BARRICADE MANUFACTURERS RECOMMENDATIONS TRAFFIC LANE TEMPORARY PEDESTRIAN SURFACE 2" MAX. 2.1% MAX. SLOPE 4 4-INCH BASE AGGREGATE 4-INCH BASE AGGREGATE DENSE 1 1/4-INCH DENSE 1 1/4-INCH **TEMPORARY PEDESTRIAN ACCESS**

TRAFFIC CONTROL,
PEDESTRIAN
ACCOMMODATION

15D30-11

SD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES** 

5D30-11

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

**APRON** 

WITH PROTECTIVE EDGE

#### **GENERAL NOTES**

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:48 (2.1%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN  $\frac{1}{2}$ " WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED  $\frac{1}{2}$ ". LATERAL EDGES MAY BE VERTICAL UP TO  $\frac{1}{4}$ " HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN  $\frac{1}{4}$ " AND  $\frac{1}{2}$ ".

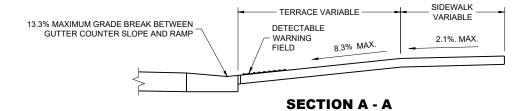
- (1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN
- (2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- (3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- (4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- (5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

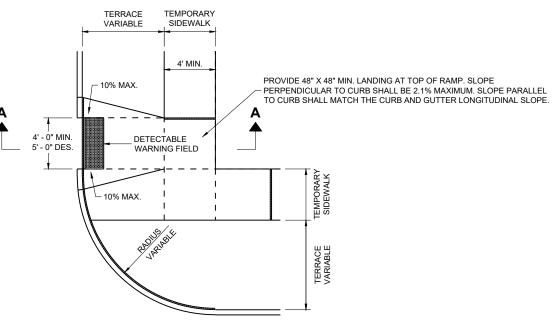
6

15D30-11c

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION





PLAN VIEW
TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)

TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

HWA

SDD 15D30-11d

6

SDD 15D30-11d

**SIDEWALK BYPASS, SINGLE SIDE** 

SDD

15D30-11

#### TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

5D30-11h

S

SIDEWALK ON SINGLE SIDE

Ŏ

5D30-1

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.

- (1) SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION m

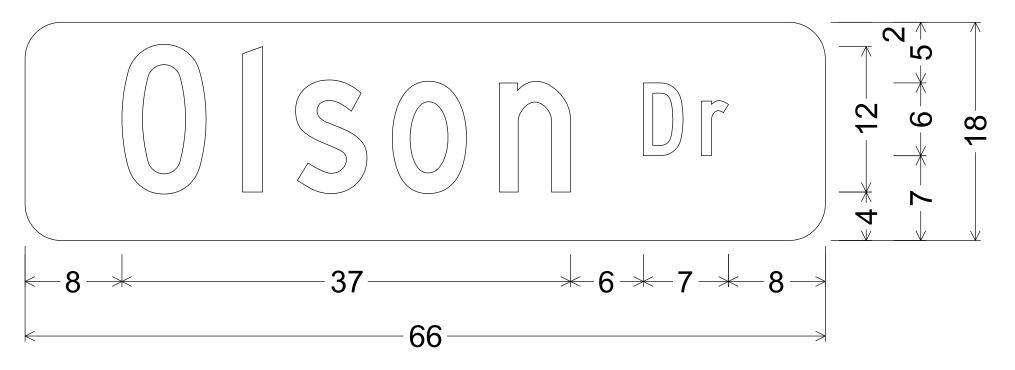
S

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - Green Message - White

3. Message Series - C



M1-94H; 3.000" Radius, No border

PROJECT NO:8600-00-74 HWY:STH 178 COUNTY:CHIPPEWA PERMANENT SIGNING SHEET NO:

FILE NAME: C:\CAEfiles\Projects\tr\_d6\6061a525.dgn

PLOT DATE: 6-MAY 2025 3:47

PLOT BY: mscj9h

PLOT SCALE: \$\$.....plotscale.....\$\$
WISDOT/CADDS SHEET 42





RURAL AREA (See Note 2)



#### GENERAL NOTES

- 1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- 2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.

The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" ( $\pm$ ) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" ( $\pm$ ) 3".

- 3. For expressways and freeways, mounting height is 7'- 3"  $(\pm)$  3" or 6'-3"  $(\pm)$  3" depending upon existence of a sub-sign.
- 4. Minimum mounting height for signs mounted on traffic signal poles is 5' 3'' ( $\frac{+}{-}$ ) 3''.
- 5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 6. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) 3'' or as directd by the Engineer.

2' Min - 4' Max (See Note 5)



White Edgeline
Location

Outside Edge
of Gravel

POST EMBEDMENT DEPTH

Area of Sign	
Installation	D
( Sq.Ft.)	(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.

PLOT BY : mscj9h

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R Rawh

For State Traffic Engineer

DATE 12/6/23 PLATE NO. \_A4-3.23

Ε

PROJECT NO: HWY: COUNTY: SHEET NO:



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



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

HWY:



#### PLAN VIEW

COUNTY:

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

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

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A43B.DGN

PROJECT NO:

PLOT DATE: 27-JAN-2014 09:48

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 13.659812:1.000000

APPROVED

WISDOT/CADDS SHEET 42





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



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

HWY:

SIGN SHAPE OTHER THAN	DIAMOND
(THREE POSTS REQUIR	RED)
L	Е
Greater than 108" to 144"	12''

#### 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" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- 4. The (±) tolerance for mounting height is 3 inches.
- 5. J-Assemblies are considered to be one sign for mounting height.
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) 3'' or as directed by the engineer.
- 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±) 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.
- $\times \times \times$  See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

#### POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther R Rauch
For State Traffic Engineer

DATE 12/6/23

PLATE NO. <u>A4-4.16</u>

Ε

CUEET NO.

