GRE

MAY 2018

PROJECT ID: 1430-18-71

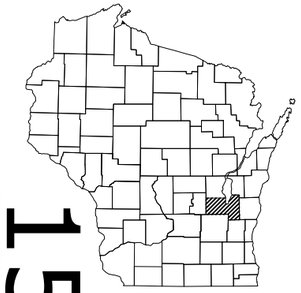
WITH: 1430-23-71

COUNTY: FOND DU LAC

ORDER OF SHEETS

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

TOTAL SHEETS = 208



15

N

DESIGN DESIGNATION 1430-18-71

A.A.D.T.	2019	=	7900
A.A.D.T.	2039	=	9300
D.H.V.	2039	=	11.6%
D.D.		=	60/40
T.		=	13.8%
DESIGN SPEED		=	60 MPH
ESALS		=	2,400,000

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ROSENDALE - FOND DU LAC

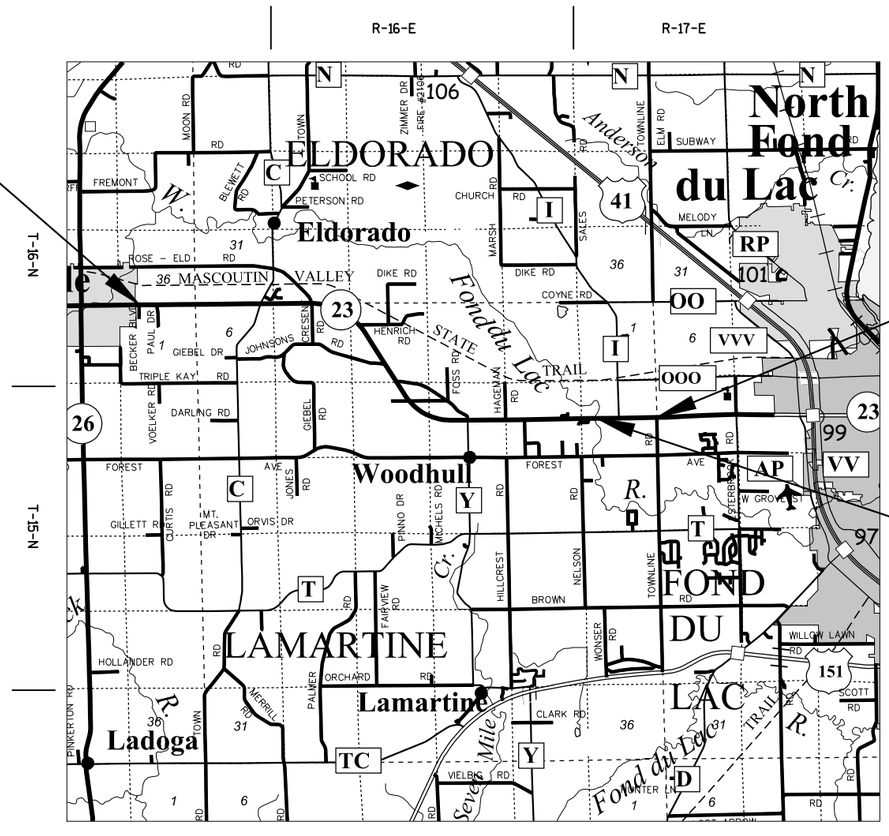
BECKER BLVD-TOWNLINE ROAD

STH 23

FOND DU LAC COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1430-18-71	WISC 2018242	1

STATE PROJECT NUMBER
1430-18-71



BEGIN PROJECT 1430-18-71
STA 473+76
Y= 396,736.454
X= 760,183.104

END PROJECT 1430-18-71
STA 867+48

EXCEPTION OF NET C/L LENGTH
STA 833+85.26 TO STA 835+18.91
B-20-23

LAYOUT
SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 7.46

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, FOND DU LAC COUNTY, NAD83 (2011), VERTICAL - NAVD88 (2012) IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NER
Designer	JENNIFER ZAVADA
Project Manager	BRYAN LEARST
Regional Examiner	
Regional Supervisor	ROBERT WAGNER

APPROVED FOR THE DEPARTMENT

DATE: 2/1/18 Bryan Learst (Signature)

E

GENERAL NOTES

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

TOPSOIL, FERTILIZER, SEED AND EROSION MAT AS SHOWN IN PLANS OR AS DIRECTED BY ENGINEER SHALL BE PLACED ON ALL DISTURBED AREAS, EXCLUSIVE OF THE AREA OCCUPIED BY THE NEW PAVEMENTS, SIDEWALKS, ENTRANCES, AND RELATED STRUCTURES.

ALL CONCRETE BASE PATCHING LOCATIONS ARE APPROXIMATE. THE EXACT LOCATIONS OF CONCRETE BASE PATCHING SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

EMERGENCY CONTACT NUMBERS FOR WISCONSIN POWER AND LIGHT COMPANY

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-862-6261
GAS 24 HOUR EMERGENCY SERVICE: 1-800-862-6263

EMERGENCY CONTACT NUMBERS FOR WISCONSIN PUBLIC SERVICE

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-450-7240
GAS 24 HOUR EMERGENCY SERVICE: 1-800-450-7280

EMERGENCY CONTACT NUMBERS FOR WE ENERGIES

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-662-4797
GAS 24 HOUR EMERGENCY SERVICE: 1-800-261-5325

UTILITIES

LAWRENCE HUBER
ANR PIPELINE CO - GAS/PETROLEUM
W3925 PIPELINE LN
EDEN, WI 53019
(920)477-2235
LAWRENCE_HUBER@TRANSCANADA.COM

CHUCK BARTELT
AT&T WISCONSIN - COMMUNICATION LINE
70 E DIVISION ST
FOND DU LAC, WI 54935
920-410-5104
CB1461@ATT.COM

GERALD RHODE
ATC MANAGEMENT, INC. - ELECTRICITY-TRANSMISSION
801 OKEEFE ROAD
DE PERE, WI 54115
920-338-6523
GRHODE@ATCLLC.COM

TIM KROEZE
CENTURYLINK - COMMUNICATION LINE
19 W FOND DU LAC ST
RIPON, WI 54971
920-219-0112
TIM.KROEZE@CENTURYLINK.COM

GRAYNE SKIBO
ALLIANT ENERGY -ELECTRICITY & GAS
883 W. SCOTT ST.
FOND DU LAC, WI 54937
920-948-4054
GRAYNESKIBO@ALLIANTENERGY.COM

TODD HILDEBRANDT
CHARTER COMMUNICATIONS - COMMUNICATION LINE
165 KNIGHTS WAY
FOND DU LAC, WI 54935
920-794-4946
TODD.HILDEBRANDT@CHARTER.COM

DNR LIAISON

JAY SCHIEFELBEIN
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVENUE
GREEN BAY, WI 54313-6727
(920) 360-3784
JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

FOND DU LAC COUNTY COMMISSIONER

TOM JANKE
301 DIXIE STREET
FOND DU LAC, WI 54935
(920) 929-3488
TOM.JANKE@FDLCO.WI.GOV

NE REGION SURVEY COORIDNATOR

CORMAC MCINNIS,RLS
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920) 492-5638
CORMAC.MCINNIS@DOT.WI.GOV

2

N

BEGIN PROJECT 1430-18-71
STA 473+76

C-20-59

ROSE-ELD RD

STH 23

500

600

BECKER BLVD

HILL BLVD

PAUL DR

CTH C

STH 23

CRESCENT RD

HENRICH RD

JOHNSON RD

SMITH RD

700

PRIEPKE RD

HAGEMAN RD

B-20-23

CTH I

800 KARST DR

STH 23

WEST LN

CTH Y

FISHER RD

END PROJECT 1430-18-71
STA 867+48

TOWNLINE RD

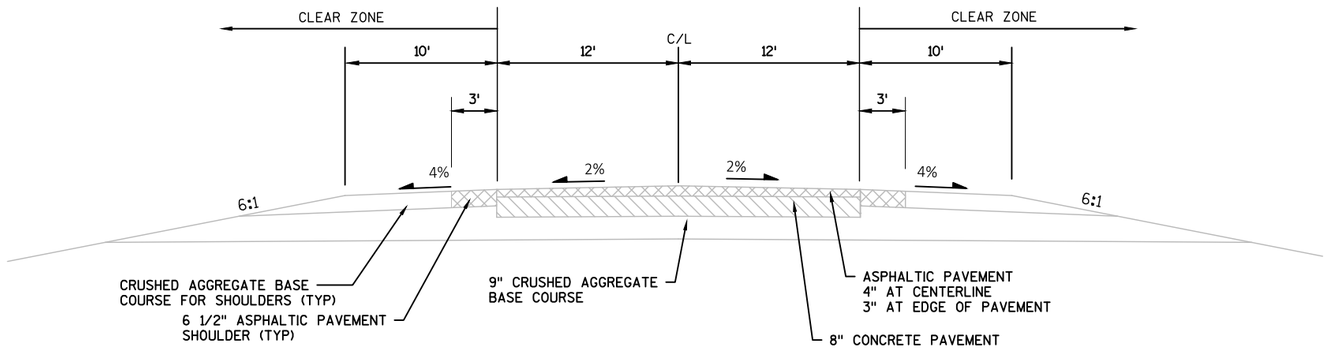
PROJECT NO:1430-18-71	HWY:STH 23	COUNTY:FOND DU LAC	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\020201-PO.DWG
LAYOUT NAME - 020201-PO

PLOT DATE : 11/28/2016 3:45 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 2500:1

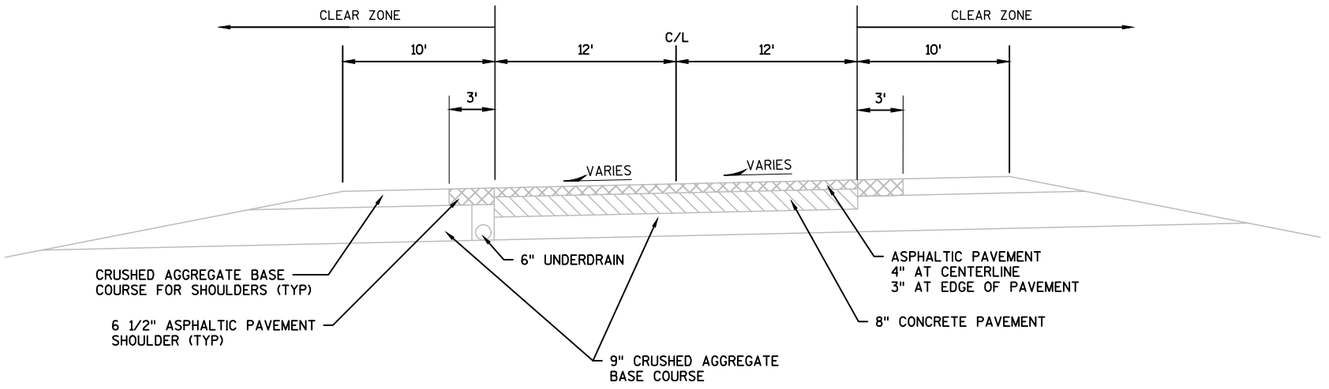
WISDOT/CADDS SHEET 42

2



TYPICAL EXISTING CROSS SECTION FOR STH 23

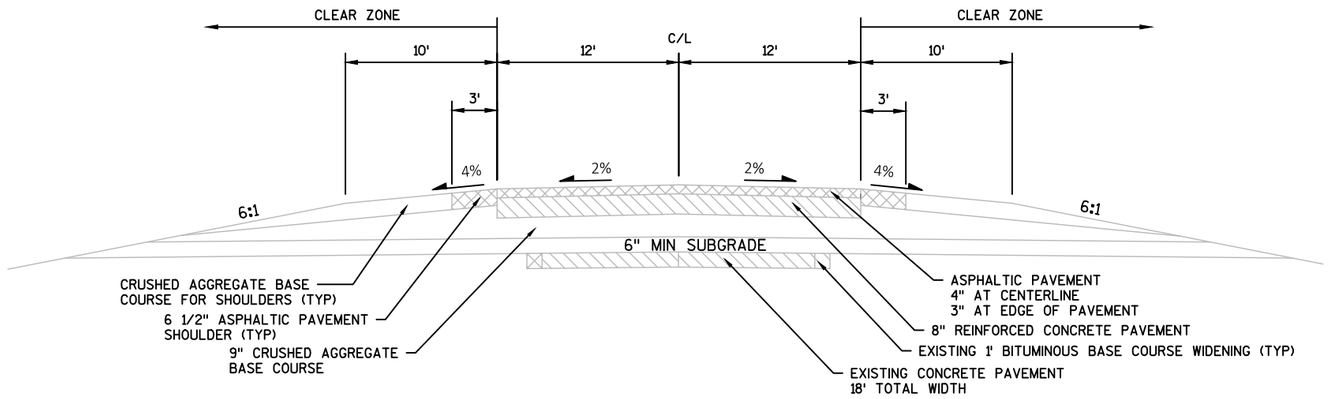
STA 473+76 - STA 596+80
STA 647+85 - STA 694+00
STA 736+65 - STA 867+48



TYPICAL EXISTING SUPERELEVATION CROSS SECTION FOR STH 23

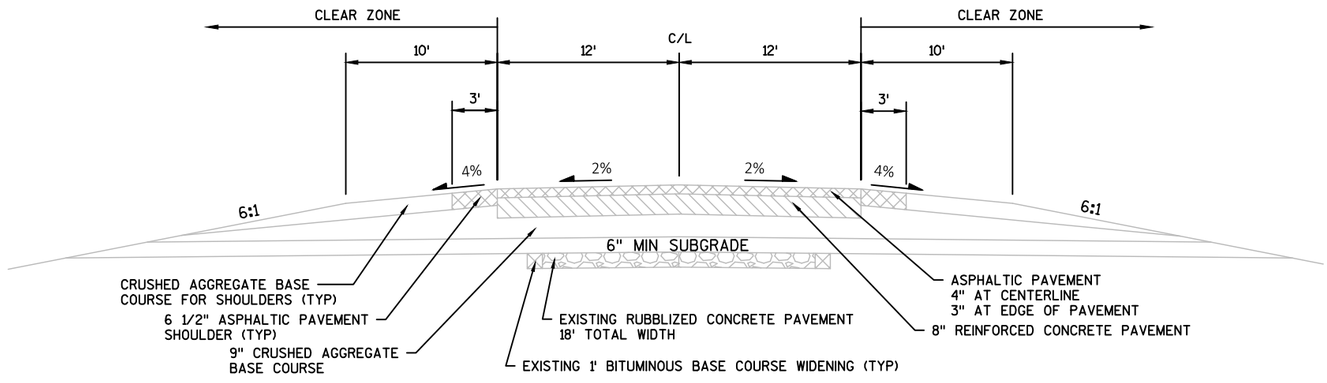
STA 596+80 - STA 647+85
STA 694+00 - STA 736+65

2



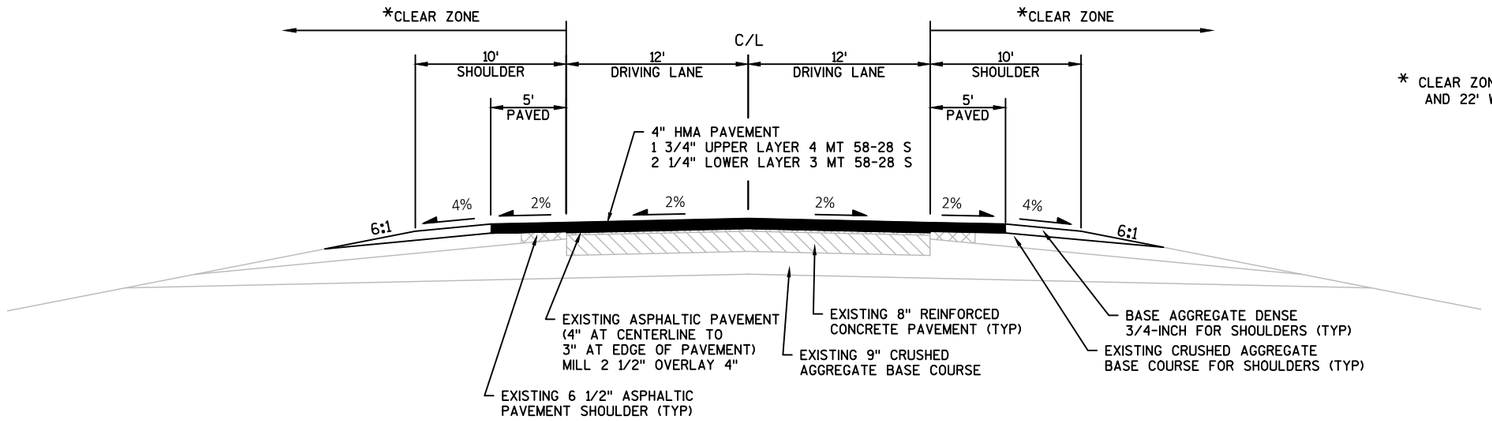
TYPICAL EXISTING CROSS SECTION FOR STH 23

STA 759+78 - STA 829+78
STA 853+78 - STA 867+48



TYPICAL EXISTING CROSS SECTION FOR STH 23

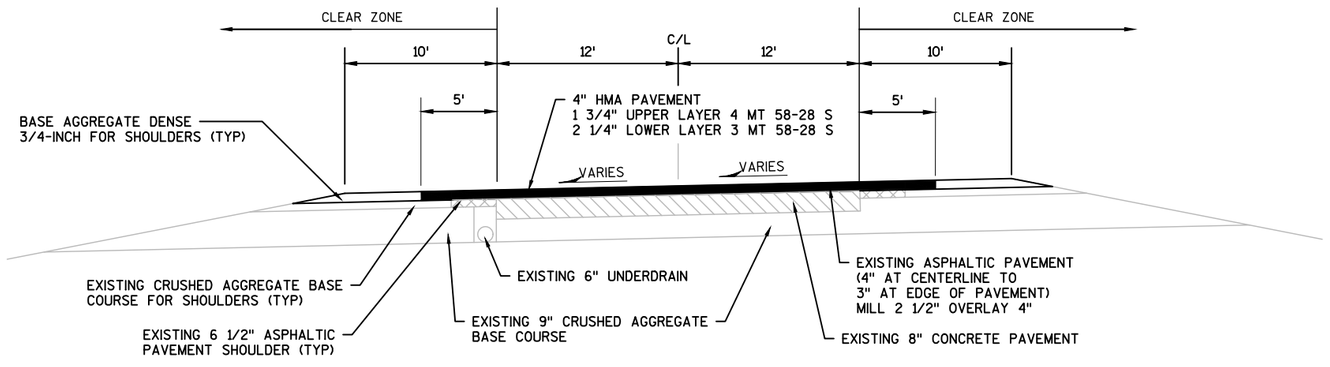
STA 829+78 - STA 853+78



* CLEAR ZONE IS 18' WHEN THE SPEED LIMIT IS 45 MPH AND 22' WHEN THE SPEED LIMIT IS 55 MPH.

TYPICAL FINISHED CROSS SECTION FOR STH 23

STA 473+76 - STA 596+80
STA 647+85 - STA 694+00
STA 736+65 - STA 759+78

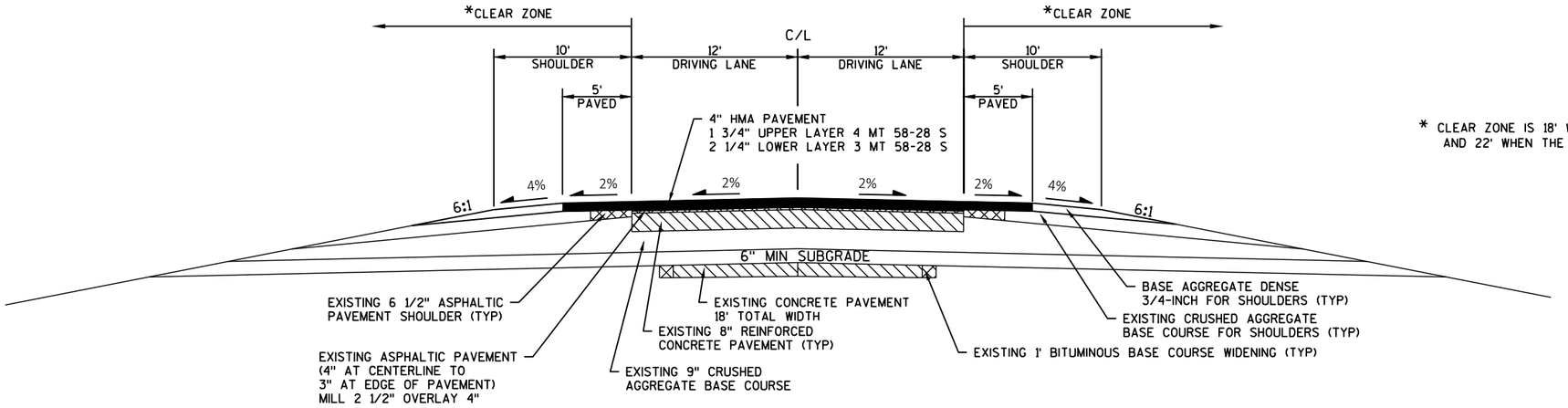


TYPICAL FINISHED SUPERELEVATION CROSS SECTION FOR STH 23

STA 596+80 - STA 647+85
STA 694+00 - STA 736+65

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	TYPICAL SECTIONS	SHEET 6	E

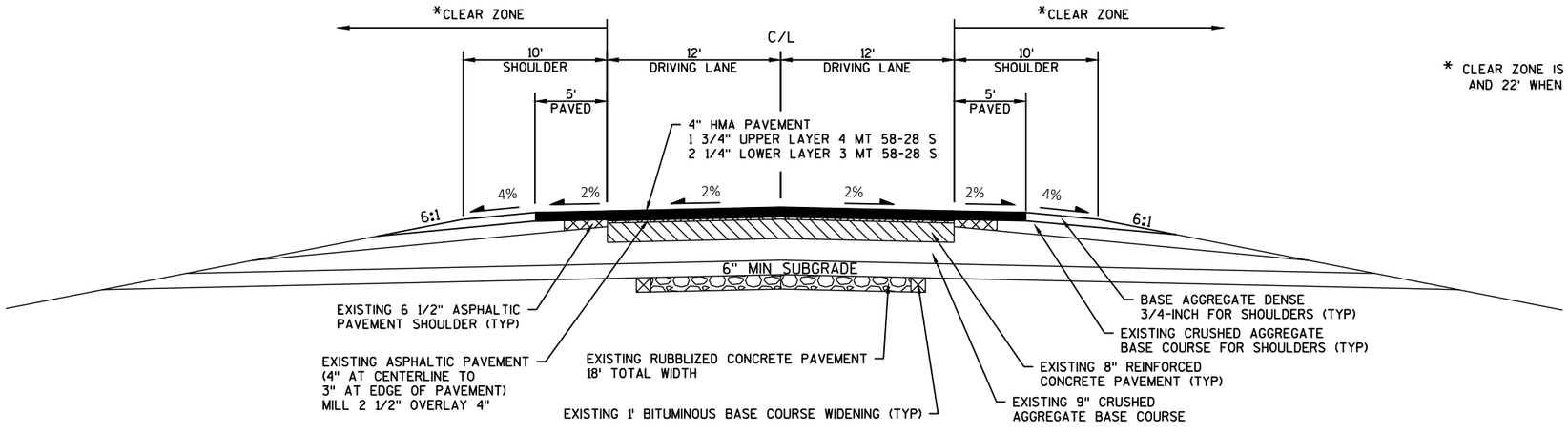
2



* CLEAR ZONE IS 18' WHEN THE SPEED LIMIT IS 45 MPH AND 22' WHEN THE SPEED LIMIT IS 55 MPH.

TYPICAL FINISHED CROSS SECTION FOR STH 23

STA 759+78 - STA 829+78
STA 853+78 - STA 867+48

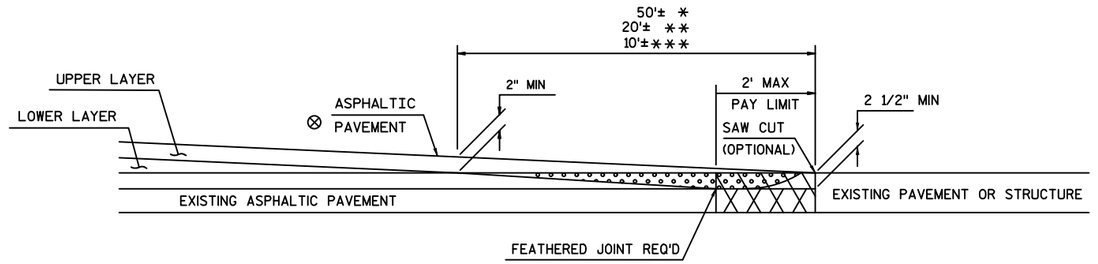


* CLEAR ZONE IS 18' WHEN THE SPEED LIMIT IS 45 MPH AND 22' WHEN THE SPEED LIMIT IS 55 MPH.

TYPICAL FINISHED CROSS SECTION FOR STH 23

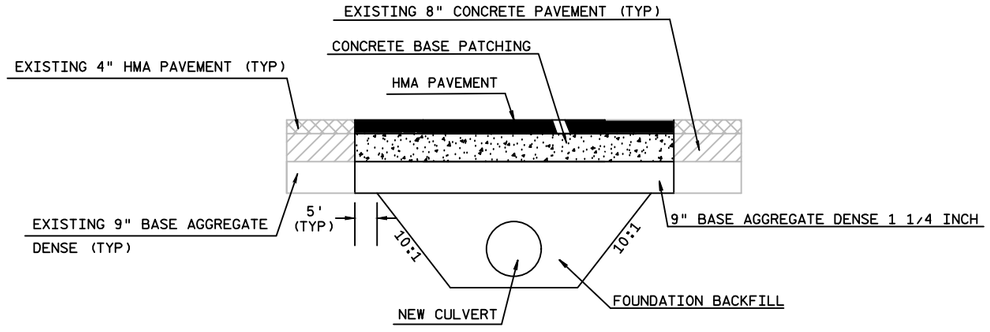
STA 829+78 - STA 853+78

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	TYPICAL SECTIONS	SHEET 7	E

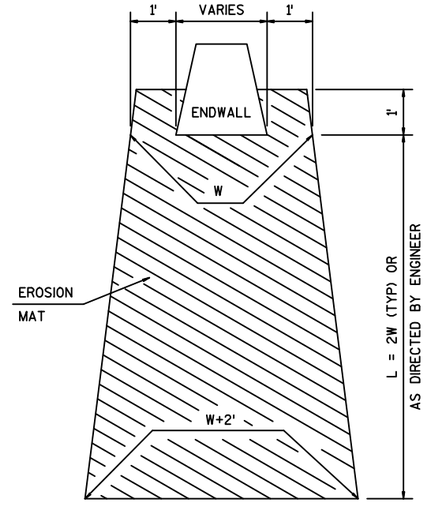


BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

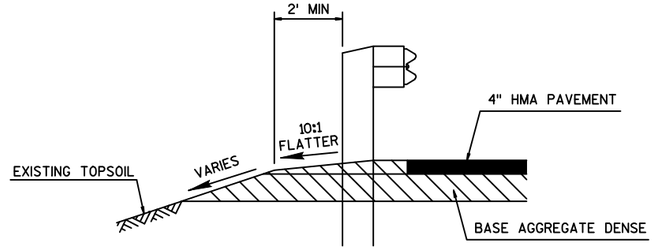
* MAINLINE
** SIDEROADS
*** PRIVATE ENTRANCES



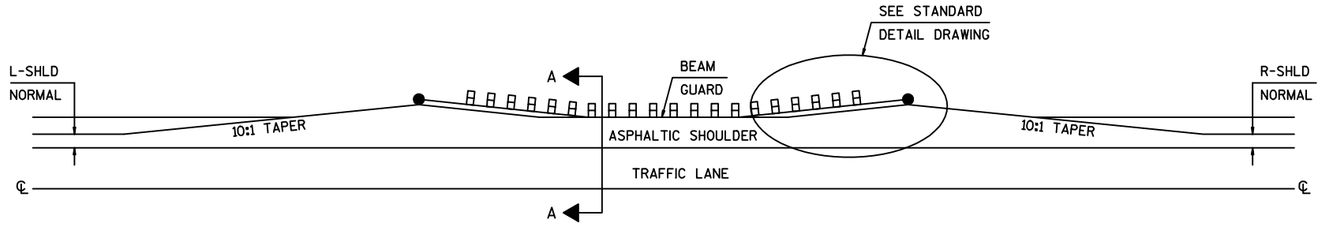
CULVERT REPLACEMENT DETAIL



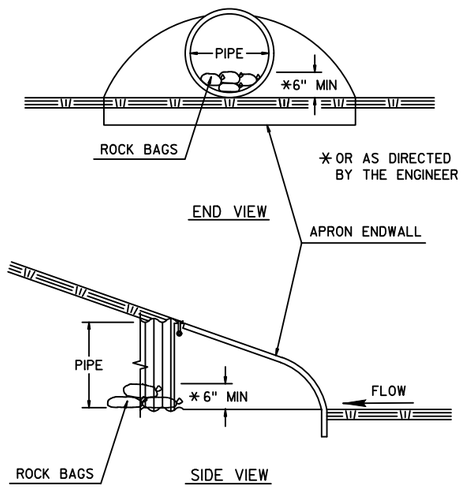
EROSION MAT TREATMENT AT CULVERTS



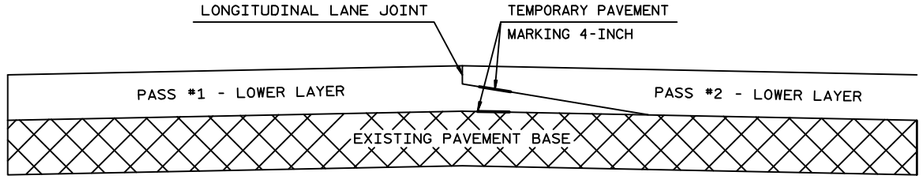
SECTION A-A



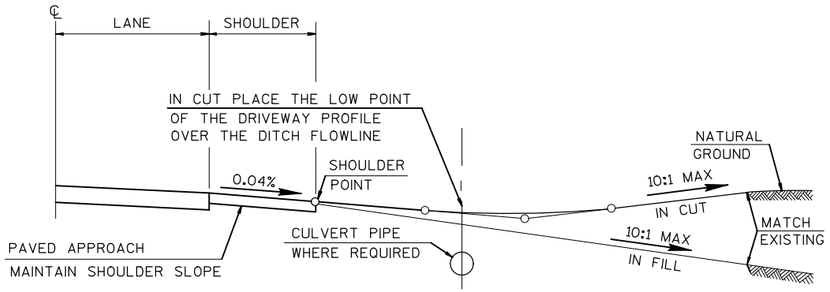
DETAIL FOR ASPHALTIC SHOULDER AT GUARDRAIL



CULVERT PIPE CHECKS

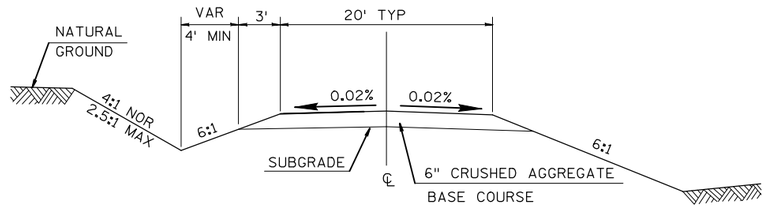


PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS



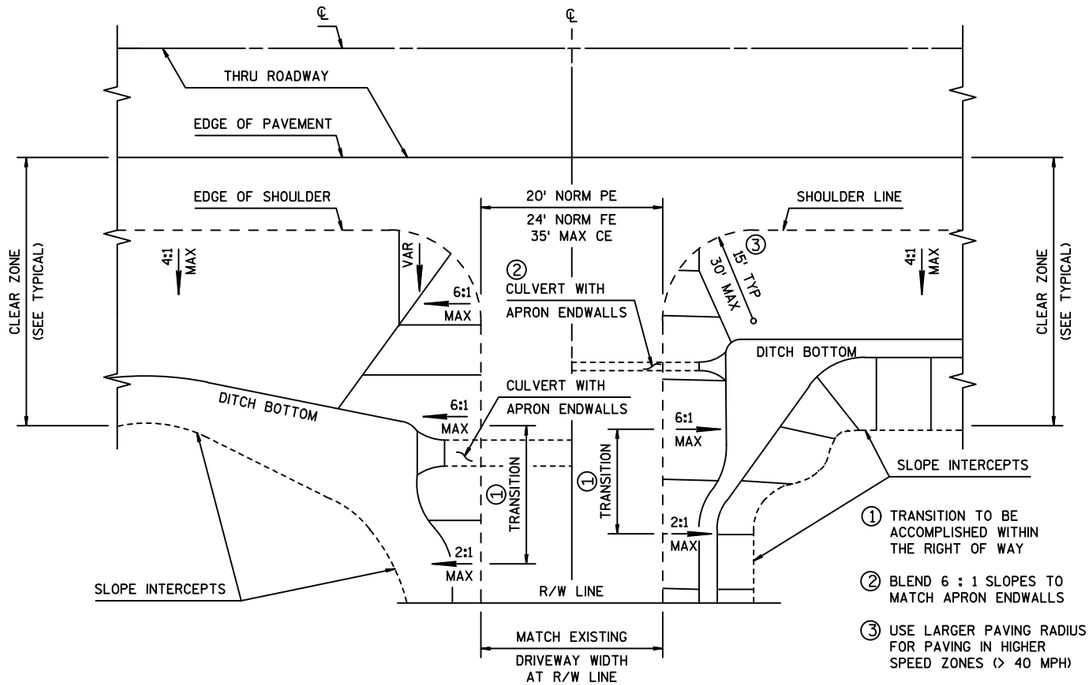
PLAN VIEW

TYPICAL DRIVEWAY PROFILES



IN CUT IN FILL

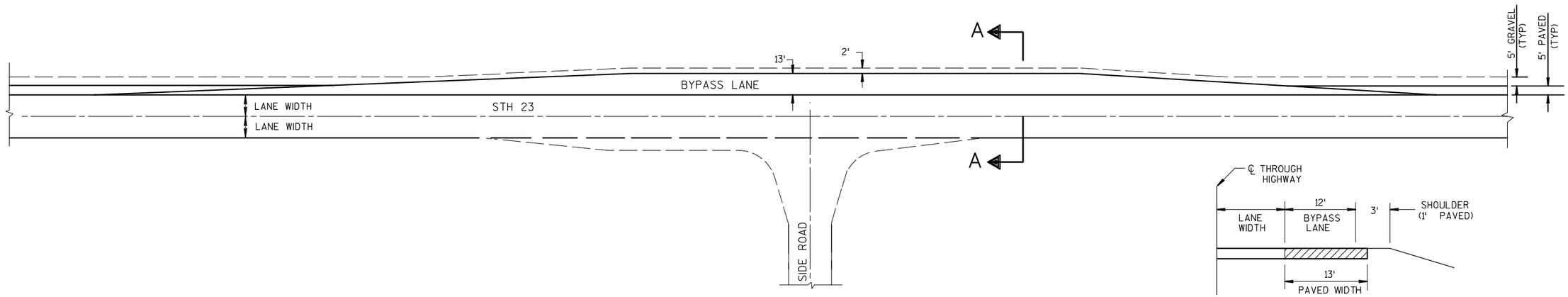
TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE



FOR CULVERTS OVER 24" DIAMETER FOR CULVERTS 24" DIAMETER & LESS

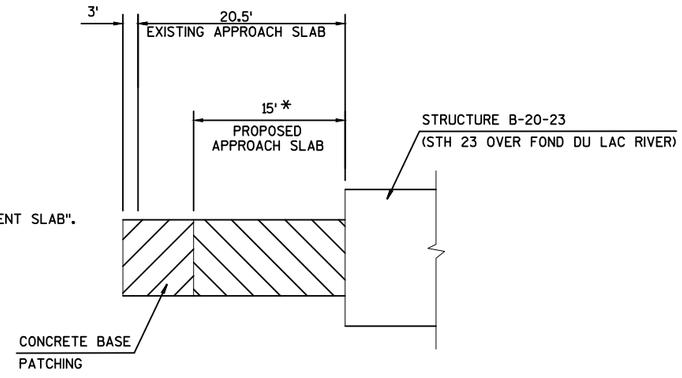
PLAN VIEW

RURAL DRIVEWAY GRADING AND/OR PAVING DETAIL



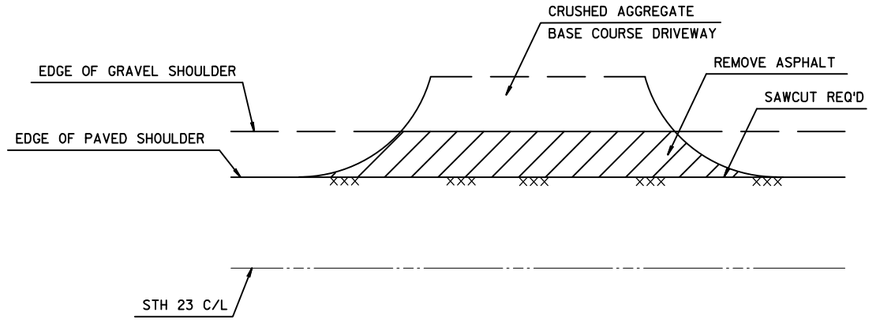
TEE INTERSECTION BYPASS LANE DETAIL

SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



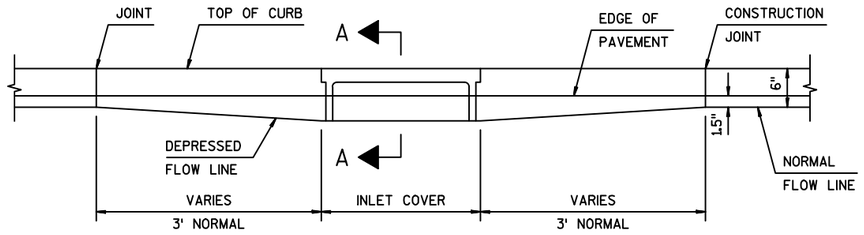
NOTE
* SEE SDD "CONCRETE PAVEMENT PAVEMENT SLAB".

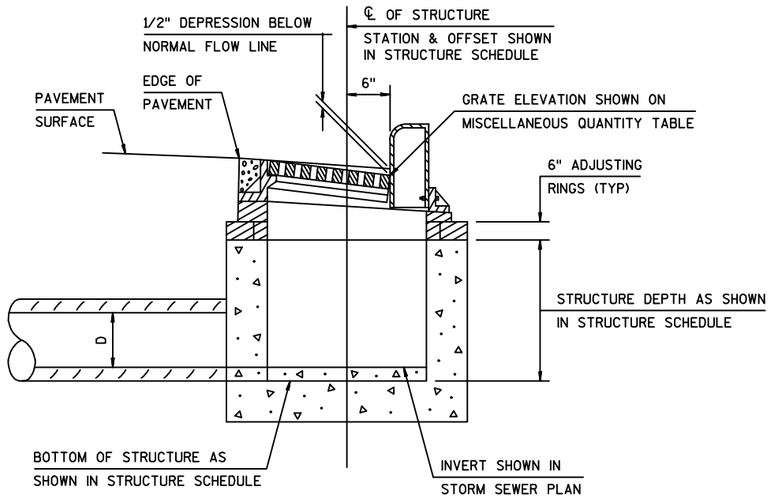
CONCRETE APPROACH SLAB



APRON REMOVAL FOR UNPAVED DRIVEWAYS

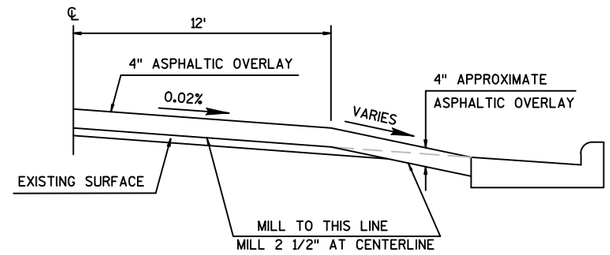
PROJECT NO:1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CONSTRUCTION DETAILS	SHEET 11	E



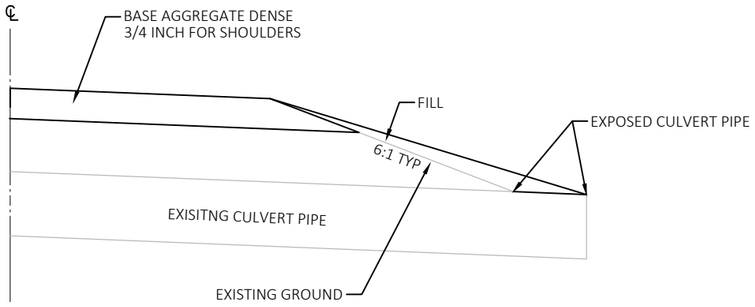


SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

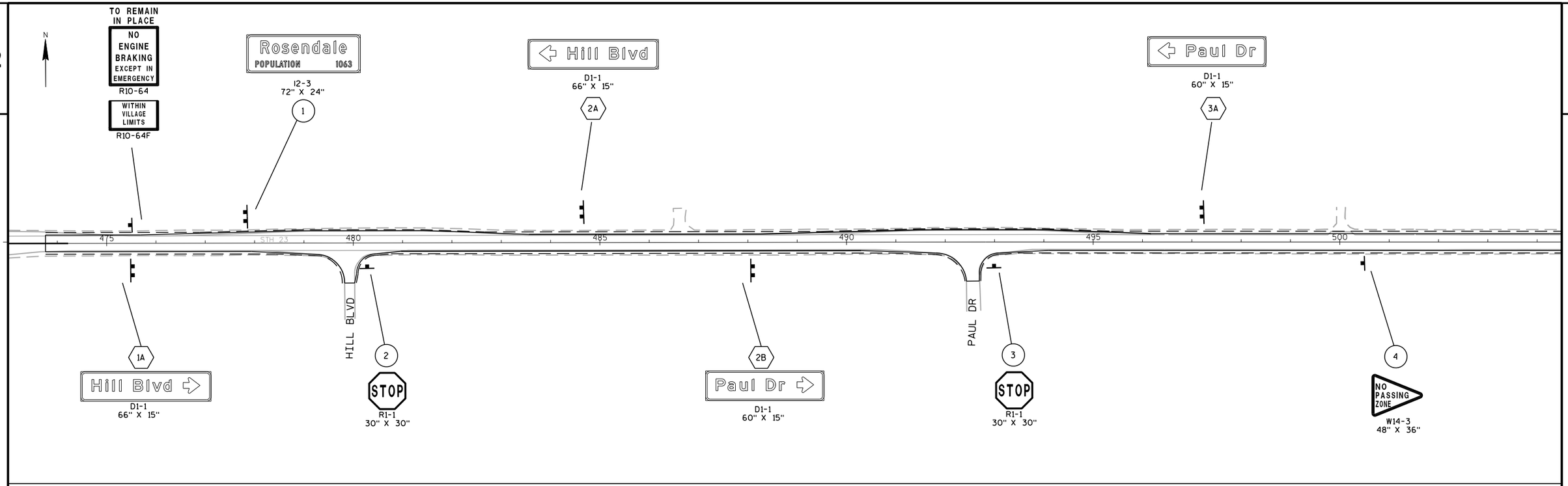


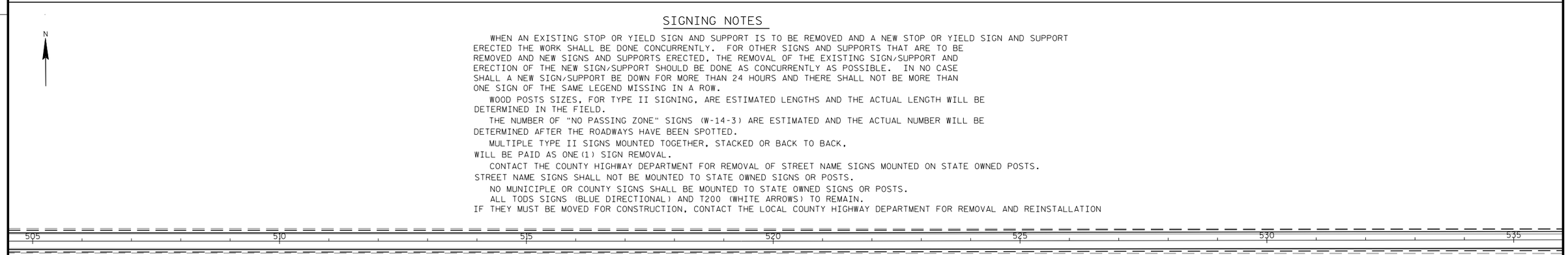
TYPICAL CROSS SECTION WITH CURB & GUTTER (MILLED)



GRADING, SHAPING & FINISHING CULVERT CROSSINGS AT EXISTING CULVERT PIPES

STA 507+37
STA 566+73
STA 808+16





SIGNING NOTES

WHEN AN EXISTING STOP OR YIELD SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP OR YIELD SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

THE NUMBER OF "NO PASSING ZONE" SIGNS (W-14-3) ARE ESTIMATED AND THE ACTUAL NUMBER WILL BE DETERMINED AFTER THE ROADWAYS HAVE BEEN SPOTTED.

MULTIPLE TYPE II SIGNS MOUNTED TOGETHER, STACKED OR BACK TO BACK, WILL BE PAID AS ONE(1) SIGN REMOVAL.

CONTACT THE COUNTY HIGHWAY DEPARTMENT FOR REMOVAL OF STREET NAME SIGNS MOUNTED ON STATE OWNED POSTS. STREET NAME SIGNS SHALL NOT BE MOUNTED TO STATE OWNED SIGNS OR POSTS.

NO MUNICIPLE OR COUNTY SIGNS SHALL BE MOUNTED TO STATE OWNED SIGNS OR POSTS.

ALL TODS SIGNS (BLUE DIRECTIONAL) AND T200 (WHITE ARROWS) TO REMAIN. IF THEY MUST BE MOVED FOR CONSTRUCTION, CONTACT THE LOCAL COUNTY HIGHWAY DEPARTMENT FOR REMOVAL AND REINSTALLATION

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PROJECT NO:1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PERMANENT SIGNING	SHEET	E

SIGNING NOTES

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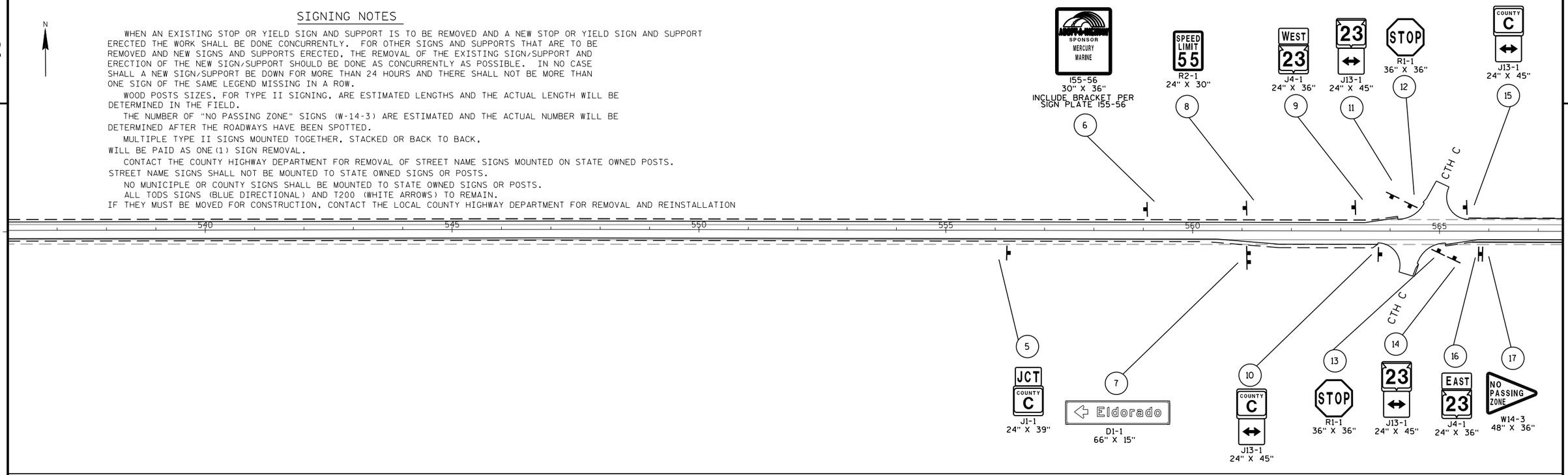
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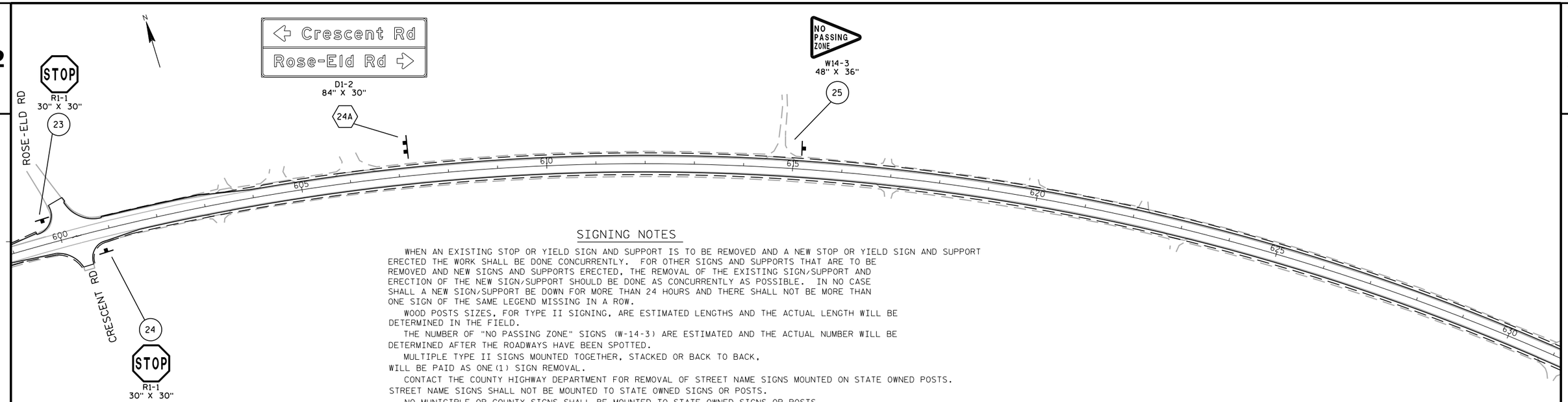
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PROJECT NO:1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PERMANENT SIGNING	SHEET E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1430-18-71.72.73\14301800_SIGNPLAN.dgn PLOT DATE : 01-FEB-2018 07:31 PLOT BY : dotets PLOT NAME : PLOT SCALE : 200:1

2



SIGNING NOTES

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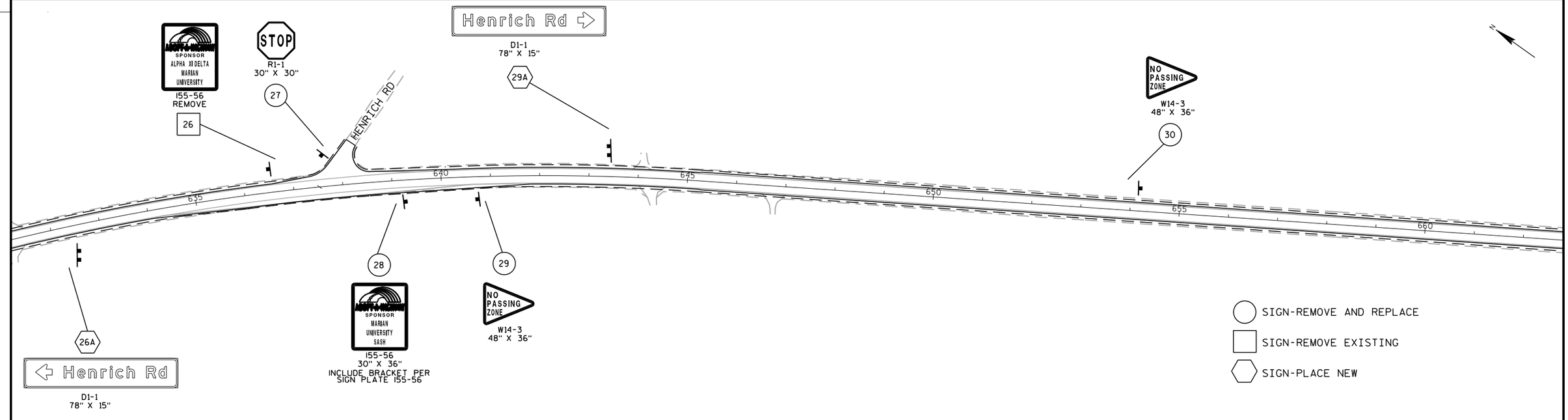
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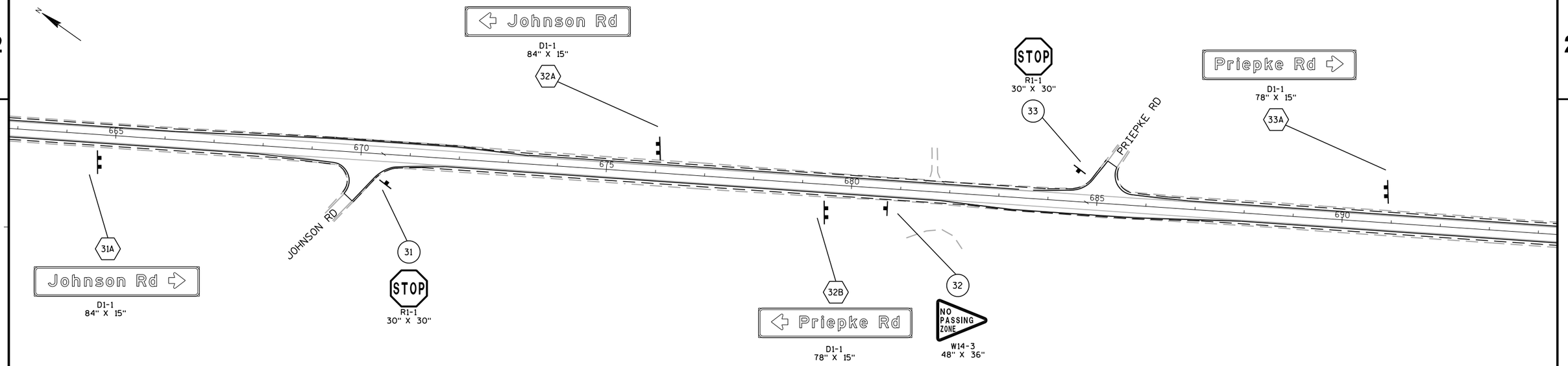
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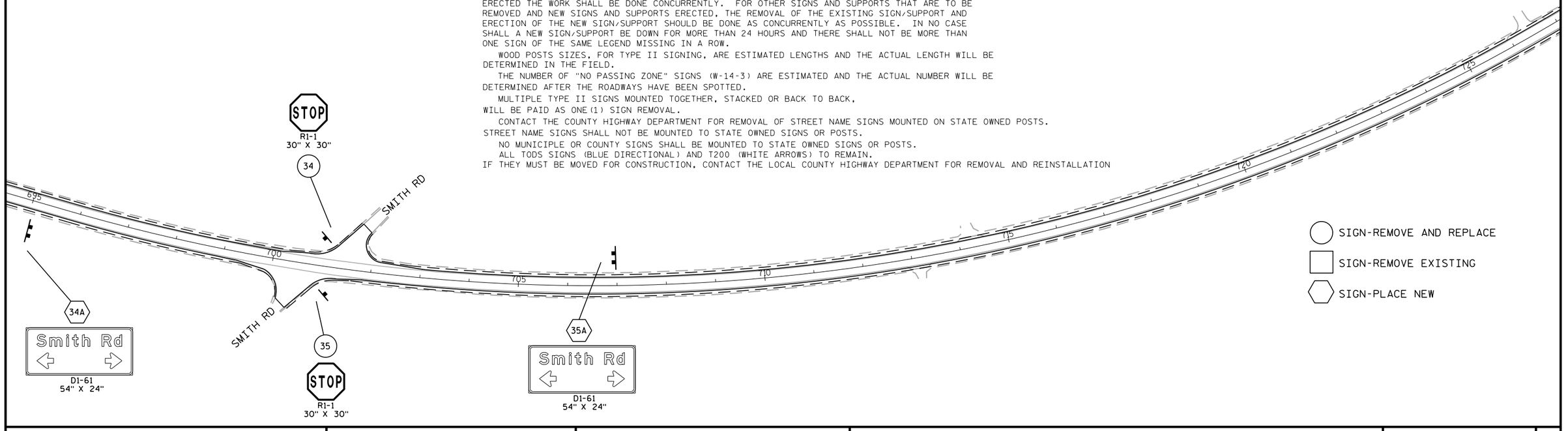
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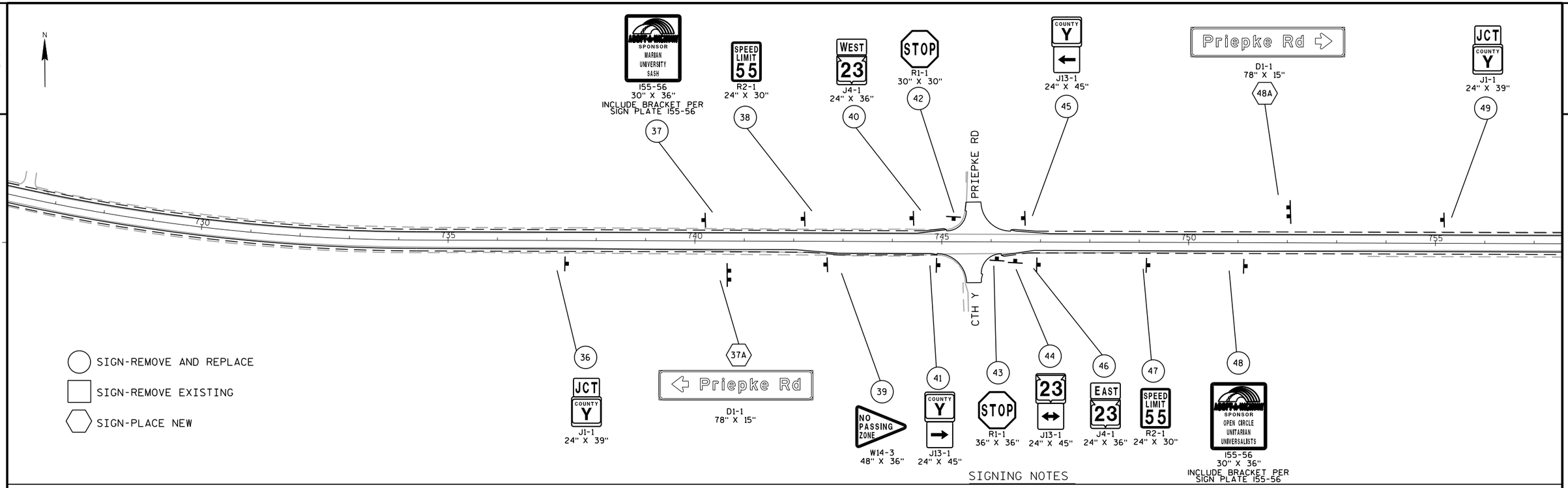
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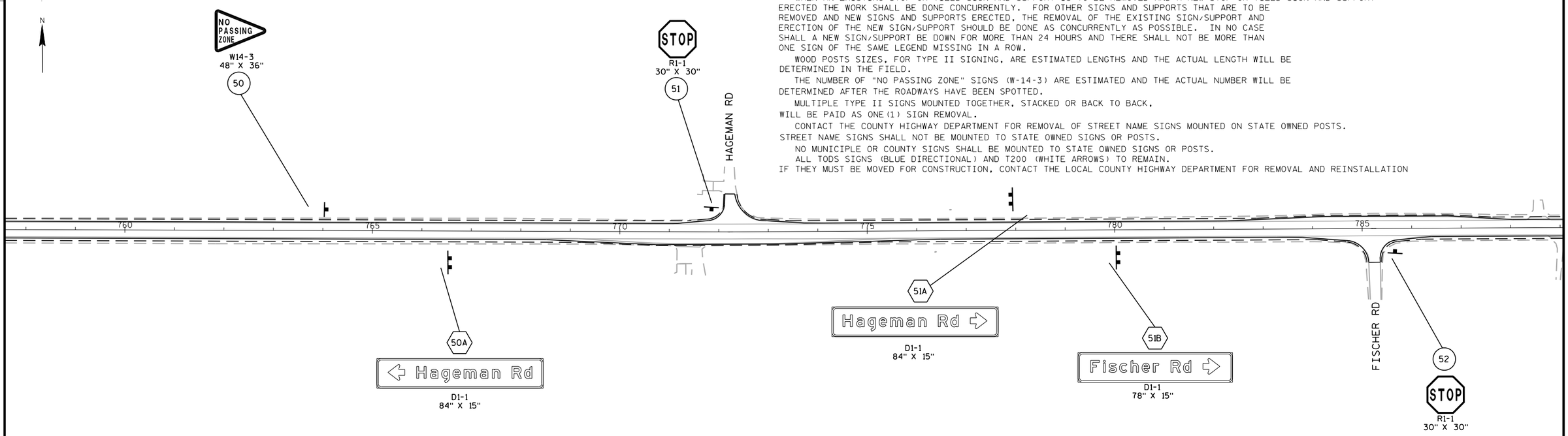
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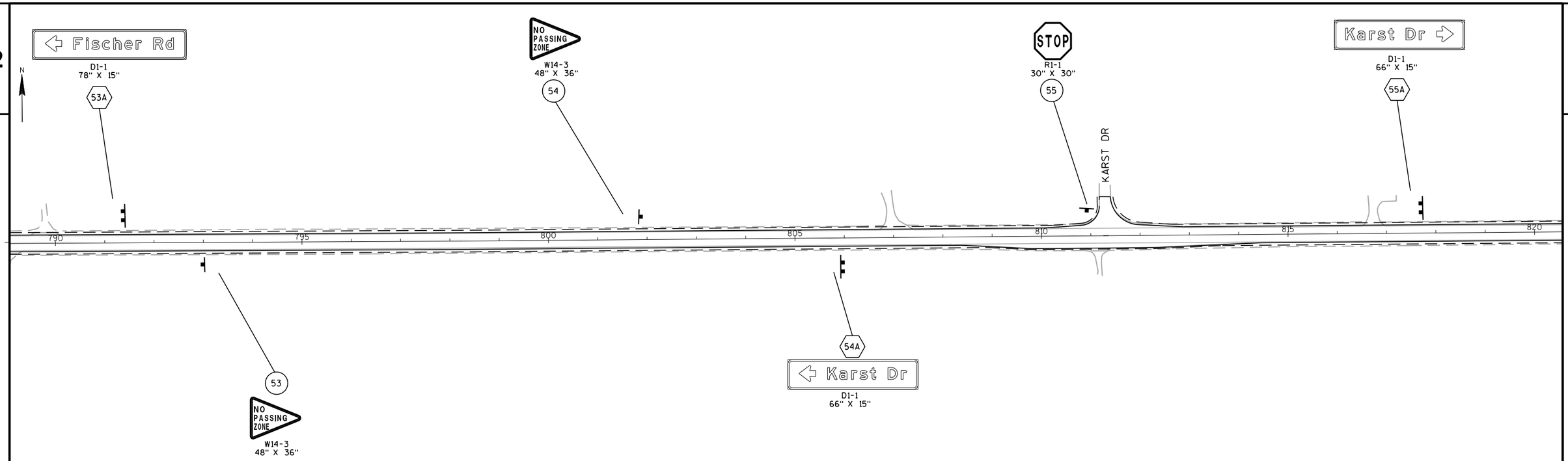
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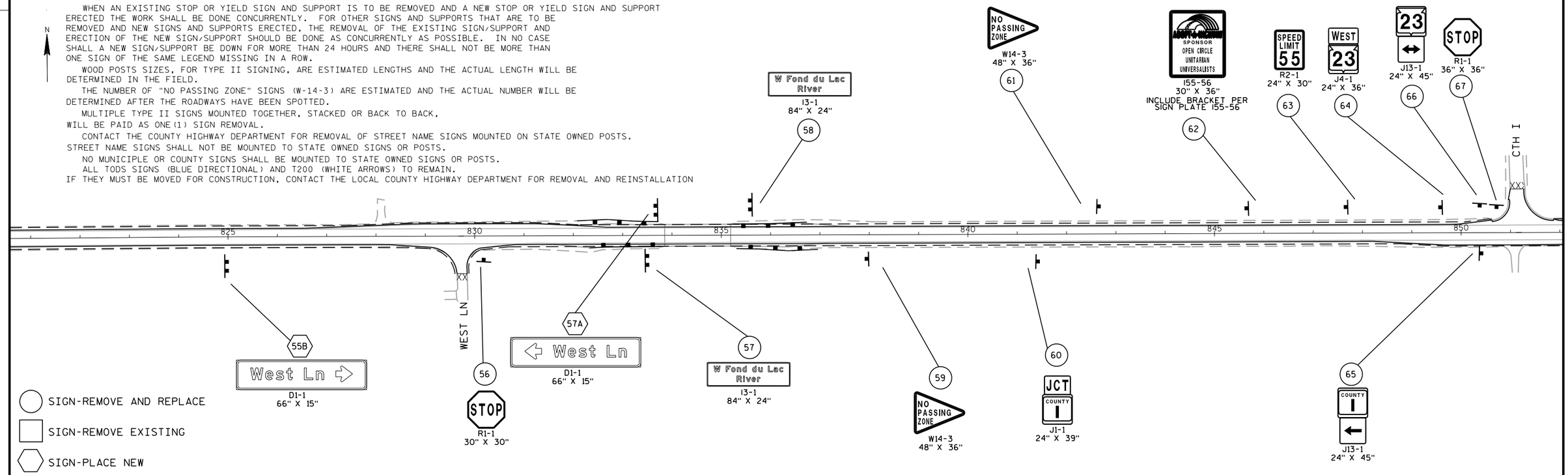
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SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PERMANENT SIGNING	SHEET E

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WISDOT/CADDS SHEET 42

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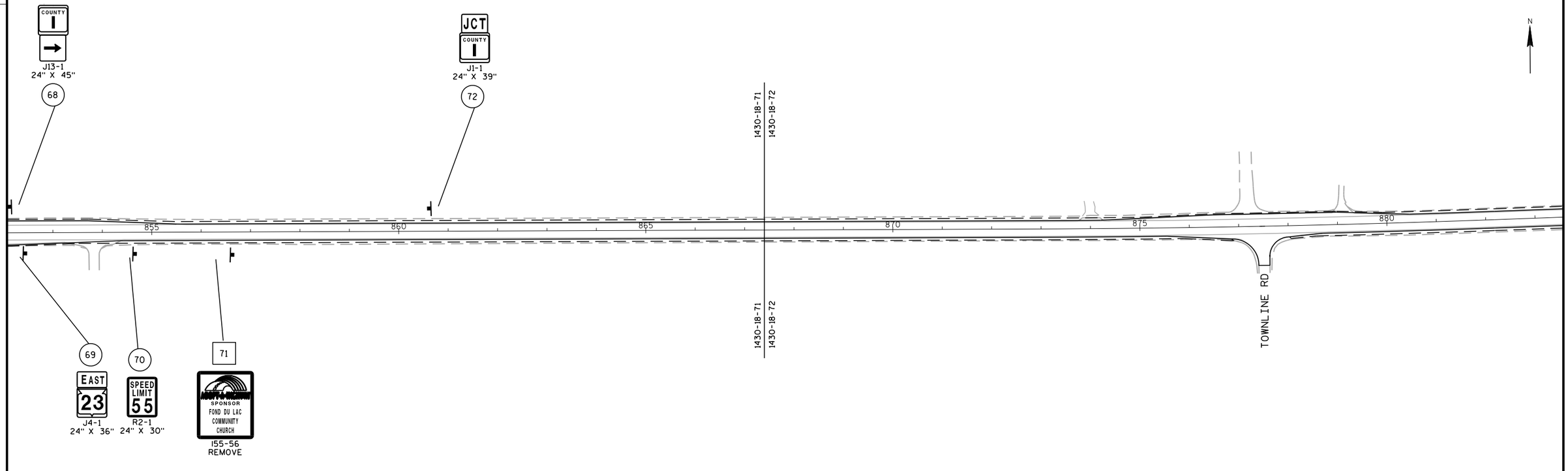
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LEGEND

- TEMPORARY PORTABLE RUMBLE STRIPS
- TEMPORARY CRASH CUSHION
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS 16"X16" MIN (ORANGE)
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

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

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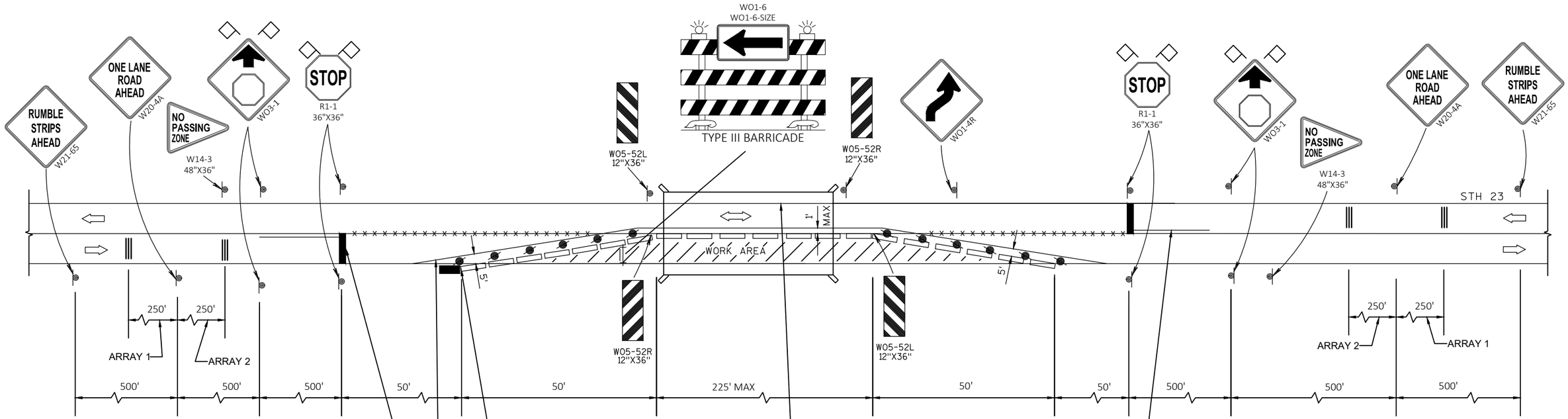
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

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.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

TEMPORARY PORTABLE RUMBLE STRIPS MUST BE MONITORED FREQUENTLY AND ADJUSTED AS NEEDED.



TRAFFIC CONTROL ONE LANE ROAD STOP CONDITION FOR EASTBOUND TRAFFIC

LEGEND

- TEMPORARY PORTABLE RUMBLE STRIPS
- TEMPORARY CRASH CUSHION
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
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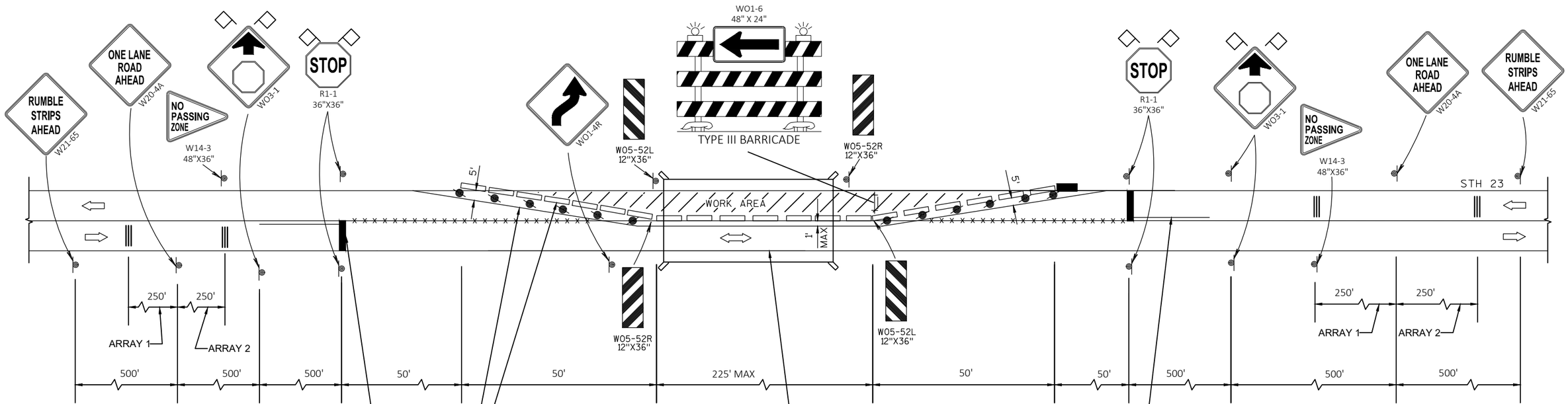
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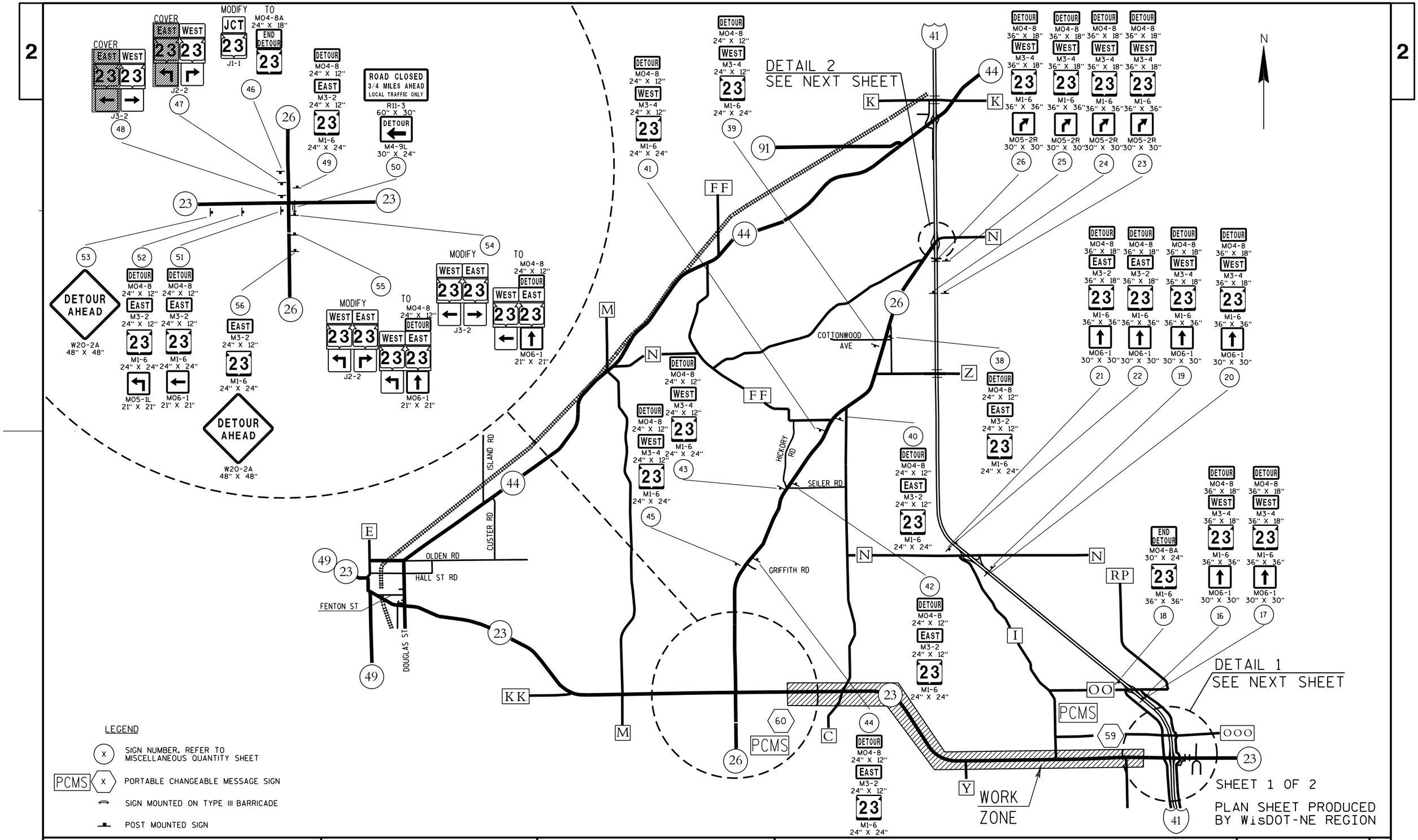
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TRAFFIC CONTROL ONE LANE ROAD STOP CONDITION FOR WESTBOUND TRAFFIC



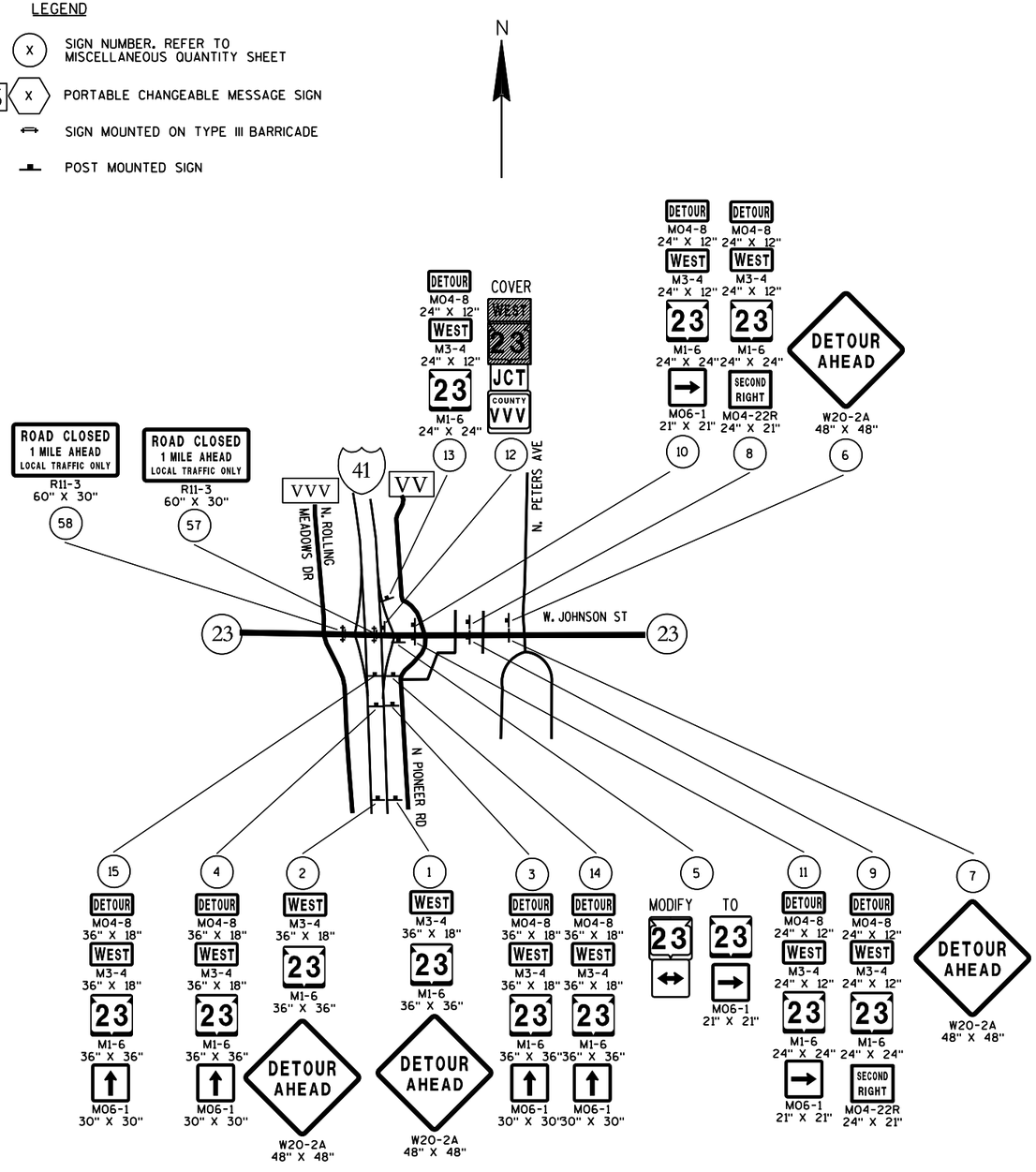
PROJECT NO:1430-18-71	HWY: STH 23	COUNTY:FOND DU LAC	DETOUR SIGNING DETAIL	SHEET 22	E

SHEET 1 OF 2

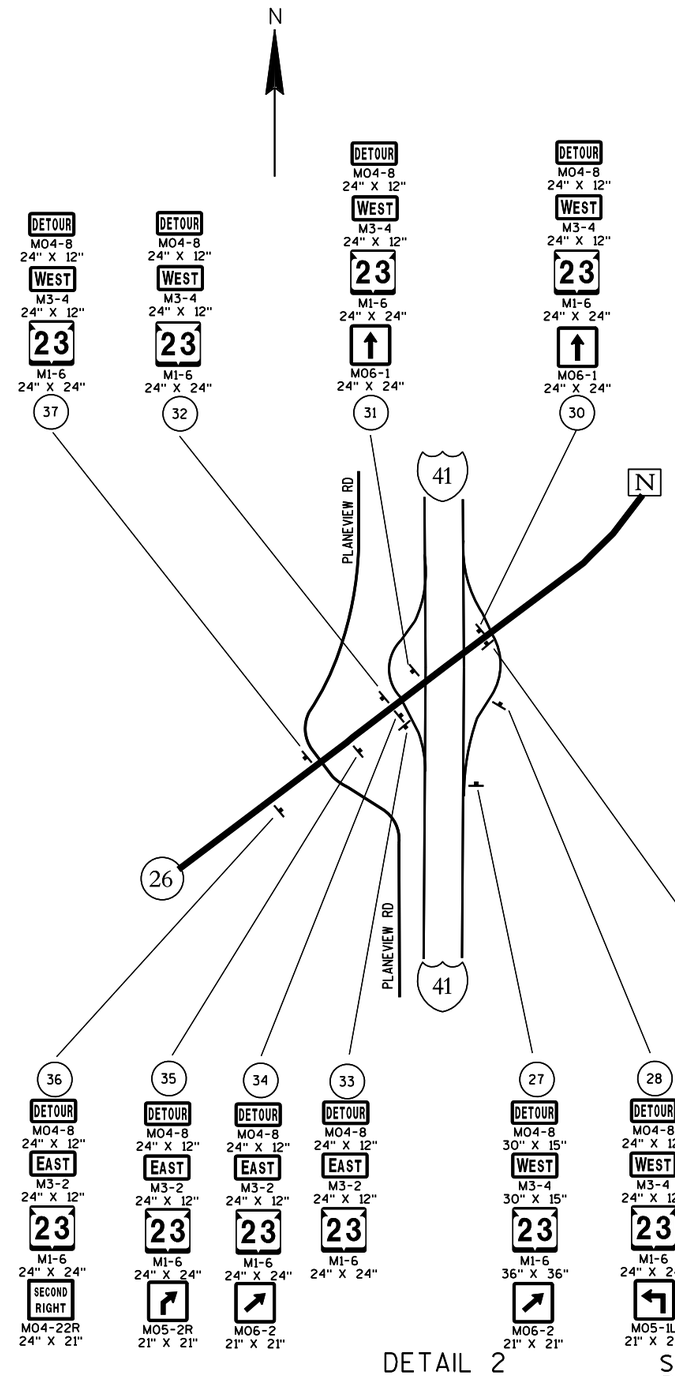
PLAN SHEET PRODUCED BY WisDOT-NE REGION

LEGEND

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



DETAIL 1



DETAIL 2

SHEET 2 OF 2
PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	DETOUR PLAN DETAIL	SHEET 23	E

1430-18-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	12.000	12.000
0004	204.0100	Removing Pavement	SY	146.000	146.000
0006	204.0110	Removing Asphaltic Surface	SY	2,132.000	2,132.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	221.000	221.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	149,993.000	149,993.000
0016	204.0165	Removing Guardrail	LF	434.000	434.000
0026	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1430-18-71	LS	1.000	1.000
0030	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	787.000	787.000
0032	213.0100	Finishing Roadway (project) 01. 1430-18-71	EACH	1.000	1.000
0036	305.0110	Base Aggregate Dense 3/4-Inch	TON	5,302.000	5,302.000
0038	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,932.000	3,932.000
0040	390.0303	Base Patching Concrete	SY	7,863.000	7,863.000
0042	415.0410	Concrete Pavement Approach Slab	SY	146.000	146.000
0052	440.4410	Incentive IRI Ride	DOL	59,080.000	59,080.000
0054	455.0605	Tack Coat	GAL	24,671.000	24,671.000
0056	460.2005	Incentive Density PWL HMA Pavement	DOL	25,450.000	25,450.000
0058	460.2010	Incentive Air Voids HMA Pavement	DOL	39,250.000	39,250.000
0060	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	79,802.000	79,802.000
0062	460.6223	HMA Pavement 3 MT 58-28 S	TON	22,966.000	22,966.000
0064	460.6224	HMA Pavement 4 MT 58-28 S	TON	18,244.000	18,244.000
0066	465.0110	Asphaltic Surface Patching	TON	2,061.000	2,061.000
0068	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	199.000	199.000
0070	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	54,892.000	54,892.000
0072	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	33,199.000	33,199.000
0074	502.3200	Protective Surface Treatment	SY	654.000	654.000
0076	502.3210	Pigmented Surface Sealer	SY	135.000	135.000
0078	504.0900	Concrete Masonry Endwalls	CY	13.000	13.000
0080	509.0301	Preparation Decks Type 1	SY	358.000	358.000
0082	509.0302	Preparation Decks Type 2	SY	268.000	268.000
0084	509.0500	Cleaning Decks	SY	654.000	654.000
0086	509.1500	Concrete Surface Repair	SF	98.000	98.000
0088	509.2000	Full-Depth Deck Repair	SY	1.000	1.000
0090	509.2500	Concrete Masonry Overlay Decks	CY	100.000	100.000
0092	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 01. B-20-0023	SY	654.000	654.000
0096	520.8700	Cleaning Culvert Pipes	EACH	1.000	1.000
0098	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0100	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	40.000	40.000
0102	522.0436	Culvert Pipe Reinforced Concrete Class IV 36-Inch	LF	264.000	264.000

1430-18-71

Line	Item	Item Description	Unit	Total	Qty
0104	522.0448	Culvert Pipe Reinforced Concrete Class IV 48-Inch	LF	176.000	176.000
0106	522.1048	Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch	EACH	4.000	4.000
0108	522.2424	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	LF	80.000	80.000
0110	522.2429	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch	LF	160.000	160.000
0112	522.2434	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 34x53-Inch	LF	328.000	328.000
0114	522.2624	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	EACH	2.000	2.000
0116	522.2629	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch	EACH	4.000	4.000
0118	522.2634	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 34x53-Inch	EACH	8.000	8.000
0126	603.8000	Concrete Barrier Temporary Precast Delivered	LF	338.000	338.000
0128	603.8125	Concrete Barrier Temporary Precast Installed	LF	676.000	676.000
0146	614.0010	Barrier System Grading Shaping Finishing	EACH	4.000	4.000
0148	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0150	614.2300	MGS Guardrail 3	LF	250.000	250.000
0152	614.2500	MGS Thrie Beam Transition	LF	156.000	156.000
0154	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0156	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1430-18-71	EACH	1.000	1.000
0160	619.1000	Mobilization	EACH	0.900	0.900
0162	624.0100	Water	MGAL	82.000	82.000
0166	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0168	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0174	628.7504	Temporary Ditch Checks	LF	300.000	300.000
0176	628.7555	Culvert Pipe Checks	EACH	72.000	72.000
0182	633.5200	Markers Culvert End	EACH	22.000	22.000
0184	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	74.000	74.000
0186	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	43.000	43.000
0190	637.2210	Signs Type II Reflective H	SF	573.490	573.490
0194	637.2230	Signs Type II Reflective F	SF	78.000	78.000
0196	638.2602	Removing Signs Type II	EACH	71.000	71.000
0198	638.3000	Removing Small Sign Supports	EACH	74.000	74.000
0202	643.0300	Traffic Control Drums	DAY	720.000	720.000
0204	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	1.000
0208	643.0420	Traffic Control Barricades Type III	DAY	8,980.000	8,980.000
0210	643.0705	Traffic Control Warning Lights Type A	DAY	16,920.000	16,920.000

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Line	Item	Item Description	Unit	Total	Qty
0212	643.0715	Traffic Control Warning Lights Type C	DAY	720.000	720.000
0216	643.0900	Traffic Control Signs	DAY	18,995.000	18,995.000
0218	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
0220	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0222	643.5000	Traffic Control	EACH	0.900	0.900
0228	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	75,743.000	75,743.000
0232	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	1,000.000	1,000.000
0234	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	37,452.000	37,452.000
0244	646.9000	Marking Removal Line 4-Inch	LF	828.000	828.000
0246	648.0100	Locating No-Passing Zones	MI	7.500	7.500
0248	649.0105	Temporary Marking Line Paint 4-Inch	LF	37,362.000	37,362.000
0250	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	2,161.000	2,161.000
0254	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	24.000	24.000
0258	650.6000	Construction Staking Pipe Culverts	EACH	24.000	24.000
0260	650.8000	Construction Staking Resurfacing Reference	LF	39,901.000	39,901.000
0262	650.9910	Construction Staking Supplemental Control (project) 01. 1430-18-71	LS	1.000	1.000
0266	690.0150	Sawing Asphalt	LF	4,138.000	4,138.000
0268	690.0250	Sawing Concrete	LF	19,229.000	19,229.000
0270	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0272	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,000.000	2,000.000
0274	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,320.000	1,320.000
0278	SPV.0060	Special 02. HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	2.000	2.000
0280	SPV.0060	Special 03. HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0282	SPV.0060	Special 04. Grading Shaping and Finishing Cross Culverts	EACH	13.000	13.000
0284	SPV.0090	Special 01. Grading Shaping and Finishing Ditches	LF	1,393.000	1,393.000
0286	SPV.0105	Special 02. Railing Tubular Type J B-20-0023	LS	1.000	1.000

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 EACH
0010	502+56	STH 23	1
0010	644+34	STH 23 RT	1
0010	651+73	STH 23	1
0010	696+74	STH 23	1
0010	708+74	STH 23	1
0010	744+25	STH 23	1
0010	770+35	STH 23	1
0010	776+50	STH 23	2
0010	785+63	STH 23	1
0010	795+10	STH 23	1
0010	857+45	STH 23	1
		TOTAL	12

REMOVING PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	204.0100 SY
0010	833+70	-	833+85	STH 23	73
0010	835+19	-	835+34	STH 23	73
				TOTAL	146

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	690.0150* SAWING ASPHALT LF	REMARKS
0010	486+60	STH 23	52	75	FE
0010	500+00	STH 23	37	55	FE
0010	504+75	STH 23	37	55	PE
0010	510+50	STH 23	22	53	FE
0010	512+50	STH 23	56	80	FE
0010	516+90	STH 23	56	80	FE
0010	526+40	STH 23	64	90	PE
0010	532+65	STH 23	48	70	FE
0010	538+35	STH 23	95	130	PE & FE
0010	573+65	STH 23	33	50	FE
0010	575+35	STH 23	33	50	PE
0010	576+62	STH 23	64	90	PE & FE
0010	586+10	STH 23	48	70	FE
0010	589+65	STH 23	29	45	PE
0010	589+15	STH 23	122	165	PE & FE
0010	591+65	STH 23	29	45	PE
0010	594+65	STH 23	29	45	PE
0010	597+25	STH 23	40	60	PE
0010	603+25	STH 23	40	60	PE
0010	603+25	STH 23	40	60	PE
0010	603+50	STH 23	25	40	PE
0010	604+50	STH 23	52	75	PE
0010	606+15	STH 23	64	90	PE
0010	614+75	STH 23	44	65	PE
0010	617+00	STH 23	37	55	FE
0010	620+00	STH 23	30	50	FE
0010	623+00	STH 23	33	50	FE
0010	644+00	STH 23	29	45	FE
0010	660+00	STH 23	87	120	PE
0010	681+70	STH 23	33	50	PE
0010	713+15	STH 23	33	50	FE
0010	714+25	STH 23	40	60	FE
0010	739+50	STH 23 LT	48	70	FE
0010	739+50	STH 23 RT	40	60	FE
0010	752+30	STH 23 LT	44	65	PE
0010	752+30	STH 23 RT	44	65	FE
0010	763+50	STH 23 LT	33	50	FE
0010	763+50	STH 23 RT	33	50	FE
0010	771+35	STH 23	40	60	PE
0010	779+65	STH 23	56	80	PE
0010	788+50	STH 23	33	50	FE
		SUBTOTALS	1812	2668	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

REMOVING ASPHALTIC SURFACE (CONT.)

CATEGORY	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	690.0150* SAWING ASPHALT LF	REMARKS
0010	860+30	STH 23	40	60	PE
0010	862+00	STH 23	56	80	PE
0010	864+10	STH 23	37	55	PE
0010	789+05	STH 23	40	60	PE
0010	789+80	STH 23	44	65	PE
0010	798+40	STH 23	33	50	PE
0010	811+10	STH 23	33	50	FE
0010	824+10	STH 23	37	55	FE
		SUBTOTALS	320	475	
		TOTALS	**2132**	**3143**	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

REMOVING GUARDRAIL

CATEGORY	LOCATION	204.0165 LF	REMARKS
0010	B-20-23	146	SW
0010	B-20-23	71	NW
0010	B-20-23	146	NE
0010	B-20-23	71	SE
	TOTAL	434	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

CATEGORY	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	690.0150* SAWING ASPHALT LF	REMARKS
0010	3+88	HILL RD	4	20	
0010	0+12	PAUL DR	6	28	
0010	508+96	STH 23 RT	6	28	DRIVEWAY
0010	524+10	STH 23 RT	6	29	DRIVEWAY
0010	540+61	STH 23 LT	10	46	DRIVEWAY
0010	558+56	STH 23 LT	8	38	DRIVEWAY
0010	561+92	STH 23 RT	3	15	DRIVEWAY
0010	6+92	CTH C NORTH	5	22	
0010	3+73	CTH C SOUTH	4	20	
0010	574+34	STH 23 RT	8	37	DRIVEWAY
0010	574+73	STH 23 LT	5	22	DRIVEWAY
0010	594+70	STH 23 LT	5	22	DRIVEWAY
0010	6+12	ROSE ELD RD	5	22	
0010	4+00	CRESCENT RD	4	18	
0010	631+13	STH 23 LT	9	40	DRIVEWAY
0010	631+13	STH 23 RT	8	37	DRIVEWAY
0010	1+53	HENRICH RD	4	20	
0010	644+30	STH 23 RT	7	32	DRIVEWAY
0010	646+78	STH 23 RT	6	29	DRIVEWAY
0010	3+33	JOHNSON RD	5	22	
0010	1+35	PRIEPKE RD	5	22	
0010	4+67	SMITH RD NORTH	4	16	
0010	5+01	SMITH RD SOUTH	5	24	
0010	726+36	STH 23 LT	7	30	DRIVEWAY
0010	5+00	PRIEPKE RD	5	24	
0010	2+85	CTH Y	5	22	
0010	1+11	HAGEMAN RD	4	16	
0010	3+73	FISHER RD	4	20	
0010	799+00	STH 23 LT	5	23	DRIVEWAY
0010	807+00	STH 23 LT	9	40	DRIVEWAY
0010	1+09	KARST DR	5	24	
0010	816+74	STH 23 LT	6	26	DRIVEWAY
0010	4+73	WEST LN	5	22	
0010	1+26	CTH I	5	24	
0010	851+05	STH 23 RT	6	25	DRIVEWAY
0010	853+80	STH 23 RT	9	40	DRIVEWAY
0010	865+34	STH 23 RT	4	20	DRIVEWAY
0010	867+48	STH 23	7	30	EAST LIMITS
		TOTALS	221	995	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN THE PLAN

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION	TO	STATION	LOCATION	204.0120 SY	REMARKS
0010	473+76	-	872+77	STH 23	106403	DRIVING LANES
0010	473+76	-	872+77	STH 23	26601	SHOULDERS
0010	3+88	-	4+87	HILL RD	424	
0010	0+12	-	1+09	PAUL DR	461	
0010	6+06	-	6+92	CTH C NORTH	763	INCLUDES TURN LANE
0010	3+73	-	4+47	CTH C SOUTH	827	INCLUDES TURN LANE
0010	5+55	-	6+12	ROSE ELD RD	748	INCLUDES TURN LANE
0010	4+00	-	4+65	CRESCENT RD	356	
0010	0+16	-	1+53	HENRICH RD	549	
0010	3+33	-	4+80	JOHNSON RD	607	
0010	0+14	-	1+35	PRIEPKE RD	483	
0010	3+39	-	4+67	SMITH RD NORTH	711	
0010	5+01	-	6+30	SMITH RD SOUTH	689	
0010	5+00	-	5+38	PRIEPKE RD	451	
0010	2+85	-	3+52	CTH Y	635	INCLUDES TURN LANE
0010	0+23	-	1+11	HAGEMAN RD	401	
0010	3+73	-	4+68	FISHER RD	410	
0010	0+12	-	1+09	KARST DR	413	
0010	4+73	-	5+66	WEST LN	382	
0010	0+12	-	1+26	CTH I	736	INCLUDES TURN LANE
0010				BYPASS LANES	6944	BYPASS LANES
				TOTAL	149993	

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

CATEGORY	STATION	TO	STATION	LOCATION	211.0400 STA	REMARKS
0010	473+76	-	867+48	STH 23 LT	394	
0010	473+76	-	867+48	STH 23 RT	394	
				TOTAL	787	

PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT)

CATEGORY	LOCATION	211.0100 LS	REMARKS
0010	1430-18-71	1	
	TOTAL	1	

BASE AGGREGATE DENSE SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
0010	473+76	-	478+43	STH 23 RT	59.9	-	0.84	5' SHOULDER
0010	480+76	-	490+90	STH 23 RT	130.1	-	1.82	5' SHOULDER
0010	565+66	-	599+14	STH 23 RT	217.4	-	3.04	5' SHOULDER
0010	601+40	-	633+84	STH 23 RT	210.7	-	2.95	5' SHOULDER
0010	633+84	-	641+81	STH 23 RT	40.9	-	0.57	2' SHOULDER
0010	641+81	-	668+40	STH 23 RT	172.7	-	2.42	5' SHOULDER
0010	671+15	-	681+11	STH 23 RT	64.7	-	0.91	5' SHOULDER
0010	681+11	-	689+04	STH 23 RT	40.7	-	0.57	2' SHOULDER
0010	689+04	-	699+54	STH 23 RT	68.2	-	0.95	5' SHOULDER
0010	701+34	-	742+28	STH 23 RT	265.9	-	3.72	5' SHOULDER
0010	746+74	-	767+43	STH 23 RT	134.4	-	1.88	5' SHOULDER
0010	767+43	-	774+81	STH 23 RT	37.9	-	0.53	2' SHOULDER
0010	774+81	-	784+09	STH 23 RT	60.3	-	0.84	5' SHOULDER
0010	786+19	-	808+18	STH 23 RT	142.8	-	2.00	5' SHOULDER
0010	808+18	-	814+75	STH 23 RT	33.7	-	0.47	2' SHOULDER
0010	814+75	-	828+60	STH 23 RT	89.9	-	1.26	5' SHOULDER
0010	830+70	-	848+04	STH 23 RT	112.6	-	1.58	5' SHOULDER
0010	848+04	-	854+60	STH 23 RT	33.7	-	0.47	2' SHOULDER
0010	854+60	-	872+77	STH 23 RT	118.0	-	1.65	5' SHOULDER
0010	473+76	-	475+68	STH 23 LT	24.6	-	0.34	5' SHOULDER
0010	475+68	-	483+56	STH 23 LT	40.5	-	0.57	2' SHOULDER
0010	483+56	-	488+26	STH 23 LT	60.3	-	0.84	5' SHOULDER
0010	488+26	-	496+18	STH 23 LT	40.7	-	0.57	2' SHOULDER
0010	496+18	-	563+62	STH 23 LT	438.0	-	6.13	5' SHOULDER
0010	565+59	-	568+22	STH 23 LT	6.8	-	0.10	2' SHOULDER
0010	568+22	-	599+03	STH 23 LT	200.1	-	2.80	5' SHOULDER
0010	600+90	-	603+44	STH 23 LT	6.6	-	0.09	2' SHOULDER
0010	603+44	-	636+85	STH 23 LT	217.0	-	3.04	5' SHOULDER
0010	638+85	-	666+21	STH 23 LT	177.7	-	2.49	5' SHOULDER
0010	666+21	-	674+13	STH 23 LT	40.7	-	0.57	2' SHOULDER
0010	674+13	-	683+97	STH 23 LT	63.9	-	0.89	5' SHOULDER
0010	686+44	-	700+37	STH 23 LT	90.5	-	1.27	5' SHOULDER
0010	702+75	-	744+65	STH 23 LT	272.1	-	3.81	5' SHOULDER
0010	746+92	-	771+36	STH 23 LT	158.7	-	2.22	5' SHOULDER
0010	773+42	-	781+79	STH 23 LT	54.4	-	0.76	5' SHOULDER
0010	781+79	-	788+36	STH 23 LT	33.7	-	0.47	2' SHOULDER
0010	788+36	-	810+24	STH 23 LT	142.1	-	1.99	5' SHOULDER
0010	812+63	-	826+29	STH 23 LT	88.7	-	1.24	5' SHOULDER
0010	826+29	-	832+86	STH 23 LT	33.7	-	0.47	2' SHOULDER
0010	832+86	-	833+85	STH 23 LT	6.4	-	0.09	5' SHOULDER
				SUBTOTALS	4232	0	59	

BASE AGGREGATE DENSE SUMMARY (CONT.)

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
0010	835+19	-	850+08	STH 23 LT	96.7	-	1.35	5' SHOULDER
0010	852+79	-	872+77	STH 23 LT	129.8	-	1.82	5' SHOULDER
0010	3+88	-	4+87	HILL RD	5.1	-	0.07	
0010	0+12	-	1+09	PAUL DR	5.0	-	0.07	
0010	6+06	-	6+92	CTH C NORTH	4.5	-	0.06	
0010	3+73	-	4+47	CTH C SOUTH	3.8	-	0.05	
0010	5+55	-	6+12	ROSE-ELD RD	3.0	-	0.04	
0010	4+00	-	4+65	CRESCENT RD	3.4	-	0.05	
0010	0+16	-	1+53	HENRICH RD	7.1	-	0.10	
0010	3+33	-	4+80	JOHNSON RD	7.6	-	0.11	
0010	0+14	-	1+35	PRIEPKE RD	6.3	-	0.09	
0010	3+39	-	4+67	SMITH RD WEST	6.7	-	0.09	
0010	5+01	-	6+30	SMITH RD EAST	6.7	-	0.09	
0010	5+00	-	5+38	PRIEPKE RD	2.0	-	0.03	
0010	2+85	-	3+52	CTH Y	3.5	-	0.05	
0010	0+23	-	1+11	HAGEMAN RD	4.6	-	0.06	
0010	3+73	-	4+68	FISHER RD	4.9	-	0.07	
0010	0+12	-	1+09	KARL DR	5.0	-	0.07	
0010	4+73	-	5+66	WEST LN	4.8	-	0.07	
0010	0+12	-	1+26	CTH I	5.9	-	0.08	
0010				DRIVEWAYS	272.1	-	3.81	
0010				UNDISTRIBUTED	-	3932.0	55.05	BASE PATCHING
0010				UNDISTRIBUTED	482.0	-	6.75	
				SUBTOTALS	1071	3932	70	
				TOTALS	**5302**	**3932**	**129**	

BASE PATCHING CONCRETE

CATEGORY	STATION	TO	STATION	LOCATION	390.0303 BASE PATCHING CONCRETE SY	690.0250 SAWING CONCRETE EACH	REMARKS
0010	501+67	-	503+45	STH 23	472	60	CULVERT REPLACEMENT
0010	651+10	-	652+35	STH 23	334	60	CULVERT REPLACEMENT
0010	696+13	-	697+36	STH 23	327	60	CULVERT REPLACEMENT
0010	708+21	-	709+27	STH 23	283	60	CULVERT REPLACEMENT
0010	743+52		744+99	STH 23	392	82	CULVERT REPLACEMENT
0010	769+77	-	770+93	STH 23	308	86	CULVERT REPLACEMENT
0010	775+74	-	777+26	STH 23	405	70	CULVERT REPLACEMENT
0010	785+10	-	786+16	STH 23	285	105	CULVERT REPLACEMENT
0010	794+53	-	795+67	STH 23	302	60	CULVERT REPLACEMENT
0010	856+78	-	858+11	STH 23	356	62	CULVERT REPLACEMENT
0010	BECKER	-	HILL	STH 23	80	330	BASE PATCHING
0010	HILL	-	PAUL	STH 23	352	1452	BASE PATCHING
0010	PAUL	-	CTH C	STH 23	560	2310	BASE PATCHING
0010	CTH C	-	CRESCENT	STH 23	592	2442	BASE PATCHING
0010	CRESCENT	-	HENRICH	STH 23	512	2112	BASE PATCHING
0010	HENRICH	-	JOHNSON	STH 23	512	2112	BASE PATCHING
0010	JOHNSON	-	PRIEPKE	STH 23	128	528	BASE PATCHING
0010	PRIEPKE	-	SMITH	STH 23	208	858	BASE PATCHING
0010	SMITH	-	CTH Y	STH 23	416	1716	BASE PATCHING
0010	CTH Y	-	HAGEMAN	STH 23	256	1056	BASE PATCHING
0010	HAGEMAN	-	FISHER	STH 23	16	66	BASE PATCHING
0010	FISHER	-	KARST	STH 23	64	264	BASE PATCHING
0010	KARST	-	WEST	STH 23	96	396	BASE PATCHING
0010	WEST	-	CTH I	STH 23	96	396	BASE PATCHING
0010	CTH I	-	TOWNLINE	STH 23	64	264	BASE PATCHING
0010	833+60	-	833+70	STH 23	25	237	EXIST APPROACH SLAB
0010	835+34	-	835+44	STH 23	25	237	EXIST APPROACH SLAB
				UNDISTRIBUTED	395	1748	
				TOTALS	7863	19229	

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION	TO	STATION	LOCATION	415.0410 SY	REMARKS
0010	833+70	-	833+85	STH 23 LT	73	
0010	835+19	-	835+34	STH 23 RT	73	
				TOTAL	146	

ASPHALT SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	HMA PAVEMENT 3 MT 58-28 S 460.6223 TON	PWL DENSITY INCENTIVE TON*	PWL AIR VOIDS TON**	HMA PAVEMENT 4 MT 58-28 S 460.6224 TON	PWL DENSITY INCENTIVE TON*	PWL AIR VOIDS TON**	465.0110 ASPHALTIC SURFACE PATCHING TON	REMARKS
0010	473+76	-	833+85	STH 23 RT	5761	6422	6422	6422	5101	5101	5101	-	DRIVING LANE
0010	835+19	-	872+77	STH 23 RT	601	670	670	670	532	532	532	-	DRIVING LANE
0010	473+76	-	833+85	STH 23 LT	5761	6422	6422	6422	5101	5101	5101	-	DRIVING LANE
0010	835+19	-	872+77	STH 23 LT	601	670	670	670	532	532	532	-	DRIVING LANE
0010	473+76	-	478+43	STH 23 RT	31	35	-	35	28	-	28	-	5' SHOULDER
0010	480+76	-	490+90	STH 23 RT	68	75	-	75	60	-	60	-	5' SHOULDER
0010	565+66	-	599+14	STH 23 RT	223	249	-	249	198	-	198	-	5' SHOULDER
0010	601+40	-	633+84	STH 23 RT	216	241	-	241	191	-	191	-	5' SHOULDER
0010	633+84	-	641+81	STH 23 RT	11	12	-	12	9	-	9	-	1' SHOULDER
0010	641+81	-	668+40	STH 23 RT	177	198	-	198	157	-	157	-	5' SHOULDER
0010	671+15	-	681+11	STH 23 RT	66	74	-	74	59	-	59	-	5' SHOULDER
0010	681+11	-	689+04	STH 23 RT	11	12	-	12	9	-	9	-	1' SHOULDER
0010	689+04	-	699+54	STH 23 RT	70	78	-	78	62	-	62	-	5' SHOULDER
0010	701+34	-	742+28	STH 23 RT	273	304	-	304	242	-	242	-	5' SHOULDER
0010	746+74	-	767+43	STH 23 RT	138	154	-	154	122	-	122	-	5' SHOULDER
0010	767+43	-	774+81	STH 23 RT	10	11	-	11	9	-	9	-	1' SHOULDER
0010	774+81	-	784+09	STH 23 RT	62	69	-	69	55	-	55	-	5' SHOULDER
0010	786+19	-	808+18	STH 23 RT	147	163	-	163	130	-	130	-	5' SHOULDER
0010	808+18	-	814+75	STH 23 RT	9	10	-	10	8	-	8	-	1' SHOULDER
0010	814+75	-	828+60	STH 23 RT	92	103	-	103	82	-	82	-	5' SHOULDER
0010	830+70	-	848+04	STH 23 RT	116	129	-	129	102	-	102	-	5' SHOULDER
0010	848+04	-	854+60	STH 23 RT	9	10	-	10	8	-	8	-	1' SHOULDER
0010	854+60	-	872+77	STH 23 RT	121	135	-	135	107	-	107	-	5' SHOULDER
0010	473+76	-	475+68	STH 23 LT	13	14	-	14	11	-	11	-	5' SHOULDER
0010	475+68	-	483+56	STH 23 LT	53	59	-	59	47	-	47	-	1' SHOULDER
0010	483+56	-	488+26	STH 23 LT	31	35	-	35	28	-	28	-	5' SHOULDER
0010	488+26	-	496+18	STH 23 LT	11	12	-	12	9	-	9	-	1' SHOULDER
0010	496+18	-	563+62	STH 23 LT	450	501	-	501	398	-	398	-	5' SHOULDER
0010	565+59	-	568+22	STH 23 LT	4	4	-	4	3	-	3	-	1' SHOULDER
0010	568+22	-	599+03	STH 23 LT	205	229	-	229	182	-	182	-	5' SHOULDER
0010	600+90	-	603+44	STH 23 LT	3	4	-	4	3	-	3	-	1' SHOULDER
0010	603+44	-	636+85	STH 23 LT	223	248	-	248	197	-	197	-	5' SHOULDER
0010	638+85	-	666+21	STH 23 LT	182	203	-	203	162	-	162	-	5' SHOULDER
0010	666+21	-	674+13	STH 23 LT	11	12	-	12	9	-	9	-	1' SHOULDER
0010	674+13	-	683+97	STH 23 LT	66	73	-	73	58	-	58	-	5' SHOULDER
0010	686+44	-	700+37	STH 23 LT	93	104	-	104	82	-	82	-	5' SHOULDER
0010	702+75	-	744+65	STH 23 LT	279	311	-	311	247	-	247	-	5' SHOULDER
0010	746+92	-	771+36	STH 23 LT	163	182	-	182	144	-	144	-	5' SHOULDER
0010	773+42	-	781+79	STH 23 LT	56	62	-	62	49	-	49	-	5' SHOULDER
0010	781+79	-	788+36	STH 23 LT	9	10	-	10	8	-	8	-	1' SHOULDER
				SUBTOTAL	16424	18306	14184	18306	14542	11267	14542	0	

* Tonnage is eligible for Incentive Density PWL 460.2005.

** Tonnage is eligible for Incentive Air Voids 460.2010 and density is tested for acceptance in those areas.

ASPHALT SUMMARY (CONT.)

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	HMA PAVEMENT 3 MT 58-28 S 460.6223 TON	PWL DENSITY INCENTIVE TON*	PWL AIR VOIDS TON**	HMA PAVEMENT 4 MT 58-28 S 460.6224 TON	PWL DENSITY INCENTIVE TON*	PWL AIR VOIDS TON**	465.0110 ASPHALTIC SURFACE PATCHING TON	REMARKS
0010	788+36	-	810+24	STH 23 LT	146	163	-	163	129	-	129	-	5' SHOULDER
0010	812+63	-	826+29	STH 23 LT	91	102	-	102	81	-	81	-	5' SHOULDER
0010	826+29	-	832+86	STH 23 LT	9	10	-	10	8	-	8	-	1' SHOULDER
0010	832+86	-	833+85	STH 23 LT	7	7	-	7	6	-	6	-	5' SHOULDER
0010	835+19	-	850+08	STH 23 LT	99	111	-	111	88	-	88	-	5' SHOULDER
0010	852+79	-	872+77	STH 23 LT	133	148	-	148	118	-	118	-	5' SHOULDER
0010	3+88	-	4+87	HILL RD	82	91	-	91	73	-	73	-	
0010	0+12	-	1+09	PAUL DR	77	86	-	86	68	-	68	-	
0010	6+06	-	6+92	CTH C NORTH	154	171	-	171	136	-	136	-	INCLUDES TURN LANE
0010	3+73	-	4+47	CTH C SOUTH	145	161	-	161	128	-	128	-	INCLUDES TURN LANE
0010	5+55	-	6+12	ROSE-ELD RD	132	147	-	147	117	-	117	-	
0010	4+00	-	4+65	CRESCENT RD	73	82	-	82	65	-	65	-	INCLUDES TURN LANE
0010	0+16	-	1+53	HENRICH RD	126	140	-	140	111	-	111	-	
0010	3+33	-	4+80	JOHNSON RD	108	121	-	121	96	-	96	-	
0010	0+14	-	1+35	PRIEPKE RD	101	112	-	112	89	-	89	-	
0010	3+39	-	4+67	SMITH RD WEST	95	105	-	105	84	-	84	-	
0010	5+01	-	6+30	SMITH RD EAST	101	113	-	113	90	-	90	-	
0010	5+00	-	5+38	PRIEPKE RD	104	116	-	116	92	-	92	-	
0010	2+85	-	3+52	CTH Y	134	149	-	149	119	-	119	-	INCLUDES TURN LANE
0010	0+23	-	1+11	HAGEMAN RD	81	91	-	91	72	-	72	-	
0010	3+73	-	4+68	FISHER RD	82	91	-	91	72	-	72	-	
0010	0+12	-	1+09	KARL DR	82	92	-	92	73	-	73	-	
0010	4+73	-	5+66	WEST LN	81	91	-	91	72	-	72	-	
0010	0+12	-	1+26	CTH I	124	138	-	138	110	-	110	-	INCLUDES TURN LANE
0010				BYPASS LANES	833	929	-	929	738	-	738	-	
0010				UNDISTRIBUTED	5047	1094	-	-	869	-	-	2061	
				SUBTOTAL	8246	4660	0	3566	3702	0	2833	2061	
				TOTAL	**24671**	**22966**	**14184**	**21873**	**18244**	**11267**	**17375**	**2061**	

* Tonnage is eligible for Incentive Density PWL 460.2005.

** Tonage is eligible for Incentive Air Voids 460.2010 and density is tested for acceptance in those areas.

HMA PERCENT WITHIN LIMITS (PWL) TEST STRIPS

CATEGORY	LOCATION	SPV.0600.02 VOLUMETRICS EACH	SPV.0600.03 DENSITY EACH
0010	LOWER LAYER	1	1
0010	UPPER LAYER	1	1
	TOTAL	2	2

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REHEATING HMA PAVEMENT LONGITUDINAL JOINTS

CATEGORY	STATION	TO	STATION	LOCATION	460.4110.S LF	REMARKS
0010	473+76	-	872+77	STH 23 LT	39901	
0010	473+76	-	872+77	STH 23 RT	39901	
				TOTAL	79802	

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

CATEGORY	STATION	LOCATION	465.0120 TON	REMARKS
0010	508+96 RT	STH 23	9	
0010	524+10 RT	STH 23	10	
0010	540+61 LT	STH 23	14	
0010	558+56 LT	STH 23	12	
0010	561+92 RT	STH 23	6	
0010	574+34 RT	STH 23	11	
0010	574+73 LT	STH 23	8	
0010	594+70 LT	STH 23	7	
0010	631+13 LT	STH 23	12	
0010	631+13 RT	STH 23	18	
0010	644+30 RT	STH 23	11	
0010	646+78 RT	STH 23	10	
0010	726+36 LT	STH 23	11	
0010	799+00 LT	STH 23	7	
0010	807+00 LT	STH 23	9	
0010	816+74 LT	STH 23	9	
0010	851+05 RT	STH 23	10	
0010	853+80 RT	STH 23	18	
0010	865+34 LT	STH 23	8	
		TOTAL	199	

ASPHALT SHOULDER RUMBLE STRIPS 2-LANE RURAL

CATEGORY	STATION	TO	STATION	LOCATION	465.0425 LF	REMARKS
0010	473+76	-	475+68	STH 23 LT	192	
0010	483+56	-	488+26	STH 23 LT	470	
0010	495+82	-	526+13	STH 23 LT	3031	
0010	526+77	-	540+24	STH 23 LT	1347	
0010	540+86	-	558+17	STH 23 LT	1731	
0010	558+77	-	562+99	STH 23 LT	422	
0010	568+72	-	574+34	STH 23 LT	562	
0010	575+00	-	594+36	STH 23 LT	1936	
0010	595+01	-	598+40	STH 23 LT	339	
0010	607+44	-	614+29	STH 23 LT	685	
0010	615+05	-	621+84	STH 23 LT	679	
0010	622+45	-	630+81	STH 23 LT	836	
0010	631+49	-	636+07	STH 23 LT	458	
0010	639+78	-	664+91	STH 23 LT	2513	
0010	665+61	-	666+75	STH 23 LT	114	
0010	673+77	-	681+34	STH 23 LT	757	
0010	682+00	-	683+19	STH 23 LT	119	
0010	686+87	-	699+66	STH 23 LT	1279	
0010	703+56	-	726+01	STH 23 LT	2245	
0010	726+72	-	744+00	STH 23 LT	1728	
0010	747+70	-	751+97	STH 23 LT	427	
0010	752+61	-	770+67	STH 23 LT	1806	
0010	774+22	-	782+33	STH 23 LT	811	
0010	788+36	-	789+48	STH 23 LT	112	
0010	790+09	-	798+69	STH 23 LT	860	
0010	799+36	-	806+59	STH 23 LT	723	
0010	807+23	-	809+57	STH 23 LT	234	
0010	813+38	-	816+39	STH 23 LT	301	
0010	817+05	-	826+83	STH 23 LT	978	
0010	835+25	-	849+30	STH 23 LT	1405	
0010	853+92	-	860+05	STH 23 LT	613	
0010	860+66	-	861+64	STH 23 LT	98	
0010	862+27	-	864+98	STH 23 LT	271	
0010	865+62	-	867+48	STH 23 LT	186	
0010	473+76	-	477+43	STH 23 RT	367	
0010	481+47	-	489+80	STH 23 RT	833	
0010	494+60	-	504+43	STH 23 RT	983	
0010	505+08	-	508+62	STH 23 RT	354	
0010	509+26	-	522+97	STH 23 RT	1371	
0010	524+62	-	537+96	STH 23 RT	1334	
				SUBTOTAL	30268	

ASPHALT SHOULDER RUMBLE STRIPS 2-LANE RURAL (CONT.)

CATEGORY	STATION	TO	STATION	LOCATION	465.0425 LF	REMARKS
0010	538+61	-	560+27	STH 23 RT	2166	
0010	566+42	-	573+93	STH 23 RT	751	
0010	575+62	-	589+34	STH 23 RT	1372	
0010	590+00	-	591+27	STH 23 RT	127	
0010	591+88	-	598+07	STH 23 RT	619	
0010	602+29	-	602+94	STH 23 RT	65	
0010	603+56	-	630+84	STH 23 RT	2728	
0010	631+48	-	633+84	STH 23 RT	236	
0010	641+49	-	643+18	STH 23 RT	169	
0010	645+14	-	646+46	STH 23 RT	132	
0010	647+08	-	659+15	STH 23 RT	1207	
0010	661+09	-	667+42	STH 23 RT	633	
0010	672+22	-	678+32	STH 23 RT	610	
0010	680+01	-	681+48	STH 23 RT	147	
0010	688+49	-	698+46	STH 23 RT	997	
0010	702+30	-	740+78	STH 23 RT	3848	
0010	747+51	-	767+43	STH 23 RT	1992	
0010	774+81	-	779+32	STH 23 RT	451	
0010	779+94	-	782+99	STH 23 RT	305	
0010	787+09	-	788+68	STH 23 RT	159	
0010	789+28	-	798+08	STH 23 RT	880	
0010	798+73	-	808+18	STH 23 RT	945	
0010	814+75	-	827+50	STH 23 RT	1275	
0010	831+10	-	833+79	STH 23 RT	269	
0010	835+34	-	848+04	STH 23 RT	1270	
0010	854+12	-	863+81	STH 23 RT	969	
0010	864+46		867+48	STH 23 RT	302	
				SUBTOTAL	24624	
				TOTAL	**54892**	

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ASPHALT CENTER LINE RUMBLE STRIPS 2-LANE RURAL

CATEGORY	STATION	TO	STATION	LOCATION	465.0475 LF	REMARKS
0010	481+90	-	490+50	STH 23	860	
0010	494+50	-	562+60	STH 23	6810	
0010	566+60	-	598+28	STH 23	3168	
0010	602+38	-	635+56	STH 23	3318	
0010	639+56	-	668+50	STH 23	2894	
0010	672+50	-	682+82	STH 23	1032	
0010	686+82	-	699+00	STH 23	1218	
0010	703+00	-	742+63	STH 23	3963	
0010	746+63	-	770+23	STH 23	2360	
0010	774+23	-	783+24	STH 23	901	
0010	787+24	-	809+32	STH 23	2208	
0010	813+32	-	827+71	STH 23	1439	
0010	831+71	-	833+78	STH 23	207	
0010	835+27	-	849+17	STH 23	1390	
0010	853+17	-	867+48	STH 23	1431	
				TOTAL	33199	

CLEANING CULVERT PIPES

CATEGORY	STATION	LOCATION	520.8700 EACH	REMARKS
0010	715+94	STH 23	1	
		TOTAL	1	

CULVERT PIPE CORRUGATED STEEL SUMMARY

CATEGORY	STATION	LOCATION	PIPE THICKNESS	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT	521.1018 AEW 18-INCH EACH	521.3118 18-INCH LF	650.6000* CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	644+34	STH 23 RT	0.064"	878.59	878.32	0.0067	2	40	2
					TOTALS		2	40	2

* ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

CULVERT PIPE REINFORCED CONCRETE CLASS IV SUMMARY

CATEGORY	STATION	LOCATION	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT	504.0900 CONCRETE MASONRY ENDWALLS CY	522.0436 36-INCH LF	522.0448 48-INCH LF	522.2424 HE-IV 24X38 INCH LF	522.2429 HE-IV 29X45 INCH LF	522.2434 HE-IV 34X53 INCH LF	522.1048 AEW 48-INCH EACH	522.2624 AEW HE-IV 24X38 INCH EACH	522.2629 AEW HE-IV 29X45 INCH EACH	522.2634 AEW HE-IV 34X53 INCH EACH	633.5200 MARKERS CULVERT END EACH	650.6000* CONSTRUCTION STAKING PIPE CULVERTS EACH	SPV.0060.04 GRADING SHAPING & FINISHING CROSS CULVERTS EACH	REMARKS
0010	502+56	STH 23	892.59	892.55	0.0005	-	-	88	-	-	-	2	-	-	-	2	2	1	
0010	507+37	STH 23 RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	PIPE EXPOSED
0010	566+73	STH 23 LT/RT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	PIPE EXPOSED
0010	651+73	STH 23	876.30	873.89	0.0274	-	-	-	-	-	88	-	-	-	2	2	2	1	
0010	696+74	STH 23	878.83	878.22	0.0076	-	-	-	-	80	-	-	-	2	-	2	2	1	
0010	708+74	STH 23	890.28	889.34	0.0117	-	-	-	80	-	-	-	2	-	-	2	2	1	
0010	744+25	STH 23	876.93	876.53	0.0045	-	-	88	-	-	-	2	-	-	-	2	2	1	
0010	770+35	STH 23	856.31	855.71	0.0075	-	-	-	-	-	80	-	-	-	2	2	2	1	
0010	776+50	STH 23	852.78	852.35	0.0049	13	264	-	-	-	-	-	-	-	-	4	4	1	3 PIPES
0010	785+63	STH 23	853.17	852.49	0.0085	-	-	-	-	80	-	-	-	2	-	2	2	1	
0010	795+10	STH 23	849.19	847.21	0.0248	-	-	-	-	-	80	-	-	-	2	2	2	1	
0010	808+16	STH 23 LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	PIPE EXPOSED
0010	857+45	STH 23	856.32	856.10	0.0028	-	-	-	-	-	80	-	-	-	2	2	2	1	
					TOTALS	13	264	176	80	160	328	4	2	4	8	22	22	13	

* ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

** NON-BID ITEM: FOR INFORMATION ONLY

CONCRETE BARRIER TEMPORARY PRECAST

CATEGORY	LOCATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF	614.0905 CRASH CUSHION TEMPORARY EACH	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
0010	B-20-23	338	676	2	2	OM-3L (L5-58L)	TL-2	UNIDIRECTIONAL	L	TEMP. BARRIER ON SHOULDER
	TOTALS	338	676	2						

BEAM GUARD SUMMARY

CATEGORY	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	REMARKS
0010	STH 23 LT	1	38	39	1	NE
0010	STH 23 LT	1	88	39	1	NW
0010	STH 23 RT	1	88	39	1	SE
0010	STH 23 RT	1	38	39	1	SW
	TOTALS	4	250	156	4	

FINISHING SUMMARY

STATION	TO	STATION	LOCATION	* WATER MGAL	* TOPSOIL SY	* EROSION MAT CLASS I TYPE A SY	* MULCH SY	* FERTILIZER TYPE B CWT	* SEEDING MIXTURE NO. 20 LB	REMARKS
		502+56	STH 23	1.09	194	194	-	0.06	3.49	CULVERT
565+74	-	572+75	STH 23 LT	10.93	1951	935	1017	0.61	35.12	DITCHING
639+68	-	646+60	STH 23 RT	13.37	2388	923	1465	0.75	42.99	DITCHING
		651+73	STH 23	4.06	726	726	-	0.23	13.07	CULVERT
		696+74	STH 23	2.44	436	436	-	0.14	7.84	CULVERT
		708+74	STH 23	1.09	194	194	-	0.06	3.49	CULVERT
		744+25	STH 23	1.90	339	339	-	0.11	6.10	CULVERT
		770+35	STH 23	4.06	726	726	-	0.23	13.07	CULVERT
		776+50	STH 23	1.90	339	339	-	0.11	6.10	CULVERT
		785+63	STH 23	1.90	339	339	-	0.11	6.10	CULVERT
		795+10	STH 23	1.90	339	339	-	0.11	6.10	CULVERT
832+02	-	833+73	STH 23 LT	0.37	66	-	66	0.02	1.19	BEAM GUARD
831+51	-	833+74	STH 23 RT	0.79	142	-	142	0.04	2.55	BEAM GUARD
835+31	-	837+52	STH 23 LT	2.20	392	-	392	0.12	7.06	BEAM GUARD
835+31	-	837+03	STH 23 RT	0.84	150	-	150	0.05	2.70	BEAM GUARD
		857+45	STH 23	4.06	726	726	-	0.23	13.07	CULVERT
			TOTALS	52.89	9445	6213	3232	2.98	170	

1) PAYMENT FOR FURNISHING AND PLACING TOPSOIL, FERTILIZER, SEED, EROSION MAT AND MULCH IS INCIDENTAL TO GRADING SHAPING AND FINISHING ITEMS.
* ITEMS AND QUANTITIES ARE SHOWN FOR INFORMATION PURPOSES.

MOBILIZATIONS EROSION CONTROL

CATEGORY	LOCATION	628.1905 EACH
0010	1430-18-71	5
	TOTAL	5

MOBILIZATIONS EMERGENCY EROSION CONTROL

CATEGORY	LOCATION	628.1910 EACH
0010	1430-18-71	2
	TOTAL	2

TEMPORARY DITCH CHECKS

CATEGORY	STATION	LOCATION	628.7504 LF
0010	502+56	STH 23	20
0010	507+37	STH 23	20
0010	566+74	STH 23	20
0010	651+73	STH 23	20
0010	696+74	STH 23	20
0010	708+74	STH 23	20
0010	715+94	STH 23	20
0010	744+25	STH 23	20
0010	770+35	STH 23	20
0010	776+50	STH 23	20
0010	785+00	STH 23	20
0010	785+63	STH 23	20
0010	795+10	STH 23	20
0010	808+16	STH 23	20
0010	857+45	STH 23	20
		TOTAL	300

CULVERT PIPE CHECKS

CATEGORY	STATION	LOCATION	628.7555 EACH
0010	502+56	STH 23	4
0010	507+37	STH 23	4
0010	566+74	STH 23	4
0010	641+75	STH 23	4
0010	644+25	STH 23 RT	2
0010	646+75	STH 23 RT	2
0010	651+73	STH 23	6
0010	696+74	STH 23	4
0010	708+74	STH 23	4
0010	715+94	STH 23	4
0010	744+25	STH 23	4
0010	770+35	STH 23	4
0010	776+50	STH 23	10
0010	785+63	STH 23	4
0010	795+10	STH 23	4
0010	808+16	STH 23	4
0010	857+45	STH 23	4
		TOTALS	72

TRAFFIC CONTROL SUMMARY

CATEGORY	LOCATION	SERVICE PERIOD DAYS	643.0300 DRUMS NO	643.0300 DRUMS DAYS	643.0420* BARRICADES TYPE III NO	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A NO	643.0705* WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C NO	643.0715 WARNING LIGHTS TYPE C DAYS	643.0900* SIGNS NO	643.0900* SIGNS DAYS
0010	ADVANCED WARNING	115	-	-	16	1840	24	2760	-	-	8	920
0010	SIDE ROADS	115	-	-	-	-	-	-	-	-	19	2185
0010	STH 26 AT SIDEROADS	115	-	-	60	6900	120	13800	-	-	30	3450
0010	B-20-23	60	12	720	1	60	-	-	12	720	21	1260
0010	FLAGGING	68	-	-	-	-	-	-	-	-	10	680
	TOTALS			720		8800		16560		720		8495

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN THE PLAN

TRAFFIC CONTROL

CATEGORY	LOCATION	643.5000 EACH
0010	1430-18-71	0.9
	TOTAL	0.9

TEMPORARY PORTABLE RUMBLE STRIPS

CATEGORY	LOCATION	643.0310.S LS
0010	B-20-0023	1
	TOTAL	1

LOCATING NO-PASSING ZONES

CATEGORY	LOCATION	648.0100 MI	REMARKS
0010	1430-18-71	7.5	
	TOTAL	7.5	

TEMPORARY PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	646.9000 REMOVING PAVEMENT MARKINGS LF	649.0105 4-INCH EPOXY LF	649.0150 4-INCH TAPE LF	649.0850 STOP LINE 18-INCH TAPE LF	REMARKS
0010	473+76	-	501+16	STH 23 WB	-	2740	-	-	SOLID
0010	562+83	-	568+55	STH 23 EB	-	572	-	-	SOLID
0010	574+89	-	583+62	STH 23 WB	-	873	-	-	SOLID
0010	614+92	-	628+02	STH 23 EB	-	1310	-	-	SOLID
0010	628+02	-	641+80	STH 23	-	2756	-	-	DOUBLE SOLID
0010	473+76	-	628+02	STH 23	-	3857	-	-	DASHED
0010	641+80	-	666+21	STH 23	-	610	-	-	DASHED
0010	655+28	-	666+21	STH 23 EB	-	1093	-	-	SOLID
0010	666+21	-	681+12	STH 23	-	2982	-	-	DOUBLE SOLID
0010	681+12	-	705+32	STH 23 EB	-	2420	-	-	SOLID
0010	681+12	-	705+32	STH 23 WB	-	605	-	-	DASHED
0010	705+32	-	728+12	STH 23	-	4560	-	-	DOUBLE SOLID
0010	728+12	-	742+60	STH 23 WB	-	1448	-	-	SOLID
0010	728+12	-	860+00	STH 23	-	3297	-	-	DASHED
0010	780+97	-	794+01	STH 23 WB	-	1304	-	-	SOLID
0010	802+63	-	815+57	STH 23 EB	-	1294	-	-	SOLID
0010	825+50		832+50	STH 23 CL	-	700	-	12	STAGE 1
0010	832+50		836+64	STH 23	414	414	-	-	STAGE 1
0010	832+96		836+09	STH 23 CL	-	347	-	-	STAGE 1
0010	836+64		843+64	STH 23	-	700	-	12	STAGE 1
0010	825+50		832+50	STH 23 CL	-	-	700	-	STAGE 2
0010	832+50		836+64	STH 23	414	-	414	-	STAGE 2
0010	832+96		836+09	STH 23 CL	-	-	347	-	STAGE 2
0010	836+64		843+64	STH 23	-	-	700	-	STAGE 2
0010	844+00	-	860+00	STH 23 EB	-	1600	-	-	SOLID
0010	860+00	-	864+65	STH 23	-	930	-	-	DOUBLE SOLID
0010	864+65	-	872+25	STH 23 WB	-	760	-	-	SOLID
0010	864+65	-	872+25	STH 23 EB	-	190	-	-	DASHED
				TOTALS	828	37362	2161	24	

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1A	STH 23, W. OF HILL BLVD	D1-1	66" X 15"	6.88	---	2	---	---	---	SEE SIGN DETAILS
1	"	I2-3	72" X 24"	12.00	---	2	---	1	2	SEE SIGN DETAILS
2	HILL BLVD	R1-1	30" X 30"	5.18	---	1	---	1	1	
2A	STH 23, E. OF HILL BLVD	D1-1	66" X 15"	6.88	---	2	---	---	---	SEE SIGN DETAILS
2B	"	D1-1	60" X 15"	6.25	---	2	---	---	---	SEE SIGN DETAILS
3	PAUL DR	R1-1	30" X 30"	5.18	---	1	---	1	1	
3A	STH 23, E. OF PAUL DR	D1-1	60" X 15"	6.25	---	2	---	---	---	SEE SIGN DETAILS
4	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
5	STH 23, W. OF CTH C	J1-1	24" X 39"	6.50	---	---	1	1	1	SEE PLAN SHEET
6	"	I55-56	30" X 36"	7.50	---	---	1	1	1	MERCURY MARINE, INCLUDE BRACKET
7	"	D1-1	66" X 15"	6.88	---	2	---	1	2	SEE SIGN DETAILS
8	"	R2-1	24" X 30"	5.00	---	1	---	1	1	55 MPH
9	"	J4-1	24" X 36"	6.00	---	---	1	1	1	SEE PLAN SHEET
10	"	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
11	CTH C	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
12	"	R1-1	36" X 36"	7.46	---	---	1	1	1	
13	"	R1-1	36" X 36"	7.46	---	---	1	1	1	
14	"	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
15	STH 23, E. OF CTH C	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
16	"	J4-1	24" X 36"	6.00	---	---	---	---	---	MOUNT TO BACK OF SIGN 17
17	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
18	"	R2-1	24" X 30"	5.00	---	1	---	1	1	55 MPH
19	"	D1-1	66" X 15"	6.88	---	2	---	1	2	SEE SIGN DETAILS
20	"	I55-56	---	---	---	---	---	1	1	
21	"	J1-1	24" X 39"	6.50	---	---	1	1	1	SEE PLAN SHEET
22	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
22A	"	D1-2	84" X 30"	17.50	---	2	---	---	---	SEE SIGN DETAILS
23	ROSE-ELD RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
24	CRESCENT RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
24A	STH 23, E. OF CRESCENT RD	D1-1	84" X 30"	17.50	---	2	---	---	---	SEE SIGN DETAILS
25	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
26A	STH 23, W. OF HENRICH RD	D1-1	78" X 15"	8.13	---	2	---	---	---	SEE SIGN DETAILS
26	"	I55-56	---	---	---	---	---	1	1	
27	HENRICH RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
28	STH 23, E. OF HENRICH RD	I55-56	30" X 36"	7.50	---	---	1	1	1	MARIAN UNIVERSITY SASM, INCLUDE BRACKET
29	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
29A	"	D1-1	78" X 15"	8.13	---	2	---	---	---	SEE SIGN DETAILS
30	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
31A	"	D1-1	84" X 15"	8.75	---	2	---	---	---	SEE SIGN DETAILS
31	JOHNSON RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
32A	STH 23, W. OF PRIEPKE RD	D1-1	84" X 15"	8.75	---	2	---	---	---	SEE SIGN DETAILS
32B	"	D1-1	78" X 15"	8.13	---	2	---	---	---	SEE SIGN DETAILS
32	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
33	PRIEPKE RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
33A	STH 23, E. OF PRIEPKE RD	D1-1	78" X 15"	8.13	---	2	---	---	---	SEE SIGN DETAILS
34A	"	D1-61	54" X 24"	9.00	---	2	---	---	---	SEE SIGN DETAILS
	PAGE SUBTOTALS			270.31	42.00	39	18	32	35	

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
34	SMITH RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
35	"	R1-1	30" X 30"	5.18	---	1	---	1	1	
35A	STH 23, E. OF SMITH RD	D1-61	54" X 24"	9.00	---	2	---	---	---	SEE SIGN DETAILS
36	STH 23, W. OF CTH Y	J1-1	24" X 39"	6.50	---	---	1	1	1	SEE PLAN SHEET
37	"	I55-56	30" X 36"	7.50	---	---	1	1	1	MARIAN UNIVERSITY SASM, INCLUDE BRACKET
37A	"	D1-1	78" X 15"	8.13	---	2	---	---	---	SEE SIGN DETAILS
38	"	R2-1	24" X 30"	5.00	---	1	---	1	1	55 MPH
39	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
40	"	J4-1	24" X 36"	6.00	---	---	1	1	1	SEE PLAN SHEET
41	"	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
42	PRIEPKE RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
43	CTH Y	R1-1	36" X 36"	7.46	---	---	1	1	1	
44	"	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
45	STH 23, E. OF CTH Y	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
46	"	J4-1	24" X 36"	6.00	---	---	1	1	1	SEE PLAN SHEET
47	"	R2-1	24" X 30"	5.00	---	1	---	1	1	55 MPH
48	"	I55-56	30" X 36"	7.50	---	---	1	1	1	OPEN CIRCLE UNITARIAN UNIVERSALISTS, INCLUDE BRACKET
48A	"	D1-1	78" X 15"	8.13	---	2	---	---	---	SEE SIGN DETAILS
49	"	J1-1	24" X 39"	6.50	---	---	1	1	1	SEE PLAN SHEET
50	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
50A	"	D1-1	84" X 15"	8.75	---	2	---	---	---	SEE SIGN DETAILS
51	HAGEMAN RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
51A	STH 23, E. OF HAGEMAN RD	D1-1	84" X 15"	8.75	---	2	---	---	---	SEE SIGN DETAILS
51B	"	D1-1	78" X 15"	8.13	---	2	---	---	---	SEE SIGN DETAILS
52	FISCHER RD	R1-1	30" X 30"	5.18	---	1	---	1	1	
53A	STH 23, E. OF FISCHER RD	D1-1	78" X 15"	8.13	---	2	---	---	---	SEE SIGN DETAILS
53	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
54	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
54A	"	D1-1	66" X 15"	6.88	---	2	---	---	---	SEE SIGN DETAILS
55	KARST DR	R1-1	30" X 30"	5.18	---	1	---	1	1	
55A	STH 23, E. OF KARST RD	D1-1	66" X 15"	6.88	---	2	---	---	---	SEE SIGN DETAILS
55B	"	D1-1	66" X 15"	6.88	---	2	---	---	---	SEE SIGN DETAILS
56	WEST LN	R1-1	30" X 30"	5.18	---	1	---	1	1	
57	STH 23, E. OF WEST LN	I3-1	84" X 24"	14.00	---	1	---	1	1	SEE SIGN DETAILS
57A	"	D1-1	66" X 15"	6.88	---	2	---	---	---	SEE SIGN DETAILS
58	"	I3-1	84" X 24"	14.00	---	1	---	1	1	SEE SIGN DETAILS
59	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
60	"	J1-1	24" X 39"	6.50	---	---	1	1	1	SEE PLAN SHEET
61	"	W14-3	48" X 36"	---	6.00	---	1	1	1	
62	"	I55-56	30" X 36"	7.50	---	---	1	1	1	OPEN CIRCLE UNITARIAN UNIVERSALISTS, INCLUDE BRACKET
63	"	R2-1	24" X 30"	5.00	---	1	---	1	1	55 MPH
64	"	J4-1	24" X 36"	6.00	---	---	1	1	1	SEE PLAN SHEET
PAGE SUBTOTALS				255.72	36.00	34	19	31	31	

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ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
65	"	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
66	CTH I	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
67	"	R1-1	36" X 36"	7.46	---	---	1	1	1	
68	STH 23, E. OF CTH I	J13-1	24" X 45"	7.50	---	---	1	1	1	SEE PLAN SHEET
69	"	J4-1	24" X 36"	6.00	---	---	1	1	1	SEE PLAN SHEET
70	"	R2-1	24" X 30"	5.00	---	1	---	1	1	55 MPH
71	"	I55-56	---	---	---	---	---	1	1	
72	"	J1-1	24" X 39"	6.50	---	---	1	1	1	SEE PLAN SHEET
PAGE SUBTOTALS				47.46	0.00	1	6	8	8	
PROJECT TOTALS				**573.49**	**78.00**	**74**	**43**	**71**	**74**	

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TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 60 DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
1	LT OF TYPE 1 D1-2 (23-JOHNSON ST-1-MILE; OO-WINNEBAGO DR - 2 3/4 MILES)	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	W 20-2A	48"x48"	1	60		60					
2	ACROSS FROM SIGN # 1 (MEDIAN SIDE)	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	W 20-2A	48"x48"	1	60		60					
3	LT OF TYPE 1 (23-JOHNSON ST-TILT RIGHT)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
4	ACROSS FROM SIGN # 3 (MEDIAN SIDE)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
5	MODIFY J13-1 (23-DOUBLE ARROW)	M 1-6	EXISTING									
	"	MO 6-1	36"x36"	1	60		60					RIGHT
6	500' W 0F PETERS AVE. INTERSECTION ON STH 23	W 20-2A	48"x48"	1	60		60					
7	ACROSS FROM SIGN # 6 (MEDIAN SIDE)	W 20-2A	48"x48"	1	60		60					
8	500' W OF SIGN # 6	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 4-22R	24"x21"	1	60		60					
9	ACROSS FROM SIGN # 8 (MEDIAN SIDE)	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 4-22R	24"x21"	1	60		60					
10	LT OF J3-1 (N-41-RIGHT)	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 6-1	21"x21"	1	60		60					RIGHT
11	RT OF J2-2 (S-41-AH; N-41-AH RT)	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 6-1	21"x21"	1	60		60					RIGHT
12	JV2-2 (W-23; JCT VVV)									1	1	WEST 23
13	300' N OF STH 23 & NE RAMP INTERSECTION	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
14	200' N OF STH 23 NB EXIT RAMP GORE	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
	PAGE SUBTOTALS			40		0	2,400	0	0		1	

*ADDITIONAL QUANTITLES SHOWN ELSEWHERE IN THE PLAN

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TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 60 DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
15	ACROSS FROM SIGN # 14 (MEDIAN SIDE)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
16	LT OF TYPE 1 (OO-WINNEBAGO ST-TILT RT)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
17	ACROSS FROM SIGN # 16 (MEDIAN SIDE)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
18	LT OF TYPE 1 D1-2 (OO-WINNEBAGO DR - 1 3/4; 23-JOHNSON ST-3 3/4 MILES)	MO 4-8A	30"x24"	1	60		60					
	"	M 6-1	36"x36"	1	60		60					"23"
19	LT OF TYPE 1 NB (N-EAST WEST-TILT RT)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
20	ACROSS FROM SIGN # 19 (MEDIAN SIDE)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
21	LT OF TYPE 1 SB (N-EAST WEST-TILT RT)	MO 4-8	36"x18"	1	60		60					
	"	M 3-2	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
22	ACROSS FROM SIGN # 21 (MEDIAN SIDE)	MO 4-8	36"x18"	1	60		60					
	"	M 3-2	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 6-1	30"x30"	1	60		60					AHEAD
23	1000' S OF SIGN # 25	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 5-2R	30"x30"	1	60		60					
24	ACROSS FROM SIGN # 23 (MEDIAN SIDE)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 5-2R	30"x30"	1	60		60					
25	LT OF BLUE SIS (GAS NEXT RT)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 5-2R	30"x30"	1	60		60					
	PAGE SUBTOTALS			42		0	2,520	0	0		0	

*ADDITIONAL QUANTITLES SHOWN ELSEWHERE IN THE PLAN

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 60 DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
26	ACROSS FROM SIGN # 25 (MEDIAN SIDE)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	MO 5-2R	30"x30"	1	60		60					
27	LT OF TYPE 1 (26/N; WAUPUN; TILT RT)	MO 4-8	36"x18"	1	60		60					
	"	M 3-4	36"x18"	1	60		60					
	"	M 1-6	36"x36"	1	60		60					"23"
	"	M0 6-2	30"x30"	1	60		60					RIGHT
28	ACROSS FROM W 3-3 (SIGNAL AHEAD) SIGN (LEFT SIDE)	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	M0 5-1L	21"x21"	1	60		60					
29	ACROSS FROM J3-2 (S-26-LT; N-DBL ARROW) (LEFT SIDE)	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 6-1	21"x21"	1	60		60					LEFT
30	ABOVE J3-3 (S-41-AH LT; S-26-AH; W-N-AH RT)	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 6-1	21"x21"	1	60		60					AHEAD
31	LT OF J2-2 (J-26-AH; N-N-AH)	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 6-1	21"x21"	1	60		60					AHEAD
32	LT OF J2-1 (W-N-AH RT)	M0 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
33	200' S OF NB STH 26 INTERSECTION TO USH 41 SB ON-ON RAMP	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
34	RT OF J3-2 (N-41-AH; S-41-TILT RT)	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 6-2	21"x21"	1	60		60					RIGHT
35	LT OF J2-3 (N-41-AH; E-N-AH; S-41-AH RT)	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 5-1R	21"x21"	1	60		60					
36	ABOVE D1-1 (PLANEVIEW RD)	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 4-22R	24"x21"	1	60		60					
	PAGE SUBTOTALS			42		0	2,520	0	0		0	

*ADDITIONAL QUANTITLES SHOWN ELSEWHERE IN THE PLAN

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 60 DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
37	LT OF J4-2 (S-26; ALT-S-41) @ CTH N WB	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
38	LT OF J4-2 (N-26; ALT-N-41) @ COTTONWOOD RD	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
39	LT OF J4-2 (S-26; ALT-S-41) @ COTTONWOOD RD	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
40	LT OF J4-1 (NORTH 26) @ CTH FF	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
41	LT OF J4-1 (SOUTH 26) @ CTH FF	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
42	200' N OF HICKORY RD INTERSECTION ON STH 26	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
43	200' S OF HICKORY RD INTERSECTION ON STH 26	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
44	200' N OF GRIFFITH RD INTERSECTION ON STH 26	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
45	200' S OF GRIFFITH RD INTERSECTION ON STH 26	MO 4-8	24"x12"	1	60		60					
	"	M 3-4	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
46	MODIFY J1-1 (JCT-23)	MO 4-8A	24"x18"	1	60		60					
	"	M 1-6	EXISTING									"23"
47	J2-2 (E-23-AH LT; W-23-AH RT)									1	1	EAST-23-AH RT
48	J3-2 (E-23-LT; W-23-RT)									1	1	EAST-23-RT
49	100' N OF STH 23 INTERSECTION ON STH 26	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
50	SW QUAD OF STH 23 & STH 26 INTERSECTION	R 11-3	60"x30"	1	60		60	60	120			3/4/ MILES
	"	M 4-9L	30"x24"	1			60					
51	50' W OF STH 26 INTERSECTION ON STH 23	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	MO 6-1	21"x21"	1	60		60					LEFT
52	ABOVE J2-2 (N-26-AH LT; S-26-AH RT)	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x12"	1	60		60					"23"
	"	MO 5-1L	21"x21"	1	60		60					
	PAGE SUBTOTALS			41		0	2,460	60	120		2	

*ADDITIONAL QUANTITLES SHOWN ELSEWHERE IN THE PLAN

3

TRAFFIC CONTROL DETOUR SIGNS AND COVERING SIGNS

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 60 DAYS	643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS	643.0900* SIGNS DAYS	643.0420* BARRICADES TYPE III DAYS	643.0705* WARNING LIGHTS TYPE A DAYS	NO. OF CYCLES	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
53	500' W OF SIGN # 52	W 20-2A	48"x48"	1	60		60					
54	MODIFY J3-2 (W-23-LT; E-23-RT)	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	EXISTING									
	"	M 1-6	EXISTING									
	"	MO 6-1	21"x21"	1	60		60					AHEAD
55	MODIFY J2-2 (W-23-AH LT; E-23-AH RT)	MO 4-8	24"x12"	1	60		60					
	"	M 3-2	EXISTING									
	"	M 1-6	EXISTING									
	"	MO 6-1	21"x21"	1	60		60					AHEAD
56	100' S OF J1-1 (JCT 23) ON STH 26	M 3-2	24"x12"	1	60		60					
	"	M 1-6	24"x24"	1	60		60					"23"
	"	W 20-2A	48"x48"	1	60		60					
57	NW QUAD OF STH 23 & USH 41 NB ON-RAMP INTERSECTION	R 11-3	60"x30"	1	60		60	60	120			3/4/ MILES
58	NW QUAD OF STH 23 & USH 41 SB OFF-RAMP INTERSECTION	R 11-3	60"x30"	1	60		60	60	120			3/4/ MILES
59	STH 23 WB WEST OF RICKMEYER DR - FOND DU LAC (FIELD DETERMINED)	PCMS		1	7	7						
60	STH 23 EB EAST OF HILL BVLD - ROSENDALE (FIELD DETERMINED)	PCMS		1	7	7						
	PAGE SUBTOTALS			12		14	600	120	240		0	
	PROJECT TOTALS			**177**		**14**	**10,500**	**180**	**360**		**3**	

*ADDITIONAL QUANTITLES SHOWN ELSEWHERE IN THE PLAN

PAVEMENT MARKINGS

CATEGORY	STATION TO	STATION	LOCATION	646.4520 SAME DAY EPOXY 4-INCH YELLOW LF	646.1040 GROOVED WET REF EPOXY 4-INCH WHITE LF	646.3040 GROOVED WET REF EPOXY 8-INCH WHITE LF	REMARKS
0010	473+76 -	501+16	STH 23 WB	2740	-	-	SOLID
0010	562+83 -	568+55	STH 23 EB	572	-	-	SOLID
0010	574+89 -	583+62	STH 23 WB	873	-	-	SOLID
0010	614+92 -	628+02	STH 23 EB	1310	-	-	SOLID
0010	628+02 -	641+80	STH 23	2756	-	-	DOUBLE SOLID
0010	473+76 -	628+02	STH 23	3857	-	-	DASHED
0010	641+80 -	666+21	STH 23	610	-	-	DASHED
0010	655+28 -	666+21	STH 23 EB	1093	-	-	SOLID
0010	666+21 -	681+12	STH 23	2982	-	-	DOUBLE SOLID
0010	681+12 -	705+32	STH 23 EB	2420	-	-	SOLID
0010	681+12 -	705+32	STH 23 WB	605	-	-	DASHED
0010	705+32 -	728+12	STH 23	4560	-	-	DOUBLE SOLID
0010	728+12 -	742+60	STH 23 WB	1448	-	-	SOLID
0010	728+12 -	860+00	STH 23	3297	-	-	DASHED
0010	762+43 -	772+09	STH 23 EB	966	-	-	SOLID
0010	780+97 -	794+01	STH 23 WB	1304	-	-	SOLID
0010	802+63 -	815+57	STH 23 EB	1294	-	-	SOLID
0010	825+47 -	838+32	STH 23 WB	1285	-	-	SOLID
0010	844+00 -	860+00	STH 23 EB	1600	-	-	SOLID
0010	860+00 -	864+65	STH 23	930	-	-	DOUBLE SOLID
0010	864+65 -	872+25	STH 23 WB	760	-	-	SOLID
0010	864+65 -	872+25	STH 23 EB	190	-	-	DASHED
0010	473+76 -	564+16	STH 23 WB	-	9040	-	EDGE LINE
0010	473+76 -	477+62	STH 23 EB	-	386	-	EDGE LINE
0010	477+71 -	479+21	STH 23 EB	-	38	-	DASHED EDGE LINE
0010	478+90 -	481+40	STH 23 WB	-	63	-	DASHED BYPASS LANE LINE
0010	480+42 -	490+41	STH 23 EB	-	999	-	EDGE LINE
0010	490+34 -	491+84	STH 23 EB	-	38	-	DASHED EDGE LINE
0010	491+51 -	494+01	STH 23 WB	-	63	-	DASHED BYPASS LANE LINE
0010	493+05 -	563+76	STH 23 EB	-	7071	-	EDGE LINE
0010	561+74 -	563+74	STH 23 EB	-	-	200	TURN LANE
0010	565+12 -	598+16	STH 23 EB	-	3304	-	EDGE LINE
0010	565+59 -	599+56	STH 23 WB	-	3397	-	EDGE LINE
0010	565+59 -	567+59	STH 23 WB	-	-	200	TURN LANE
0010	598+15 -	599+65	STH 23 EB	-	38	-	DASHED EDGE LINE
0010	600+90 -	637+31	STH 23 WB	-	3641	-	EDGE LINE
			SUBTOTALS	37452	28076	400	

PAVEMENT MARKINGS (CONT)

CATEGORY	STATION TO	STATION	LOCATION	646.4520 SAME DAY EPOXY 4-INCH YELLOW LF	646.1040 GROOVED WET REF EPOXY 4-INCH WHITE LF	646.3040 GROOVED WET REF EPOXY 8-INCH WHITE LF	REMARKS
0010	600+90 -	602+90	STH 23 WB	-	-	200	TURN LANE
0010	600+96 -	667+67	STH 23 EB	-	6671	-	EDGE LINE
0010	636+02 -	638+52	STH 23 EB	-	63	-	DASHED BYPASS LANE LINE
0010	638+85 -	684+47	STH 23 WB	-	4562	-	EDGE LINE
0010	638+85 -	640+35	STH 23 WB	-	38	-	DASHED EDGE LINE
0010	667+76 -	669+26	STH 23 EB	-	38	-	DASHED EDGE LINE
0010	669+45 -	671+95	STH 23 WB	-	63	-	DASHED BYPASS LANE LINE
0010	670+72 -	698+45	STH 23 EB	-	2773	-	EDGE LINE
0010	683+29 -	685+79	STH 23 EB	-	63	-	DASHED BYPASS LANE LINE
0010	685+84 -	686+34	STH 23 WB	-	13	-	DASHED EDGE LINE
0010	686+34 -	700+70	STH 23 WB	-	1436	-	EDGE LINE
0010	698+45 -	699+95	STH 23 EB	-	38	-	DASHED EDGE LINE
0010	701+33 -	744+92	STH 23 EB	-	4359	-	EDGE LINE
0010	702+19 -	703+69	STH 23 WB	-	38	-	DASHED EDGE LINE
0010	703+69 -	745+11	STH 23 WB	-	4142	-	EDGE LINE
0010	742+92 -	744+92	STH 23 EB	-	-	200	TURN LANE
0010	742+92 -	744+92	STH 23 EB	-	-	200	TURN LANE
0010	746+20 -	783+04	STH 23 EB	-	3684	-	EDGE LINE
0010	746+39 -	747+89	STH 23 WB	-	38	-	DASHED EDGE LINE
0010	747+89 -	771+72	STH 23 WB	-	2383	-	EDGE LINE
0010	770+68 -	773+18	STH 23 EB	-	63	-	DASHED BYPASS LANE LINE
0010	772+93 -	774+43	STH 23 WB	-	38	-	DASHED EDGE LINE
0010	774+43 -	810+80	STH 23 WB	-	3637	-	EDGE LINE
0010	783+04 -	784+54	STH 23 EB	-	38	-	DASHED EDGE LINE
0010	784+22 -	786+72	STH 23 WB	-	63	-	DASHED BYPASS LANE LINE
0010	785+75 -	827+55	STH 23 EB	-	4180	-	EDGE LINE
0010	809+78 -	812+28	STH 23 EB	-	63	-	DASHED BYPASS LANE LINE
0010	812+02 -	813+52	STH 23 WB	-	38	-	DASHED EDGE LINE
0010	813+52 -	850+60	STH 23 WB	-	3708	-	EDGE LINE
0010	827+55 -	829+05	STH 23 WB	-	38	-	DASHED EDGE LINE
0010	828+73 -	831+23	STH 23 WB	-	63	-	DASHED BYPASS LANE LINE
0010	830+25 -	867+48	STH 23 EB	-	3723	-	EDGE LINE
0010	849+66 -	852+16	STH 23 EB	-	63	-	DASHED BYPASS LANE LINE
0010	851+89 -	853+89	STH 23 WB	-	-	200	TURN LANE
0010	851+89 -	867+48	STH 23 WB	-	1559	-	EDGE LINE
			SUBTOTALS	0	47667	600	
			TOTALS	**37452**	**75743**	**1000**	

3

CONSTRUCTION STAKING RESURFACING REFERENCE

CATEGORY	STATION	TO	STATION	LOCATION	650.8000 LF	REMARKS
0010	473+76	-	872+77		39901	
				TOTAL	39901	

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT)

CATEGORY	LOCATION	650.9910 LS	REMARKS
0010	1430-18-71	1	
	TOTAL	1	

GRADING, SHAPING AND FINISHING DITCHES

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0090.01 LF	REMARKS
0010	565+74	-	572+75	STH 23 LT	701	
0010	639+68	-	646+60	STH 23 RT	692	
				TOTAL	1393	

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

N

BEGIN PROJECT 1430-18-71
STA 473+76

CONCRETE BASE PATCHING (TYP)

SAWCUT REQ'D

STH 23

474 476 478 480 482 484 486 488

XXX

STH 23

HILL RD

BUTT JOINT REQ'D

5

5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 48	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050201-PN.DWG
LAYOUT NAME - 050201-pn1

PLOT DATE : 1/30/2018 9:53 AM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

N

STH 23

PI 492+82.41

CONCRETE BASE PATCHING (TYP)

SAWCUT REQ'D (TYP)

BUTT JOINT REQ'D

PAUL DR

T 16 N R 15 E
36

T 15 N R 15 E
1

488 490 492 494 496 498 500 50

5 5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 49 E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050201-PN.DWG
LAYOUT NAME - 050201-pn2

PLOT DATE : 1/30/2018 9:53 AM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

N

TEMPORARY DITCH CHECK

SAWCUT REQ'D (TYP)

STH 23

502 504 506 508 510 512 514 516

XXX XXX XXX XXX

CONCRETE BASE PATCHING (TYP)

BUTT JOINT REQ'D

STA 507+37 RT
GRADING, SHAPING & FINISHING CROSS CULVERT
EXISTING 1-30" CPRC (SEE CONSTRUCTION DETAIL)

STA 502+56
REMOVE 1-48" CMCP
1-48" CPRC & 2 AEW REQ'D
SKEWED 60° LHF

CULVERT PIPE CHECK

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 50	E

5

5

N

OH

OH

OH

OH

OH

OH

Pt 519+35.32

SAWCUT REQ'D (TYP)

CONCRETE BASE PATCHING (TYP)

RCCP

STH 23

516

XXX

518

520

522

524

526

XXX

528

530

RCCP

T

T

T

T

BUTT JOINT REQ'D

EXISTING STRUCTURE C-20-59
(TO REMAIN)

T 16 N

R 15 E

R 16 E

T 15 N

36

31

1.

6.

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 51	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050201-PN.DWG
LAYOUT NAME - 050201-pn4

PLOT DATE : 1/30/2018 9:54 AM

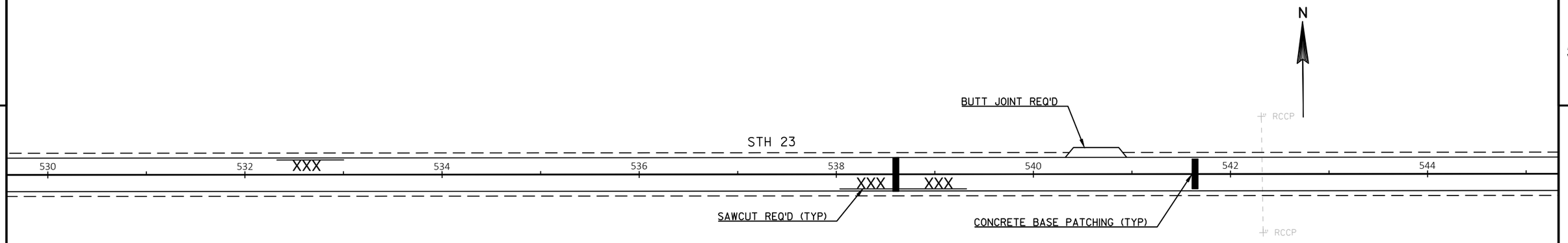
PLOT BY : SMITH, JENNIFER B

PLOT NAME :

PLOT SCALE : 1"=100'

WISDOT/CADDS SHEET 44

5



5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 52	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050201-PN.DWG
LAYOUT NAME - 050201-pn5

PLOT DATE : 1/30/2018 9:54 AM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

5

5

N

PI: 547+40.16

CONCRETE BASE PATCHING (TYP)

BUTT JOINT REQ'D

STH 23

546 548 550 552 554 556 558 560

T 16 N R 16 E
31

T 15 N R 16 E
6

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 53	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050201-PN.DWG
LAYOUT NAME - 050201-pn6

PLOT DATE : 1/30/2018 9:54 AM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

5

5

N

STA 565+74-572+75 LT
GRADING, SHAPING & FINISHING DITCHES

STA 566+73 LT & RT
GRADING, SHAPING & FINISHING CROSS CULVERTS
EXISTING 1-30" CPRC (SEE CONSTRUCTION DETAIL)

CONCRETE BASE PATCHING (TYP)

CTH C

STH 23

560 562 564 566 568 570 572 574

PI: 573+91.70

T 16 N R 16 E
31 32

T 15 N R 16 E
6 5

BUTT JOINT REQ'D

BUTT JOINT REQ'D

CULVERT PIPE CHECK

BUTT JOINT REQ'D

RCCP

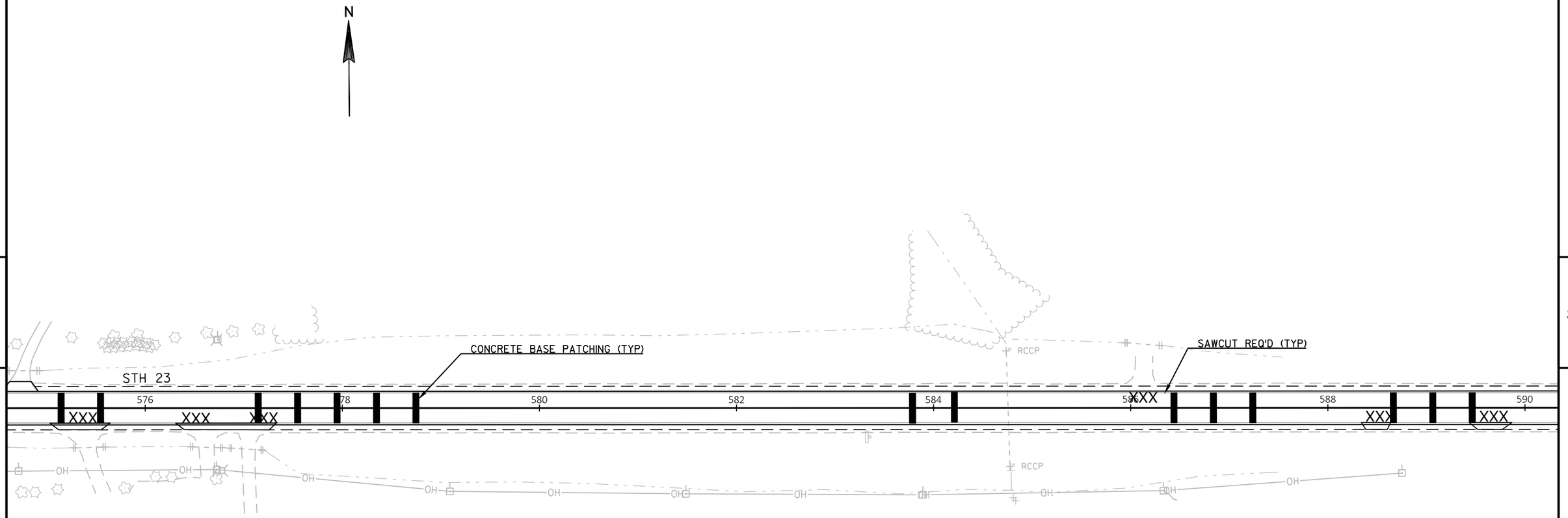
GUY

OH

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 54	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050201-PN.DWG
LAYOUT NAME - 050201-pn7

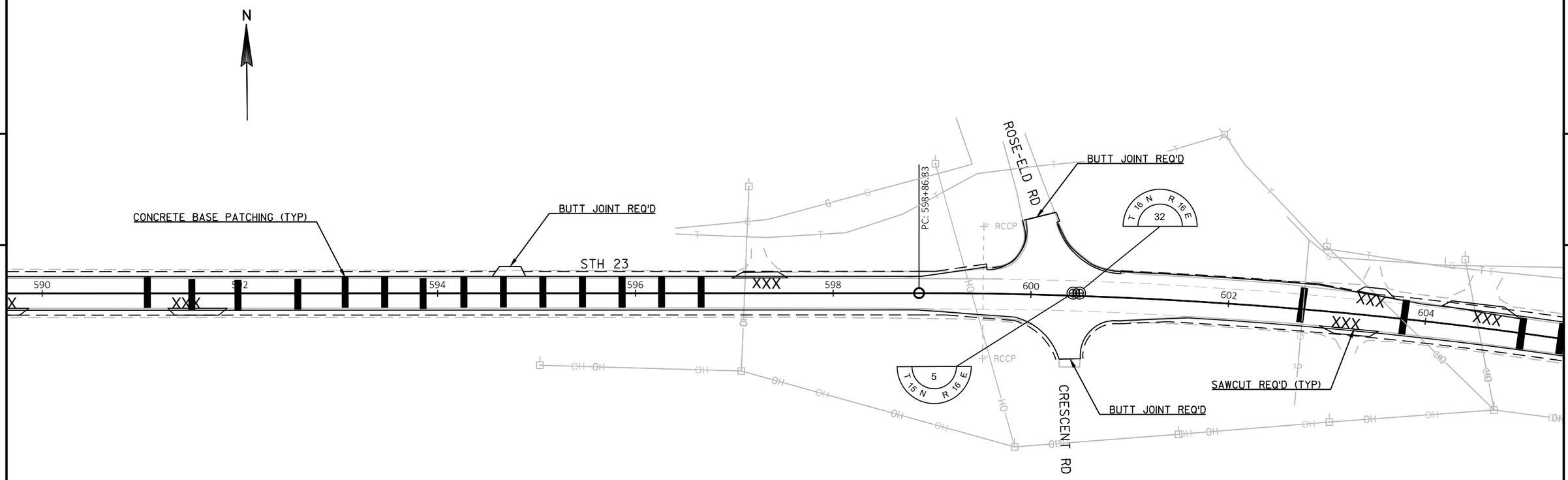
PLOT DATE : 1/30/2018 9:54 AM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 55	E

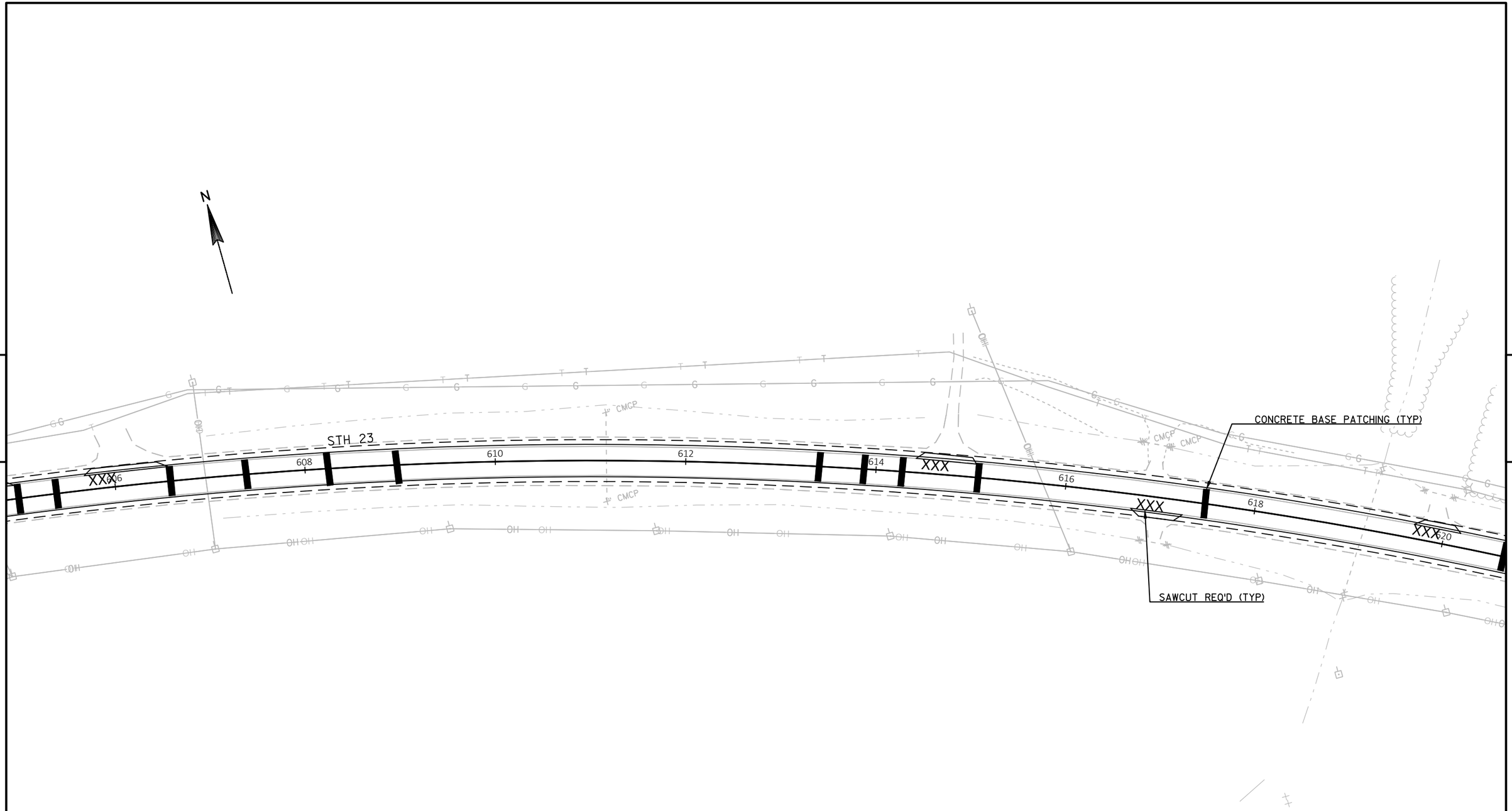
FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn1

PLOT DATE : 1/30/2018 2:01 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 56	E

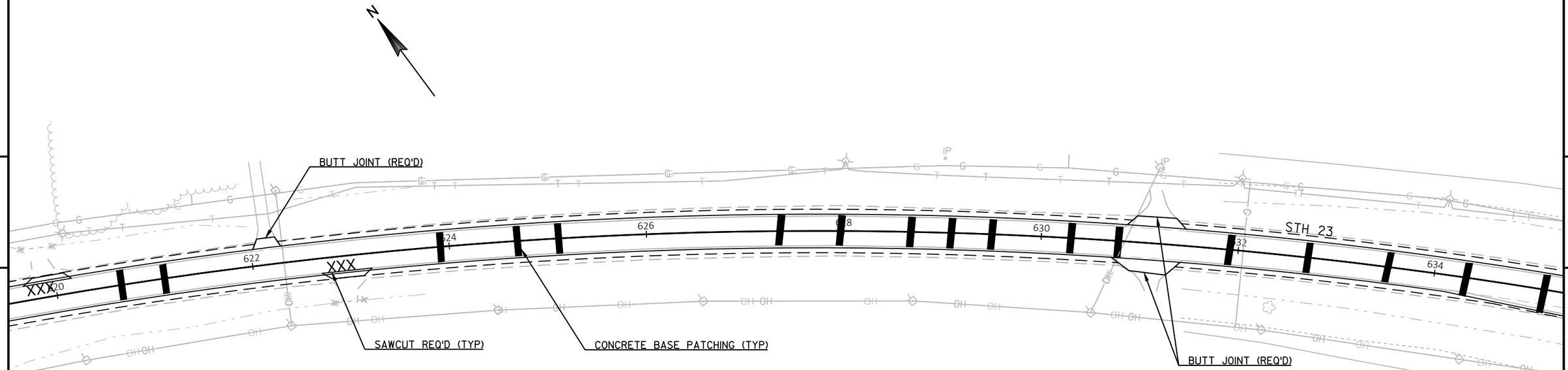


PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 57	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn3

PLOT DATE : 1/30/2018 2:01 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

WISDOT/CADDS SHEET 44



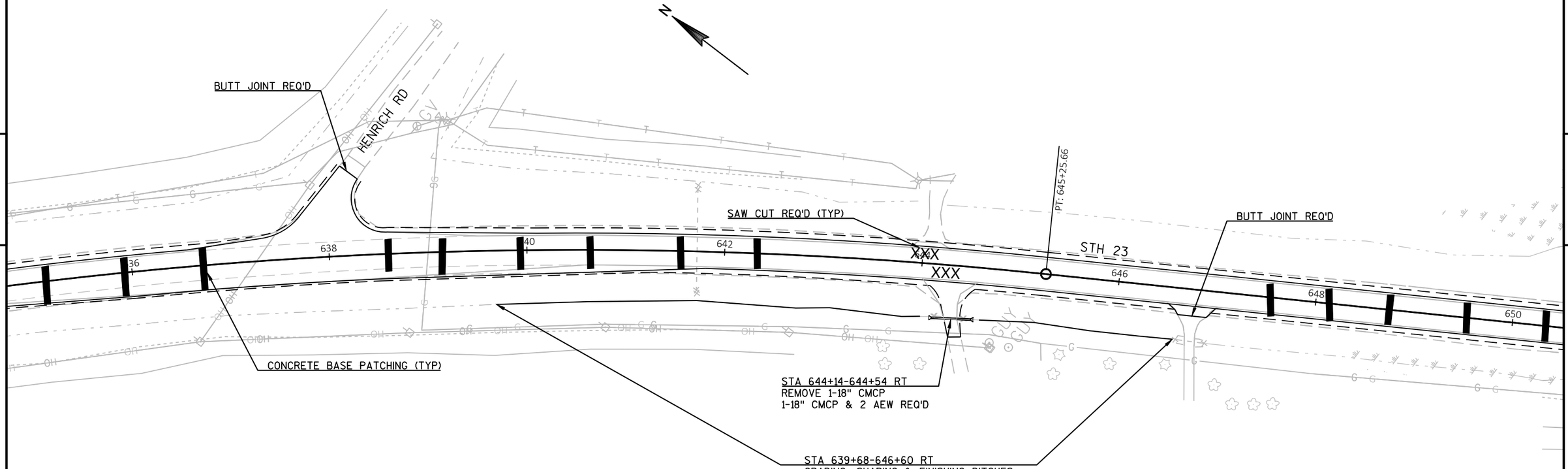
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5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 58	E

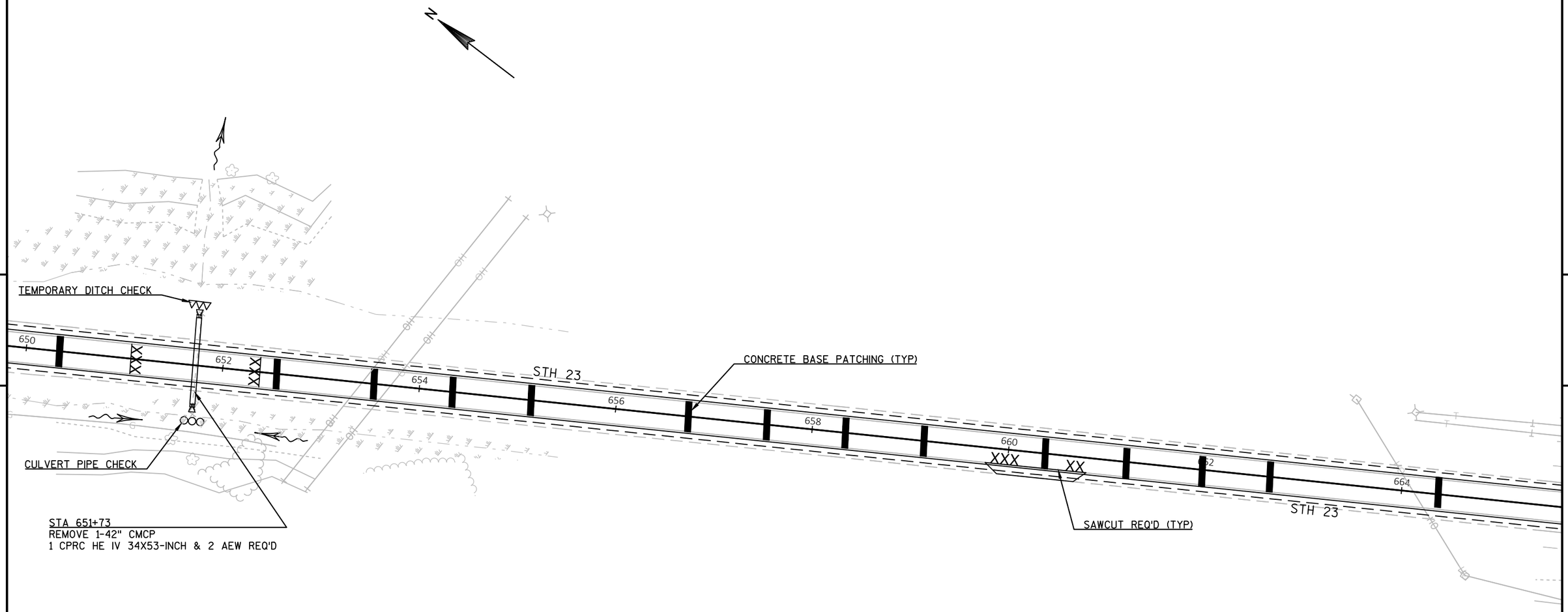
FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn4

PLOT DATE : 1/30/2018 2:01 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 59	E



5

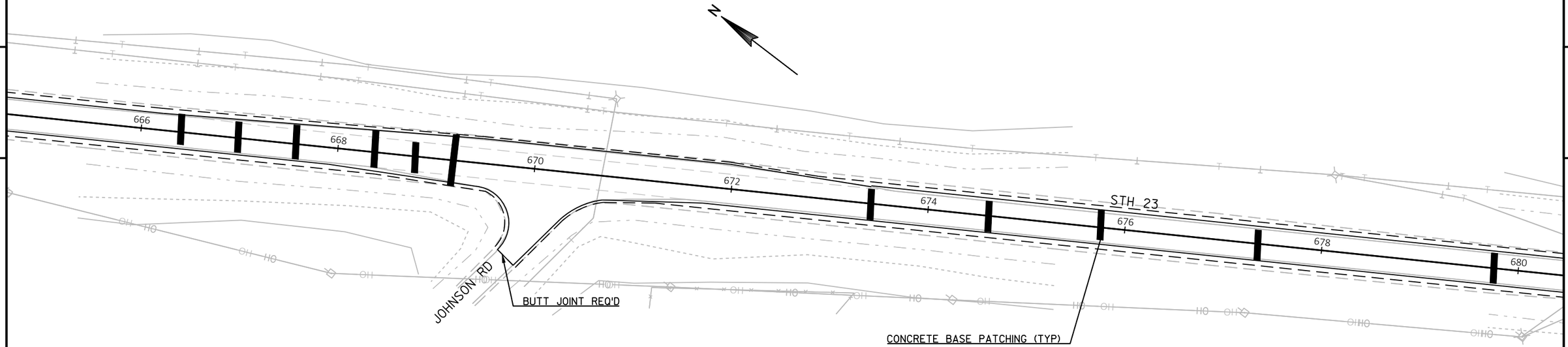
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 60	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn6

PLOT DATE : 3/14/2018 1:06 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

WISDOT/CADDS SHEET 44



5

5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 61	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn7

PLOT DATE : 1/30/2018 2:02 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

N

SAWCUT REQ'D

BUTT JOINT REQ'D

PRIEPKE RD

STH 23

CONCRETE BASE PATCHING (TYP)

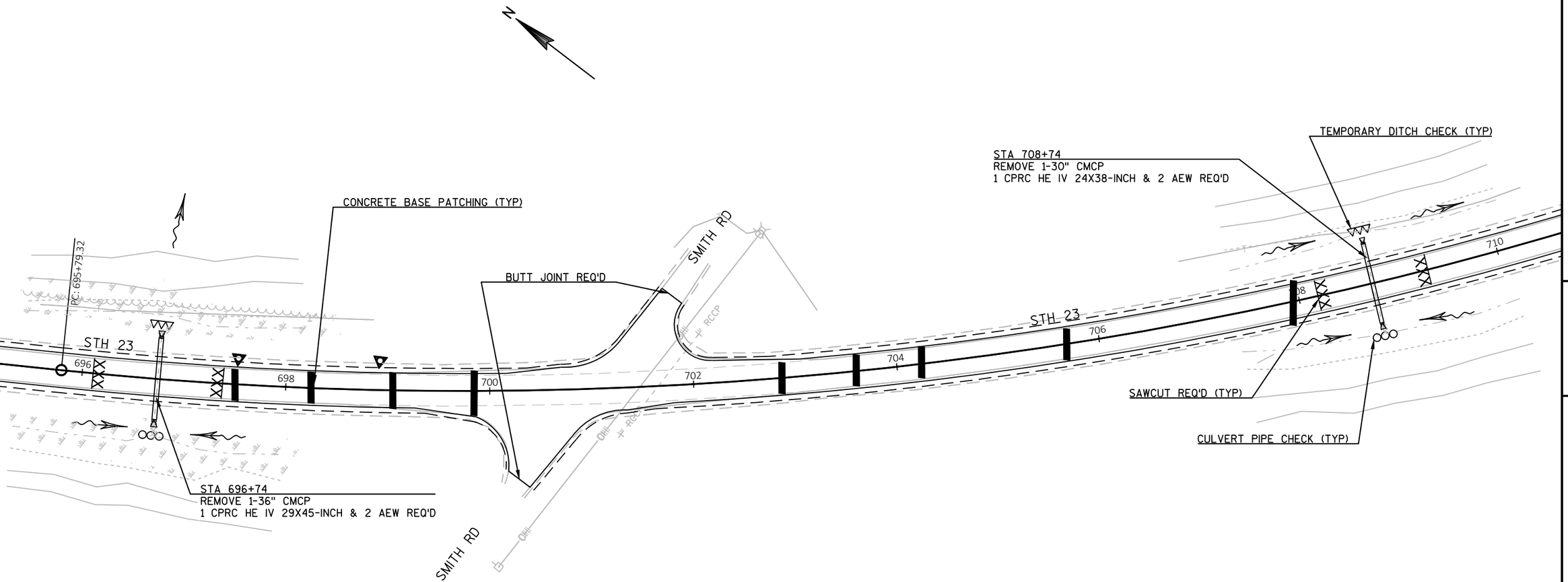
680 682 684 686 688 690 692 694

5 5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 62	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn8

PLOT DATE : 1/30/2018 2:02 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

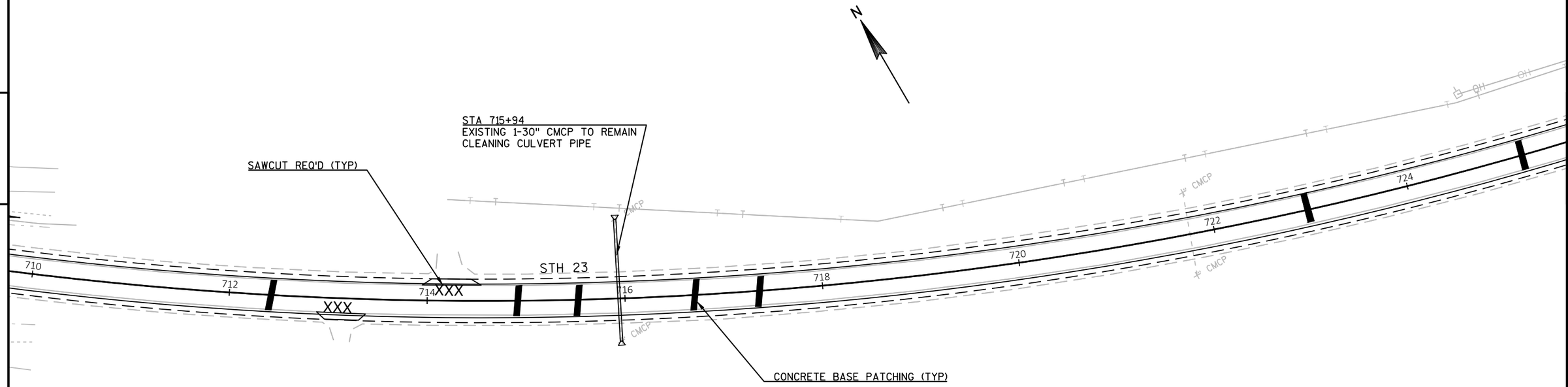


5 5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 63	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn9

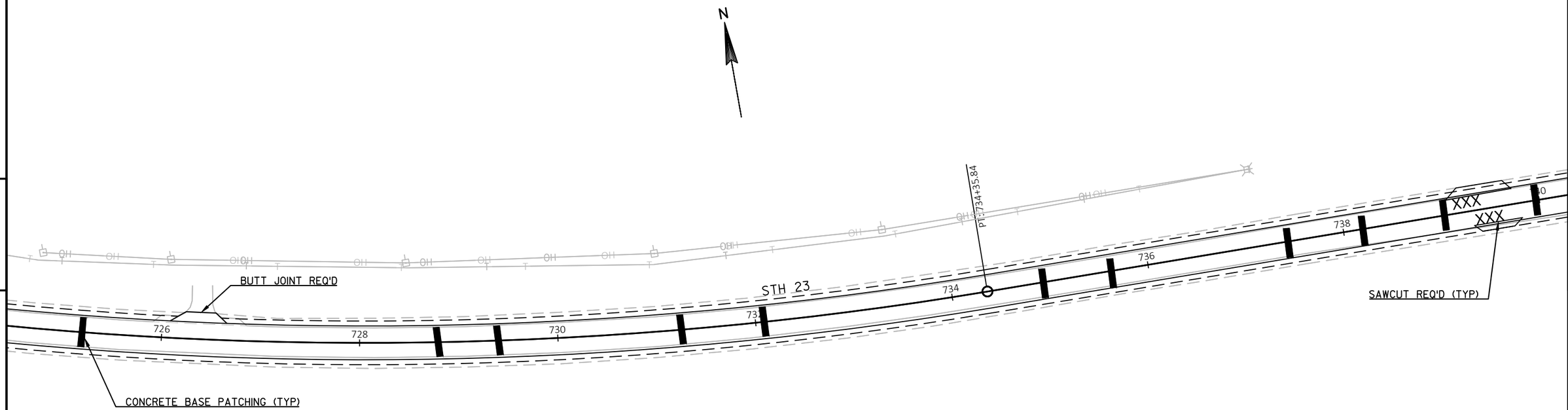
PLOT DATE : 3/14/2018 1:50 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn10

PLOT DATE : 1/30/2018 2:02 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



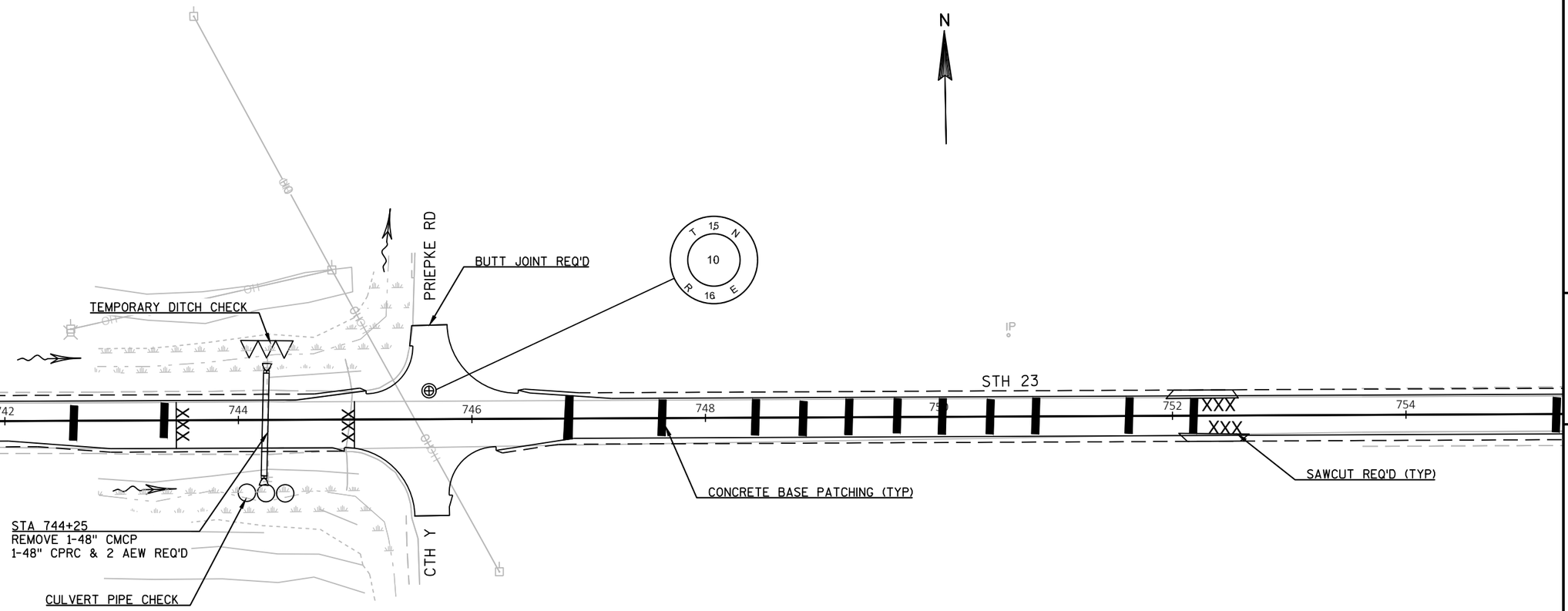
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5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 65	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn11

PLOT DATE : 1/30/2018 2:02 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



5 5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 66	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn12

PLOT DATE : 3/14/2018 1:22 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

N

TEMPORARY DITCH CHECK

STA 770+35
REMOVE 1-42" CMCP
1 CPRC HE IV 34X53-INCH & 2 AEW REQ'D

STH 23

756 758 760 762 764 766 768 770

RCCP

XXX
XXX

RCCP

SAWCUT REQ'D (TYP)

CONCRETE BASE PATCHING (TYP)

OHD OH OH

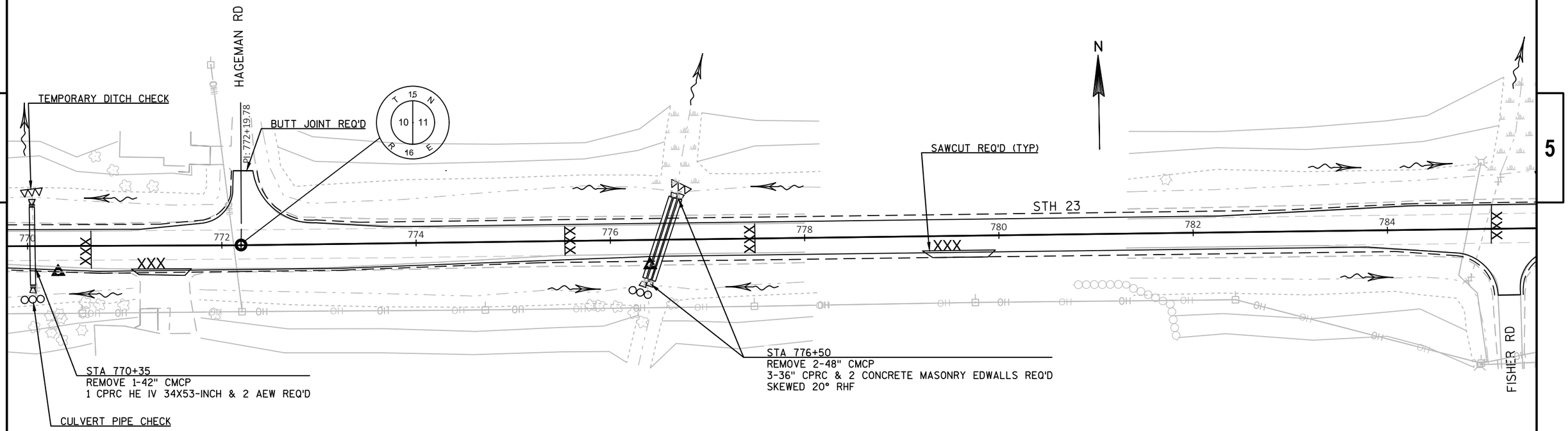
CULVERT PIPE CHECK

5 5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 67	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn13

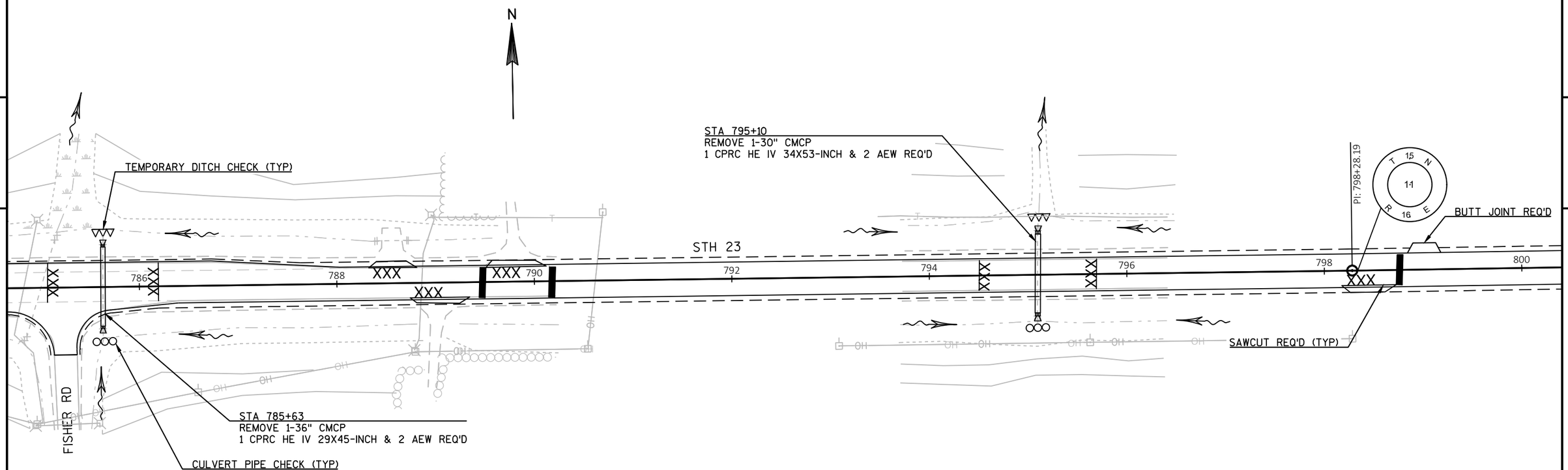
PLOT DATE : 3/14/2018 1:27 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 68	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn14

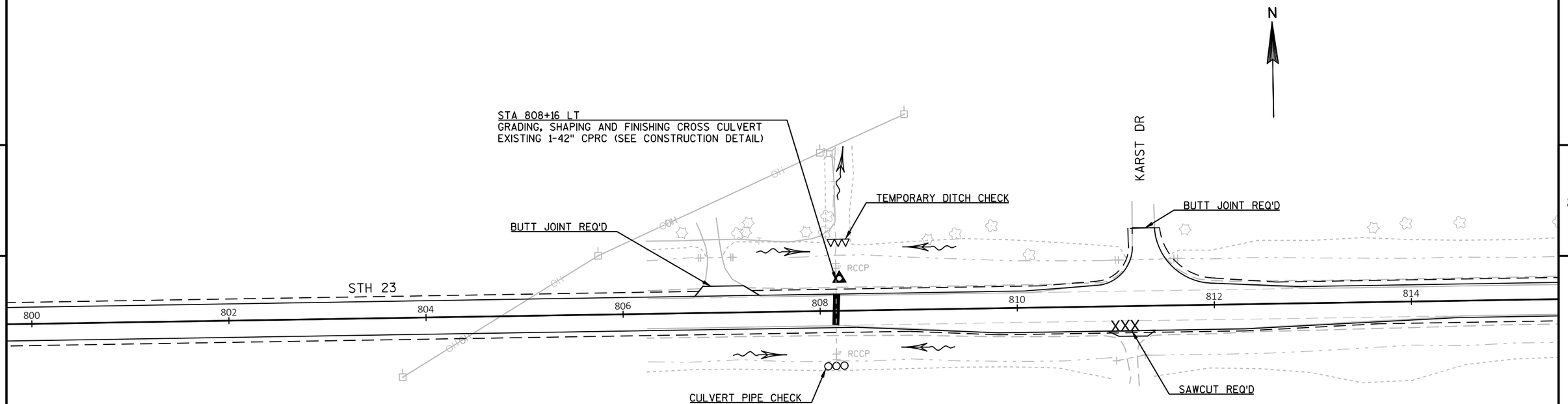
PLOT DATE : 3/14/2018 1:59 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 69	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn15
PLOT DATE : 3/14/2018 2:01 PM
PLOT BY : SMITH, JENNIFER B
PLOT NAME :
PLOT SCALE : 1"=100'
WISDOT/CADDS SHEET 44

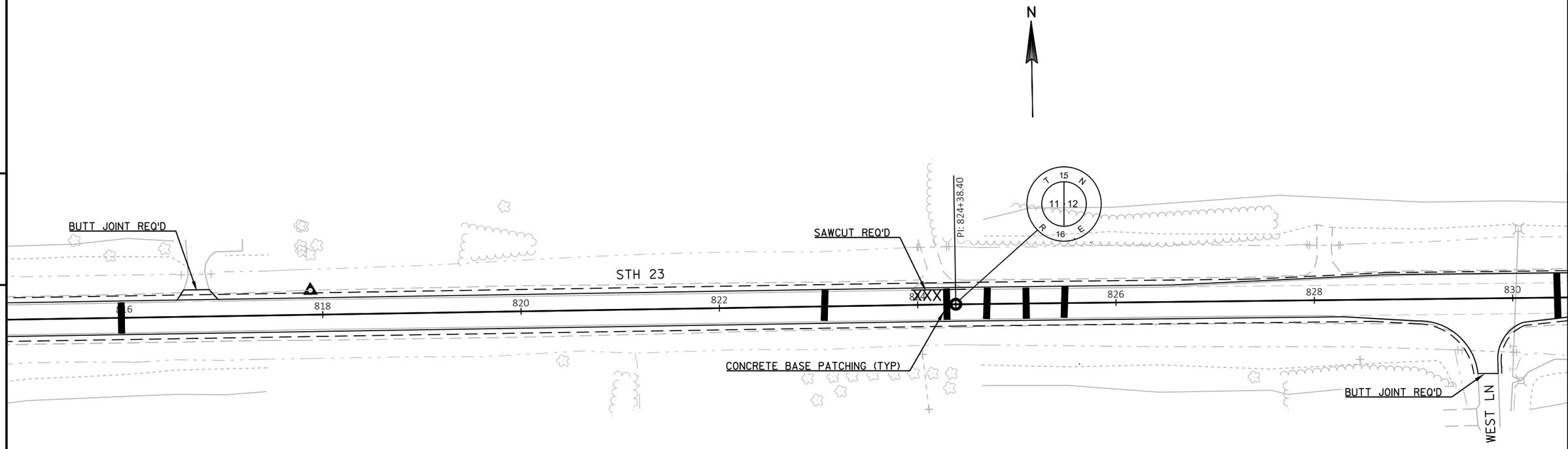


PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 70	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn16

PLOT DATE : 1/30/2018 2:02 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

WISDOT/CADDS SHEET 44



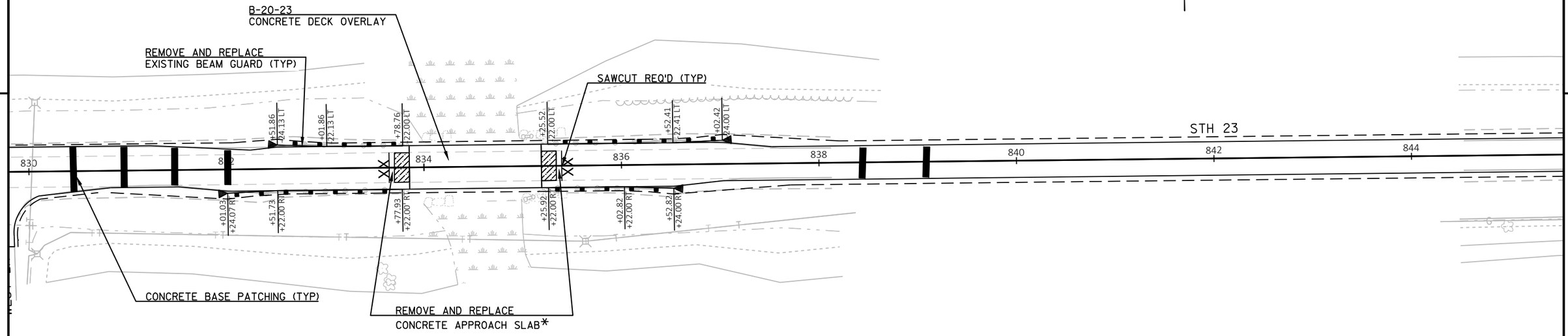
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 71	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn17

PLOT DATE : 1/30/2018 2:02 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'



* SEE CONCRETE APPROACH SLAB CONSTRUCTION DETAIL

5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 72	E

N

BUTT JOINT REQ'D

CTH I

T 15 N
12
R 16 E

PI: 850+91.84

SAWCUT REQ'D (TYP)

TEMPORARY DITCH CHECK

STH 23

850 852 854 856 858 860 862 864

CULVERT PIPE CHECK

STA 857+45
REMOVE 1-30" CMCP
1 CPRC HE IV 34X53-INCH & 2 AEW REQ'D
SKEWED 15° LHF

5

5

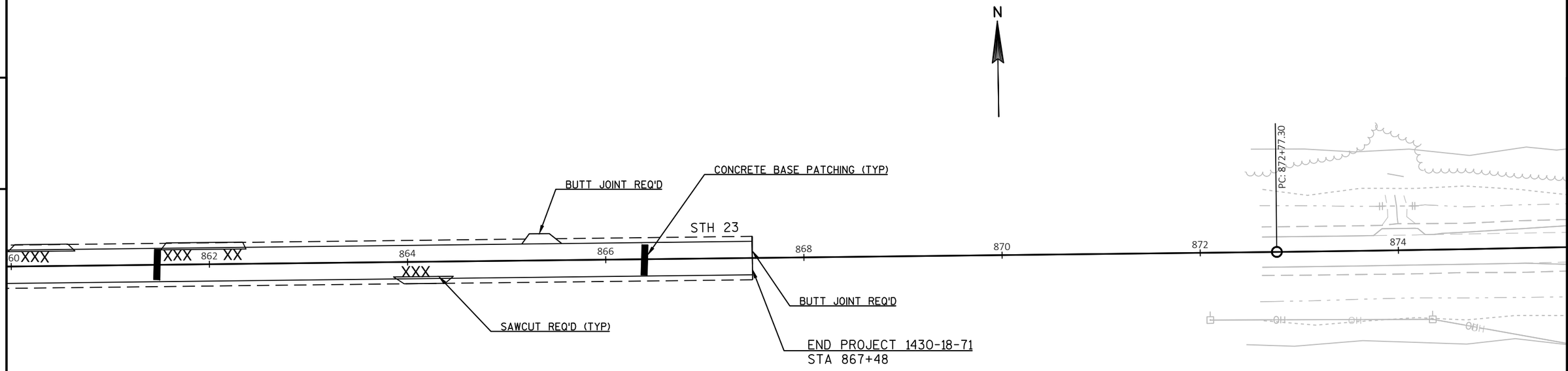
PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 73	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn19

PLOT DATE : 3/14/2018 1:44 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

WISDOT/CADDS SHEET 44

5



5

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET	E

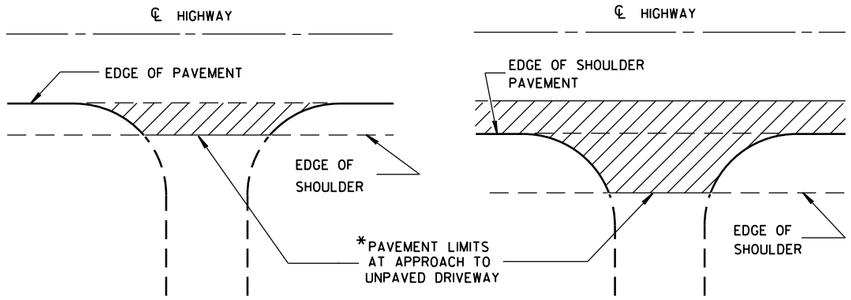
FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\050202-PN.DWG
LAYOUT NAME - 050202-pn20

PLOT DATE : 1/30/2018 2:02 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1"=100'

Standard Detail Drawing List

08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
13A10-01A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C14-06A	BASE PATCHING CONCRETE
13C14-06B	BASE PATCHING CONCRETE
13C14-06C	BASE PATCHING CONCRETE
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B42-05A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-05D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-03A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-03B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-03C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-04	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C08-18B	PAVEMENT MARKING (TURN LANES)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-02A	PAVEMENT MARKING (INTERSECTIONS)
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-01	TRAFFIC CONTROL, DROP-OFF SIGNING

6

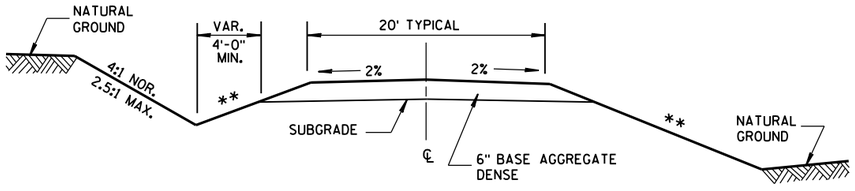


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)

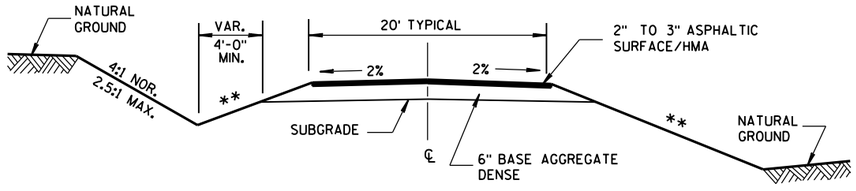


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

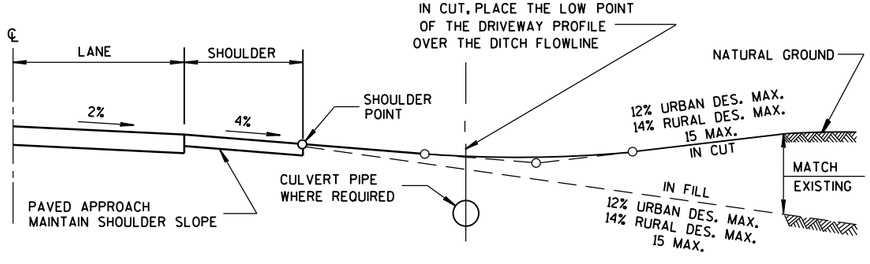
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥35 TO <60	6:1
≥60	10:1



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE



TYPICAL DRIVEWAY PROFILES

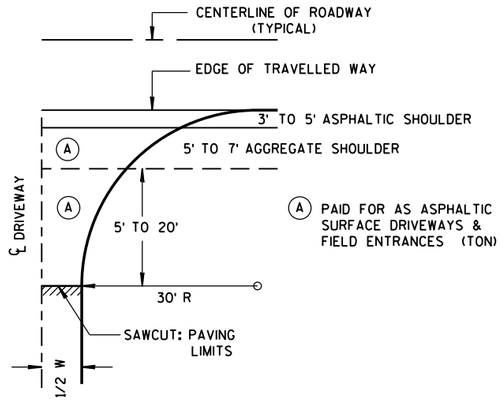
DRIVEWAYS WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERV
FHWA

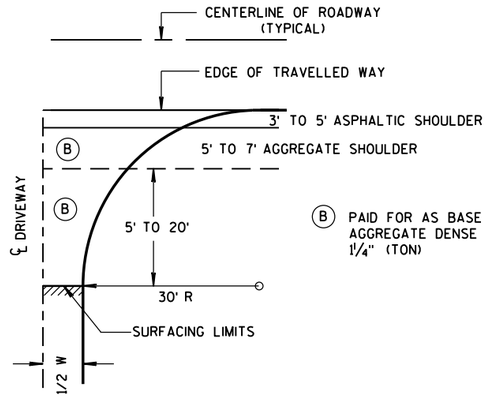
6

S.D.D. 8 D 21-1



W MIN. = 16'
W MAX. = 24'

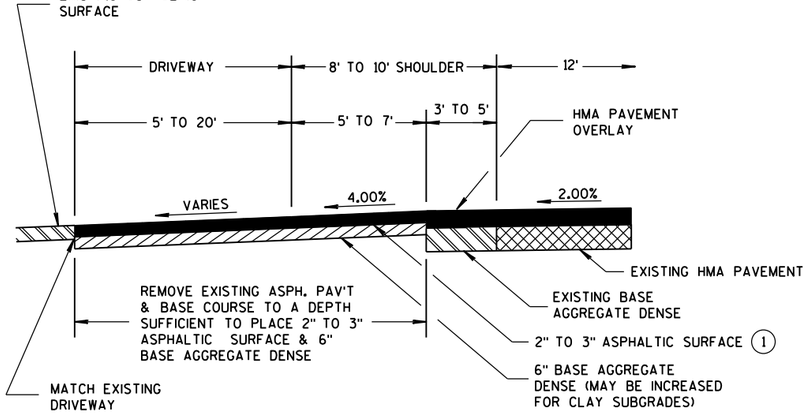
PLAN VIEW
HALF SECTION



PLAN VIEW
HALF SECTION

GENERAL NOTES

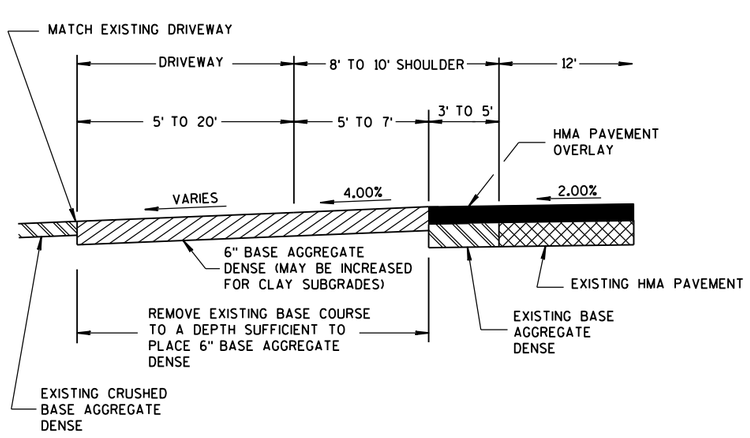
(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PROFILE VIEW

RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS



PROFILE VIEW

RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

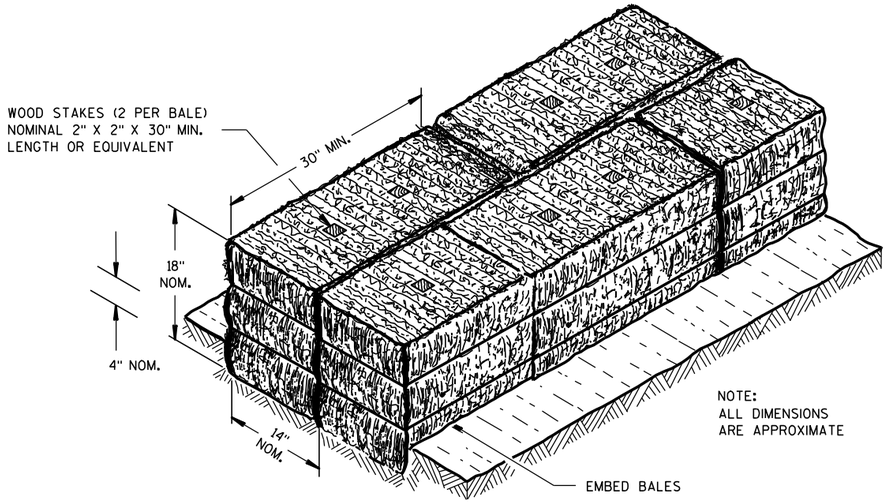
APPROVED
December, 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
ENT
FHWA

6

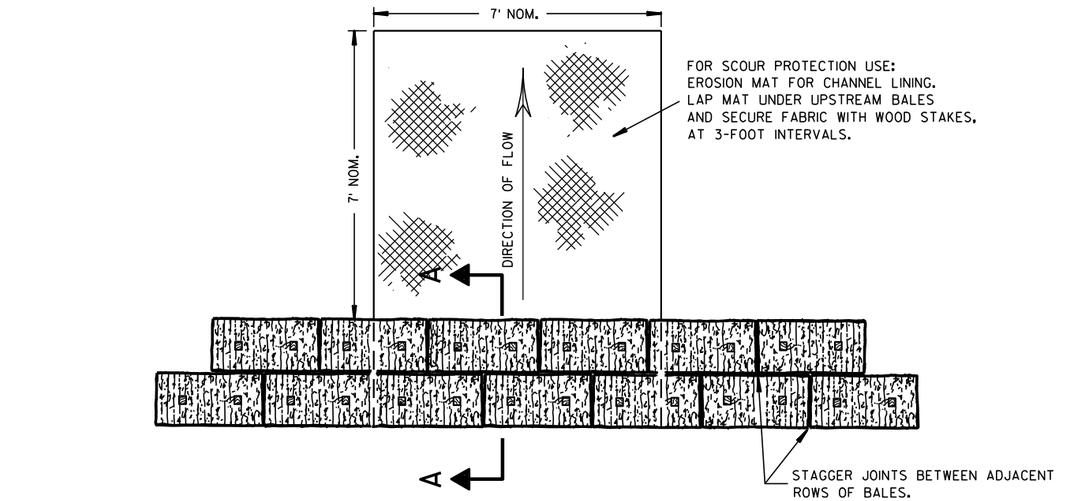
S.D.D. 8 D 22-1

6

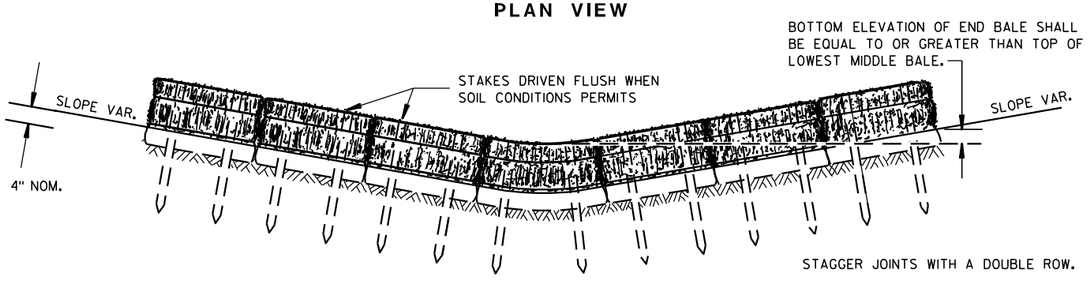
S.D.D. 8 D 22-1



SECTION A-A



PLAN VIEW



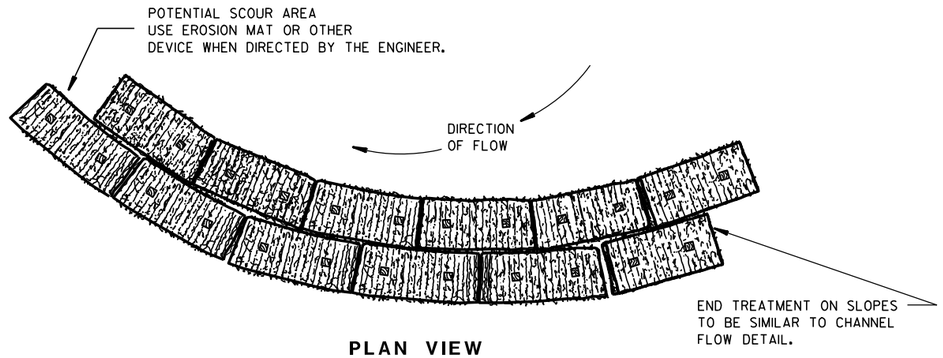
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

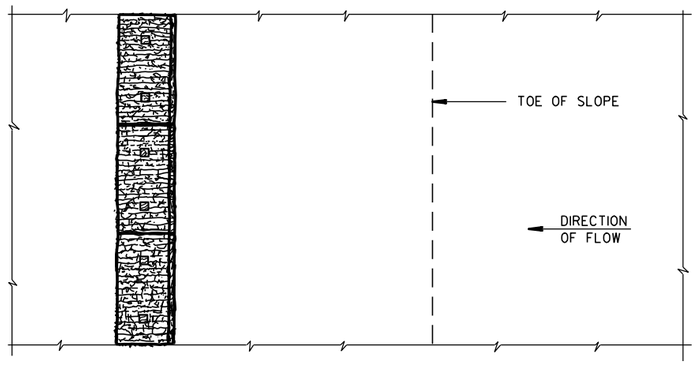
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

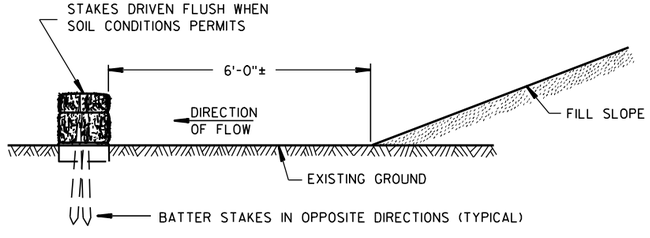


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

6

S.D.D. 8 E 8-3

METAL APRON ENDWALLS

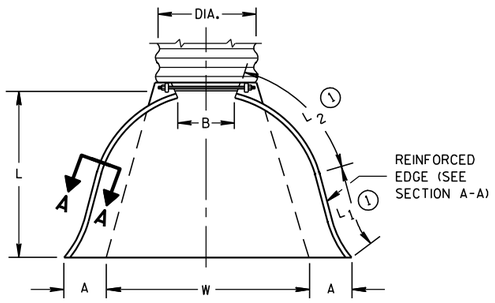
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 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	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

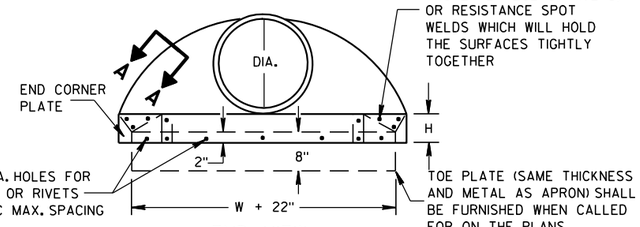
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

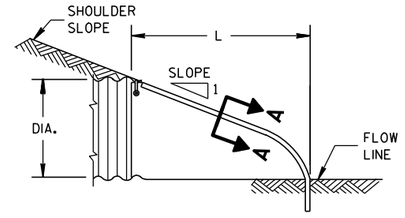
*MINIMUM
**MAXIMUM



PLAN VIEW

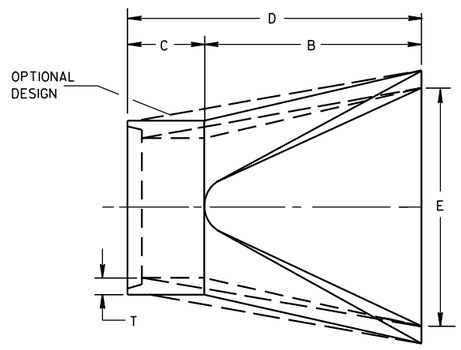


END VIEW

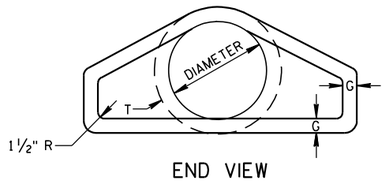


SIDE ELEVATION

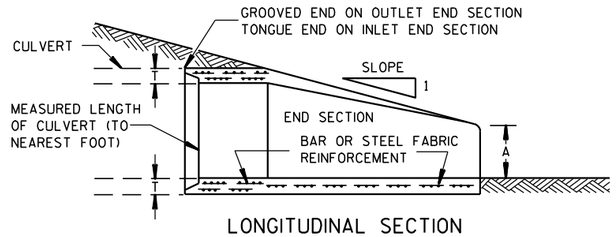
METAL ENDWALLS



PLAN

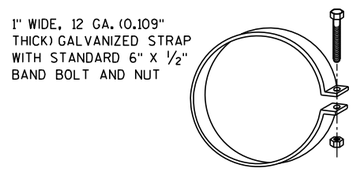


END VIEW



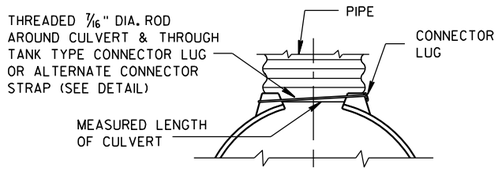
LONGITUDINAL SECTION

CONCRETE ENDWALLS

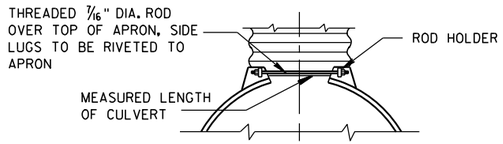


ALTERNATE FOR TYPE 1 CONNECTION

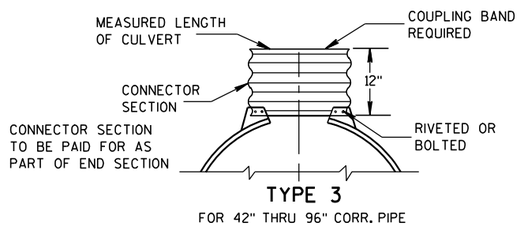
END SECTION CONNECTOR STRAP



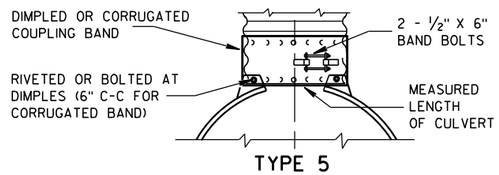
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

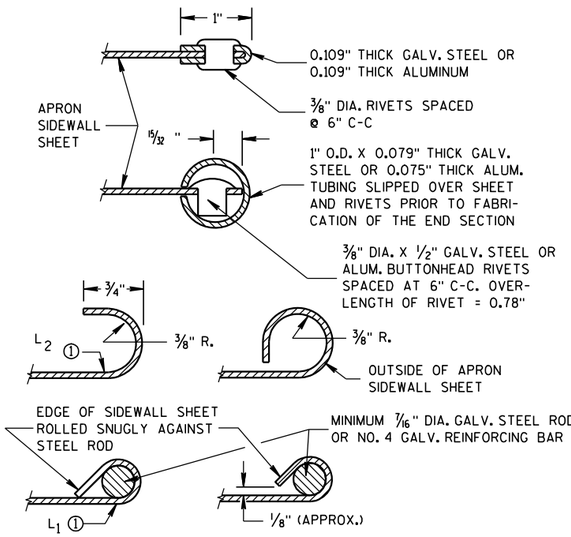
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

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



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 PERIMETER.

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.

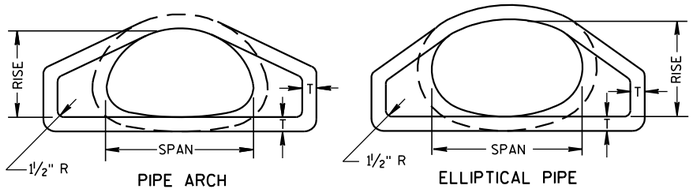
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

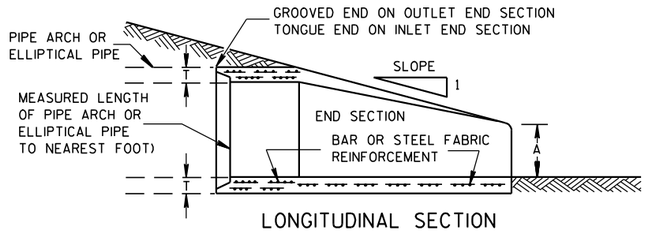
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

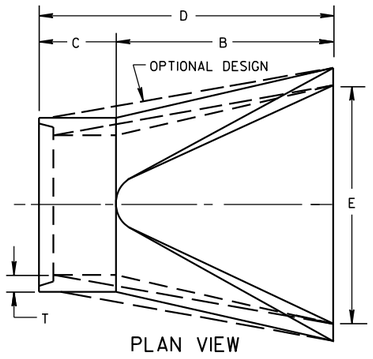
S.D.D. 8 F 1-11



END VIEW

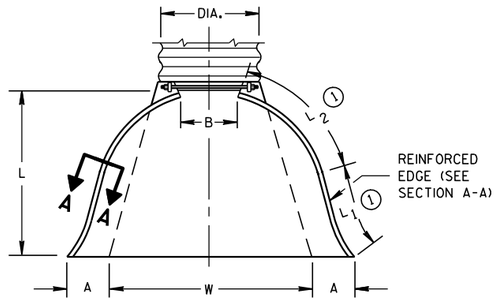


LONGITUDINAL SECTION

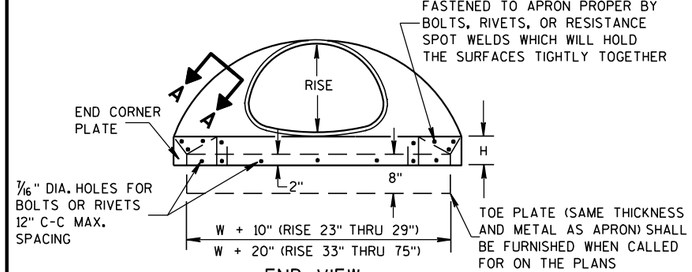


PLAN VIEW

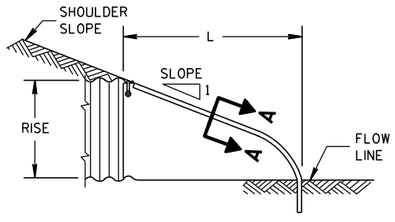
CONCRETE ENDWALLS



PLAN VIEW

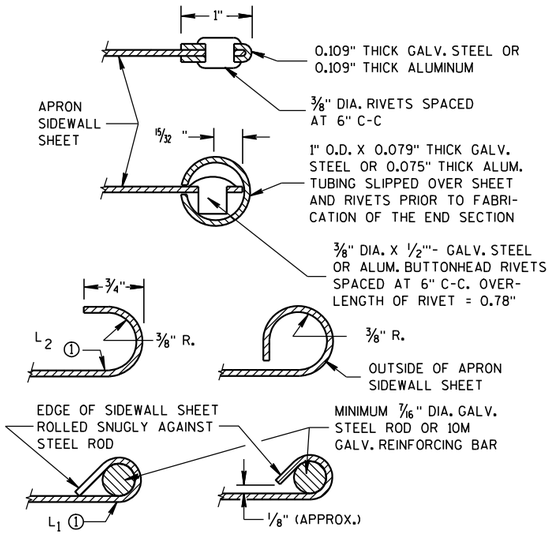


END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

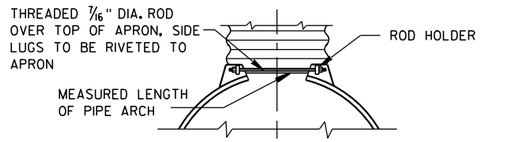
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

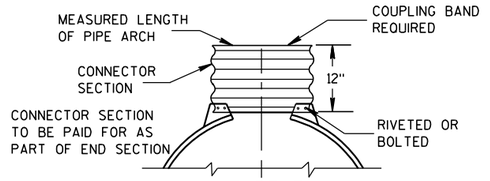
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



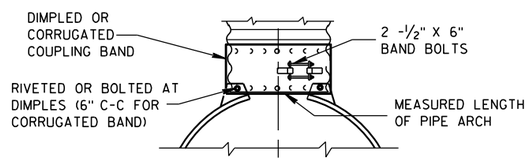
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" 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 ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

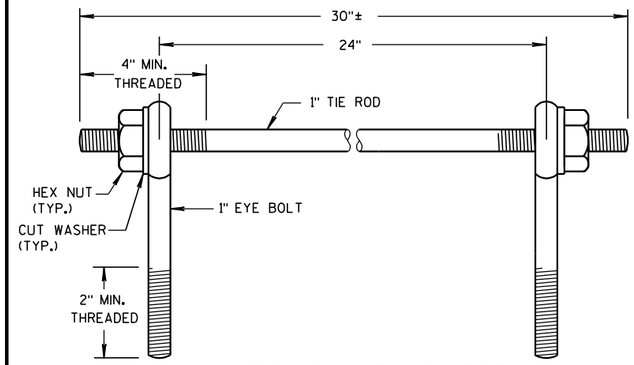
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

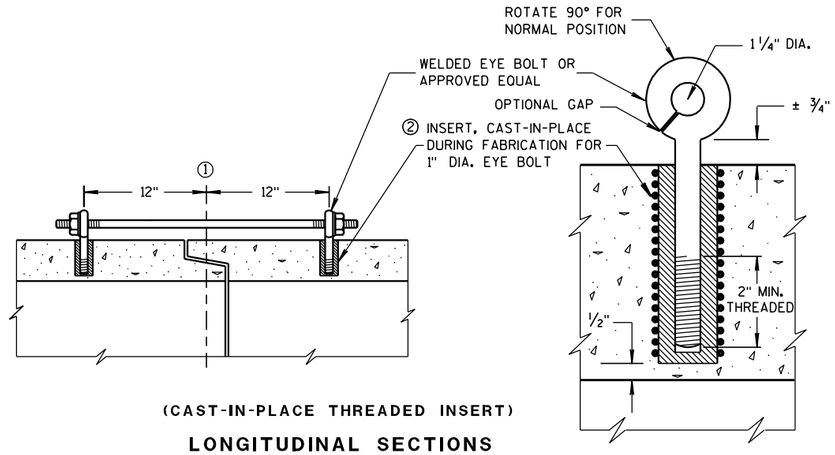
11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

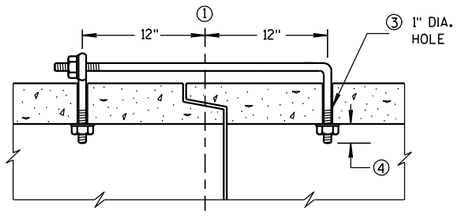
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

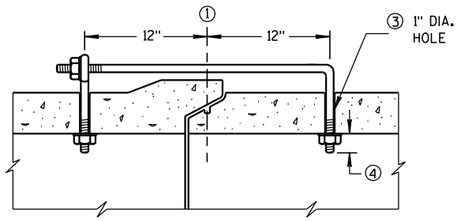
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

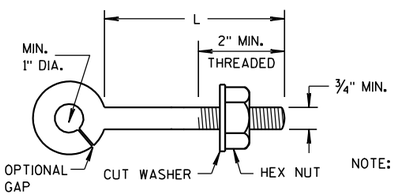


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

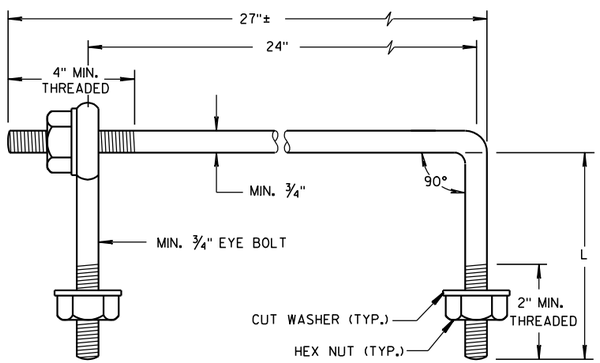
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

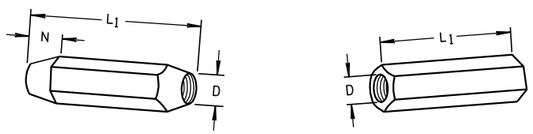
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

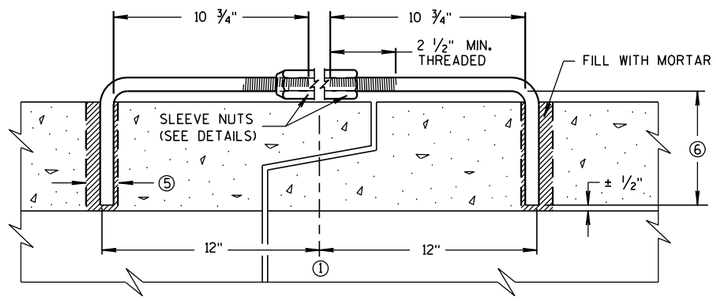
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

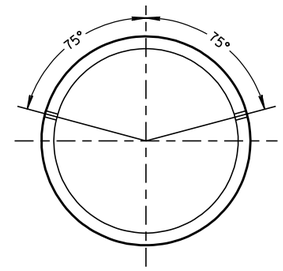
SLEEVE NUTS



LONGITUDINAL SECTION

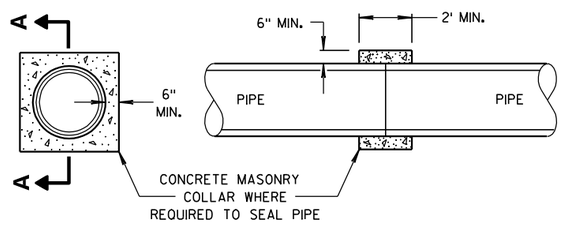
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

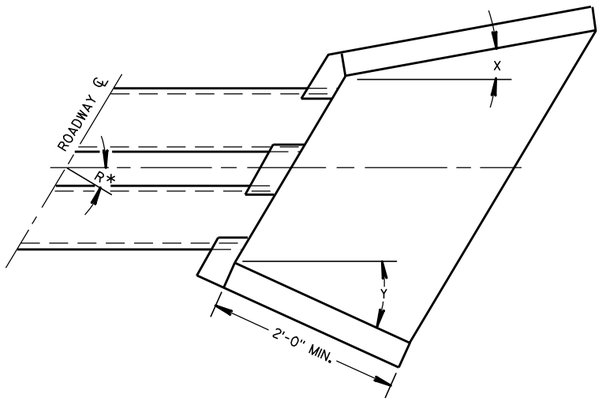
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7



WINGWALL ANGLE DETAILS

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

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.

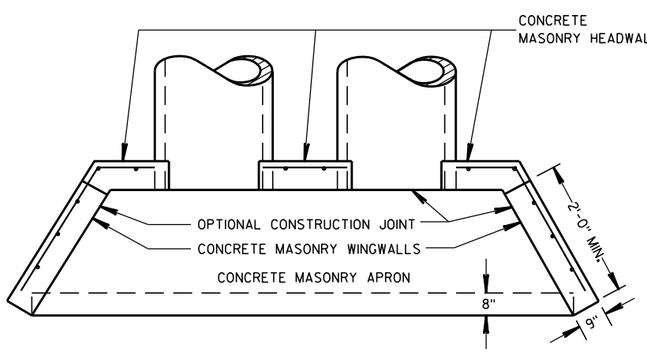
FILL SLOPES FLATTER THAN 2 ½:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

(1) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

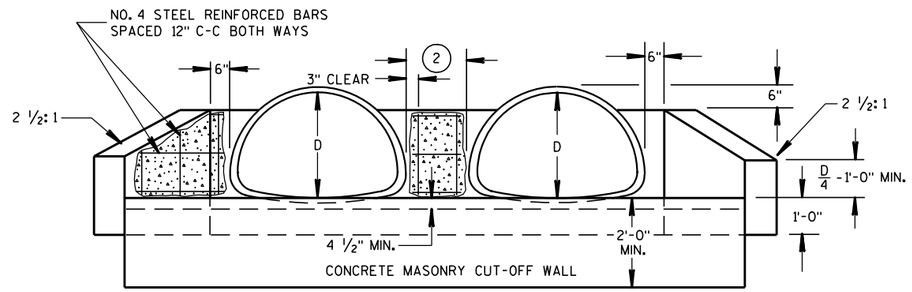
(2) THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	½ DIA. OR SPAN
OVER 72"	3'-0"



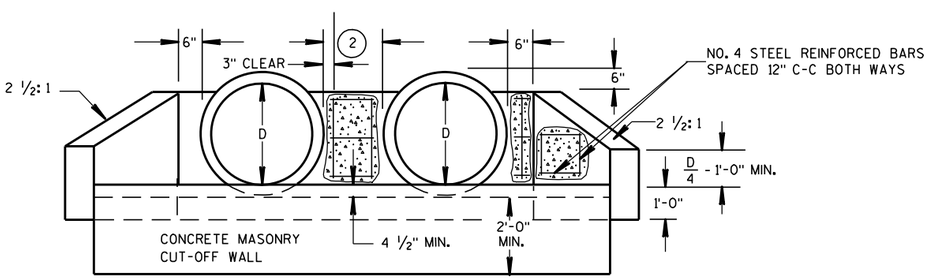
PLAN VIEW

CULVERT PIPE AND PIPE ARCH



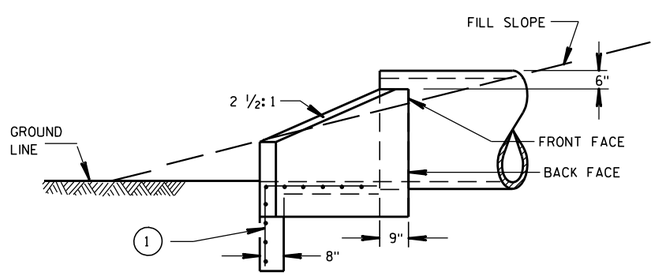
END ELEVATION

PIPE ARCH



END ELEVATION

CULVERT PIPE



SIDE ELEVATION

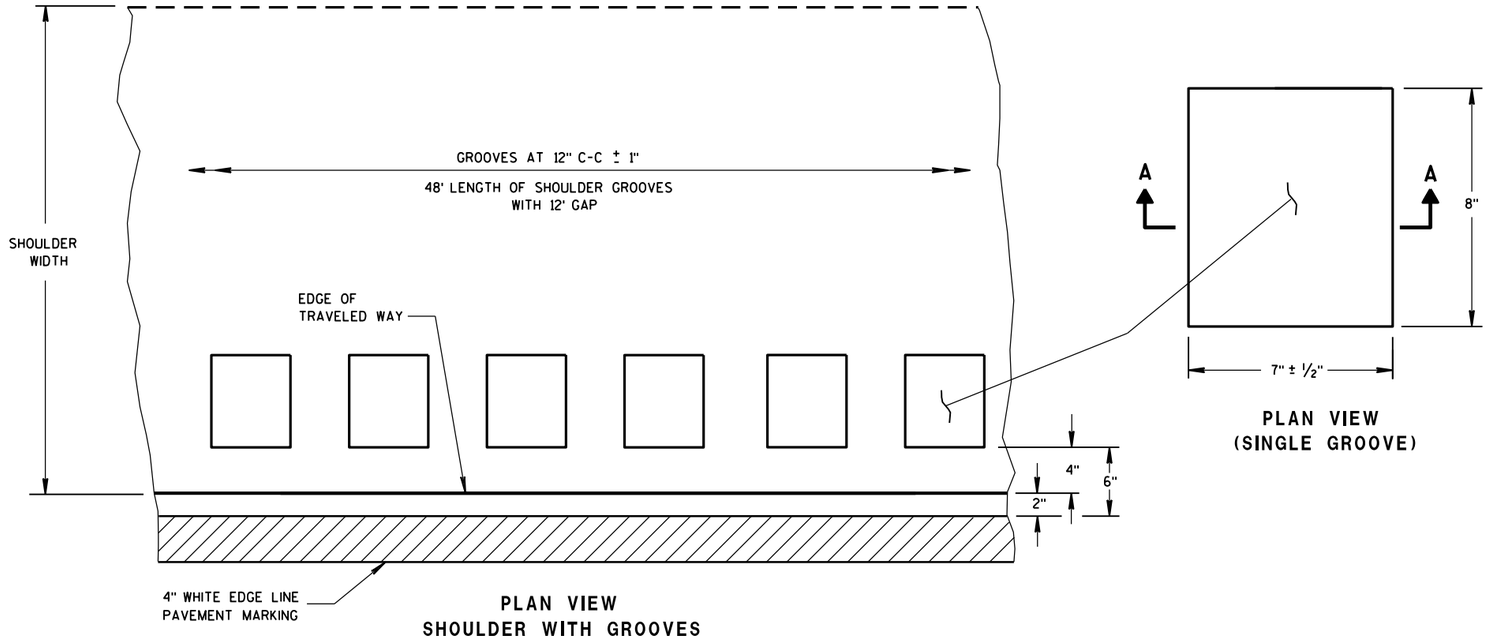
CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/98 DATE
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 10-1



PLAN VIEW
SHOULDER WITH GROOVES

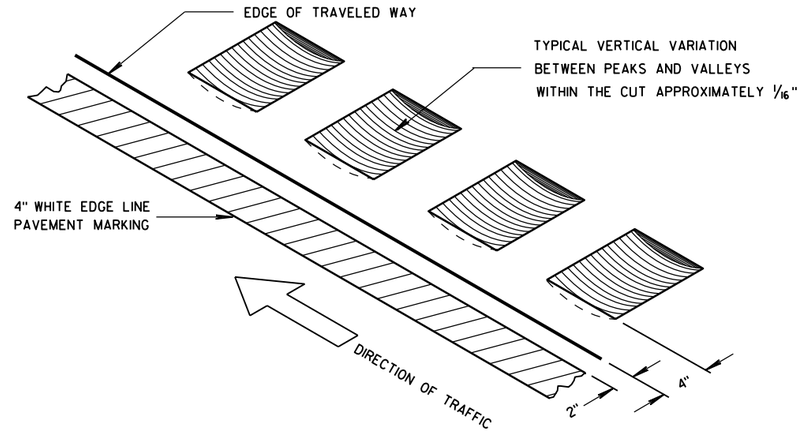
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

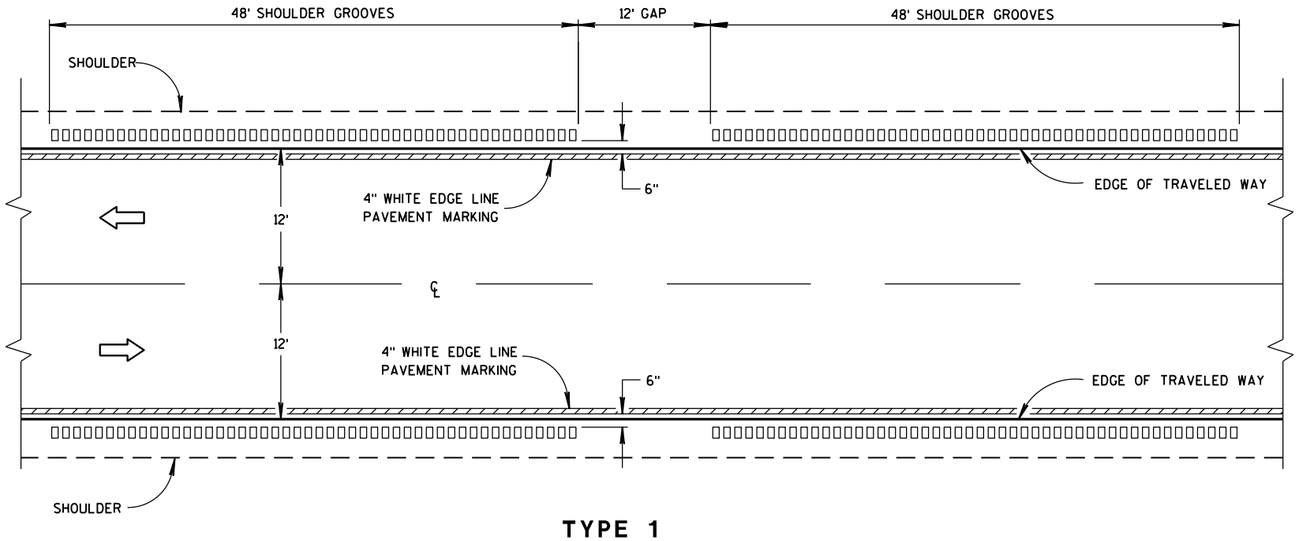
DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.

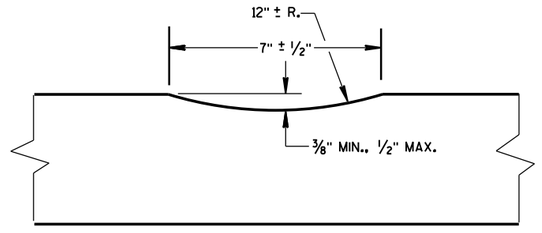


ISOMETRIC

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



TYPE 1
2-LANE SHOULDER RUMBLE STRIP



SECTION A-A

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

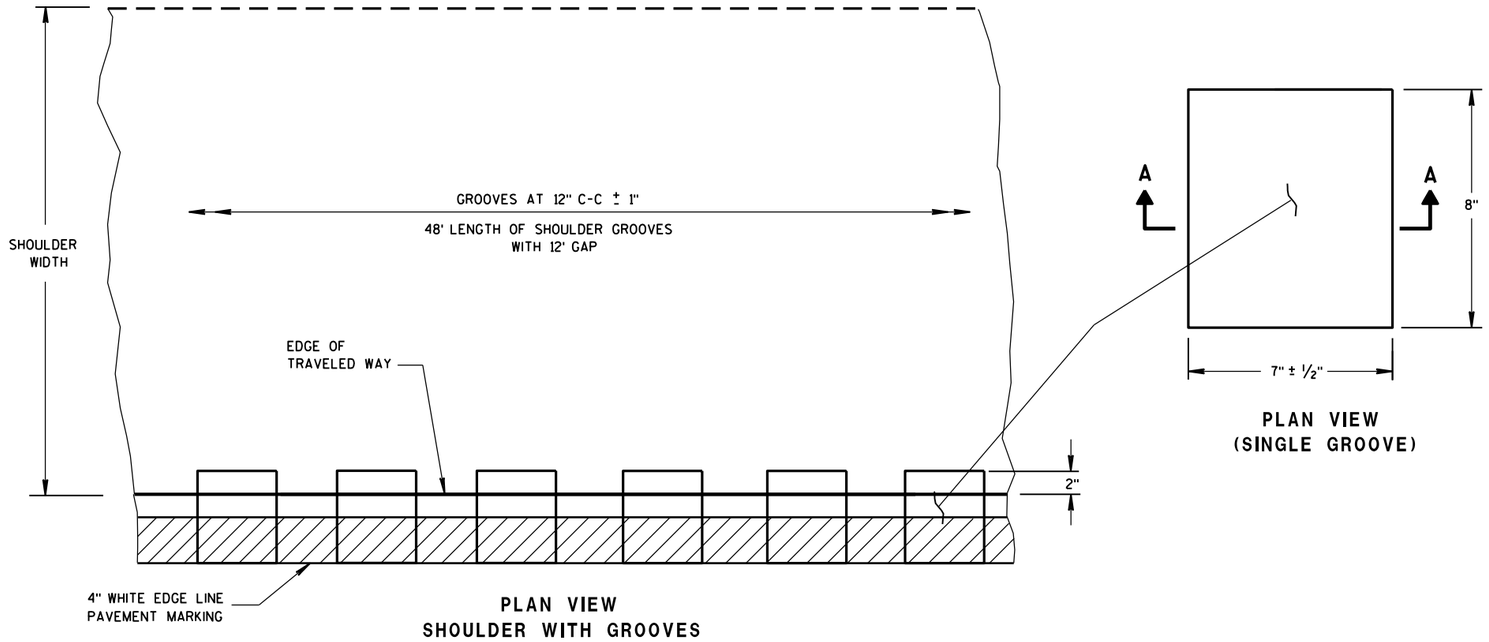
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 13 A 10-1a

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S.D.D. 13 A 10-1a



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

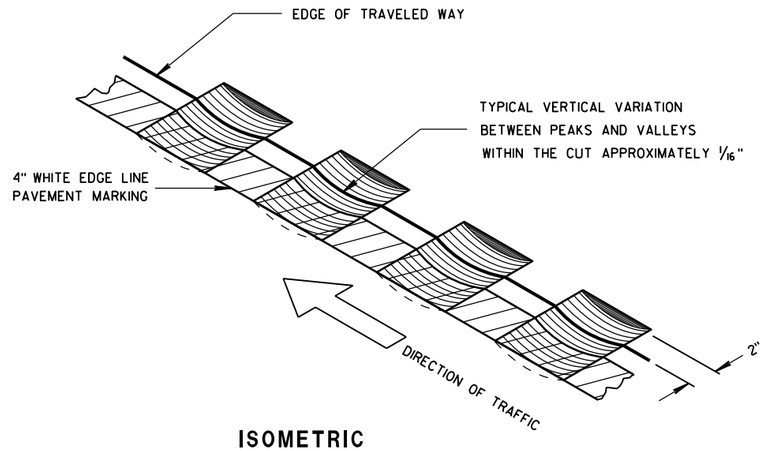
PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP

GENERAL NOTES

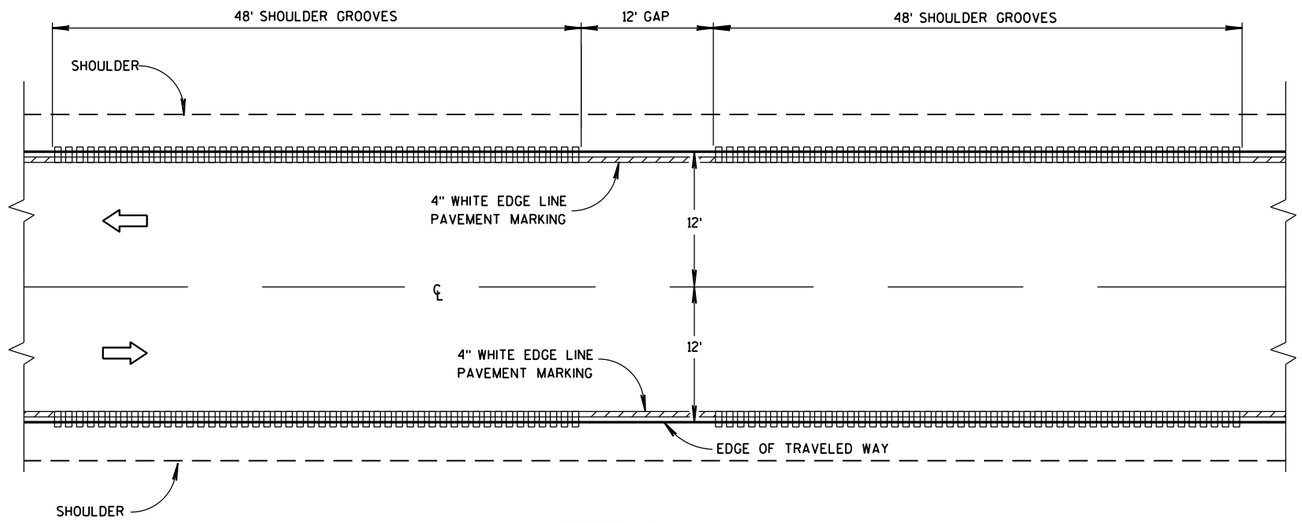
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

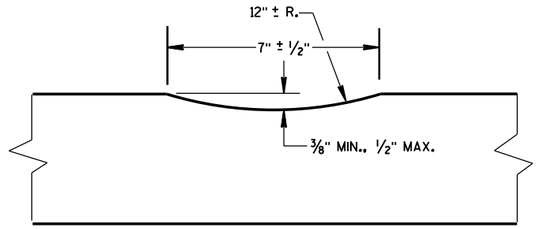
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



TYPE 2
2-LANE SHOULDER RUMBLE STRIP



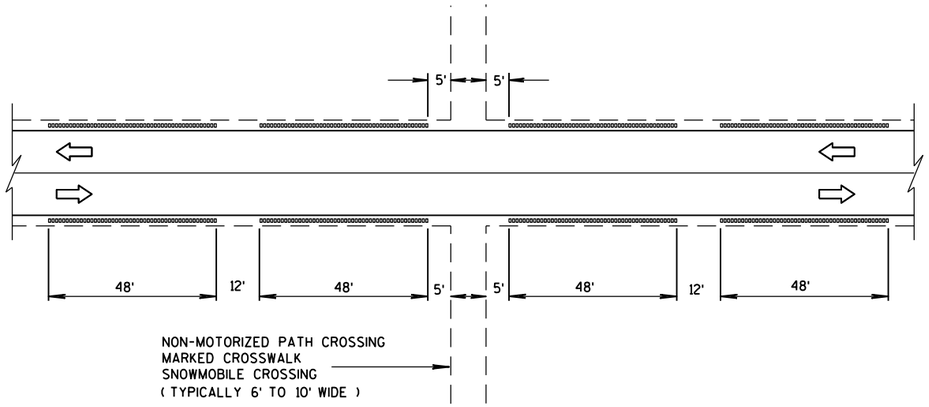
SECTION A-A

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

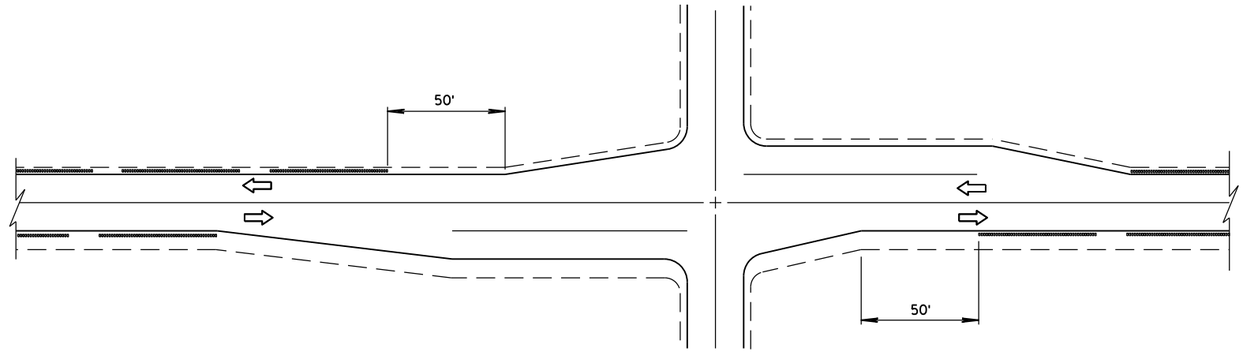
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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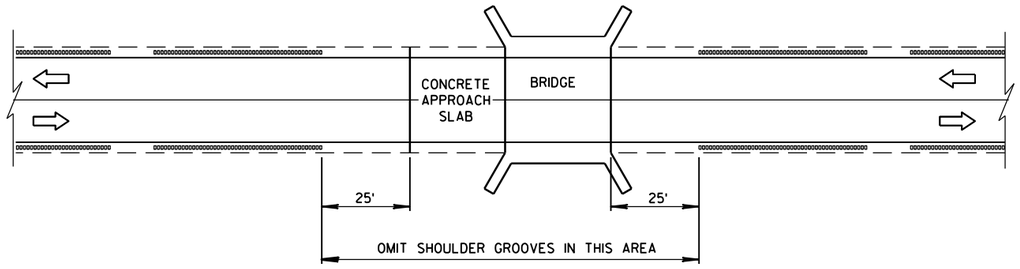
S.D.D. 13 A 10-1b



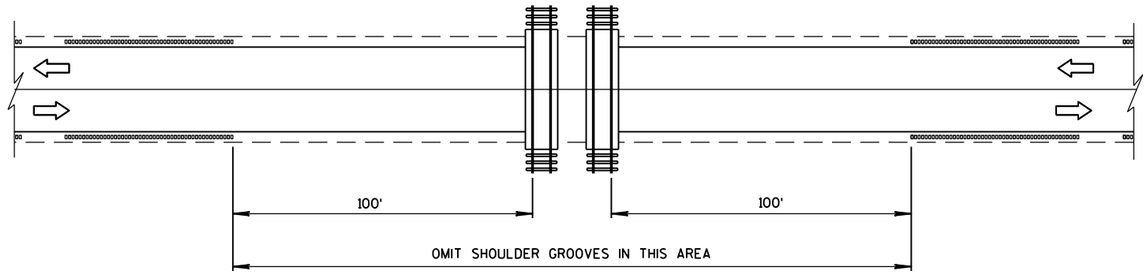
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



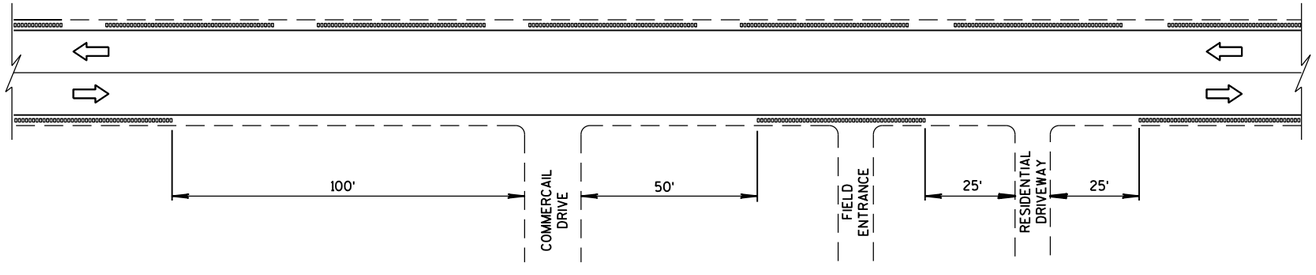
SHOULDER GROOVES AT INTERSECTIONS



SHOULDER GROOVES AT BRIDGES



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT DRIVEWAYS (1)

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

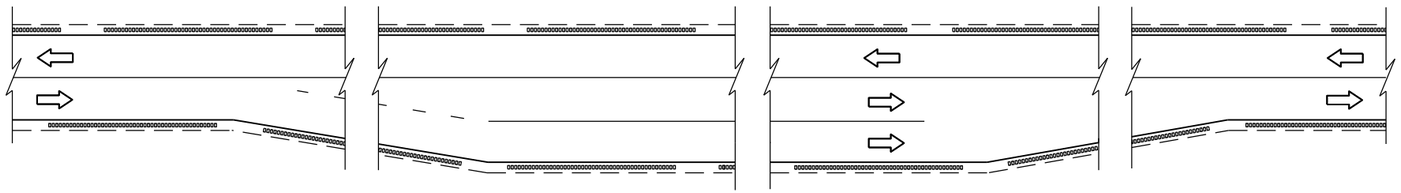
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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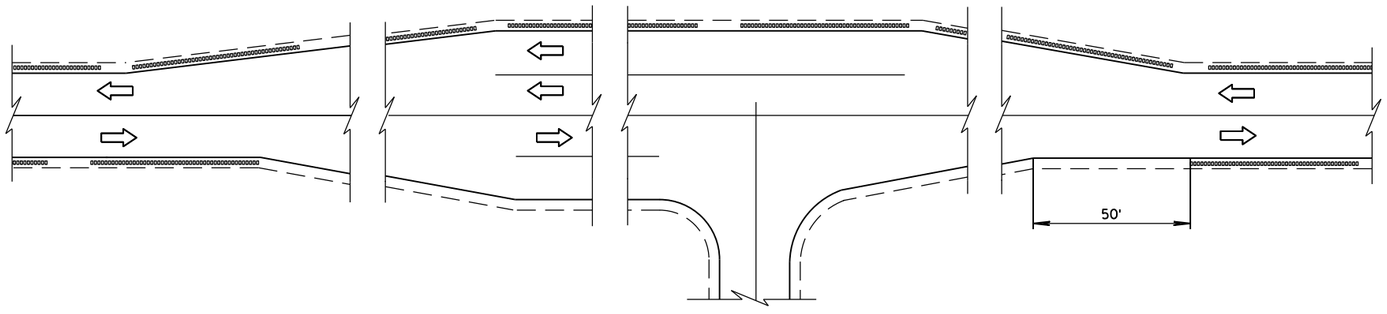
S.D.D. 13 A 10-1c

6

S.D.D. 13 A 10-1c



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

6

6

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

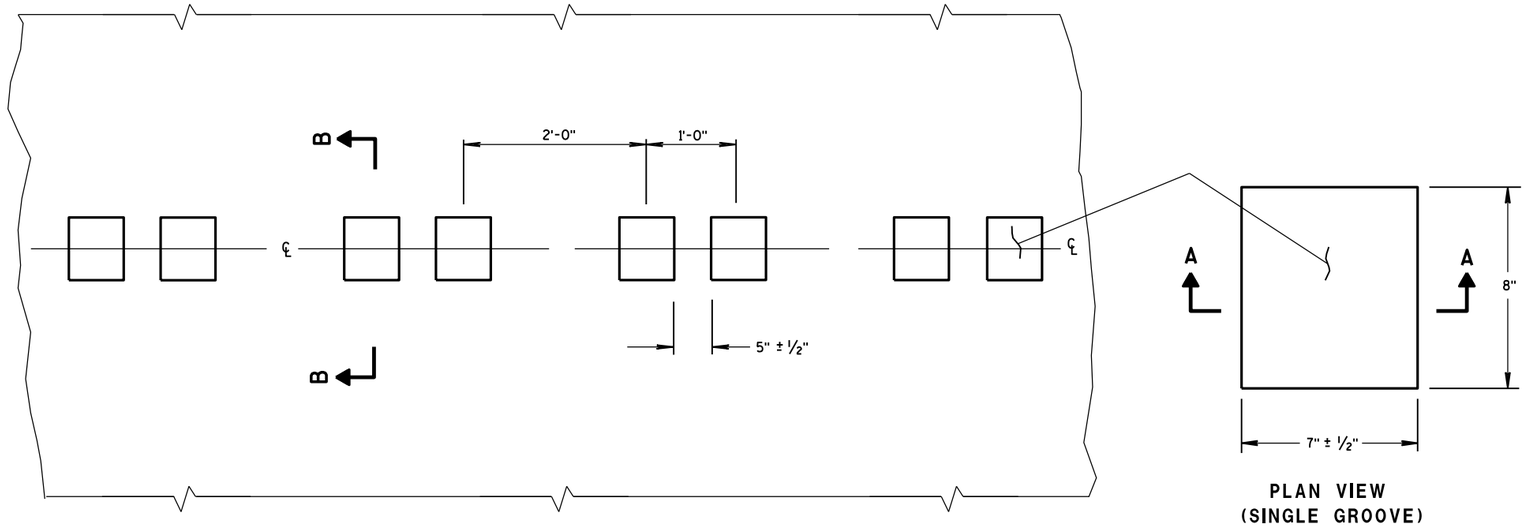
12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

FHWA

S.D.D. 13 A 10-1d

S.D.D. 13 A 10-1d



PLAN VIEW
CENTER LINE WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

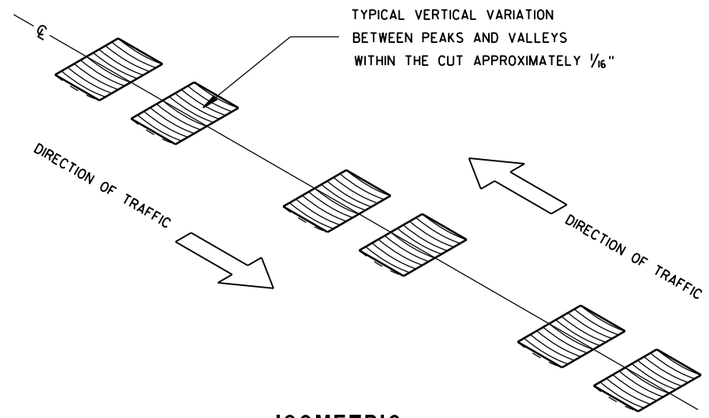
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

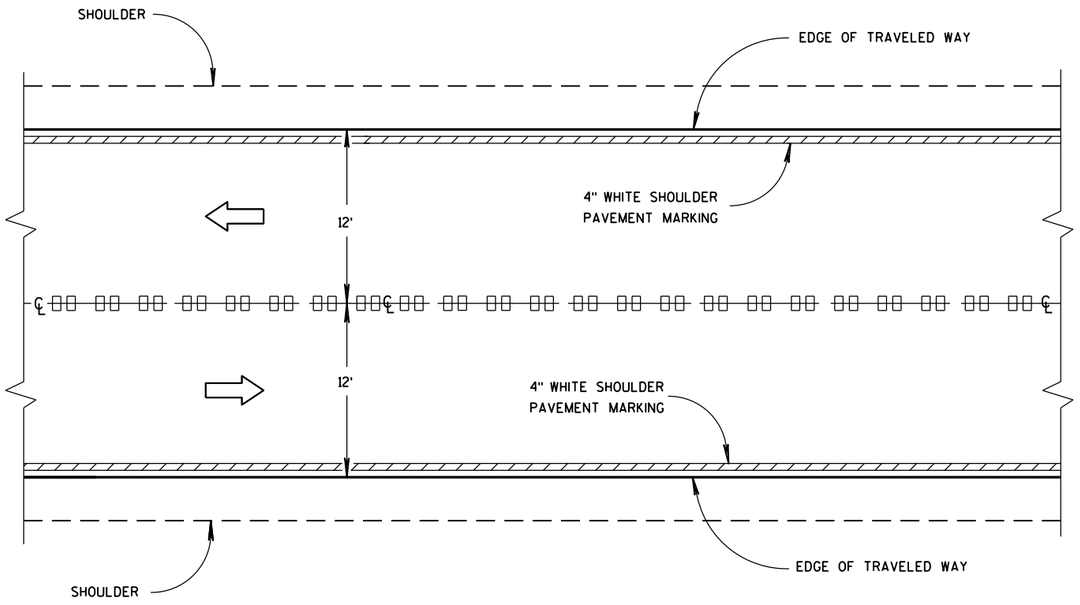
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

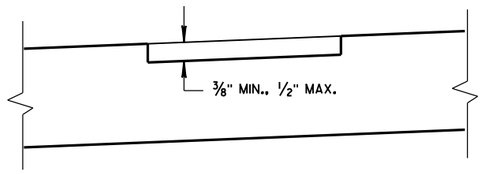
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



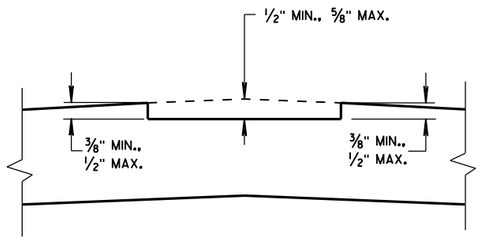
ISOMETRIC



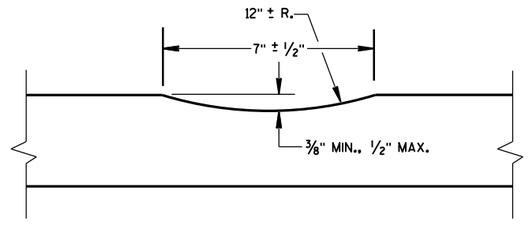
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY



SECTION A-A

6

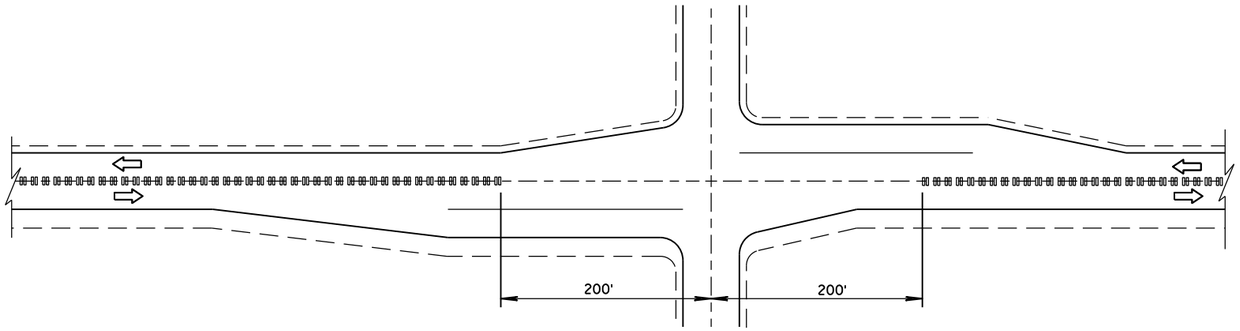
S.D.D. 13 A 11-2a

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

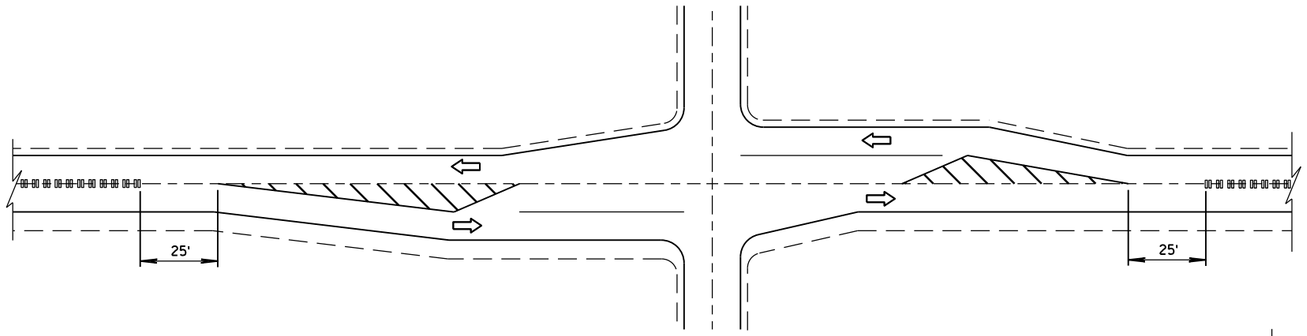
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

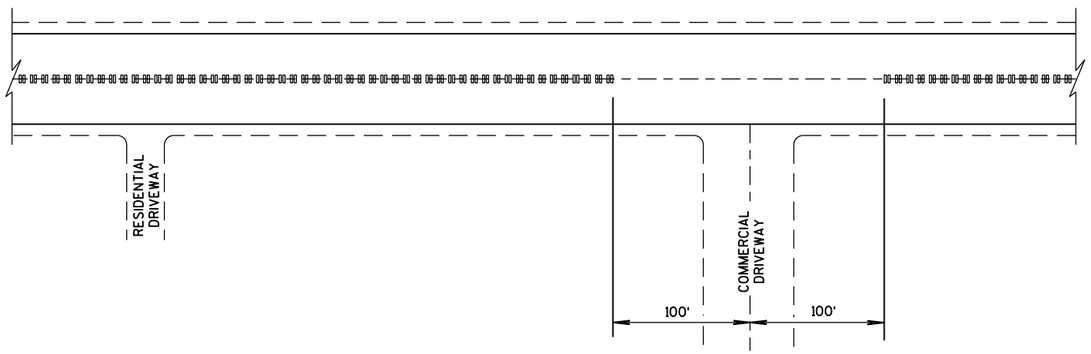
S.D.D. 13 A 11-2a



CENTER LINE GROOVES AT INTERSECTIONS

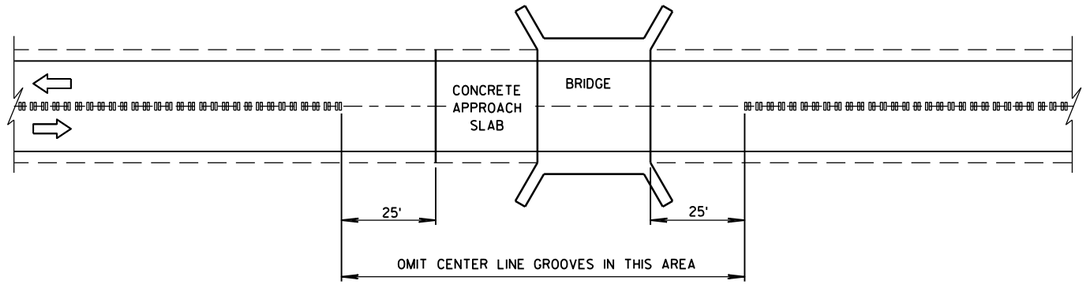


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

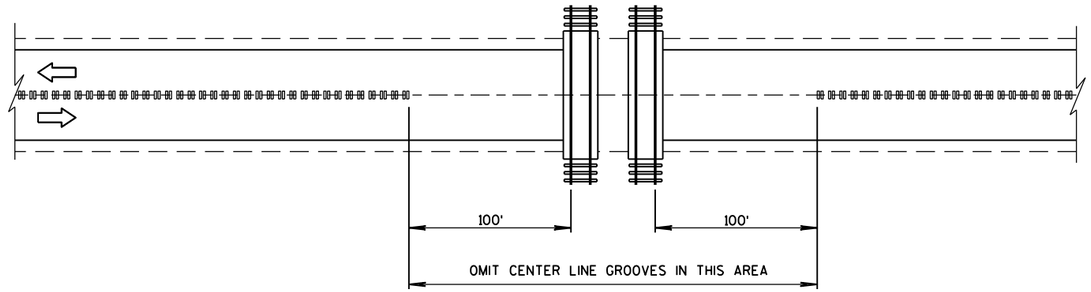


CENTER LINE GROOVES AT DRIVEWAYS (1)

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

6

S.D.D. 13 A 11-2b

6

S.D.D. 13 A 11-2b

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

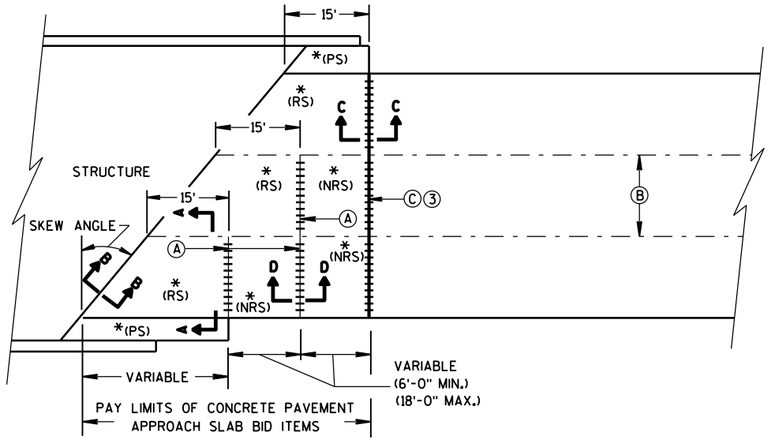
APPROVED

5/15/2013
DATE

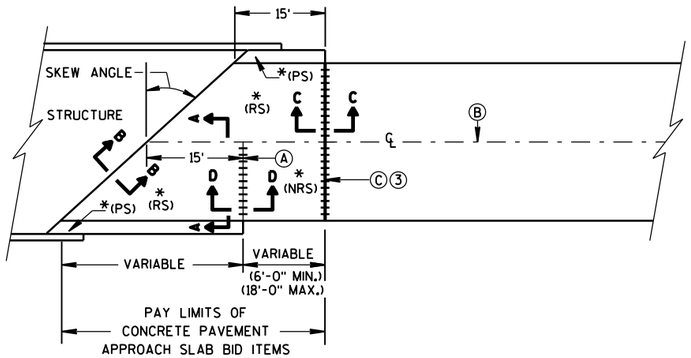
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

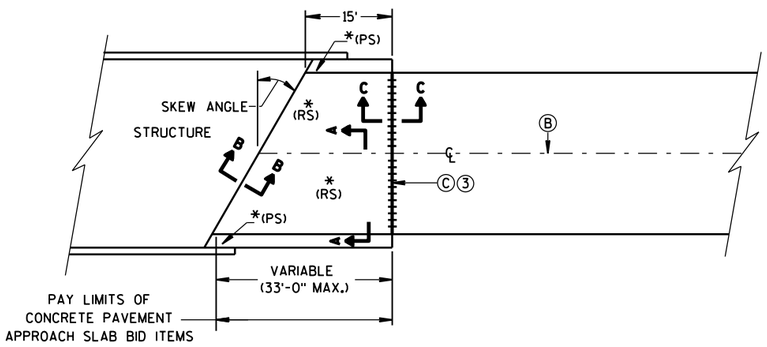
FHWA



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



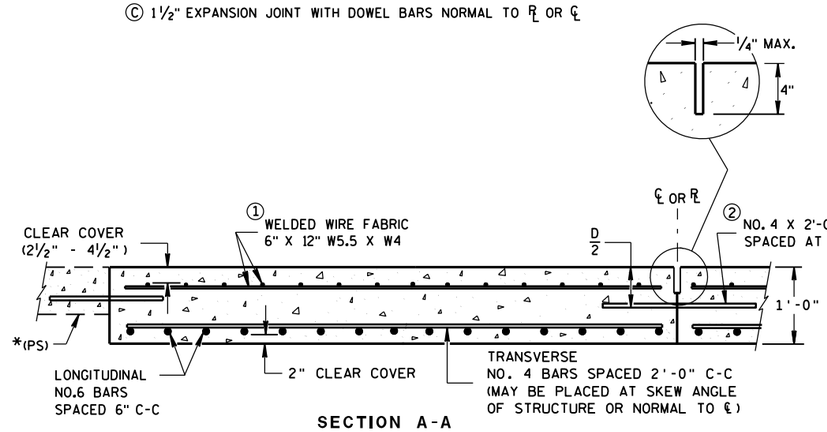
SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

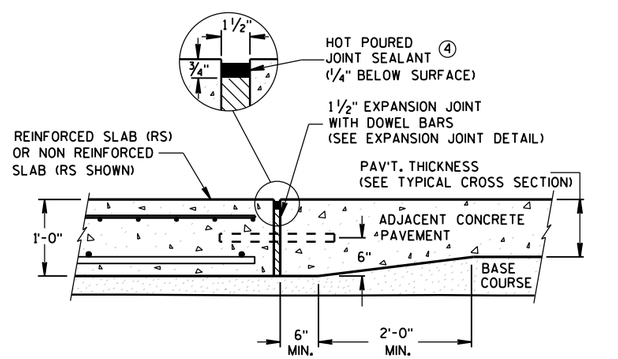
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

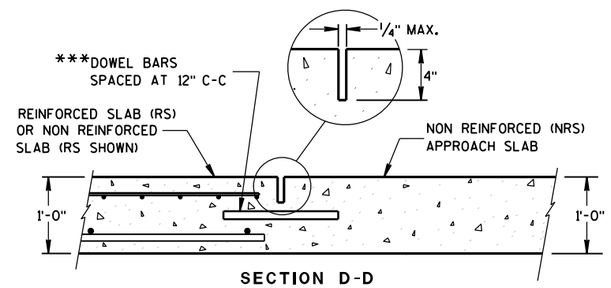
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

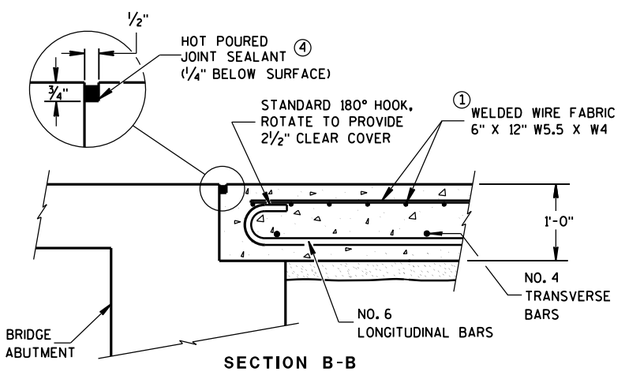
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

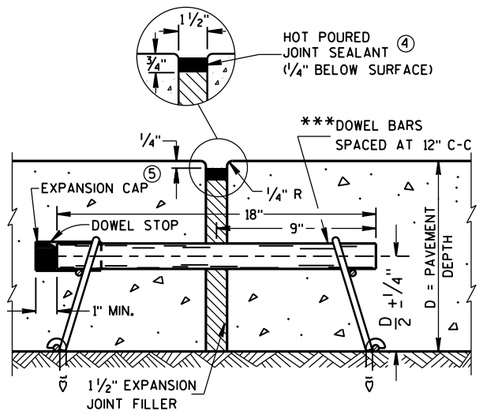
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

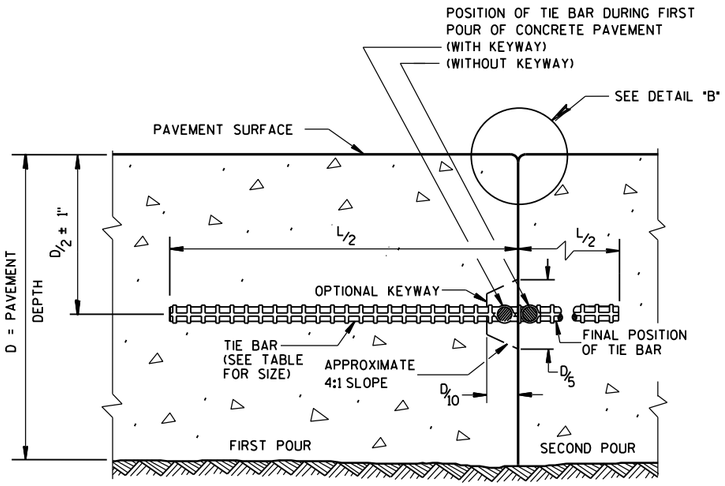
APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6

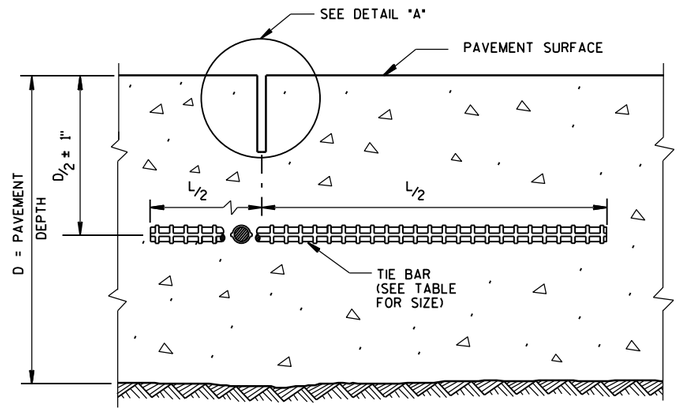
S.D.D. 13 B 2-8a

6

S.D.D. 13 B 2-8a



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

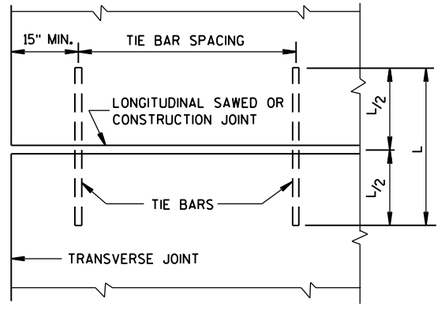
DETAIL "C"

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6

S.D.D. 13 C 1-18

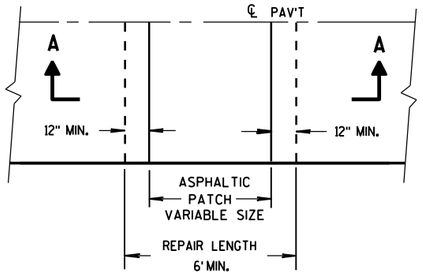
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

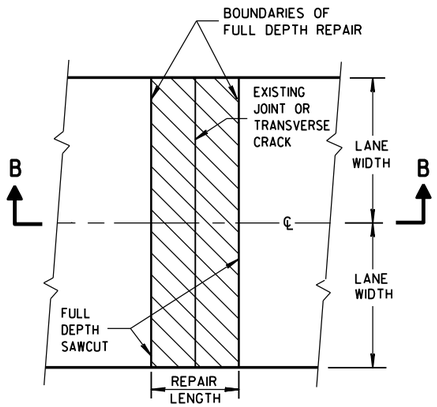
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

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

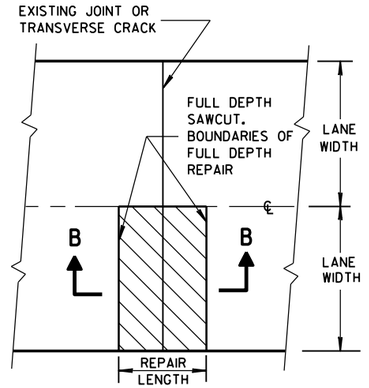
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

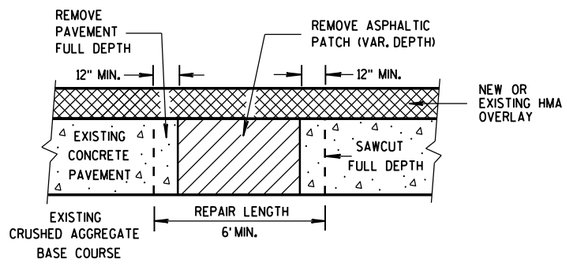


PLAN VIEW
(DOUBLE LANE REPAIR)



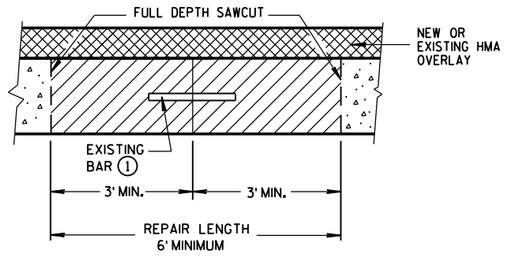
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

BASE PATCHING CONCRETE

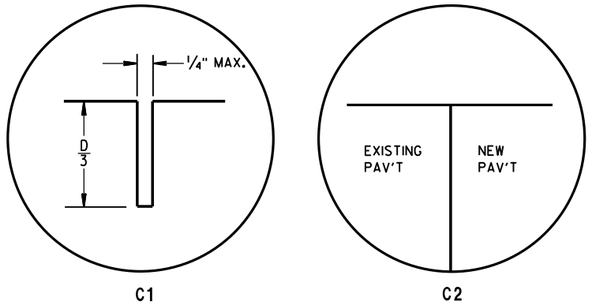
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

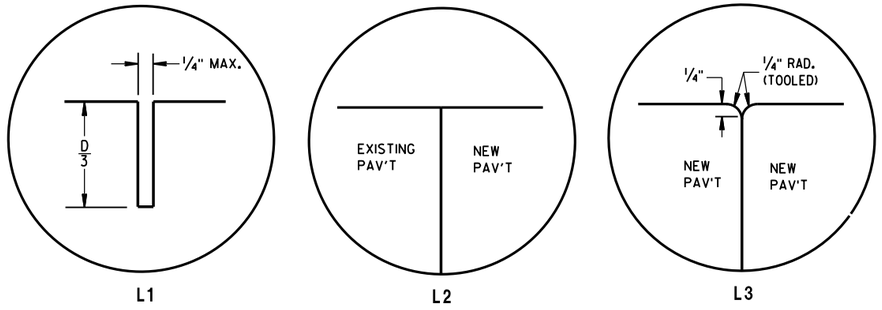
S.D.D. 13 C 14-6a

6

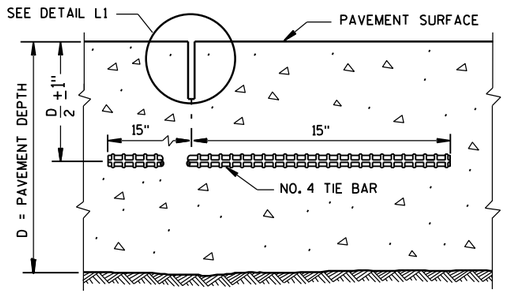
S.D.D. 13 C 14-6a



TRANSVERSE JOINTS

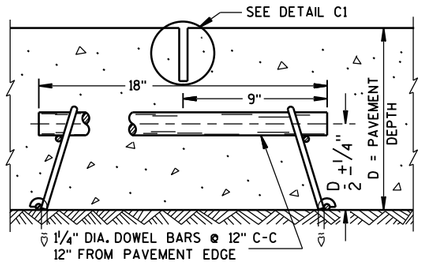


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

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

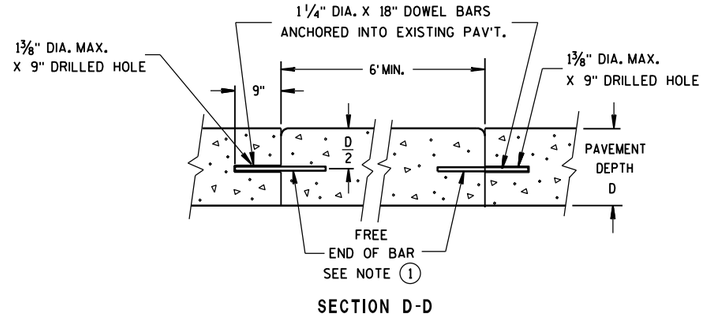
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

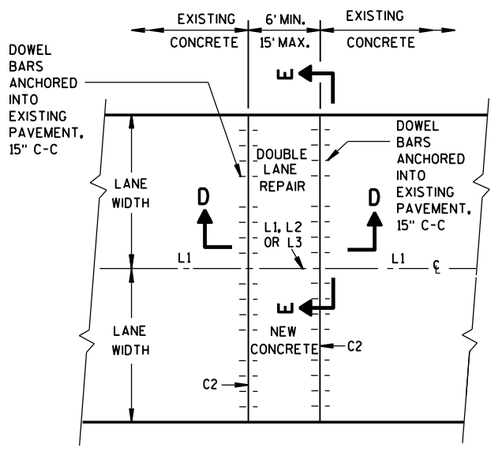
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

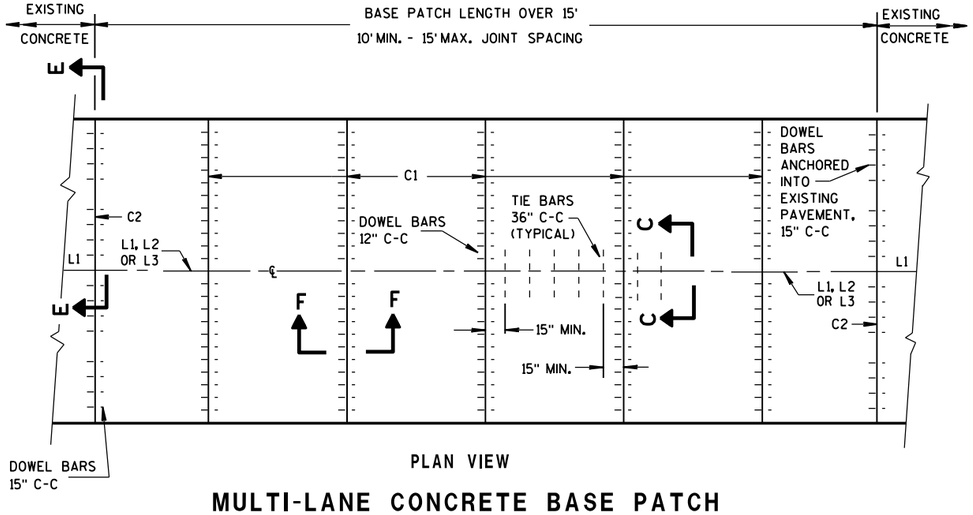


SECTION D-D



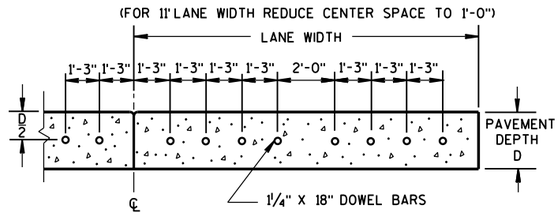
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

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



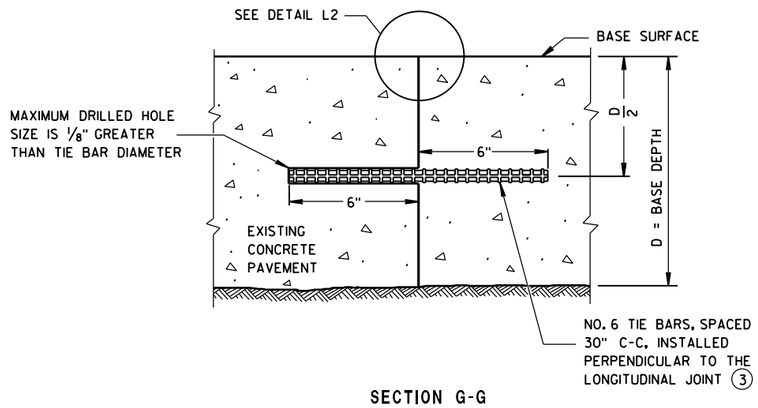
SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 13 C 14-6b



SECTION G-G

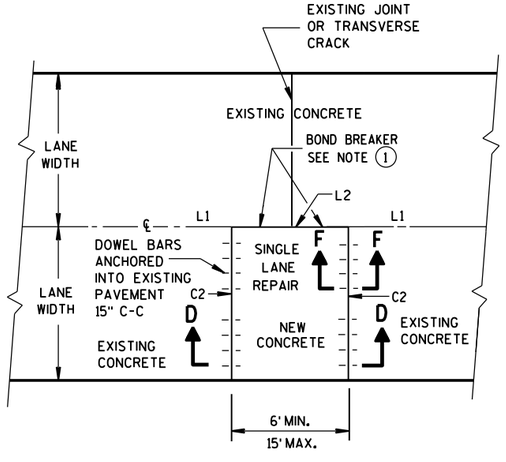
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

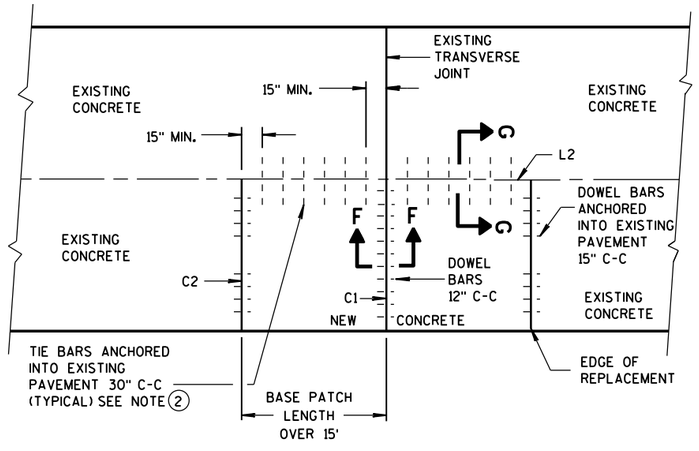
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

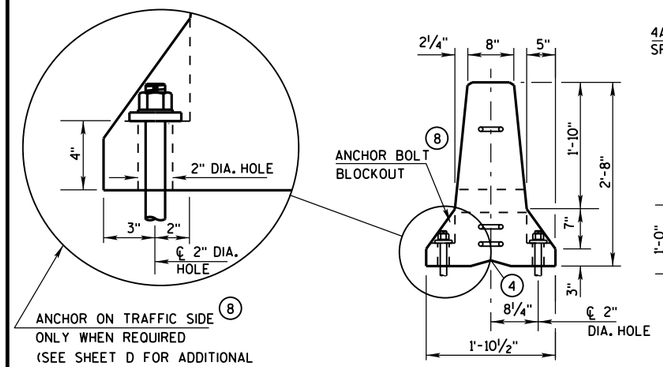
APPROVED
Sept., 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6

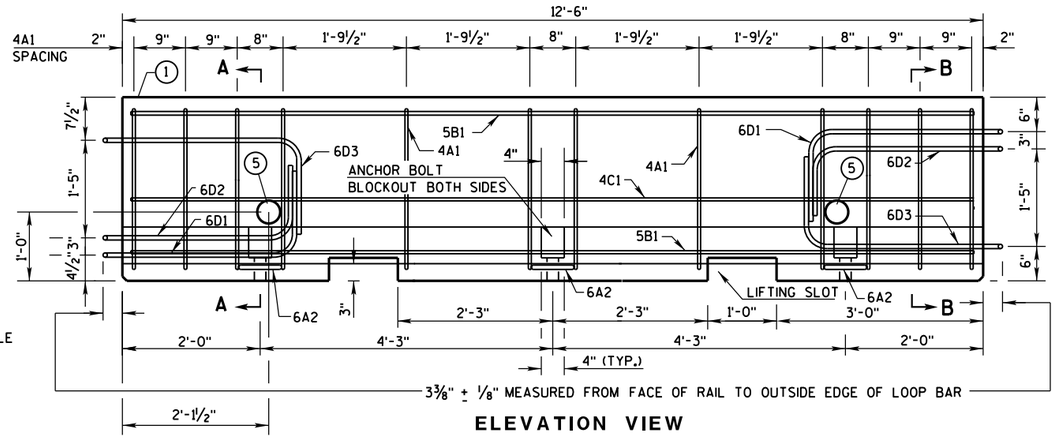
S.D.D. 13 C 14-6c

6

S.D.D. 13 C 14-6c



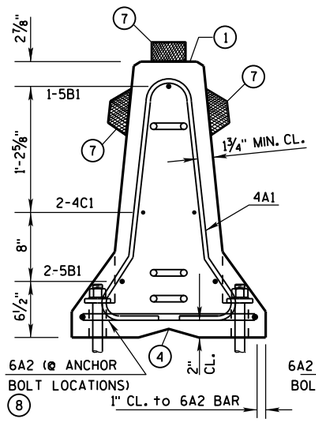
END VIEW



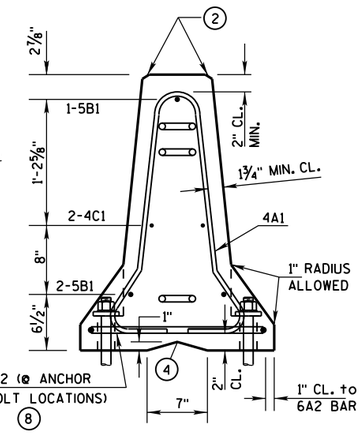
ELEVATION VIEW



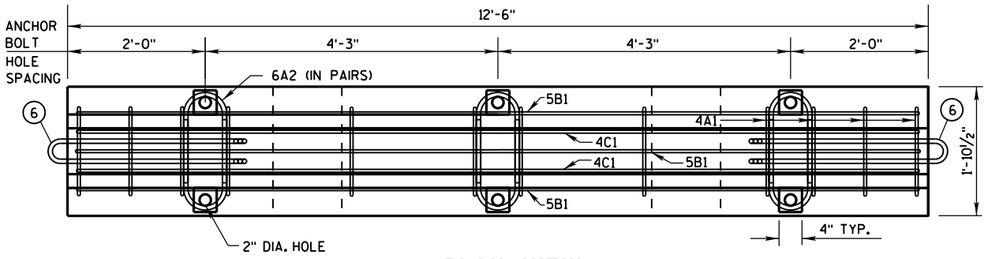
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

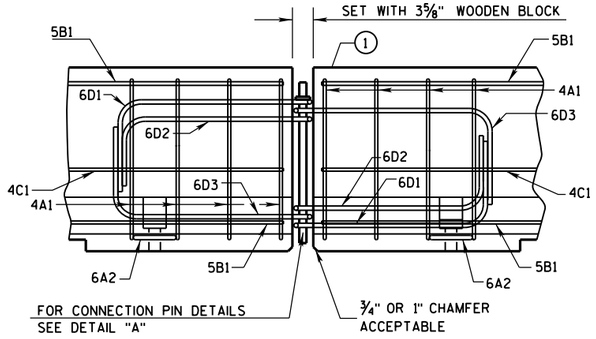


SECTION B-B
(STIRRUP PLACEMENT)

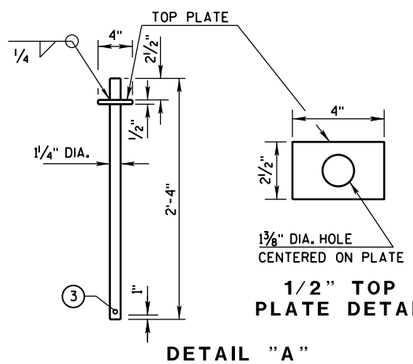


PLAN VIEW

DETAILS OF BARRIER SECTION

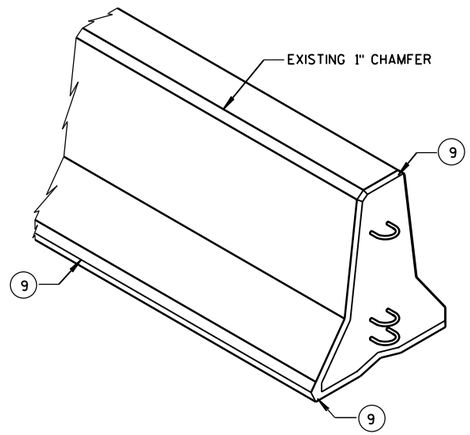


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

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

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

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

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

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

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

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

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

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

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

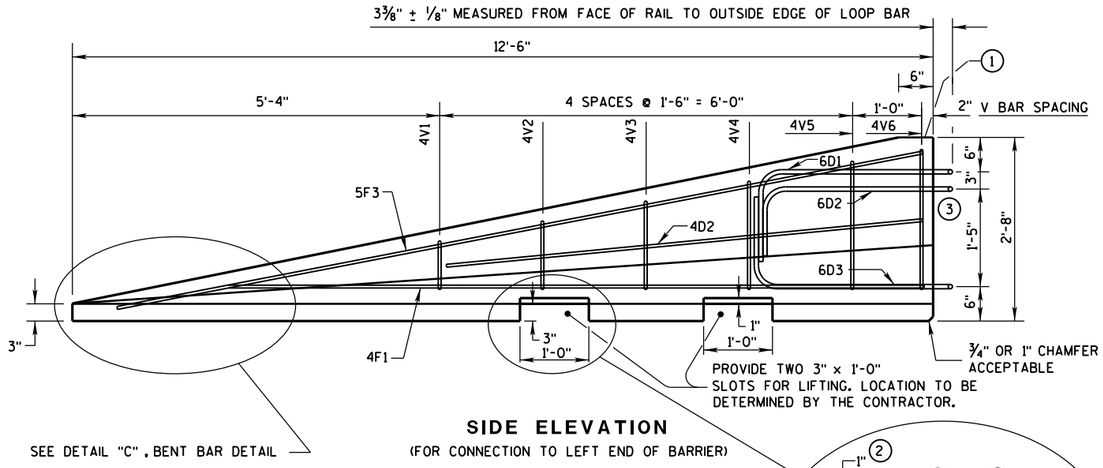
f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

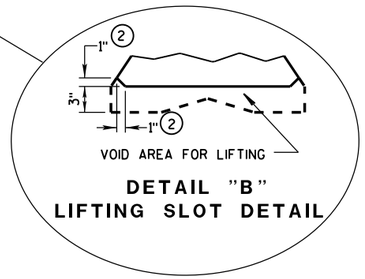
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 94

S.D.D. 14 B 7-15a

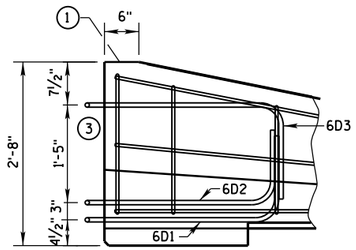
6



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



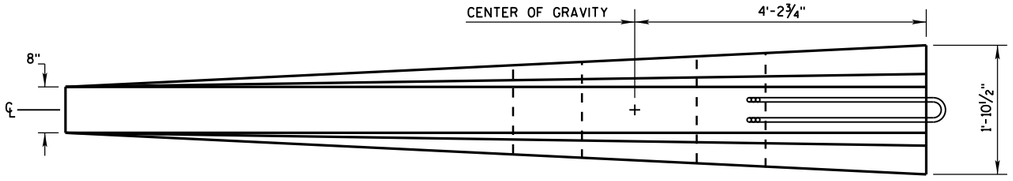
DETAIL "B"
LIFTING SLOT DETAIL



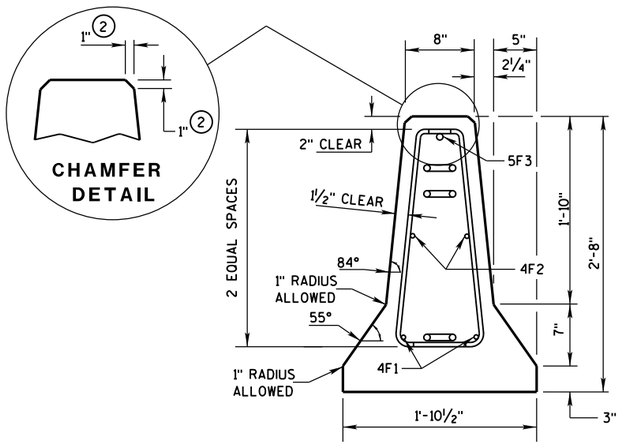
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

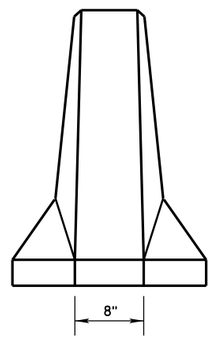
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



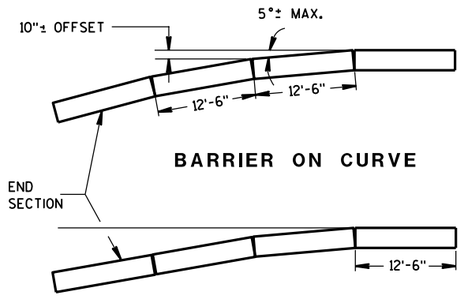
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

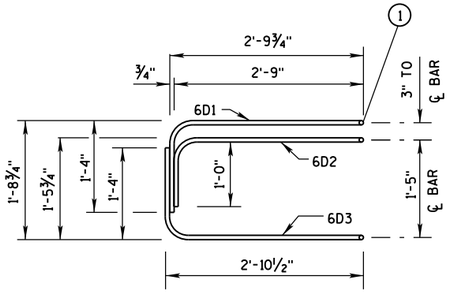
6

S.D.D. 14 B 7-15b

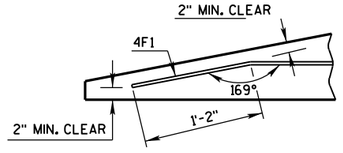
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

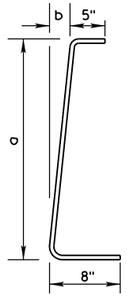
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

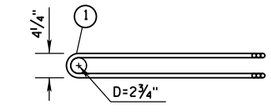
GENERAL NOTES

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

BARRIER SECTION BILL OF MATERIALS

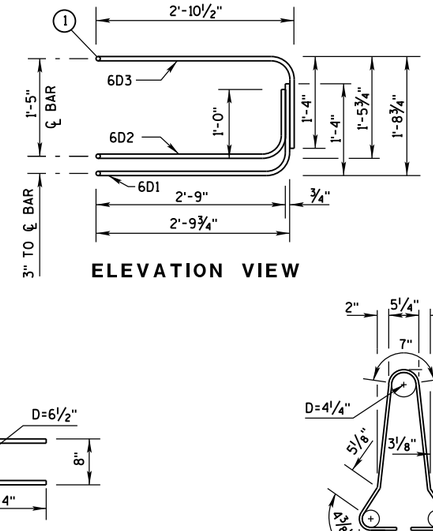
(PER 12'-6" BARRIER SECTION)

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

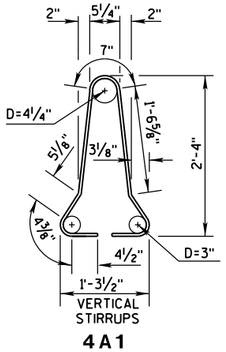


PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)

6A2



ELEVATION VIEW



4A1

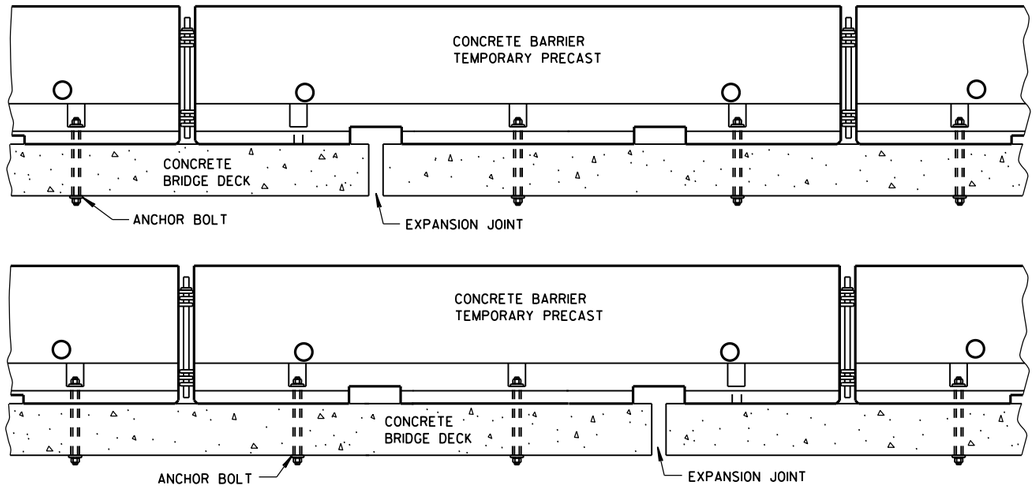
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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

GENERAL NOTES

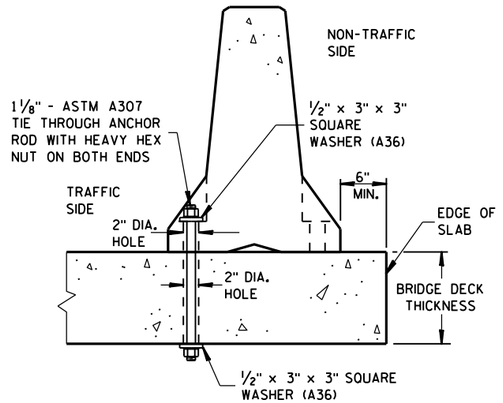
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

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

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

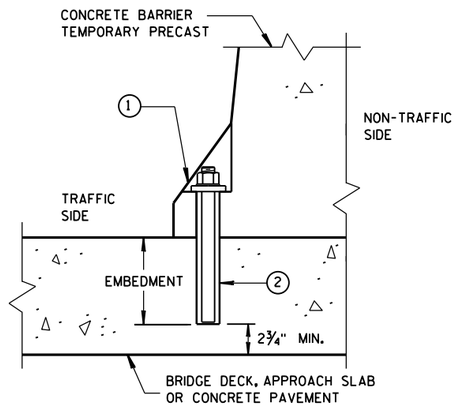
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