SHEET NO:

FILE NAME : C:\CAEfiles\Project\tr\_stdplate\A44.dgn

PROJECT NO:

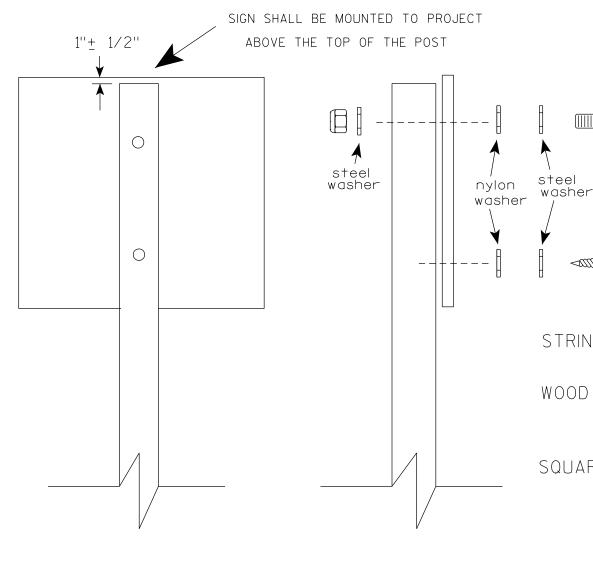
COUNTY:

PLOT DATE: 6-DEC 2023 11:31

PLOT NAME :

PLOT BY : mscj9h

PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42



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

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

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

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

MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts

WOOD POSTS  $(4'' \times 6'')$ 

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

SQUARE STEEL POSTS (2" x 2")

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

RIVETS - 1/32 " (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  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matther

≠or State Traffic Engineer

SHEET NO:

DATE 4/1/2020

PLATE NO. <u>A4-8.9</u>

PLOT DATE: 01-APRIL-2020

PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

Ε

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A48.DGN

PROJECT NO:



PROJECT NO: HWY: COUNTY: SHEET NO: FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A49.DGN PLOT DATE: 05-FEB-2015 17:09 PLOT BY: mscsja PLOT NAME : PLOT SCALE: 13.659812:1.000000

DATE 2/05/15

PLATE NO. <u>A4-9.9</u>

For State Traffic Engineer



# BANDING



SINGLE SIGN





# WASHER PLACEMENT



HWY:

WASHERS (ALL POSTS) -

1-1/4" O.D. X<sup>3</sup>/<sub>8</sub>" I.D. X<sup>1</sup>/<sub>16</sub>" STEEL 1-1/4" O.D.  $\times \frac{3}{8}$ " I.D.  $\times$  .080 NYLON FOR ALL TYPE H SIGNS

CHANNEL

#### 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.
- 4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

#### "J" ASSEMBLY



STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

SHEET NO:

APPROVED

DATE 6/10/19

PLATE NO. A5-9.4

Ε

State Traffic Engineer

COUNTY:

PLOT NAME :

PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42

PROJECT NO:

VIEW FROM TOP

# 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 NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
- 5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation: B 633, TYPE III, SC 3
- 6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
- 7. STEEL WASHERS SHALL BE  $1^{1}/_{4}$ " O.D. X  $3/_{8}$ " I.D. X  $1/_{16}$ "
- 8. NYLON WASHERS SHALL BE  $1^{1}/_{4}$ " O.D. X  $3/_{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

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

BLOCK BANDING DETAIL ( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

Manher R

APPROVED

DATE 4/19/2022 PLATE NO. A5-10.3

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A510.dgn

PROJECT NO:

PLOT DATE: 19-APRIL 2022 11:55

SIGN

PLOT BY : dotc4c

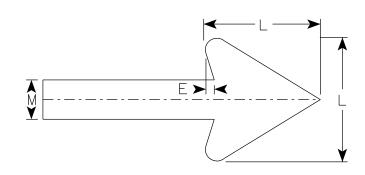
WISDOT/CADDS SHEET 42

Ε

- 1. Sign is Type II Type F Reflective
- 2. Color:

Background - Orange Message - Black

- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. M4-60L is the same as M4-60R except the arrow is reversed.



Arrow Detail

[]								·	T _	1 .	I		1 14								I		I	l v	. ,	T =	⊤ ∆reα ]
SIZE	А	В	C	D	Ł	F	G	Н	I	J	K	L	M	N	0	Р	Q	R	5	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
25	30	24	1 1/2	3/8	1/2	2 1/2	11	6	2	3 1/4	7	6	2														5.00
2M	30	24	1 1/2	3/8	1/2	2 1/2	11	6	2	3 1/4	7	6	2														5.00
3																											
4																											
5																											

M4-60R

STANDARD SIGN M4-60 L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Mathew R Rawh

For State Traffic Engineer

DATE 2/14/2023 PLATE NO. M4-60.2

PROJECT NO: HWY: COUNTY: SHEET NO:

FILE NAME: C:\CAEfiles\Projects\tr\_stdplate\M460.dgn

PLOT DATE: 14-FEB 2023 8:12 PLOT BY: dotc4c PLOT NAME: PLOT SCALE: \$\$.....plotscale.....\$\$ wisDot/cadds Sheet 42