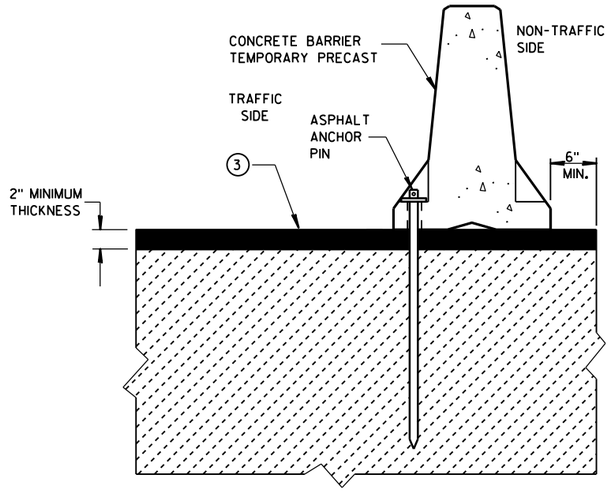
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

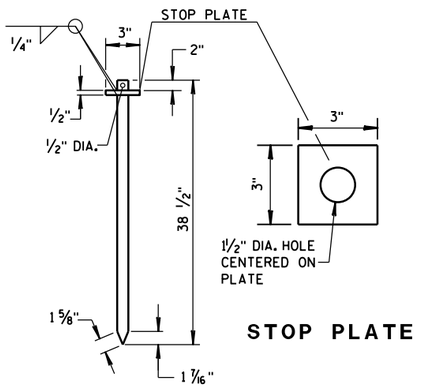


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



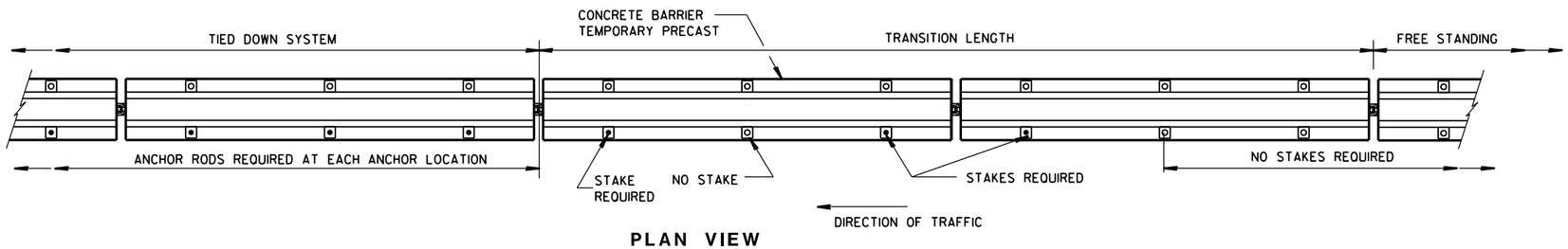
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

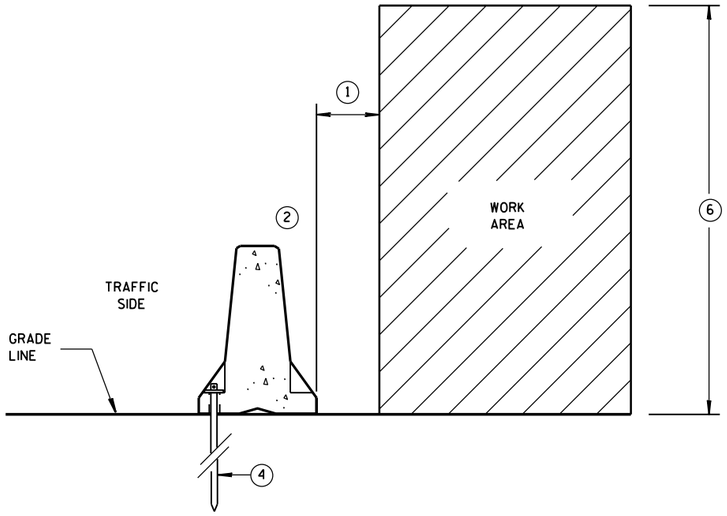
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

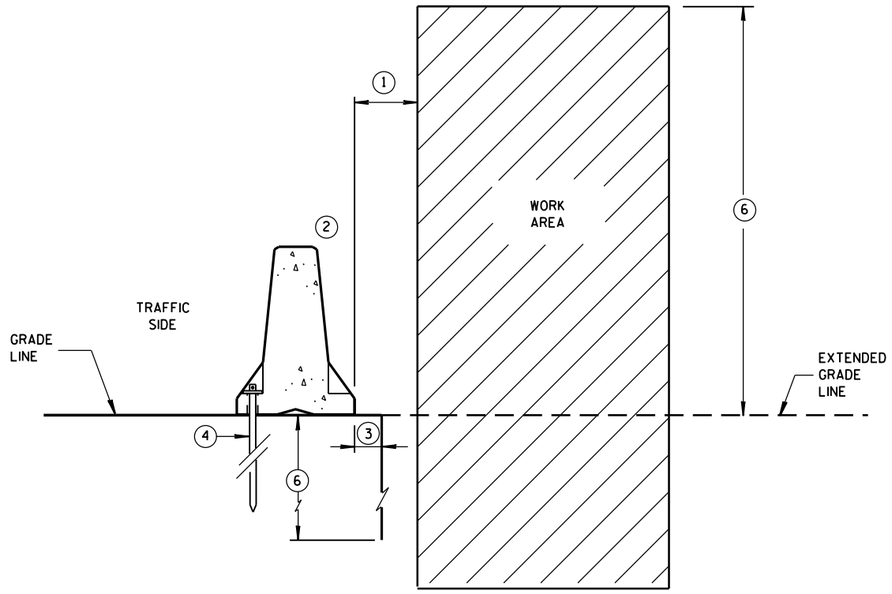
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

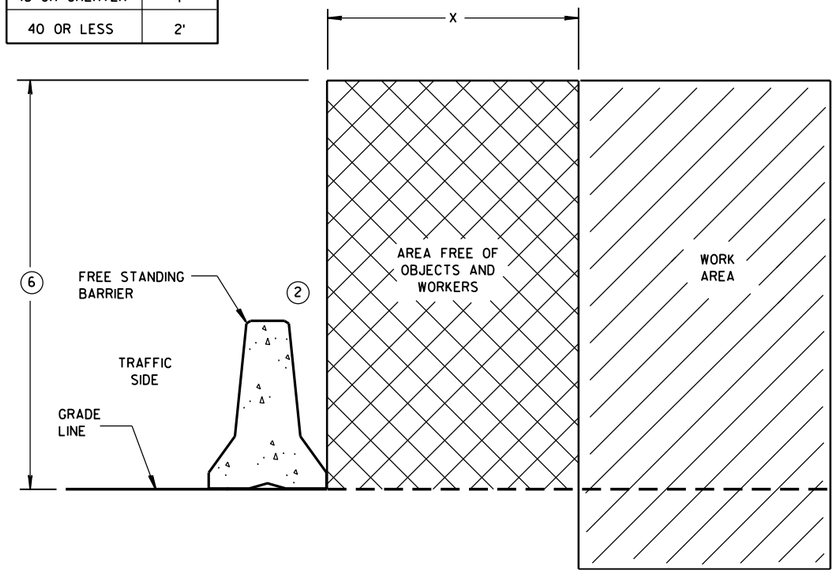


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

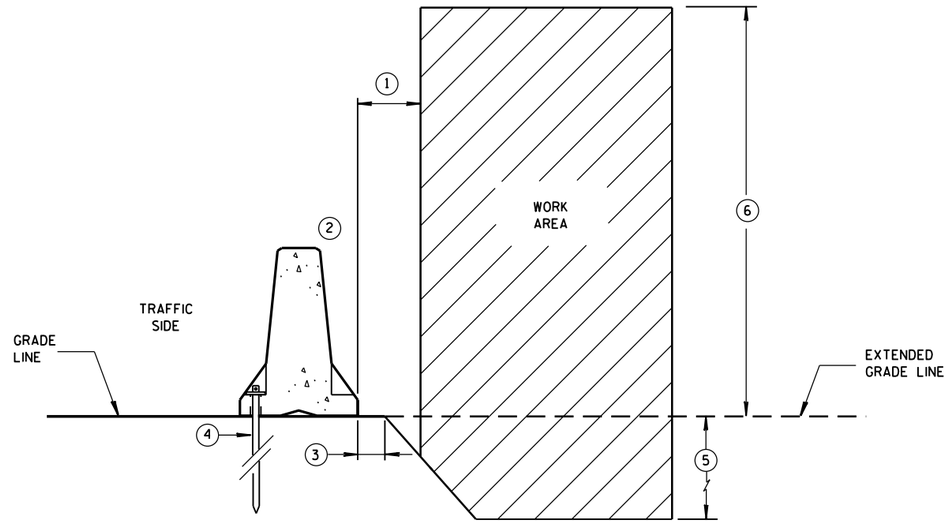
GENERAL NOTES

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

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



FREE STANDING BARRIER SPACE REQUIREMENTS



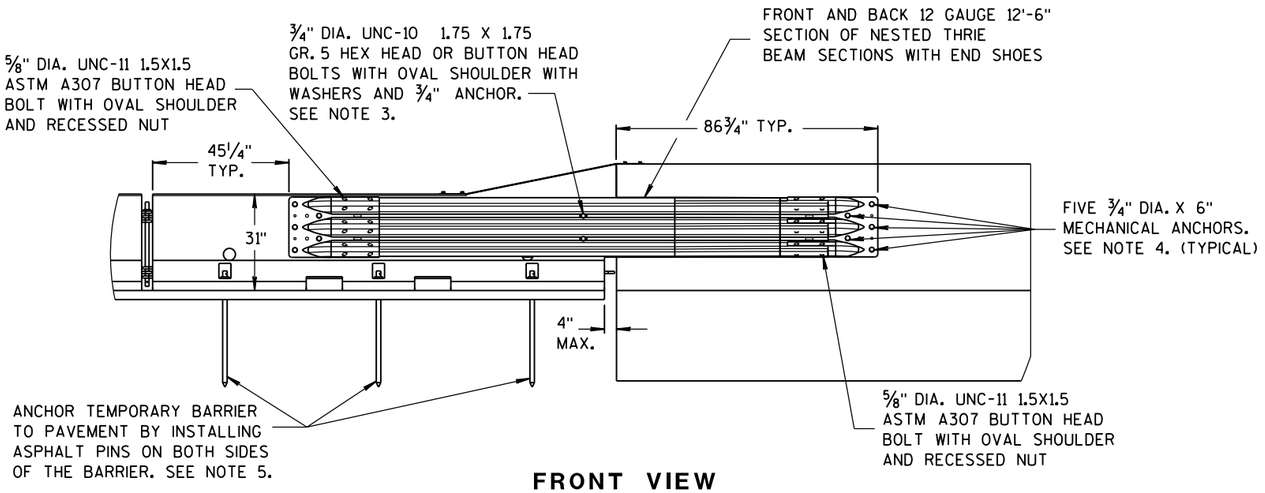
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

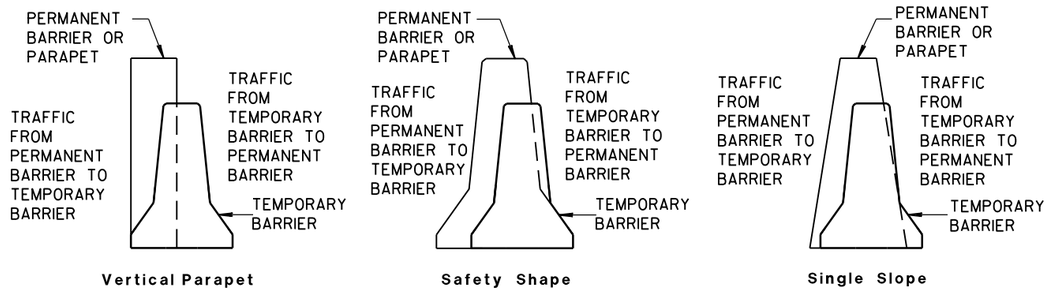
STATE OF WISCONSIN
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S.D.D. 14 B 7-15e



FRONT VIEW

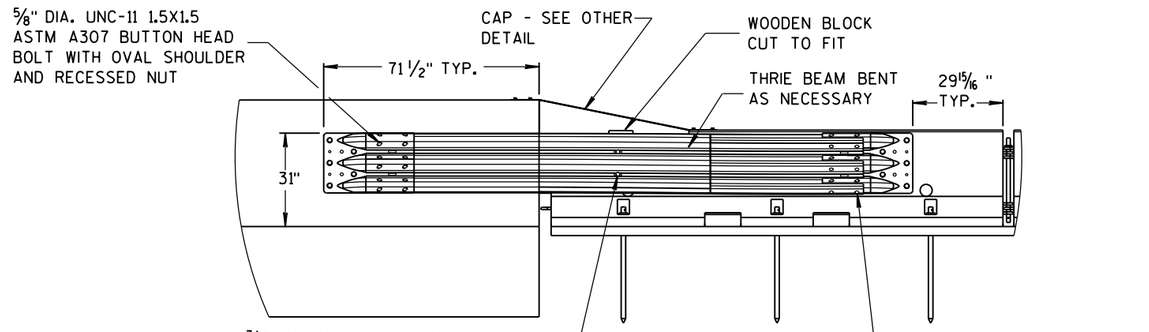


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

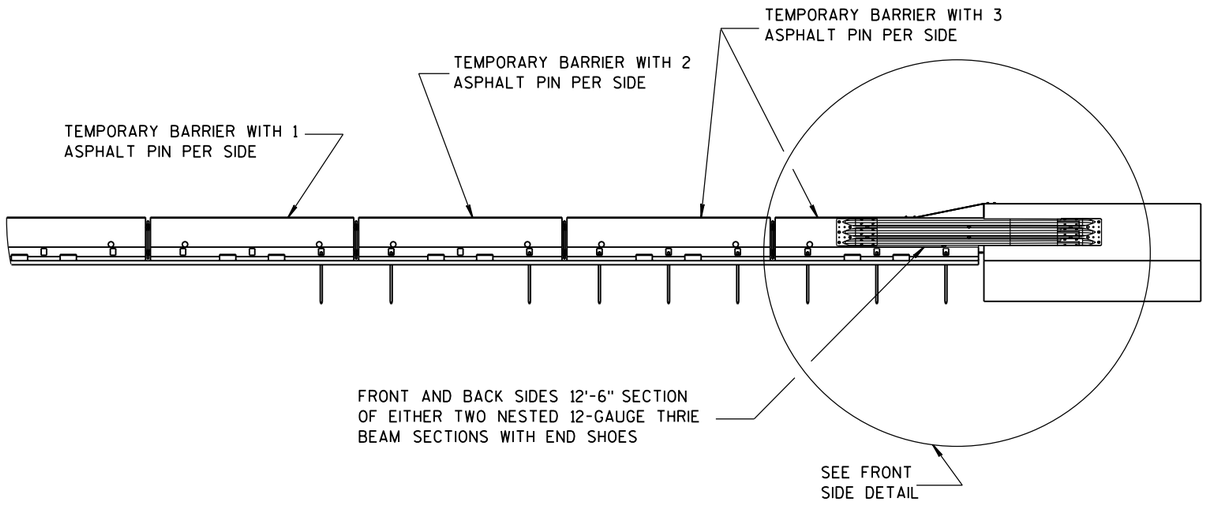
NOTES

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

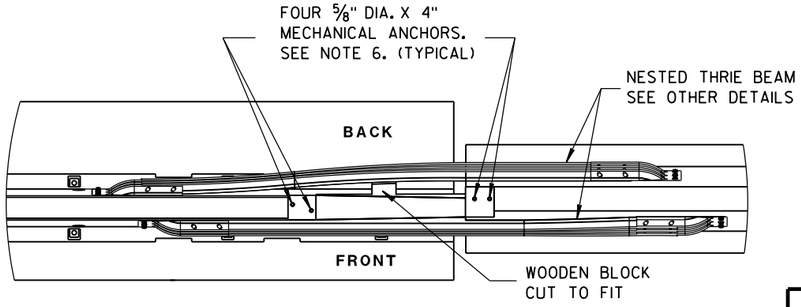
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BACK VIEW



FRONT VIEW



PLAN VIEW

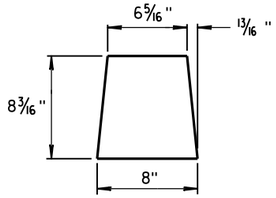
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

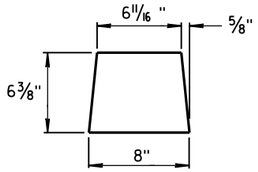
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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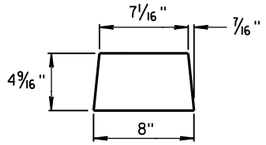
S.D.D. 14 B 7-15f



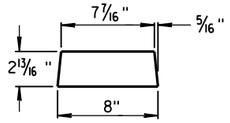
GUSSET 1



GUSSET 2

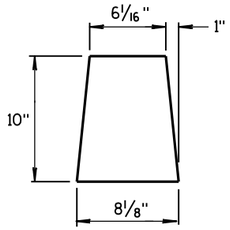


GUSSET 3

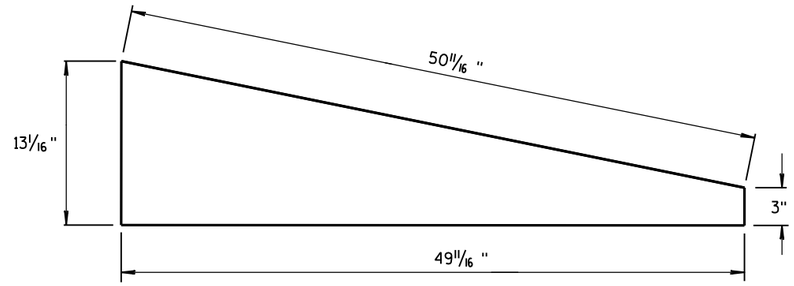


GUSSET 4

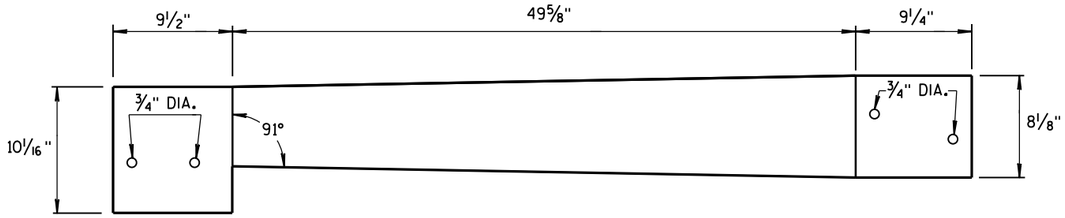
GUSSETS

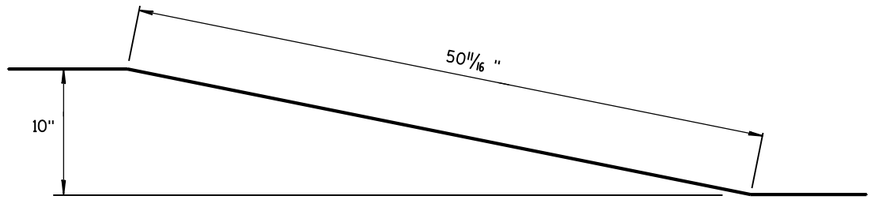


END PLATE



SIDE PLATE

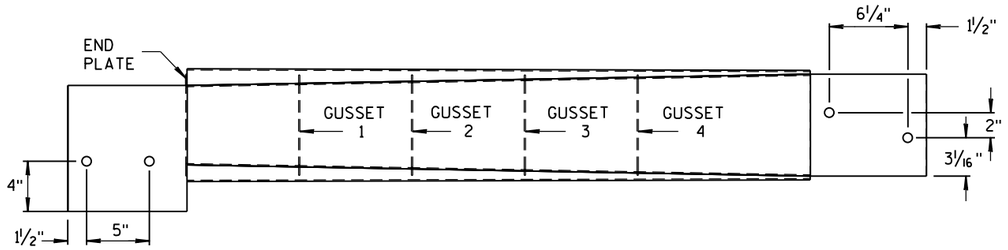


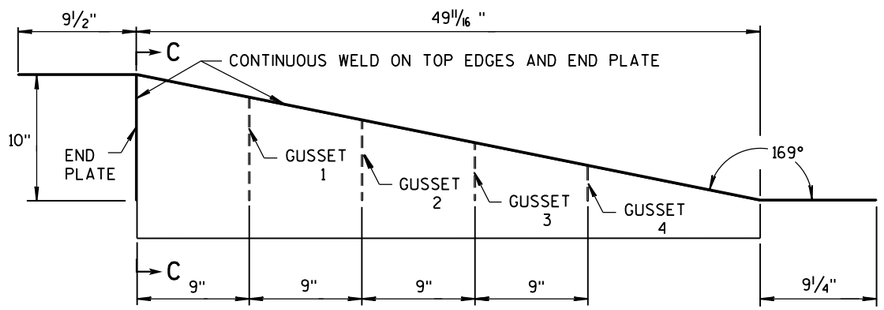


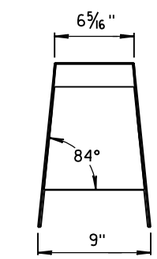
TOP PLATE

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

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







SECTION C-C

NOTES

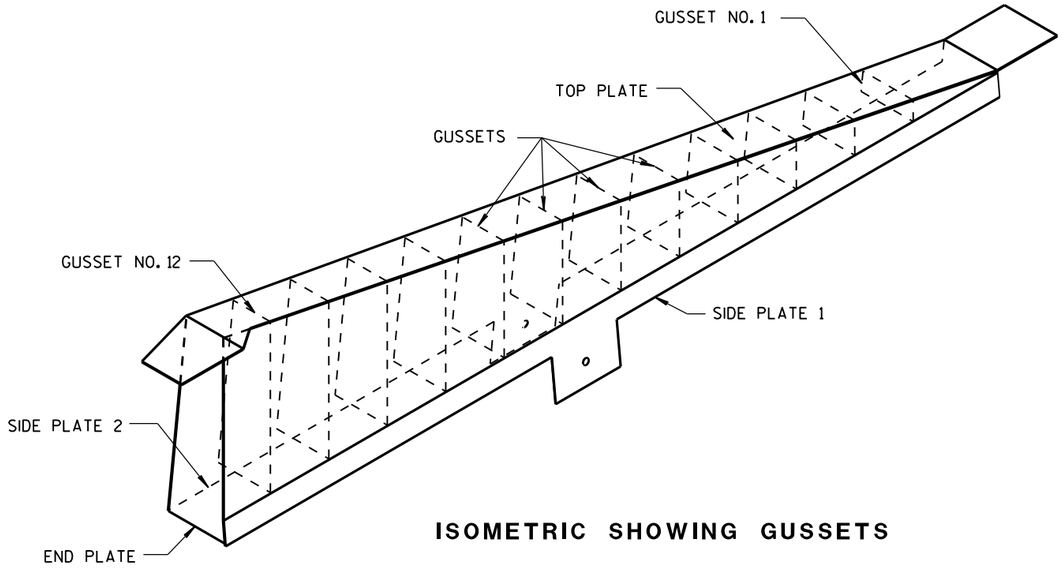
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

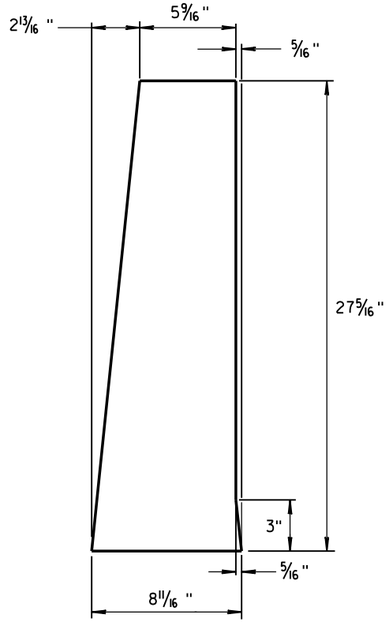
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 7-15g

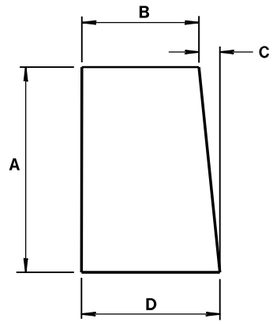


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



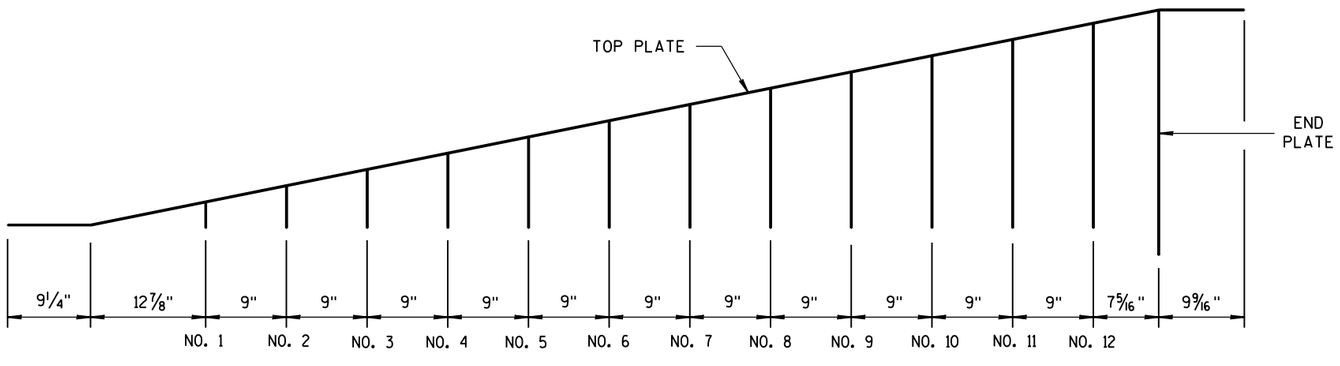
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

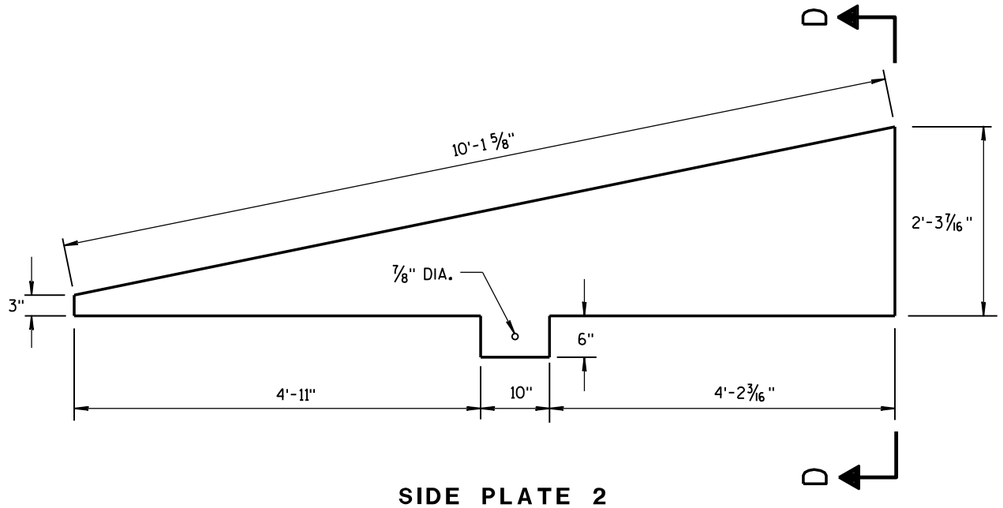
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

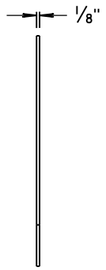
STATE OF WISCONSIN
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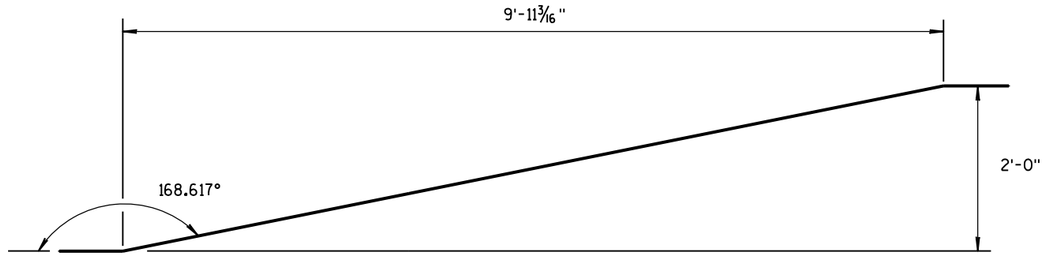
S.D.D. 14 B 7-15h



SIDE PLATE 2

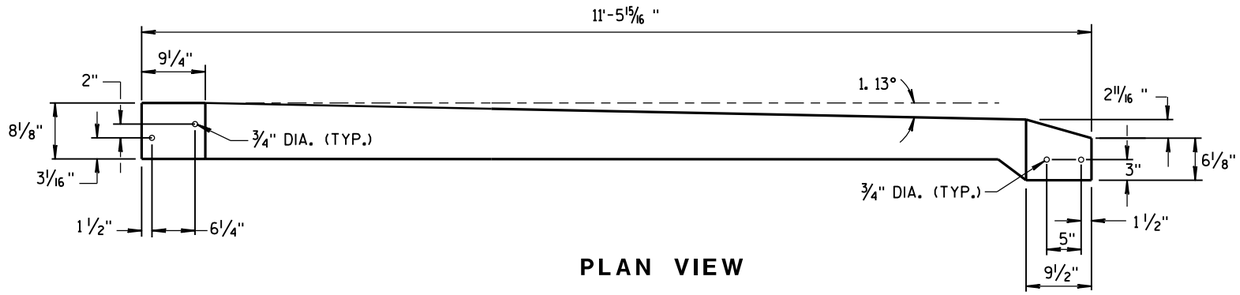


END VIEW



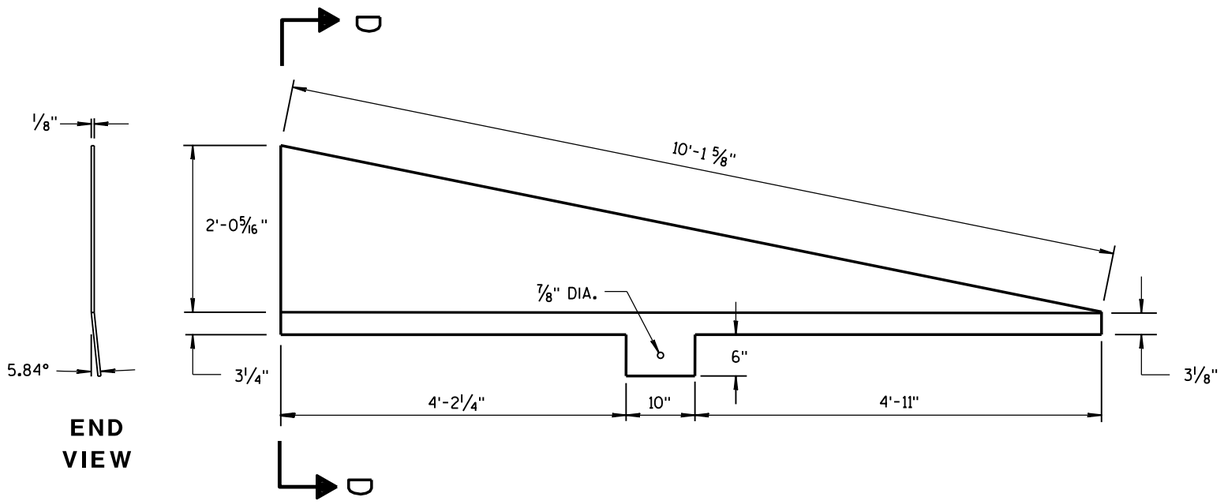
SIDE VIEW

TOP PLATE



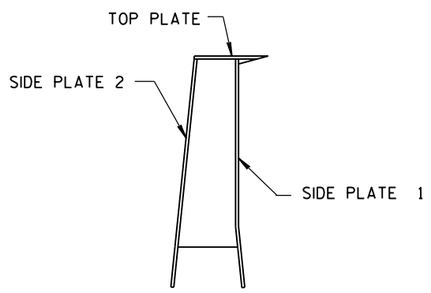
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV

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6

S.D.D. 14 B 7-15i

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S.D.D. 14 B 7-15i

① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

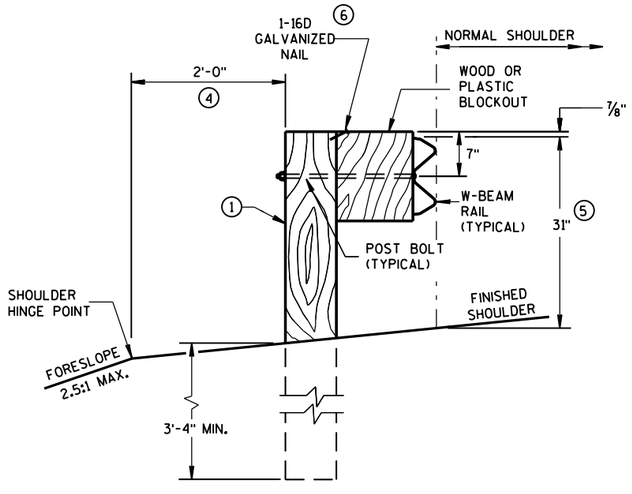
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

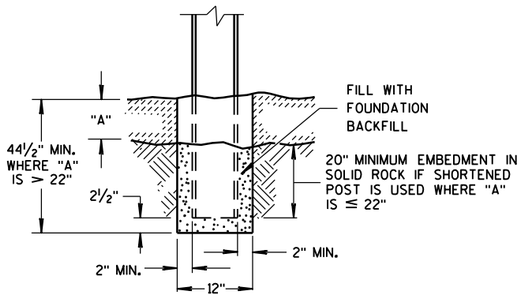
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



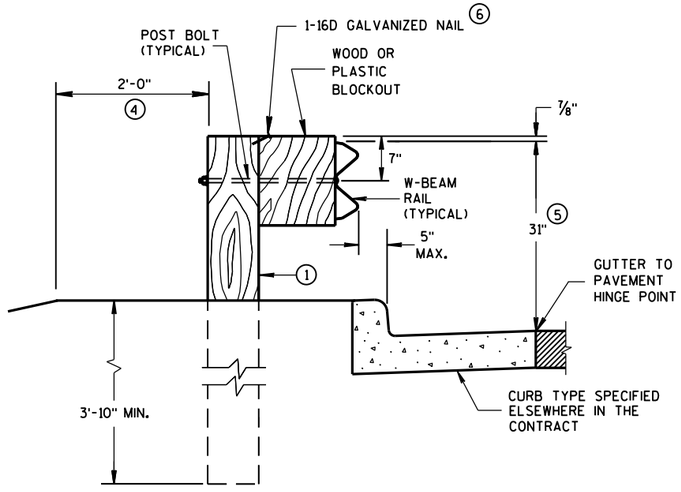
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



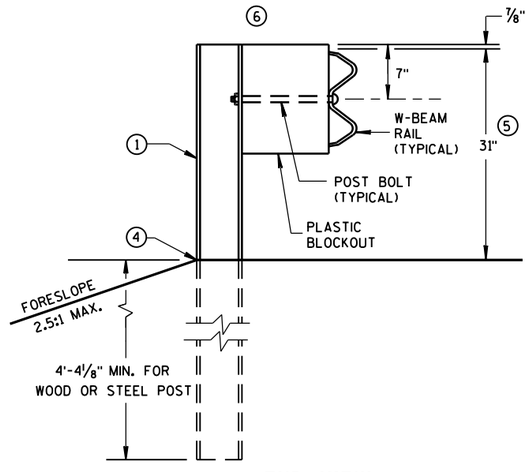
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



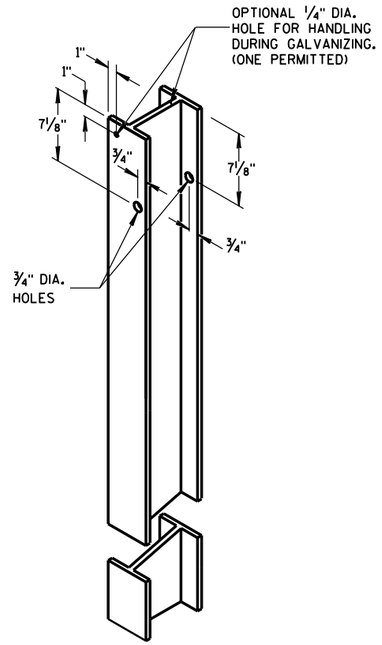
END VIEW

LOCATED ALONG A CURBED ROADWAY

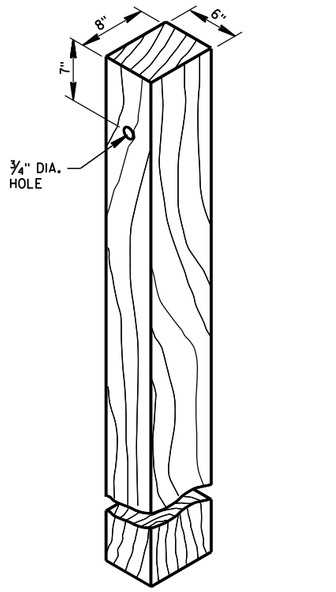


END VIEW

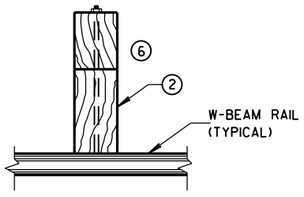
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



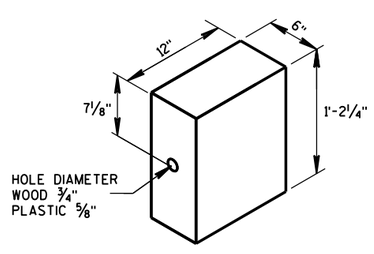
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



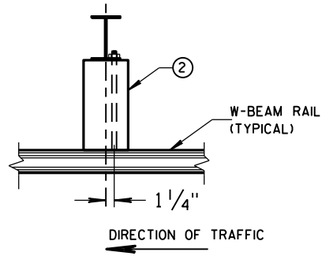
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

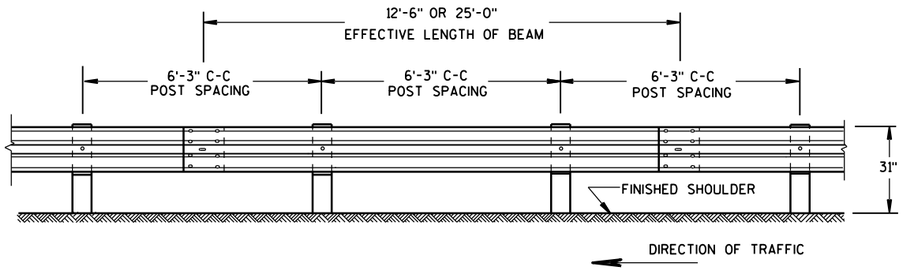


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

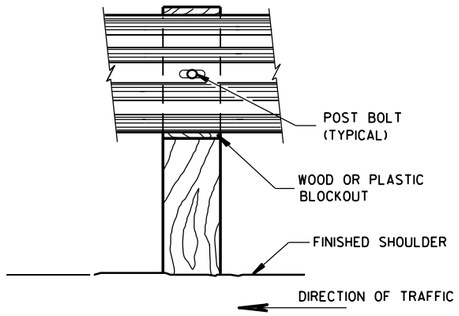
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 42-5a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

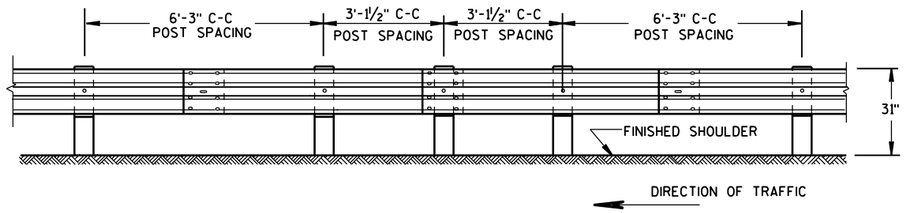
GENERAL NOTES

(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

(11) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

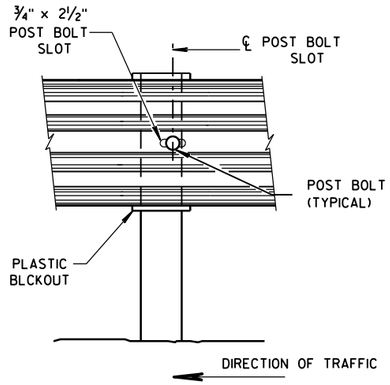
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

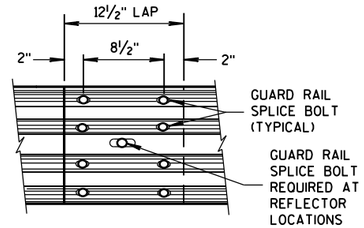


FRONT VIEW

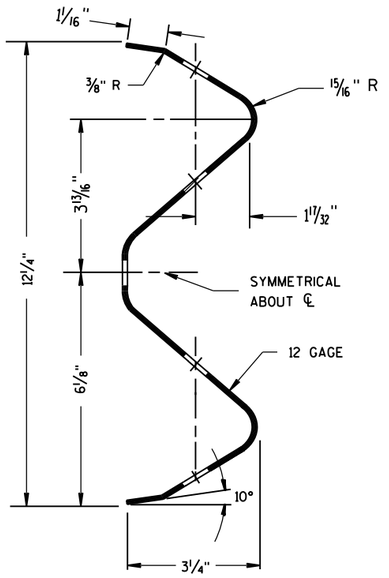
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



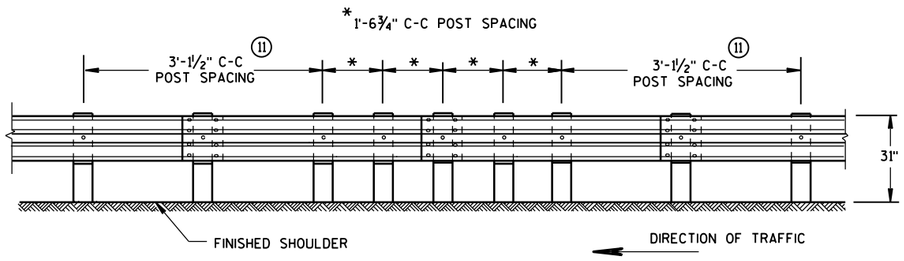
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

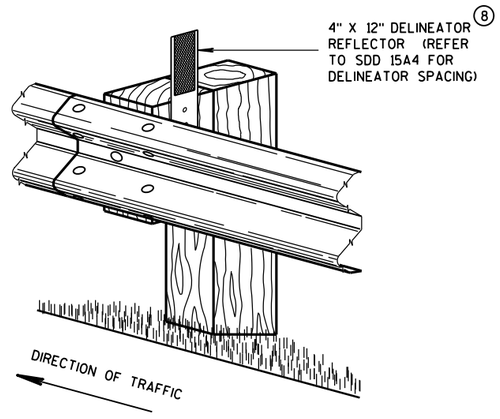


SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)



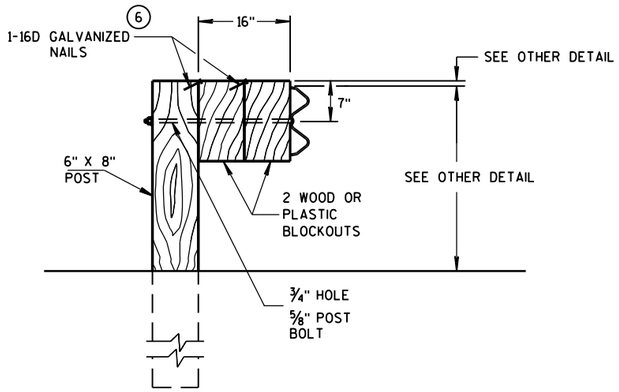
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

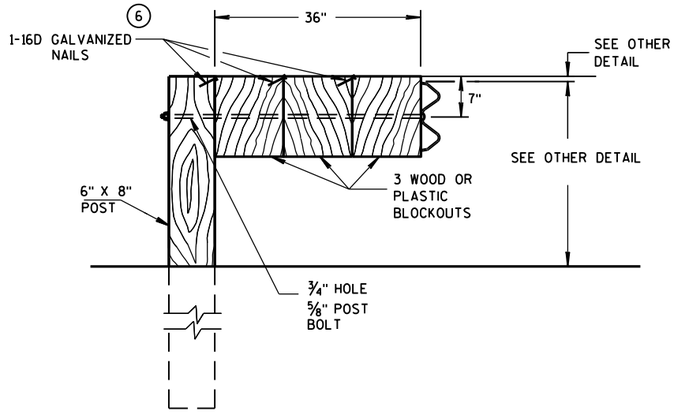
6

S.D.D. 14 B 42-5b



DETAIL FOR 16" BLOCKOUT DEPTH

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

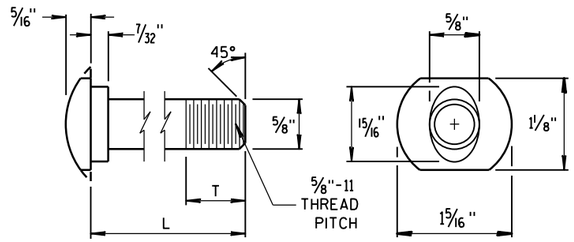


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

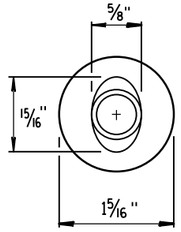
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

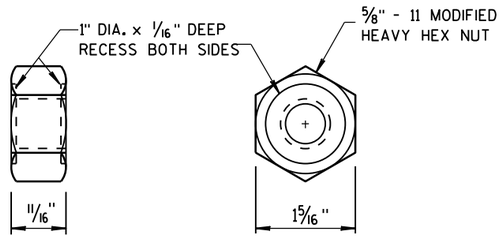


POST BOLT TABLE

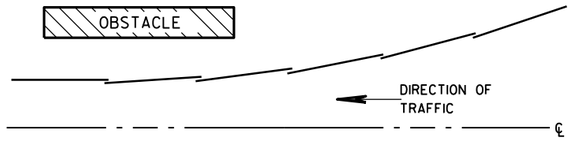
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

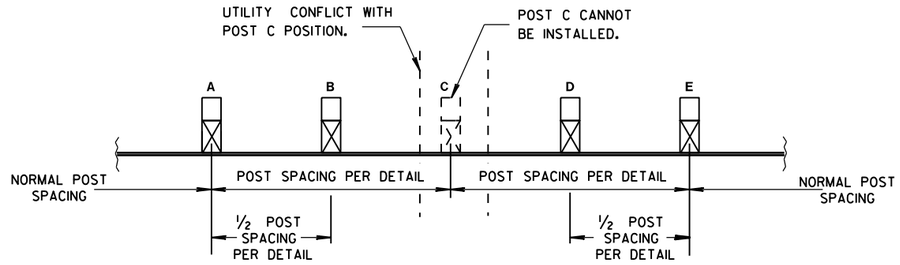


POST BOLT, SPLICE BOLT AND RECESS NUT

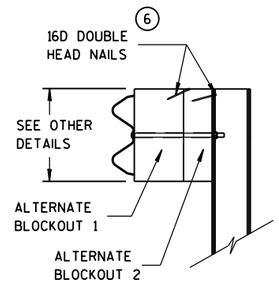


PLAN VIEW

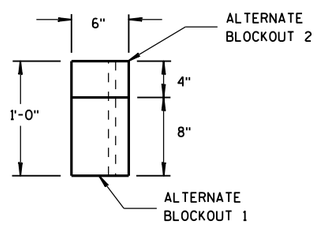
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

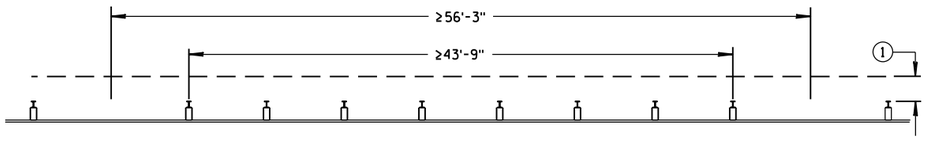
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

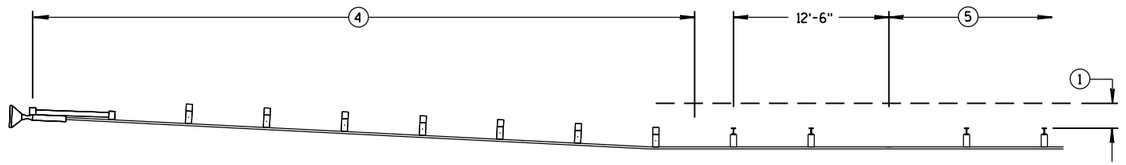
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

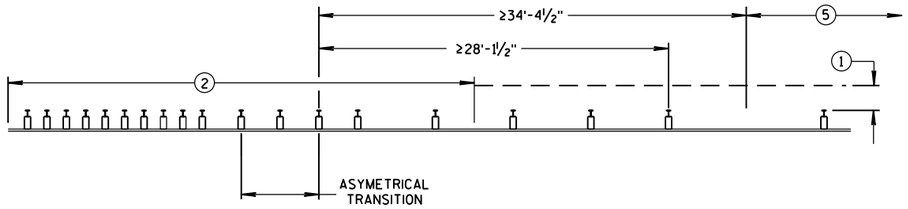
S.D.D. 14 B 42-5c



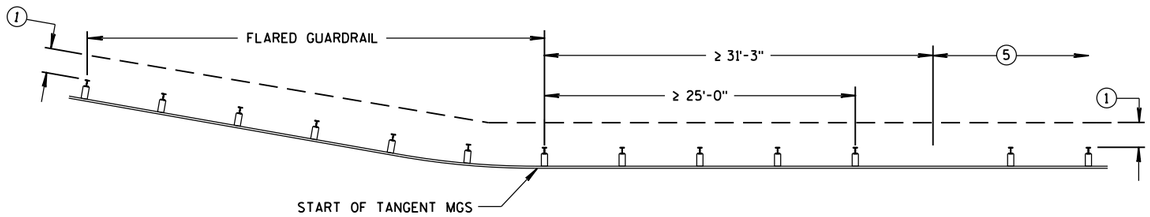
MISSING POST IN NORMAL BEAM GUARD RUN



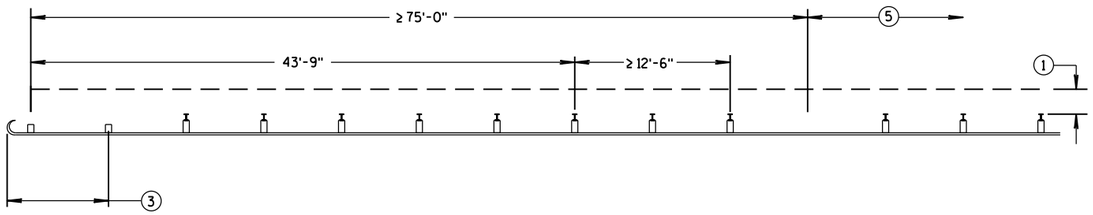
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



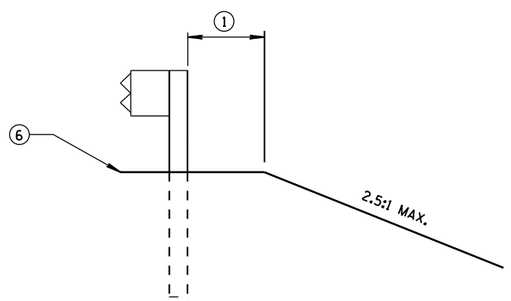
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

6

S.D.D. 14 B 42-5d

6

S.D.D. 14 B 42-5d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

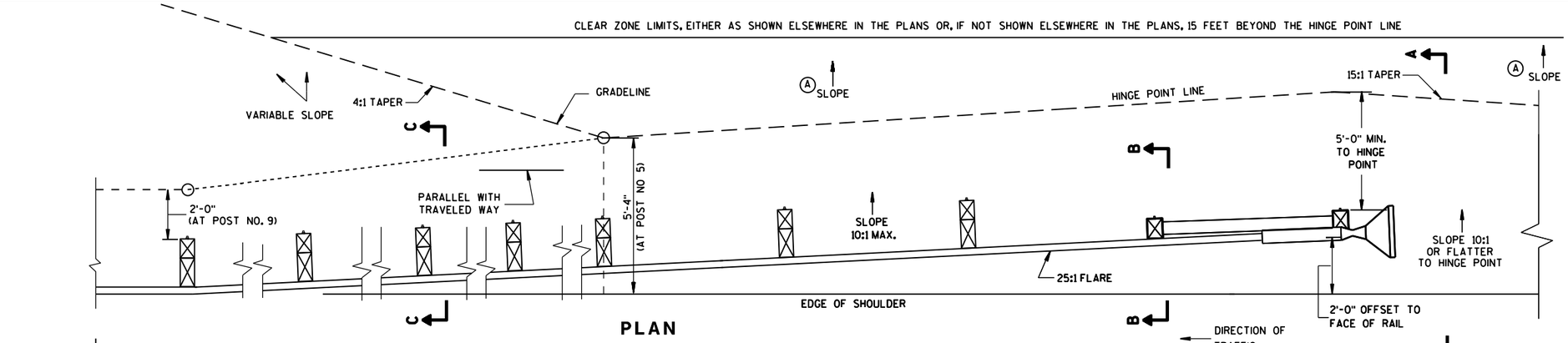
SEE SDD 14B42 FOR MORE INFORMATION.

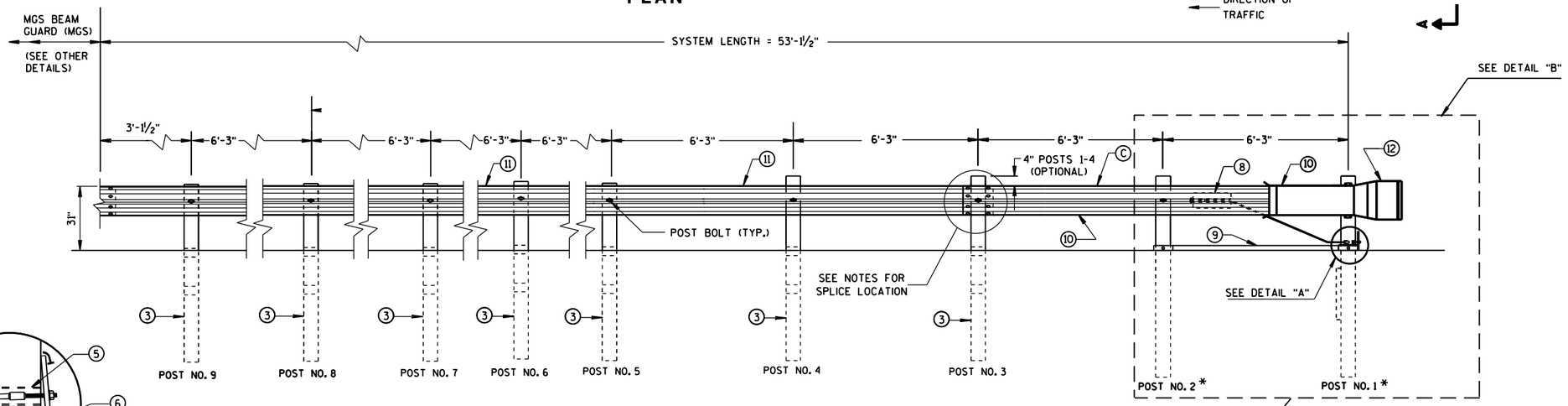
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

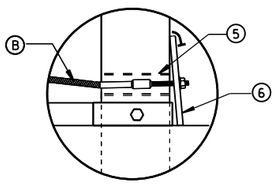
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

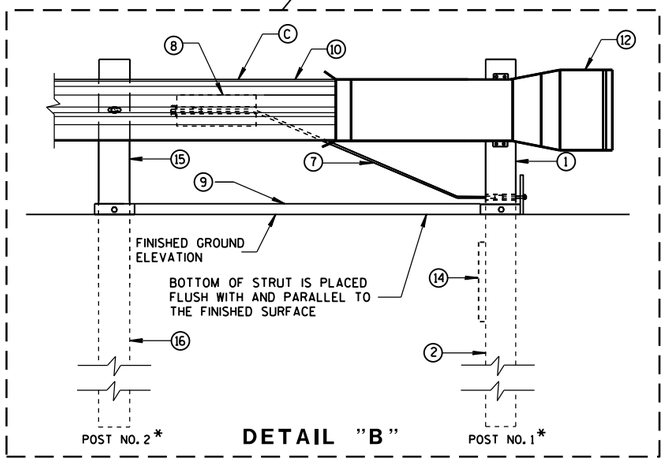
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

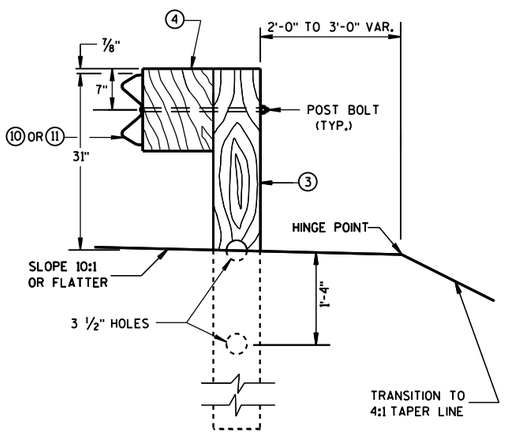
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

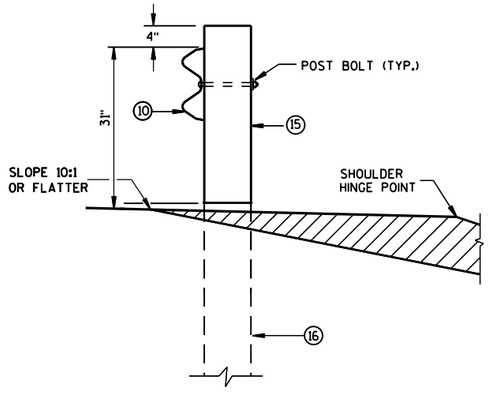


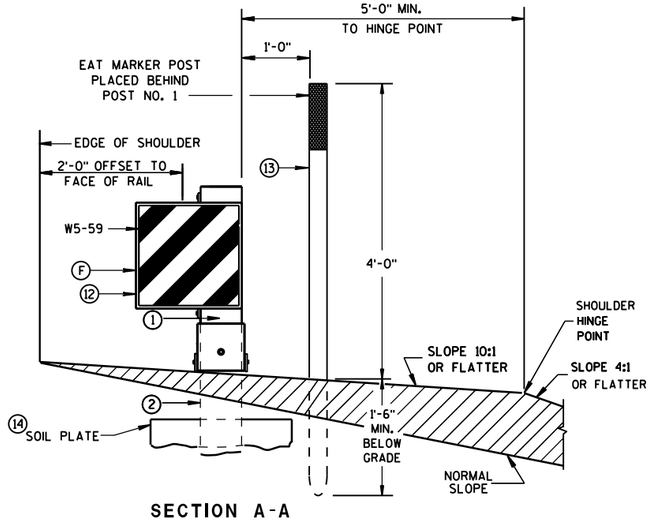












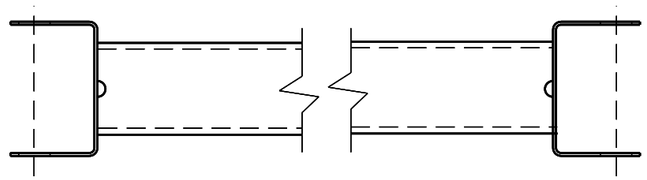
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPO

6

S.D.D. 14 B 44-3a

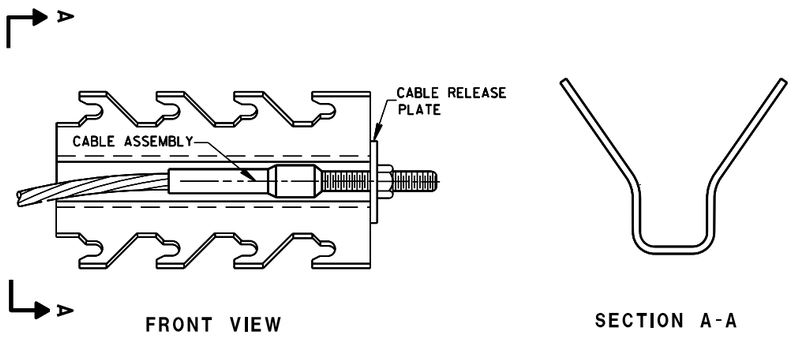
6

S.D.D. 14 B 44-3a



(9) (H)

GENERIC GROUND STRUT



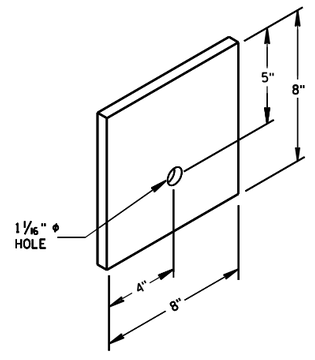
FRONT VIEW

SECTION A-A

GENERIC ANCHOR CABLE BOX (8) (H)

BILL OF MATERIALS

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



BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

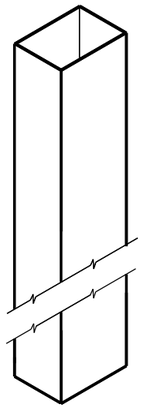
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

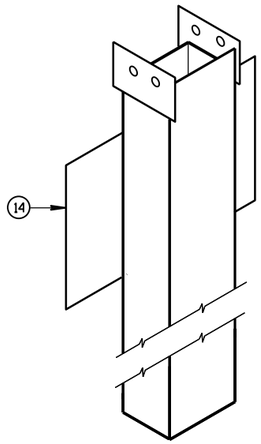
S.D.D. 14 B 44-3b

6

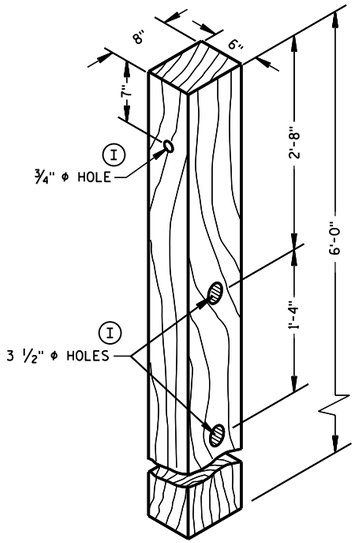
S.D.D. 14 B 44-3b



UPPER POST NO. 1 (1)

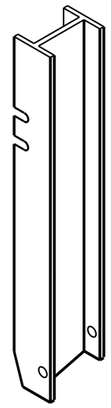


LOWER POST NO. 1 (2)

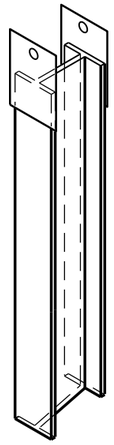


POSTS NUMBER 3-9

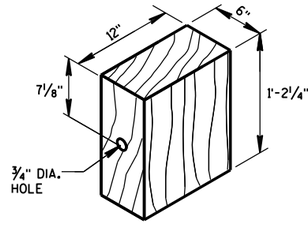
WOOD CRT POST (3)



UPPER POST NO. 2 (15)

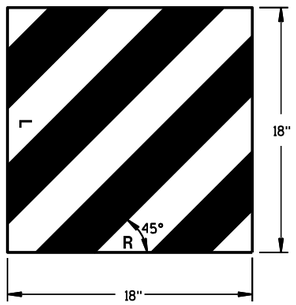


LOWER POST NO. 2 (16)



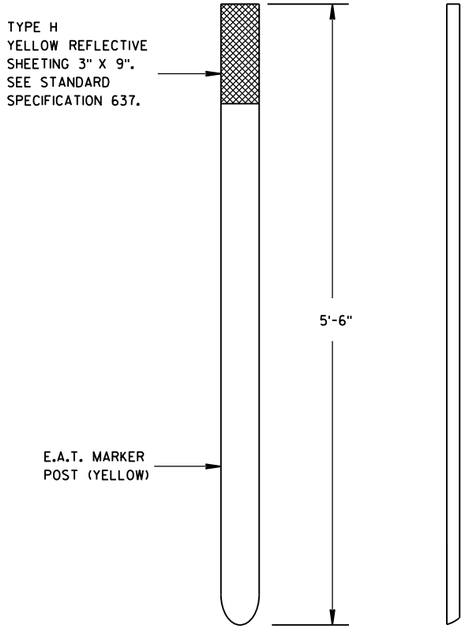
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



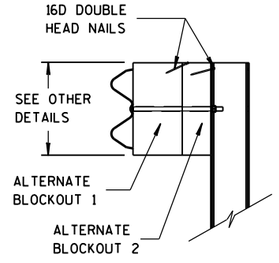
W5-59

REFLECTIVE SHEETING DETAIL (H)

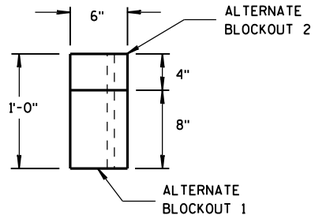


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

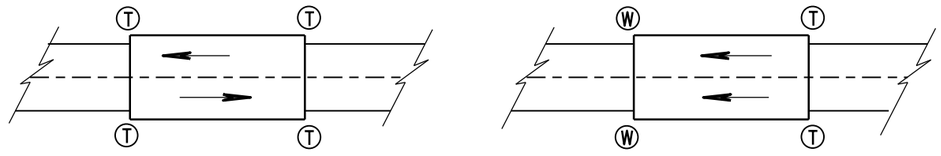
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERVISOR

FHWA

6

S.D.D. 14 B 44-3c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

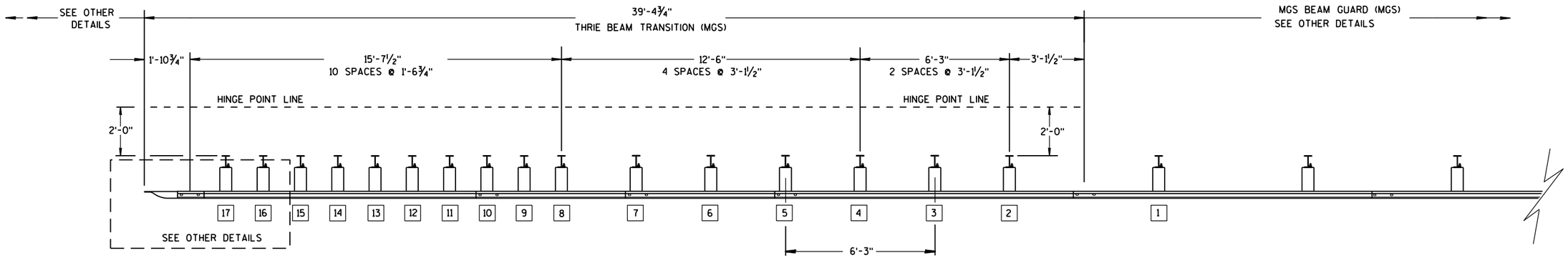
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

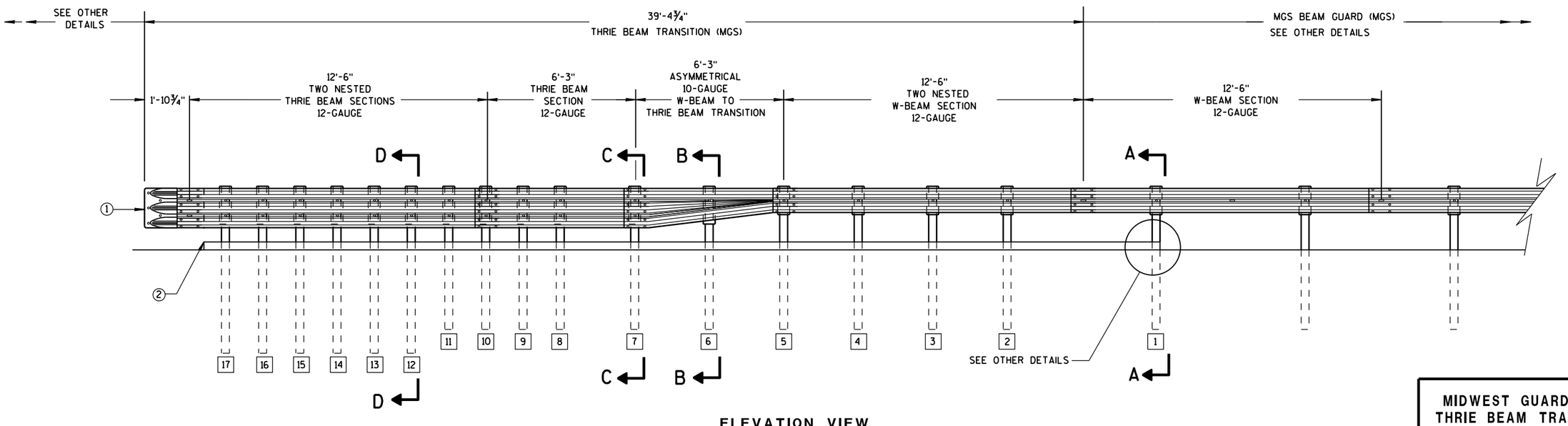
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

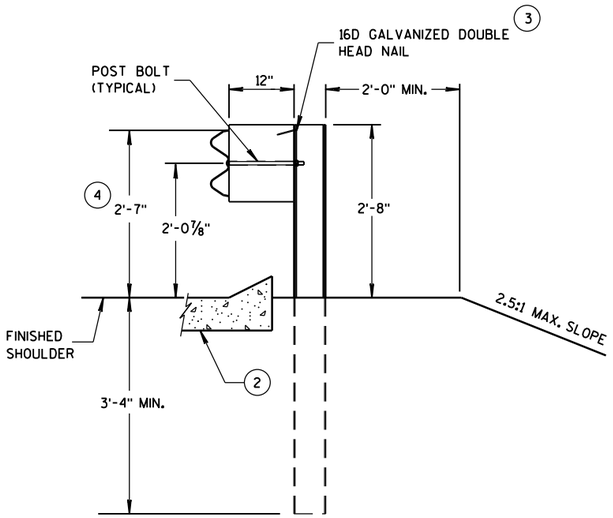
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

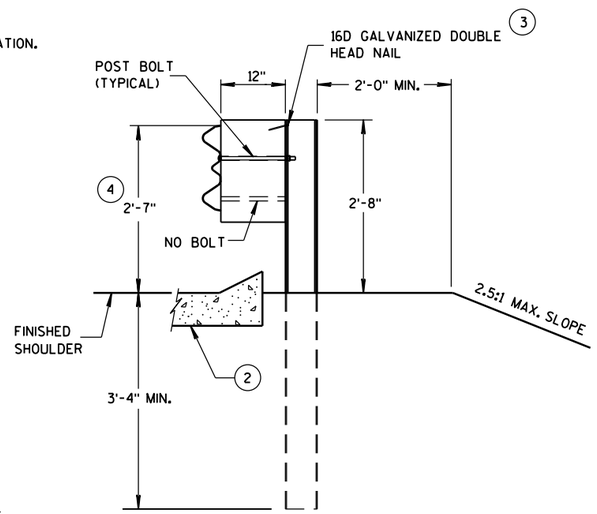
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



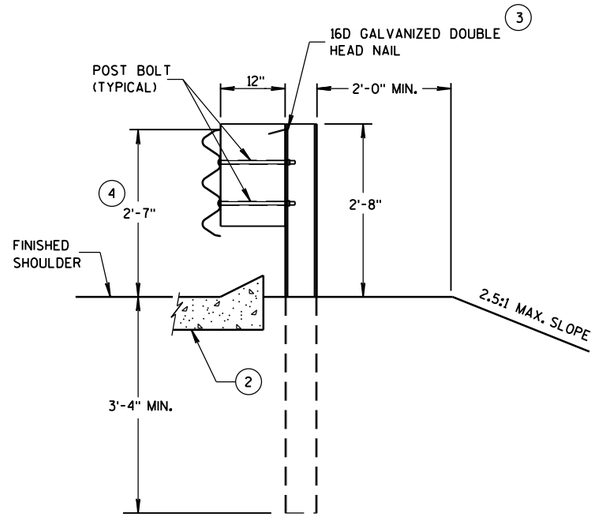
SECTION A-A

POSTS 1-5



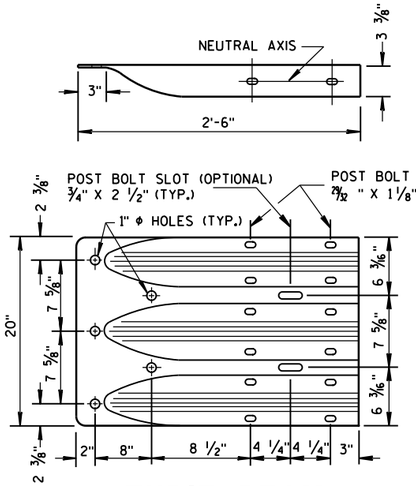
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

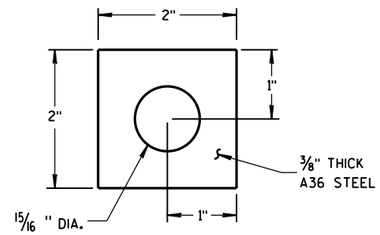
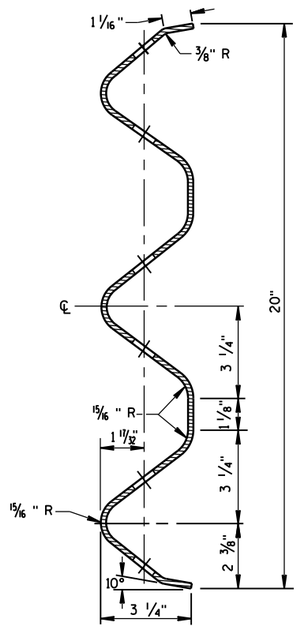
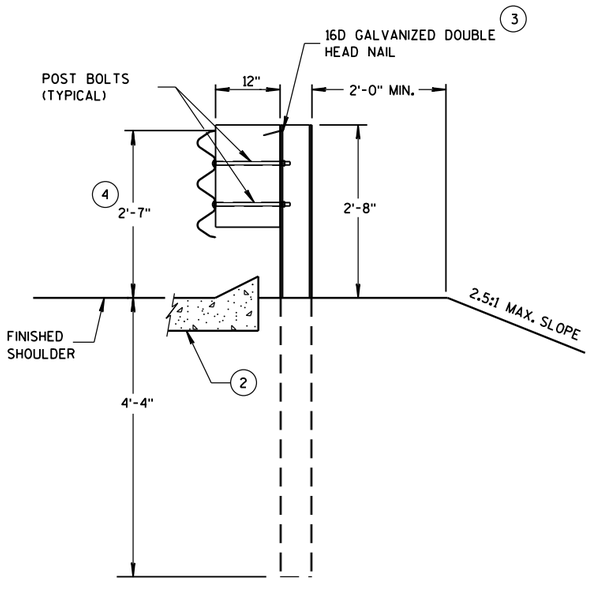


PLATE WASHER DETAIL

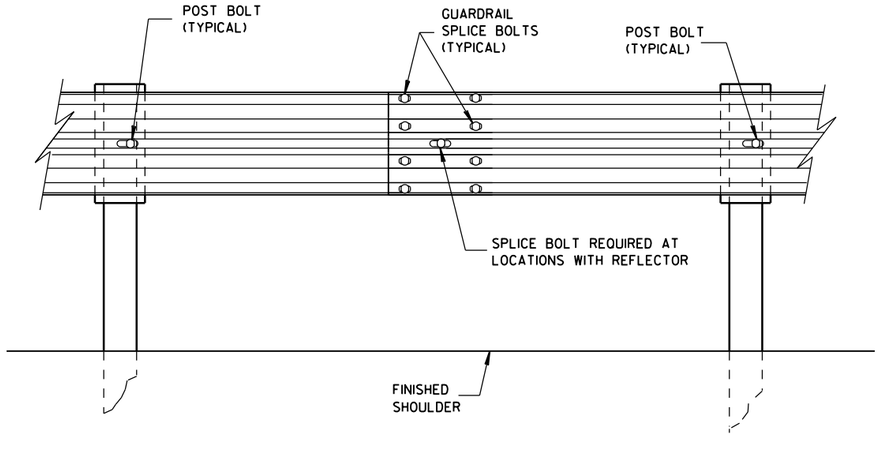


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



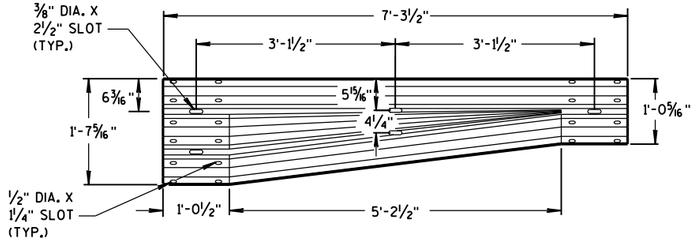
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

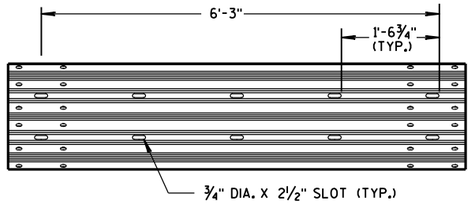
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

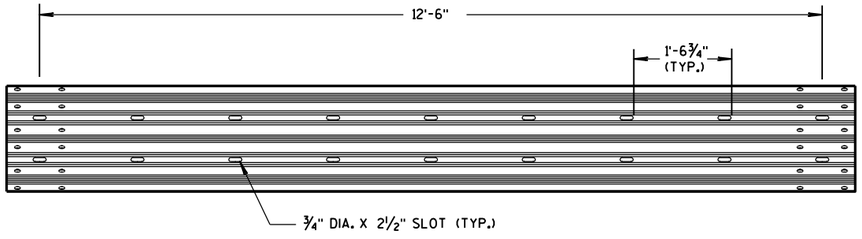
S.D.D. 14 B 45-4b



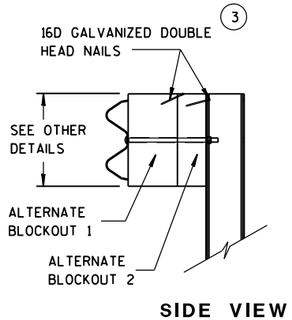
W-BEAM TO THRIE BEAM TRANSITION SECTION



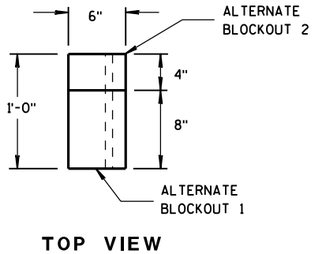
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

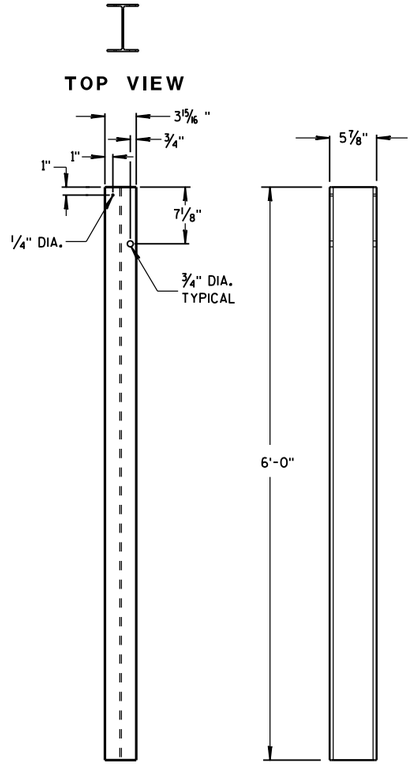


SIDE VIEW



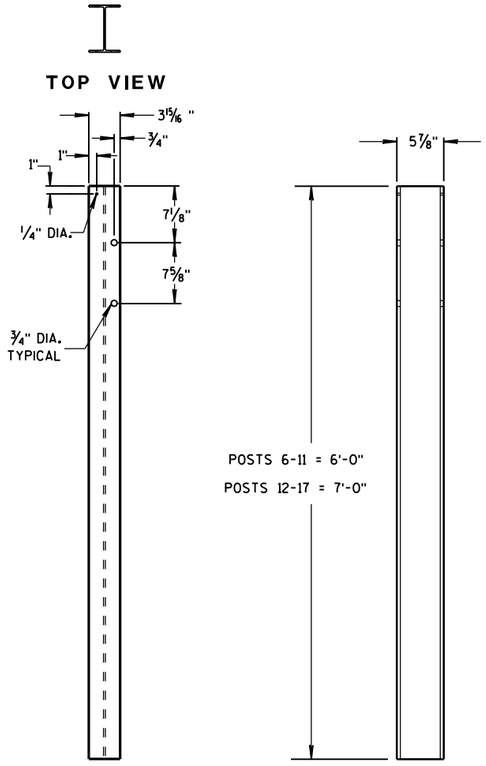
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



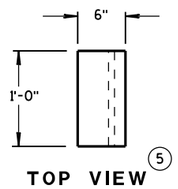
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

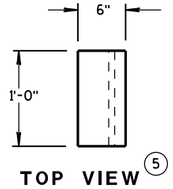


FRONT VIEW SIDE VIEW

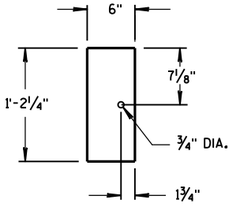
STEEL POSTS 6-17



TOP VIEW

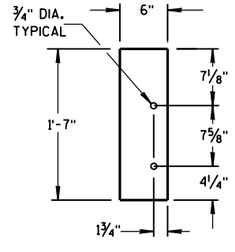


TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

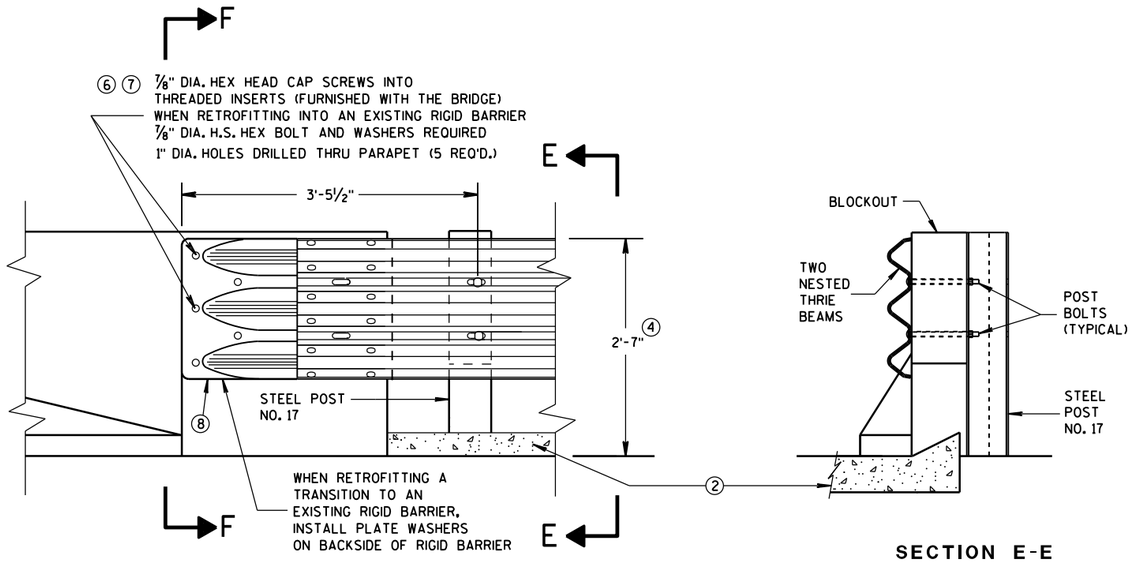
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

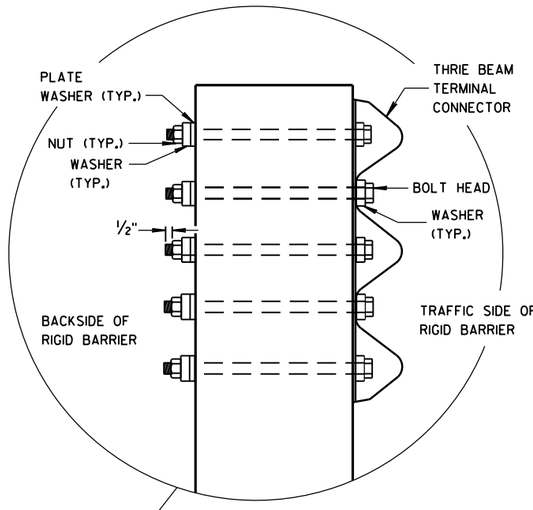
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

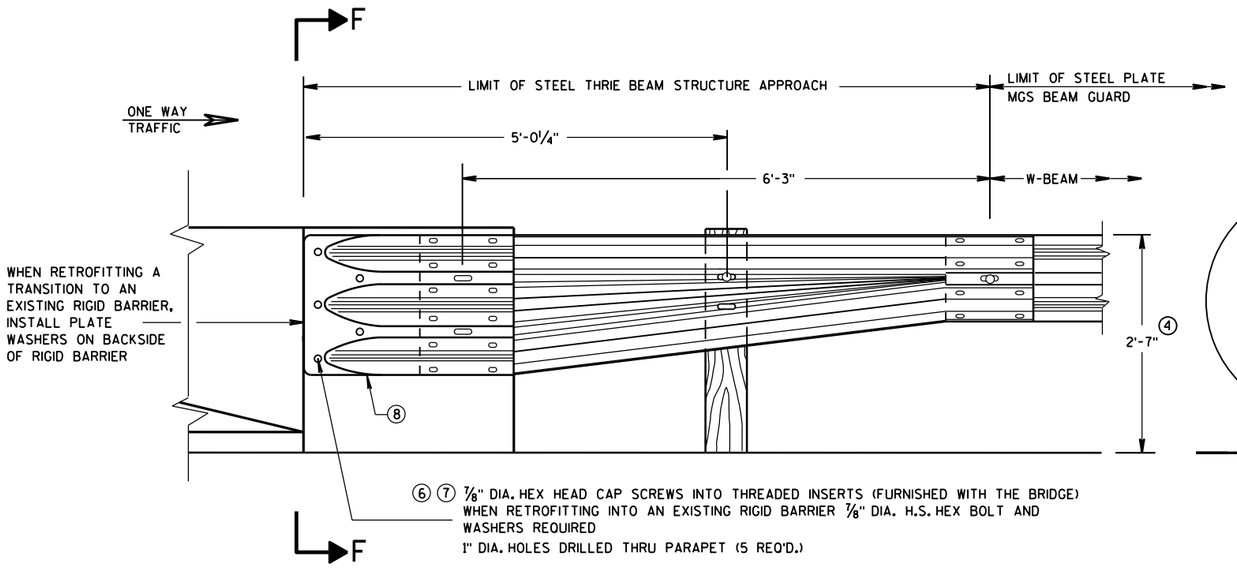
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

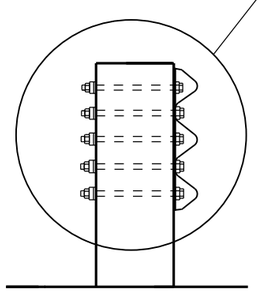
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

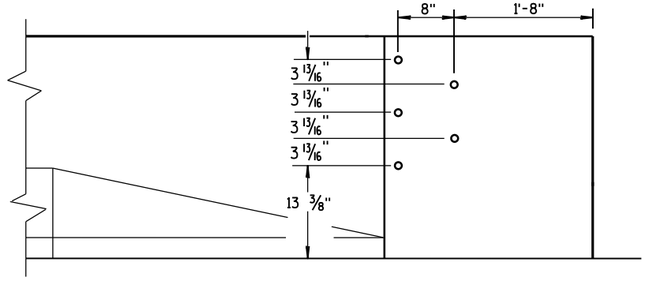




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 14 B 45-4d

6

S.D.D. 14 B 45-4d

GENERAL NOTES

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

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

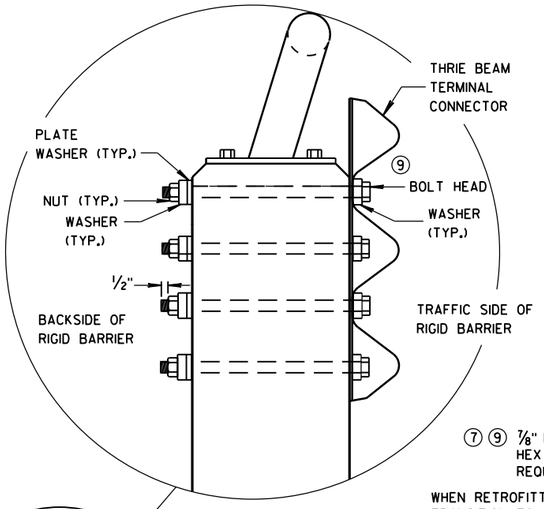
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

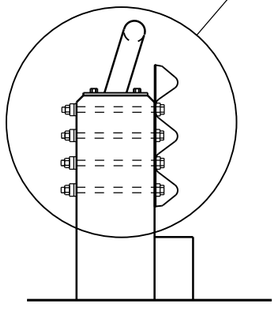
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

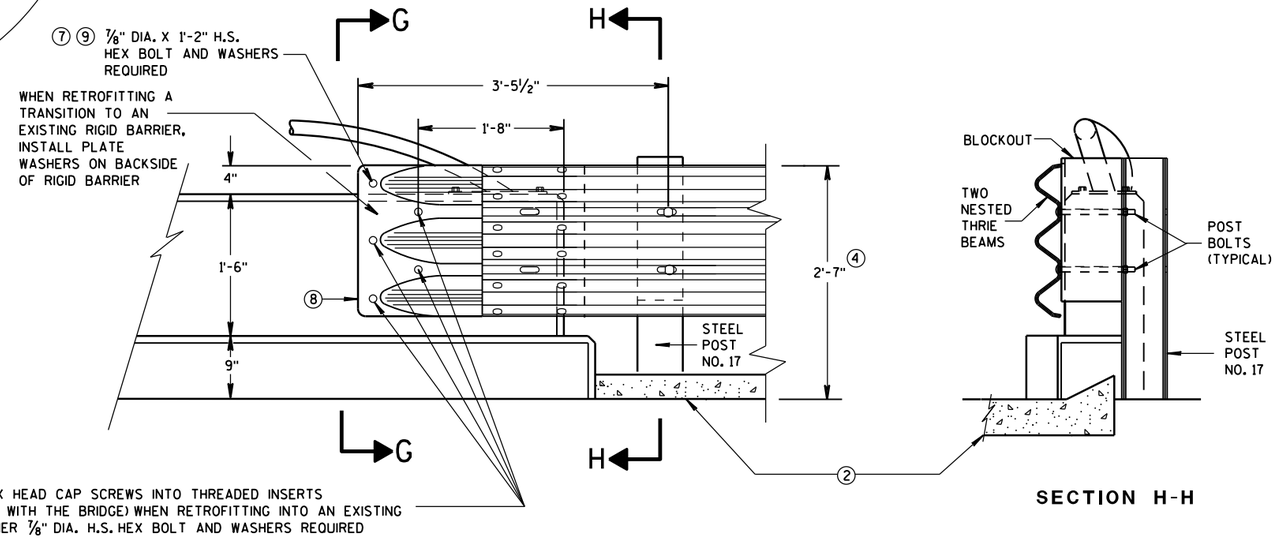
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





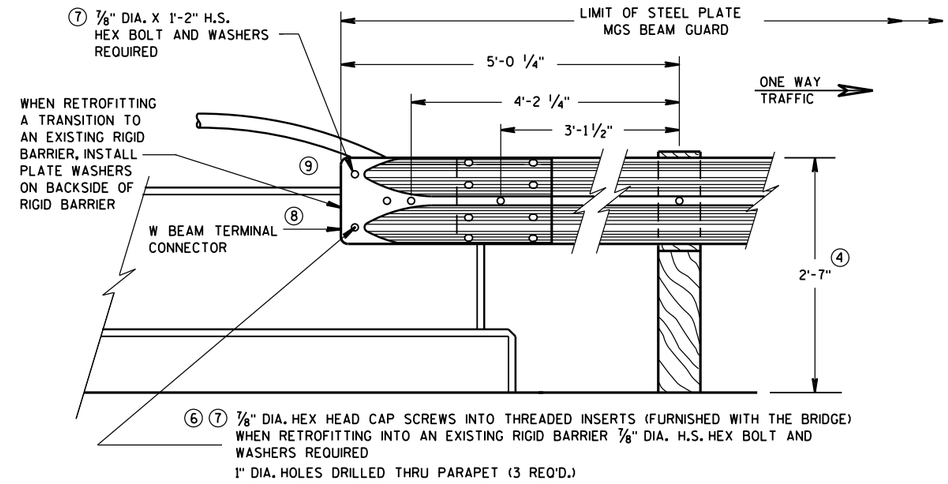
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

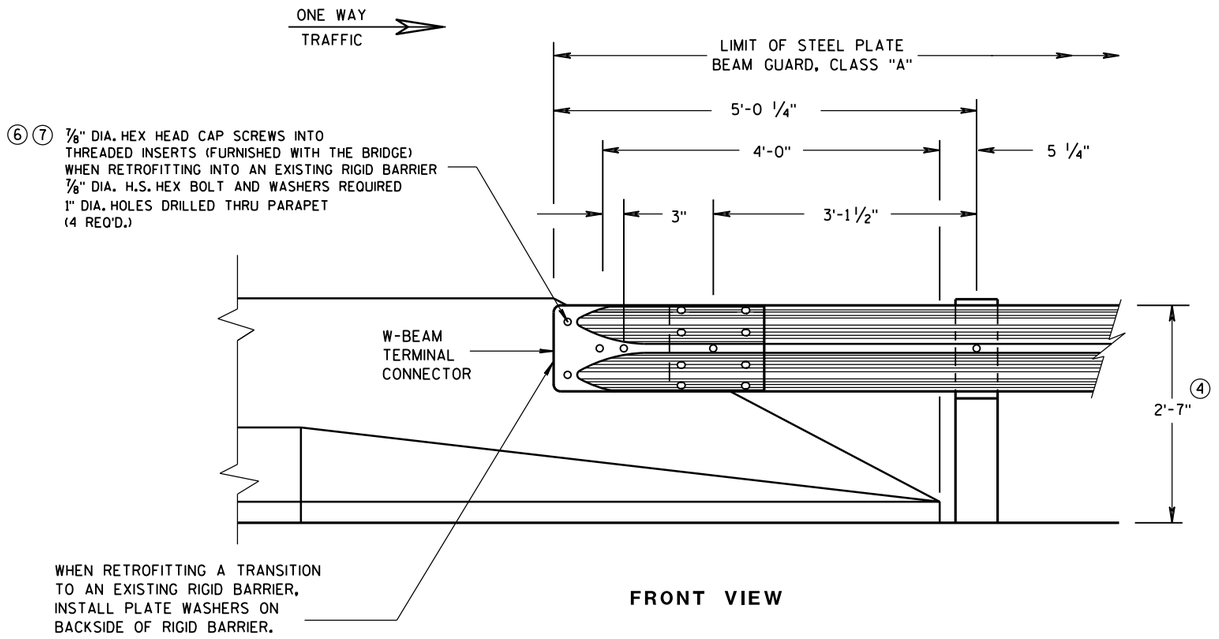
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June, 2015	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS D ENGINEER
FHWA	NT

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S.D.D. 14 B 45-4e

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S.D.D. 14 B 45-4e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

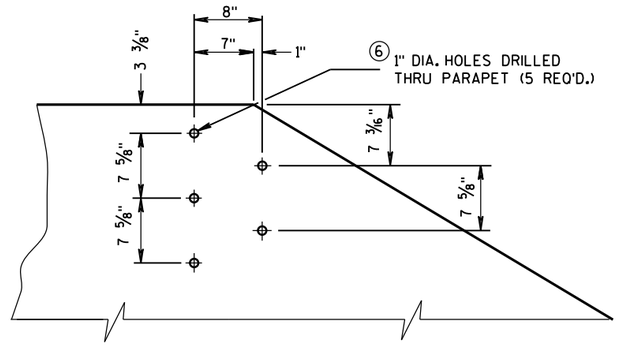
GENERAL NOTES

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

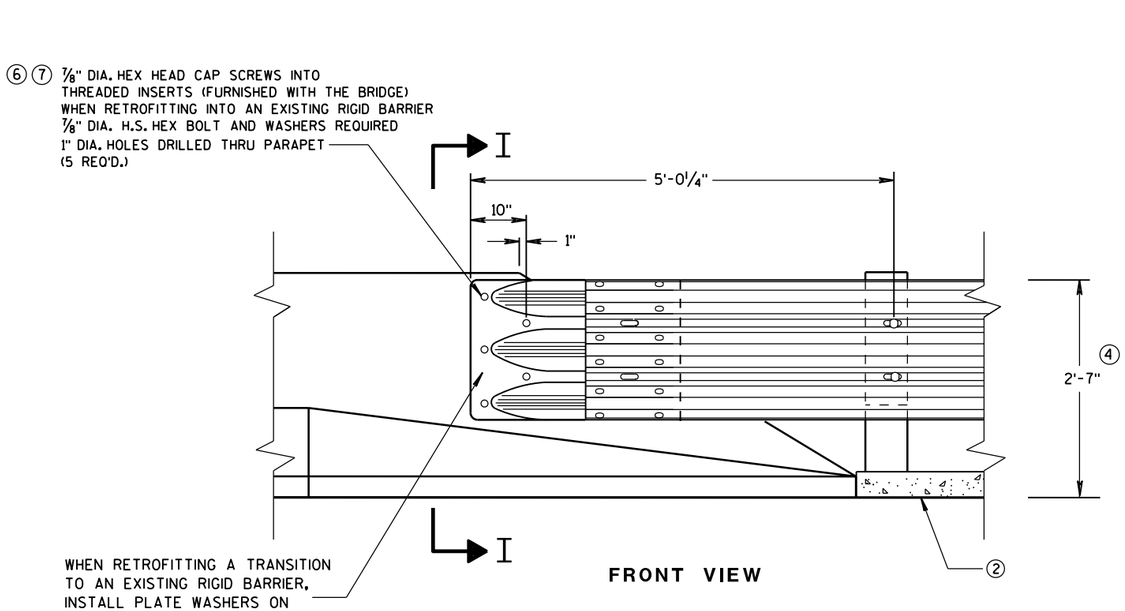
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

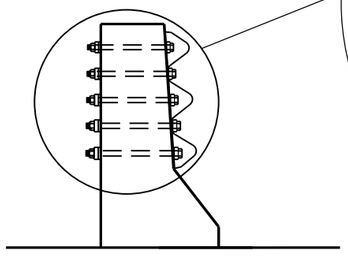
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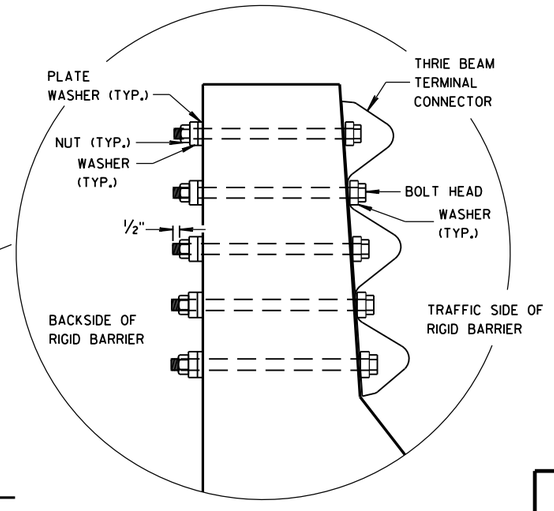
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

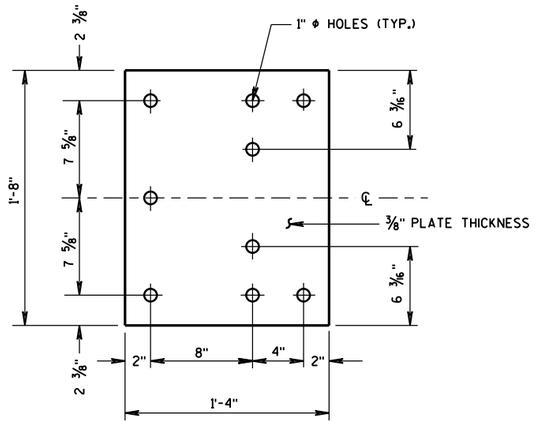
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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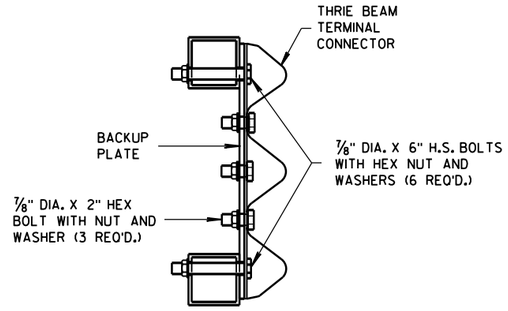
S.D.D. 14 B 45-4f

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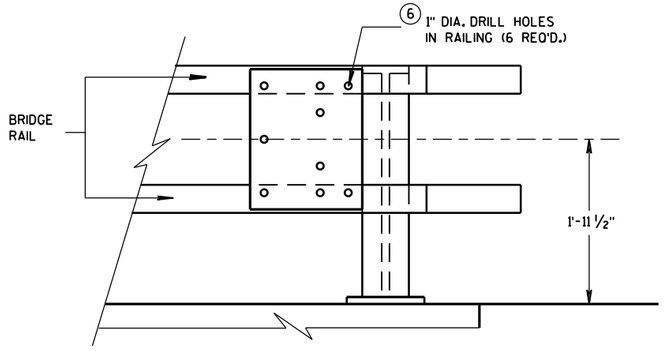
S.D.D. 14 B 45-4f



BACK-UP PLATE DETAIL



SECTION J-J

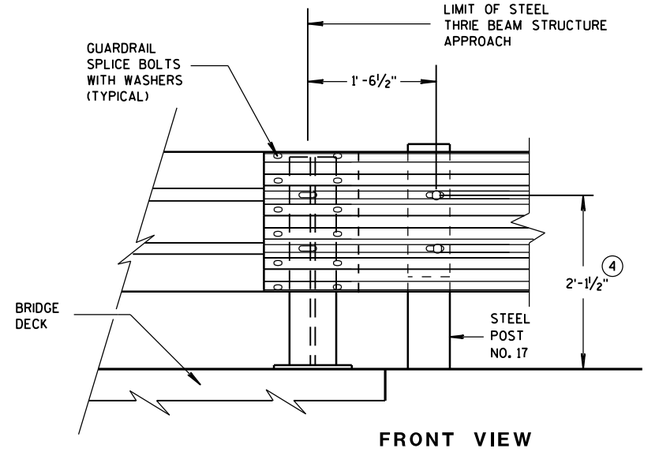


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

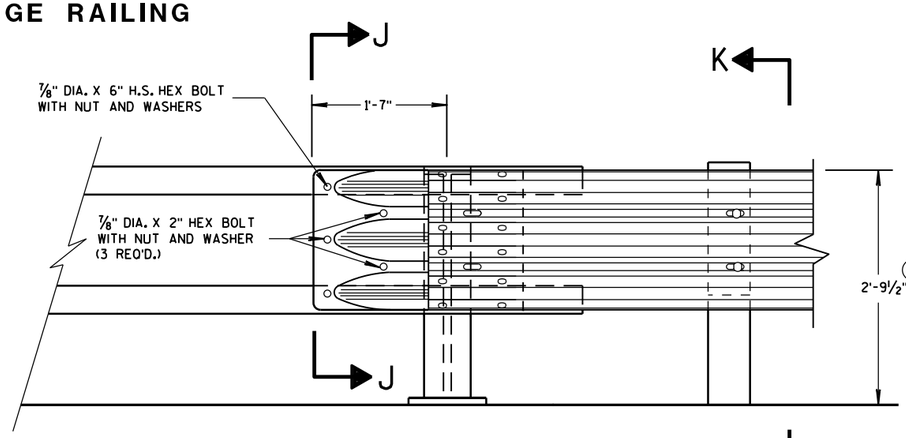
4 TOLERANCE FOR TOP OF BEAM IS ± 1".

6 DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

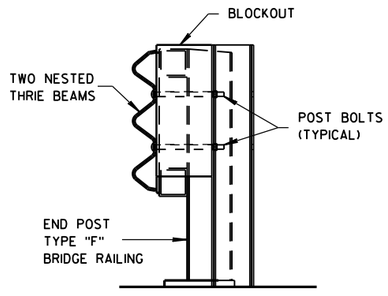


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

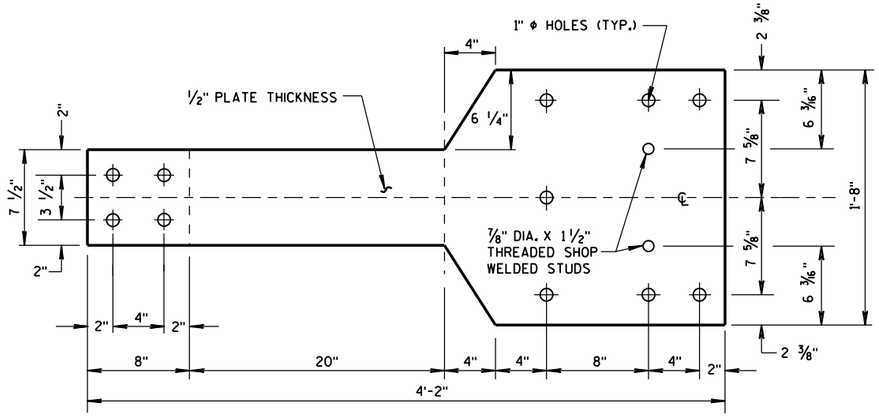
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June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA — NT

S.D.D. 14 B 45-4g

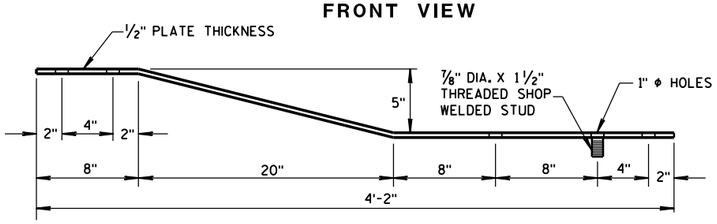
S.D.D. 14 B 45-4g

GENERAL NOTES

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

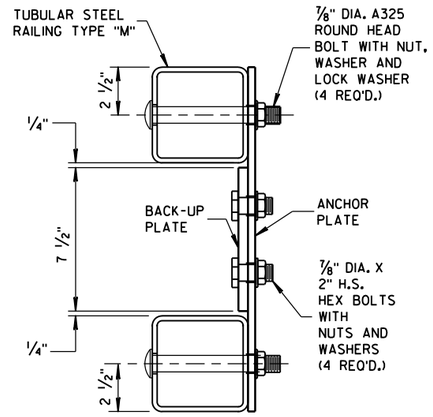


FRONT VIEW

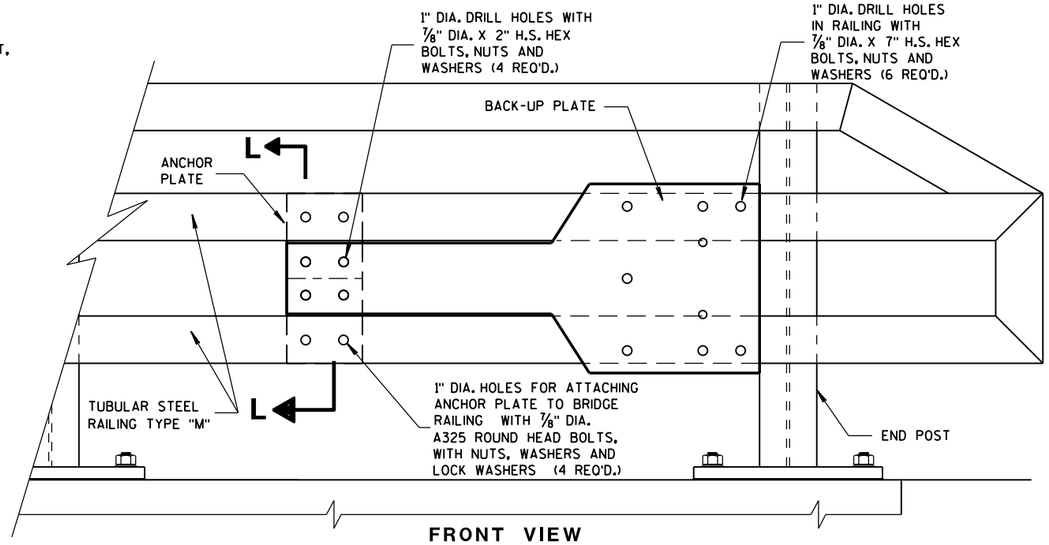


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

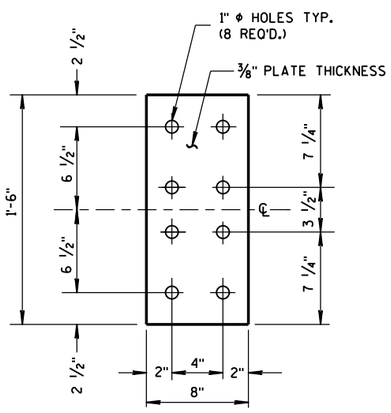


SECTION L-L



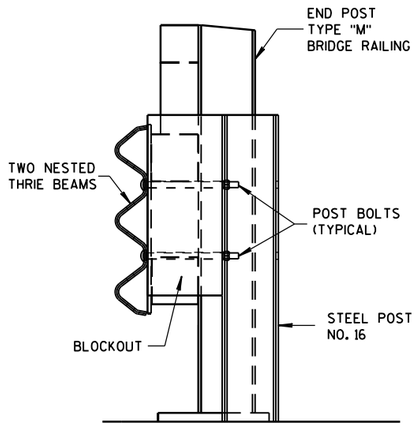
FRONT VIEW

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

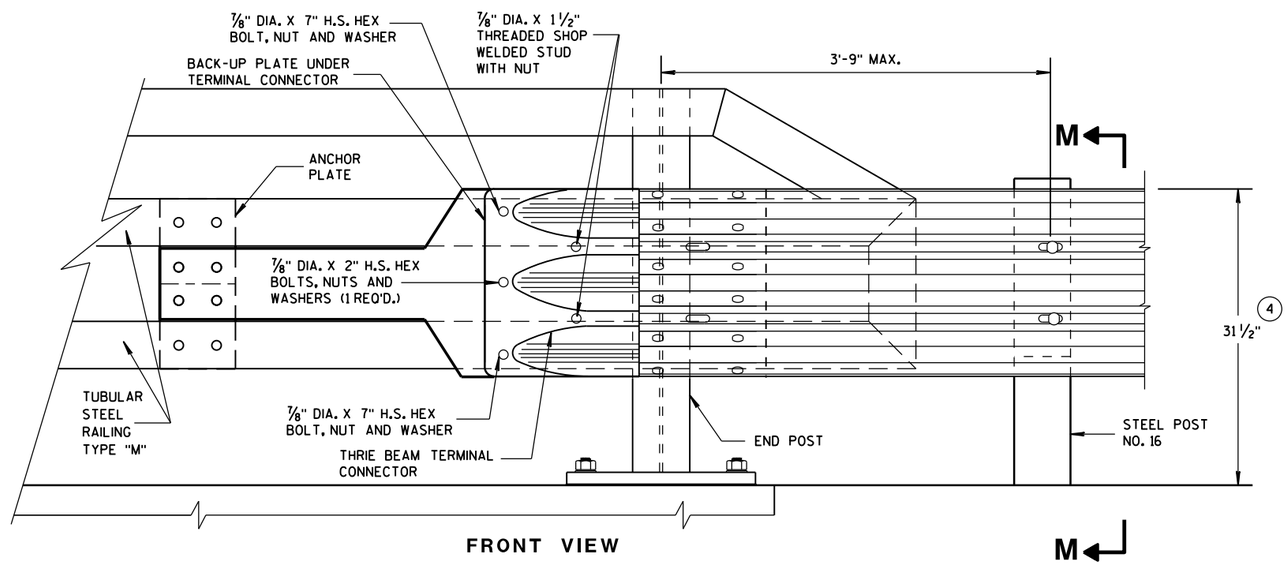


FRONT VIEW

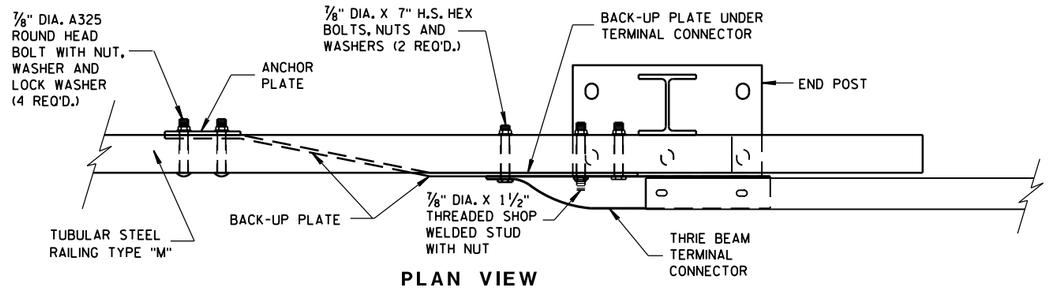
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

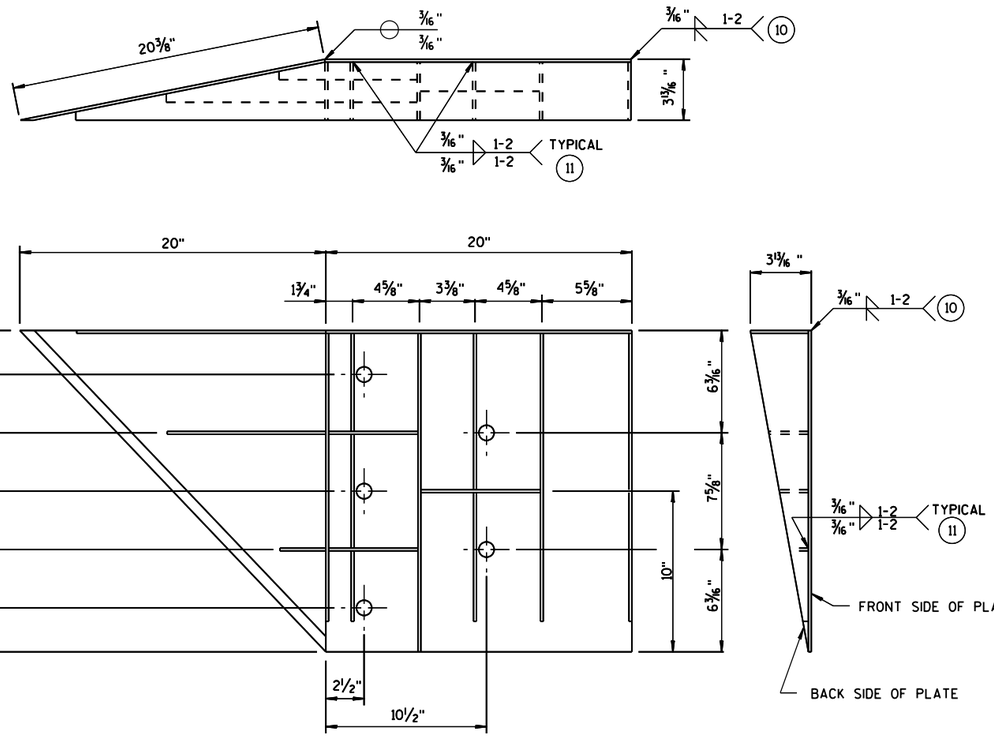
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

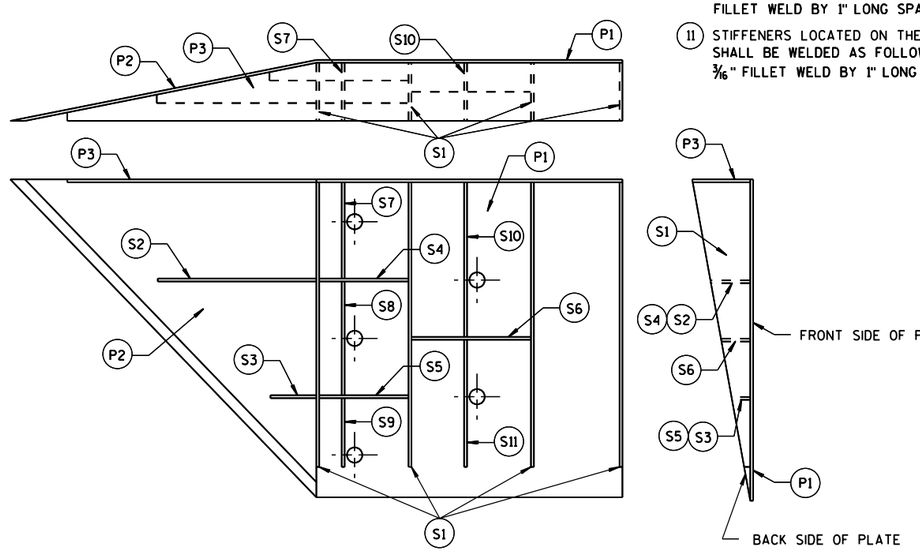


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 3/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

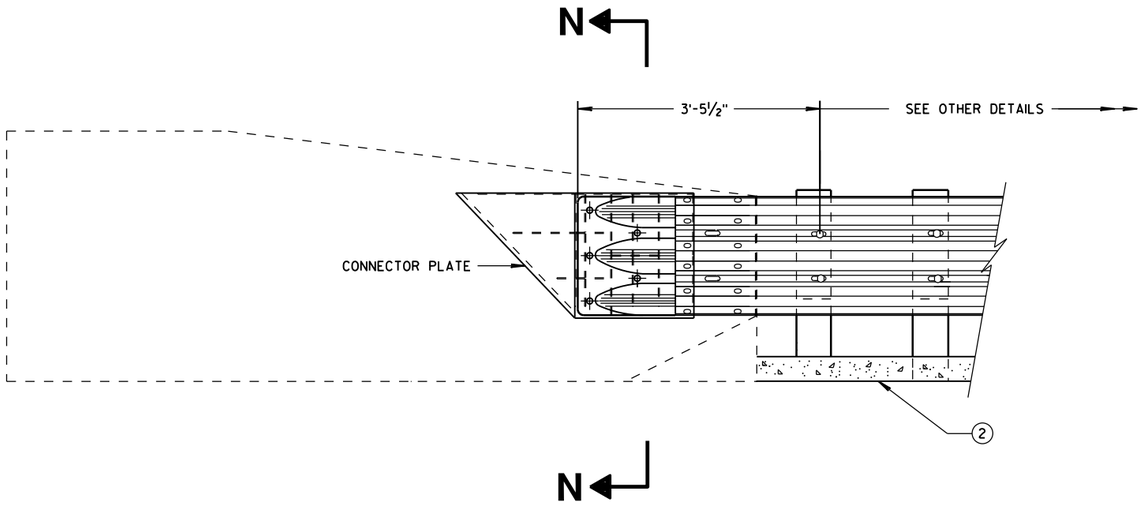
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
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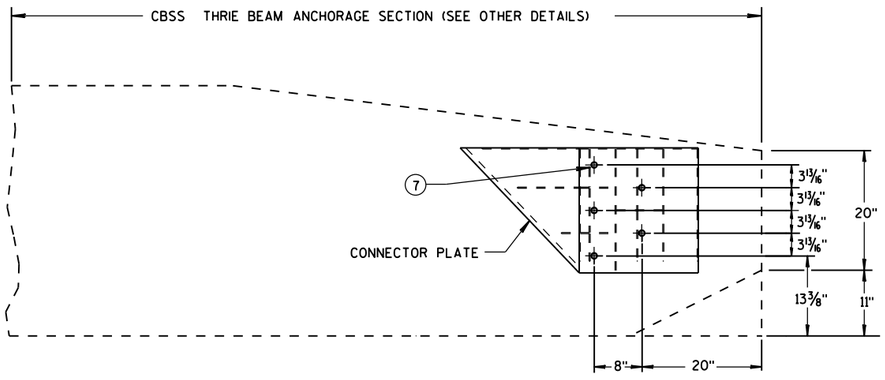
S.D.D. 14 B 45-4i

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S.D.D. 14 B 45-4i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



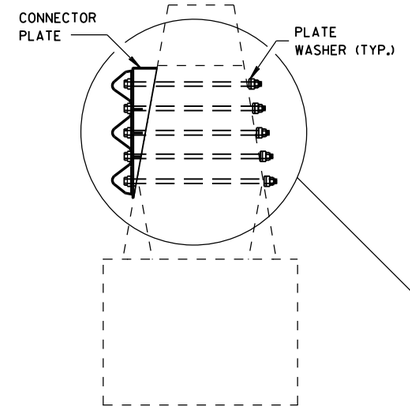
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

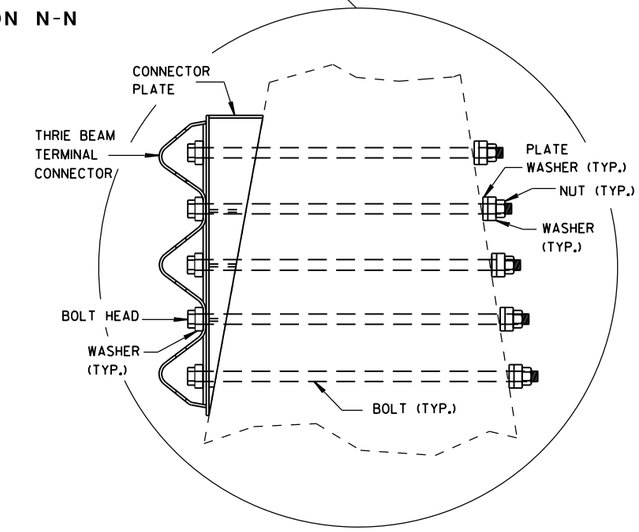
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

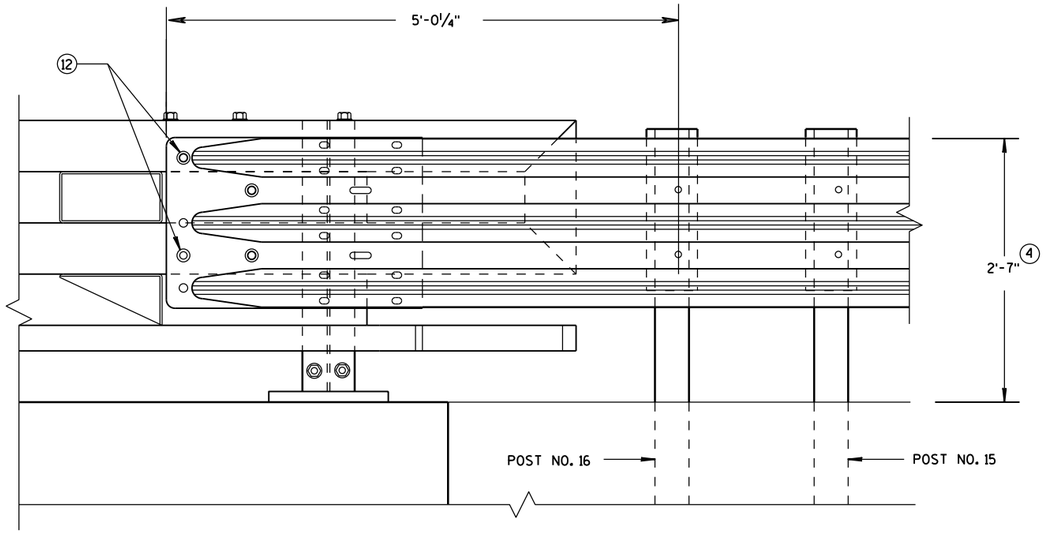
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June, 2015 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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S.D.D. 14 B 45-4j

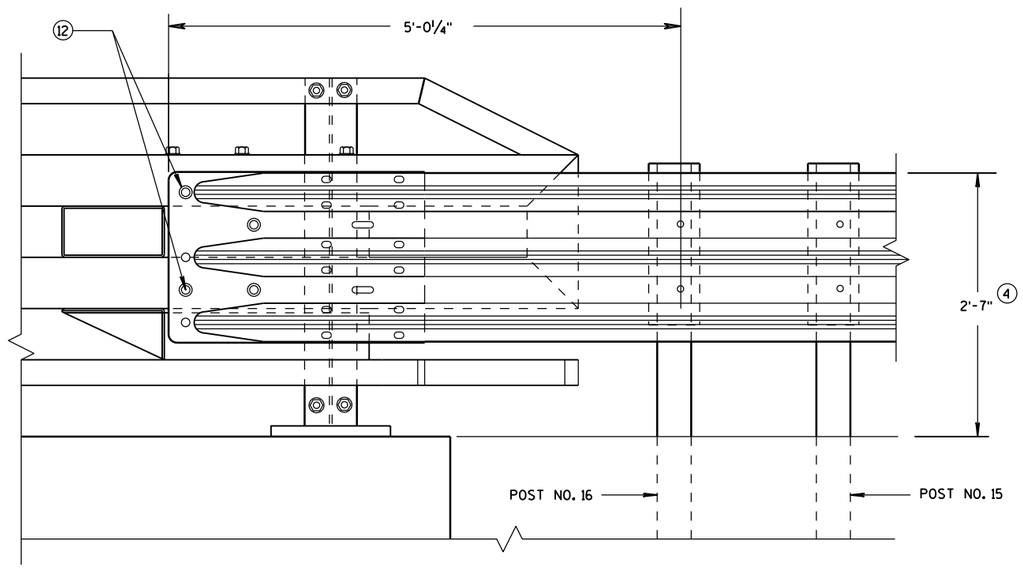
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S.D.D. 14 B 45-4j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER

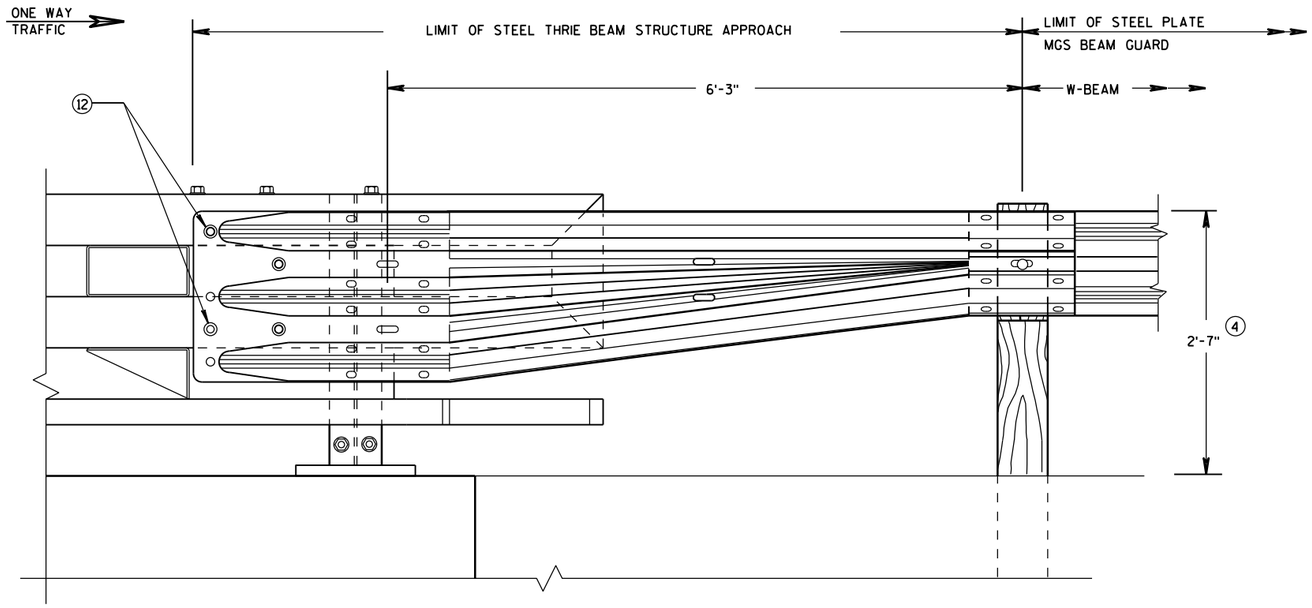
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S.D.D. 14 B 45-4k

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S.D.D. 14 B 45-4k



FRONT VIEW

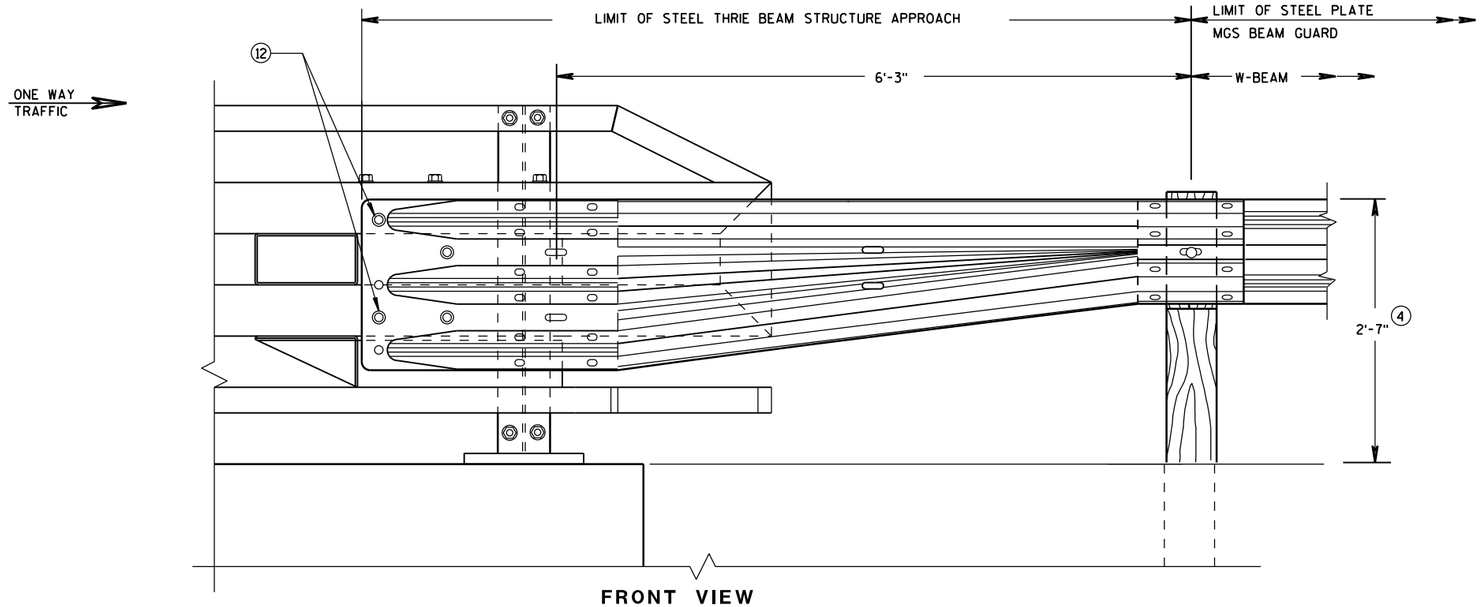
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

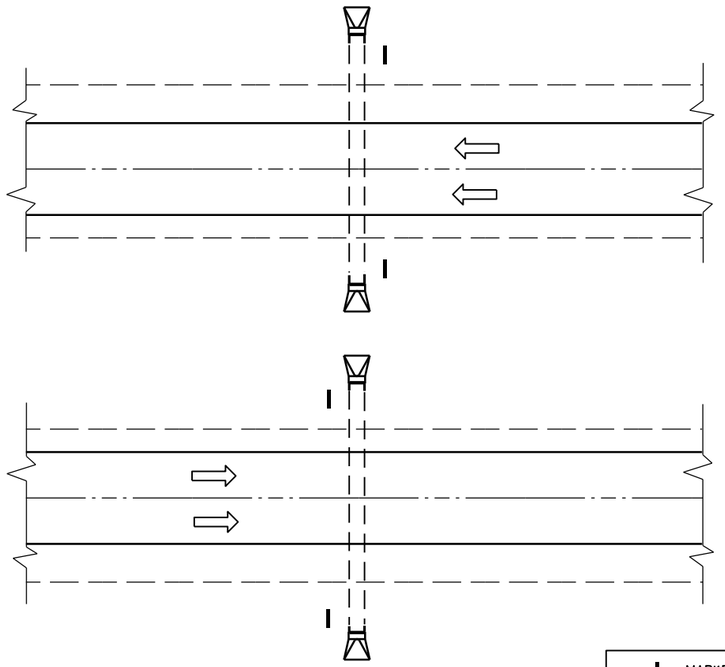
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 45-4L

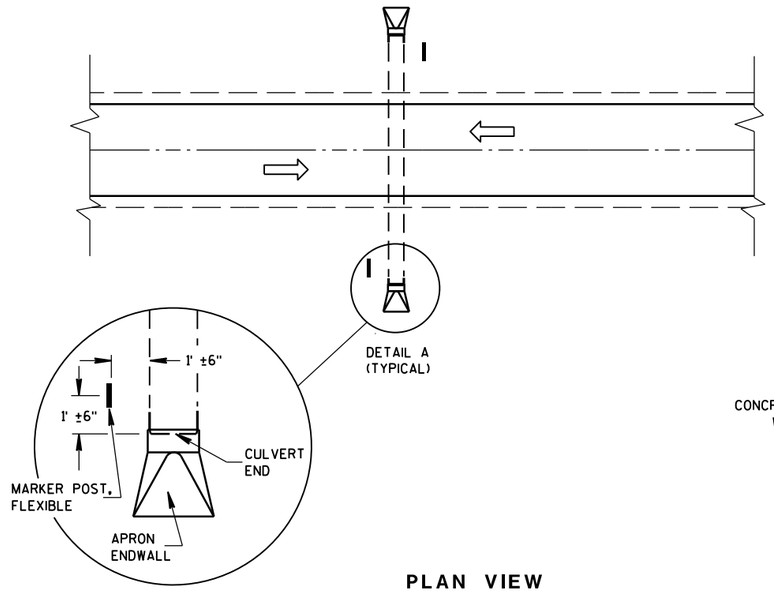
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S.D.D. 14 B 45-4L



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

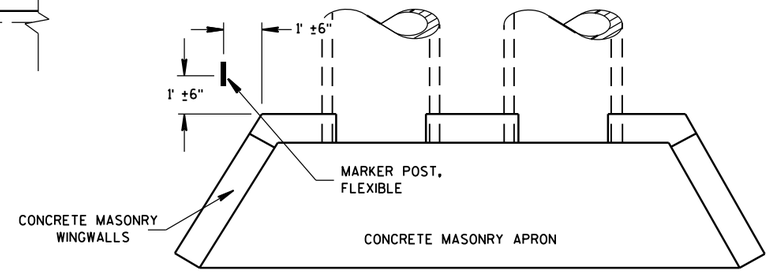
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

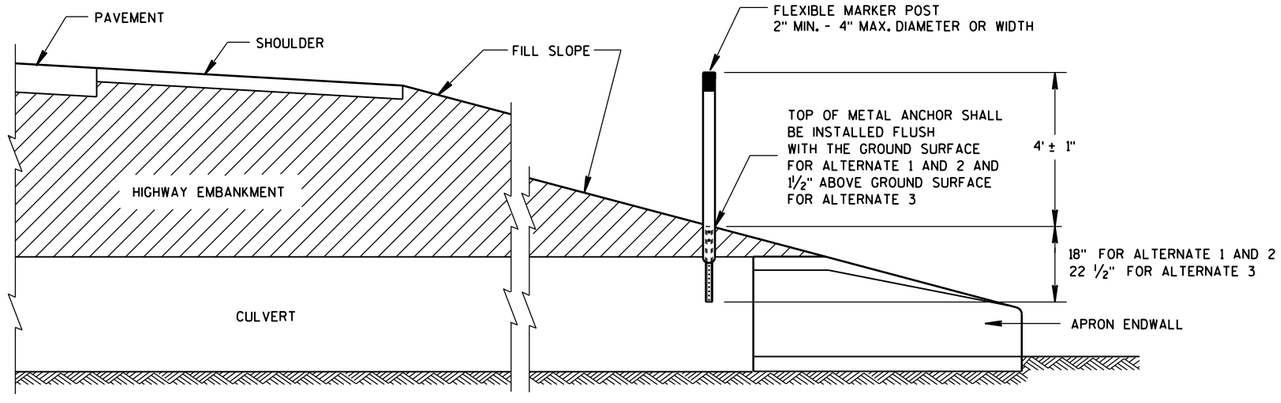
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

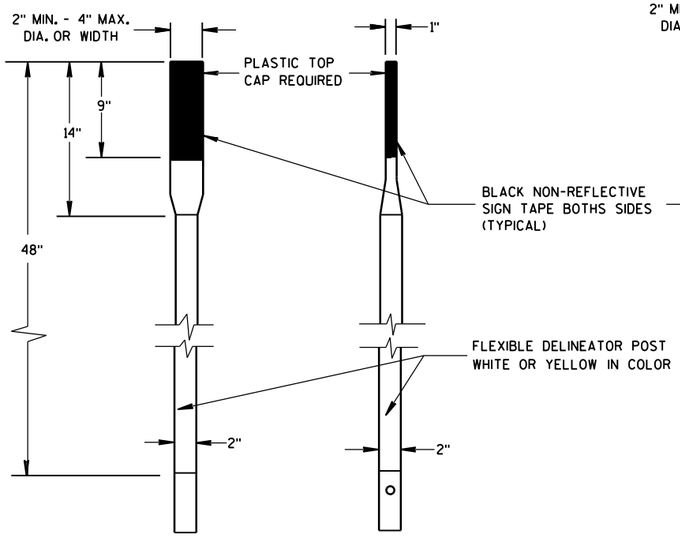
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

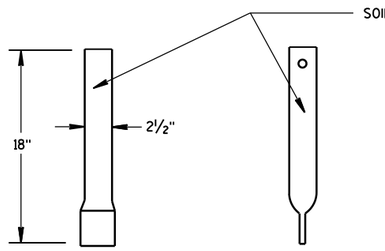
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S.D.D. 15 A 3-2a

6

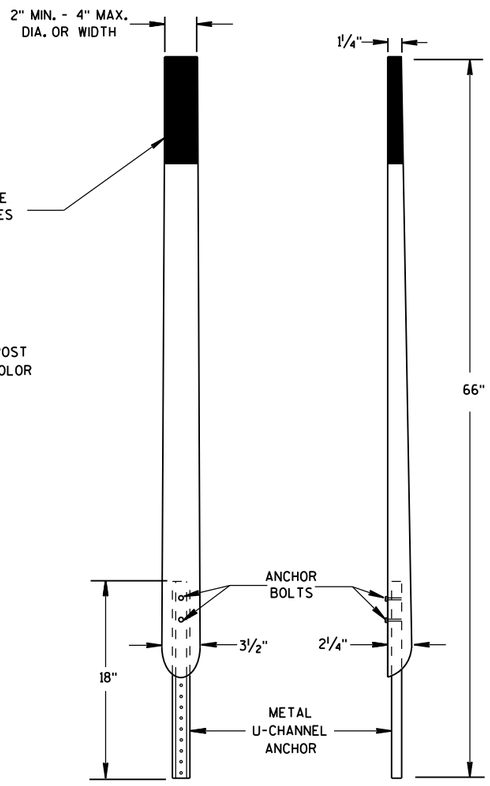
S.D.D. 15 A 3-2a





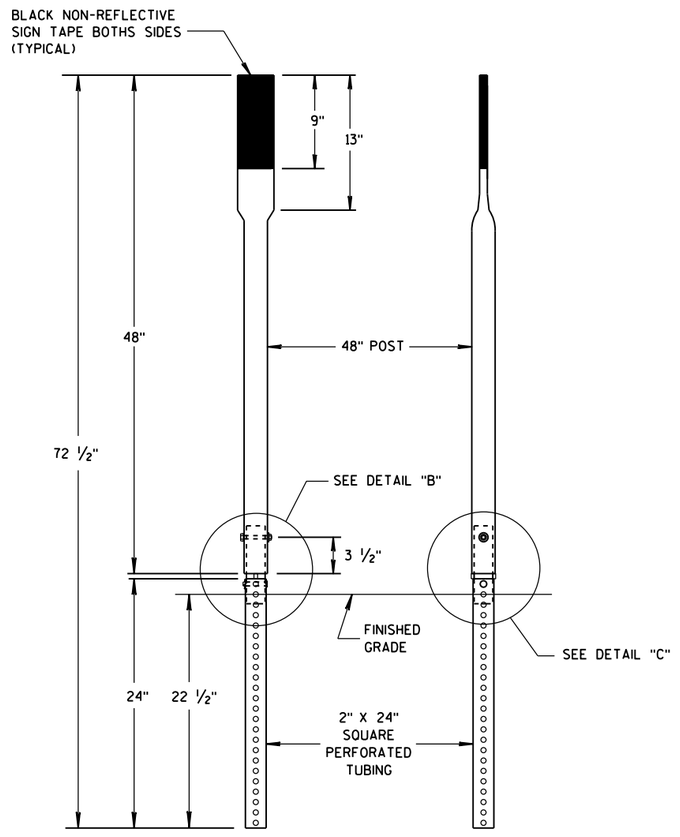
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

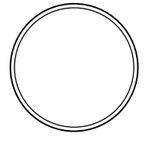
ALTERNATE 2



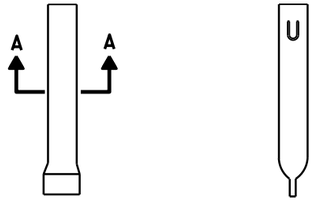
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

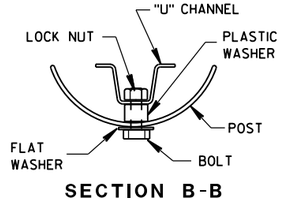


SECTION A-A

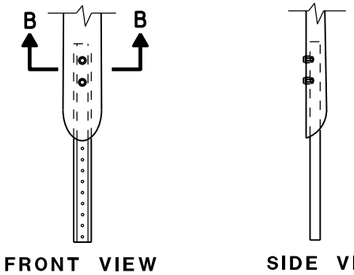


FRONT VIEW SIDE VIEW

ALTERNATE 1

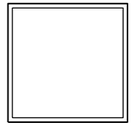


SECTION B-B

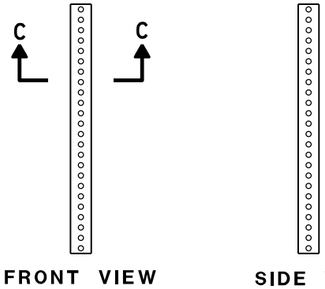


FRONT VIEW SIDE VIEW

ALTERNATE 2



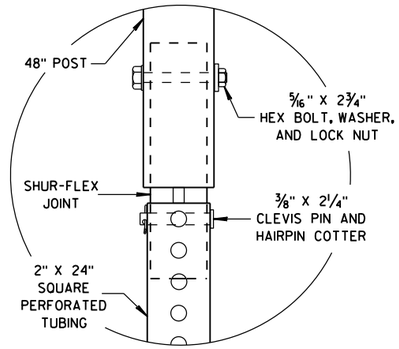
SECTION C-C



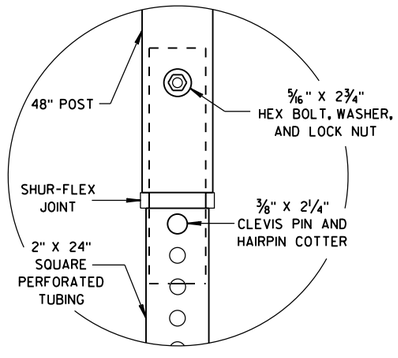
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

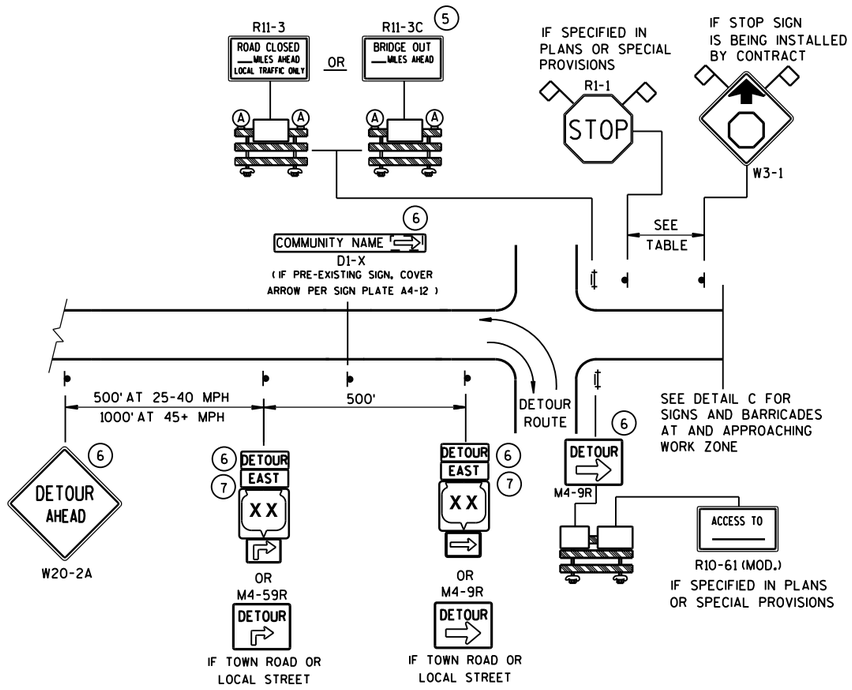
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 A 3-2b

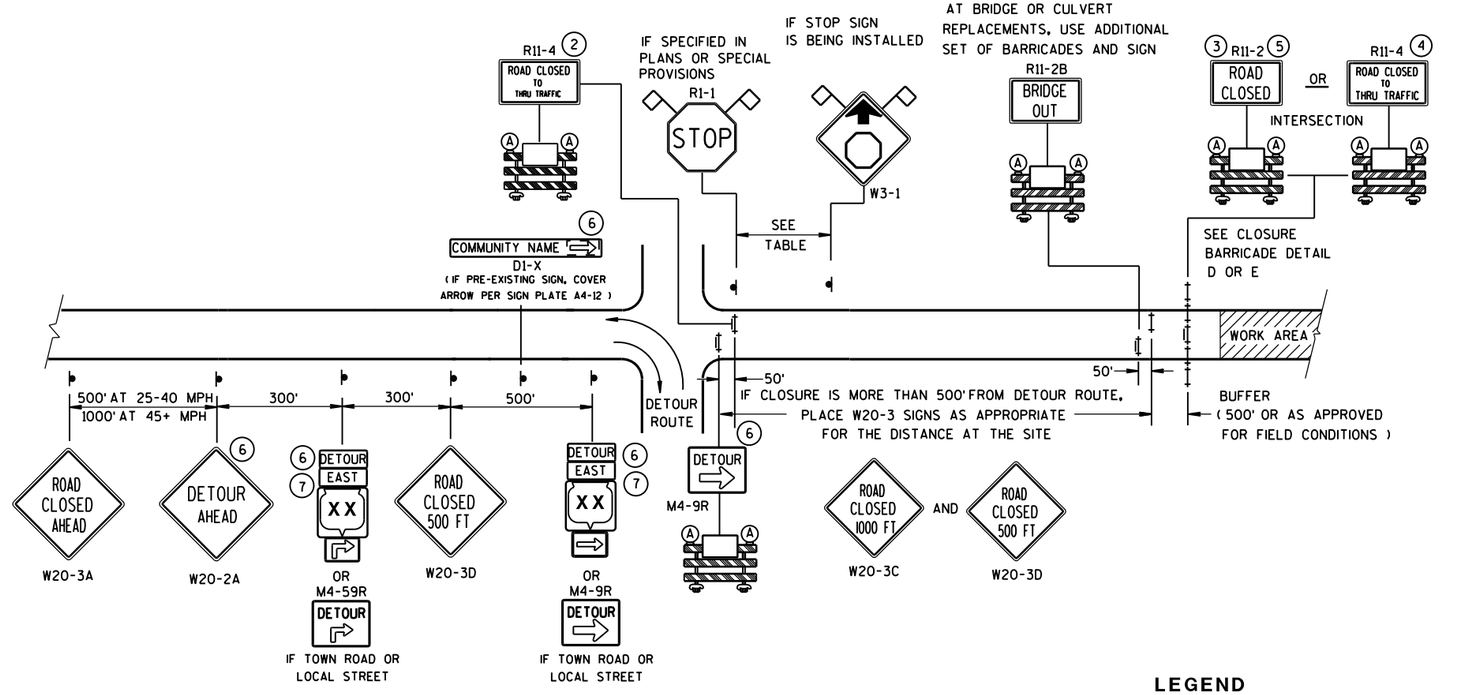
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S.D.D. 15 A 3-2b



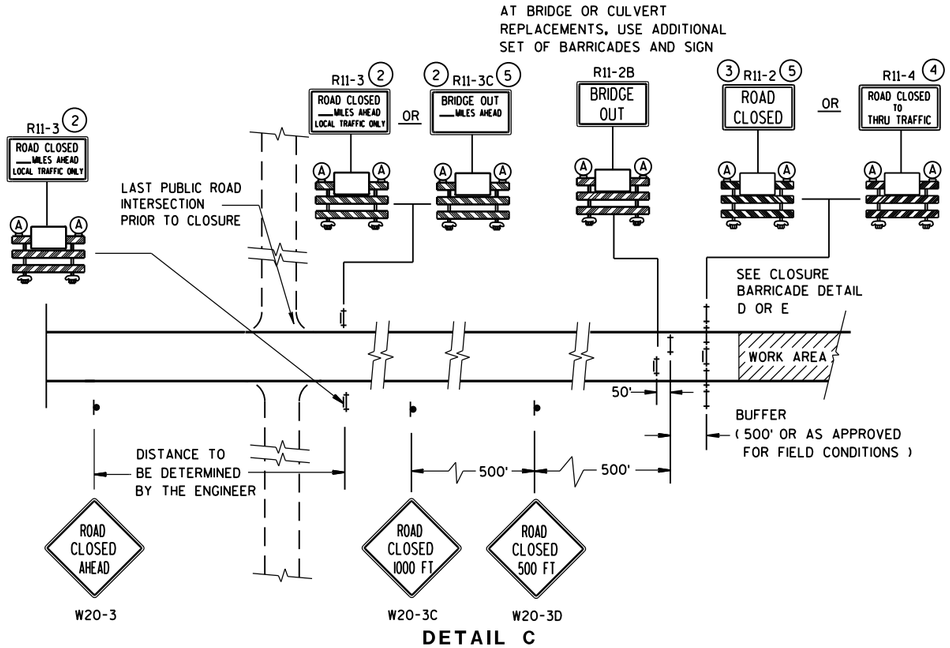
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

LEGEND

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

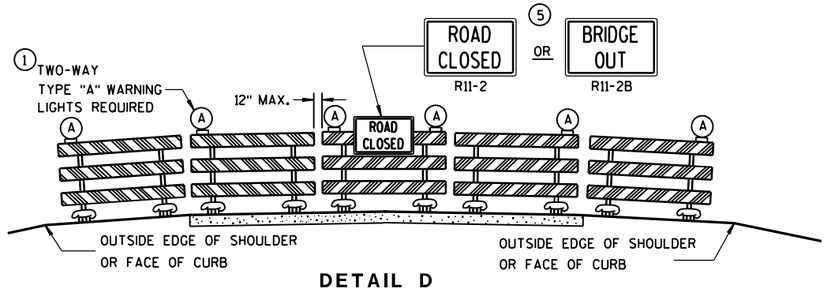
SEE SDD 15C2-SHEET "**b**" FOR GENERAL NOTES AND FOOTNOTES (1) THROUGH (7)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

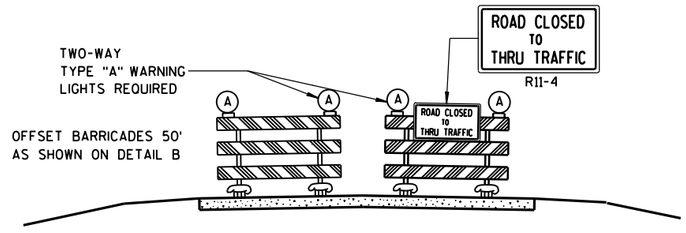
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE 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, 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". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC

FHWA

6

S.D.D. 15 C 2-6b

6

S.D.D. 15 C 2-6b

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

GENERAL NOTES

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

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

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

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

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

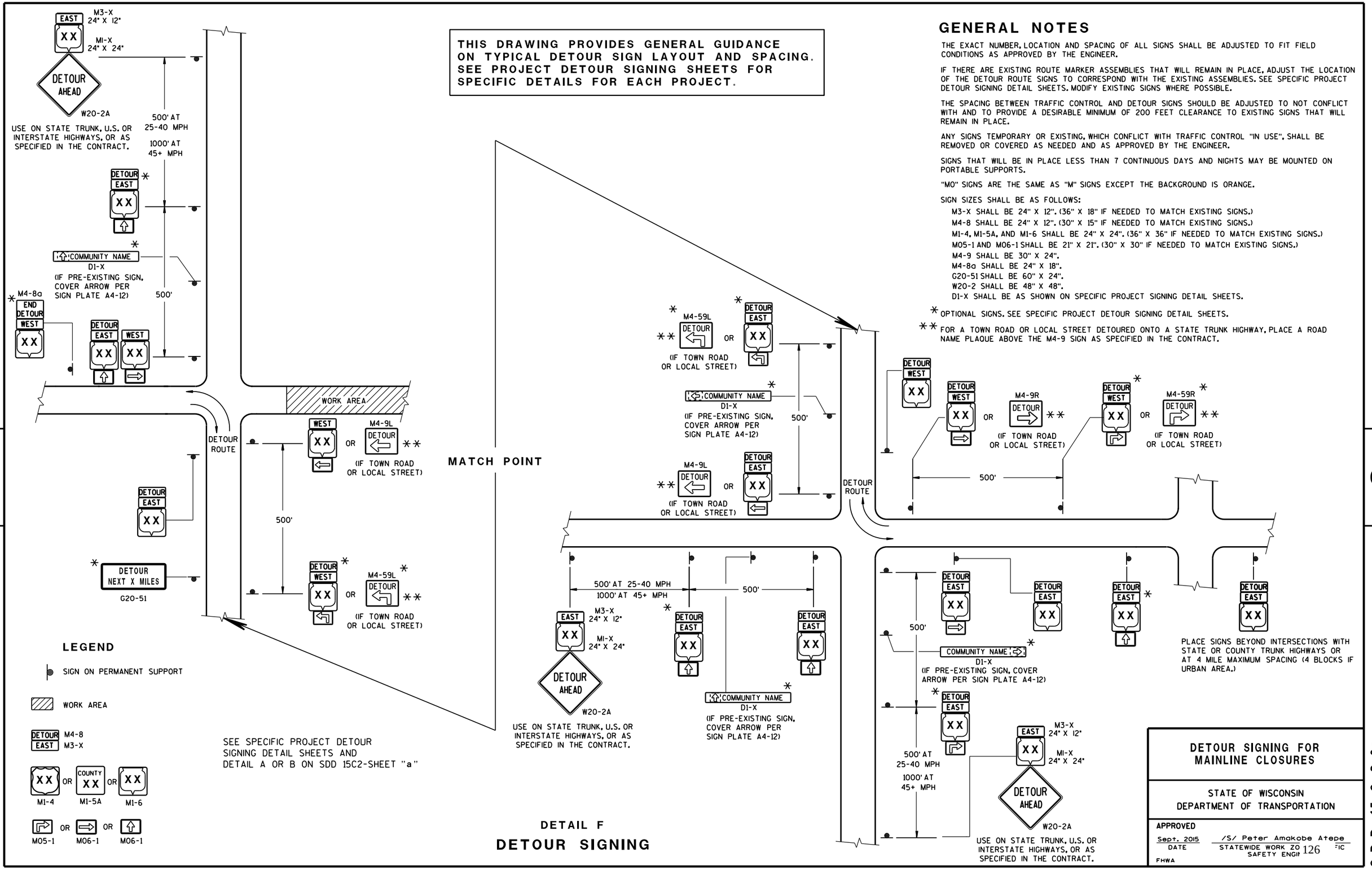
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

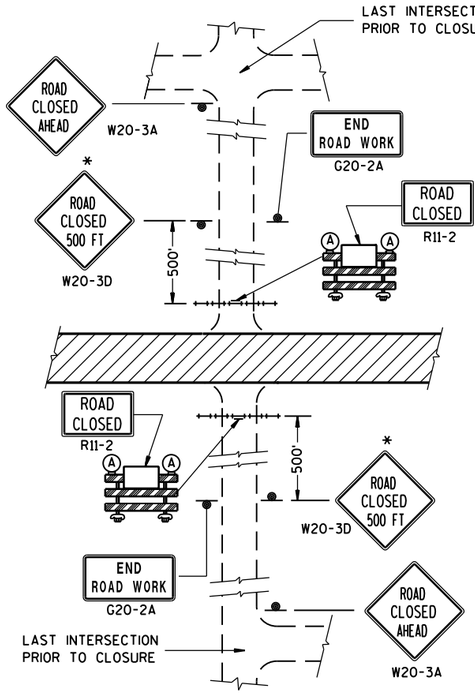
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI FIC

FHWA

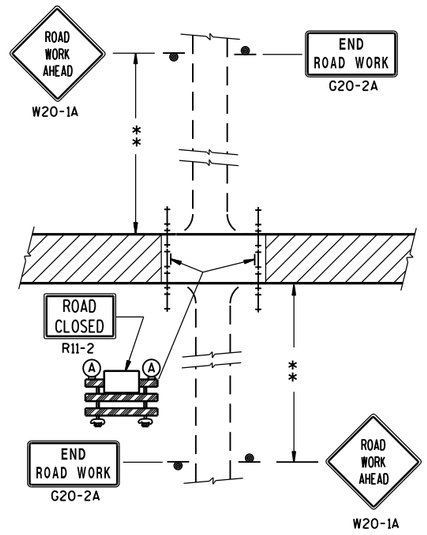
S.D.D. 15 C 2-6c

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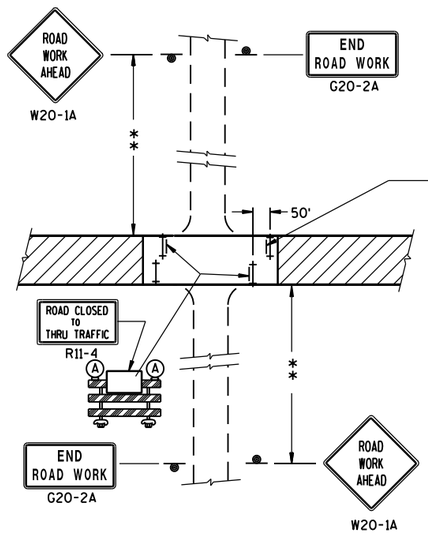
DETAIL 1

(NO ACCESS TO PROJECT)



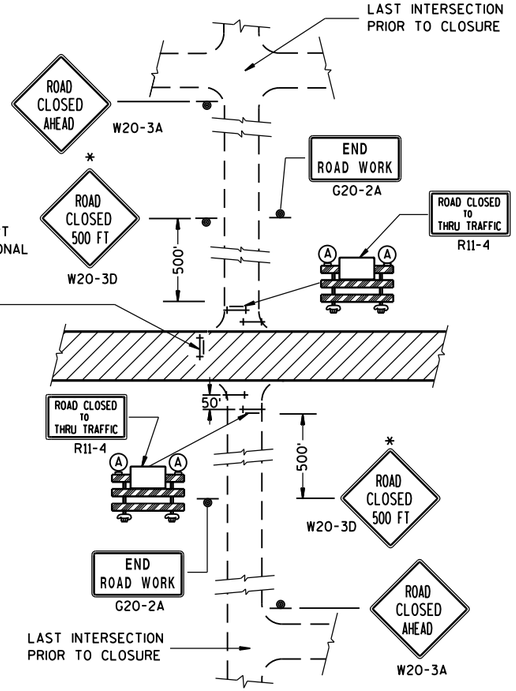
DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

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.

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

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

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

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

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

THE R11-2, R11-3 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 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

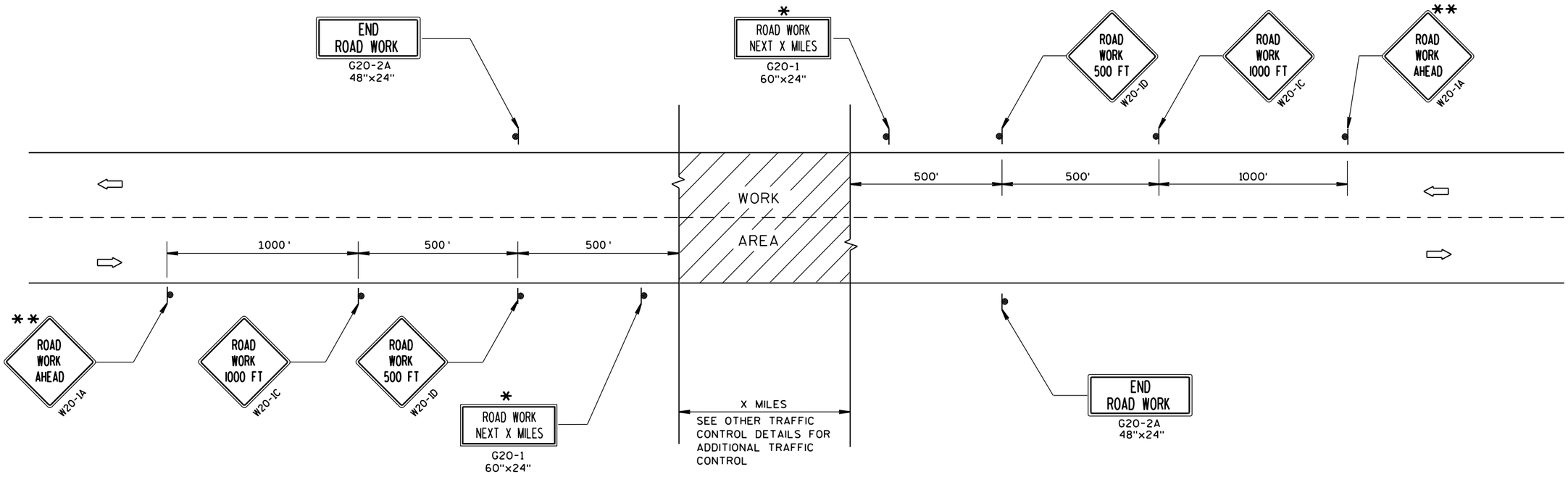
6

S.D.D. 15 C 3-4

6

S.D.D. 15 C 3-4

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

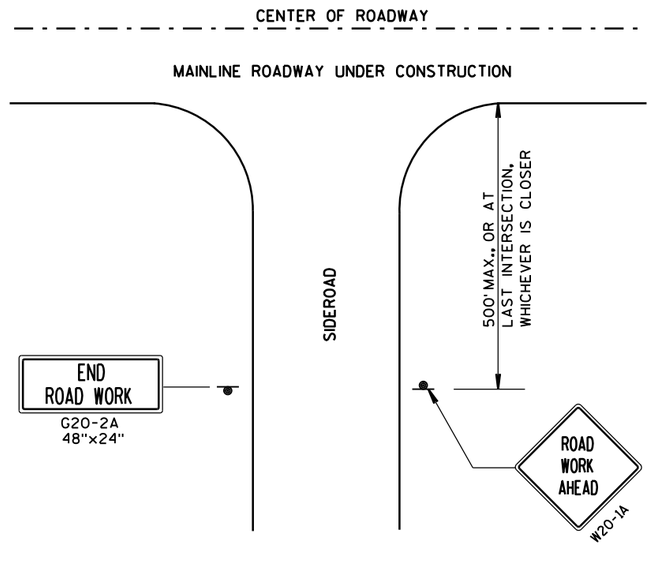
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

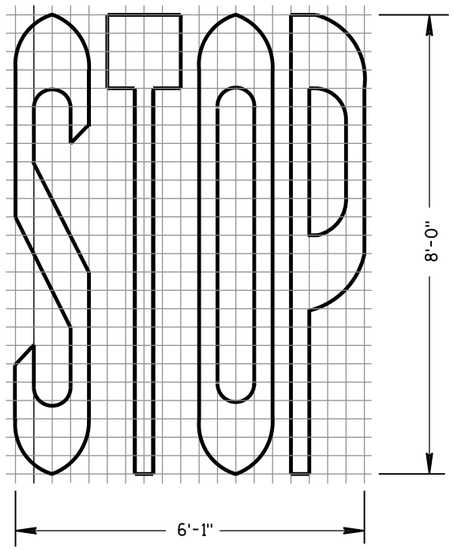
APPROVED
Sept. 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

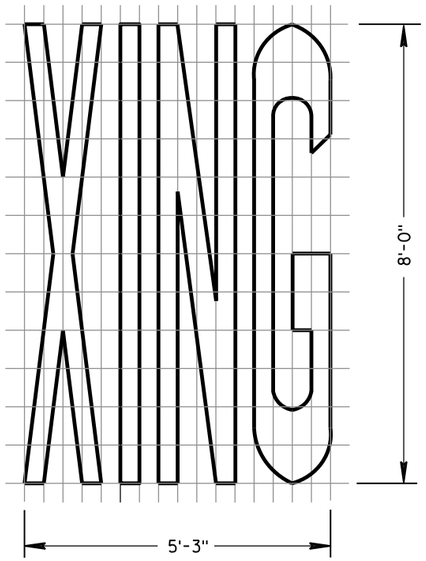
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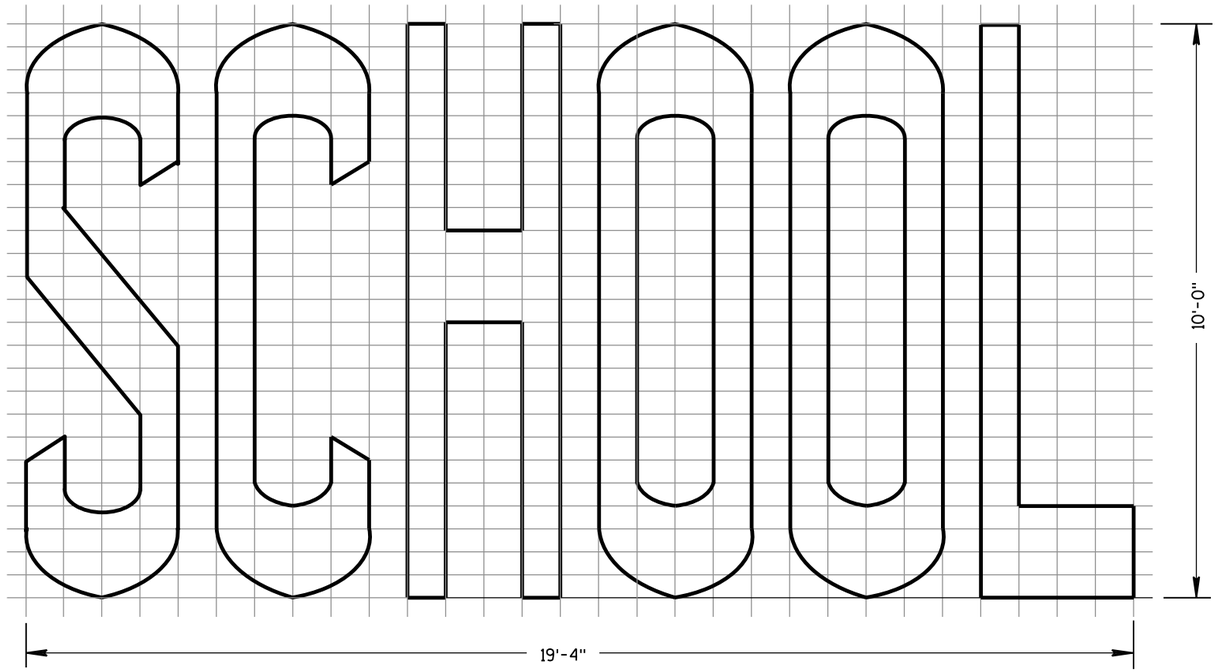
S.D.D. 15 C 4-4

GENERAL NOTES

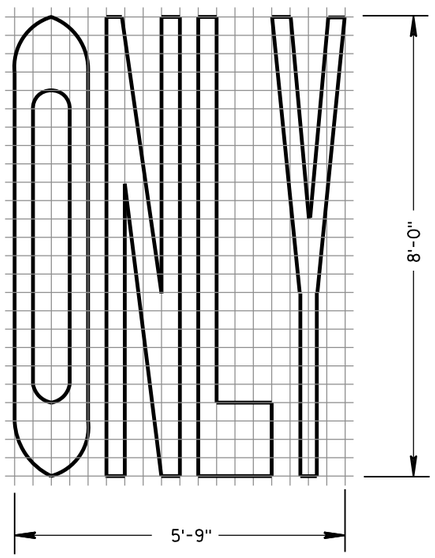
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

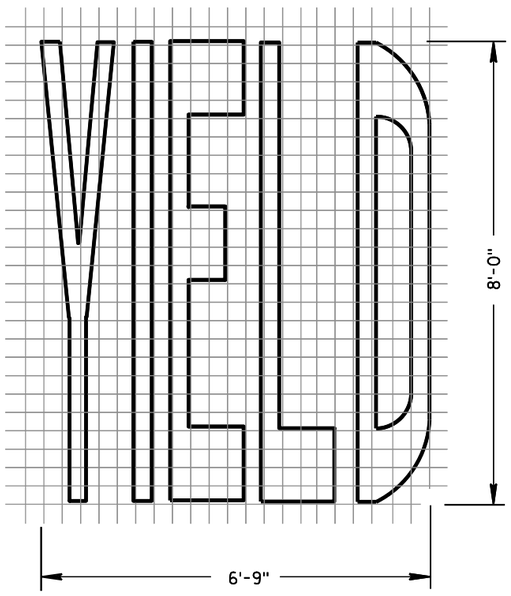


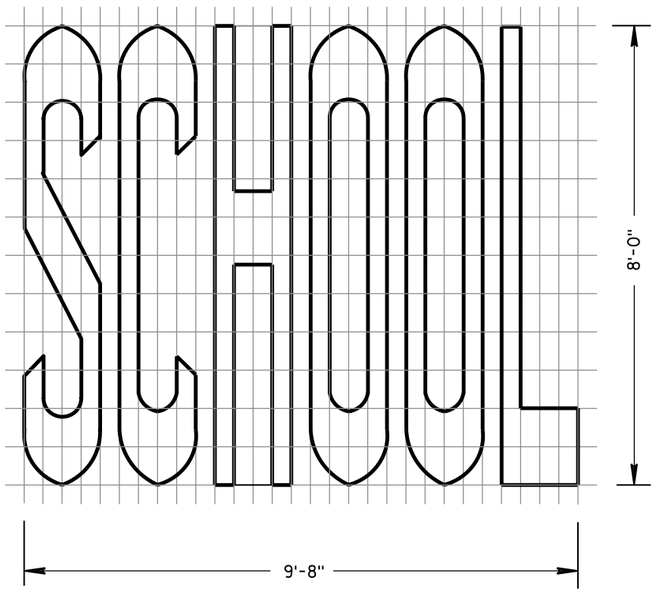




TWO-LANE







SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

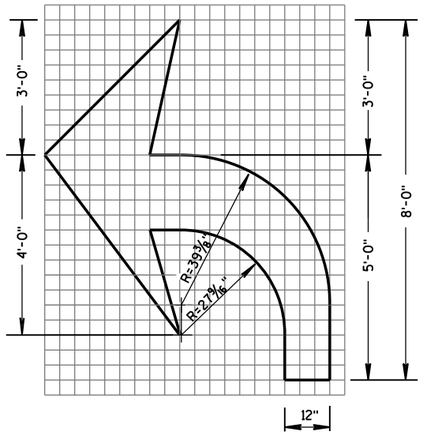
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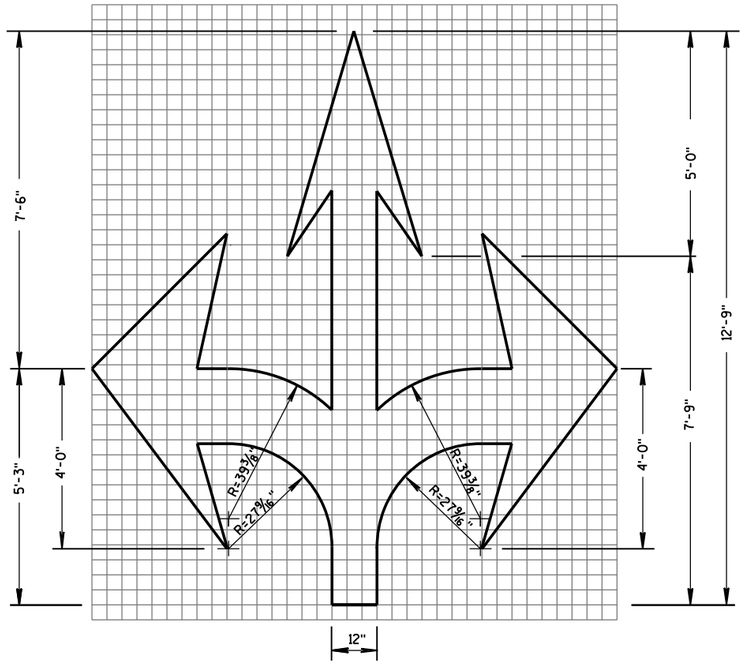
S.D.D. 15 C 7-14b

6

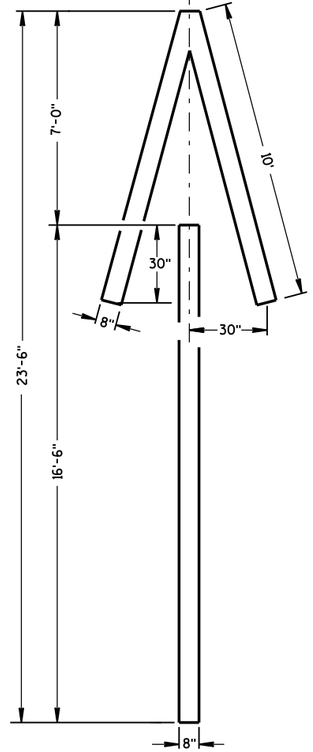
S.D.D. 15 C 7-14b



TYPE 2



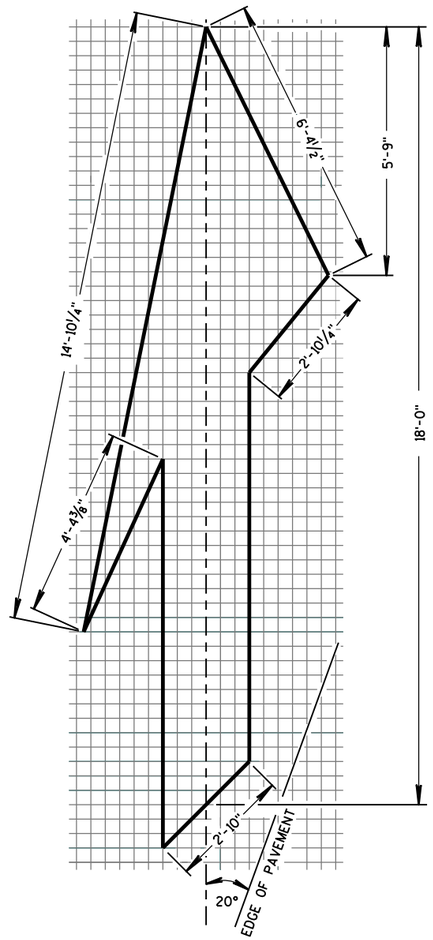
TYPE 6



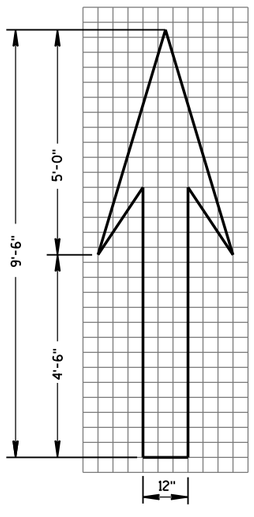
TYPE 4

GENERAL NOTES

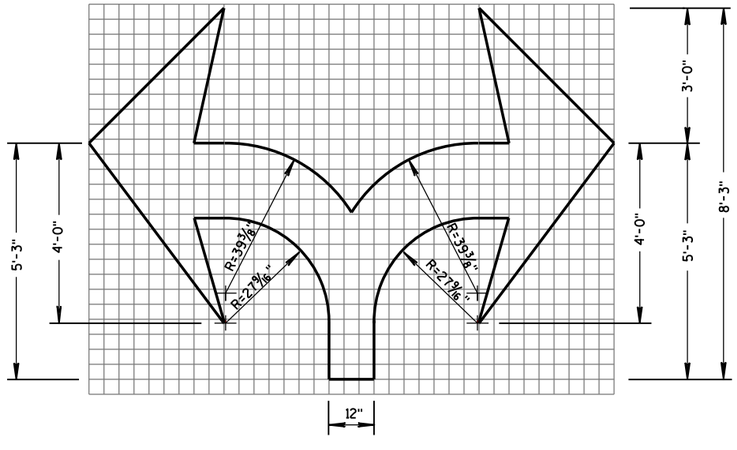
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



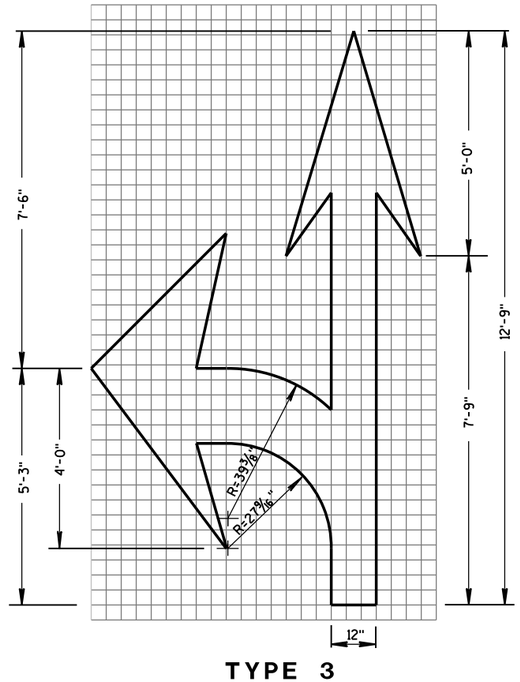
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

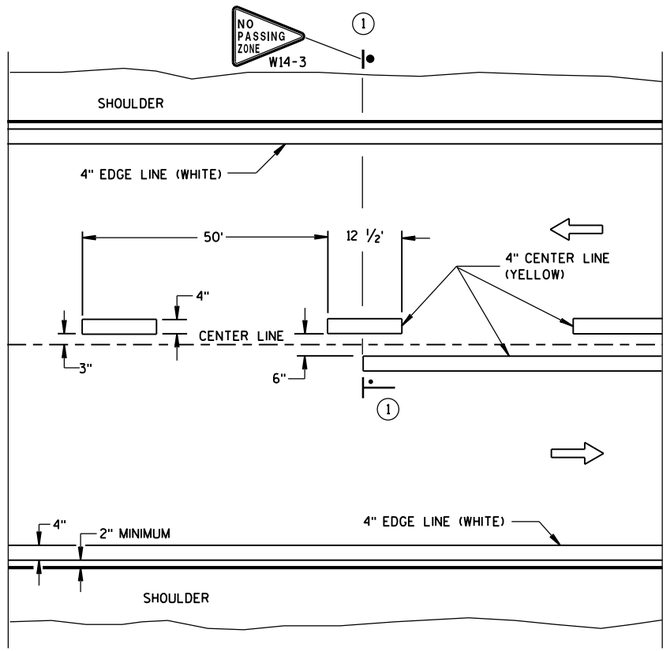
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

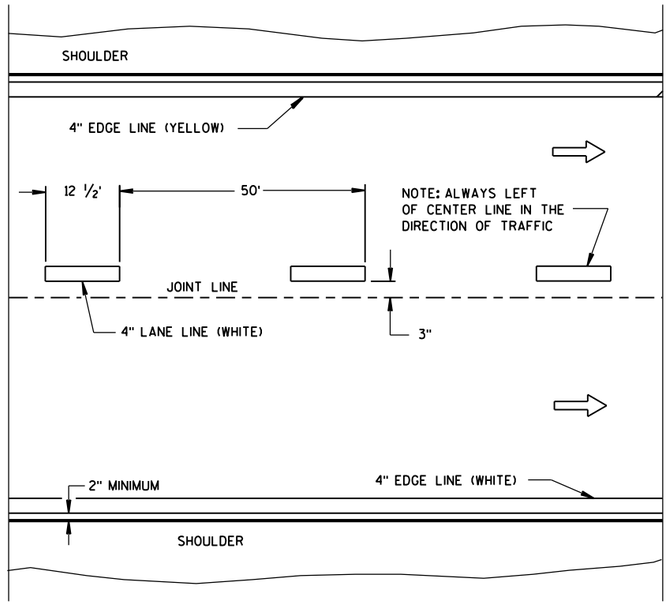
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

S.D.D. 15 C 7-14c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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.

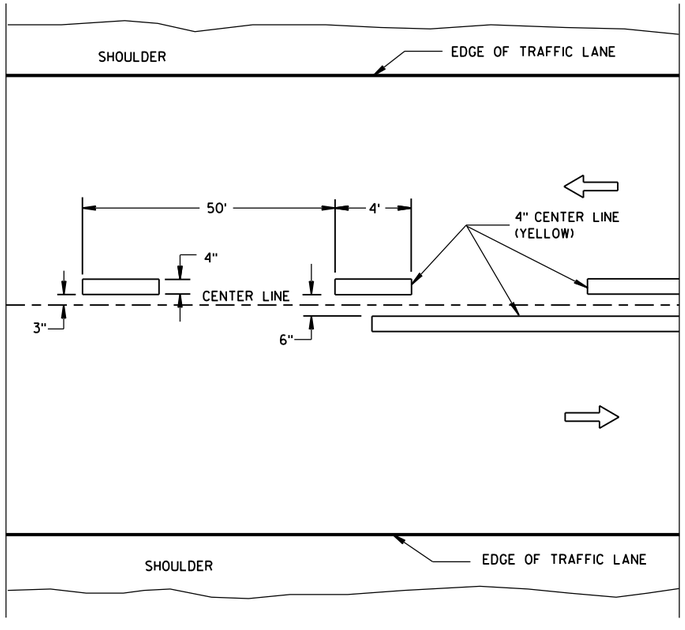
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

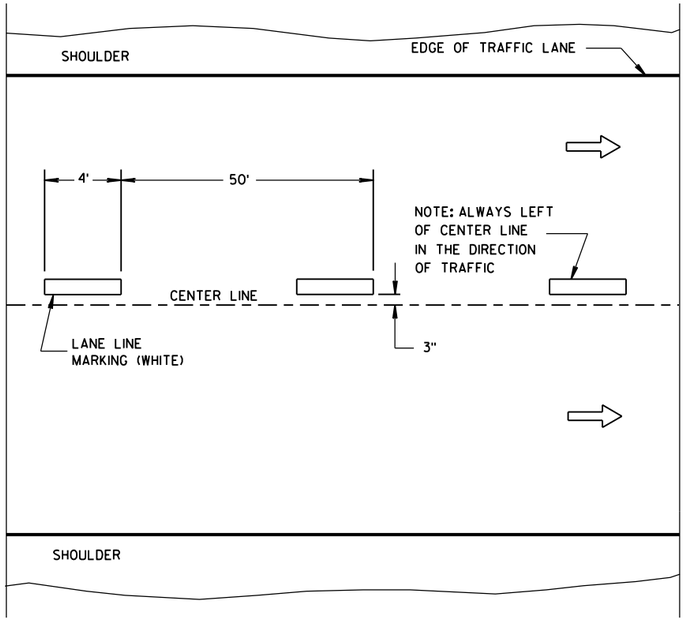
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



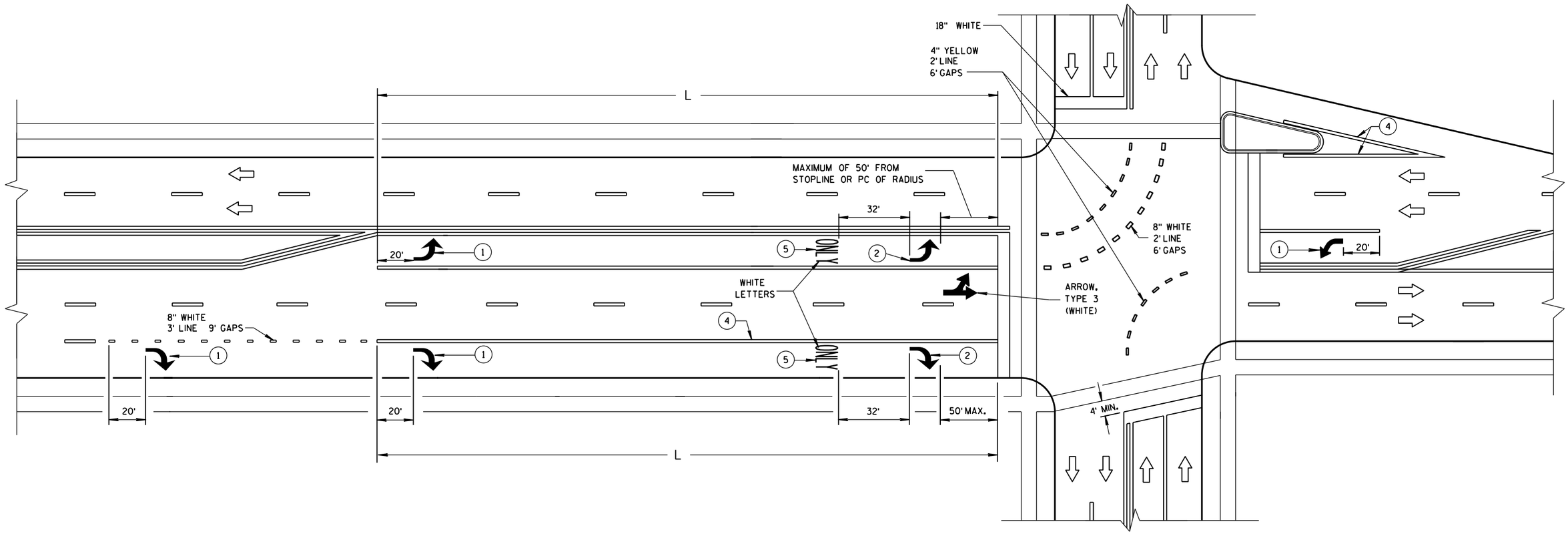
ONE WAY TRAFFIC

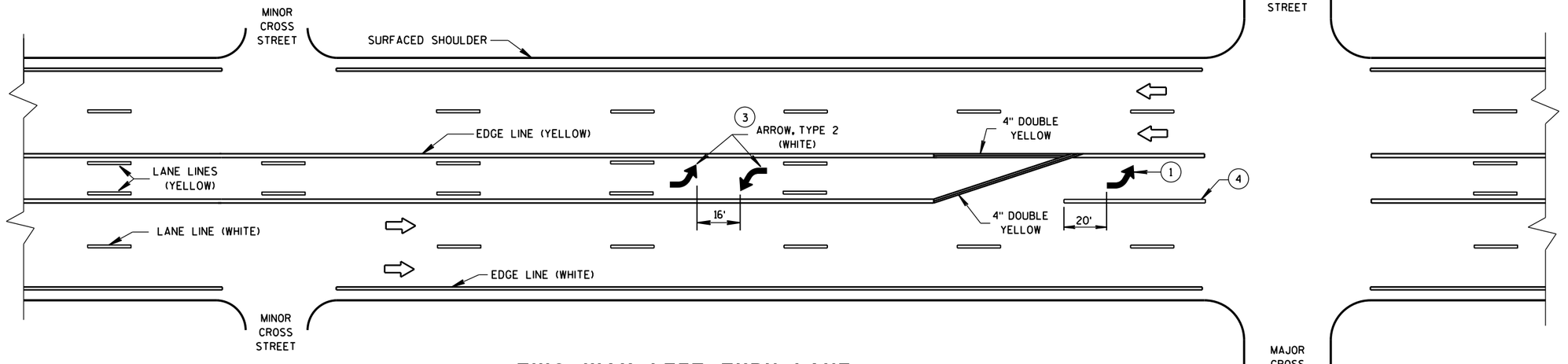
TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MAR ENGINEER
FHWA	

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S.D.D. 15 C 8-18a





GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

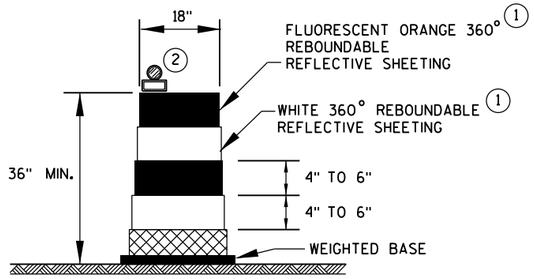
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(TURN LANES)

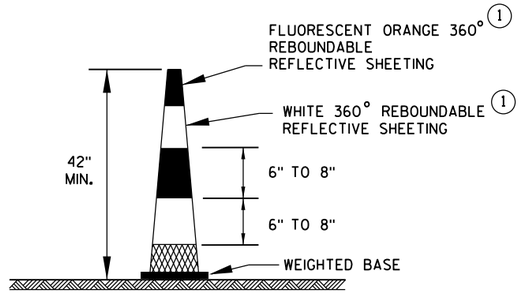
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 C 8-18b



DRUM

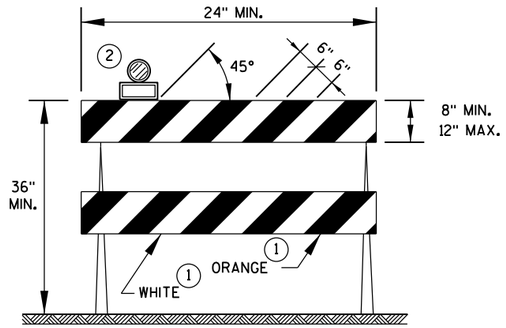


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

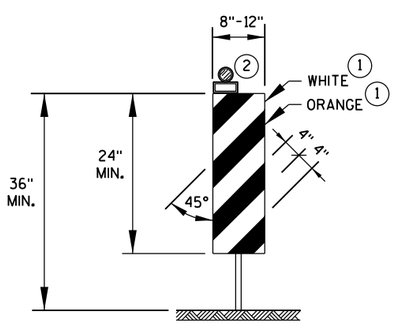
GENERAL NOTES

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.



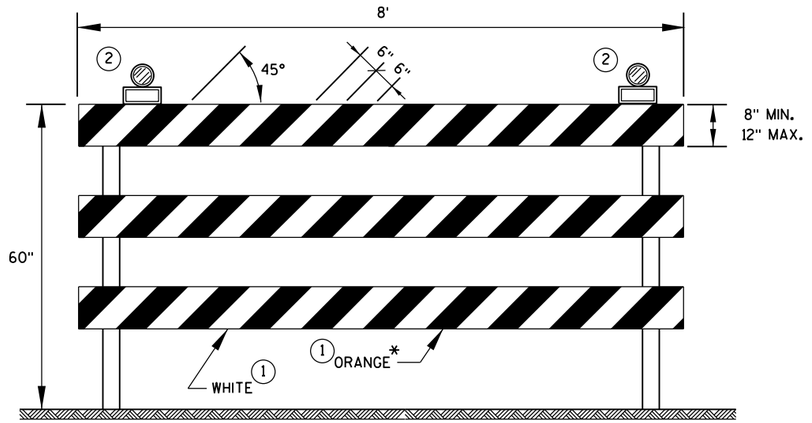
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 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	
APPROVED	
June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENG
FHWA	

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S.D.D. 15 C 11-7b

LEGEND

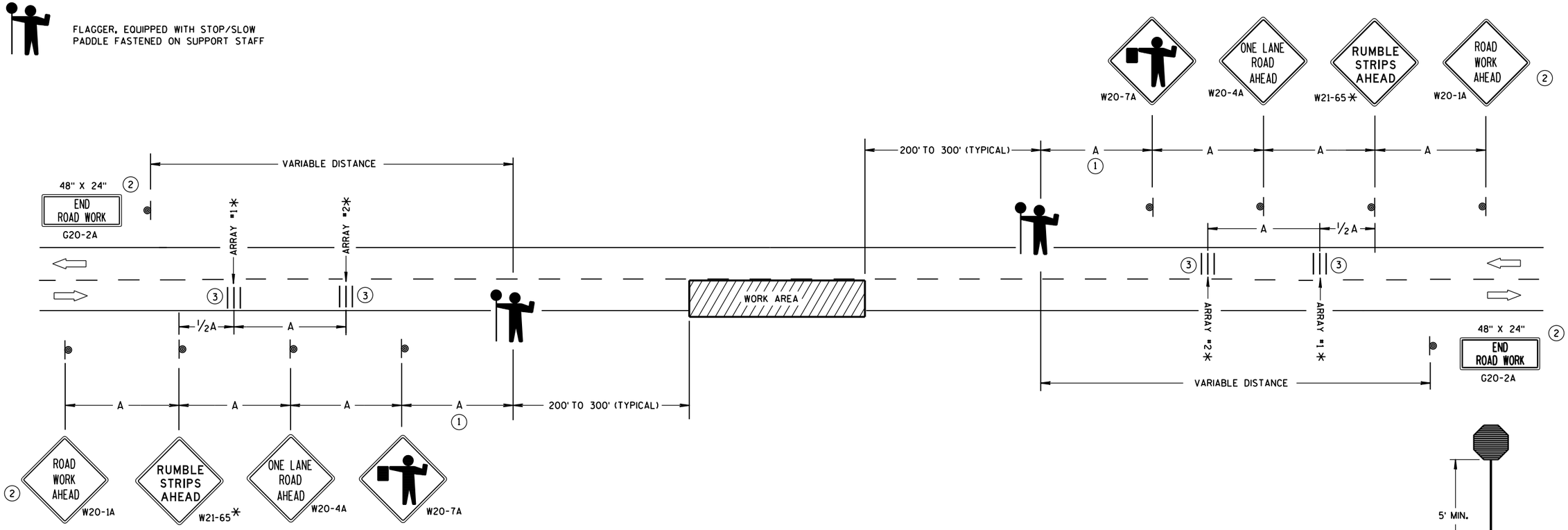
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

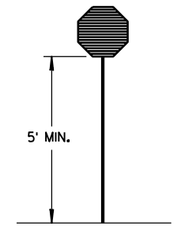
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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





STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

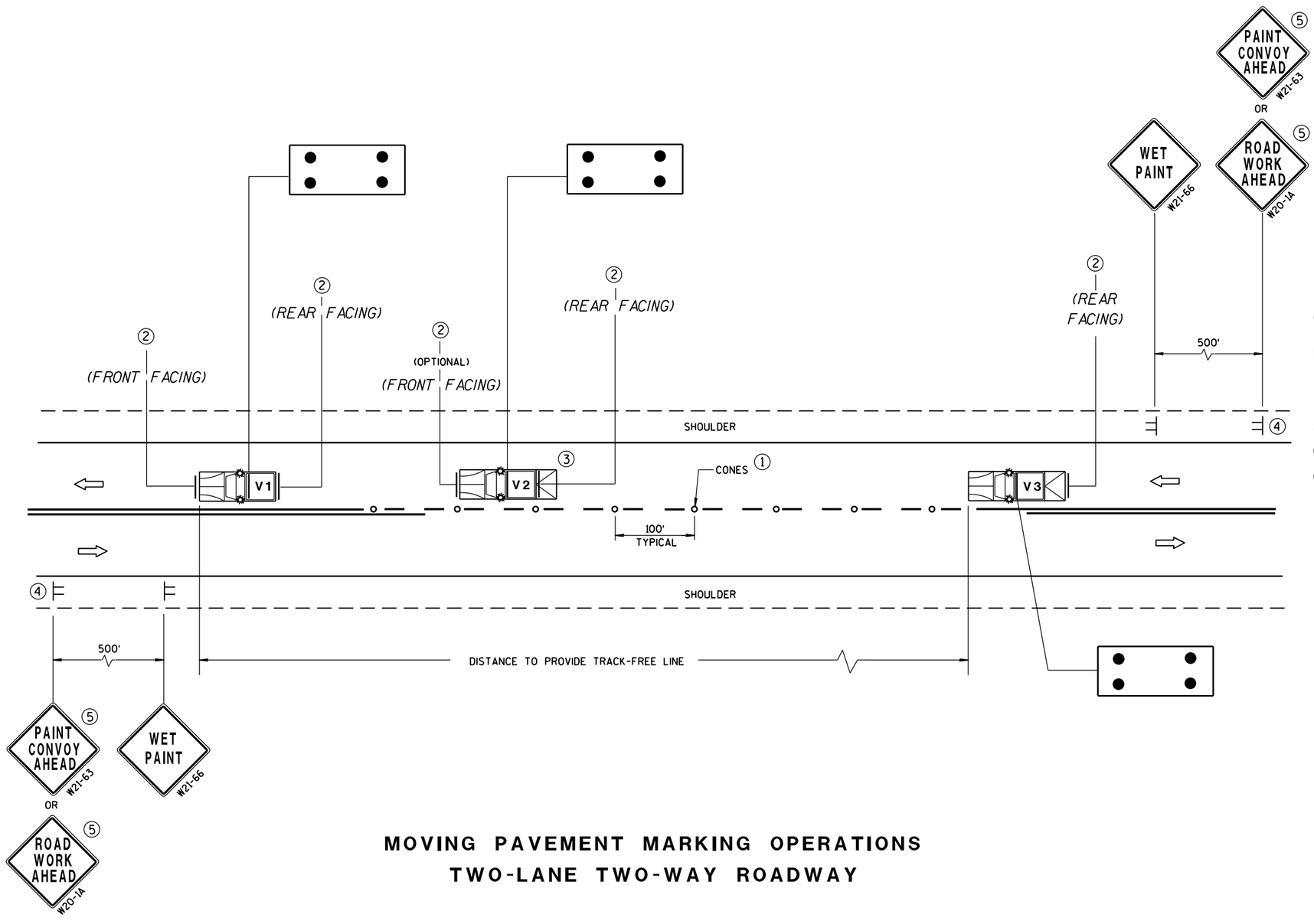
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

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S.D.D. 15 C 12-6



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

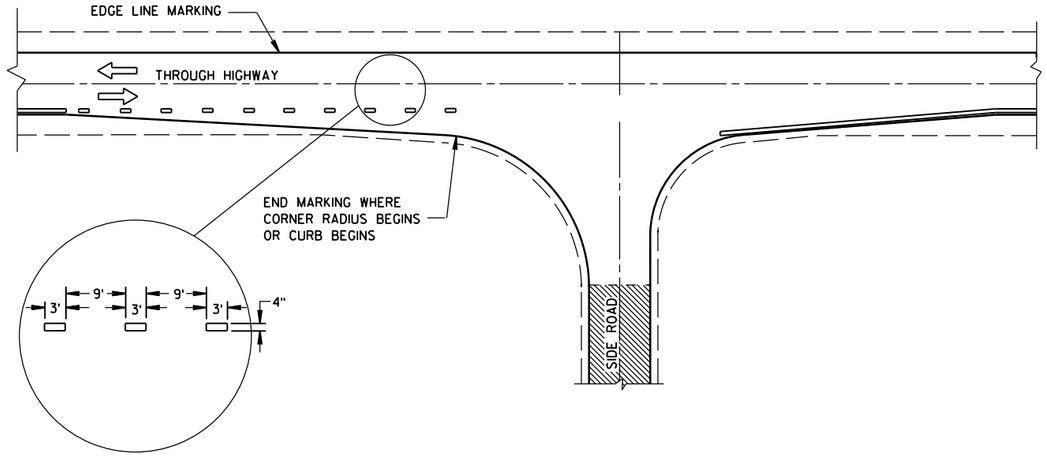
(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

- **V1** LEAD VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE WITH TMA
- **TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept., 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGR
FHWA	



MINOR INTERSECTION

GENERAL NOTES

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

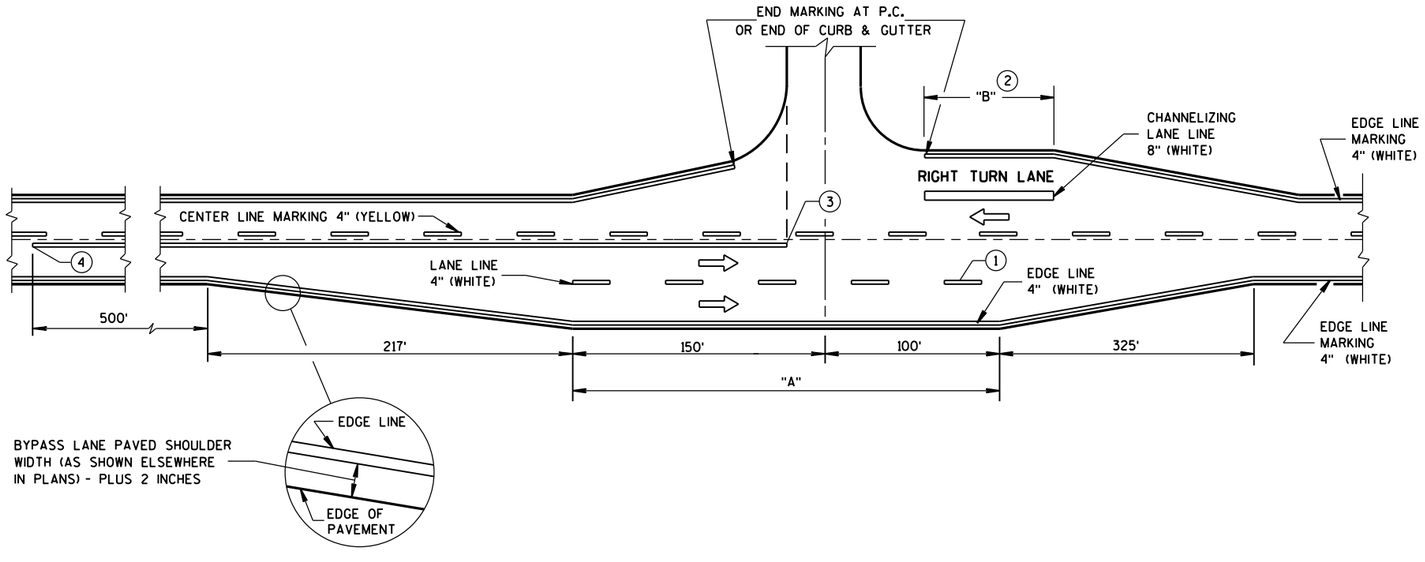
(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(4) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 C 35-2a
S.D.D. 15 C 35-2a

LEGEND

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

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 DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

ALL SIGNS ARE 48"x48" 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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

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

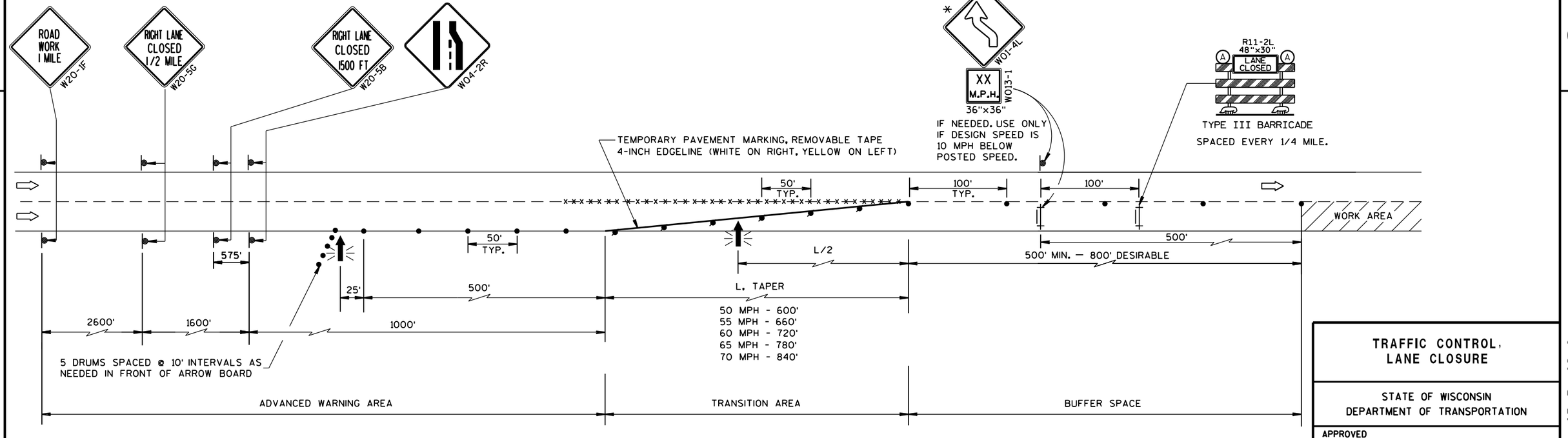
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

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

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

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S.D.D. 15 D 12-6a

GENERAL NOTES

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

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

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

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

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

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

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

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

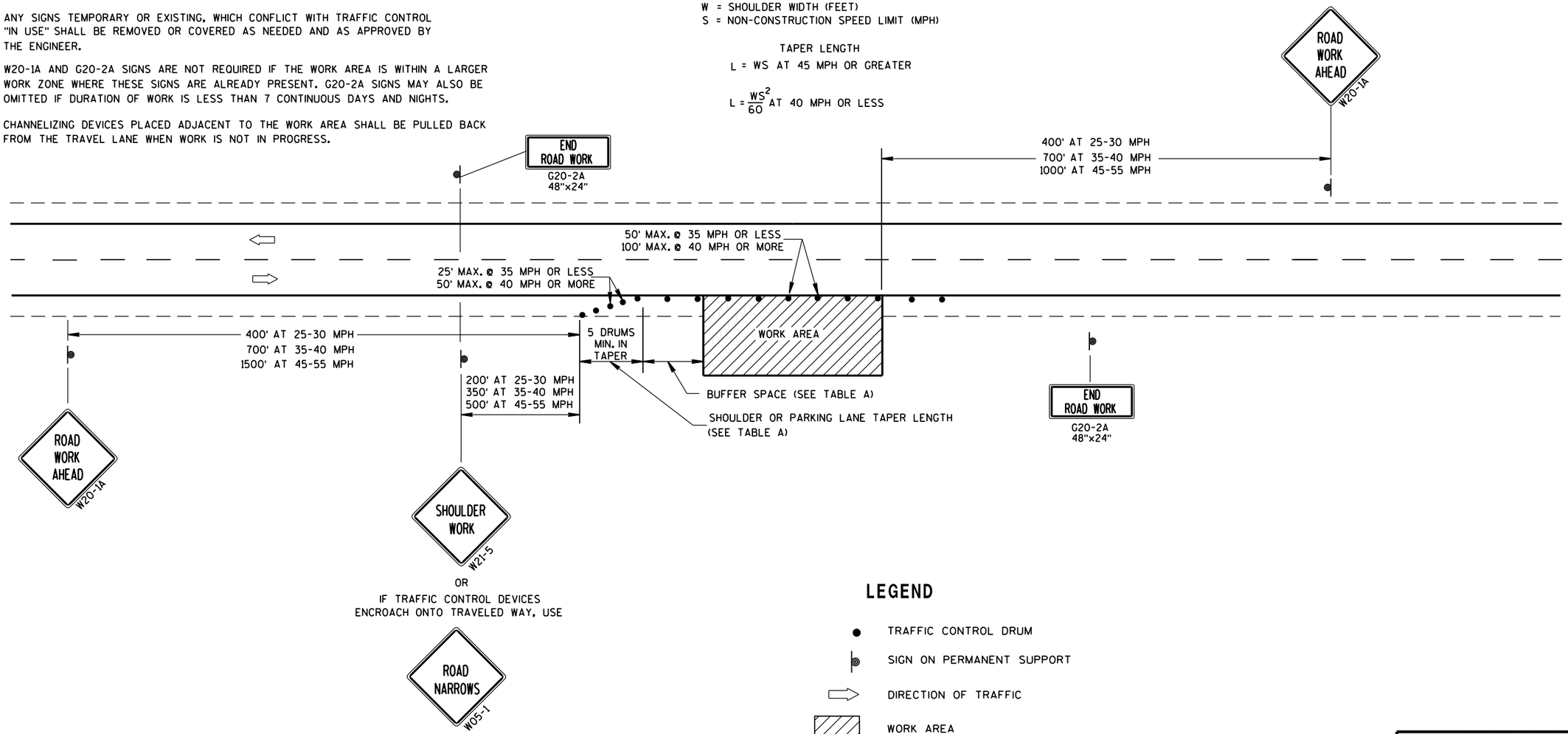
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

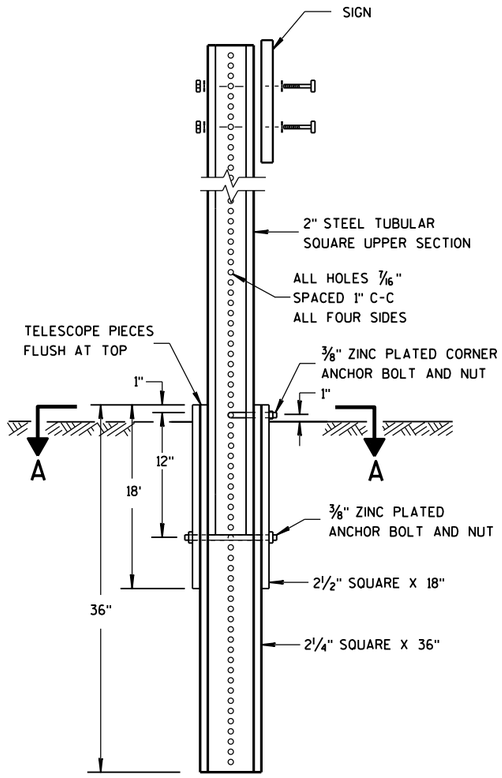
July 14, 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible] FIC

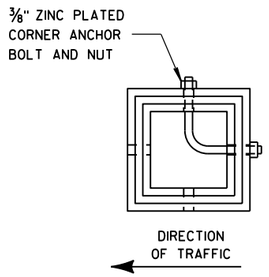
FHWA

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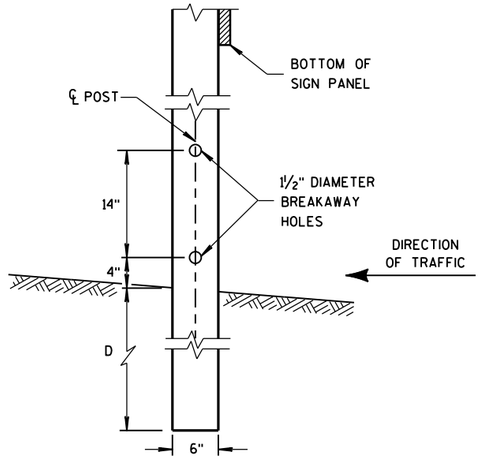
S.D.D. 15 D 28-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



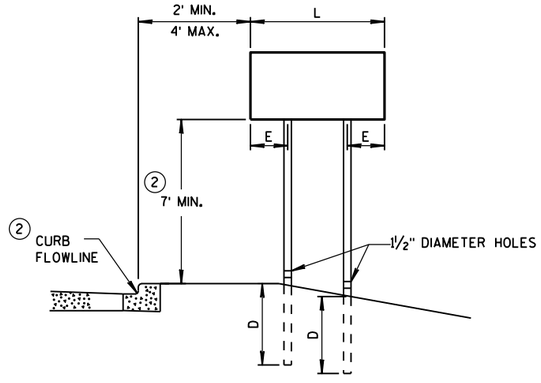
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

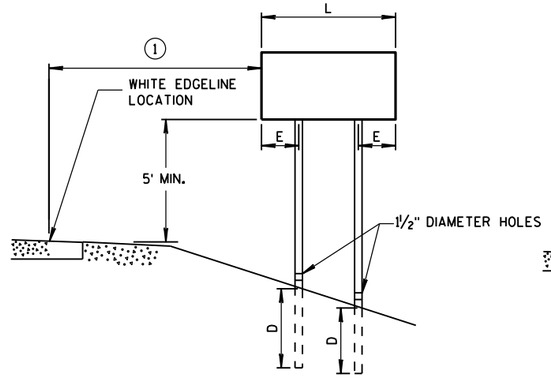
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

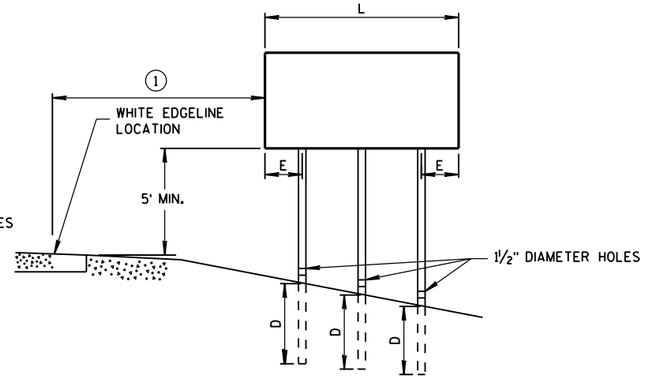
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

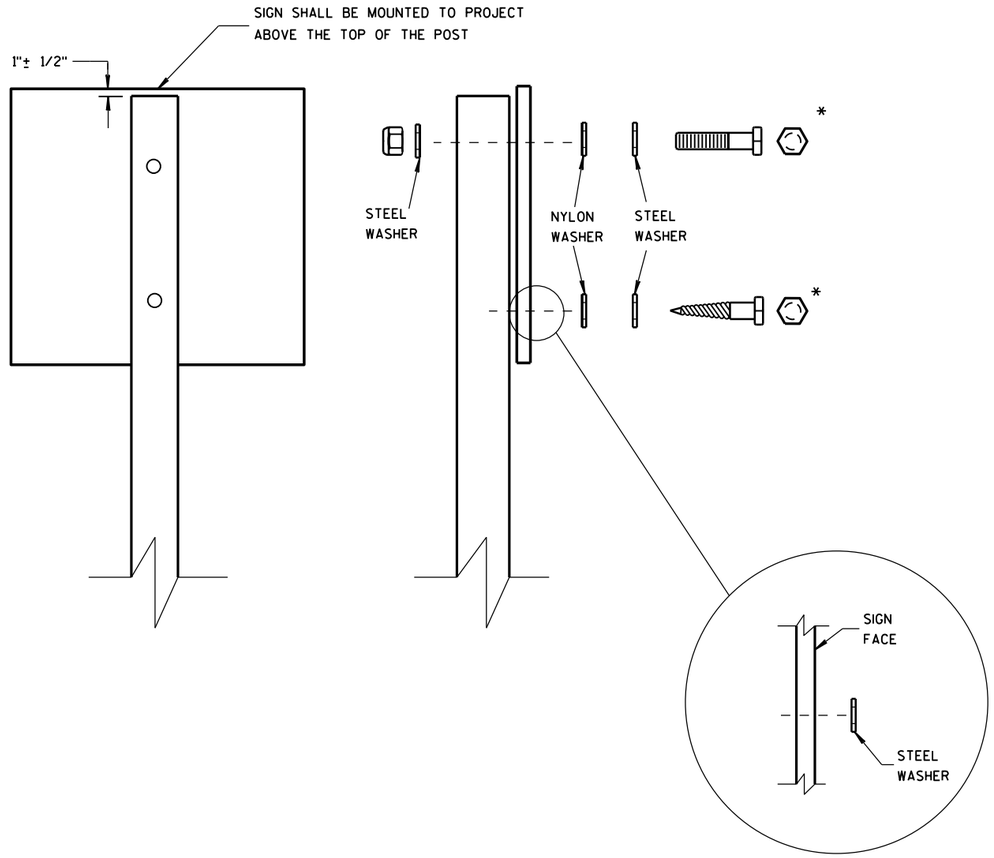
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

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

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

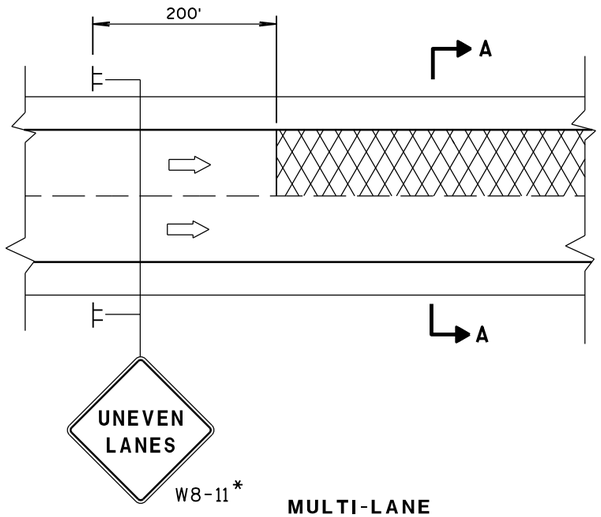
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

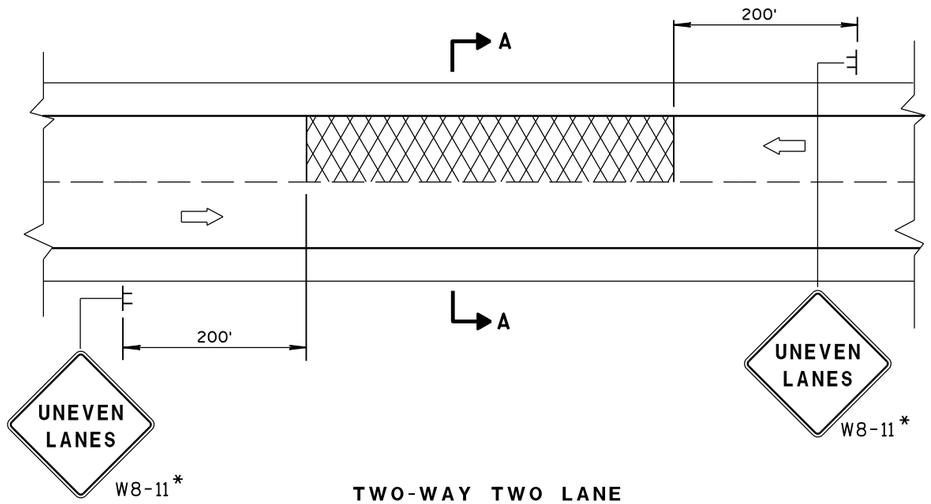
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

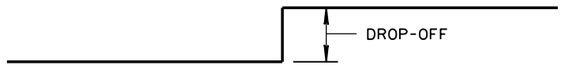
FHWA



MULTI-LANE

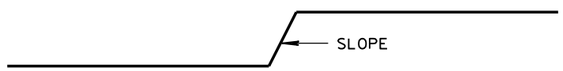


TWO-WAY TWO LANE

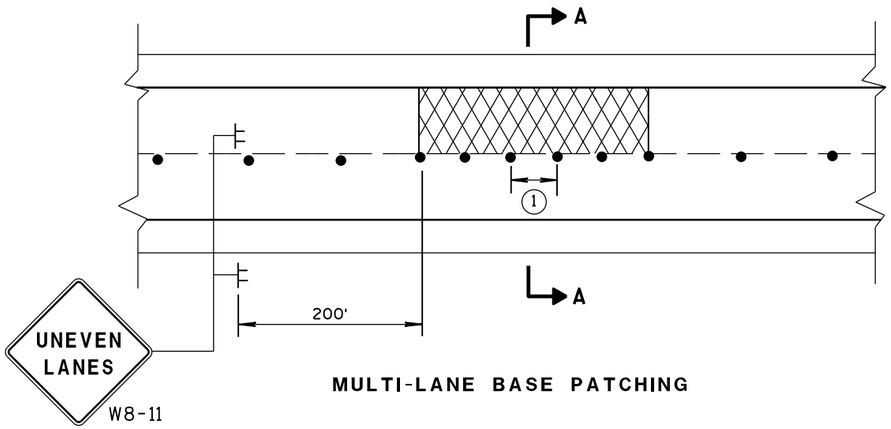


SECTION A-A

OR



SECTION A-A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

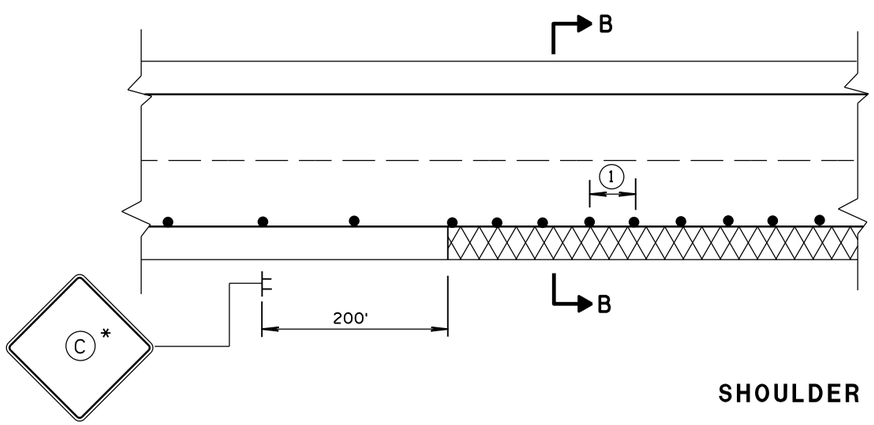
* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1/2 MILE.

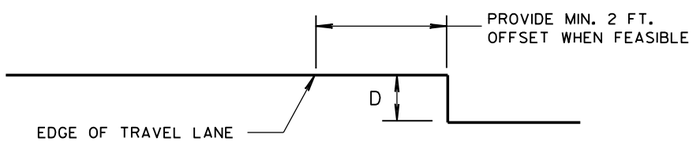
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER W08-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP-OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT





SECTION B-B

SHOULDER DROP-OFFS

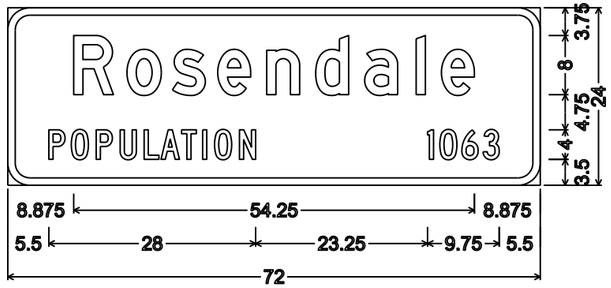
TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

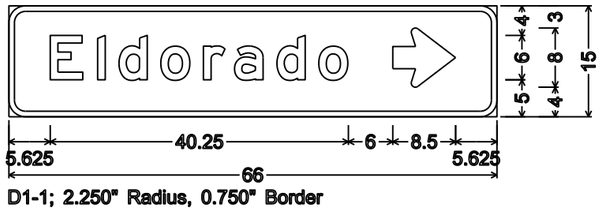
APPROVED
March, 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENGI
FHWA

6

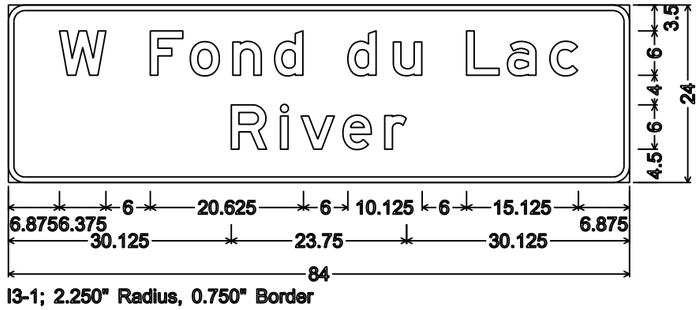
S.D.D. 15 D 39-1



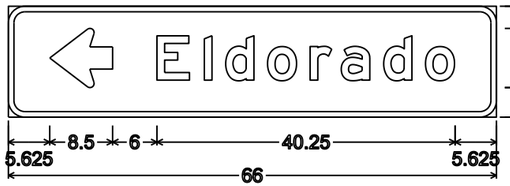
I2-3; 3.000" Radius, 1.000" Border,
"Rosendale" D; "POPULATION" C; "1063" C



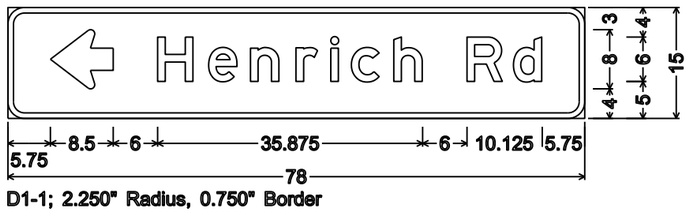
D1-1; 2.250" Radius, 0.750" Border



I3-1; 2.250" Radius, 0.750" Border



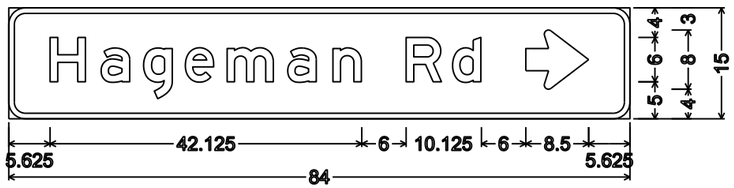
D1-1; 2.250" Radius, 0.750" Border



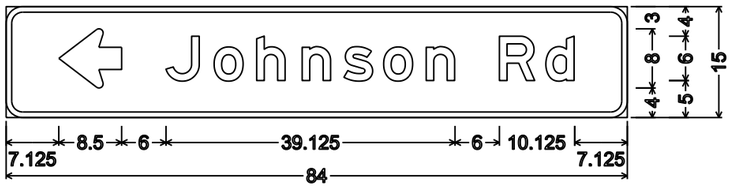
D1-1; 2.250" Radius, 0.750" Border



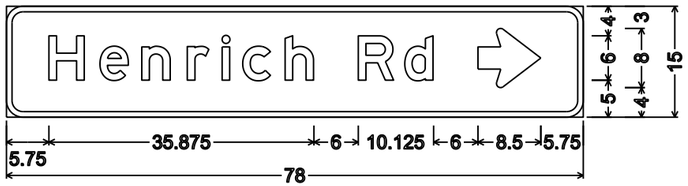
D1-1; 2.250" Radius, 0.750" Border



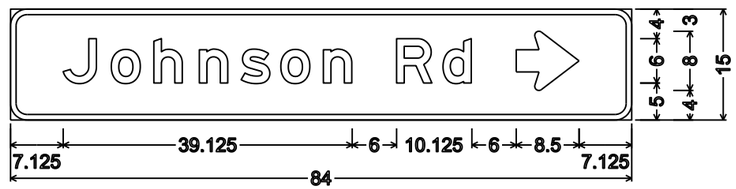
D1-1; 2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border



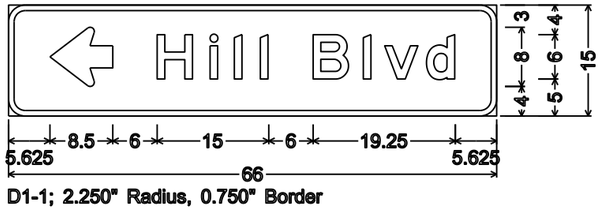
D1-1; 2.250" Radius, 0.750" Border



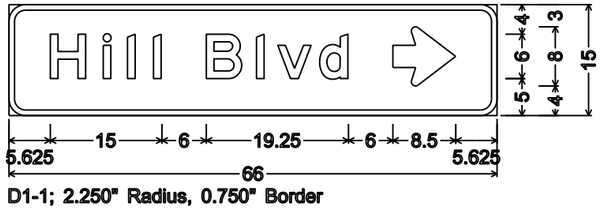
D1-1; 2.250" Radius, 0.750" Border

NOTES

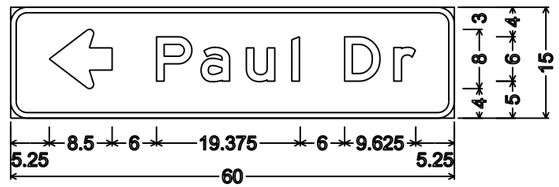
1. All Signs Type II - Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E except as noted



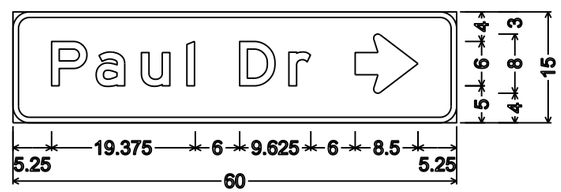
D1-1; 2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border



D1-1;
2.250" Radius, 0.750" Border



D1-1;
2.250" Radius, 0.750" Border

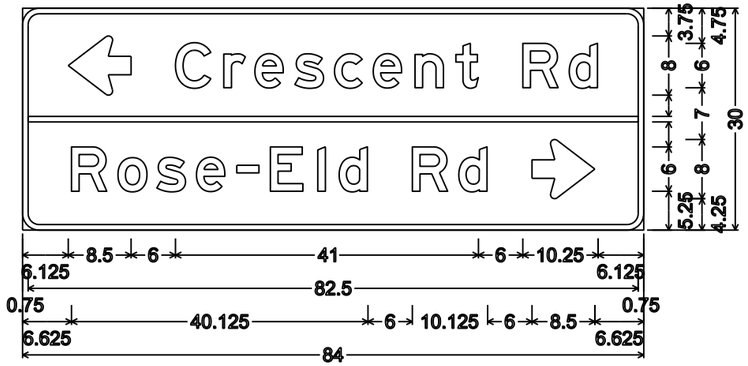
7

7

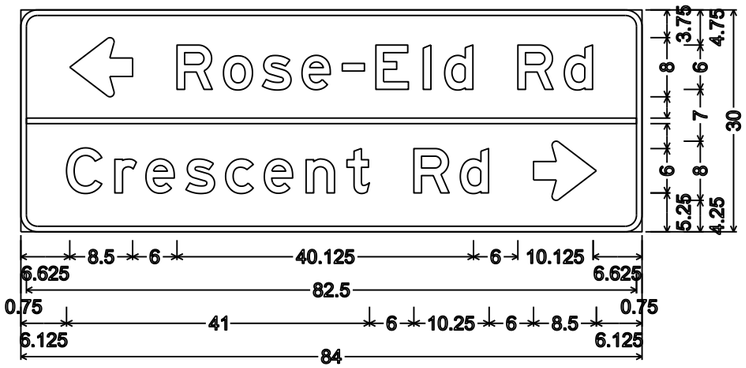
PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	PERMANENT SIGNING	SHEET NO: 142	E

NOTES

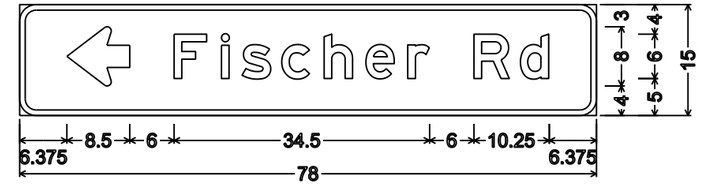
1. All Signs Type II - Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E except as noted



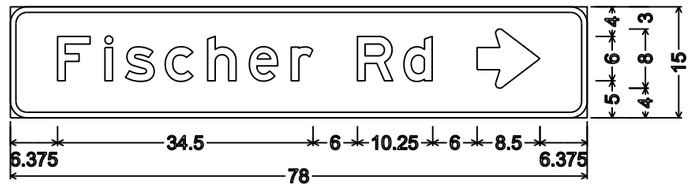
D1-2; 2.250" Radius, 0.750" Border



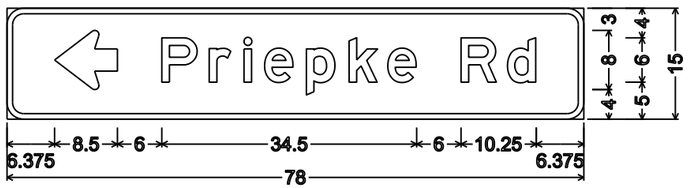
D1-2; 2.250" Radius, 0.750" Border



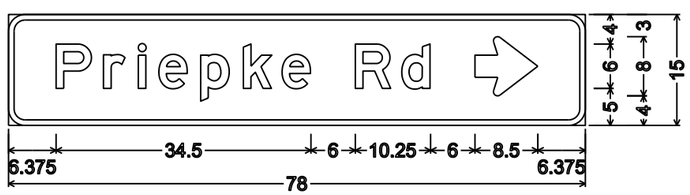
D1-1; 2.250" Radius, 0.750" Border



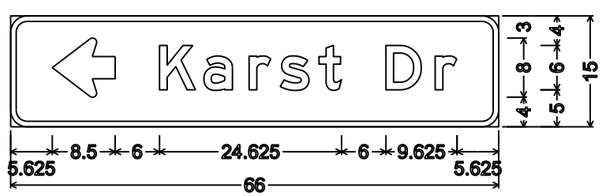
D1-1; 2.250" Radius, 0.750" Border



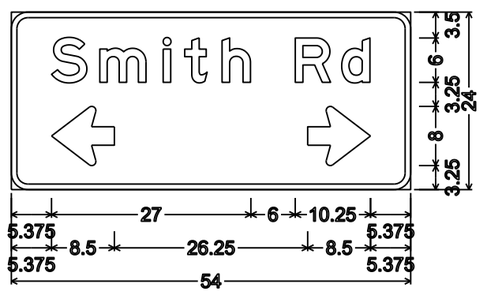
D1-1; 2.250" Radius, 0.750" Border



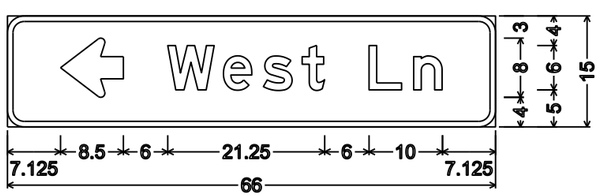
D1-1; 2.250" Radius, 0.750" Border



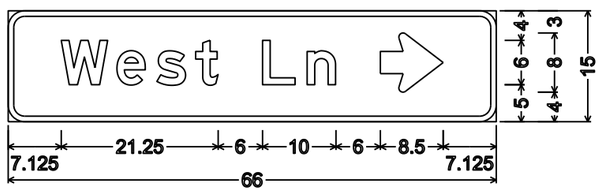
D1-1; 2.250" Radius, 0.750" Border



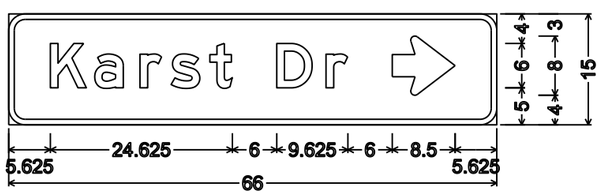
D1-61;
2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border

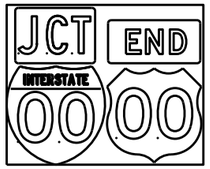


D1-1; 2.250" Radius, 0.750" Border

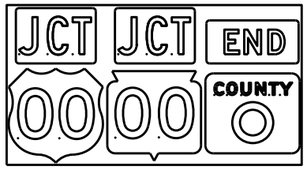
TYPICAL ASSEMBLIES



J1-1



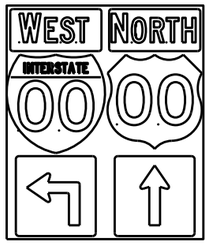
J1-2



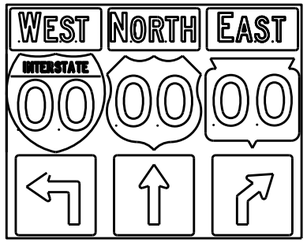
J1-3



J2-1



J2-2

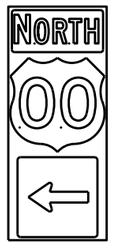


J2-3

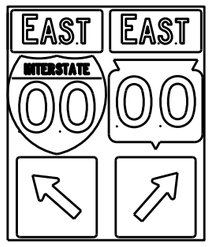


JV

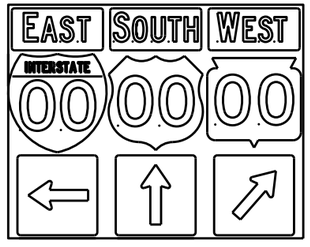
(Typical Vertical J-Assembly
See Note 10 and 11)



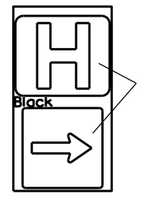
J3-1



J3-2



J3-3

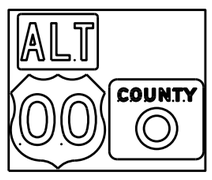


Blue Background

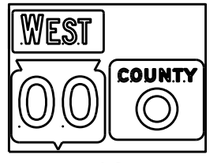
JH-1



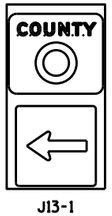
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

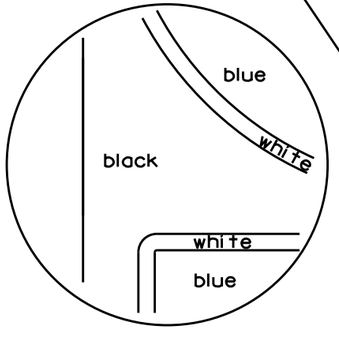


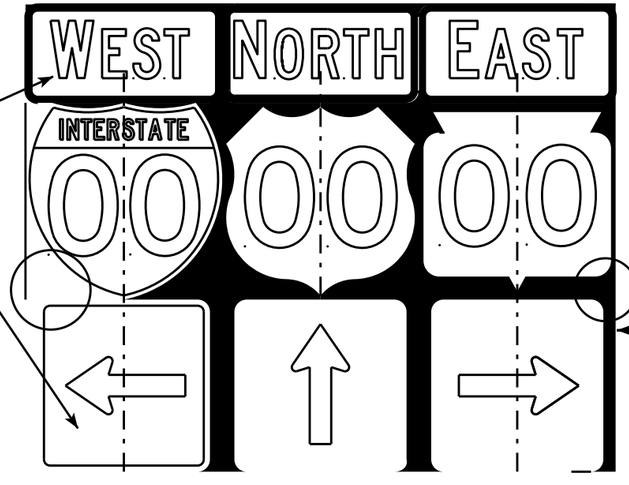
J23-1

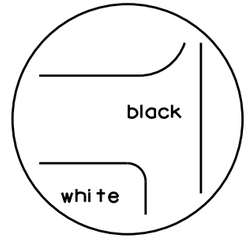


J22-1

[blue background with interstate]







[black background]

NOTES

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

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

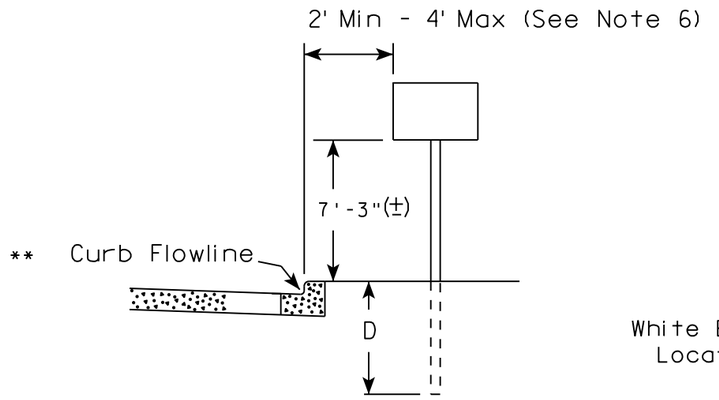
APPROVED Matthew R Rauch
for State Traffic Engineer

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

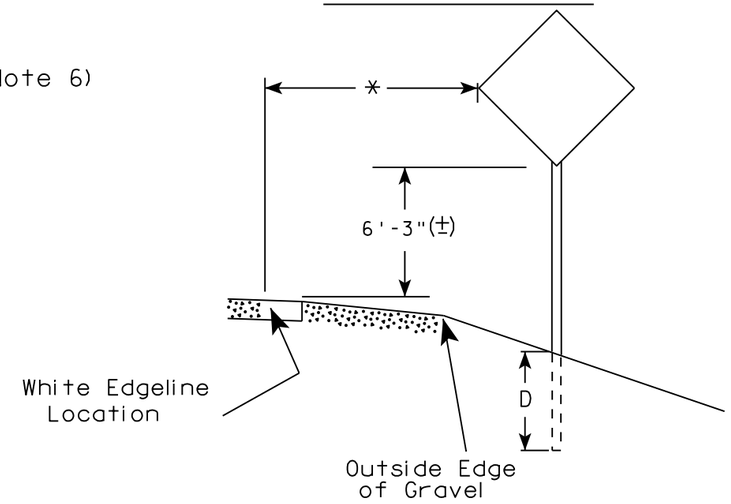
PROJECT NO: | SHEET NO: E

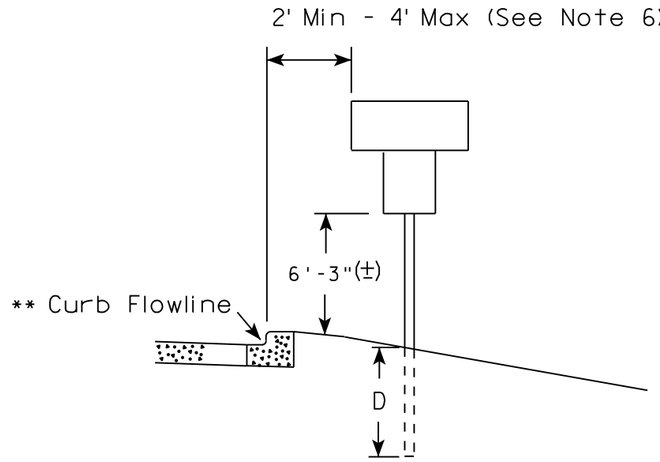
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WISDOT/CADDS SHEET 42

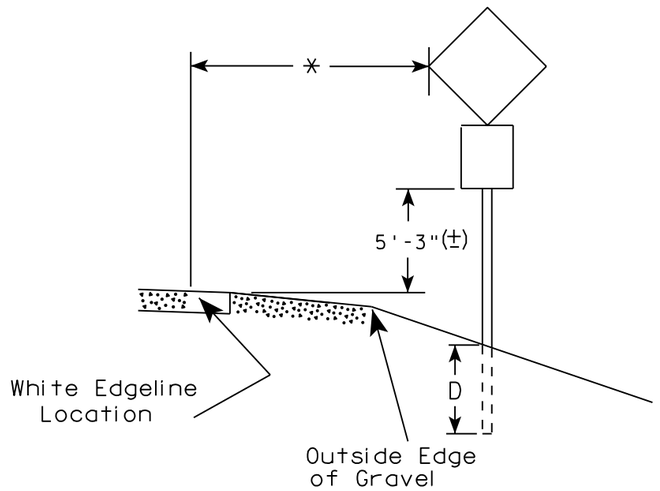
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

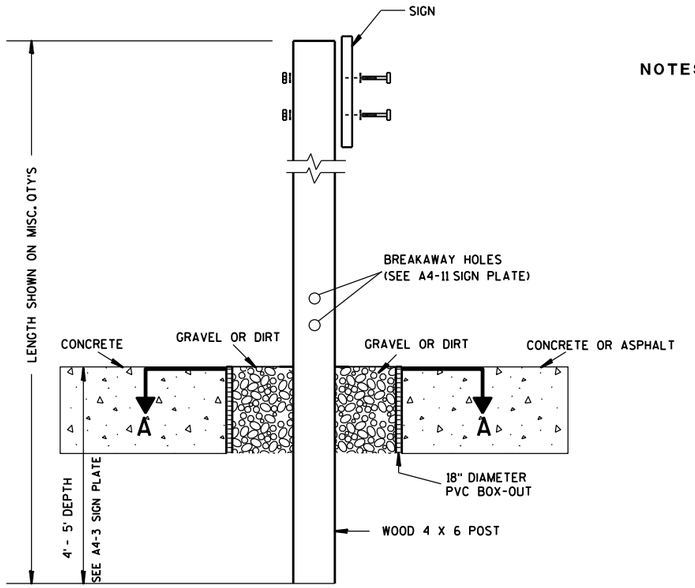
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

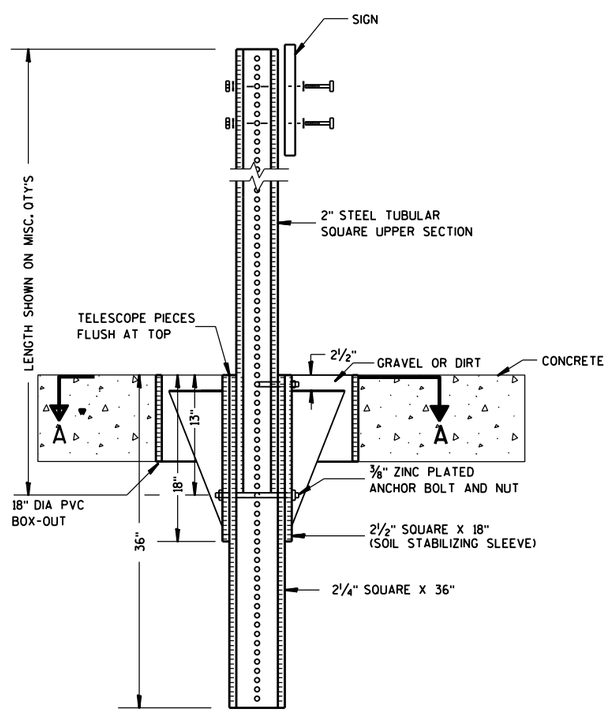
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 145	E



ELEVATION VIEW

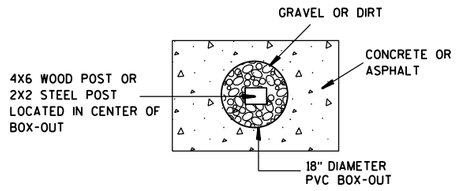
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

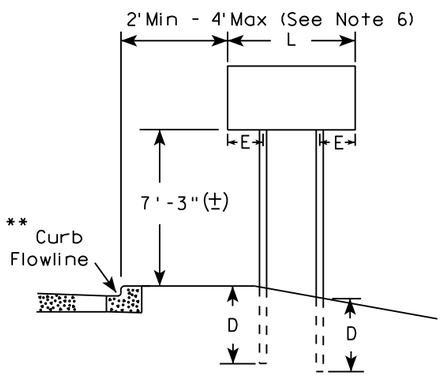
APPROVED Matthew R Rauch
for State Traffic Engineer

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

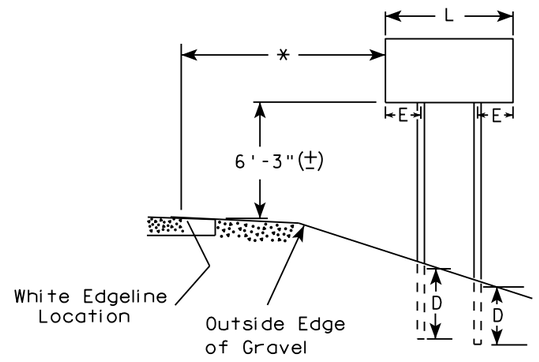
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

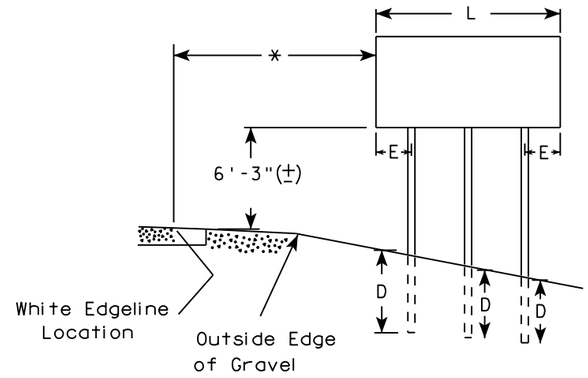
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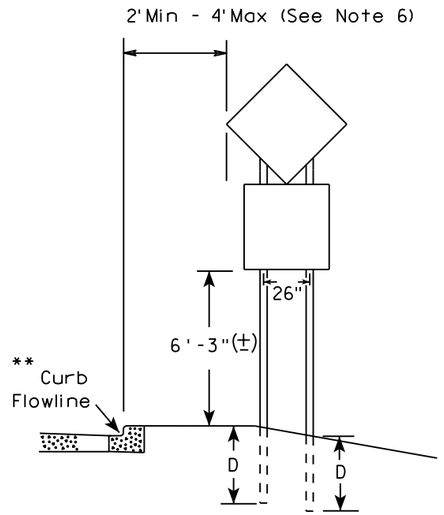
URBAN AREA



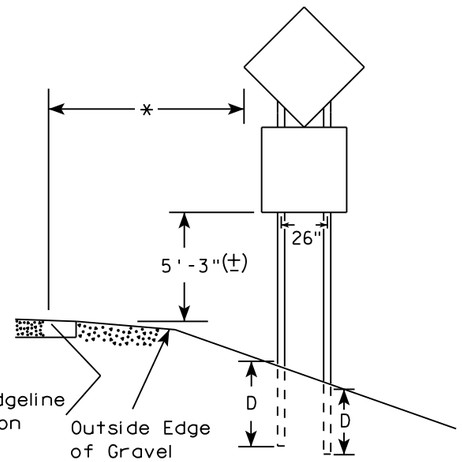
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

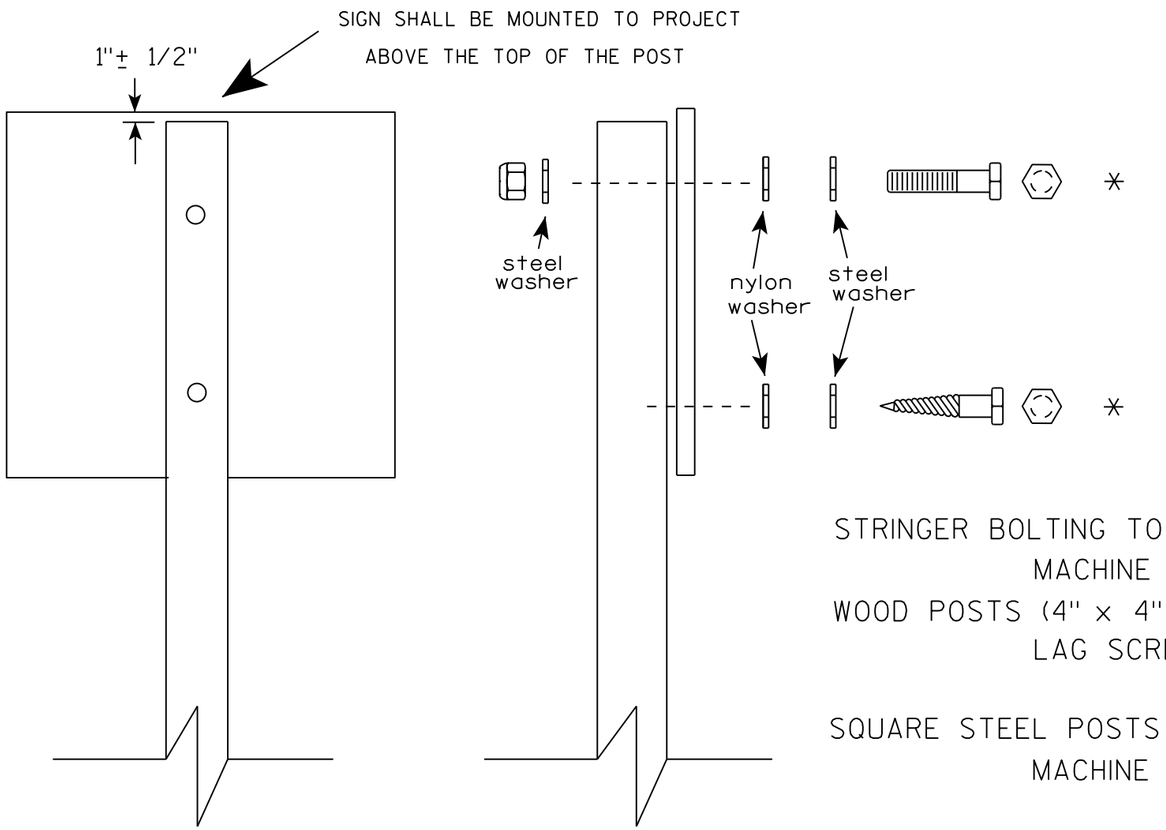
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 147	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

WOOD POSTS (4" x 4" or 4" x 6")

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

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

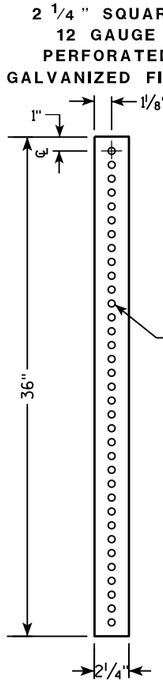
PROJECT NO:

SHEET NO: E

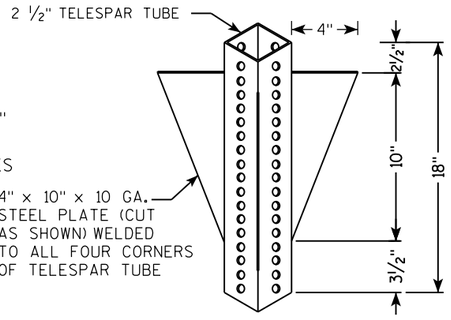
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

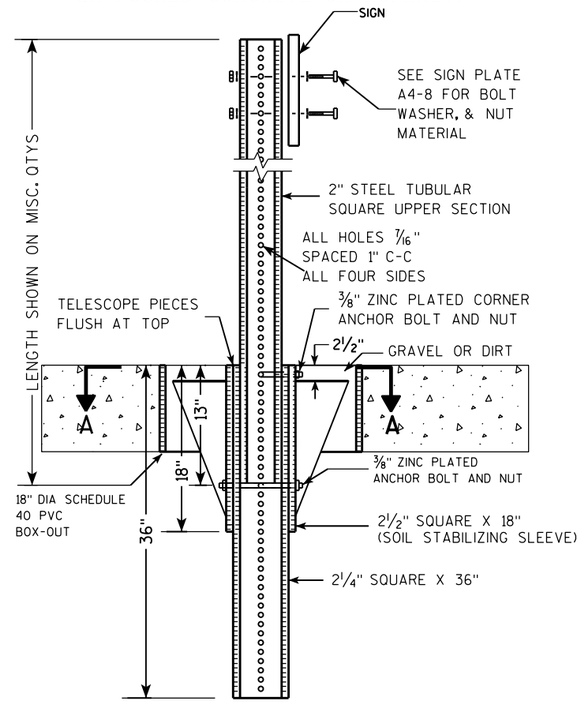
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



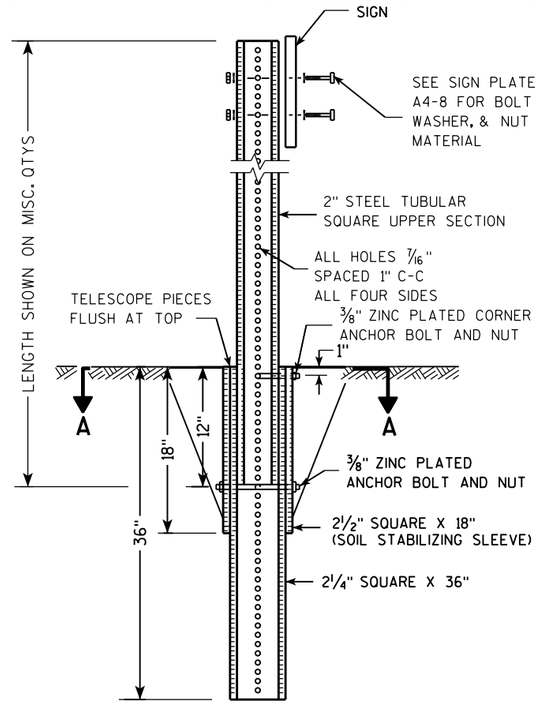
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

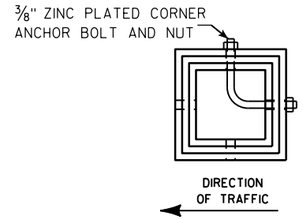


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

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

TUBULAR STEEL
SIGN POST
A4-9

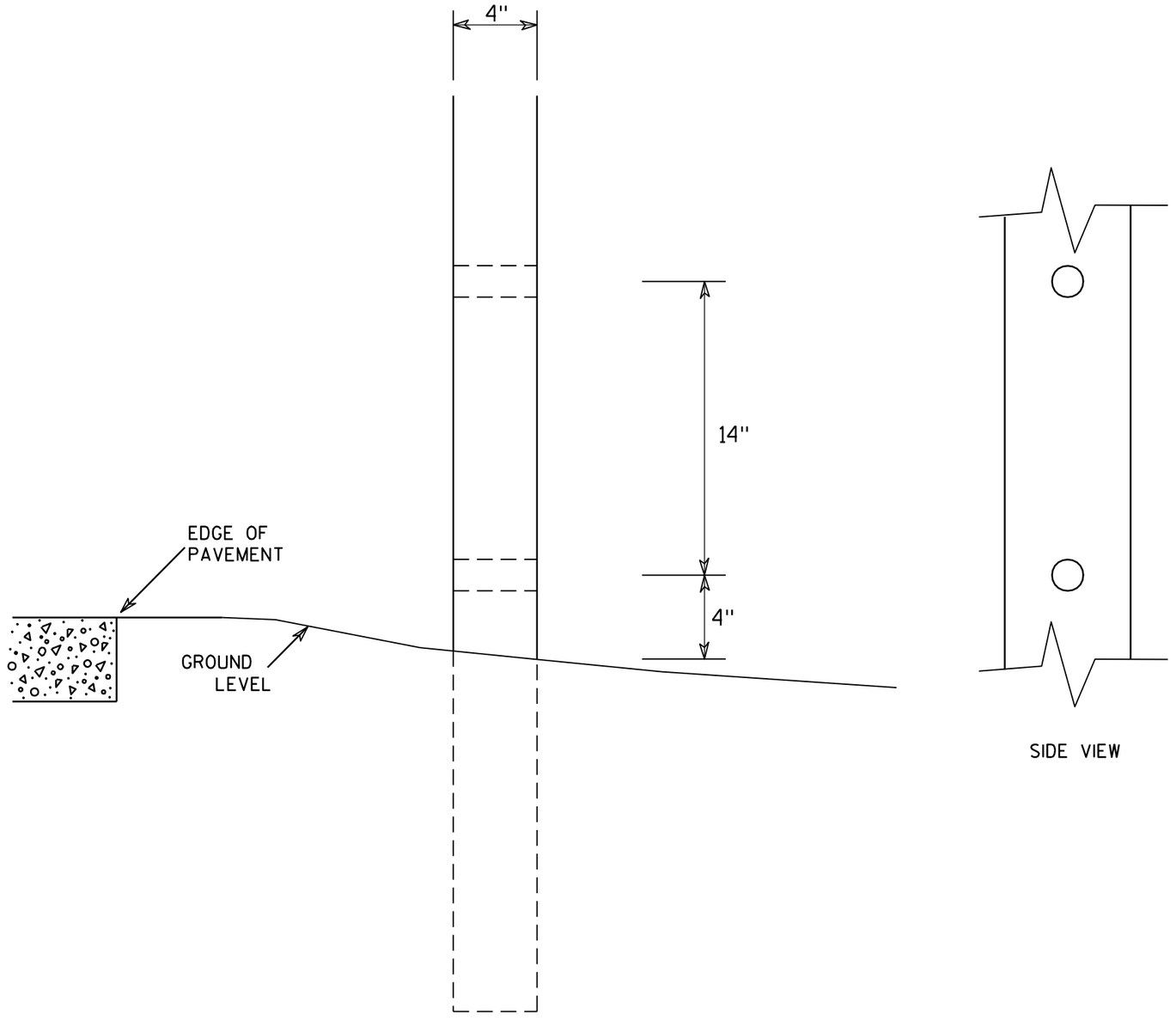
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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SIDE VIEW

GENERAL NOTES

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

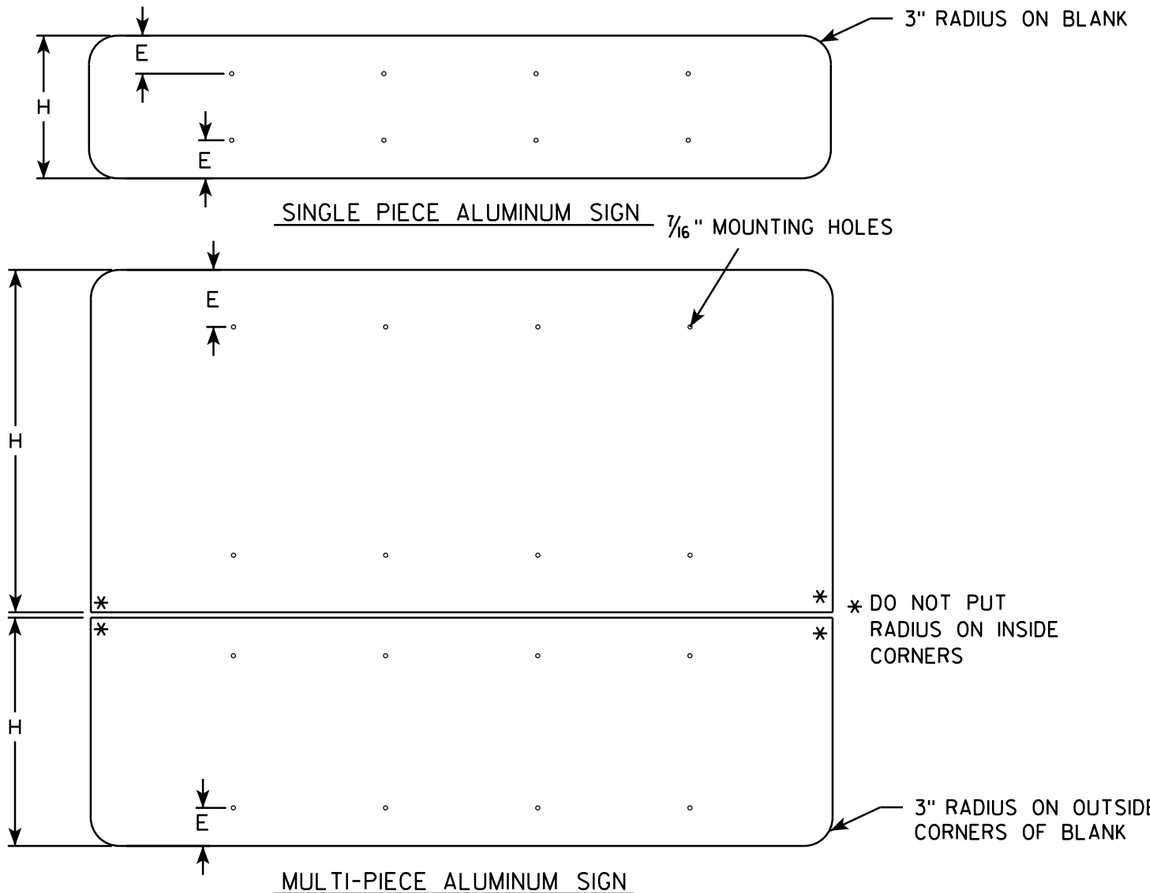
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

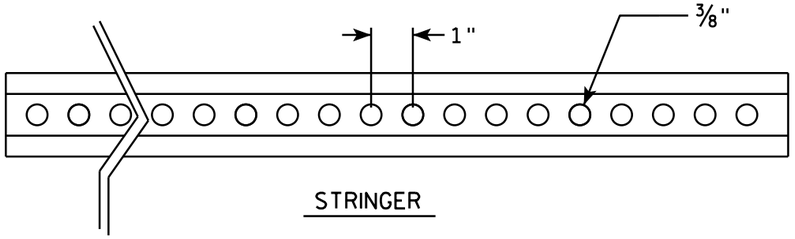
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 150	E



GENERAL NOTES

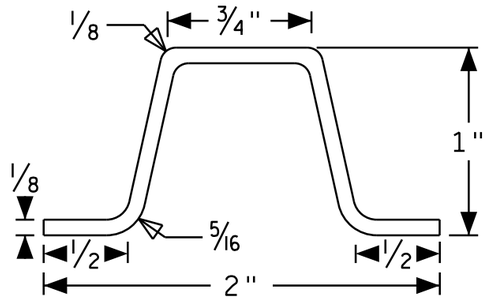
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER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

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

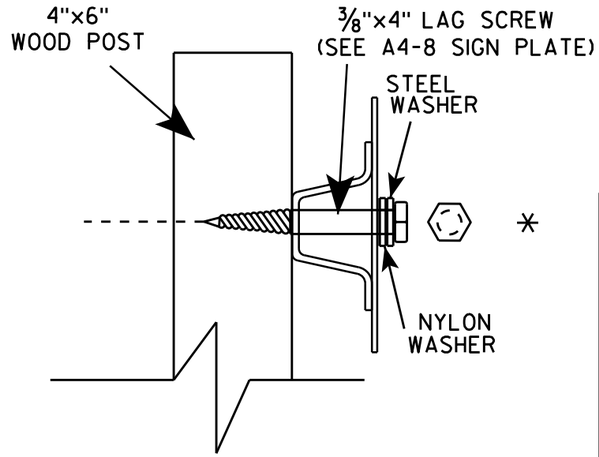


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

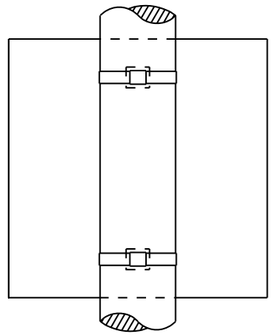
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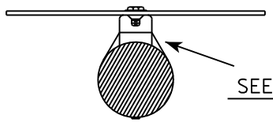
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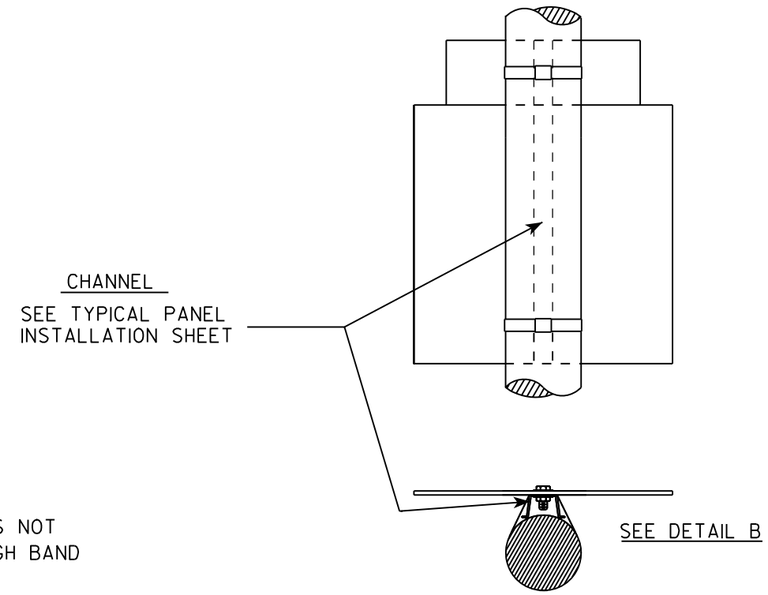
BANDING

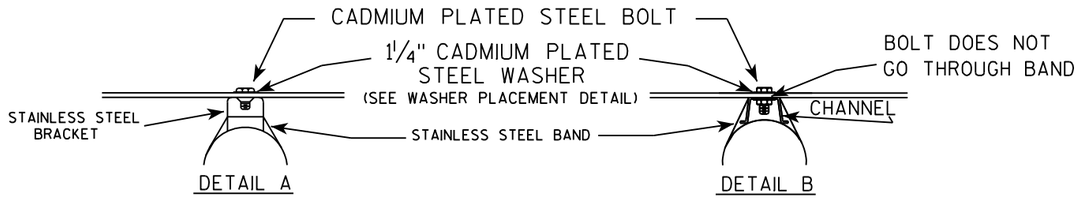
SINGLE SIGN



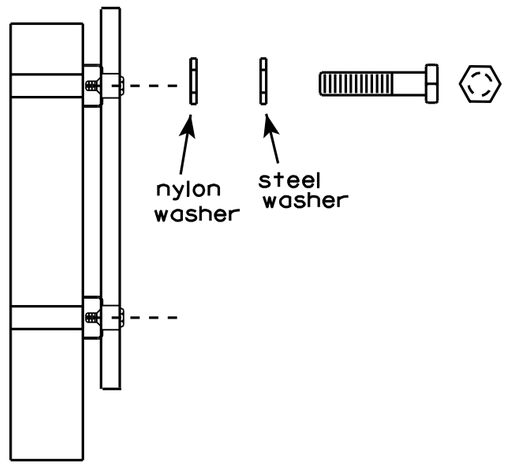


"J" ASSEMBLY





WASHER PLACEMENT



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

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 ¾" in width and 0.025" thickness.

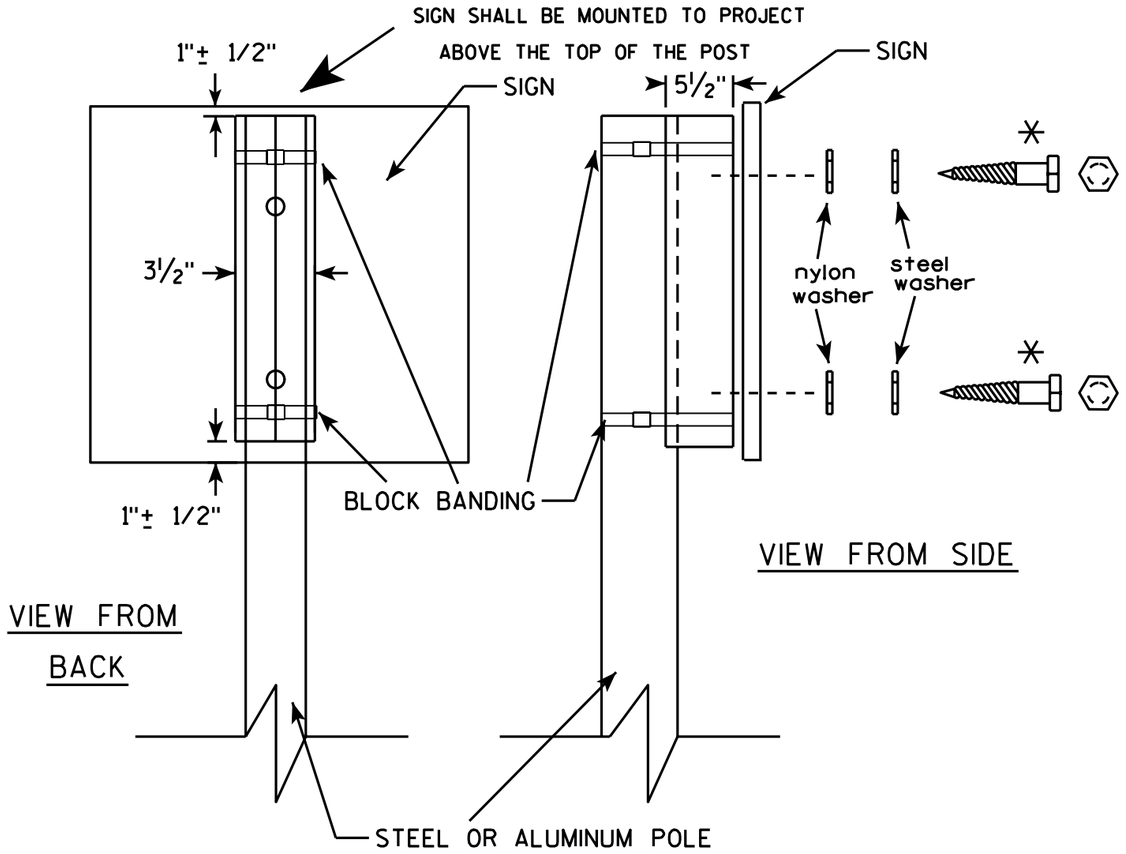
STANDARD SIGN
SIGN BANDING DETAILS

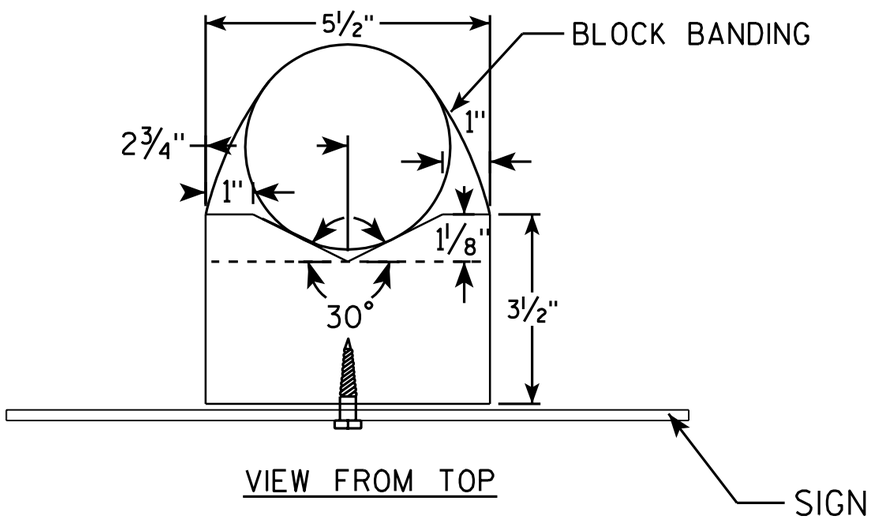
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 152	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" 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, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

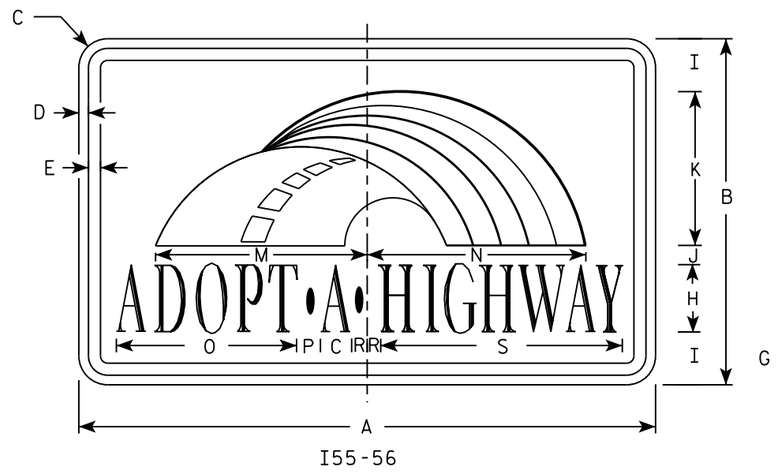
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

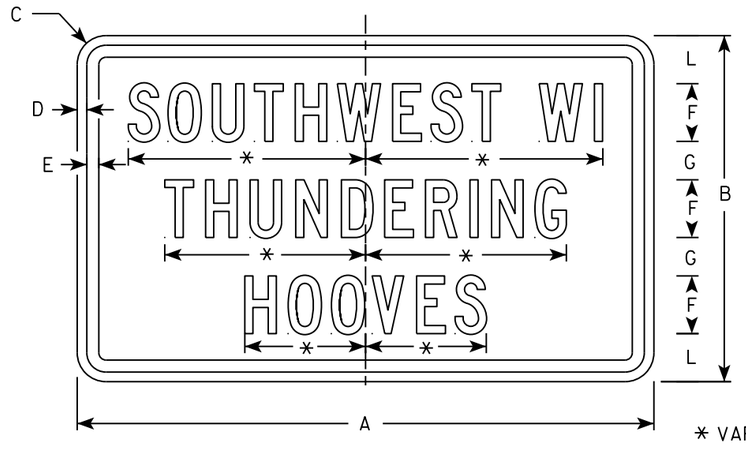
SHEET NO: 153 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



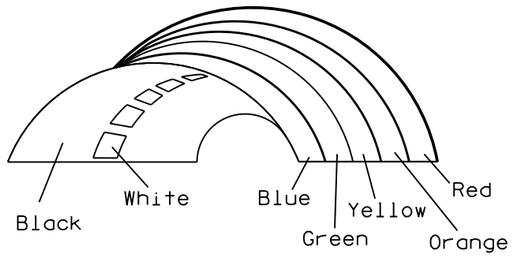
I55-56



I55-56P

* VARIES

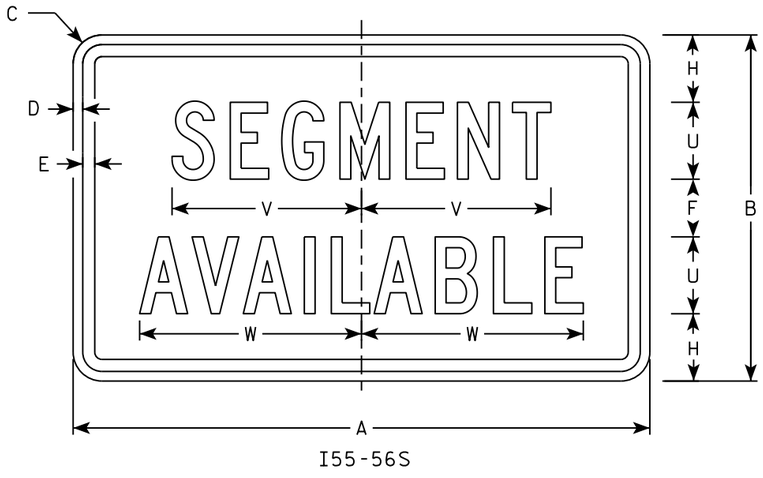
Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - (See Note 4)
3. Message Series - (See Note 5)
4. Border - Blue
   Adopt a Highway - Red
   All other Text - Blue
5. Adopt a Highway - Dutch 8011L
   All other Text - Series C
6. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.



I55-56S

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	18	1 1/2	1/2	5/8	3	2	3 1/2	2 3/4	1	8	2 1/2	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2	4	9 7/8	11 1/2				3.75
3																											
4																											
5																											

STANDARD SIGN
I55-56

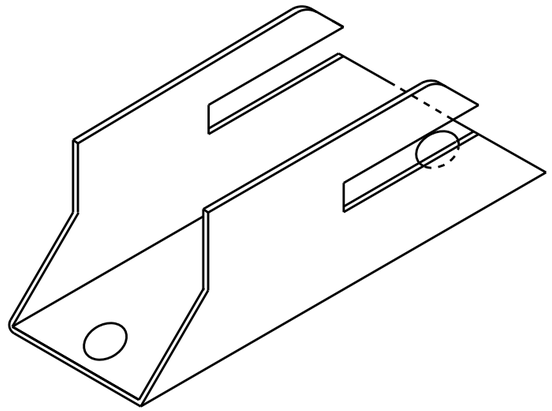
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

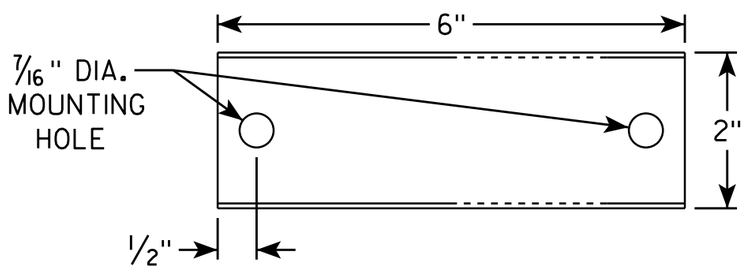
DATE 2/20/18 PLATE NO. I55-56.4

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

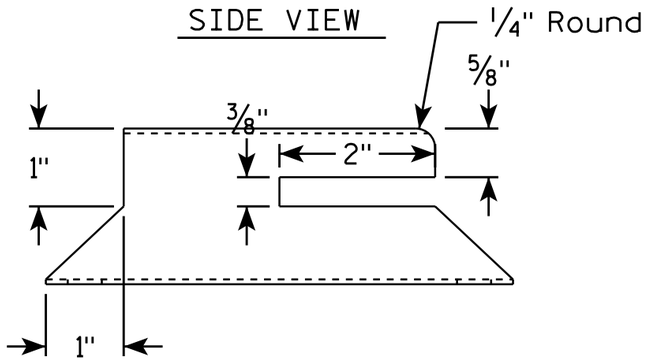
ISOMETRIC VIEW



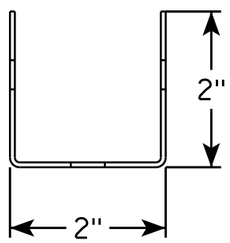
TOP VIEW



SIDE VIEW



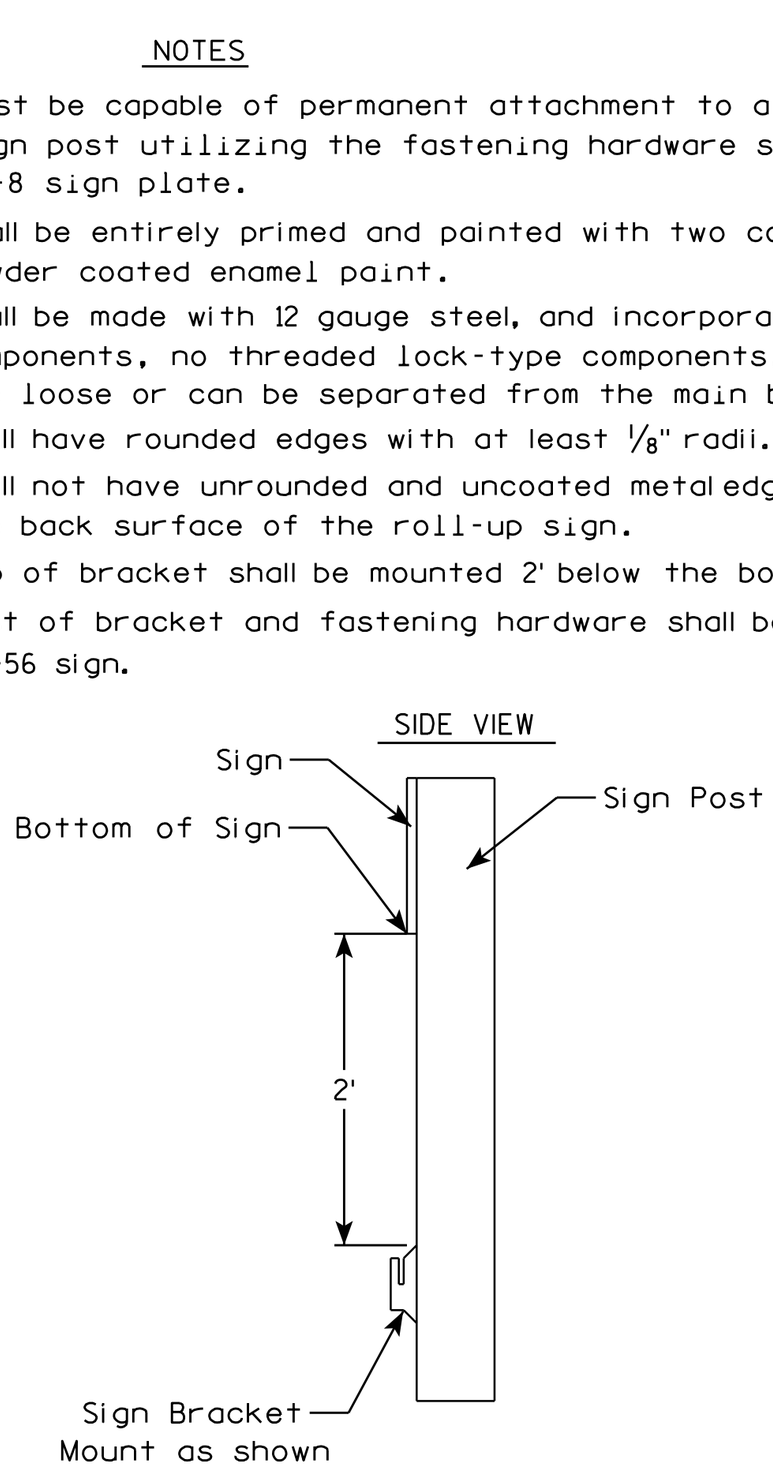
END VIEW



NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW



7

7

ROLLUP SIGN BRACKET
I55-56B

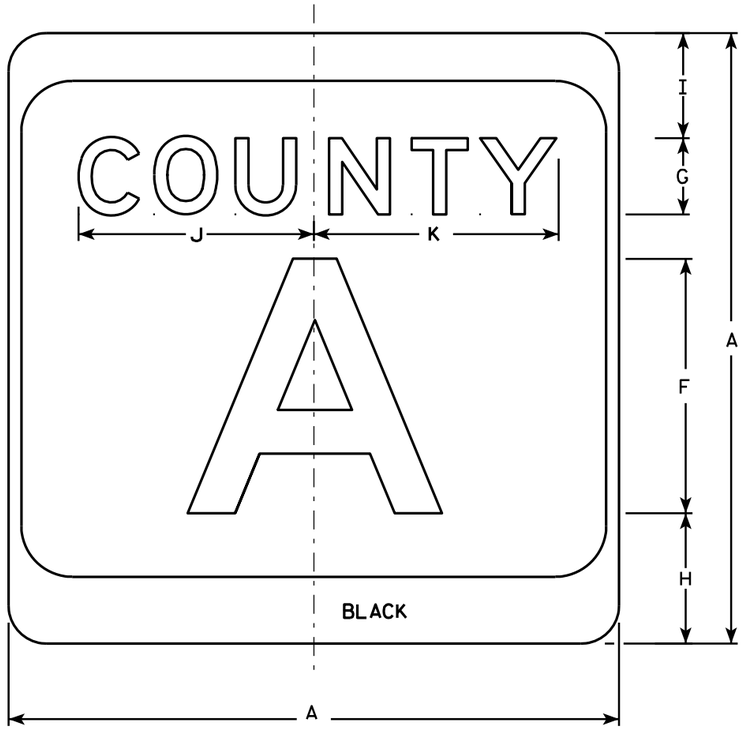
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

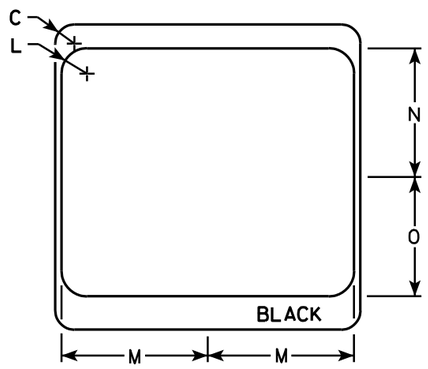
DATE 4/26/16 PLATE I55-56B.2

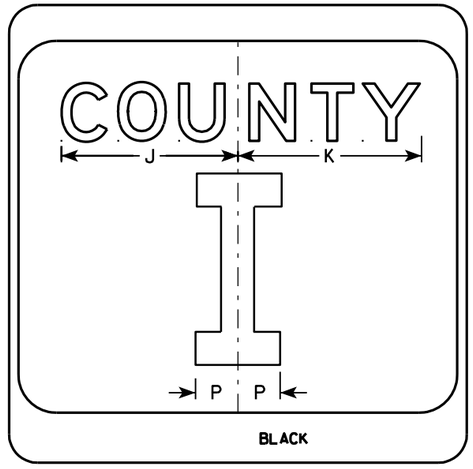
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

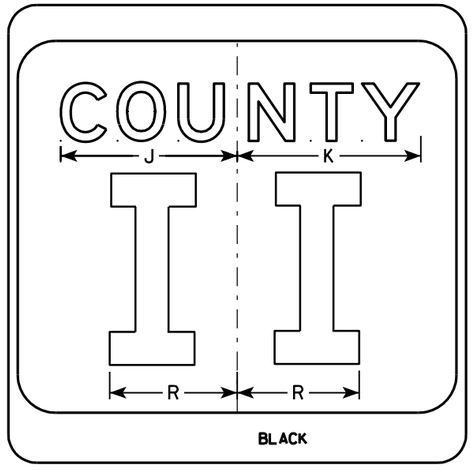
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\I5556B.DGN PLOT DATE : 26-APR-2016 17:29 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.945842:1.000000 WISDOT/CADDS SHEET 42



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

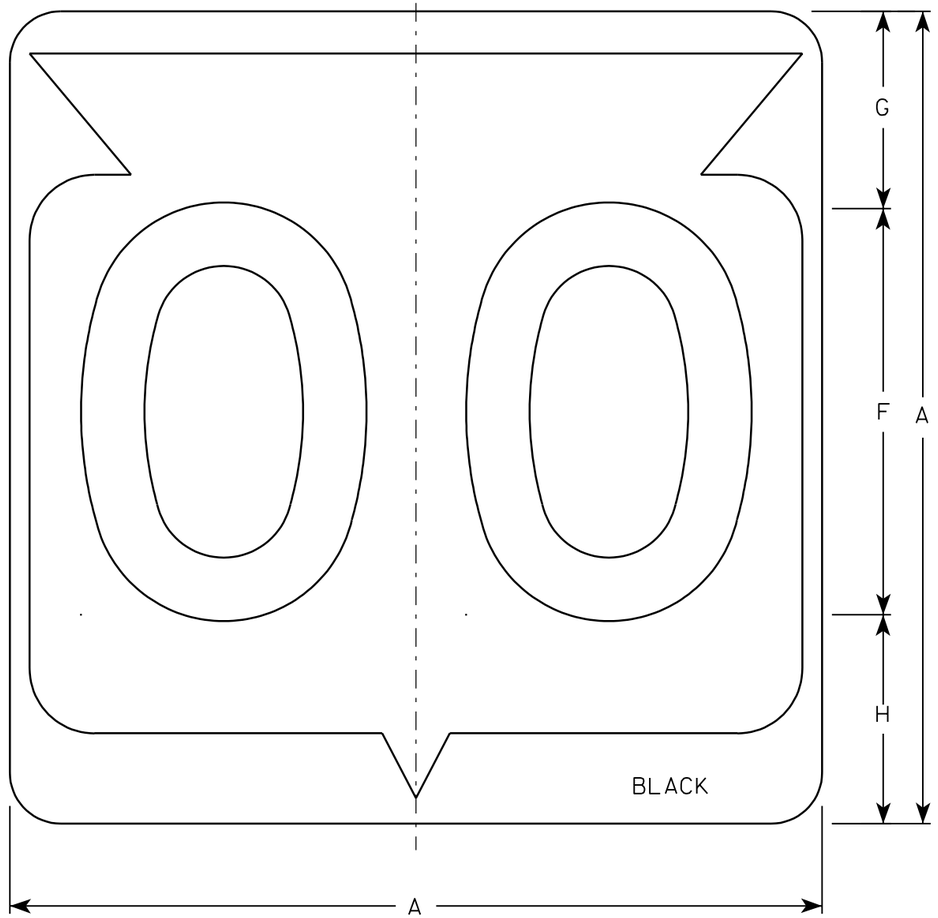
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

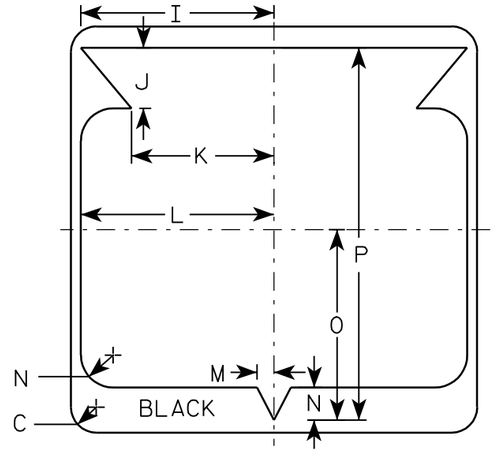
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 156 | E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

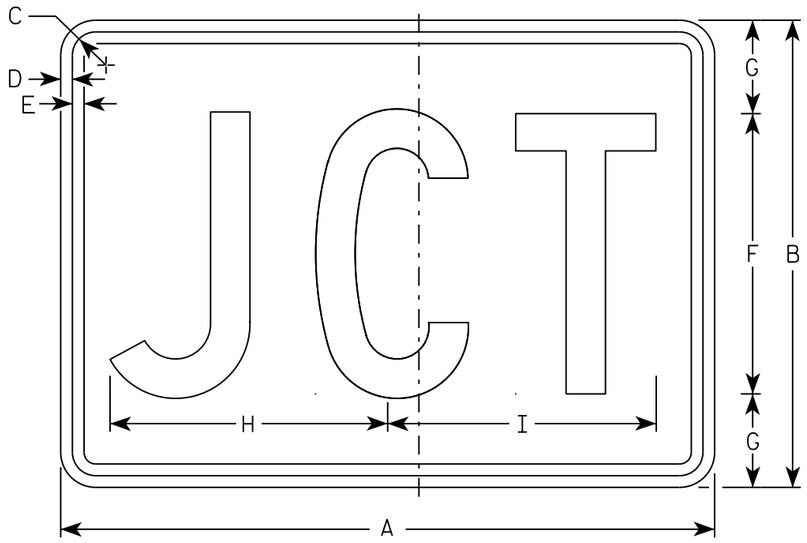
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

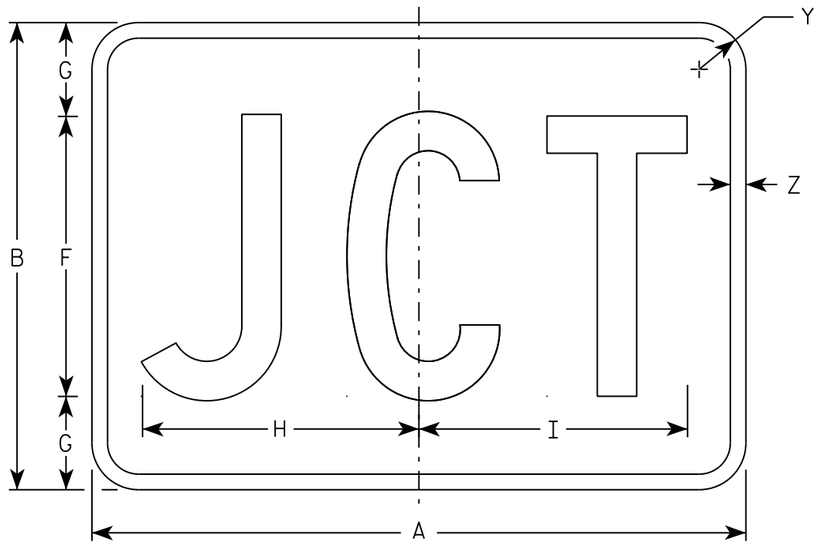
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 157	E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN
M2-1

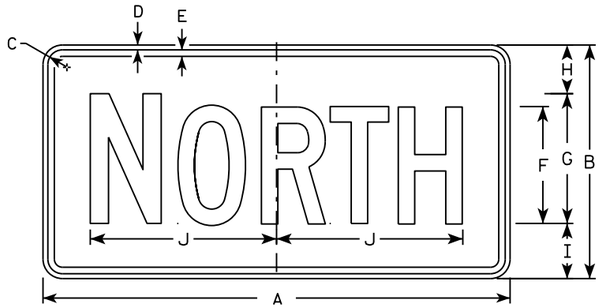
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

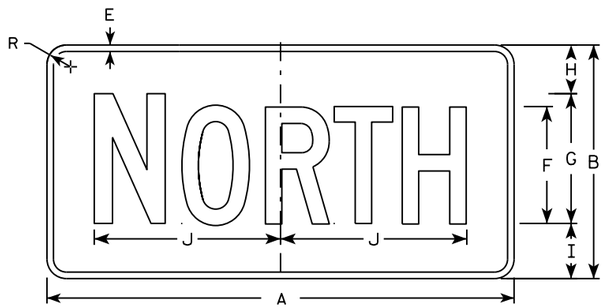
DATE 10/15/15 PLATE 158 12-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M21.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.864603:1.000000



M3-1
MM3-1
MP3-1



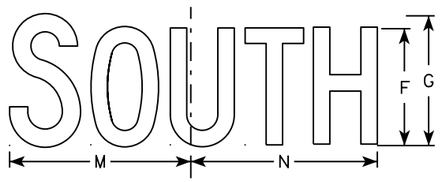
MB3-1
MK3-1
MN3-1



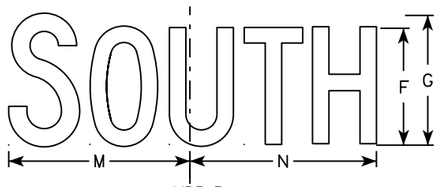
M3-2
MM3-2
MP3-2



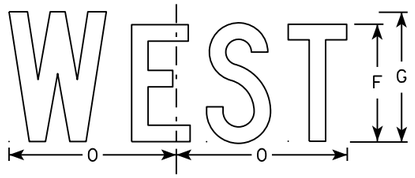
MB3-2
MK3-2
MN3-2



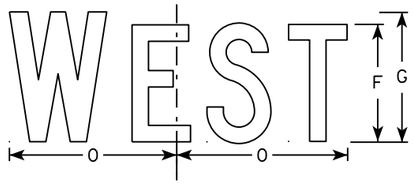
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

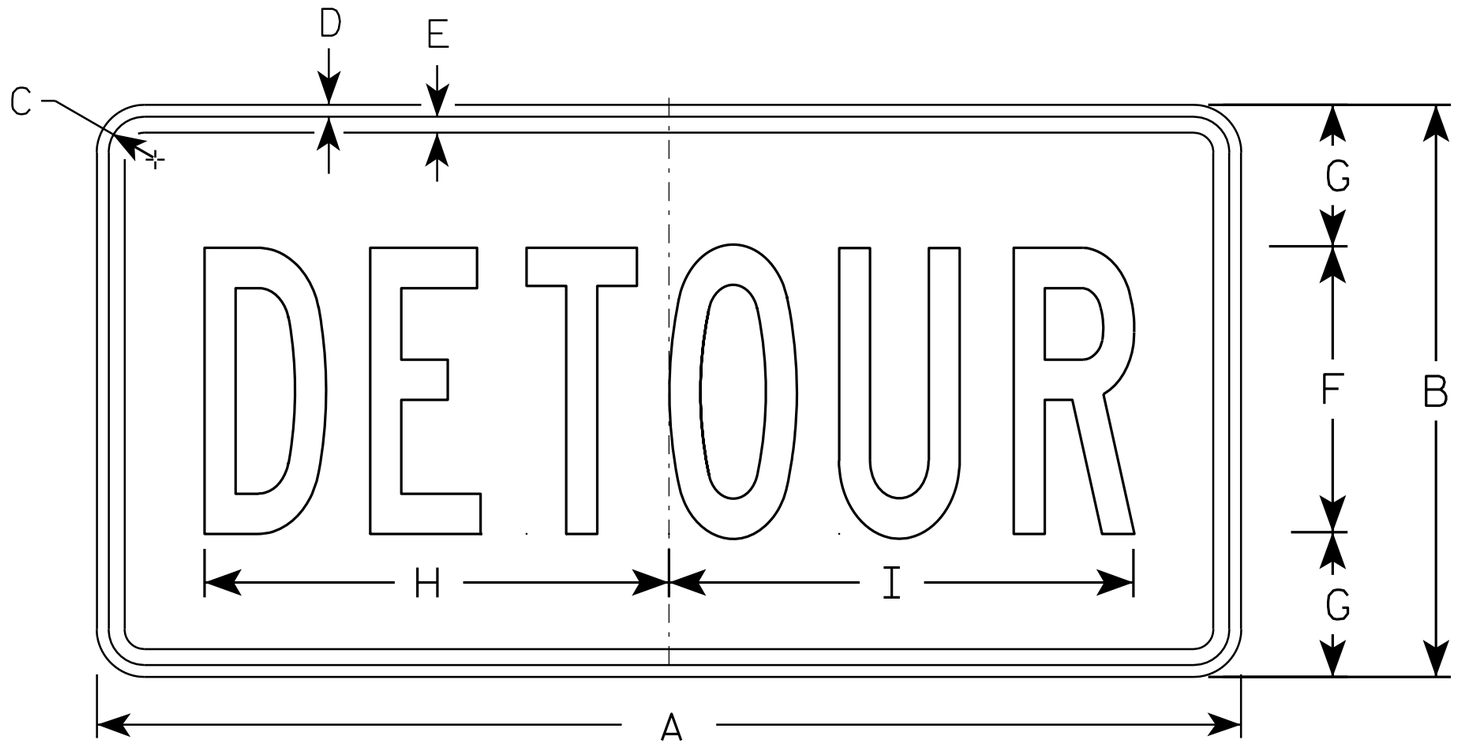
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

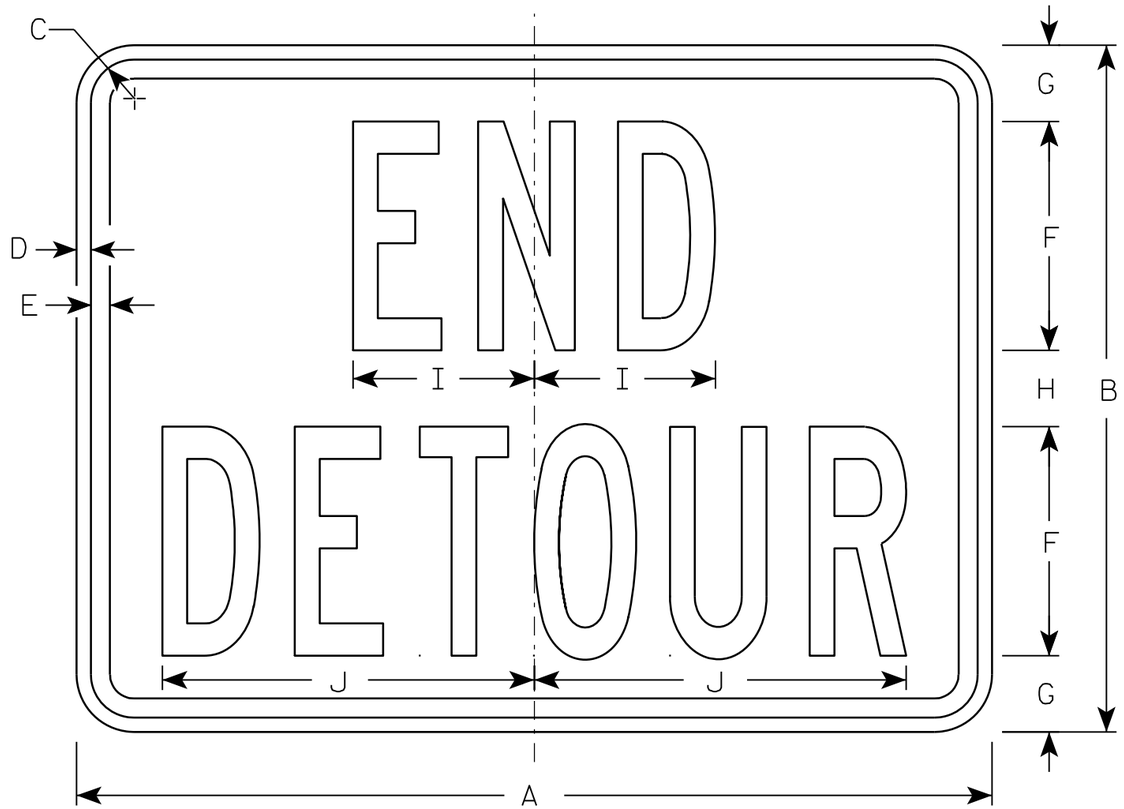
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 160	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

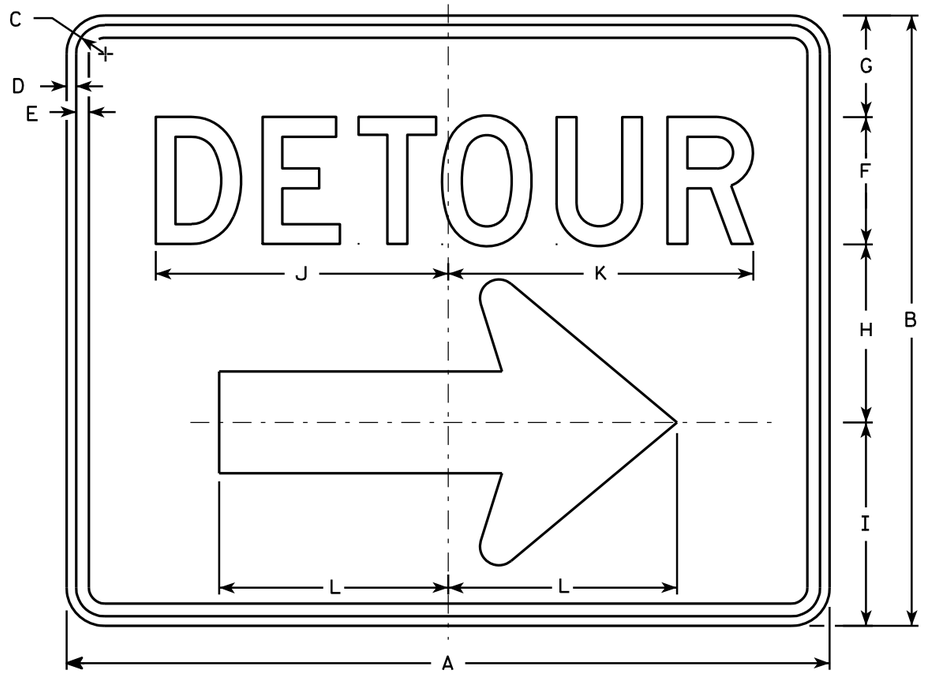
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

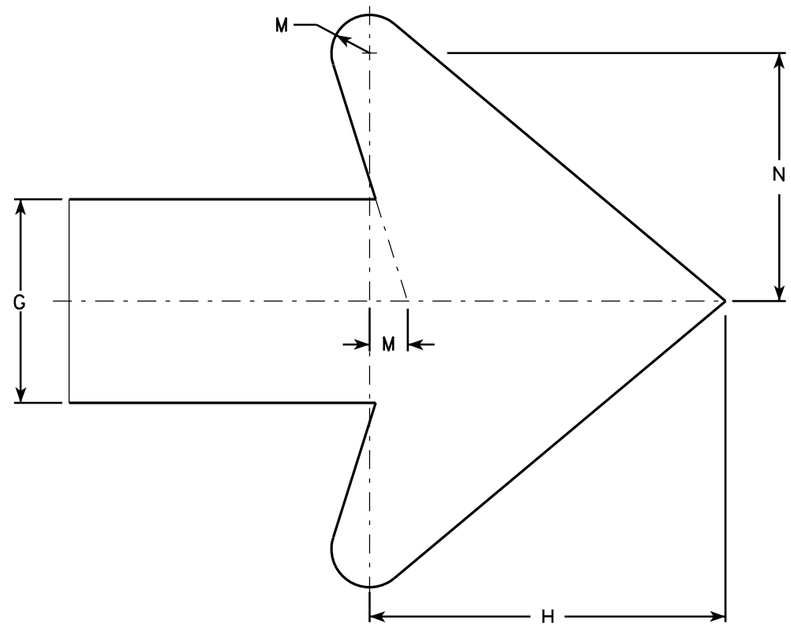
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 161	E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

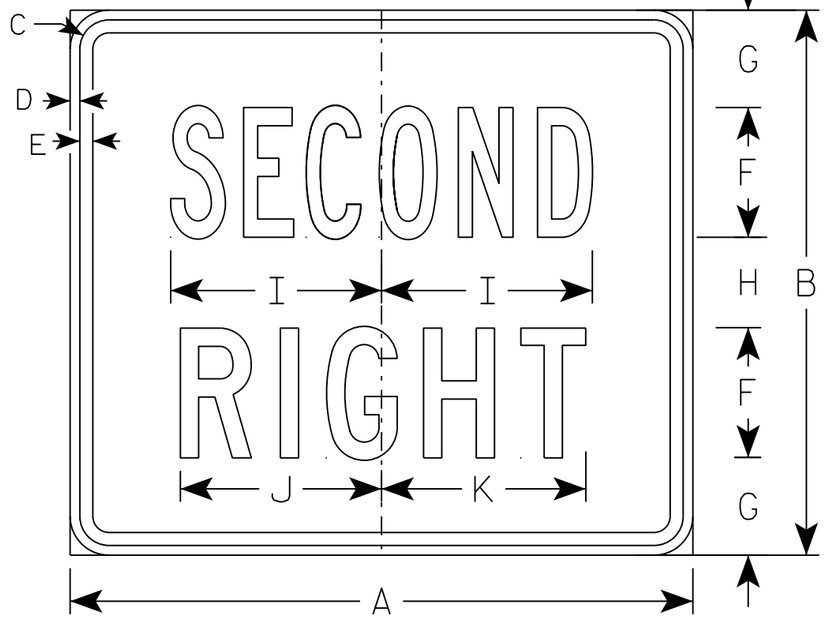
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

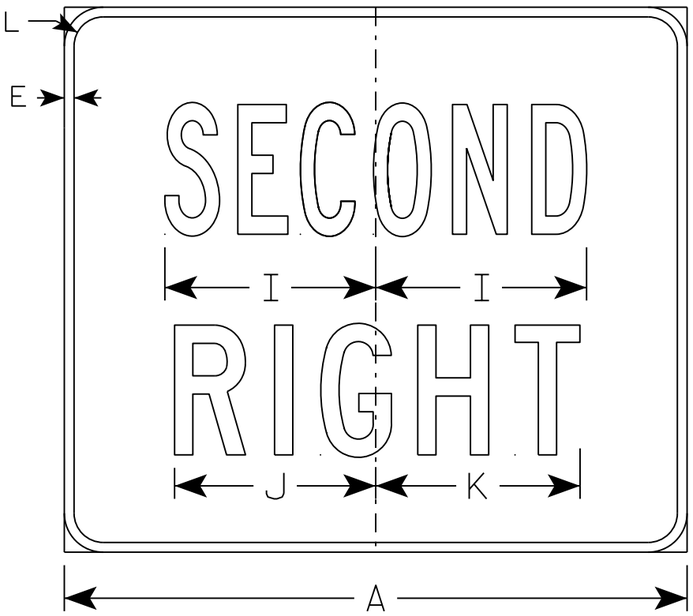
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

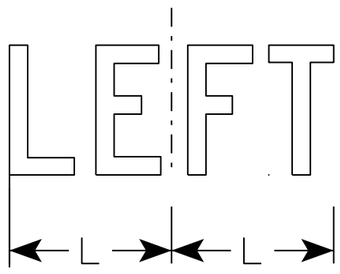
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 162 | E



M4-22R
MM4-22R
M04-22R
MP4-22R



MB4-22R
MK4-22R
MN4-22R
MR4-22R



M4-22L
MB4-22L
MK4-22L
MM4-22L
MN4-22L
M04-22L
MP4-22L
MR4-22L

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-22 Background - White
   Message - Black
   MB4-22 Background - Blue
   Message - White
   MK4-22 Background - Green
   Message - White
   MM4-22 Background - White
   Message - Green
   MN4-22 Background - Brown
   Message - White
   M04-22 Background - Orange - Type F Reflective
   Message - Black
   MP4-22 Background - White
   Message - Blue
   MR4-22 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	21	1 1/8	3/8	1/2	5	3 3/4	3 1/2	8 1/8	7 3/4	7 7/8	1 1/2															3.5
3	36	30	1 5/8	5/8	3/4	8	4 3/4	4 1/2	13 1/8	12 5/8	12 1/2	1 7/8															7.5
4																											
5																											

STANDARD SIGN
M4-22

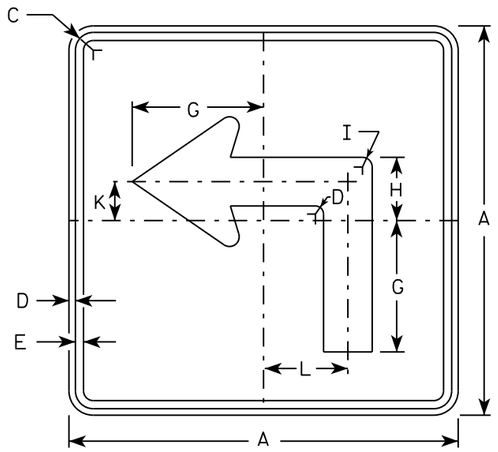
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