- 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

<b>*</b>								— А — ;								<b></b>			<b>A</b>	
									H			- G -							F	A
		E						               	-1			_//								*
D	E	F	G	н	I	J	К	L	М	N	0	Р	0	R	S	Т	U	V	W	Х

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	T	U	٧	W	Х	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
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

COUNTY:

STANDARD SIGN R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer

DATE <u>11/12/15</u>

PLATE NO. \_\_\_\_\_R1-1.13

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\R11.DGN

HWY:

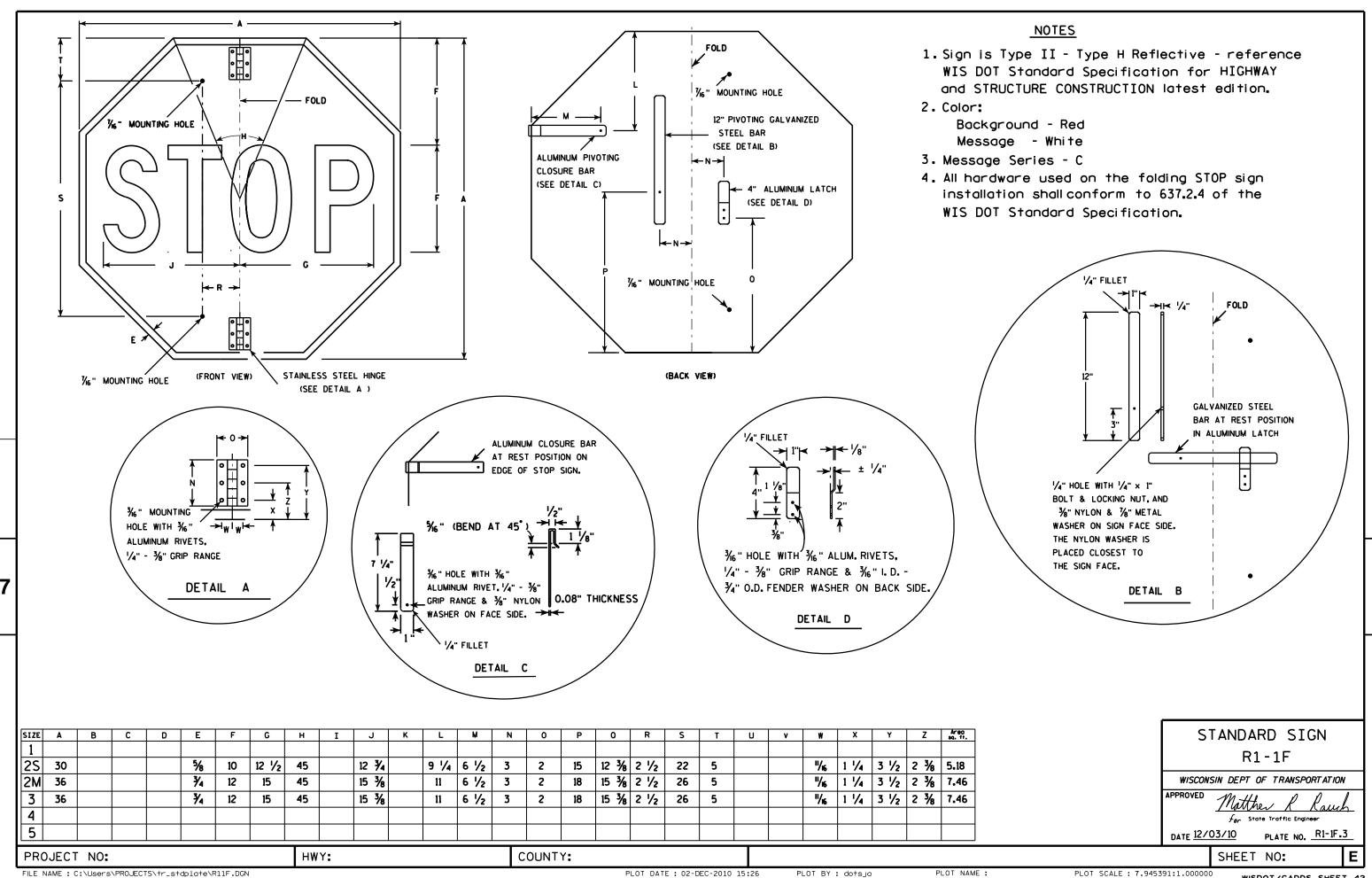
PROJECT NO:

PLOT DATE: 22-AUG-2017 07:19

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

PLOT SCALE: 4.427909:1.000000

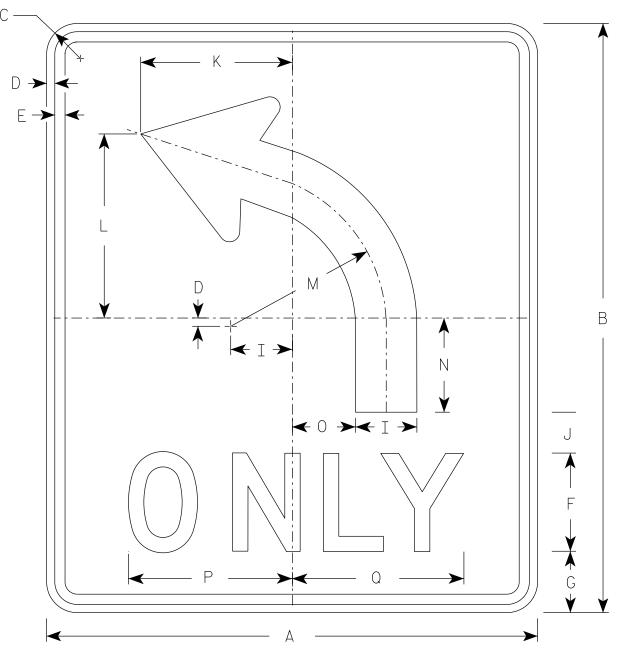
WISDOT/CADDS SHEET 42



- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - White Message - Black

- 3. Message Series D
- 4. R3-50R is the same as R3-50L except curved portion of arrow points right.