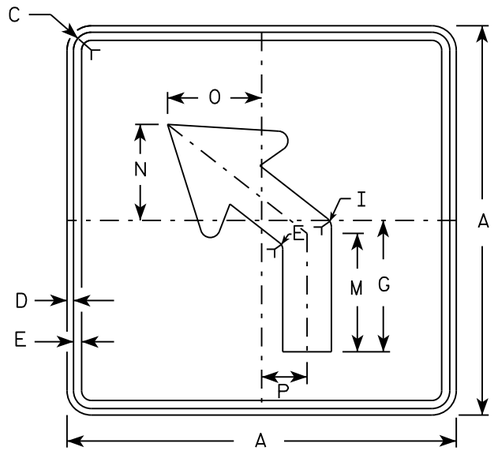
DATE 10/15/15 PLATE NO. M4-22.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

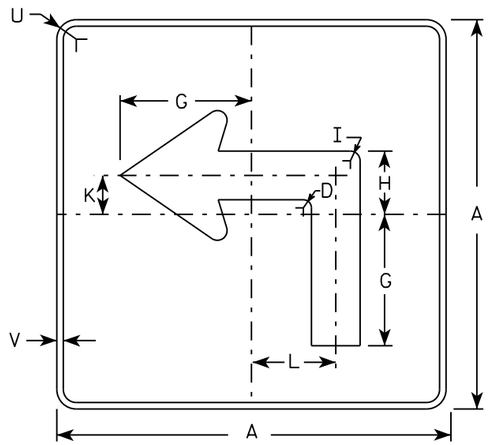
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M422.DGN PLOT DATE : 01-DEC-2015 18:04 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.837526:1.000000



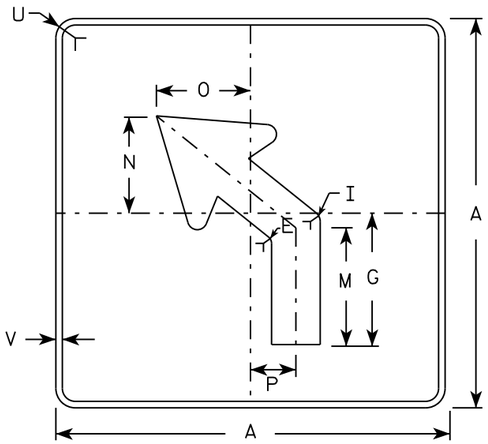
M5-1L
MM5-1L
MO5-1L
MP5-1L



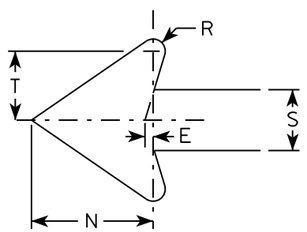
M5-2L
MM5-2L
MO5-2L
MP5-2L



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



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



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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

STANDARD SIGN
M5-1 & M5-2

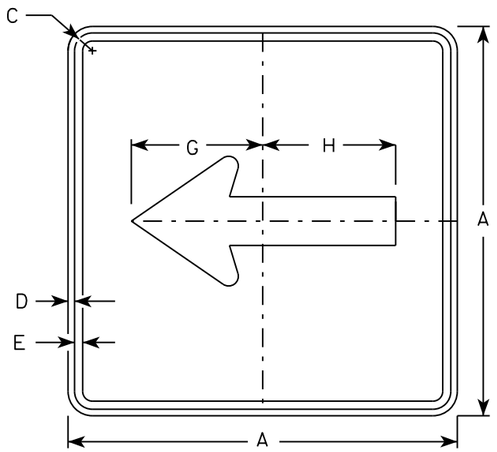
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

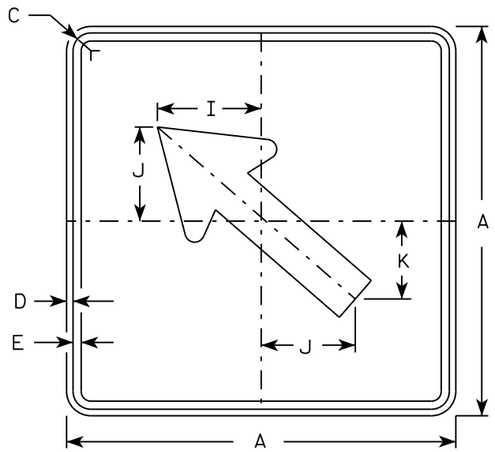
DATE 10/15/15 PLATE NO. M5-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



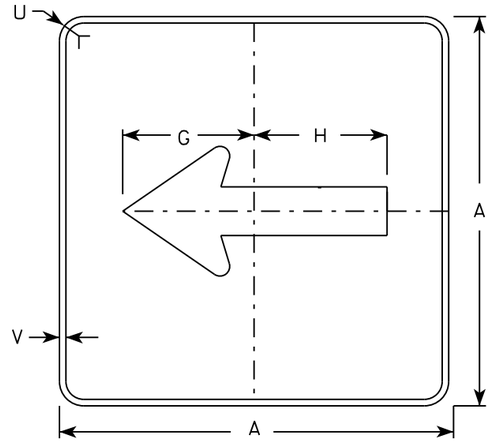
M6-1
MM6-1
MO6-1
MP6-1



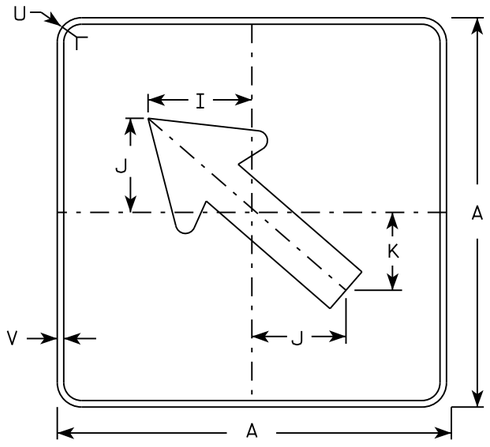
M6-2
MM6-2
MO6-2
MP6-2

NOTES

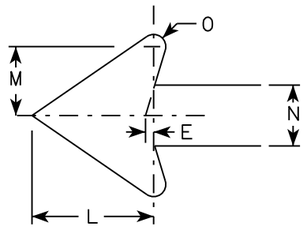
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



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



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



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

STANDARD SIGN
M6-1 & M6-2
SERIES

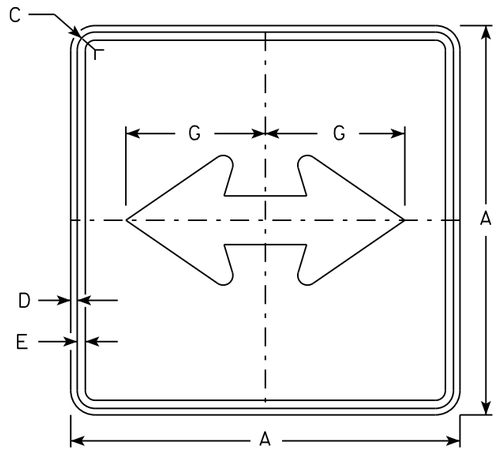
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

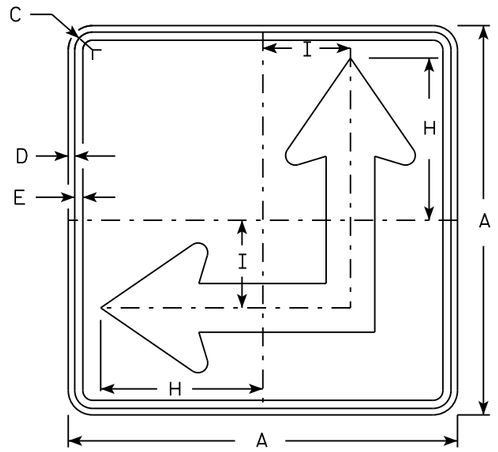
DATE 10/15/15 PLATE 165 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



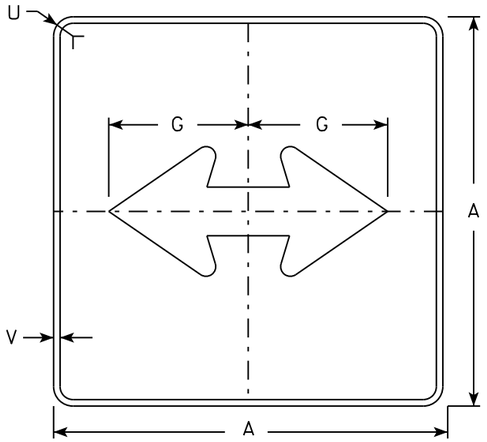
M6-4
MM6-4
MO6-4
MP6-4



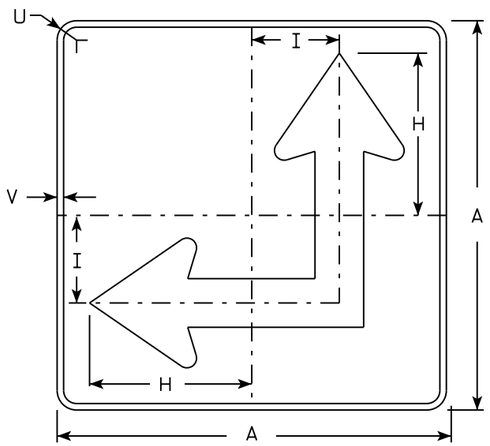
M6-6
MM6-6
MO6-6
MP6-6

NOTES

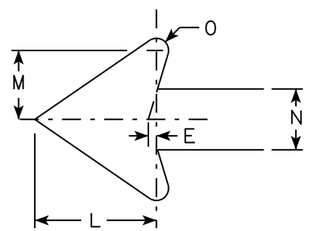
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-4 & M6-6
SERIES

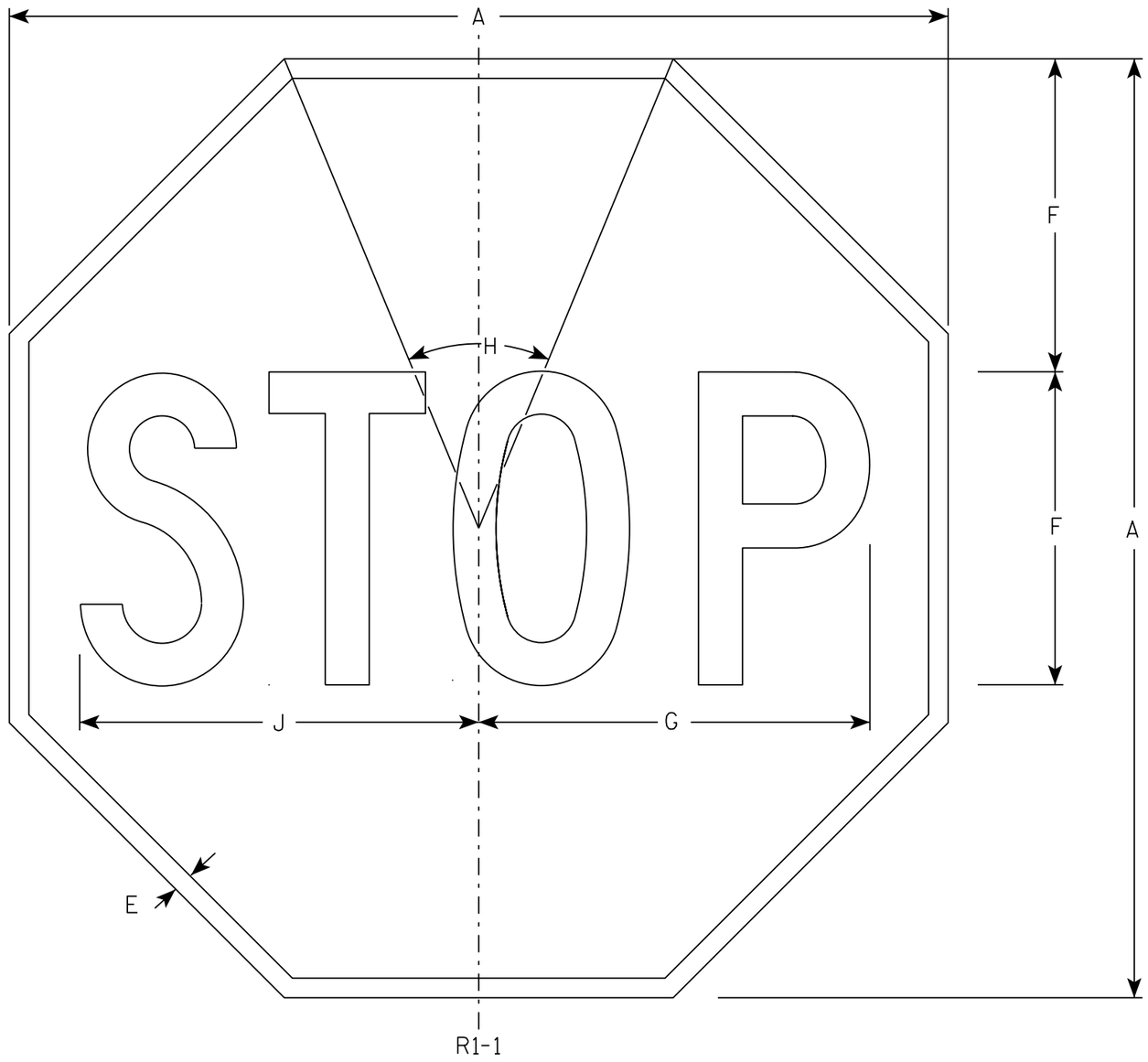
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 166 M6-4.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M64.DGN PLOT DATE : 01-DEC-2015 17:58 PLOT BY : $$ platuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				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

STANDARD SIGN

R1-1

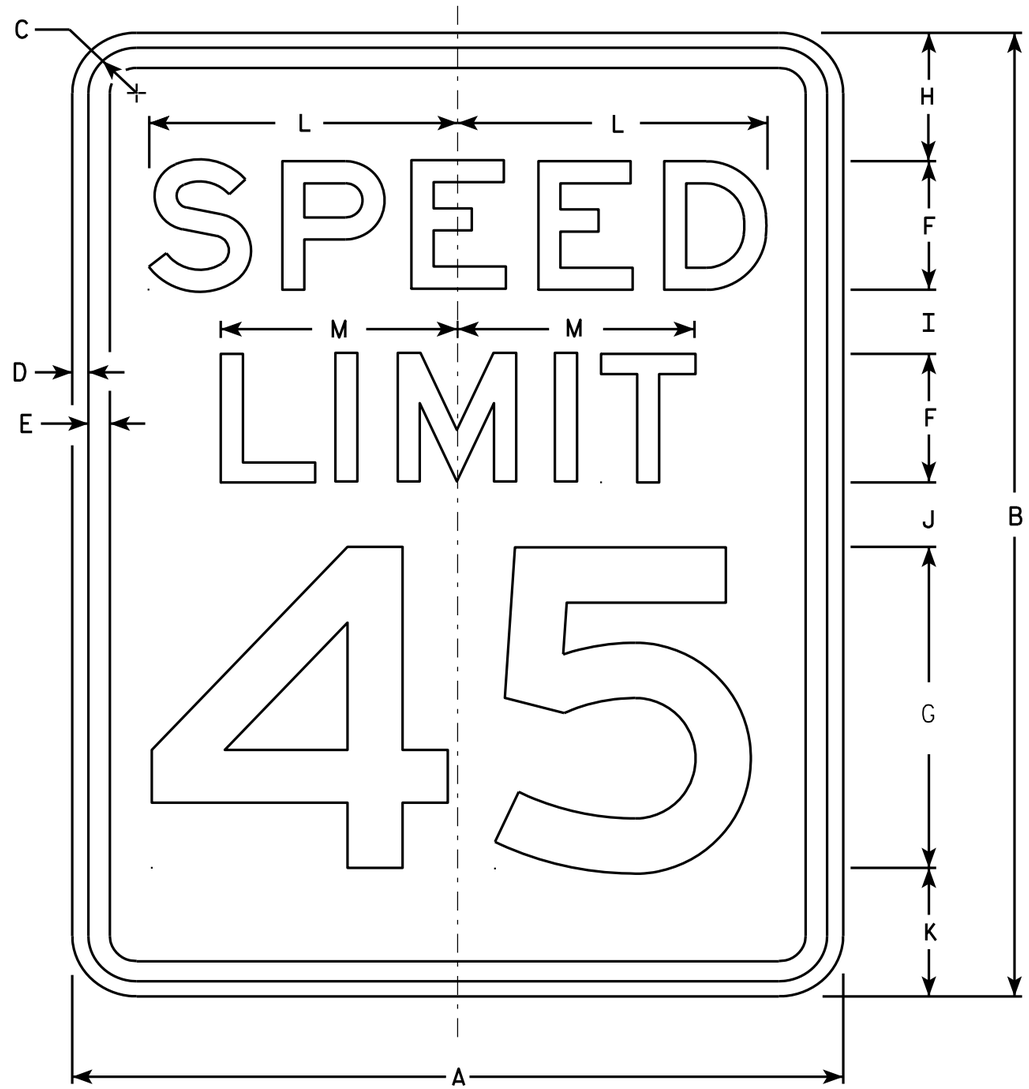
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 167	E



R2-1

NOTES

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

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

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

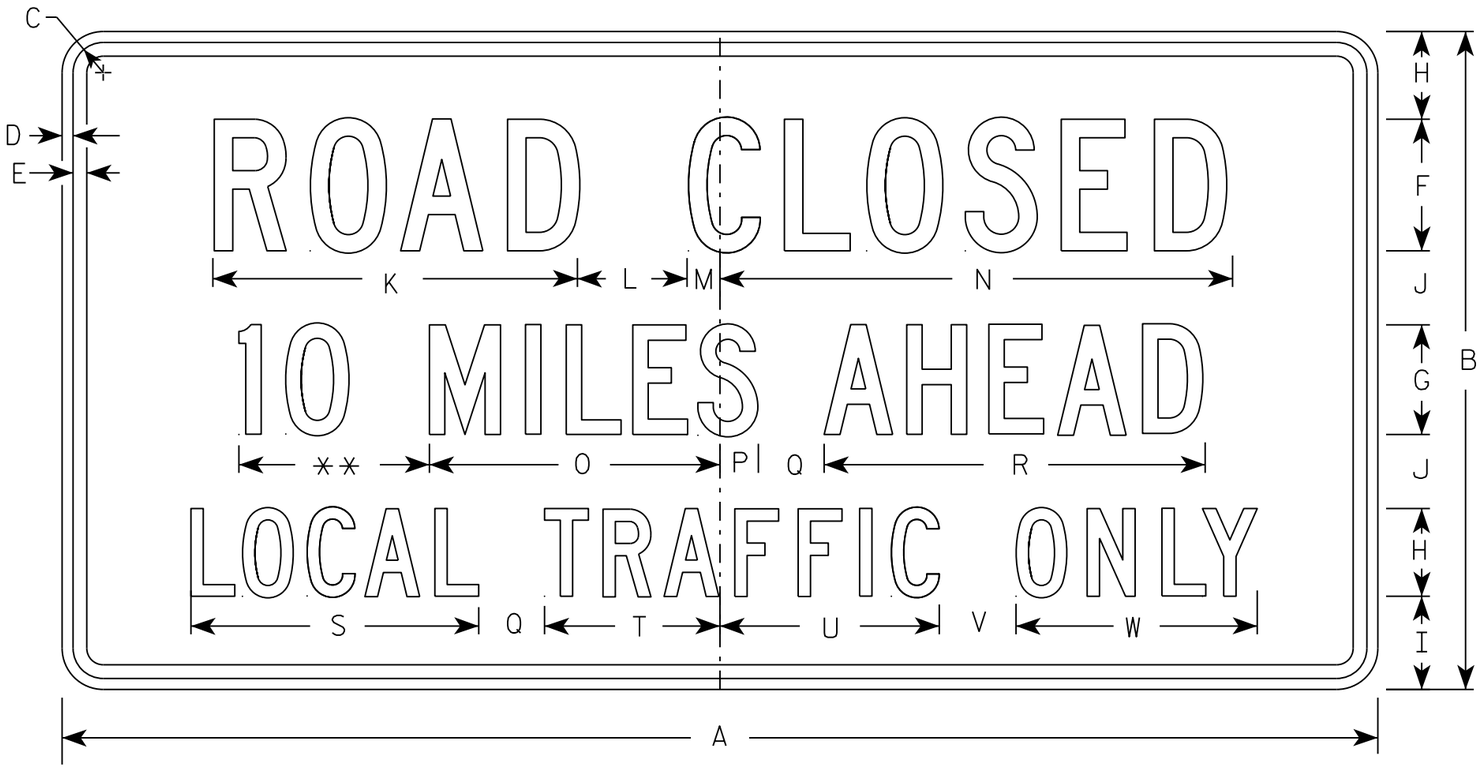
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 168 | E

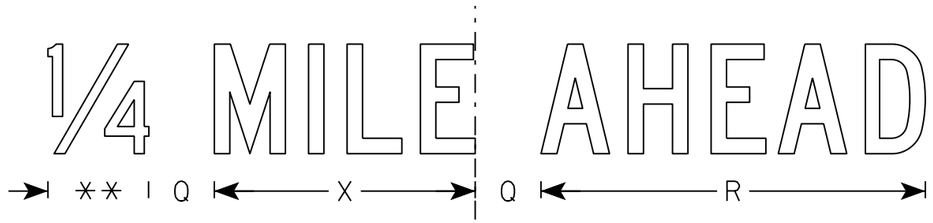
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

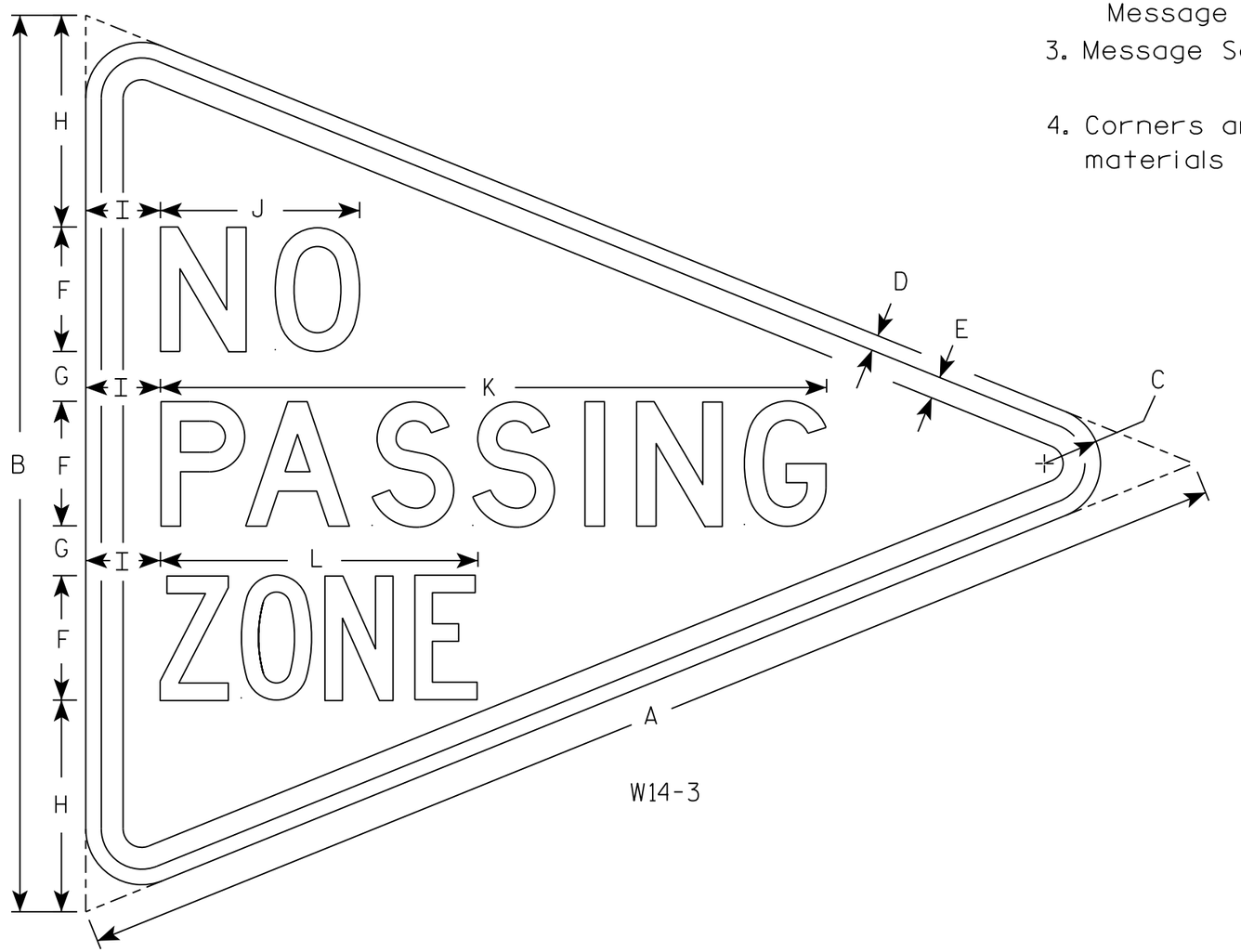
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/17 PLATE NO. R11-3.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 169	E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - Lines 1 and 2 are Series D.
   Line 3 is series C.
4. Corners and borders shall be rounded on all base materials for this sign.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

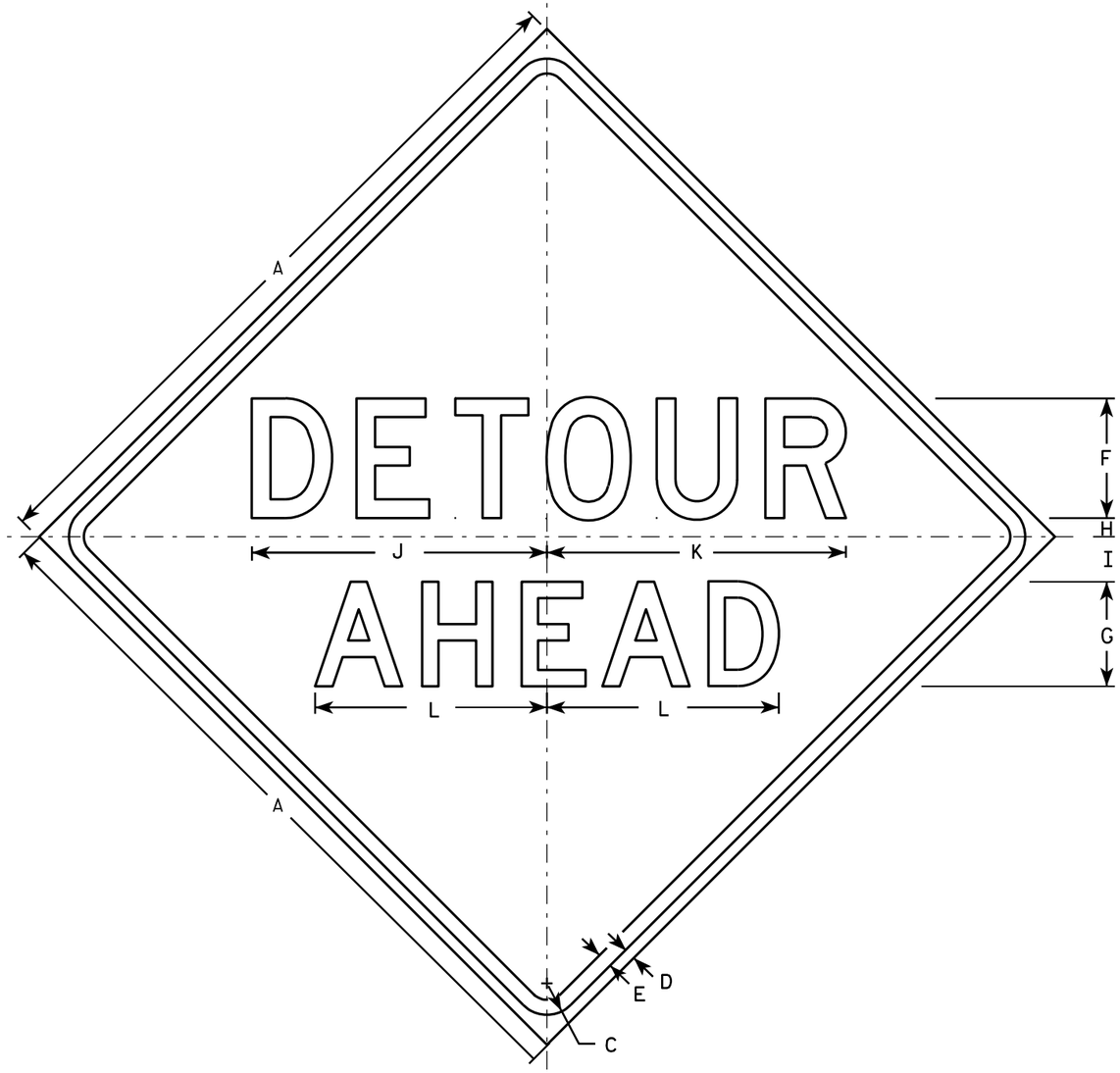
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

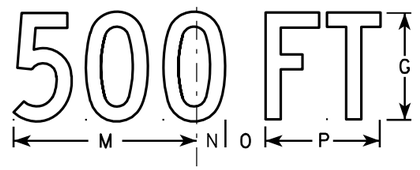
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10

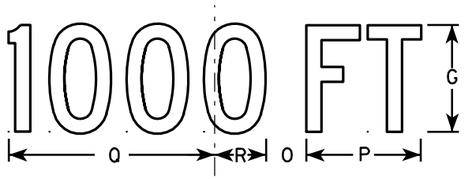
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 170	E



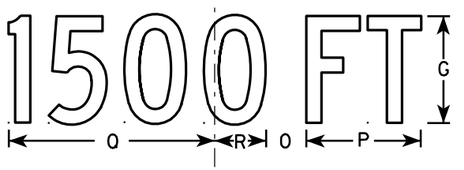
W20-2A



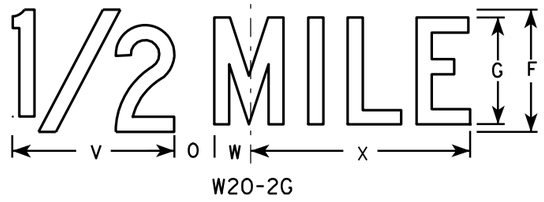
W20-2D



W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

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

WISCONSIN DEPT OF TRANSPORTATION

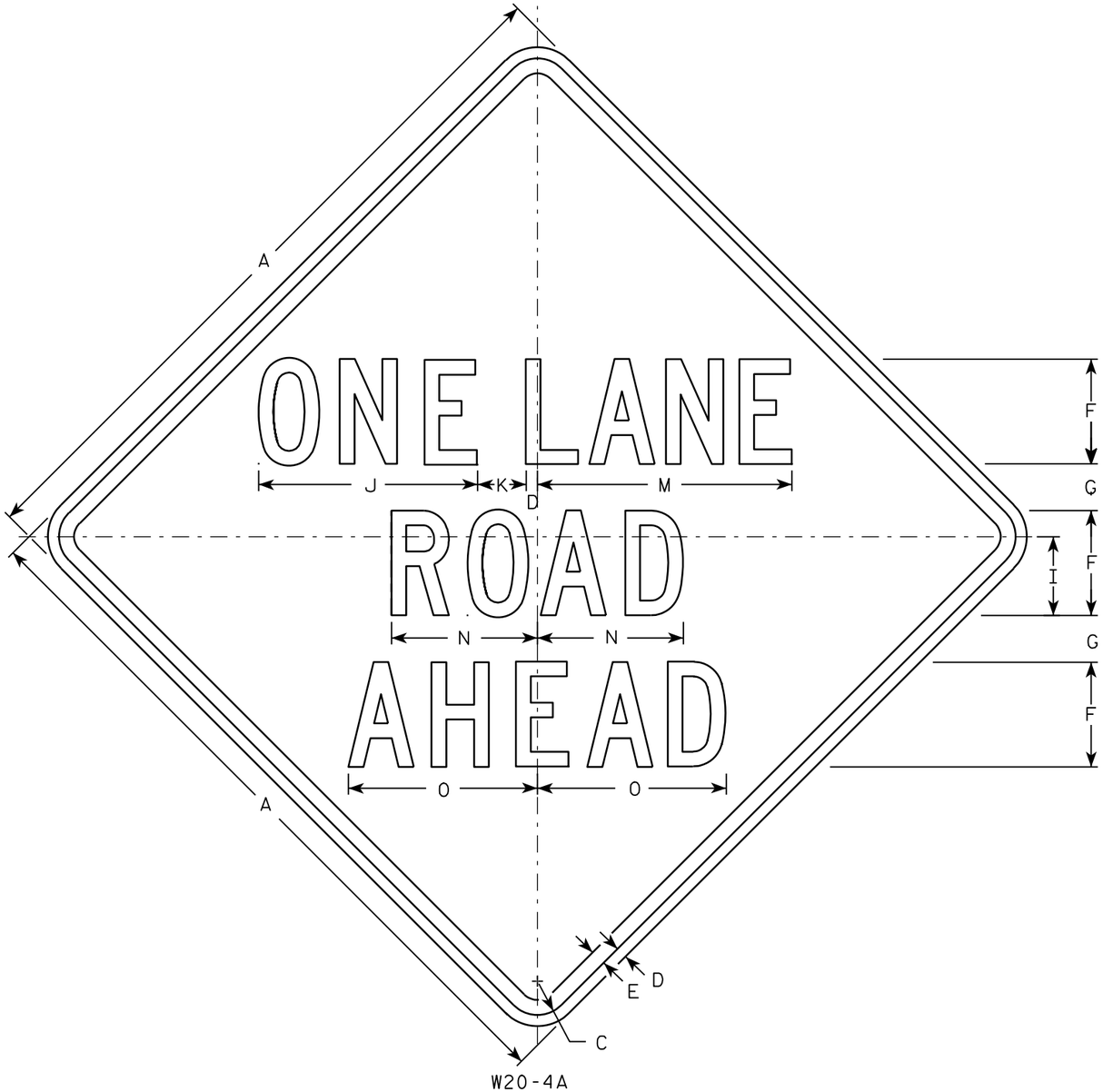
APPROVED Matthew R Rauch
for State Traffic Engineer

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

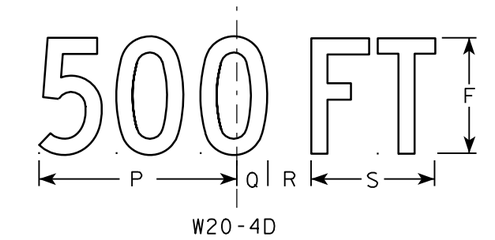
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 171 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

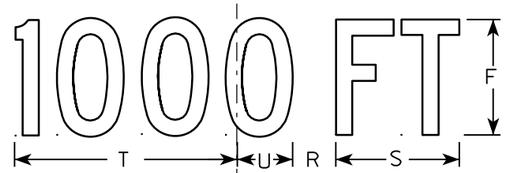
WISDOT/CADDS SHEET 42



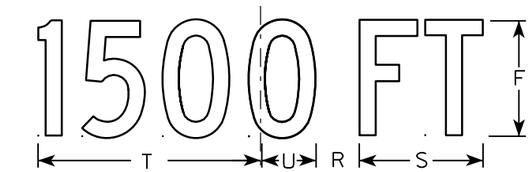
W20-4A



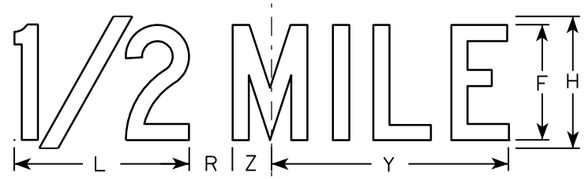
W20-4D



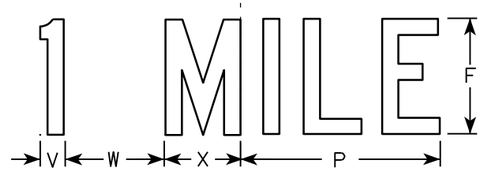
W20-4C



W20-4B



W20-4G



W20-4F

NOTES

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

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

STANDARD SIGN
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

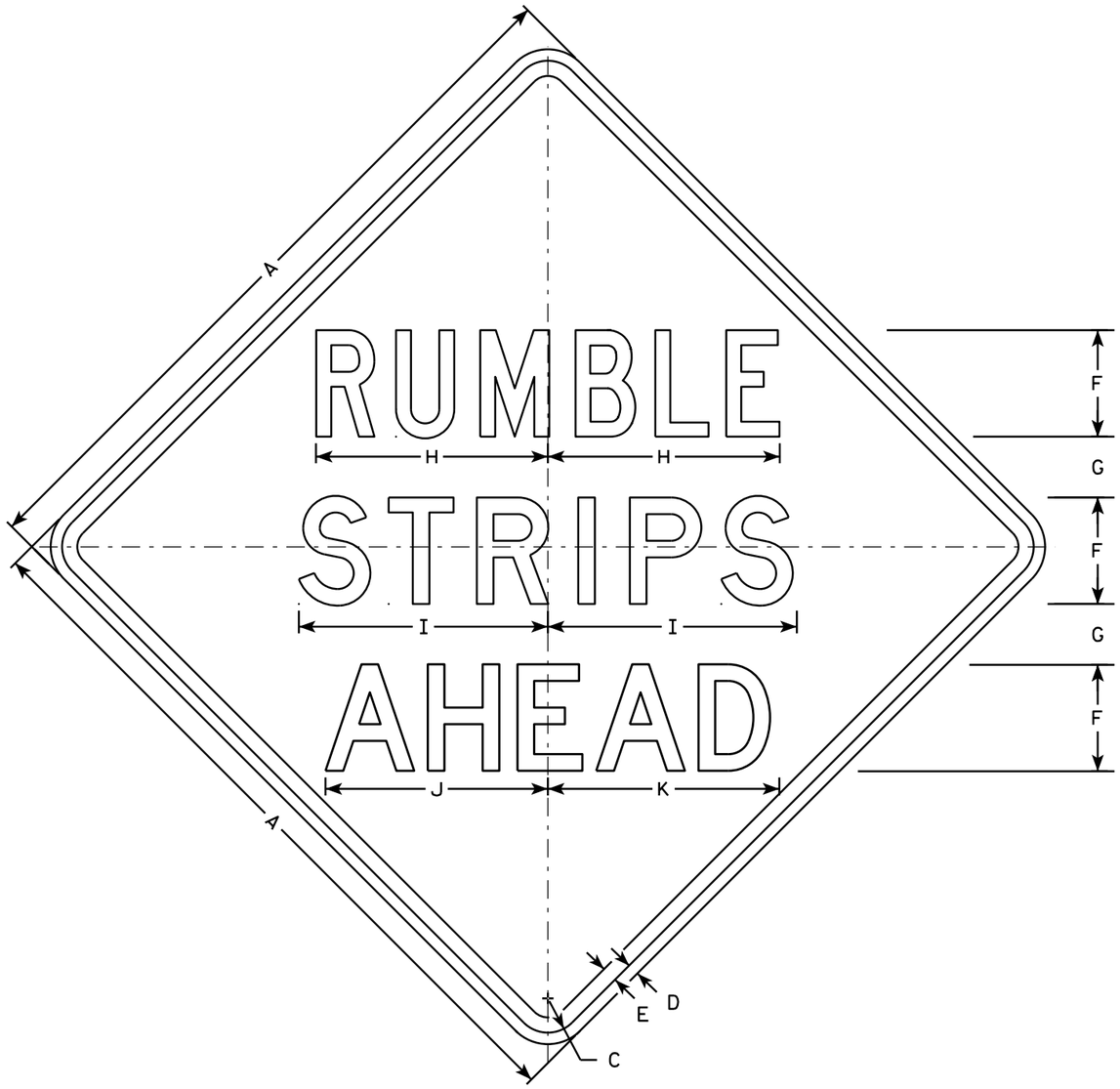
DATE 3/18/11 PLATE NO. W20-4.9

PROJECT NO:

SHEET NO: 172 E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W204.DGN PLOT DATE : 18-MAR-2011 12:11 PLOT BY : mscj9h



W21-65

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C
   Lines 2 and 3 are Series D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 1/4	10 7/8	11 5/8	11	11 5/8																9.0
2S	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
2M	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
3	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
4	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
5	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0

STANDARD SIGN

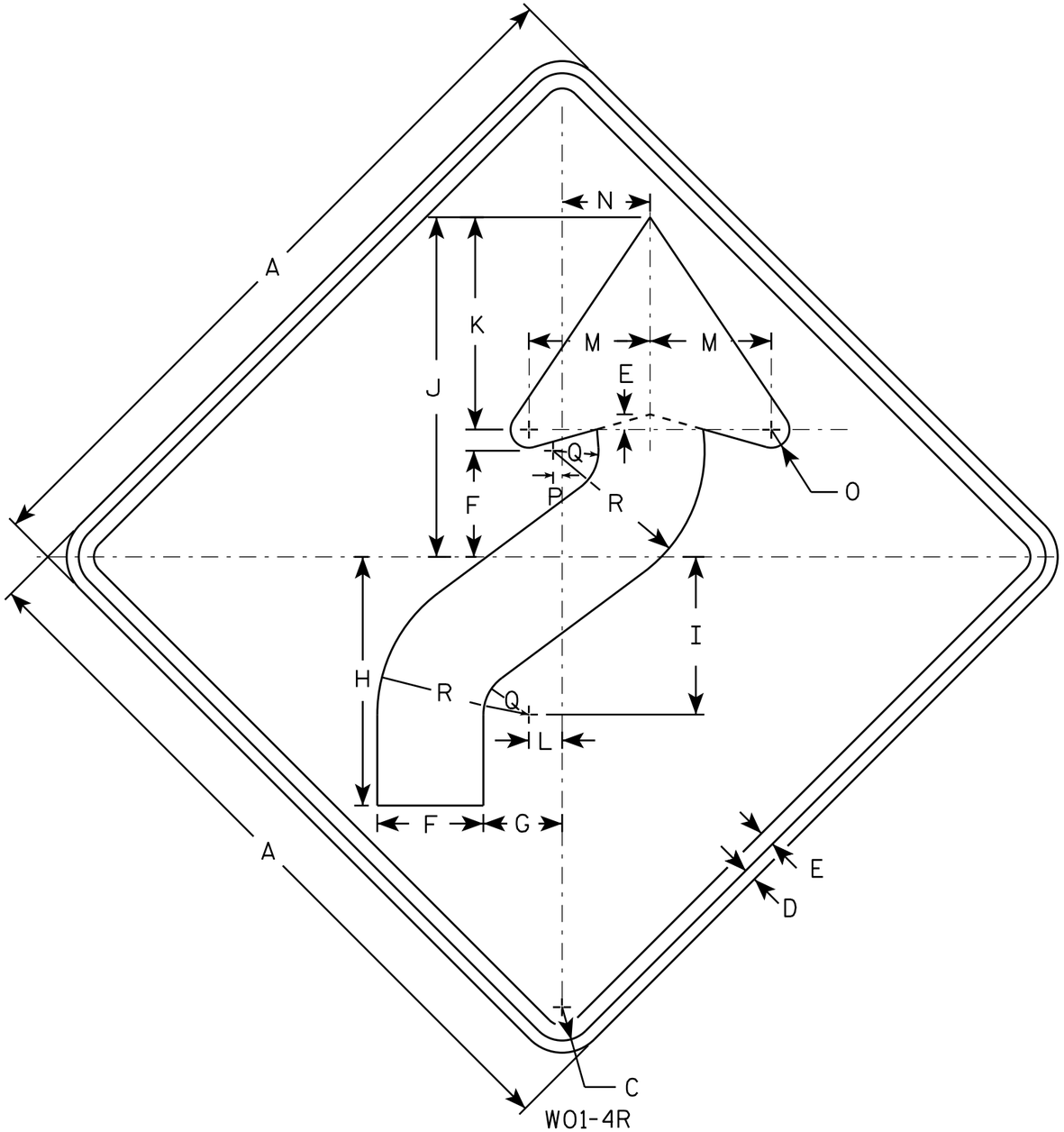
W21-65

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/28/14 PLATE W21-65.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W01-4R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

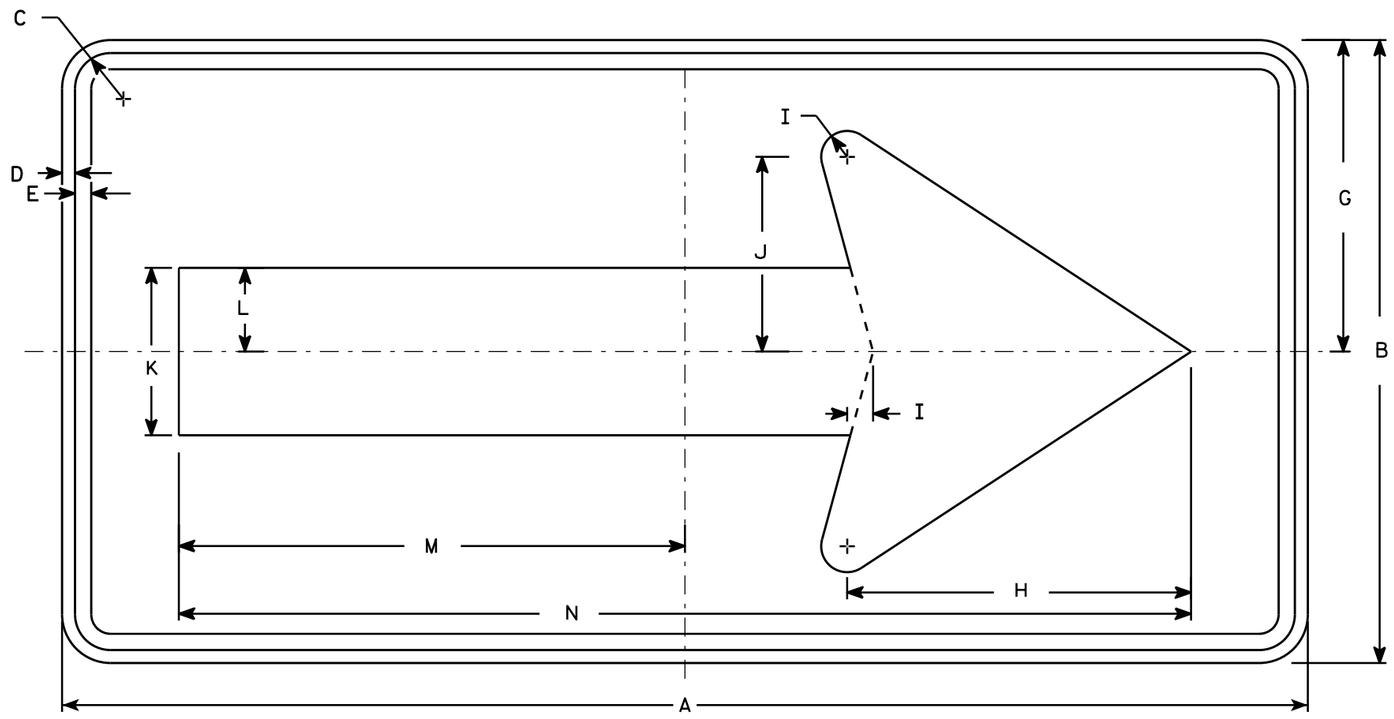
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-4.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000 WISDOT/CADDS SHEET 42



W01-6

NOTES

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

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

STANDARD SIGN
W01-6

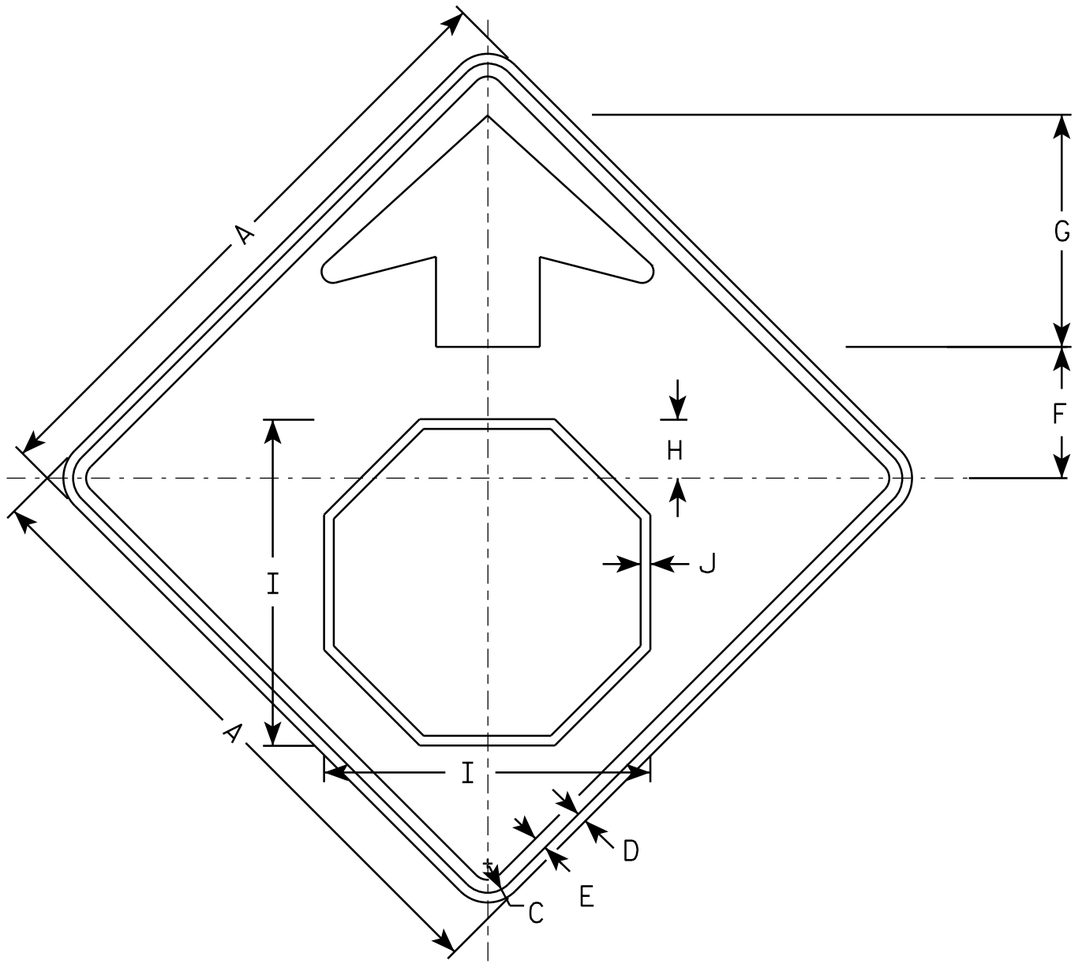
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-6.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

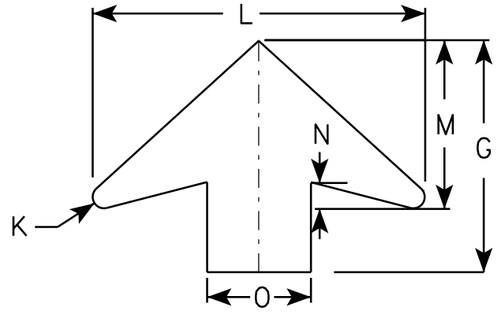
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W03-1

NOTES

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



ARROW DETAIL

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

STANDARD SIGN
W03-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

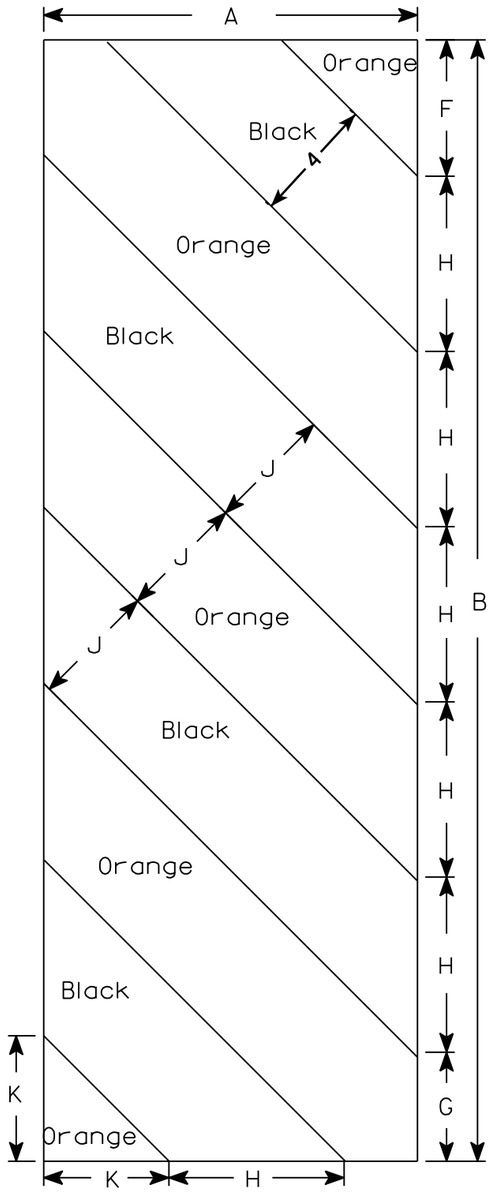
DATE 11/20/13 PLATE 03-1.1

PROJECT NO:

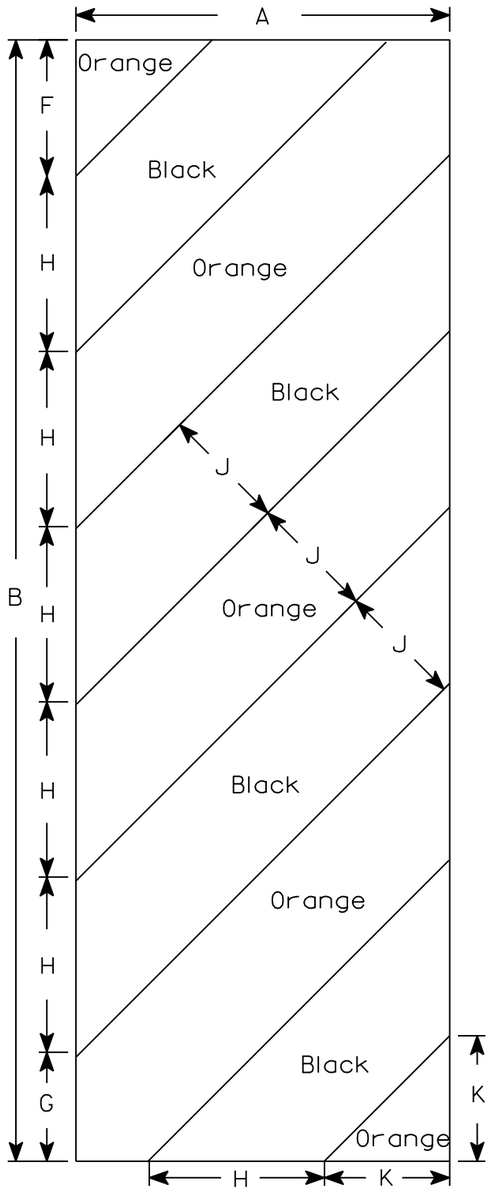
SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W031.DGN PLOT DATE : 20-NOV-2013 10:54 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



W05-52L



W05-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W05-52L & W05-52R

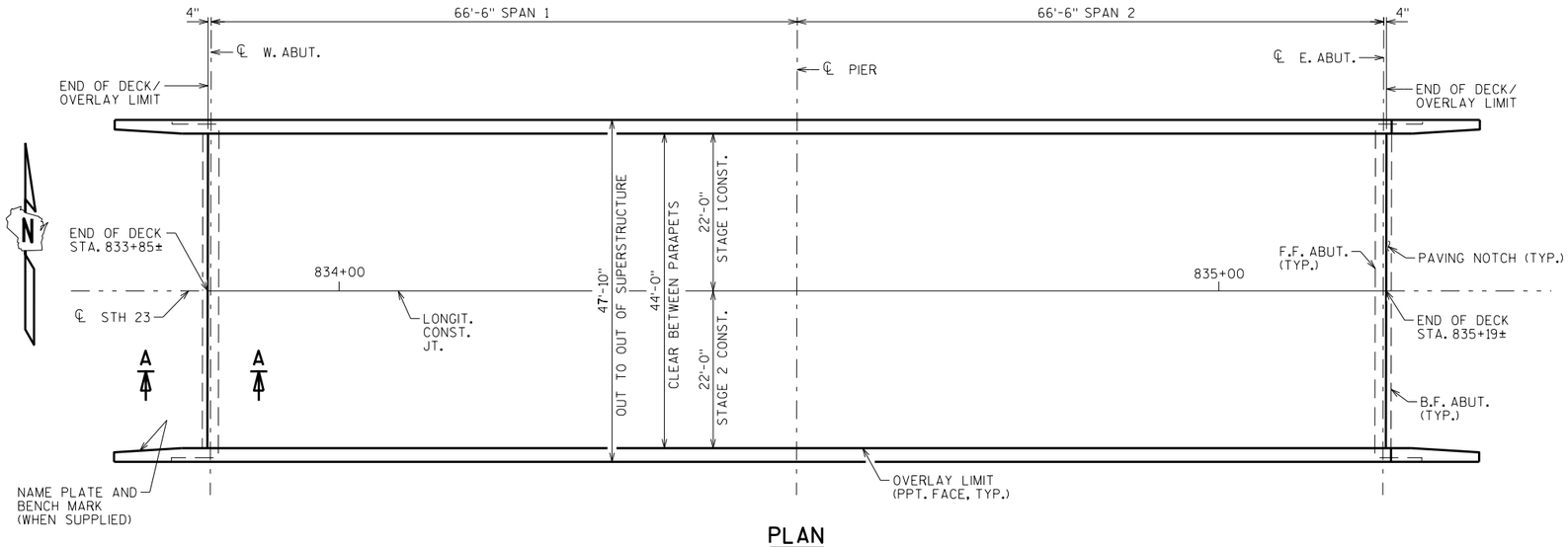
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

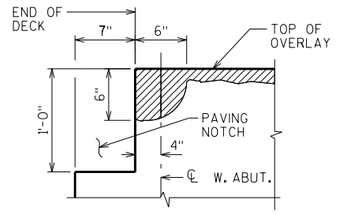
DATE 11/20/13 PLATE No. W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W0552.DGN PLOT DATE : 28-FEB-2014 11:39 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.864607:1.000000 WISDOT/CADDS SHEET 42

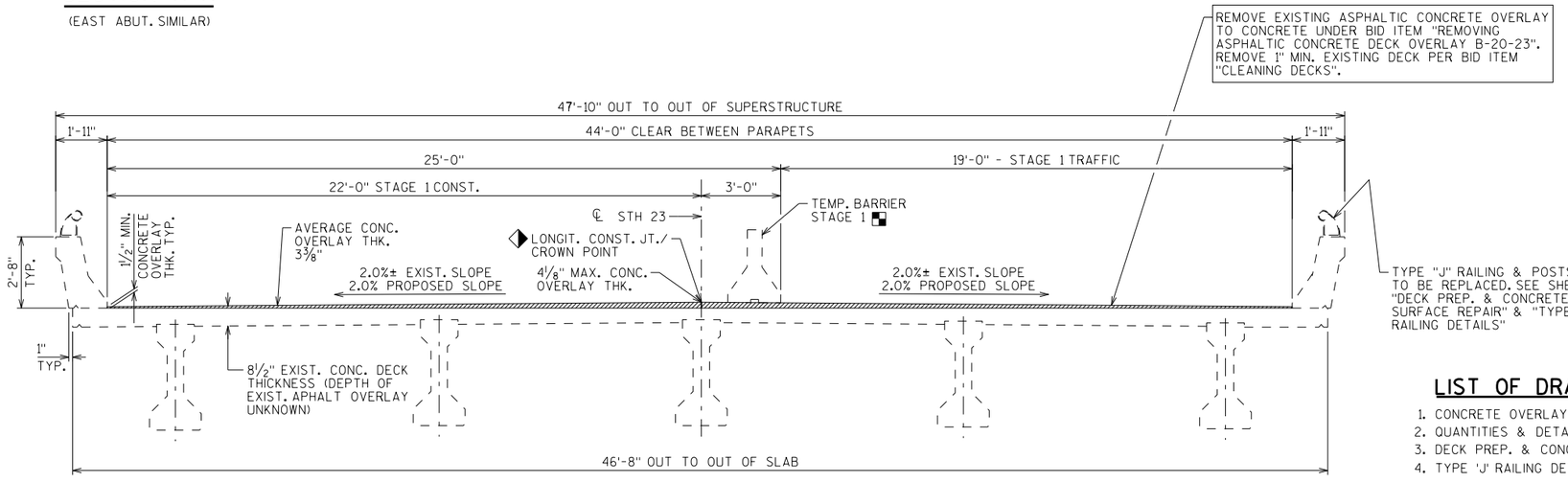


PLAN



SECTION A-A

(EAST ABUT. SIMILAR)



PROPOSED CROSS SECTION THRU ROADWAY

LOOKING EAST

■ (STAGE 2 CONST. SIMILAR & SYMMETRICAL ABOUT ℄ STH 23)

◆ SEAL WITH CRACK SEALER PER STD. SPEC. 502.3.13

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-15

OPERATIONAL RATING; HS-24

MAXIMUM STANDARD PERMIT VEHICLE LOAD = 158 KIPS.

MATERIAL PROPERTIES:

CONCRETE MASONRY SURFACE REPAIR

PARAPET ——— f'c = 4,000 P.S.I.

ALL OTHER ——— f'c = 3,500 P.S.I.

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

TRAFFIC VOLUME

STH 23

A.D.T. = 7,500

R.D.S. = 60 MPH

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER THE BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-20-23".

BEVEL EXPOSED EDGES OF CONCRETE SURFACE REPAIR TO MATCH EXISTING.

ALL CONCRETE REMOVAL FOR CONCRETE SURFACE REPAIR SHALL BE DEFINED BY A ½" SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SURFACE REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER.

"CONCRETE MASONRY OVERLAY DECKS" BID ITEM INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF NEW CONCRETE OVERLAY SURFACE.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND TOP OF THE PARAPETS, INCLUDING PARAPETS ON THE ABUTMENT WINGS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1971.

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. QUANTITIES & DETAILS
3. DECK PREP. & CONCRETE SURFACE REPAIR
4. TYPE 'J' RAILING DETAILS

STATE PROJECT NUMBER

1430-18-71

STRUCTURE DESIGN CONTACT:

ALEXANDER CRABTREE (608) 266-3686

LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 2/16/18

CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-20-23

STH 23 OVER W BR FOND DU LAC RIVER

COUNTY	TOWN
FOND DU LAC	LAMARTINE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
ARC	KCY	MJH	ARC

CONCRETE OVERLAY

SHEET 1 OF 4

178

I.D. 1430-18-00A

DATE: JAN. 2018

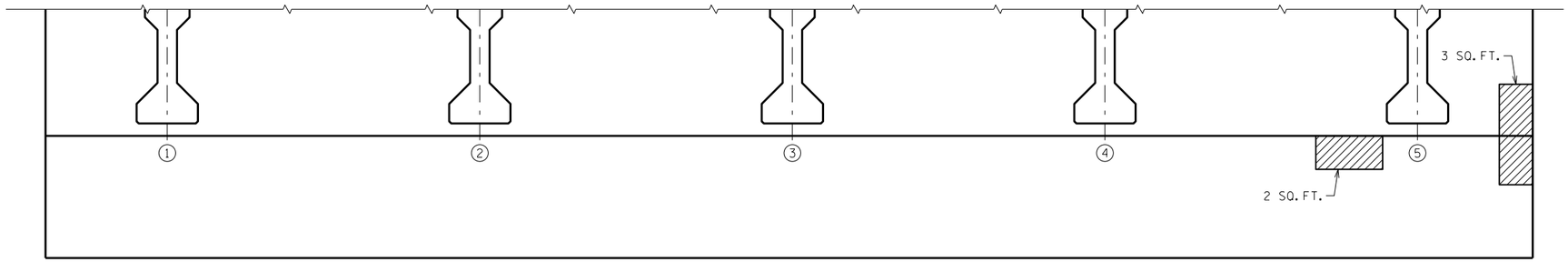
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8

8

STATE PROJECT NUMBER

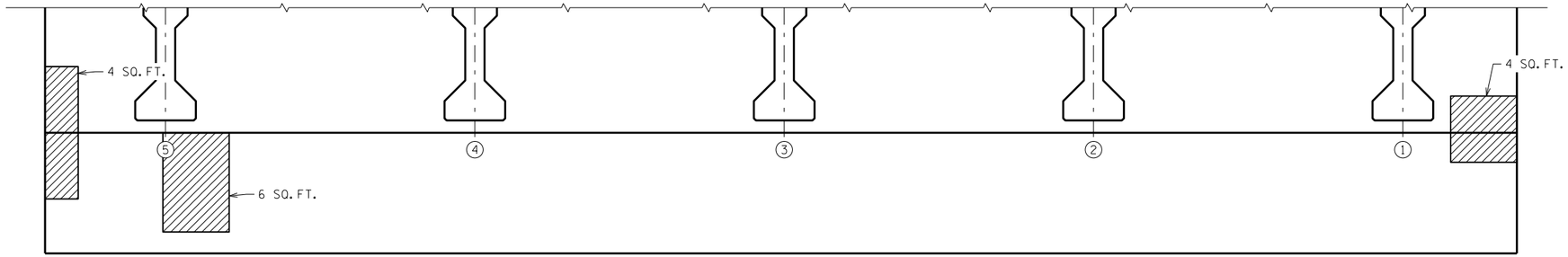
1430-18-71



PARTIAL EAST ABUT. ELEV. VIEW

(LOOKING EAST)

▨ CONCRETE SURFACE REPAIR AREAS OF CRACKING AND RUST BLEEDING - AREAS SHOWN ARE APPROXIMATE. ACTUAL LOCATIONS AND AREAS TO BE DETERMINED BY THE ENGINEER.



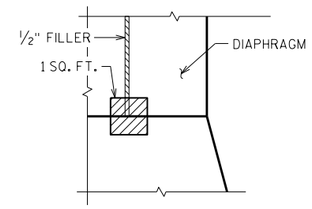
PARTIAL WEST ABUT. ELEV. VIEW

(LOOKING WEST)

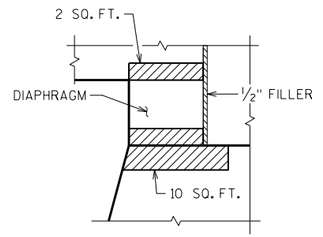
TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	QUANTITY
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	654
	502.3210	PIGMENTED SURFACE SEALER	SY	135
	509.0301	PREPARATION DECKS TYPE 1	SY	358
	509.0302	PREPARATION DECKS TYPE 2	SY	268
	509.0500	CLEANING DECKS	SY	654
	509.1500	CONCRETE SURFACE REPAIR	SF	98
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
✳	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	100
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-20-023	SY	654
	SPV.0105	RAILING TUBULAR TYPE J B-20-023	LS	1
		NON-BID ITEMS		
		FILLER	SIZE	½"

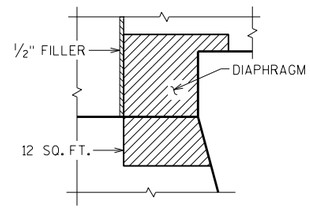
✳ BID ITEM INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2" AND "FULL DEPTH DECK REPAIR".



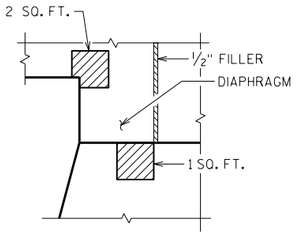
NORTH EAST WING



SOUTH EAST WING



SOUTH WEST WING



NORTH WEST WING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-20-23

DRAWN BY MJH | PLANS CK'D. ARC

QUANTITIES & DETAILS

SHEET 2

179

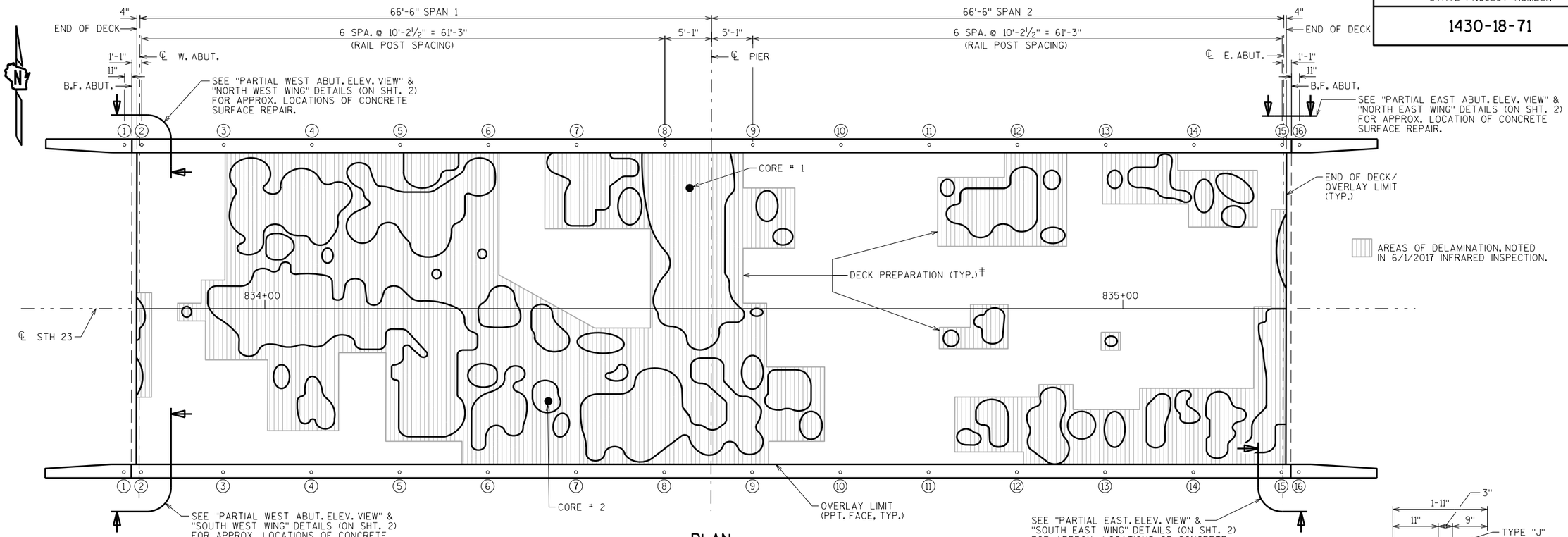
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8

8

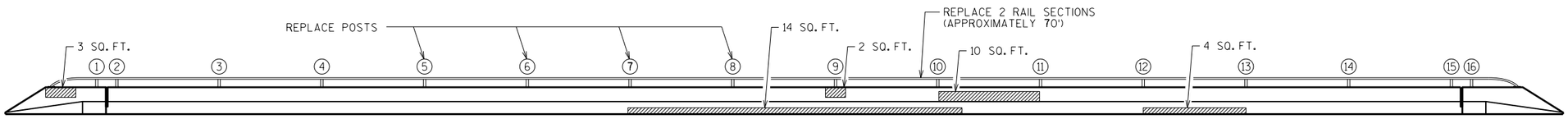
STATE PROJECT NUMBER

1430-18-71



PLAN

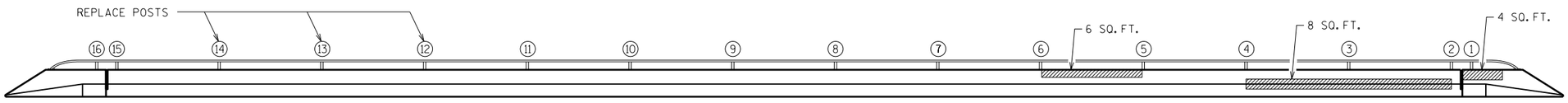
‡ SURVEY TYPE: INFRARED INSPECTION
SURVEY COMPLETED DATE: 6/1/2017



NORTH RAIL ELEVATION

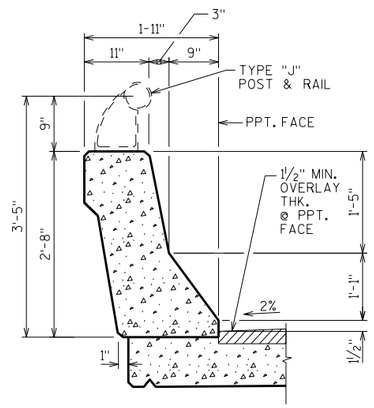
LOOKING NORTH

CONCRETE SURFACE REPAIR AREAS OF CRACKING AND RUST BLEEDING - AREAS SHOWN ARE APPROXIMATE. ACTUAL LOCATIONS AND AREAS TO BE DETERMINED BY THE ENGINEER.



SOUTH RAIL ELEVATION

LOOKING SOUTH



PROPOSED SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-20-23

DRAWN BY MJH | PLANS CK'D. ARC

DECK PREP. & CONCRETE SURFACE REPAIR

SHEET 3

180

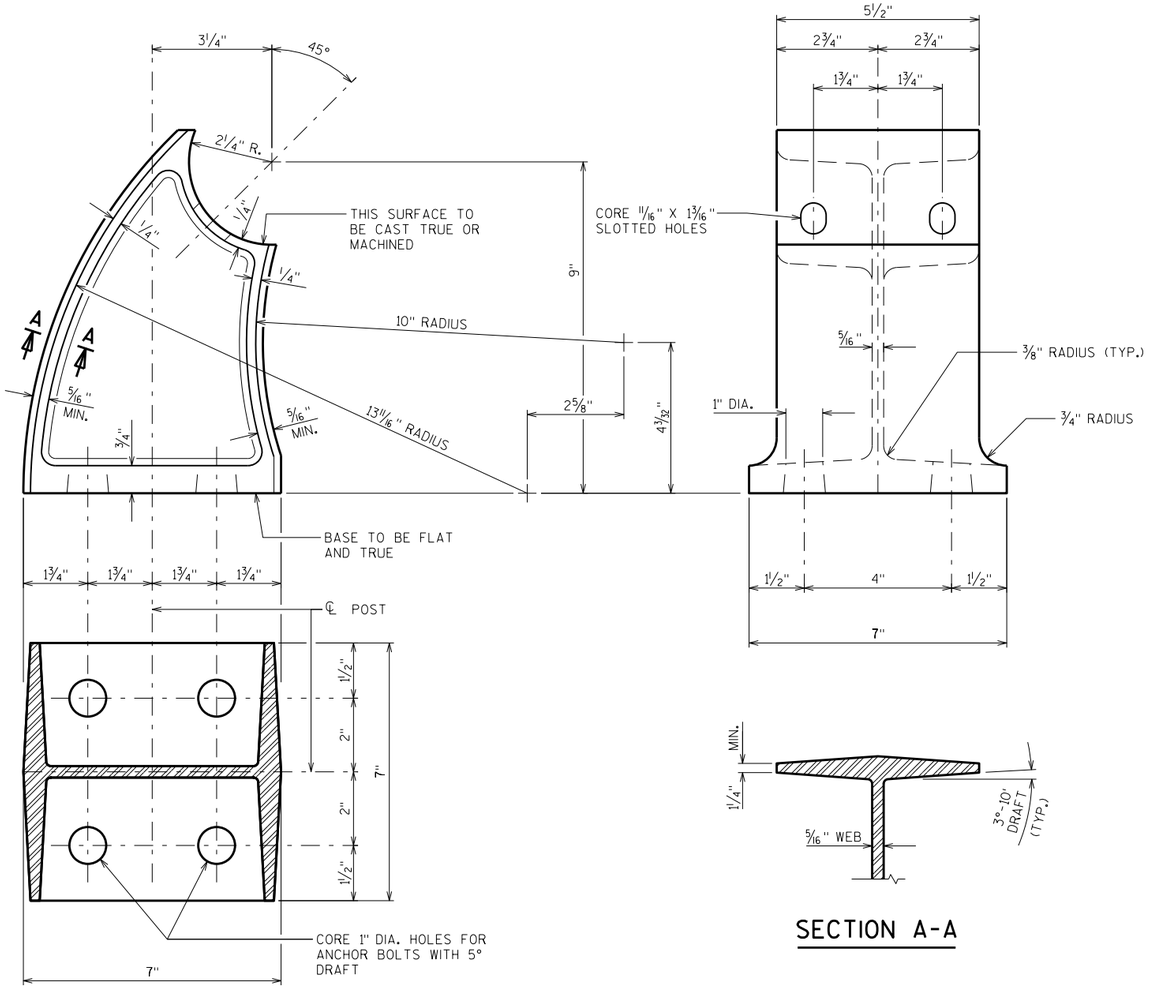
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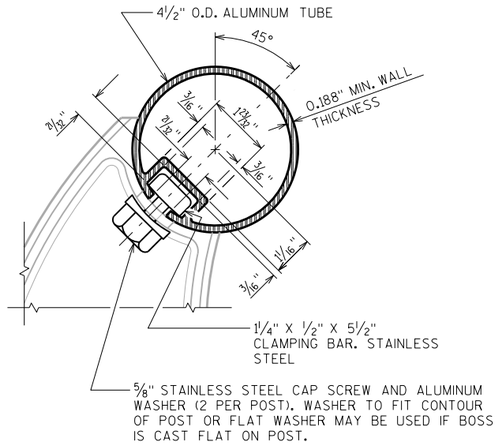
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8

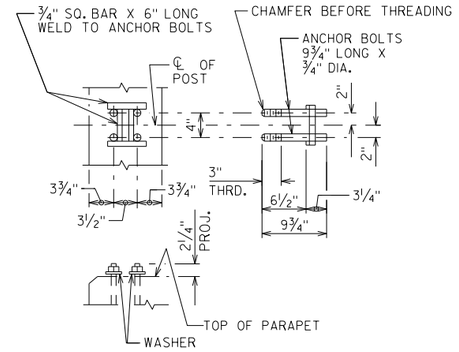
STATE PROJECT NUMBER

1430-18-71



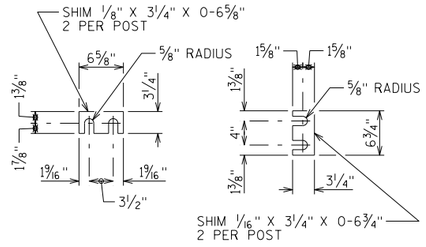


DETAIL OF RAIL ATTACHMENT TO POST

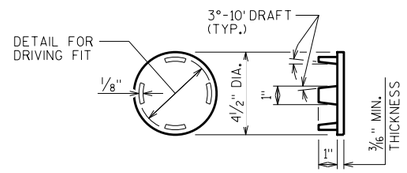


AT POSTS

ANCHOR BOLT SETTING DETAILS

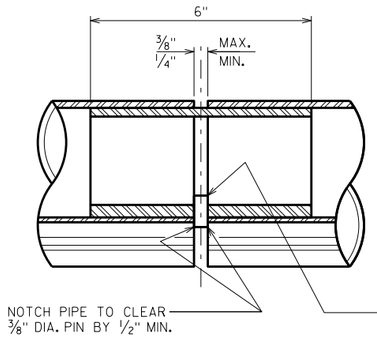


POST SHIM DETAILS

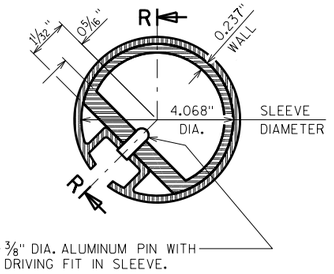


RAIL CLOSURE CAP DETAIL

SECTION A-A



SECTION R-R



RAIL SPLICE DETAIL

NOTES

MAX. REDUCTION IN DIA. OF BENT SECTION SHALL BE 3%.

MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16".

RAILING SPLICES SHALL BE LOCATED 12" MINIMUM FROM ℄ OF NEAREST POST.

ALUMINUM SHIMS SHALL BE USED UNDER POSTS WHERE REQUIRED FOR ALIGNMENT.

RAIL LENGTH SHALL BE 12 FEET OR LONGER.

ANCHOR BOLTS, NUTS & WASHERS TO BE STAINLESS STEEL.

WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MINIMUM NOMINAL AVERAGE WALL THICKNESS.

CAULK EXPOSED OPENING BETWEEN POST BASE, SHIMS & TOP OF PARAPET.

◪ PRIOR TO FABRICATION, THE CONTRACTOR SHALL COORDINATE WITH FIELD ENGINEER TO DETERMINE EXACT LENGTH OF RAILING REQUIRING REPLACEMENT. "RAILING CLOSURE CAP DETAIL" AND "ANCHOR BOLT SETTING DETAILS" PROVIDED SHOULD EITHER EXISTING CAPS OR ANCHOR ASSEMBLIES BE CONSIDERED NOT REUSABLE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-20-23

DRAWN BY MJH | PLANS CK'D. ARC

TYPE 'J' RAILING DETAILS

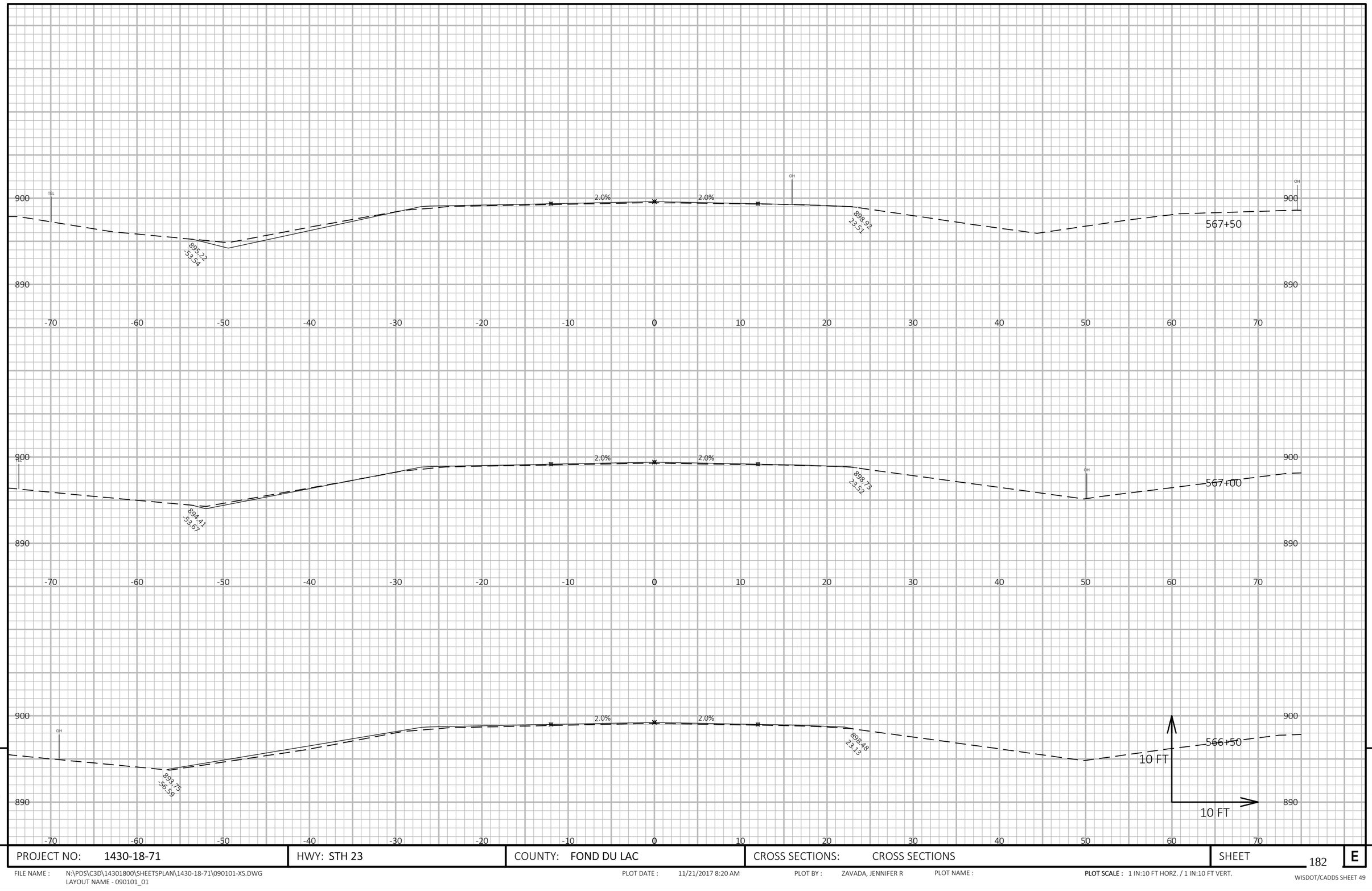
SHEET 4

181

SCALE = 0.08

8

8

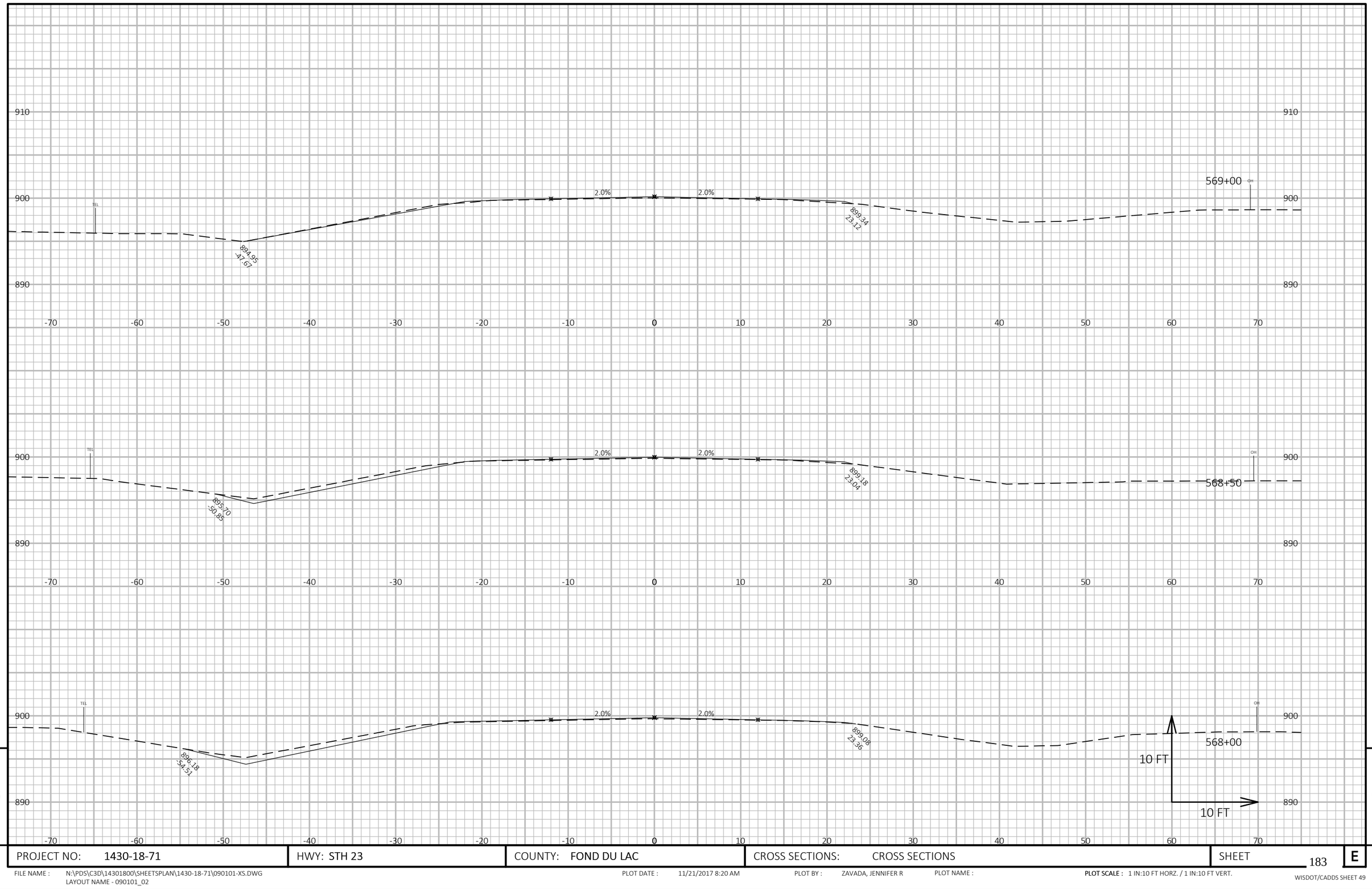


PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 182	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_01

PLOT DATE : 11/21/2017 8:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

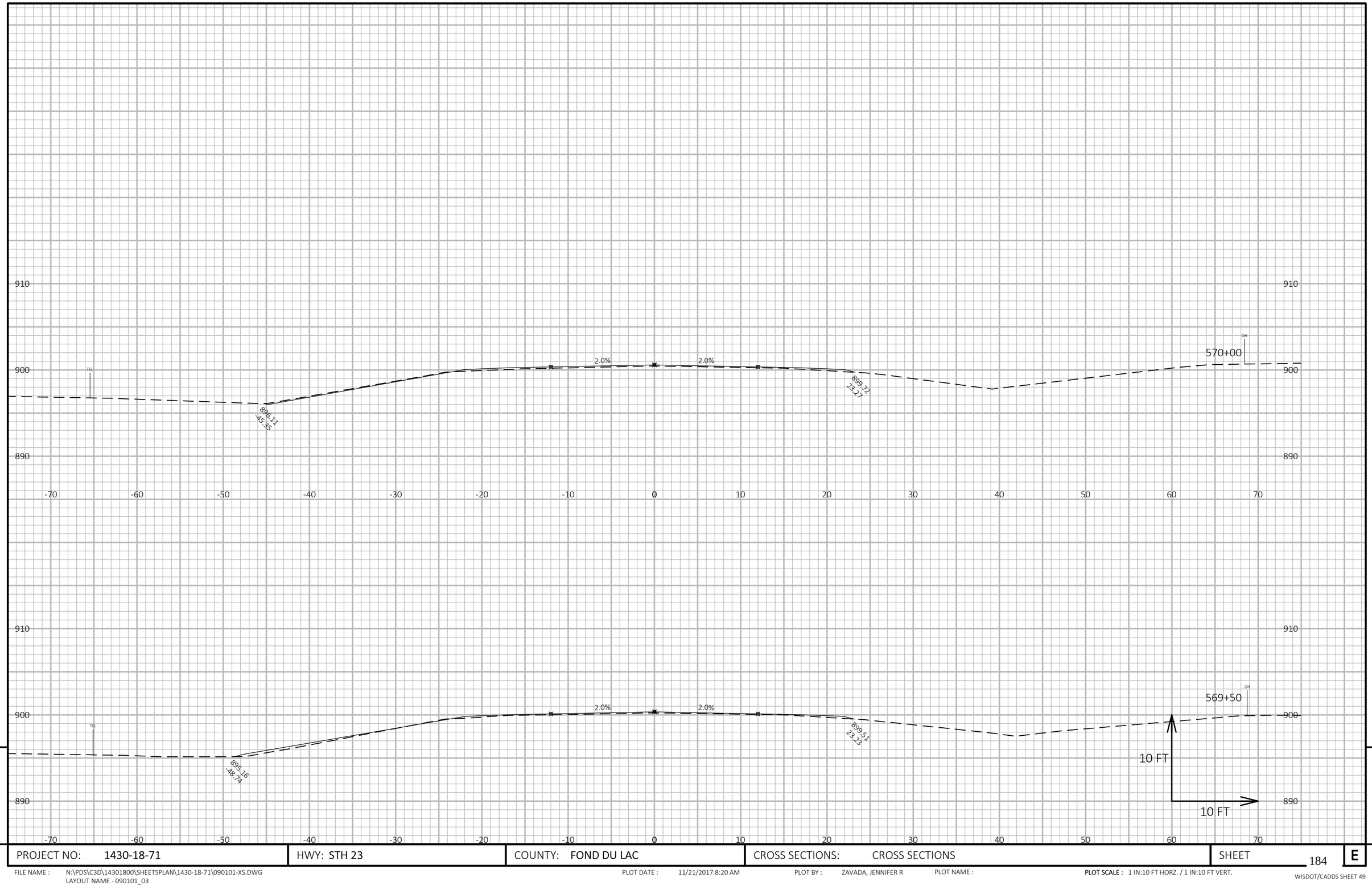
9

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 183	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_02

PLOT DATE : 11/21/2017 8:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

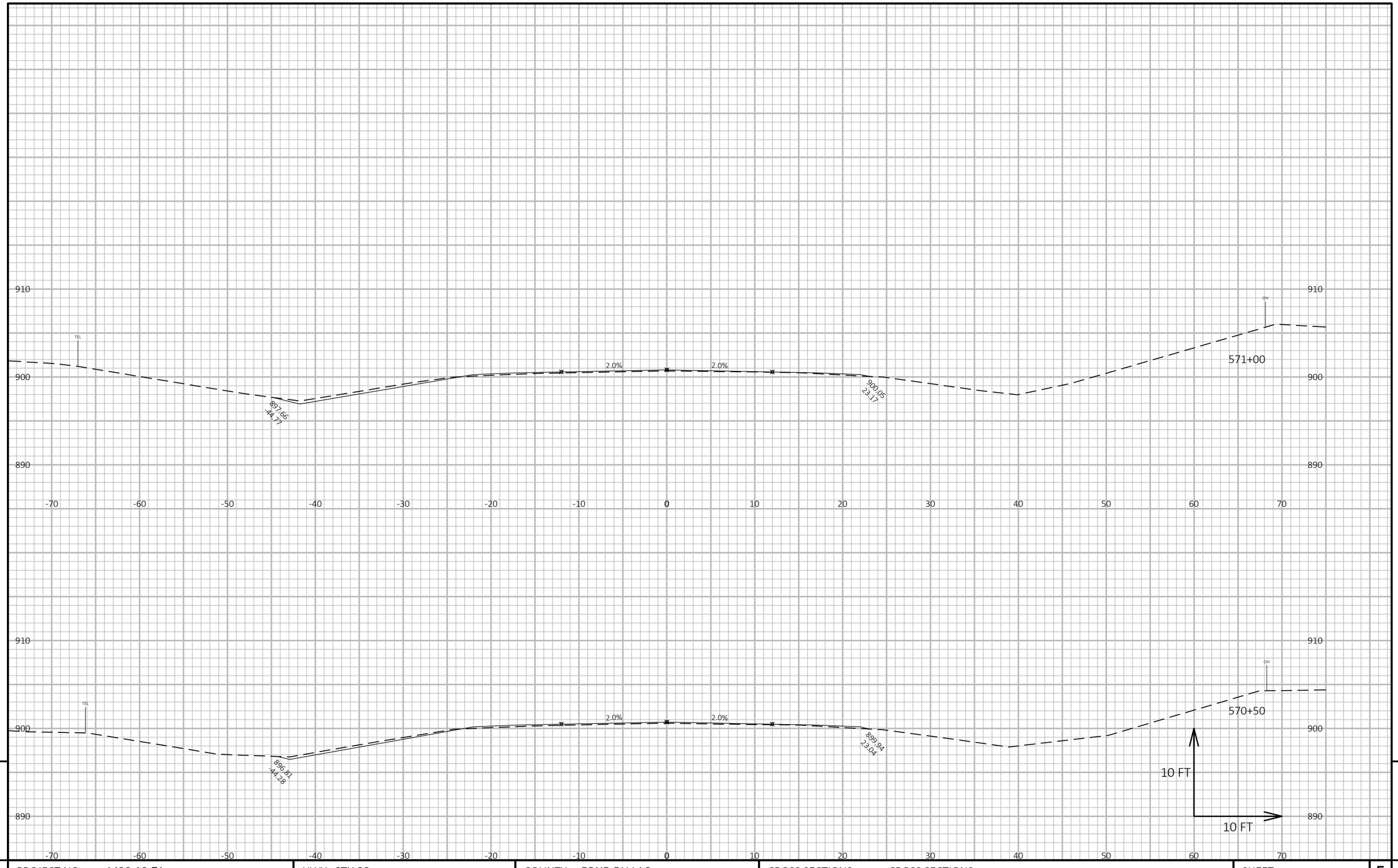
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 184	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_03

PLOT DATE : 11/21/2017 8:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



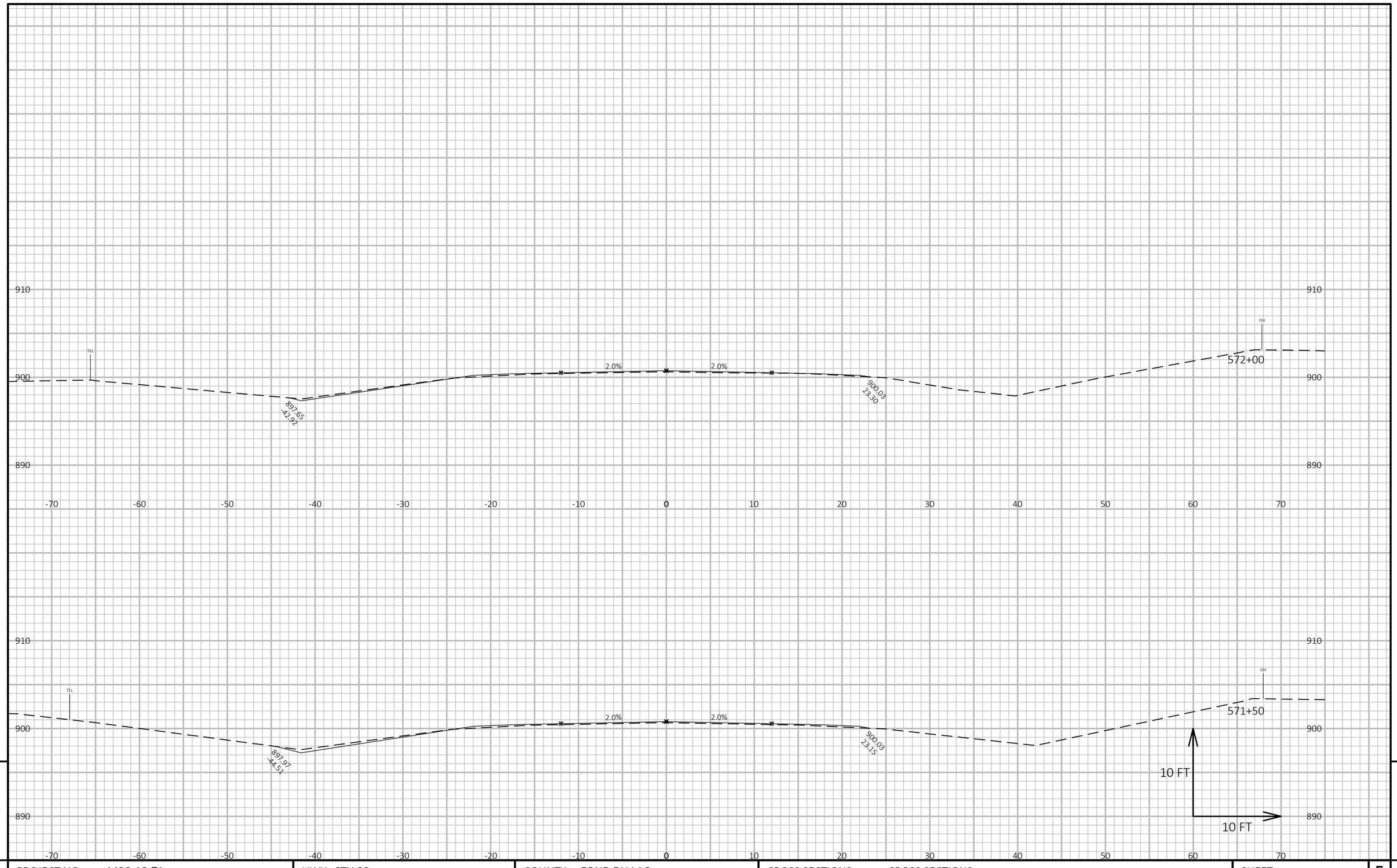
9

9

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 185	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_04

PLOT DATE : 11/21/2017 8:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

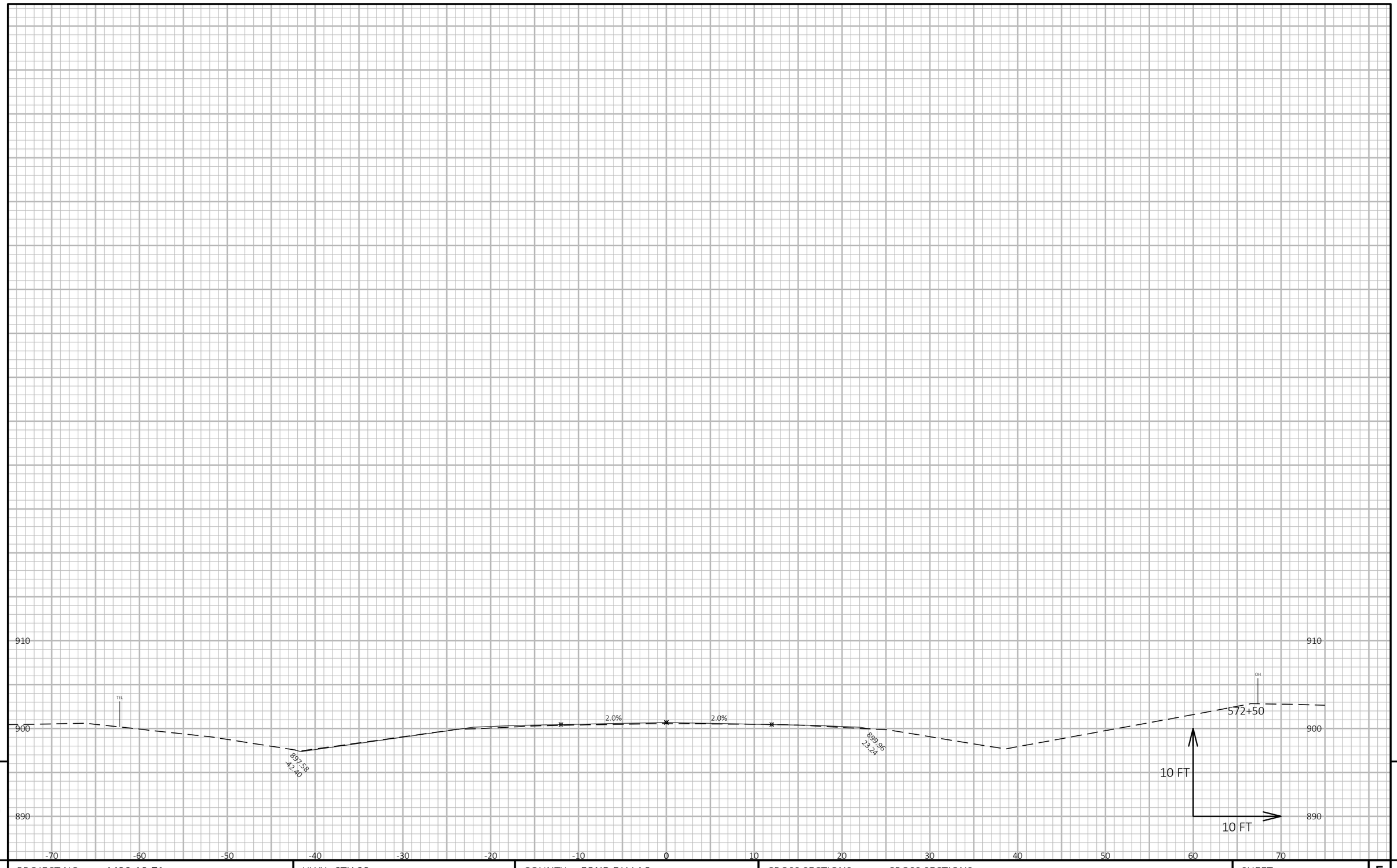
PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 186	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_05

PLOT DATE : 11/21/2017 8:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

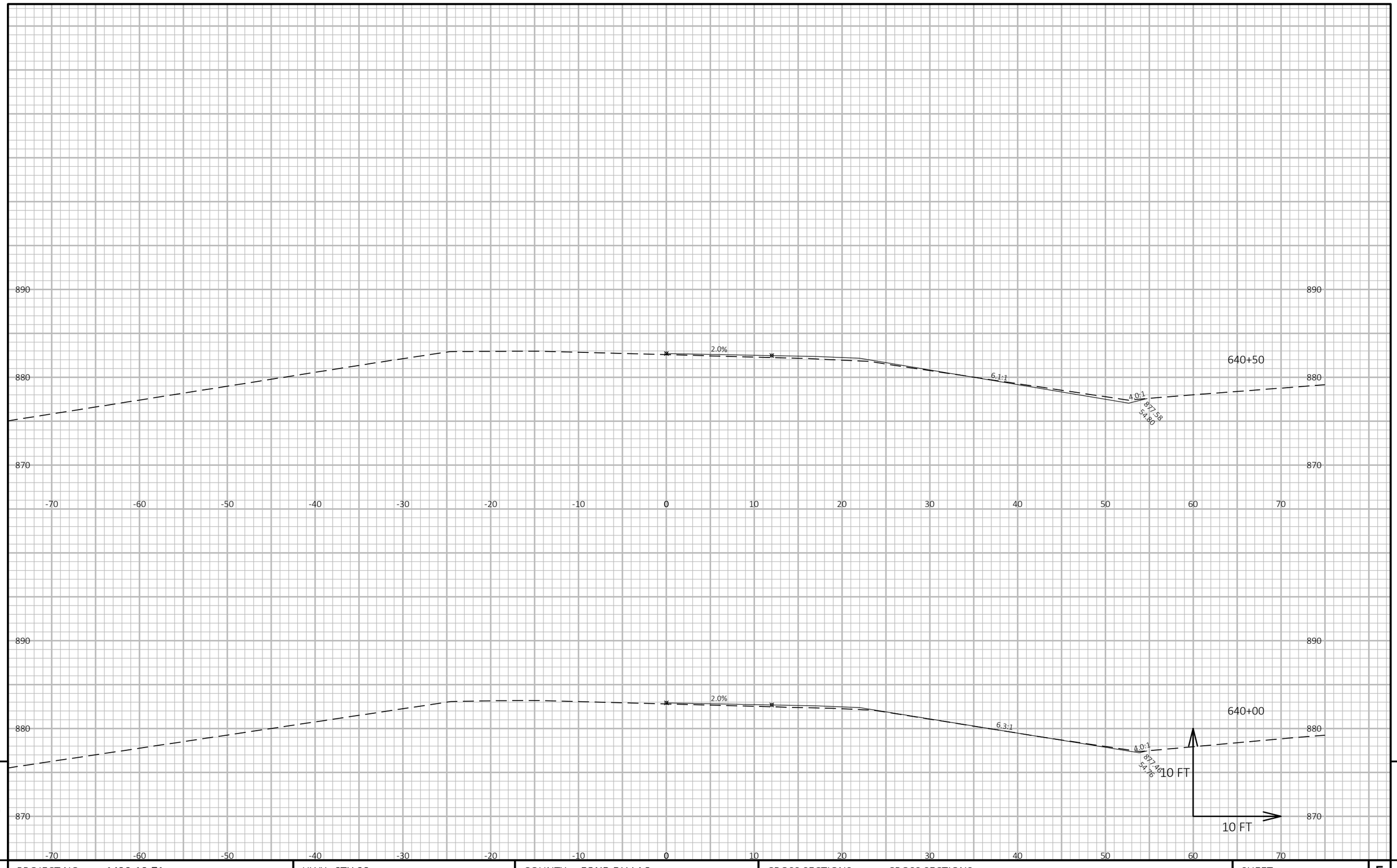
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 187	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_06

PLOT DATE : 11/21/2017 8:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

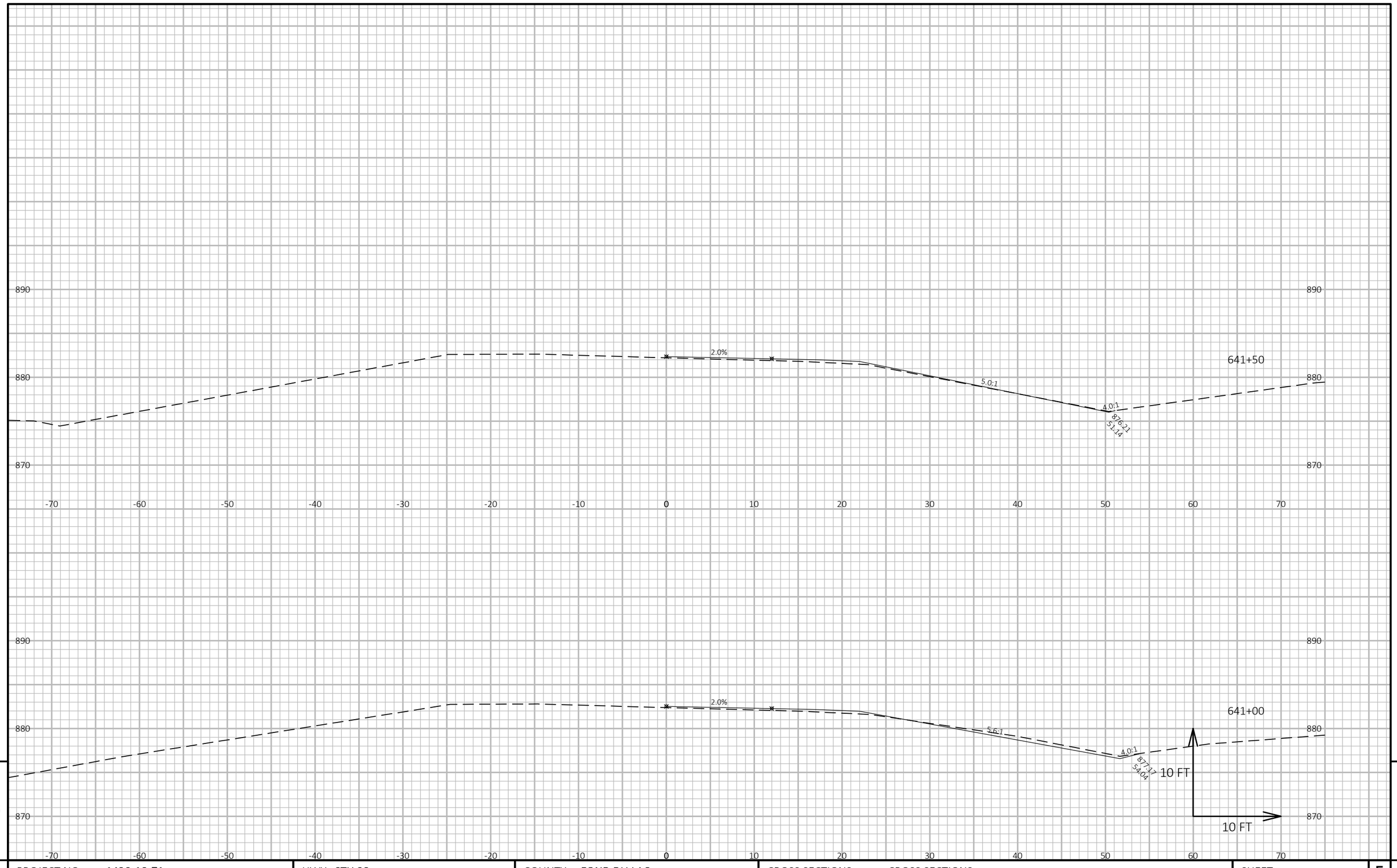
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 188	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_07

PLOT DATE : 11/21/2017 8:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



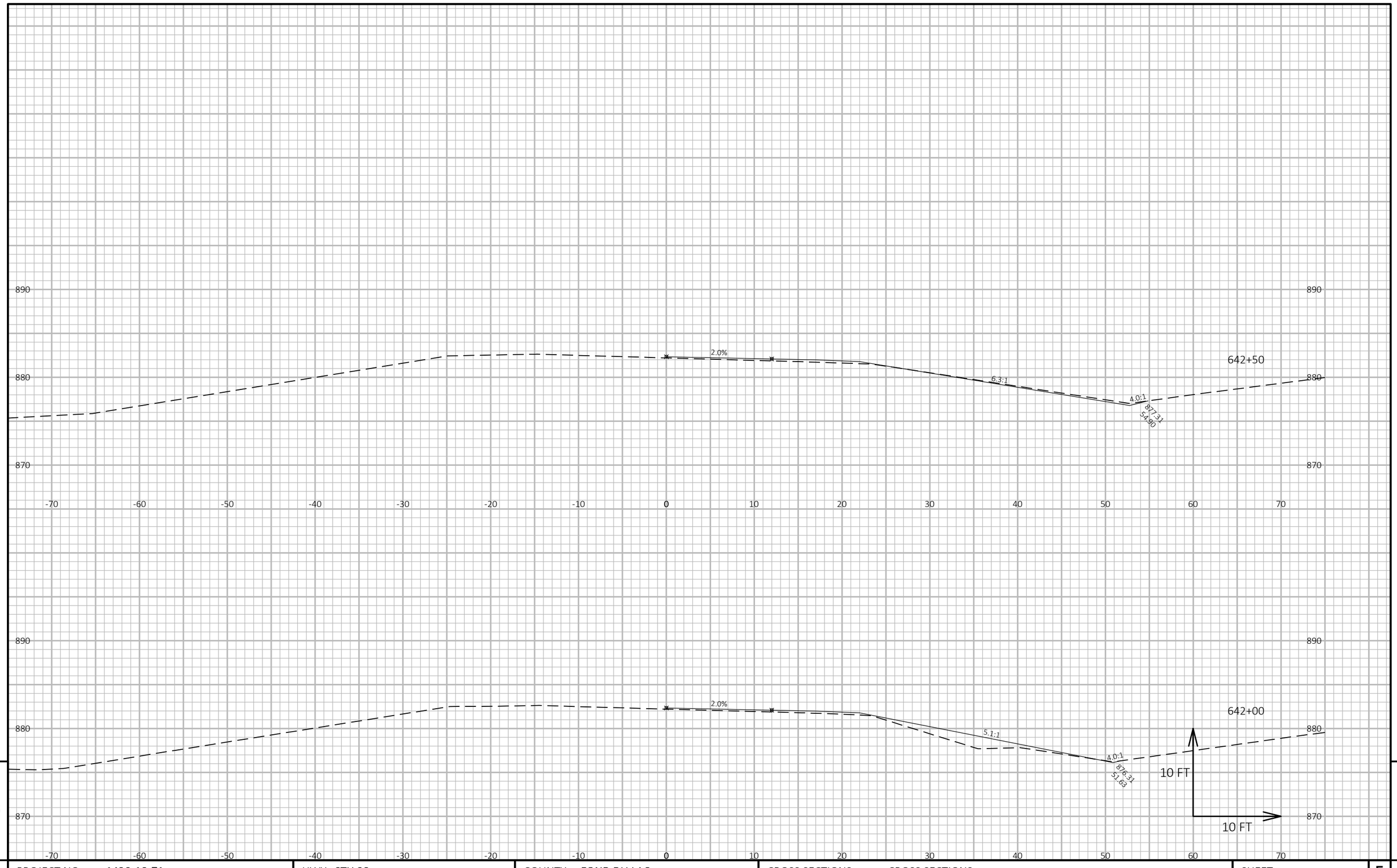
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 189	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_08

PLOT DATE : 11/21/2017 8:21 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

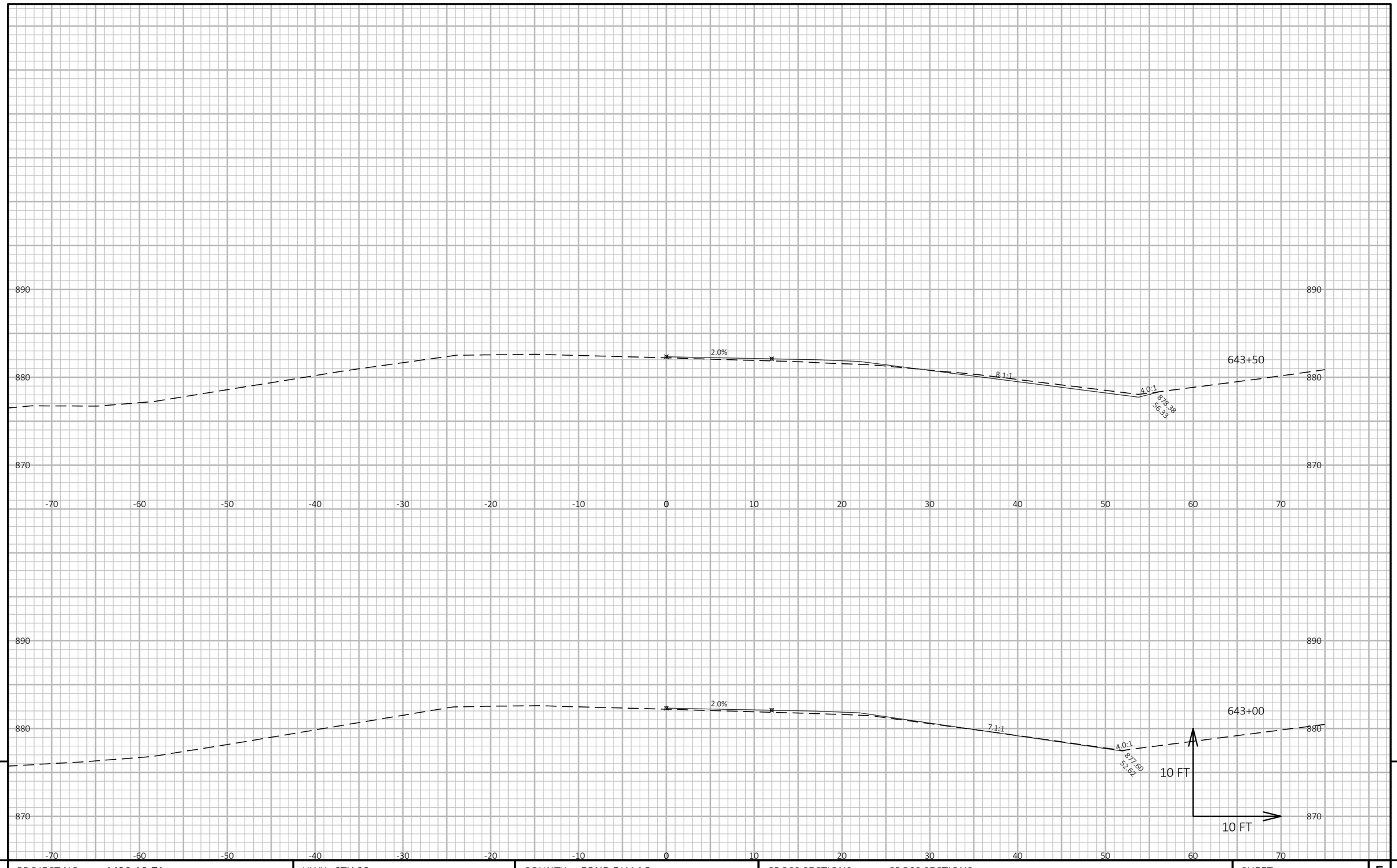
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 190	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_09

PLOT DATE : 11/21/2017 8:21 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



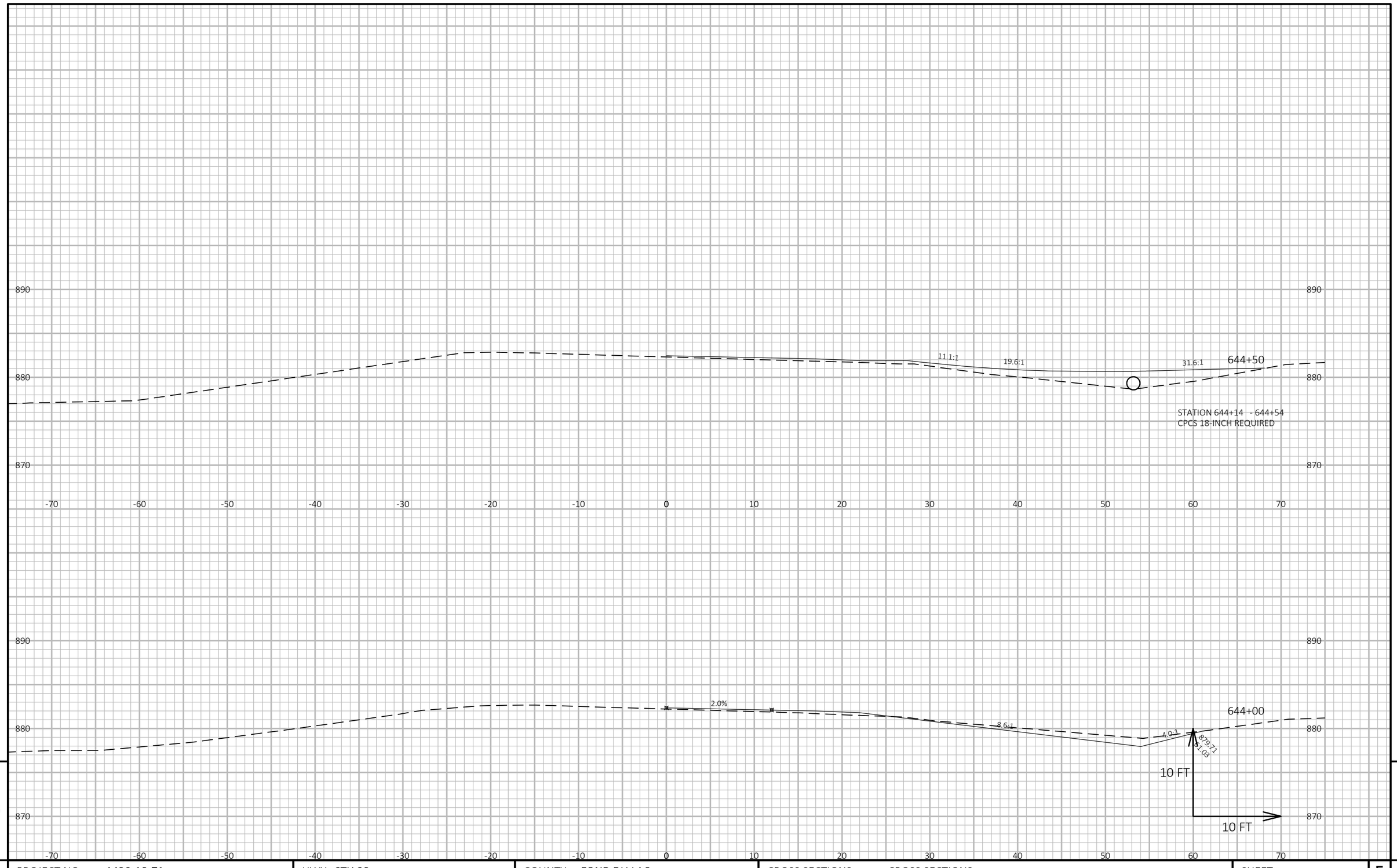
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 191	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_10

PLOT DATE : 11/21/2017 8:21 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

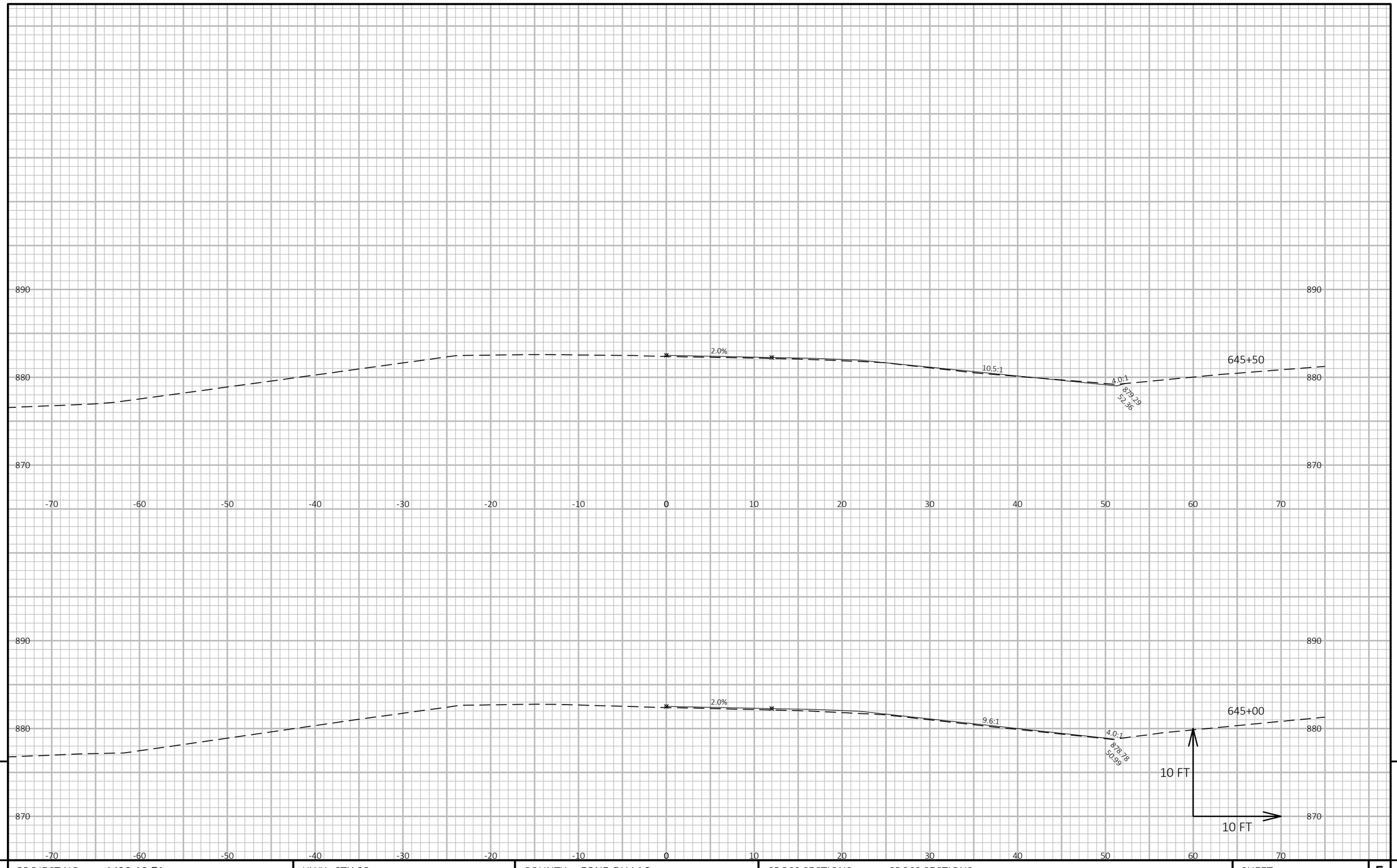
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 192	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_11

PLOT DATE : 11/21/2017 8:21 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

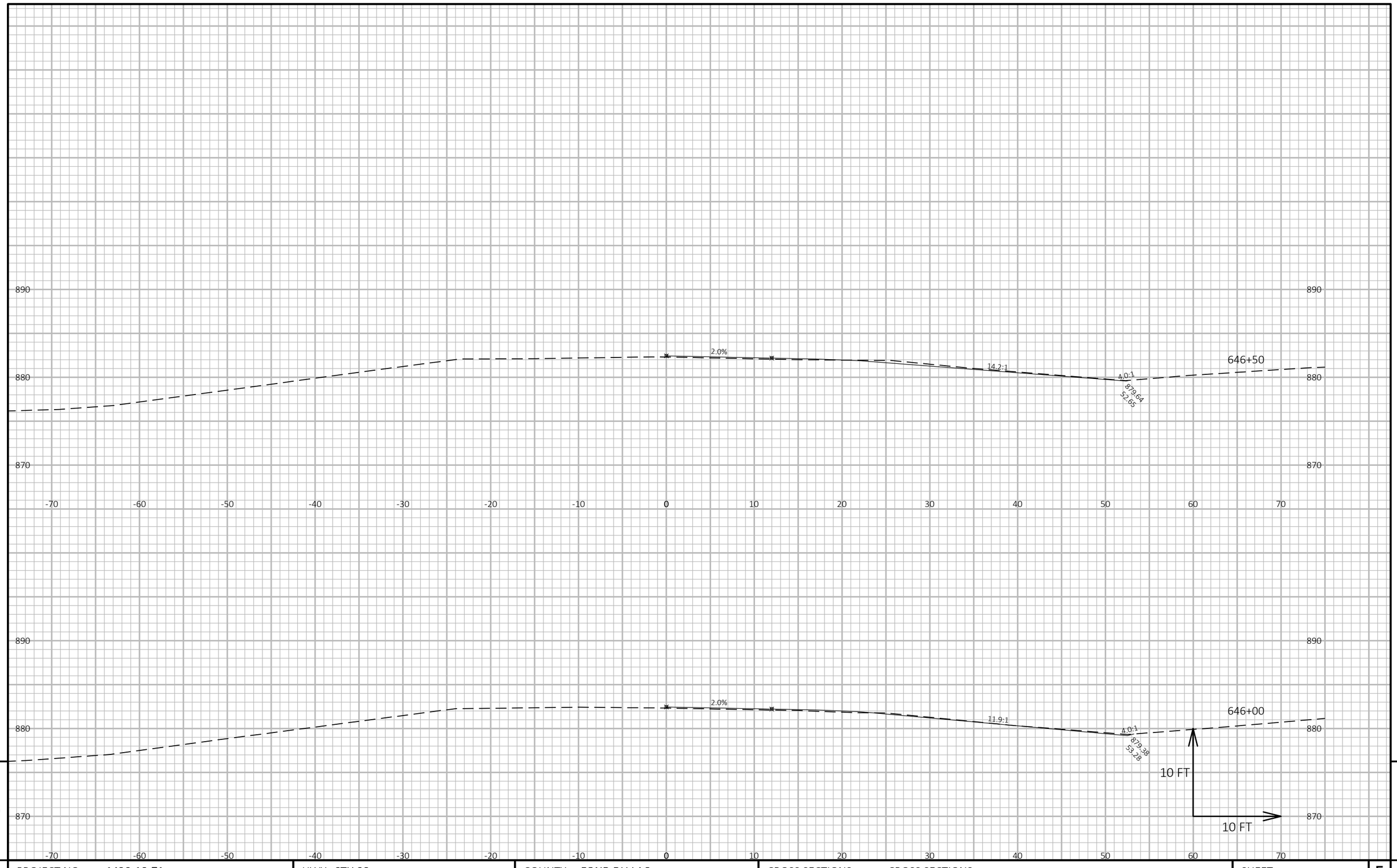
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 193	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_12

PLOT DATE : 11/21/2017 8:21 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



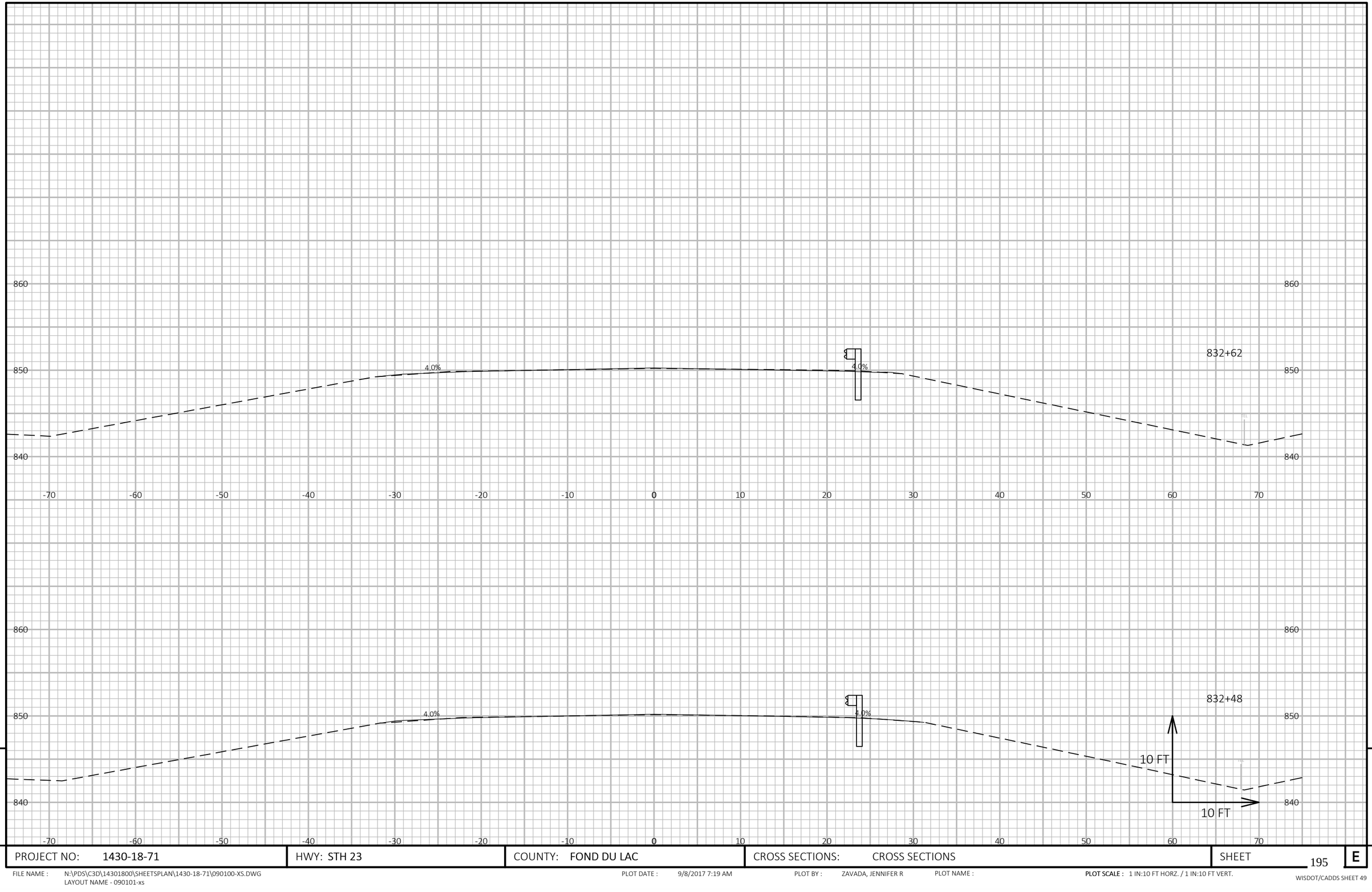
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 194	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090101-XS.DWG
LAYOUT NAME - 090101_13

PLOT DATE : 11/21/2017 8:21 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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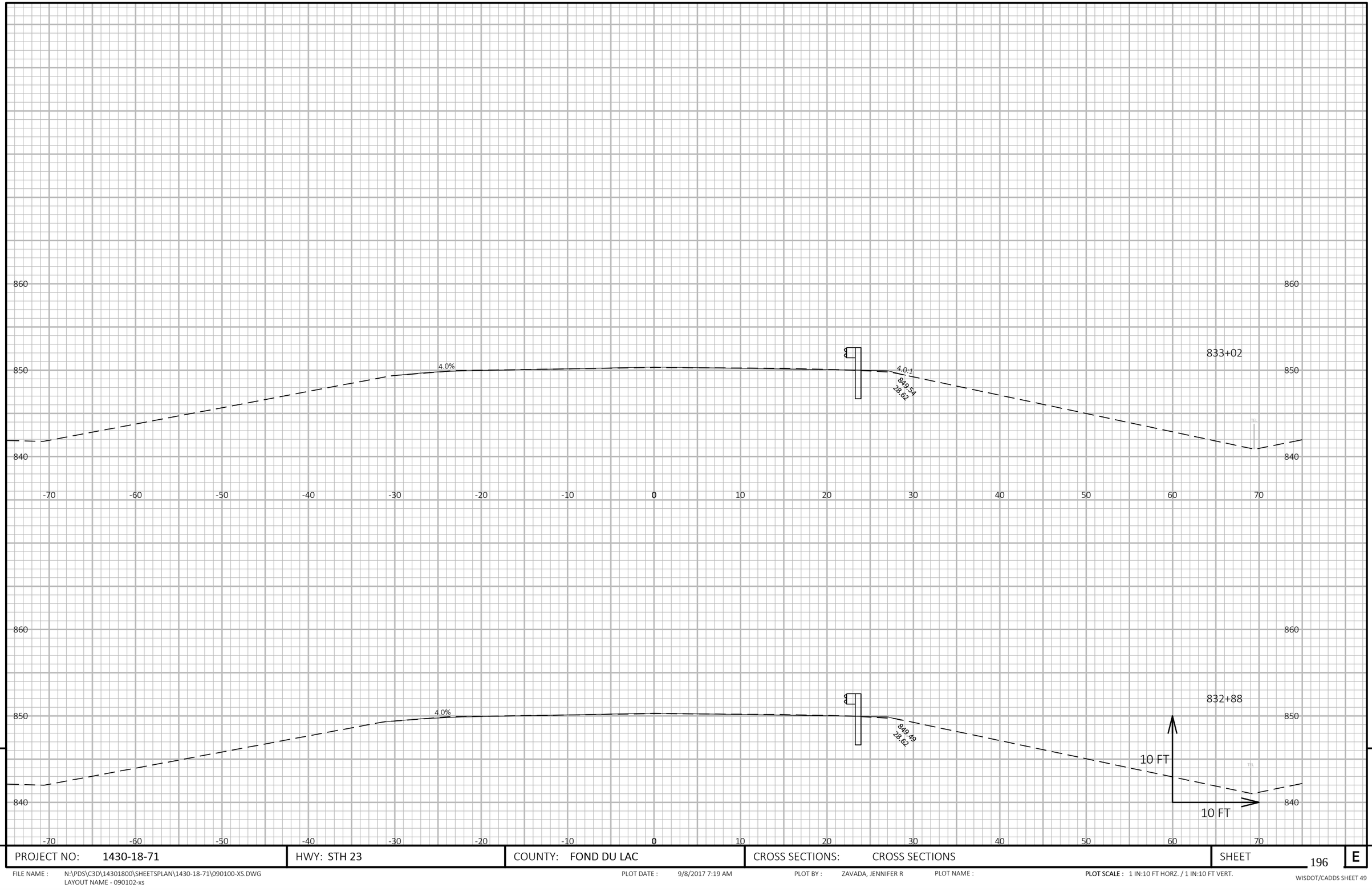
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 195	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090101-xs

PLOT DATE : 9/8/2017 7:19 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

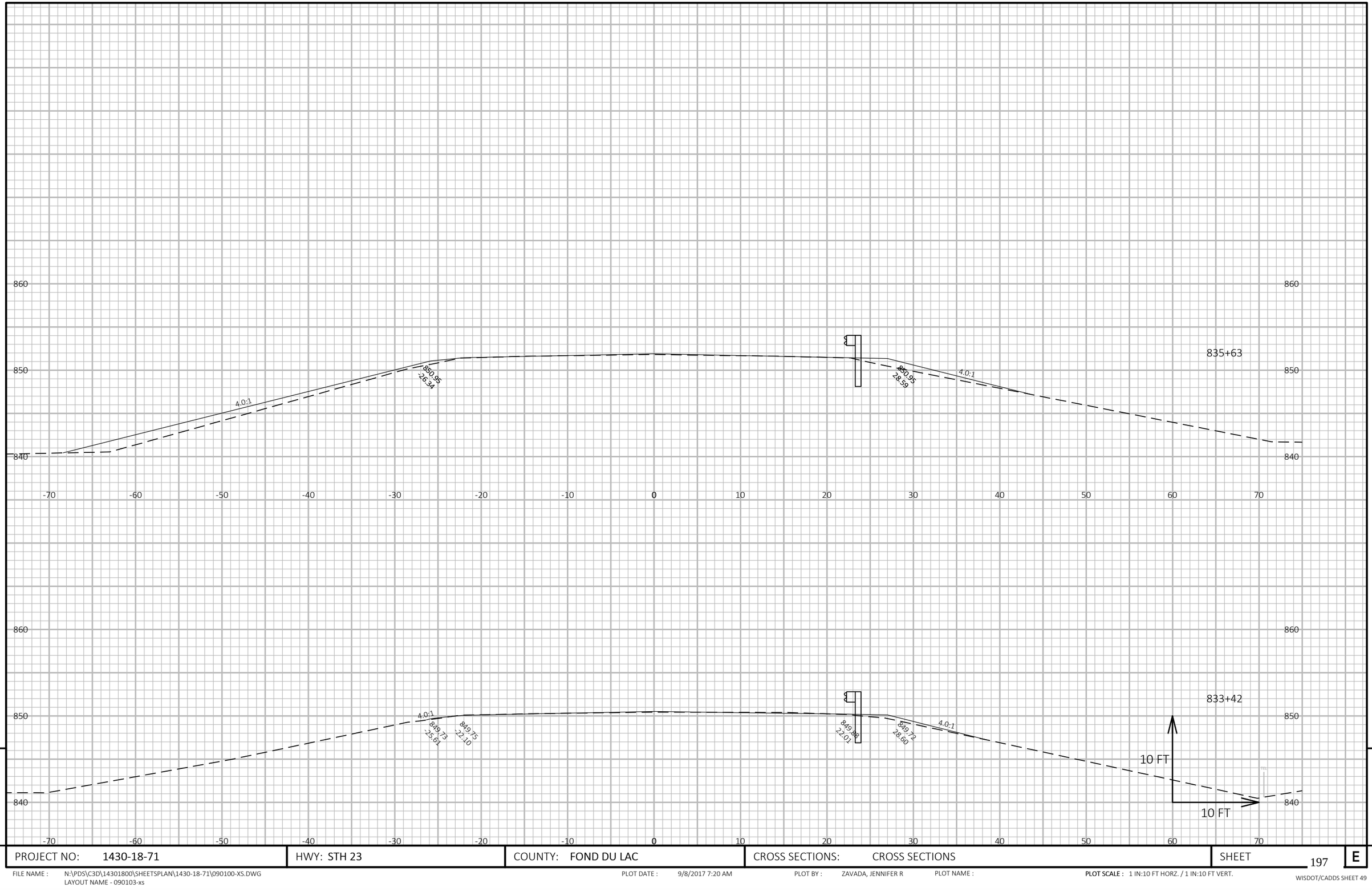
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FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090102-xs

PLOT DATE : 9/8/2017 7:19 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 197	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090103-xs

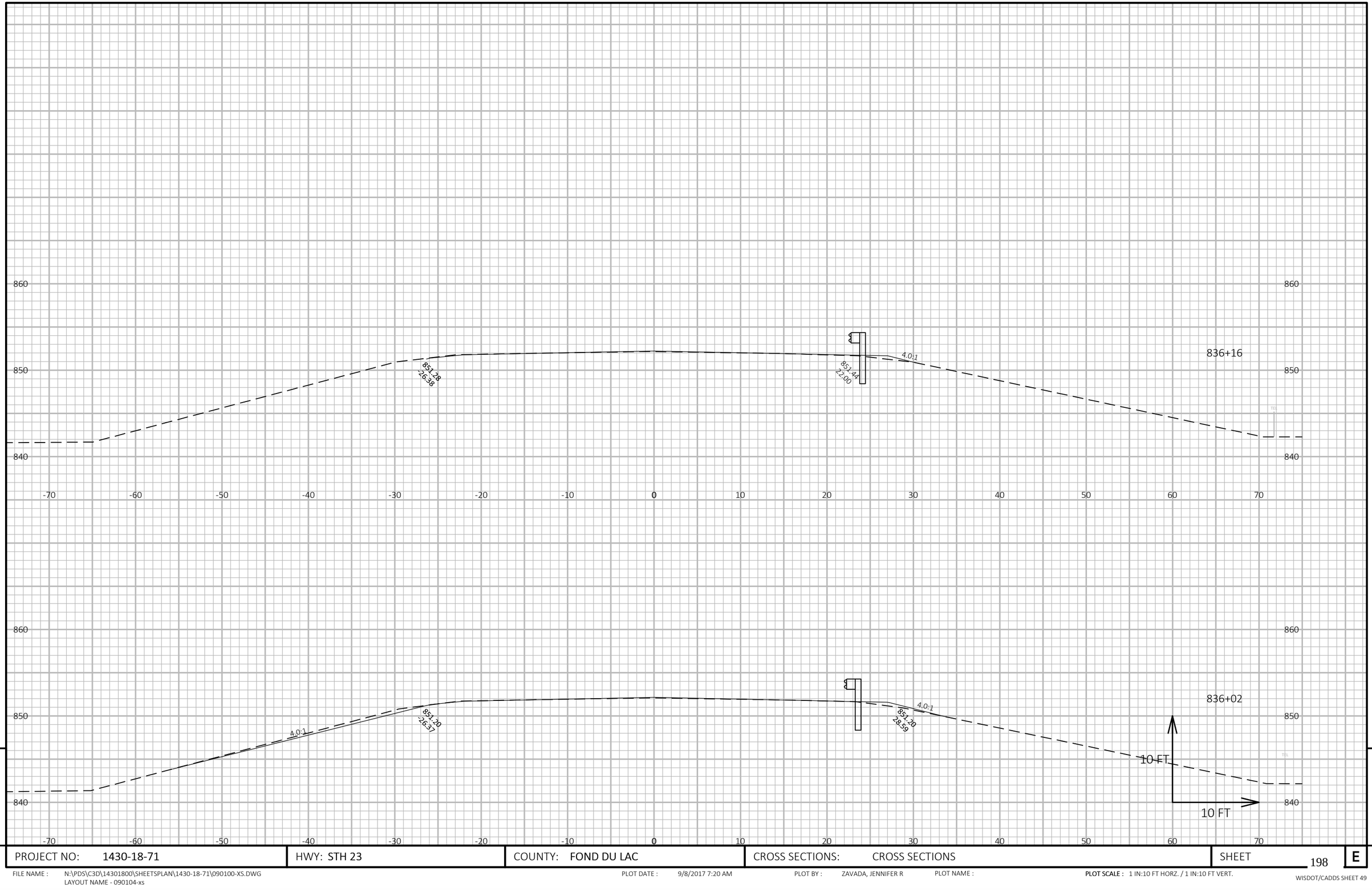
PLOT DATE : 9/8/2017 7:20 AM

PLOT BY : ZAVADA, JENNIFER R

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 198	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090104-xs

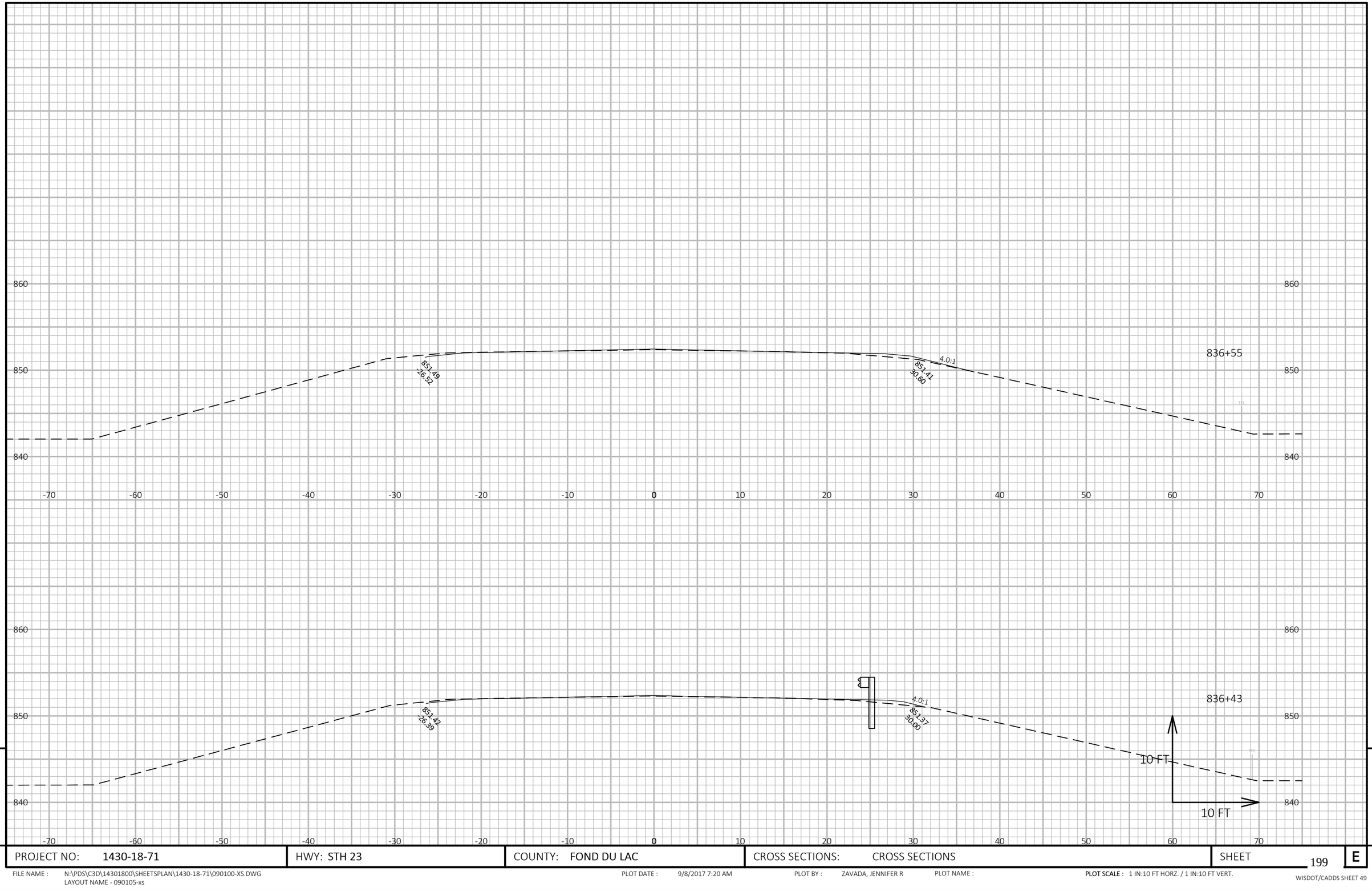
PLOT DATE : 9/8/2017 7:20 AM

PLOT BY : ZAVADA, JENNIFER R

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

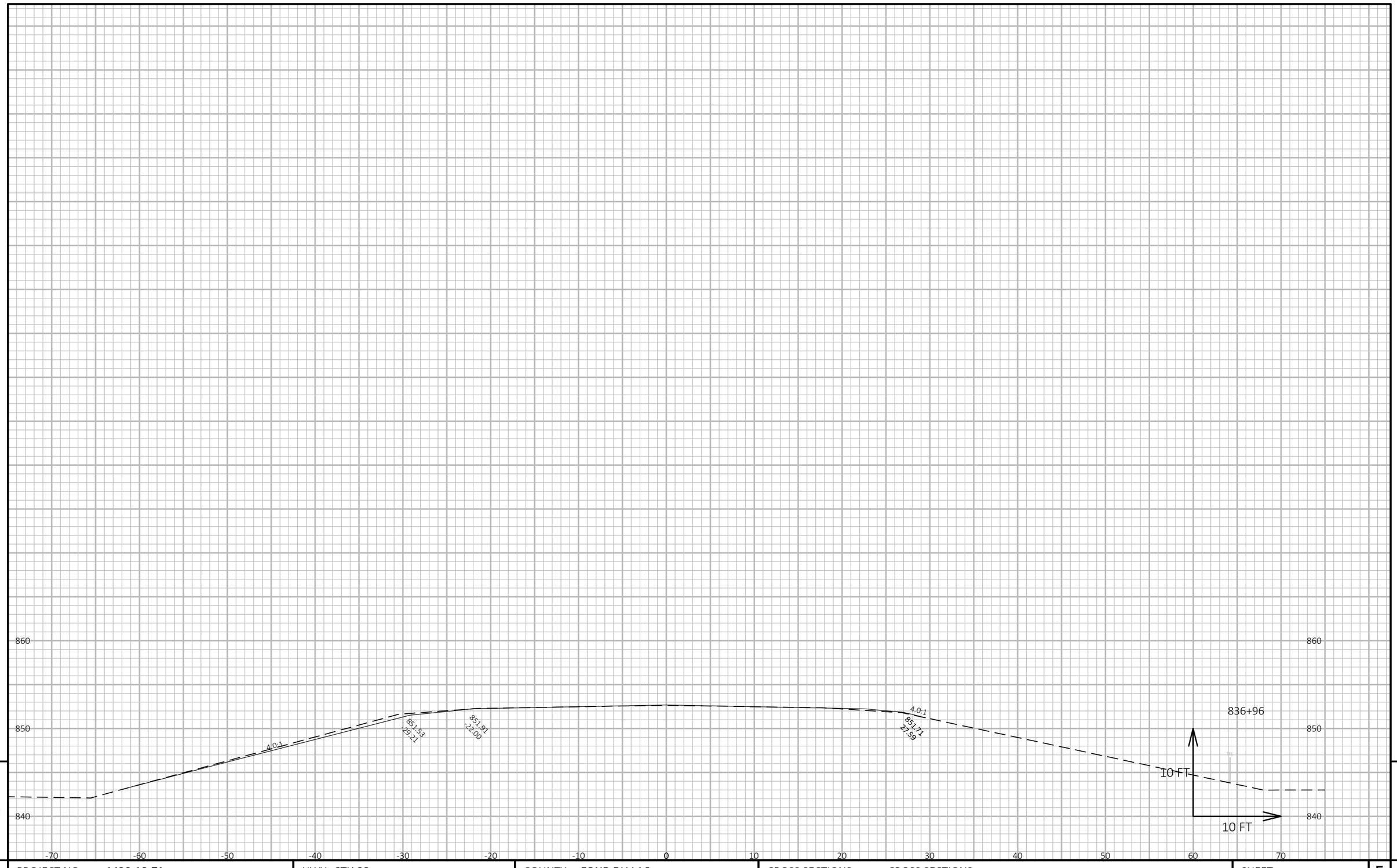
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 199	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090105-xs

PLOT DATE : 9/8/2017 7:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

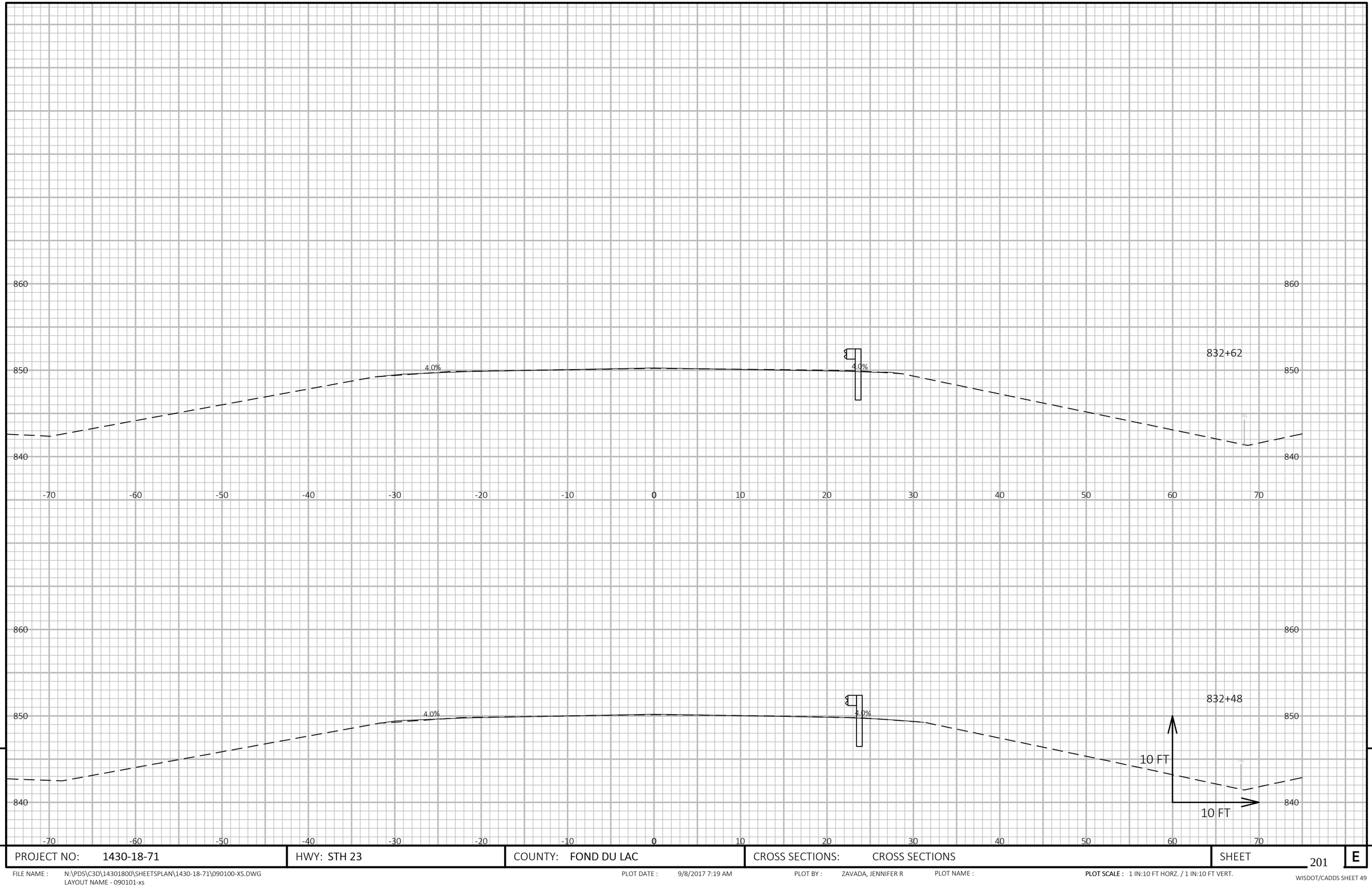
PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 200	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090106-xs

PLOT DATE : 9/8/2017 7:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

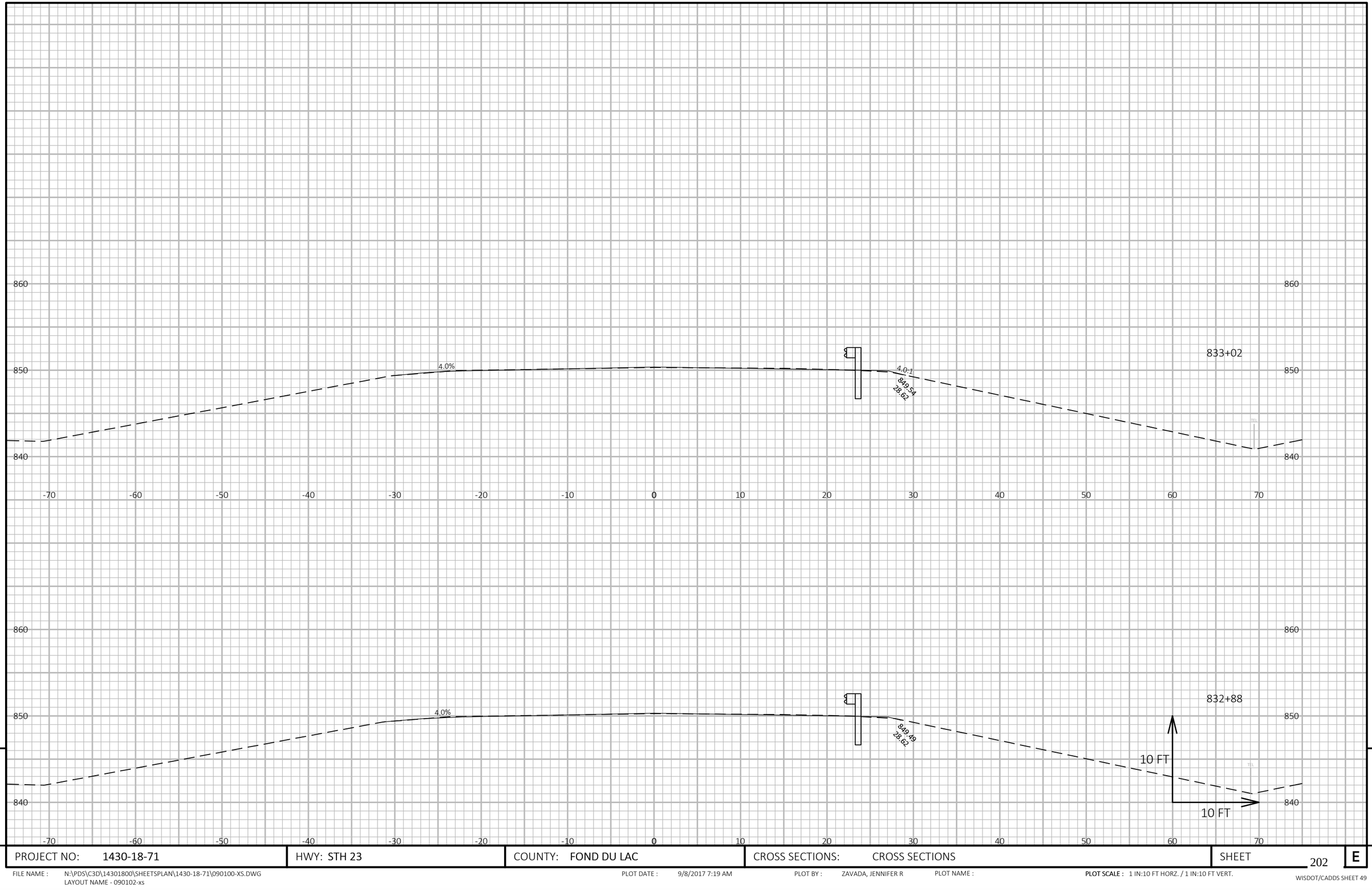
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 201	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090101-xs

PLOT DATE : 9/8/2017 7:19 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 202	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090102-xs

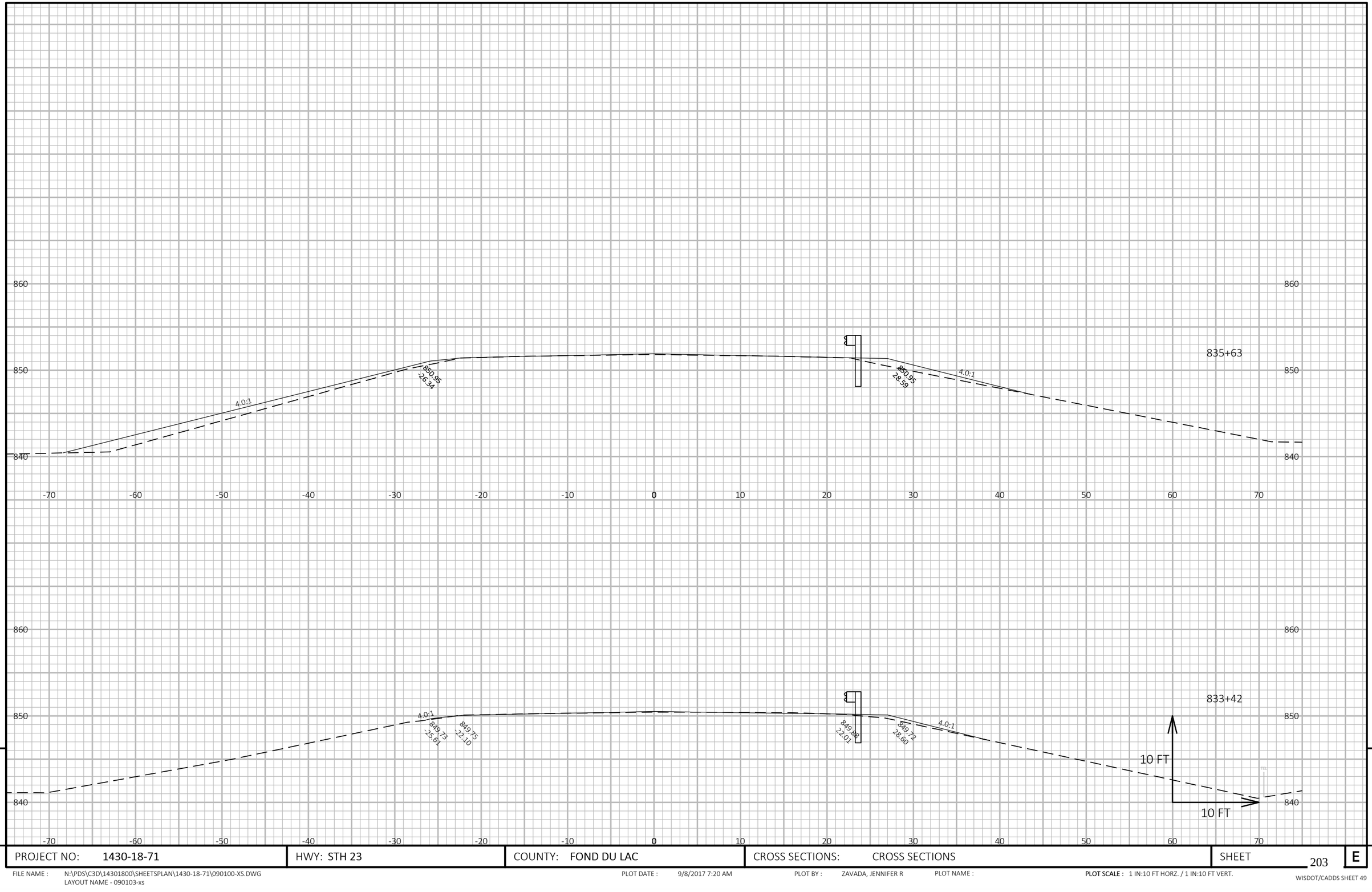
PLOT DATE : 9/8/2017 7:19 AM

PLOT BY : ZAVADA, JENNIFER R

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

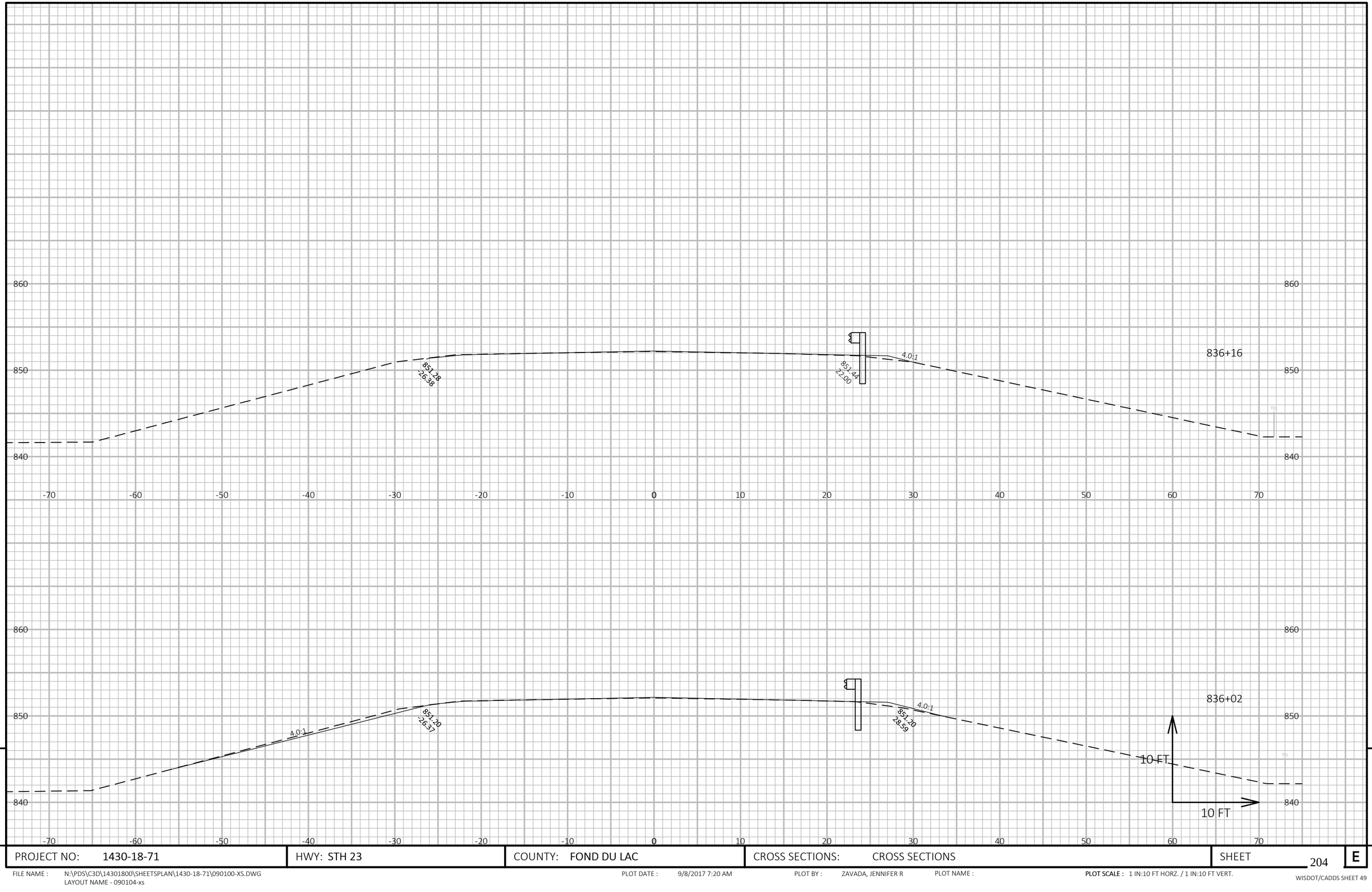
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PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 203	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090103-xs

PLOT DATE : 9/8/2017 7:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 204	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090104-xs

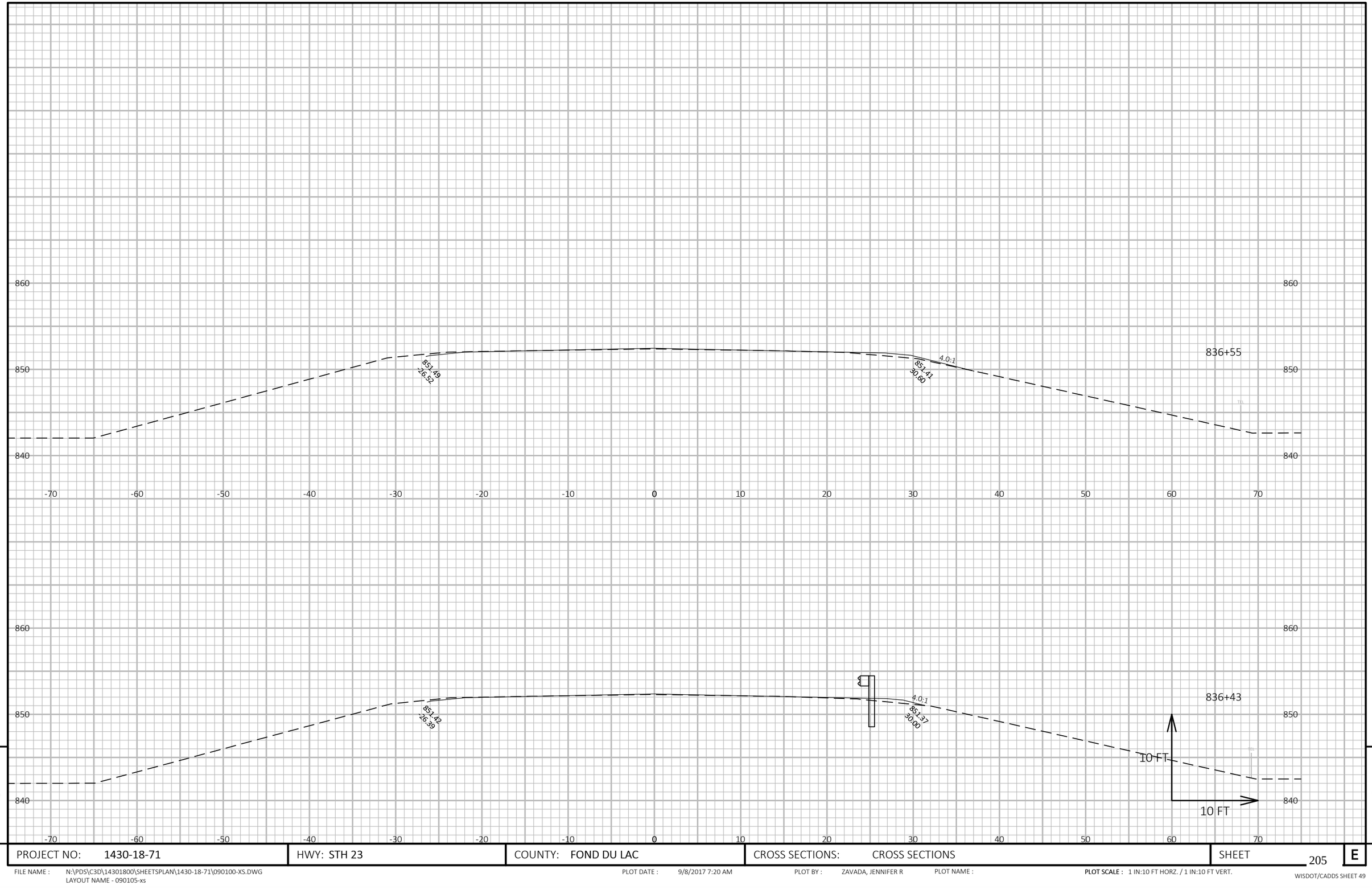
PLOT DATE : 9/8/2017 7:20 AM

PLOT BY : ZAVADA, JENNIFER R

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 205	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090105-xs

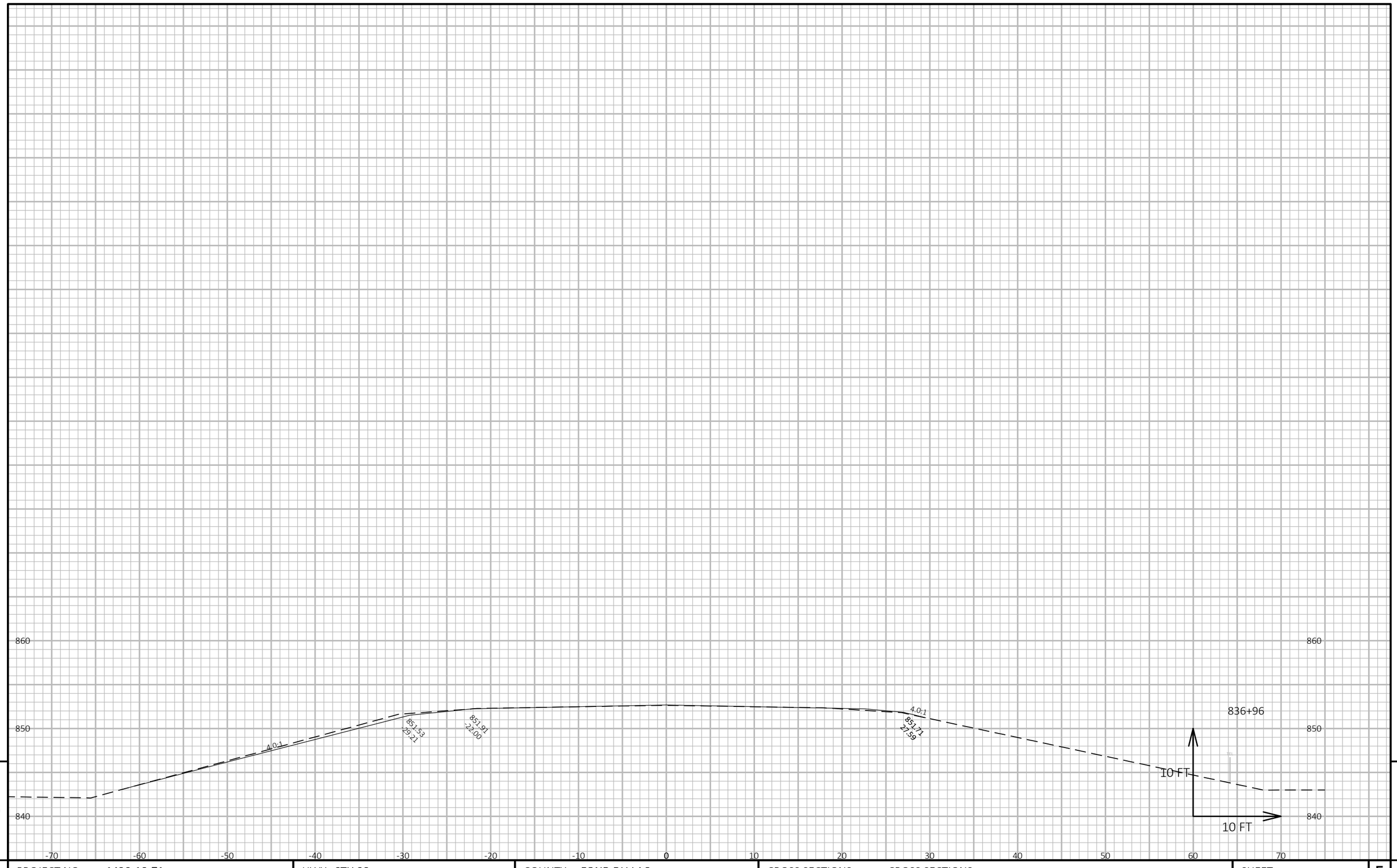
PLOT DATE : 9/8/2017 7:20 AM

PLOT BY : ZAVADA, JENNIFER R

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1430-18-71	HWY: STH 23	COUNTY: FOND DU LAC	CROSS SECTIONS: CROSS SECTIONS	SHEET 206	E

FILE NAME : N:\PDS\C3D\14301800\SHEETSPLAN\1430-18-71\090100-XS.DWG
LAYOUT NAME - 090106-xs

PLOT DATE : 9/8/2017 7:20 AM PLOT BY : ZAVADA, JENNIFER R PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

GRE

MAY 2018

PROJECT ID: 1430-23-71

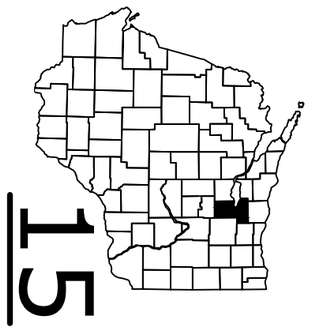
WITH: 1430-18-71

COUNTY: FOND DU LAC

ORDER OF SHEETS

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

TOTAL SHEETS = 118





DESIGN DESIGNATION

A.A.D.T.	2018	=	6900
A.A.D.T.	2038	=	7900
D.H.V.		=	1197
D.D.		=	60/40
T.		=	8.2
DESIGN SPEED		=	35 MPH
ESALS		=	2,100,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 23, VILLAGE OF ROSENDALE

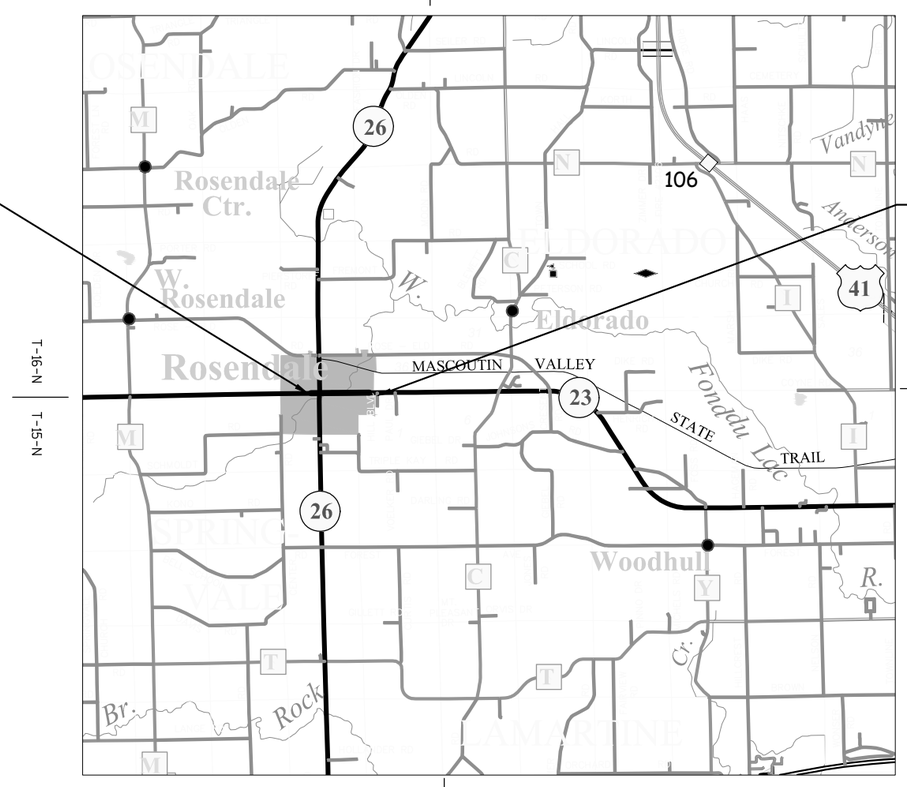
LAFAYETTE ST - BECKER BLVD

STH 23

FOND DU LAC COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1430-23-71	WISC 2018243	1

STATE PROJECT NUMBER
1430-23-71



BEGIN PROJECT
STA 432+80
Y= 396,768.454
X= 756,087,531

END PROJECT
STA 473+76
Y= 396,736.452
X= 760,183.405

LAYOUT SCALE 0 2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.776 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, FOND DU LAC COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. VERTICAL DATUM IS NAVD88 (2007)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	
Designer	JENNIFER ZAVADA
Project Manager	BRYAN LEARST
Regional Examiner	
Regional Supervisor	ROBERT WAGNER

APPROVED FOR THE DEPARTMENT

DATE: 2/1/18 (Signature)

E

GENERAL NOTES

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

MISCELLANEOUS REMOVAL ITEMS REQUIRING RESTORATION OF ASPHALTIC CONCRETE DRIVEWAYS, SIDEWALKS OR SIDE STREETS SHALL BE REMOVED TO AN EXISTING JOINT OR SAWED AS DETERMINED BY THE ENGINEER.

TOPSOIL, FERTILIZER, SEED AND EROSION MAT AS SHOWN IN PLANS OR AS DIRECTED BY ENGINEER SHALL BE PLACED ON ALL DISTURBED AREAS, EXCLUSIVE OF THE AREA OCCUPIED BY THE NEW PAVEMENTS, SIDEWALKS, ENTRANCES, AND RELATED STRUCTURES.

ALL CONCRETE BASE PATCHING LOCATIONS ARE APPROXIMATE. THE EXACT LOCATIONS OF CONCRETE BASE PATCHING SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

UTILITIES

DAN HOLDRIDGE
VILLAGE OF ROSENDALE - SEWER
211 NORTH GRANT ST
ROSENDALE, WI 54974
(920)979-1983
DHOLDRIDGE@VILLAGEOFROSENDALE.COM

ANDY SCHMIDT
ALLIANT ENERGY - ELECTRICITY
506 FENTON ST
RIPON, WI 54971
920-948-2087
ANDYSCHMIDT@ALLIANTENERGY.COM

JEREMY RENTMEESTER
ALLIANT ENERGY - GAS/PETROLEUM
883 WEST SCOTT ST
FOND DU LAC, WI 54937
920-904-1753
JEREMYRENTMEESTER@ALLIANTENERGY.COM

TIM KROEZE
CENTURYLINK - COMMUNICATION LINE
19 W FOND DU LAC ST
RIPON, WI 54971
920-219-0112
TIM.KROEZE@CENTURYLINK.COM

NICK FRASE
CHARTER COMMUNICATIONS - COMMUNICATION LINE
N3760 COUNTY ROAD DJ
JUNEAU, WI 53039
920-304-6797
NICK.FRASE@CHARTER.COM

DNR LIAISON

JAY SCHIEFELBEIN
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVENUE
GREEN BAY, WI 54313-6727
(920) 360-3784
jeremiah.schiefelbein@wisconsin.gov

FOND DU LAC COUNTY COMMISSIONER

TOM JANKE
301 DIXIE STREET
FOND DU LAC, WI 54935
(920) 929-3488
tom.janke@fdlco.wi.gov

NE REGION SURVEY COORIDNATOR

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

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

PROJECT NO:1430-23-71	HWY:STH 23	COUNTY:FOND DU LAC	UTILITIES & GENERAL NOTES	SHEET 2	E

2

2

N

END PROJECT 1430-23-71
STA 473+76

LAFAYETTE ST

STH 26/N MAIN ST

EXIST C-20-58

HILL RD

N WILSON RD

430 435 440 445 450 455 460 465 470

STH 23 STH 23 STH 23 STH 23

MAIN ST

TAFT ST

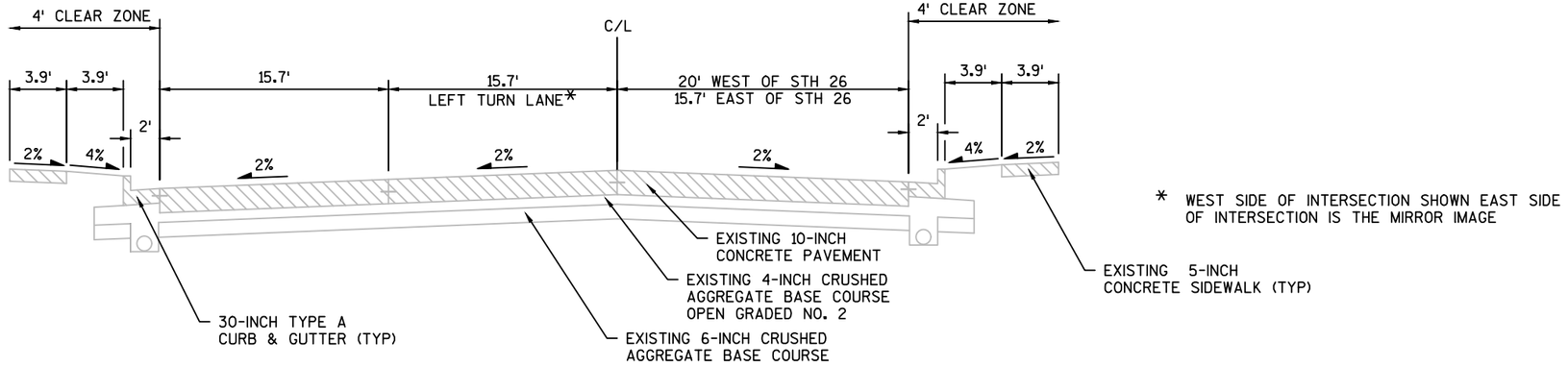
JASON CT

BECKER BLVD

STH 26/S MAIN ST

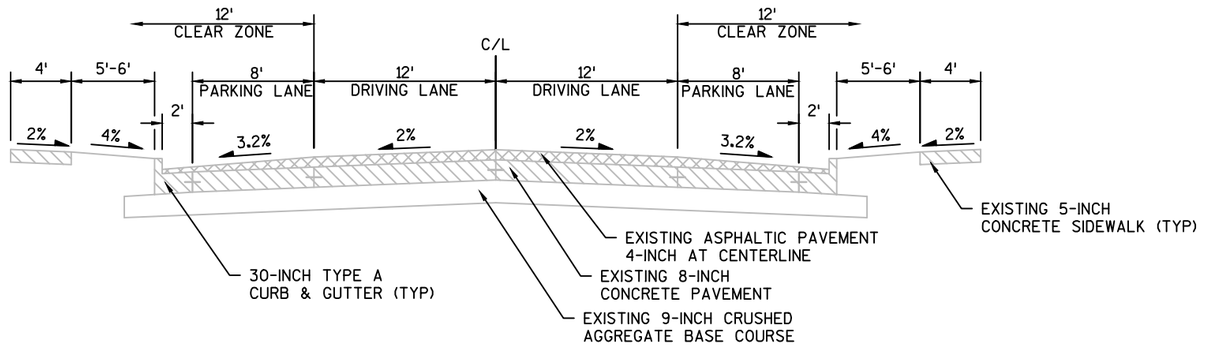
BEGIN PROJECT 1430-23-71
STA 432+80

PROJECT NO:1430-23-71	HWY:STH 23	COUNTY:FOND DU LAC	PROJECT OVERVIEW	SHEET 3	E



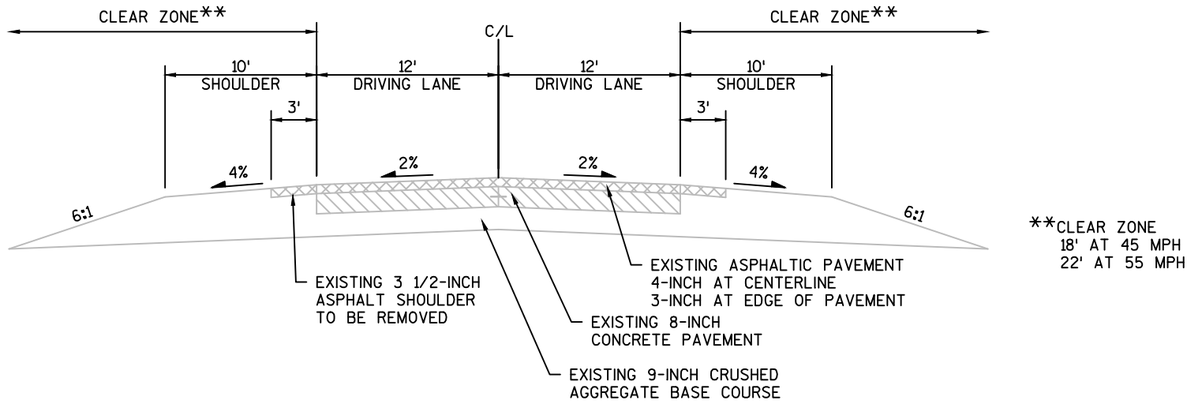
TYPICAL EXISTING CROSS SECTION FOR STH 23

STA 432+80 - 445+95



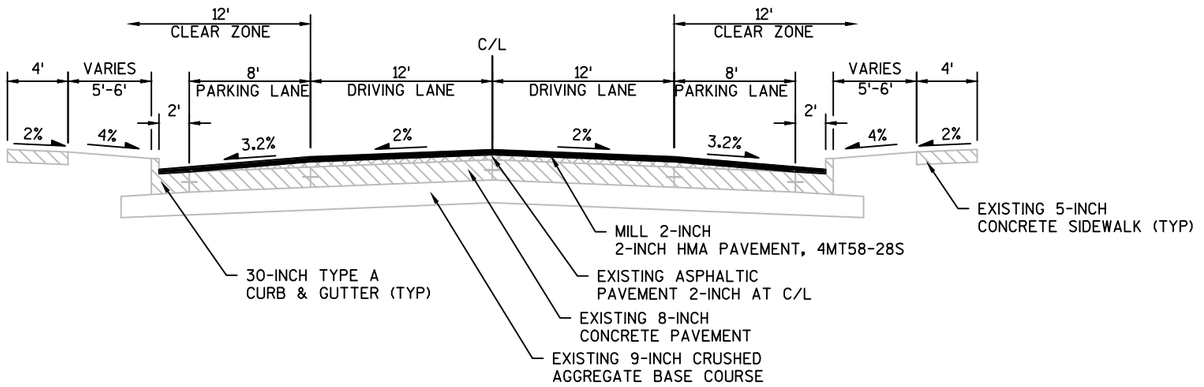
TYPICAL EXISTING CROSS SECTION FOR STH 23

STA 445+95 - 450+80



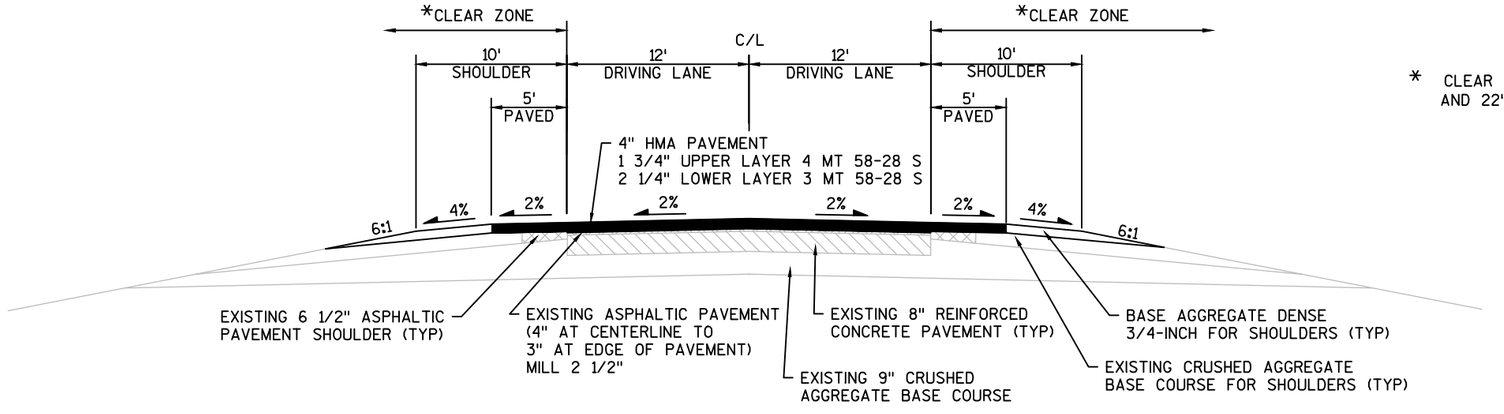
TYPICAL EXISTING CROSS SECTION FOR STH 23

STA 450+80 - 473+46



TYPICAL FINISHED CROSS SECTION FOR STH 23

STA 445+95 - 450+80

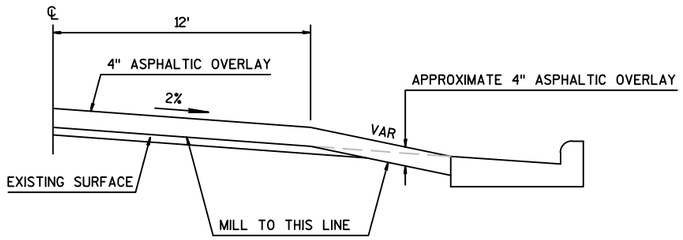


* CLEAR ZONE IS 18' WHEN THE SPEED LIMIT IS 45 MPH AND 22' WHEN THE SPEED LIMIT IS 55 MPH.

TYPICAL FINISHED CROSSSECTION FOR STH 23

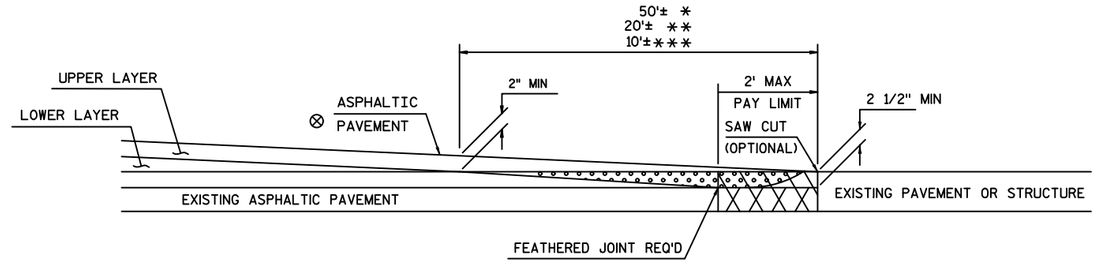
STA 450+80 - 473+76

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY:FOND DU LAC	TYPICAL CROSS SECTIONS	SHEET 5	E



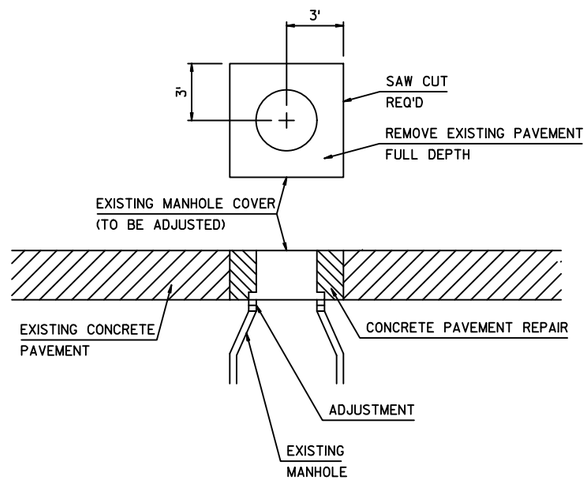
TYPICAL CROSS SECTION FOR CURB & GUTTER AT INTERSECTIONS

HILL RD
BECKER BLVD



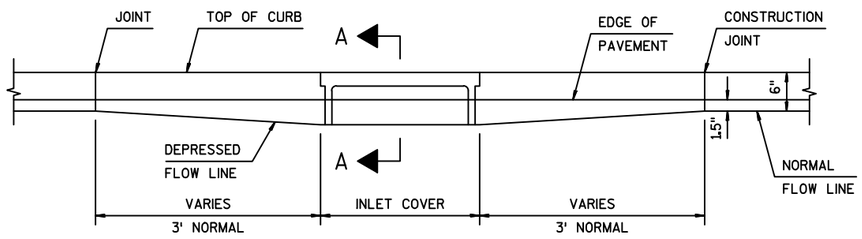
BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

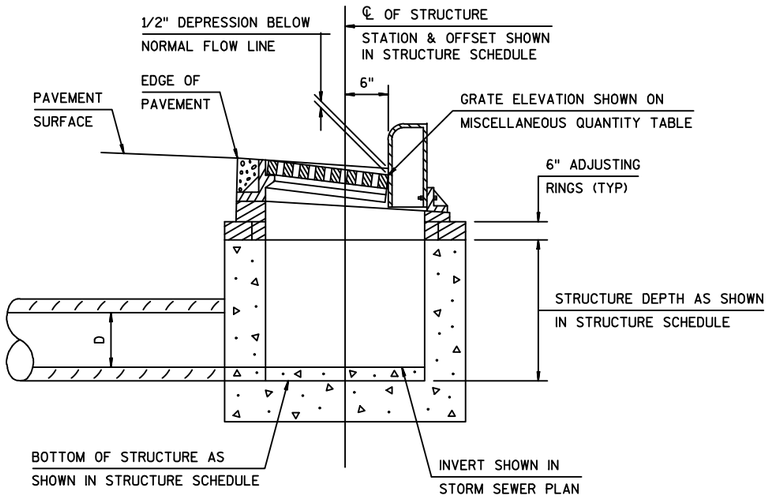
* MAINLINE
** SIDEROADS
*** PRIVATE ENTRANCES



ADJUSTING MANHOLE COVERS

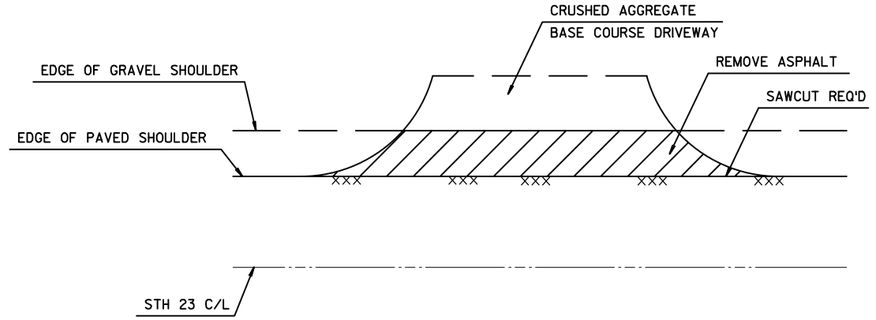
PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	CONSTRUCTION DETAILS	SHEET 6	E



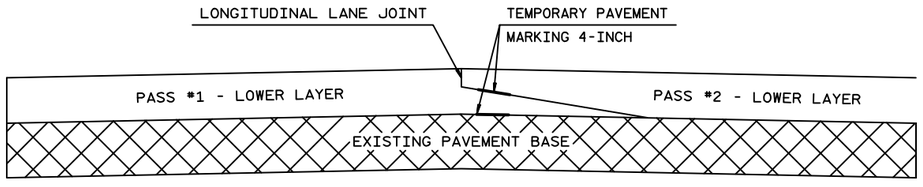


SECTION A-A

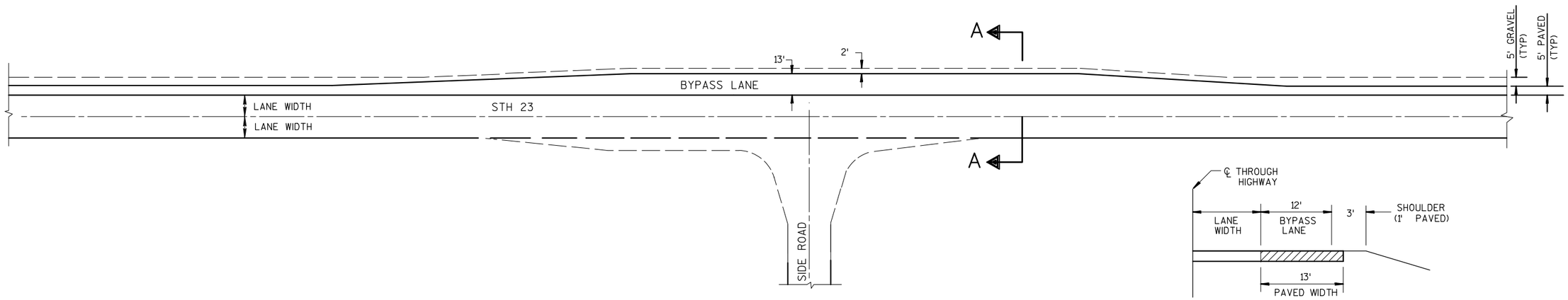
DETAIL OF CURB AND GUTTER AT INLETS



APRON REMOVAL FOR UNPAVED DRIVEWAYS



PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)

TEE INTERSECTION BYPASS LANE DETAIL

NOTES

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, AND LENGTHS PRIOR TO CURB RAMP & SIDEWALK CONSTRUCTION.

ALL CURB RAMPS SHALL BE CONSTRUCTED WITH CONCRETE SIDEWALK 5-INCH AND DETECTABLE WARNING FIELDS YELLOW.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT NECESSARILY INDICATE JOINT LOCATIONS.

N

R/L LAFAYETTE ST

LAFAYETTE ST

SAW CUT (TYP)

RAMP TYPE 1-A

RAMP TYPE 1-A

EXIST R/W

STH 23

435

436

437

R/L STH 23

PROJECT NO:1430-23-71	HWY:STH 23	COUNTY:FOND DU LAC	INTERSECTION DETAIL - LAFAYETTE ST	SHEET 9 E

FILE NAME : N:\PDS\C3D\14302300\SHEETSPLAN\021101_ID.DWG
LAYOUT NAME - 021101_id

PLOT DATE : 11/27/2017 8:45 AM PLOT BY : SMITH, JENNIFER B PLOT NAME : ---------- PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

NOTES

ALL WISDOT TRAFFIC SIGNALS TO REMAIN.

CONTRACTOR TO VERIFY ELEVATIONS, GRADES, SLOPES, AND LENGTHS PRIOR TO CURB RAMP & SIDEWALK CONSTRUCTION.

ALL CURB RAMPS SHALL BE CONSTRUCTED WITH CONCRETE SIDEWALK 5-INCH AND DETECTABLE WARNING FIELDS YELLOW.

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT NECESSARILY INDICATE JOINT LOCATIONS.

LEGEND

CONCRETE PAVEMENT REPAIR & REPLACEMENT AREAS

xxxx SAW CUT

N

STH 26

STH 23

439

440

441

R/L STH 23

R/L STH 26

EXIST R/W

RAMP TYPE 1

6'

6'

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	INTERSECTION DETAIL - STH 26	SHEET 10	E

NOTES

ALL CONCRETE PAVEMENT REPAIR/REPLACEMENT AREAS ARE APPROXIMATE. ENGINEER TO VERIFY LOCATIONS IN THE FIELD.

LEGEND

CONCRETE PAVEMENT REPAIR & REPLACEMENT AREAS

xxxx SAW CUT

N

EXISTING C-20-58

STH 23

445

446

447

STH 23

R/L STH 23

15'

15'

15'

40'

60'

R/L TAFT ST

TAFT ST

EXIST R/W

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	INTERSECTION DETAIL - TAFT ST	SHEET 11	E

FILE NAME : N:\PDS\C3D\14302300\SHEETSPLAN\021101_ID.DWG
LAYOUT NAME - 021103_id

PLOT DATE : 11/27/2017 8:48 AM PLOT BY : SMITH, JENNIFER B PLOT NAME : ---------- PLOT SCALE : 1 IN:20 FT

2

N

LAFAYETTE ST

STH 26

STH 23

435+00 436+00 437+00 438+00 439+00 440+00

R/L STH 23

INL 70
STA 434+65, 30.5' LT
RECONSTRUCT INLET
INLET COVER TYPE H-S

INL 71
STA 434+73, 30.5' LT
RECONSTRUCT INLET
INLET COVER TYPE H-S

MH 71A
STA 434+81, 16.2' RT
ADJUST MANHOLE

INL 73
STA 434+82, 19.4' RT
RECONSTRUCT INLET
INLET COVER TYPE H-S

INL 72
STA 434+63, 19.4' RT
RECONSTRUCT INLET
INLET COVER TYPE H-S

MH 69
STA 435+60, 16.4' RT
ADJUST MANHOLE

INL 52
STA 439+51, 80.1' LT
ADJUST INLET
INLET COVER TYPE H-S

INL 55
STA 438+86, 31.4' LT
RECONSTRUCT INLET
INLET COVER TYPE H-S

MH 54
STA 439+80, 76.9' LT
ADJUST MANHOLE

MH 57
STA 439+85, 34' RT
ADJUST MANHOLE

LEGEND
- INLET
- MANHOLE
- xxxx SAWCUTS

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	STORM SEWER	SHEET 12 E

2

N

441+00 442+00 443+00 STH 23 444+00 445+00 446+00 447+00

INL 76
STA 442+22, 31.4' LT
ADJUST INLET
INLET COVER TYPE H-S

INL 77
STA 444+13, 28.5' LT
ADJUST INLET
INLET COVER TYPE H-S

INL 78
STA 444+22, 28.5' LT
RECONSTRUCT INLET
INLET COVER TYPE H-S

EXISTING
C-20-58
TO REMAIN

INL 104 REMOVE INLET
INSTALL INLET 2X3 COVER TYPE H-S
(CONNECT TO EXIST 12" PIPE)
STA 445+92, 22' LT

INL 102 REMOVE INLET
INSTALL INLET 2X3 COVER TYPE H-S
(CONNECT TO EXIST 12" PIPE)
STA 446+79, 22' RT

R/L STH 23

INL 75
STA 442+15, 17.0 RT
ADJUST INLET
INLET COVER TYPE H-S

INL 79
STA 444+13, 15.8' RT
RECONSTRUCT INLET
INLET COVER TYPE H-S

INL 80
STA 444+23, 15.8' RT
RECONSTRUCT INLET
INLET COVER TYPE H-S

MH 103 REMOVE MANHOLE
INSTALL MANHOLE 3' COVER TYPE J
(CONNECT TO EXIST 12" & 18" PIPES)
STA 446+22, 13.4' RT

INL 101 REMOVE INLET
INSTALL INLET 2X3 COVER TYPE H-S
(CONNECT TO EXIST 12" PIPES)
STA 446+31, 42' RT

INL 100 REMOVE INLET
INSTALL INLET 2X3 COVER TYPE H-S
(CONNECT TO EXIST 12" PIPE)
STA 446+58, 41.6'RLT

LEGEND
- INLET
- MANHOLE
- xxxx SAWCUTS

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	STORM SEWER	SHEET 13	E

FILE NAME : N:\PDS\C3D\14302300\SHEETSPLAN\022501_SS.DWG
LAYOUT NAME - 022502_ss

PLOT DATE : 2/23/2016 7:28 AM PLOT BY : MALUEG, RYAN P PLOT NAME : PLOT SCALE : 1 IN:40 FT

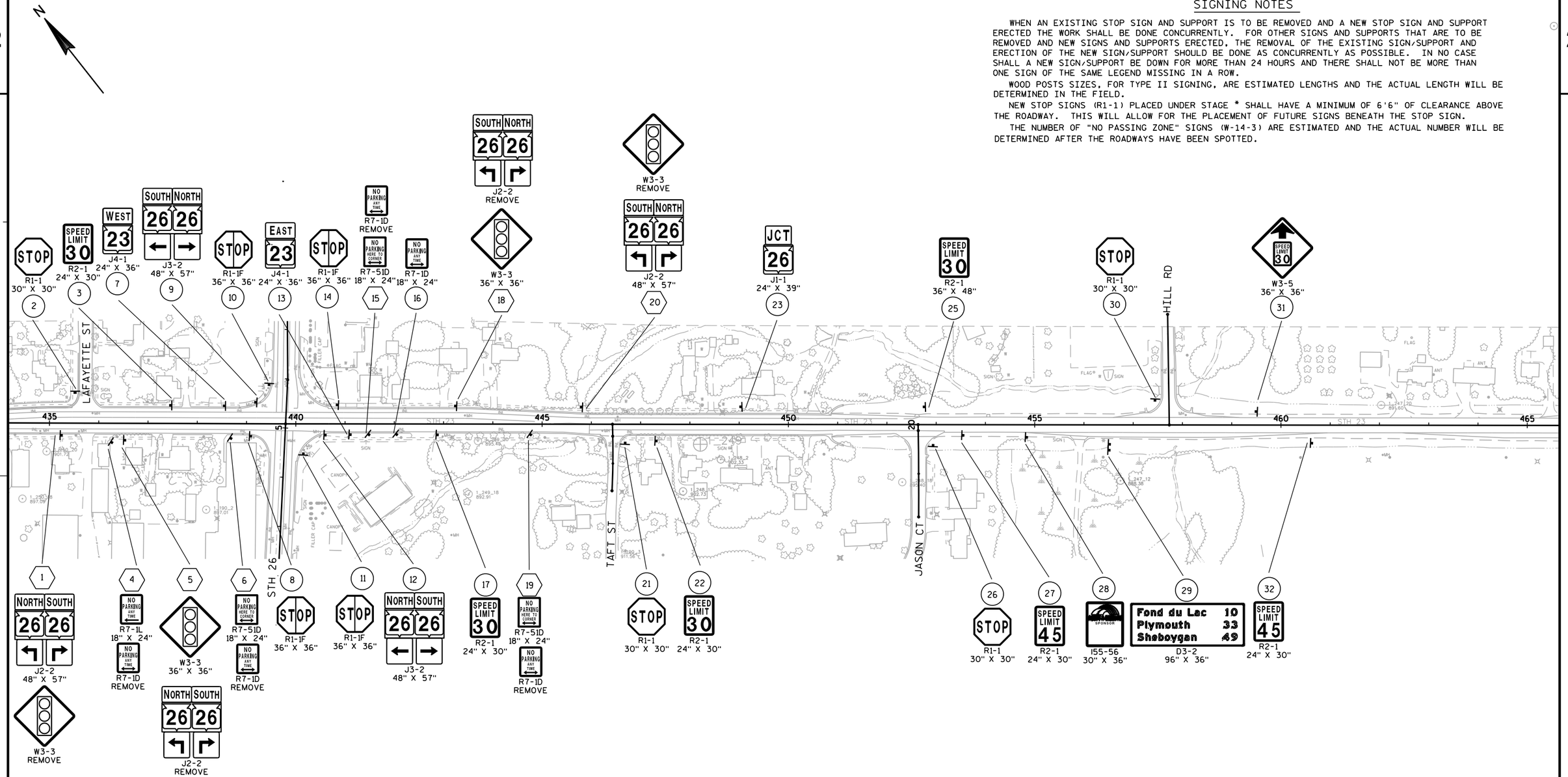
SIGNING NOTES

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE * SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

THE NUMBER OF "NO PASSING ZONE" SIGNS (W-14-3) ARE ESTIMATED AND THE ACTUAL NUMBER WILL BE DETERMINED AFTER THE ROADWAYS HAVE BEEN SPOTTED.



○ SIGN-REMOVE AND REPLACE

□ SIGN-REMOVE EXISTING

⬡ SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WisDOT-NE REGION

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PERMANENT SIGNING	SHEET 14 E

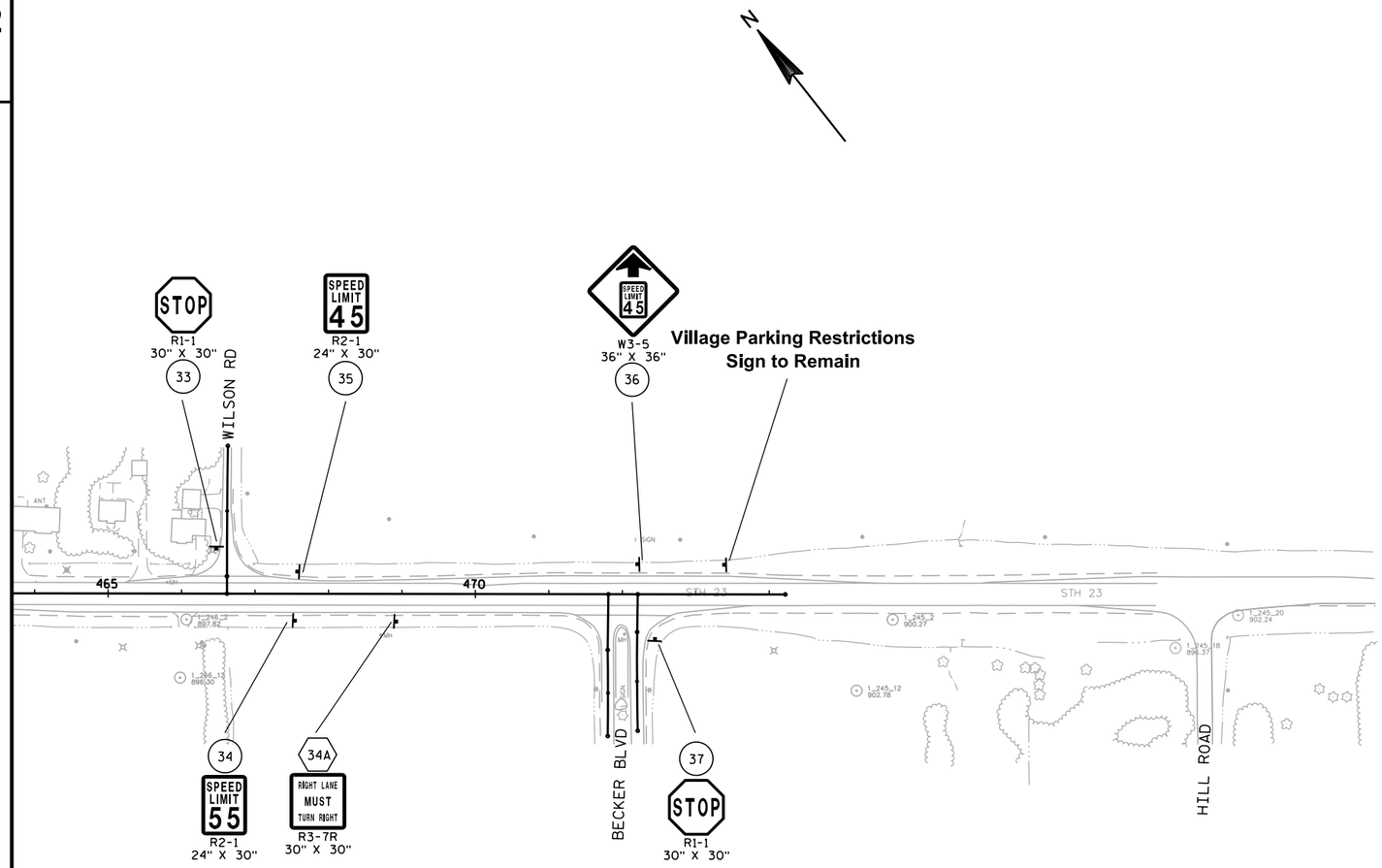
SIGNING NOTES

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WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE * SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

THE NUMBER OF "NO PASSING ZONE" SIGNS (W-14-3) ARE ESTIMATED AND THE ACTUAL NUMBER WILL BE DETERMINED AFTER THE ROADWAYS HAVE BEEN SPOTTED.



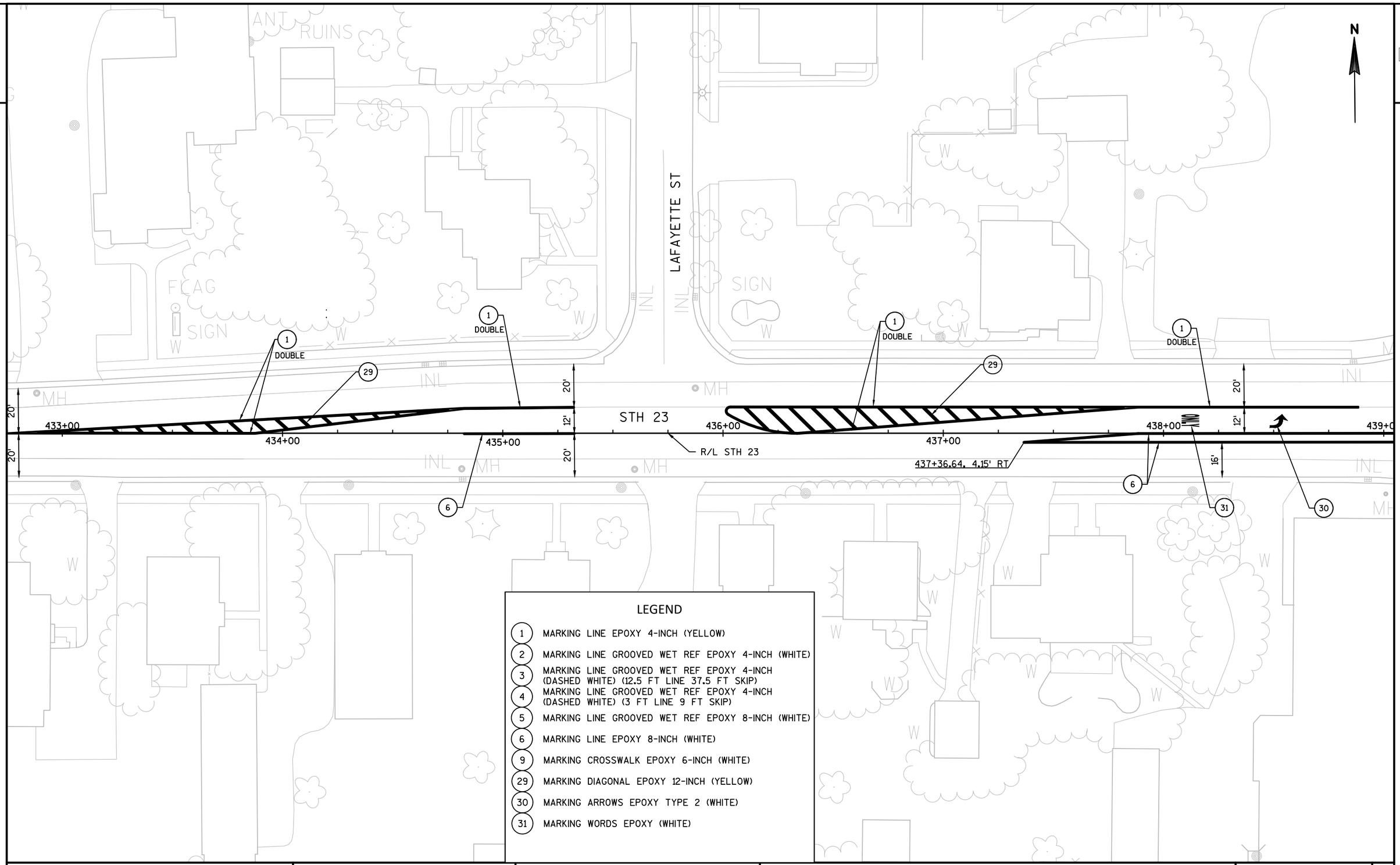
○ SIGN-REMOVE AND REPLACE

□ SIGN-REMOVE EXISTING

⬡ SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WisDOT-NE REGION

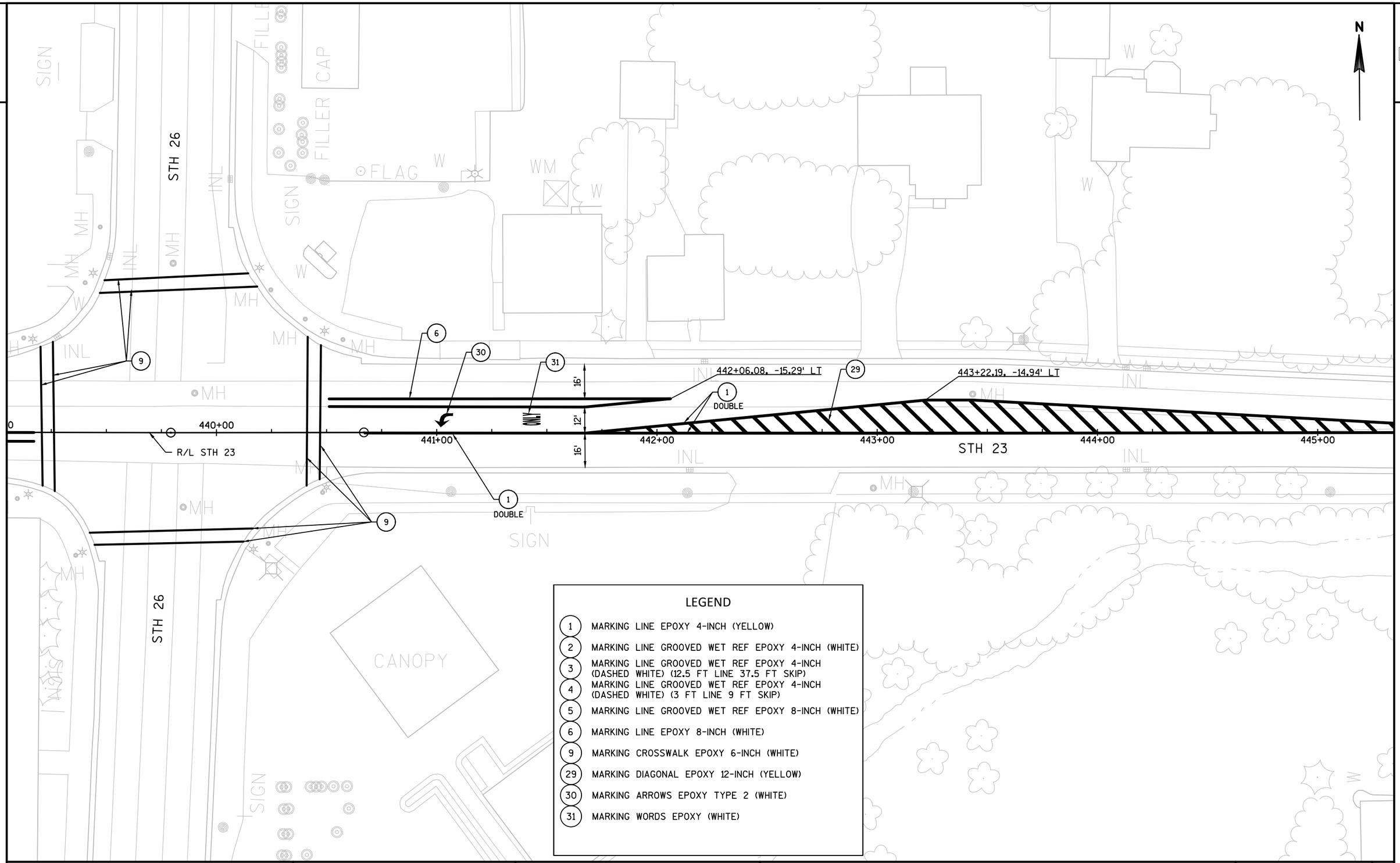
PROJECT NO:1430-23-71	HWY: STH 23	COUNTY:FOND DU LAC	PERMANENT SIGNING	SHEET 15 E



LEGEND

1	MARKING LINE EPOXY 4-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
3	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
4	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)
5	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE)
9	MARKING CROSSWALK EPOXY 6-INCH (WHITE)
29	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
30	MARKING ARROWS EPOXY TYPE 2 (WHITE)
31	MARKING WORDS EPOXY (WHITE)

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PAVEMENT MARKINGS	SHEET 16	E



LEGEND

1	MARKING LINE EPOXY 4-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
3	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
4	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)
5	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE)
9	MARKING CROSSWALK EPOXY 6-INCH (WHITE)
29	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
30	MARKING ARROWS EPOXY TYPE 2 (WHITE)
31	MARKING WORDS EPOXY (WHITE)

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PAVEMENT MARKINGS	SHEET 17	E

N

W

ANT

SIGN

INL

MH

1

DOUBLE

2

446+00

447+00

448+00

449+00

450+00

451+00

20'

20'

R/L STH 23

STH 23

LEGEND

1	MARKING LINE EPOXY 4-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
3	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
4	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)
5	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE)
9	MARKING CROSSWALK EPOXY 6-INCH (WHITE)
29	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
30	MARKING ARROWS EPOXY TYPE 2 (WHITE)
31	MARKING WORDS EPOXY (WHITE)

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PAVEMENT MARKINGS	SHEET 18	E

FILE NAME : N:\PDS\C3D\14302300\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024503_pm

PLOT DATE : 3/13/2018 3:37 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1 IN:40 FT

N

SIGN

W

FLAG

SIGN

HILL RD

1
DOUBLE

2

3

456+41.03, -12.25' LT

452+00 453+00 454+00 455+00 456+00 457+00

12'

12'

R/L STH 23

STH 23

452+16.96, 12.25' RT

453+21.96, 12.25' RT

454+76.72, 12.25' RT

452+99.50, 23.67' RT

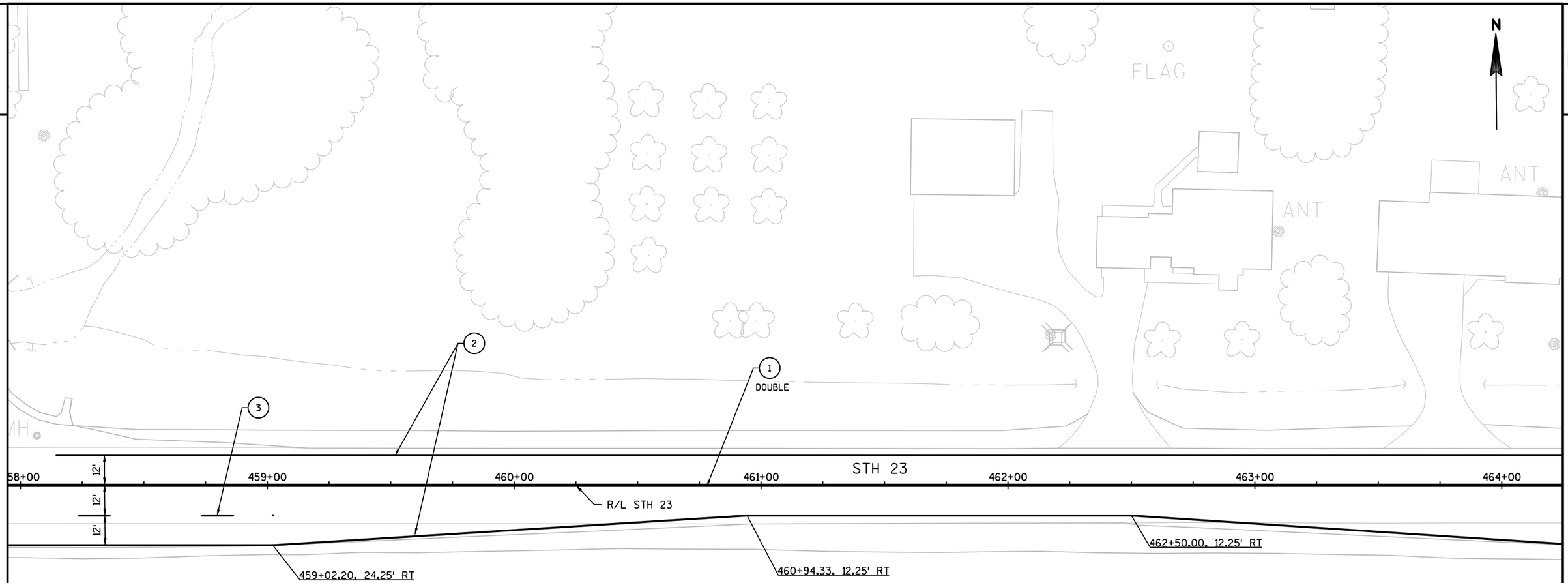
456+12.76, 23.61' RT

SIGN

LEGEND

1	MARKING LINE EPOXY 4-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
3	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
4	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)
5	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
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9	MARKING CROSSWALK EPOXY 6-INCH (WHITE)
29	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
30	MARKING ARROWS EPOXY TYPE 2 (WHITE)
31	MARKING WORDS EPOXY (WHITE)

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PAVEMENT MARKINGS	SHEET 19	E



LEGEND

1	MARKING LINE EPOXY 4-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
3	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
4	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)
5	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE)
9	MARKING CROSSWALK EPOXY 6-INCH (WHITE)
29	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
30	MARKING ARROWS EPOXY TYPE 2 (WHITE)
31	MARKING WORDS EPOXY (WHITE)

N

1
DOUBLE

2

2

465+11.29, -12.26' LT

467+86.97, -12.26' LT

MH

465+00 466+00 467+00 STH 23 468+00 469+00 470+00

R/L STH 23

3

4

MH

30

5

31

LEGEND

1	MARKING LINE EPOXY 4-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
3	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
4	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)
5	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE)
9	MARKING CROSSWALK EPOXY 6-INCH (WHITE)
29	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
30	MARKING ARROWS EPOXY TYPE 2 (WHITE)
31	MARKING WORDS EPOXY (WHITE)

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PAVEMENT MARKINGS	SHEET 21	E

FILE NAME : N:\PDS\C3D\14302300\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024506_pm

PLOT DATE : 3/13/2018 3:37 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1 IN:40 FT

N

I SIGN

3

5

473+51.47, -24.25' LT

12'
12'
12'
12'

471+00 472+00 STH 23 473+00 474+00

R/L STH 23

473+75.88, 12.25' RT

30

1
DOUBLE

2

2

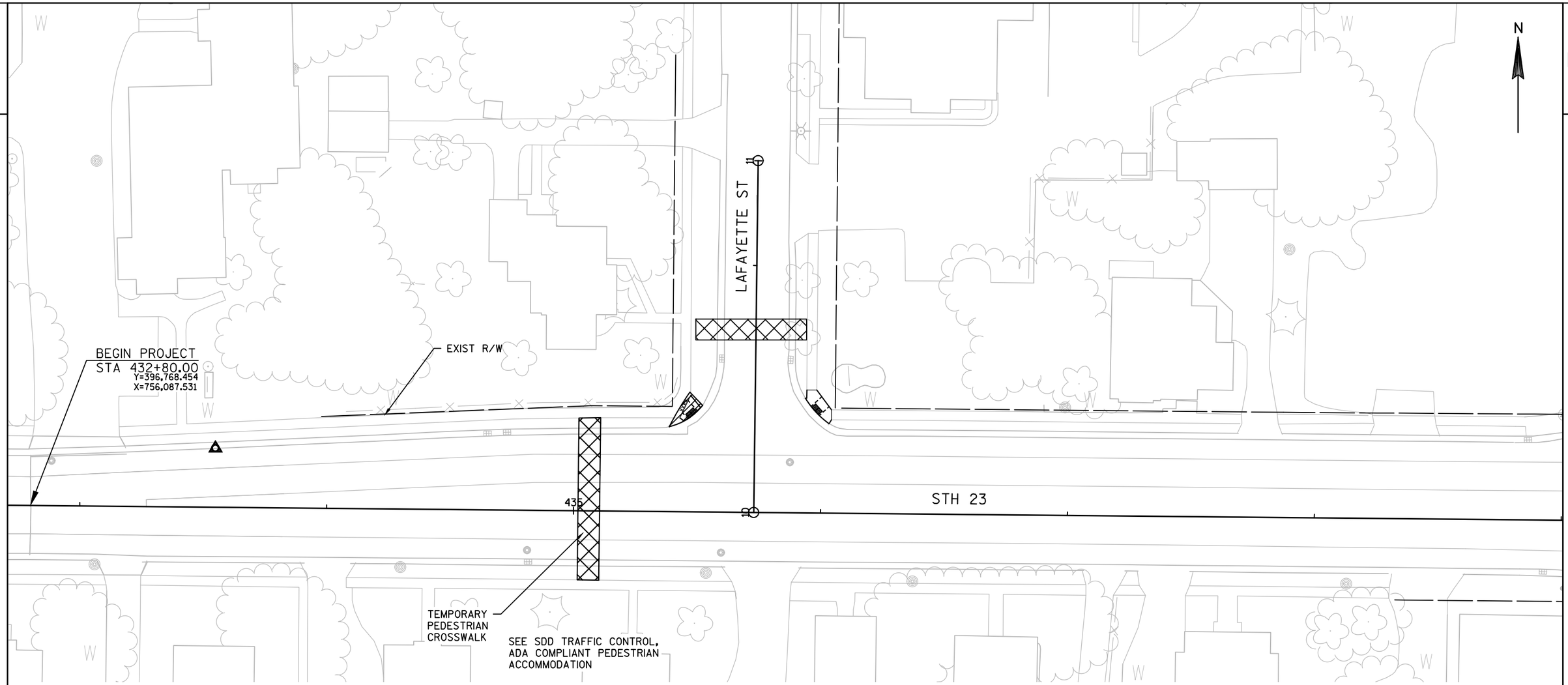
MH

SIGN

LEGEND

1	MARKING LINE EPOXY 4-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
3	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
4	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)
5	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
6	MARKING LINE EPOXY 8-INCH (WHITE)
9	MARKING CROSSWALK EPOXY 6-INCH (WHITE)
29	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
30	MARKING ARROWS EPOXY TYPE 2 (WHITE)
31	MARKING WORDS EPOXY (WHITE)

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PAVEMENT MARKINGS	SHEET 22	E



LEGEND

CURB RAMP - WORK ZONE

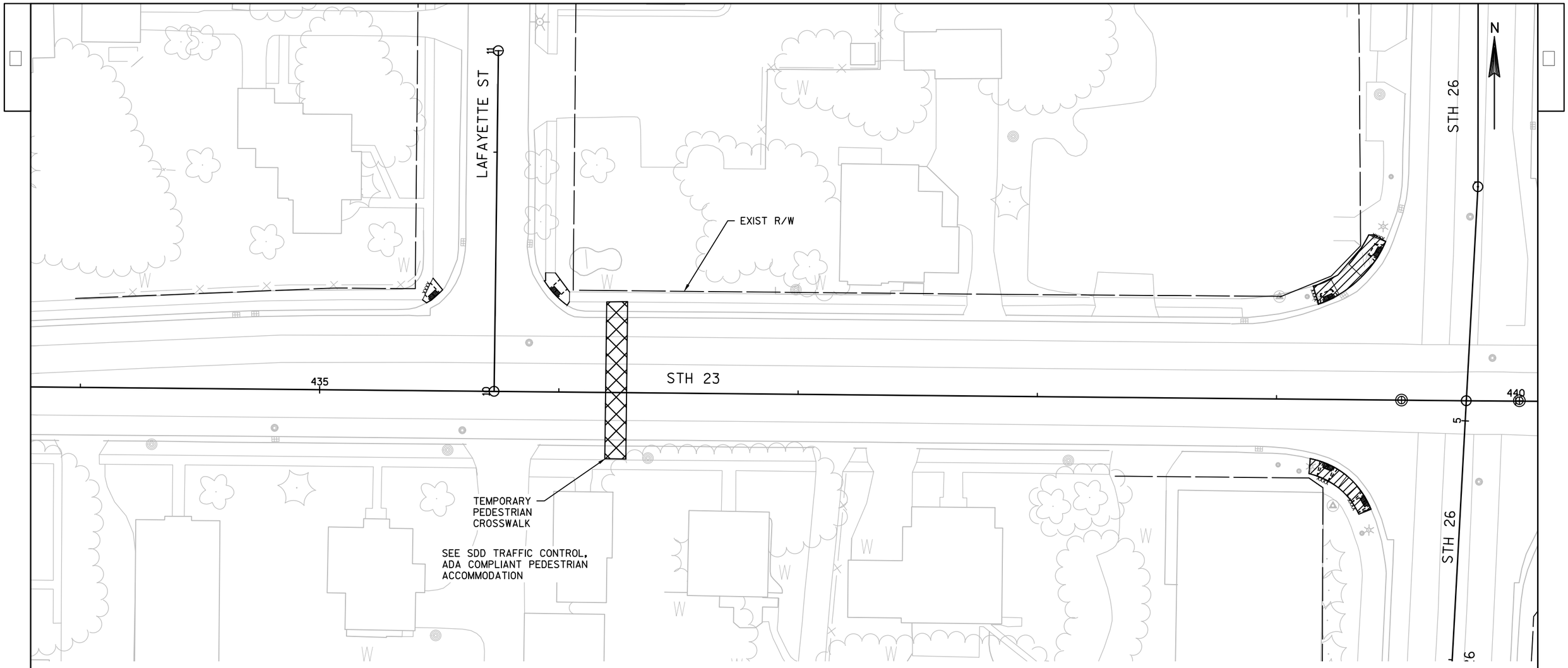
TEMPORARY CROSSWALK LOCATION

NOTES

DURING CONSTRUCTION
CLOSE & CONSTRUCT ONLY ONE QUADRANT OF SIDEWALK & CURB RAMPS AT A TIME ALONG STH 23 TO PROVIDE CONTINUOUS PEDESTRIAN ACCESS.

SEE SDD TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK FOR SIGNING & MARKING

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY:FOND DU LAC	TRAFFIC CONTROL - PEDESTRIAN ACCESS	SHEET 23	E



LEGEND

CURB RAMP - WORK ZONE

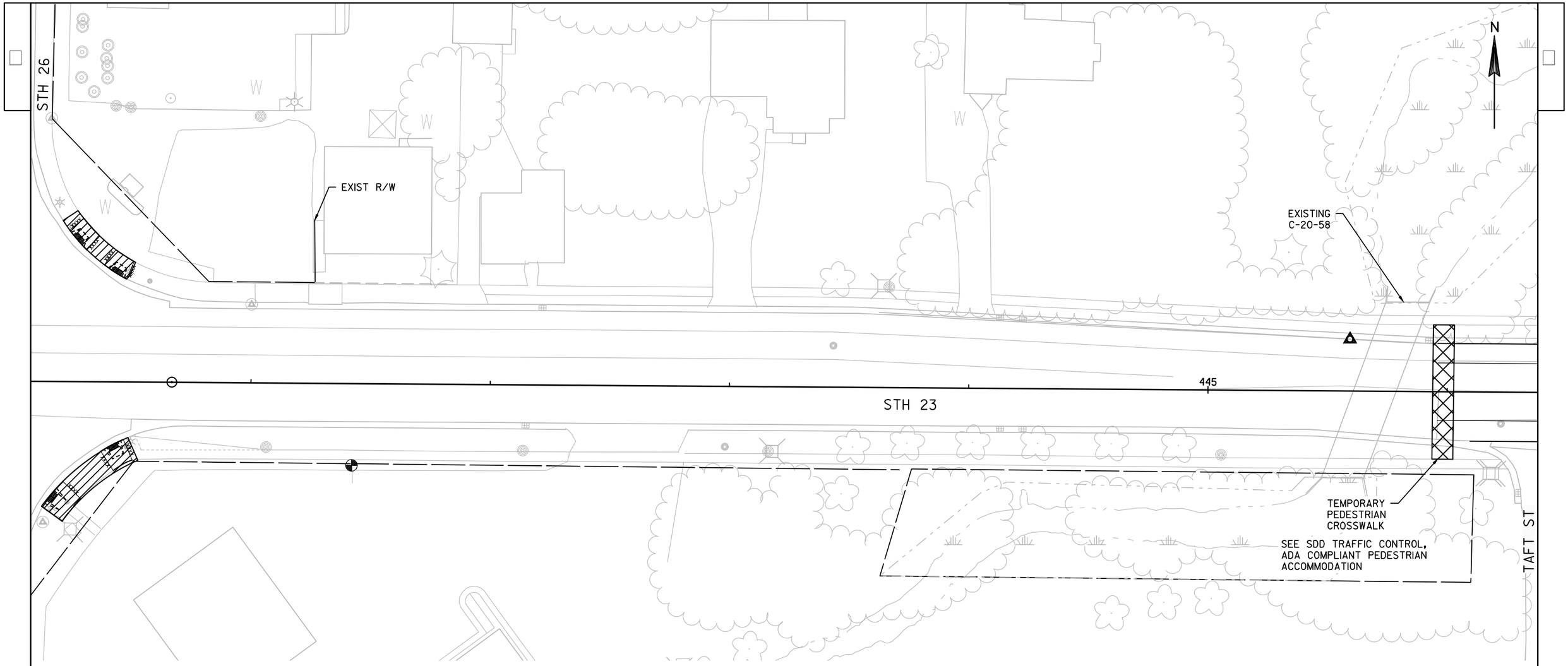
TEMPORARY CROSSWALK LOCATION

NOTES

DURING CONSTRUCTION
CLOSE & CONSTRUCT ONLY ONE QUADRANT OF SIDEWALK & CURB RAMPS AT A TIME ALONG STH 23 TO PROVIDE CONTINUOUS PEDESTRIAN ACCESS.

SEE SDD TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK FOR SIGNING & MARKING

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY:FOND DU LAC	TRAFFIC CONTROL - PEDESTRIAN ACCESS	SHEET 24	E



LEGEND

CURB RAMP - WORK ZONE

TEMPORARY CROSSWALK LOCATION

NOTES

DURING CONSTRUCTION
CLOSE & CONSTRUCT ONLY ONE QUADRANT OF SIDEWALK & CURB RAMPS AT A TIME ALONG STH 23 TO PROVIDE CONTINUOUS PEDESTRIAN ACCESS.

SEE SDD TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK FOR SIGNING & MARKING

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY:FOND DU LAC	TRAFFIC CONTROL - PEDESTRIAN ACCESS	SHEET 25	E

1430-23-71

Line	Item	Item Description	Unit	Total	Qty
0006	204.0110	Removing Asphaltic Surface	SY	49.000	49.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	52.000	52.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	13,390.000	13,390.000
0012	204.0150	Removing Curb & Gutter	LF	164.000	164.000
0014	204.0155	Removing Concrete Sidewalk	SY	94.000	94.000
0018	204.0210	Removing Manholes	EACH	2.000	2.000
0020	204.0220	Removing Inlets	EACH	3.000	3.000
0022	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	54.000	54.000
0024	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	8.000	8.000
0028	211.0100	Prepare Foundation for Asphaltic Paving (project) 02. 1430-23-71	LS	1.000	1.000
0030	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	46.000	46.000
0034	213.0100	Finishing Roadway (project) 02. 1430-23-71	EACH	1.000	1.000
0036	305.0110	Base Aggregate Dense 3/4-Inch	TON	649.000	649.000
0038	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	36.000	36.000
0040	390.0303	Base Patching Concrete	SY	137.000	137.000
0044	416.0610	Drilled Tie Bars	EACH	233.000	233.000
0046	416.0620	Drilled Dowel Bars	EACH	165.000	165.000
0048	416.1715	Concrete Pavement Repair SHES	SY	101.000	101.000
0050	416.1725	Concrete Pavement Replacement SHES	SY	118.000	118.000
0052	440.4410	Incentive IRI Ride	DOL	2,060.000	2,060.000
0054	455.0605	Tack Coat	GAL	1,800.000	1,800.000
0056	460.2005	Incentive Density PWL HMA Pavement	DOL	1,630.000	1,630.000
0058	460.2010	Incentive Air Voids HMA Pavement	DOL	3,090.000	3,090.000
0062	460.6223	HMA Pavement 3 MT 58-28 S	TON	1,577.000	1,577.000
0064	460.6224	HMA Pavement 4 MT 58-28 S	TON	1,510.000	1,510.000
0066	465.0110	Asphaltic Surface Patching	TON	154.000	154.000
0068	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	22.000	22.000
0094	520.8000	Concrete Collars for Pipe	EACH	8.000	8.000
0120	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	164.000	164.000
0122	602.0410	Concrete Sidewalk 5-Inch	SF	844.000	844.000
0124	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	80.000	80.000
0130	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	56.000	56.000
0132	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	8.000	8.000
0134	611.0430	Reconstructing Inlets	EACH	8.000	8.000
0136	611.0530	Manhole Covers Type J	EACH	5.000	5.000
0138	611.0639	Inlet Covers Type H-S	EACH	16.000	16.000
0140	611.2003	Manholes 3-FT Diameter	EACH	1.000	1.000

1430-23-71

Line	Item	Item Description	Unit	Total	Qty
0142	611.3230	Inlets 2x3-FT	EACH	4.000	4.000
0144	611.8115	Adjusting Inlet Covers	EACH	4.000	4.000
0158	618.0100	Maintenance And Repair of Haul Roads (project) 02. 1430-23-71	EACH	1.000	1.000
0160	619.1000	Mobilization	EACH	0.100	0.100
0162	624.0100	Water	MGAL	10.000	10.000
0164	625.0100	Topsoil	SY	71.000	71.000
0166	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0168	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0170	628.2006	Erosion Mat Urban Class I Type A	SY	71.000	71.000
0172	628.7015	Inlet Protection Type C	EACH	19.000	19.000
0178	629.0210	Fertilizer Type B	CWT	0.022	0.022
0180	630.0140	Seeding Mixture No. 40	LB	1.280	1.280
0184	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	25.000	25.000
0186	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	5.000	5.000
0188	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	3.000	3.000
0190	637.2210	Signs Type II Reflective H	SF	217.830	217.830
0192	637.2215	Signs Type II Reflective H Folding	SF	29.840	29.840
0194	637.2230	Signs Type II Reflective F	SF	36.000	36.000
0196	638.2602	Removing Signs Type II	EACH	36.000	36.000
0198	638.3000	Removing Small Sign Supports	EACH	33.000	33.000
0200	642.5001	Field Office Type B	EACH	1.000	1.000
0202	643.0300	Traffic Control Drums	DAY	1,465.000	1,465.000
0206	643.0410	Traffic Control Barricades Type II	DAY	108.000	108.000
0208	643.0420	Traffic Control Barricades Type III	DAY	262.000	262.000
0210	643.0705	Traffic Control Warning Lights Type A	DAY	478.000	478.000
0212	643.0715	Traffic Control Warning Lights Type C	DAY	248.000	248.000
0214	643.0800	Traffic Control Arrow Boards	DAY	25.000	25.000
0216	643.0900	Traffic Control Signs	DAY	2,352.000	2,352.000
0220	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0222	643.5000	Traffic Control	EACH	0.100	0.100
0224	644.1601.S	Temporary Curb Ramp	EACH	8.000	8.000
0226	646.1020	Marking Line Epoxy 4-Inch	LF	1,769.000	1,769.000
0228	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	4,728.000	4,728.000
0230	646.3020	Marking Line Epoxy 8-Inch	LF	547.000	547.000
0232	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	200.000	200.000
0234	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	9,669.000	9,669.000
0236	646.5020	Marking Arrow Epoxy	EACH	5.000	5.000
0238	646.5120	Marking Word Epoxy	EACH	3.000	3.000
0240	646.7120	Marking Diagonal Epoxy 12-Inch	LF	664.000	664.000

1430-23-71

Line	Item	Item Description	Unit	Total	Qty
0242	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	538.000	538.000
0248	649.0105	Temporary Marking Line Paint 4-Inch	LF	5,560.000	5,560.000
0252	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	336.000	336.000
0256	650.4000	Construction Staking Storm Sewer	EACH	5.000	5.000
0260	650.8000	Construction Staking Resurfacing Reference	LF	2,780.000	2,780.000
0264	650.9910	Construction Staking Supplemental Control (project) 02. 1430-23-71	LS	1.000	1.000
0266	690.0150	Sawing Asphalt	LF	297.000	297.000
0268	690.0250	Sawing Concrete	LF	1,850.000	1,850.000
0272	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0274	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0276	SPV.0060	Special 01. Adjusting Manhole Covers With Rubber Rings	EACH	4.000	4.000

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	690.0150* SAWING ASPHALT LF	REMARKS
0010	455+90	STH 23 RT	27	40	
0010	466+08	STH 23 RT	22	39	
		TOTAL 0010	49	79	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN THE PLAN

REMOVING ASPHALTIC SURFACE BUTT JOINTS

CATEGORY	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	690.0150* SAWING ASPHALT LF	REMARKS
0010	19+54	TAFT ST	5.7	26	
0010	19+40	JASON CT	6.3	29	
0010	10+73	HILL RD	5.4	25	
0010	462+44	STH 23 LT	5.6	25	DRIVEWAY
0010	462+77	STH 23 LT	4.7	21	DRIVEWAY
0010	465+48	STH 23 LT	4.9	22	DRIVEWAY
0010	466+30	STH 23 LT	7.3	33	DRIVEWAY
0010	10+64	WILSON RD	4.3	20	
0010	19+26	BECKER BLVD	8.0	17	
		TOTAL 0010	52	218	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN THE PLAN

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION	TO	STATION	LOCATION	204.0120 SY	REMARKS
0010	445+96	-	473+76	STH 23 EB	3707	DRIVING LANE
0010	445+96	-	473+76	STH 23 WB	3707	DRIVING LANE
0010	450+72	-	473+76	STH 23 LT	1280	SHOULDERS
0010	450+73	-	473+76	STH 23 RT	1279	SHOULDERS
0010				DRIVEWAYS	161	
0010	450+81	-	473+76	STH 23 WB	985	SIDE ROADS/PASSING LANES
0010	450+72	-	473+76	STH 23 EB	1410	SIDE ROADS/PASSING LANES
0020	445+96	-	450+81	STH 23 WB	437	PARKING LANES
0020	445+96	-	450+72	STH 23 EB	426	PARKING LANES
				TOTAL 0010	12528	
				TOTAL 0020	862	
				PROJECT TOTAL	**13391**	

REMOVING CURB & GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	204.0150 LF	REMARKS
0010	434+58	-	434+68	STH 23 RT	10	INL 72
0010	434+78	-	434+85	STH 23 RT	15	INL 73 & MH 71A
0010	434+60	-	434+78	STH 23 LT	17	INL 70 & INL 71
0010	439+51	-	439+51	STH 23 LT	12	INL 52
0010	438+81	-	438+91	STH 23 LT	9	INL 55
0010	442+18	-	442+27	STH 23 LT	9	INL 76
0010	444+08	-	444+27	STH 23 LT	21	INL 77 & INL 78
0010	444+08	-	444+29	STH 23 RT	19	INL 79 & INL 80
0010	445+86	-	445+96	STH 23 LT	9	INL 104
0010	446+26	-	446+38	STH 23 RT	13	INL 101
0010	446+50	-	446+60	STH 23 RT	9	INL 100
0010	446+70	-	446+83	STH 23 RT	12	INL 102
0010	442+18	-	442+27	STH 23 RT	9	INL 75
				TOTAL 0010	164	

REMOVING CONCRETE SIDEWALK

CATEGORY	STATION	TO	STATION	LOCATION	204.0155 SY	REMARKS
0010	435+43	-	435+51	STH 23 LT	4	LAFAYETTE ST
0010	435+93	-	436+04	STH 23 LT	8	LAFAYETTE ST
0010	439+18	-	439+26	STH 23 LT	7	STH 26 NW
0010	439+30	-	439+45	STH 23 LT	14	STH 26 NW
0010	440+24	-	440+36	STH 23 LT	9	STH 26 NE
0010	440+38	-	440+51	STH 23 LT	9	STH 26 NE
0010	439+14	-	439+30	STH 23 RT	11	STH 26 SW
0010	139+30	-	439+40	STH 23 RT	6	STH 26 SW
0010	440+13	-	440+29	STH 23 RT	15	STH 26 SE
0010	440+37	-	440+51	STH 23 RT	10	STH 26 SE
				TOTAL 0010	94	

STORM SEWER REMOVALS

CATEGORY	STRUCTURE	TO	STRUCTURE	204.0210 REMOVING MANHOLES EACH	204.0220 REMOVING INLETS EACH	204.0245.01 REMOVING STORM SEWER 12-INCH LF	204.0245.02 REMOVING STORM SEWER 18-INCH LF
0010	104			-	1	-	-
0010	103			1	-	-	-
0010	101			-	1	-	-
0010	100			-	1	-	-
0010	102			1	-	-	-
0010	104	-	OUTFALL	-	-	6	-
0010	103	-	OUTFALL	-	-	-	8
0010	102	-	103	-	-	16	-
0010	100	-	101	-	-	16	-
0010	101	-	103	-	-	16	-
				2	3	54	8

PREPARING FOUNDATION

CATEGORY	STATION	TO	STATION	LOCATION	211.0100 ASPHALTIC PAVING LS	211.0400 ASPHALTIC SHOULDERS STA
0010	445+96	-	473+76	STH 23	1	-
0010	450+81	-	473+76	STH 23 RT	-	23
0010	450+72	-	473+76	STH 23 LT	-	23
				TOTAL 0010	1	46

BASE AGGREGATE DENSE SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	624.0100* WATER MGAL	REMARKS
0010	446+13	-	446+31	STH 23 RT	-	11.5	0.16	CONCRETE BASE
0010	446+26	-	446+38	STH 23 RT	-	2.6	0.04	CONCRETE BASE
0010	446+50	-	446+60	STH 23 RT	-	2.0	0.03	CONCRETE BASE
0010	446+70	-	446+83	STH 23 RT	-	2.3	0.03	CONCRETE BASE
0010	450+81	-	473+76	STH 23 RT	294.5	-	4.12	SHOULDERS
0010	450+72	-	473+76	STH 23 LT	295.7	-	4.14	SHOULDERS
0010				UNDISTRIBUTED	-	14.2	0.20	BASE PATCHING
0010				UNDISTRIBUTED	59.0	3.3	0.87	
				TOTAL 0010	649	36	9.6	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

SHAPING SHOULDERS

CATEGORY	STATION	TO	STATION	LOCATION	305.0500 STA
0010	450+81	-	473+76	STH 23 RT	23
0010	450+72	-	473+76	STH 23 LT	23
				TOTAL 0010	46

3

CONCRETE PAVEMENT SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	390.0303 BASE PATCHING CONCRETE SY	416.1715 CONCRETE PAVEMENT REPAIR SHES SY	416.1725 CONCRETE PAVEMENT REPLACEMENT SHES SY	416.0610* DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	690.0250* SAWING CONCRETE LF	REMARKS
0010	445+35	-	445+95	STH 23 RT	-	-	118	48	55	204	PVMT REPAIR/REPLACE
0010	445+50	-	445+65	STH 23 LT	-	36	-	-	25	108	PVMT REPAIR/REPLACE
0010	445+80	-	445+95	STH 23 LT	-	34	-	-	25	105	PVMT REPAIR/REPLACE
0010	434+58	-	434+68	STH 23 RT	-	1	-	8	2	18	INL 72
0010	434+78	-	434+85	STH 23 RT	-	6	-	14	14	36	INL 73 & MH 71A
0010	435+57	-	435+63	STH 23 RT	-	3	-	10	10	24	MH 69
0010	434+60	-	434+78	STH 23 LT	-	3	-	13	2	25	INL 70 & INL 71
0010	438+81	-	438+91	STH 23 LT	-	1	-	7	2	17	INL 55
0010	439+51	-	439+51	STH 23 LT	-	2	-	9	2	20	INL 52
0010	439+77	-	439+83	STH 23 LT	-	3	-	10	10	24	MH 54
0010	439+82	-	439+88	STH 23 RT	-	3	-	10	10	24	MH 57
0010	442+18	-	442+27	STH 23 LT	-	1	-	7	2	17	INL 76
0010	444+08	-	444+29	STH 23 LT	-	3	-	15	2	29	INL 79 & INL 80
0010	444+08	-	444+27	STH 23 LT	-	3	-	17	2	27	INL 77 & INL 78
0010	445+86	-	445+96	STH 23 LT	-	1	-	9	2	19	INL 104
0010	446+13	-	446+31	STH 23 RT	21	-	-	-	-	56	MH 103
0010	446+26	-	446+38	STH 23 RT	5	-	-	-	-	31	INL 101
0010	446+50	-	446+60	STH 23 RT	4	-	-	-	-	23	INL 100
0010	446+70	-	446+83	STH 23 RT	4	-	-	-	-	25	INL 102
0010	TAFT ST	-	JASON CT	STH 23	24	-	-	-	-	198	
0010	JASON CT	-	473+76	STH 23	40	-	-	-	-	330	
0010				UNDISTRIBUTED	40	-	-	-	-	330	
				TOTAL 0010	137	101	118	177	165	1690	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE ON THE PLAN

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

CATEGORY	STATION	LOCATION	465.0120 TON	REMARKS
0010	462+44	STH 23 LT	5	
0010	462+77	STH 23 LT	6	
0010	465+48	STH 23 LT	4	
0010	466+30	STH 23 LT	7	
		TOTAL 0010	22	

CONCRETE CURB & GUTTER 30-INCH TYPE A

CATEGORY	STATION TO	STATION	LOCATION	601.0409 LF	416.0610* DRILLED TIE BARS EACH	REMARKS
0010	434+58 -	434+68	STH 23 RT	10	4	INL 72
0010	434+78 -	434+85	STH 23 RT	15	3	INL 73 & MH 71A
0010	434+60 -	434+78	STH 23 LT	17	6	INL 70 & INL 71
0010	439+51 -	439+51	STH 23 LT	12	4	INL 52
0010	438+81 -	438+91	STH 23 LT	9	3	INL 55
0010	442+18 -	442+27	STH 23 LT	9	3	INL 76
0010	444+08 -	444+27	STH 23 LT	21	8	INL 77 & INL 78
0010	444+08 -	444+29	STH 23 RT	19	7	INL 79 & INL 80
0010	445+86 -	445+96	STH 23 LT	9	3	INL 104
0010	446+26 -	446+38	STH 23 RT	13	5	INL 101
0010	446+50 -	446+60	STH 23 RT	9	3	INL 100
0010	446+70 -	446+83	STH 23 RT	12	4	INL 102
0010	442+18 -	442+27	STH 23 RT	9	3	INL 75
			TOTAL 0010	164	56	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

ASPHALT SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	HMA PAVEMENT 3 MT 58-28 S 460.6223 TON	PWL DENSITY INCENTIVE TON*	PWL AIR VOIDS TON**	HMA PAVEMENT 4 MT 58-28 S 460.6224 TON	PWL DENSITY INCENTIVE TON*	PWL AIR VOIDS TON**	465.0110 ASPHALTIC SURFACE PATCHING TON	REMARKS
0010	445+96	-	450+72	STH 23 EB	44	-	-	-	76	76	76	-	2" DRIVING LANE
0010	445+96	-	450+81	STH 23 WB	45	-	-	-	78	78	78	-	2" DRIVING LANE
0010	450+81	-	473+76	STH 23 WB	428	409	409	409	325	325	325	-	4" DRIVING LANE
0010	450+72	-	473+76	STH 23 EB	430	411	411	411	326	326	326	-	4" DRIVING LANE
0010	450+81	-	473+76	STH 23 WB	138	132	-	132	105	-	105	-	SIDE ROADS/PASSING LANES
0010	450+72	-	473+76	STH 23 EB	197	189	-	189	150	-	150	-	SIDE ROADS/PASSING LANES
0010	450+81	-	473+76	STH 23 WB	269	257	-	257	204	-	204	-	SHOULDERS
0010	450+72	-	473+76	STH 23 EB	188	180	-	180	143	-	143	-	SHOULDERS
0010				UNDISTRIBUTED	-	-	-	-	-	-	-	154	PATCHING/WEDGING
0020	445+96	-	450+81	STH 23 WB	30	-	-	-	52	-	52	-	PARKING LANES
0020	445+96	-	450+72	STH 23 EB	30	-	-	-	51	-	51	-	PARKING LANES
				TOTAL 0010	1740	1577	820	1578	1407	805	1407	154	
				TOTAL 0020	60	0	0	0	103	0	103	0	
				PROJECT TOTAL	**1800**	**1577**	**820**	**1578**	**1510**	**805**	**1510**	**154**	

* Tonnage is eligible for Incentive Density PWL 460.2005.

** Tonage is eligible for Incentive Air Voids 460.2010 and density is tested for acceptance in those areas.

3

CONCRETE SIDEWALK 5-INCH

CATEGORY	STATION	TO	STATION	LOCATION	602.0410 SF	REMARKS
0010	435+43	-	435+51	STH 23 LT	40	LAFAYETTE ST
0010	435+93	-	436+04	STH 23 LT	73	LAFAYETTE ST
0010	439+18	-	439+26	STH 23 LT	65	STH 26 NW
0010	439+30	-	439+45	STH 23 LT	127	STH 26 NW
0010	440+24	-	440+36	STH 23 LT	81	STH 26 NE
0010	440+38	-	440+51	STH 23 LT	80	STH 26 NE
0010	439+14	-	439+30	STH 23 RT	97	STH 26 SW
0010	139+30	-	439+40	STH 23 RT	58	STH 26 SW
0010	440+13	-	440+29	STH 23 RT	132	STH 26 SE
0010	440+37	-	440+51	STH 23 RT	91	STH 26 SE
				TOTAL 0010	844	

CURB RAMP DETECTABLE WARNING FIELD YELLOW

CATEGORY	LOCATION	602.0505 SF	REMARKS
0010	STH 23/STH 26	8	NE QUAD
0010	STH 23/STH 26	8	NE QUAD
0010	STH 23/STH 26	8	NW QUAD
0010	STH 23/STH 26	8	NW QUAD
0010	STH 23/STH 26	8	SE QUAD
0010	STH 23/STH 26	8	SE QUAD
0010	STH 23/STH 26	8	SW QUAD
0010	STH 23/STH 26	8	SW QUAD
0010	STH 23/LAFAYETTE ST	8	NE QUAD
0010	STH 23/LAFAYETTE ST	8	NW QUAD
	TOTAL 0010	80	

3

LANDSCAPING

CATEGORY	LOCATION	624.1000* WATER MGAL	625.0100 TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	REMARKS
0010	STH 23 LT	0.01	2	2	0.001	0.03	LAFAYETTE
0010	STH 23 LT	0.02	3	3	0.001	0.06	LAFAYETTE
0010	STH 23 LT	0.03	5	5	0.002	0.09	STH 26
0010	STH 23 LT	0.02	4	4	0.001	0.08	STH 26
0010	STH 23 RT	0.03	6	6	0.002	0.11	STH 26
					0.000		
0010	STH 23 LT & RT	0.20	36	36	0.011	0.65	VARIOUS INLETS
0010	UNDISTRIBUTED	0.08	14	14	0.004	0.26	
0010							
	TOTAL 0010	0.40	71	71	0.022	1.28	

*ADDITIONAL QUANTITIES ELSEWHERE IN THE PLAN

3

STORM SEWER

CATEGORY	STRUCTURE	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0412 SSPRC CLASS IV 12-INCH LF	608.0418 SSPRC CLASS IV 18-INCH LF	611.0530 MANHOLE COVERS TYPE J EACH	611.0639 INLET COVERS TYPE H-S EACH	611.2003 MANHOLES 3-FT DIAMETER EACH	611.3230 INLETS 2X3-FT EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH
0010	MH 103	3	16	8	1	-	1	-	1
0010	INL 100	1	8	-	-	1	-	1	1
0010	INL 101	2	16	-	-	1	-	1	1
0010	INL 102	1	8	-	-	1	-	1	1
0010	INL 104	1	8	-	-	1	-	1	1
0010	INL 70	-	-	-	-	1	-	-	-
0010	INL 71	-	-	-	-	1	-	-	-
0010	INL 72	-	-	-	-	1	-	-	-
0010	INL 73	-	-	-	-	1	-	-	-
0010	MH 71A	-	-	-	1	-	-	-	-
0010	MH 69	-	-	-	1	-	-	-	-
0010	MH 57	-	-	-	1	-	-	-	-
0010	MH 54	-	-	-	1	-	-	-	-
0010	INL 52	-	-	-	-	1	-	-	-
0010	INL 55	-	-	-	-	1	-	-	-
0010	INL 75	-	-	-	-	1	-	-	-
0010	INL 76	-	-	-	-	1	-	-	-
0010	INL 77	-	-	-	-	1	-	-	-
0010	INL 78	-	-	-	-	1	-	-	-
0010	INL 79	-	-	-	-	1	-	-	-
0010	INL 80	-	-	-	-	1	-	-	-
		8	56	8	5	16	1	4	5

ADJUSTING & RECONSTRUCTING MANHOLES & INLETS

CATEGORY	STRUCTURE	611.0430 RECONSTRUCT INLETS EACH	SPV.0060.01 ADJUSTING MANHOLES COVERS W/RUBBER RINGS EACH	611.8115 ADJUSTING INLET COVERS EACH
0010	INL 70	1	-	-
0010	INL 71	1	-	-
0010	INL 72	1	-	-
0010	INL 76	-	-	1
0010	INL 75	-	-	1
0010	MH 69	-	1	-
0010	INL 73	1	-	-
0010	MH 71A	-	1	-
0010	MH 54	-	1	-
0010	MH 57	-	1	-
0010	INL 52	-	-	1
0010	INL 55	1	-	-
0010	INL 77	-	-	1
0010	INL 78	1	-	-
0010	INL 79	1	-	-
0010	INL 80	1	-	-
		8	4	4

EROSION CONTROL

CATEGORY	STATION	LOCATION	628.1905 MOBILATION EROSION CONTROL EACH	628.1910 MOBILATION EMERGENCY EROSION CONTROL EACH	628.7015 INLET PROTECTION TYPE C EACH
0010		1430-23-71	1	2	-
0010		INL 52	-	-	1
0010		INL 55	-	-	1
0010		INL 70	-	-	1
0010		INL 71	-	-	1
0010		INL 72	-	-	1
0010		INL 73	-	-	1
0010		INL 75	-	-	1
0010		INL 76	-	-	1
0010		INL 77	-	-	1
0010		INL 78	-	-	1
0010		INL 79	-	-	1
0010		INL 80	-	-	1
0010		INL 100	-	-	1
0010		INL 101	-	-	1
0010		INL 102	-	-	1
0010		INL 104	-	-	1
0010	439+29	STH 23 LT	-	-	1
0010	2+93	STH 26 LT	-	-	1
0010	2+93	STH 26 RT	-	-	1
		TOTAL 0010	1	2	19

REMOVE AND REPLACE OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2215 FOLDING SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1	STH 23, W. OF LAFAYETTE ST	J2-2	48" X 57"	19.00	---	---	---	---	1	1	1	SEE PLAN SHEET, REMOVE W3-3
2	LAFAYETTE ST	R1-1	30" X 30"	5.18	---	---	1	---	---	1	1	
3	STH 23, E. OF LAFAYETTE ST	R2-1	24" X 30"	5.00	---	---	1	---	---	1	1	30 MPH
4	"	R7-1L	18" X 24"	3.00	---	---	1	---	---	1	1	REMOVE R7-1D
5	"	W3-3	36" X 36"	---	---	9.00	---	1	---	1	1	REMOVE J2-2
6	"	R7-51D	18" X 24"	3.00	---	---	1	---	---	1	1	REMOVE R7-1D
7	"	J4-1	24" X 36"	6.00	---	---	1	---	---	1	1	WEST STH 23
8	"	R1-1F	36" X 36"	---	7.46	---	---	---	---	1	---	MOUNT TO TRAFFIC SIGNAL
9	"	J3-2	48" X 57"	19.00	---	---	---	---	1	1	1	SOUTH STH 26, NORTH STH 26, SEE PLAN SHEET
10	STH 26	R1-1F	36" X 36"	---	7.46	---	---	---	---	1	---	MOUNT TO TRAFFIC SIGNAL
11	"	R1-1F	36" X 36"	---	7.46	---	---	---	---	1	---	MOUNT TO TRAFFIC SIGNAL
12	STH 23, E. OF STH 26	J3-2	48" X 57"	19.00	---	---	---	---	---	1	---	MOUNT TO TRAFFIC SIGNAL
13	"	J4-1	24" X 36"	6.00	---	---	1	---	---	1	1	EAST STH 23
14	"	R1-1F	36" X 36"	---	7.46	---	---	---	---	1	---	MOUNT TO TRAFFIC SIGNAL
15	"	R7-51D	18" X 24"	3.00	---	---	1	---	---	1	1	REMOVE R7-1D
16	"	R7-1D	18" X 24"	3.00	---	---	1	---	---	1	1	
17	"	R2-1	24" X 30"	5.00	---	---	1	---	---	1	1	30 MPH
18	"	W3-3	36" X 36"	---	---	9.00	---	1	---	1	1	REMOVE J2-2
19	"	R7-51D	18" X 24"	3.00	---	---	1	---	---	1	1	REMOVE R7-1D
20	"	J2-2	48" X 57"	19.00	---	---	---	---	1	1	1	SEE PLAN SHEET, REMOVE W3-3
21	TAFT RD	R1-1	30" X 30"	5.18	---	---	1	---	---	1	1	
22	STH 23, E. OF TAFT RD	R2-1	24" X 30"	5.00	---	---	1	---	---	1	1	30 MPH
23	"	J1-1	24" X 36"	6.00	---	---	---	1	---	1	1	JCT STH 26
24	VACANT	---	---	---	---	---	---	---	---	---	---	
25	"	R2-1	24" X 30"	5.00	---	---	1	---	---	1	1	30 MPH
26	JASON CT	R1-1	30" X 30"	5.18	---	---	1	---	---	1	1	
27	STH 23, E. OF JASON CT	R2-1	24" X 30"	5.00	---	---	1	---	---	1	1	30 MPH
28	"	I55-56	30" X 36"	7.50	---	---	1	---	---	1	1	
29	"	D3-2	96" X 36"	24.00	---	---	2	---	---	1	2	SEE SIGN DETAIL SHEET
30	HILL RD	R1-1	30" X 30"	5.18	---	---	1	---	---	1	1	
31	STH 23, E. OF HILL RD	W3-5	36" X 36"	---	---	9.00	---	1	---	1	2	30 MPH
32	"	R2-1	24" X 30"	5.00	---	---	1	---	---	1	1	45 MPH
33	WILSON ST	R1-1	30" X 30"	5.18	---	---	1	---	---	1	1	
34	STH 23, E. OF WILSON ST	R2-1	24" X 30"	5.00	---	---	1	---	---	1	1	55 MPH
34A	"	R3-7R	30" X 30"	6.25	---	---	1	---	---	---	---	
35	"	R2-1	24" X 30"	5.00	---	---	1	---	---	1	1	45 MPH
36	"	W3-5	36" X 36"	---	---	9.00	---	1	---	1	1	45 MPH
37	BECKER BLVD	R1-1	30" X 30"	5.18	---	---	1	---	---	1	1	
	PROJECT TOTALS			**217.83**	**29.84**	**36.00**	**25**	**5**	**3**	**36**	**33**	

TRAFFIC CONTROL

CATEGORY	LOCATION	SERVICE PERIOD DAYS	643.0300 DRUMS NO	643.0300 DRUMS DAYS	643.0410 BARRICADES TYPE II NO	643.0410 BARRICADES TYPE II DAYS	643.0420 BARRICADES TYPE III NO	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C NO	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS NO	643.0800 ARROW BOARDS DAYS	643.0900 SIGNS NO	643.0900 SIGNS DAYS	643.1050 SIGNS PCMS NO	643.1050 SIGNS PCMS DAYS	REMARKS
0010	PCMS 7 DAYS ADVANCE	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	28	CONSTRUCTION LIMITS
0010	ADVANCED WARNING	55	-	-	-	-	-	-	-	-	-	-	-	-	37	2035	-	-	
0010	LAFAYETTE WEST SIDEWALK CLOSURE	2	8	16	9	18	4	8	13	-	-	-	-	-	11	22	-	-	
0010	LAFAYETTE EAST SIDEWALK CLOSURE	2	8	16	9	18	4	8	13	-	-	-	-	-	11	22	-	-	
0010	STH 26 NW SIDEWALK CLOSURE	2	10	20	9	18	4	8	13	26	-	-	-	-	11	22	-	-	
0010	STH 26 NE SIDEWALK CLOSURE	2	10	20	9	18	4	8	13	26	-	-	-	-	11	22	-	-	
0010	STH 26 SW SIDEWALK CLOSURE	2	10	20	9	18	4	8	13	26	-	-	-	-	11	22	-	-	
0010	STH 26 SE SIDEWALK CLOSURE	2	10	20	9	18	4	8	13	26	-	-	-	-	11	22	-	-	
0010	STH 26 - CURB RAMPS	30	15	450	-	-	3	90	6	180	-	-	-	-	4	120	-	-	
0010	STH 26 - MANHOLES	4	4	16	-	-	4	16	6	24	-	-	-	-	2	8	-	-	
0010	STORM SEWER & CONCRETE EB	6	49	294	-	-	6	36	6	36	24	144	2	12	3	18	-	-	
0010	STORM SEWER & CONCRETE WB	5	17	85	-	-	2	10	2	10	8	40	1	5	1	5	-	-	
0010	MAINLINE PAVING EB	2	58	116	-	-	9	18	18	36	8	16	1	2	9	18	-	-	
0010	MAINLINE PAVING WB	2	69	138	-	-	8	16	16	32	8	16	1	2	4	8	-	-	
0010	SHOULDER PAVING EB	2	58	116	-	-	8	16	16	32	8	16	1	2	2	4	-	-	
0010	SHOULDER PAVING WB	2	69	138	-	-	6	12	12	24	8	16	1	2	2	4	-	-	
	TOTAL 0010			1465		108		262		478		248		25		2352		28	

TRAFFIC CONTROL

CATEGORY	LOCATION	643.5000 EACH
0010	1430-23-71	0.1
	TOTAL 0010	0.1

3

TEMPORARY PEDESTRIAN CROSSWALKS

CATEGORY	LOCATION	644.1601.S TEMPORARY CURB RAMP EACH	649.0250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH LF
0010	LAFAYETTE ST	2	52
0010	STH 26	6	284
	TOTAL 0010	8	336

TEMPORARY MARKING LINE PAINT 4-INCH

CATEGORY	LOCATION	649.0105 YELLOW LF
0010	STH 23	5560
	TOTAL 0010	5560

3

PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH YELLOW LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE LF	646.1040 GROOVED WET REF EPOXY 4-INCH WHITE LF	646.3040 GROOVED WET REF EPOXY 8-INCH WHITE LF	646.5020 MARKING ARROW EPOXY EACH	646.5120 MARKING WORD EPOXY EACH	646.7120 MARKING DIAGONAL EPOXY 12-INCH LF	646.7420 CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	REMARKS
0010	432+71	-	435+32	STH 23	-	897	-	-	-	-	-	-	-	
0010	434+82	-	435+32	STH 23	-	-	50	-	-	1	-	-	-	
0010	436+00	-	438+88	STH 23	-	947	-	-	-	1	1	68	-	
0010	437+89	-	439+17	STH 23	-	-	261	-	-	-	-	155	-	
0010	439+22	-	439+28	STH 23	-	-	-	-	-	-	-	-	131	WEST STH 23/STH 26
0010	439+44	-	440+23	STH 23 LT	-	-	-	-	-	-	-	-	137	NORTH STH 23/STH 26
0010	439+41	-	440+17	STH 23 RT	-	-	-	-	-	-	-	-	142	SOUTH STH 23/STH 26
0010	440+41	-	440+47	STH 23	-	-	-	-	-	-	-	-	129	EAST STH 23/STH 26
0010	440+51	-	441+67	STH 23	-	-	236	-	-	-	-	-	-	
0010	440+67	-	446+25	STH 23	-	1984	-	-	-	1	1	442	-	
0010	446+25	-	466+61	STH 23	-	4073	-	2942	-	-	-	-	-	
0010	446+22	-	446+65	STH 23 RT	-	-	-	-	-	-	-	-	-	TAFT ST
0010	456+20	-	459+02	STH 23 RT	-	-	-	75	-	-	-	-	-	HILL RD BYPASS (SKIPS)
0010	464+29	-	468+50	STH 23 RT	-	-	-	105	-	-	-	-	-	WILSON RD BYPASS (SKIPS)
0010	466+61	-	475+46	STH 23	1769	1769	-	1536	200	2	1	-	-	
0010	470+70	-	473+52	STH 23 LT	-	-	-	70	-	-	-	-	-	BECKER BLVD BYPASS (SKIPS)
				TOTAL 0010	1769	9669	547	4728	200	5	3	664	538	

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

3

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL LS
0010	445+96	-	473+76	STH 23	2780	-
0010	PROJECT			STH 23	-	1
				TOTAL 0010	2780	1

SAWING CONCRETE

CATEGORY	STATION	TO	STATION	LOCATION	690.0250* LF	REMARKS
0010	435+43	-	435+51	STH 23 LT	10	LAFAYETTE ST
0010	435+93	-	436+04	STH 23 LT	8	LAFAYETTE ST
0010	439+18	-	439+26	STH 23 LT	15	STH 26 NW
0010	439+30	-	439+45	STH 23 LT	15	STH 26 NW
0010	440+24	-	440+36	STH 23 LT	16	STH 26 NE
0010	440+38	-	440+51	STH 23 LT	16	STH 26 NE
0010	439+14	-	439+30	STH 23 RT	26	STH 26 SW
0010	139+30	-	439+40	STH 23 RT	21	STH 26 SW
0010	440+13	-	440+29	STH 23 RT	14	STH 26 SE
0010	440+37	-	440+51	STH 23 RT	19	STH 26 SE
				TOTAL 0010	160	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN THE PLAN

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
201	441+42	NW BOLT BP GAS STATION SIGN	898.085

BEGIN PROJECT
STA 432+80.00
Y=396,768.454
X=756,087.531

LAFAYETTE ST

STH 23

STH 26

EXISTING SIGNAL
TO REMAIN

EXISTING R/W

T 15 N R 15 E
2 2

T 16 N R 15 E
35 35

BM201
Y=396726.348
X=756949.549

INLET PROTECTION
TYPE C (TYP.)

EXISTING
C-20-58
TO REMAIN

BUTT JOINT REQ'D

TAFT ST

435 440 445

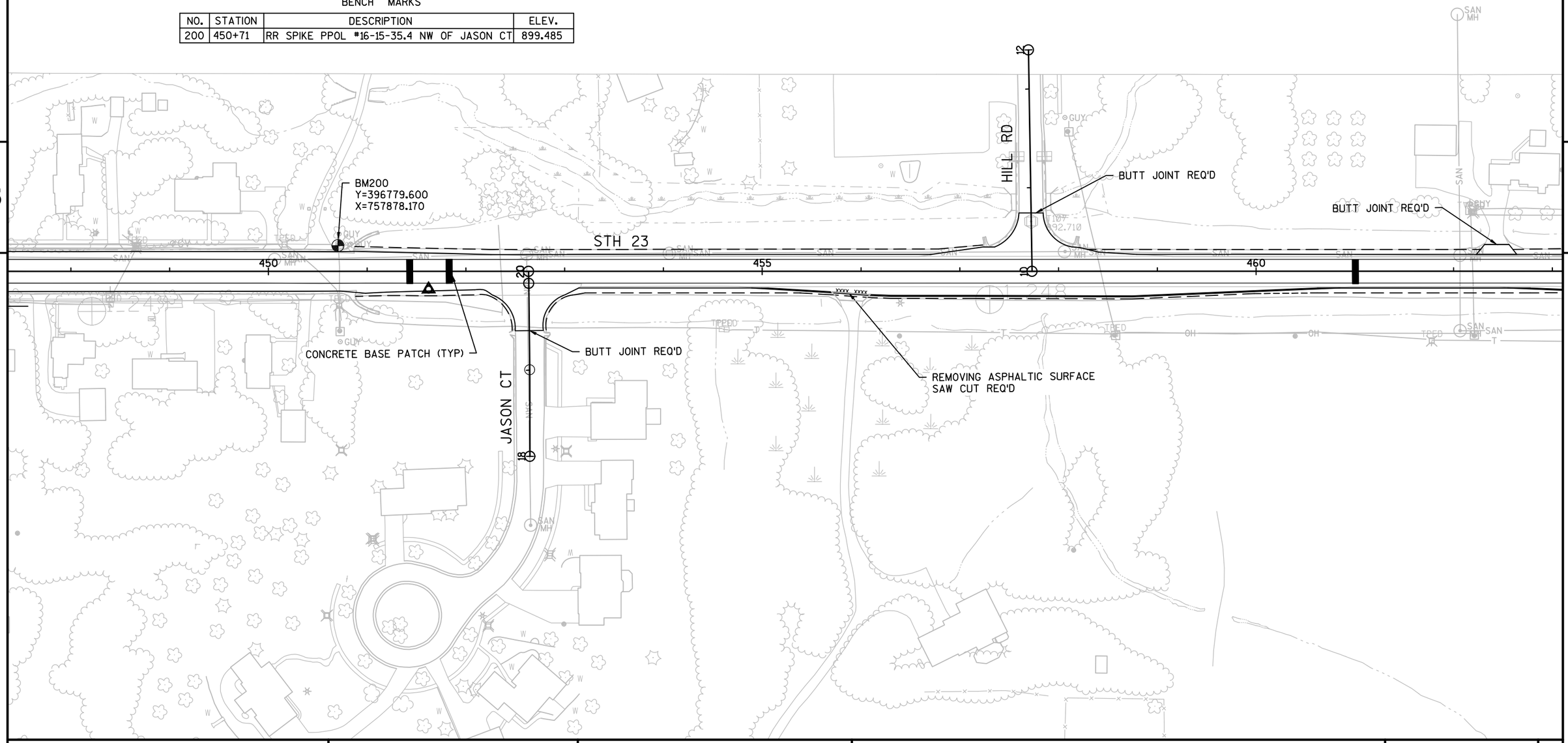
PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 40	E

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LAYOUT NAME - 050201_pn

PLOT DATE : 11/29/2017 11:02 AM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1 IN:100 FT

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
200	450+71	RR SPIKE PPOL *16-15-35.4 NW OF JASON CT	899.485



PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 41	E

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1982	469+96	WHMP 3J51-DISC IN CONC. NW OF BECKER BLVD	901.750

N

BUTT JONIT REQ'D

N WILSON RD

BM1982
Y=396803.933
X=759804.126

END PROJECT
STA 473+76.00
Y=396,736.452
X=760,183.405

STH 23

465 470 475 475

STH 23

REMOVING ASPHALTIC SURFACE
SAW CUT REQ'D

T 15 N R 15 E
2 1

T 16 N R 15 E
35 36

CONCRETE BASE PATCHING (TYP)

BUTT JOINT REQ'D

BECKER BLVD

PROJECT NO:1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PLAN	SHEET 42	E

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LAYOUT NAME - 050203_pn

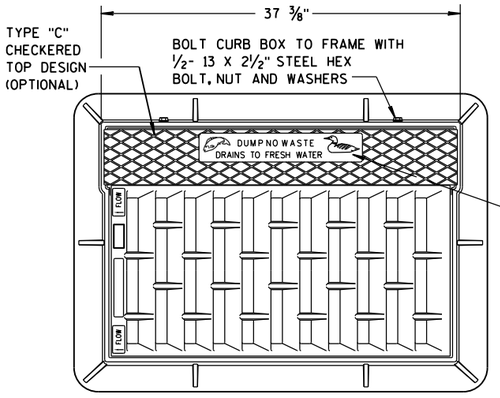
PLOT DATE : 12/4/2017 3:40 PM PLOT BY : SMITH, JENNIFER B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

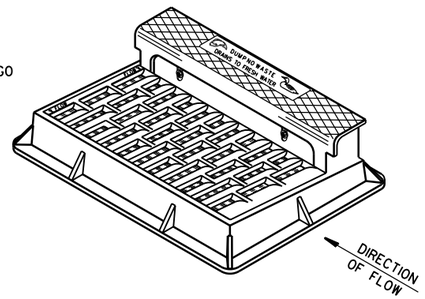
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	CURB RAMPS TYPE 4B AND 4B1
08D05-19E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-19F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-19G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-14A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-14B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-14C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C14-06A	BASE PATCHING CONCRETE
13C14-06B	BASE PATCHING CONCRETE
13C14-06C	BASE PATCHING CONCRETE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C08-18B	PAVEMENT MARKING (TURN LANES)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-02A	PAVEMENT MARKING (INTERSECTIONS)
15C35-02B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-02C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-05	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-03B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-03C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-01	TRAFFIC CONTROL, DROP-OFF SIGNING

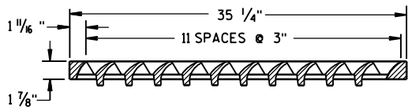
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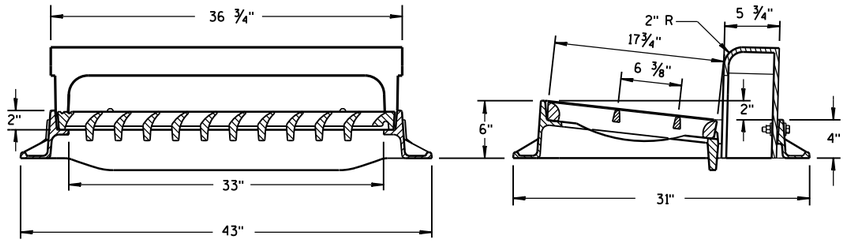


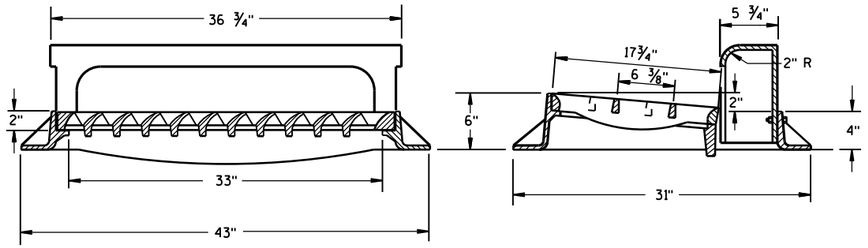
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

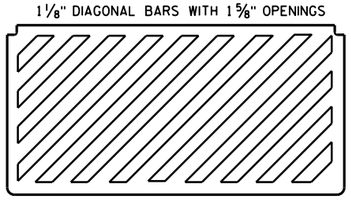






TYPE "H"

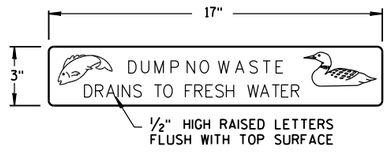
NOTE: EITHER CASTING IS ACCEPTABLE



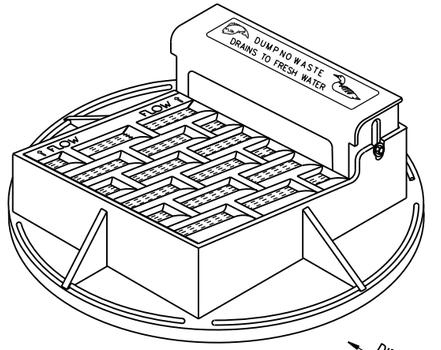
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

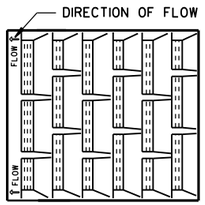
NOTE:
GRATE IS REVERSIBLE.

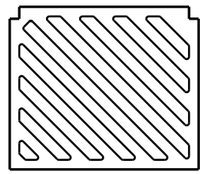
GENERAL NOTES

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

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

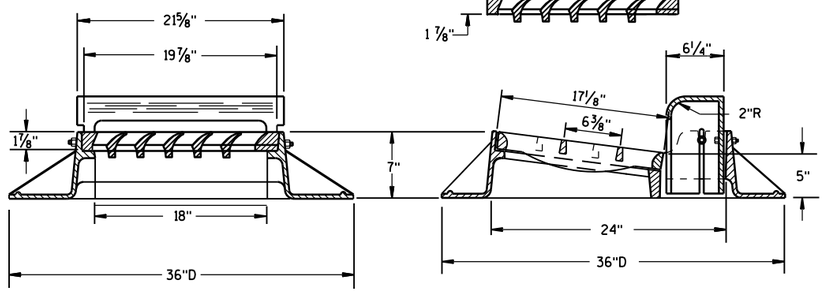




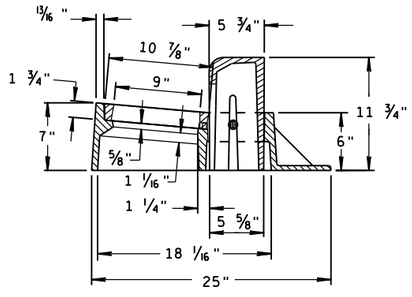
SPECIAL GRATE FOR TYPE "A" COVER

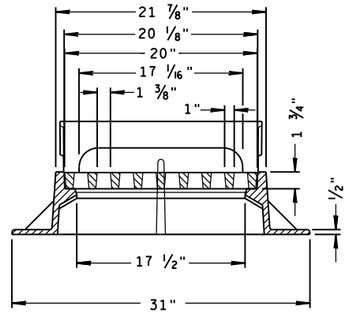
(MEASURES 19 3/4" X 17" X 1 7/8")

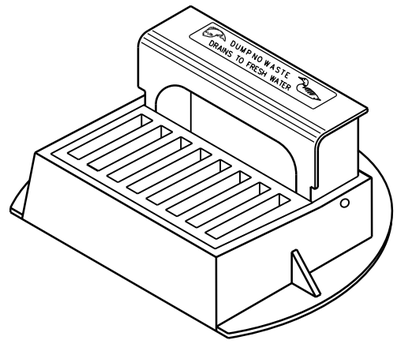
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

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

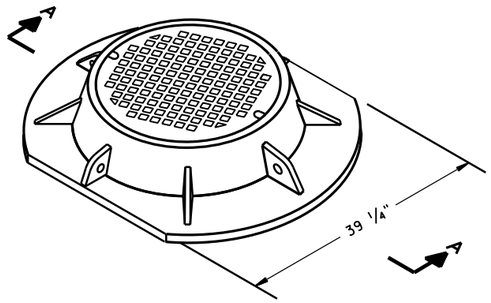
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

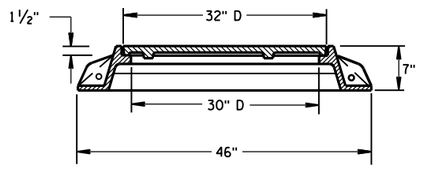
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

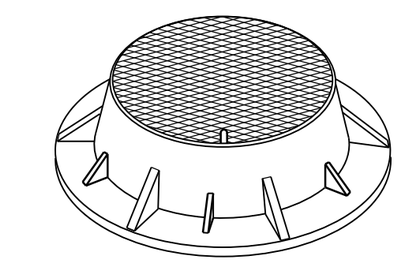
S.D.D. 8 A 5-19a

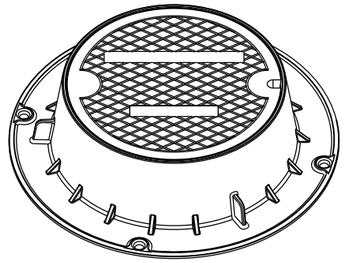
S.D.D. 8 A 5-19a

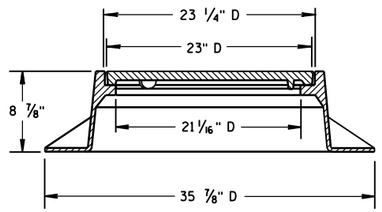


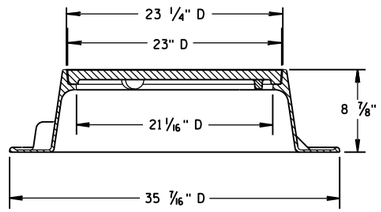


SECTION A-A
TYPE "K"









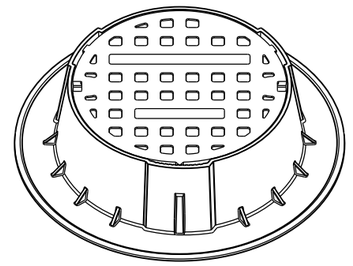
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

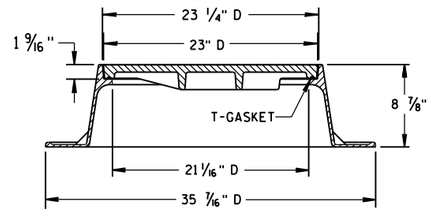
GENERAL NOTES

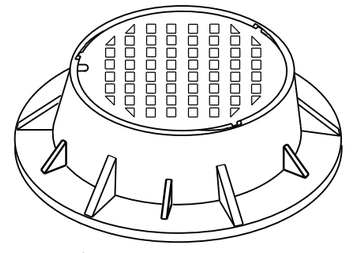
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

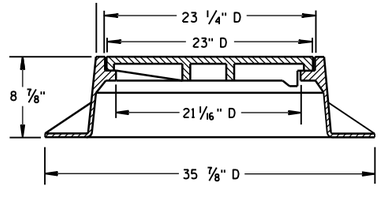
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

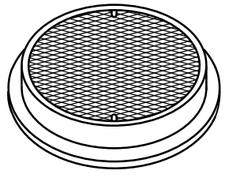


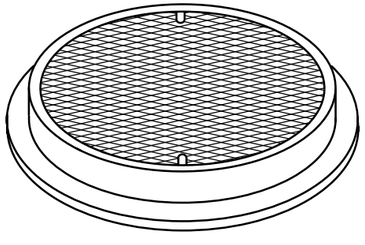


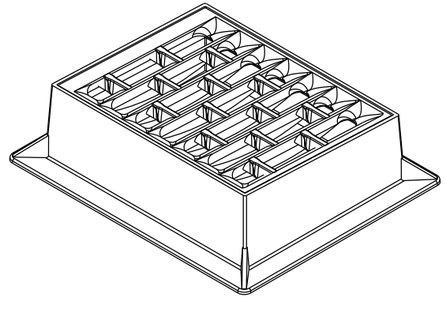


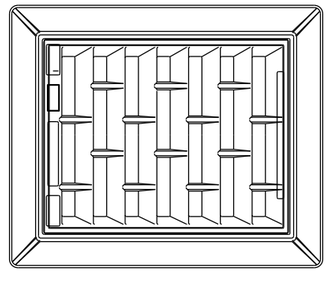


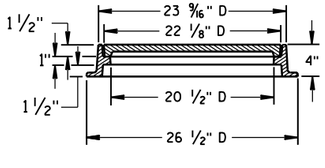
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



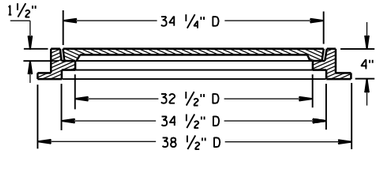




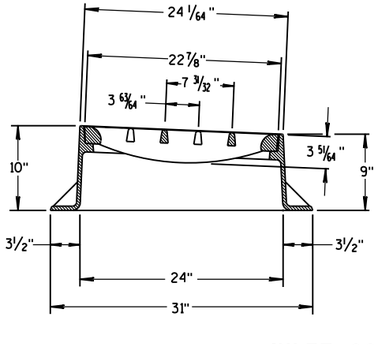


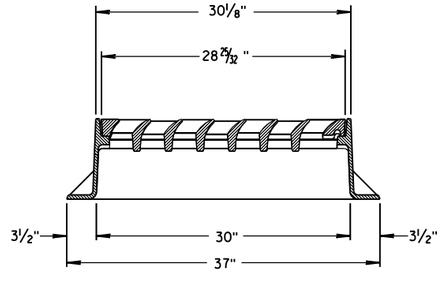


TYPE "L"



TYPE "M"





INLET COVER TYPE "BW"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

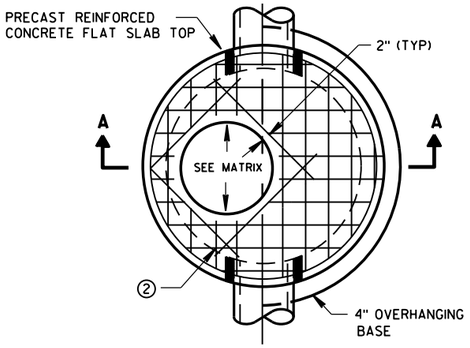
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

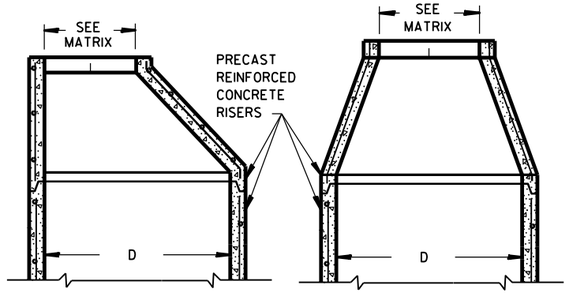
S.D.D. 8 A 5-19d

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

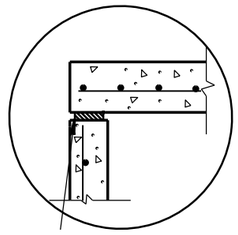


PLAN VIEW CIRCULAR OPENING

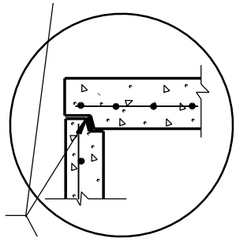


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

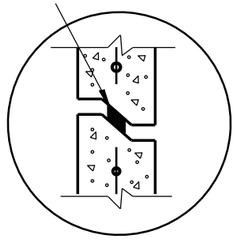


TOP WITH PLAIN END JOINT



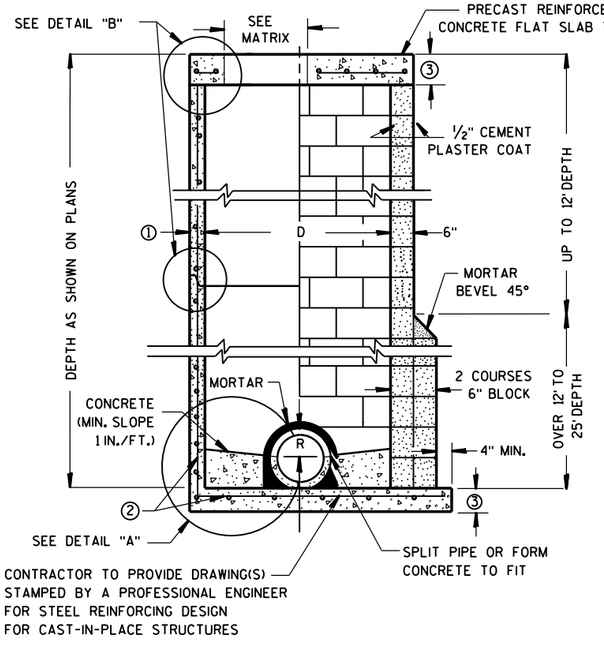
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



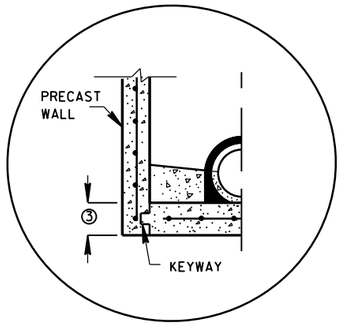
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

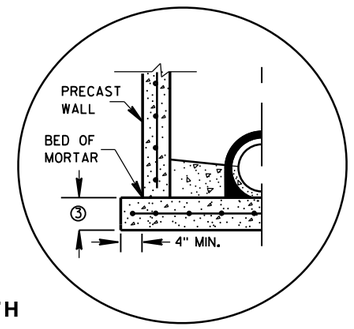


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

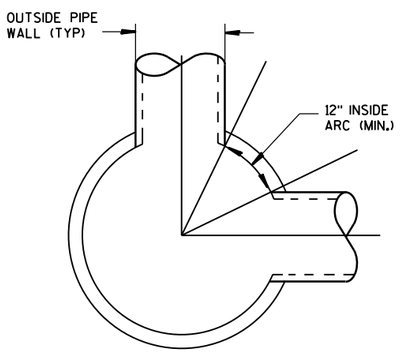


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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

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

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

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

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

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

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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

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

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

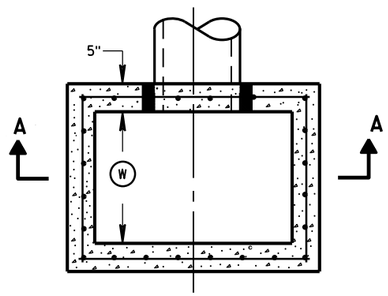
APPROVED

Sept., 2016
DATE

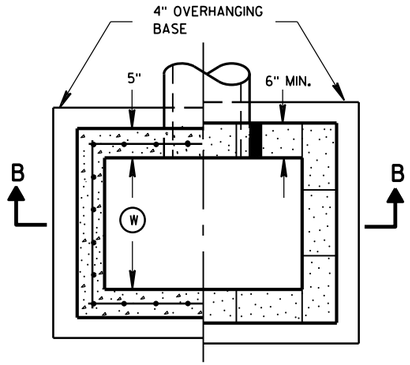
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERV

FHWA

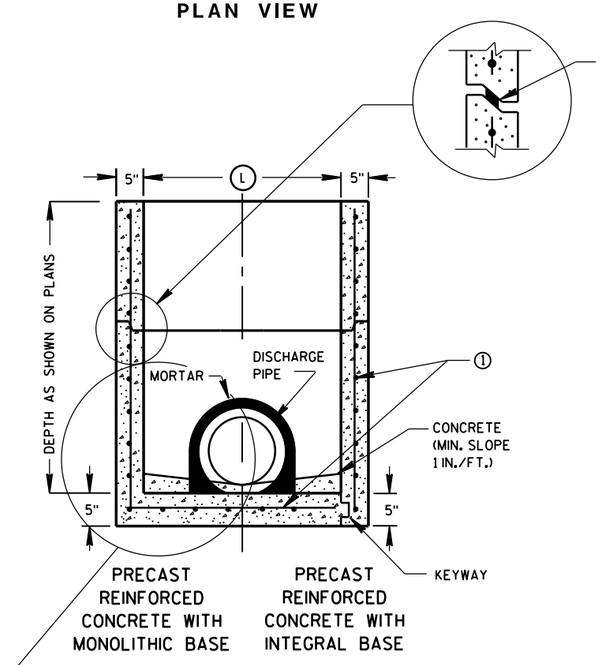
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S.D.D. 8 B 9-2



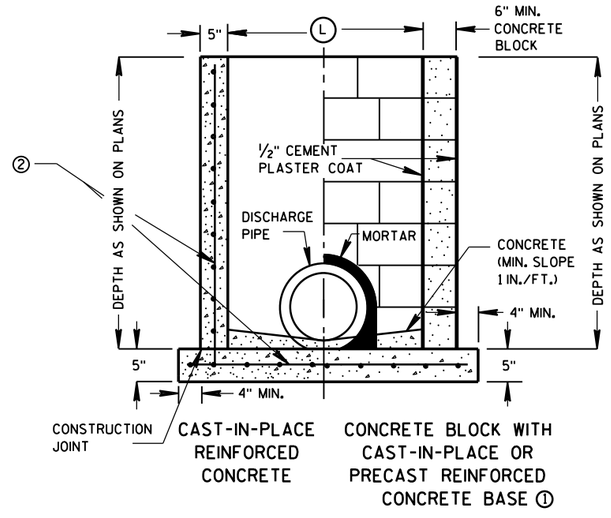
PLAN VIEW



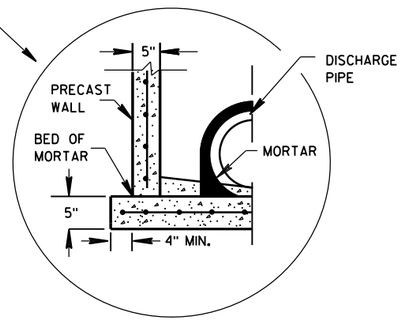
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

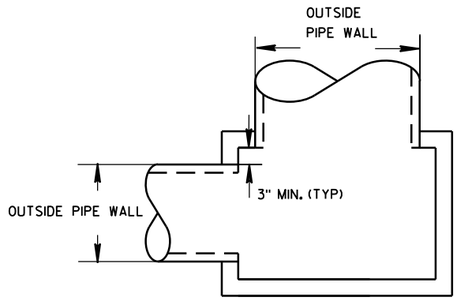
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

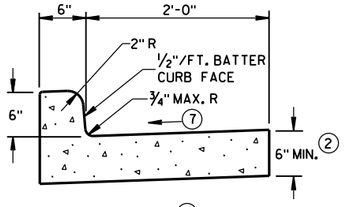
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

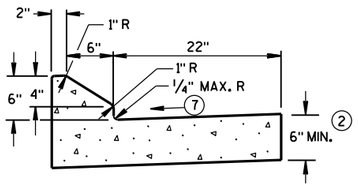
APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor
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UNIT SUPERVIS
FHWA

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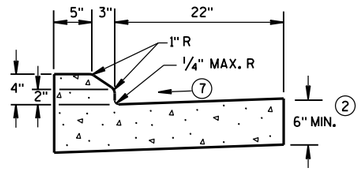
S.D.D. 8 C 7-2



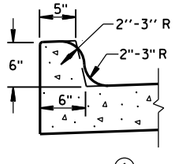
TYPES A (1) & D



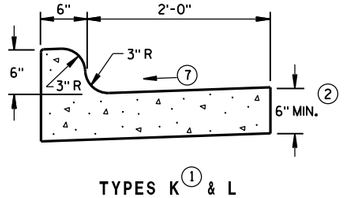
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

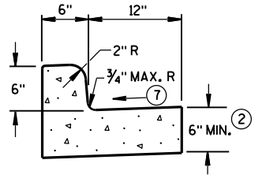


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



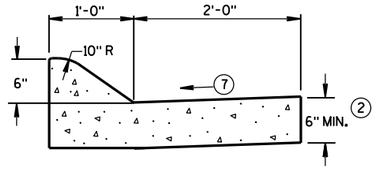
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

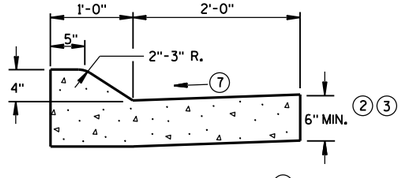


TYPES A (1) & D

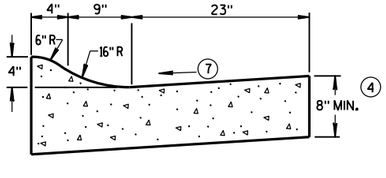
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

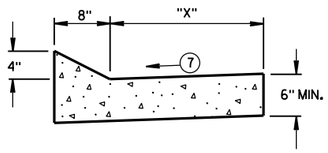


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

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

GENERAL NOTES

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

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

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

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

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

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

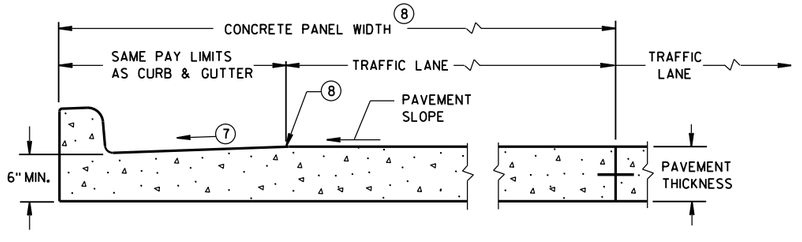
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

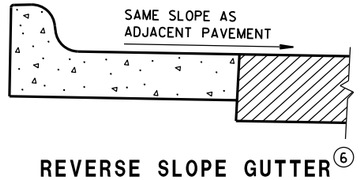
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.