ARROW DETAIL

R3-50L

SIZE	А	В	С	D	Е	F	G	Н	I	7	K	L	М	N	0	Р	Q	R	S	Т	U	٧	W	X	Υ	Z	Area sq. ft.
1																											
25	30	36	1 1/8	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 1/8	10	10 1/2										7.5
2M	30	36	1 1/8	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 1/8	10	10 1/2										7.5
3																											
4																											
5																				·							

COUNTY:

STANDARD SIGN R3-50

WISCONSIN DEPT OF TRANSPORTATION

SHEET NO:

APPROVED

otag for State Traffic Engineer

DATE 2/23/23 PLATE NO. R3-50.3

Ε

PROJECT NO:

PLOT DATE: 23-FEB 2023 12:35

PLOT BY: mscj9h

PLOT NAME :

PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\R350.dgn

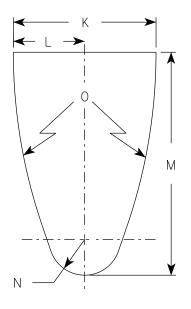
HWY:

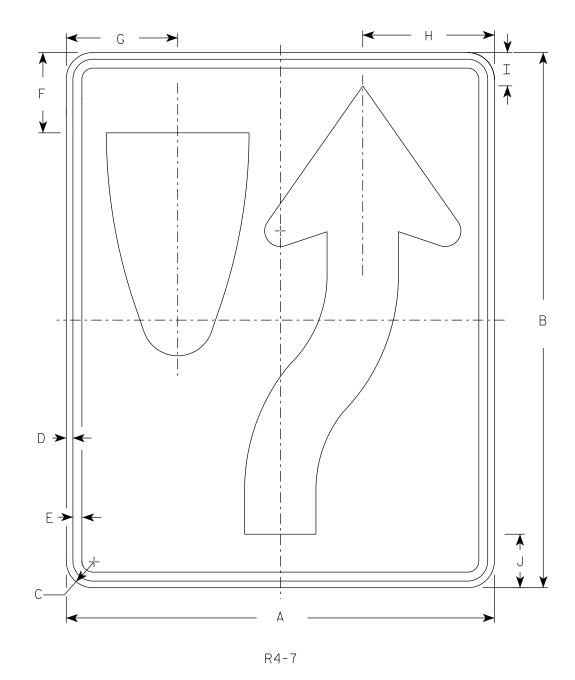
- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - White Message – Black

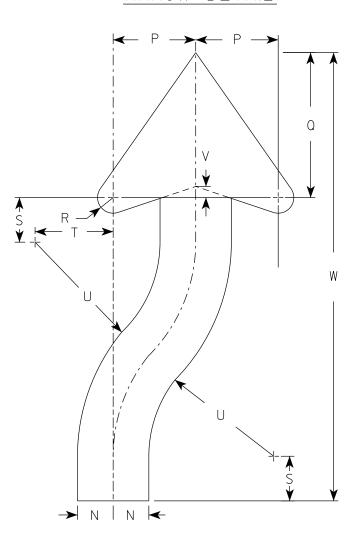
3. R4-8 is the same as R4-7 except Legend is reversed.

# DIVIDER DETAIL





# ARROW DETAIL



SIZE	А	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	Т	U	٧	W	Х	Y	Z	Area sq. ft.
1	18	24	1 1/2	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 1/8	3 1/4	6 3/4	1/2	20 3/8				3.0
25	24	30	1 1/2	3/8	1/2	4 1/2	6 1/4	7 3/8	1 1/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/2	3/8	1/2	4 1/2	6 1/4	7 3/8	1 1/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 1/8	1/2	5/8	6 3/4	9 3/8	11 1/8	2 1/8	4 1/2	12	6	18 3/4	3	45	6 1/8	12 1/4	1 1/4	3 3/4	6	13 1/2	1	40 3/4				12.0
4	36	48	1 1/8	1/2	5/8	6 3/4	9 3/8	11 1/8	2 1/8	4 1/2	12	6	18 3/4	3	45	6 1/8	12 1/4 1	1 1/4	3 3/4	6	13 1/2	1	40 3/4				12.0
5	48	60	3	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1	5	8 3/4	18	1 1/4	50 1/4				20.0

STANDARD SIGN R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer DATE 8/17/23 PLATE NO. R4-7.9

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\R47.dgn

HWY:

PROJECT NO:

COUNTY:

PLOT DATE: 17-AUG 2023 12:39

PLOT BY : mscj9h

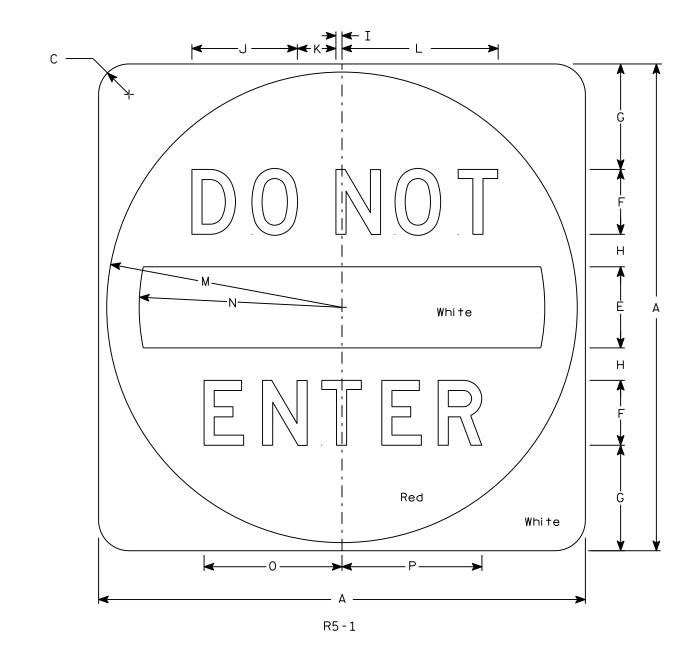
PLOT NAME :

PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42

- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - See detail Message - White

3. Message Series - D



SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	Q	R	S	Т	U	٧	W	Х	Υ	Z	Area sq. ft.
1																											
25	30		1 1/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 %	14 1/2	12 1/2	8 1/2	8 %											6.25
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 %	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 %	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 %	10 ¾											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 1/8											16.0

COUNTY:

STANDARD SIGN R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther & Rauch

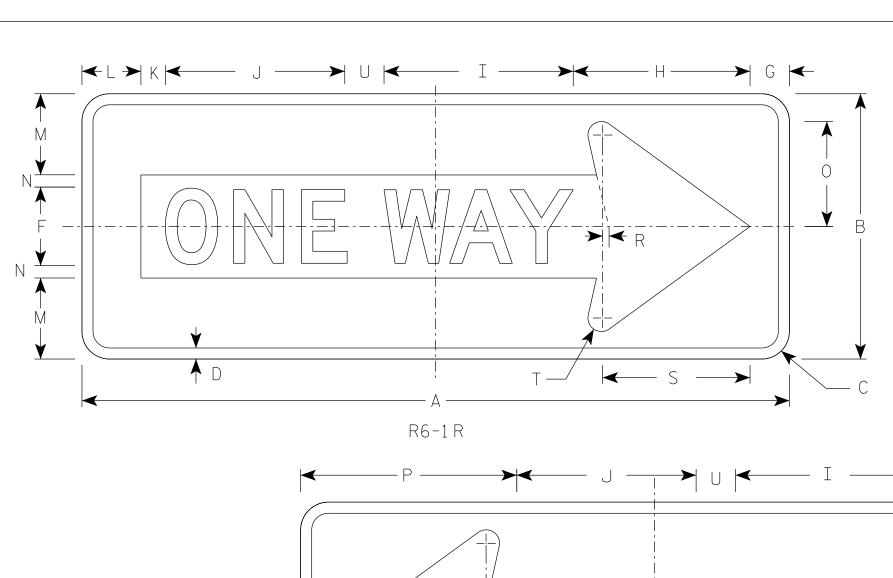
DATE <u>3/15/18</u>

8 PLATE NO. R5-1.16
SHEET NO:

PLOT SCALE : 5.914594:1.000000

HWY:

PROJECT NO:

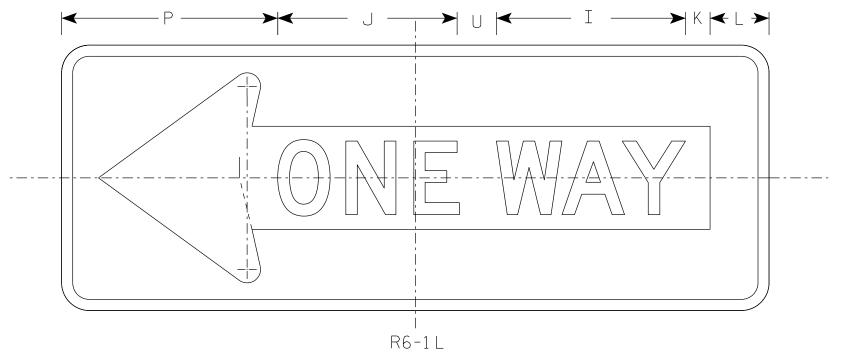


- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - Black

Message - Black Legend & White Arrow & Border

3. Message Series - D



SIZ	E A	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	Q	R	S	Т	U	٧	W	Х	Y	Z	Area sq. ft.
1																											
25	36	12	1 1/2	1/2		4	2	7 1/2	9 %	9 1/8	1 1/4	3	3 %	5/8	4 3/8	11		3/8	7 1/2	3/4	2						3.0
21	48	18	1 1/8	3/4		5	2 1/2	11	13	12 1/4	2 3/4	3 1/2	5 1/2	1	7 1/8	13 ½		1/2	10 1/8	7/8	3						6.0
3	48	18	1 1/8	3/4		5	2 1/2	11	13	12 1/4	2 3/4	3 1/2	5 1/2	1	7 1/8	13 1/2		1/2	10 1/8	7/8	3						6.0
4	48	18	1 1/8	3/4		5	2 1/2	11	13	12 1/4	2 3/4	3 1/2	5 1/2	1	7 1/8	13 1/2		1/2	10 1/8	7/8	3						6.0
5																											

STANDARD SIGN R6-1 L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther R Rawh

For State Traffic Engineer

DATE 4/7/2025 PLATE NO. R6-1.5

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\R61.dgn

PROJECT NO:

PLOT DATE : 7-APR 2025 1:18

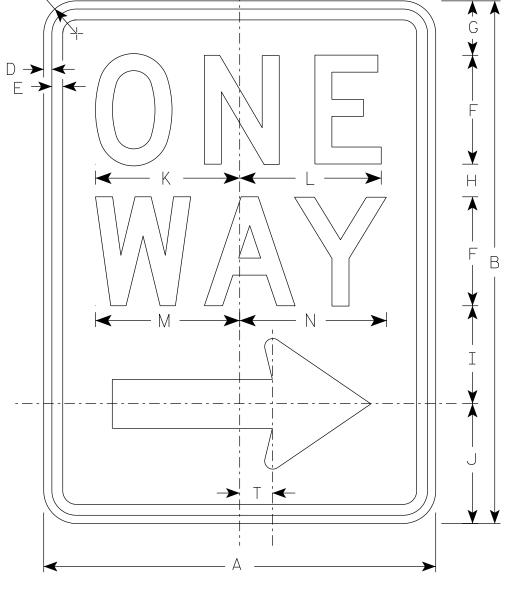
PLOT BY : dotc4c

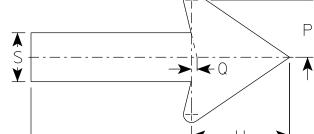
Ε

- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - White Message – Black

- 3. Message Series D
- 4. R6-2L same as R6-2R except arrow points to the left.





Arrow Detail

R6-2R

SIZE	А	В	С	D	Е	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	Т	U	٧	W	Х	Υ	Z
1	18	24	1 1/2	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 %	6 1/2	6 %	6 3/4	11 1/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
25	24	1 1/2	1 1/2	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 1/8	1/2	5/8	8	2 1/2	2 5/8	6 1/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 1/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 %	1/2	3/4	4 3/4	3	9					
4	36	48	1 1/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

STANDARD SIGN R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

 $\mathcal{F}_{or}$  State Traffic Engineer

SHEET NO:

DATE 11/2/10

PLATE NO. R6-2.8

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\R62.dgn

HWY:

PROJECT NO:

COUNTY:

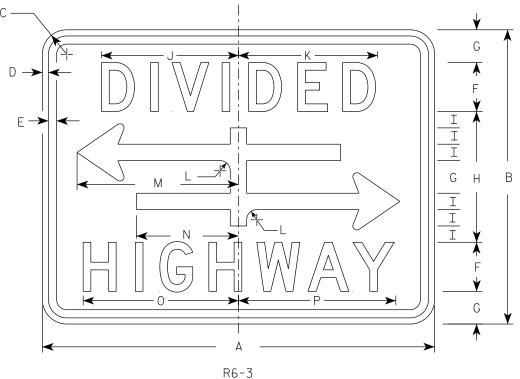
PLOT DATE: 30-AUG 2023 3:56 PLOT BY: mscj9h PLOT NAME :

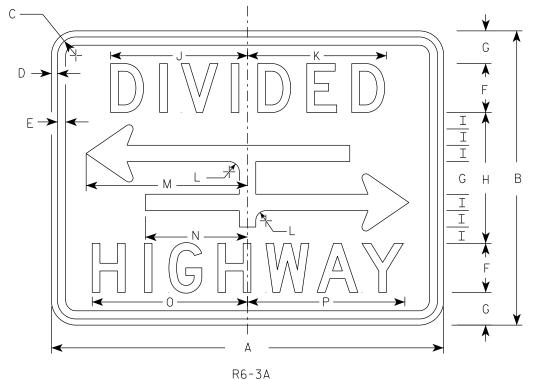
PLOT SCALE: \$\$.....plo†scale.....\$\$ WISDOT/CADDS SHEET 42

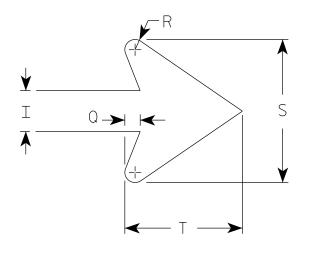
- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - White Message - Black

3. Message Series - D







arro<u>w</u> detail

SIZE	А	В	С	D	Е	F	G	H I	J	K	L	М	N	0	Р	Q	R	S	Т	U	٧	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/2	3/8	3/8	3	2	8 1	8 3/8	8 1/2	5/8	9 1/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
25	30	24	1 1/2	3/8	1/2	4	2 5/8	10 3/4 1 3/8	10 1/2	10 %	7/8	12 1/2	7 1/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 %							5.0
2M	30	24	1 1/2	3/8	1/2	4	2 5/8	10 3/4 1 3/8	10 1/2	10 %	7/8	12 1/2	7 1/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 %							5.0
3																										
4																										
5																										

STANDARD SIGN R6-3 & R6-3A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED \_\_\_\_

For State Traffic Engineer

DATE 10/26/23 PLATE NO. R6-3.6

SHEET NO:

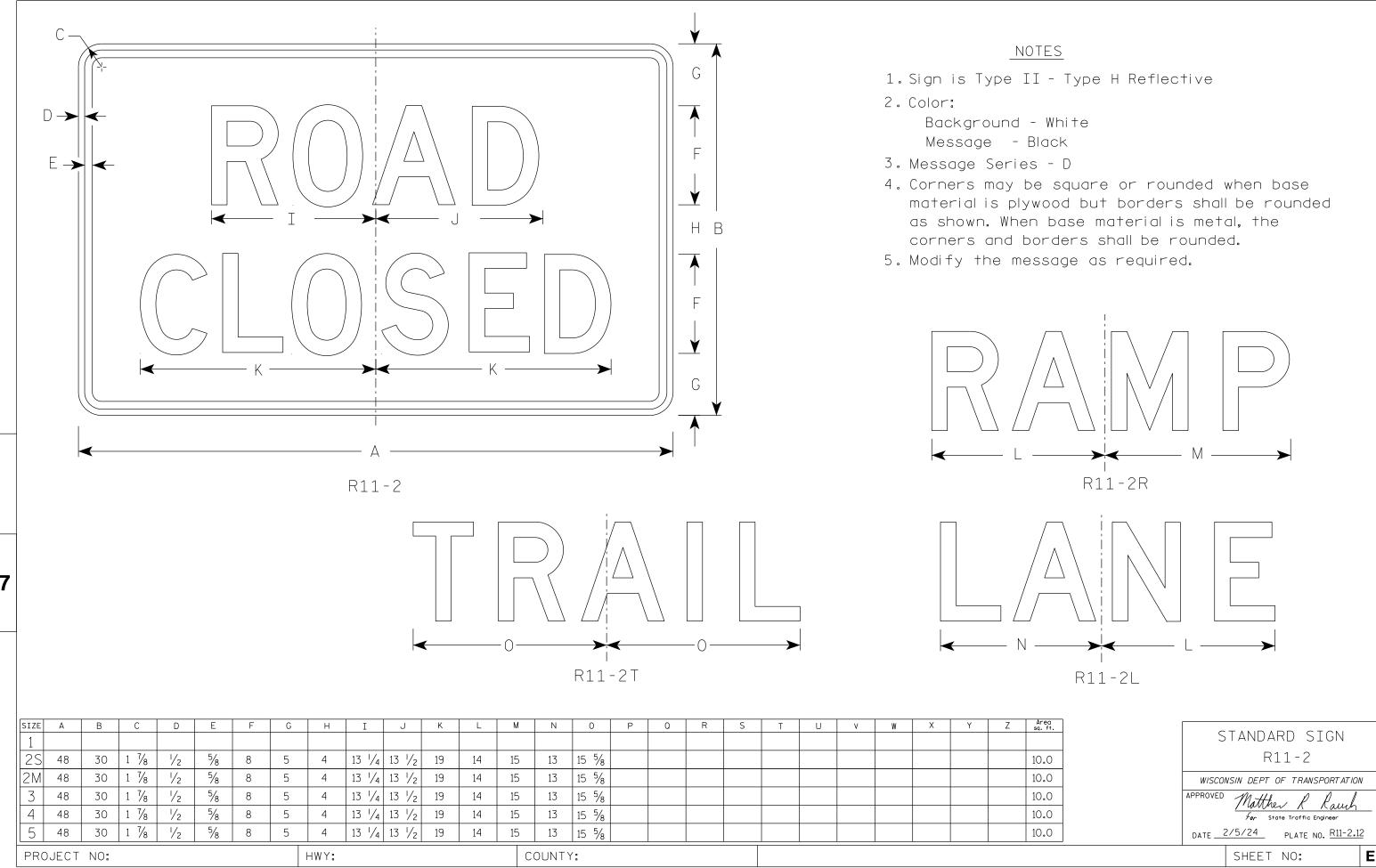
FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\R63.dgn

PROJECT NO:

PLOT DATE: 26-OCT 2023 1:31

PLOT BY: mscj9h

\$\$.....plotscale.....\$\$WISDOT/CADDS SHEET 42



FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R112.dgn

PLOT DATE: 5-FEB 2024 2:10

PLOT BY: mscj9h

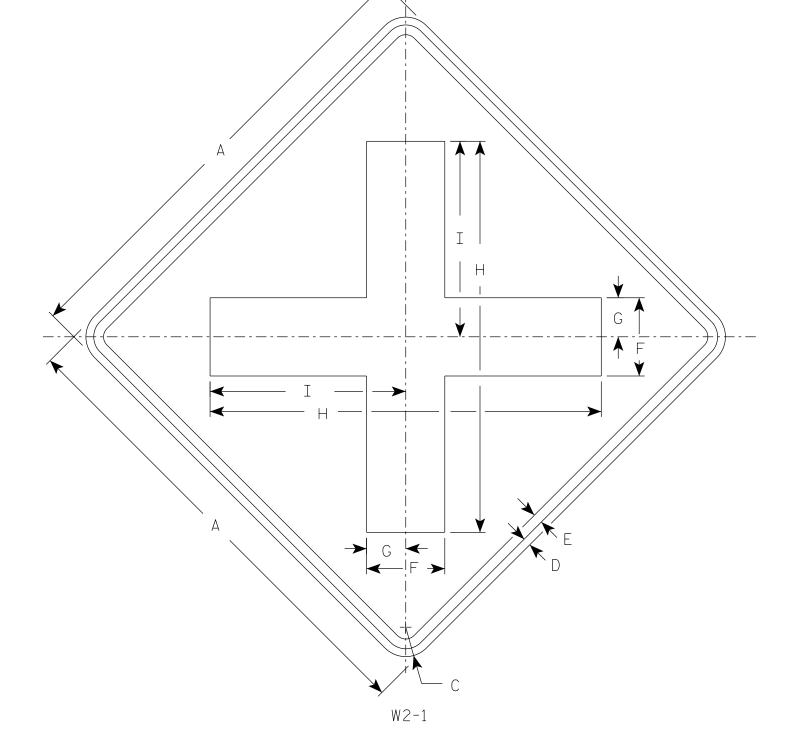
PLOT NAME :

PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42



- 1. Sign is Type II Type F Reflective
- 2. Color:

Background - Yellow Message - Black



SIZE	А	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	Т	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/2	3/8	1/2	4	2	20	10																		4.0
25	30		1 1/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
2M	30		1 1/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
3	36		2 1/4	5/8	3/4	6	3	30	15																		9.0
4	48		3	3/4	1	8	4	40	20																		16.0
5																											

STANDARD SIGN W2-1

WISCONSIN DEPT OF TRANSPORTATION

DATE 8/16/2023 PLATE NO. W2-1.10

COUNTY: Ε HWY: PROJECT NO: SHEET NO: PLOT DATE: 16-AUG 2023 3:30 FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\W21.dgn PLOT BY : dotc4c

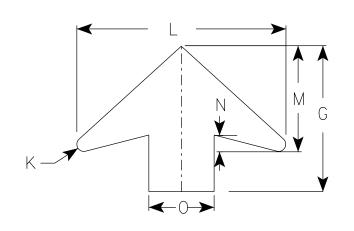
PLOT NAME :

- 1. Sign is Type II Type F Reflective
- 2. Color:

Background - Yellow

Arrow & Border - Black

Stop Symbol - White Border on Red Background



ARROW DETAIL

SIZE	А	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	T	U	V	W	X	Υ	Z	Area sq. ft.
1	30		1 1/8	1/2	5/8	6 1/4	11 1/4	2 1/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
25	36		2 1/4	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 %	6												9.0
2M	36		2 1/4	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 %	6												9.0
3	36		2 1/4	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		3	3/4	1	10	17 1/8	4 1/2	25 1/8	3/4	7/8	25 %	13	2	8												16.0
5	48		3	3/4	1	10	17 1/8	4 1/2	25 1/8	3/4	7/8	25 %	13	2	8												16.0

DATE 8/17/2023 PLATE NO. W3-1.13 Ε SHEET NO:

For State Traffic Engineer

STANDARD SIGN

WISCONSIN DEPT OF TRANSPORTATION

W3-1

FILE NAME : C:\CAEfiles\Project\tr\_stdplate\W31.dgn

PROJECT NO:

PLOT DATE: 17-AUG 2023 2:30

PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

W3 - 1



- 1. Sign is Type II Type F Reflective
- 2. Color:

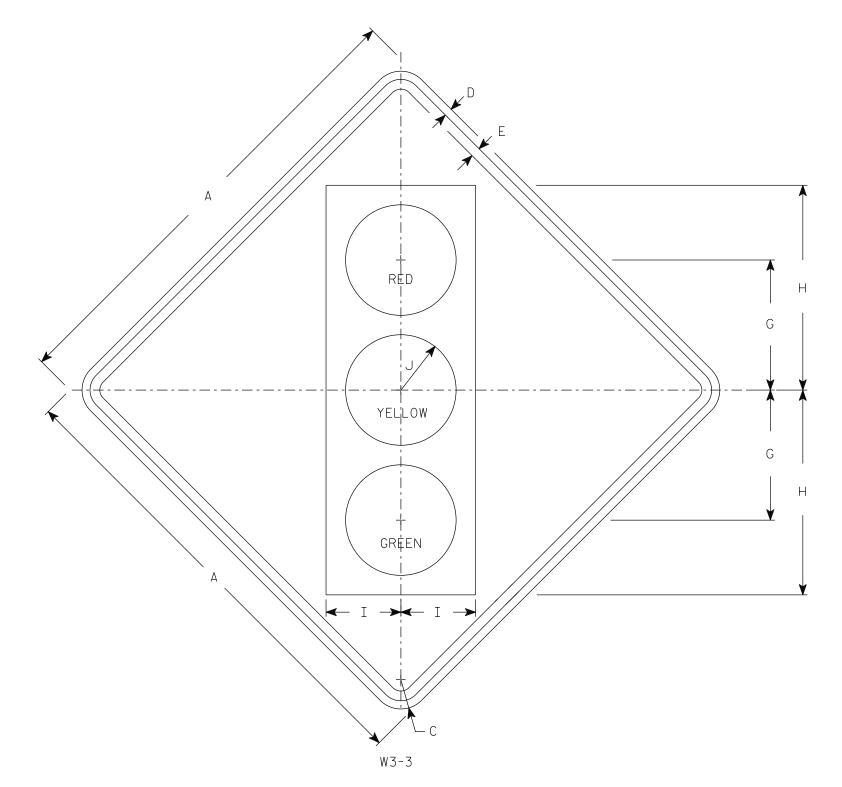
Background - Yellow Message - See Note 3

3. 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	А	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	Q	R	S	Т	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 1/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		2 1/4	5/8	3/4		10	15 ¾	5 3/4	4 1/4																	9.0
2M	36		2 1/4	5/8	3/4		10	15 ¾	5 3/4	4 1/4																	9.0
3	36		2 1/4	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		3	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		3	3/4	1		12 1/2	20	7 1/2	5																	16.0

COUNTY:

STANDARD SIGN W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rai

SHEET NO:

DATE 8/21/2023 PLATE NO. W3-3.12

PLOT DATE: 21-AUG 2023 3:13 PLOT BY: dotc4c PLOT NAME: PLOT SC

PROJECT NO:

HWY:

Notes



# Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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