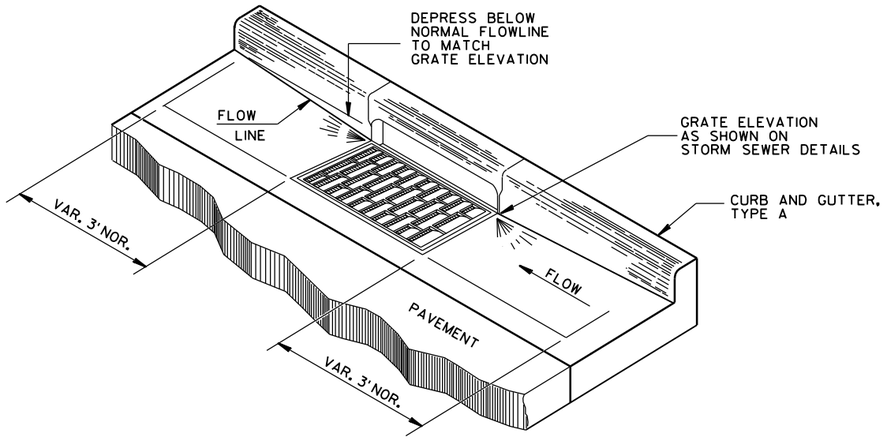


REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 8 D 1-20a



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

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

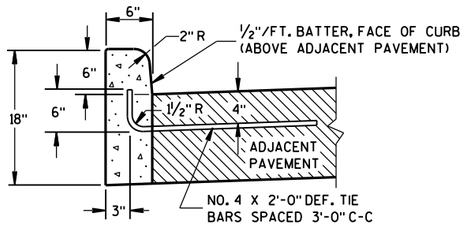
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

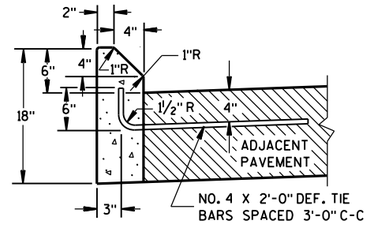
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

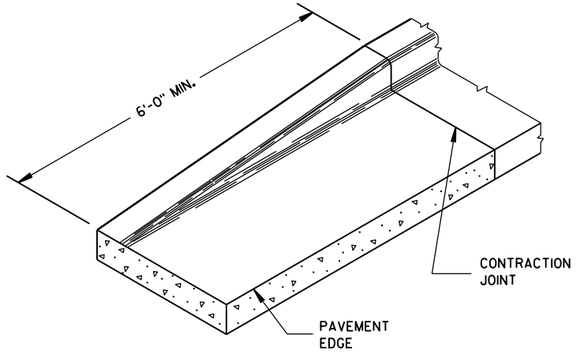


TYPES A(1) & D

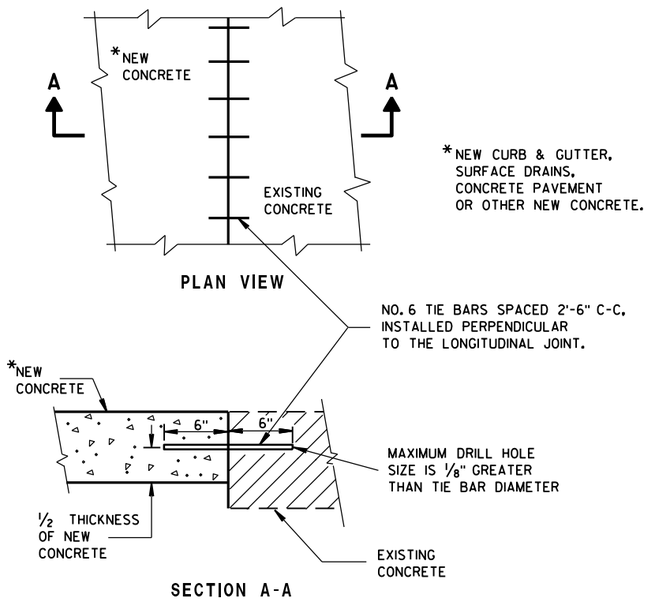


TYPES G(1) & J

CONCRETE CURB



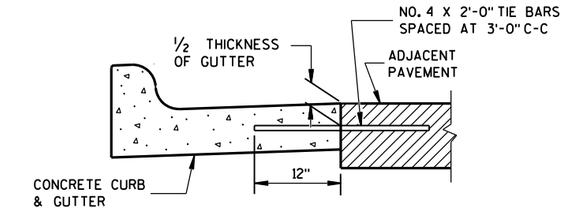
END SECTION CURB & GUTTER



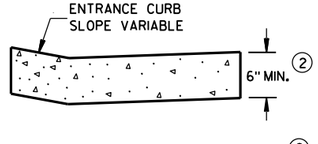
PLAN VIEW

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

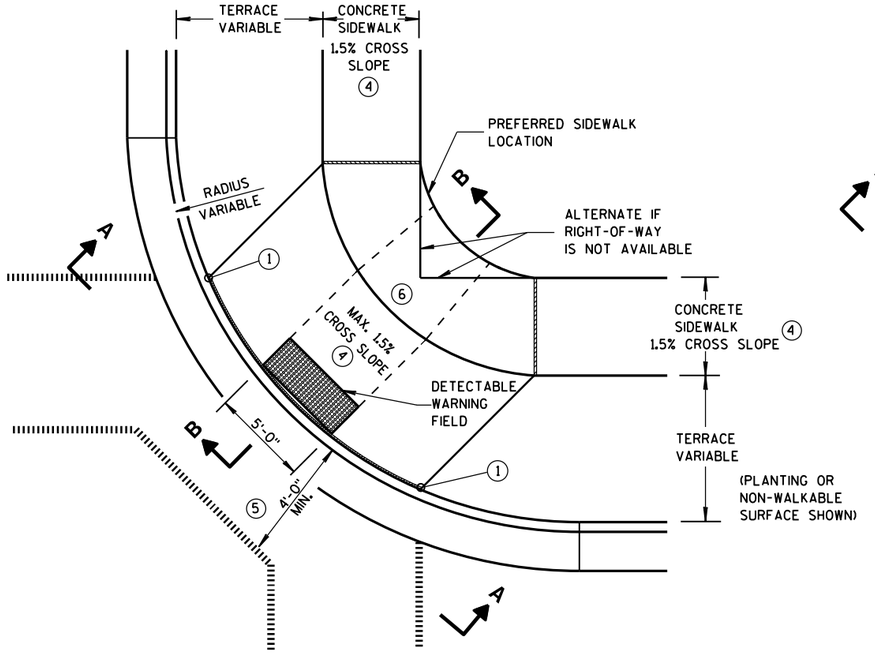
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S.D.D. 8 D 1-20b

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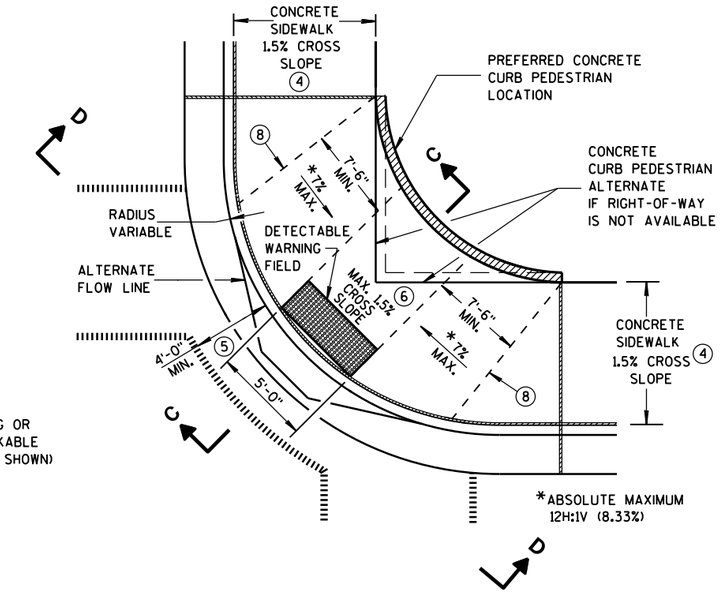
S.D.D. 8 D 1-20b



PLAN VIEW

TYPE 1 RAMP

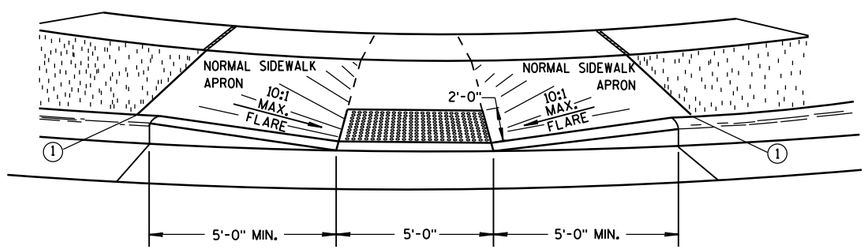
(CENTER OF CORNER RADIUS)



PLAN VIEW

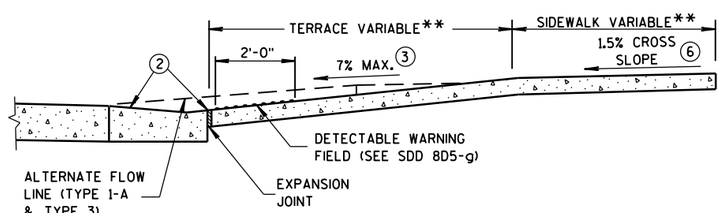
TYPE 1-A RAMP

(NO TERRACE)

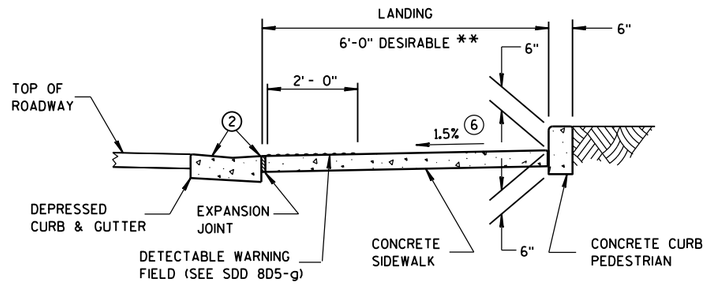


VIEW A-A

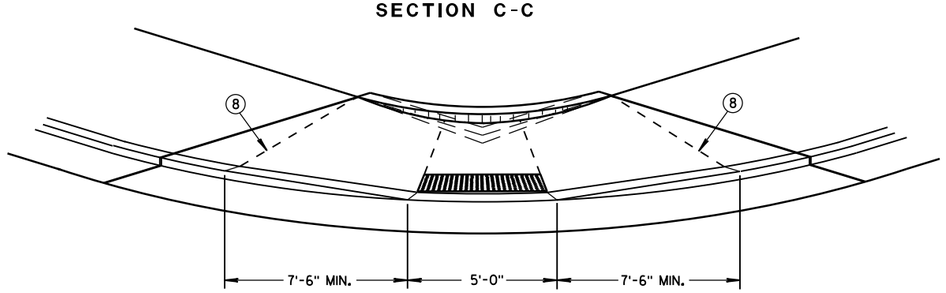
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



SECTION C-C



VIEW D-D

GENERAL NOTES

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

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

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

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

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

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

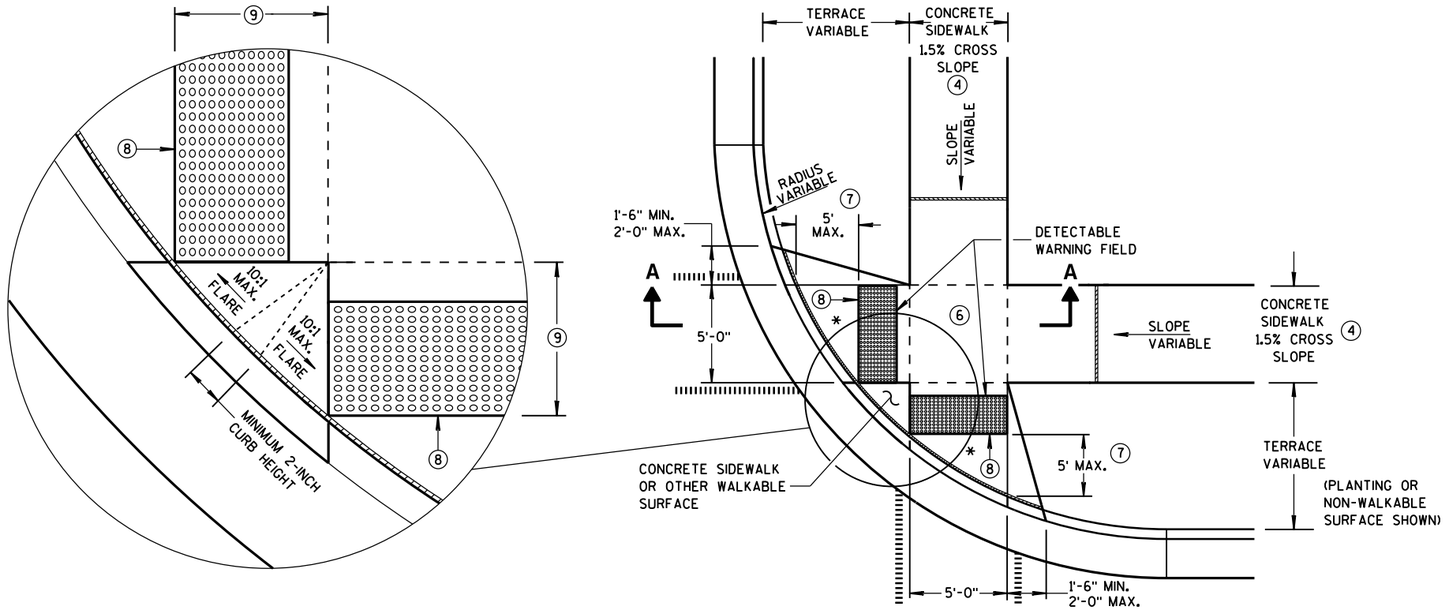
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

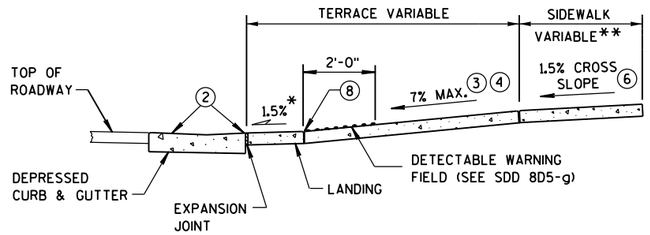
6

S.D.D. 8 D 5-19a



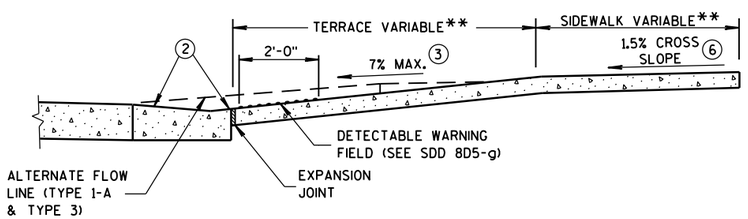
PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

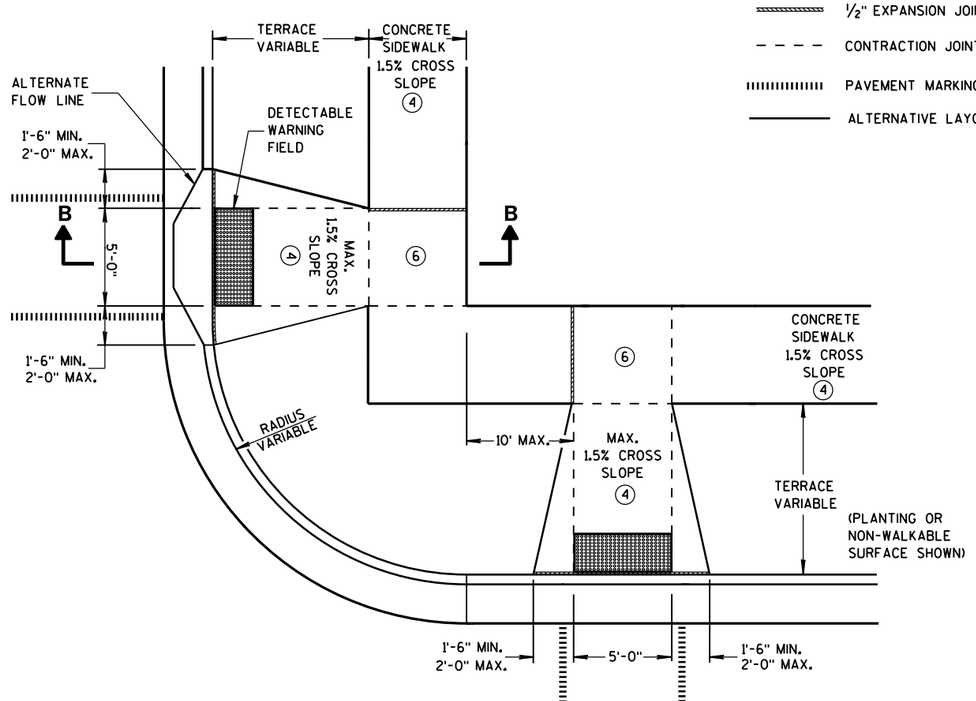


SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

LEGEND

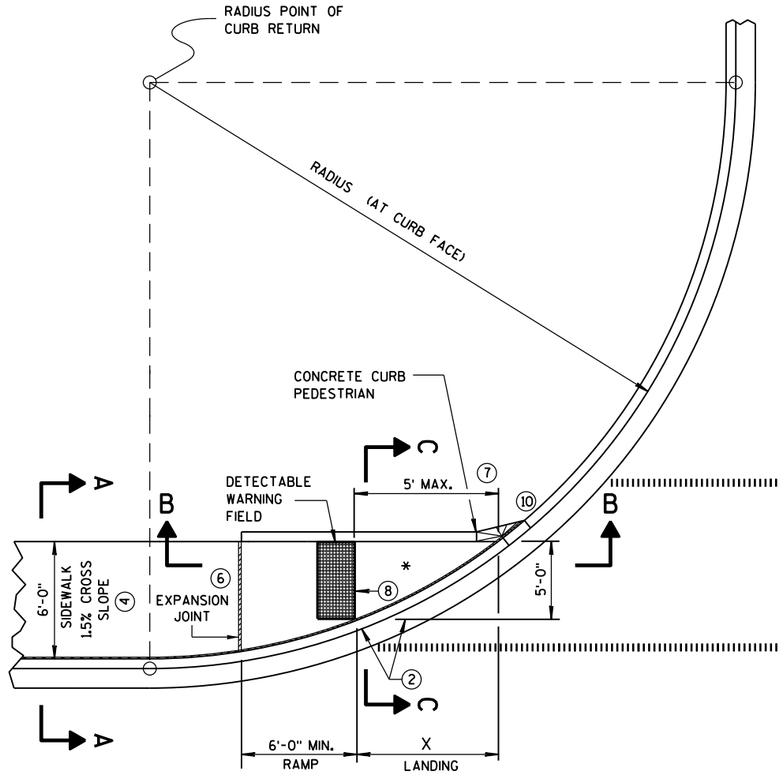
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

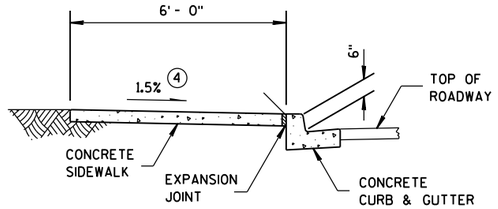
S.D.D. 8 D 5-19b



CURB RAMP TYPE 4A
PLAN VIEW

RADIUS (AT CURB FACE)	X
10 FEET	4'-7"
15 FEET	6'-5½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

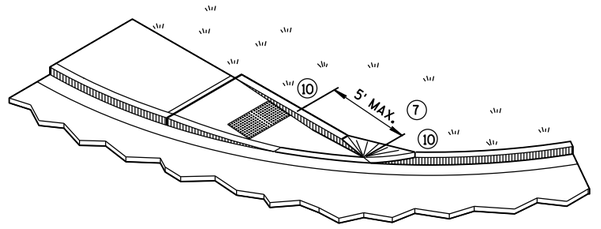
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

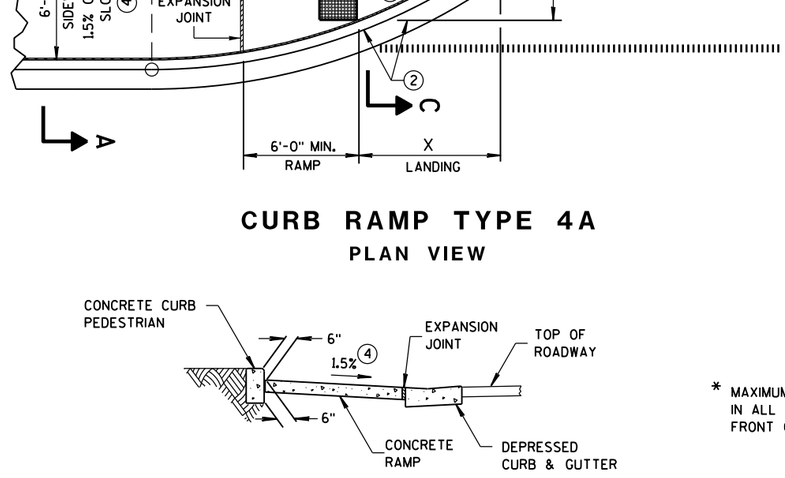
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

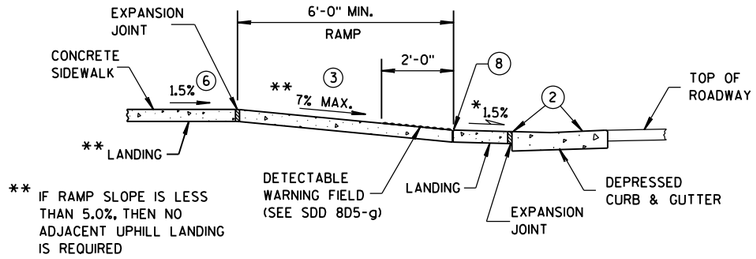
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



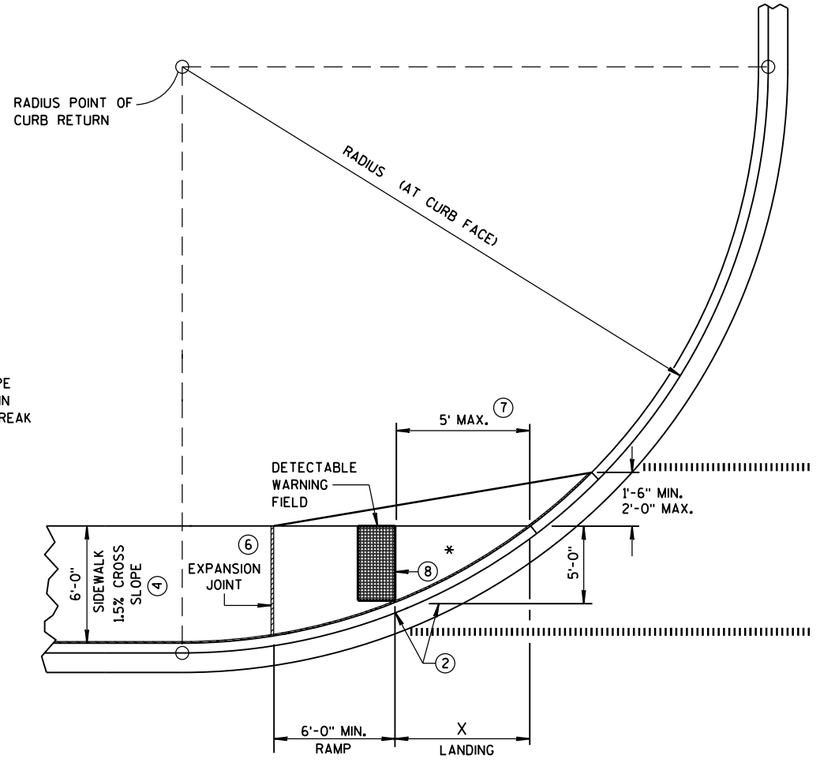
SECTION C-C FOR TYPE 4A



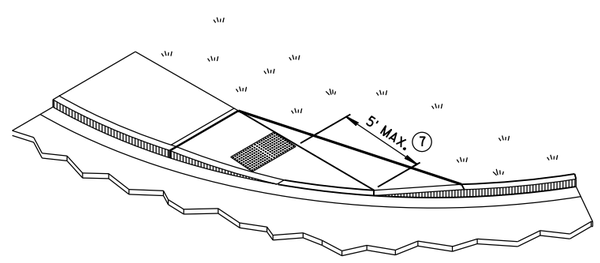
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B-B FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

½" EXPANSION JOINT-SIDEWALK

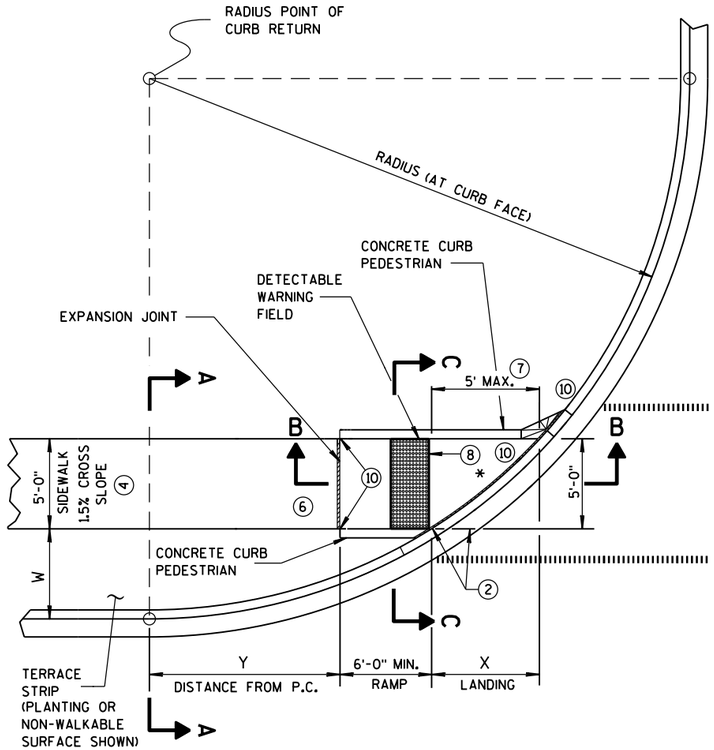
CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

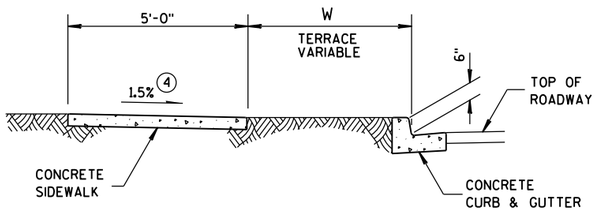
CURB RAMPS
TYPES 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

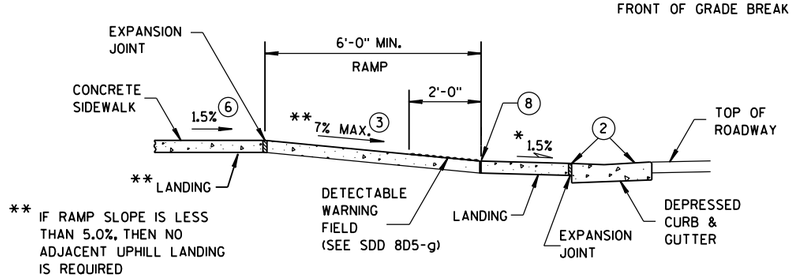
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S.D.D. 8 D 5-19c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



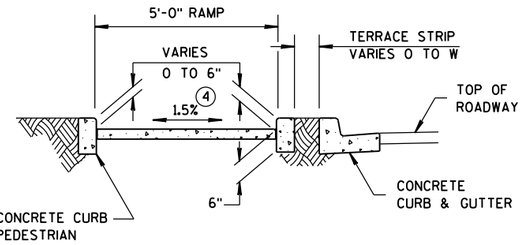
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

SECTION B-B FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"		W = 8'-0"		W = 9'-0"		W = 10'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2'-10¼"	0'-5"	2'-1"	1'-4½"	1'-5"	2'-1"	0'-10"	2'-7½"	0'-3¼"	3'-0¼"						
15 FEET	4'-6¾"	2'-1¾"	3'-9"	3'-5¼"	3'-1¼"	4'-6"	2'-6¾"	5'-4½"	2'-1"	6'-1"	1'-8"	6'-8½"	1'-3¼"	7'-2½"	0'-10¾"	7'-7¼"
20 FEET	5'-9¾"	3'-6½"	4'-11½"	5'-1¾"	4'-3¼"	6'-5½"	3'-8¾"	7'-7"	3'-3"	8'-6½"	2'-10"	9'-4½"	2'-5½"	10'-1¼"	2'-1¼"	10'-9"
30 FEET			6'-9¼"	7'-11¼"	6'-0¼"	9'-8"	5'-5"	11'-1¾"	4'-10¾"	12'-5¾"	4'-5½"	13'-7¾"	4'-0¾"	14'-8½"	3'-8½"	15'-8¼"
40 FEET									6'-1¾"	15'-8½"	5'-8"	17'-2"	5'-3"	18'-5¾"	4'-10¾"	19'-8¼"
50 FEET															5'-10¼"	23'-2"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



SECTION C-C FOR TYPE 4B

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

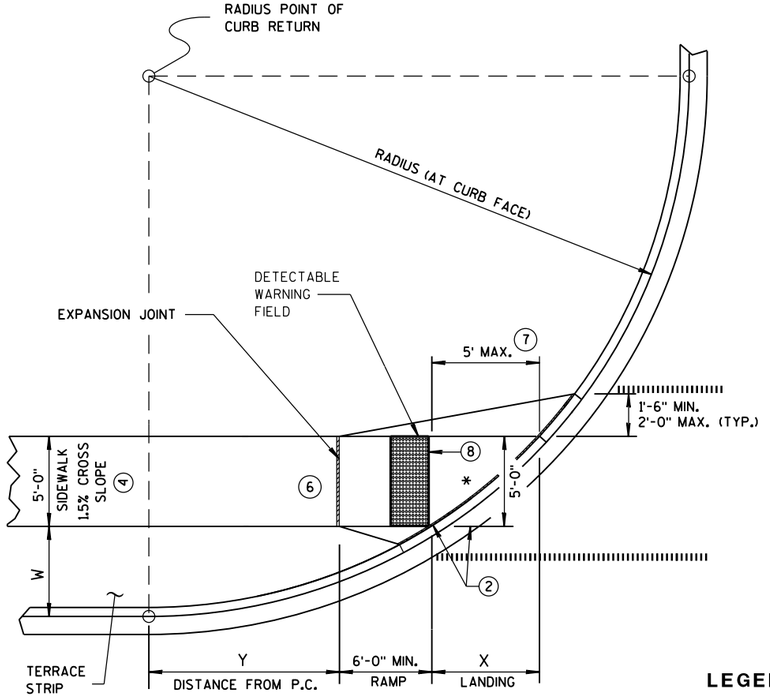
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

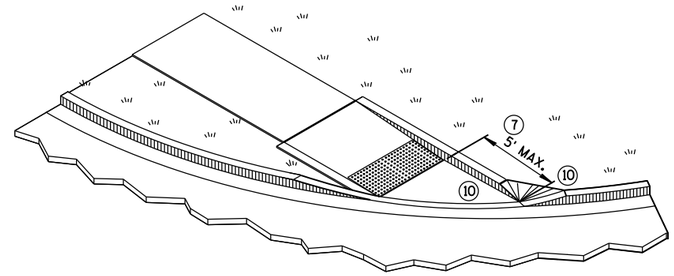
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

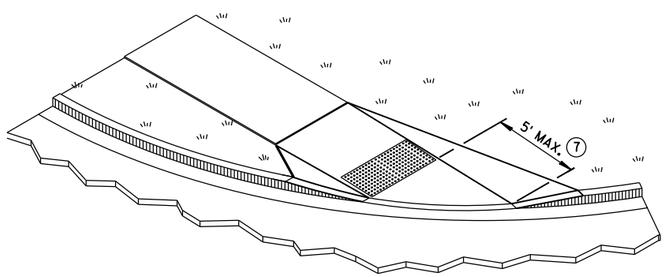
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

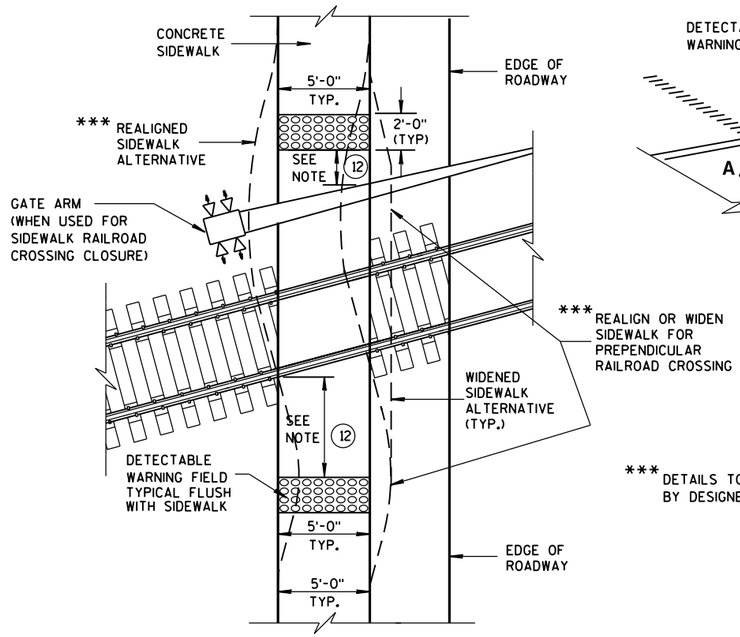
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B AND 4B1

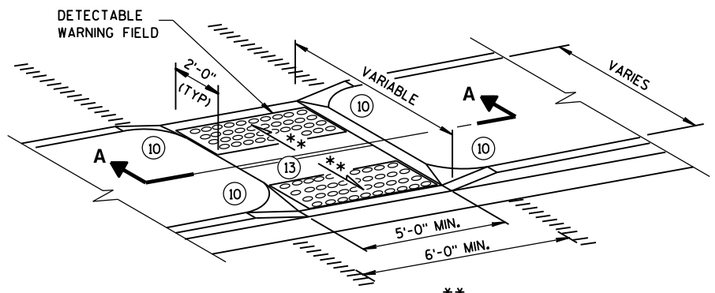
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



** 1% MIN. (PROVIDE DRAINAGE)

*** DETAILS TO BE DETERMINED BY DESIGNER

MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING
TYPE 5

GENERAL NOTES

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

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

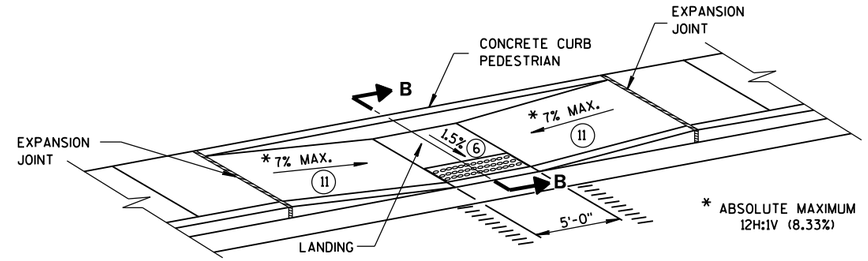
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

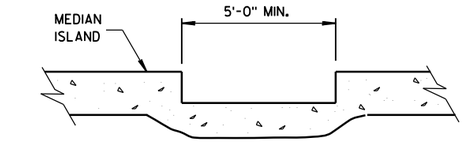
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

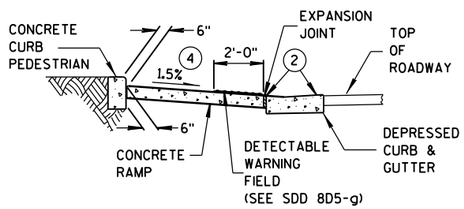
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2-FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.



MID-BLOCK CROSSING
TYPE 7A

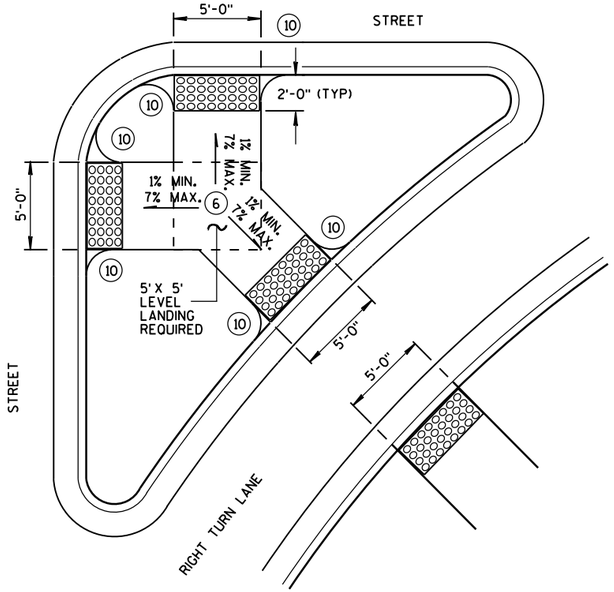


SECTION A-A

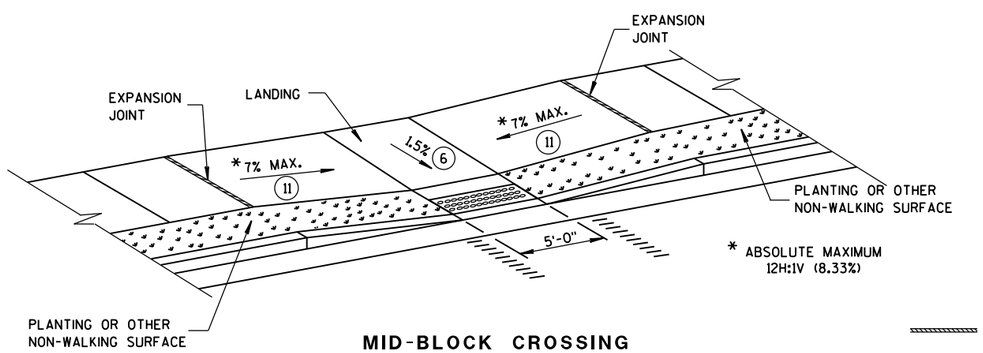


SECTION B-B

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

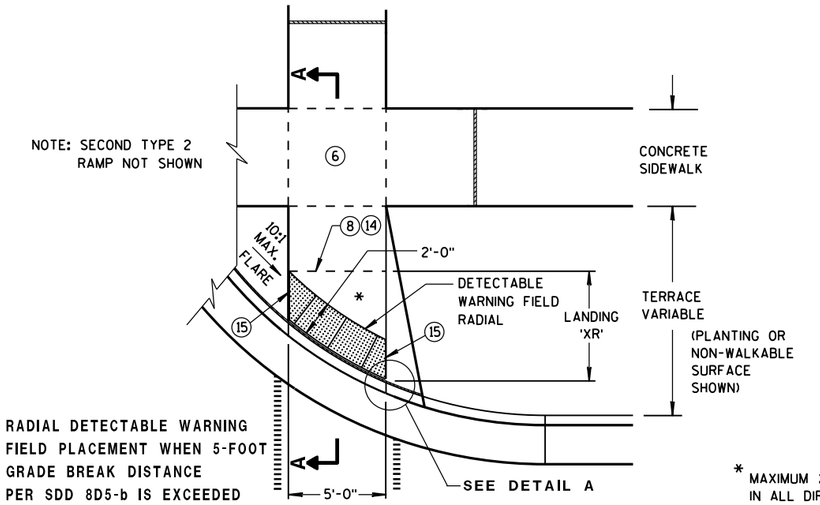
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

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

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S.D.D. 8 D 5-19e

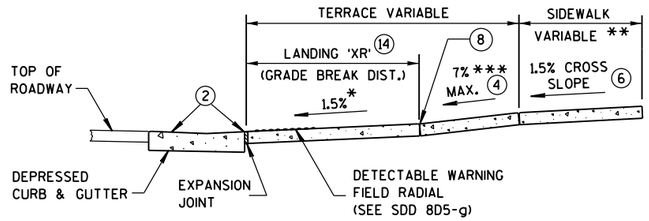


TYPE 2 RAMP
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION A-A

GENERAL NOTES

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

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

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

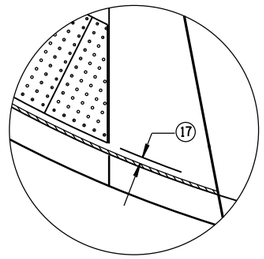
(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION 'XR') REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

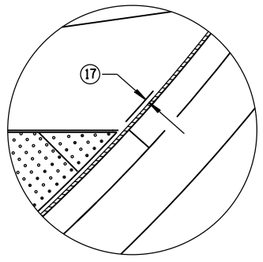
(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1'X 2' RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2'-0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

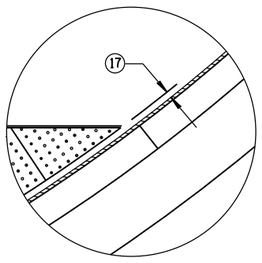
(17) A MAXIMUM 3-INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.



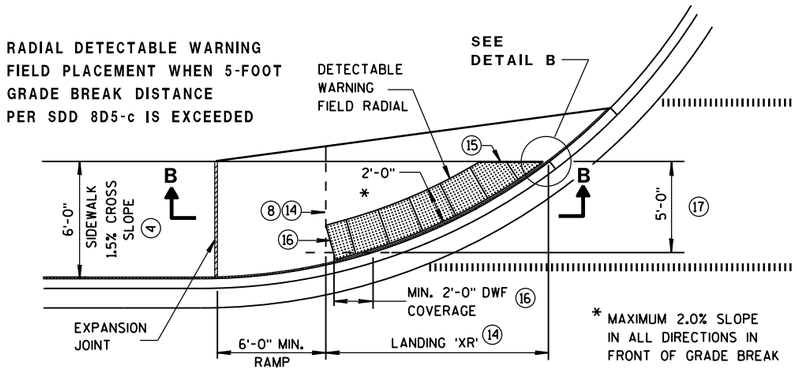
DETAIL A



DETAIL C

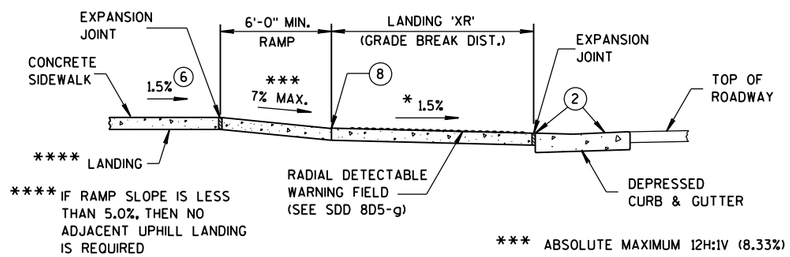


DETAIL B



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

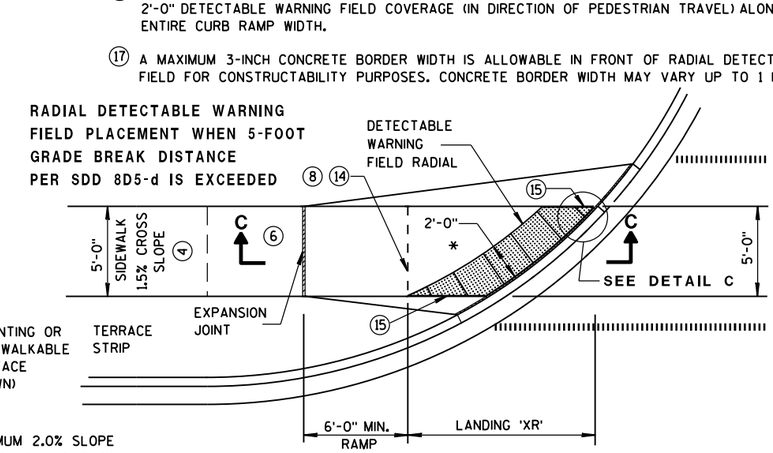
CURB RAMP TYPE 4A1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

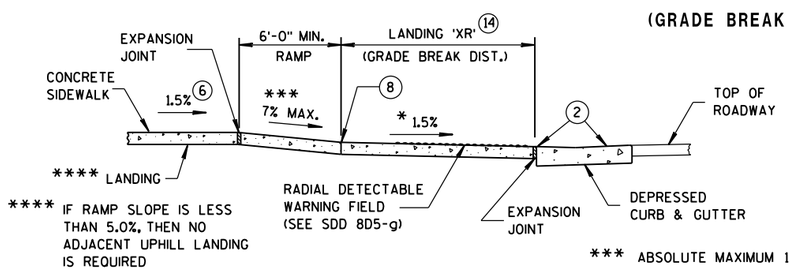
*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION B-B FOR TYPE 4A1



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

CURB RAMP TYPE 4B1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION C-C FOR TYPE 4B1

CURB RAMPS
RADIAL DETECTABLE WARNING FIELD APPLICATIONS

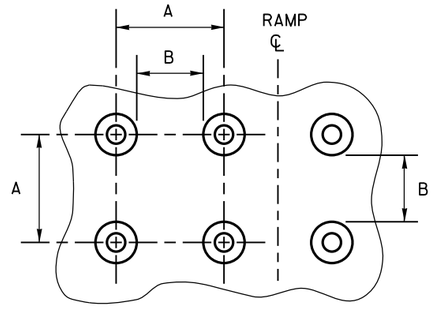
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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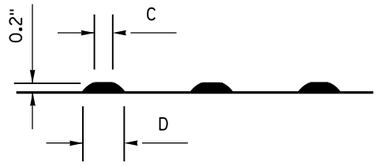
S.D.D. 8 D 5-19f

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

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



PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL

GENERAL NOTES

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

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

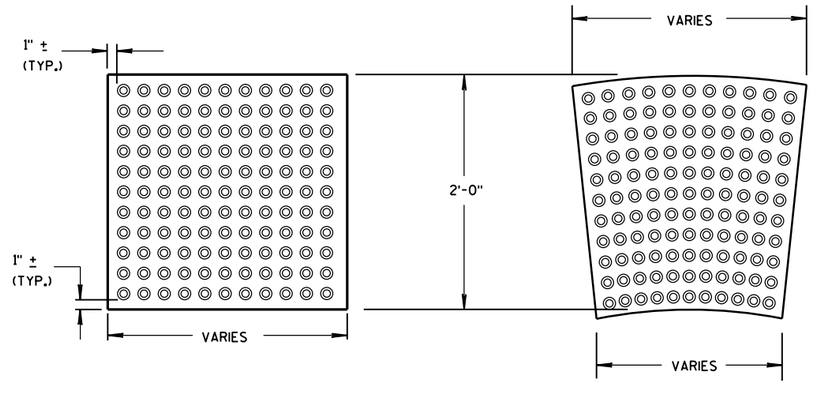
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGES IN COMBINATION WITH SQUARE PANELS ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

⑮ FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

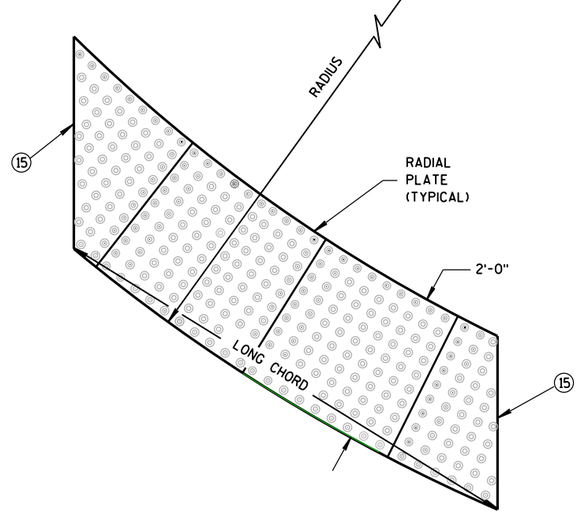


RECTANGULAR PLATES

RADIAL PLATES

DETECTABLE WARNING FIELDS (TYPICAL)

PLAN VIEW



RADIAL DETECTABLE WARNING FIELD ATTRIBUTES

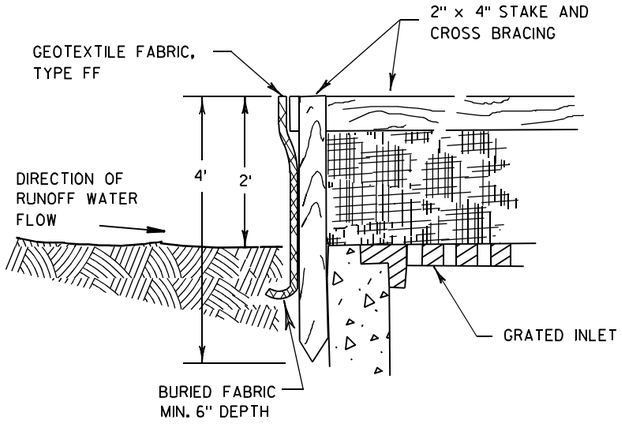
CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

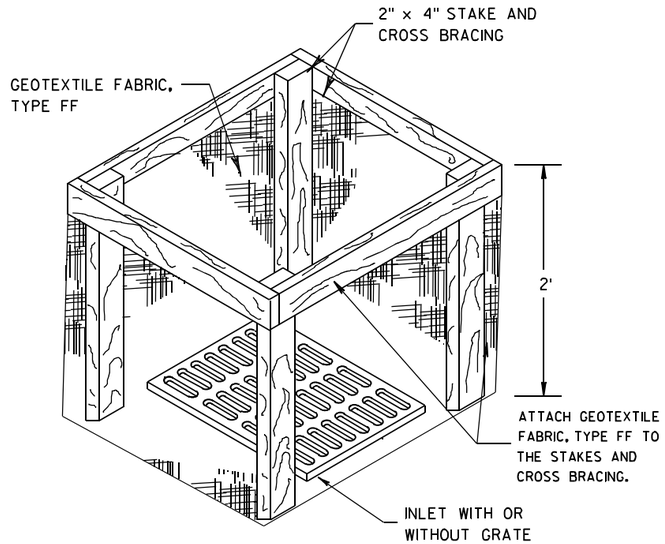
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
ENT
FHWA

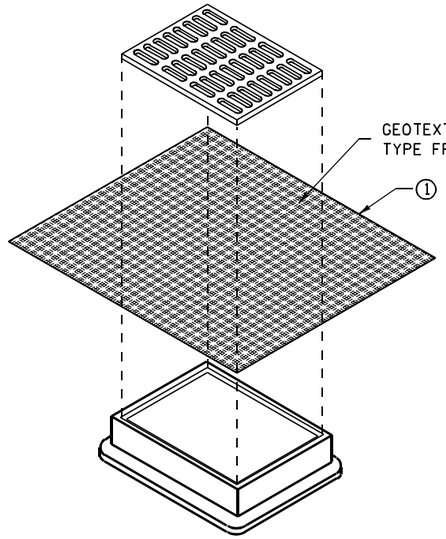
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S.D.D. 8 D 5-19g



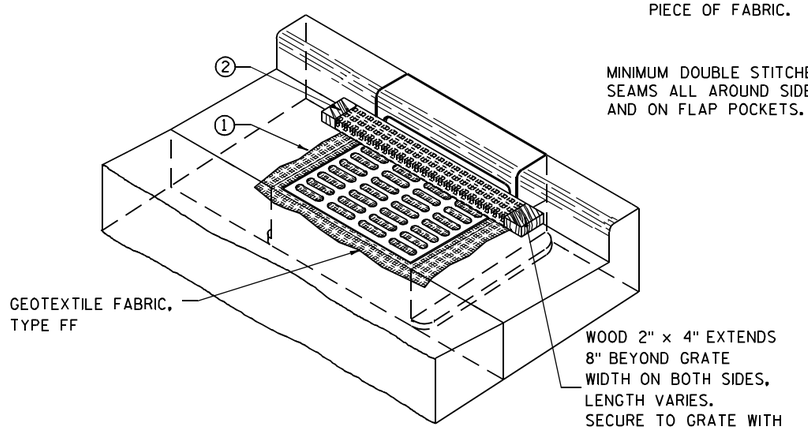


INLET PROTECTION, TYPE A

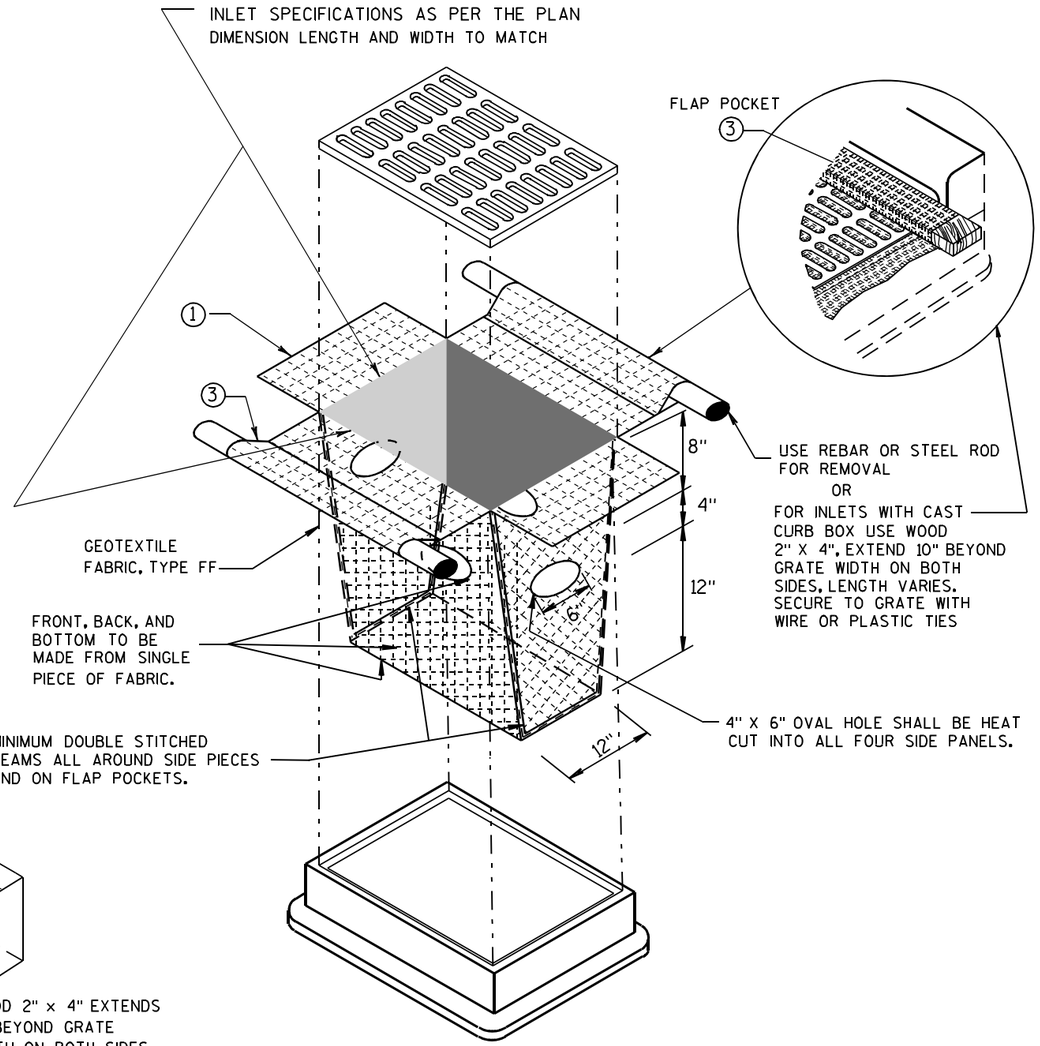


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

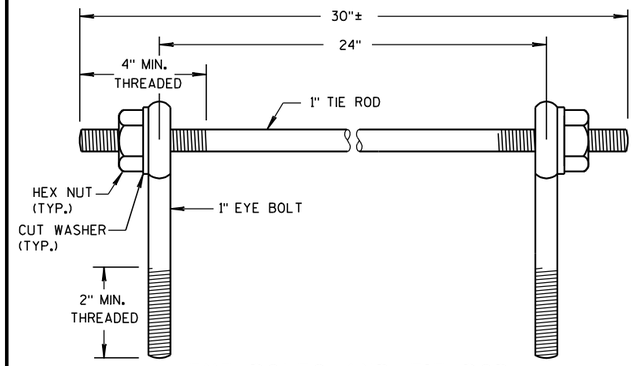
APPROVED

10/16/02
DATE

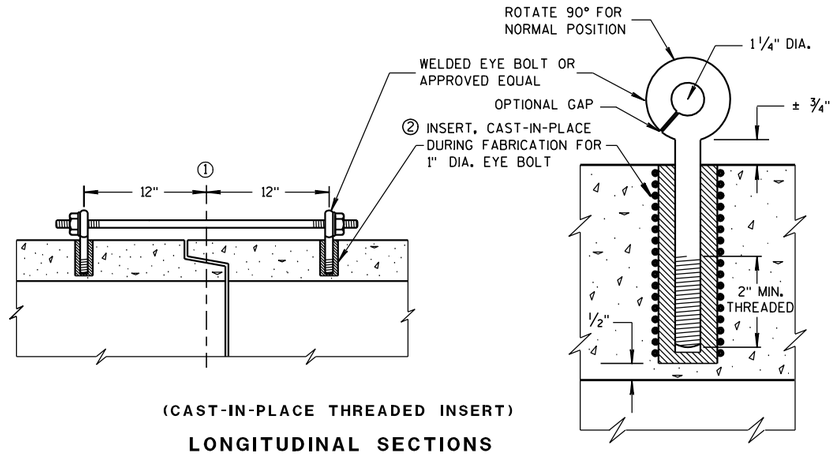
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 8 E 10-2



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

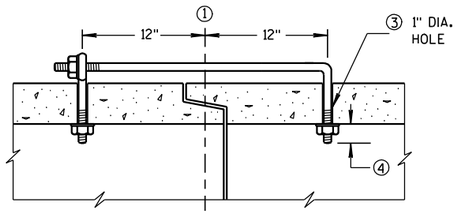
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

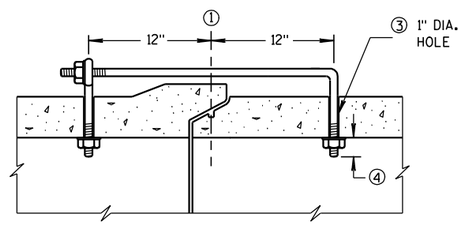
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

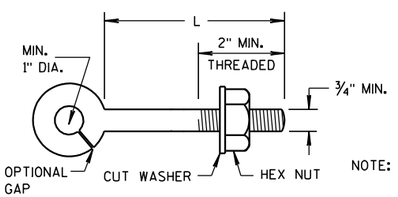


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

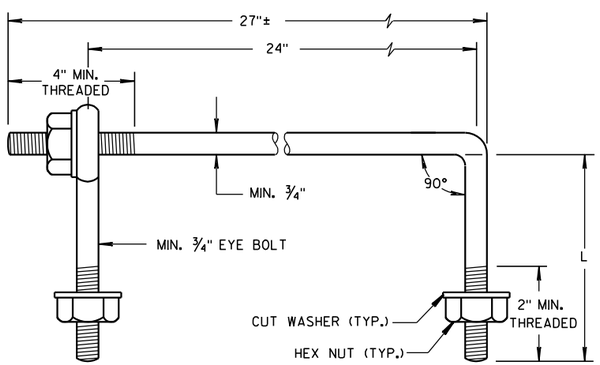
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

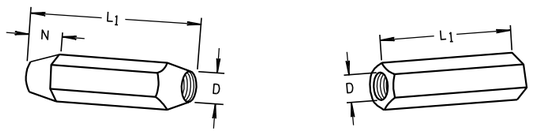
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

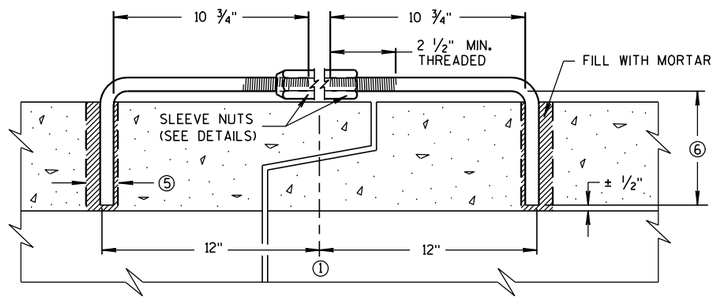
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

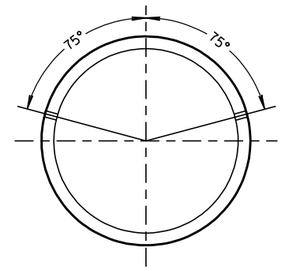
SLEEVE NUTS



LONGITUDINAL SECTION

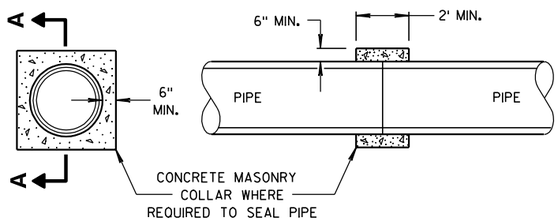
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

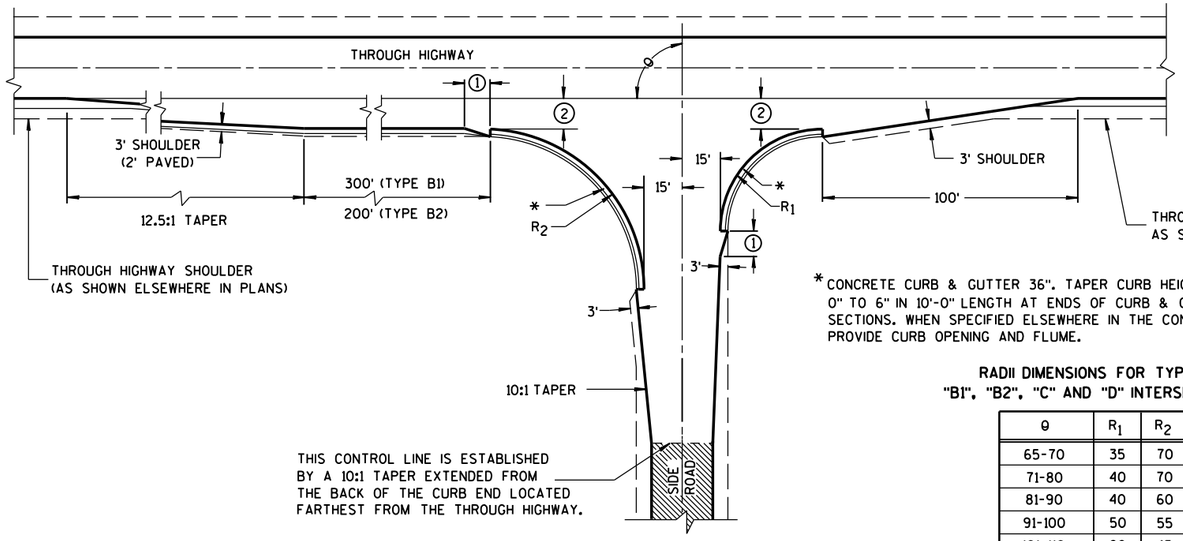
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 8 F 4-7

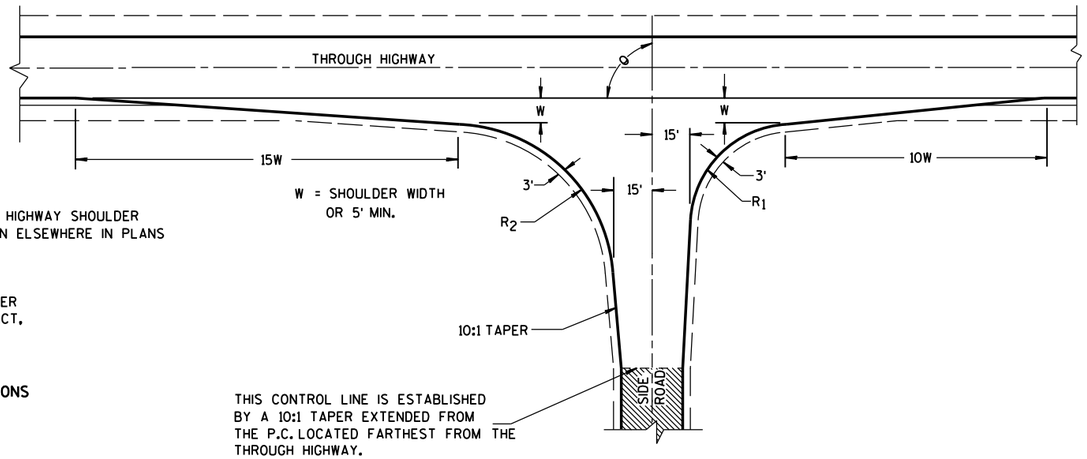


TYPE "B1" AND "B2"

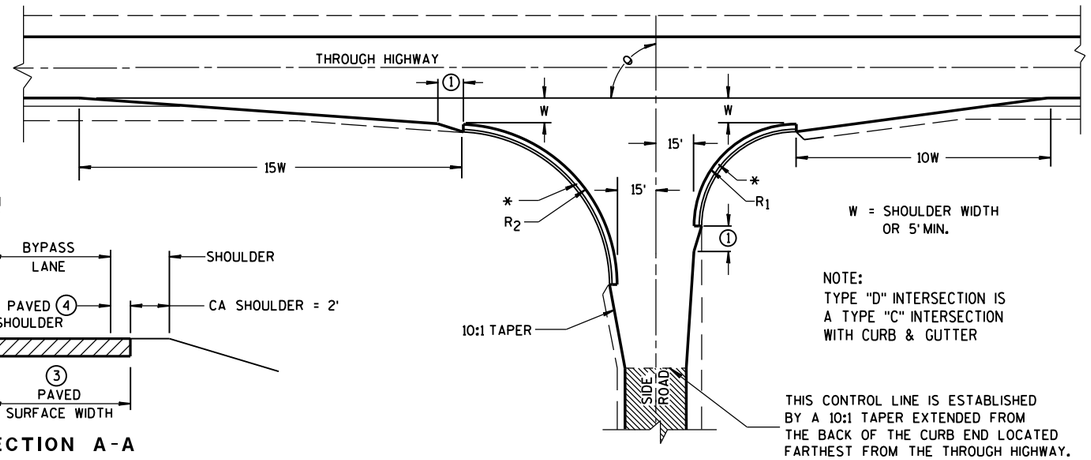
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

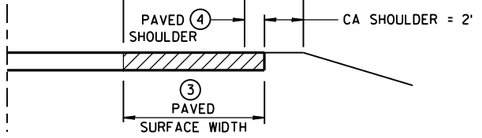
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

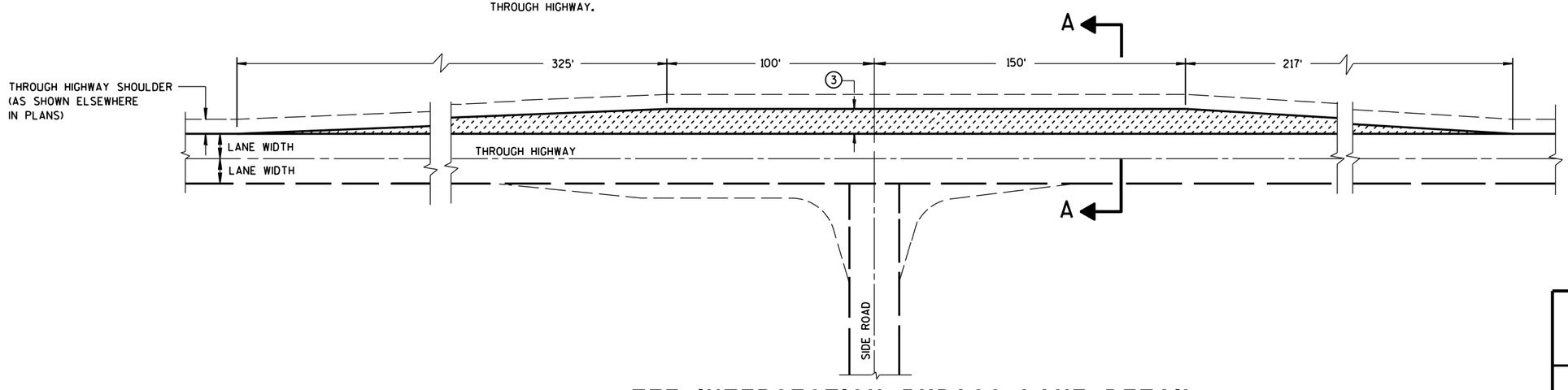
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



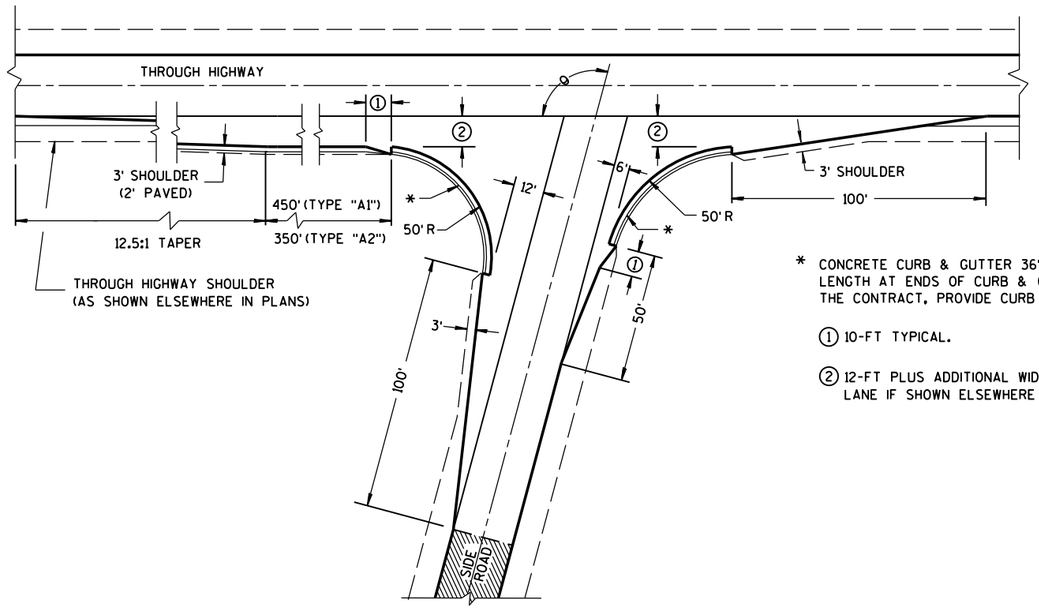
TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 9 A 1-13a



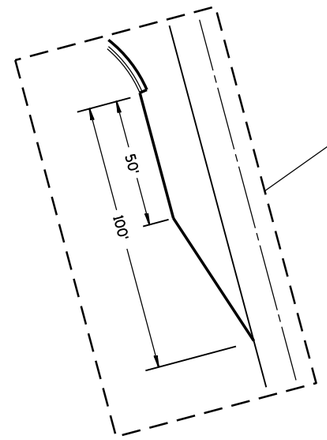
θ = MORE THAN 80°

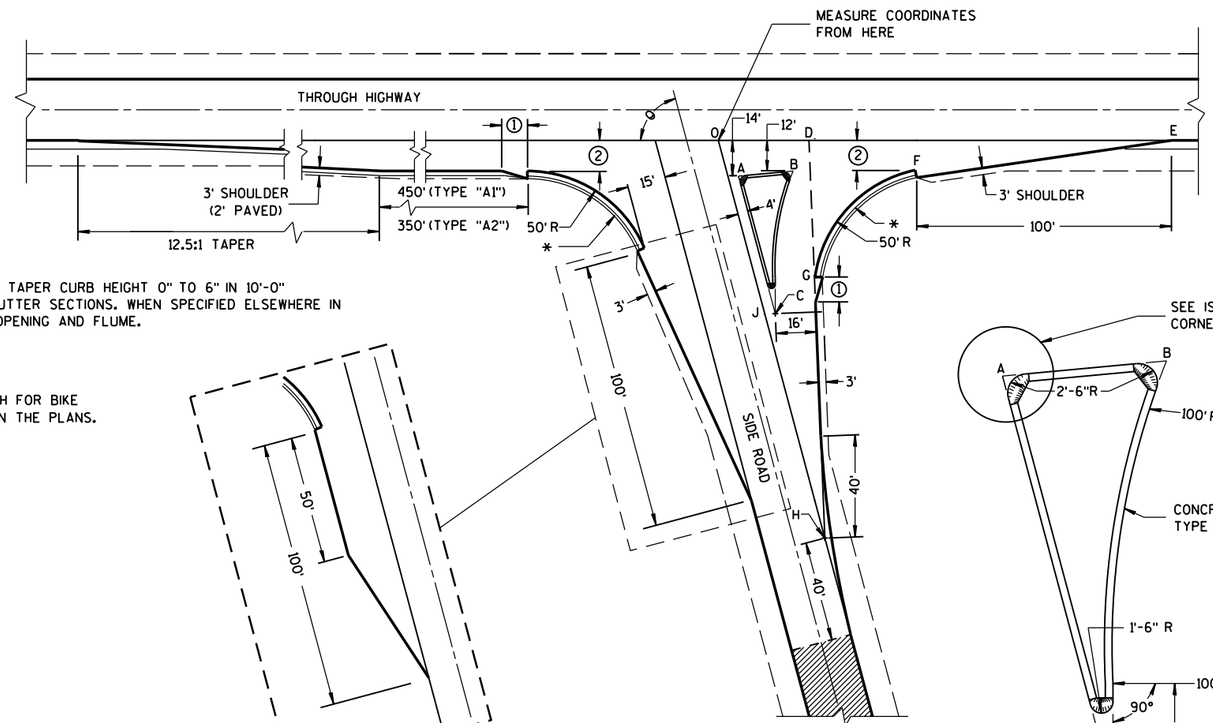
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10-FT TYPICAL.

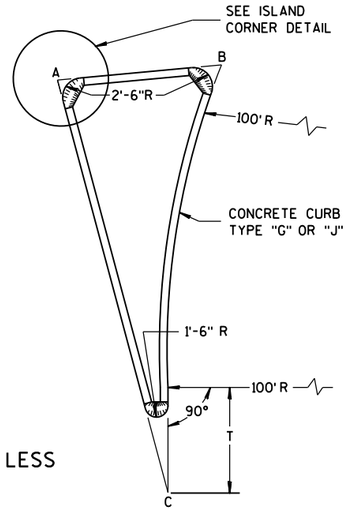
② 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.

EXISTING PAVED SURFACE

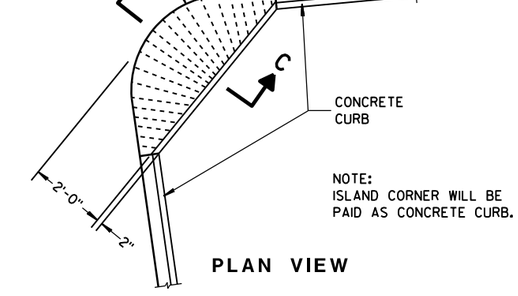




θ = ACUTE ANGLES 80° OR LESS

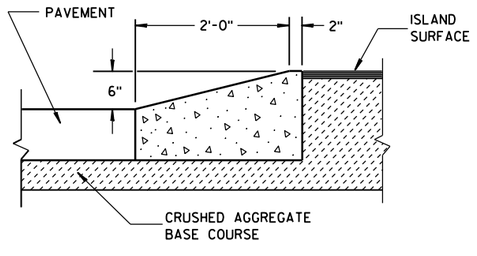


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE
THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS



NOTE:
ISLAND CORNER WILL BE
PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

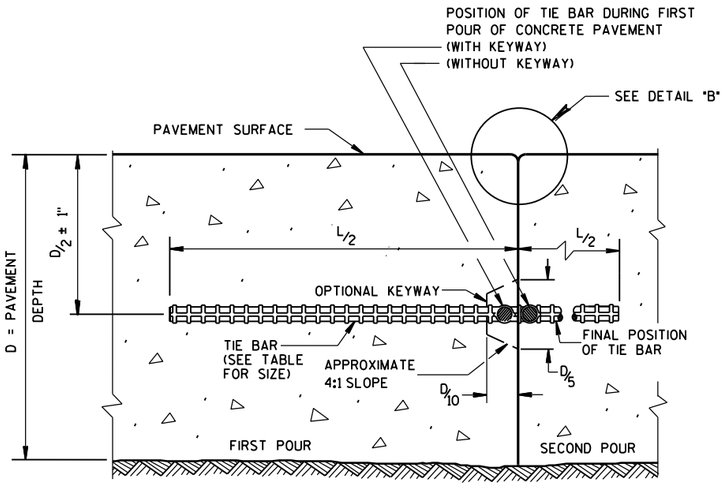
ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O") X / Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

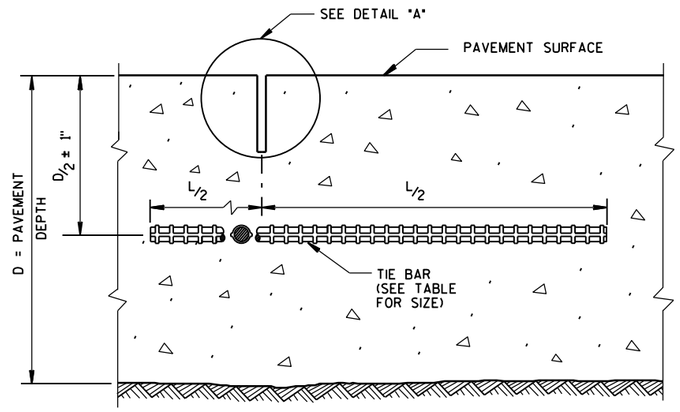
AT-GRADE SIDE ROAD
INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/12 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

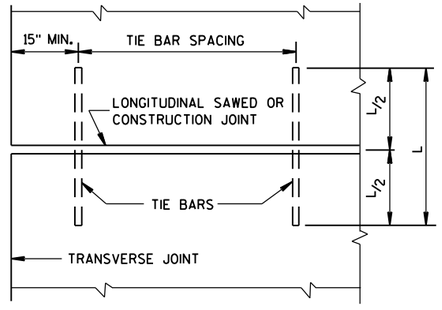
DETAIL "C"

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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S.D.D. 13 C 1-18

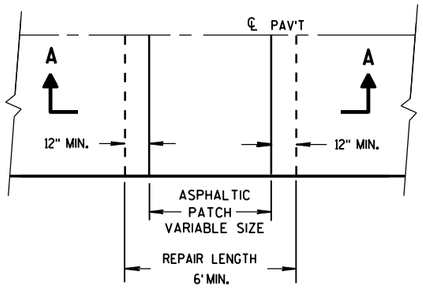
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

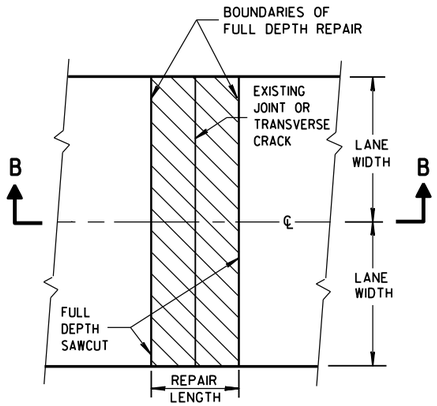
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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

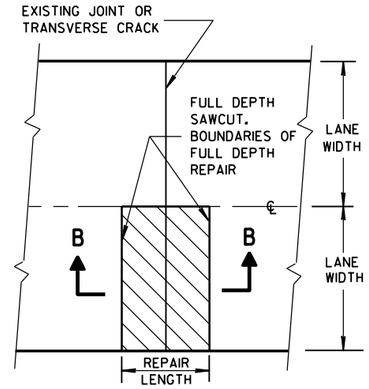
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

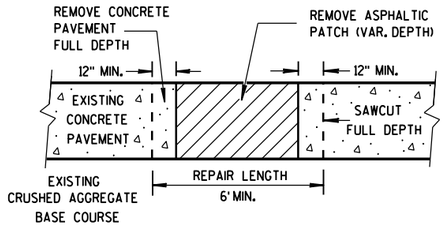


PLAN VIEW
(DOUBLE LANE REPAIR)



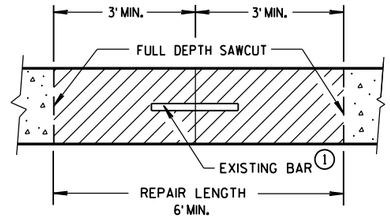
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

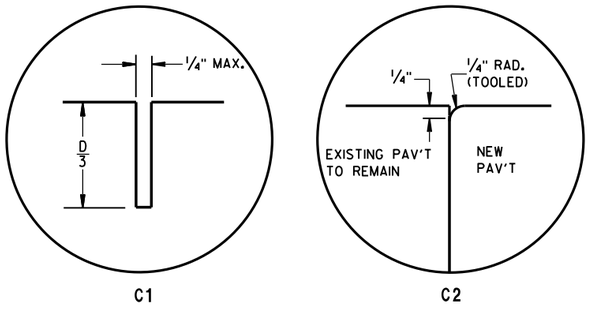
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 13 C 9-14a



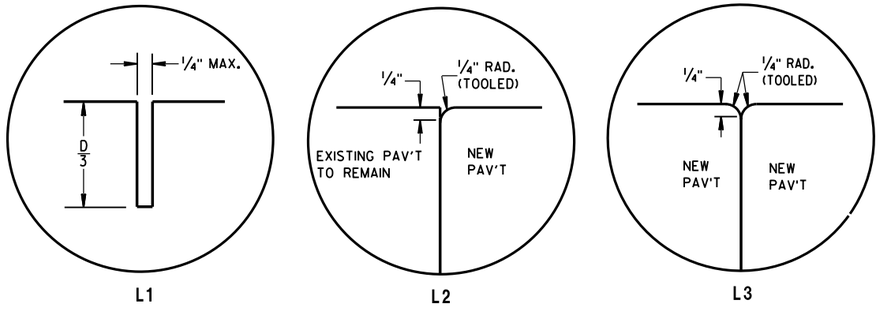
TRANSVERSE JOINTS

TIE BAR TABLE

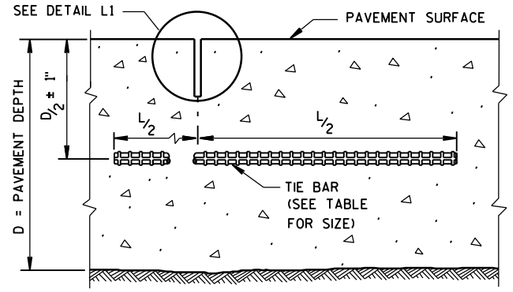
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

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

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



LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

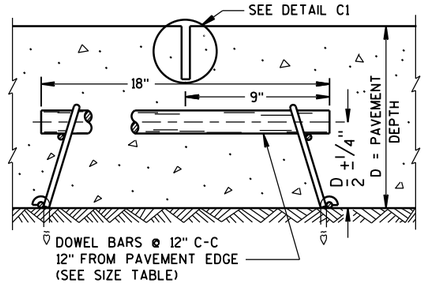
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

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

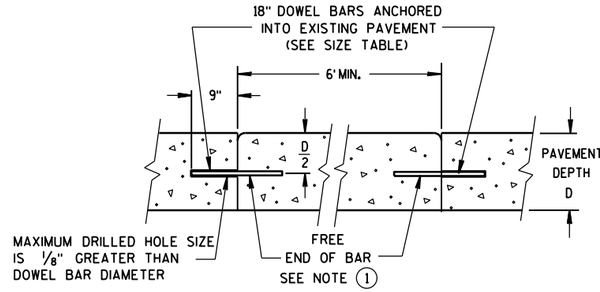
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

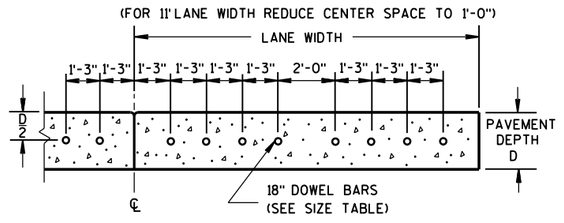


SECTION F-F

CONTRACTION JOINT



SECTION D-D

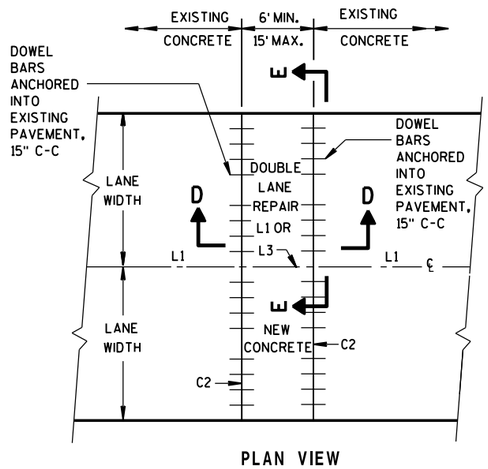


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

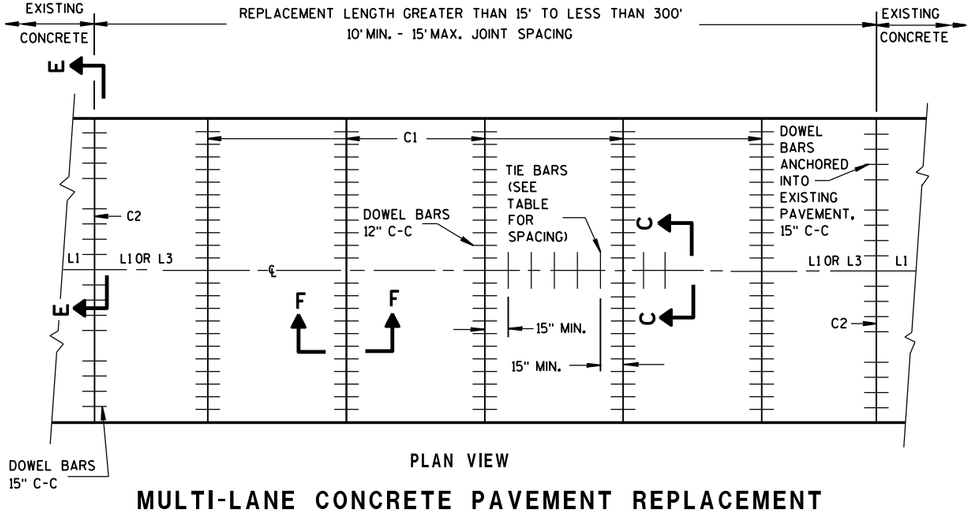
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6",6 ½"	NONE	NONE	12'
7",7 ½"	1"	1"	14'
8",8 ½"	1¼"	1¼"	15'
9",9 ½"	1¼"	1¼"	15'
10" & ABOVE	1½"	1¼"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



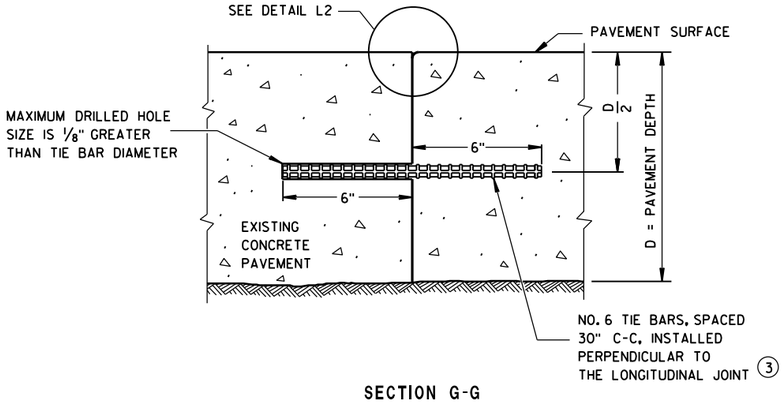
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 13 C 9-14b



SECTION G-G

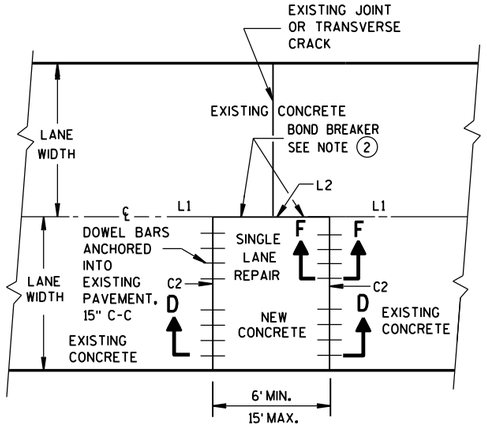
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

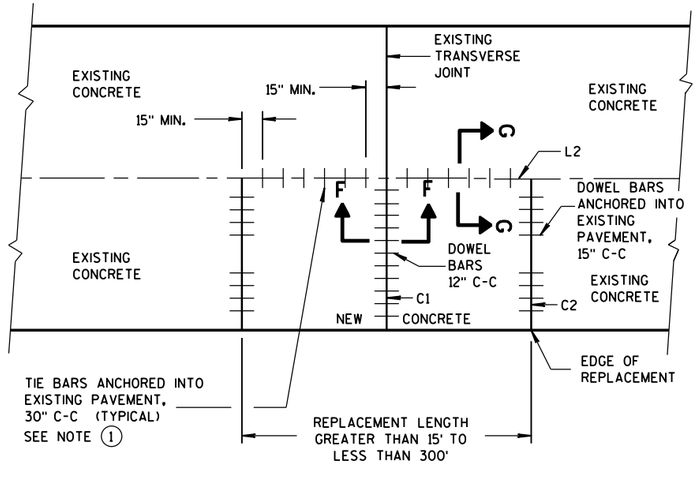
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6
S.D.D. 13 C 9-14c

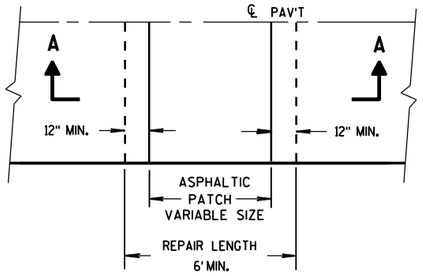
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

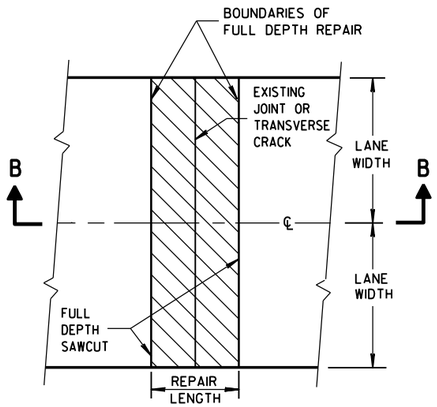
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

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

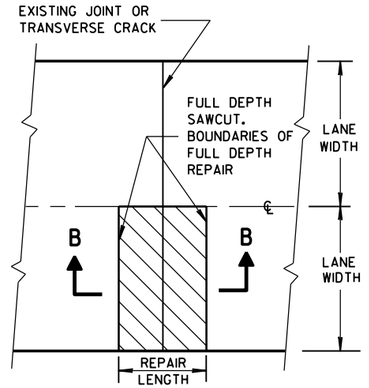
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

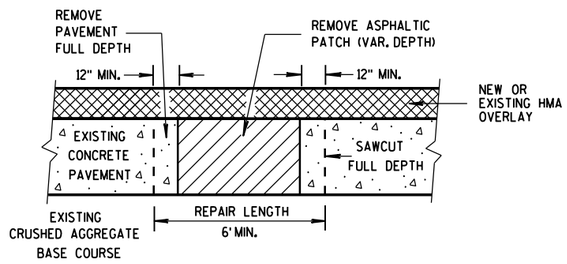


PLAN VIEW
(DOUBLE LANE REPAIR)



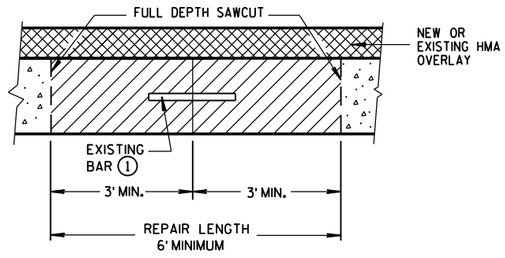
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

6

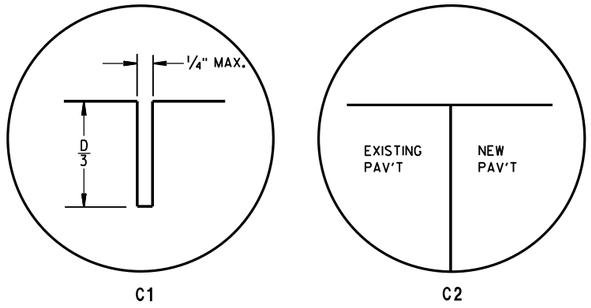
6

S.D.D. 13 C 14-6a

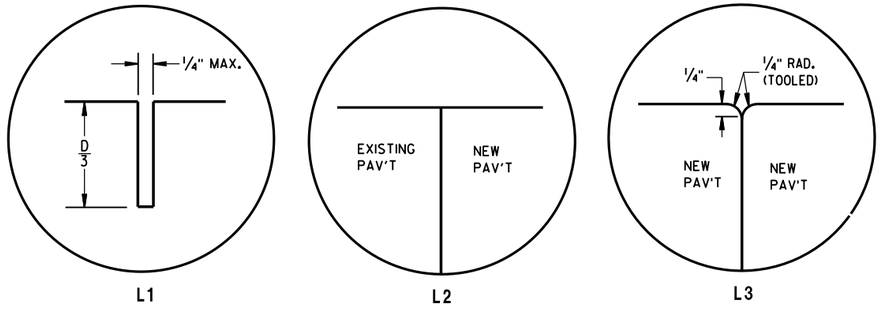
S.D.D. 13 C 14-6a

BASE PATCHING CONCRETE

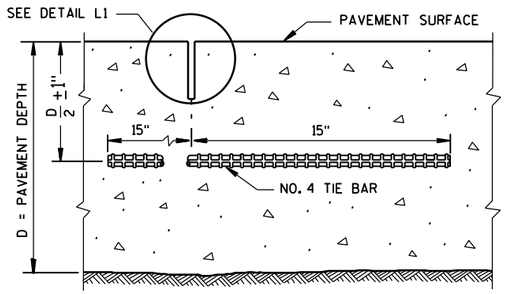
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



TRANSVERSE JOINTS

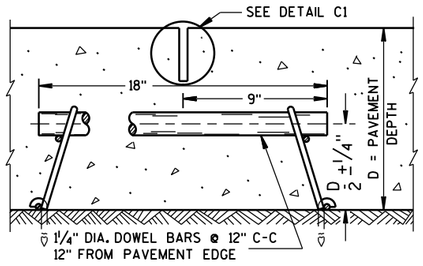


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

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

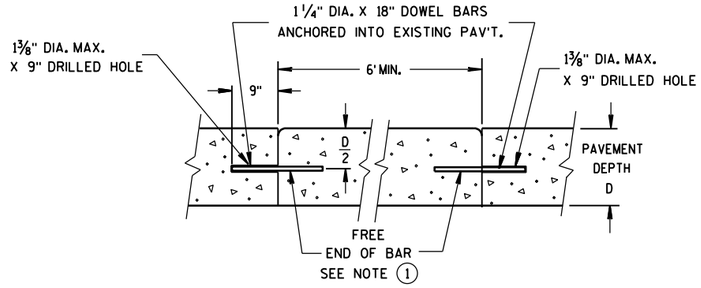
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

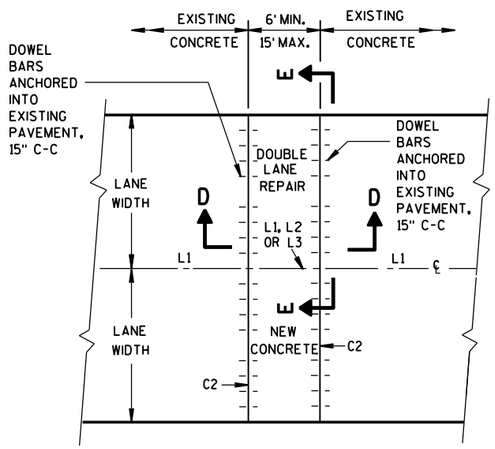
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

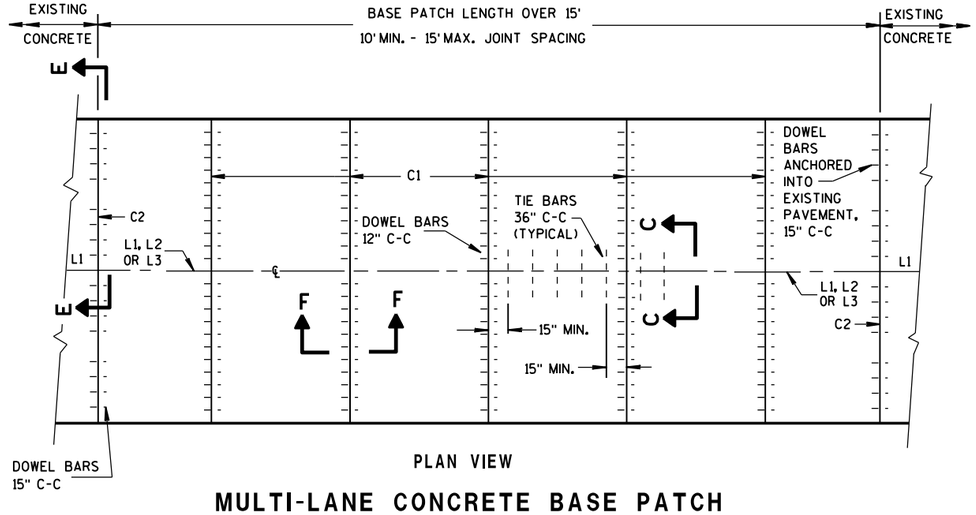


SECTION D-D



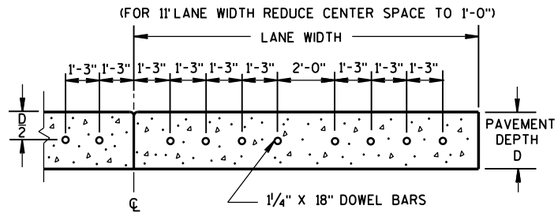
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

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



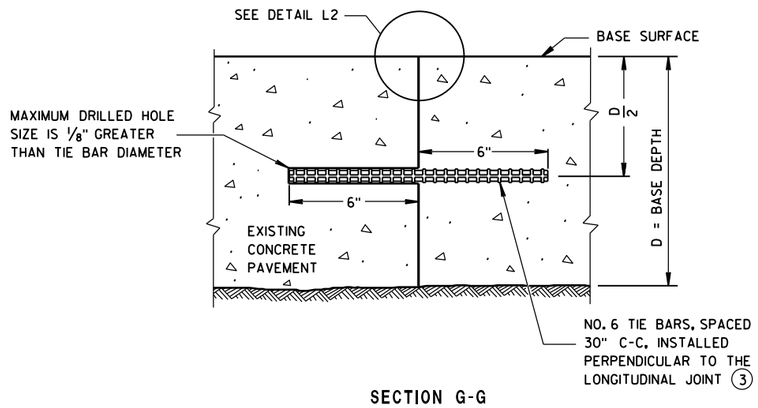
SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 13 C 14-6b



SECTION G-G

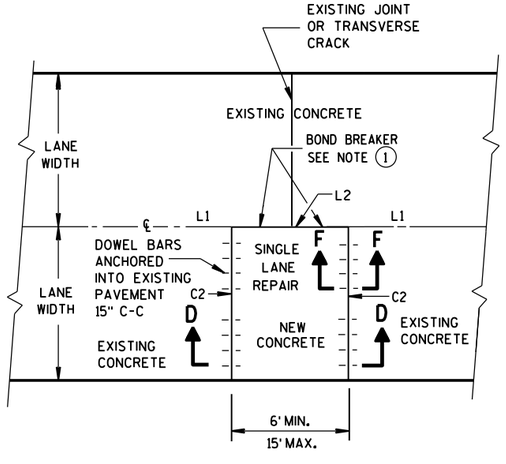
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

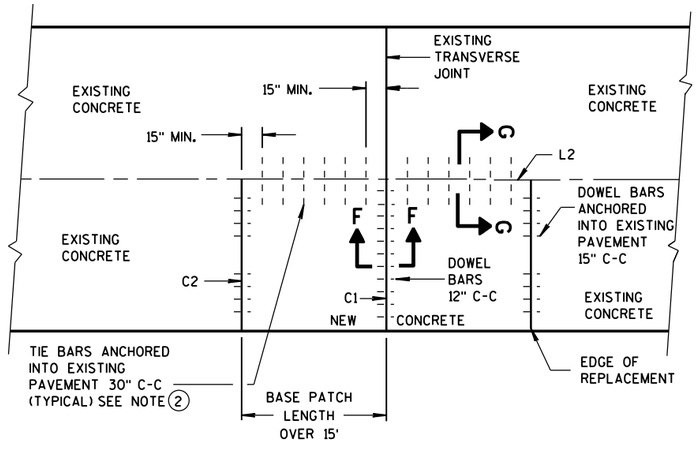
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

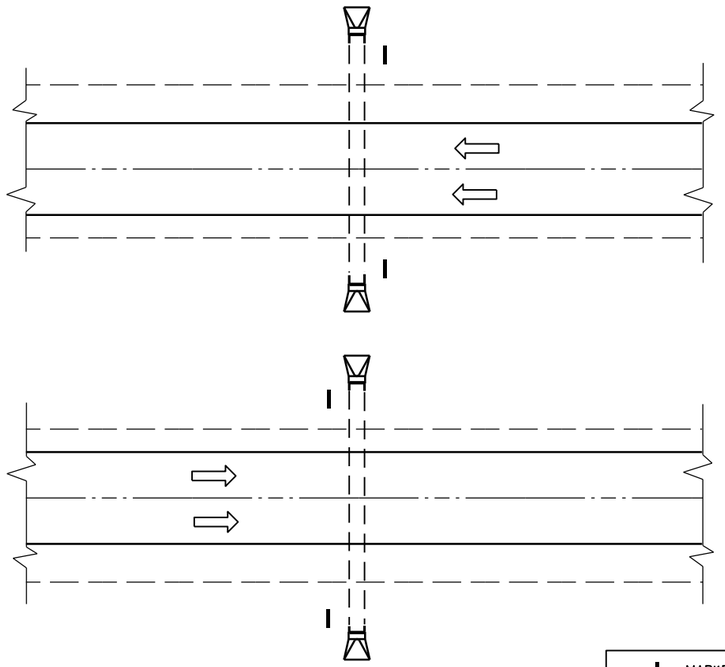
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

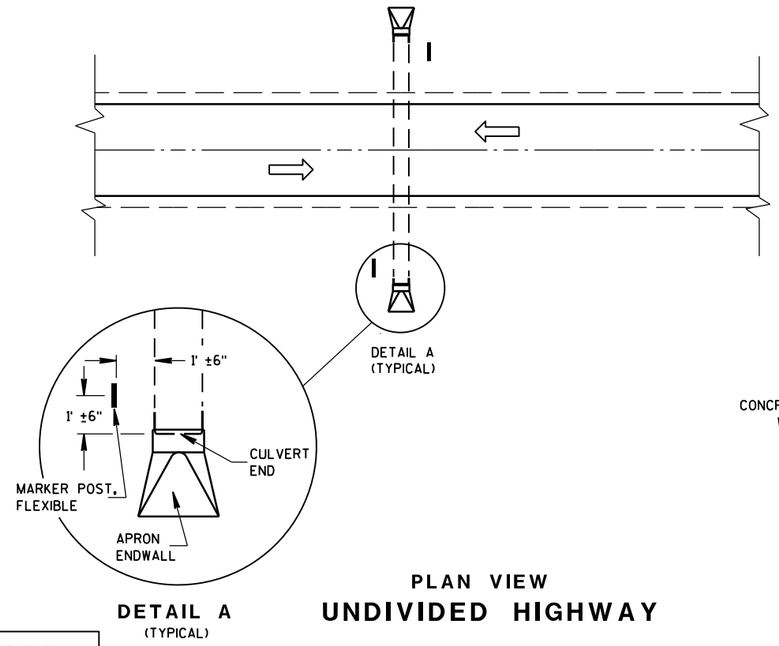
6

S.D.D. 13 C 14-6c



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

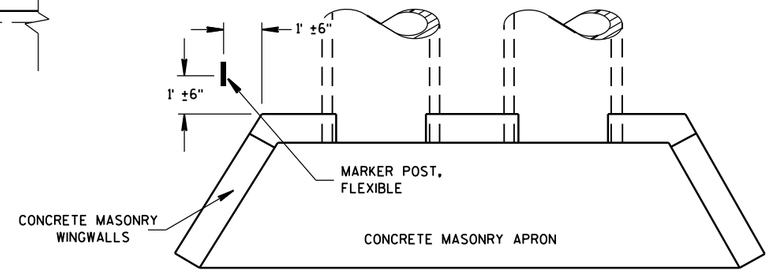
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

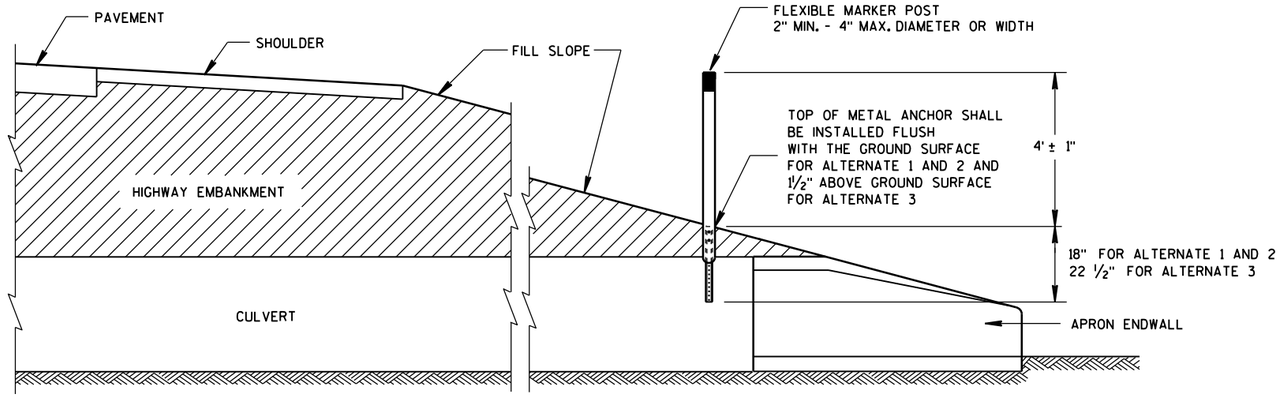
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

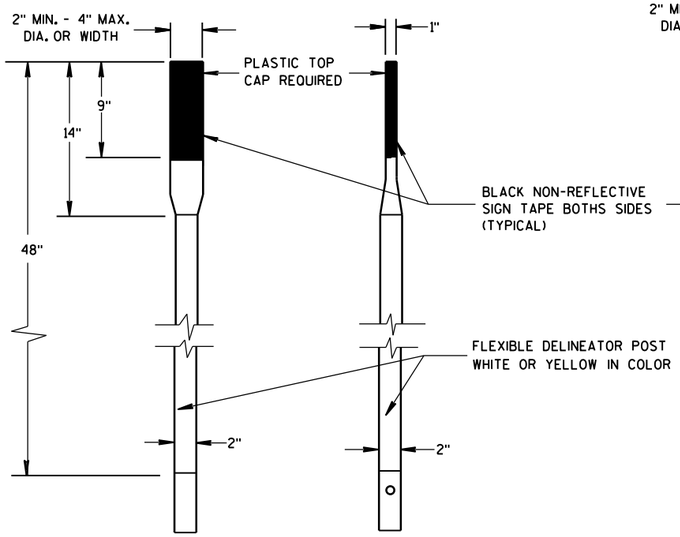
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

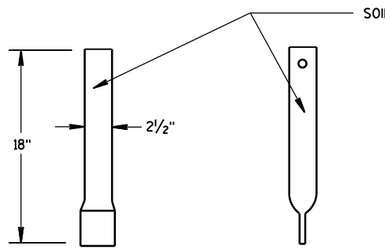
6

S.D.D. 15 A 3-2a

6

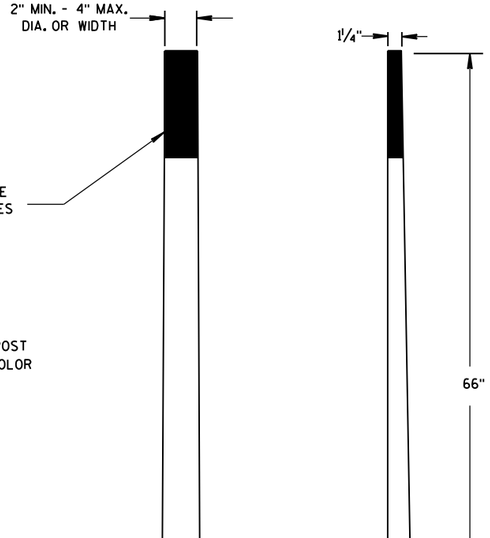
S.D.D. 15 A 3-2a





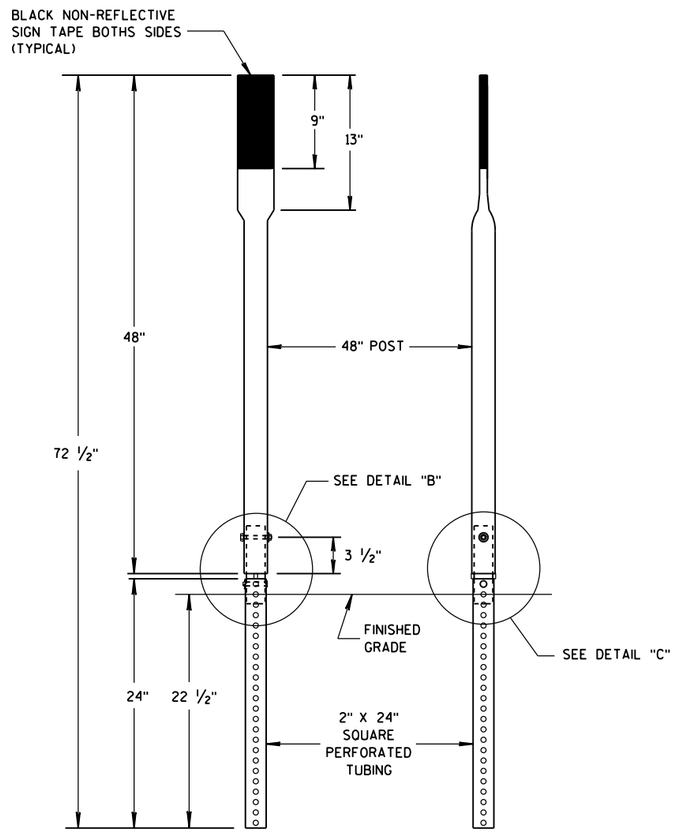
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

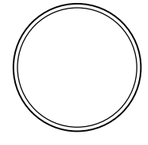
ALTERNATE 2



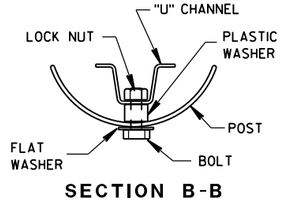
FRONT VIEW SIDE VIEW

ALTERNATE 3

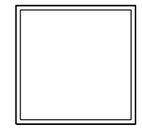
FLEXIBLE MARKER POSTS



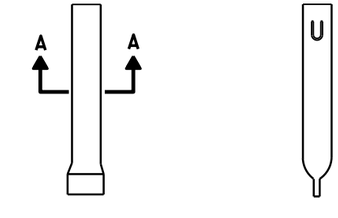
SECTION A-A



SECTION B-B

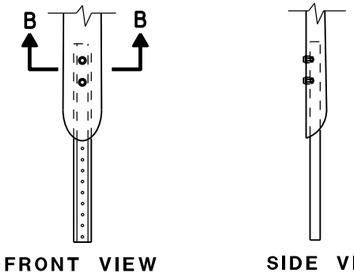


SECTION C-C



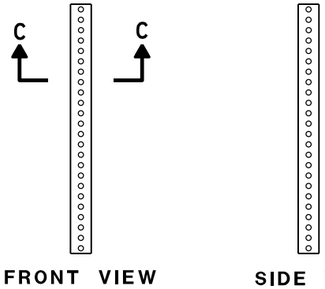
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

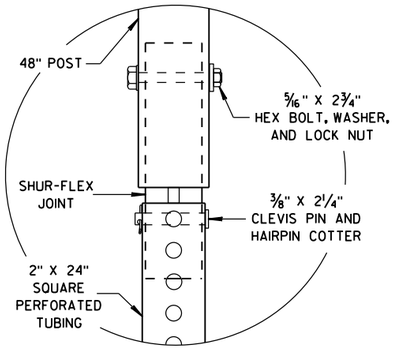
ALTERNATE 2



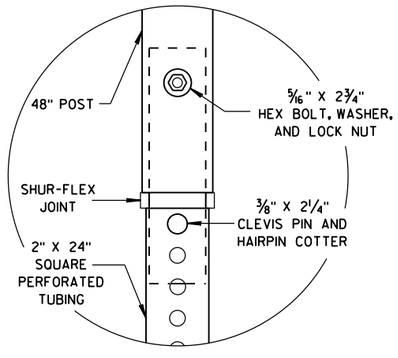
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

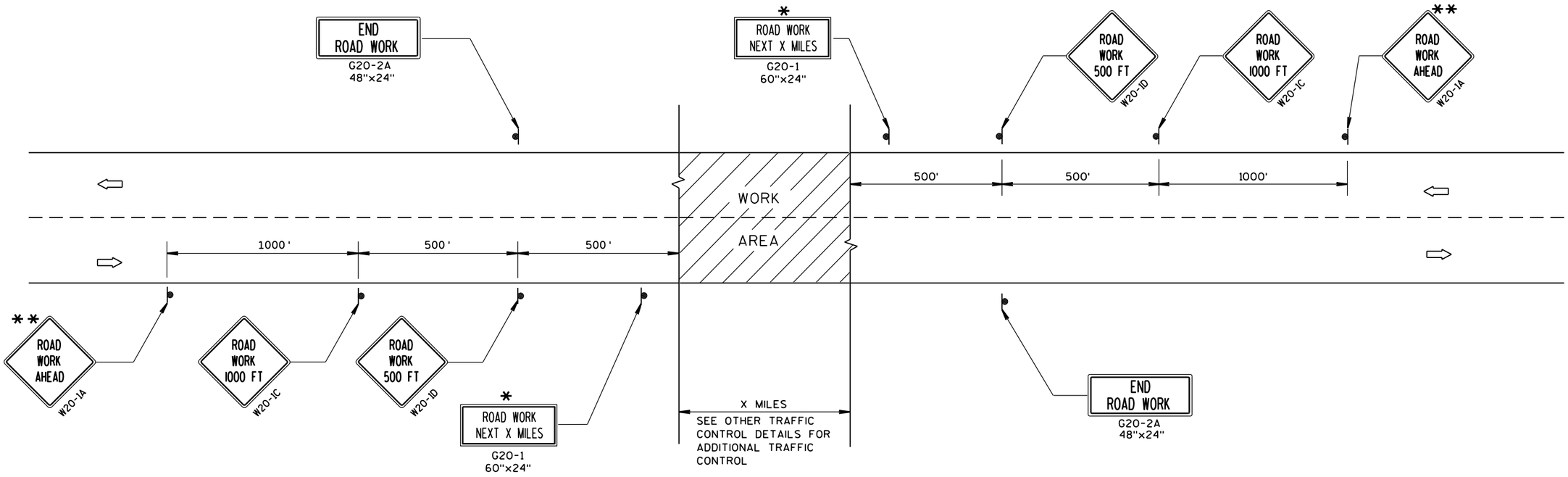
6

S.D.D. 15 A 3-2b

6

S.D.D. 15 A 3-2b

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

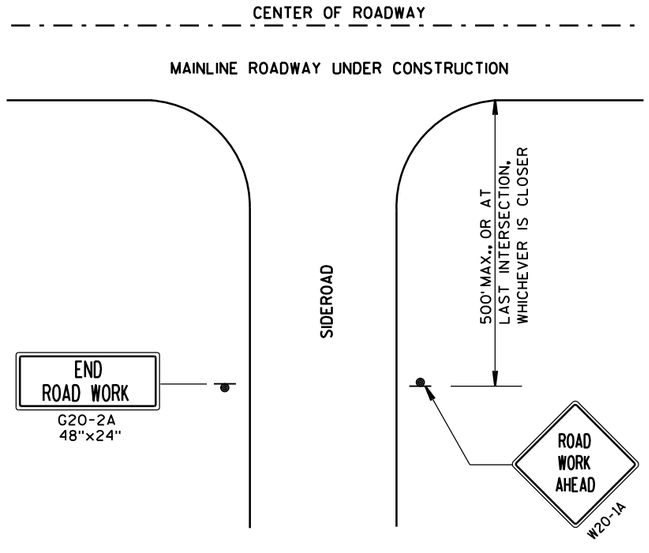
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

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

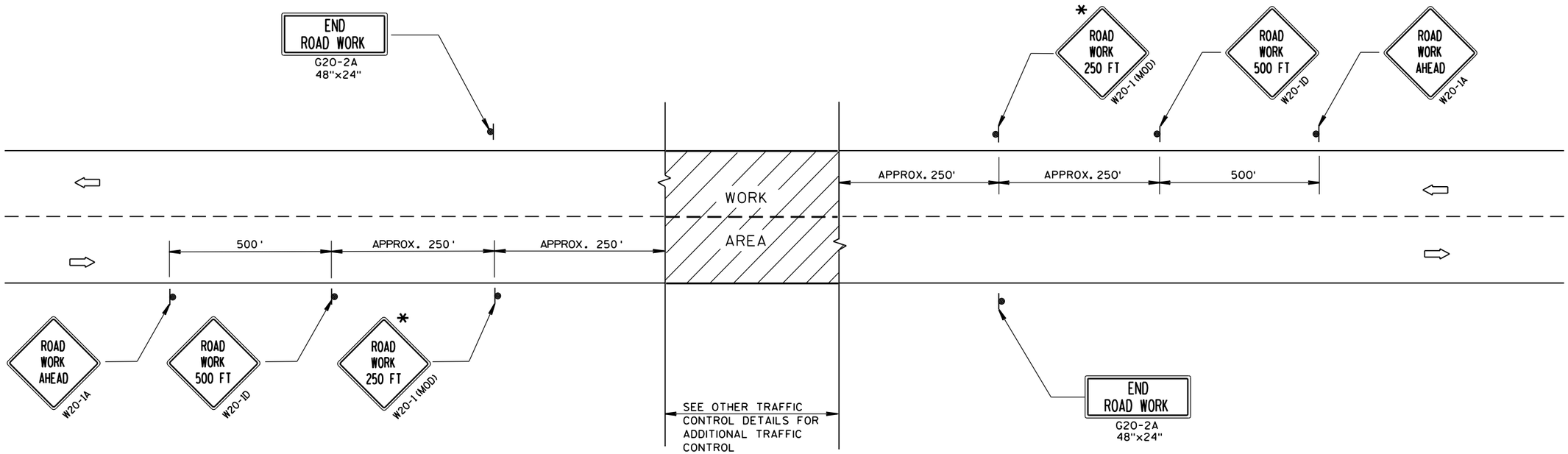
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 C 4-4

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

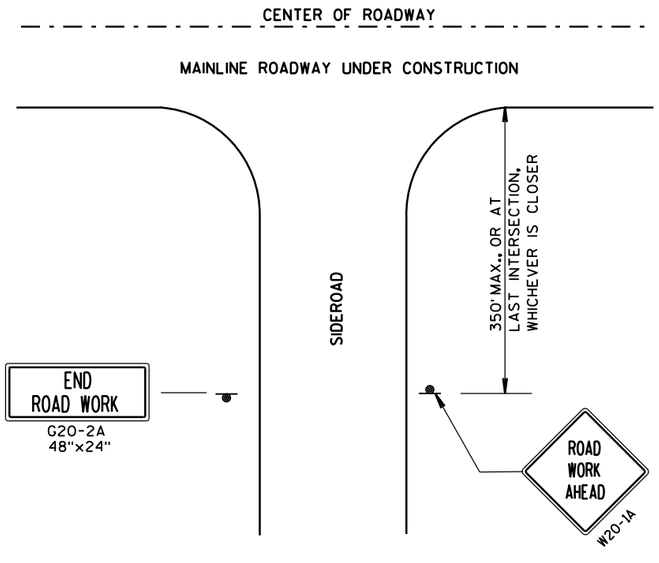
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

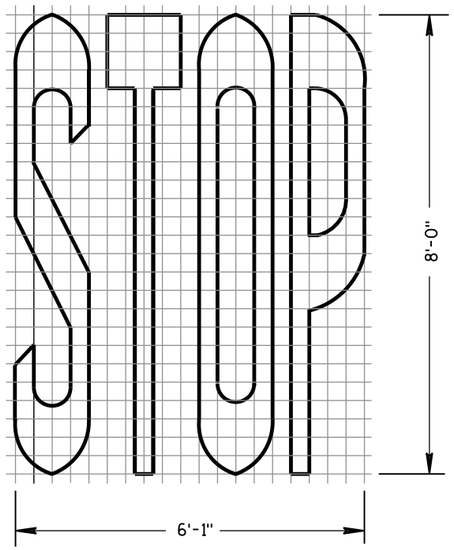
APPROVED
Sept. 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

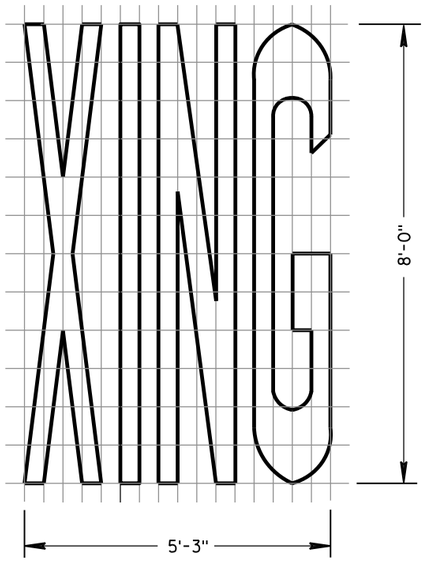
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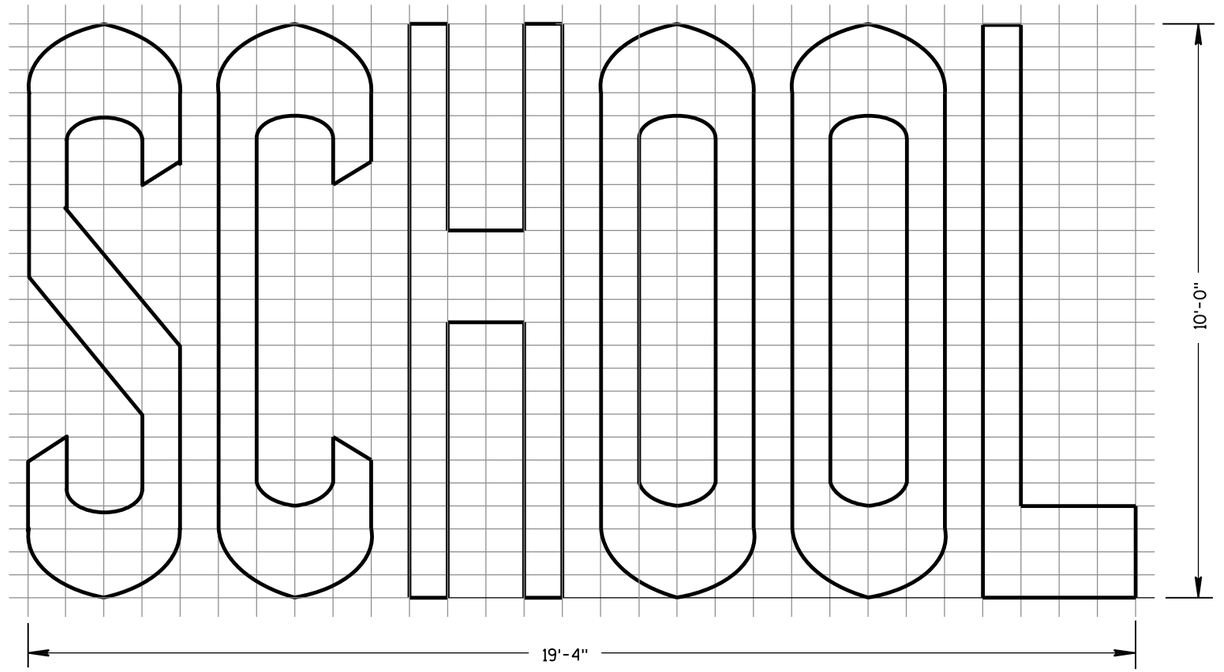
S.D.D. 15 C 5-4

GENERAL NOTES

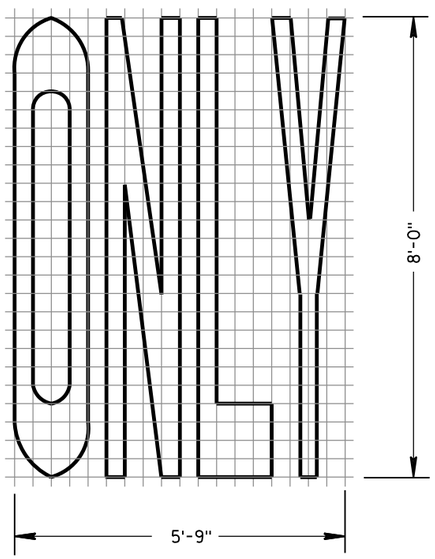
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

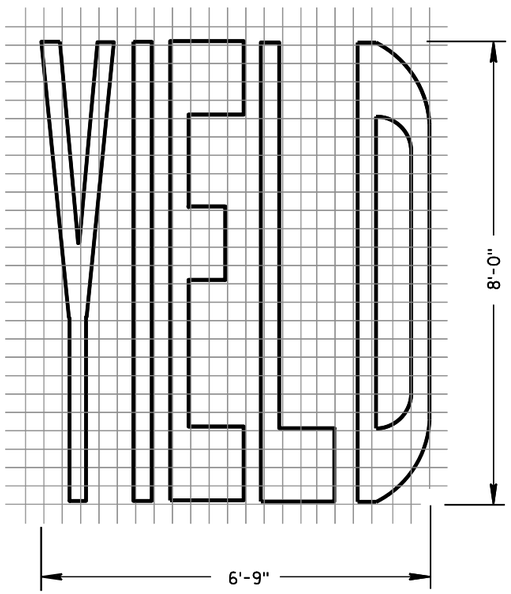


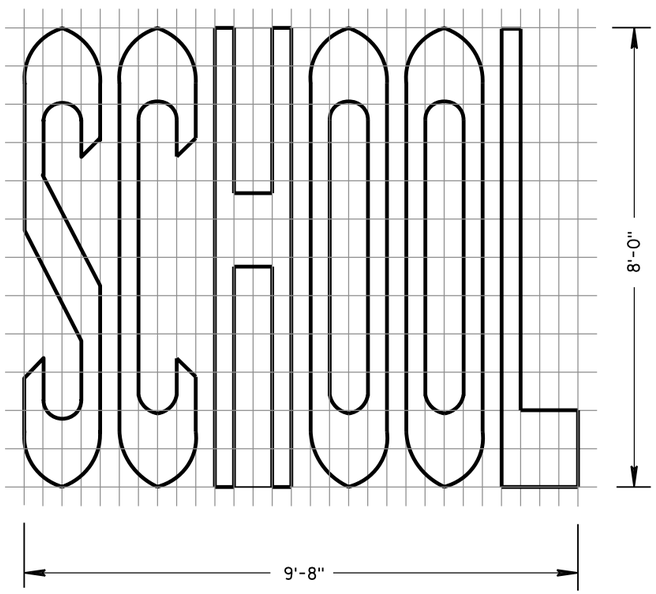




TWO-LANE







SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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June 2017 — DATE
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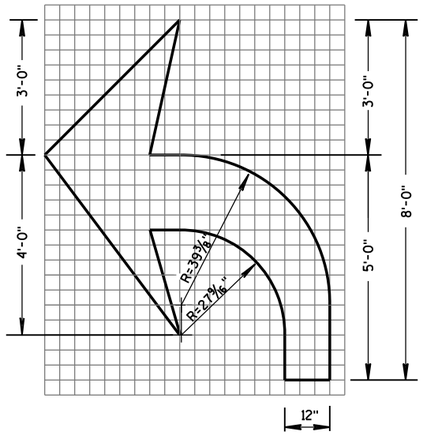
S.D.D. 15 C 7-14b

6

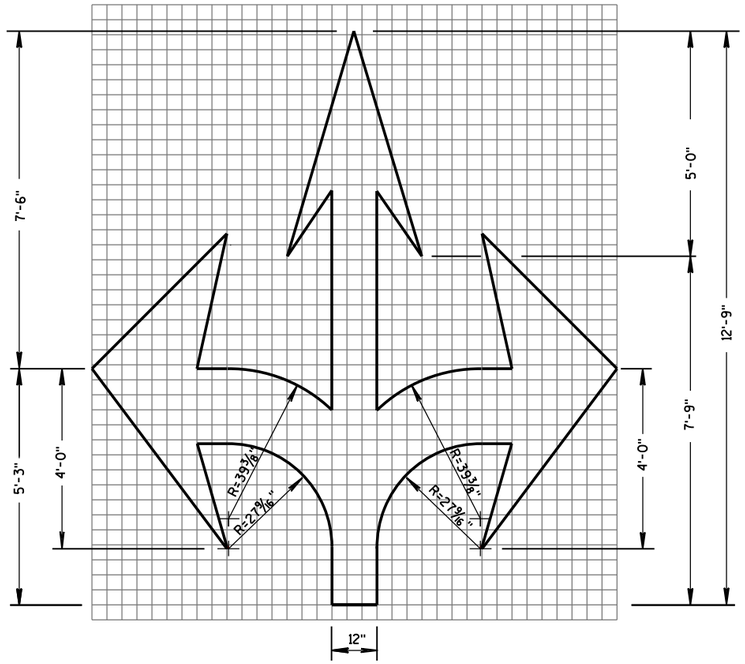
S.D.D. 15 C 7-14b

GENERAL NOTES

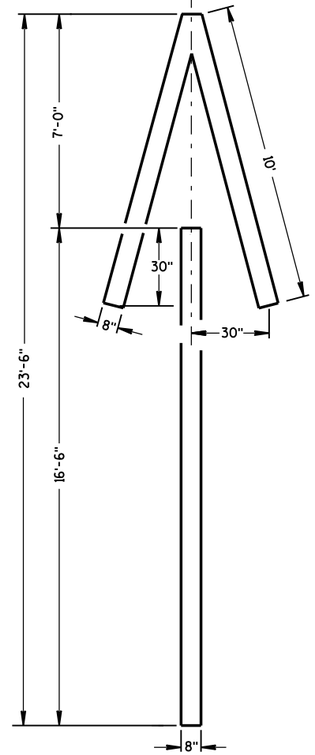
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



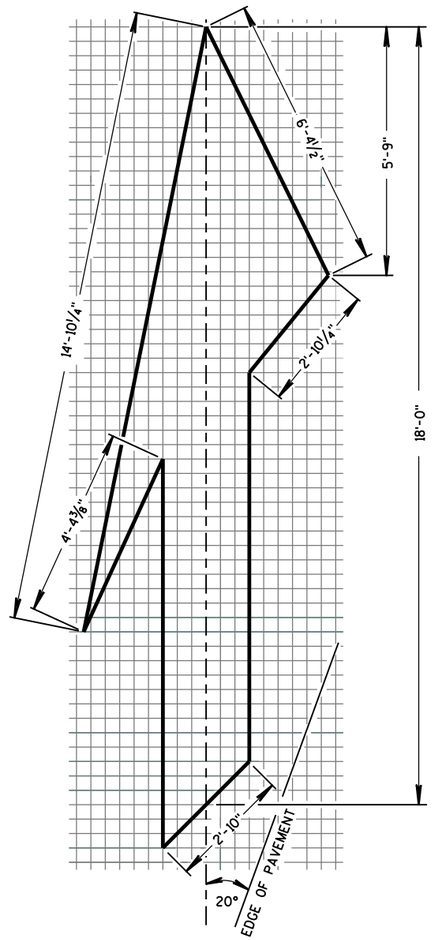
TYPE 2



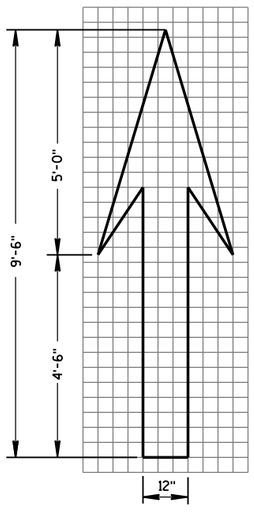
TYPE 6



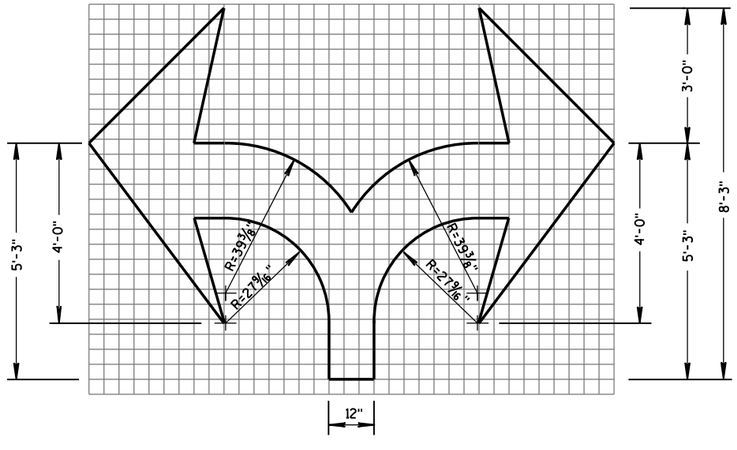
TYPE 4



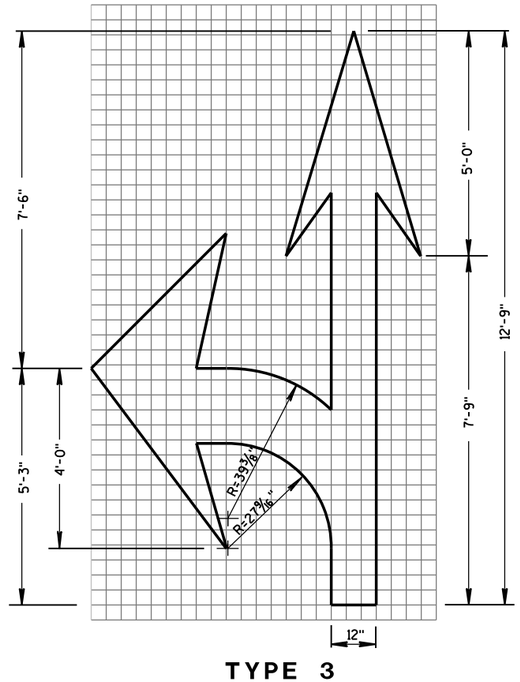
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

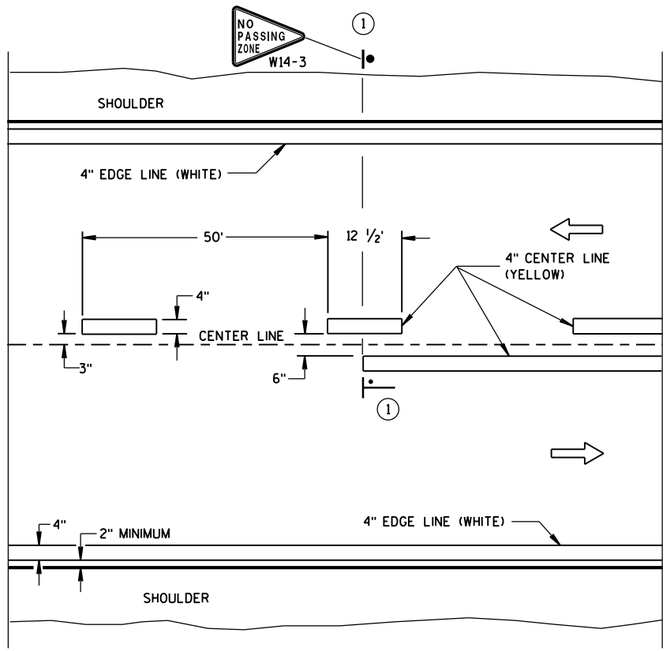
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

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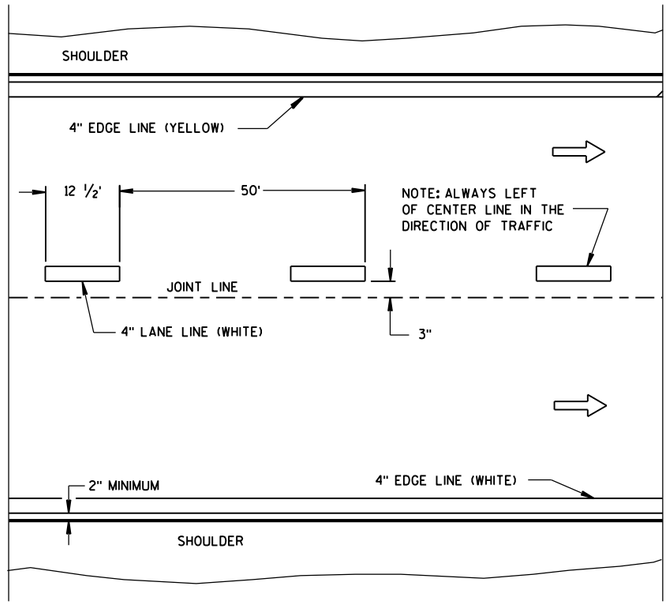
S.D.D. 15 C 7-14c

6

S.D.D. 15 C 7-14c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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.

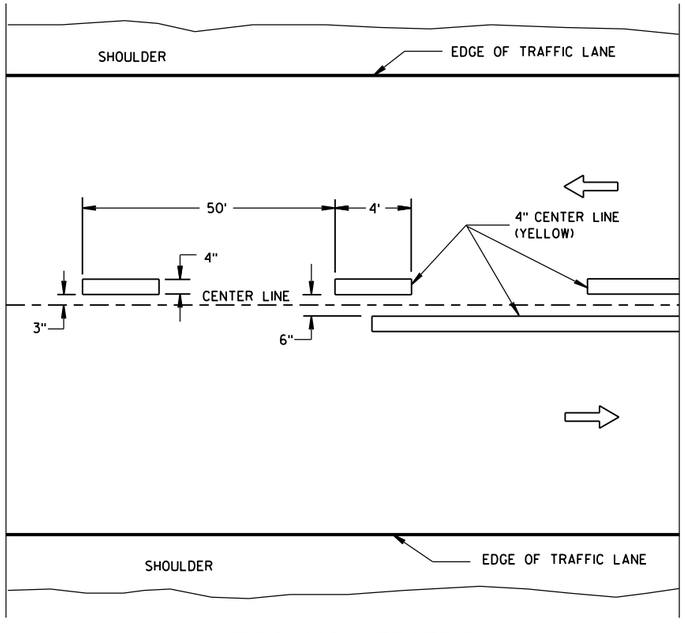
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

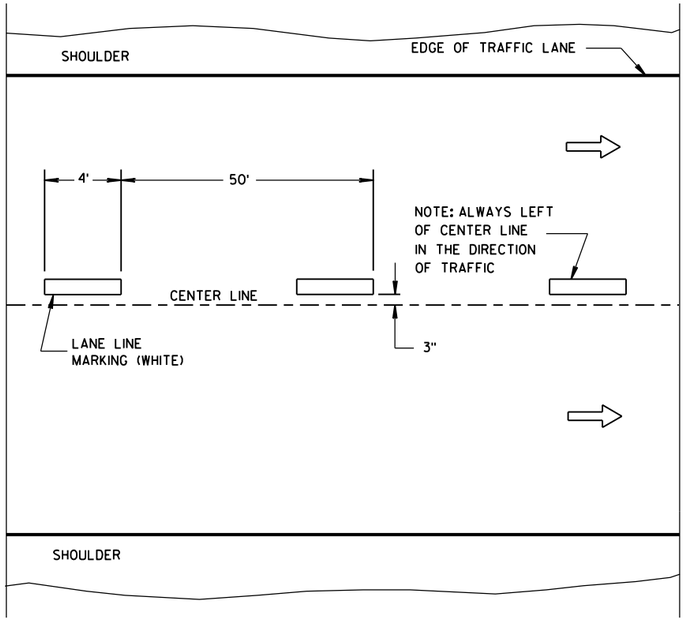
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



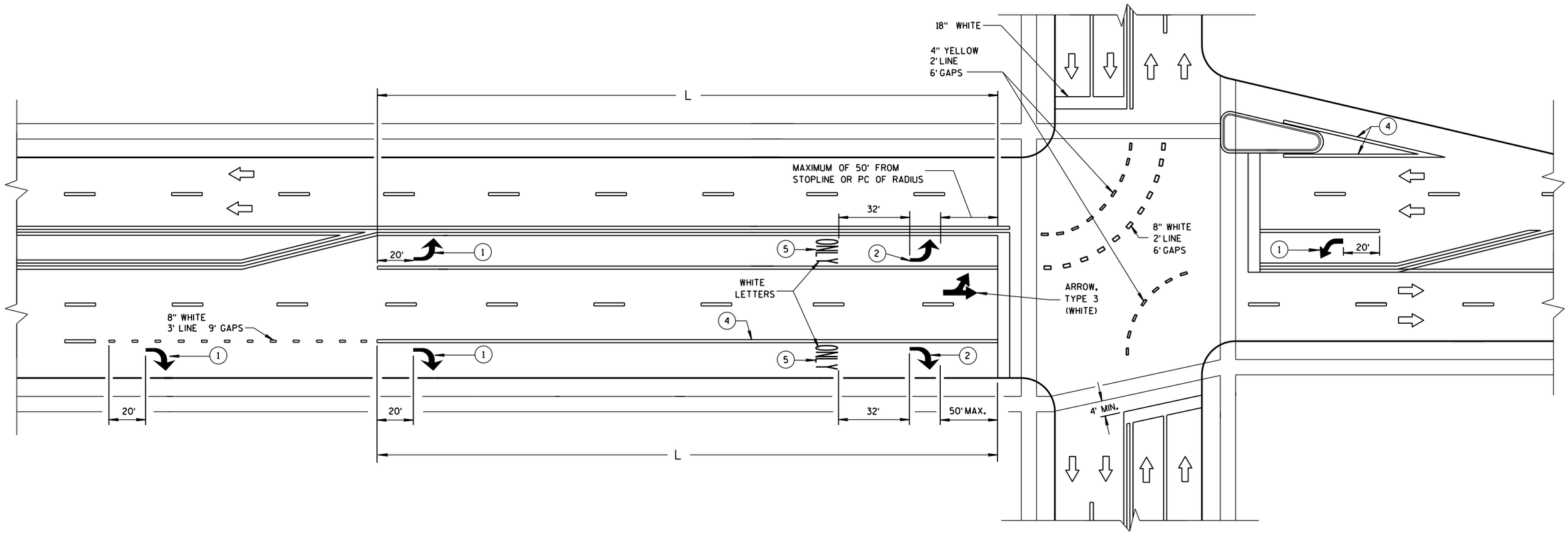
ONE WAY TRAFFIC

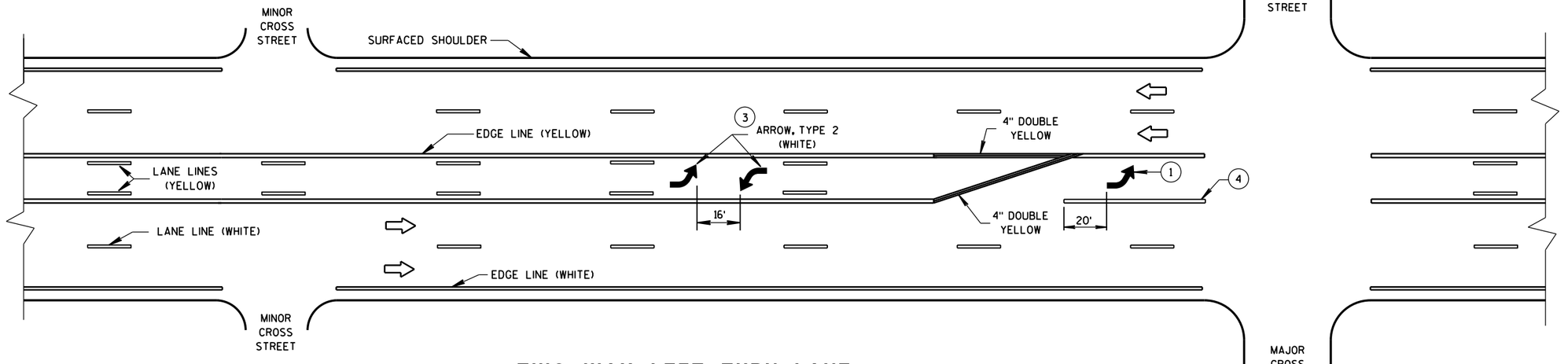
TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MAR[illegible]INEER
FHWA	

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S.D.D. 15 C 8-18a





GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

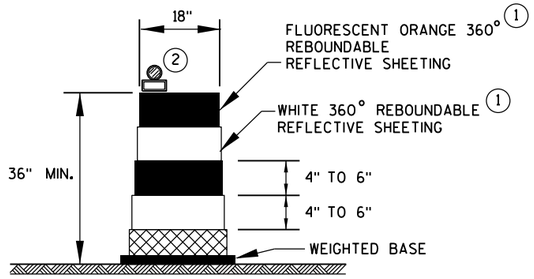
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(TURN LANES)

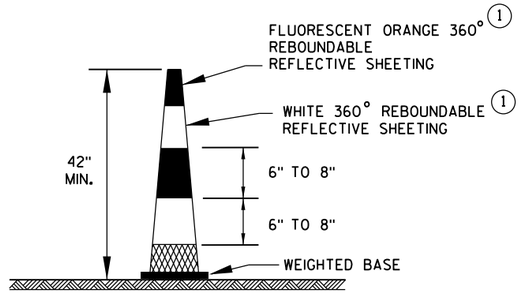
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 8-18b



DRUM

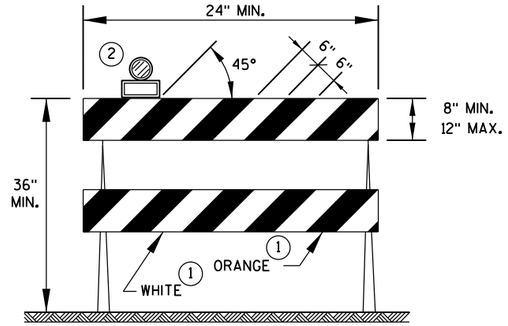


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

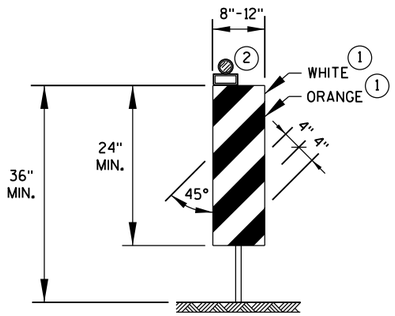
GENERAL NOTES

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.



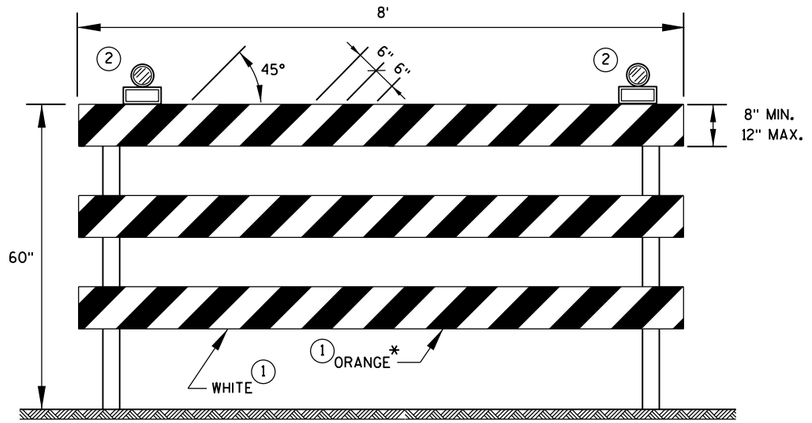
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 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

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June 2017 — DATE

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S.D.D. 15 C 11-7b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

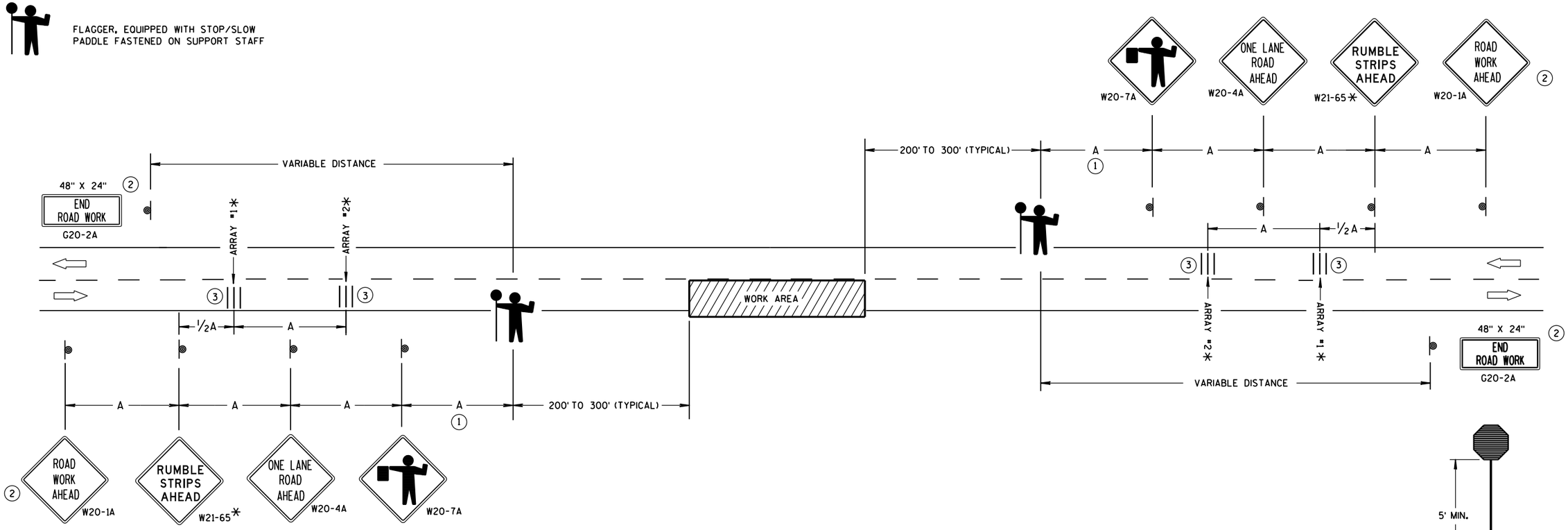
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

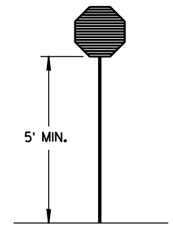
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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





STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

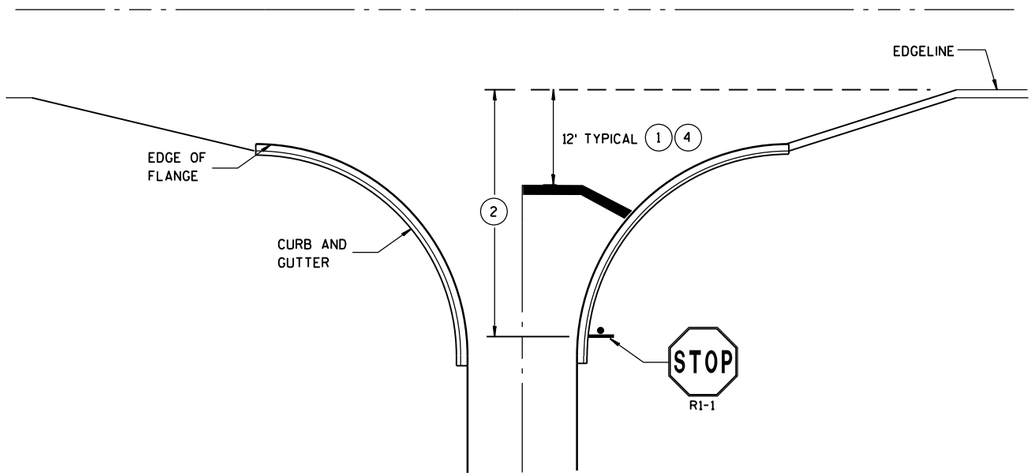
(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

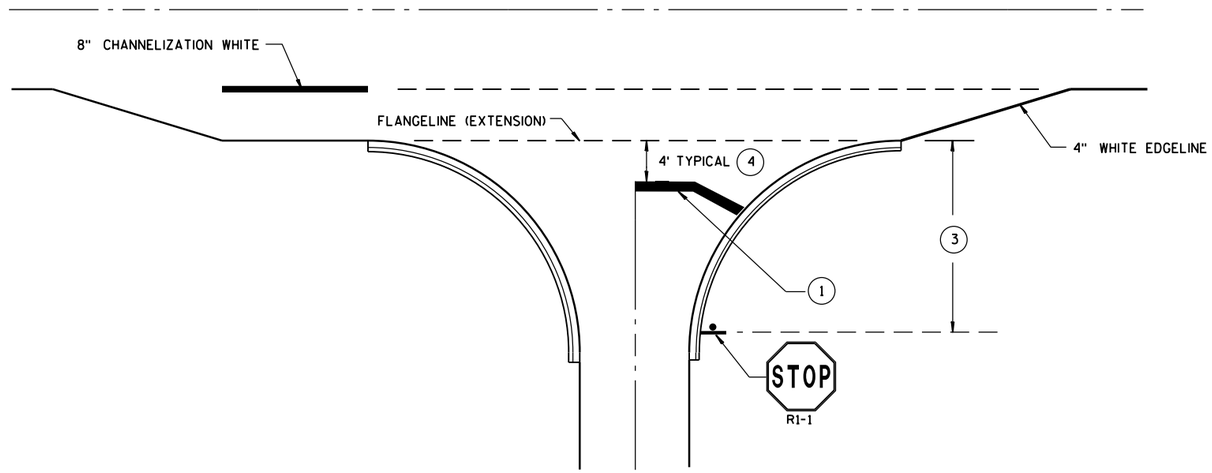
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

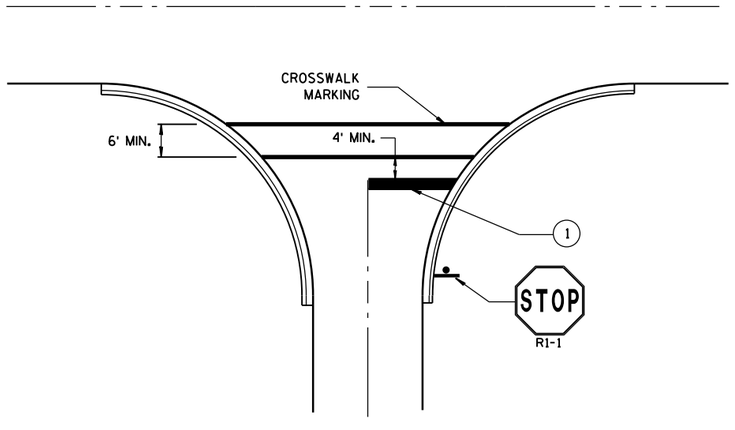
6
S.D.D. 15 C 12-6



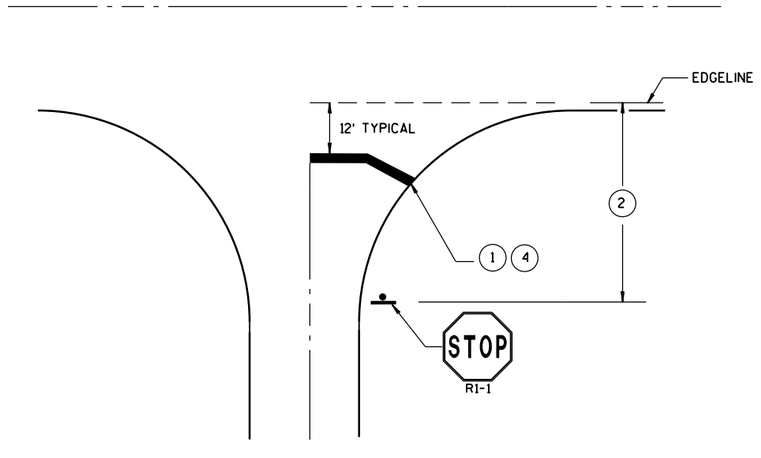
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

(1) 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

(2) IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.

(3) IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.

(4) MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

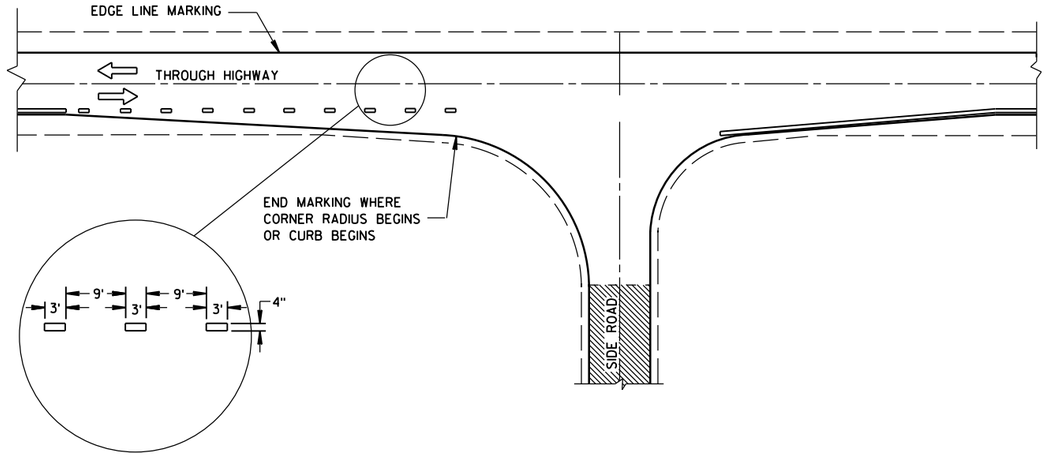
Sept., 2017 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]NEER

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S.D.D. 15 C 33-3



MINOR INTERSECTION

GENERAL NOTES

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

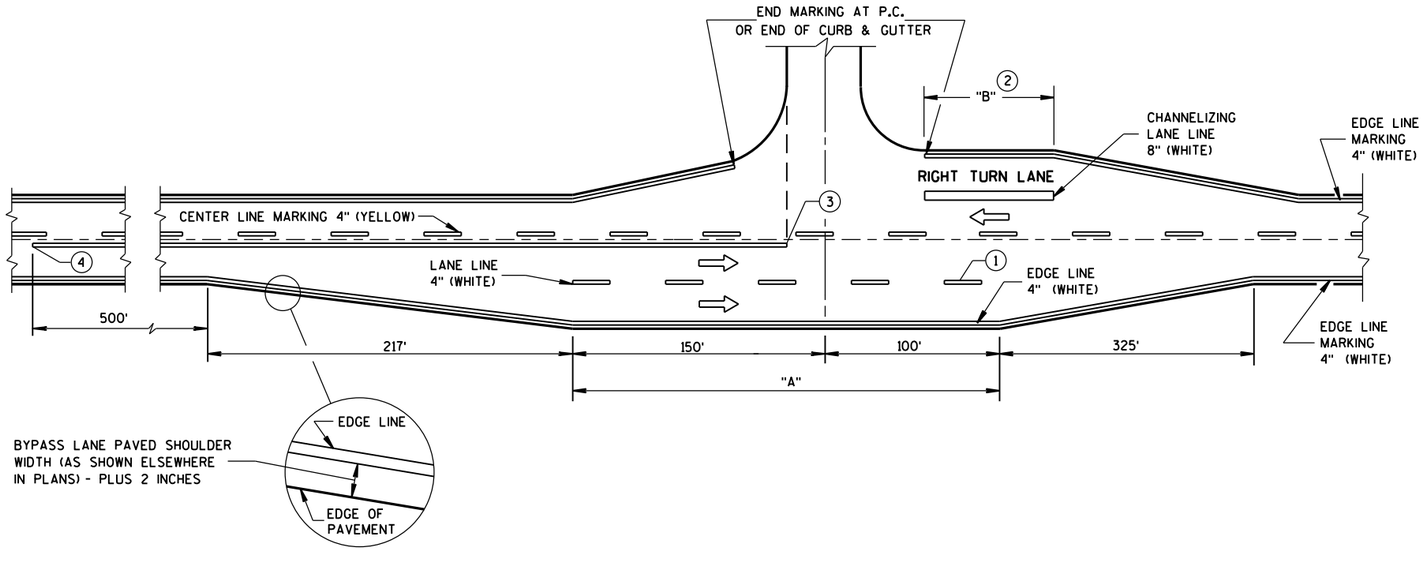
(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(4) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



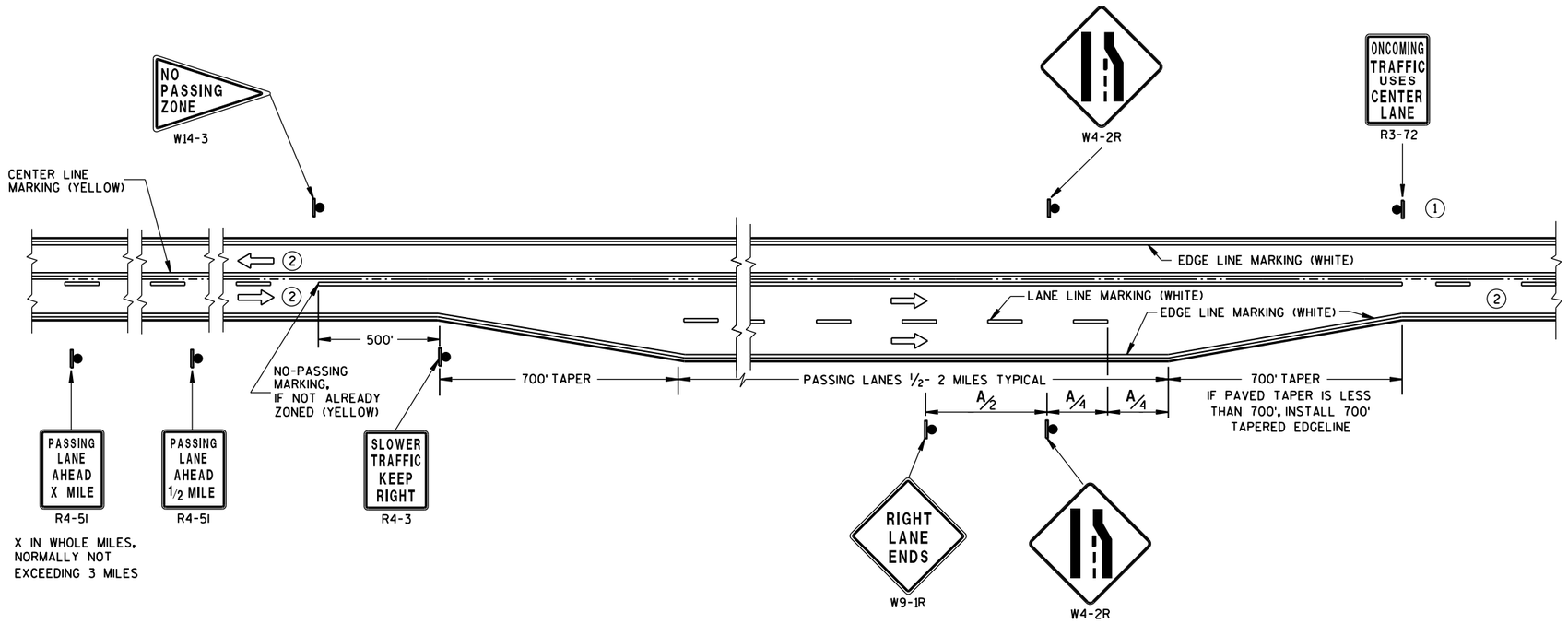
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

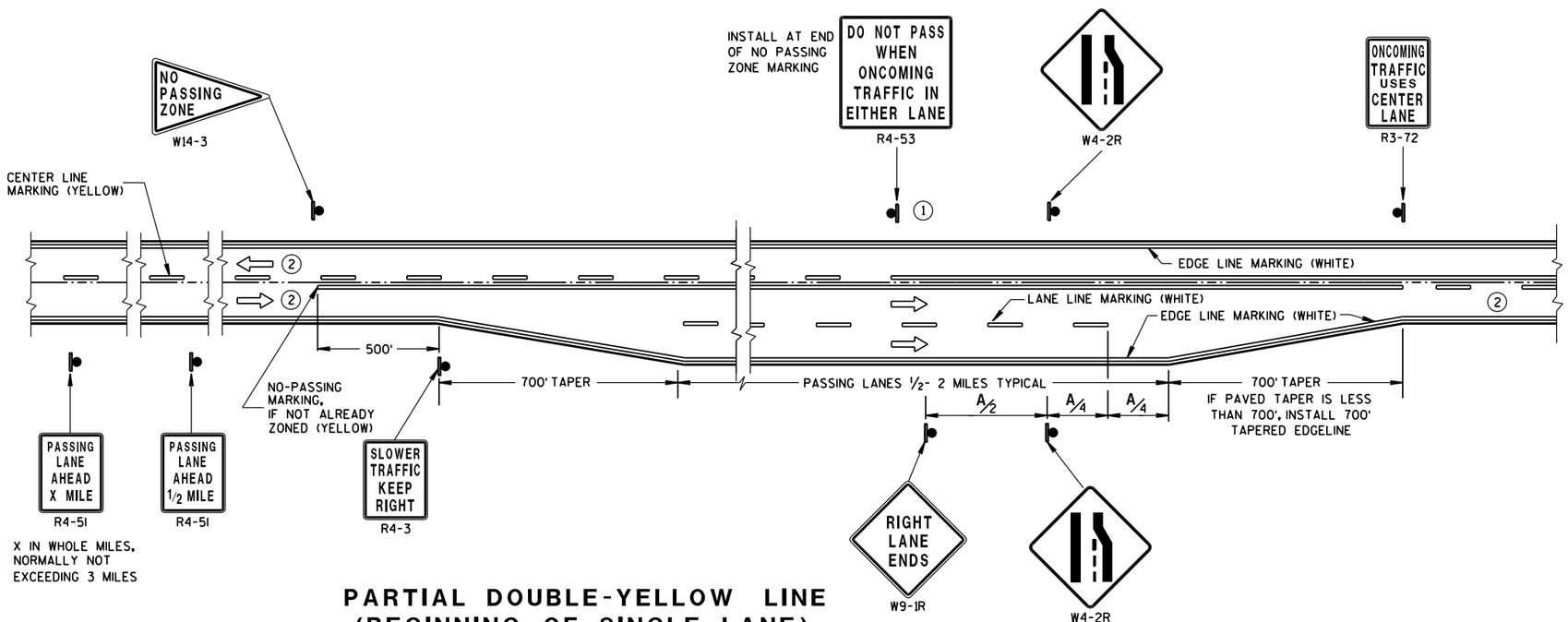
PAVEMENT MARKING
(INTERSECTIONS)

6

S.D.D. 15 C 35-2a



SOLID DOUBLE-YELLOW LINE
(THROUGHOUT ENTIRE PASSING/CLIMBING LANE)



PARTIAL DOUBLE-YELLOW LINE
(BEGINNING OF SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

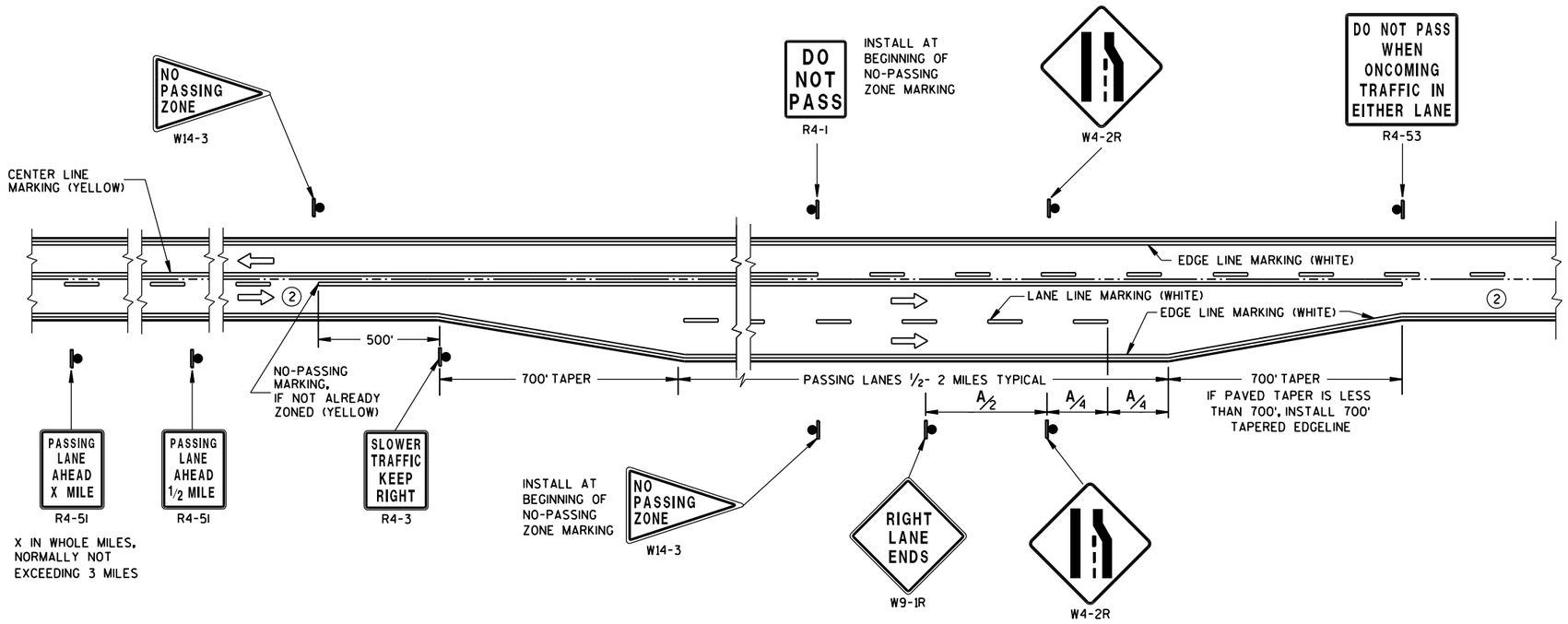
POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950

PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

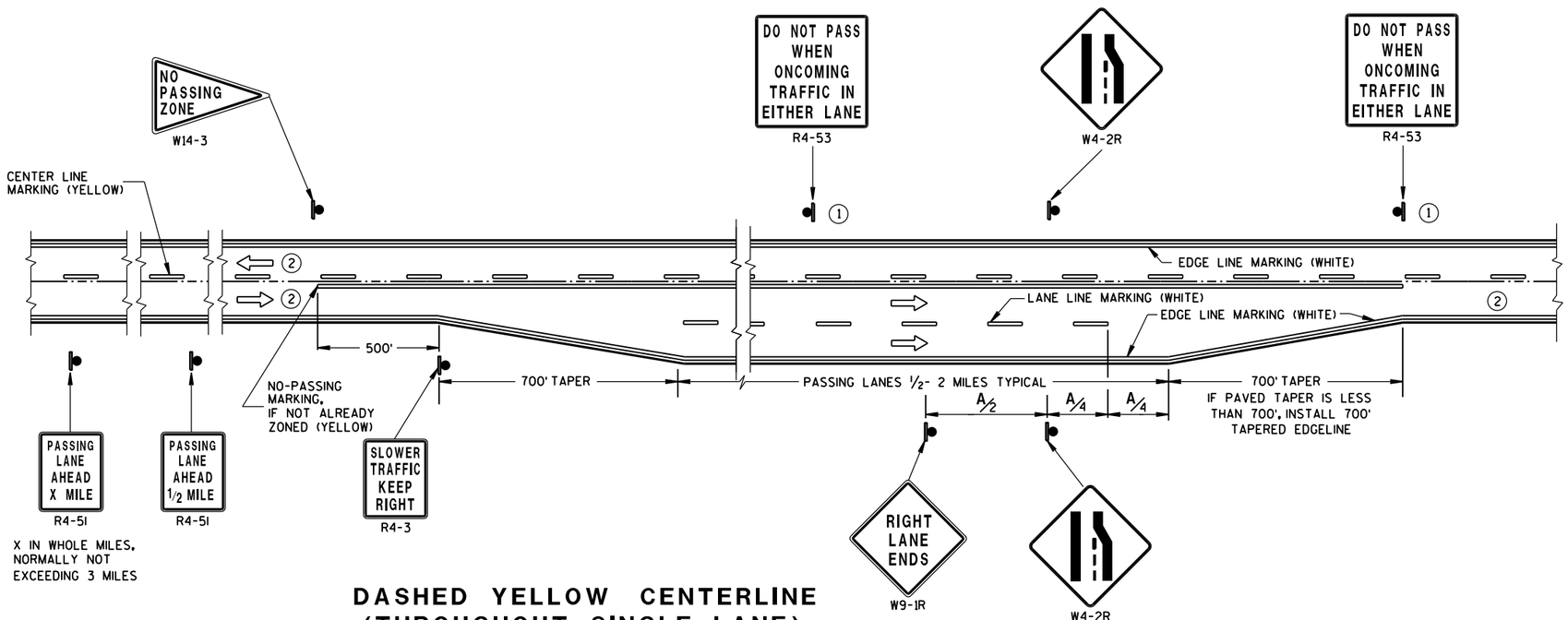
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 35-2b



SOLID DOUBLE-YELLOW LINE (END OF SINGLE LANE)



DASHED YELLOW CENTERLINE (THROUGHOUT SINGLE LANE)

GENERAL NOTES

1. SIGN SHALL BE REPEATED AT ONE MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950

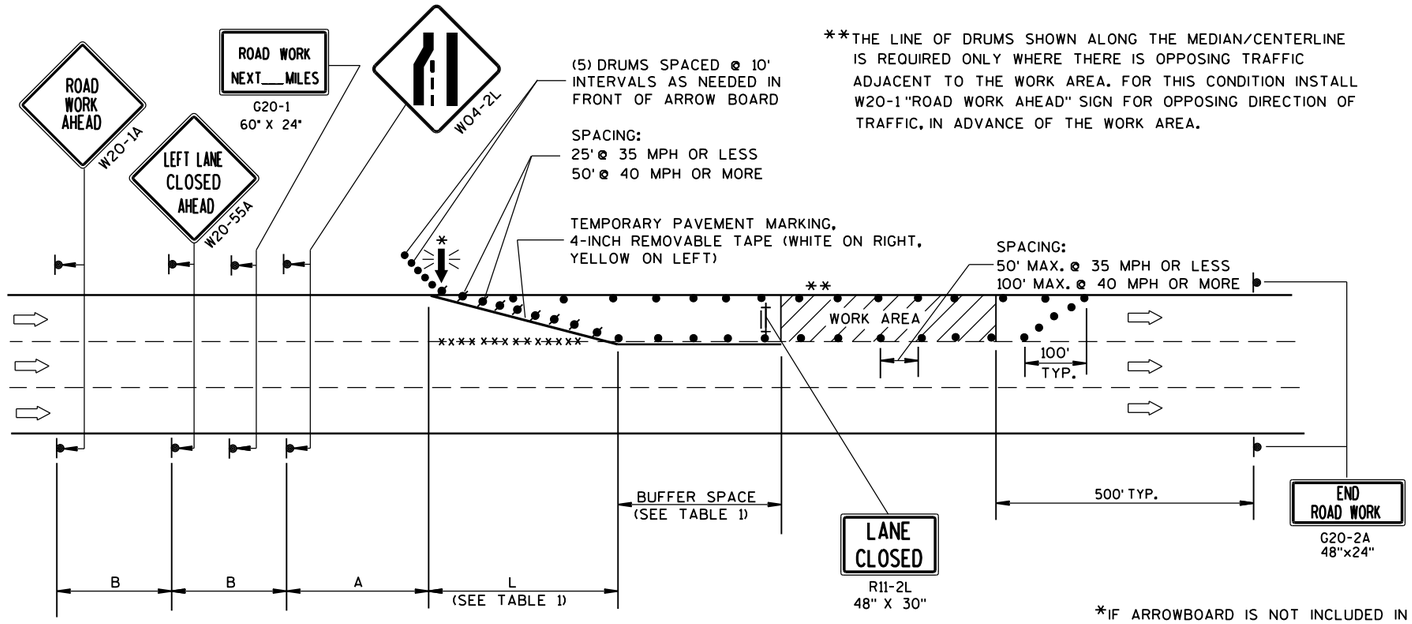
PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MAR ENGINEER
FHWA

6

S.D.D. 15 C 35-2c



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

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

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

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

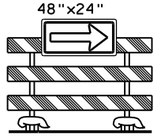


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

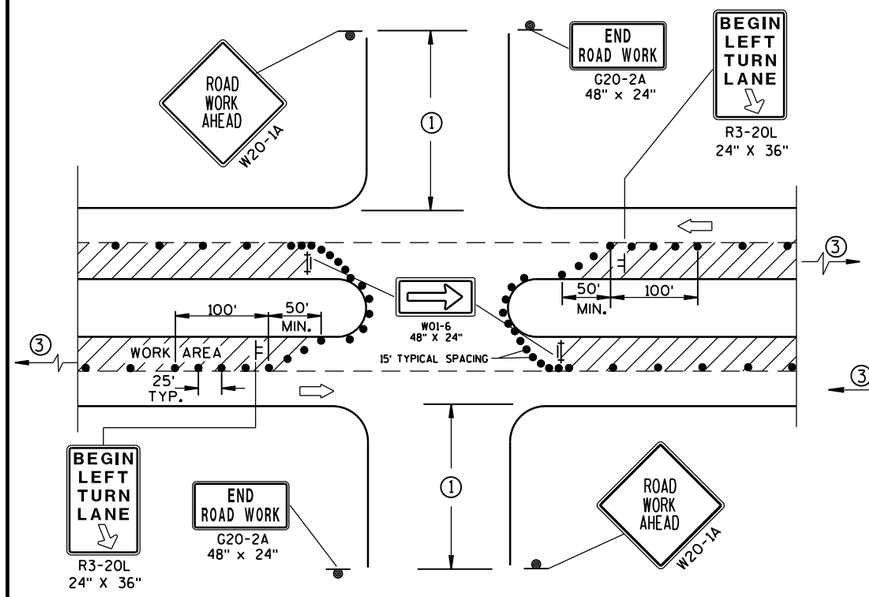
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

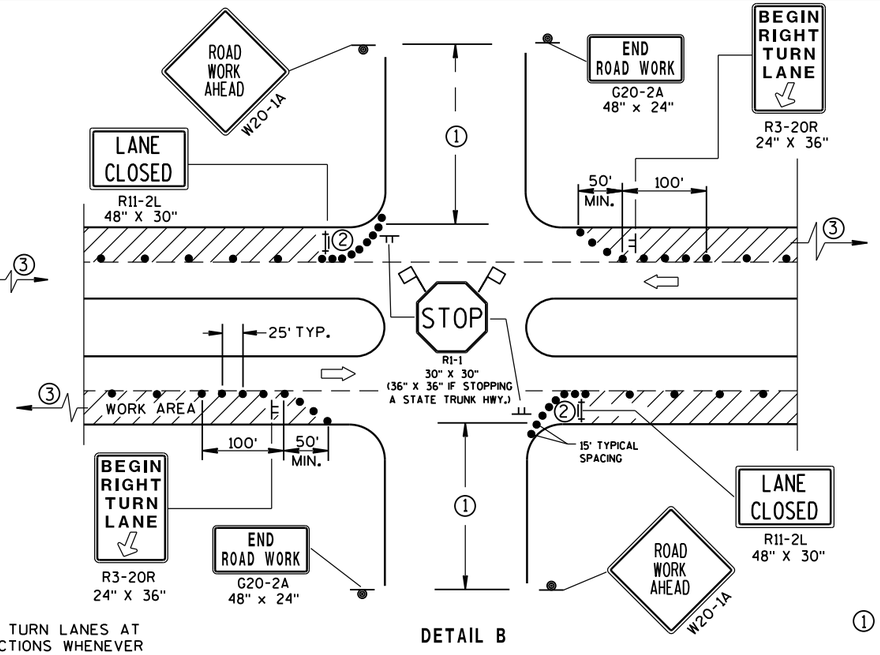
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S.D.D. 15 D 20-4



DETAIL A

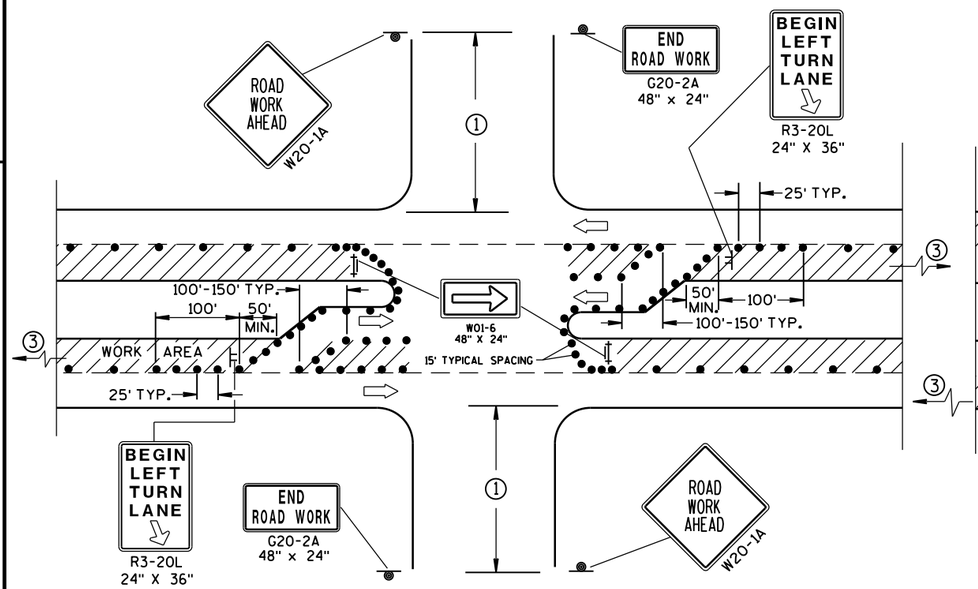
FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING



DETAIL B

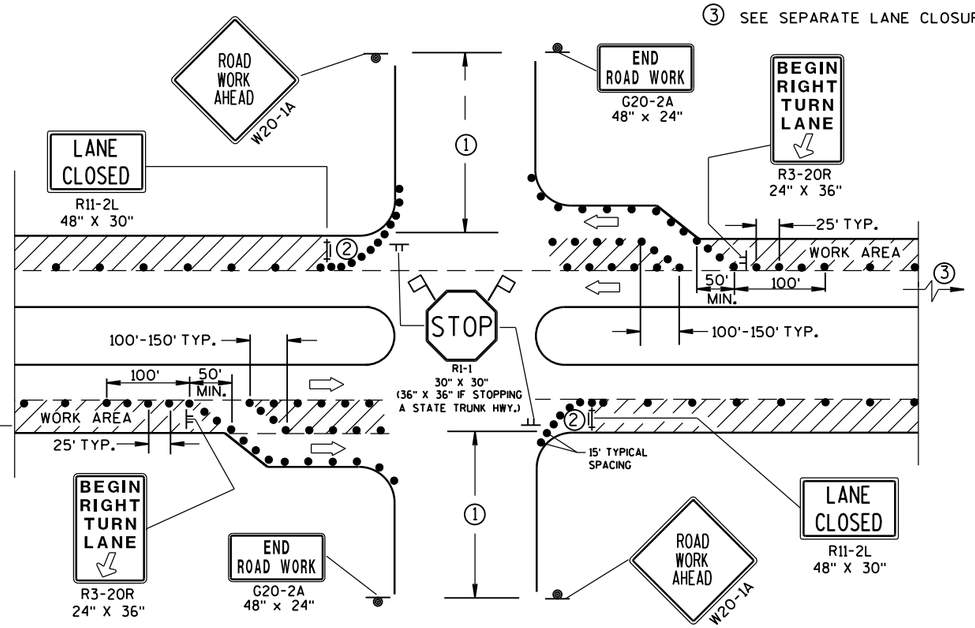
FOR RIGHT LANE CLOSURE AT INTERSECTION

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



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

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 SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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

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

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

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

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S.D.D. 15 D 21-5

GENERAL NOTES

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

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

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

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

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

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

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

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

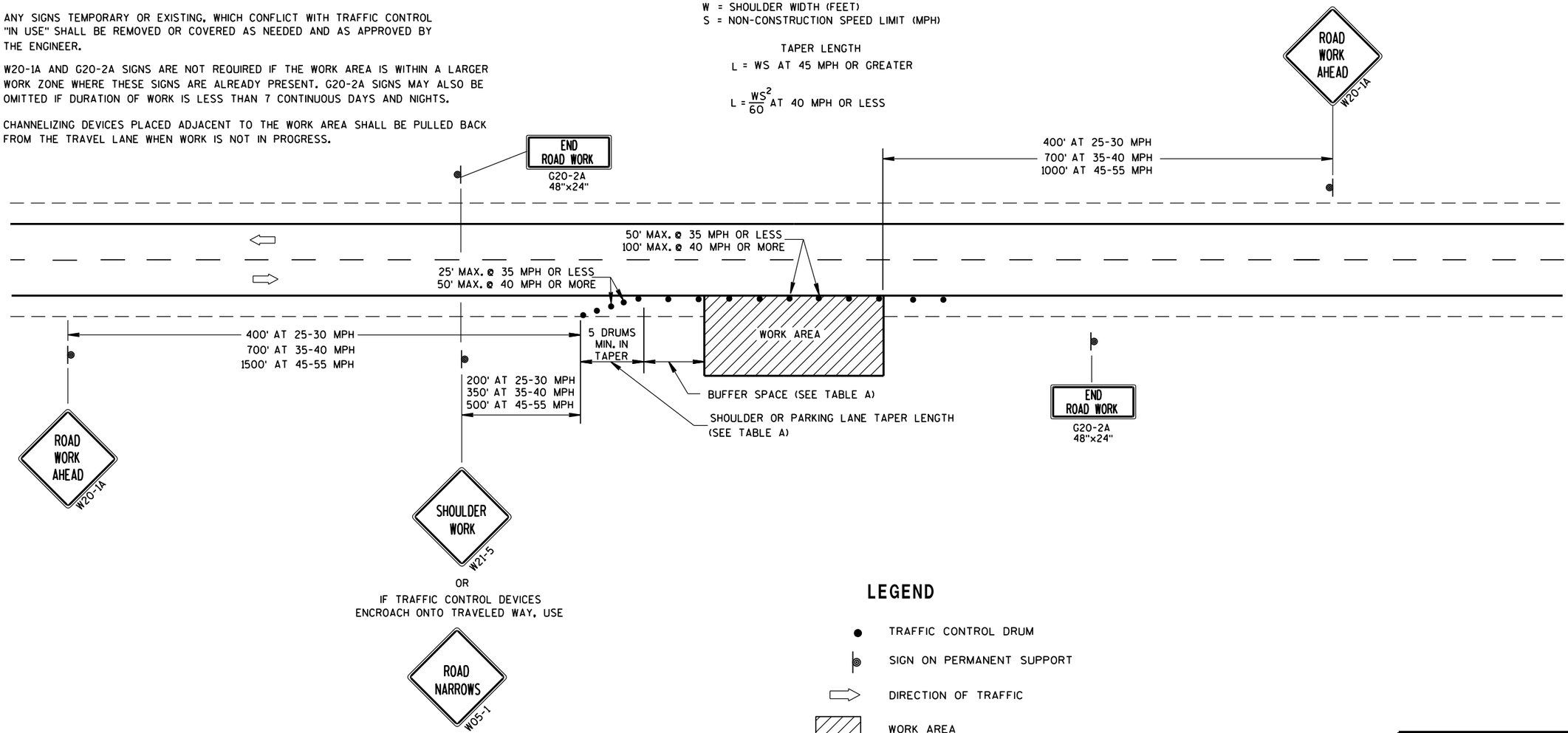
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

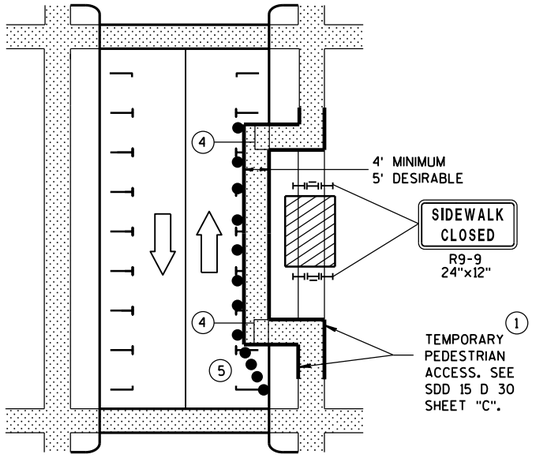
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FIC

FHWA

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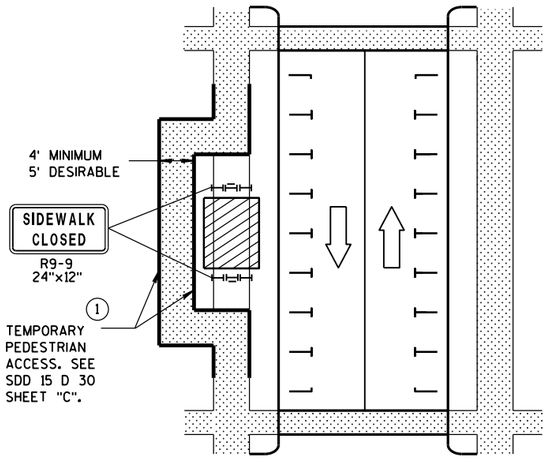
S.D.D. 15 D 28-3

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

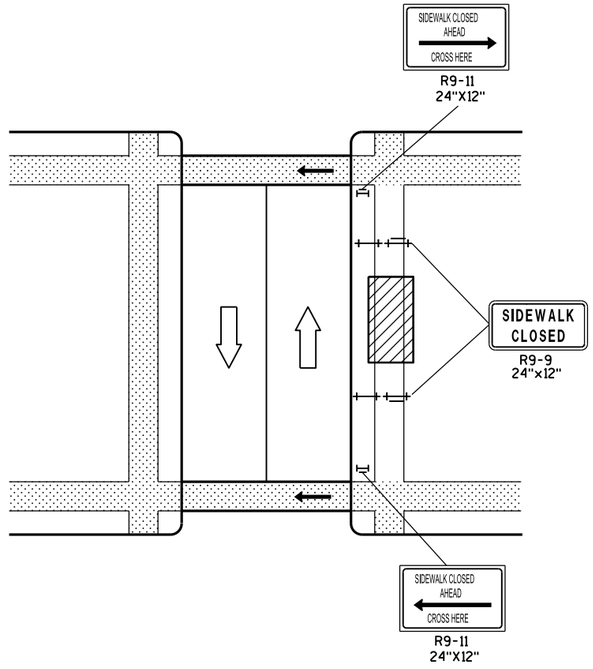


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

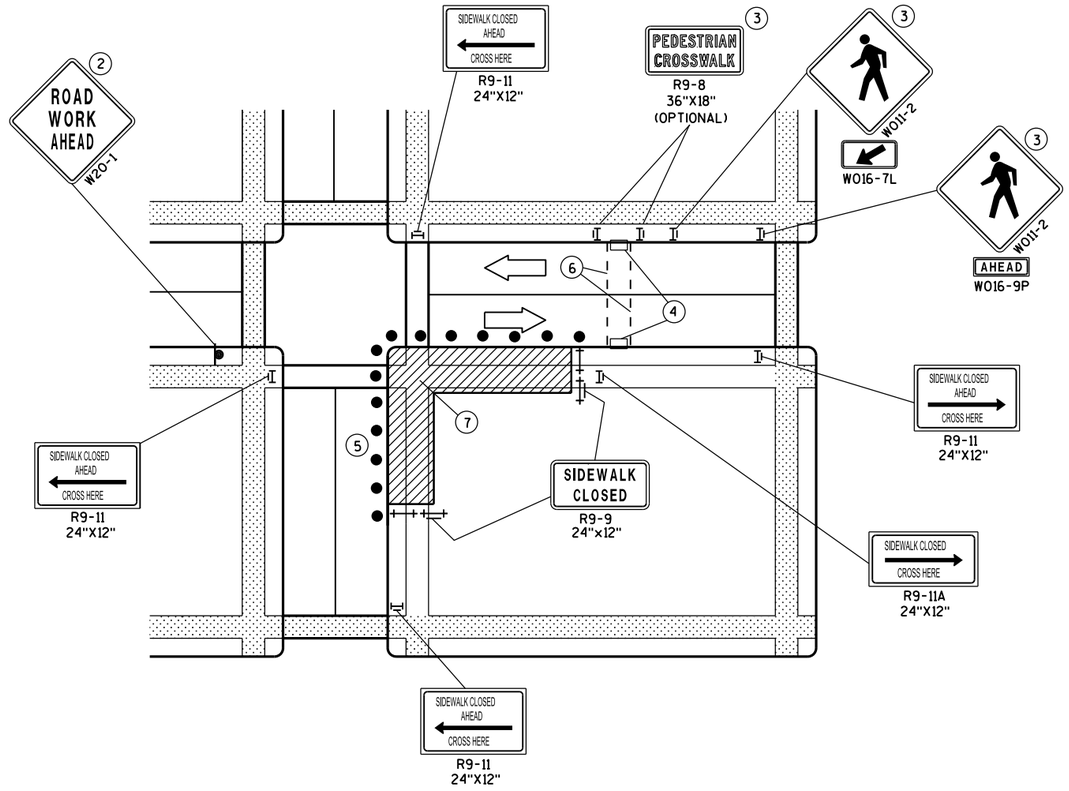
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

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

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

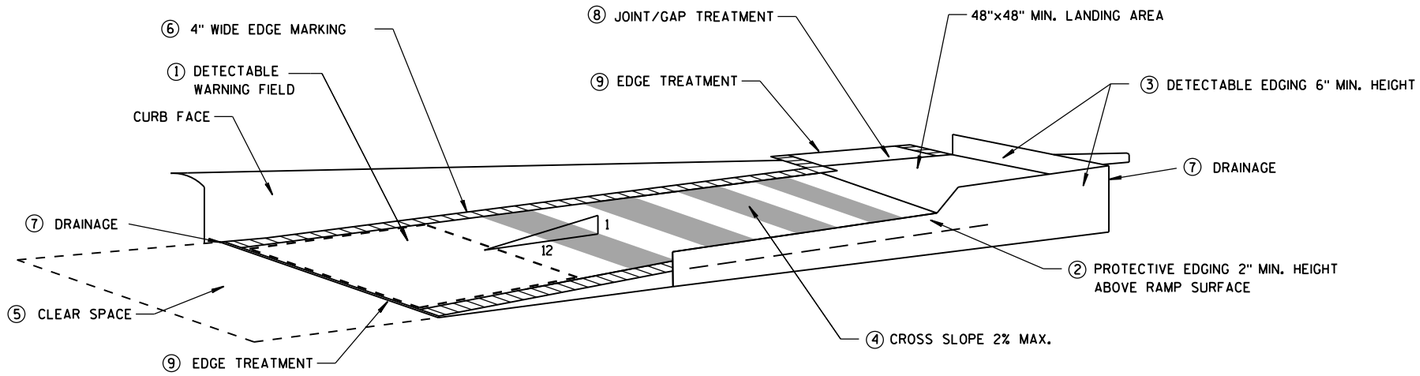
LEGEND

- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC
- TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

S.D.D. 15 D 30-3a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

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

① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 SHEET "E".

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 CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

⑤ CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

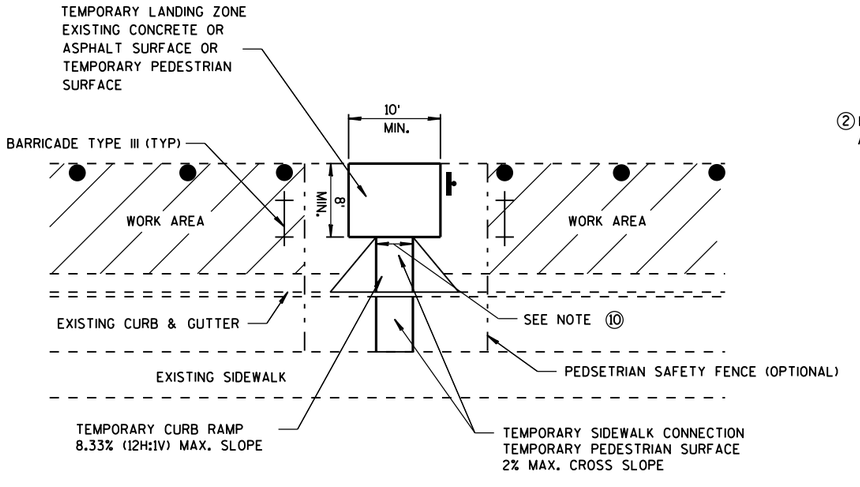
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

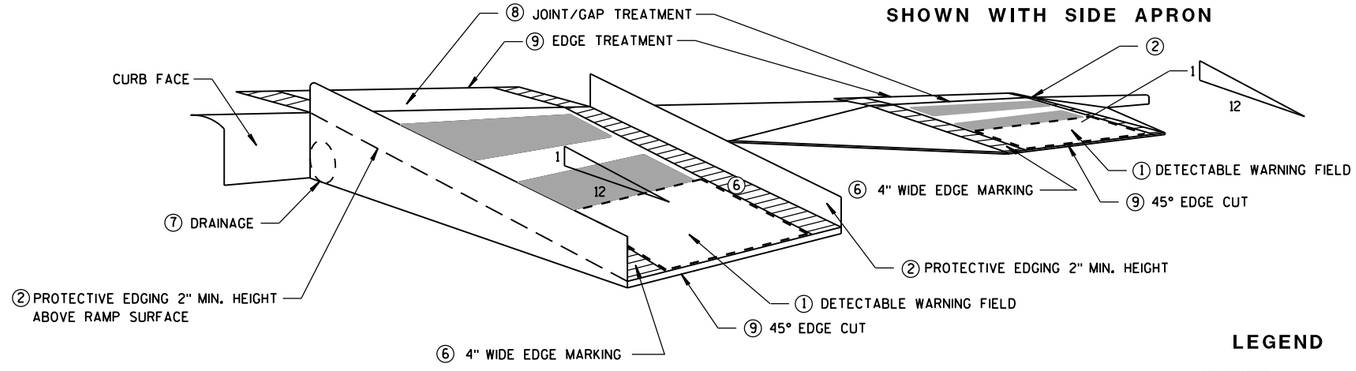
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

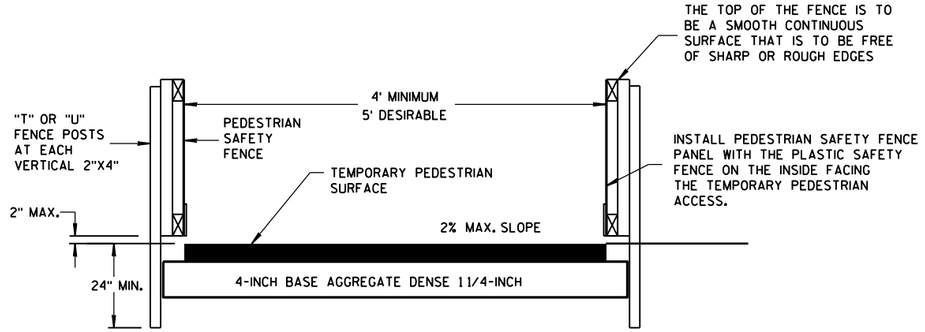
June 2016 — DATE

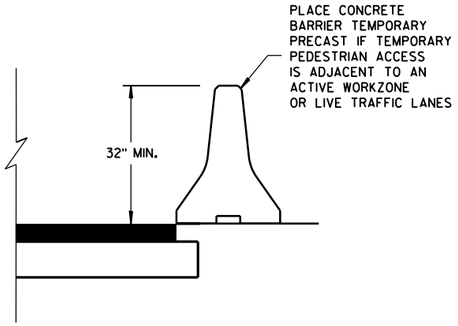
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER

FHWA

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S.D.D. 15 D 30-3b

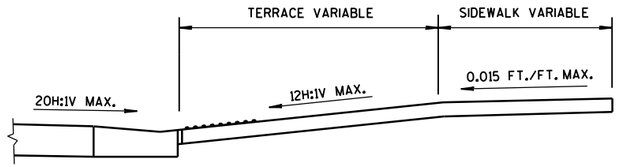




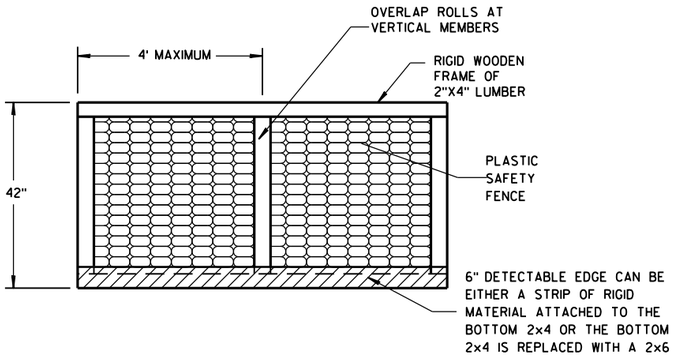
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

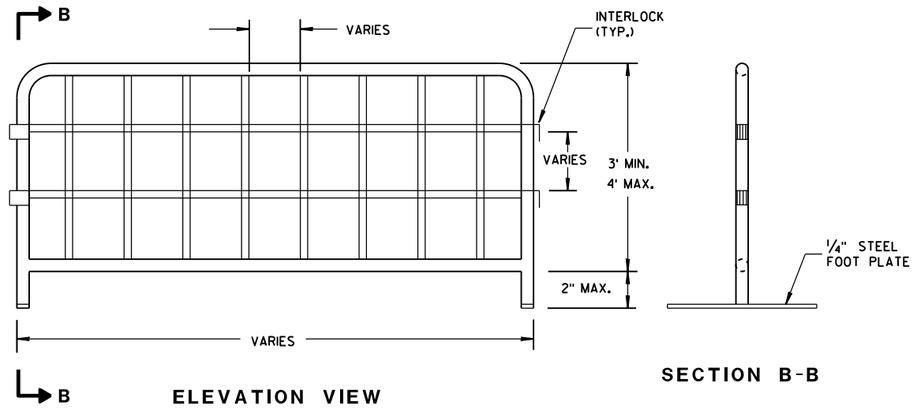
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



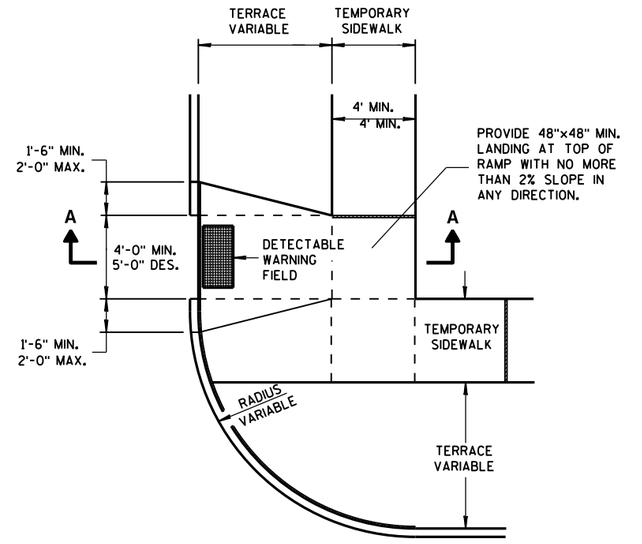
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

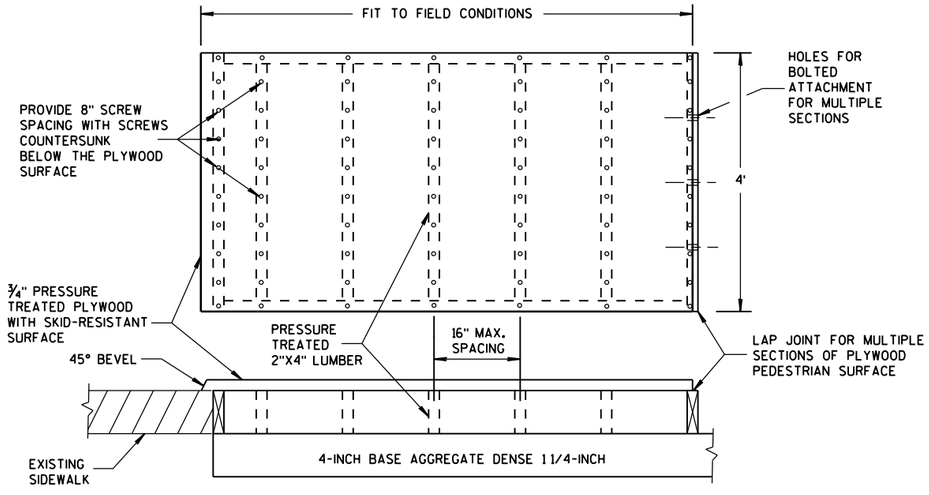
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



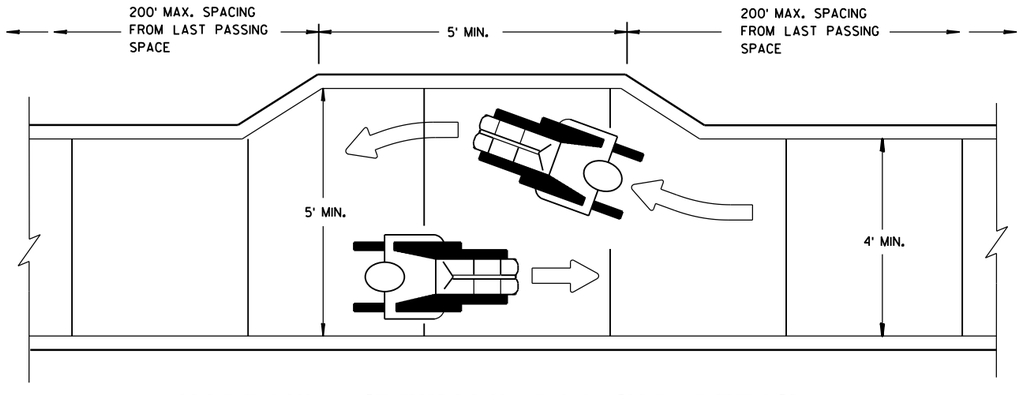
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

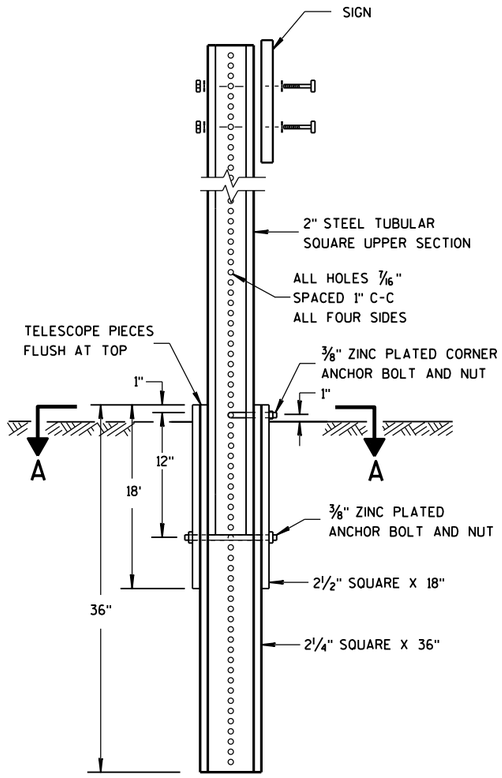
APPROVED
June 2016
DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON IC
SAFETY ENGIN
FHWA

6

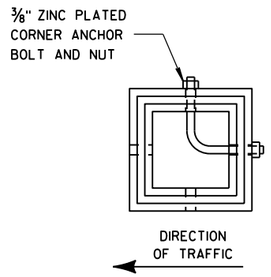
S.D.D. 15 D 30-3c

6

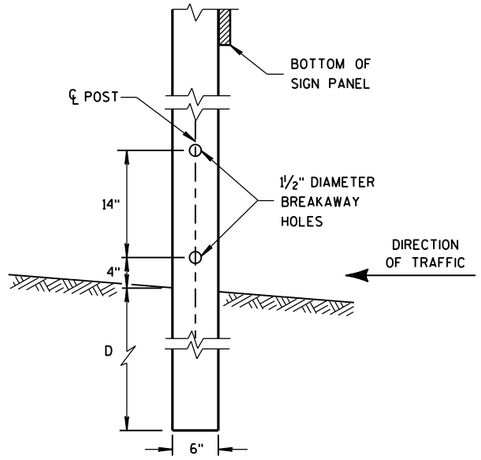
S.D.D. 15 D 30-3c



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



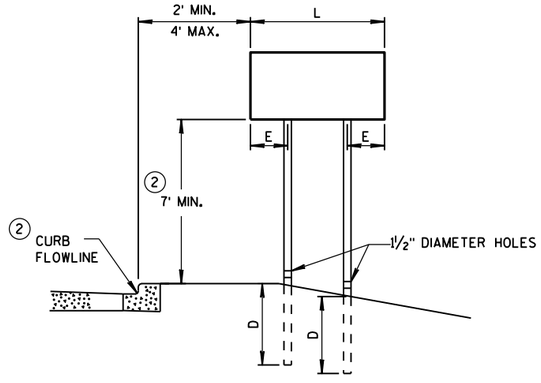
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

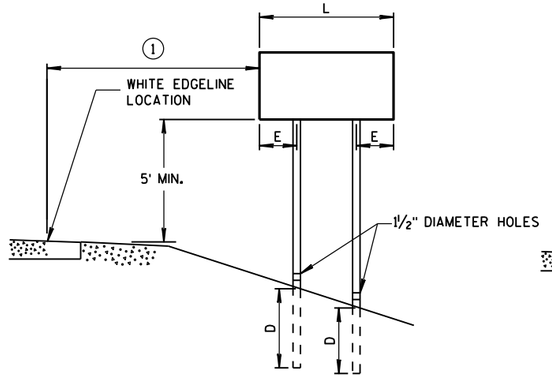
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

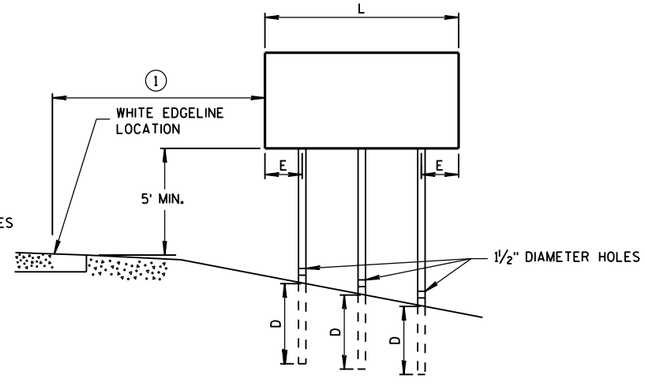
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

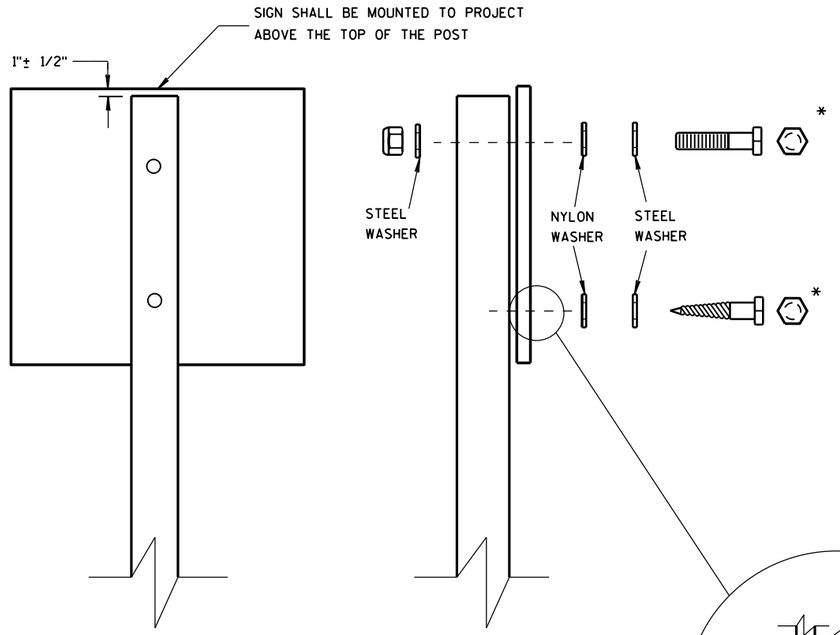
SEE NOTE (3)

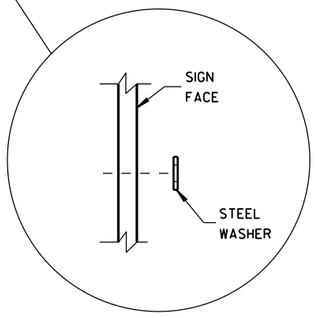
TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a





WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

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

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

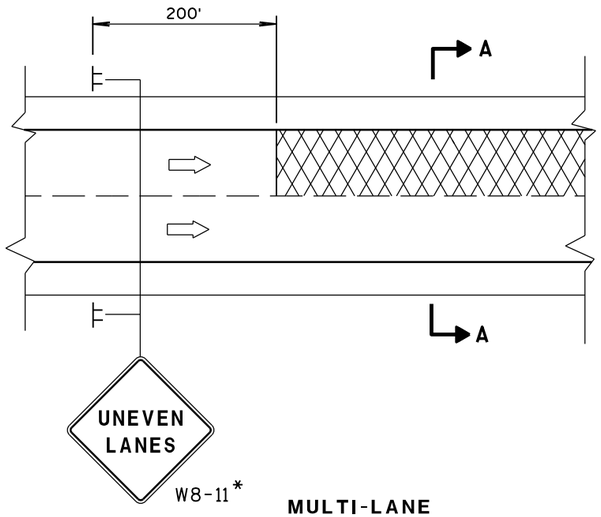
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

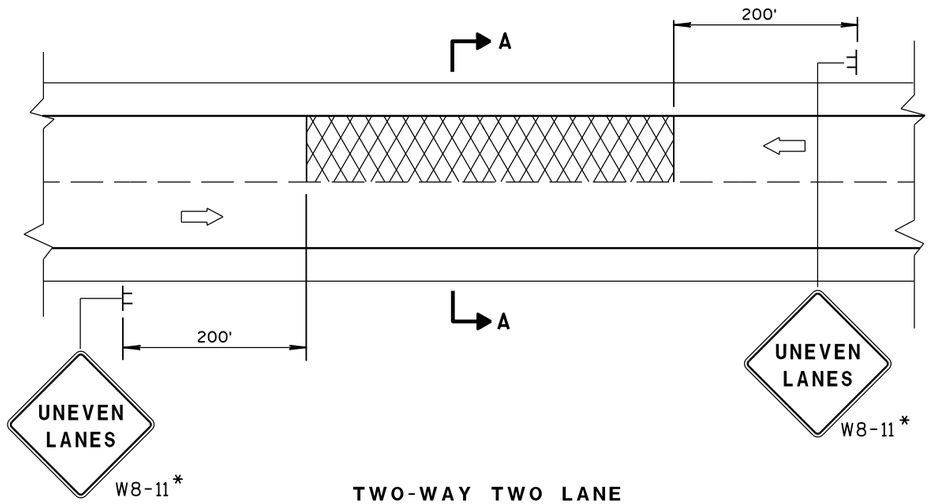
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

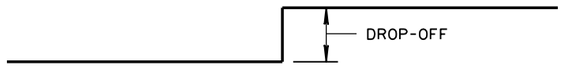
FHWA



MULTI-LANE

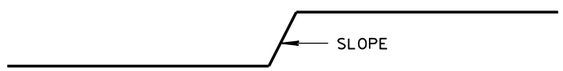


TWO-WAY TWO LANE

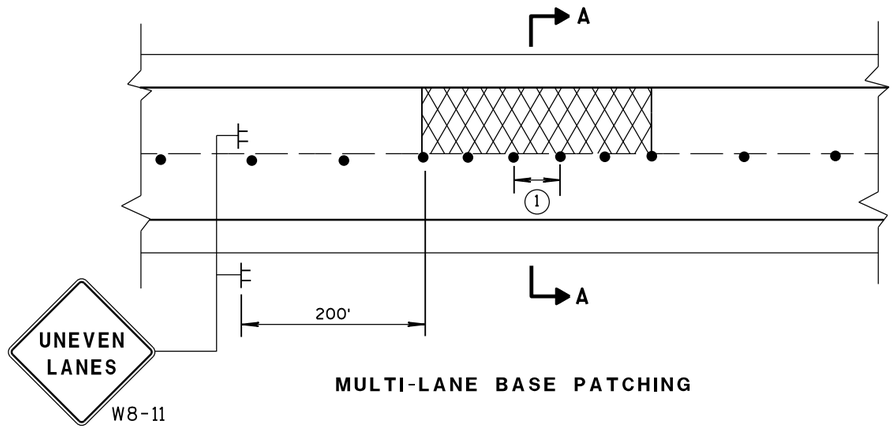


SECTION A-A

OR

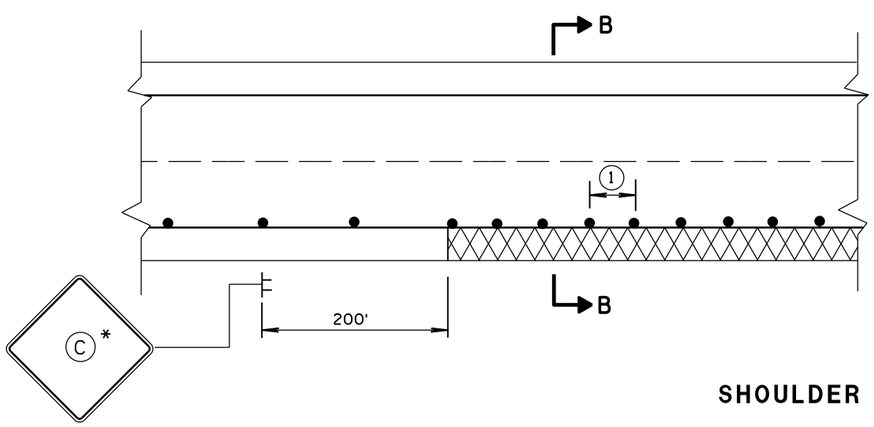


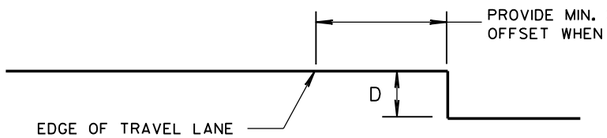
SECTION A-A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS





SECTION B-B

SHOULDER DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY ½ MILE.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER W08-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP-OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

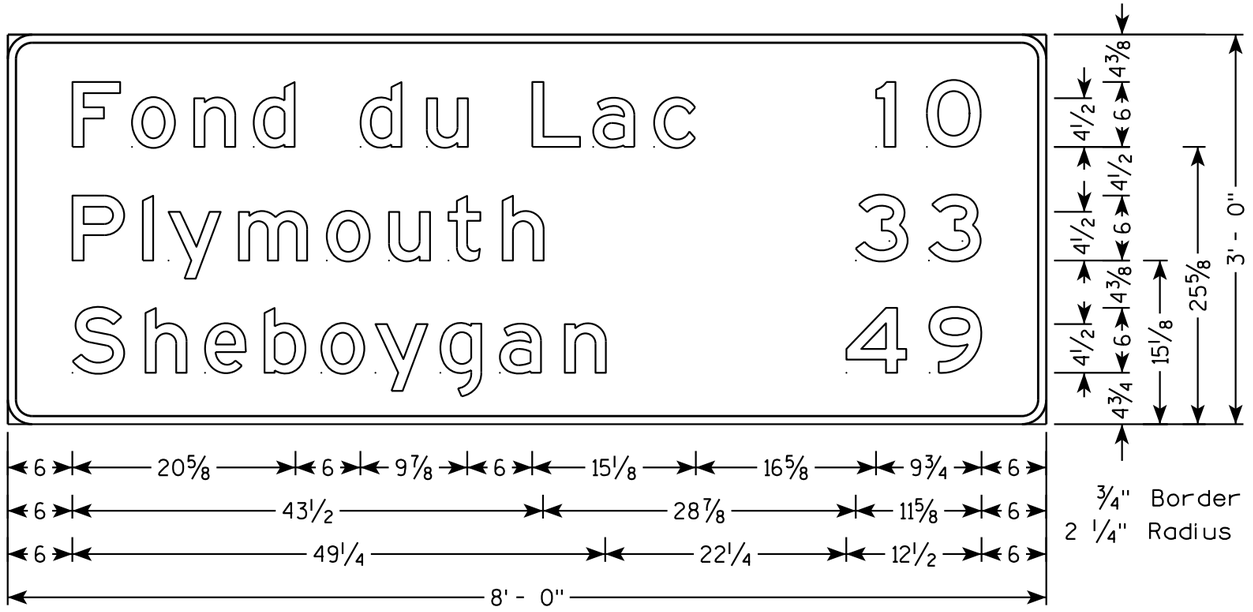
APPROVED
March, 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENGI
FHWA

6

S.D.D. 15 D 39-1

NOTES

1. All Sign Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as Shown



D2-3

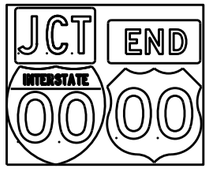
PROJECT NO: 1430-23-71	HWY: STH 23	COUNTY: FOND DU LAC	PERMANENT SIGNING	SHEET NO: 91	E

FILE NAME : N:\spo\traffic\SIGNING\Projects\1430-23-71 STH 23 Fond du Lac Co\070101_sd.DGN PLOT DATE : 18-MAY-2017 11:42 PLOT BY : dotets PLOT NAME : PLOT SCALE : 14:1
WISDOT/CADDS SHEET 42

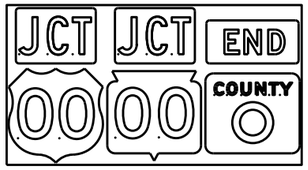
TYPICAL ASSEMBLIES



J1-1



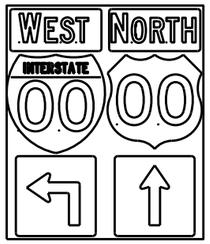
J1-2



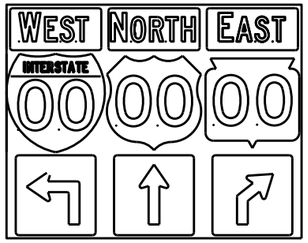
J1-3



J2-1



J2-2

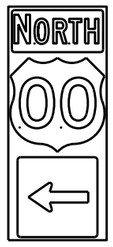


J2-3

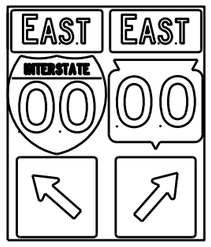


JV

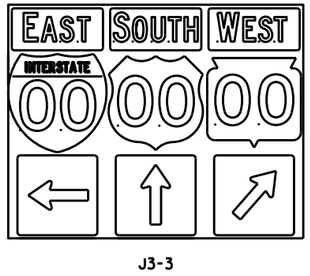
(Typical Vertical J-Assembly
See Note 10 and 11)



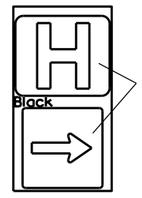
J3-1



J3-2



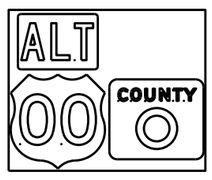
J3-3



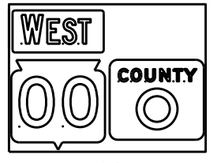
JH-1



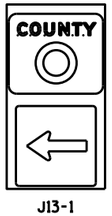
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

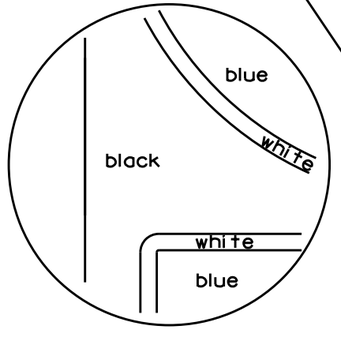


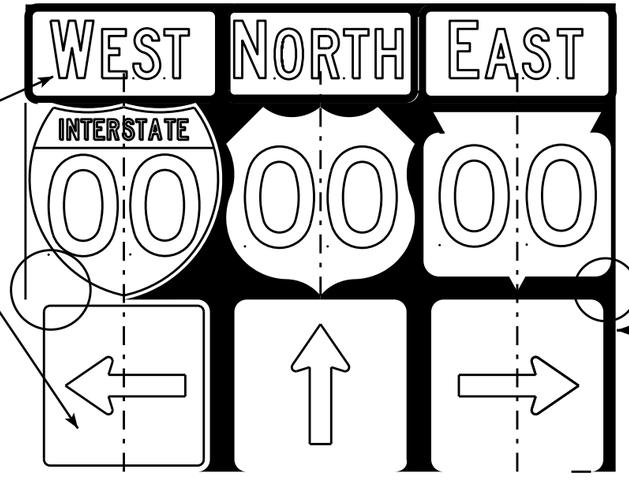
J23-1

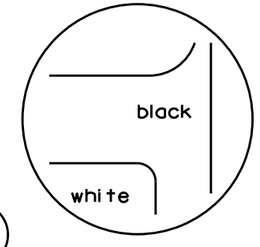


J22-1

blue background
with interstate







black background

NOTES

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

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

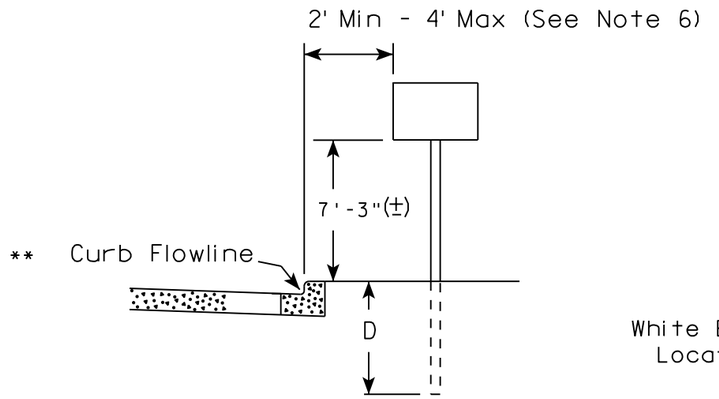
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

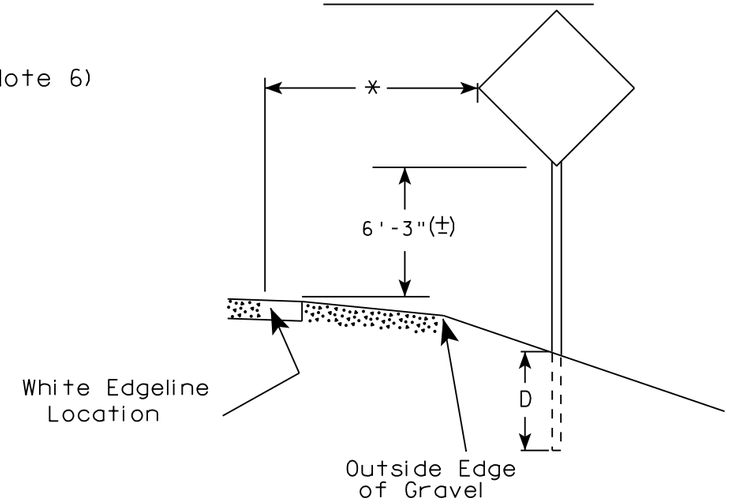
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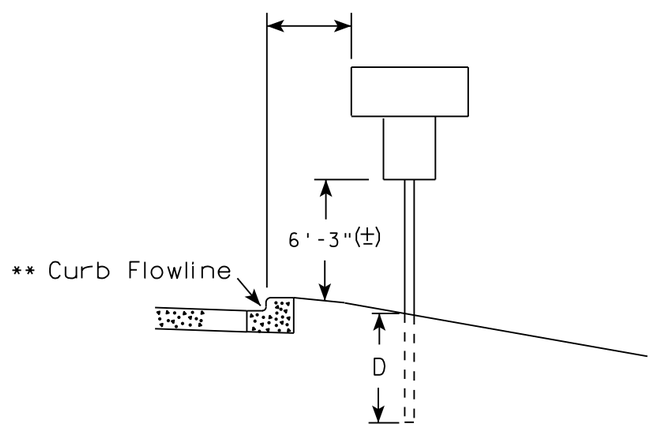
WISDOT/CADDS SHEET 42

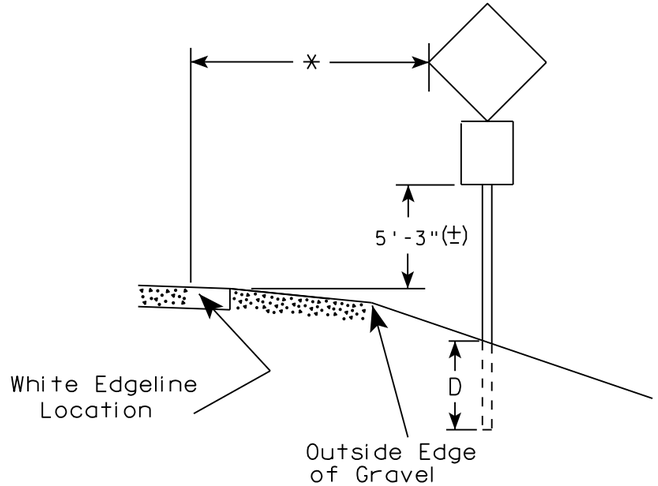
URBAN AREA



RURAL AREA (See Note 2)







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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

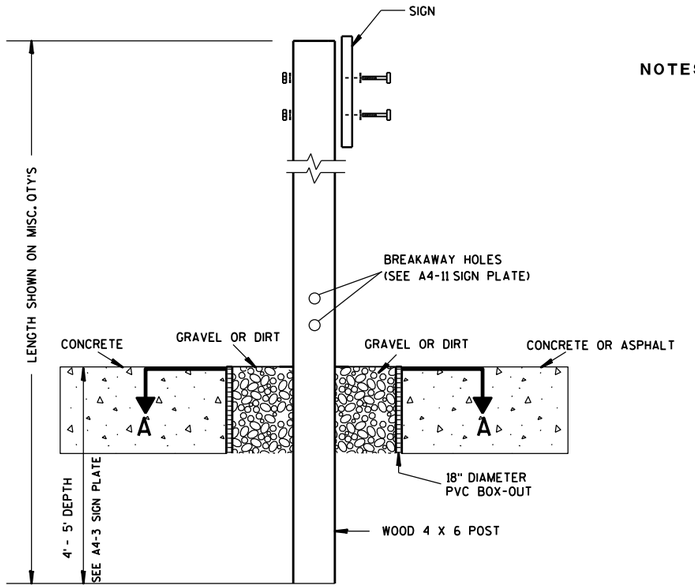
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7

7

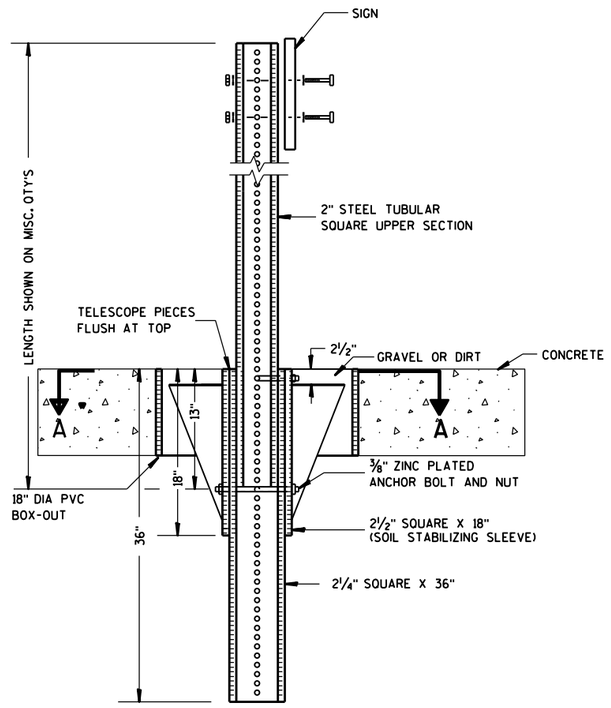
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 93	E



ELEVATION VIEW

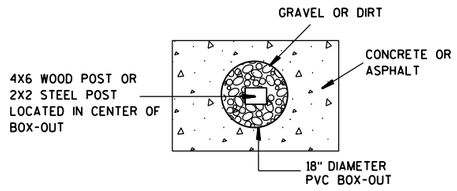
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

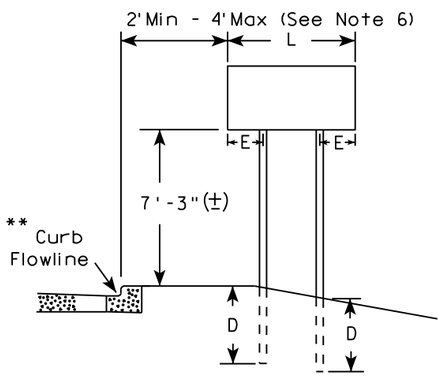
APPROVED Matthew R Rauch
for State Traffic Engineer

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

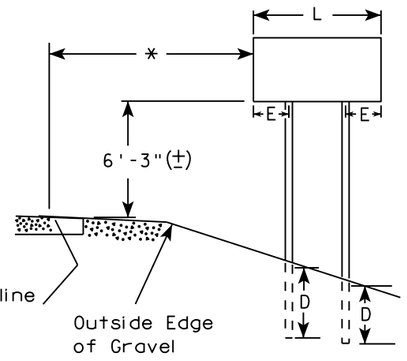
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

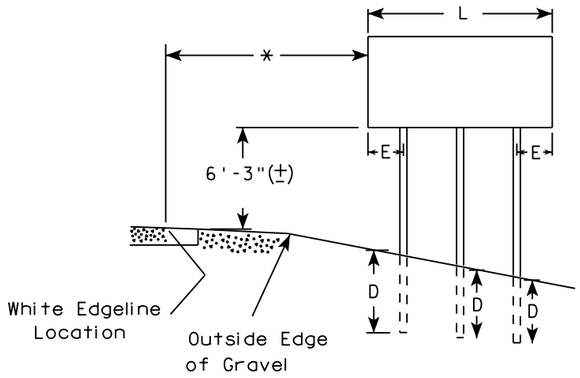
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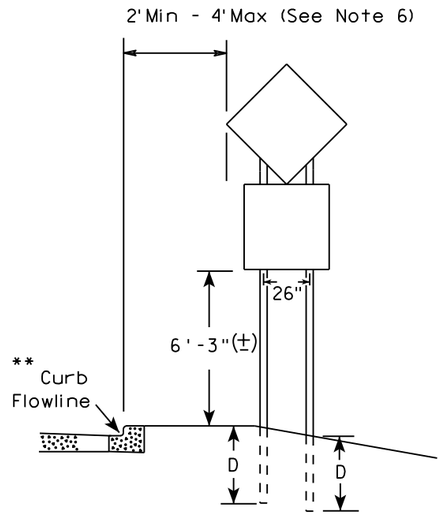
URBAN AREA



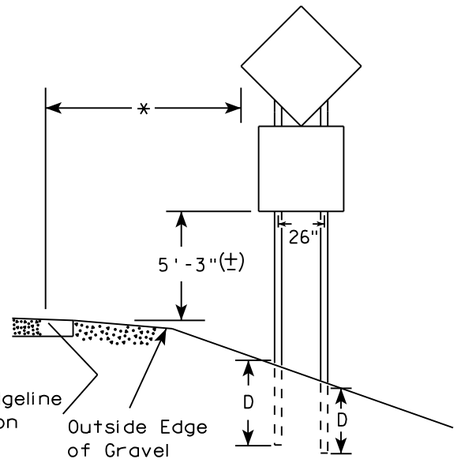
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

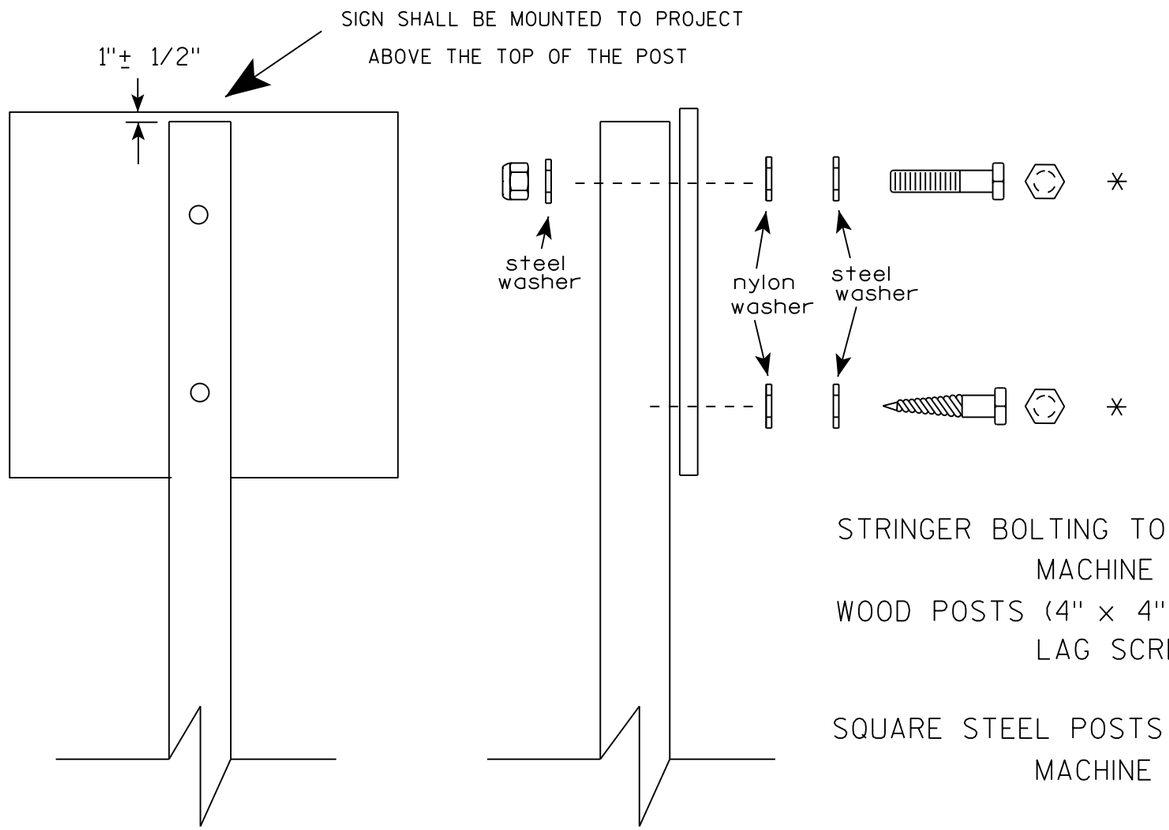
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 95	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

WOOD POSTS (4" x 4" or 4" x 6")

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

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

7

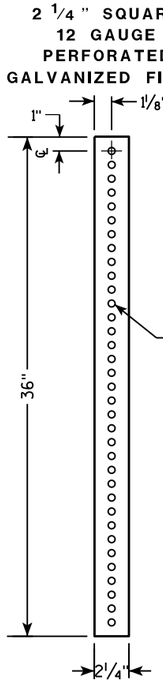
PROJECT NO:

SHEET NO: E

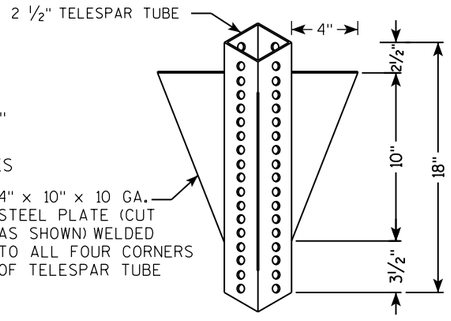
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

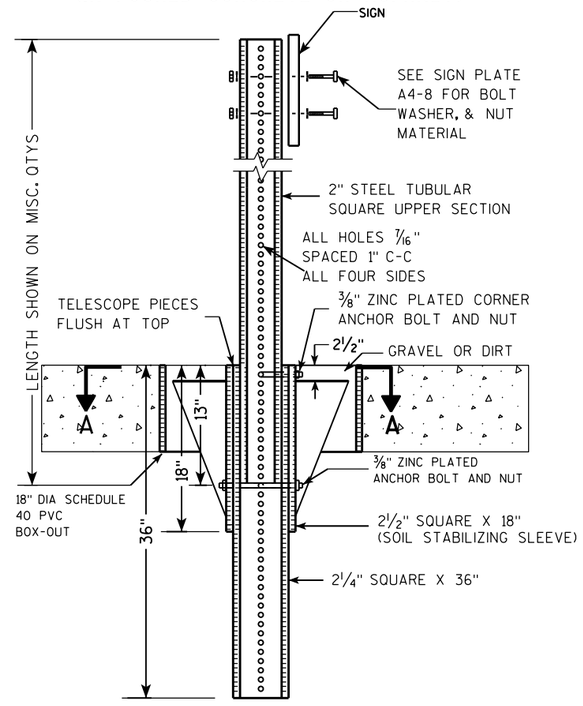
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



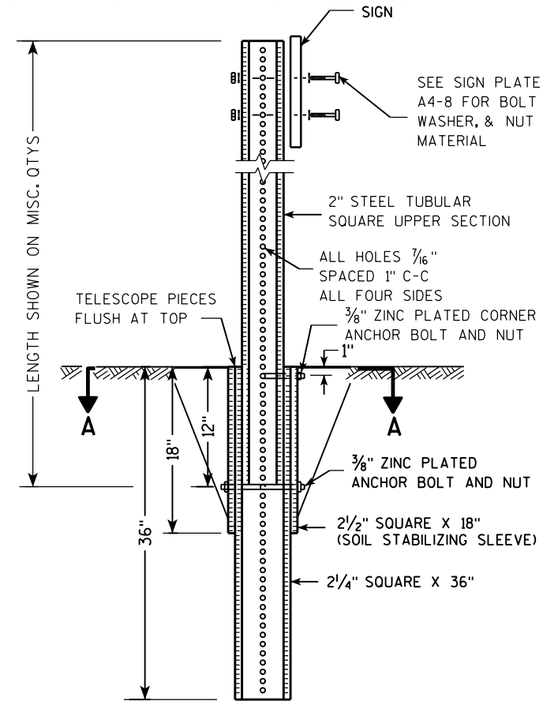
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

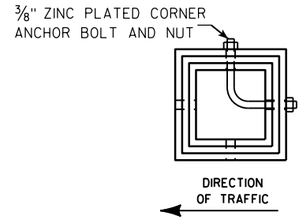


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

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

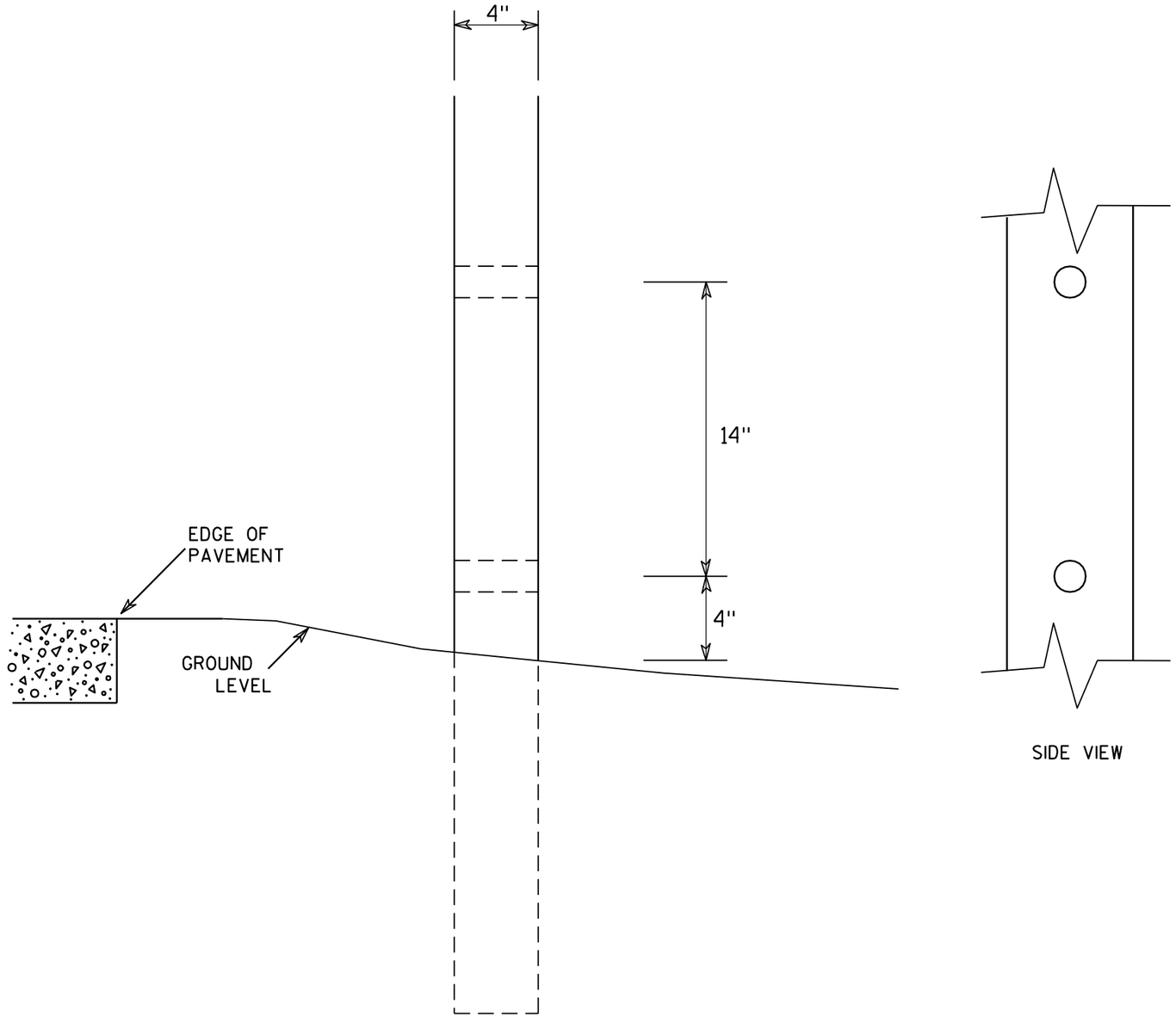
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 97 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

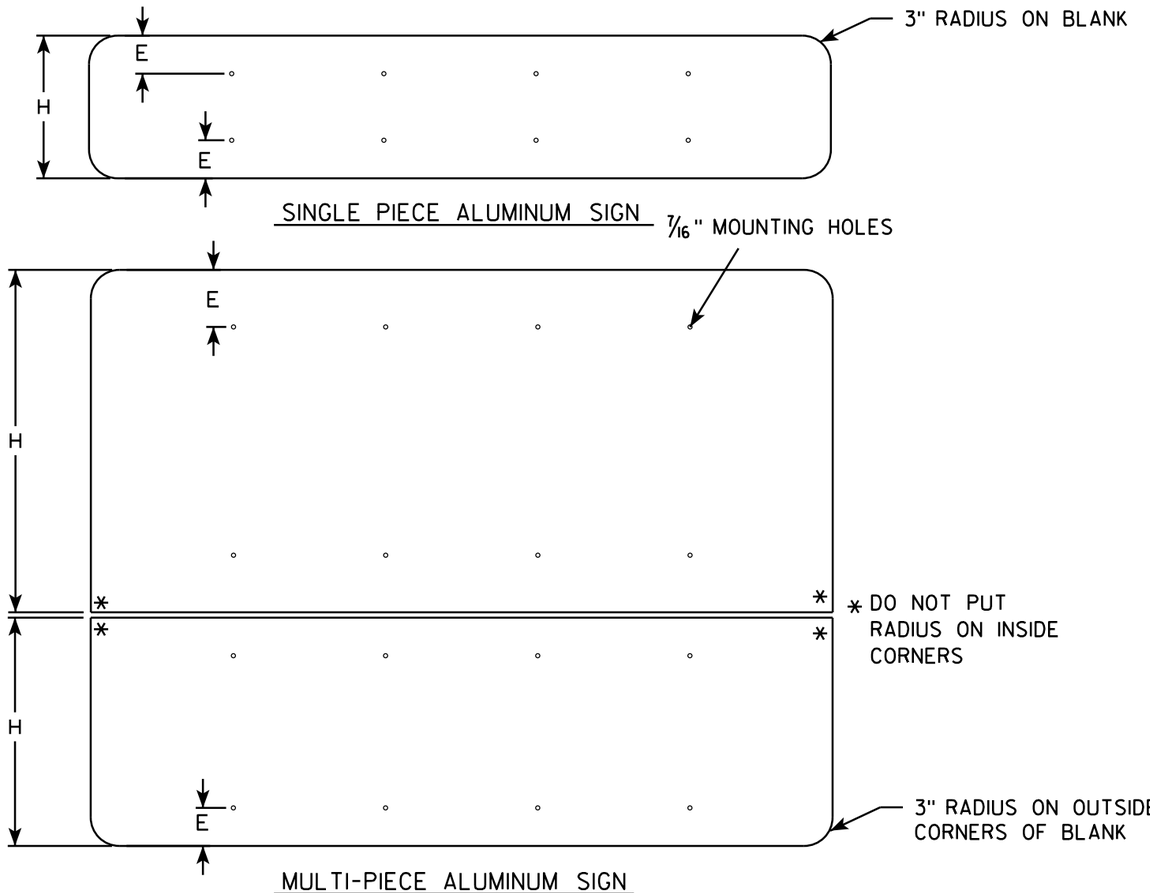
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

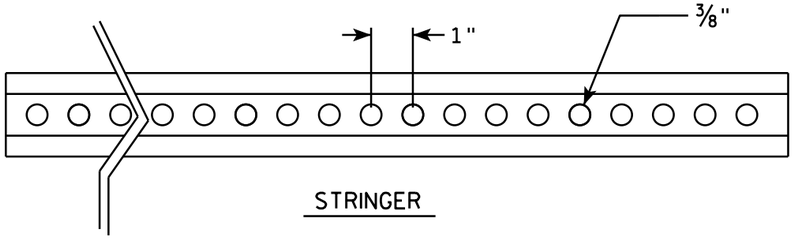
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 98	E



GENERAL NOTES

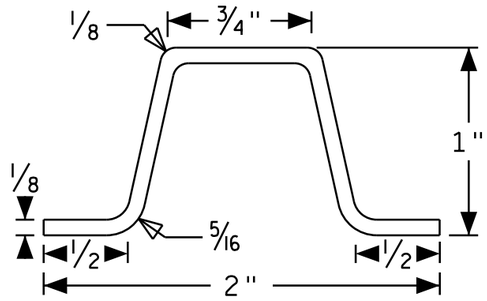
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER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

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

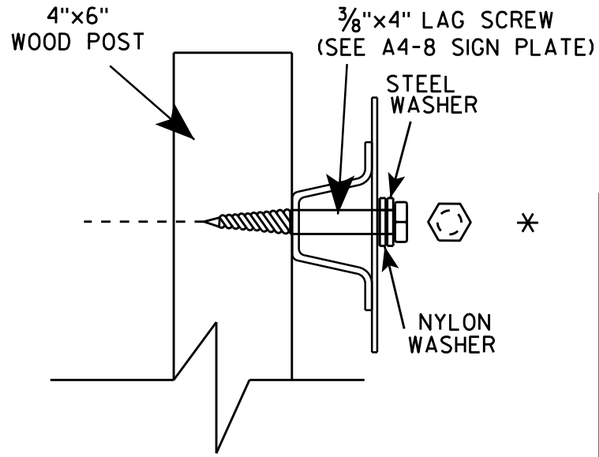


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

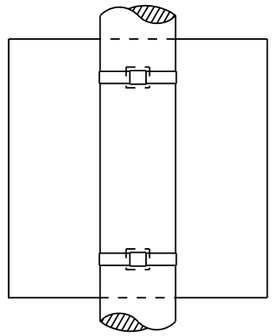
DATE 4/26/16 PLATE NO A4-18.1

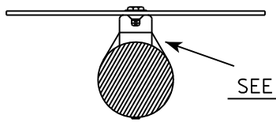
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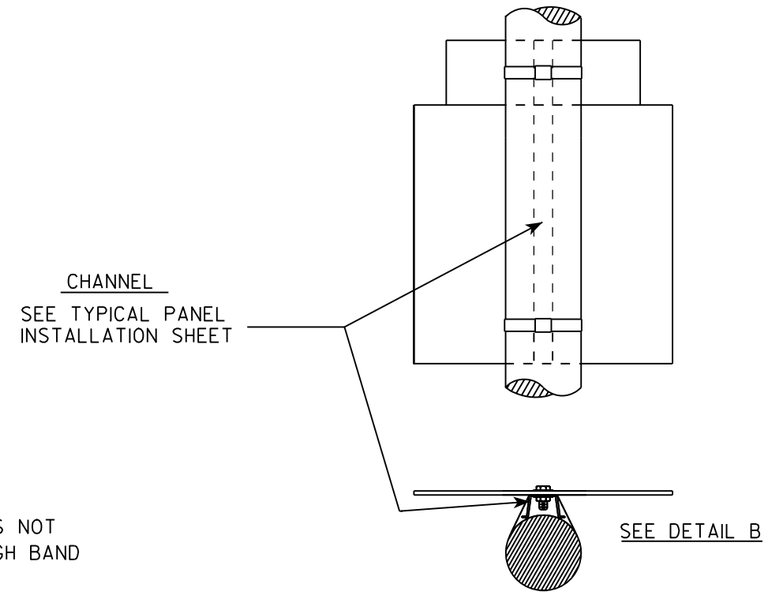
BANDING

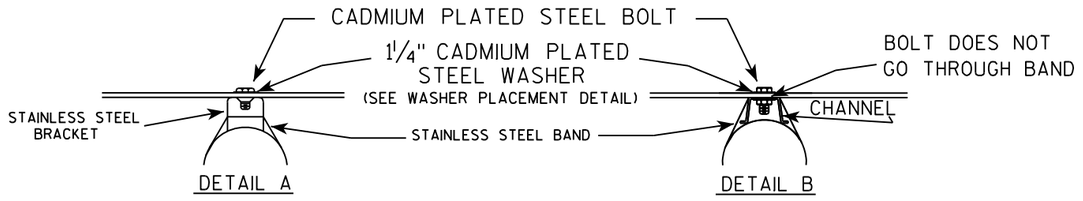
SINGLE SIGN



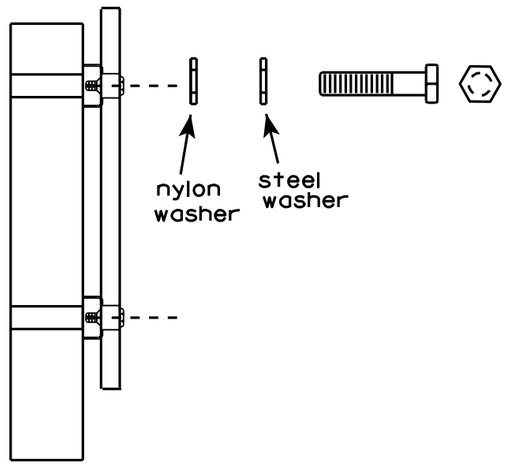


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

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

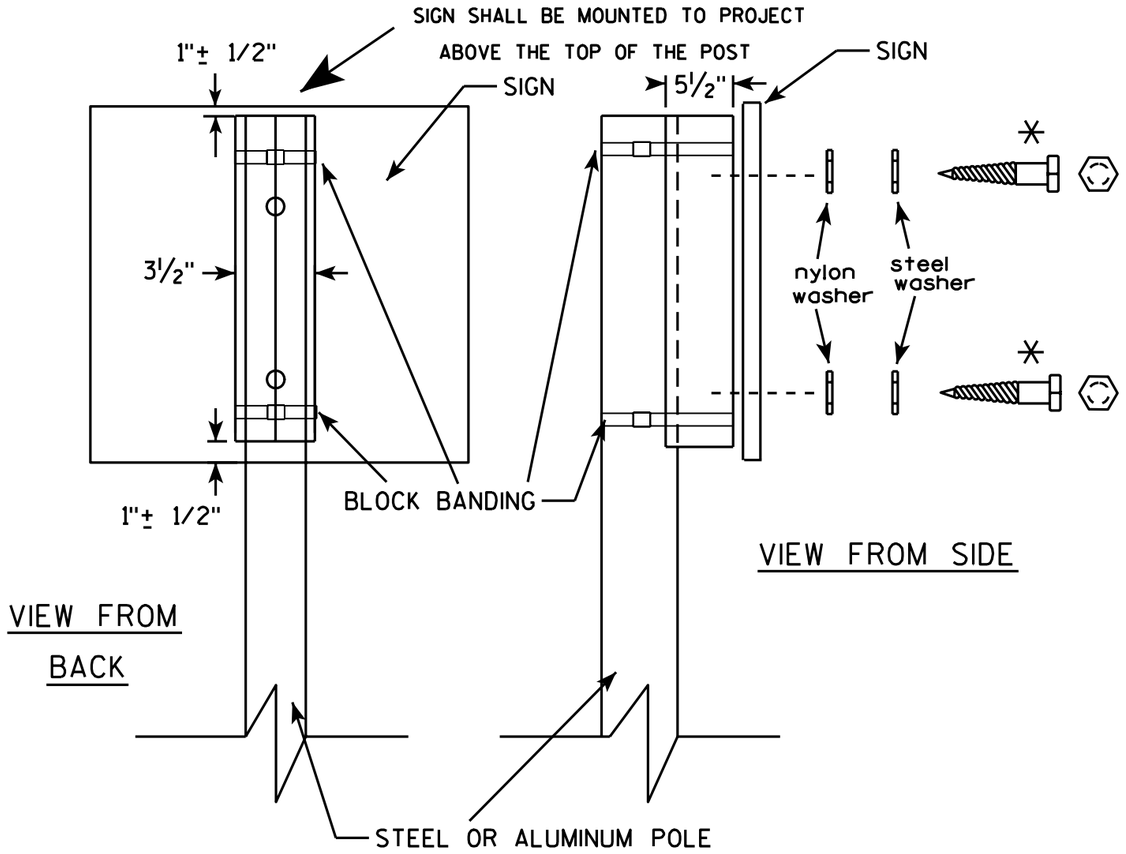
STANDARD SIGN
SIGN BANDING DETAILS

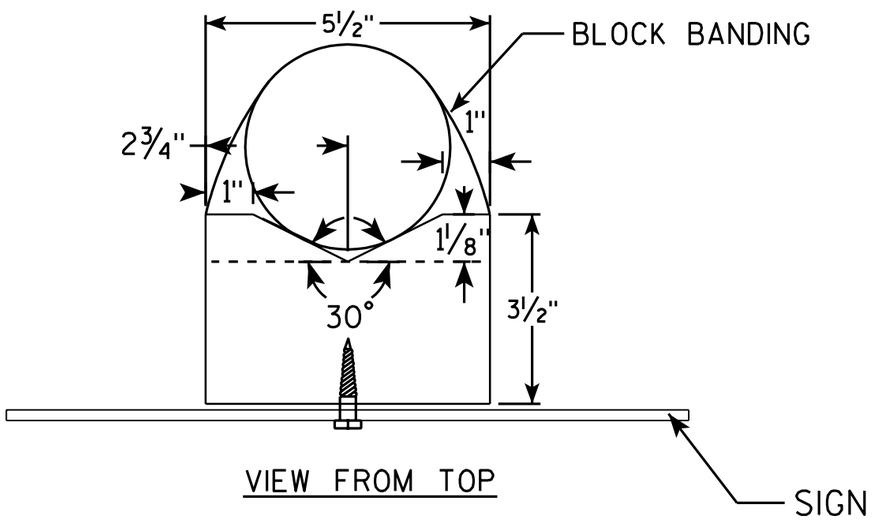
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 100	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" 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, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

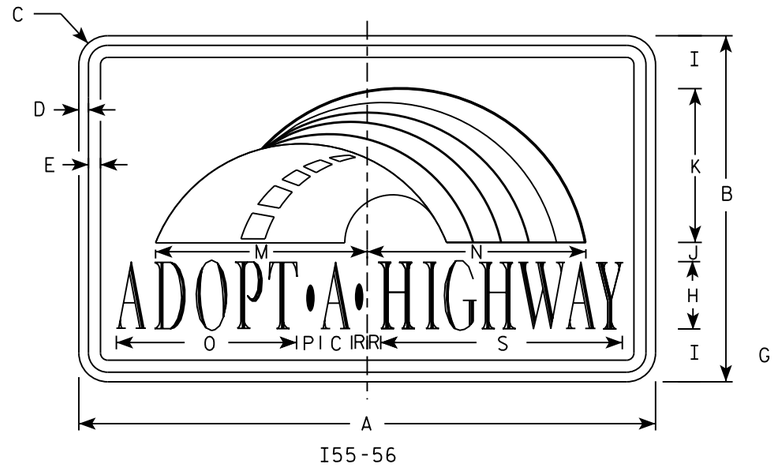
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

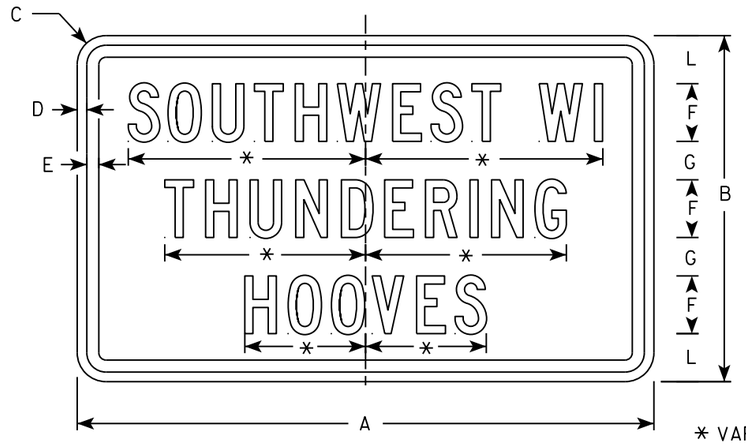
SHEET NO: 101 E

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WISDOT/CADDS SHEET 42



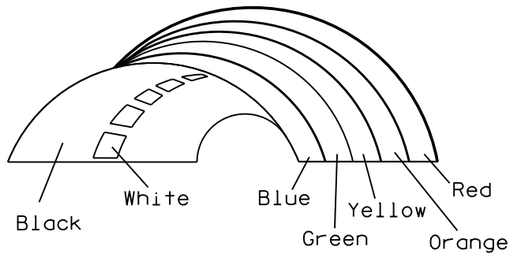
I55-56



I55-56P

* VARIES

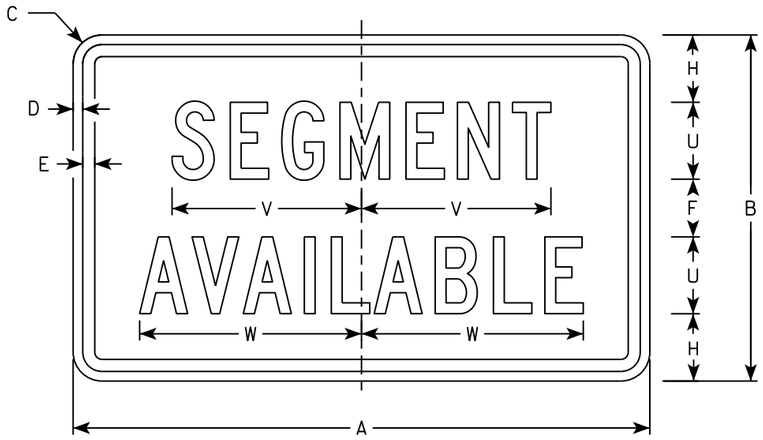
Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - (See Note 4)
3. Message Series - (See Note 5)
4. Border - Blue
   Adopt a Highway - Red
   All other Text - Blue
5. Adopt a Highway - Dutch 8011L
   All other Text - Series C
6. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.



I55-56S

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	18	1 1/2	1/2	5/8	3	2	3 1/2	2 3/4	1	8	2 1/2	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2	4	9 7/8	11 1/2				3.75
3																											
4																											
5																											

STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

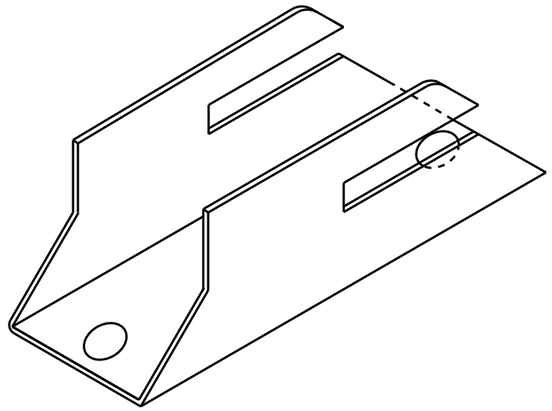
DATE 2/20/18 PLATE NO. I55-56.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 102 | E

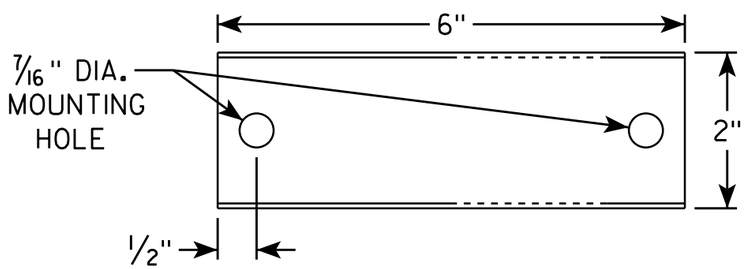
NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

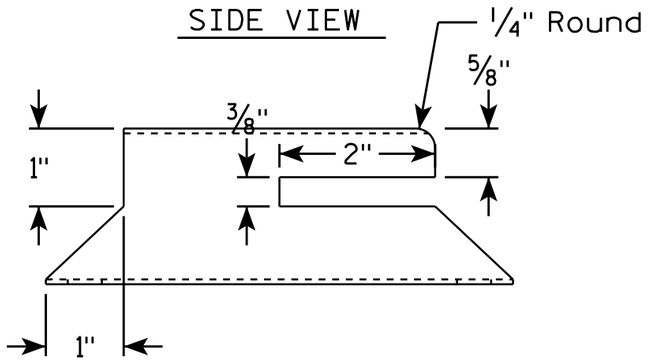
ISOMETRIC VIEW



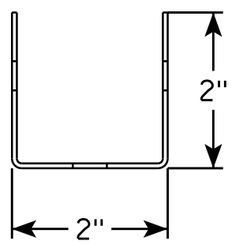
TOP VIEW



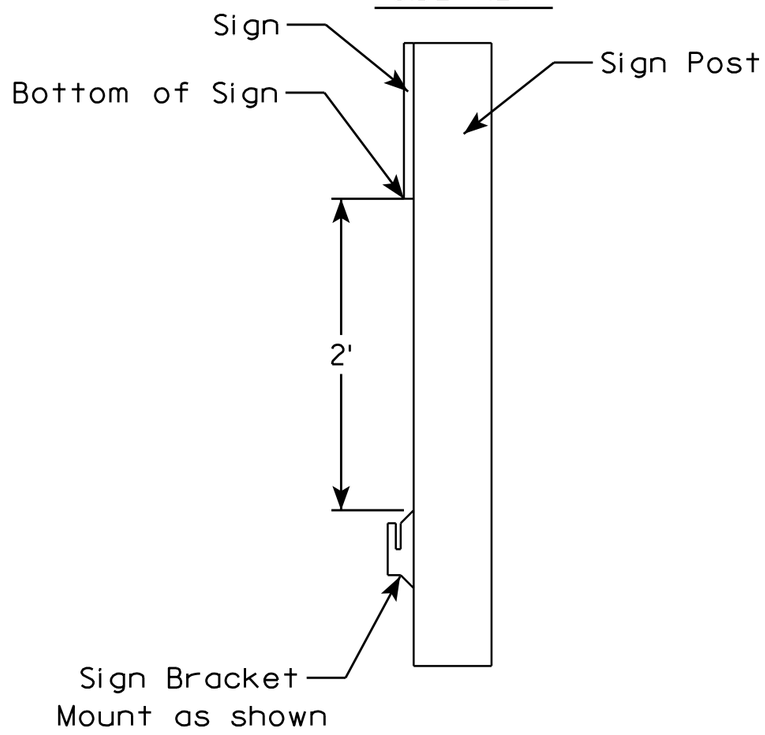
SIDE VIEW



END VIEW



SIDE VIEW



ROLLUP SIGN BRACKET
I55-56B

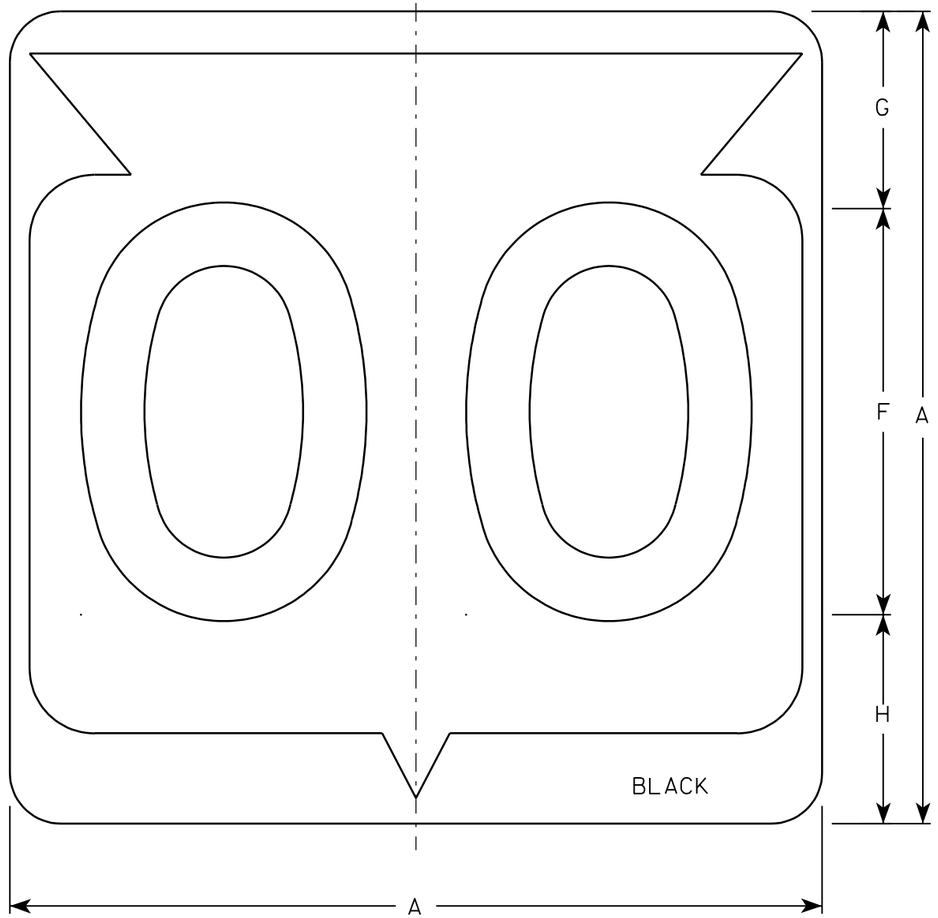
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/26/16 PLATE I55-56B.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

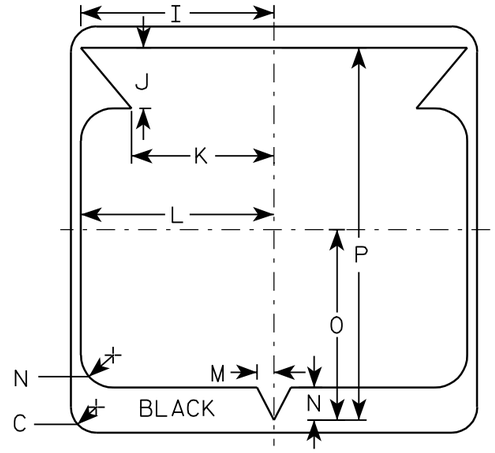
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\I5556B.DGN PLOT DATE : 26-APR-2016 17:29 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.945842:1.000000
WISDOT/CADDS SHEET 42



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

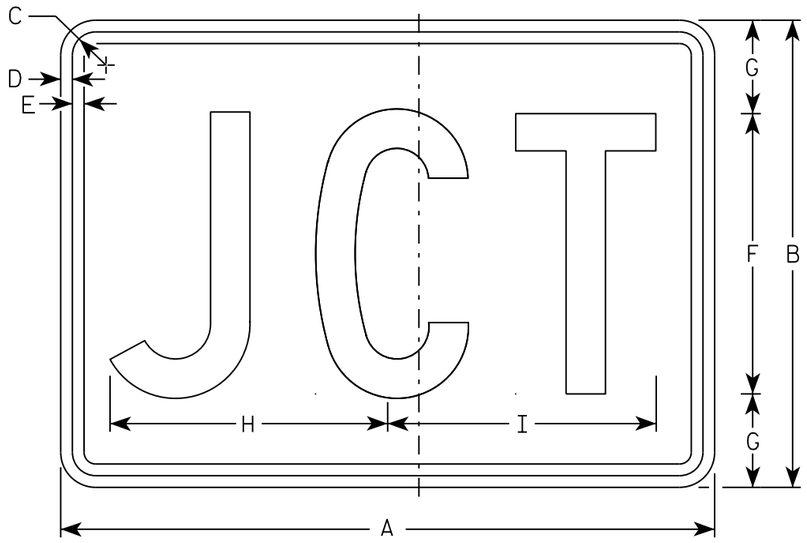
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

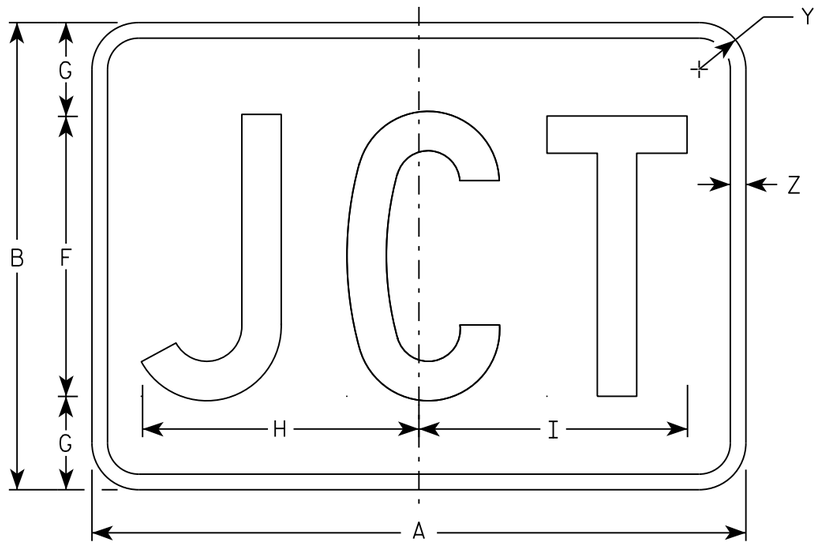
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 104	E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN
M2-1

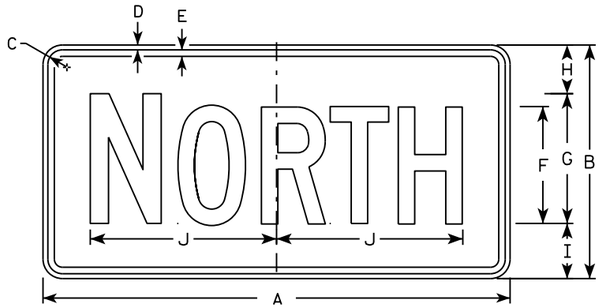
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

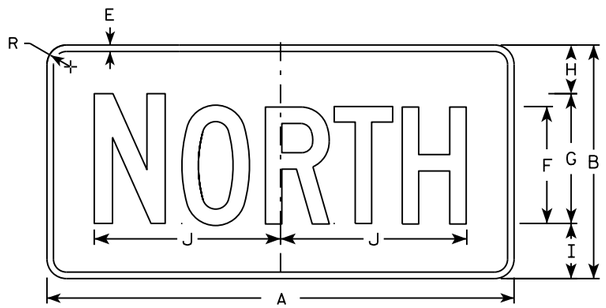
DATE 10/15/15 PLATE 105 12-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M21.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.864603:1.000000



M3-1
MM3-1
MP3-1



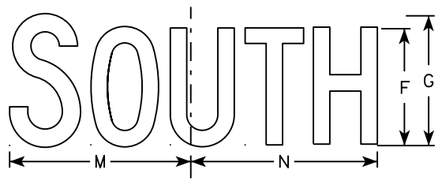
MB3-1
MK3-1
MN3-1



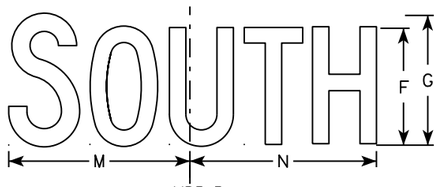
M3-2
MM3-2
MP3-2



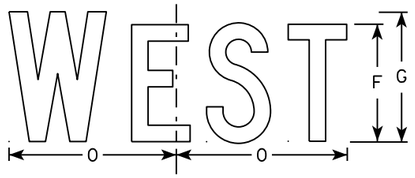
MB3-2
MK3-2
MN3-2



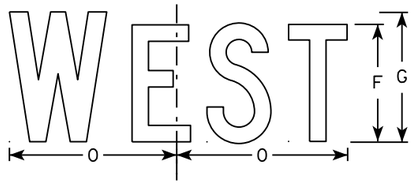
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

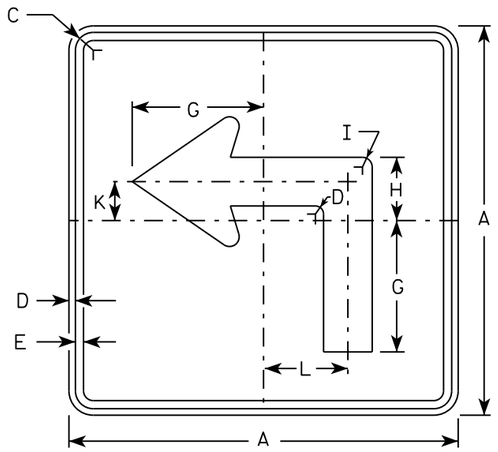
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

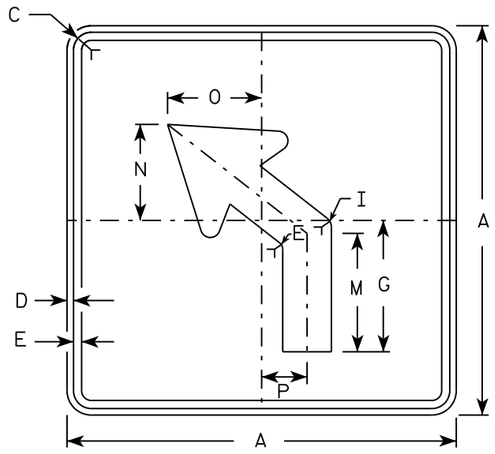
DATE 10/15/15 PLATE NO M3-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

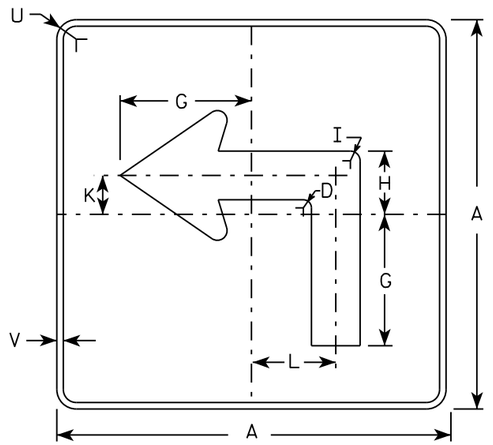
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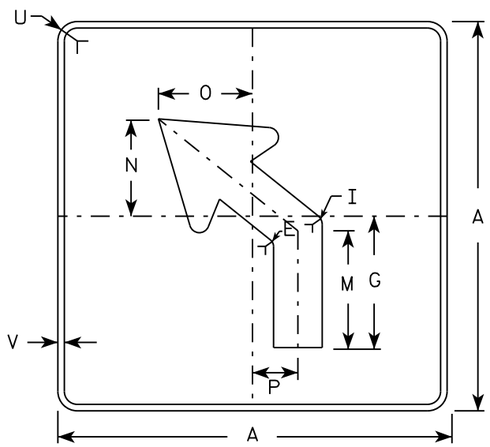
M5-1L
MM5-1L
MO5-1L
MP5-1L



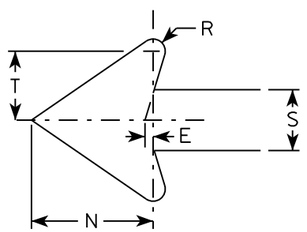
M5-2L
MM5-2L
MO5-2L
MP5-2L



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



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



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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

STANDARD SIGN
M5-1 & M5-2

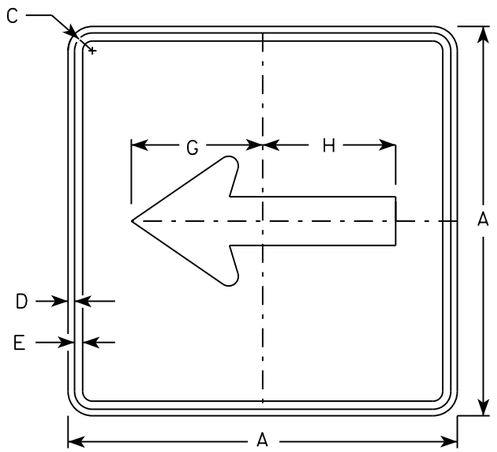
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

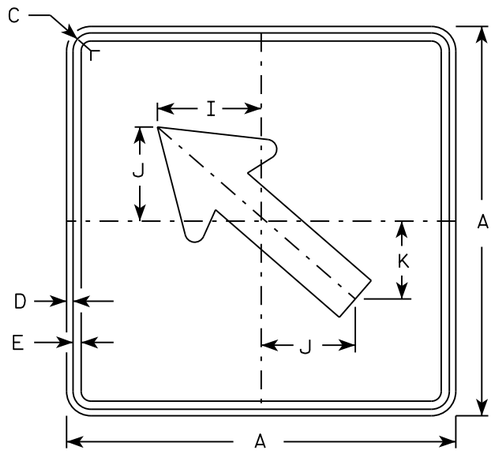
DATE 10/15/15 PLATE NO. M5-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



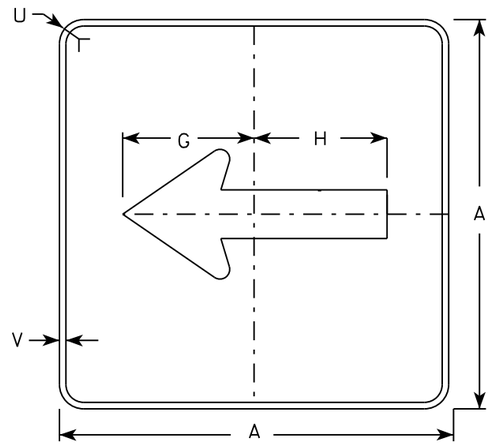
M6-1
MM6-1
MO6-1
MP6-1



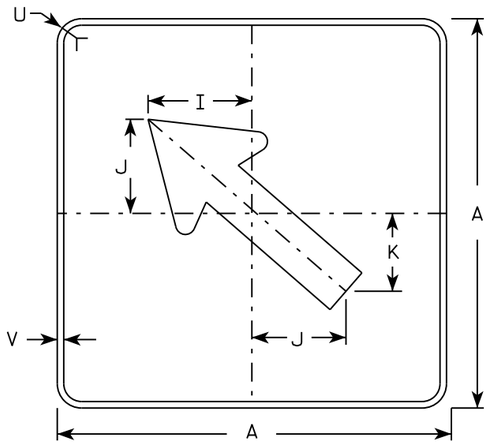
M6-2
MM6-2
MO6-2
MP6-2

NOTES

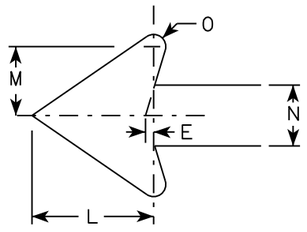
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



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



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



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

STANDARD SIGN
M6-1 & M6-2
SERIES

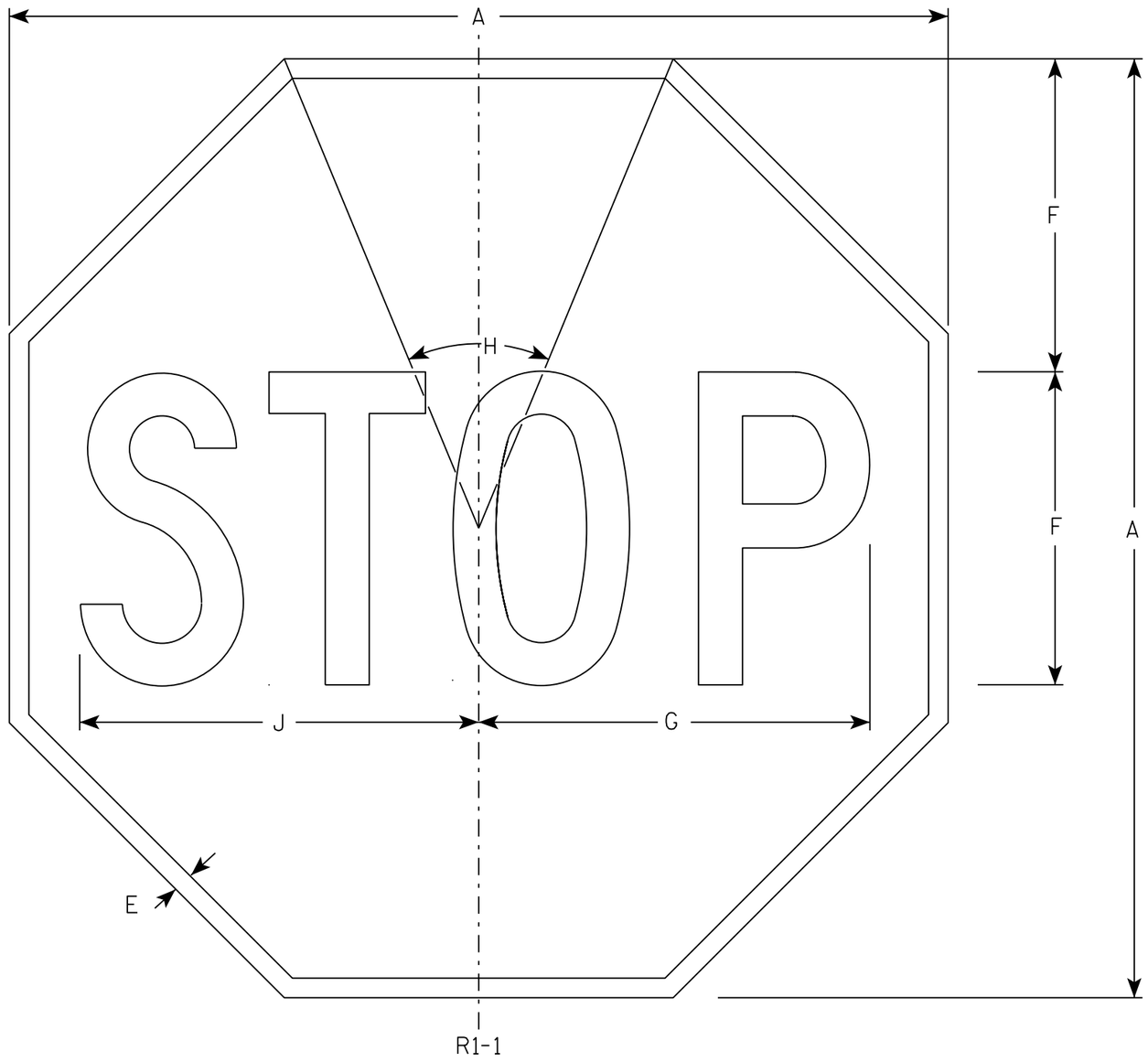
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 108 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				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

STANDARD SIGN

R1-1

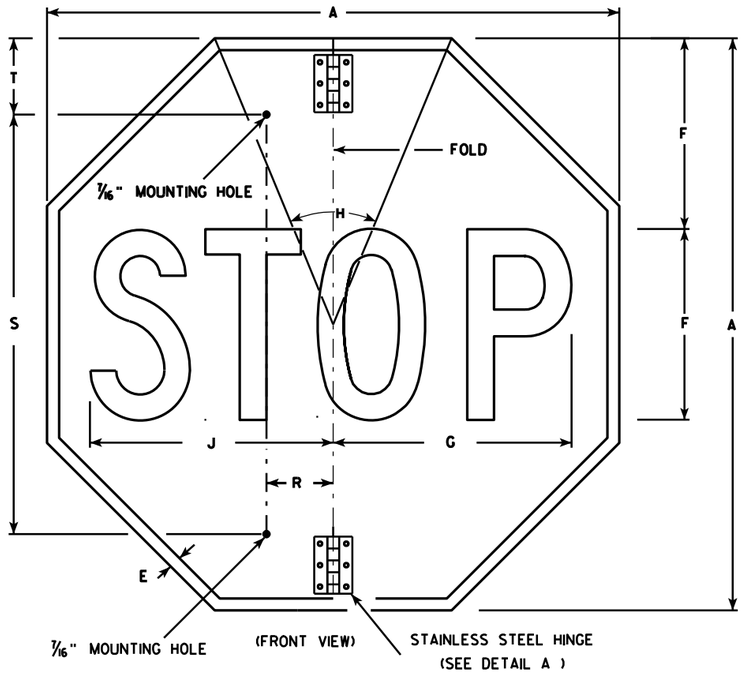
WISCONSIN DEPT OF TRANSPORTATION

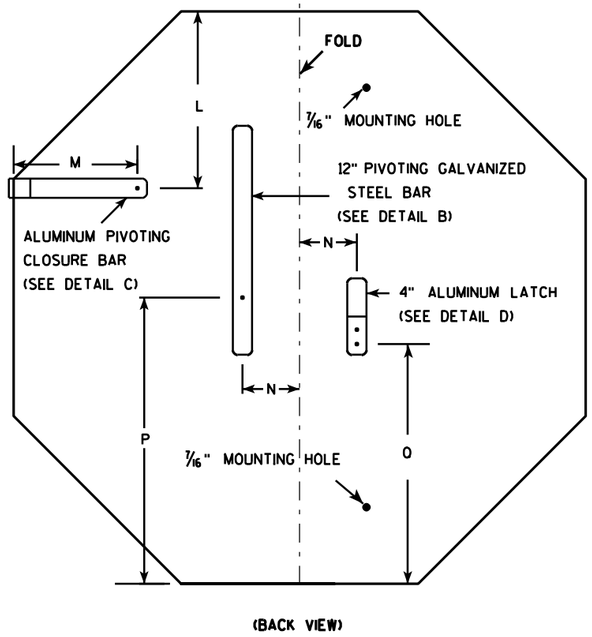
APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

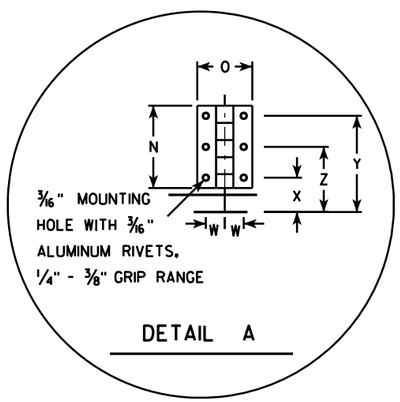
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 109	E



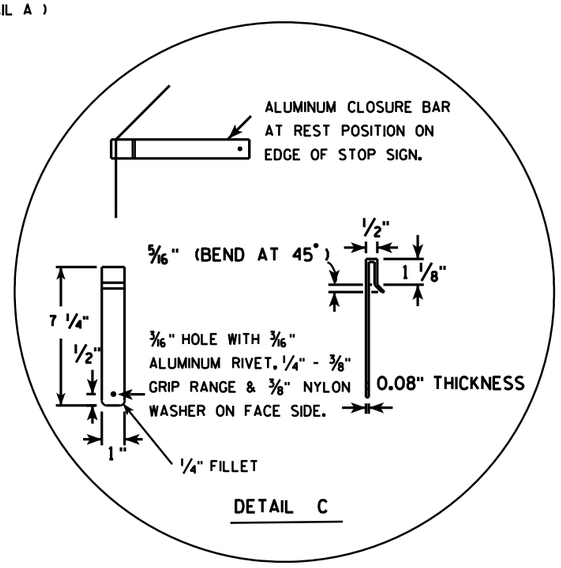


NOTES

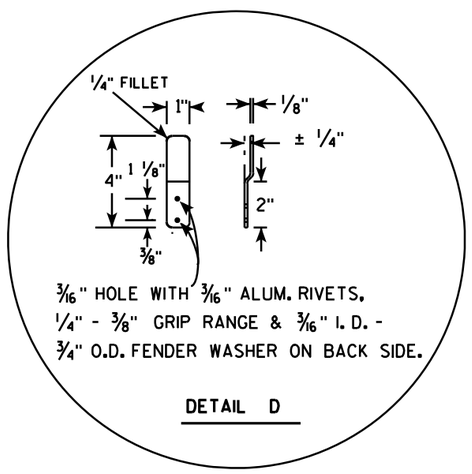
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS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



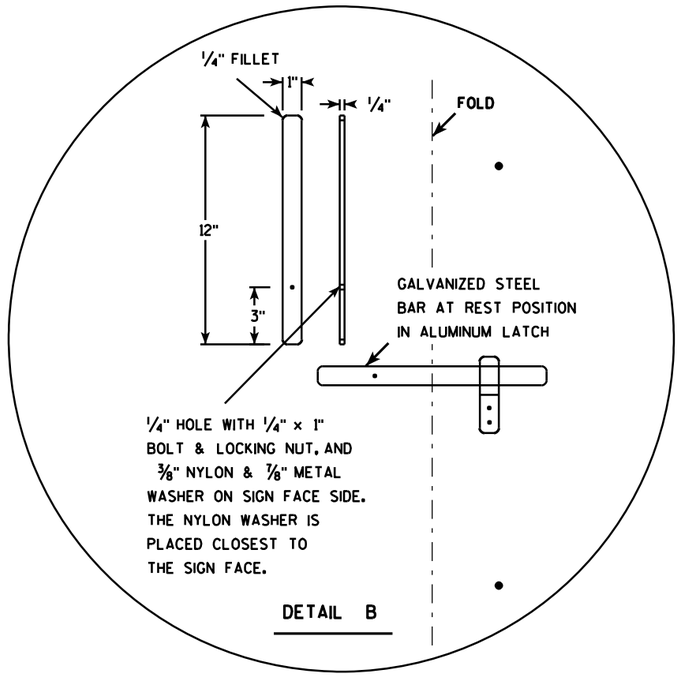
DETAIL A



DETAIL C



DETAIL D



DETAIL B

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

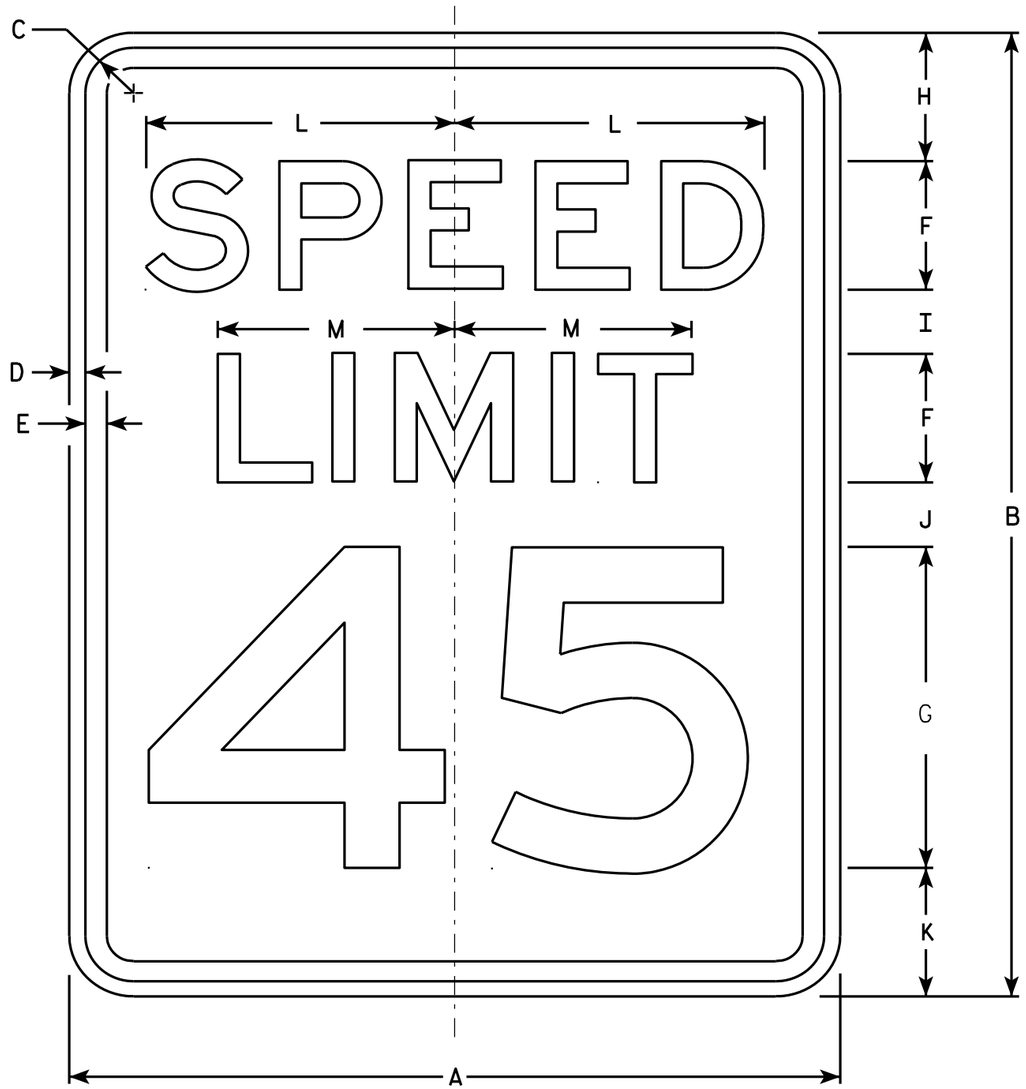
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 110	E



R2-1

NOTES

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

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

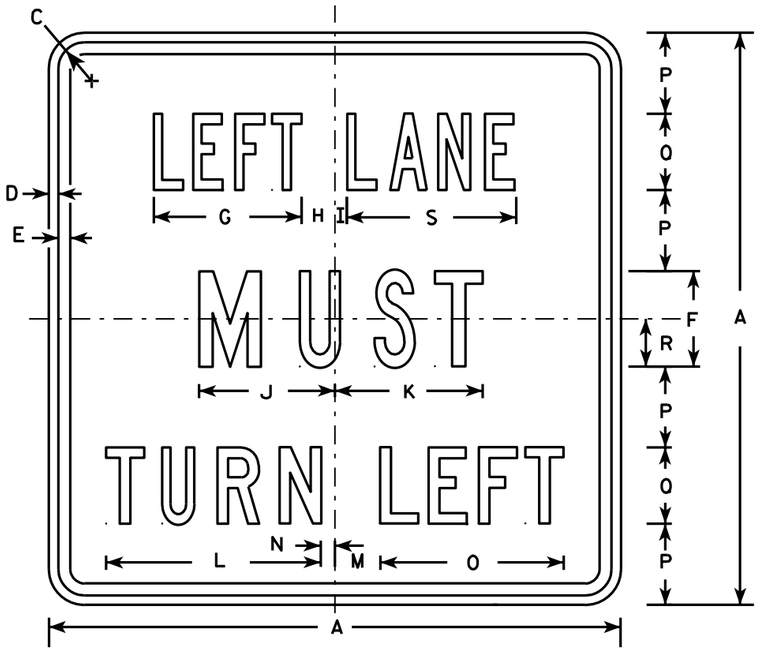
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

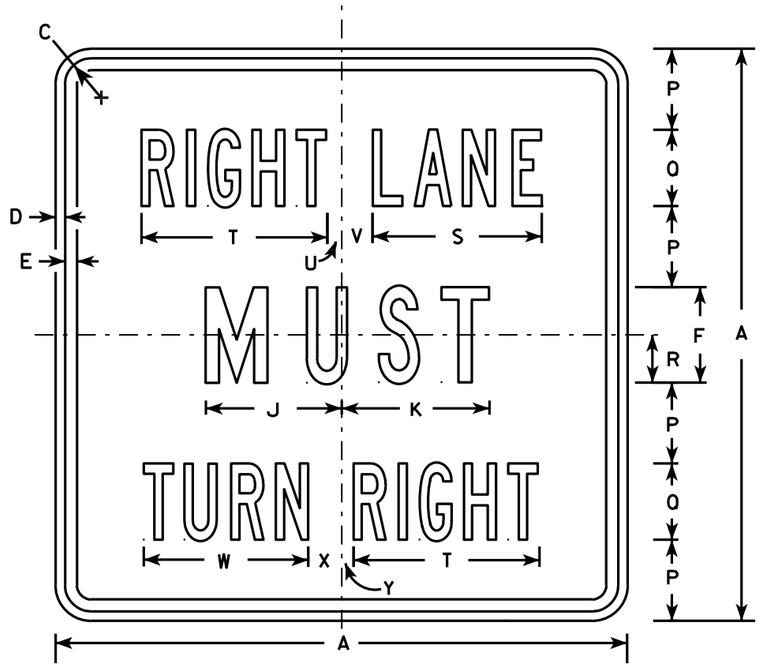
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 111 | E



R3-7L



R3-7R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

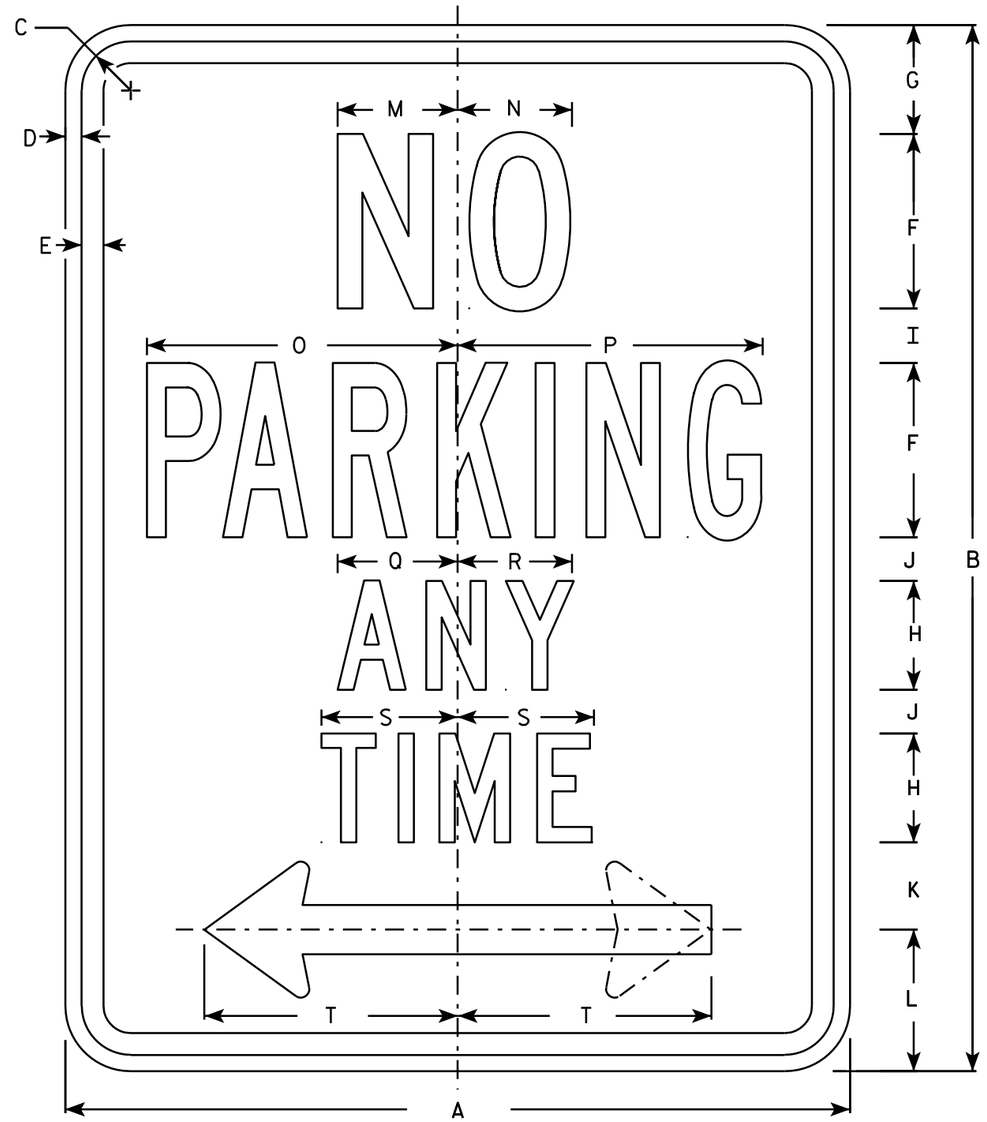
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

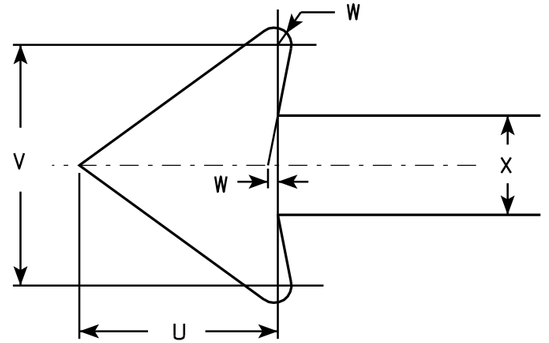
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 112	E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

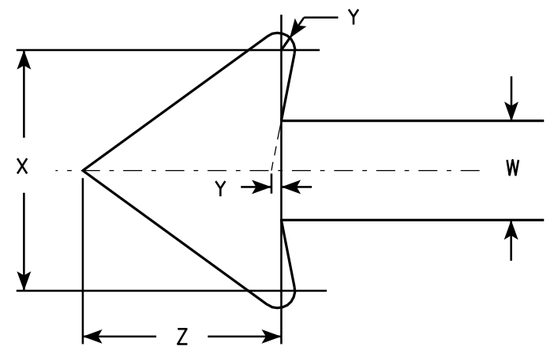
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 113 | E



R7-51

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R7-51D (double arrow)
   R7-51R (right arrow)
   R7-51L (left arrow)
6. Lines 1, 3 and 4 are Series C.
   Line 2 is Series B.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	4 7/8	5/8	1 3/4	2 1/2	4 3/8	3 7/8	3/4	1 3/4	1/8	1 1/2	1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	5 3/4	1 1/8	1 1/2	3 1/8	5 1/2	5 7/8	1 1/8	2 5/8	1/4	2 1/4	3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 1/8	1 1/4	2	3 3/4	6 1/2	7 3/4	1 1/2	3 1/2	1/4	3	5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 1/8	1 1/4	2	3 3/4	6 1/2	7 3/4	1 1/2	3 1/2	1/4	3	5.0
4																											
5																											

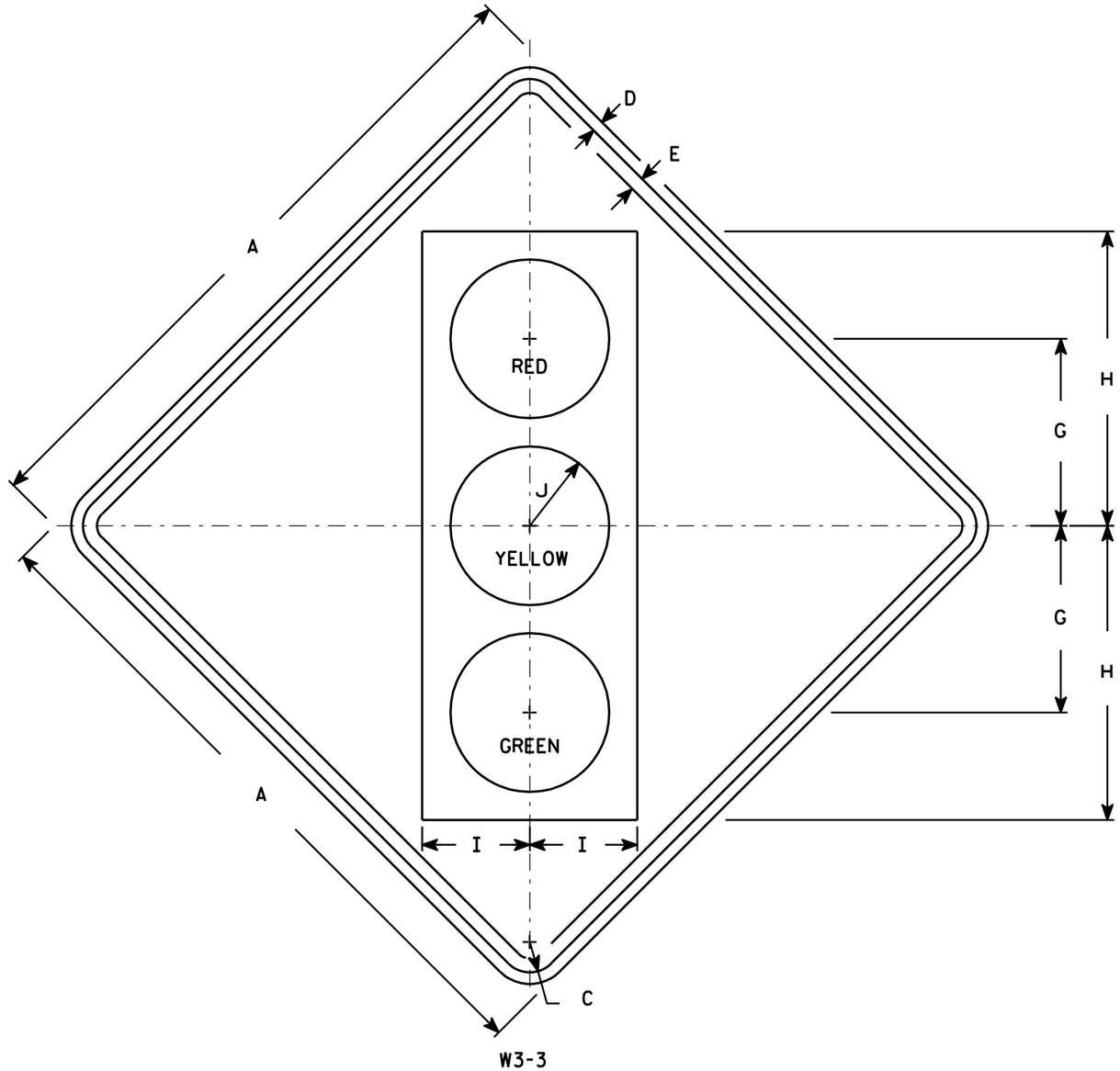
STANDARD SIGN
R7-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-51.6

PROJECT NO:	HWY:	COUNTY:			SHEET NO: 114	E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

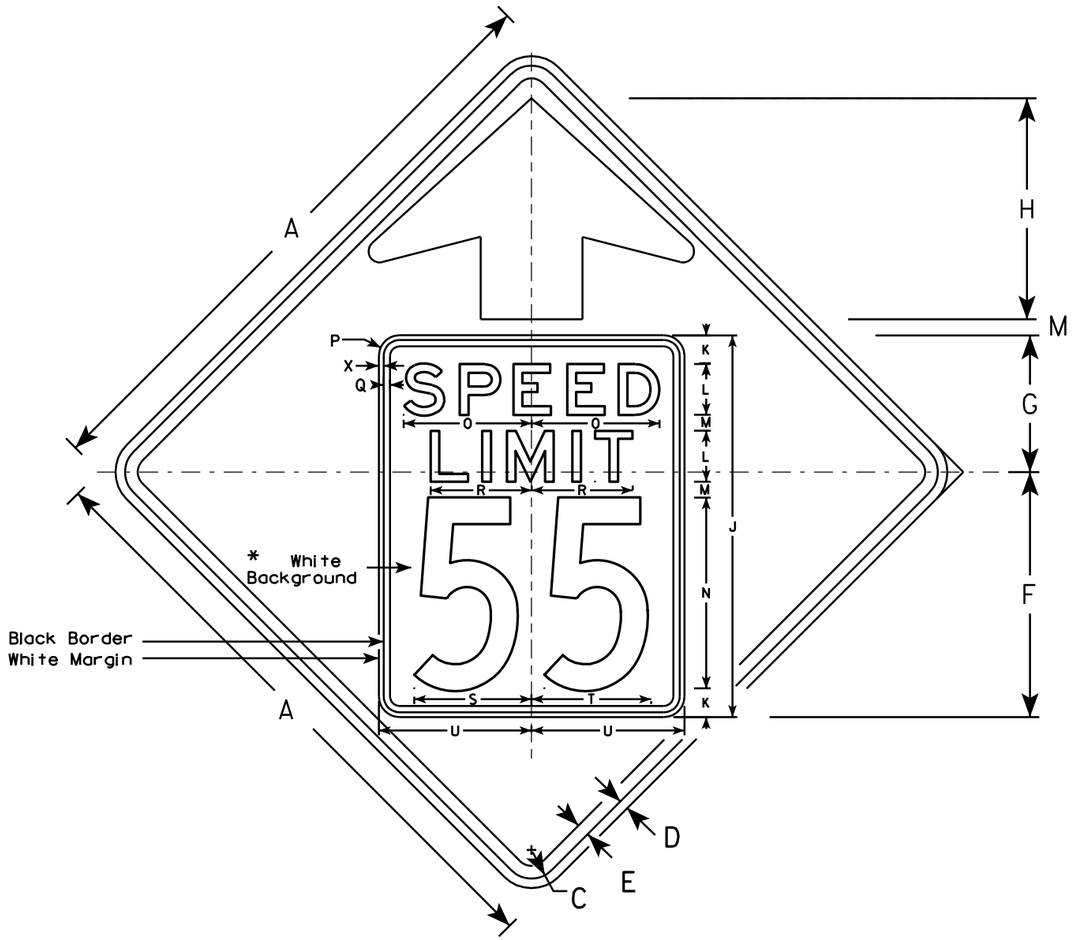
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 115 | E

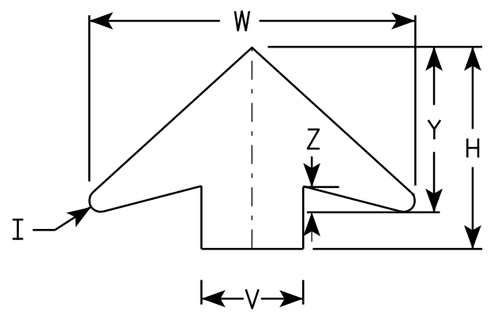


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 116 E

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov