GRE

PROJECT ID: 1500-56-71
WITH: 4337-23-71

COUNTY: MANITOWOC

MAY 2024

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 = 94

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1500-56-71		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

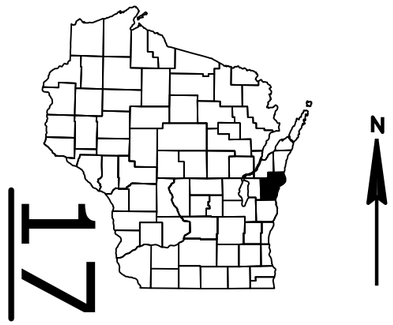
BRILLION - MANITOWOC

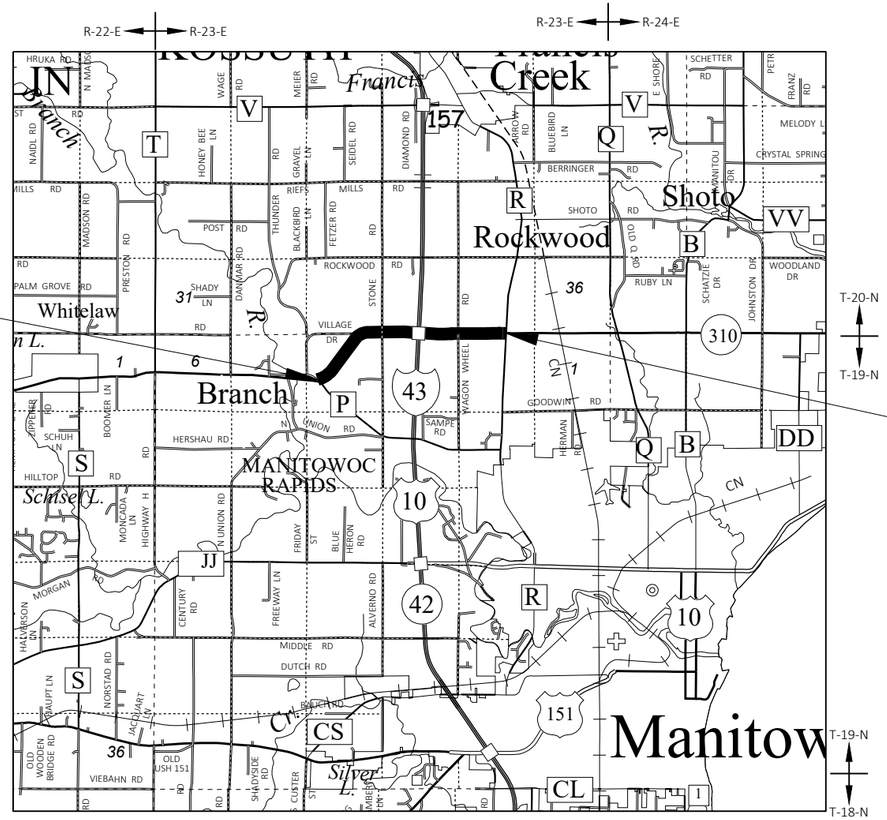
CTH P - CTH R

USH 10

MANITOWOC COUNTY

STATE PROJECT NUMBER
1500-56-71





BEGIN PROJECT
STA 44+25.73
Y= 320,118.088
X= 207,365.795

END PROJECT
STA 182+83.94
Y= 323,306.993
X= 219,760.018

LAYOUT

SCALE 0 — 2 MI

TOTAL NET LENGTH OF CENTERLINE = 2.624 MI

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

DESIGN DESIGNATION

A.A.D.T.	2026	=	7,040
A.A.D.T.	2046	=	7,720
D.H.V.		=	826
D.D.		=	60/40
T.		=	11%
DESIGN SPEED		=	55 MPH
ESALS		=	1,740,000

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

PREPARED BY

Surveyor	NE REGION
Designer	S. ERICSON
Project Manager	B. HAEN
Regional Examiner	
Regional Supervisor	D.SEGERSTROM

APPROVED FOR THE DEPARTMENT

DATE: 2/16/24 Brian Haen
(Signature)

E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\010101-TI.DWG PLOT DATE : 2/15/2024 5:37 PM PLOT BY : ERICSON, SARAH L PLOT NAME :

2

GENERAL NOTES

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

THE EXACT CONSTRUCTION LIMITS AND LOCATIONS OF ALL ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT PLAN

DNR LIAISON
MATT SCHAEVE
2984 SHAWANO AVE.
GREEN BAY, WI 54313
(920) 366-1544
MATTHEW. SCHAEVE@WISCONSIN.GOV

COUNTY HIGHWAY COMMISSIONER
GREGORY GROTEGUT
3500 STATE RD 310
MANITOWOC, WI 54220-9659
(920) 683-4345
GREGORYGROTEGUT@CO.MANITOWOC.WI.USL

NE REGION SURVEY COORDINATOR
MICHAEL ANDRASCHKO, PLS
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920) 492-4166
MICHAEL.ANDRASCHKO@DOT.WI.GOV

NE REGION DESIGN PROJECT MANAGER
BRIAN HAEN, PE
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920) 366-4788
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UTILITIES CONTACTS

COMMUNICATIONS
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VICTORIA KASSAB
205 S JEFFERSON ST
GREEN BAY, WI 54301
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EMAIL: VK352K@ATT.COM

COMMUNICATIONS
COMCAST
DAMON BRILEY
4255 LEXINGTON AVE N
SHOREVIEW, MN 55126
PHONE: (651) 387-7088
EMAIL: DAMON_BRILEY@COMCAST.COM

COMMUNICATIONS
PAETEC COMMUNICATIONS
LORI KETTER
969 WAUBE LN
GREEN BAY, WI 54304
PHONE: (920) 410-6902
EMAIL: LORI.KETTER@WINDSTREAM.COM

ELECTRICITY
WISCONSIN PUBLIC SERVICE
CHUCK WINDUS
2850 S ASHLAND AVE
GREEN BAY, WI 54307
PHONE: (920) 617-5281
MOBILE: (920) 606-1141
EMAIL:
CHARLES.WINDUS@WISCONSINPUBLICSERVICE.COM

COMMUNICATIONS
NSIGHT TELSERVICES
RICK VINCENT
470 SECURITY BLVD
GREEN BAY, WI 54313
PHONE: (920) 617-7316
EMAIL: RICK.VINCENT@NSIGHT.COM

COMMUNICATIONS
SPECTRUM
VINCE ALBIN
3545 PLANK RD
APPLETON, WI 54915
PHONE: (920) 831-9249
MOBILE: (920) 378-0444
EMAIL: VINCE.ALBIN@CHARTER.COM

ELECTRICITY - TRANSMISSION
ATC MANAGEMENT INC
CHRIS DAILEY
P.O. BOX 47
WAUKESHA, WI 53187
PHONE: (262) 506-6884
EMAIL: CDAILEY@ATCLLC.COM

GAS/PETROLEUM
WISCONSIN PUBLIC SERVICE
JOEL SAWICKI
800 COLUMBUS ST
P.O. BOX 236
TWO RIVERS, WI 54241-0236
PHONE: (920) 657-1862
EMAIL: JOEL.SAWICKI@WISCONSINPUBLICSERVICE.COM

2

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 22.7 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 19.2 ACRES

2

N

VILLAGE RD

OAKWOOD LN

STONE RD

IH 43

CTH R

WAGON WHEEL RD

N RAPIDS RD

IH 43/USH 10

CARBON RD

CTH P/HOMESTEAD RD

40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200

110 'WB' 120 'WB' 130 'WB' 140 'WB' 150 'WB'

BEGIN PROJECT
STA 44+25.73
Y=320,118.088
X=207,365.795

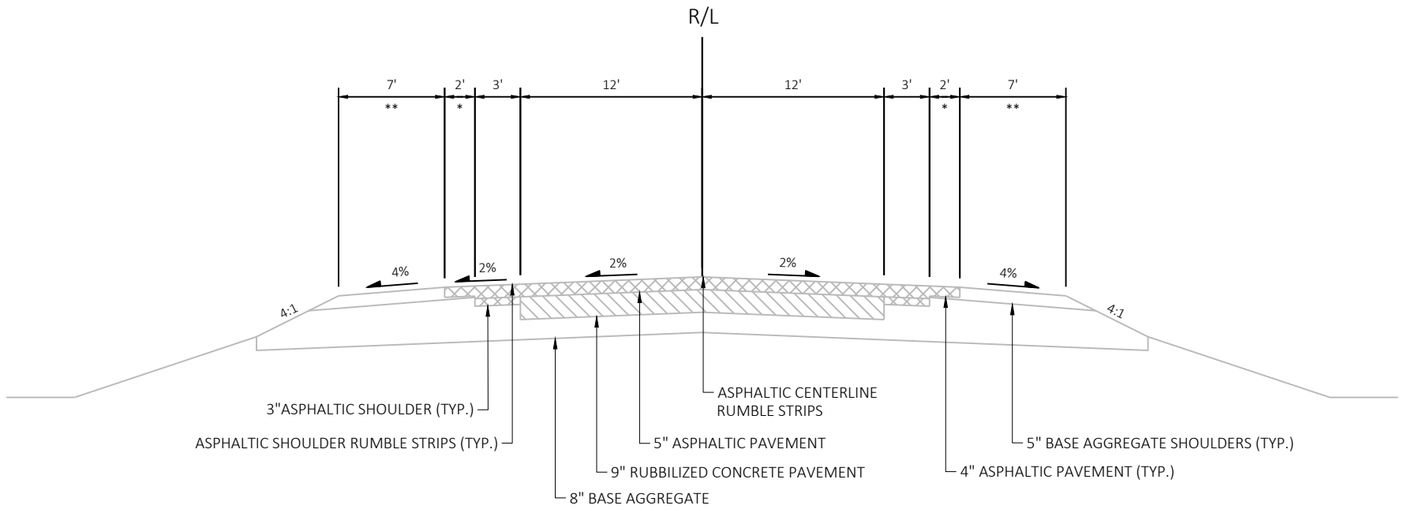
END PROJECT
STA 182+83.94
Y=323,306.993
X=219,760.018

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 020201-po

PLOT DATE : 7/25/2023 11:47 AM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:1000 FT

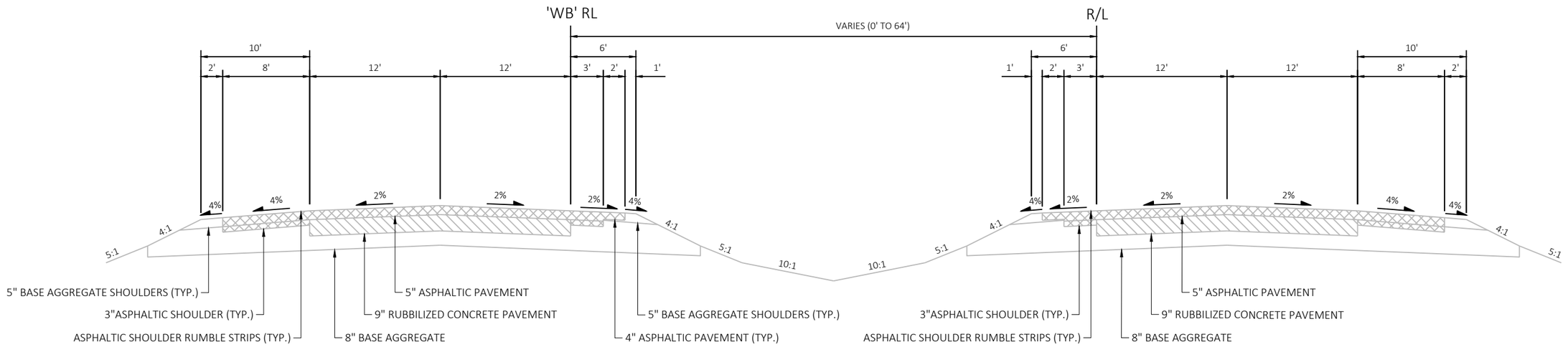
2



EXISTING TYPICAL SECTION USH 10

STA 44+26 TO STA 107+44
STA 154+64 TO STA 182+84

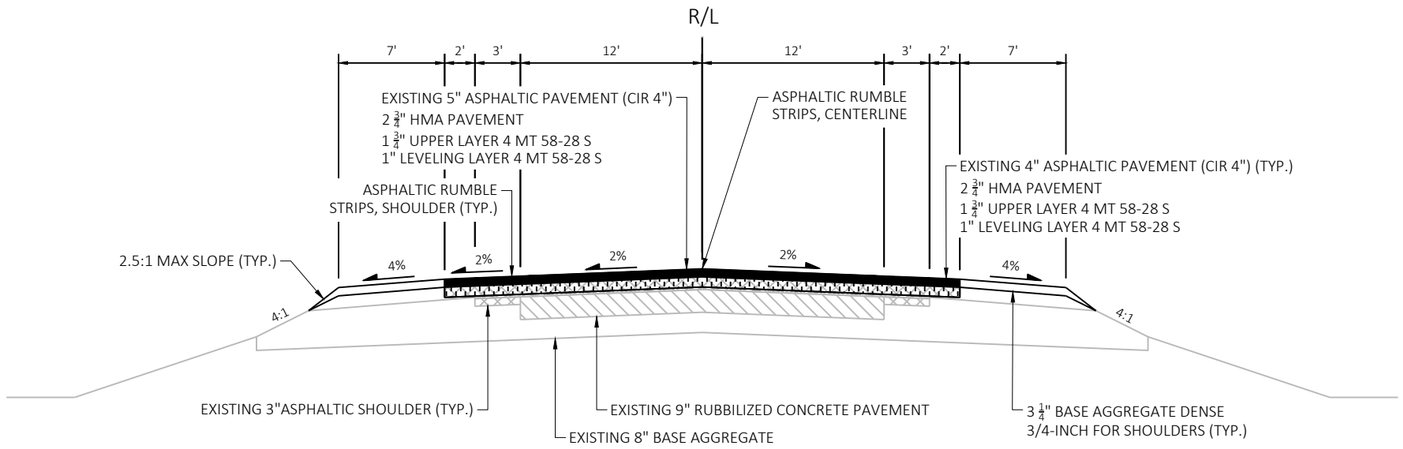
NOTES:
* 5' SHOULDER WIDTH FROM:
STA 103+89 TO STA 107+44
STA 154+64 TO STA 155+49
** 2' SHOULDER WIDTH FROM:
STA 103+89 TO STA 107+44
STA 154+64 TO STA 155+49



EXISTING TYPICAL SECTION USH 10

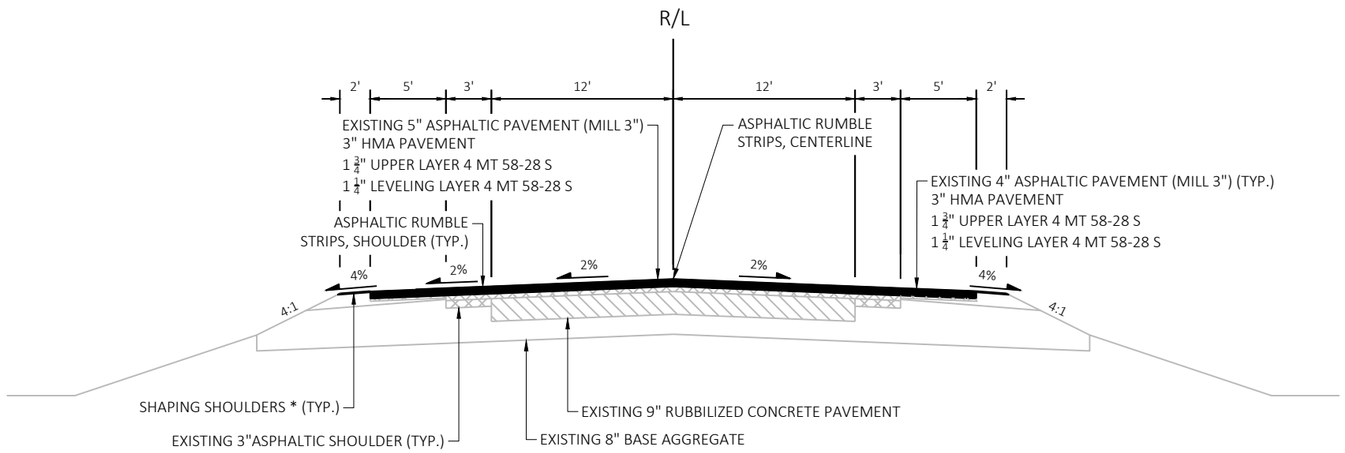
STA 107+44 TO STA 154+64

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 4	E



FINISHED TYPICAL SECTION USH 10

STA 44+26 TO STA 103+89
STA 153+30 TO STA 182+84



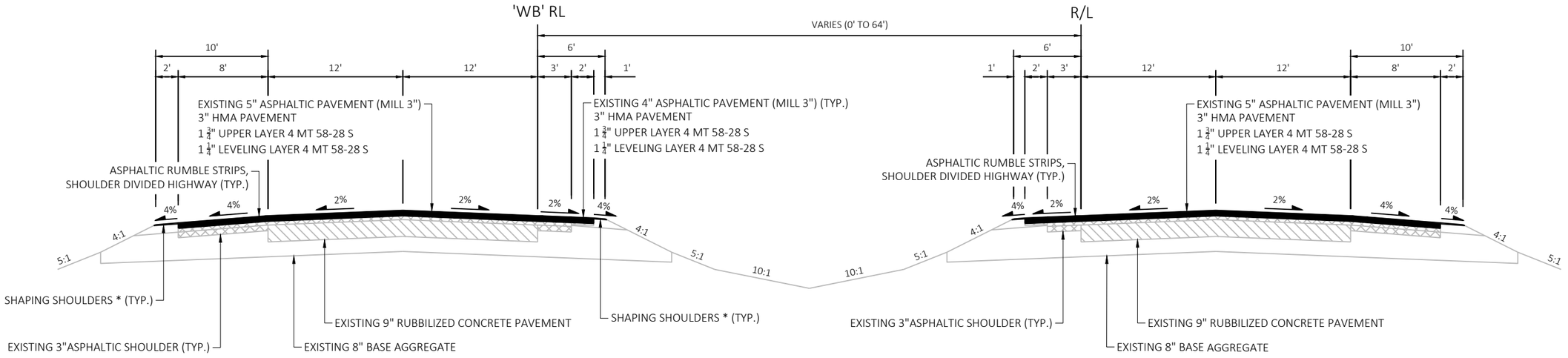
FINISHED TYPICAL SECTION USH 10

STA 103+89 TO STA 107+44
STA 150+86 TO STA 153+30

NOTE:
* ADD ADDITIONAL BASE AGGREGATE DENSE 3/4-INCH AS NECESSARY (1" DEPTH ASSUMED FOR QUANTITY CALCULATIONS).

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 5	E

2



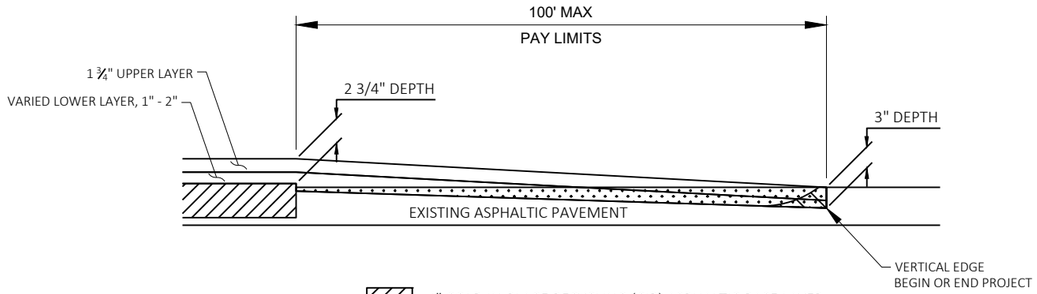
FINISHED TYPICAL SECTION USH 10

STA 107+44 TO STA 150+86

NOTE:

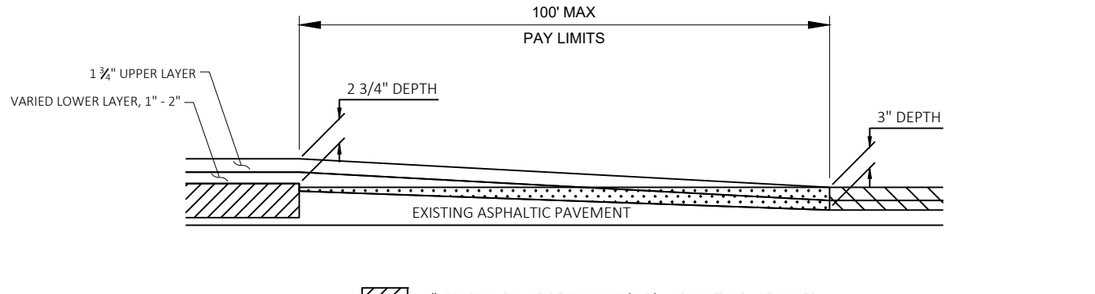
* ADD ADDITIONAL BASE AGGREGATE DENSE 3/4-INCH, AS NECESSARY (1" DEPTH ASSUMED FOR QUANTITY CALCULATIONS).

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 6	E



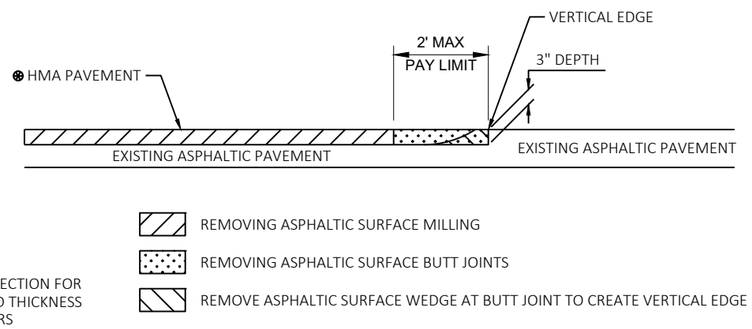
BUTT JOINT DETAIL FOR PROJECT BEGIN/END (PROFILE CHANGE)

STA 44+26 - STA 45+26
STA 181+84 - STA 182+84



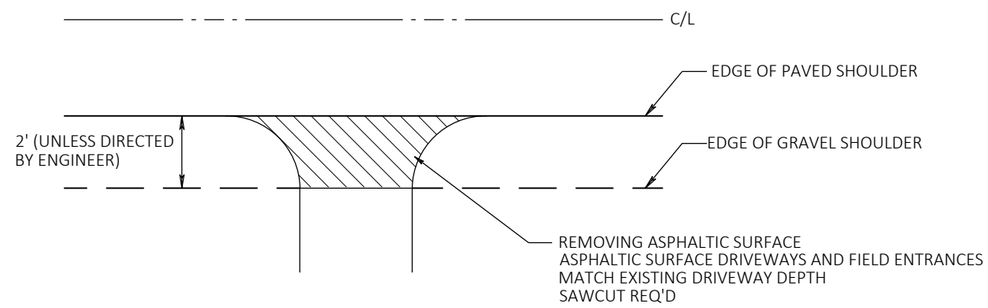
PAVEMENT TRANSITION DETAIL

STA 103+89 - STA 104+89
STA 152+30 - STA 153+30



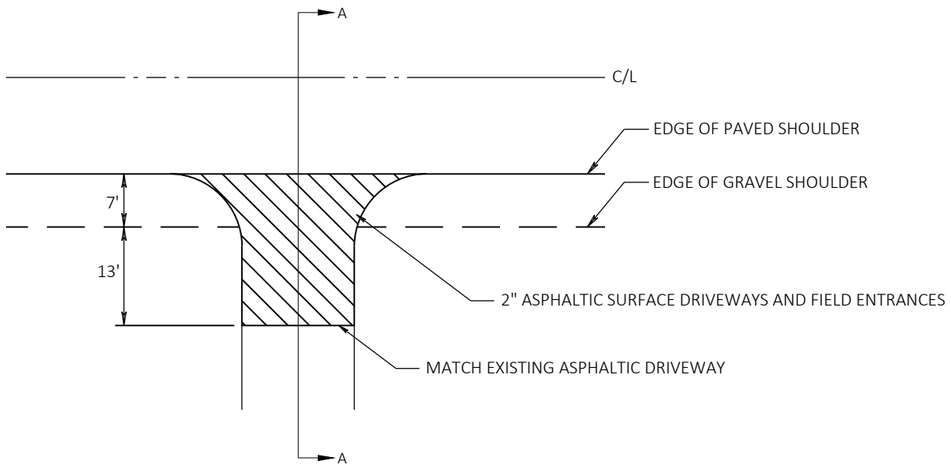
BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)

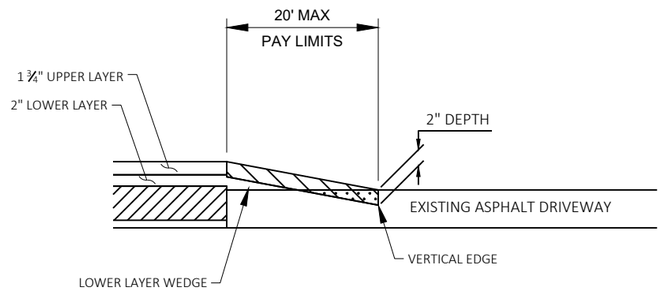
IH 43 SOUTHBOUND OFF-RAMP
IH 43 SOUTHBOUND ON-RAMP
IH 43 NORTHBOUND ON-RAMP
IH 43 NORTHBOUND OFF-RAMP



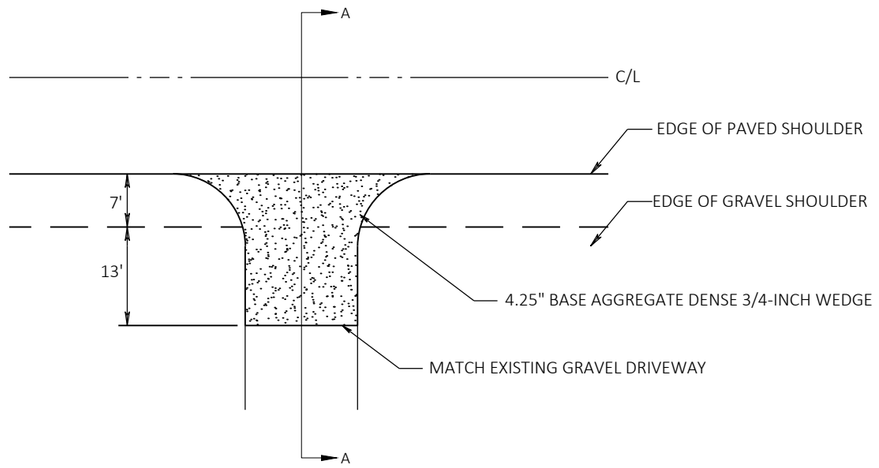
RURAL DRIVEWAY DETAIL (NO PROFILE CHANGE)

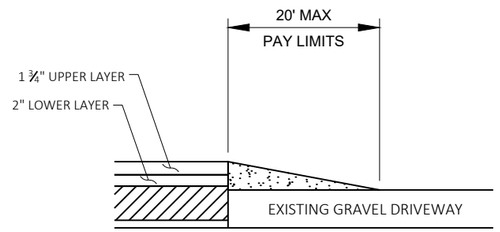
FOR ASPHALT DRIVEWAYS WITHIN STA 103+89- STA 153+30





SECTION A-A





SECTION A-A

4" COLD IN-PLACE RECYCLING (CIR) ASPHALTIC BASE LAYER

REMOVING ASPHALTIC SURFACE BUTT JOINTS, VARIABLE DEPTH

2" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

ASPHALT DRIVEWAY

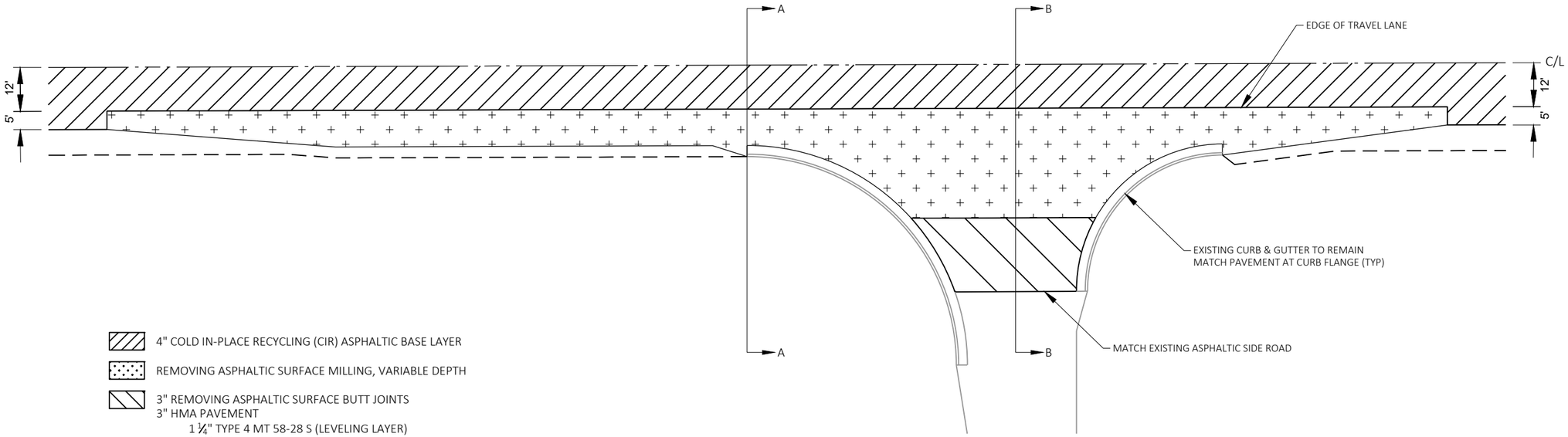
4" COLD IN-PLACE RECYCLING (CIR) ASPHALTIC BASE LAYER

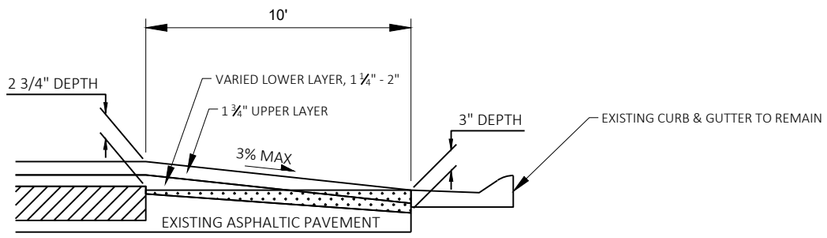
BASE AGGREGATE DENSE 3/4-INCH WEDGE

GRAVEL DRIVEWAY

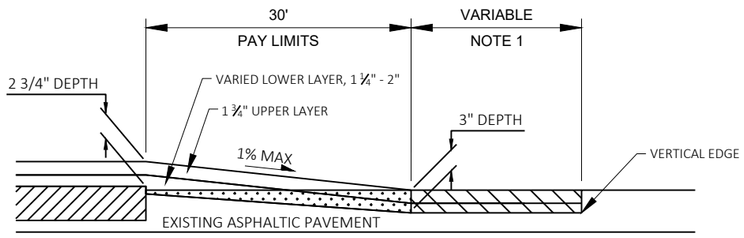
RURAL DRIVEWAY DETAIL (PROFILE CHANGE)

FOR ALL DRIVEWAYS WITHIN
STA 44+26 - STA 103+89
AND STA 153+30 - STA 182+84





SECTION A-A



SECTION B-B

INTERSECTION TYPE B TRANSITION DETAIL

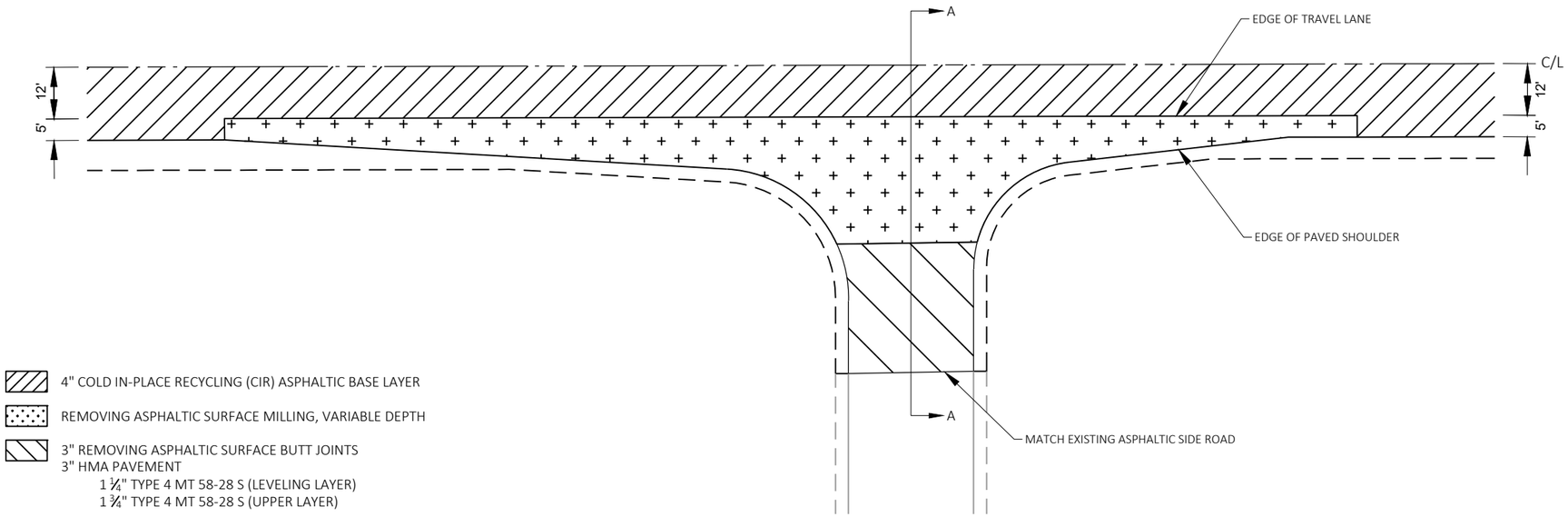
VILLAGE DRIVE
WAGON WHEEL ROAD (NORTH)
WAGON WHEEL ROAD (SOUTH)

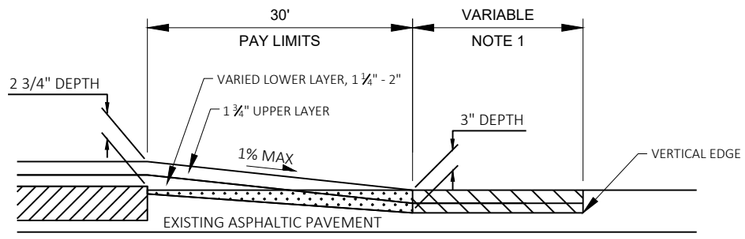
NOTES:
1. THE FOLLOWING ARE APPROXIMATE WIDTHS REQUIRED:

   VILLAGE DRIVE - 28'
   WAGON WHEEL DRIVE (NORTH) - 40'
   WAGON WHEEL DRIVE (SOUTH) - 20'

   MATCH AT EXISTING PAVEMENT LIMITS.

2





SECTION A-A

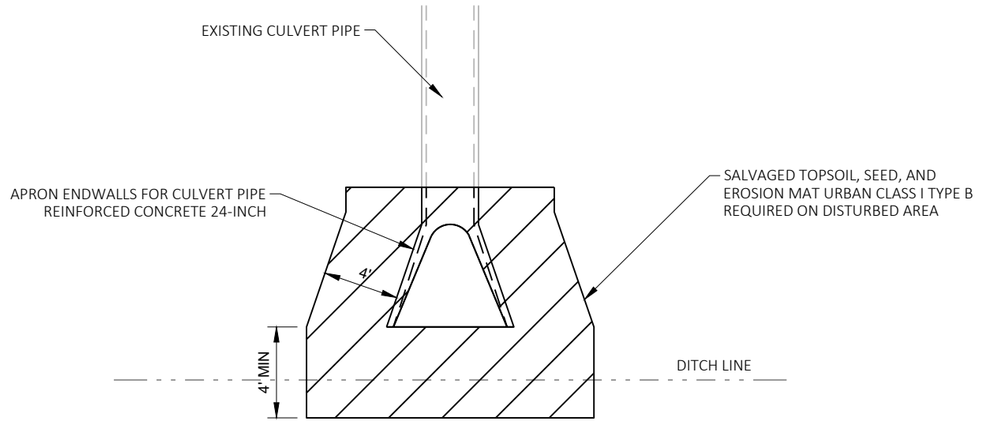
INTERSECTION TYPE C TRANSITION DETAIL

STONE ROAD (NORTH)
STONE ROAD (SOUTH)

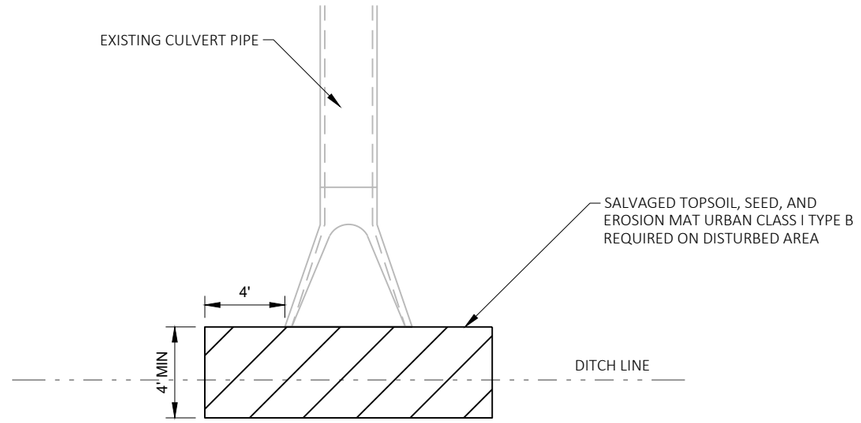
NOTES:
1. THE FOLLOWING ARE APPROXIMATE WIDTHS REQUIRED:

   STONE ROAD (NORTH) - 25'
   STONE ROAD (SOUTH) - 30'

   MATCH AT EXISTING PAVEMENT LIMITS.

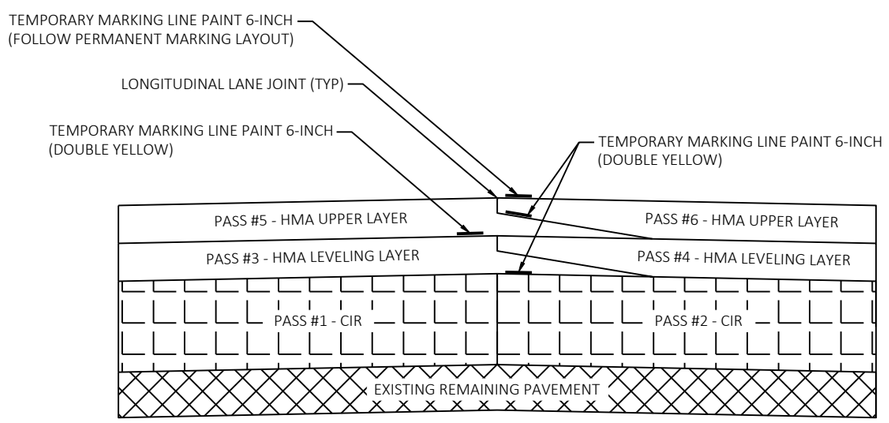


GRADING, SHAPING AND FINISHING CULVERT PIPES AND APRON ENDWALLS DETAIL

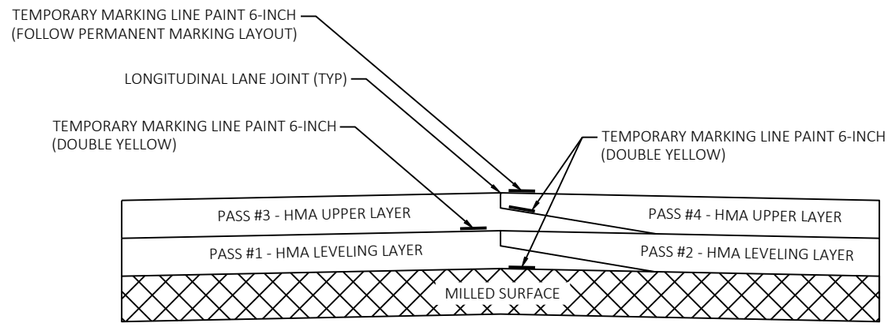


GRADING AND SHAPING DITCH DETAIL

NOTE:
ROADWAY SHALL HAVE TEMPORARY OR PERMANENT CENTERLINE MARKINGS AT ALL TIMES.



COLD IN-PLACE RECYCLING (CIR) SECTIONS



MILL AND OVERLAY SECTIONS

PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 11	E

2

2

N

IH 43 SB

IH 43 NB

IH 43 SB OFF-RAMP

IH 43 NB ON-RAMP

STEEL THRIE BEAM BULLNOSE TERMINAL

200' STEEL THRIE BEAM

STEEL THRIE BEAM BULLNOSE TERMINAL

USH 10 'WB' R/L

STH 310

125 "WB" 126 "WB" 127 "WB" 128 "WB" 129 "WB" 130 "WB" 131 "WB" 132 "WB"

STA 126+60.38
-27.00' LT
EL: 780.96
DITCH

STA 127+24.17
-34.46' LT
EL: 781.53
POST #1

STA 127+36.65
-36.90' LT
EL: 781.76
POST #5

STA 127+91.30
-37.69' LT
EL: 781.91
FIXED OBJECT

STA 129+44.47
-39.89' LT
EL: 781.49
FIXED OBJECT

STA 129+99.12
-40.67' LT
EL: 780.88
POST #5

STA 130+11.66
-38.59' LT
EL: 780.64
POST #1

STA 130+75.59
-37.00' LT
EL: 779.97
DITCH

1.1% 0.1% 0.4% 1.1% 0.4% 1.7%

PIER PIER PIER PIER PIER PIER

SIGN SIGN

STA 126+01.37
-31.53' LT
EL: 780.30
MATCH EXISTING

STA 131+33.81
-32.50' LT
EL: 779.00
MATCH EXISTING

125 126 127 128 129 130 131 132

USH 10

STA 127+24.31
-24.78' LT
EL: 781.41
POST #1

STA 127+41.92
-22.77' LT
EL: 781.54
POST #5

STA 127+91.51
-23.48' LT
EL: 781.71
FIXED POINT

STA 128+87.87
-31.97' LT
EL: 781.69
DITCH

STA 129+44.67
-25.68' LT
EL: 781.51
FIXED OBJECT

STA 129+99.33
-26.47' LT
EL: 780.96
POST #5

STA 130+11.80
-28.91' LT
EL: 780.72
POST #1

DITCH CENTERLINE

200' STEEL THRIE BEAM

USH 10 R/L

IH 43 SB ON-RAMP

EXISTING R/W (GIS DATA) (TYPICAL)

IH 43 SB

IH 43 NB

IH 43 NB OFF-RAMP

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PLAN DETAILS	SHEET 12	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021201-pd

PLOT DATE : 7/26/2023 2:18 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- FLOW DIRECTION
- DITCH CHECK
- INLET PROTECTION TYPE A
- CULVERT PIPE CHECK
- EROSION MAT URBAN CLASS I TYPE B
- MULCHING

N

STONE RD

REPLACE NORTH APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH
GRADING, SHAPING AND FINISHING CULVERT PIPES AND APRON ENDWALLS

EXISTING R/W - GIS DATA (TYP)

95

100

USH 10

90

EXISTING 24-INCH CPRC
(NO WORK)

EXISTING 30-INCH CPRC
(NO WORK)

STONE RD

2

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 13	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 2/21/2024 2:55 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

FLOW DIRECTION

DITCH CHECK

INLET PROTECTION TYPE A

CULVERT PIPE CHECK

EROSION MAT URBAN CLASS I TYPE B

MULCHING

N

IH 43 SB OFF-RAMP

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 24-INCH CPRC)

BARRIER SYSTEM GRADING SHAPING FINISHING

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 24-INCH CPRC)

115

115

120

120

USH 10

125

125

EXISTING R/W - GIS DATA (TYP)

REPLACE SOUTH APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH
GRADING, SHAPING AND FINISHING CULVERT PIPES AND APRON ENDWALLS

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 18-INCH CPRC)

IH 43 SB ON-RAMP

IH 43

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 14	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022002-ec

PLOT DATE : 2/21/2024 2:55 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

FLOW DIRECTION

DITCH CHECK

INLET PROTECTION TYPE A

CULVERT PIPE CHECK

EROSION MAT URBAN CLASS I TYPE B

MULCHING

N

IH 43 NB ON-RAMP

130

135

140

STH 310

REPLACE NORTH APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH
GRADING, SHAPING AND FINISHING CULVERT PIPES AND APRON ENDWALLS

BARRIER SYSTEM GRADING
SHAPING FINISHING

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 24-INCH CPRC)

EXISTING R/W - GIS DATA (TYP)

IH 43 NB OFF-RAMP

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 15	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022003-ec

PLOT DATE : 2/21/2024 2:55 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- FLOW DIRECTION
- DITCH CHECK
- INLET PROTECTION TYPE A
- CULVERT PIPE CHECK
- EROSION MAT URBAN CLASS I TYPE B
- MULCHING

WAGON WHEEL RD

N

2

150

150

STH 310

155

160

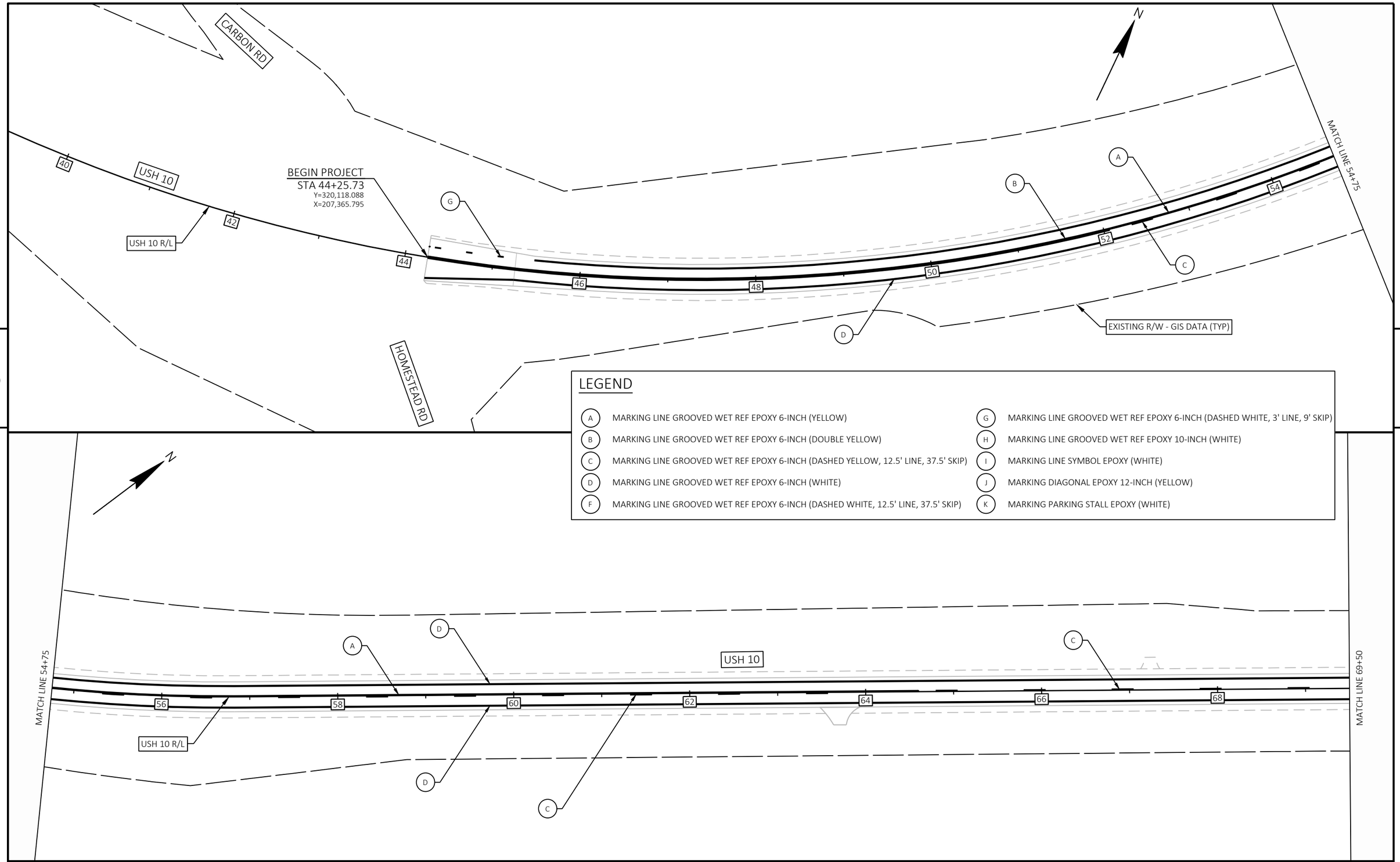
EXISTING 18-INCH CPRC
(NO WORK)

EXISTING R/W - GIS DATA (TYP)

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 24-INCH CPRC)

WAGON WHEEL RD

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 16	E

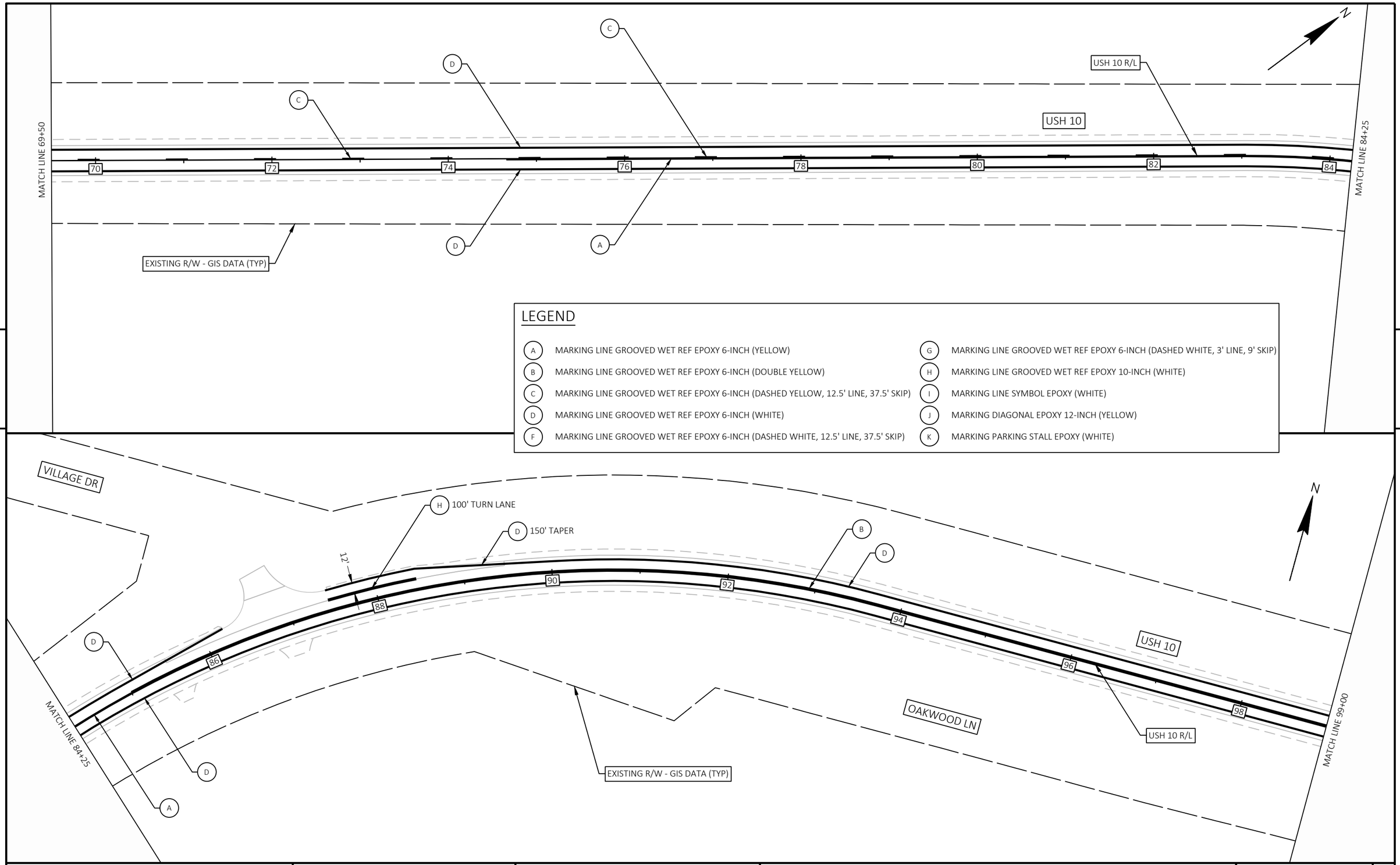


LEGEND

- (A) MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED YELLOW, 12.5' LINE, 37.5' SKIP)
- (D) MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- (F) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 12.5' LINE, 37.5' SKIP)
- (G) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 3' LINE, 9' SKIP)
- (H) MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
- (I) MARKING LINE SYMBOL EPOXY (WHITE)
- (J) MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (K) MARKING PARKING STALL EPOXY (WHITE)

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 17	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-pm
PLOT DATE : 2/15/2024 5:42 PM
PLOT BY : ERICSON, SARAH L
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



5

5

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 18	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024502-pm

PLOT DATE : 2/15/2024 5:42 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

EXISTING R/W - GIS DATA (TYP)

STONE RD

USH 10

USH 10 WB R/L

USH 10 R/L

USH 10 EB R/L

'WB' +07.94

110 'WB'

MATCH LINE 99+00

MATCH LINE 113+75

5

5

LEGEND

- A MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- B MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)
- C MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED YELLOW, 12.5' LINE, 37.5' SKIP)
- D MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- F MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 12.5' LINE, 37.5' SKIP)
- G MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 3' LINE, 9' SKIP)
- H MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
- I MARKING LINE SYMBOL EPOXY (WHITE)
- J MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- K MARKING PARKING STALL EPOXY (WHITE)

IH 41 SB OFF-RAMP

200' TURN LANE

115 'WB'

120 'WB'

125 'WB'

MATCH LINE 113+75

MATCH LINE 128+50

USH 10

USH 10 WB R/L

USH 10 EB R/L

170' TAPER

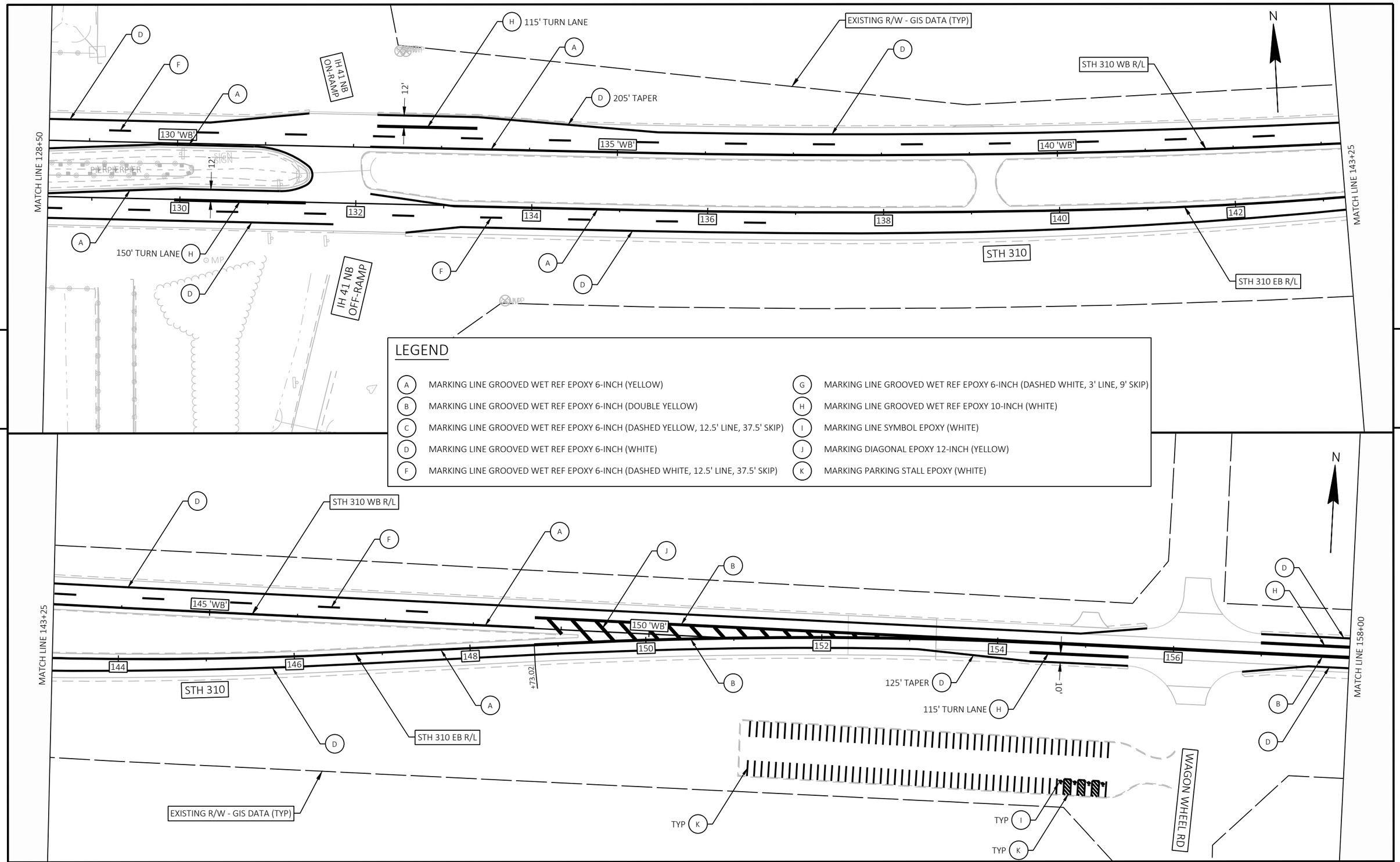
110' TURN LANE

IH 41 SB ON-RAMP

EXISTING R/W - GIS DATA (TYP)

PROJECT NO: 1500-56-71 | HWY: USH 10 | COUNTY: MANITOWOC | PAVEMENT MARKING | SHEET 19 | E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024503-pm
PLOT DATE : 2/15/2024 5:42 PM
PLOT BY : ERICSON, SARAH L
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



LEGEND

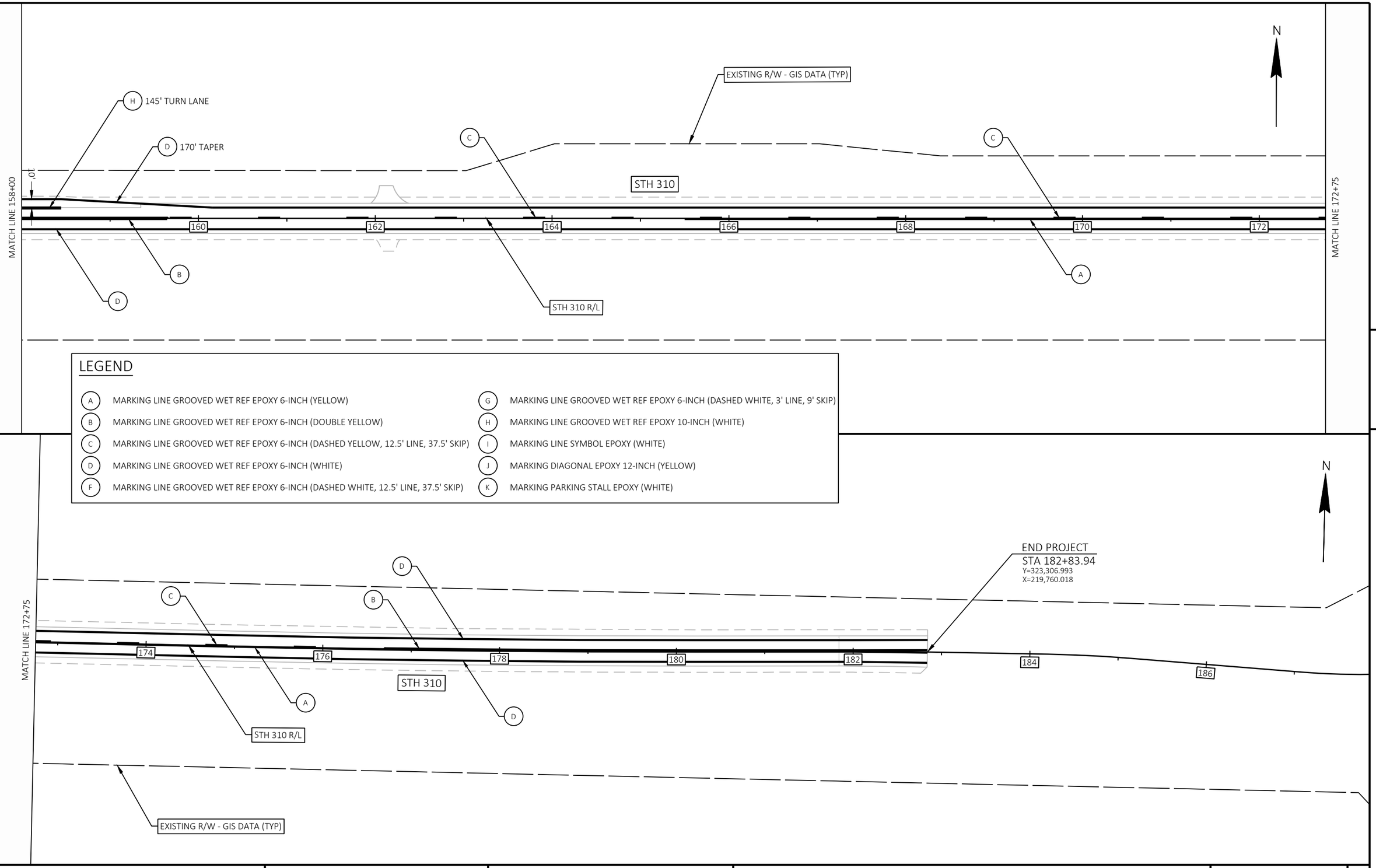
- (A) MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED YELLOW, 12.5' LINE, 37.5' SKIP)
- (D) MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- (F) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 12.5' LINE, 37.5' SKIP)
- (G) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 3' LINE, 9' SKIP)
- (H) MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
- (I) MARKING LINE SYMBOL EPOXY (WHITE)
- (J) MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (K) MARKING PARKING STALL EPOXY (WHITE)

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 20	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024504-pm

PLOT DATE : 2/15/2024 5:42 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 21	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024505-pm

PLOT DATE : 2/15/2024 5:42 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

2

TRAFFIC CONTROL NOTES

1. THE TRAFFIC CONTROL AND STAGING DESCRIBED IS USED AS A BASIS FOR MISCELLANEOUS QUANTITIES. STAGING SHALL BE APPROVED BY THE FIELD ENGINEER.
2. THE TRAFFIC CONTROL AND STAGING IS FOR BOTH PROJECT 1500-56-71 AND PROJECT 4337-23-71.
3. PLACE PORTABLE CHANGEABLE MESSAGE SIGNS AT THE BEGINNING AND END OF EACH PROJECT 7 DAYS PRIOR TO OVERALL CONSTRUCTION AND PRIOR TO ANY SIGNIFICANT CHANGE IN TRAFFIC PATTERNS.
4. THE DETOUR ROUTE IS INCLUDED IN THE PLANS FOR PROJECT 4337-23-71.

STAGE 1

TRAFFIC
STH 310 EAST OF CTH R SHALL BE REDUCED TO 1-LANE OF TRAFFIC . KEEP THE HIGHWAY OPEN TO TRAFFIC WITH USE OF FLAGGERS AND A PILOT CAR, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS". AT THE END OF EACH WORKING DAY, PLACE ADVISORY SIGNS FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES" AND "TRAFFIC CONTROL, DROP-OFF SIGNING".

CONSTRUCTION
STH 310 EAST OF CTH R, COMPLETE MILLING OPERATIONS IN EACH DIRECTION OF TRAVEL. TEMPORARY CENTERLINE MARKING MUST BE PLACED AT THE END OF EACH WORKING DAY.

STAGE 2

TRAFFIC
USH 10/STH 310 IN THE 2-LANE UNDIVIDED PORTIONS SHALL BE REDUCED TO 1-LANE OF TRAFFIC. KEEP THE HIGHWAY OPEN TO TRAFFIC WITH THE USE OF FLAGGERS AND A PILOT CAR, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS". AT THE END OF EACH WORKING DAY, PLACE ADVISORY SIGNS FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES" AND "TRAFFIC CONTROL, DROP-OFF SIGNING".

WHEN FLAGGING OPERATIONS IN USE, THE 4-LANE DIVIDED PORTION SHALL BE REDUCED TO 1-LANE IN EACH DIRECTION, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL ADDED LANE CLOSURE WITH/WITHOUT LANE SHIFT".

CONSTRUCTION
IN THE 2-LANE UNDIVIDED PORTIONS, COMPLETE COLD IN-PLACE RECYCLING (CIR) IN EACH DIRECTION OF TRAVEL. TEMPORARY CENTERLINE MARKING MUST BE PLACED AT THE END OF EACH WORKING DAY.

STAGE 3

TRAFFIC
USH 10/STH 310 IN THE 4-LANE DIVIDED PORTION SHALL BE REDUCED TO 1-LANE OF TRAFFIC, CLOSING THE OUTSIDE LANES. KEEP THE HIGHWAY OPEN TO TRAFFIC WITH THE USE OF LANE CLOSURES, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND OVER". AT THE END OF EACH WORKING DAY, PLACE ADVISORY SIGNS FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES".

CONSTRUCTION
IN THE 4-LANE DIVIDED PORTION, COMPLETE MILLING OPERATIONS IN THE OUTSIDE LANES.

STAGE 4

TRAFFIC
USH 10/STH 310 IN THE 4-LANE DIVIDED PORTION SHALL BE REDUCED TO 1-LANE OF TRAFFIC, CLOSING THE INSIDE LANES. KEEP THE HIGHWAY OPEN TO TRAFFIC WITH THE USE OF LANE CLOSURES, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND OVER". AT THE END OF EACH WORKING DAY, PLACE ADVISORY SIGNS FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES".

USH 10/STH 310 IN THE 2-LANE UNDIVIDED PORTIONS SHALL BE REDUCED TO 1-LANE OF TRAFFIC. KEEP THE HIGHWAY OPEN TO TRAFFIC WITH THE USE OF FLAGGERS AND A PILOT CAR, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS". AT THE END OF EACH WORKING DAY, PLACE ADVISORY SIGNS FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, DROP-OFF SIGNING".

CONSTRUCTION
IN THE 4-LANE DIVIDED PORTION, COMPLETE MILLING OPERATIONS IN THE INSIDE LANES.

IN THE 2-LANE UNDIVIDED PORTIONS, COMPLETE PAVING OPERATIONS OF THE LEVELING LAYER IN THE EASTBOUND DIRECTION. CENTERLINE MARKING MUST BE PLACED AT THE END OF EACH WORKING DAY. IN THE 4-LANE DIVIDED PORTION, COMPLETE PAVING OPERATIONS OF THE LEVELING LAYER IN THE INSIDE LANES.

STAGE 5

TRAFFIC
USH 10/STH 310 IN THE 2-LANE UNDIVIDED PORTIONS SHALL BE REDUCED TO 1-LANE OF TRAFFIC. KEEP THE HIGHWAY OPEN TO TRAFFIC WITH THE USE OF FLAGGERS AND A PILOT CAR, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS". AT THE END OF EACH WORKING DAY, PLACE ADVISORY SIGNS FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, DROP-OFF SIGNING". SHOULDERS SHALL BE CLOSED, AS NECESSARY, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY". SHOULDER CLOSURES SHALL NOT CONFLICT WITH LANE CLOSURES UNDER FLAGGING OPERATIONS.

USH 10/STH 310 IN THE 4-LANE DIVIDED PORTION SHALL BE REDUCED TO 1-LANE OF TRAFFIC, CLOSING THE OUTSIDE LANES. KEEP THE HIGHWAY OPEN TO TRAFFIC WITH THE USE OF LANE CLOSURES, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND OVER".

CONSTRUCTION
IN THE 2-LANE UNDIVIDED PORTIONS, COMPLETE PAVING OPERATIONS OF THE LEVELING LAYER IN THE WESTBOUND DIRECTION AND CULVERT WORK. IN THE 4-LANE DIVIDED PORTION, COMPLETE PAVING OPERATIONS OF THE LEVELING LAYER IN THE OUTSIDE LANES AND CULVERT WORK.

IN THE 2-LANE UNDIVIDED PORTIONS, COMPLETE PAVING OPERATIONS OF THE UPPER LAYER IN THE WESTBOUND DIRECTION. CENTERLINE MARKING MUST BE PLACED AT THE END OF EACH WORKING DAY. IN THE 4-LANE DIVIDED PORTION, COMPLETE PAVING OPERATIONS OF THE UPPER LAYER IN THE OUTSIDE LANES.

PARK AND RIDE

TRAFFIC
CLOSE PARK AND RIDE WITH USE OF BARRICADES AND FIXED MESSAGE SIGN (FMS) "PARK AND RIDE CLOSED" FOLLOWING WISDOT STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR VARIOUS CLOSURES". COVER ALL SIGNS FOR PARK AND RIDE ALONG USH 10, STH 310, AND IH 43. PLACE A PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) 7 DAYS PRIOR TO CLOSURE.

CONSTRUCTION
COMPLETE GRAVEL SHOULDER REPLACEMENT AND PARKING STALL MARKING.

STAGE 6

TRAFFIC
USH 10/STH 310 IN THE 2-LANE UNDIVIDED PORTIONS SHALL BE REDUCED TO 1-LANE OF TRAFFIC. KEEP THE HIGHWAY OPEN TO TRAFFIC WITH THE USE OF FLAGGERS AND A PILOT CAR, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS". SHOULDERS SHALL BE CLOSED, AS NECESSARY, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY". SHOULDER CLOSURES SHALL NOT CONFLICT WITH LANE CLOSURES UNDER FLAGGING OPERATIONS.

USH 10/STH 310 IN THE 4-LANE DIVIDED PORTION SHALL BE REDUCED TO 1-LANE OF TRAFFIC, CLOSING THE INSIDE LANES. KEEP THE HIGHWAY OPEN TO TRAFFIC WITH THE USE OF LANE CLOSURES, FOLLOWING WISDOT STANDARD DETAIL DRAWING "TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND OVER".

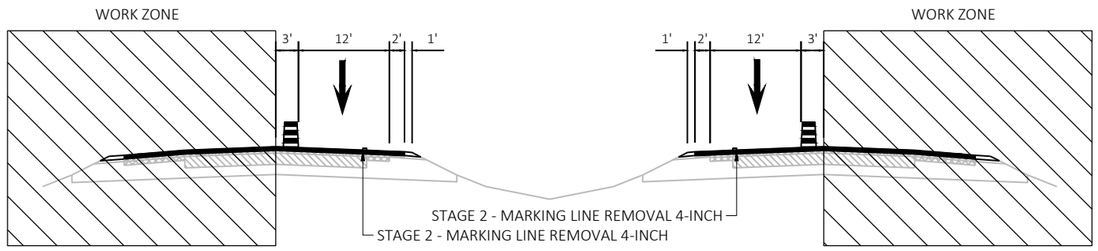
CONSTRUCTION
IN THE 2-LANE UNDIVIDED PORTIONS, COMPLETE PAVING OPERATIONS OF THE UPPER LAYER IN THE EASTBOUND DIRECTION. CENTERLINE MARKING MUST BE PLACED AT THE END OF EACH WORKING DAY. IN THE 4-LANE DIVIDED PORTION, COMPLETE PAVING OPERATIONS OF THE UPPER LAYER IN THE INSIDE LANES.

REMOVE AND CONSTRUCT GUARDRAIL AT THE IH 43 OVERPASS AND REMAINING CULVERT WORK. INSTALL ALL RUMBLE STRIPS AND FINAL MARKINGS. IF ROADWAY IS OPEN TO TRAFFIC FOR MORE THAN 2 WEEKS UPON COMPLETION BUT PRIOR TO PLACING FINAL MARKINGS, INSTALL TEMPORARY PAVEMENT MARKINGS THAT FOLLOW FINAL MARKINGS.

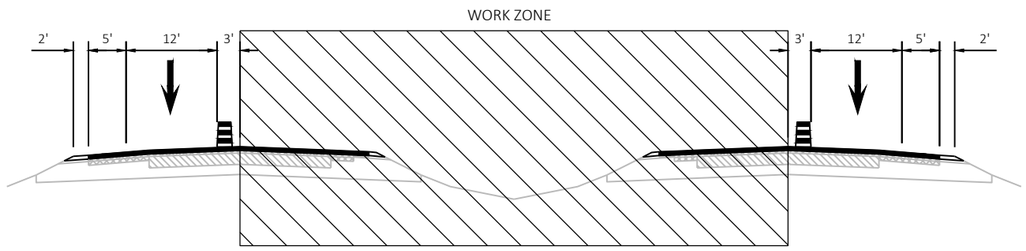
ROUNDABOUTS

TRAFFIC
CLOSE STH 310 BETWEEN CTH R AND CTH B FOLLOWING WISDOT STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES". DETOUR IN PLACE. PROVIDE ACCESS BETWEEN CTH R AND CTH B TO LOCAL TRAFFIC ONLY. PLACE PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) 7 DAYS PRIOR TO CLOSURE. CLOSE PATH AT CTH Q WITH R9-9 SIGNS. NO DETOUR IN PLACE.

CONSTRUCTION
COMPLETE CURB REPAIRS, INLET ADJUSTMENTS (INCLUDING THE REMOVAL OF ADJACENT PAVEMENT, SIDEWALK, AND/OR TRUCK APRONS; REMOVAL OF CURB AND GUTTER; PLACEMENT OF CURB AND GUTTER HES; PLACEMENT OF ADJACENT PAVEMENT, SIDEWALK, AND/OR TRUCK APRONS; AND ANY OTHER RESTORATION), TRUCK APRON PLACEMENT, PATH RESTORATION, CULVERT WORK, MILLING, HMA OVERLAY, RESTORATION, AND FINAL MARKINGS.



TRAFFIC CONTROL STAGING TYPICAL SECTION
STAGE 3 AND STAGE 5



TRAFFIC CONTROL STAGING TYPICAL SECTION
STAGE 4 AND STAGE 6

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	TRAFFIC CONTROL	SHEET 22	E

1500-56-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0006	204.0110	Removing Asphaltic Surface	SY	10.000	10.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,650.000	1,650.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	40,175.000	40,175.000
0016	204.0165	Removing Guardrail	LF	600.000	600.000
0020	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1500-56-71	EACH	1.000	1.000
0024	211.0700.S	Prepare Foundation for CIR Base Layer (project) 01. 1500-56-71	EACH	1.000	1.000
0030	213.0100	Finishing Roadway (project) 01. 1500-56-71	EACH	1.000	1.000
0034	305.0110	Base Aggregate Dense 3/4-Inch	TON	3,660.000	3,660.000
0038	305.0500	Shaping Shoulders	STA	170.000	170.000
0040	327.1000.S	CIR Asphaltic Base Layer	SY	32,155.000	32,155.000
0050	450.4000	HMA Cold Weather Paving	TON	1,200.000	1,200.000
0052	455.0605	Tack Coat	GAL	3,640.000	3,640.000
0054	455.0770.S	Asphalt Stabilizing Agent	TON	145.000	145.000
0056	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0058	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0062	460.2005	Incentive Density PWL HMA Pavement	DOL	6,065.000	6,065.000
0064	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	3,760.000	3,760.000
0066	460.2010	Incentive Air Voids HMA Pavement	DOL	12,025.000	12,025.000
0068	460.6224	HMA Pavement 4 MT 58-28 S	TON	12,025.000	12,025.000
0074	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	10.000	10.000
0076	465.0510	Asphaltic Rumble Strips, Shoulder Divided Roadway	LF	12,770.000	12,770.000
0078	465.0520	Asphaltic Rumble Strips, Shoulder	LF	12,540.000	12,540.000
0082	465.0560	Asphaltic Rumble Strips, Centerline	LF	7,400.000	7,400.000
0084	520.8700	Cleaning Culvert Pipes	EACH	5.000	5.000
0090	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	3.000	3.000
0102	614.0010	Barrier System Grading Shaping Finishing	EACH	1.000	1.000
0104	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
0106	614.0230	Steel Thrie Beam	LF	400.000	400.000
0108	618.0100	Maintenance and Repair of Haul Roads (project) 01. 1500-56-71	EACH	1.000	1.000
0112	619.1000	Mobilization	EACH	0.400	0.400
0114	624.0100	Water	MGAL	37.000	37.000
0116	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0118	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0120	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0124	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0126	628.7555	Culvert Pipe Checks	EACH	23.000	23.000
0130	633.5200	Markers Culvert End	EACH	3.000	3.000
0132	642.5001	Field Office Type B	EACH	0.400	0.400
0134	643.0300	Traffic Control Drums	DAY	13,895.000	13,895.000
0136	643.0420	Traffic Control Barricades Type III	DAY	1,157.000	1,157.000
0138	643.0705	Traffic Control Warning Lights Type A	DAY	2,226.000	2,226.000
0140	643.0715	Traffic Control Warning Lights Type C	DAY	1,716.000	1,716.000
0142	643.0900	Traffic Control Signs	DAY	4,595.000	4,595.000
0146	643.0920	Traffic Control Covering Signs Type II	EACH	4.000	4.000
0150	643.1050	Traffic Control Signs PCMS	DAY	21.000	21.000
0152	643.3165	Temporary Marking Line Paint 6-Inch	LF	64,520.000	64,520.000
0154	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	17,960.000	17,960.000
0156	643.3265	Temporary Marking Line Paint 10-Inch	LF	935.000	935.000
0158	643.3280	Temporary Marking Line Removable Tape 10-Inch	LF	805.000	805.000

1500-56-71

Line	Item	Item Description	Unit	Total	Qty
0160	643.5000	Traffic Control	EACH	0.400	0.400
0162	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	55,810.000	55,810.000
0164	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	945.000	945.000
0166	646.5220	Marking Symbol Epoxy	EACH	4.000	4.000
0172	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	1,000.000	1,000.000
0174	646.7120	Marking Diagonal Epoxy 12-Inch	LF	540.000	540.000
0178	646.8320	Marking Parking Stall Epoxy	LF	2,040.000	2,040.000
0180	646.9000	Marking Removal Line 4-Inch	LF	11,860.000	11,860.000
0182	646.9100	Marking Removal Line 8-Inch	LF	355.000	355.000
0184	646.9200	Marking Removal Line Wide	LF	540.000	540.000
0186	650.8000	Construction Staking Resurfacing Reference	LF	8,900.000	8,900.000
0190	650.9911	Construction Staking Supplemental Control (project) 01. 1500-56-71	EACH	1.000	1.000
0194	690.0150	Sawing Asphalt	LF	40.000	40.000
0200	740.0440	Incentive IRI Ride	DOL	32,000.000	32,000.000
0202	SPV.0060	Special 01. Grading, Shaping and Finishing Culvert Pipes and Apron Endwalls	EACH	3.000	3.000
0210	SPV.0090	Special 01. Grading and Shaping Ditch	LF	64.000	64.000

REMOVING GUARDRAIL

STATION	-	STATION	OFFSET	LOCATION	204.0165 LF
127+21	-	130+14	LT	MEDIAN	600
TOTALS					600

HMA PAVEMENT PWL TEST STRIP

LOCATION	460.0105.S VOLUMETRICS EACH	460.0110.S DENSITY EACH	NOTES
PROJECT 1500-56-71 *	1	1	UPPER LAYER OVER CIR ASPHALT
PROJECT 1500-56-71 *	-	1	UPPER LAYER OVER MILLED ASPHALT
TOTALS	1	2	

* HMA PAVEMENT PWL TEST STRIPS COVER PROJECT 1500-56-71 AND 4337-23-71

BASE AGGREGATE DENSE

STATION	-	STATION	OFFSET	LOCATION	305.0110 3/4-INCH TON	305.0500 SHAPING SHOULDERS STA	624.0100 WATER MGAL
44+26	-	103+89	LT/RT	USH 10	2,285	-	23.0
67+13	-	67+34	LT	DRIVEWAY	10	-	0.1
85+42	-	85+71	RT	DRIVEWAY	15	-	0.2
86+75	-	87+16	RT	DRIVEWAY	15	-	0.2
103+89	-	153+30	LT/RT	USH 10/STH 310	215	170	2.1
153+30	-	182+84	LT/RT	STH 310	1,085	-	11.0
162+01	-	162+28	RT	DRIVEWAY	15	-	0.2
PARK AND RIDE					20	-	0.2
TOTALS					3,660	170	37.0

PWL MIXTURE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

LOCATION	STATION	-	STATION	BID ITEM	MIXTURE USE	UNDERLYING SURFACE	TONS	THICKNESS (IN)	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: DENSITY ACCEPTANCE
12-FOOT DRIVING LANES	44+26	-	182+84	4 MT 58-28 S	UPPER LAYER	4 MT 58-28 S	4,510	1 3/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
	109+63 'WB'	-	150+86 'WB'							
12-FOOT DRIVING LANES	44+26	-	103+89	4 MT 58-28 S	LEVELING LAYER	COLD IN-PLACE RECYCLING (CIR)	1,340	1	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION PER STANDARD SPEC 450
	153+30	-	182+84							
12-FOOT DRIVING LANES	103+89	-	153+30	4 MT 58-28 S	LEVELING LAYER	MILLED EXISTING HMA SURFACE	1,555	1 1/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION PER STANDARD SPEC 450
	109+63 'WB'	-	150+86 'WB'							
PAVED SHOULDER & INTERSECTIONS	44+26	-	182+84	4 MT 58-28 S	UPPER LAYER	4 MT 58-28 S	2,725	1 3/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
	109+63 'WB'	-	150+86 'WB'							
PAVED SHOULDER & INTERSECTIONS	44+26	-	103+89	4 MT 58-28 S	LEVELING LAYER	COLD IN-PLACE RECYCLING (CIR)	510	1	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION PER STANDARD SPEC 450
	153+30	-	182+84							
PAVED SHOULDER & INTERSECTIONS	103+89	-	153+30	4 MT 58-28 S	LEVELING LAYER	MILLED EXISTING HMA SURFACE	1,385	1 1/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION PER STANDARD SPEC 450
	109+63 'WB'	-	150+86 'WB'							

PAVEMENT IMPROVEMENTS

STATION	-	STATION	OFFSET	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	327.1000.S COLD IN-PLACE RECYLCING (CIR) ASPHALTIC BASE LAYER SY	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	455.0770.S ASPHALTIC STABILIZATION AGENT TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF
PROJECT 1500-56-71					-	-	-	-	1,200	-	-	-	-	-
44+26	-	103+89	LT/RT	USH 10	-	485	-	21,930	-	1,115	100	3,440	-	-
63+48	-	63+94	RT	DRIVEWAY	-	60	-	-	-	-	-	-	5	-
85+50	-	89+47	LT	VILLAGE ROAD	-	120	590	-	-	35	-	135	-	30
101+56	-	103+89	RT	STONE ROAD	-	110	290	-	-	20	-	75	-	-
102+53	-	103+89	LT	STONE ROAD	-	100	345	-	-	25	-	85	-	-
103+89	-	153+30	LT/RT	USH 10/STH 310	-	-	37,585	-	-	1,840	-	6,340	-	8,800
124+37 'WB'	-	125+70 'WB'	LT	IH 43 SB OFF RAMP	-	30	-	-	-	2	-	5	-	-
125+22	-	125+92	RT	IH 43 SB ON RAMP	-	15	-	-	-	1	-	5	-	-
131+49 'WB'	-	132+26 'WB'	LT	IH 43 NB ON RAMP	-	20	-	-	-	1	-	5	-	-
131+75	-	132+57	RT	IH 43 NB OFF RAMP	-	20	-	-	-	1	-	5	-	-
138+81 'WB'	-	139+28 'WB'	LT	DRIVEWAY	10	-	-	-	-	-	-	-	1	-
153+30	-	182+84	LT/RT	STH 310	-	385	-	10,225	-	515	45	1,625	-	-
155+30	-	157+41	RT	WAGON WHEEL ROAD	-	90	595	-	-	35	-	135	-	30
153+30	-	159+35	LT	WAGON WHEEL ROAD	-	160	770	-	-	50	-	170	-	40
161+95	-	162+38	LT	DRIVEWAY	-	55	-	-	-	-	-	-	4	-
TOTALS					10	1,650	40,175	32,155	1,200	3,640	145	12,025	10	8,900

ASPHALTIC RUMBLE STRIPS

STATION	-	STATION	LOCATION	465.0510 SHOULDER DIVIDED HIGHWAY LF	465.0520 SHOULDER LF	465.0560 CENTERLINE LF
44+26	-	86+50	CTH P - VILLAGE ROAD	-	6,280	3,960
87+41	-	101+56	VILLAGE ROAD - STONE ROAD	-	2,025	1,240
104+89	-	125+00	STONE ROAD - IH 43 SB RAMPS	5,330	510	-
125+91	-	131+50	IH 43 SB RAMPS - IH 43 NB RAMPS	780	-	-
132+40	-	154+44	IH 43 NB RAMPS - WAGON WHEEL ROAD	6,660	-	-
158+04	-	182+84	WAGON WHEEL ROAD - CTH R	-	3,725	2,200
TOTALS				12,770	12,540	7,400

3

CULVERT ITEMS

STATION	LOCATION	PIPE SIZE	203.0100 REMOVING SMALL PIPE CULVERTS EACH	520.8700 CLEANING CULVERT PIPES EACH	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	633.5200 MARKERS CULVERT END EACH	SPV.0060.01 GRADING, SHAPING AND FINISHING CULVERT PIPES AND APRON ENDWALLS EACH	SPV.0090.01 GRADING AND SHAPING DITCH LF	NOTES
95+72	EB & WB LANES	24-INCH	1	-	1	1	1	-	NORTH ENDWALL
118+34	EB & WB LANES	24-INCH	1	1	1	1	1	13	SOUTH ENDWALL
124+60	EB LANES	18-INCH	-	1	-	-	-	12	
125+60	MEDIAN	24-INCH	-	1	-	-	-	13	
131+75	MEDIAN	24-INCH	-	1	-	-	-	13	
138+80	EB LANES	24-INCH	1	-	1	1	1	-	NORTH ENDWALL
153+15	EB & WB LANES	24-INCH	-	1	-	-	-	13	
TOTALS			3	5	3	3	3	64	

FINISHING ITEMS - FOR INFORMATION ONLY

SALVAGED TOPSOIL SY	EROSION MAT URBAN CLASS I TYPE B SY	SEEDING MIXTURE NO. 60 LB	SEED WATER MGAL
15	15	0.3	0.3
22	22	0.5	0.5
6	6	0.1	0.1
7	7	0.2	0.2
7	7	0.2	0.2
15	15	0.3	0.3
7	7	0.2	0.2
79	79	1.8	1.8

3

GUARDRAIL ITEMS

STATION	-	STATION	OFFSET	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.0220 STEEL THRIE BREAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF
125+95	-	131+44	LT	1	-	-
127+21	-	127+68	LT	-	1	-
127+68	-	129+68	LT	-	-	400
129+68	-	130+15	LT	-	1	-
TOTALS				1	2	400

FINISHING ITEMS - FOR INFORMATION ONLY

EXCAVATION COMMON CY	SALVAGED TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 60 LB	SEED WATER MGAL
130	2,800	2,800	2	50	50
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
130	2,800	2,800	2	50	50

TRAFFIC CONTROL

STAGE	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	643.1050 SIGNS PCMS * NO.	643.1050 SIGNS PCMS * DAYS
STAGE 2	15	100	1,500	10	150	16	240	6	90	59	885	2	14
STAGE 3	5	160	800	12	60	24	120	26	130	57	285	-	-
STAGE 4	10	150	1,500	12	120	24	240	18	180	65	650	-	-
STAGE 5	16	160	2,560	12	192	24	384	26	416	48	768	-	-
STAGE 6	50	150	7,500	12	600	24	1,200	18	900	40	2000	-	-
PARK AND RIDE	7	5	35	5	35	6	42	-	-	1	7	1	7
TOTALS			13,895		1,157		2,226		1,716		4,595		21

* TO BE PLACED 7 DAYS PRIOR TO STARTING STAGE CONSTRUCTION

EROSION CONTROL ITEMS

STATION	OFFSET	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7005 INLET PROTECTION TYPE A EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
PROJECT 1500-56-71		8	4	-	-	-
96+03	LT	-	-	-	-	3
117+54 'WB'	LT	-	-	-	8	-
117+82 'WB'	LT	-	-	-	8	-
118+70	RT	-	-	-	-	3
124+06	RT	-	-	-	8	-
124+76	LT	-	-	1	-	-
126+13	LT	-	-	-	-	3
131+23	LT	-	-	-	-	3
132+55	LT	-	-	-	8	-
138+80	LT	-	-	-	-	3
154+62	LT	-	-	-	-	3
154+95	RT	-	-	-	8	-
UNDISTRIBUTED		-	-	1	10	5
TOTALS		8	4	2	50	23

TRAFFIC CONTROL COVERING SIGNS

STAGE	LOCATION	643.0920 TYPE II EACH	NO. OF CYCLES	SIGN MESSAGE
PARK & RIDE	WB STH 310 AT WAGON WHEEL ROAD	1	1	PARK & RIDE DIRECTIONAL ARROW
	EB STH 310 AT WAGON WHEEL ROAD	1	1	PARK & RIDE DIRECTIONAL ARROW
	IH 43 NB OFF-RAMP	1	1	PARK & RIDE DIRECTIONAL ARROW
	IH 43 SB OFF-RAMP	1	1	PARK & RIDE DIRECTIONAL ARROW
TOTAL		4		

MARKING LINE

STATION	-	STATION	OFFSET	646.2040 GROOVED WET REF EPOXY 6-INCH WHITE LF	646.2040 GROOVED WET REF EPOXY 6-INCH YELLOW LF	646.2040 GROOVED WET REF EPOXY 6-INCH DOUBLE YELLOW LF	646.2040 GROOVED WET REF EPOXY 6-INCH 12.5' LINE 37.5' SKIP YELLOW LF	646.2040 GROOVED WET REF EPOXY 6-INCH 12.5' LINE 37.5' SKIP WHITE LF	646.2040 GROOVED WET REF EPOXY 6-INCH 3' LINE 9' SKIP WHITE LF	646.4040 GROOVED WET REF EPOXY 10-INCH WHITE LF	646.5220 MARKING SYMBOL EPOXY WHITE EACH	646.7120 MARKING DIAGONAL EPOXY 12-INCH YELLOW LF	646.8320 PARKING STALL EPOXY WHITE LF
44+26	-	86+23	LT	4,075	-	-	-	-	30	-	-	-	-
44+26	-	102+44	CL	-	2,290	5,050	830	-	-	-	-	-	-
44+26	-	102+73	RT	5,730	-	-	-	-	30	-	-	-	-
87+45	-	102+55	LT	1,520	-	-	-	-	-	105	-	-	-
102+44	-	112+08	CL	-	-	2,860	-	-	-	-	-	280	-
103+52	-	125+06	RT	2,155	-	-	-	-	-	-	-	-	-
103+89	-	124+33	LT	1,950	-	-	-	-	30	-	-	-	-
112+08	-	125+25	LT/RT	-	1,320	-	-	-	-	110	-	-	-
112+08 'WB'	-	125+30 'WB'	CL	-	1,325	-	-	-	-	-	-	-	-
112+08	-	137+75	RT	-	-	-	-	645	-	-	-	-	-
121+75 'WB'	-	148+70 'WB'	LT	-	-	-	-	675	-	-	-	-	-
125+70 'WB'	-	131+49 'WB'	LT	580	-	-	-	-	-	205	-	-	-
125+90	-	131+75	LT/RT	585	1,160	-	-	-	-	150	-	-	-
132+16	-	148+73	CL	-	2,175	-	-	-	-	-	-	-	-
132+19 'WB'	-	148+70 'WB'	CL	-	1,650	-	-	-	-	-	-	-	-
132+26 'WB'	-	155+70 'WB'	LT	2,340	-	-	-	-	-	115	-	-	-
132+57	-	155+49	RT	2,295	-	-	-	-	-	-	-	-	-
148+74	-	159+64	CL	-	-	6,540	-	-	-	-	-	260	-
154+37	-	155+49	RT	-	-	-	-	-	-	115	-	-	-
156+79	-	182+84	RT	2,605	-	-	-	-	-	-	-	-	-
156+99	-	158+45	LT	-	-	-	-	-	-	145	-	-	-
156+99	-	182+84	LT	2,585	-	-	-	-	-	-	-	-	-
159+64	-	182+84	CL	-	1,120	1,230	430	-	-	-	-	-	-
PARK AND RIDE				-	-	-	-	-	-	-	4	-	2,040
SUBTOTALS				26,420	11,040	15,680	1,260	1,320	90	-	-	-	-
TOTALS						55,810				945	4	540	2,040

3

TEMPORARY MARKING LINE

	643.3165 PAINT 6-INCH			643.3265 PAINT 10-INCH	643.3180 REMOVABLE TAPE 6-INCH			643.3280 REMOVABLE TAPE 10-INCH
STAGE	YELLOW LF	DOUBLE YELLOW LF	4' LINE 46' SKIP YELLOW LF	WHITE LF	WHITE LF	YELLOW LF	4' LINE 46' SKIP WHITE LF	WHITE EACH
2	-	18,280	-	-	-	-	-	-
3	-	-	-	355	-	-	-	-
4	-	18,280	-	225	-	-	-	-
5	-	18,280	-	355	-	-	-	-
6	3,410	5,865	405	-	9,905	7,630	425	805
SUBTOTALS	3,410	60,705	405	-	9,905	7,630	425	-
TOTALS		64,520		935		17,960		805

MARKING REMOVAL LINE

	646.9000 4-INCH	646.9100 8-INCH	646.9200 WIDE
STAGE	LF	LF	LF
3	11,860	355	540
TOTALS	11,860	355	540

SAWING ASPHALT

			690.0150
STATION	OFFSET	LOCATION	LF
139+05	LT	DRIVEWAY	40
TOTAL			40

5

5

CARBON RD

BEGIN PROJECT
STA 44+25.73
Y=320,118.088
X=207,365.795
MATCH EXISTING
BUTT JOINT REQ'D

ENC: 35+76.00
LC: 36+27.00
RC: 36+78.00
PC: 37+12.23
BFS: 37+55.00

CURVE 1
PI STA = 47+93.64
Y = 319952.850
X = 207736.491
DELTA = 58°42'47"
D = 2°58'48"
T = 1081.41'
L = 1970.16'
R = 1922.60'
PC STA = 37+12.23
Y = 320051.083
X = 206659.554
PT STA = 56+82.39
Y = 320822.161
X = 208379.720
BK = S84°47'18"E
AH = N36°29'56"E
SE MAX = 5.0%

CIR 4", PAVE 2.75"
HMA PAVEMENT 4 MT 58-28 S

CURVE 1

USH 10 R/L

USH 10

EXISTING R/W - GIS DATA (TYP)

CTH P

EXISTING 30-INCH CPRC
(NO WORK)

EFS: 56+40.00
PT: 56+82.39
RC: 57+17.00
LC: 57+68.00
BNC: 58+19.00

ASPHALT PE
MATCH EXISTING
SEE DRIVEWAY TRANSITION DETAIL

N36°29'56"E

MATCH LINE 66+00

VILLAGE DR

CURVE 2

CIR 4", PAVE 2.75"
HMA PAVEMENT 4 MT 58-28 S

MATCH EXISTING
SEE INTERSECTION TYPE B TRANSITION DETAIL

EXISTING 30-INCH CPRC
(NO wORK)

GRAVEL FE
MATCH EXISTING
SEE DRIVEWAY TRANSITION DETAIL

EXISTING 36-INCH CPRC
(NO WORK)

USH 10 R/L

N36°29'56"E

ENC: 81+52.00
LC: 82+03.00
RC: 82+54.00
PC: 83+04.83
BFS: 83+56.00

CURVE 2
PI STA = 88+80.57
Y = 323393.081
X = 210282.017
DELTA = 53°21'07"
D = 5°00'07"
T = 575.74'
L = 1067.04'
R = 1145.92'
PC STA = 83+04.83
Y = 322930.265
X = 209939.566
PT STA = 93+71.88
Y = 323394.581
X = 210857.750
BK = N36°29'56"E
AH = N89°51'03"E
SE MAX = 6.0%

GRAVEL PE
MATCH EXISTING
SEE DRIVEWAY TRANSITION DETAIL

GRAVEL FE
MATCH EXISTING
SEE DRIVEWAY TRANSITION DETAIL

EFS: 93+21.00
88°17'56" Ld
RC: 94+23.00
LC: 94+74.00
BNC: 95+25.00

REPLACE NORTH APRON ENDWALL FOR CULVERT
PIPE REINFORCED CONCRETE 24-INCH

MATCH LINE 96+50

MATCH LINE 66+00

USH 10

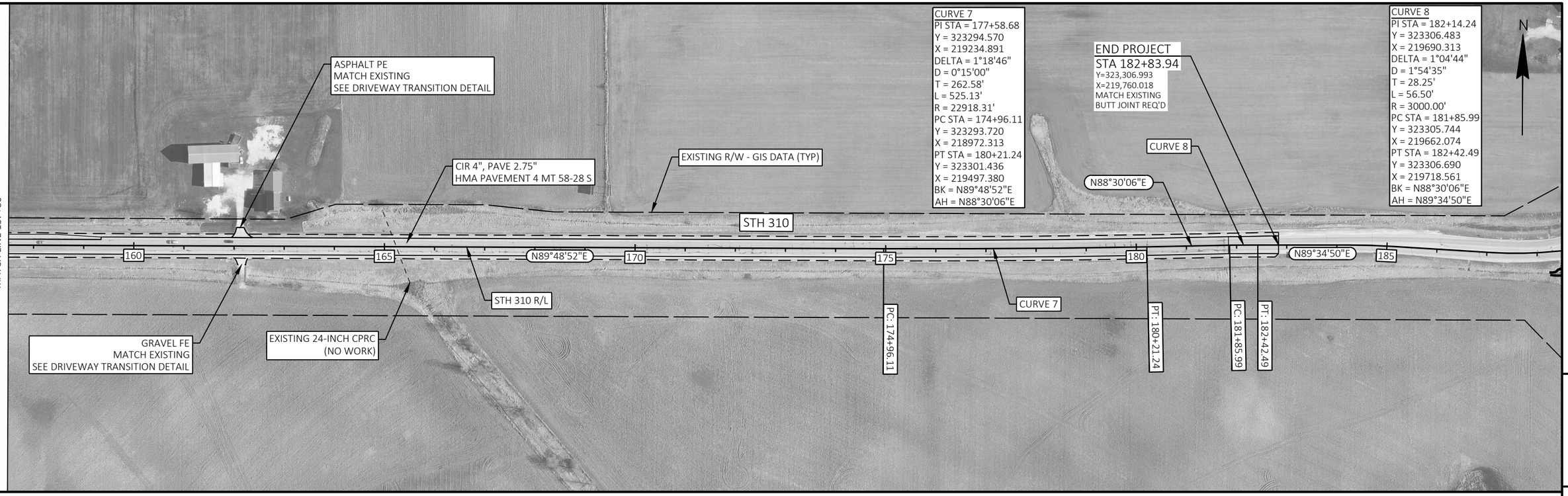
PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 31	E

FILE NAME : N:\PDS\C3D\15005600\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-pn

PLOT DATE : 2/15/2024 5:46 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 32	E



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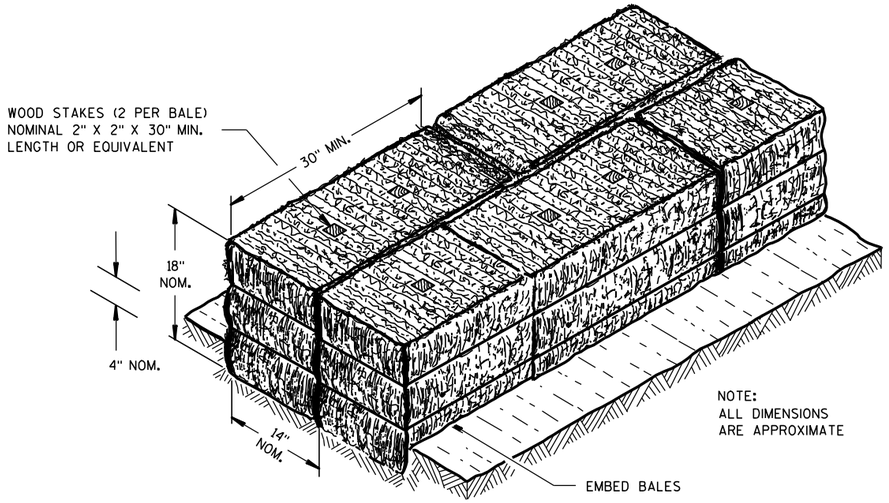
PROJECT NO: 1500-56-71	HWY: USH 10	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 33	E

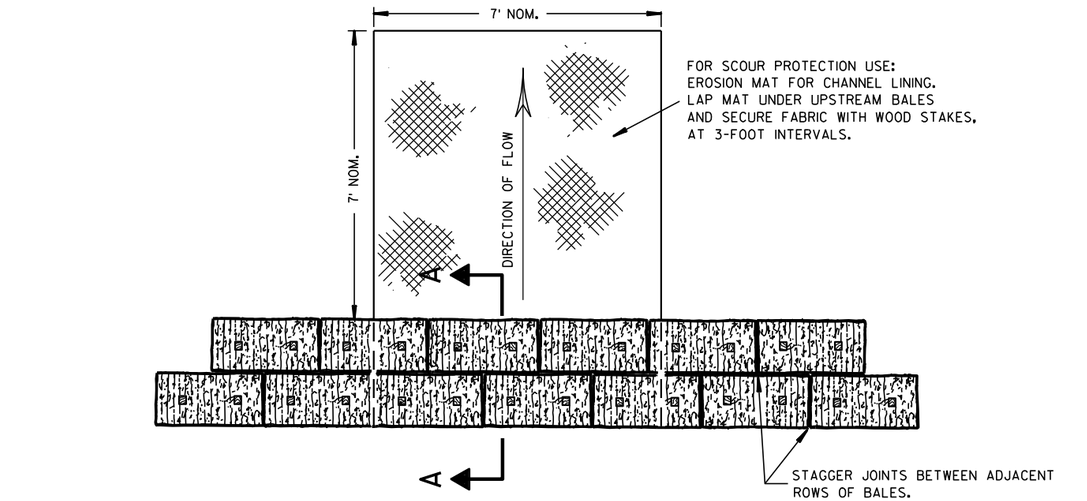
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A05-06A	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A05-06B	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A10-03A	SHOULDER RUMBLE STRIPS - ASPHALT
13A10-03B	SHOULDER RUMBLE STRIPS - CONCRETE
13A10-03C	SHOULDER RUMBLE STRIPS - ASPHALT SINUSOIDAL
13A10-03D	SHOULDER RUMBLE STRIPS - CONCRETE SINUSOIDAL
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13A10-03H	SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B26-05A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05H	STEEL THRIE BEAM BULLNOSE TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-15A	PAVEMENT MARKING SYMBOLS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C19-08A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-08C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C21-11	SIGNING AND MARKING FOR TWO LANE TO FOUR LANE DIVIDED TRANSITIONS
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15C36-01	PARKING STALL MARKING
15D12-12A	TRAFFIC CONTROL, LANE CLOSURE, WITH TEMPORARY RUMBLE STRIPS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D40-05B	TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND OVER
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D50-03A	TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT
15D50-03B	TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

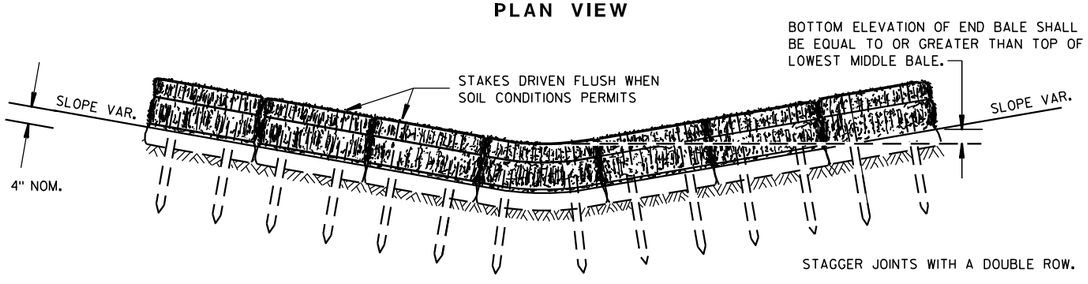
6



SECTION A-A



PLAN VIEW



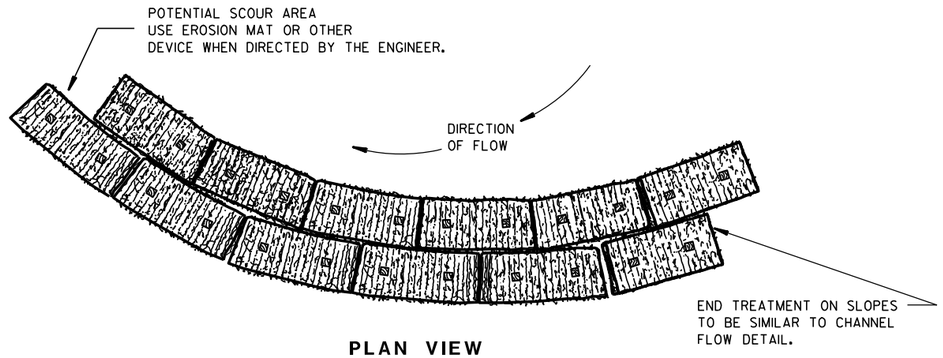
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

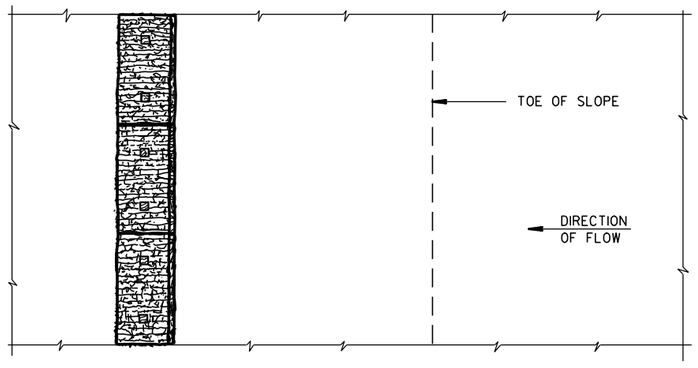
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

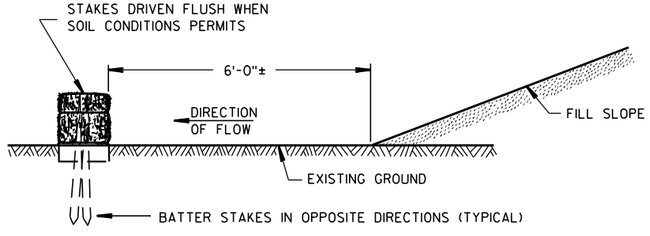


PLAN VIEW

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

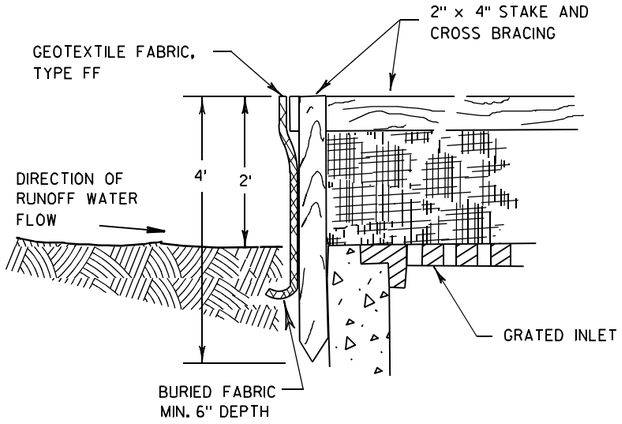
APPROVED

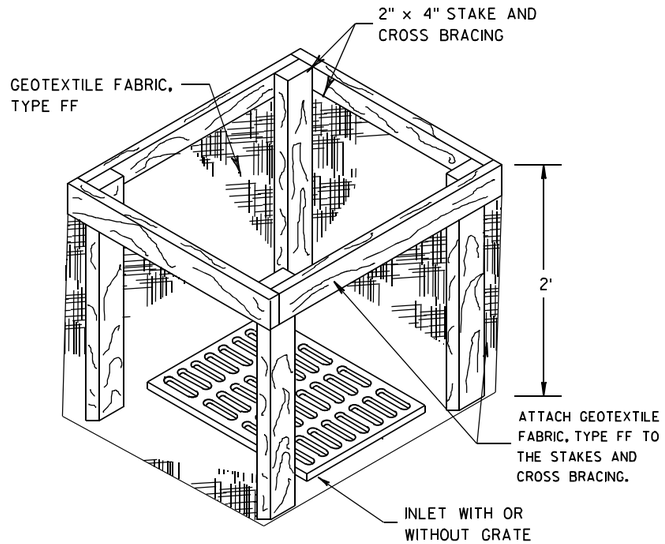
6/04/02 DATE — /S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

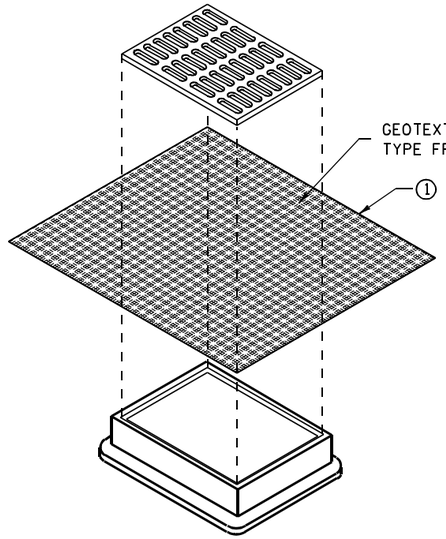
6

S.D.D. 8 E 8-3



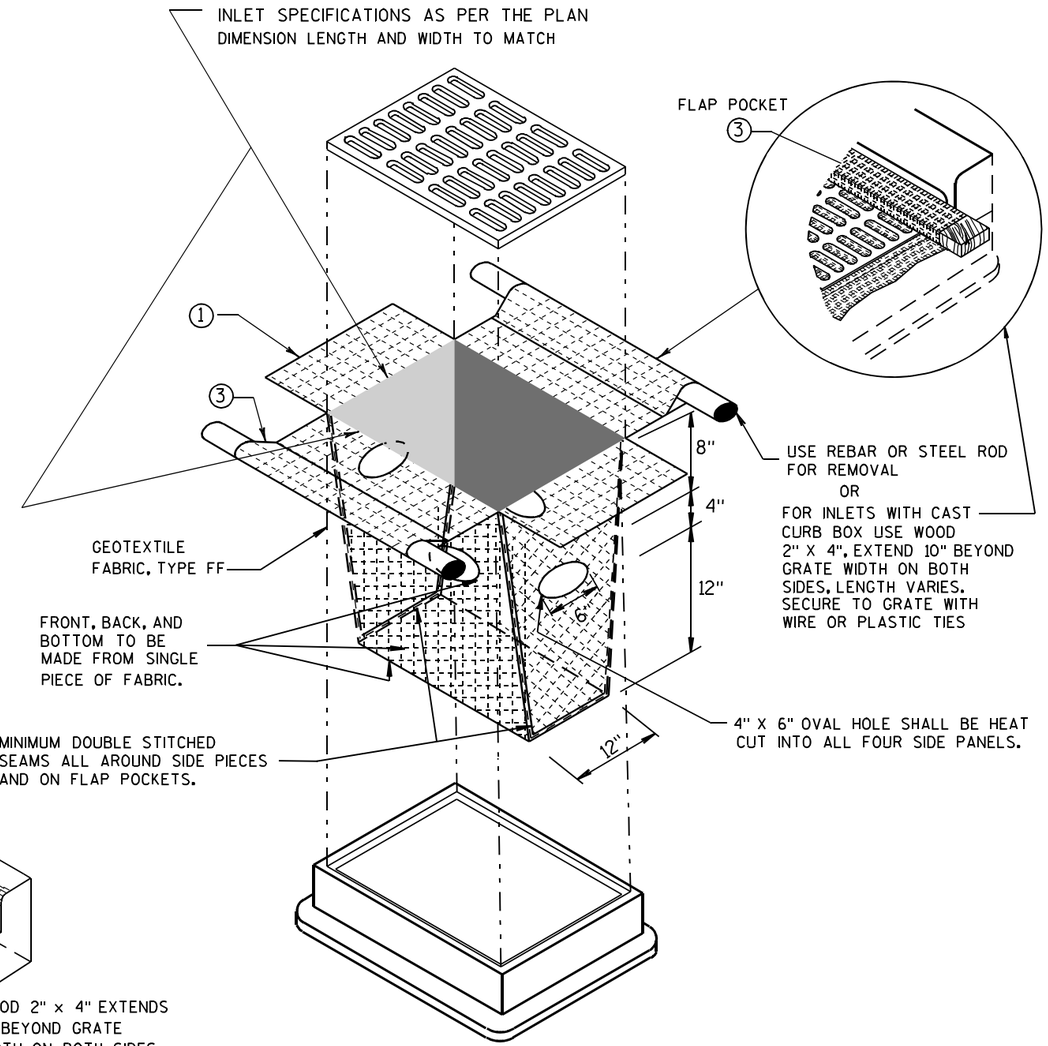


INLET PROTECTION, TYPE A



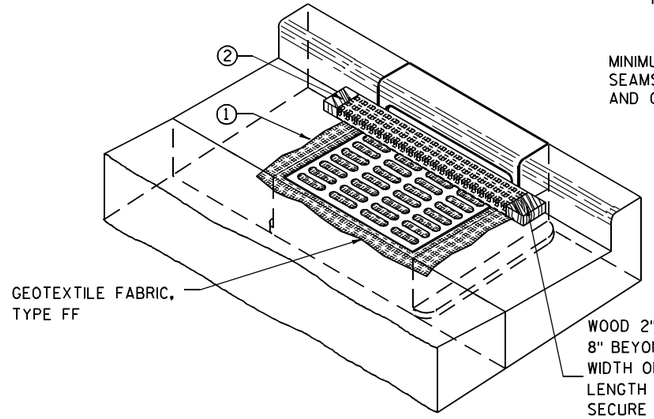
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

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

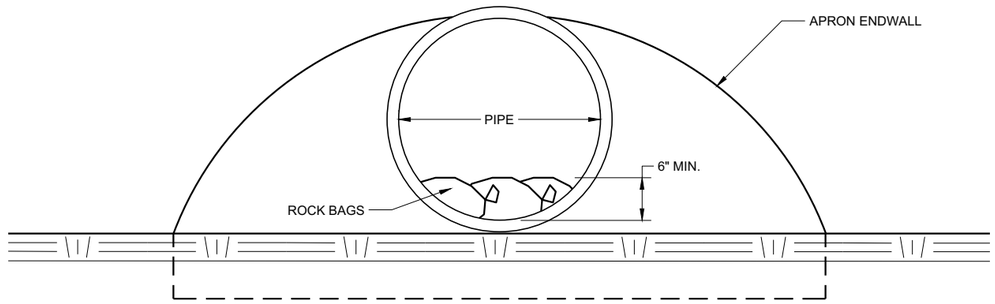
APPROVED

10/16/02
DATE

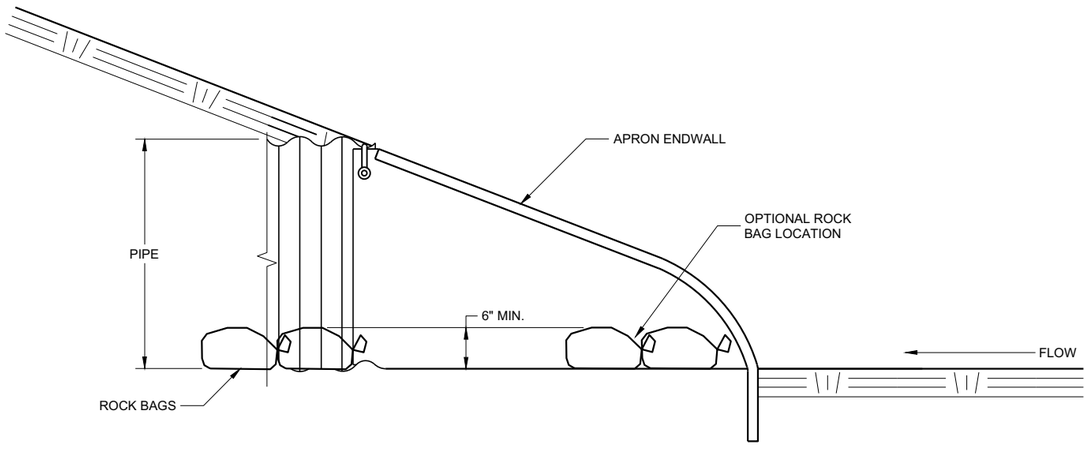
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 8 E 10-2



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

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SDD 08E15 - 01

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SDD 08E15 - 01

METAL APRON ENDWALLS

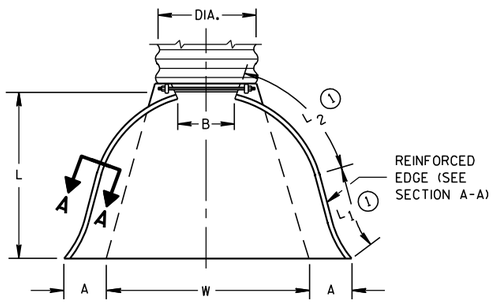
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

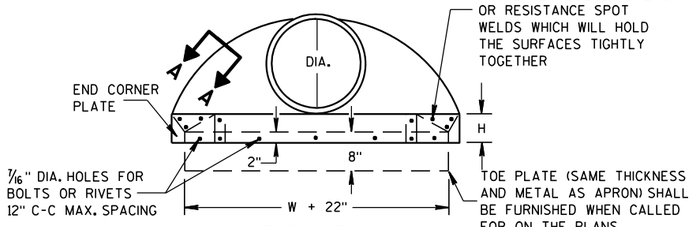
REINFORCED CONCRETE APRON ENDWALLS

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

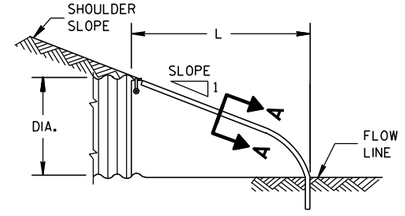
*MINIMUM
**MAXIMUM



PLAN VIEW

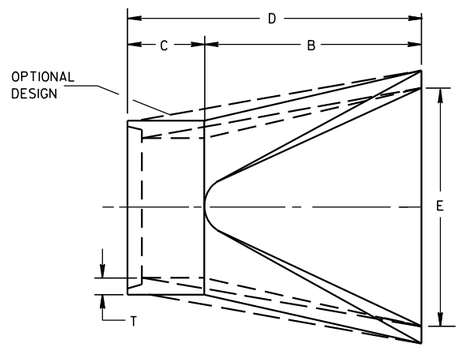


END VIEW

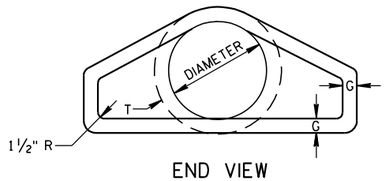


SIDE ELEVATION

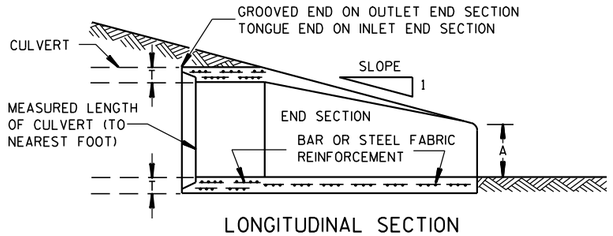
METAL ENDWALLS



PLAN

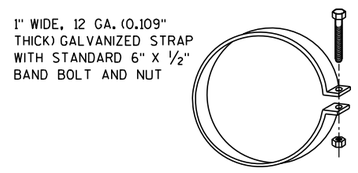


END VIEW



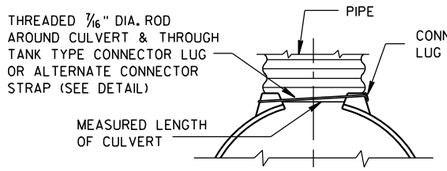
LONGITUDINAL SECTION

CONCRETE ENDWALLS

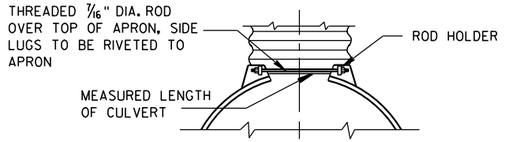


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

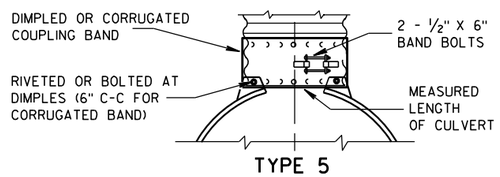


TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

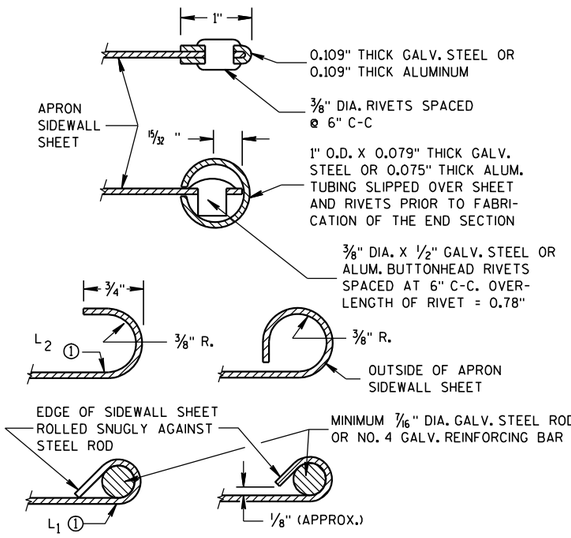
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

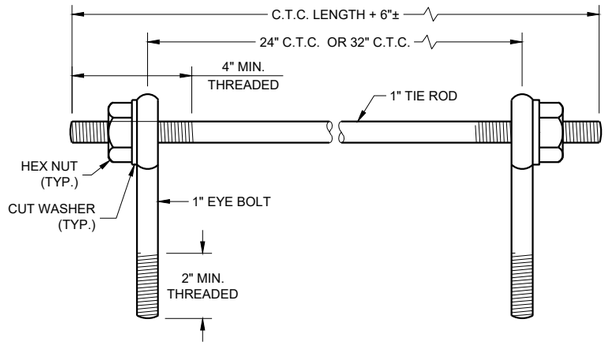
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

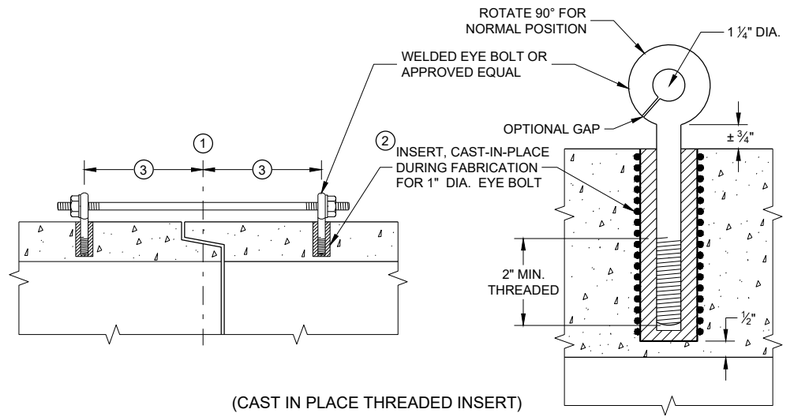
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



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) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

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

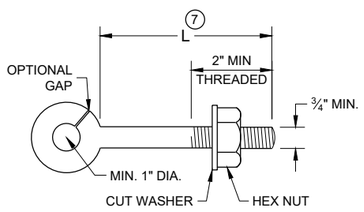
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

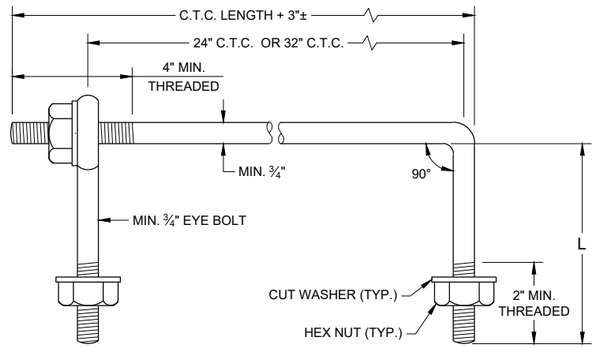
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

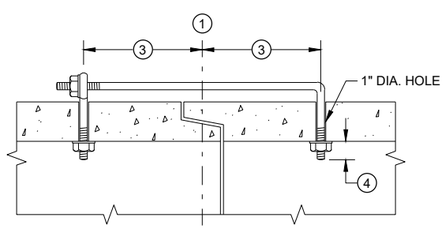


EYE BOLT (7)

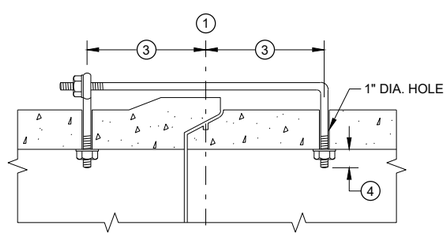
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

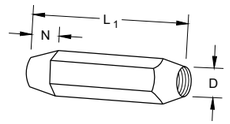
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

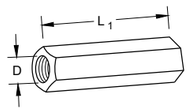
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



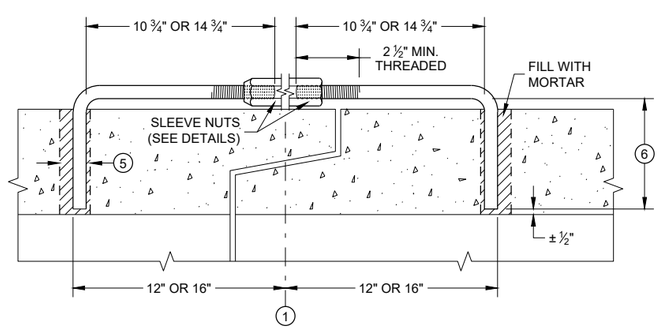
TAPERED



PLAIN

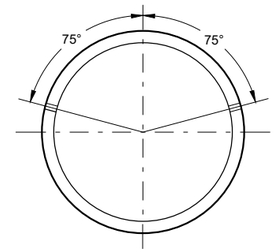
RIGHT AND LEFT THREADS

SLEEVE NUTS



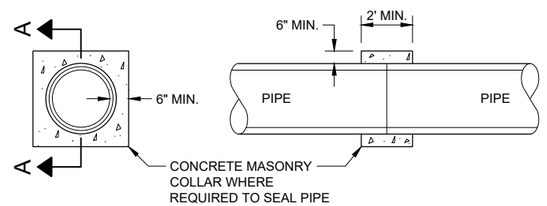
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

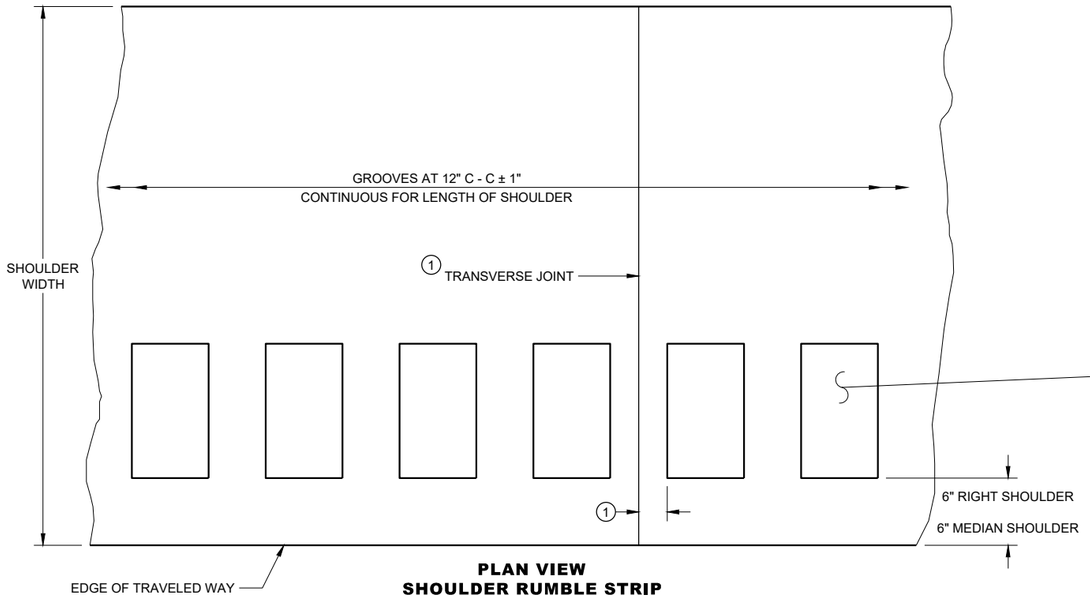
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

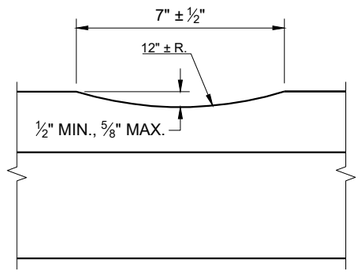
APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

SDD 08F04 - 08

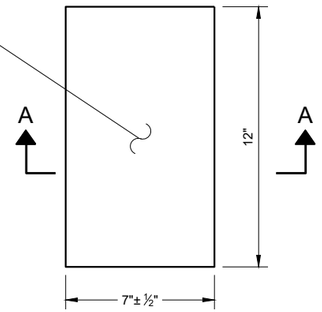
SDD 08F04 - 08



PLAN VIEW
SHOULDER RUMBLE STRIP



SECTION A - A



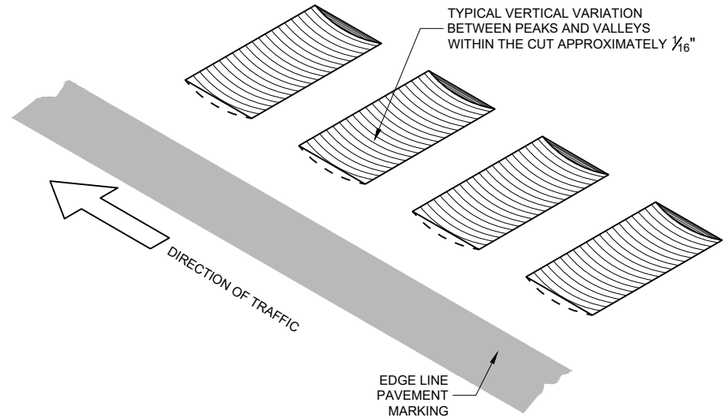
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

SDD 13A5, SHEET "b" SHOWS THE LOCATION OF THE RUMBLE STRIPS AT RAMP AND GORE LOCATIONS.

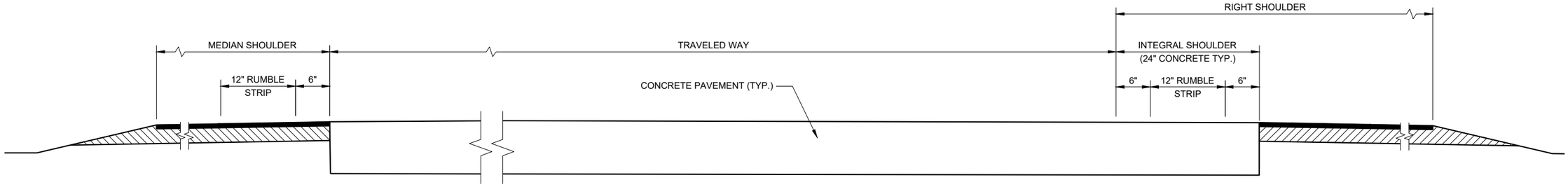
RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC

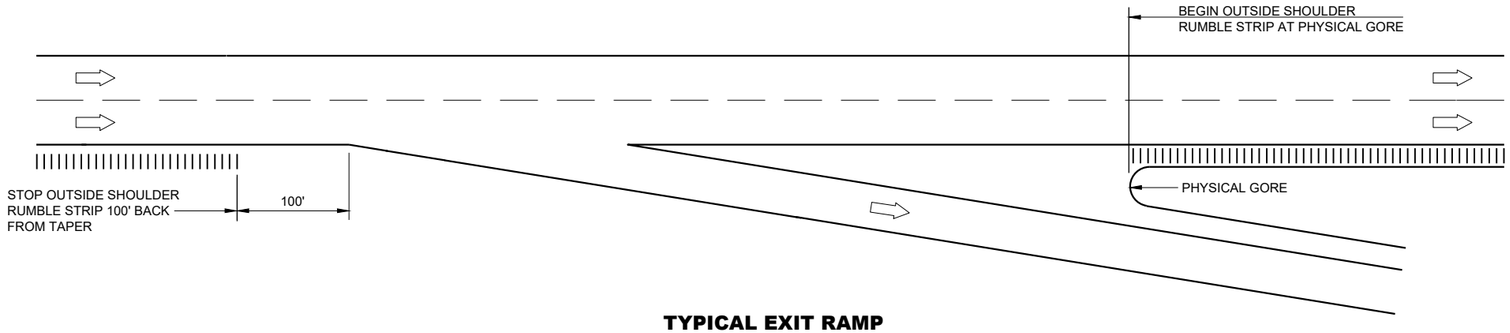
PLACEMENT DETAIL FOR RUMBLE STRIP



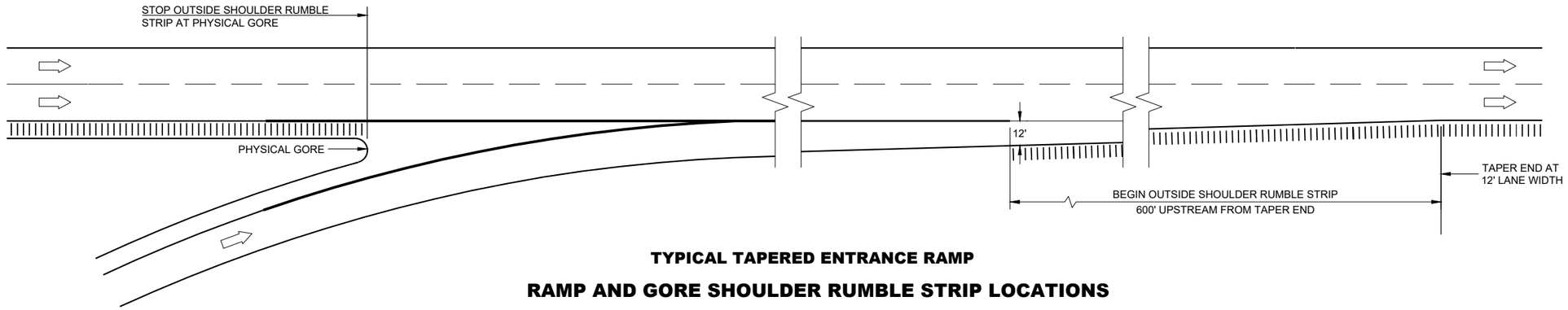
SECTION VIEW

TYPICAL SHOULDER RUMBLE STRIPS
(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY



TYPICAL EXIT RAMP



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

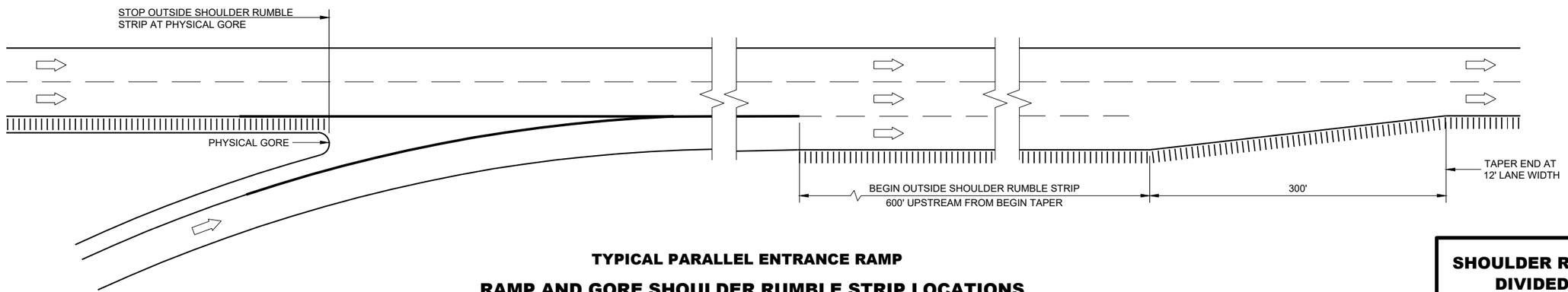
GENERAL NOTES

NO RUMBLE STRIP ON EXIT, DIRECTIONAL OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIALAND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

LEGEND

DIRECTION OF TRAFFIC



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

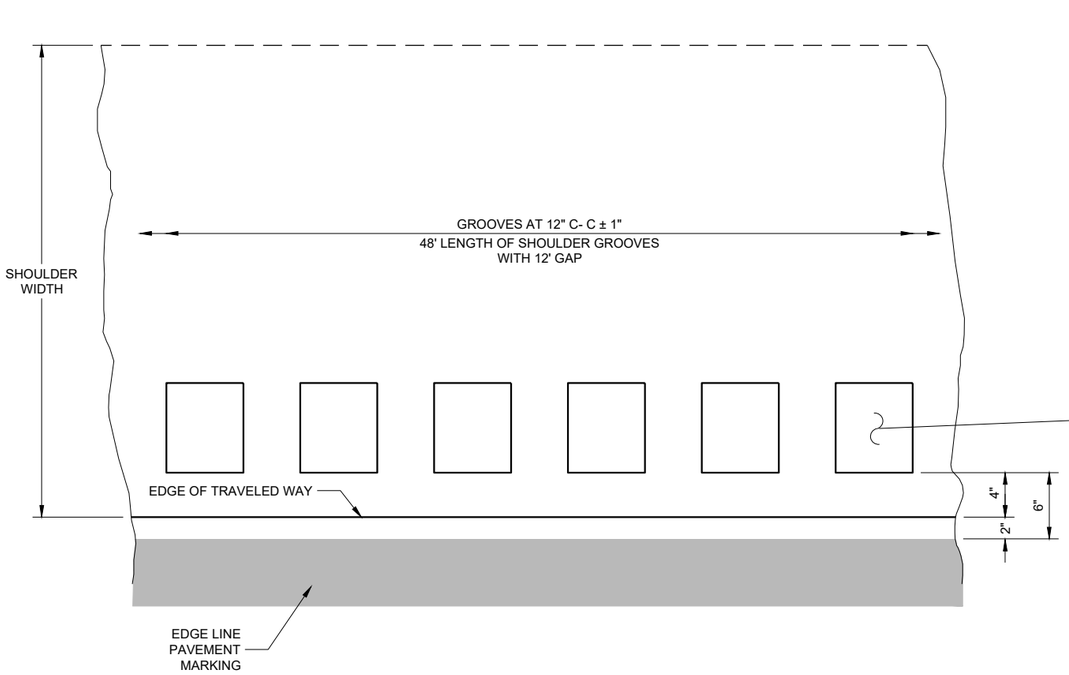
APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY DESIGN STANDARDS UNIT SUPERVISOR

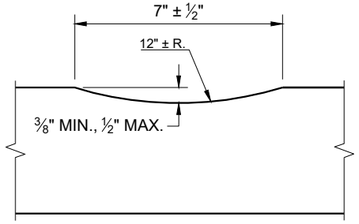
FHWA

6

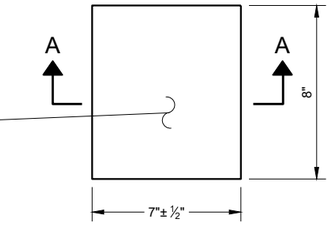
SDD 13A05-06b



PLAN DETAIL VIEW
SHOULDER WITH GROOVES



SECTION A - A

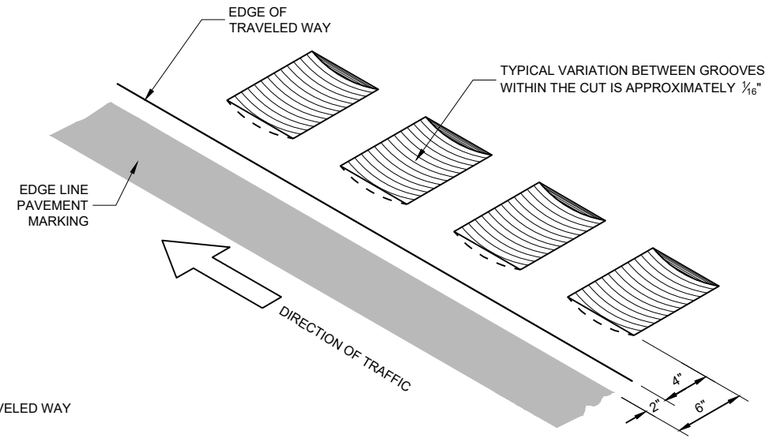


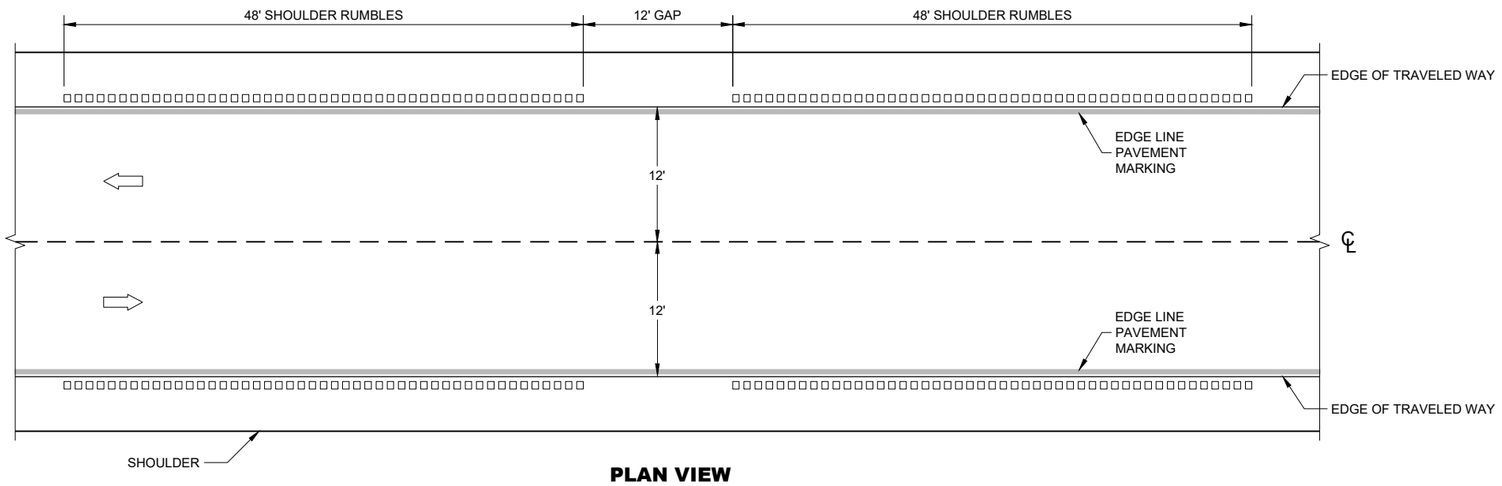
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

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





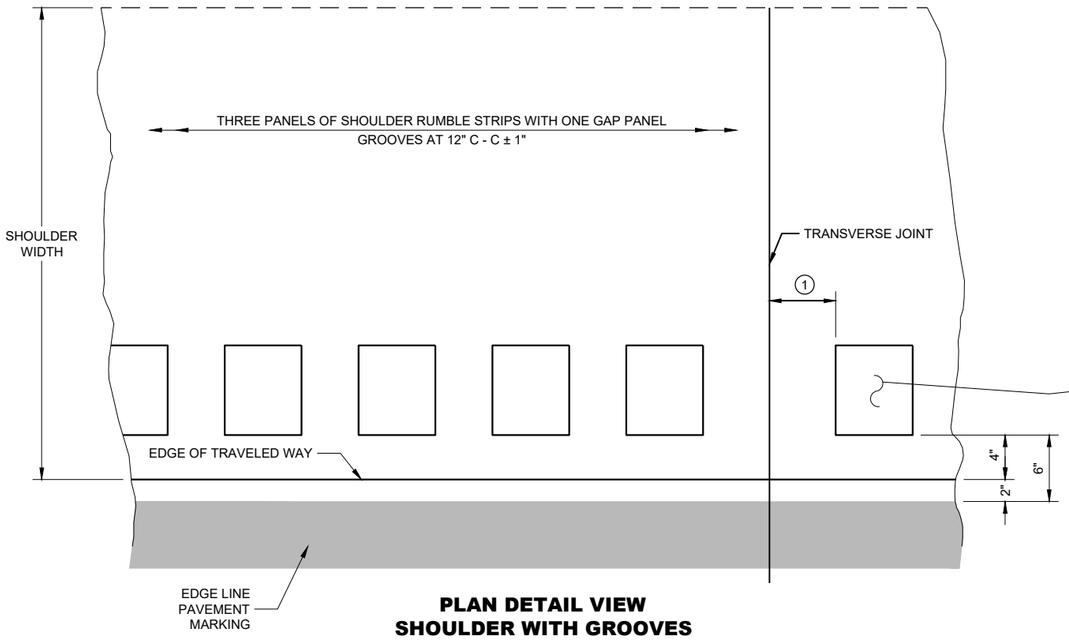
PLAN VIEW

SHOULDER RUMBLE STRIPS - ASPHALT

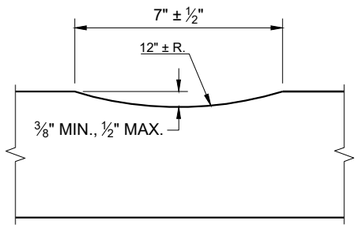
SHOULDER RUMBLE STRIPS ASPHALT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

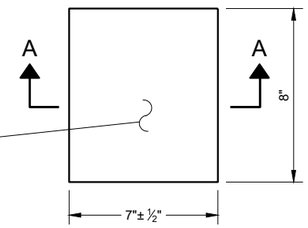
6
SDD 13A10 - 03a



PLAN DETAIL VIEW
SHOULDER WITH GROOVES



SECTION A - A



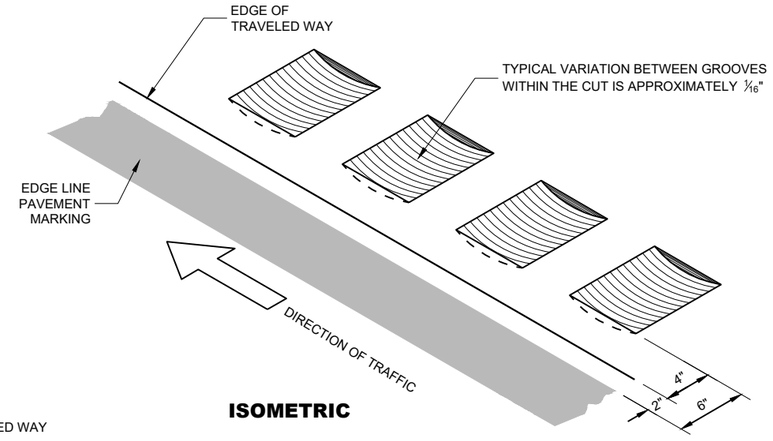
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

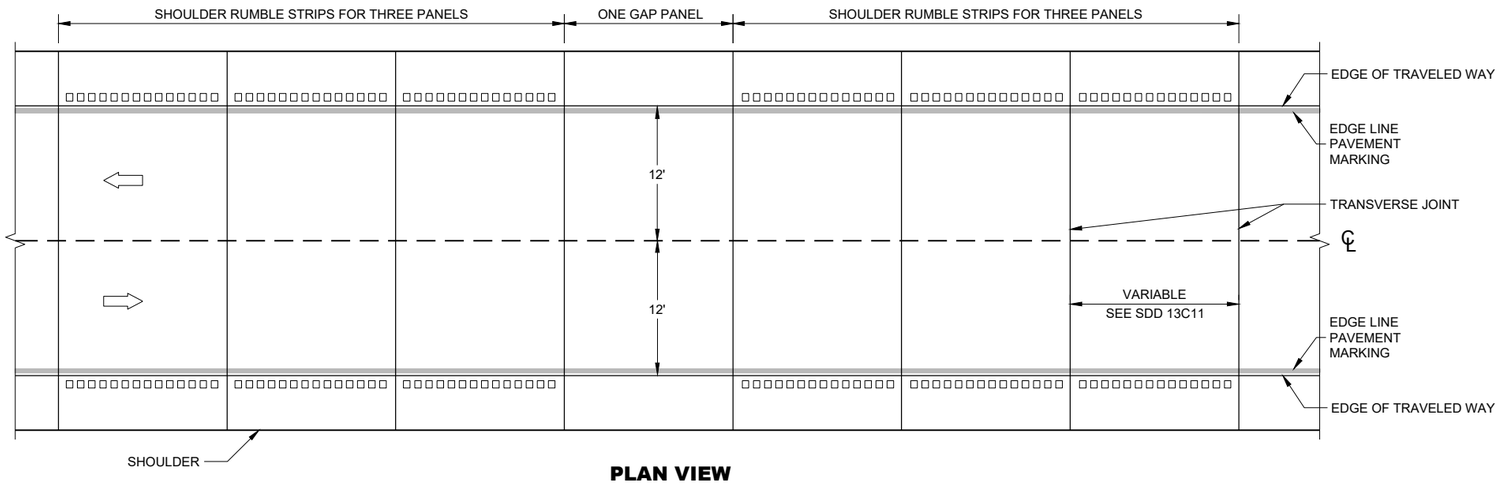
DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

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

(1) FOR CONCRETE PAVEMENTS, RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES FROM TRANSVERSE JOINTS.



ISOMETRIC



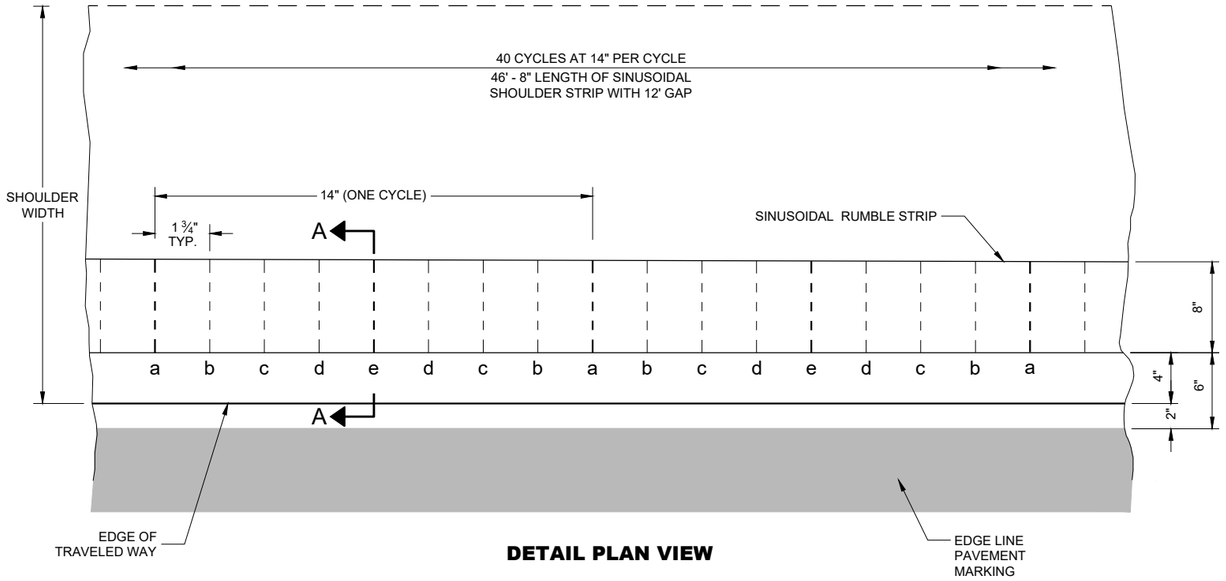
PLAN VIEW

SHOULDER RUMBLE STRIPS - CONCRETE

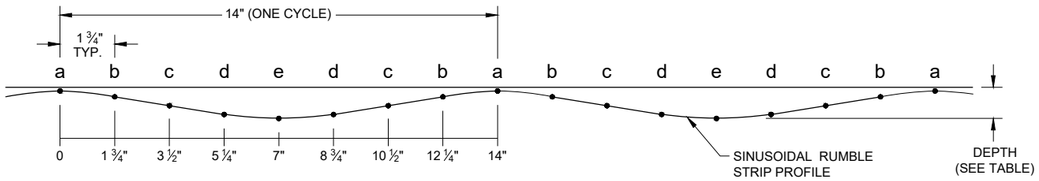
SHOULDER RUMBLE STRIPS - CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 13A10 - 03b

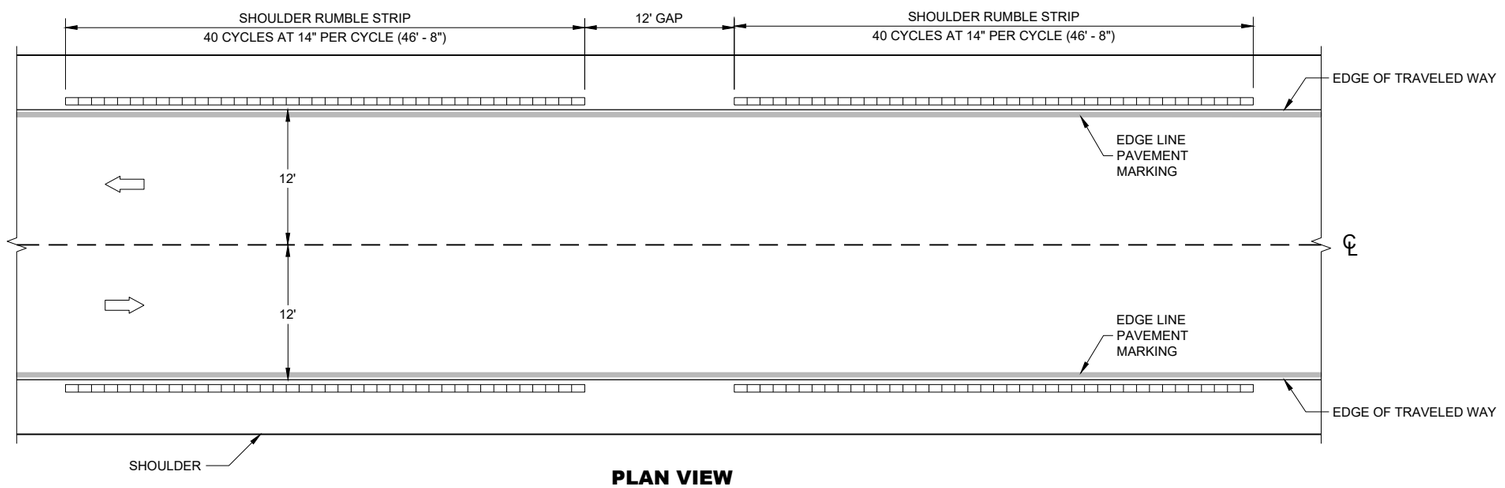


DETAIL PLAN VIEW



PROFILE VIEW

LOCATION	DEPTH (INCHES)
a	1/16"
b	5/32"
c	9/32"
d	7/16"
e	1/2"

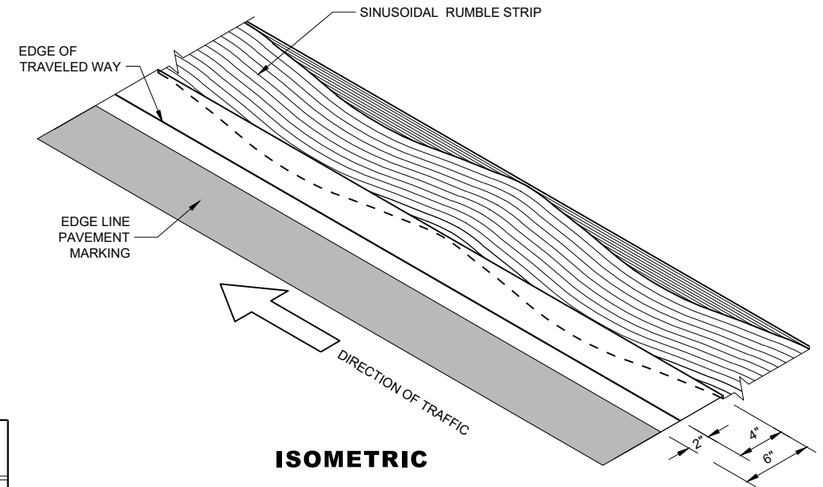


PLAN VIEW

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

SHOULDER RUMBLE STRIPS MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



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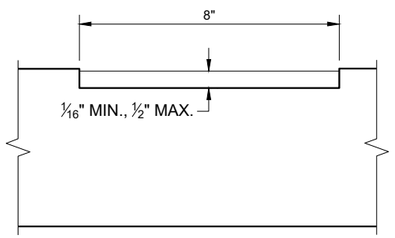


SECTION A - A

SHOULDER RUMBLE STRIPS - ASPHALT, SINUSOIDAL

SHOULDER RUMBLE STRIPS - ASPHALT, SINUSOIDAL

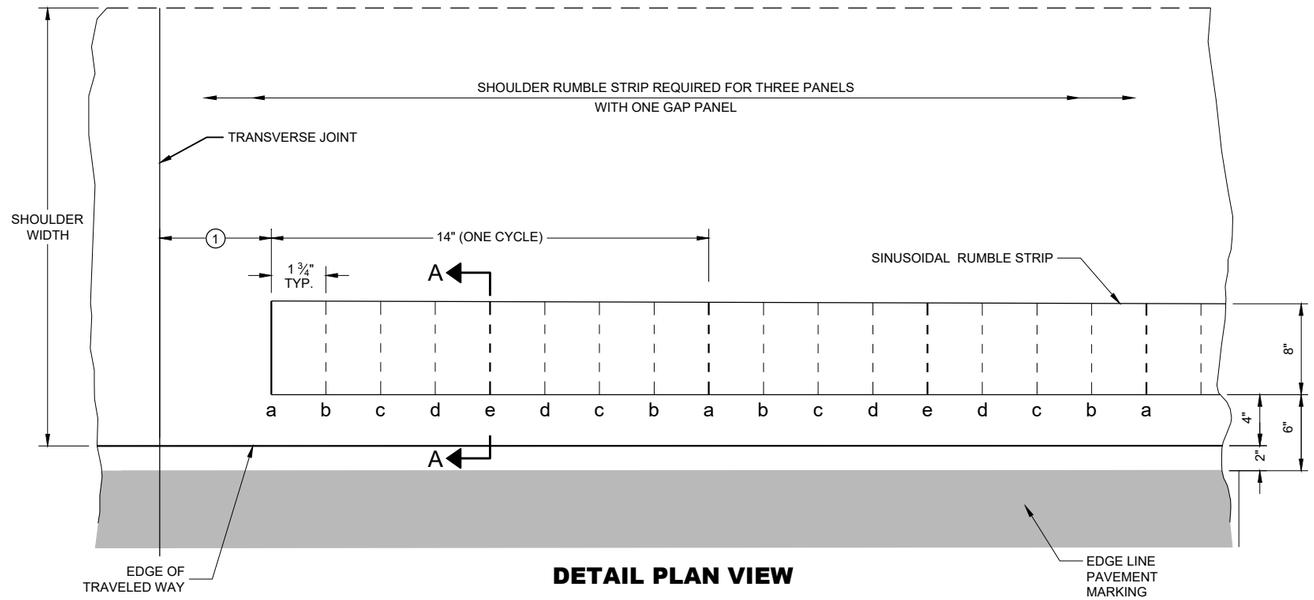
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

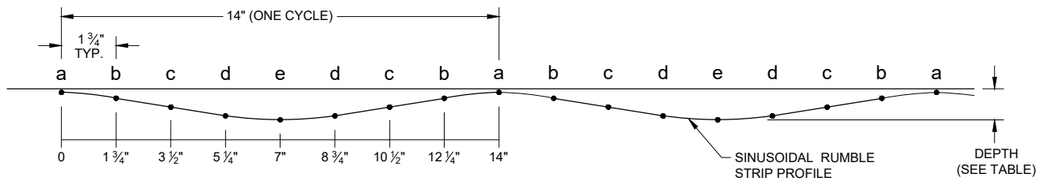
SDD 13A10 - 03c

6

SDD 13A10 - 03c



DETAIL PLAN VIEW



DETAIL PROFILE VIEW

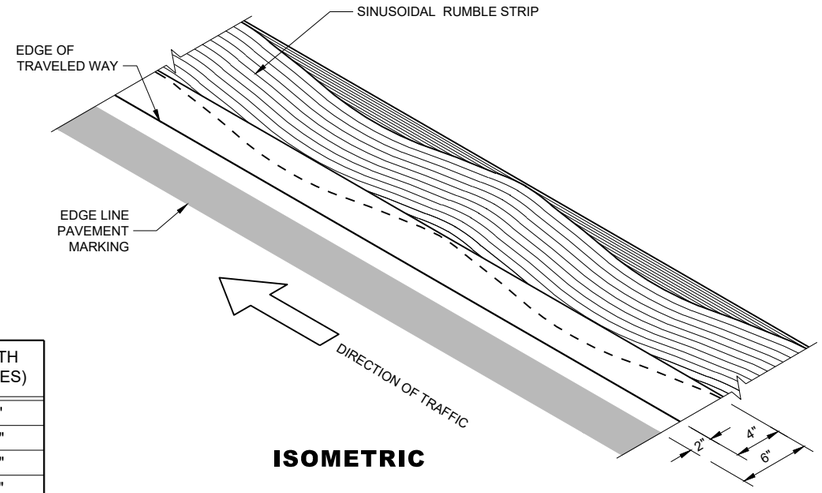
LOCATION	DEPTH (INCHES)
a	1/16"
b	5/32"
c	9/32"
d	7/16"
e	1/2"

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

SHOULDER RUMBLE STRIPS MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.

(1) FOR CONCRETE PAVEMENTS, RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES AWAY FROM A TRANSVERSE JOINT.



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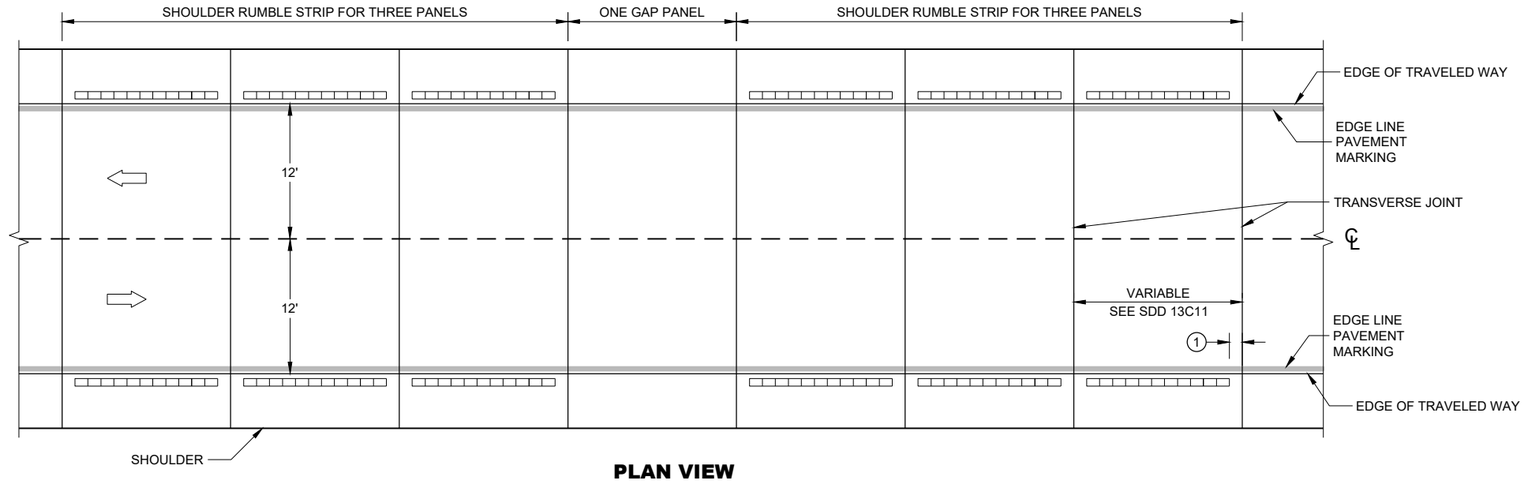
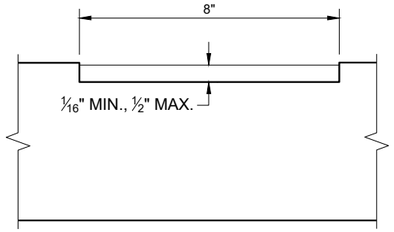


PLAN VIEW



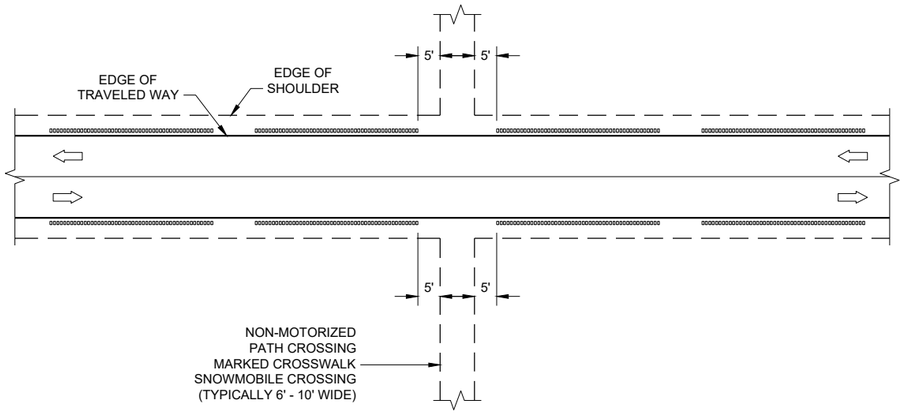
SECTION A - A

SHOULDER RUMBLE STRIPS - CONCRETE, SINUSOIDAL

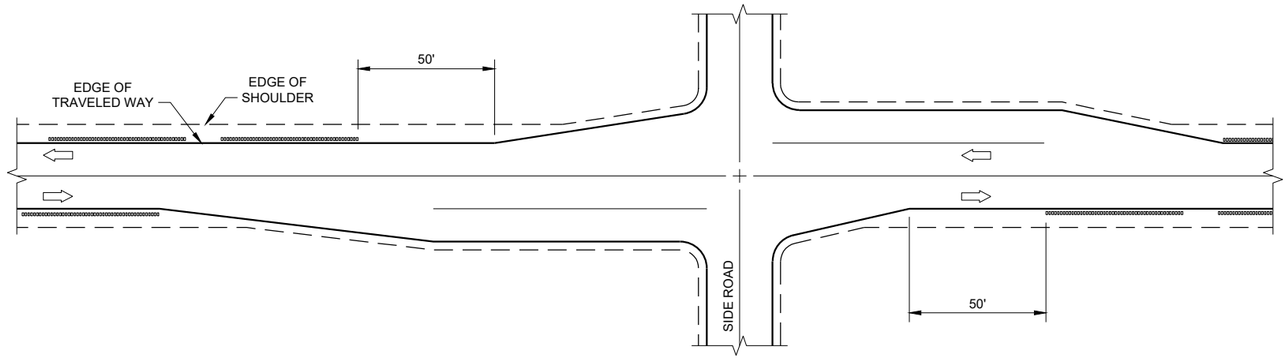
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

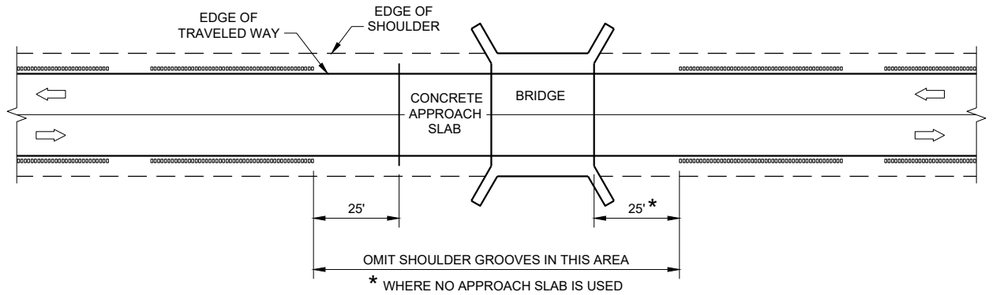
SDD 13A10 - 03d



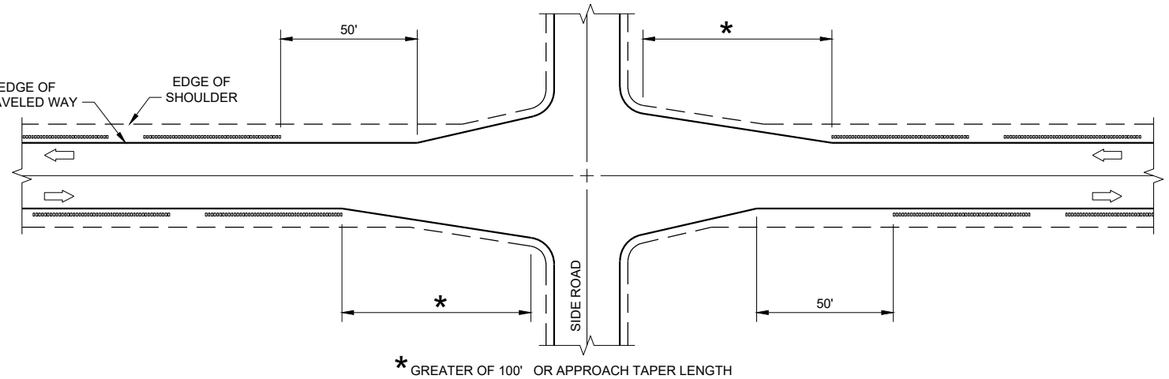
GROOVES AT MISCELLANEOUS CROSSINGS



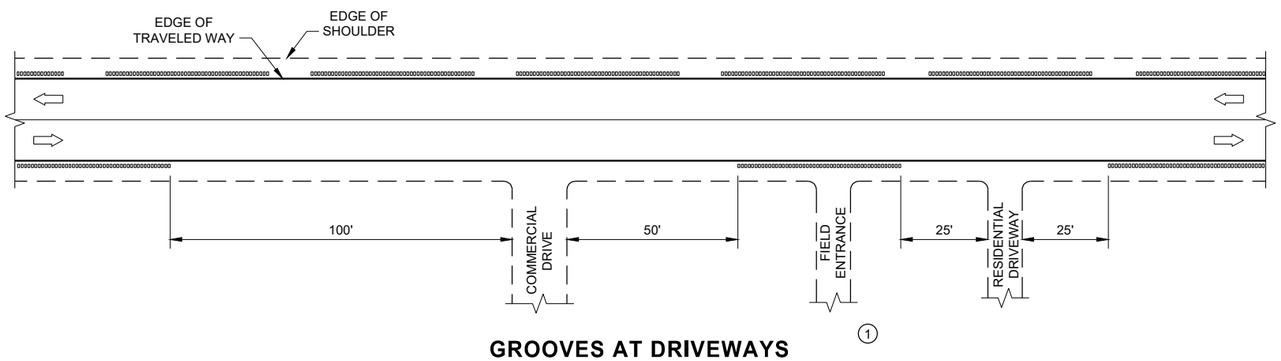
GROOVES AT RIGHT TURN LANE



GROOVES AT BRIDGES



GROOVES AT INTERSECTIONS WITH APPROACH TAPER



GROOVES AT DRIVEWAYS ①

GENERAL NOTES

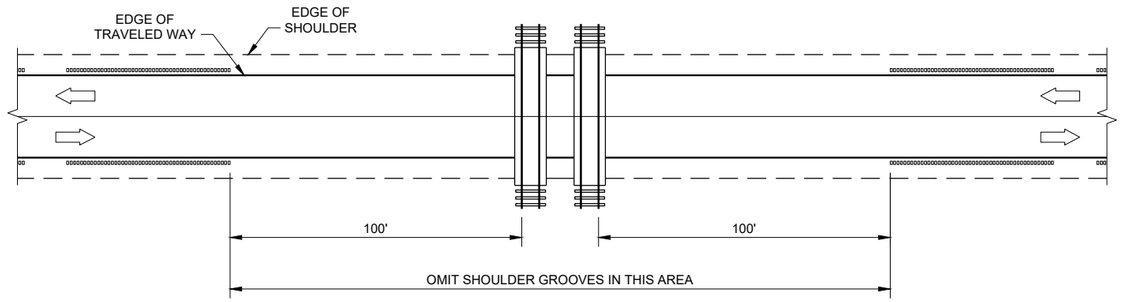
① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

SHOULDER AND EDGE LINE RUMBLE STRIPS CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS

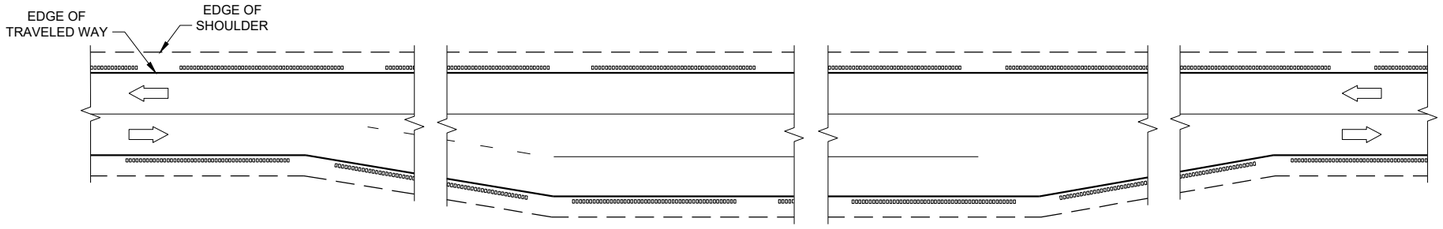
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

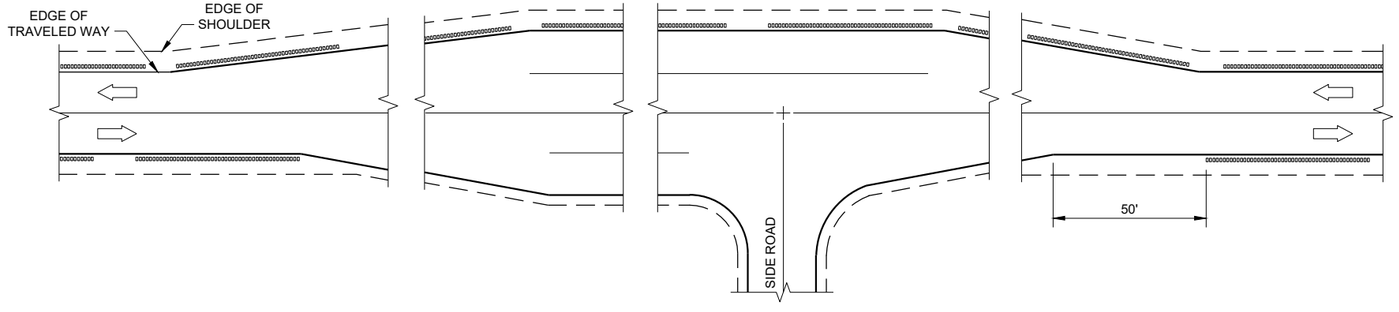
SDD 13A10 - 03g



GROOVES AT RAILROADS



GROOVES AT PASSING AND CLIMBING LANES



GROOVES AT BYPASS LANES

6

SDD 13A10 - 03h

6

SDD13A10 - 03h

SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

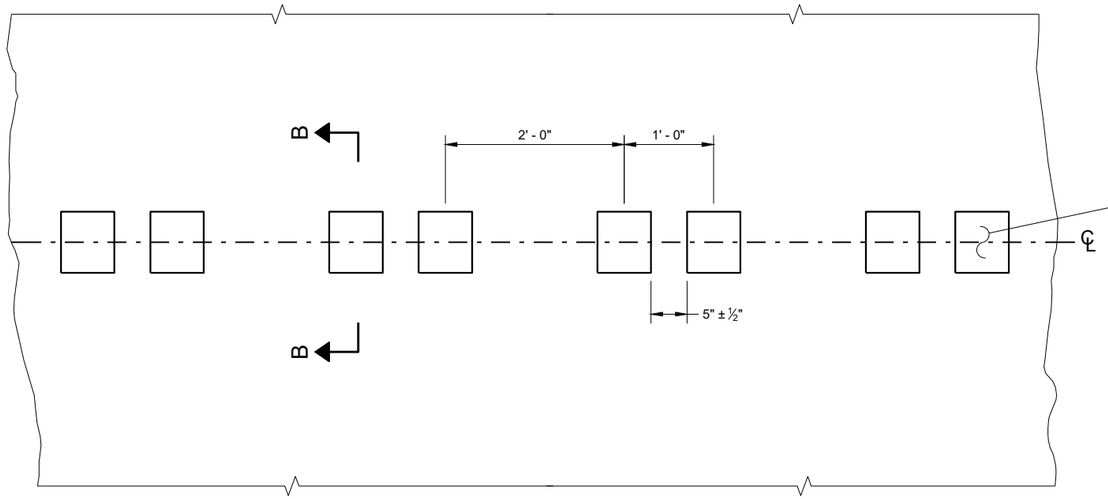
/S/ John Jenkins
ROADWAY STANDARDS DEVE ENGINEER

FHWA

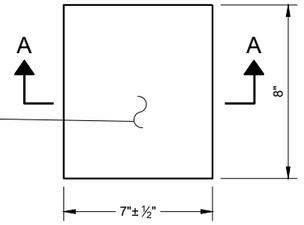
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

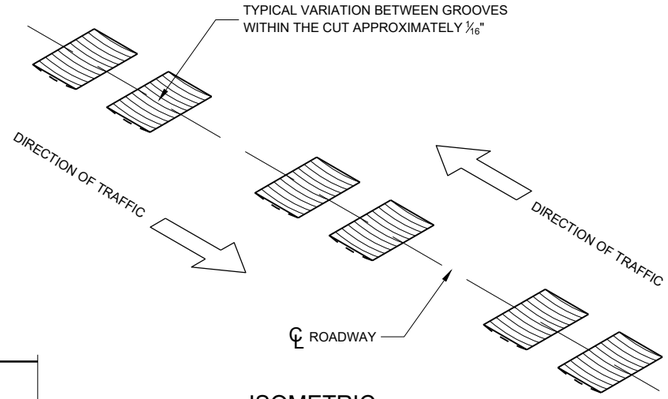
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



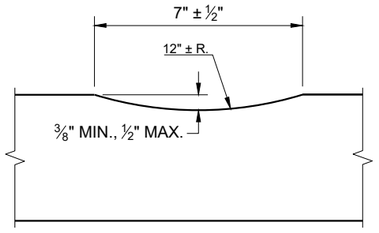
PLAN DETAIL VIEW



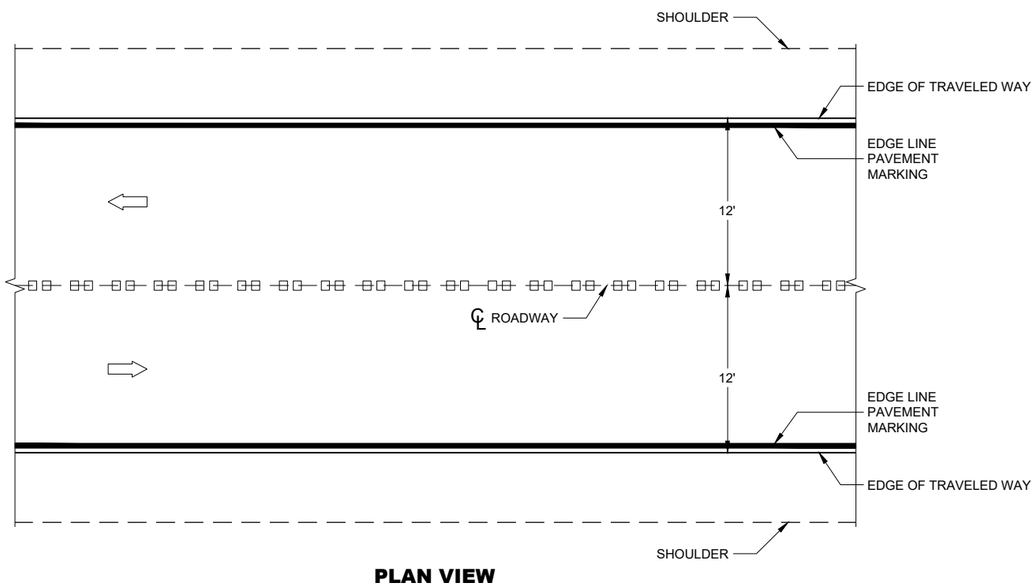
PLAN VIEW
(SINGLE GROOVE)



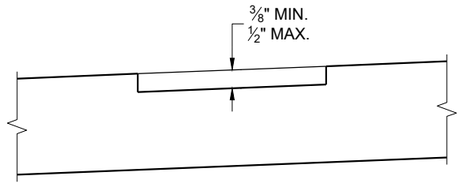
ISOMETRIC



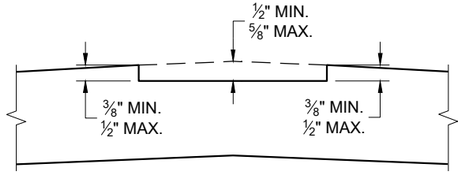
SECTION A - A



PLAN VIEW



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY

CENTERLINE RUMBLE STRIPS - ASPHALT

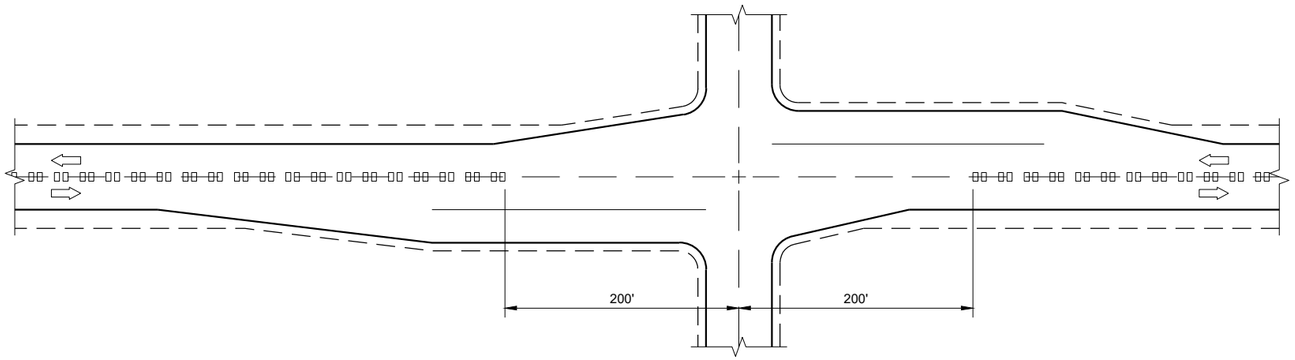
CENTERLINE RUMBLE STRIPS - ASPHALT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

6

SDD 13A11 - 04a

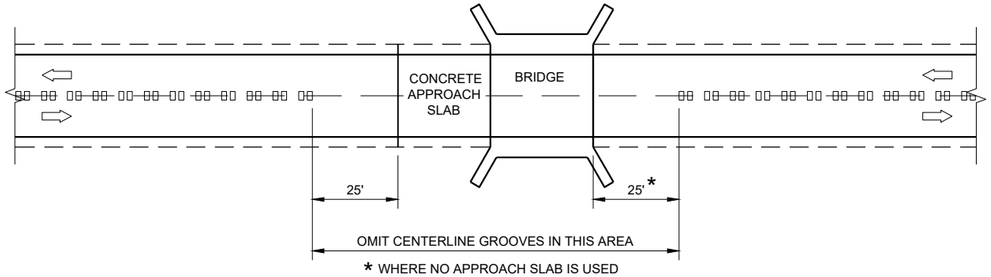
SDD 13A11 - 04a



CENTERLINE GROOVES AT INTERSECTIONS

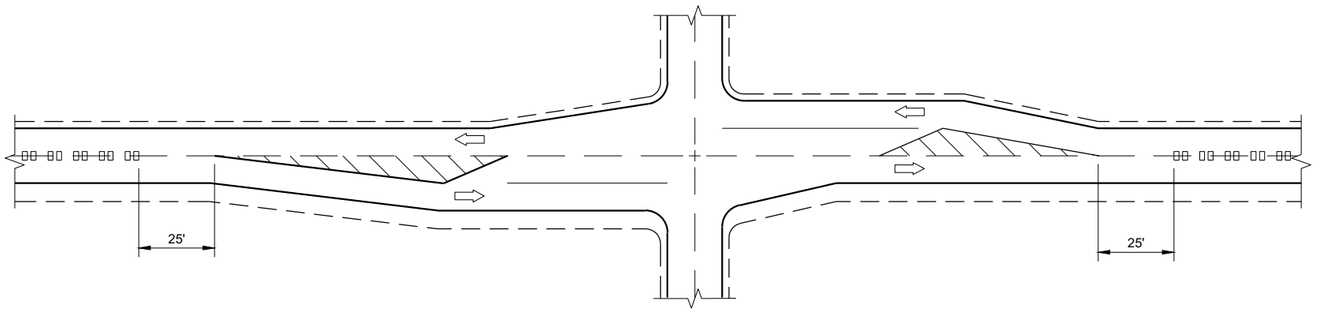
GENERAL NOTES

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

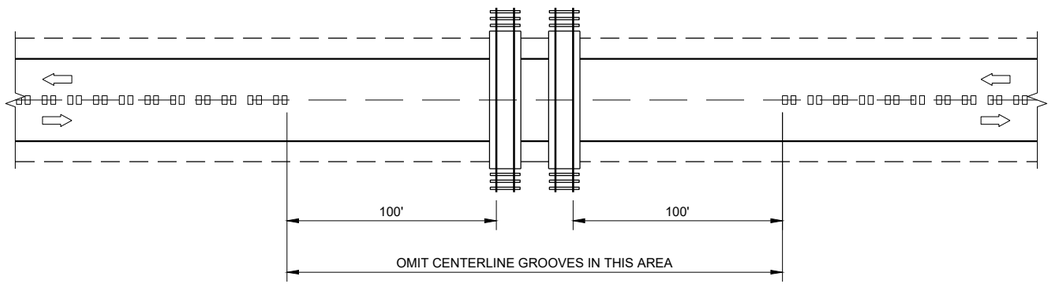


* WHERE NO APPROACH SLAB IS USED

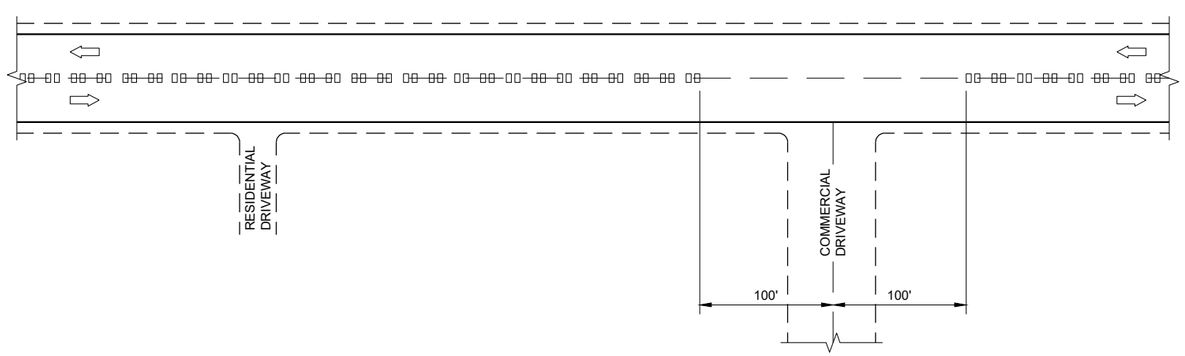
CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



CENTERLINE GROOVES AT RAILROADS



CENTERLINE GROOVES AT DRIVEWAYS (1)

CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

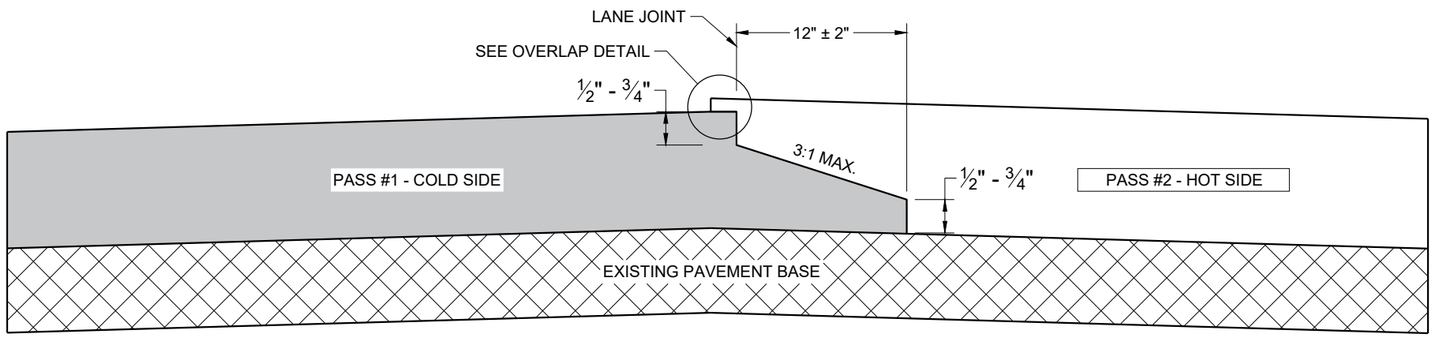
APPROVED
May 2023 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER

FHWA

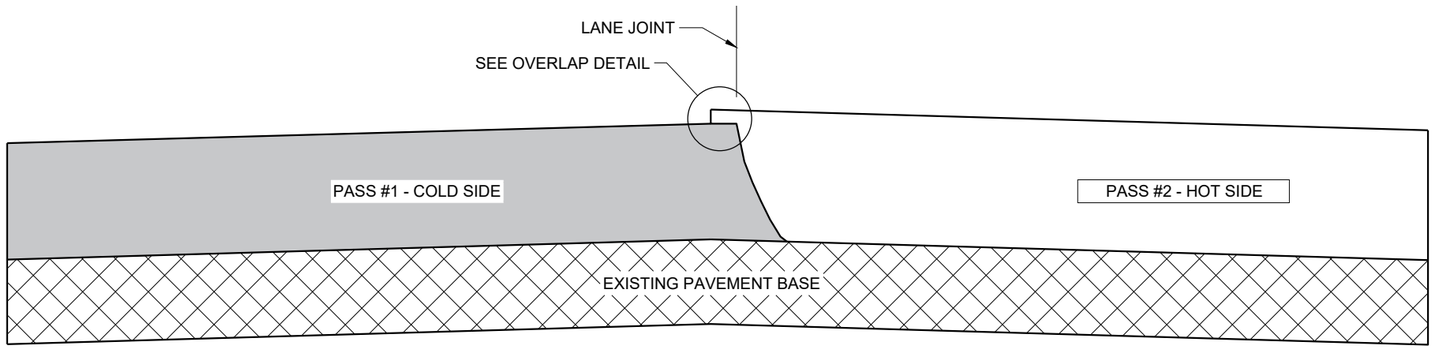
6

SDD 13A11 - 04d

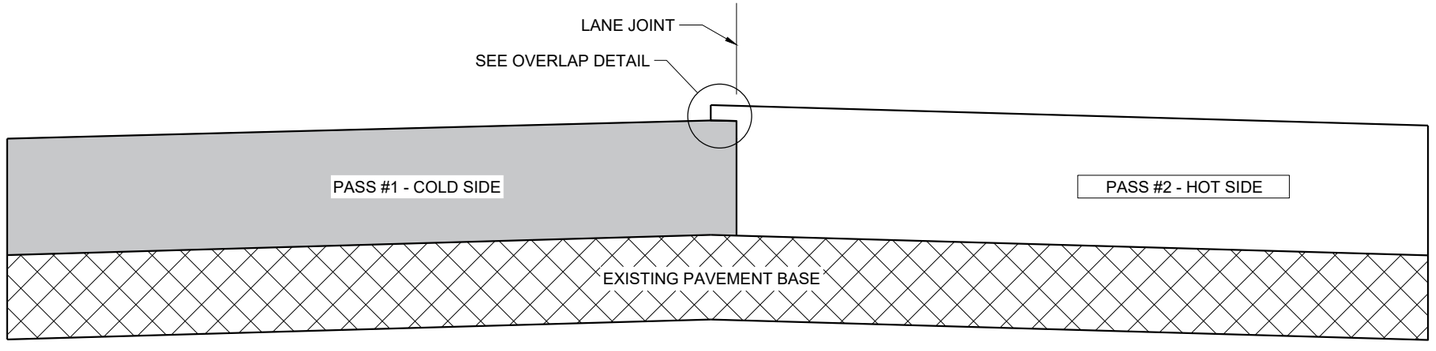
SDD 13A11 - 04d



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

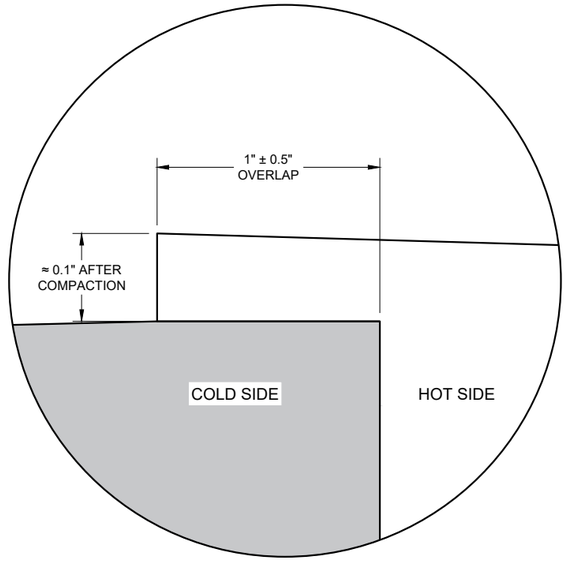
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

GENERAL NOTES

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

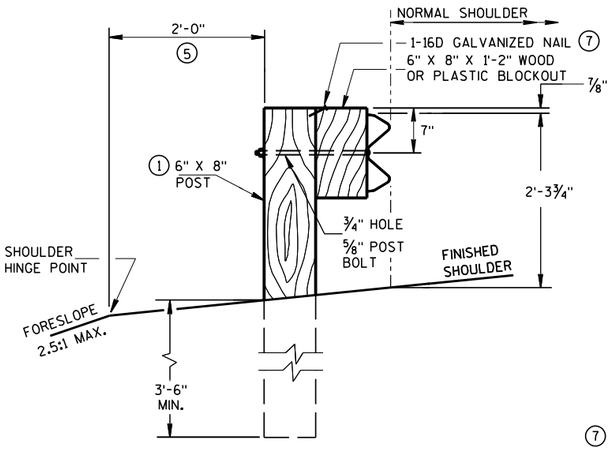
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

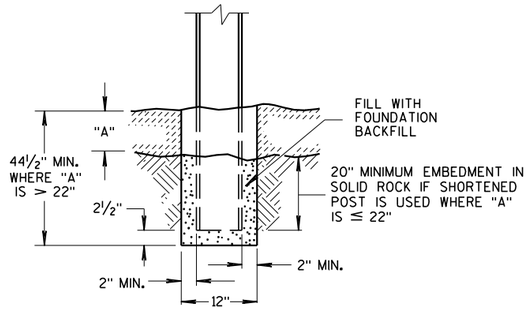
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

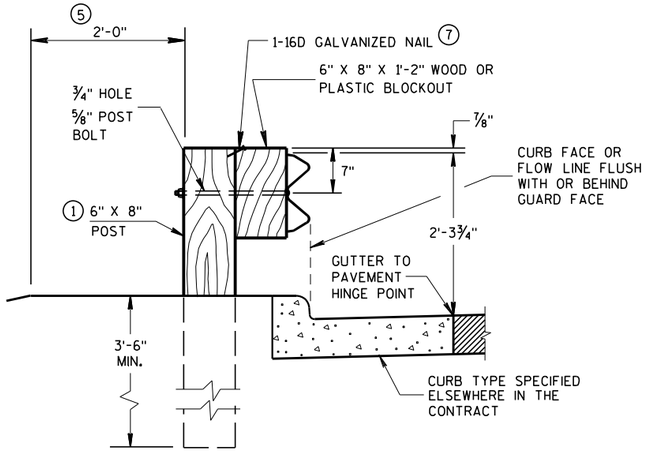
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



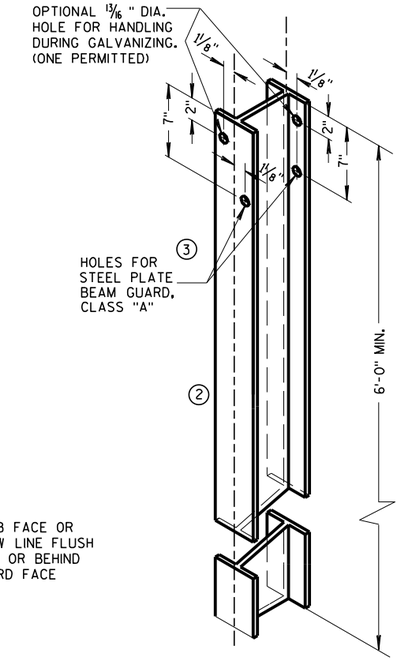
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)

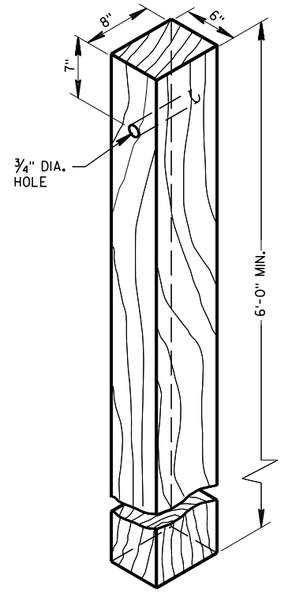


END VIEW
LOCATED ALONG A CURBED ROADWAY

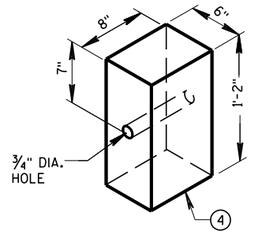


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

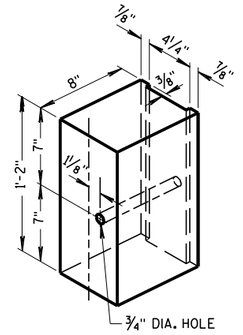
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



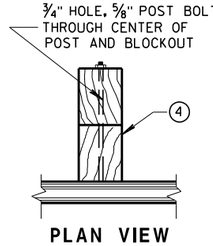
WOOD POST
(6"X8") NOMINAL



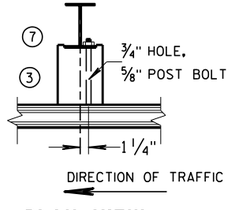
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



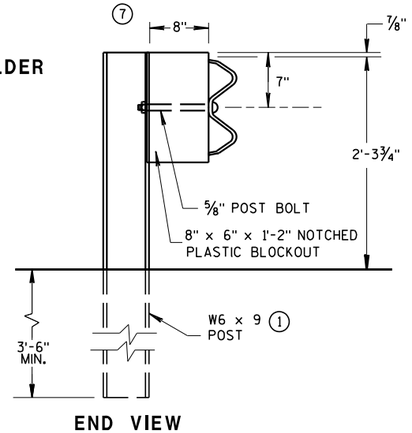
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



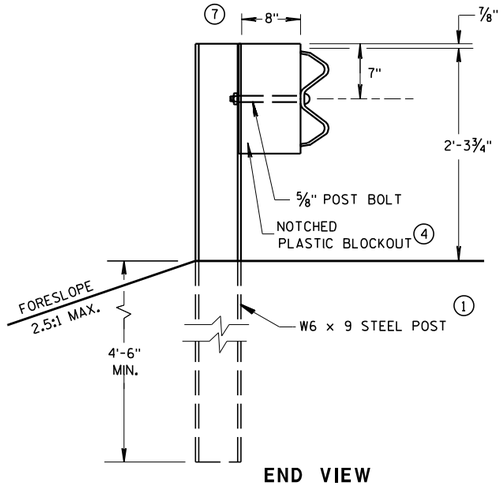
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



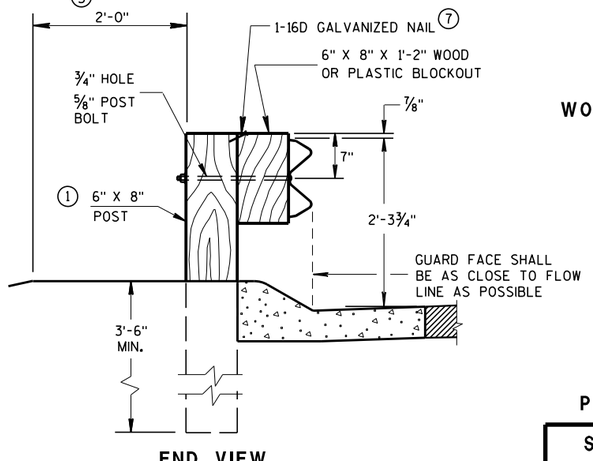
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

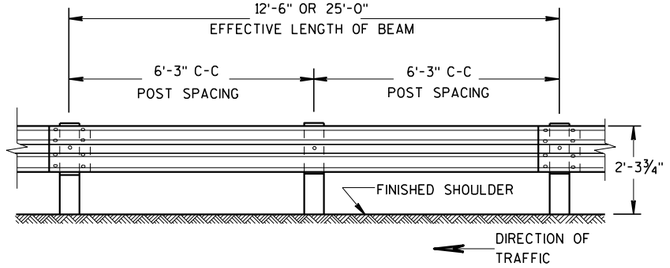
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

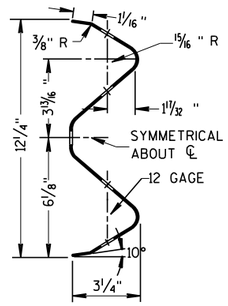
S.D.D. 14 B 15-11a

S.D.D. 14 B 15-11a

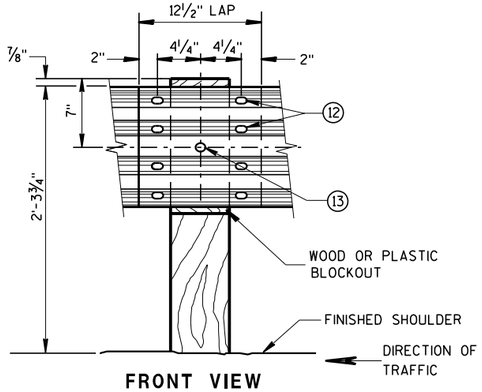


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

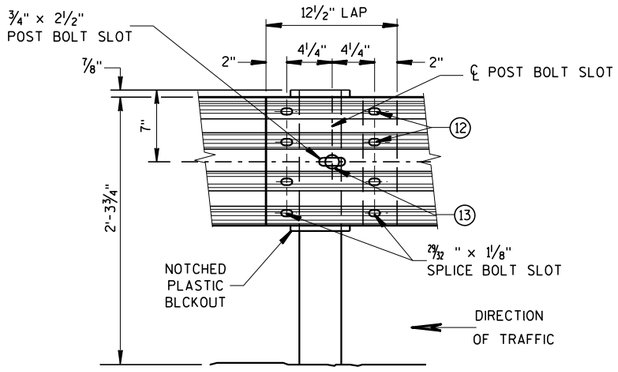
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.

FRONT VIEW

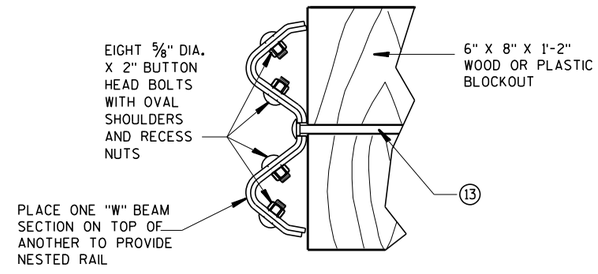
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

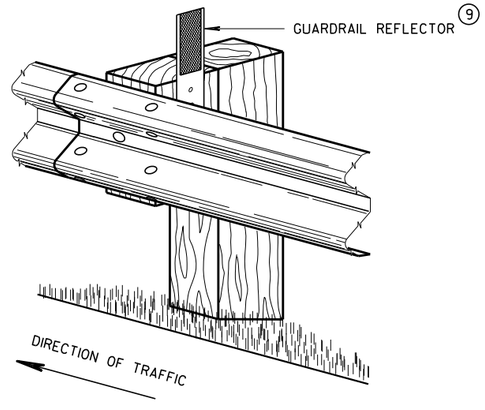
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



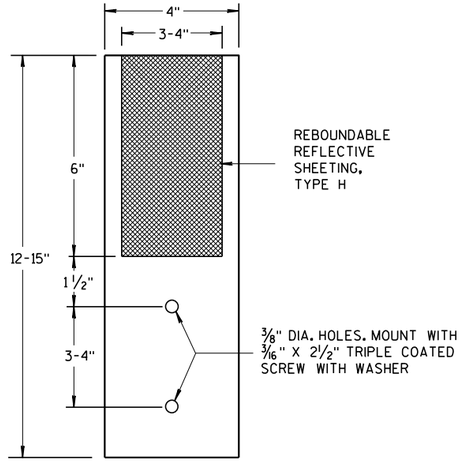
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

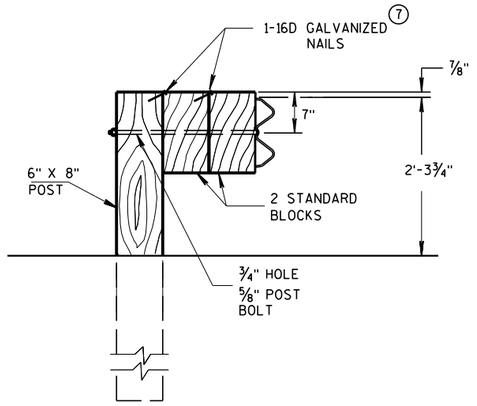
STATE OF WISCO 52
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

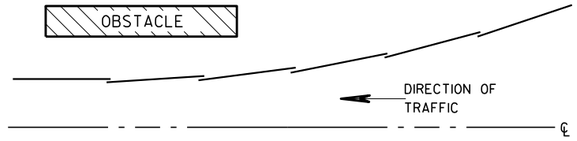
6

S.D.D. 14 B 15-11b

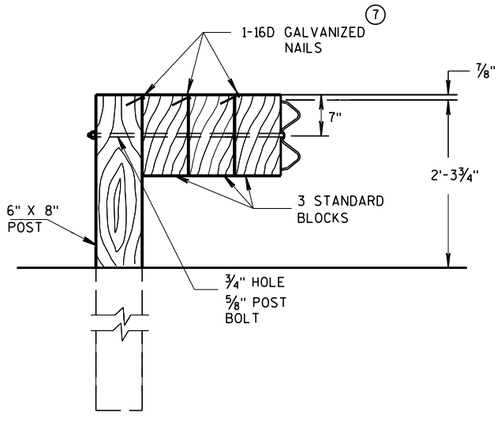


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

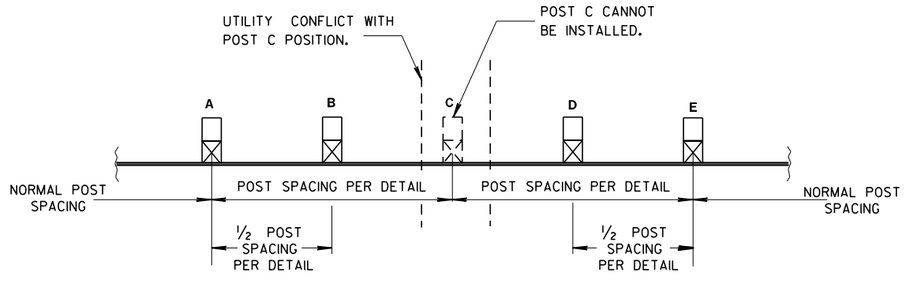


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

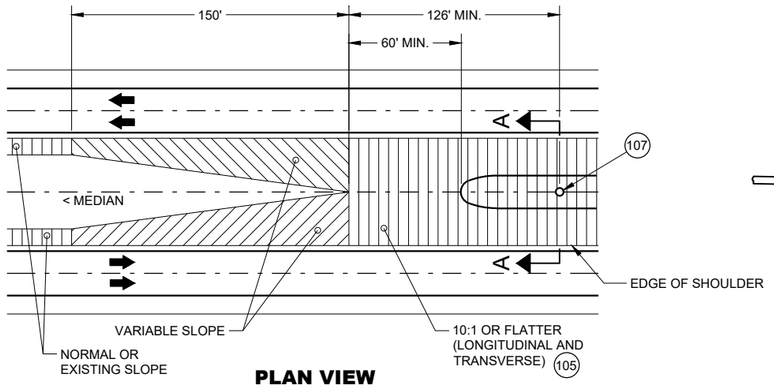
APPROVED
June 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6

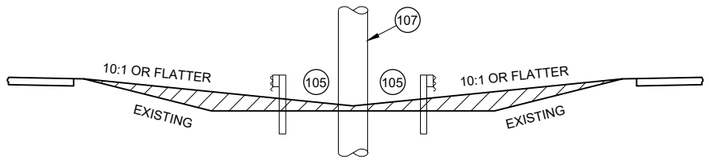
S.D.D. 14 B 15-11c

6

S.D.D. 14 B 15-11c



PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



SECTION A -A
MEDIAN GRADING
(ALL INSTALLATIONS)

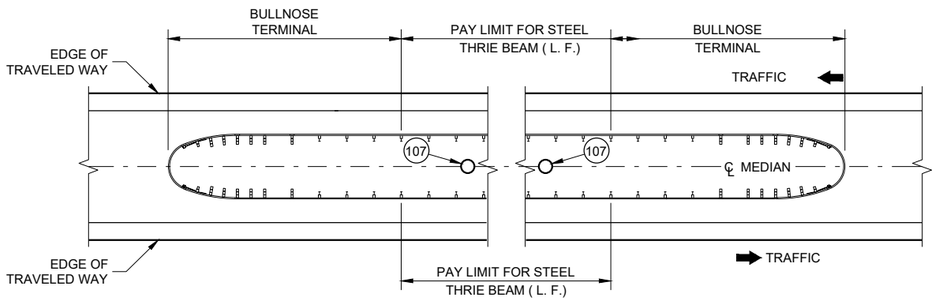
GENERAL NOTES

THRIE BEAM RAILS MAY NEED TO BE FIELD BENT TO FIT THE LOCATION.

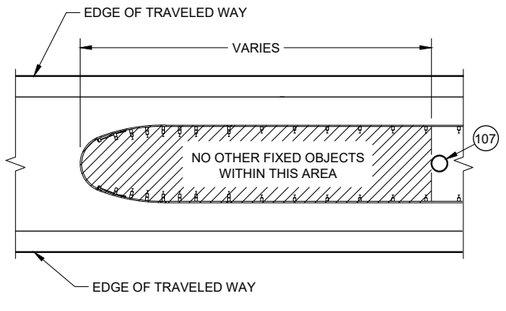
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½". MINIMUM DIAMETER OF THE ROCK REMOVAL IS 12" DIAMETER

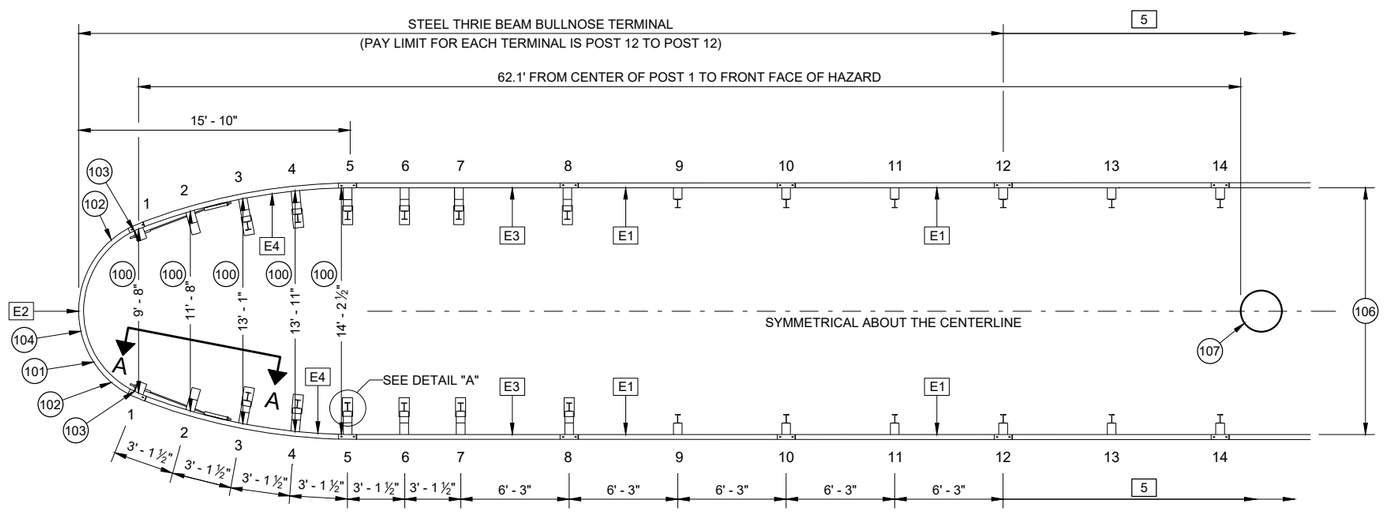
- E1 UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
- E2 SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
- E3 SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
- E4 SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.
- (100) DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- (101) U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- (102) NOSE CABLE WITH SWAGGED END BUTTONS.
- (103) NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- (104) THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- (105) MINIMUM WORKING WIDTH 4' - 2".
- (106) MAX. WIDTH OF SYSTEM IS 14' - 2 ½" MEASURED FROM THE BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.
- (107) FIXED OBJECT OR OTHER HAZARD.
- (108) PLAN IS TO PROVIDE STATION OFFSET TO CENTER OF POST 5 IN PLANS.



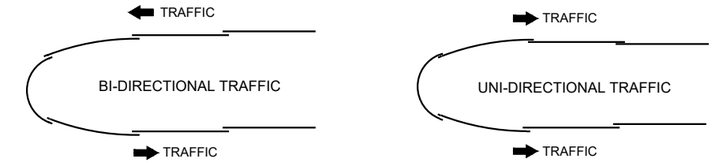
MEDIAN HAZARD PROTECTION PAY LIMITS



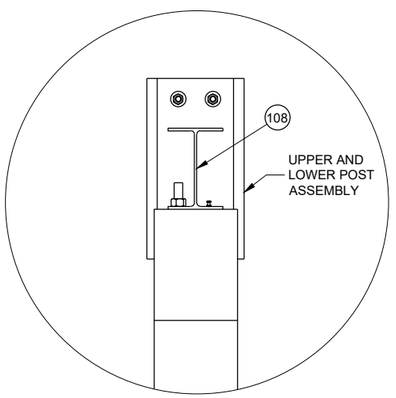
HAZARD FREE AREA
INSIDE BULLNOSE



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL



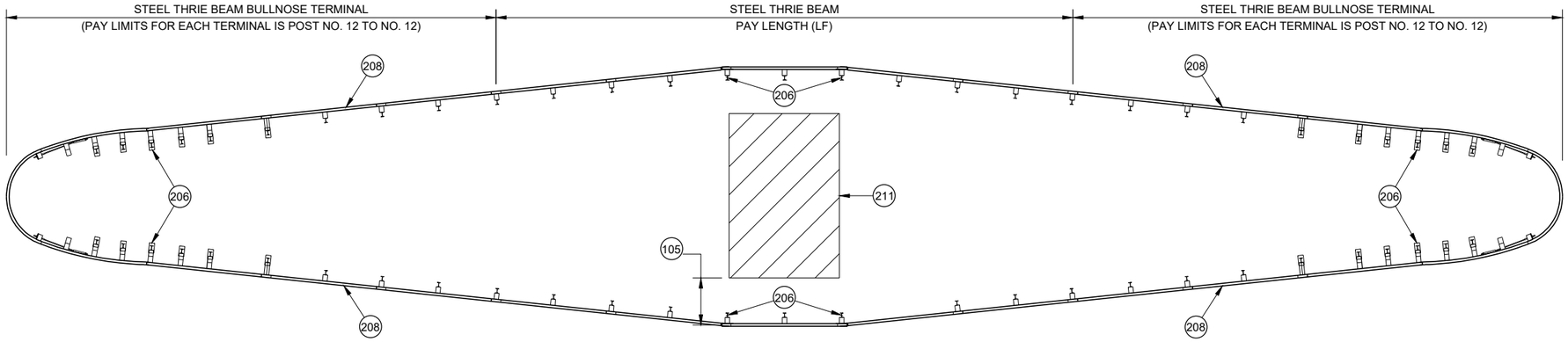
DETAIL "A"

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B26 - 05a



VARIABLE WIDTH BULLNOSE

GENERAL NOTES

200 6' - 3" ASYMMETRICAL 10-GAUGE W-BEAM TO THRIE BEAM GUARD TRANSITION. SEE SDD 14B45 FOR MORE INFORMATION.

201 W-BEAM RAIL. SEE SDD 14B42 FOR MORE INFORMATION.

202 SEE POST NO. 9 AND ALL STEEL THRIE BEAM POST BEYOND DETAIL.

203 SEE SDD 14B42 FOR INSTALLATION INFORMATION.

204 SEE SDD 14B45 FOR INSTALLATION DETAILS. REPLACE ASYMMETRICAL W-BEAM TO THRIE BEAM TRANSITION AND W-BEAM RAIL WITH E1. PAY FOR MODIFIED THRIE BEAM TRANSITION.

205 CONCRETE BARRIER OR BRIDGE RAIL.

206 SEE PLAN FOR STATION AND OFFSET TO CENTER OF POST.

207 SEE PLAN FOR STATION AND OFFSET TO CENTER OF SPLICE.

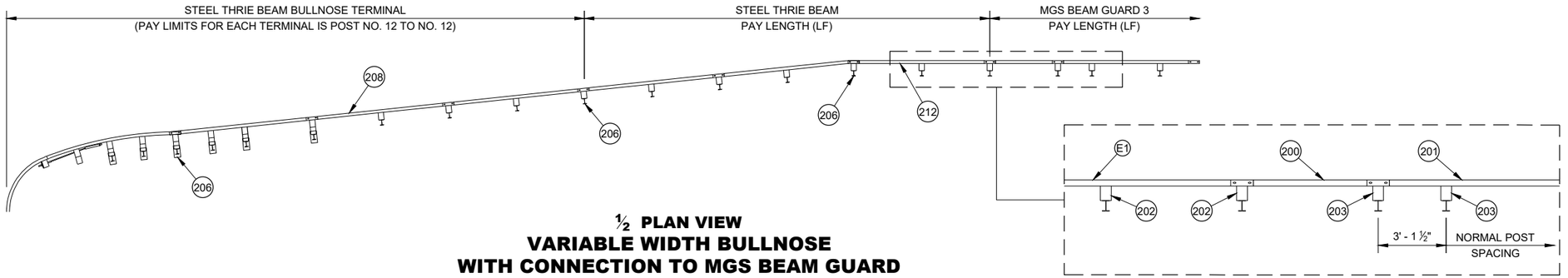
208 SEE PLAN FOR FLARE RATE.

209 A MINIMUM OF 25 FT OF THRIE BEAM TANGENT BEFORE TRANSITIONING TO BEAM GUARD OR THRIE BEAM TRANSITION.

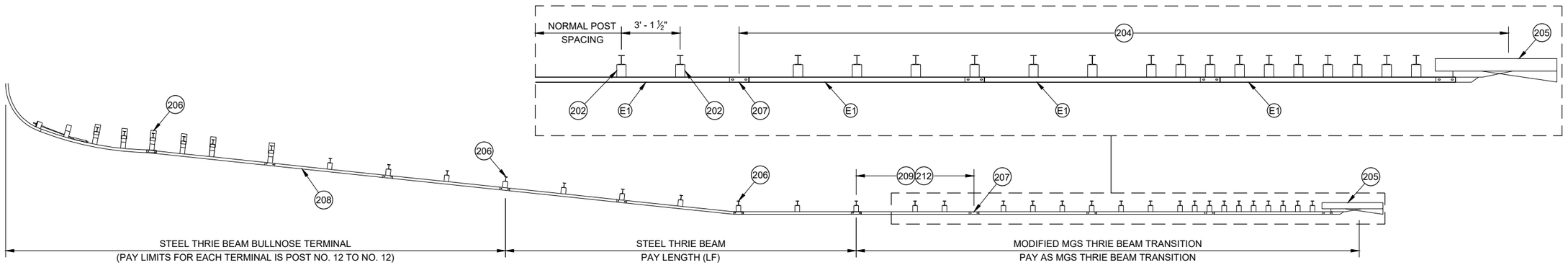
210 NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.

211 WIDER HAZARD TO BE SHIELDED.

212 TRANSITION RAIL HEIGHT TO 31" OVER THE LENGTH OF A 12' - 6" BEAM SECTION.



½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO MGS BEAM GUARD



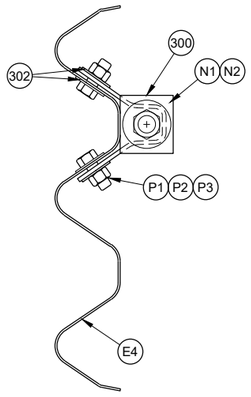
½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO RIGID BARRIER

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

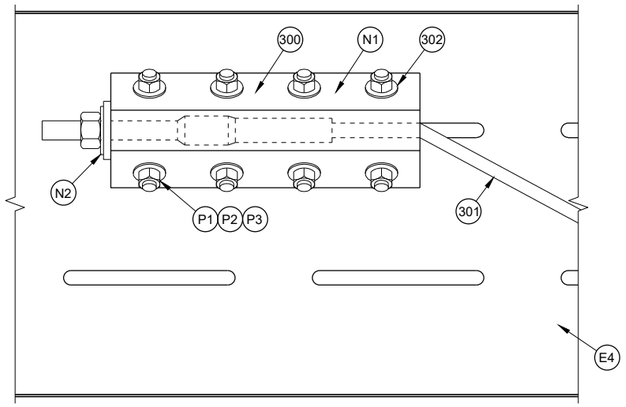
6

SDD 14B26 - 05b

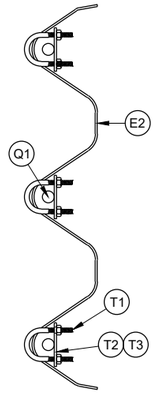


PROFILE VIEW

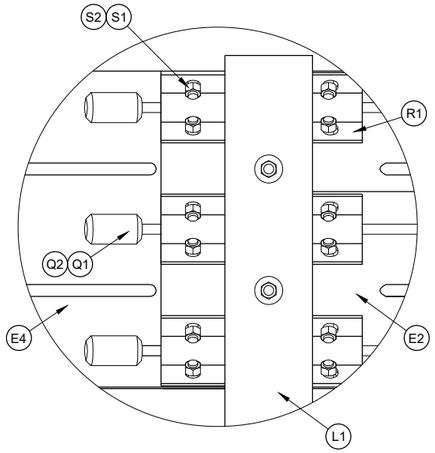
CABLE ANCHOR ASSEMBLY CONNECTION



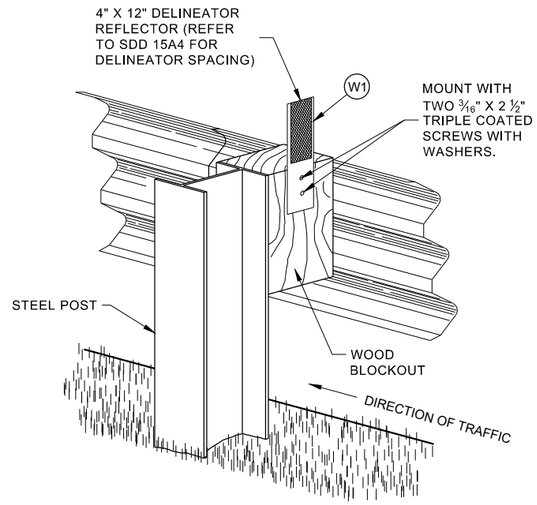
CABLE ANCHOR ASSEMBLY



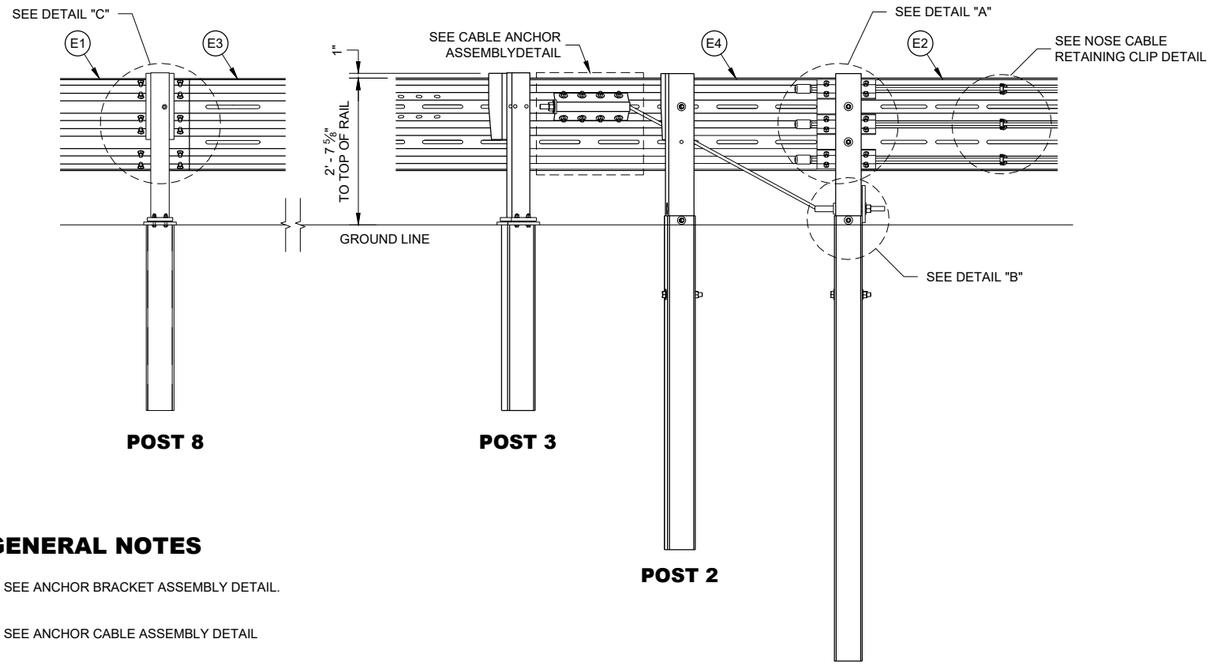
NOSE CABLE RETAINING CLIP



DETAIL "A"

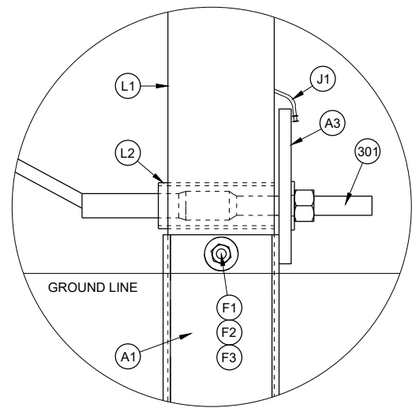


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

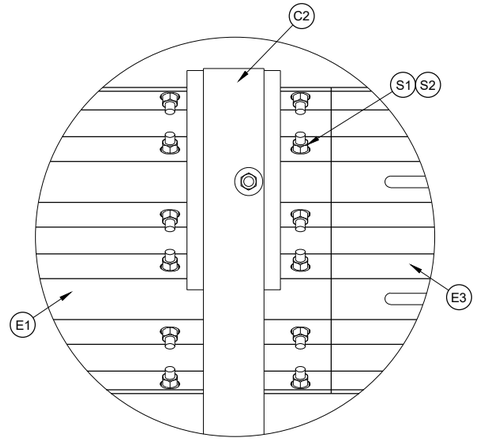


POST 8 **POST 3** **POST 2** **POST 1**

CROSS SECTION A - A



DETAIL "B"



DETAIL "C" THRIE BEAM SPLICE

GENERAL NOTES

(300) SEE ANCHOR BRACKET ASSEMBLY DETAIL.

(301) SEE ANCHOR CABLE ASSEMBLY DETAIL

(302) ONE WASHER BETWEEN BOLT HEAD AND RAIL AND BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

(303) ONE WASHER BETWEEN BOLD HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

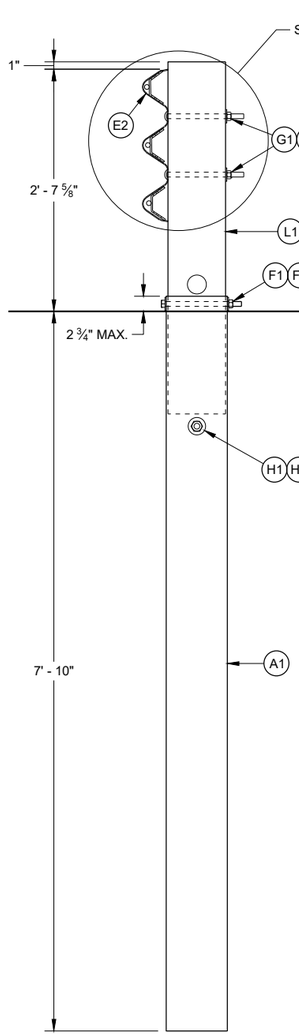
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

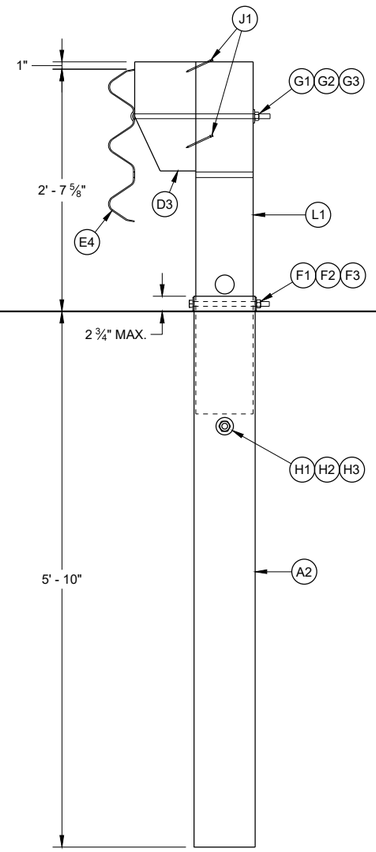
6

SDD 14B26 - 05c

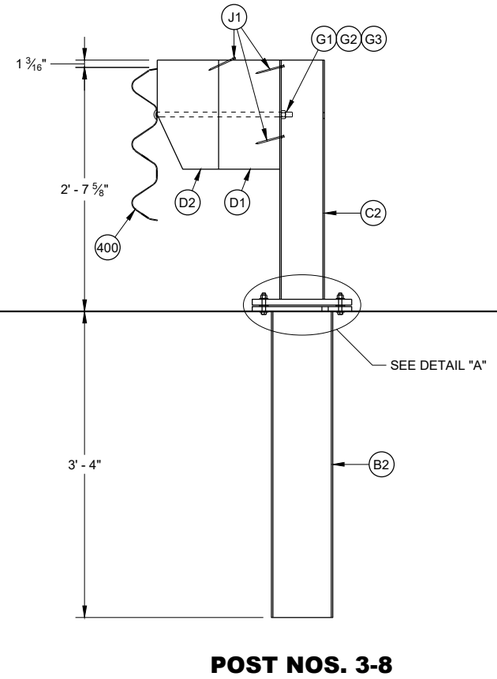
SDD 14B26 - 05c



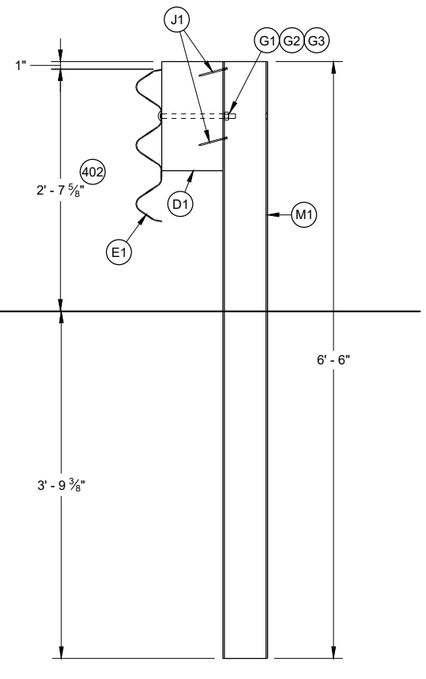
POST NO. 1



POST NO. 2



POST NOS. 3-8



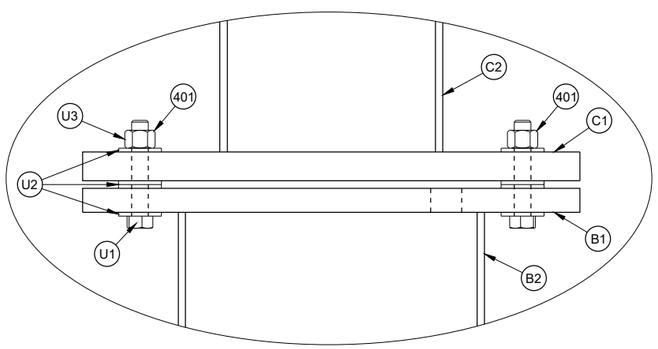
POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND

GENERAL NOTES

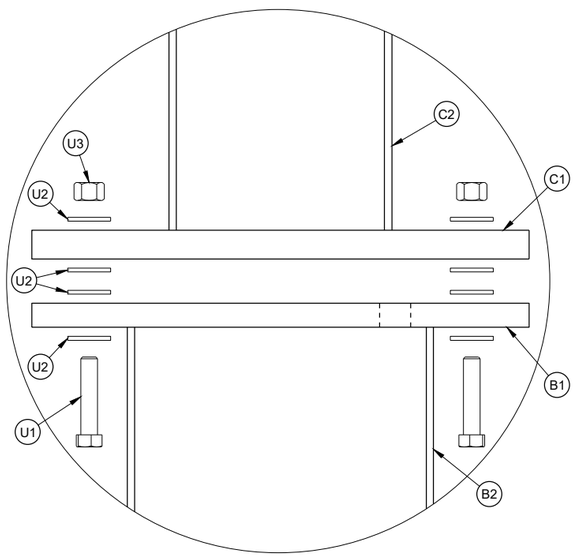
(400) RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.

(401) TORQUE BOLD BETWEEN 60-75 FT-LB

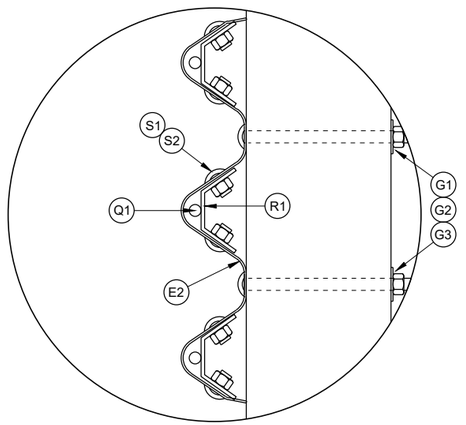
(402) HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".



DETAIL "A"



EXPLODED VIEW
DETAIL "A"



DETAIL "B"

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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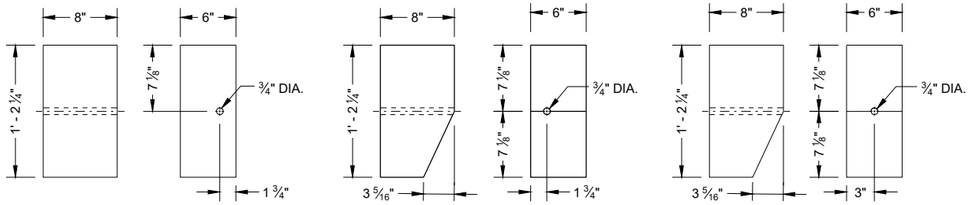
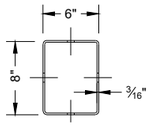
SDD 14B26 - 05d



ELEVATION PROFILE
BLOCKOUT (D1)

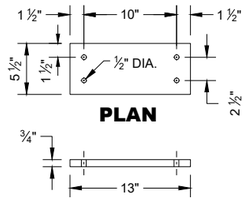
ELEVATION PROFILE
BLOCKOUT (D2)

ELEVATION PROFILE
BLOCKOUT (D3)



PLAN

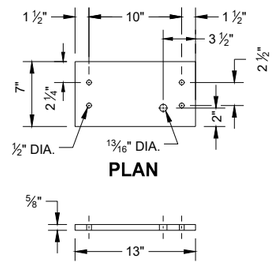
PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 4"



PLAN

PROFILE

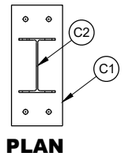
UPPER SHEAR PLATE (C1)



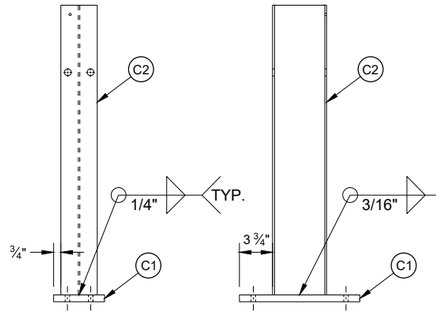
PLAN

PROFILE

LOWER SHEAR PLATE (B1)

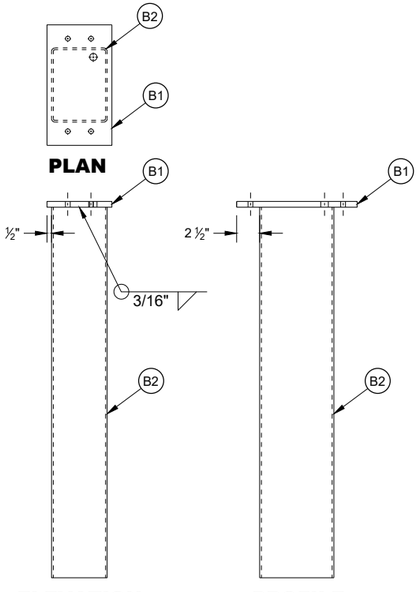


PLAN



ELEVATION PROFILE

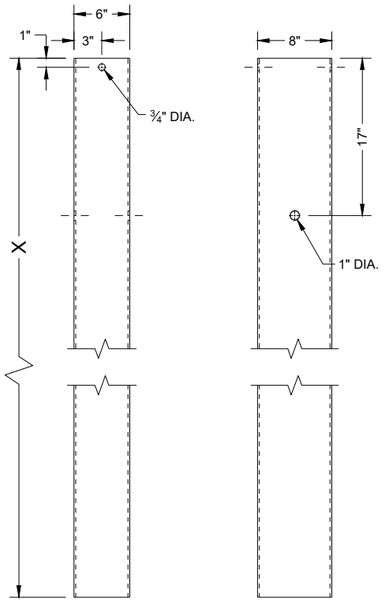
UPPER POST ASSEMBLY



PLAN

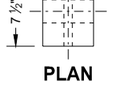
ELEVATION PROFILE

LOWER POST ASSEMBLY

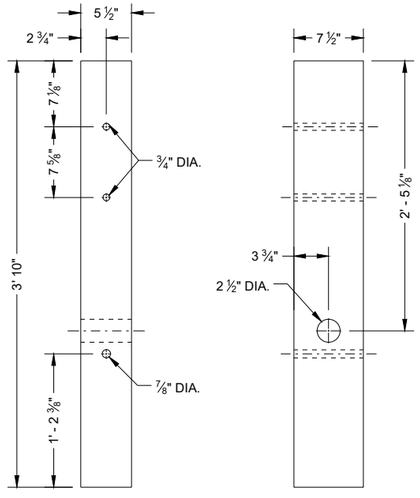


ELEVATION PROFILE

FOUNDATION TUBE

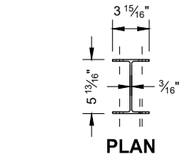


PLAN

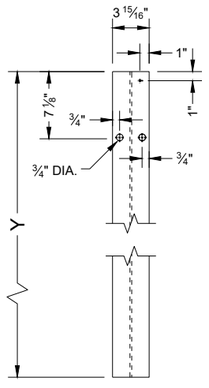


ELEVATION PROFILE

BCT POST (L1)



PLAN



ELEVATION

POST

PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 7 5/8"

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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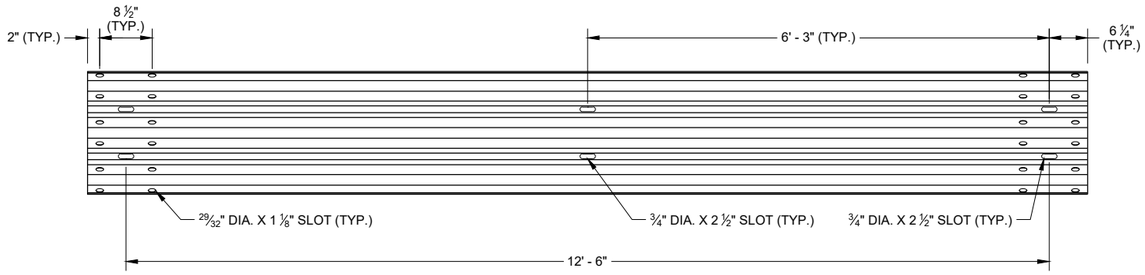
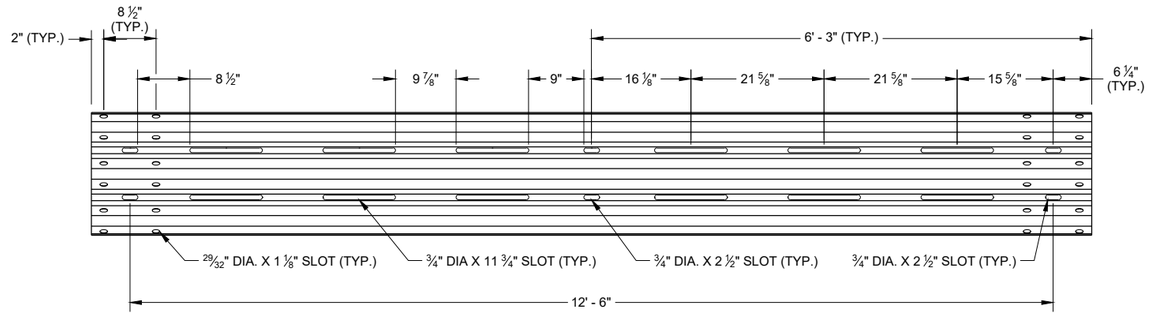
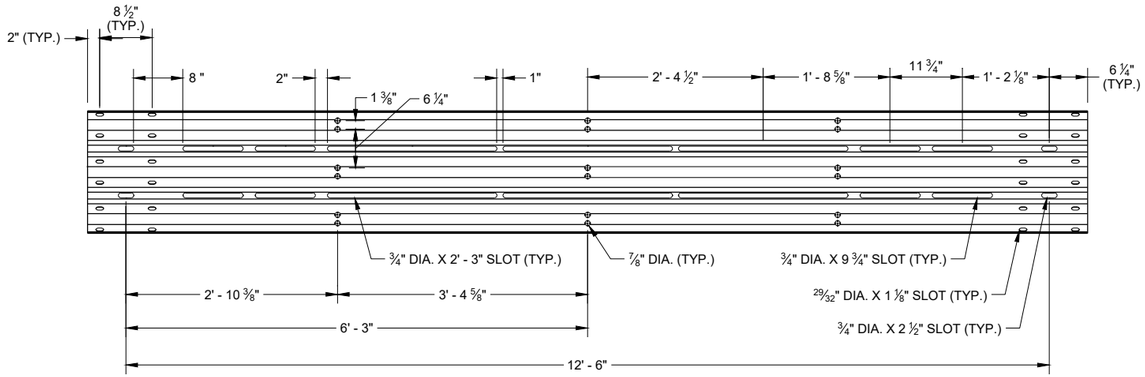
SDD 14B26 - 05e
SDD 14B26 - 05e



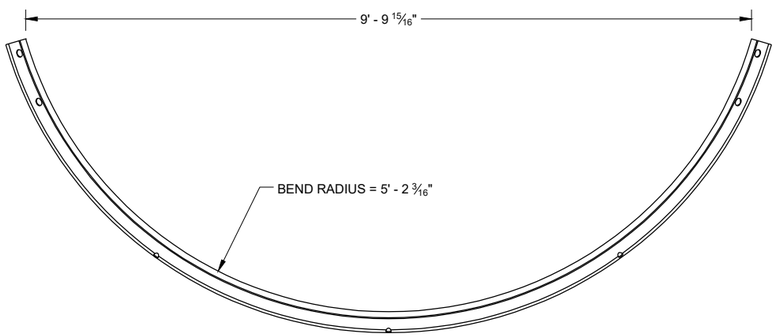
SLOTTED THRIE BEAM RAIL E1



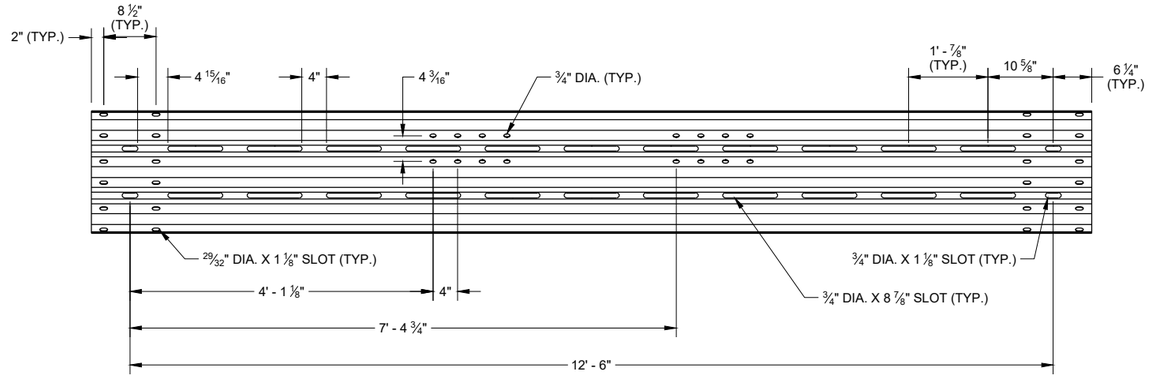
SLOTTED THRIE BEAM RAIL E3



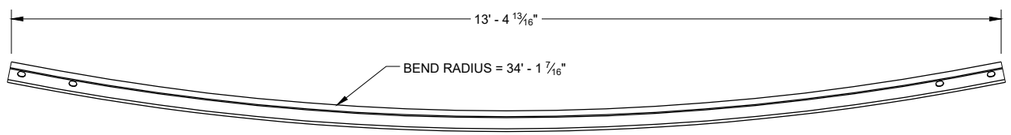
ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E2



PLAN VIEW
SLOTTED THRIE BEAM RAIL E2



ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E4



PLAN VIEW
SLOTTED THRIE BEAM RAIL E4

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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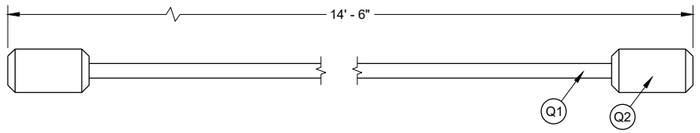
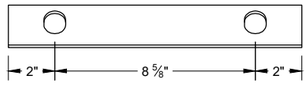
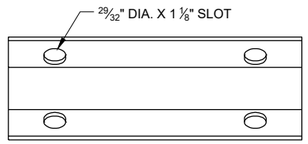
SDD 14B26 - 05f



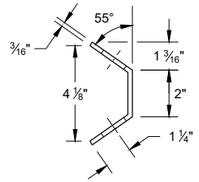
NOSE CABLE AND SWAGE BUTTON



PLAN VIEW

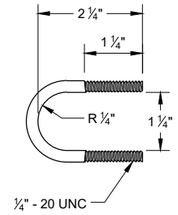


ELEVATION VIEW

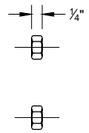


PROFILE VIEW

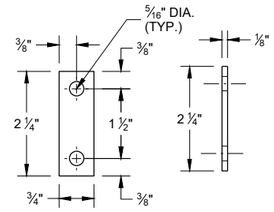
NOSE CABLE ANCHOR (R1)



U - BOLT (T1)

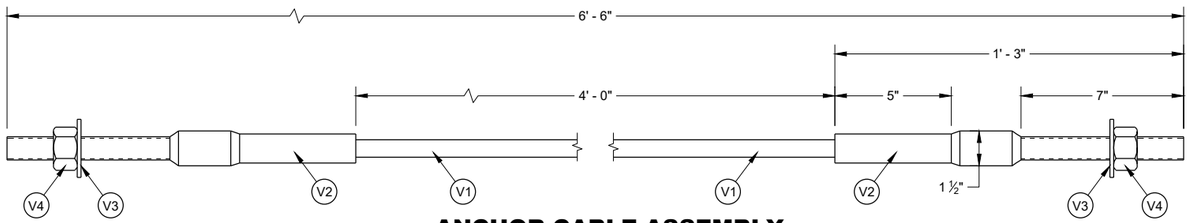


U - BOLT NUT (T3)

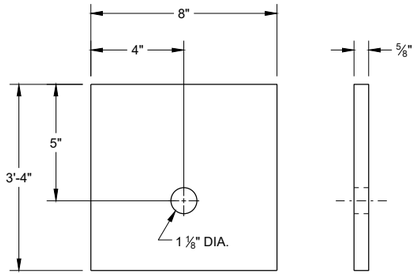


ELEVATION VIEW **PROFILE VIEW**

U - BOLT PLATE WASHER (T2)

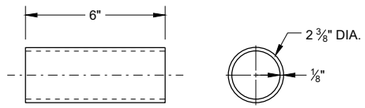


ANCHOR CABLE ASSEMBLY



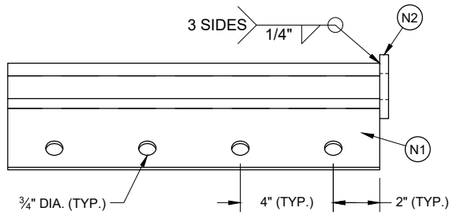
ELEVATION VIEW **PROFILE VIEW**

BCT BEARING PLATE (A3)

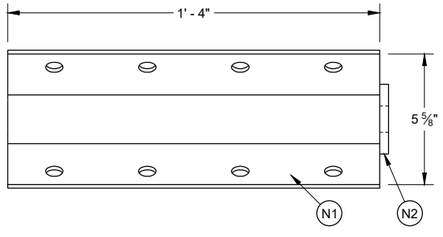


ELEVATION VIEW **PROFILE VIEW**

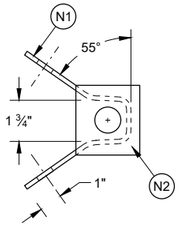
BCT POST SLEEVE (L2)



PLAN VIEW

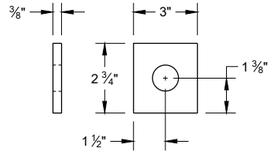


ELEVATION VIEW



PROFILE VIEW

ANCHOR BRACKET ASSEMBLY (N1)



ANCHOR BRACKET END PLATE (N2)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B26 - 05g

SDD 14B26 - 05g

BILL OF MATERIALS LIST

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
A1	LONG FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A2	FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A3	BEARING PLATE AT POST	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B1	LOWER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B2	LOWER SLIP POST ASSEMBLY - TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
C1	UPPER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
C2	UPPER SLIP POST ASSEMBLY - POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
D1	BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D2	TAPERED BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D3	TAPERED BLOCK FOR BCT POST - WOOD	WISDOT SPEC. 614
E1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E2	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
E3	THRIE BEAM RAIL - PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E4	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
F1	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
F2	5/8" DIA. GROUND STRUT AND YOKE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
F3	GROUND STRUT AND YOKE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
G1	5/8 " DIA. POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G2	POST BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G3	POST BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
H1	7/8" DIA. SOIL TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
H2	SOIL TUBE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDEN WASHER ONLY)
H3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
J1	16D DOUBLE HEAD NAIL	ASTM A153 HOT DIPPED CLASS D DOUBLE HEAD ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)
L1	BCT TIMBER POST	WISDOT SPEC. 614 S4S FINISH ON 4 SIDE
L2	BCT POST SLEEVE	AASHTO M111/ASTM A123 2 3/8" OD ASTM 53 GRADE B
M1	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
M2	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N1	ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N2	ANCHOR BRACKET - BEARING PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	ANCHOR BRACKET BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
P3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
Q1	5/8" DIA. NOSE CABLE	6X19 AASTHO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
S1	5/8" DIA. SPLICE BOLT - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
S2	SPLICE - BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
T2	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
T3	U-BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEBLY - BREAKAWAY BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / STM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
V1	¾" DIA. BCT CABLE	AASHTO M30 / ASTM A741 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN BREAKING STRENGTH OF 42.7 KIPS
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. MIN. BREAKING STRENGTH OF 42.7 KIPS. ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."
V3	1" DIA. ANCHOR CABLE-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V4	1" DIA. ANCHOR CABLE-NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
W1	REFLECTOR	SEE SDD 15A4

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SDD 14B26 - 05h

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SDD 14B26 - 05h

STEEL THRIE BEAM BULLNOSE TERMINAL

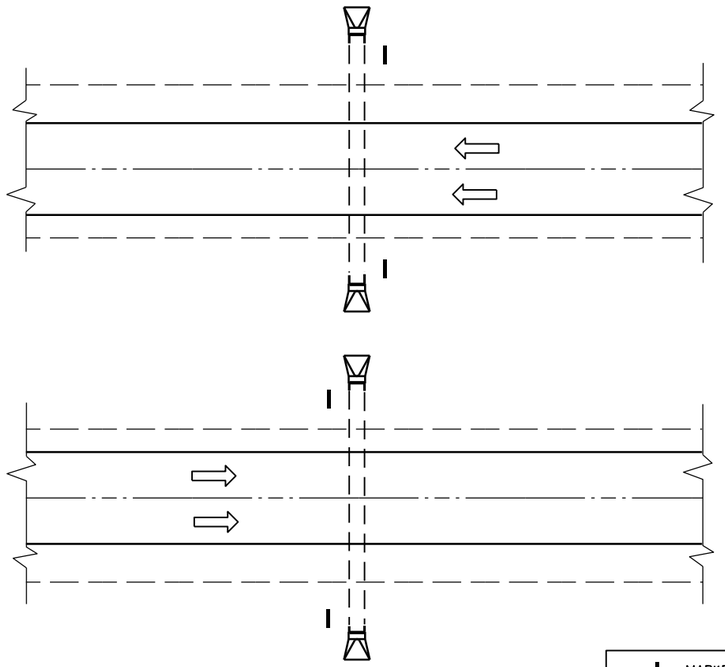
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2022
DATE

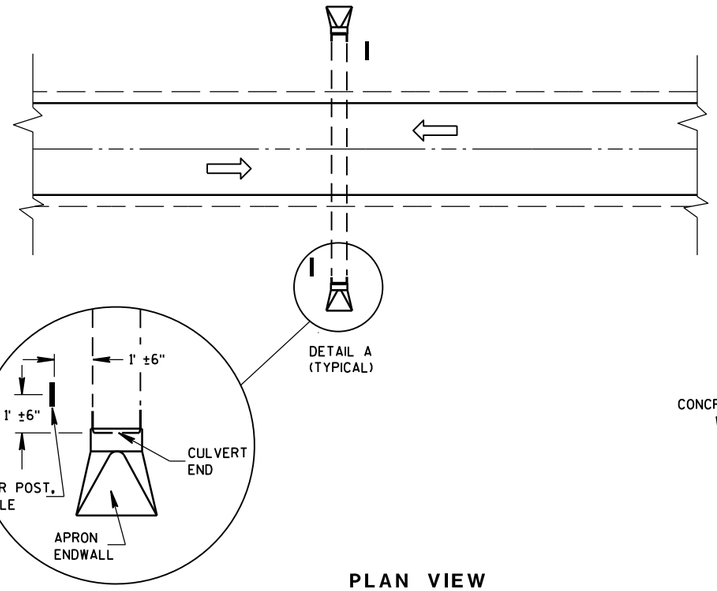
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

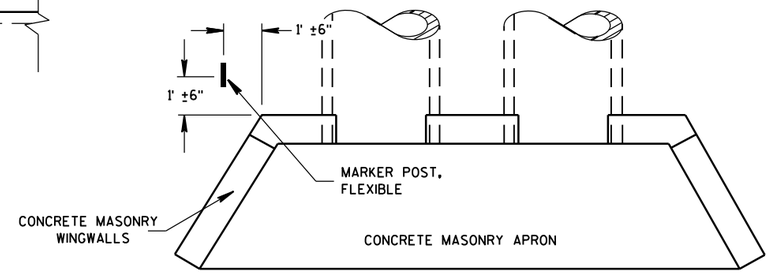
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

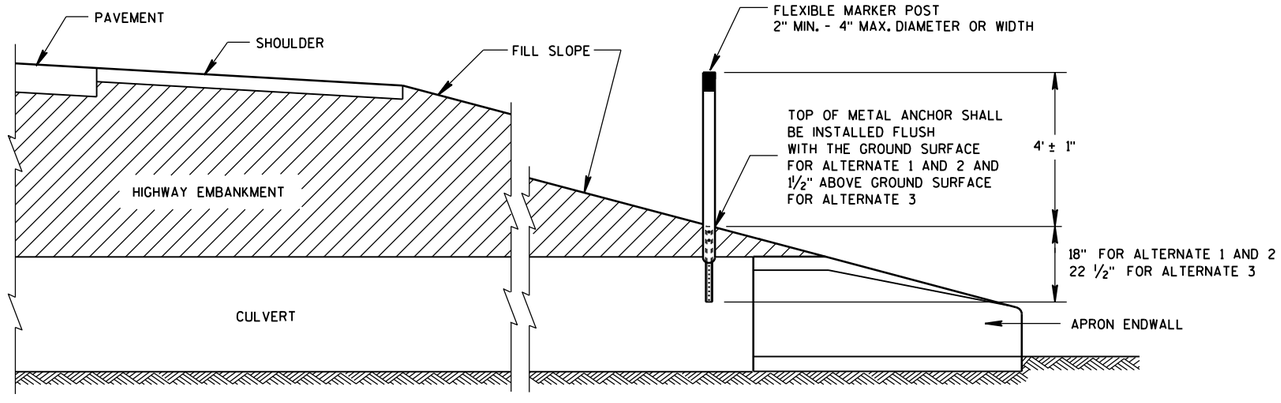
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

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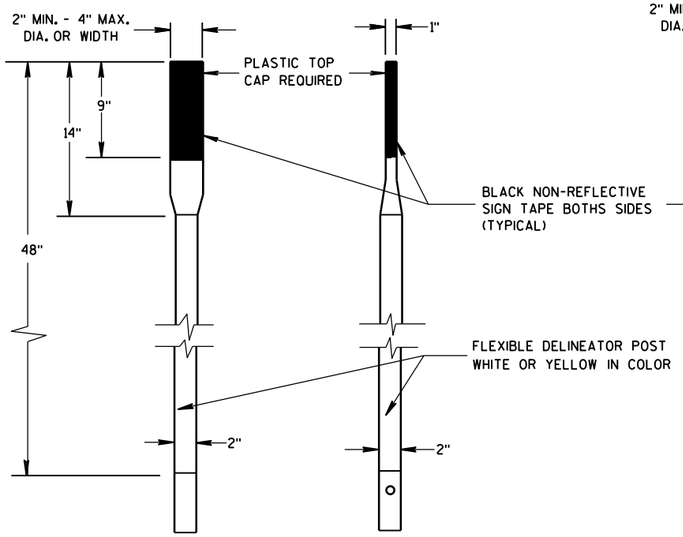
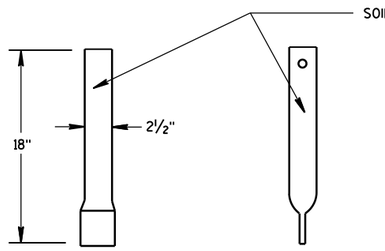
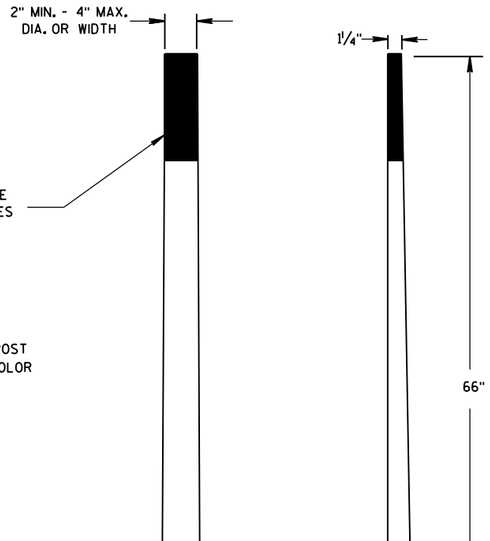
S.D.D. 15 A 3-2a





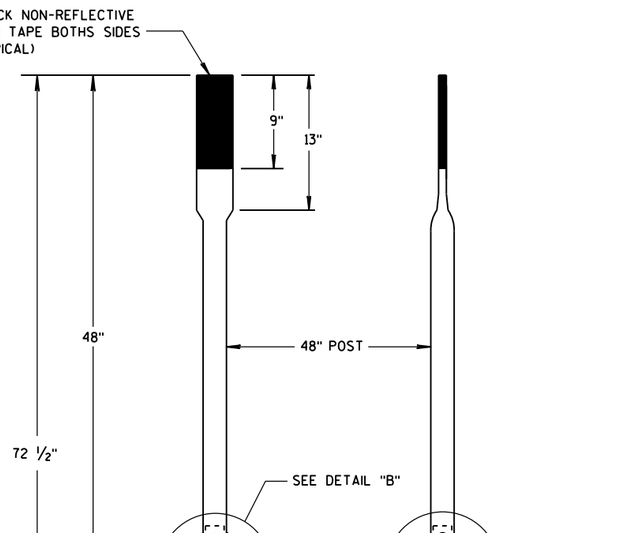
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

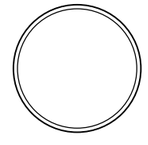
ALTERNATE 2



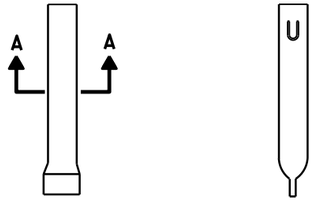
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

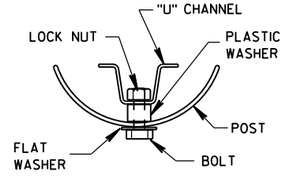


SECTION A-A

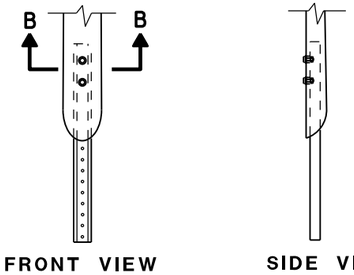


FRONT VIEW SIDE VIEW

ALTERNATE 1

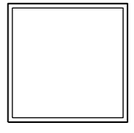


SECTION B-B

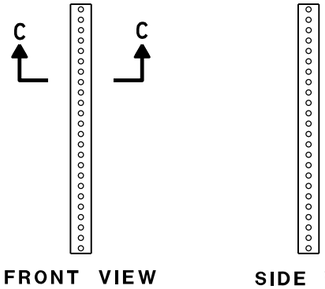


FRONT VIEW SIDE VIEW

ALTERNATE 2



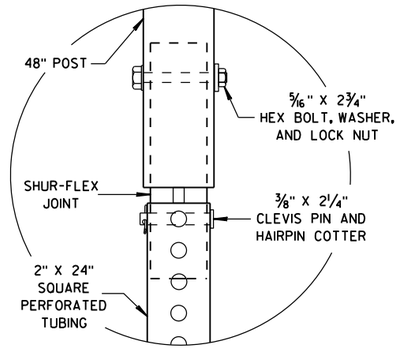
SECTION C-C



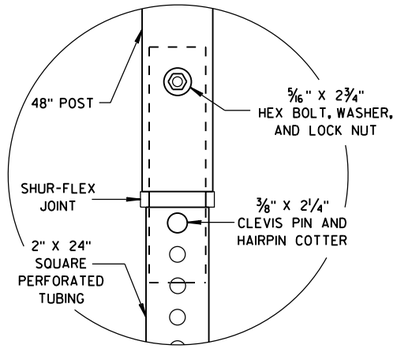
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

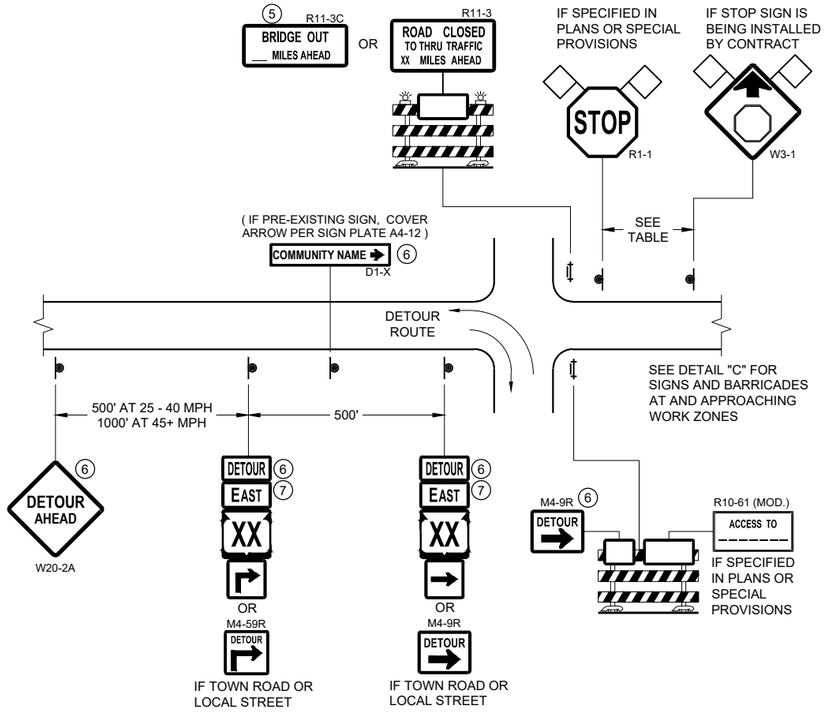
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

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

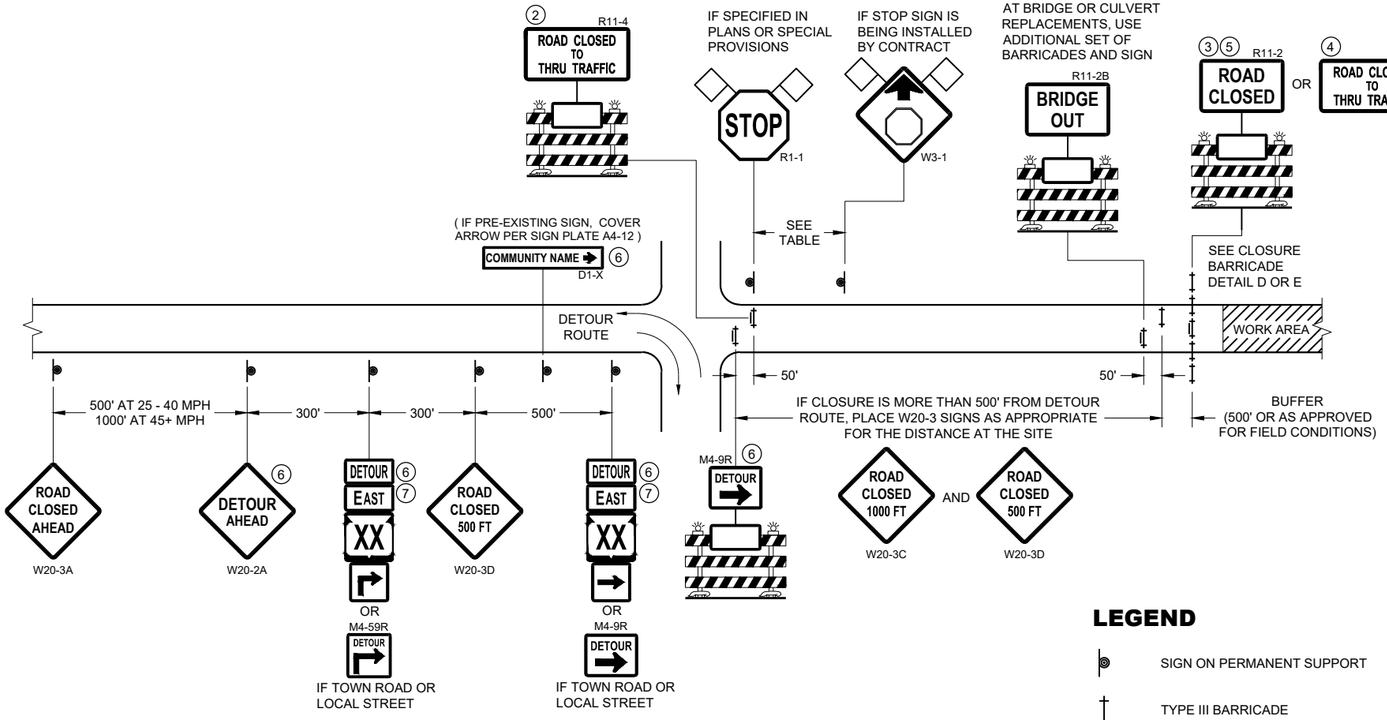
6

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



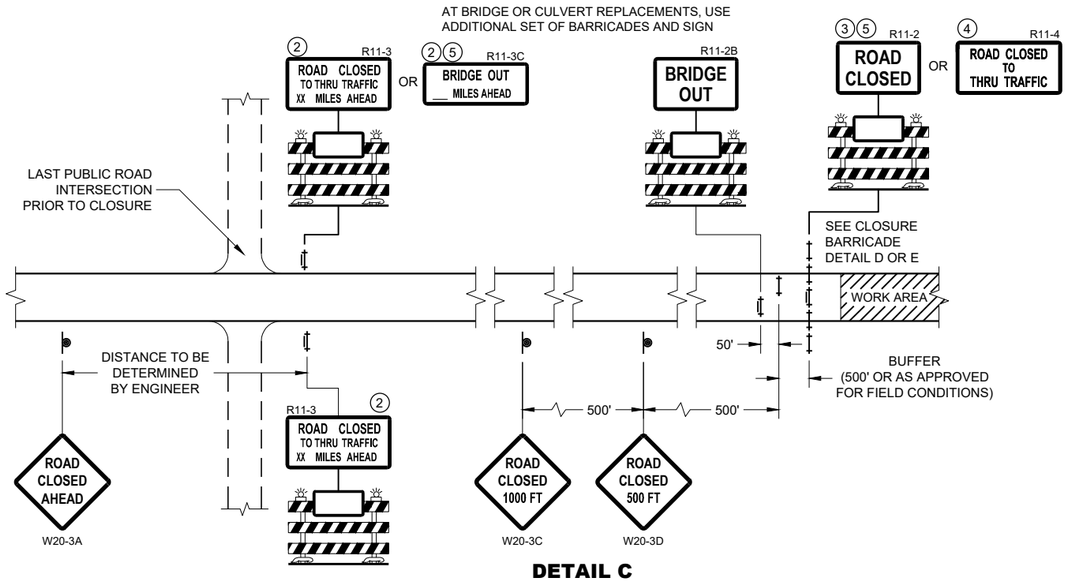
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO 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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

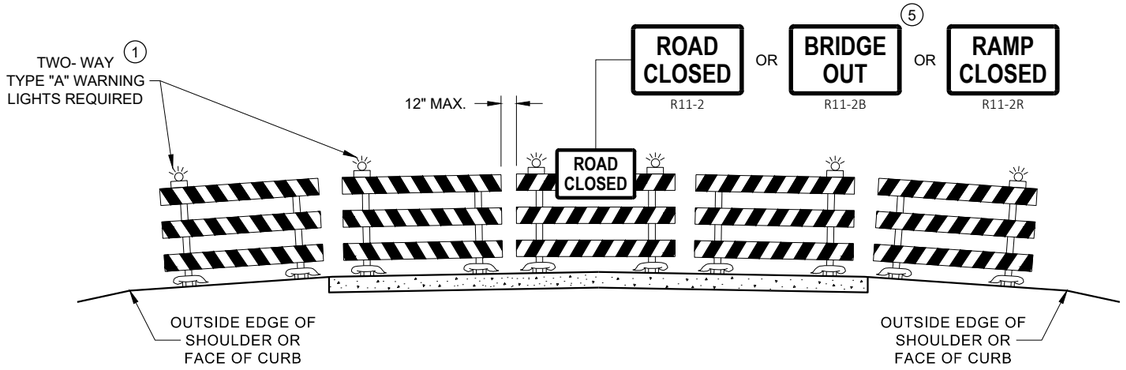
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

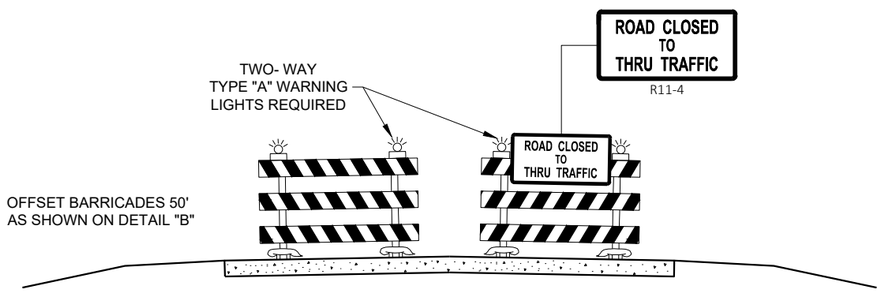
FHWA

6

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

6

SDD 15C02 - 09b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4
- OR XX — M1 - 6
- OR COUNTY X — M1 - 5A
- M05 - 1
- OR M06 - 1
- OR M06 - 1

GENERAL NOTES

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

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

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

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

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

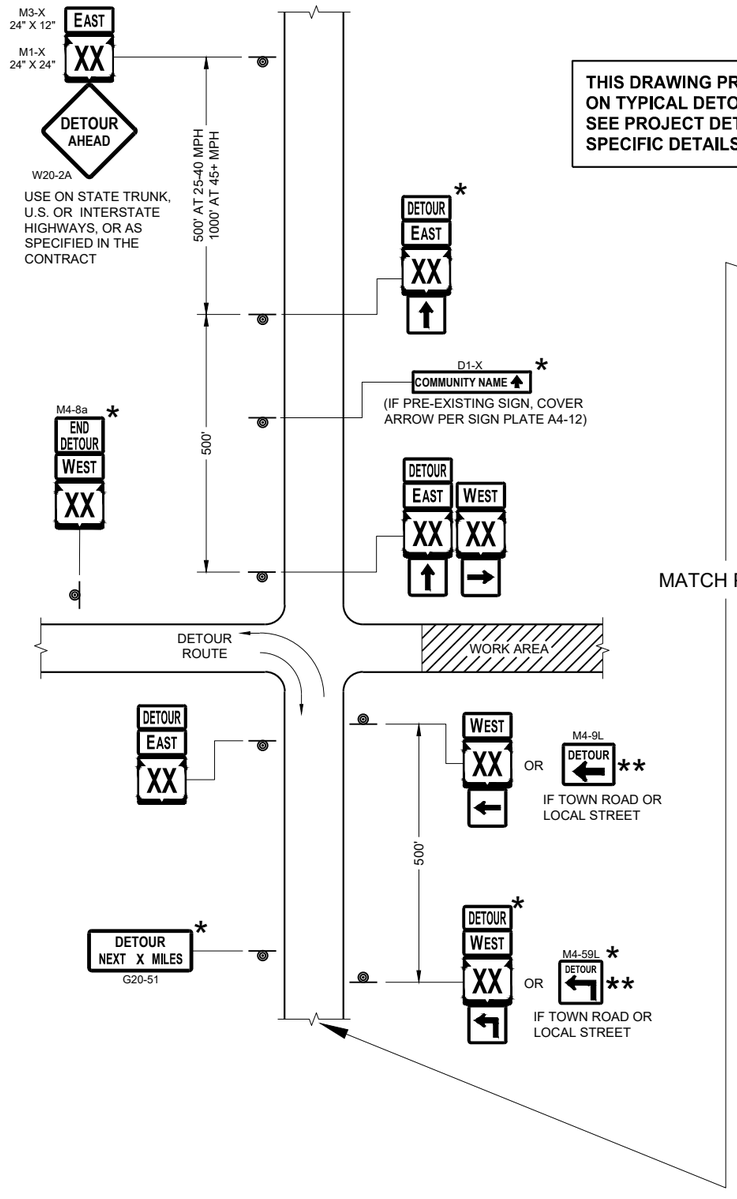
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

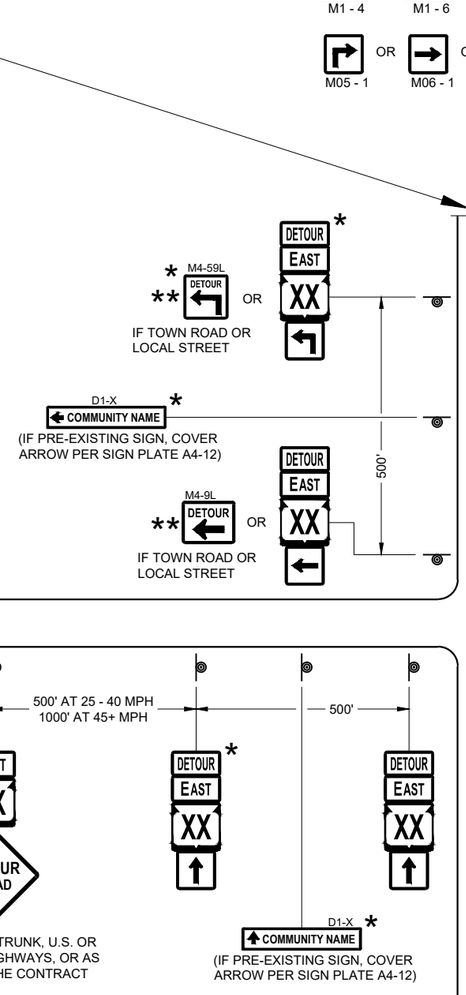
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING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

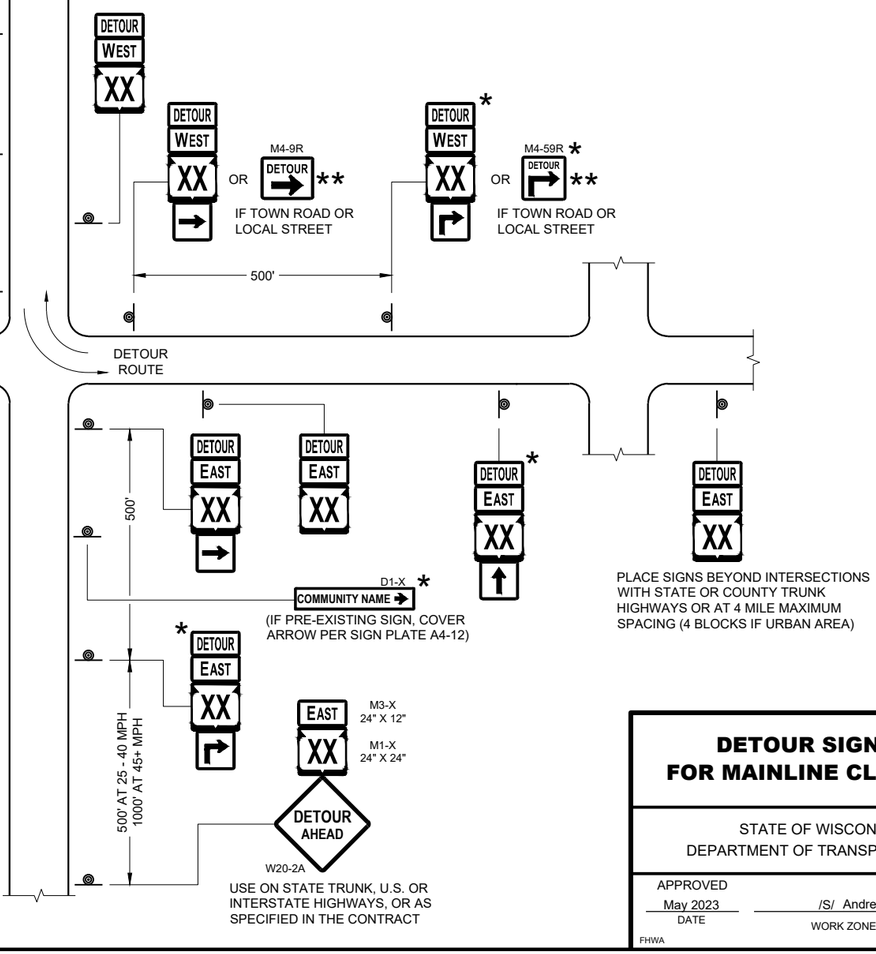
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

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



MATCH POINT





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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

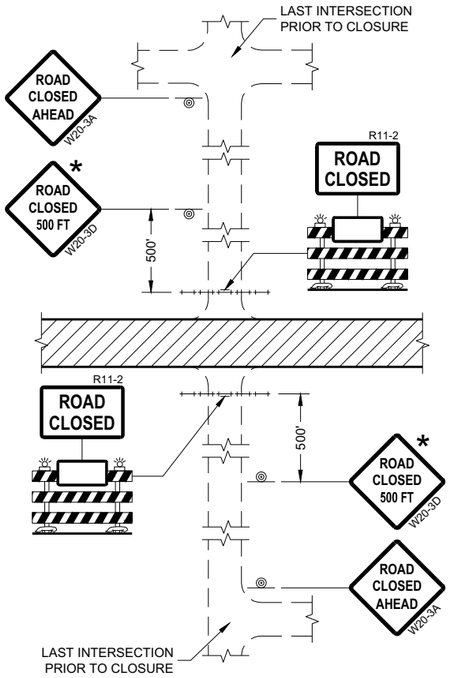
APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

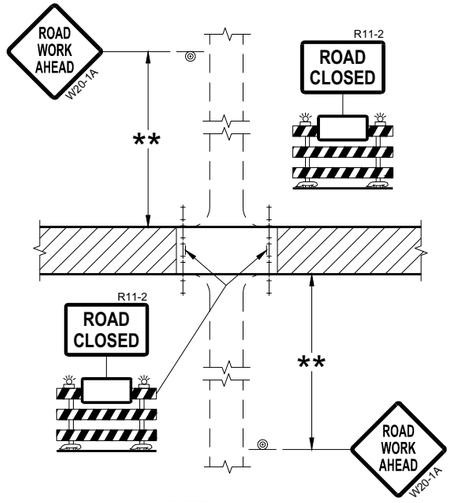
FHWA

6

SDD 15C02 - 09c



DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO 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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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

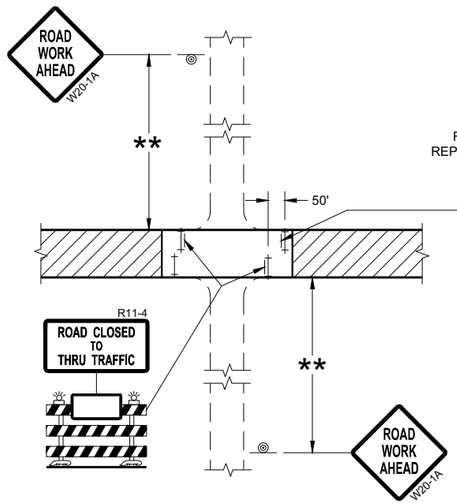
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

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

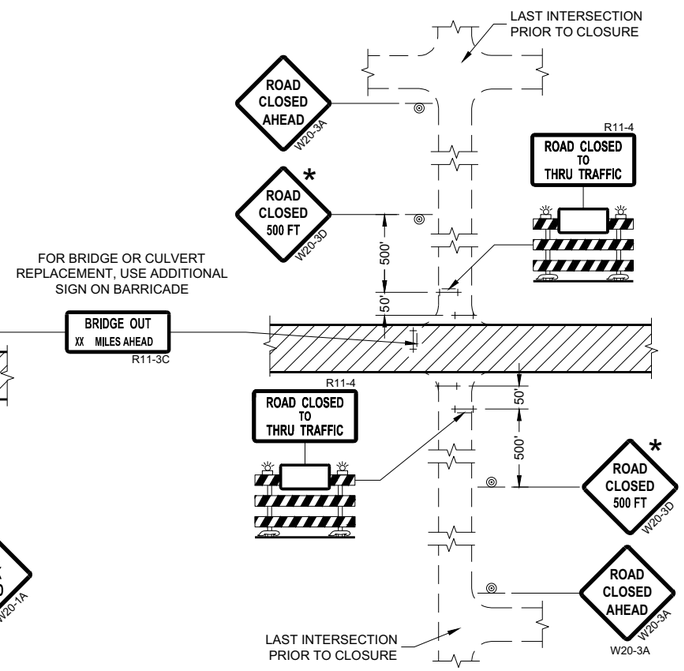
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C03 - 05

GENERAL NOTES

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

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

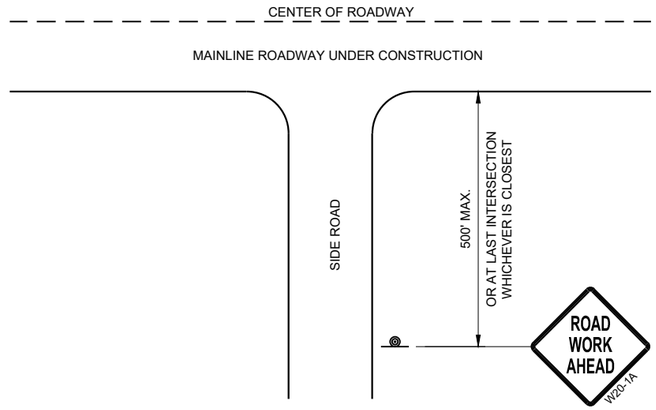
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

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



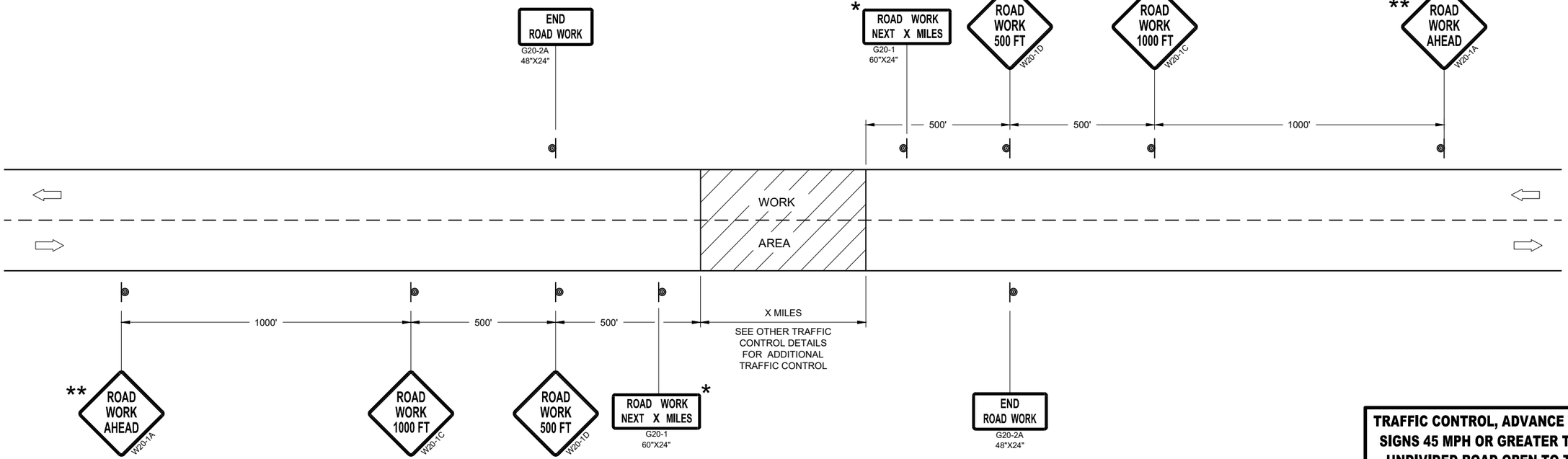
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

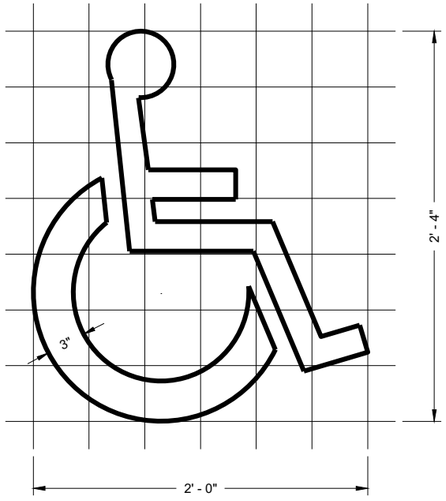
FHWA

6

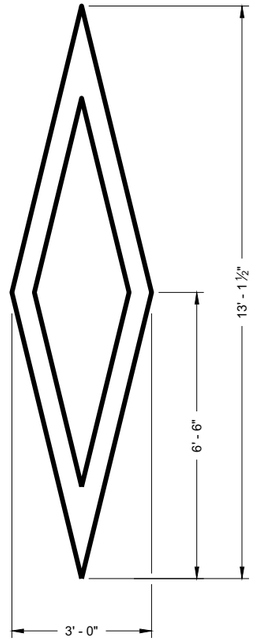
SDD 15C04 - 05

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.



HANDICAP SYMBOL



PREFERENTIAL LANE SYMBOL

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SDD 15C07 - 15a

SDD 15C07 - 15a

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

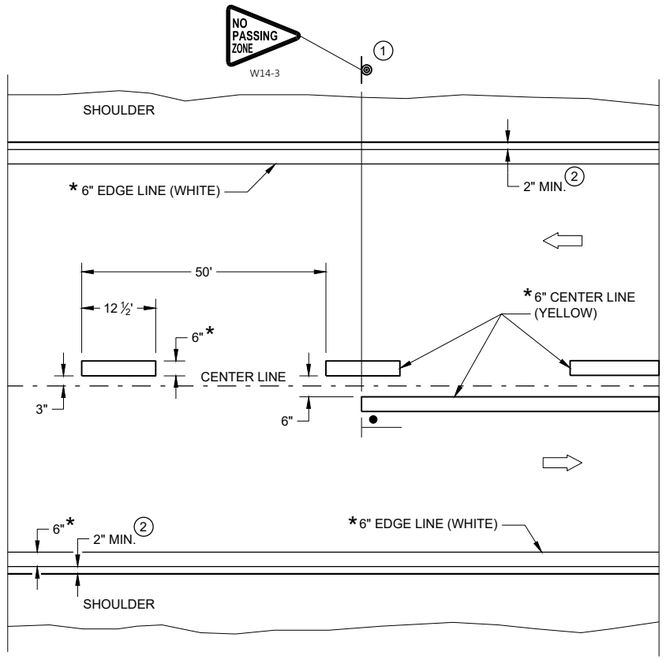
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

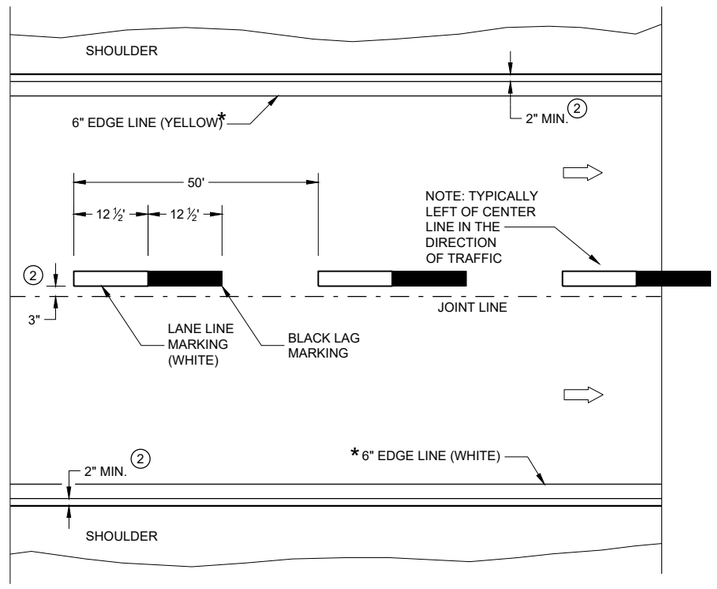
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
May 2023 DATE	/S/ Jeannie Silver STATEWIDE SIGNING AND M ENGINEER
FHWA	70

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SDD 15C08-23a

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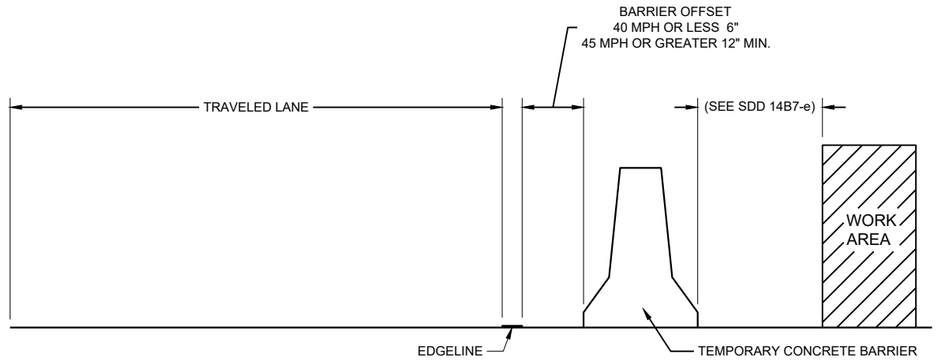
SDD 15C08-23a



TEMPORARY BARRIER OFFSET FROM EDGELINE

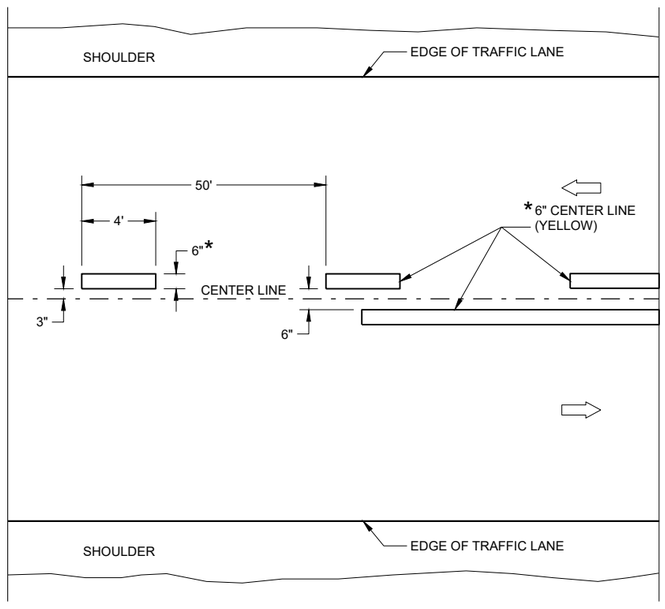
GENERAL NOTES

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

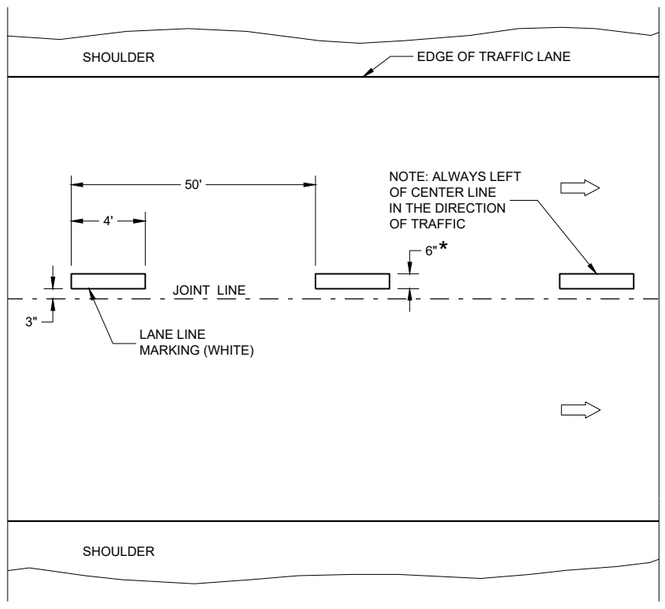
LEGEND

⇨ DIRECTION OF TRAFFIC

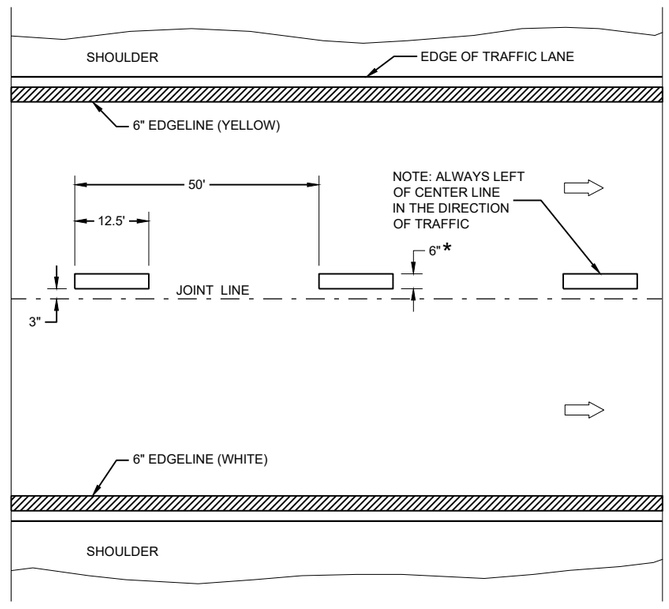
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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SDD 15C08-23b

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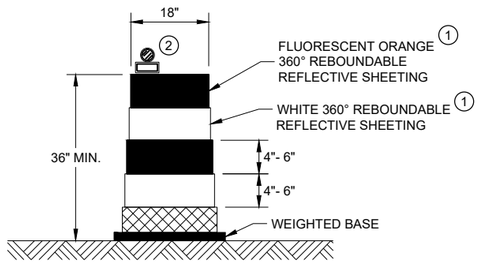
SDD 15C08-23b

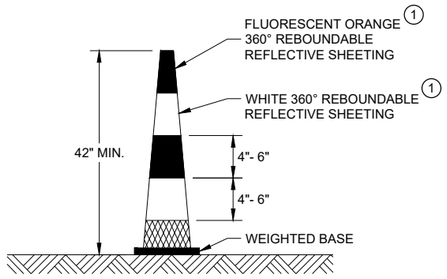
GENERAL NOTES

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



DRUM

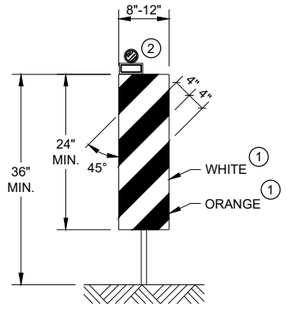
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

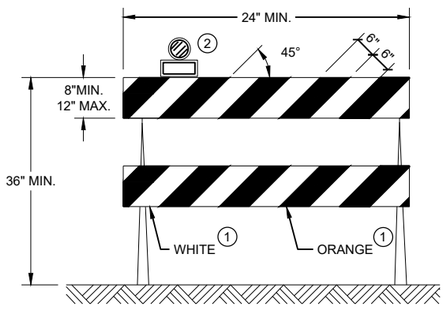
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



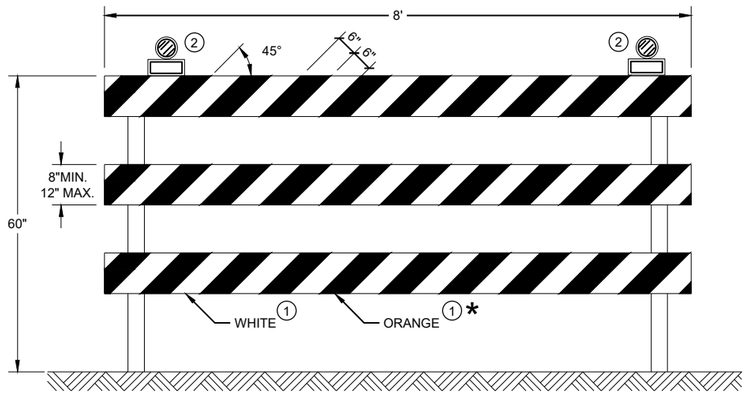
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C11 - 10b

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LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

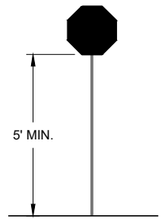
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



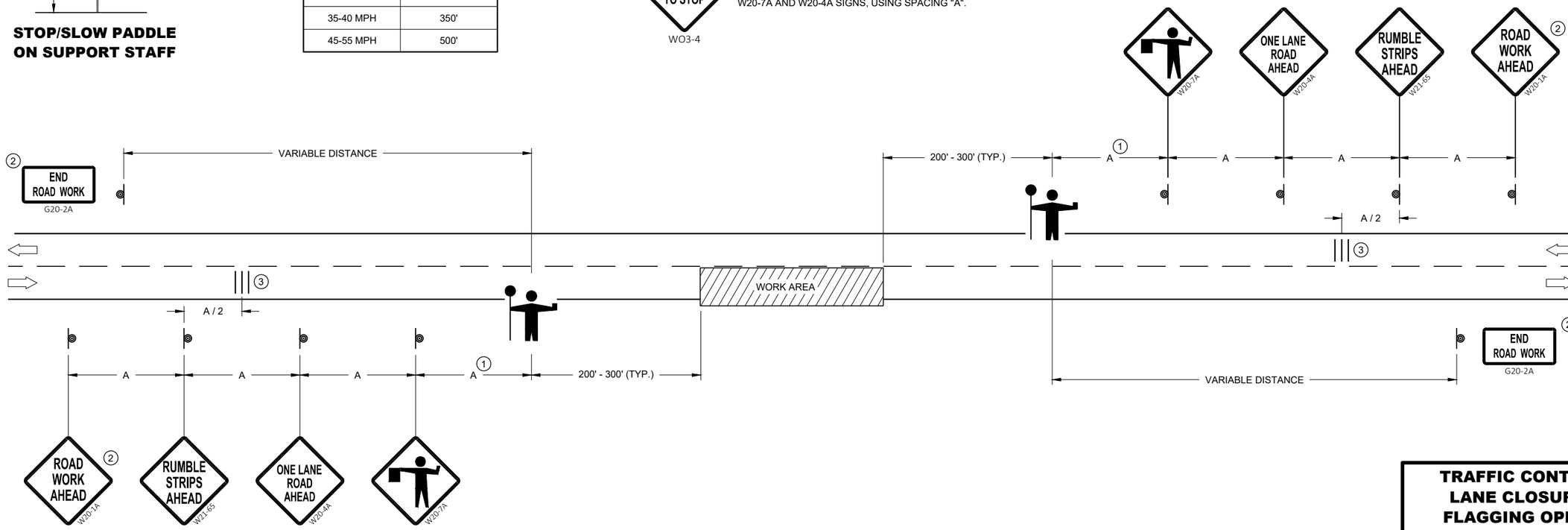
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15C12 - 09a

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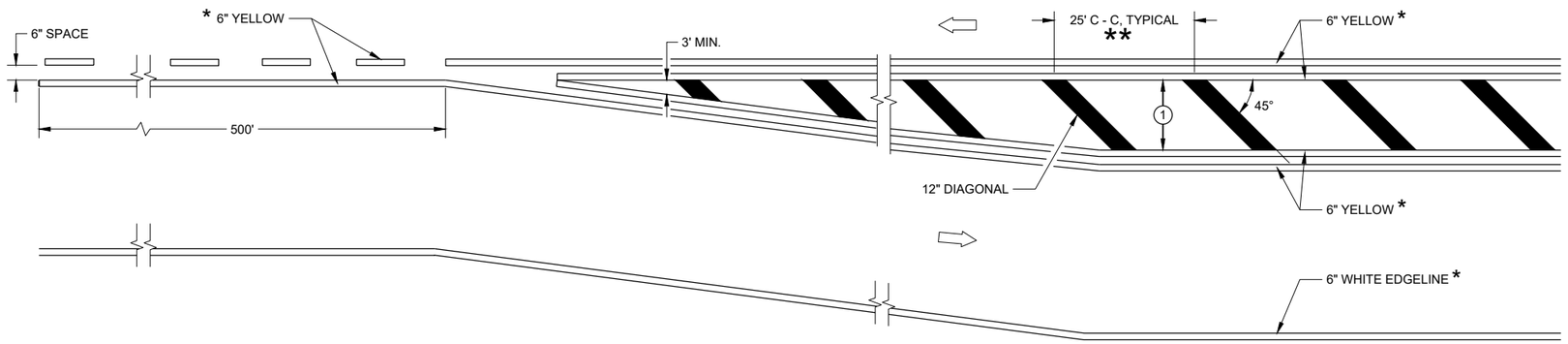


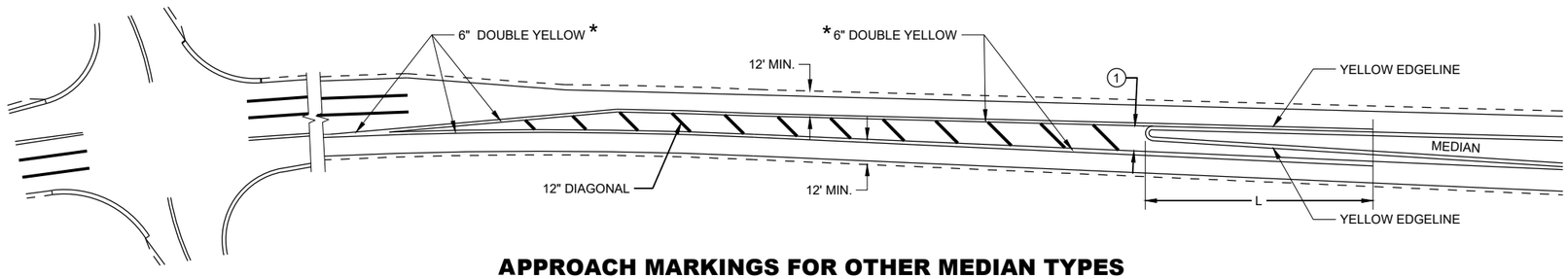
MEDIAN ISLAND DETAIL

GENERAL NOTES

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

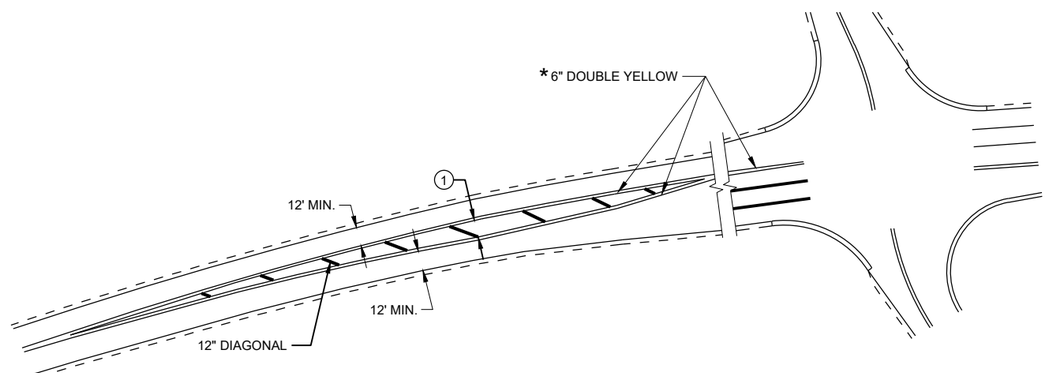
⇨ DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



APPROACH MARKINGS FOR OTHER MEDIAN TYPES

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



NON-APPROACH MARKINGS

MEDIAN ISLAND PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MAR ENGINEER
FHWA

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SDD 15C18-08a

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

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.

ALL 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.

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 AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

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

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

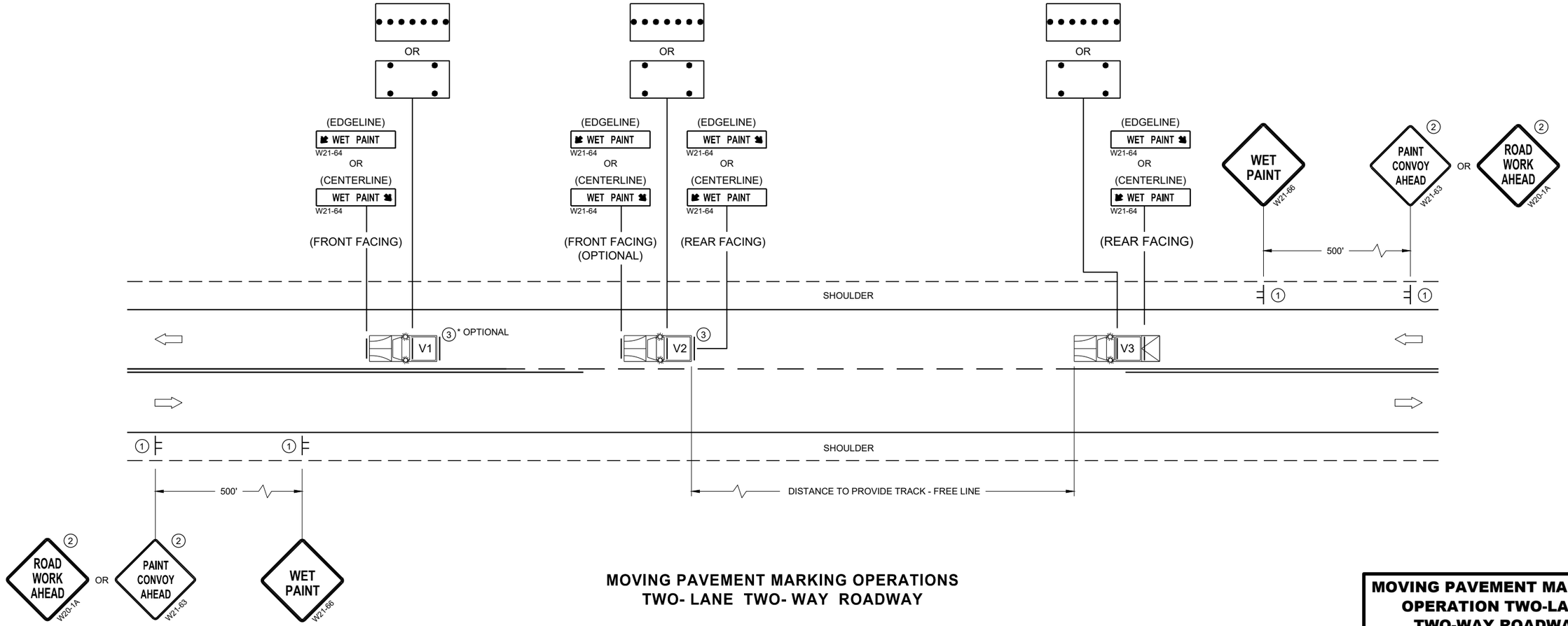
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

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

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

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS
TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023
DATE

/S/ Andrew I...
WORK ZONE EN

FHWA

SDD 15C19-08a

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LEGEND

V1 MARKING VEHICLE

V2 SHADOW VEHICLE

V3 TRAIL VEHICLE

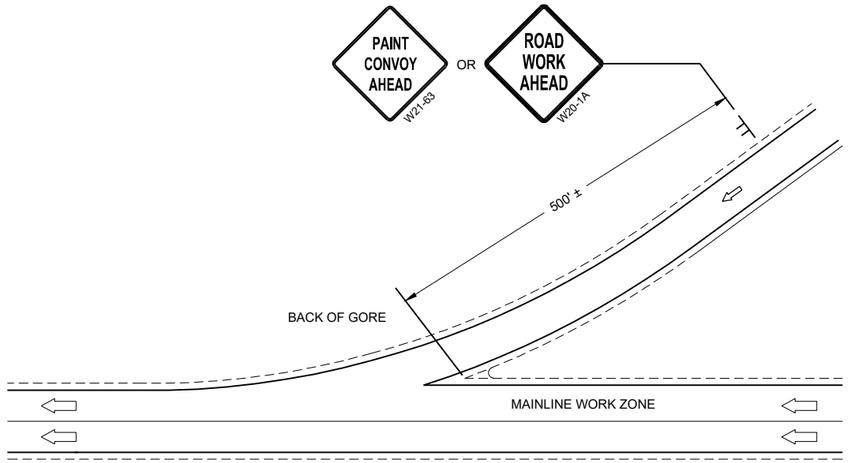
TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (MERGE)

FLASHING ARROW PANEL (CAUTION)



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.

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

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

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 AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.

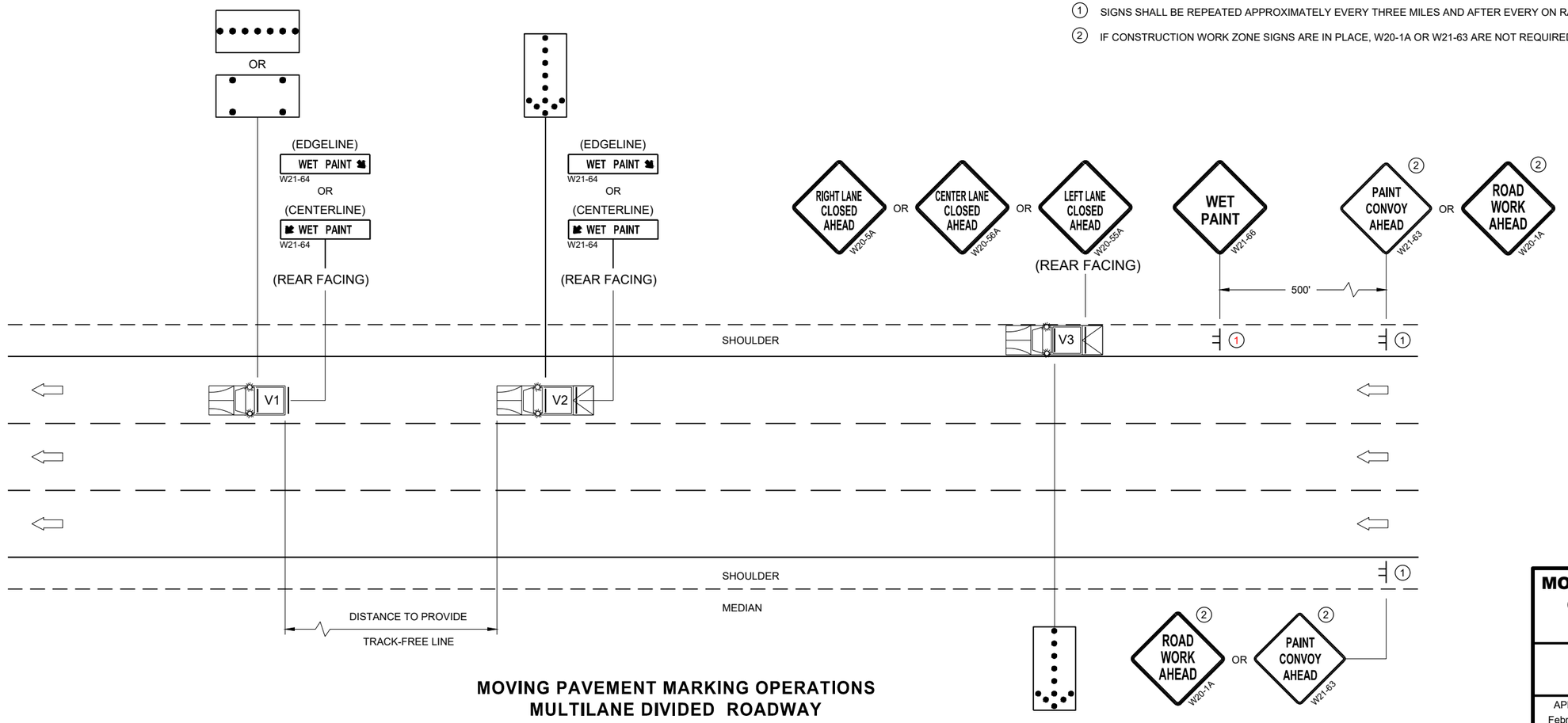
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM HEIGHT OF 28" FOR WET PAVEMENT MARKINGS

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY ON RAMP.

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



MOVING PAVEMENT MARKING OPERATIONS
MULTILANE DIVIDED ROADWAY

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023
DATE

/S/ Andrew [illegible]
WORK ZONE EN

FHWA

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SDD 15C19-08c

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SDD 15C19-08c

GENERAL NOTES

SIGNING AND MARKING IS SHOWN AS TYPICAL PLACEMENT. FIELD CONDITIONS MAY DICTATE CHANGES IN SIGNING AND MARKING PLACEMENT.

(1) USED ONLY WHEN APPROVED BY REGION TRAFFIC ENGINEER.

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

** SIGNS MAY BE OMITTED IF SPACE DOES NOT PERMIT PLACEMENT.

*** IF POSTED SPEED IS 45 MPH OR GREATER, PLACE W5-54 SIGN UNDER R4-7 SIGN. MOUNT W5-54 SIGN AT 4' MOUNTING HEIGHT (TOP OF ROADWAY TO BOTTOM OF SIGN).

LEGEND

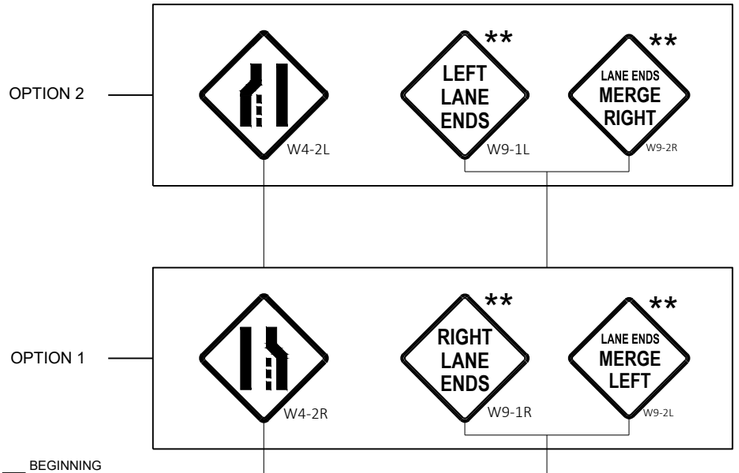
A DISTANCE DEPENDENT ON SPEED (SEE TABLE)

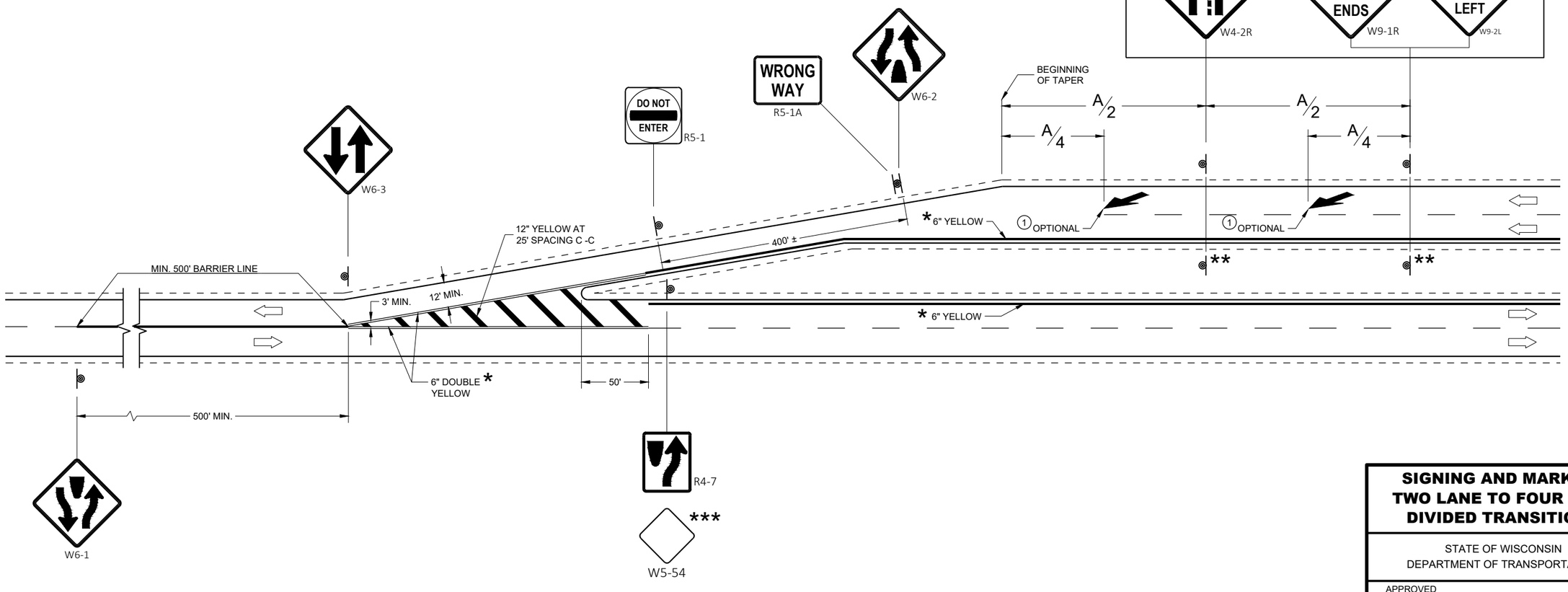
SIGN MOUNTED ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	325'
30	460'
35	565'
40	670'
45	775'
50	885'
55	990'
65	1200'
70	1250'



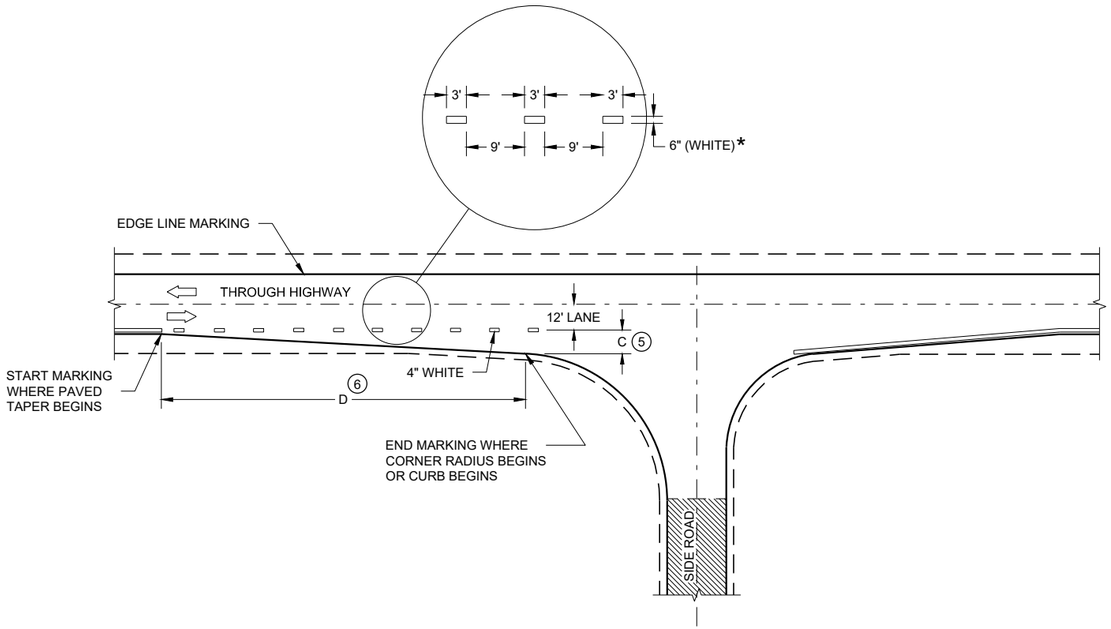


SIGNING AND MARKING TWO LANE TO FOUR LANE DIVIDED TRANSITIONS

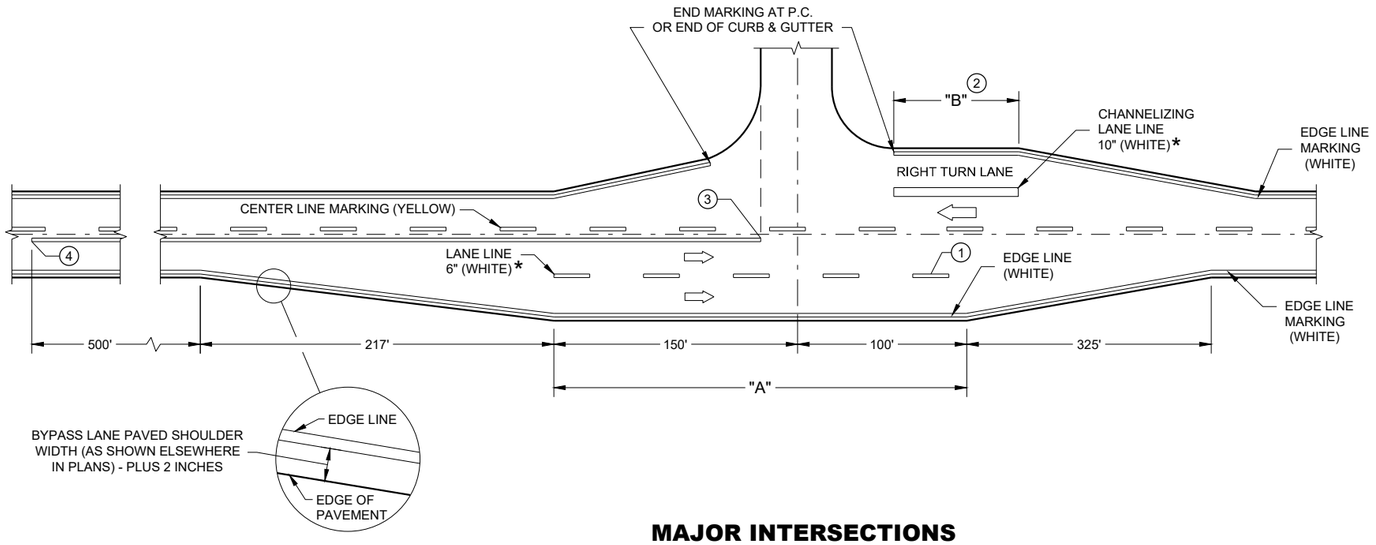
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6
SDD 15C21-11



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

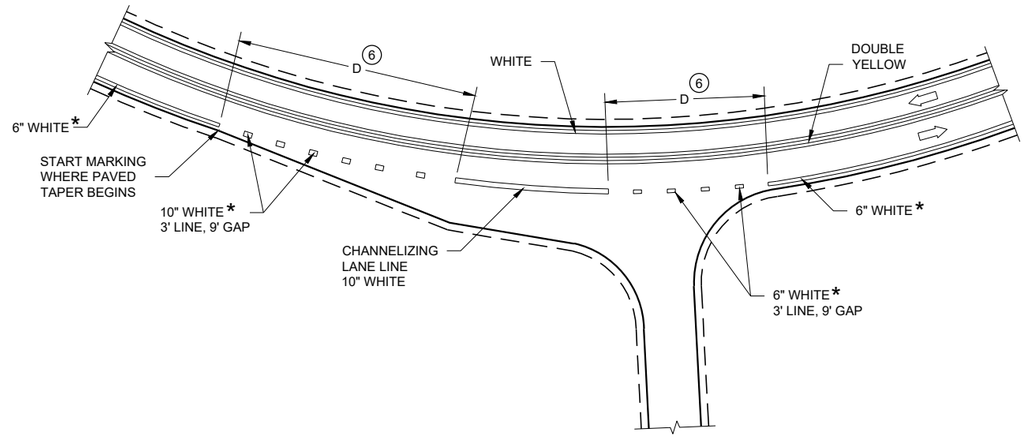
GENERAL NOTES

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

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

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

SDD 15C35-06a

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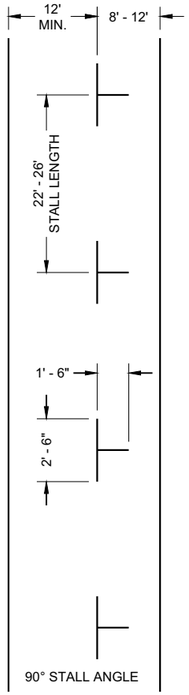
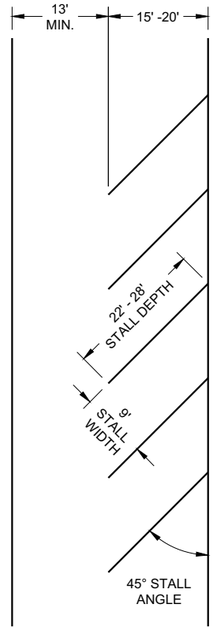
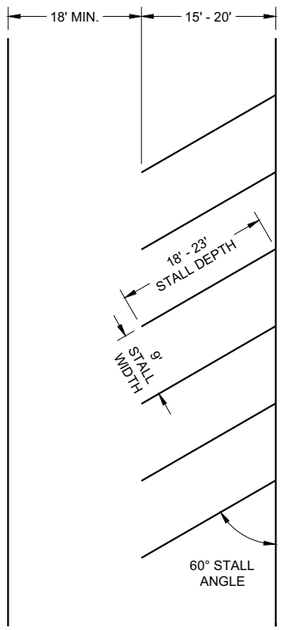


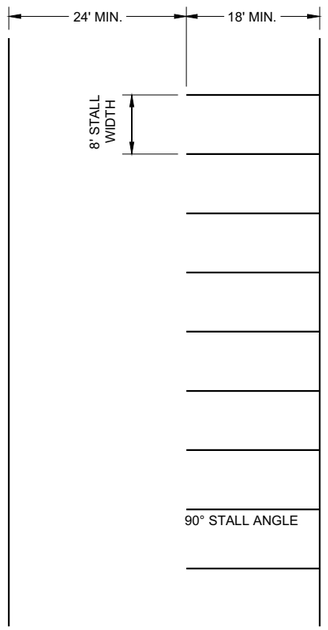
PARALLEL PARKING





ANGLED PARKING

(ANGLED PARKING IS NOT ALLOWED ON STATE HIGHWAYS UNLESS A DESIGN JUSTIFICATION HAS BEEN COMPLETED.)



PARKING LOTS

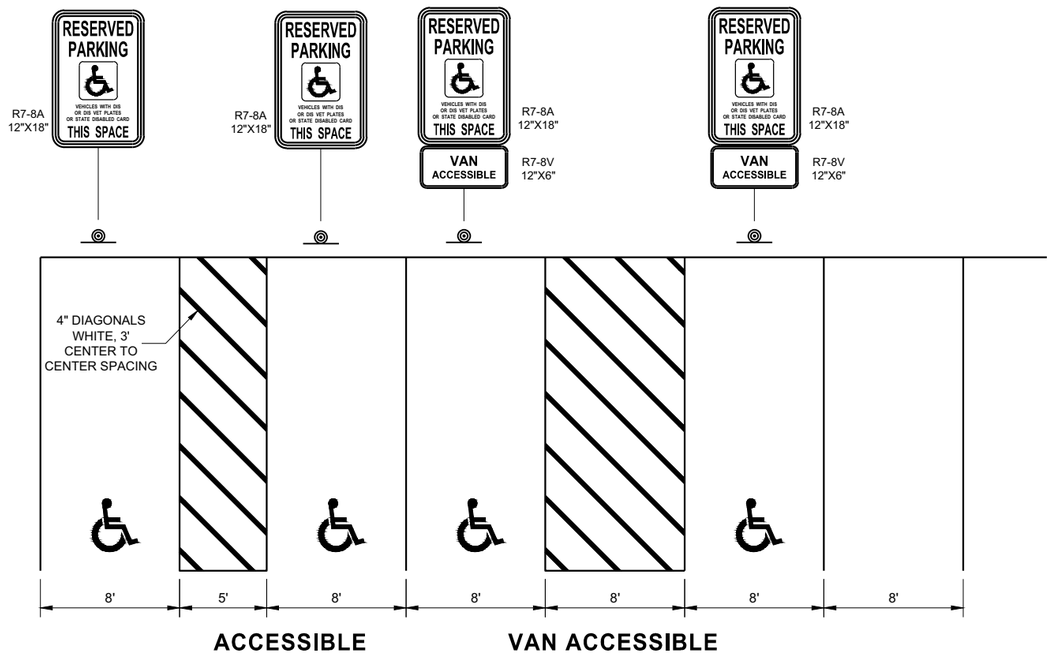
GENERAL NOTES

ALL LINES 4" WHITE (UNLESS OTHERWISE NOTED)

LAST PARKING STALL IS A MINIMUM OF 15' FROM THE CROSSWALK.

LEGEND

SIGN ON PERMANENT SUPPORT



ACCESSIBLE VAN ACCESSIBLE

PARKING STALL MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAR ENGINEER

FHWA

SDD 15C36 - 01

SDD 15C36 - 01

GENERAL NOTES

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

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

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

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

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

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

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

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

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

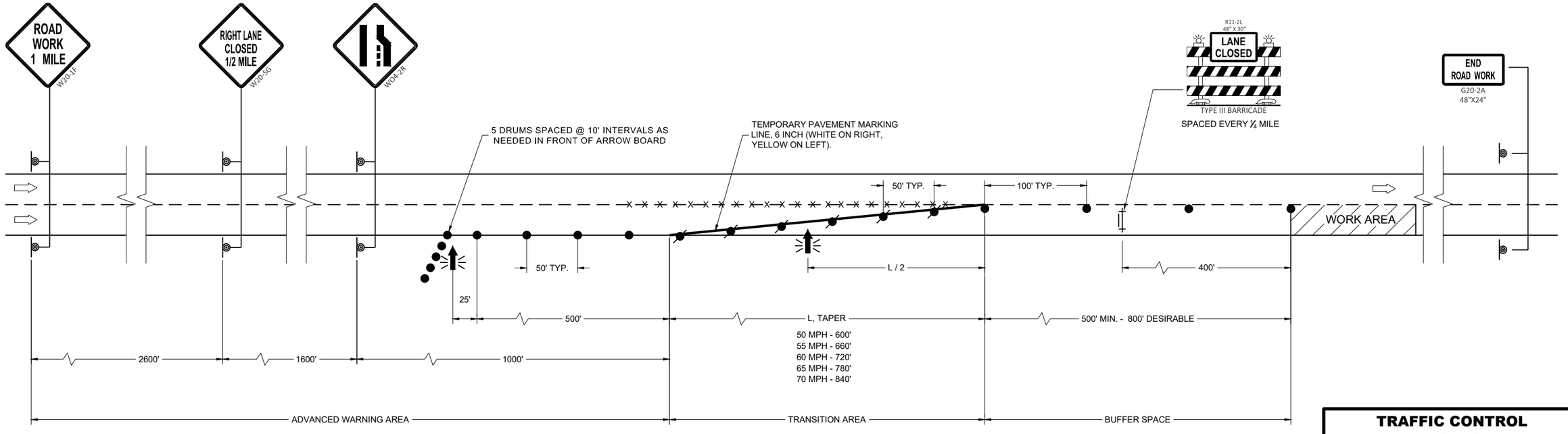
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

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

LEGEND

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



TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2023
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

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SDD 15D12-12a

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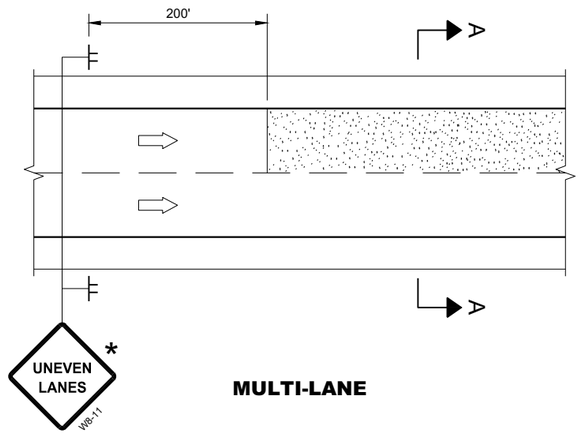
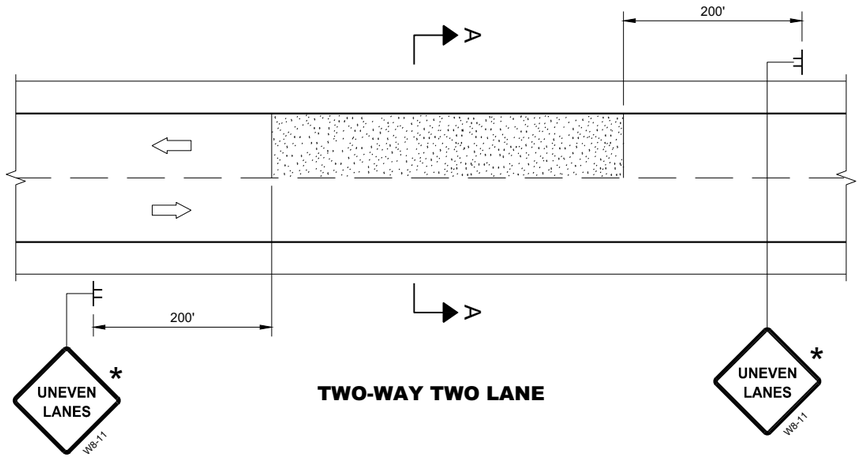
SDD 15D12-12a



MULTI-LANE



TWO-WAY TWO LANE

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.

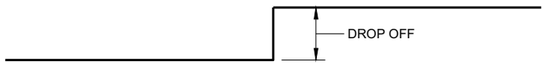
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

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

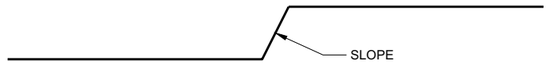
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

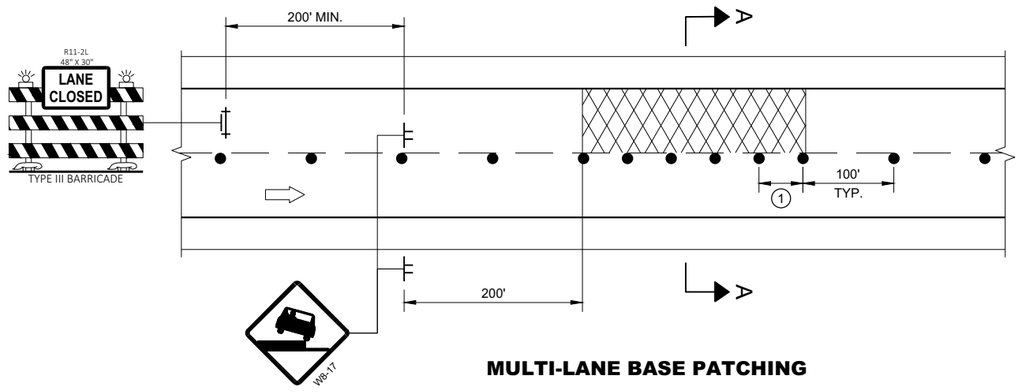


SECTION A - A

OR

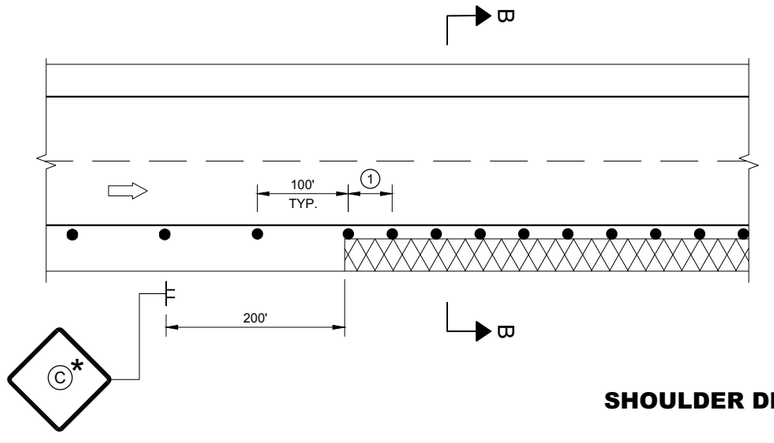


SECTION A - A

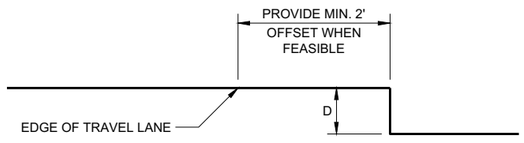


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
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 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D39 - 02

6

SDD 15D39 - 02

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- CONCRETE BARRIER TEMPORARY PRECAST

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)				
	10	11	12	13	14
50	250	275	300	325	350
55	275	303	330	358	385
60	300	330	360	390	420
65	325	358	390	423	455
70	350	385	420	455	490

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

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 ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS 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 AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

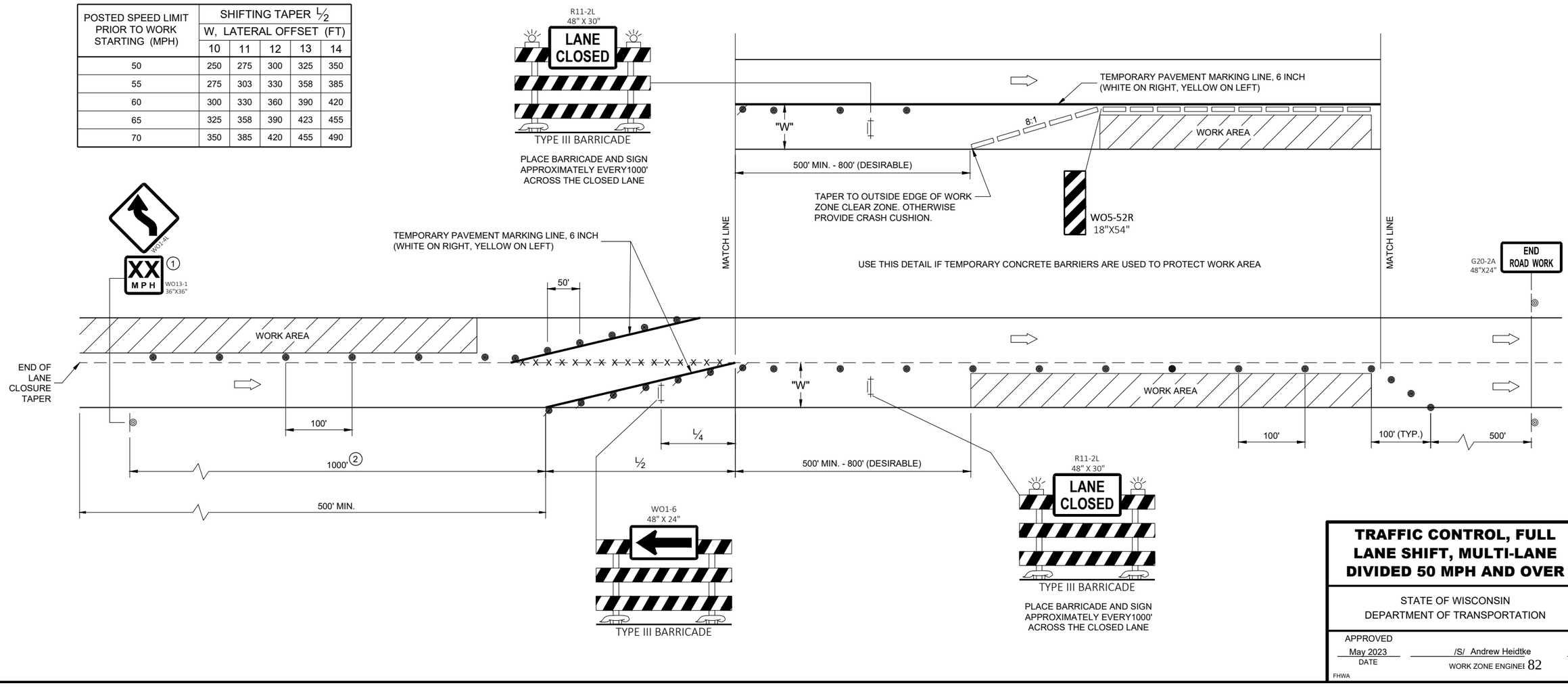
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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 SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT 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 ½ 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.

(1) USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

(2) IF BEGINNING OF LANE SHIFT IS 1200' OF LESS FROM THE END OF THE LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.



TRAFFIC CONTROL, FULL LANE SHIFT, MULTI-LANE DIVIDED 50 MPH AND OVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D40-05b

6

SDD 15D40-05b

GENERAL NOTES

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

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

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

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

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

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

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

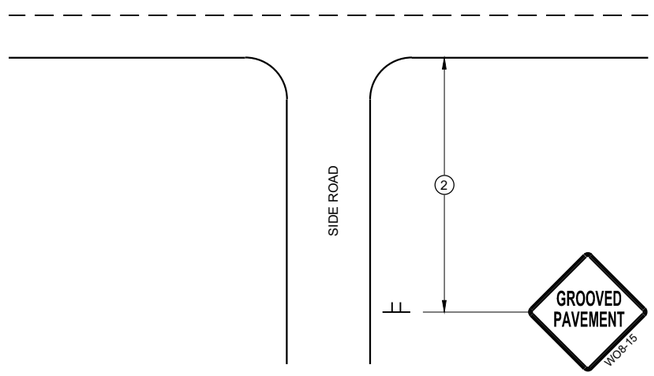
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

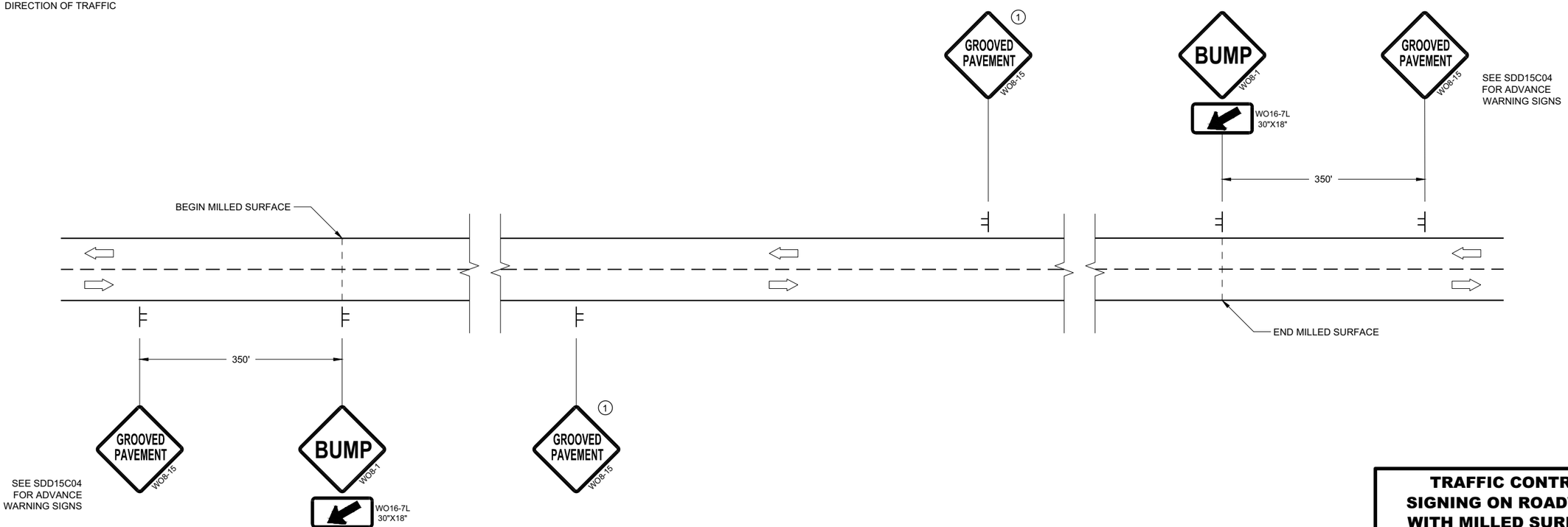
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6
SDD 15D44 - 02

LEGEND

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

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)					
		3	4	5	6	7	8
25	200	10	14	17	21	24	28
30	200	15	20	25	30	35	40
35	350	20	27	34	40	47	54
40	350	26	35	44	53	62	70
45	500	45	59	74	89	104	119
50	500	50	66	83	99	116	132
55	500	54	73	91	109	127	145

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"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

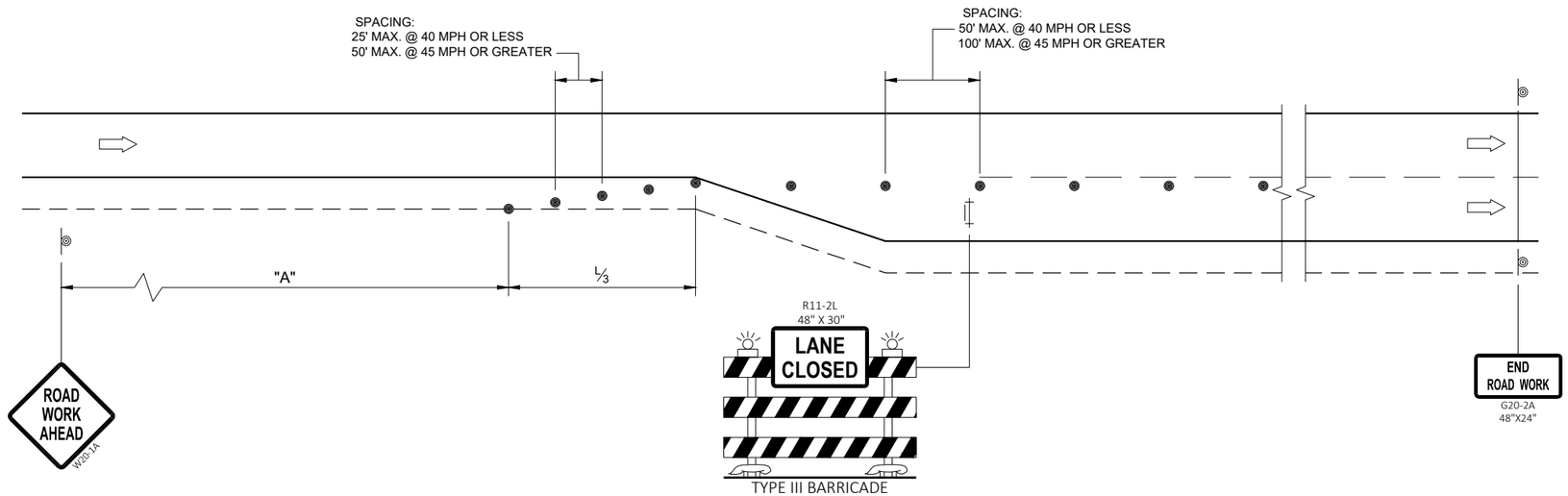
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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.

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

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

W20-1 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 WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE

TRAFFIC CONTROL
ADDED LANE CLOSURE
WITHOUT LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D50-03a

6

SDD 15D50-03a

LEGEND

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

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER (L/2) FEET
25	200	60
30	200	90
35	350	120
40	350	160
45	500	270
50	500	300
55	500	330

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"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

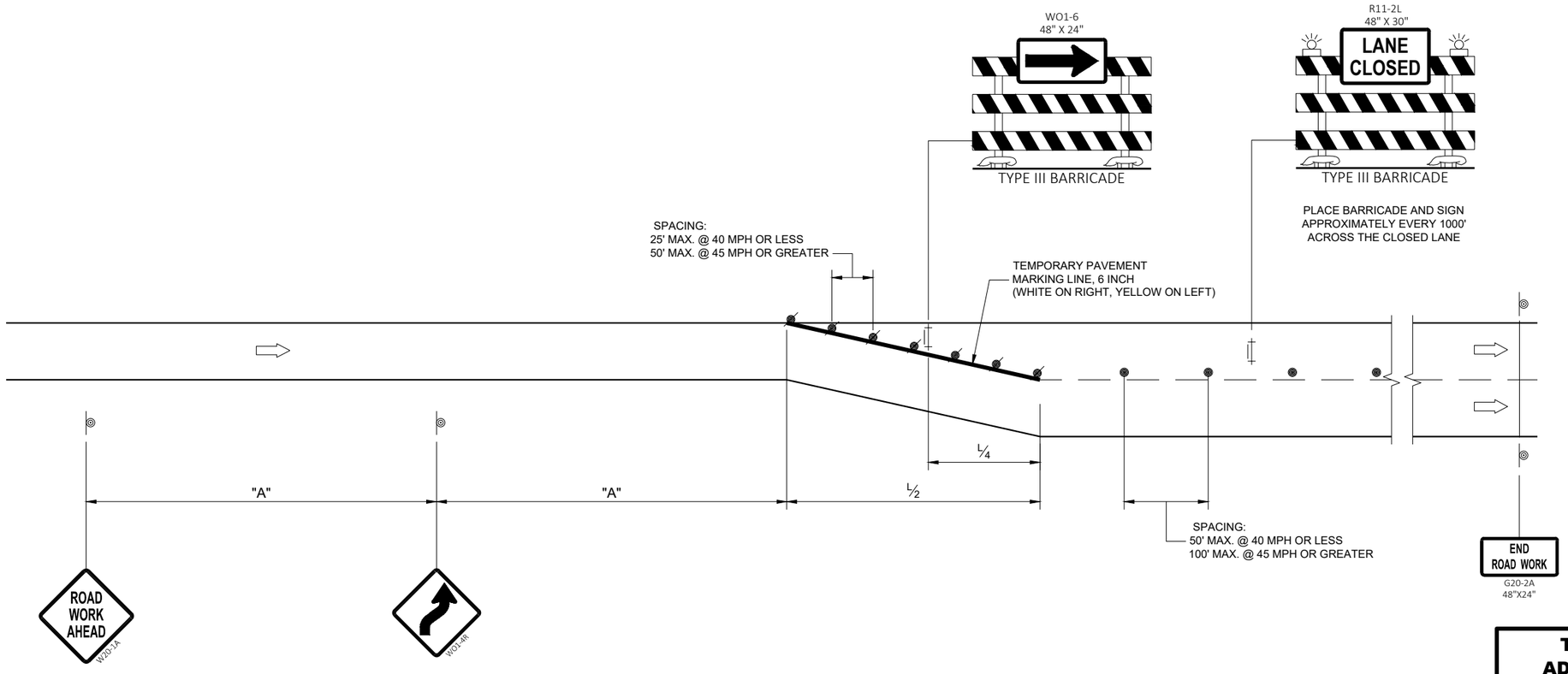
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

W20-1 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 WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.

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



TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6
SDD 15D50-03b

LEGEND

V1 WORK VEHICLE

V2 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

FLASHING ARROW PANEL (CAUTION)

WORK AREA

DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

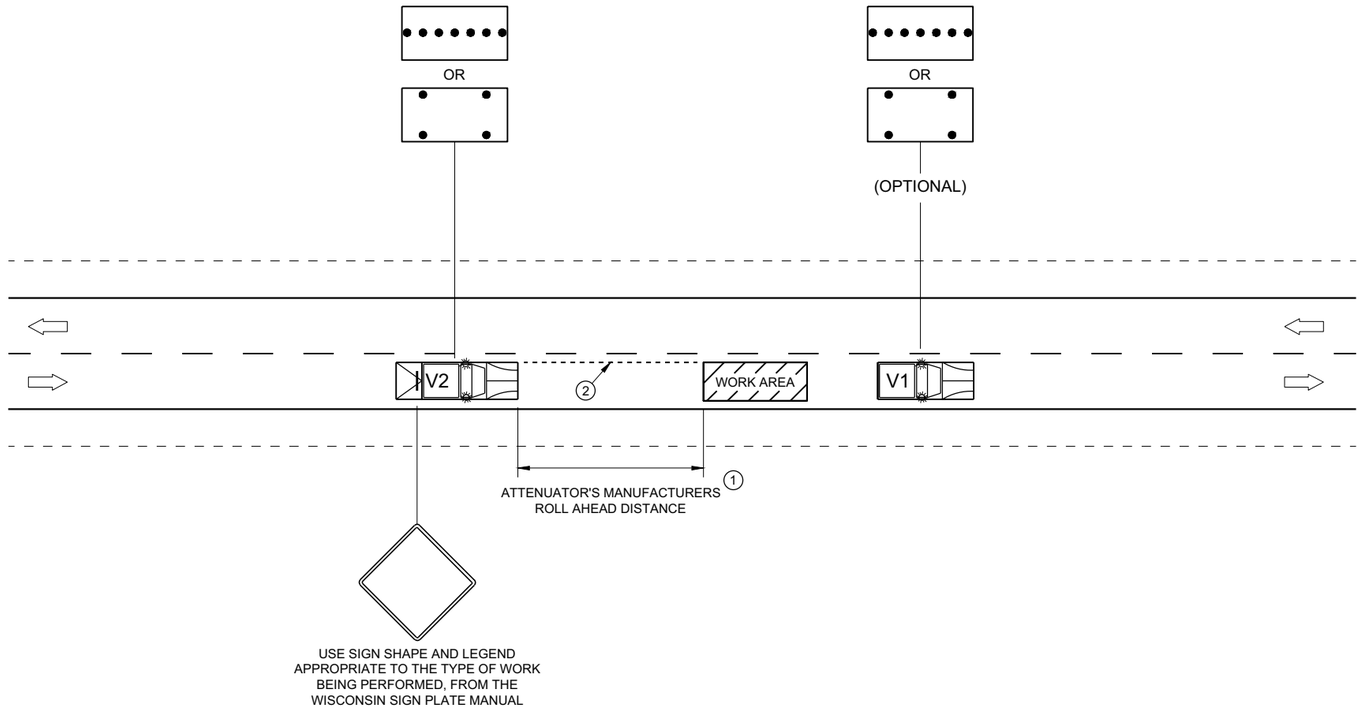
ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

(1) DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, 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.

(2) ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Andrew Heidtke — STATEWIDE WORK ZONE T SAFETY ENGINEER
FHWA

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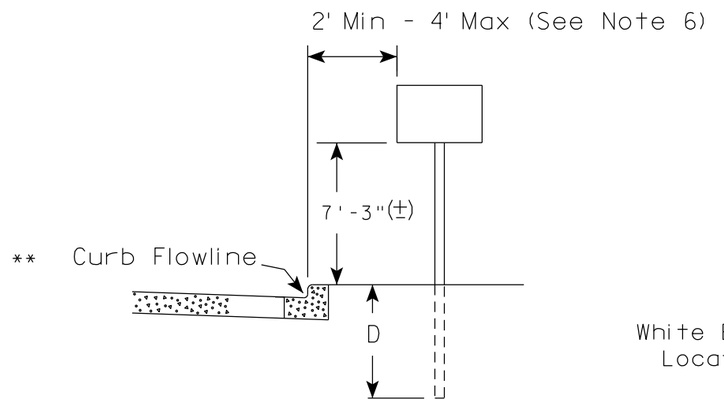
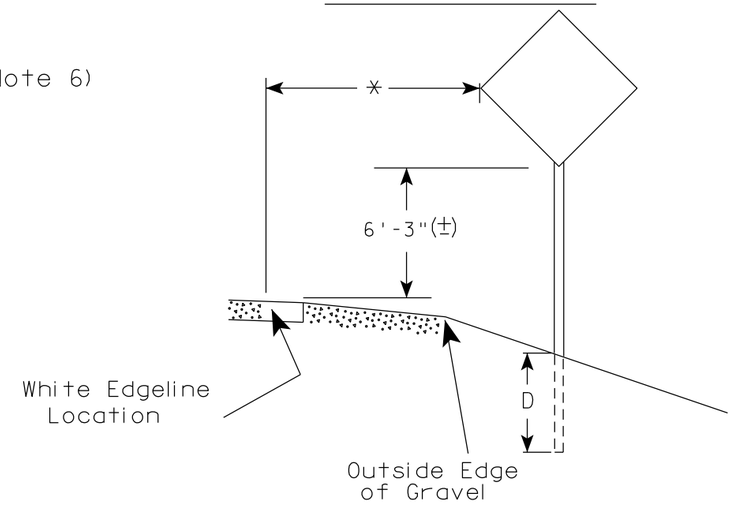
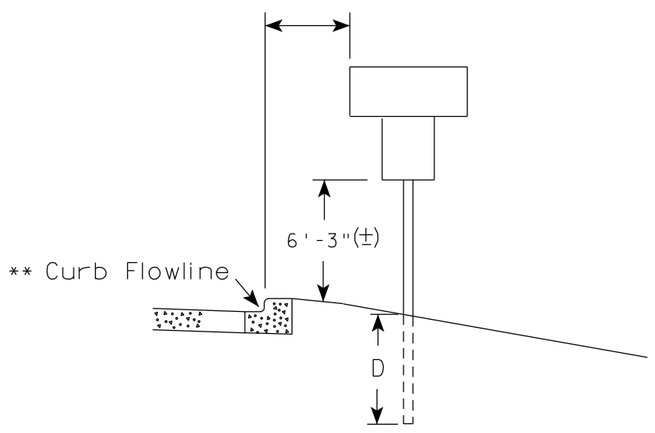
SDD 15D51 - 01

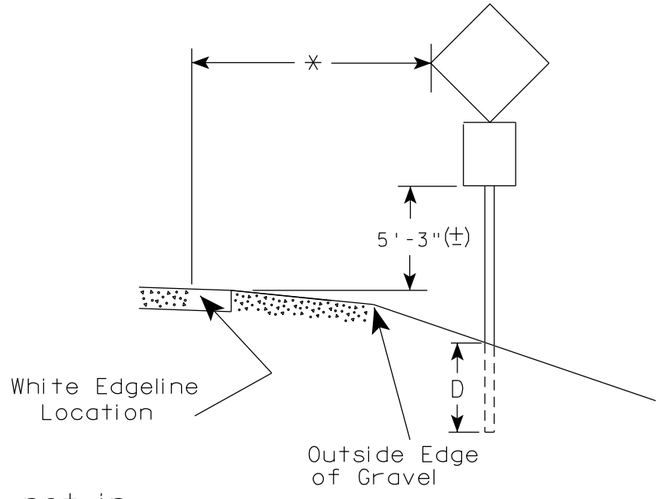
URBAN AREA



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

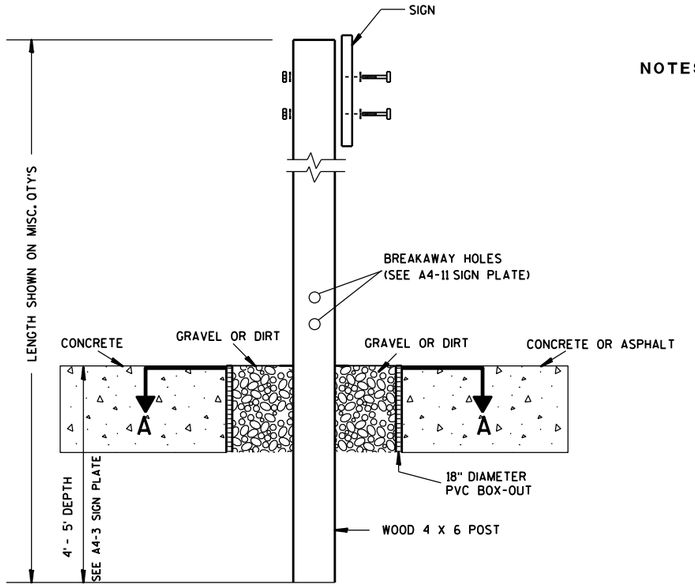
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

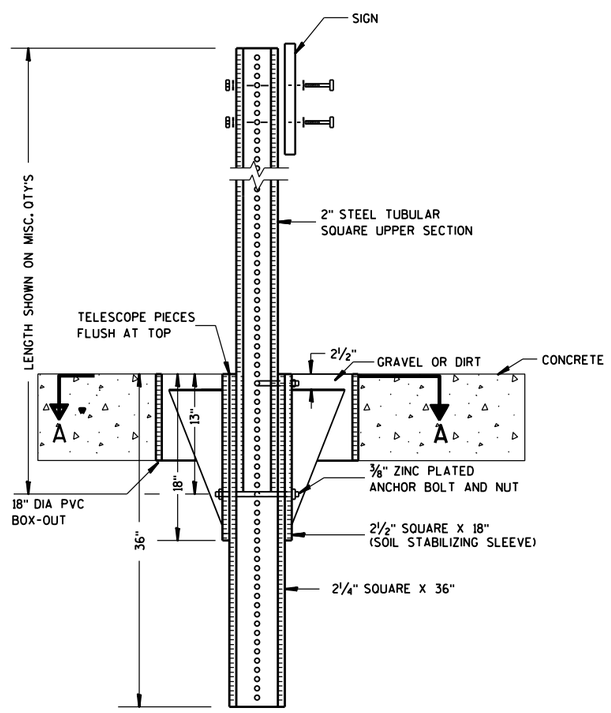
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 87	E



ELEVATION VIEW

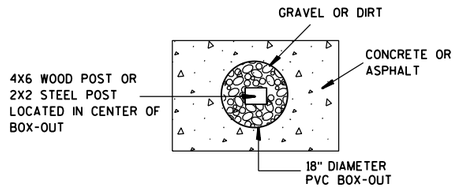
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

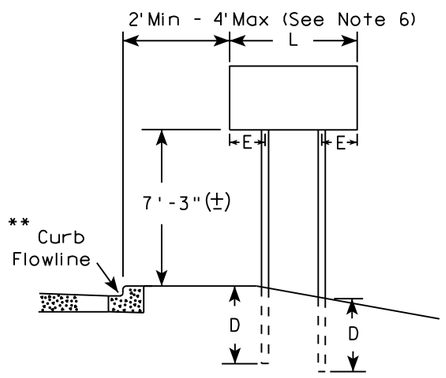
APPROVED Matthew R Rauch
for State Traffic Engineer

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

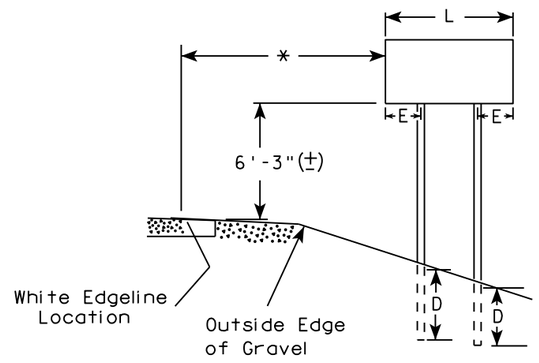
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

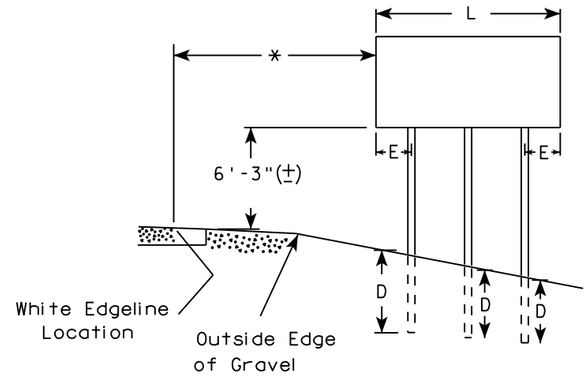
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

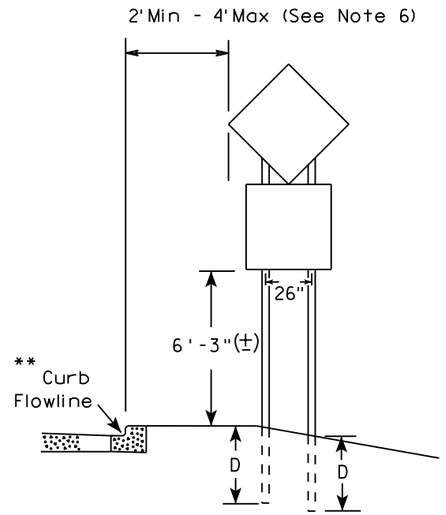
URBAN AREA



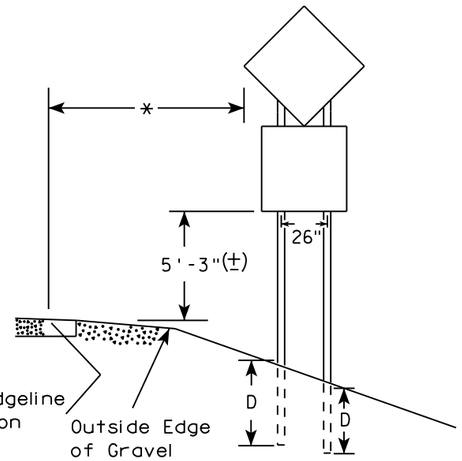
RURAL AREA (See Note 3)







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'

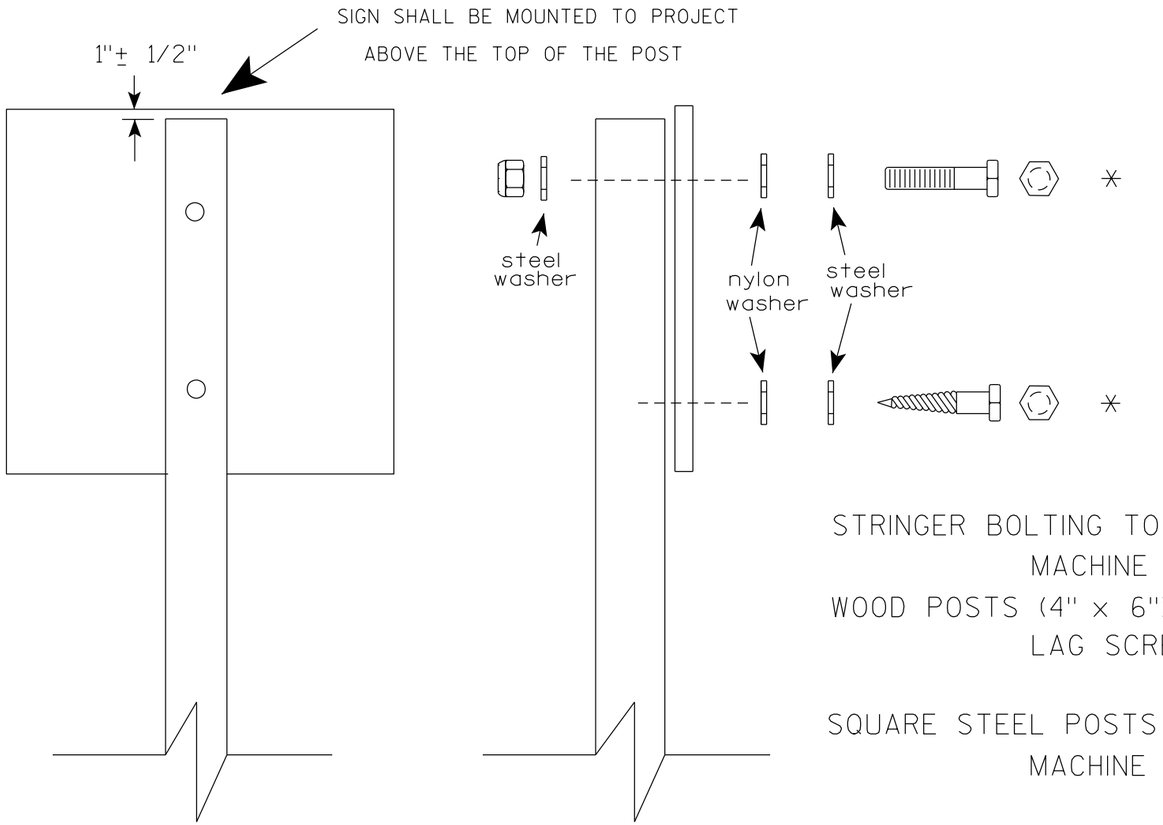
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

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: 89	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 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

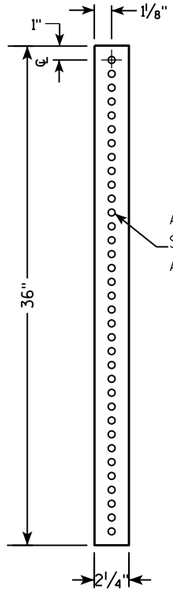
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

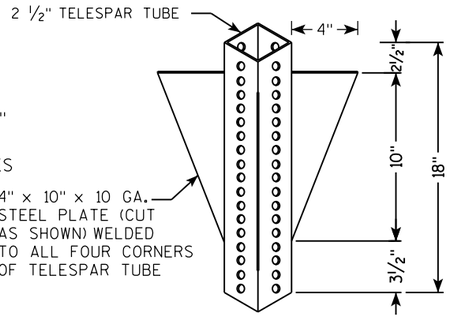
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

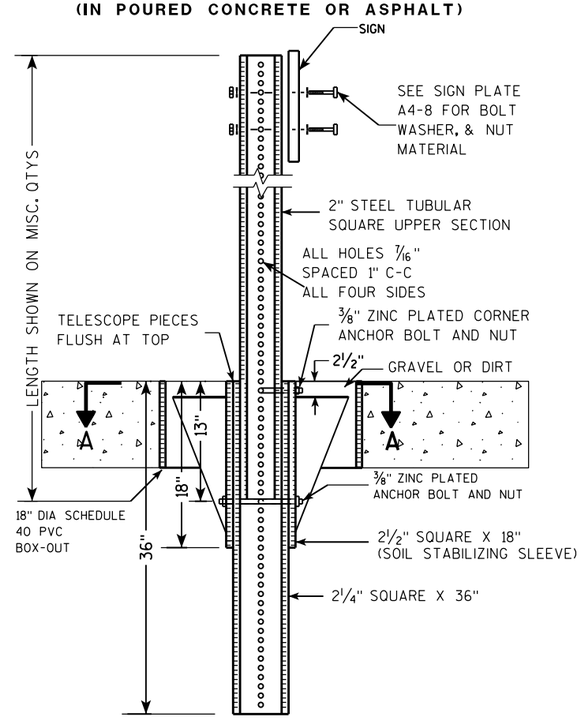
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



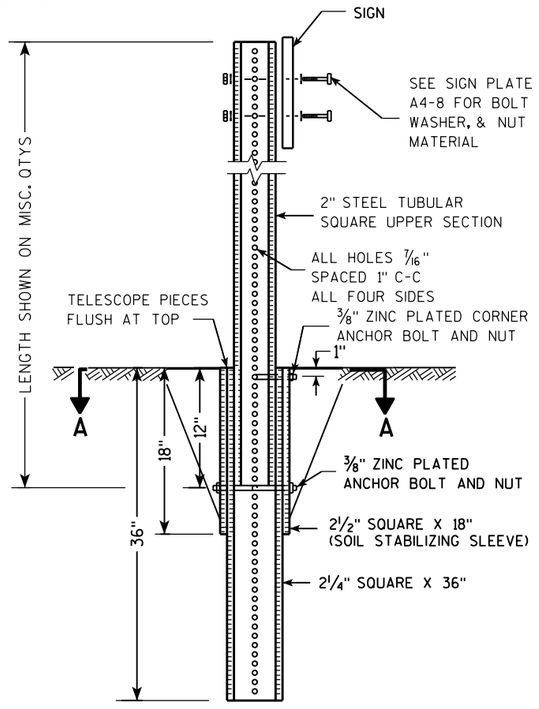
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

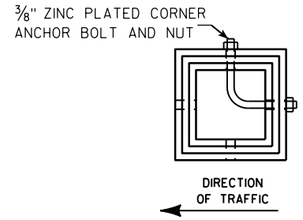


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





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).

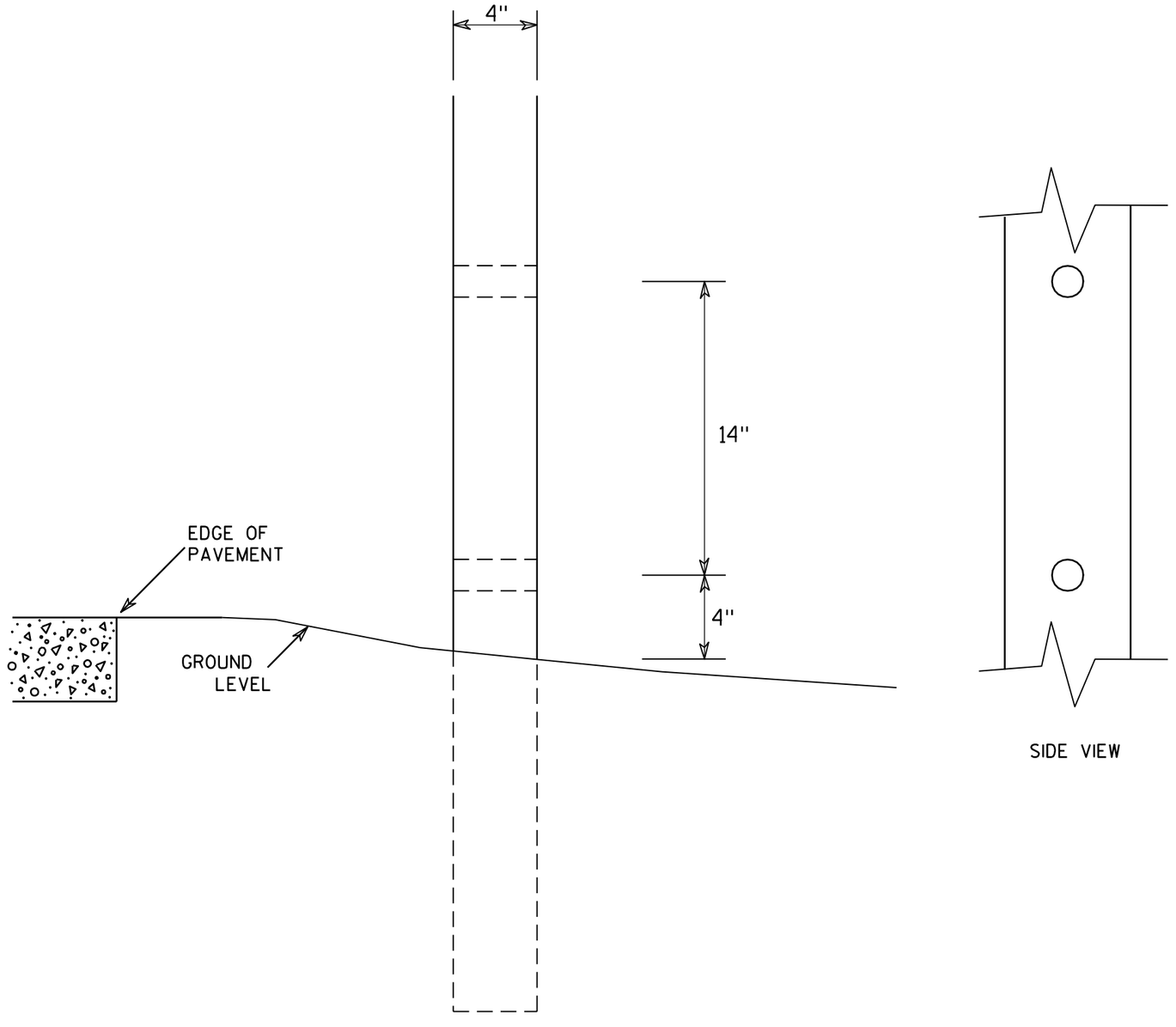
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 91 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.

7

7

4 X 6 WOOD POST MODIFICATIONS

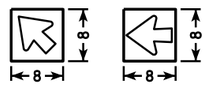
WISCONSIN DEPT OF TRANSPORTATION

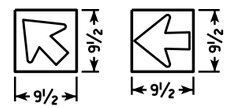
APPROVED Chester J Spang for State Traffic Engineer

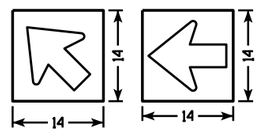
DATE 3/27/97 PLATE NO. A4-11.2

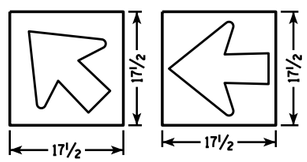
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 92	E

SIGN LAYOUT WITH VARIOUS SIZED MESSAGES







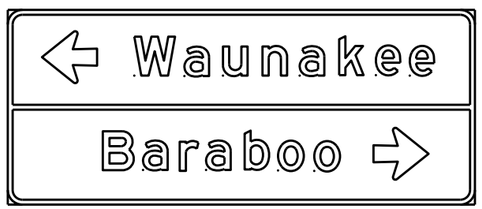


GENERAL NOTES

1. Materials shall conform to Standard Specification Section 637.
   Base - Sheet Aluminum 0.040" Thickness
   Sheeting - Orange Type F Reflective
   Arrow - Black Non-Reflective
2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws. There shall be a minmum of 2 fasteners used per arrow sign.
3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
4. Arrows are per standard plate A1-2
5. Use separate arrow sign for each destination
6. Tilt arrow is always at 45 degrees
7. Arrow is centered on arrow sign

Lower Case Copy Size	Standard Width (Single Arrow)	2 Line Tilt Arrow Cover Width	3 Line Tilt Arrow Cover Width	Height
3¾" Series C	8	9 ½	14 ½	8
4½" Series D & E	9 ½	10	15	9 ½
6" Series D & E	14	16	20 ½	14
8" Series E	17 ½	20 ½	25	17 ½

BEFORE



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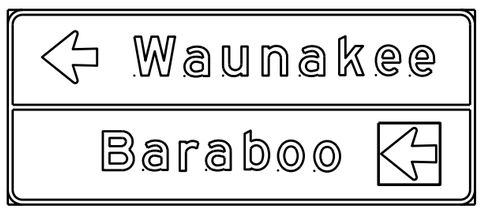
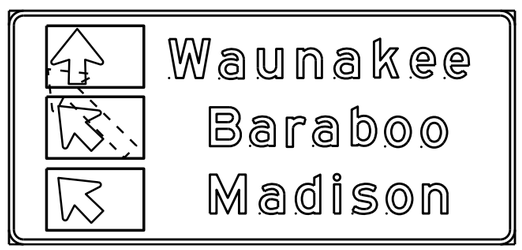




DESTINATION DIRECTIONAL ARROW FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/08/14

A4-12.2

PROJECT NO:

SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A412.DGN PLOT DATE : 08-OCT-2014 11:50 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

PROJECT ID: 4337-23-71

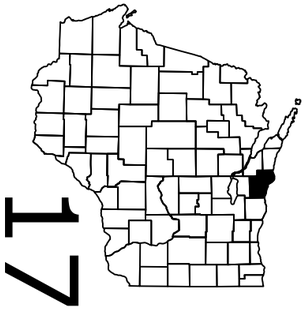
WITH: 1500-56-71

COUNTY: MANITOWOC

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 = 124



17

N

DESIGN DESIGNATION

A.A.D.T.	(2026)	=	6,630
A.A.D.T.	(2046)	=	6,630
D.H.V.		=	716
D.D.		=	60/40
T.		=	11%
DESIGN SPEED		=	55 MPH
ESALS		=	1,570,000

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

IH 43 - TWO RIVERS

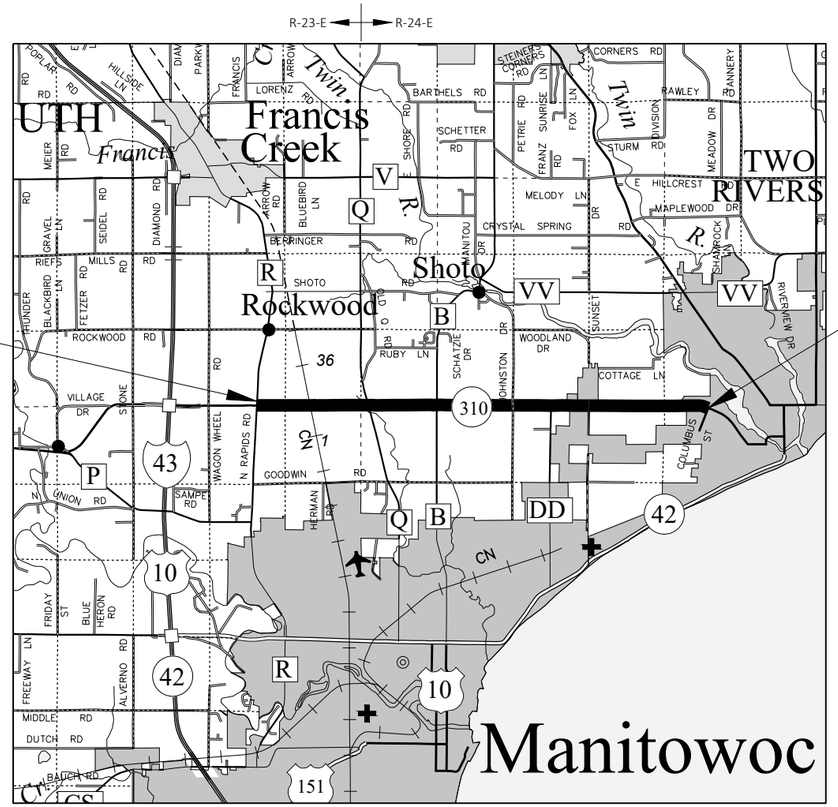
CTH R - COLUMBUS STREET

STH 310

MANITOWOC COUNTY

STATE PROJECT NUMBER
4337-23-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4337-23-71		



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 6.109 MI

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	S. ERICSON
Project Manager	B. HAEN
Regional Examiner	
Regional Supervisor	D. SEGERSTROM

APPROVED FOR THE DEPARTMENT

DATE: 2/16/24 (Signature)

E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\010101-TI.DWG PLOT DATE : 2/15/2024 5:51 PM PLOT BY : ERICSON, SARAH L PLOT NAME :

GENERAL NOTES

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

THE EXACT CONSTRUCTION LIMITS AND LOCATIONS OF ALL ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ORDER OF SECTION 2 DETAIL SHEETS

DNR LIASION
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MATT SCHAEVE
2984 SHAWANO AVE
GREEN BAY, WI 54313
(920) 366-1544
MATTHEW.SCHAEVE@WISCONSIN.GOV

MANITOWOC COUNTY HIGHWAY COMMISSIONER
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MANITOWOC, WI 54220-9659
(920) 683-4353
GREGGROTEGUT@CO.MANTIWOC.WI.US
greggrotegut@co.manitowoc.wi.us

NE REGION SURVEY COORDINATOR
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NE REGION DESIGN PROJECT MANAGER
BRIAN HAEN
944 VANDERPERREN WAY
GREEN BAY, WI 54304
(920) 366-4788
BRIAN.HAEN@DOT.WI.GOV

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 30.9 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 29.2 ACRES

COMMUNICATIONS

AT&T WISCONSIN
VICTORIA KASSAB
205 S JEFFERSON ST
GREEN BAY, WI 54301
PHONE: (920) 401-7512
MAIL: VK352K@ATT.COM

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205 S JEFFERSON ST
GREEN BAY, WI 54301
PHONE: (920) 401-7512
EMAIL: VK352K@ATT.COM

WATER

CITY OF TWO RIVERS
SCOTT AHL
1717 E PARK ST
TWO RIVERS, WI 54241
PHONE: (920) 793-5542
MOBILE: (920) 973-8067
EMAIL: SCOAHL@TWO-RIVERS.ORG

COMMUNICATIONS

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154 E 2ND ST
NEW RICHMOND, WI 54017
PHONE: (715) 243-9243
EMAIL: JEREMY.ZEHM@FTR.COM

COMMUNICATIONS

PAETEC COMMUNICATIONS
LORI KETTER
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GREEN BAY, WI 54304
PHONE: (920) 410-6902
EMAIL: LORI.KETTER@WINDSTREAM.COM

COMMUNICATIONS

EVERSTREAM
SHAD GARCIA
324 E WISCONSIN AVE
SUITE 730
MILWAUKEE, WI 53202
PHONE: (414) 522-6685
EMAIL: SGARCIA@EVERSTREAM.NET

ELECTRICITY - TRANSMISSION

ATC MANAGEMENT INC
CHRIS DAILEY
P.O. BOX 47
WAUKESHA, WI 53187
PHONE: (262) 506-6884
EMAIL: CDAILEY@ATCLLC.COM

SEWER

CITY OF TWO RIVERS
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1717 E PARK ST
TWO RIVERS, WI 54241
PHONE: (920) 793-5542
MOBILE: (920) 973-8067
EMAIL: SCOAHL@TWO-RIVERS.ORG

WATER

CENTRAL BROWN COUNTY WATER AUTHORITY
ROBERT MICHAELSON
1303 S 8TH ST
MANITOWOC, WI 54220
PHONE: (920) 686-4354
MOBILE: (920) 374-0959
EMAIL: RMICHAELSON@MPU.ORG

COMMUNICATIONS

NSIGHT TELSERVICES
RICK VINCENT
470 SECURITY BLVD
GREEN BAY, WI 54313
PHONE: (920) 617-7316
EMAIL: RICK.VINCENT@NSIGHT.COM

COMMUNICATIONS

SPECTRUM
VINCE ALBIN
3545 PLANK RD
APPLETON, WI 54915
PHONE: (920) 831-9249
MOBILE: (920) 378-0444
EMAIL: VINCE.ALBIN@CHARTER.COM

GAS/PETROLEUM

WISCONSIN PUBLIC SERVICE
JOEL SAWICKI
800 COLUMBUS ST
P.O. BOX 236
TWO RIVERS, WI 54241-0236
PHONE: (920) 657-1862
EMAIL:
JOEL.SAWICKI@WISCONSINPUBLICSERVICE.COM

ELECTRICITY

WISCONSIN PUBLIC SERVICE
CHUCK WINDUS
2850 S ASHLAND AVE
GREEN BAY, WI 54307
PHONE: (920) 617-5281
MOBILE: (920) 606-1141
EMAIL:
CHARLES.WINDUS@WISCONSINPUBLICSERVICE.COM

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

2

N

TWO RIVERS

WEST TWIN RIVER

ROCKWOOD

CTH R

CTH B

JOHNSTON DR

WOODLAND DR

BEGIN PROJECT
STA 182+83.97
Y=323,308.306
X=219,760.008

END PROJECT
STA 505+36.85
Y=323,108.698
X=251,965.751

150 200 250 300 350 400 450 500

STH 310 STH 310 STH 310

WAGON WHEEL RD

N RAPIDS RD

WISCONSIN CENTRAL LTD (CN)

CTH Q

CTH DD

BROWNS DR

18TH ST

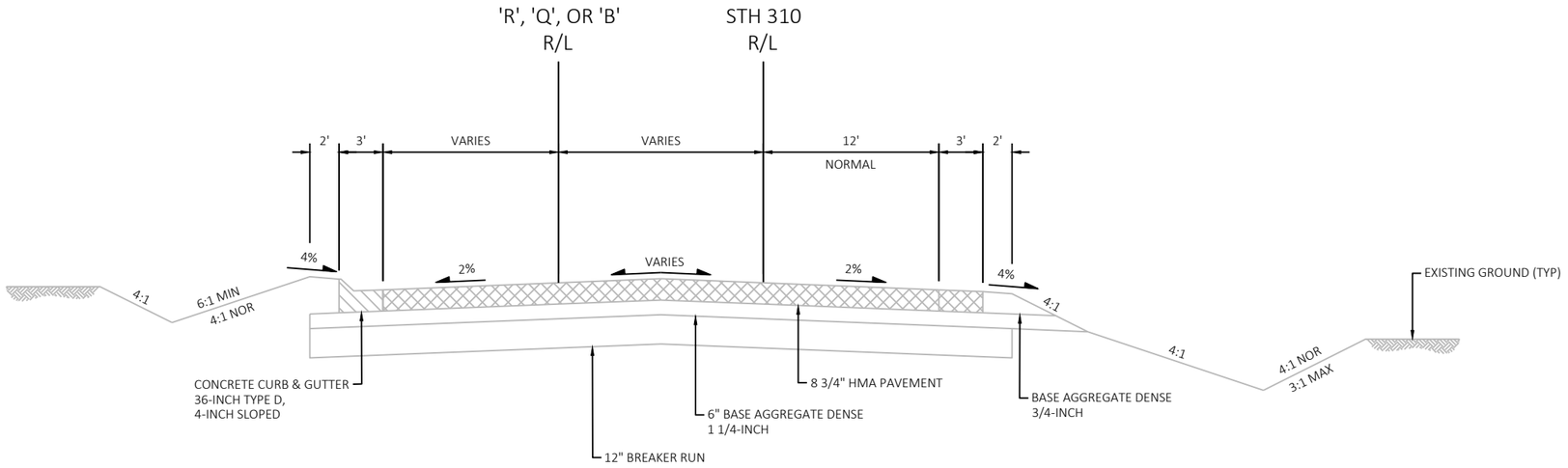
COLUMBUS ST

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 020201-po

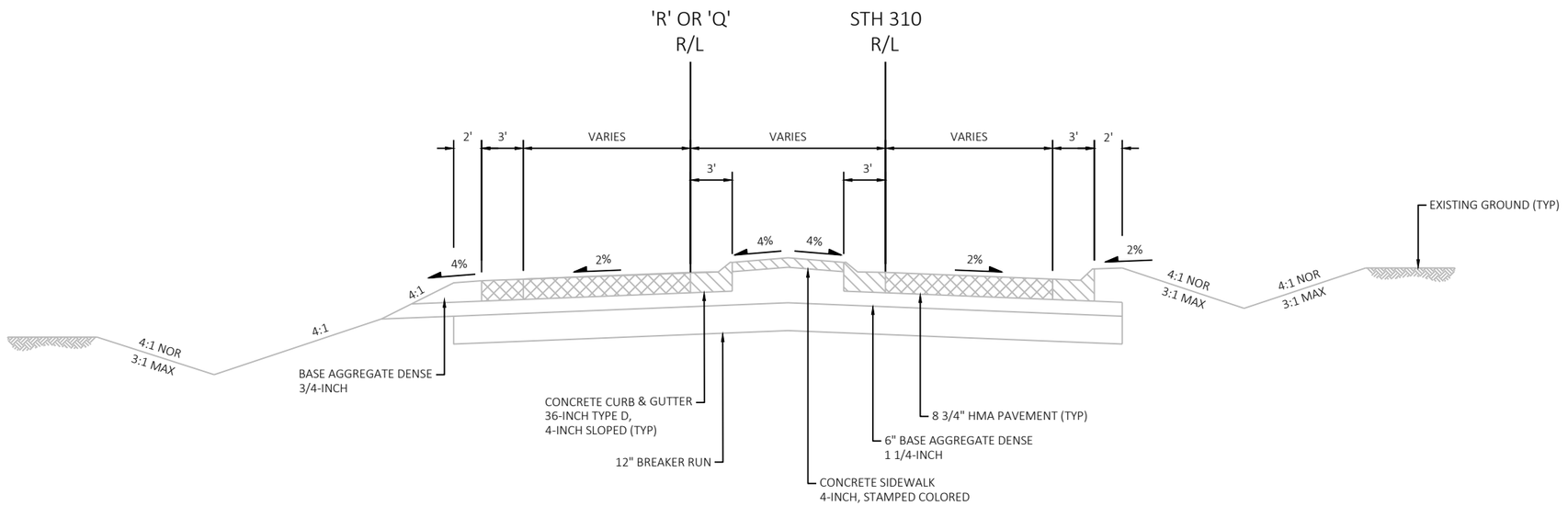
PLOT DATE : 7/27/2023 8:12 AM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:2500 FT

2



EXISTING TYPICAL SECTION STH 310

STA 193+50 TO STA 196+35
STA 271+23 TO STA 274+51
STA 319+95 TO STA 320+86

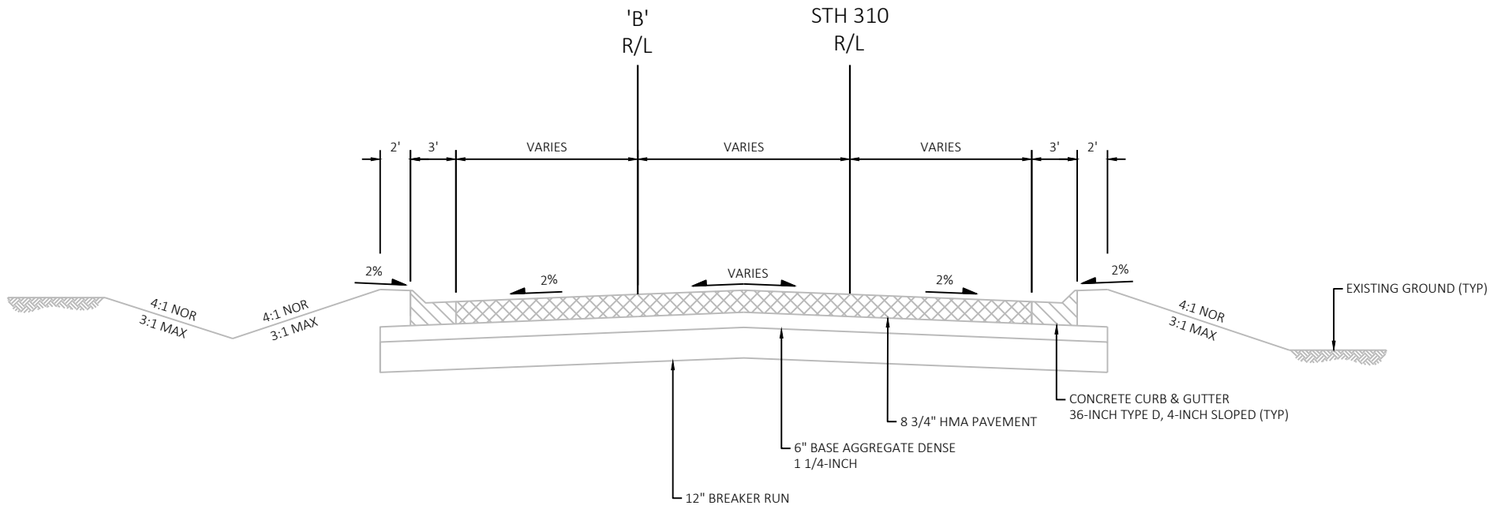


EXISTING TYPICAL SECTION STH 310

STA 263+73 TO STA 265+10
STA 308+92 TO STA 311+31

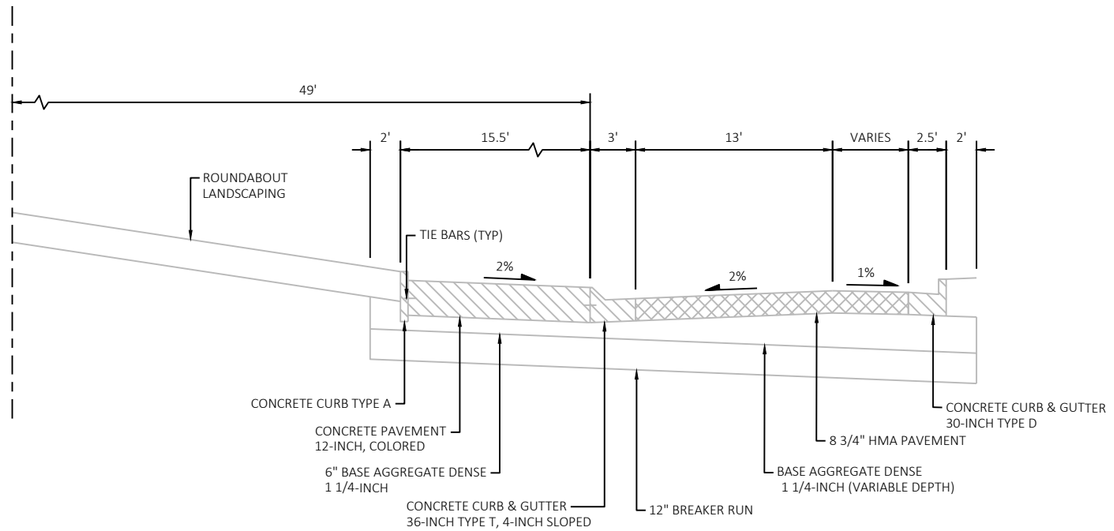
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 4	E

2



EXISTING TYPICAL SECTION STH 310

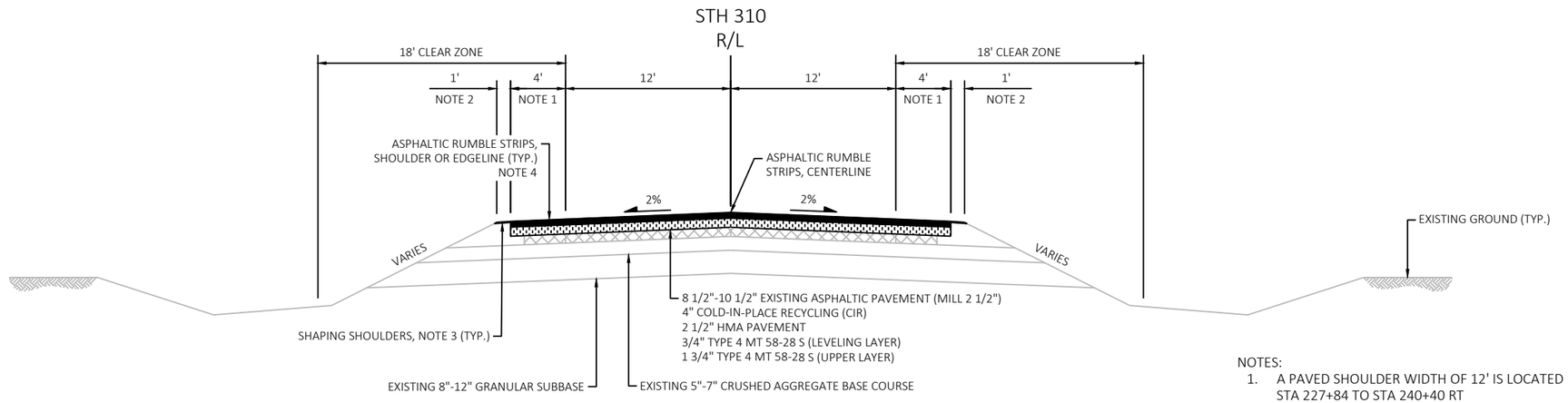
STA 318+47 TO STA 319+95



EXISTING TYPICAL HALF SECTION STH 310

CIRCULATORY ROADWAY AT ROUNDABOUTS

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 5	E

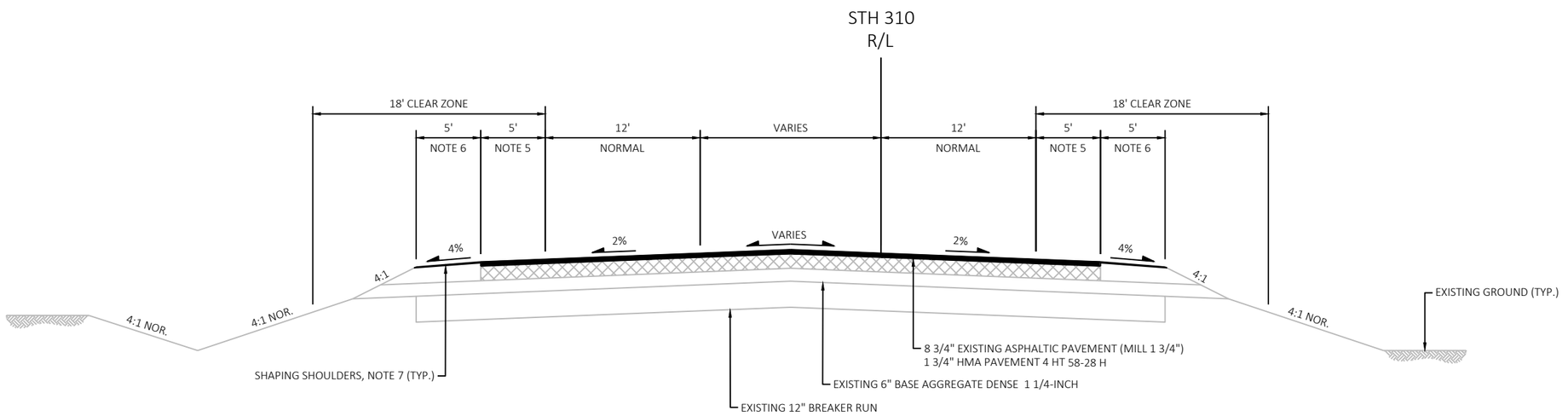


FINISHED TYPICAL SECTION STH 310

STA 196+35 TO STA 260+54
STA 274+51 TO STA 306+11
STA 320+86 TO STA 505+37

NOTES:

1. A PAVED SHOULDER WIDTH OF 12' IS LOCATED FROM:
   STA 227+84 TO STA 240+40 RT
   STA 227+93 TO STA 238+00 LT
   A PAVED SHOULDER WITH OF 15' (CONSIDERED AS A BYPASS LANE) IS LOCATED FROM:
   STA 408+00 TO STA 415+83 LT
2. A GRAVEL SHOULDER WIDTH OF 2' IS LOCATED FROM:
   STA 227+84 TO STA 240+40 RT
   STA 227+93 TO STA 238+00 LT
   STA 408+00 TO STA 415+83 LT
3. ADD ADDITIONAL BASE AGGREGATE DENSE 3/4-INCH AS NECESSARY (1" DEPTH ASSUMED FOR QUANTITY CALCULATIONS).
4. ALL LOCATIONS SHALL BE ASPHALTIC RUMBLE STRIPS, EDGELINE EXCEPT FOR THE FOLLOWING LOCATIONS TO BE ASPHALTIC RUMBLE STRIPS, SHOULDER:
   STA 227+84 TO STA 240+40 RT
   STA 227+93 TO STA 238+00 LT



FINISHED TYPICAL SECTION STH 310

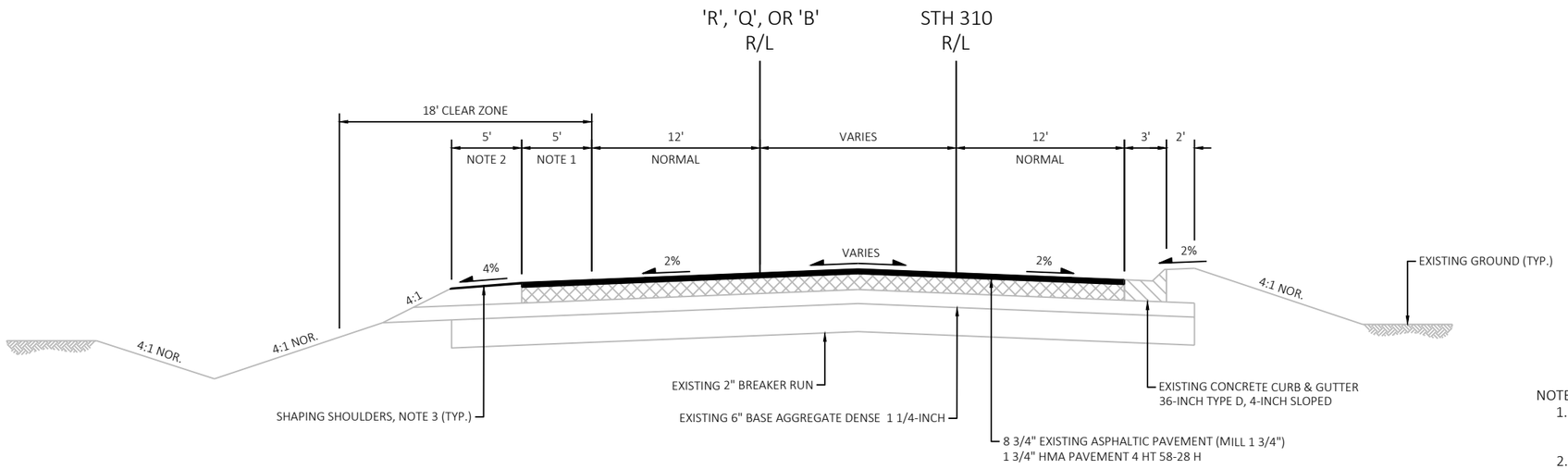
STA 306+11 TO STA 308+21

NOTES:

5. A PAVED SHOULDER WIDTH OF 3' IS LOCATED FROM:
   STA 306+11 TO STA 308+21
6. A GRAVEL SHOULDER WIDTH OF 2' IS LOCATED FROM:
   STA 306+11 TO STA 308+21
7. ADD ADDITIONAL BASE AGGREGATE DENSE 3/4-INCH AS NECESSARY (1 3/4" DEPTH ASSUMED FOR QUANTITY CALCULATIONS).

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 6	E

2

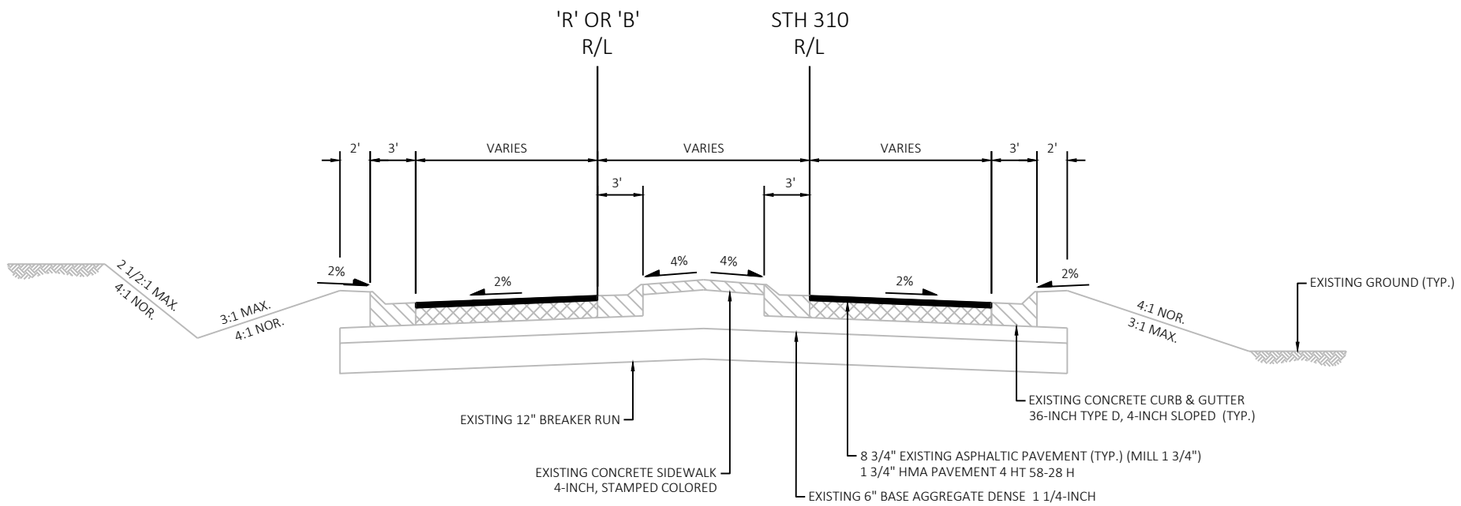


FINISHED TYPICAL SECTION STH 310

STA 182+84 TO STA 186+10
STA 260+54 TO STA 263+73
STA 308+21 TO STA 308+92

NOTES:

1. A PAVED SHOULDER WIDTH OF 3' IS LOCATED FROM:
   STA 260+54 TO STA 263+73
   STA 308+21 TO STA 308+92
2. A GRAVEL SHOULDER WIDTH OF 2' IS LOCATED FROM:
   STA 260+54 TO STA 263+73
   STA 308+21 TO STA 308+92
3. ADD ADDITIONAL BASE AGGREGATE DENSE 3/4-INCH AS NECESSARY (1 3/4" DEPTH ASSUMED FOR QUANTITY CALCULATIONS).

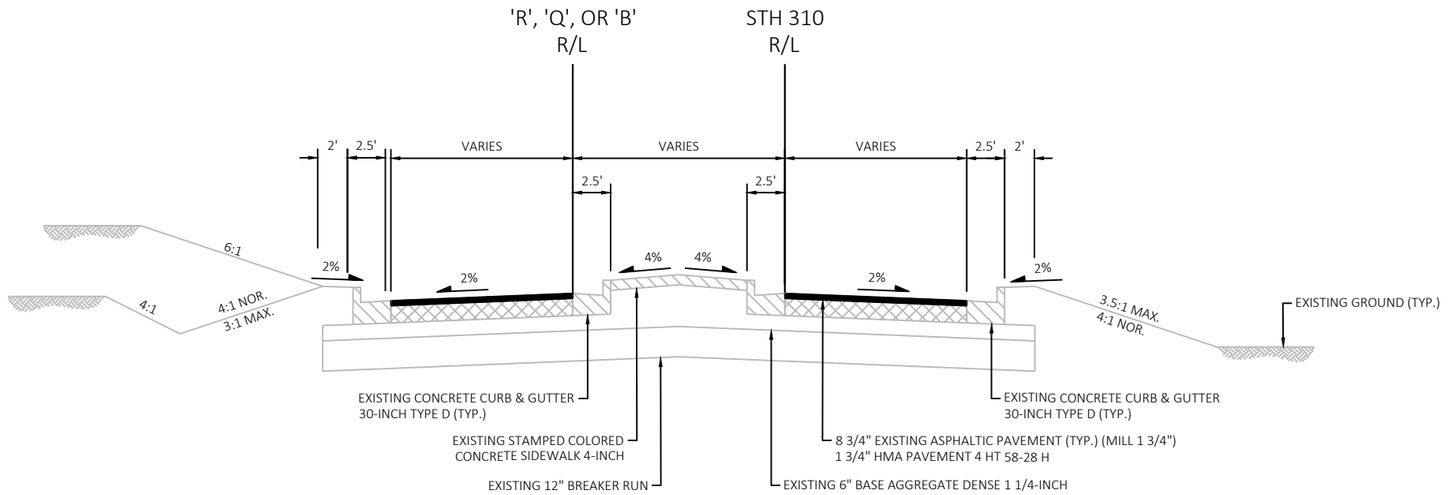


FINISHED TYPICAL SECTION STH 310

STA 186+10 TO STA 187+44
STA 311+31 TO STA 312+90
STA 317+50 TO STA 318+47

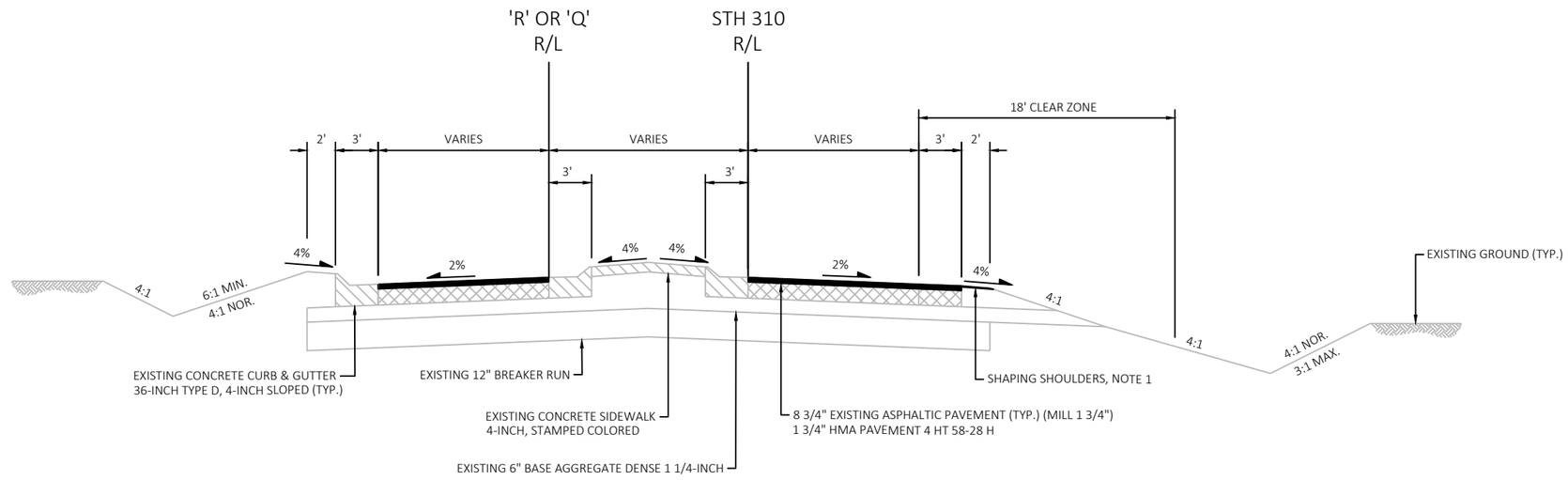
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 7	E

2



FINISHED TYPICAL SECTION STH 310

STA 187+44 TO STA 192+25
STA 265+10 TO STA 270+09
STA 312+90 TO STA 317+50

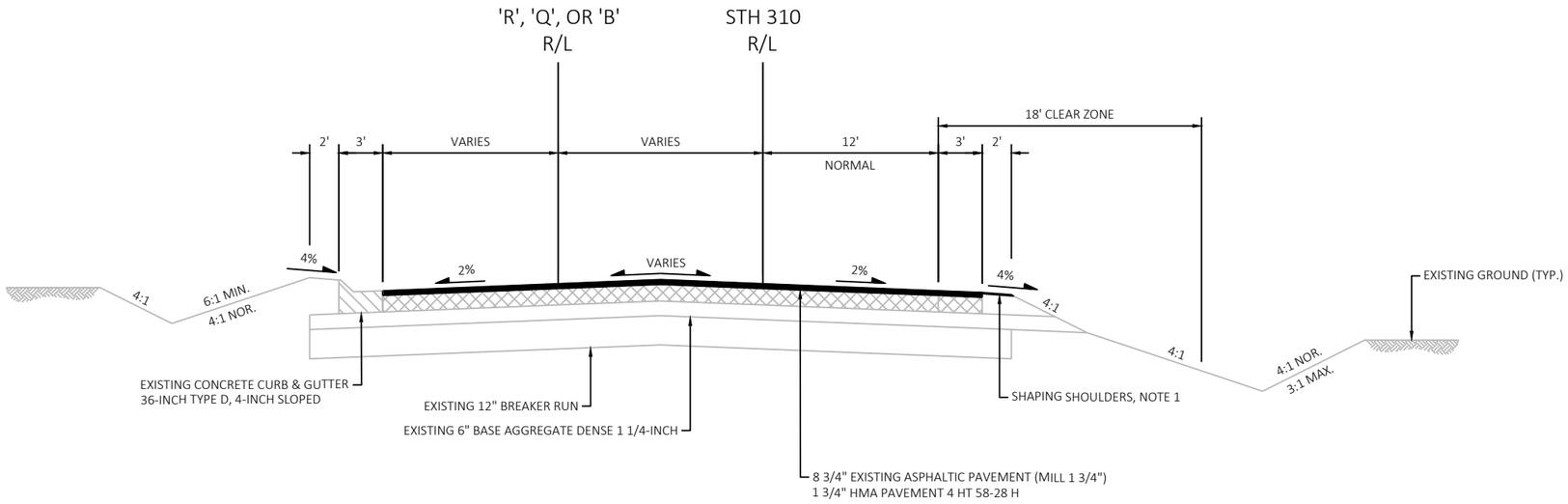


FINISHED TYPICAL SECTION STH 310

STA 192+25 TO STA 193+50
STA 270+09 TO STA 271+23

NOTE:
1. ADD ADDITIONAL BASE AGGREGATE DENSE 3/4-INCH AS NECESSARY (1 3/4" DEPTH ASSUMED FOR QUANTITY CALCULATIONS).

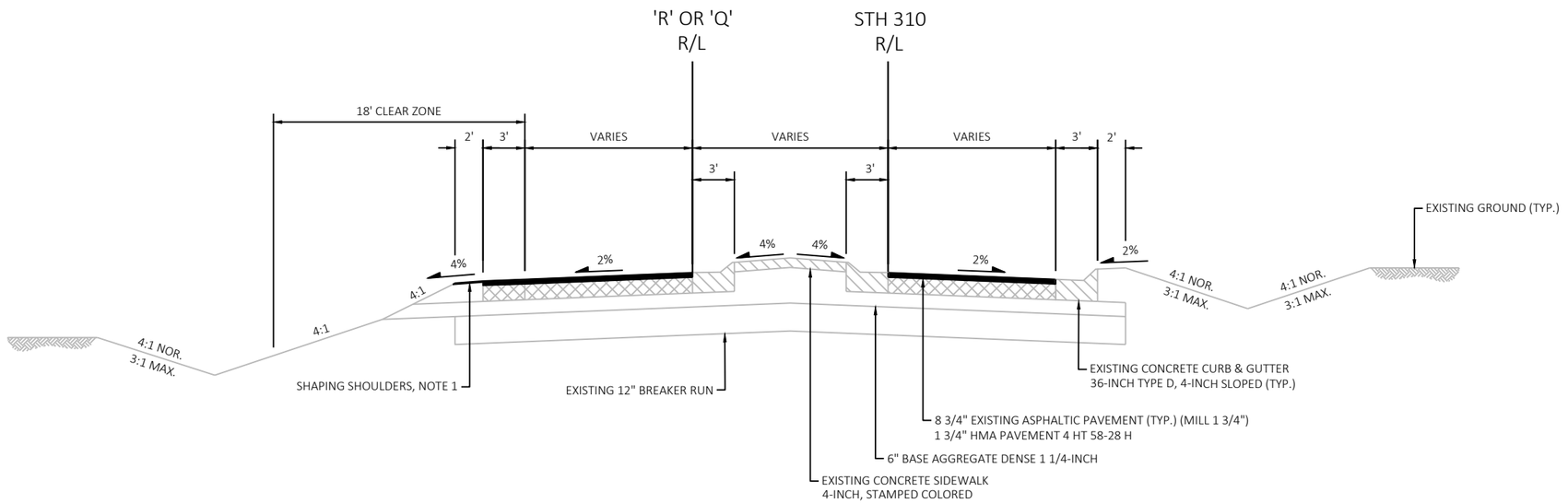
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 8	E



FINISHED TYPICAL SECTION STH 310

STA 193+50 TO STA 196+35
STA 271+23 TO STA 274+51
STA 319+95 TO STA 320+86

NOTE:
1. ADD ADDITIONAL BASE AGGREGATE DENSE 3/4-INCH AS NECESSARY (1 3/4" DEPTH ASSUMED FOR QUANTITY CALCULATIONS).

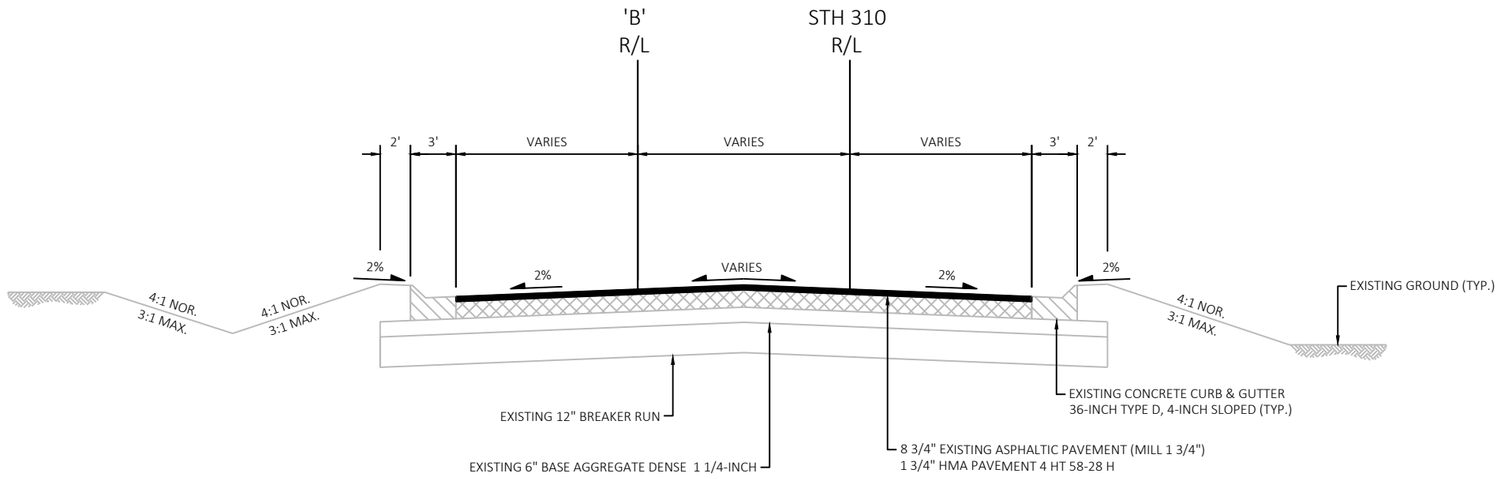


FINISHED TYPICAL SECTION STH 310

STA 263+73 TO STA 265+10
STA 308+92 TO STA 311+31

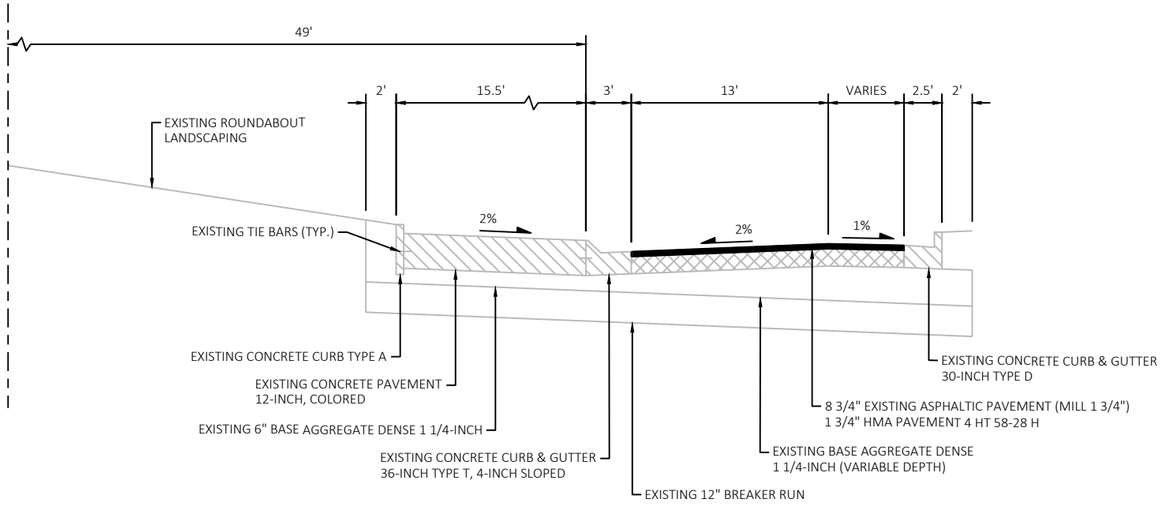
NOTE:
1. ADD ADDITIONAL BASE AGGREGATE DENSE 3/4-INCH AS NECESSARY (1 3/4" DEPTH ASSUMED FOR QUANTITY CALCULATIONS).

2



FINISHED TYPICAL SECTION STH 310

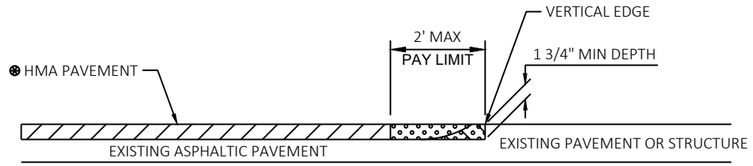
STA 318+47 TO STA 319+95



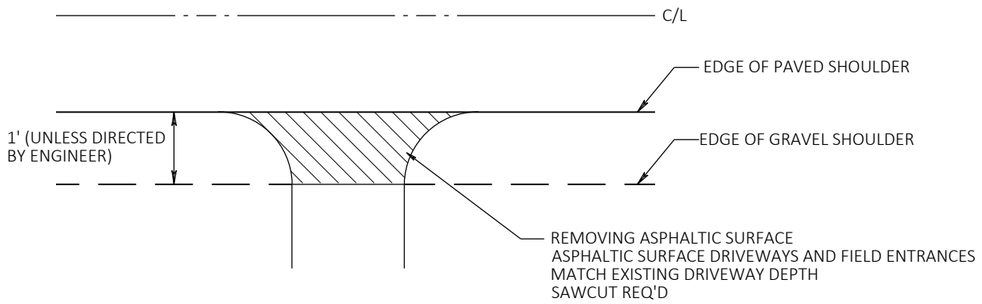
FINISHED TYPICAL HALF SECTION STH 310

CIRCULATORY ROADWAY AT ROUNDABOUTS

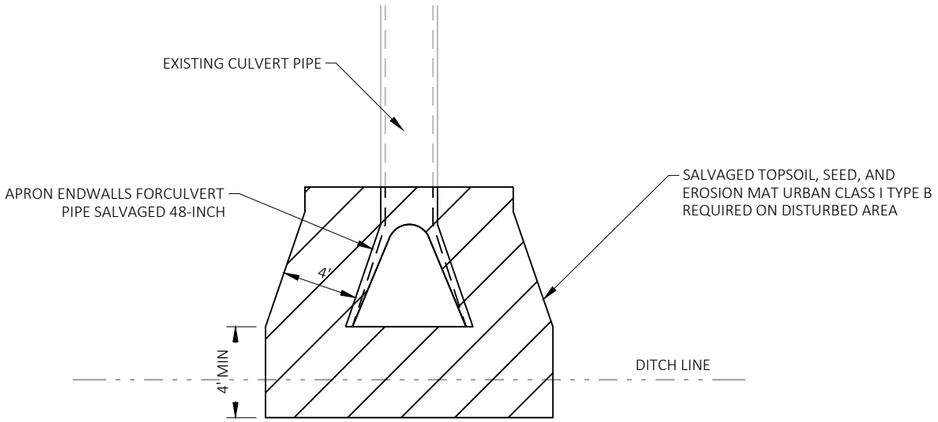
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 10	E



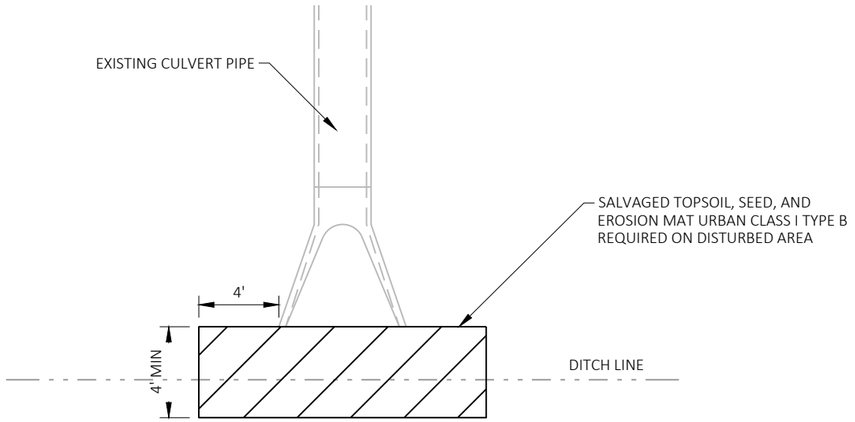
BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)



RURAL DRIVEWAY DETAIL (NO PROFILE CHANGE)

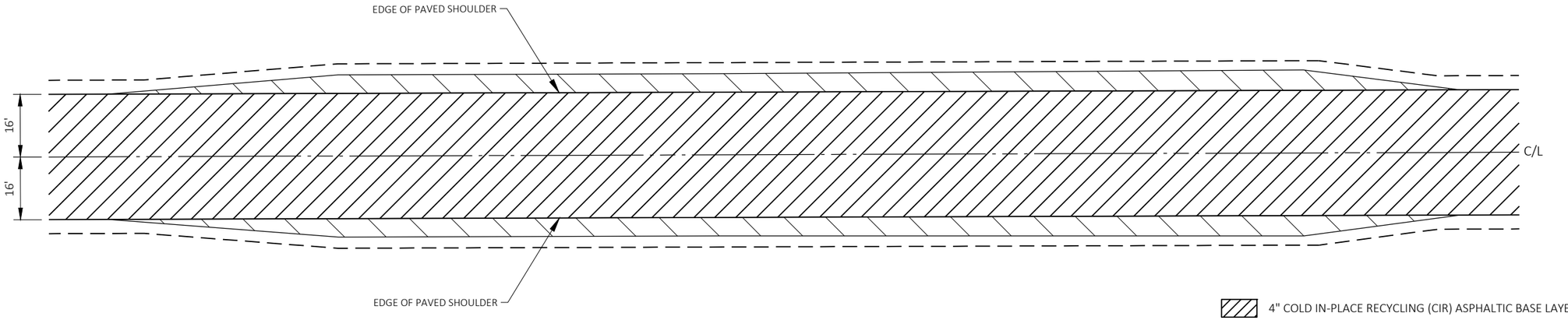


GRADING, SHAPING AND FINISHING CULVERT PIPES AND APRON ENDWALLS DETAIL



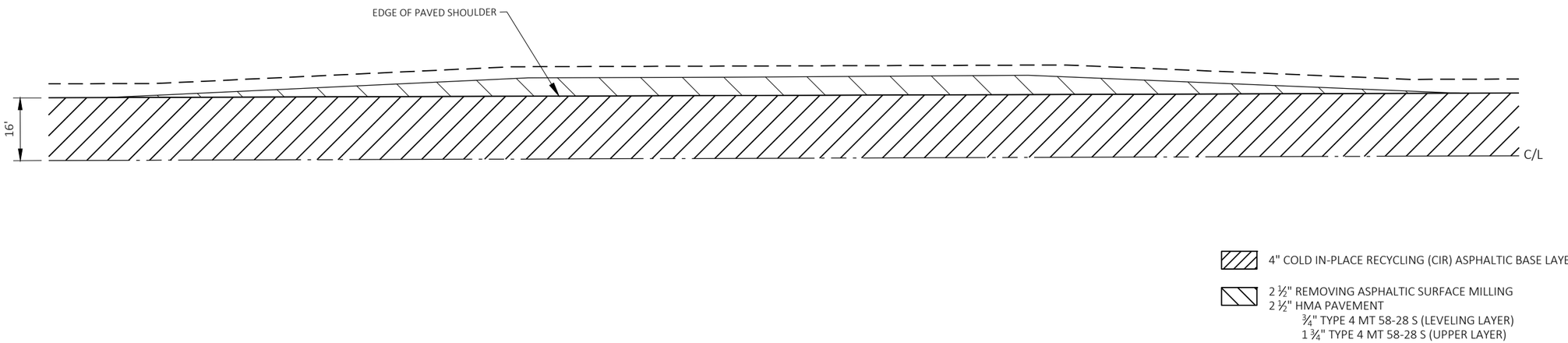
GRADING AND SHAPING DITCH DETAIL

2



WIDE SHOULDER TRANSITION DETAIL

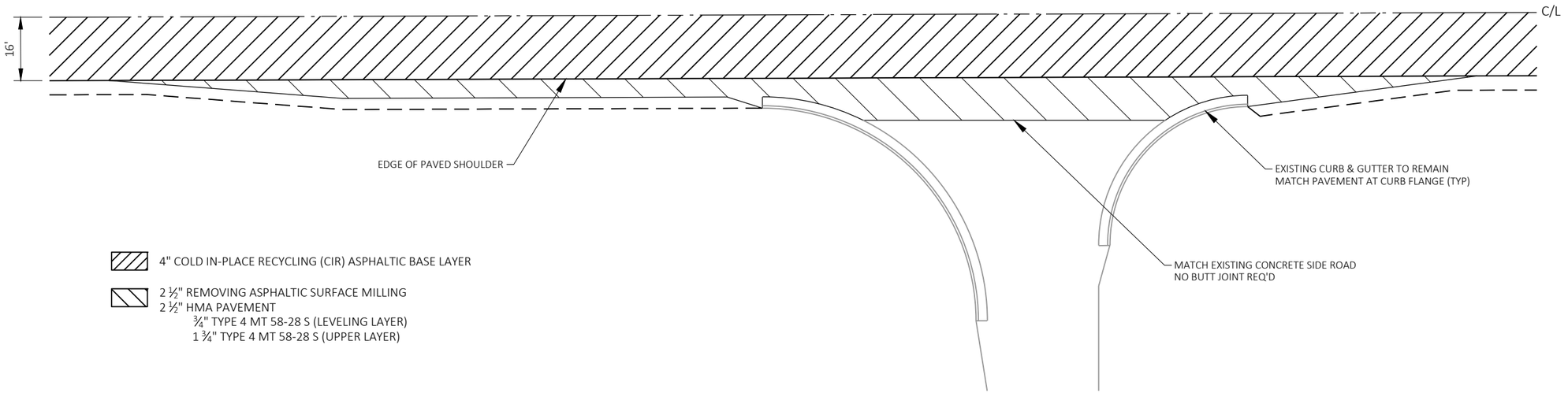
STA 227+84 - STA 240+40 RT
STA 228+24 - STA 238+00 LT



TEE INTERSECTION BYPASS TRANSITION DETAIL

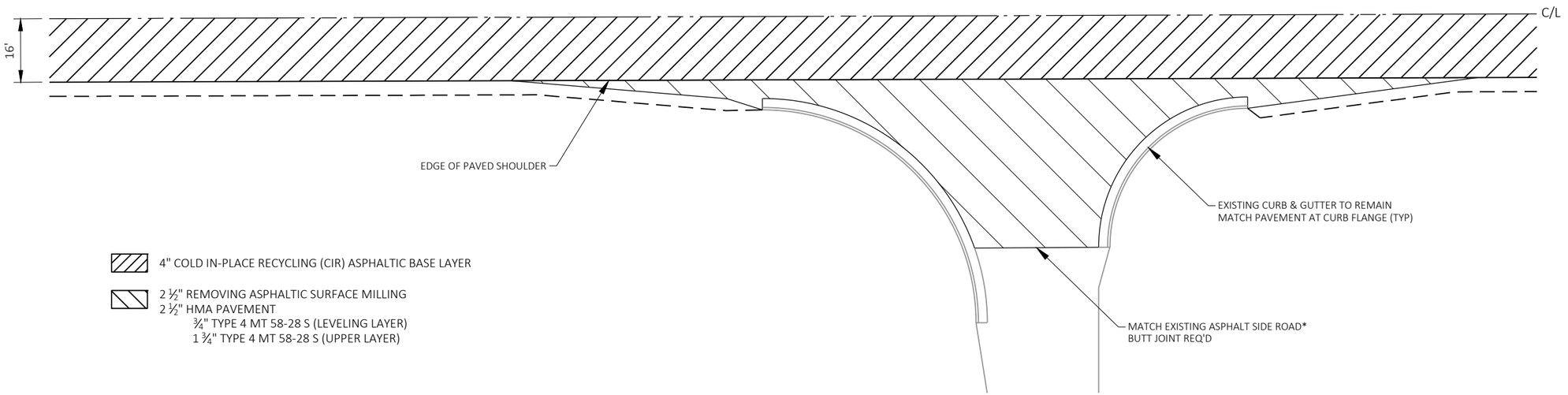
STA 408+52 - STA 415+27 LT

2



INTERSECTION TYPE B TRANSITION DETAIL

BROWNS DRIVE
WOODLAND DRIVE (NORTH)



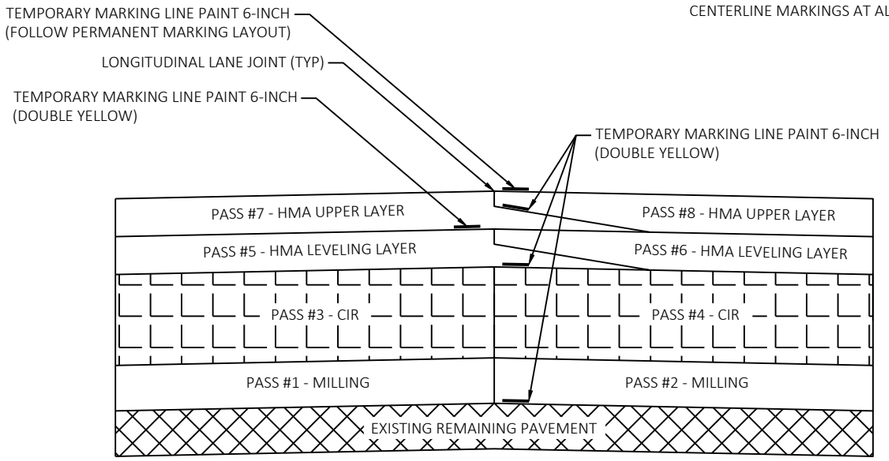
INTERSECTION TYPE D TRANSITION DETAIL

JOHNSTON DRIVE (NORTH)
JOHNSTON DRIVE (SOUTH)
CTH DD
WOODLAND DRIVE (SOUTH)
COLUMBUS STREET

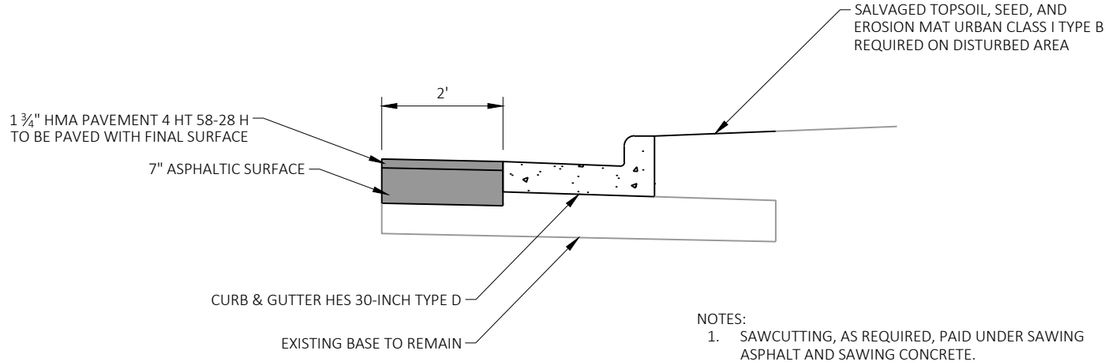
NOTES:
* COLUMBUS STREET SHALL MATCH EXISTING CONCRETE ROAD. NO BUTT JOINT REQ'D.

2

NOTE:
ROADWAY SHALL HAVE TEMPORARY OR PERMANENT CENTERLINE MARKINGS AT ALL TIMES.

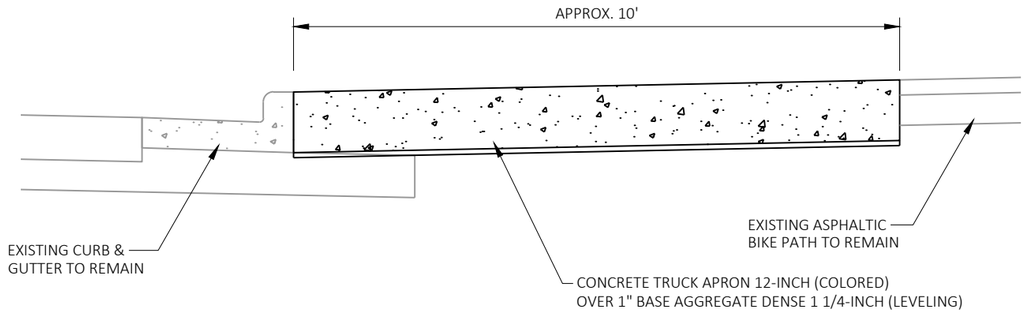


PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS



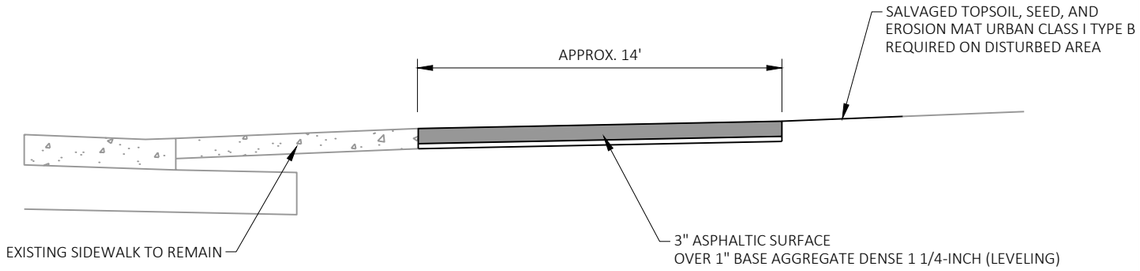
NOTES:
1. SAWCUTTING, AS REQUIRED, PAID UNDER SAWING ASPHALT AND SAWING CONCRETE.
2. REMOVING EXISTING PAVEMENT PAID UNDER REMOVE ASPHALTIC SURFACE.
3. DRILLED TIE BARS REQUIRED TO TIE CURB & GUTTER TO ADJACENT EXISTING CURB & GUTTER: ONE IN CURB HEAD AND ONE IN CURB FLANGE, PER SIDE.
4. RESTORATION OF DISTURBED AREA PAID UNDER GRADING, SHAPING AND FINISHING CURB & GUTTER REPLACEMENT. SEE MISCELLANEOUS QUANTITIES FOR APPROXIMATE QUANTITIES.

CURB & GUTTER REPLACEMENT DETAIL



NOTES:
1. REMOVING EXISTING GRAVEL PAID UNDER EXCAVATION COMMON.

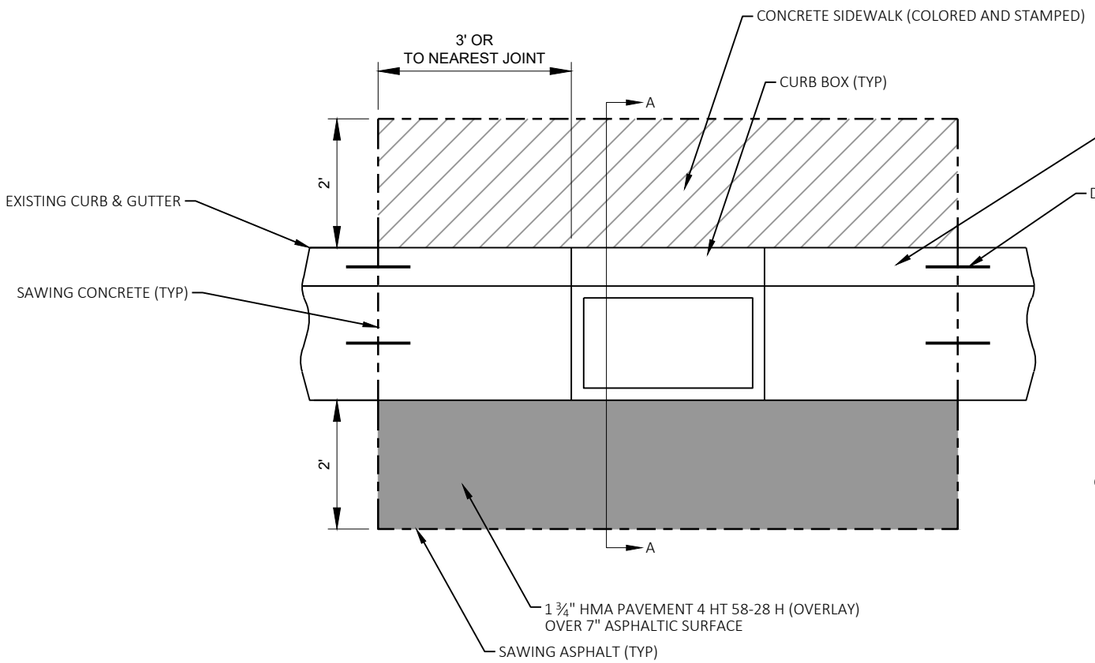
TRUCK APRON REPLACEMENT DETAIL

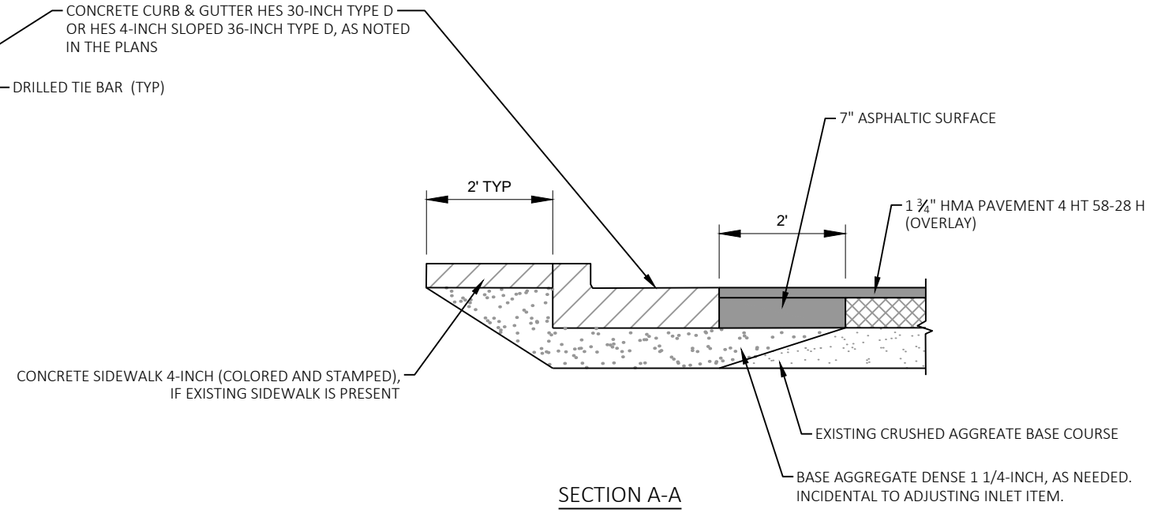


NOTES:
1. REMOVING EXISTING GRAVEL PAID UNDER EXCAVATION COMMON.
2. RESTORATION OF DISTURBED AREA PAID UNDER GRADING, SHAPING AND FINISHING PATH RESTORATION. SEE MISCELLANEOUS QUANTITIES FOR APPROXIMATE QUANTITIES.

ASPHALTIC BIKE PATH RESTORATION DETAIL

2



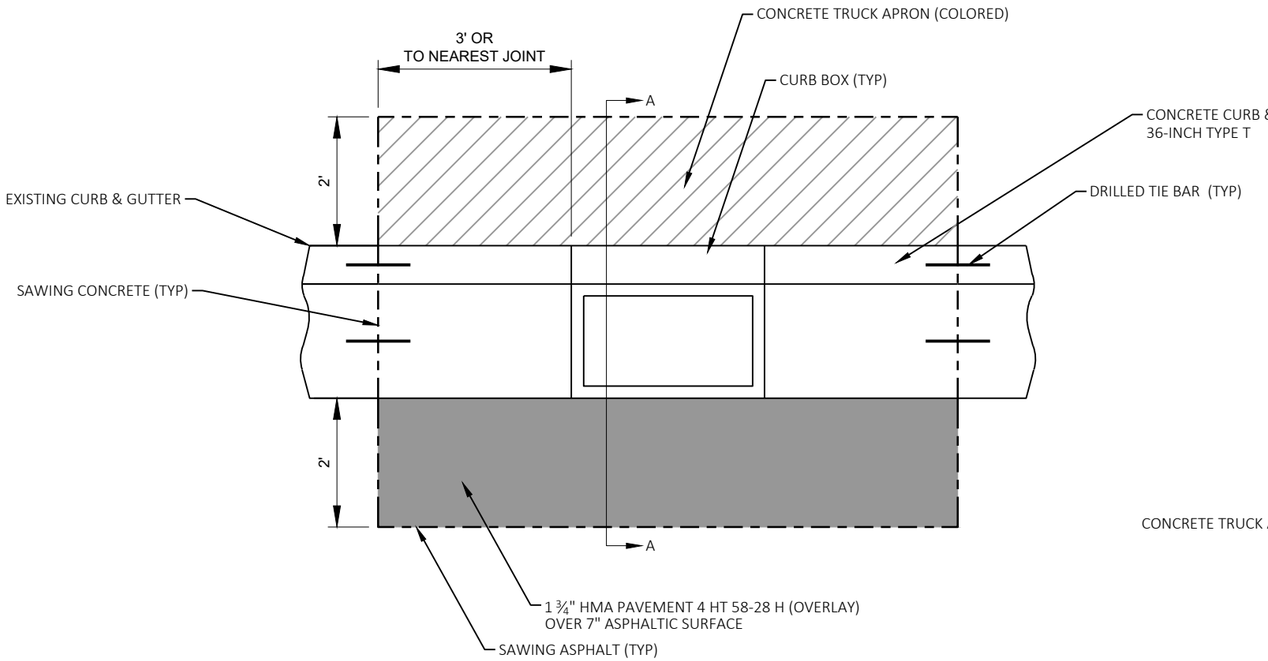


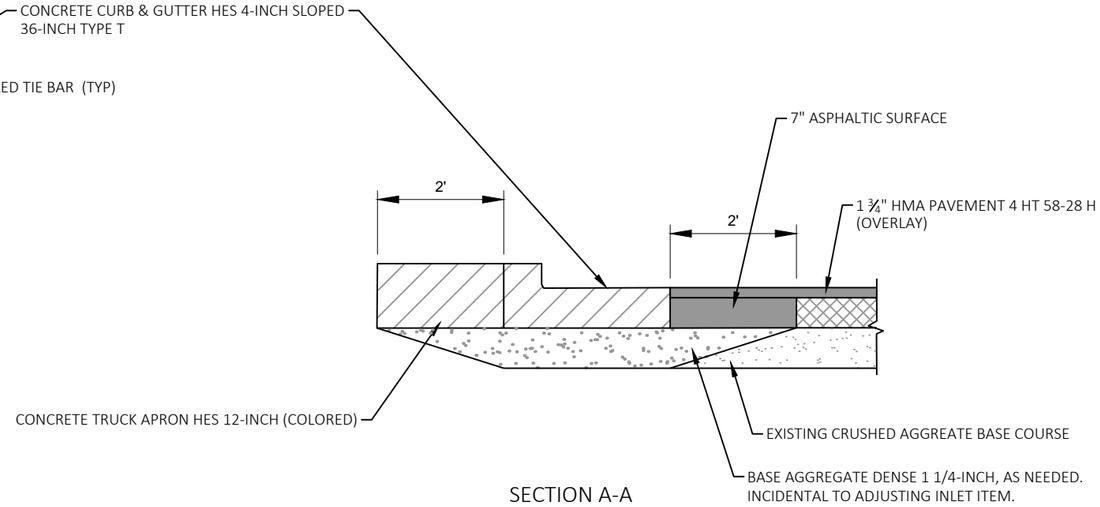
SECTION A-A

NOTES:
1. THE CURB BOX OPENING SHALL BE SEALED PRIOR TO POURING THE CONCRETE CURB TO PREVENT CONCRETE FROM ENTERING THE STRUCTURE.
2. REUSE EXISTING GRATE AND CASTING UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. SAWCUTTING, AS REQUIRED, PAID FOR UNDER SAWING ASPHALT AND SAWING CONCRETE.
4. REMOVALS SHALL BE PAID FOR UNDER REMOVING ASPHALTIC SURFACE, REMOVING CURB & GUTTER, AND REMOVING CONCRETE SIDEWALK.

ADJUSTING INLET COVERS DETAIL

2



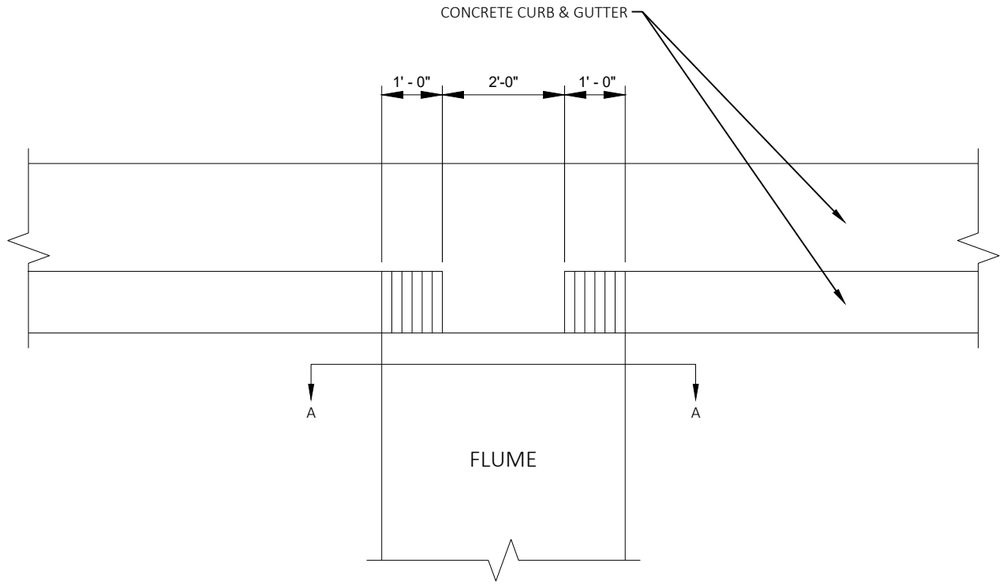


SECTION A-A

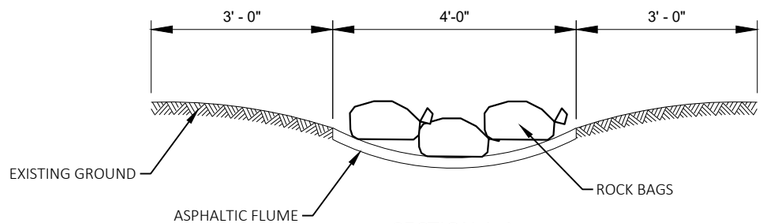
NOTES:
1. THE CURB BOX OPENING SHALL BE SEALED PRIOR TO POURING THE CONCRETE CURB TO PREVENT CONCRETE FROM ENTERING THE STRUCTURE.
2. REUSE EXISTING GRATE AND CASTING UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. SAWCUTTING, AS REQUIRED, PAID FOR UNDER SAWING ASPHALT AND SAWING CONCRETE.
4. REMOVALS SHALL BE PAID FOR UNDER THE REMOVING ASPHALTIC SURFACE, REMOVING CURB & GUTTER, AND REMOVING CONCRETE PAVEMENT.

ADJUSTING INLET COVERS WITH RUBBER RINGS DETAIL

2



PLAN VIEW



SECTION A-A

ASPHALTIC FLUME ROCK BAG PLACEMENT DETAIL

2

2

LEGEND

- FLOW DIRECTION
- TEMPORARY DITCH CHECKS
- F — ROCK BAGS
- INLET PROTECTION TYPE C
- CULVERT PIPE CHECKS
- EROSION MAT URBAN CLASS I TYPE B

N

CTH R

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 12-INCH CPRC)

EXISTING R/W - GIS DATA (TYP)

STH 310 WB - CTH R R/L

STH 310

5 'R'

10 'R'

185

190

195

STH 310

STH 310 R/L

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 12-INCH CPRC)

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 12-INCH CPRC)

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 12-INCH CPRC)

CTH R

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 18	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 2/21/2024 3:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- FLOW DIRECTION
- TEMPORARY DITCH CHECKS
- F — ROCK BAGS
- INLET PROTECTION TYPE C
- CULVERT PIPE CHECKS
- EROSION MAT URBAN CLASS I TYPE B

N

REMOVE AND SALVAGE PIPE GRATES (INCIDENTAL TO CLEANING CULVERT PIPES

REMOVE AND SALVAGE PIPE GRATES (INCIDENTAL TO CLEANING CULVERT PIPES

EXISTING R/W - GIS DATA (TYP)

225

230

235

STH 310

STH 310 R/L

CLEANING CULVERT PIPES GRADING AND SHAPING DITCH (EXISTING 29" X 45" CPRCHE)

CLEANING CULVERT PIPES GRADING AND SHAPING DITCH (EXISTING 29" X 45" CPRCHE)

WISCONSIN CENTRAL LTD (CN)

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 19	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022002-ec

PLOT DATE : 2/21/2024 3:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- FLOW DIRECTION
- TEMPORARY DITCH CHECKS
- F — ROCK BAGS
- INLET PROTECTION TYPE C
- CULVERT PIPE CHECKS
- EROSION MAT URBAN CLASS I TYPE B

N

CTH Q

EXISTING R/W - GIS DATA (TYP)

STH 310 WB - CTH Q R/L

STH 310

260

265

5 'Q'

270

10 'Q'

275

CLEANING CULVERT PIPES
GRADING AND SHAPING DITCH
(EXISTING 12-INCH CPRC)

STH 310

STH 310 R/L

CTH Q

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 20	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022003-ec

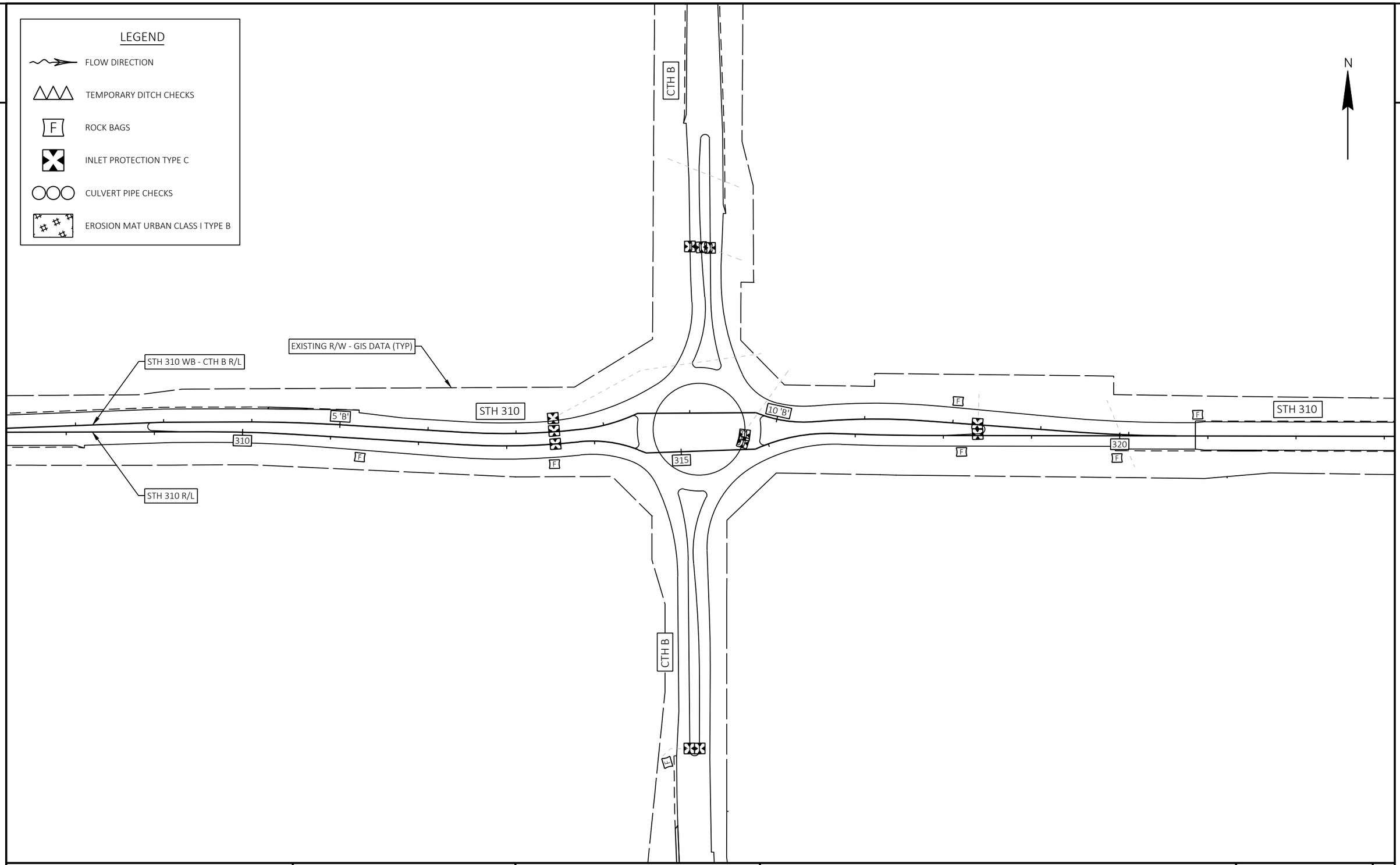
PLOT DATE : 2/21/2024 3:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- FLOW DIRECTION
- TEMPORARY DITCH CHECKS
- F — ROCK BAGS
- INLET PROTECTION TYPE C
- CULVERT PIPE CHECKS
- EROSION MAT URBAN CLASS I TYPE B



2

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 21	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022004-ec

PLOT DATE : 2/21/2024 3:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- FLOW DIRECTION
- TEMPORARY DITCH CHECKS
- F — ROCK BAGS
- INLET PROTECTION TYPE C
- CULVERT PIPE CHECKS
- EROSION MAT URBAN CLASS I TYPE B

N

CULVERT PIPE LINERS 48-INCH
CLEANING CULVERT FOR LINER VERIFICATION
(2) APRON ENDWALLS FOR CULVERT PIPE SALVAGED 48-INCH
GRADING, SHAPING AND FINISHING CULVERT PIPES AND APRON ENDWALLS

EXISTING R/W - GIS DATA (TYP)

STH 310

430

435

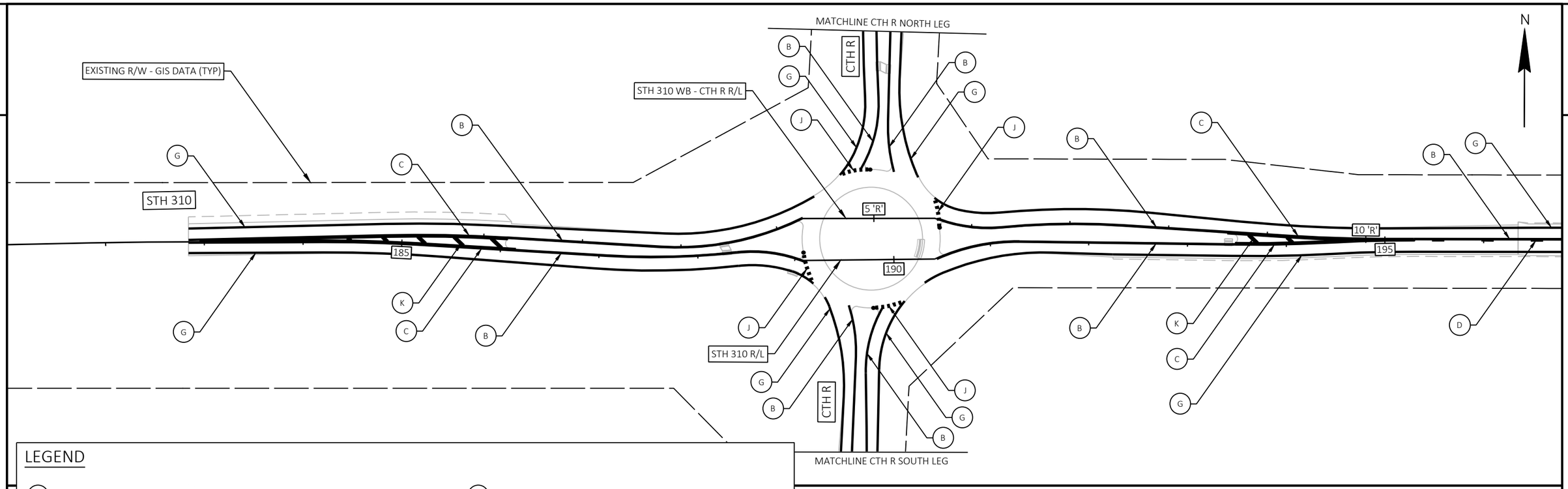
440

STH 310 R/L

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	EROSION CONTROL	SHEET 22	E

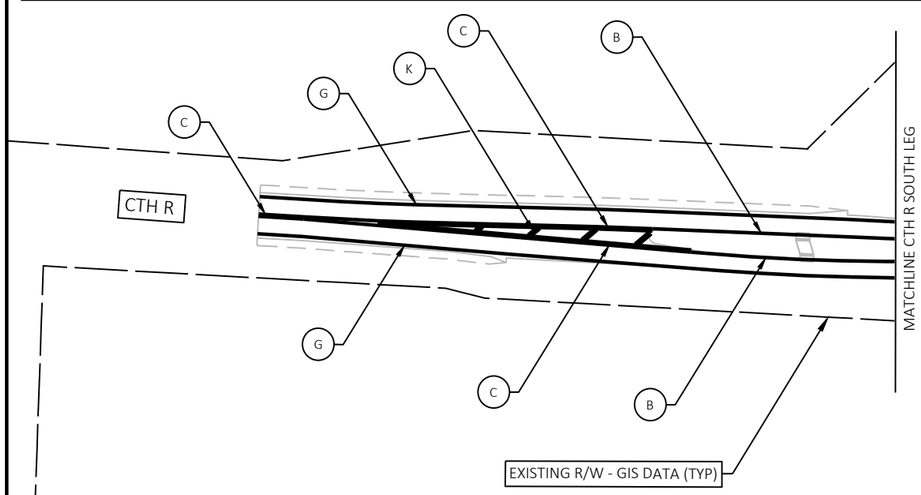
FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022005-ec

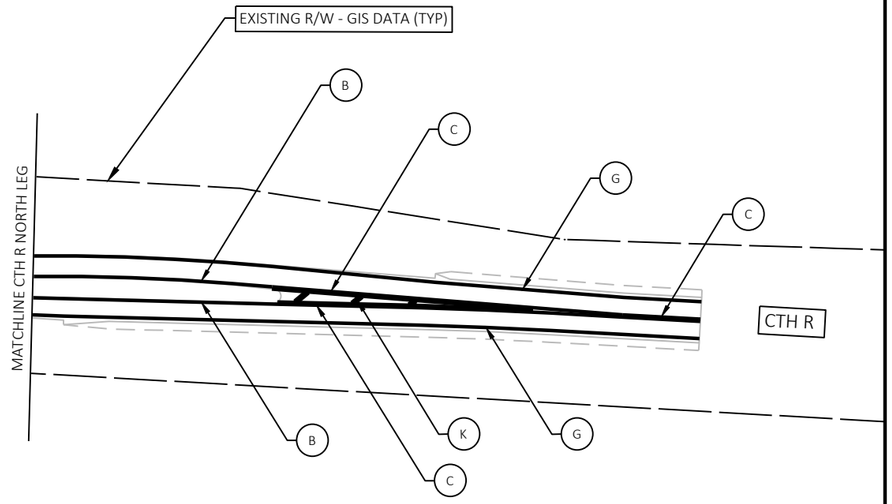
PLOT DATE : 2/21/2024 3:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT



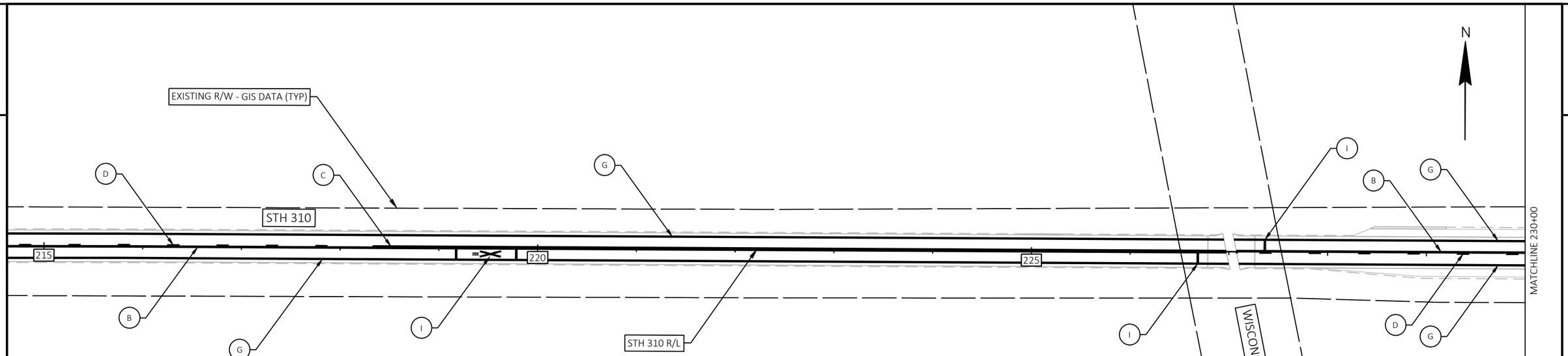
LEGEND

- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)
- (D) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED YELLOW, 12.5' LINE, 37.5' SKIP)
- (E) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 12.5' LINE, 37.5' SKIP)
- (F) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 3' LINE, 9' SKIP)
- (G) MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- (H) MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
- (I) MARKING RAILROAD CROSSING EPOXY (WHITE)
- (J) MARKING DOTTED EXTENSION EPOXY 18-INCH (WHITE)
- (K) MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (L) MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)





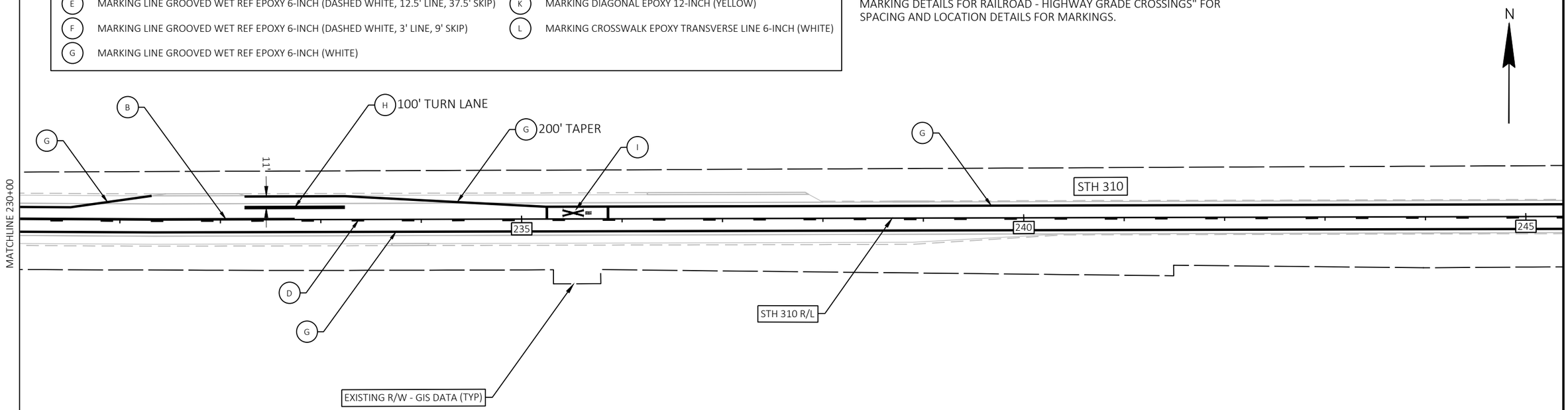
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 23	E



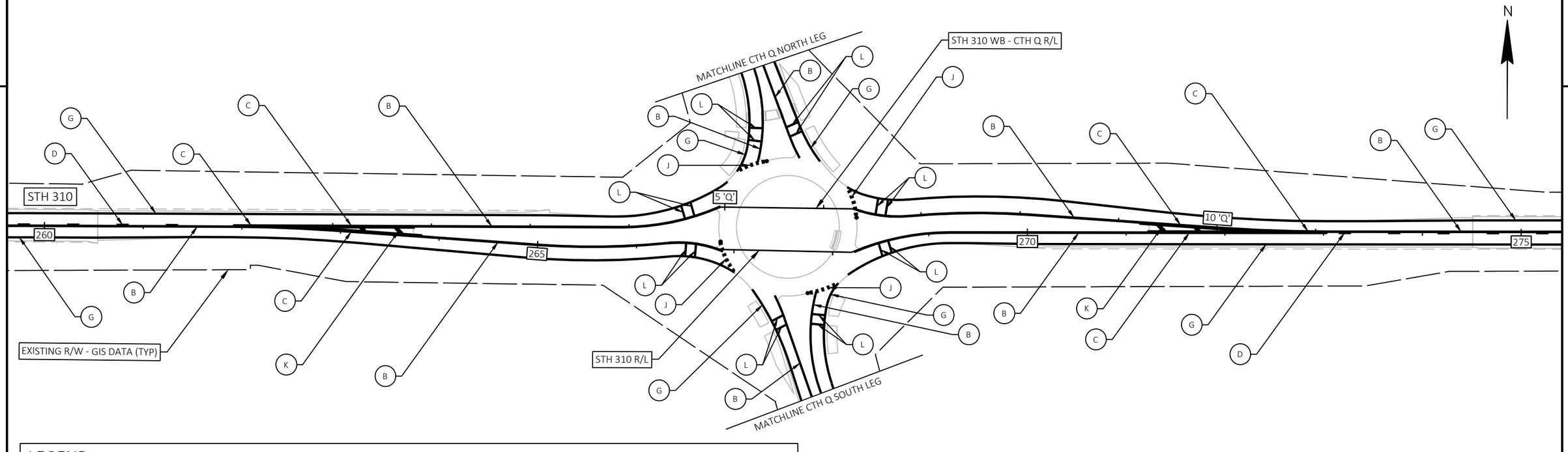
LEGEND

- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)
- (D) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED YELLOW, 12.5' LINE, 37.5' SKIP)
- (E) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 12.5' LINE, 37.5' SKIP)
- (F) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 3' LINE, 9' SKIP)
- (G) MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- (H) MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
- (I) MARKING RAILROAD CROSSING EPOXY (WHITE)
- (J) MARKING DOTTED EXTENSION EPOXY 18-INCH (WHITE)
- (K) MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (L) MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)

SEE WISDOT STANDARD DETAIL DRAWING "SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD - HIGHWAY GRADE CROSSINGS" FOR SPACING AND LOCATION DETAILS FOR MARKINGS.

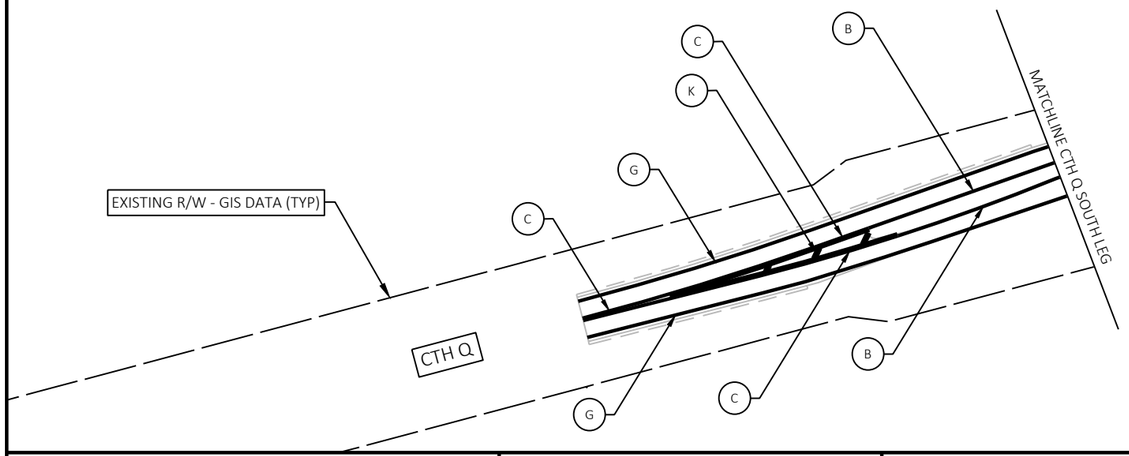


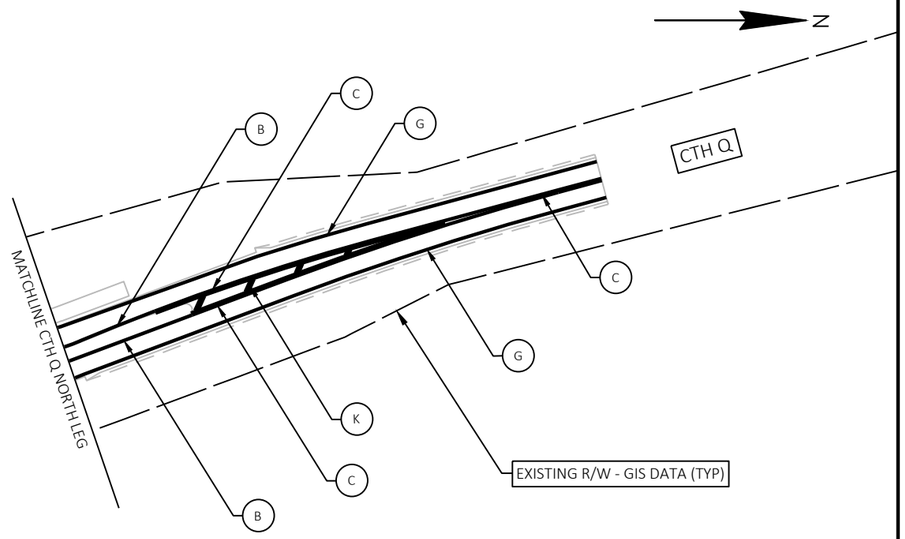
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 24	E



LEGEND

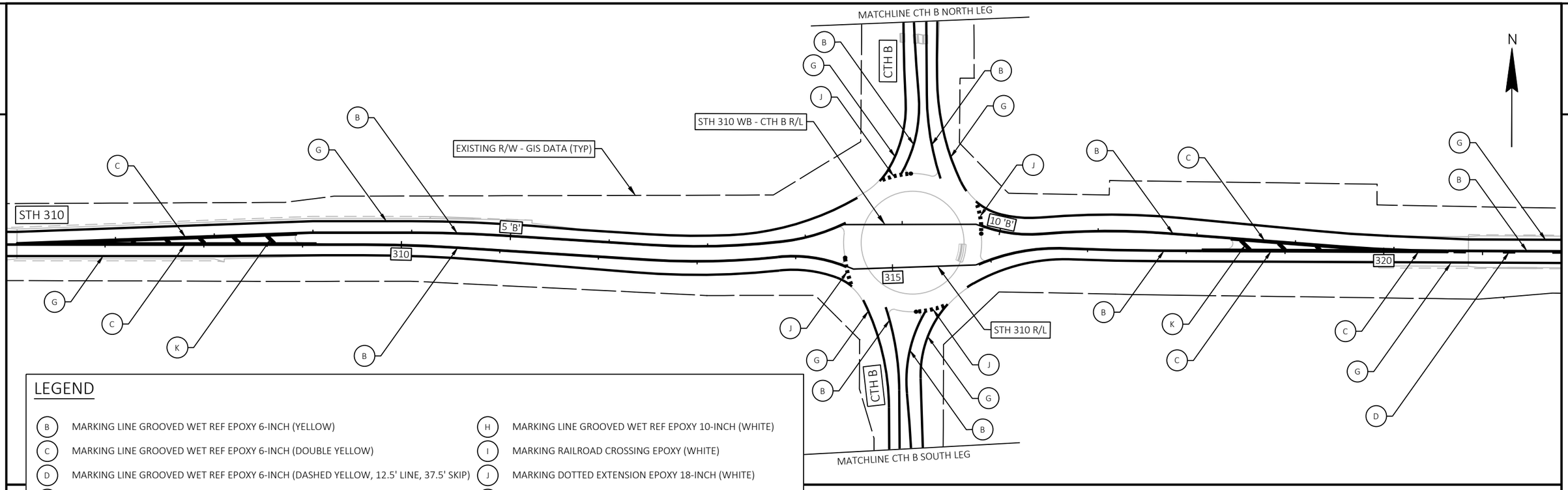
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)	I	MARKING RAILROAD CROSSING EPOXY (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED YELLOW, 12.5' LINE, 37.5' SKIP)	J	MARKING DOTTED EXTENSION EPOXY 18-INCH (WHITE)
E	MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 12.5' LINE, 37.5' SKIP)	K	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
F	MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 3' LINE, 9' SKIP)	L	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
G	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)		





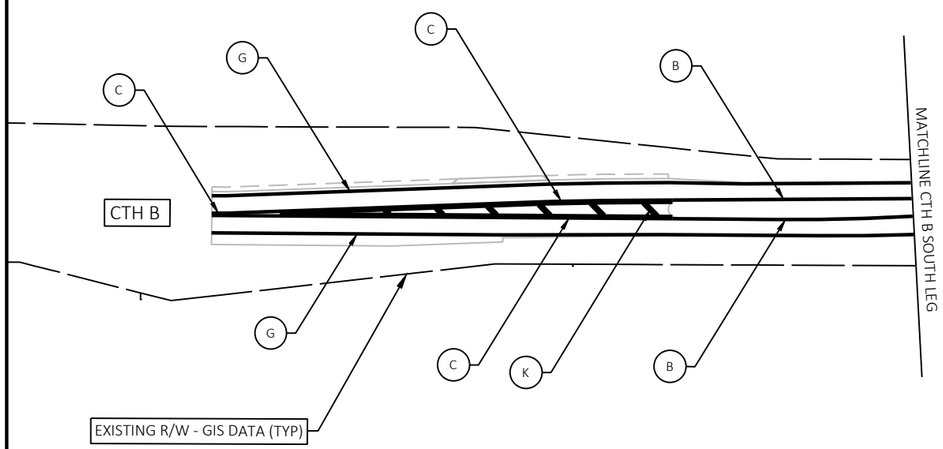
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 25	E

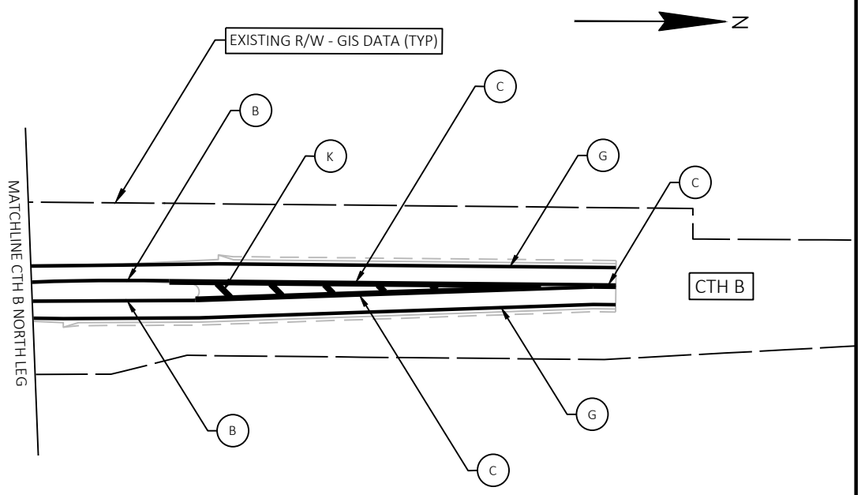
FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024503-pm
PLOT DATE : 2/15/2024 6:02 PM
PLOT BY : ERICSON, SARAH L
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



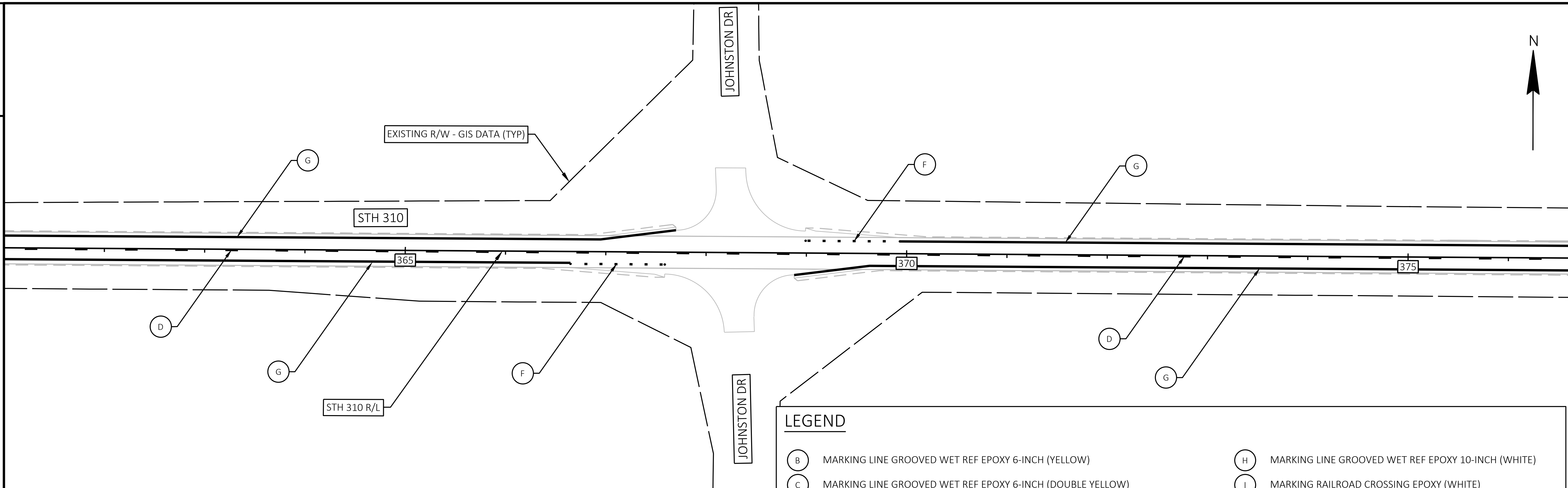
LEGEND

- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)
- (D) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED YELLOW, 12.5' LINE, 37.5' SKIP)
- (E) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 12.5' LINE, 37.5' SKIP)
- (F) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 3' LINE, 9' SKIP)
- (G) MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
- (H) MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
- (I) MARKING RAILROAD CROSSING EPOXY (WHITE)
- (J) MARKING DOTTED EXTENSION EPOXY 18-INCH (WHITE)
- (K) MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (L) MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)



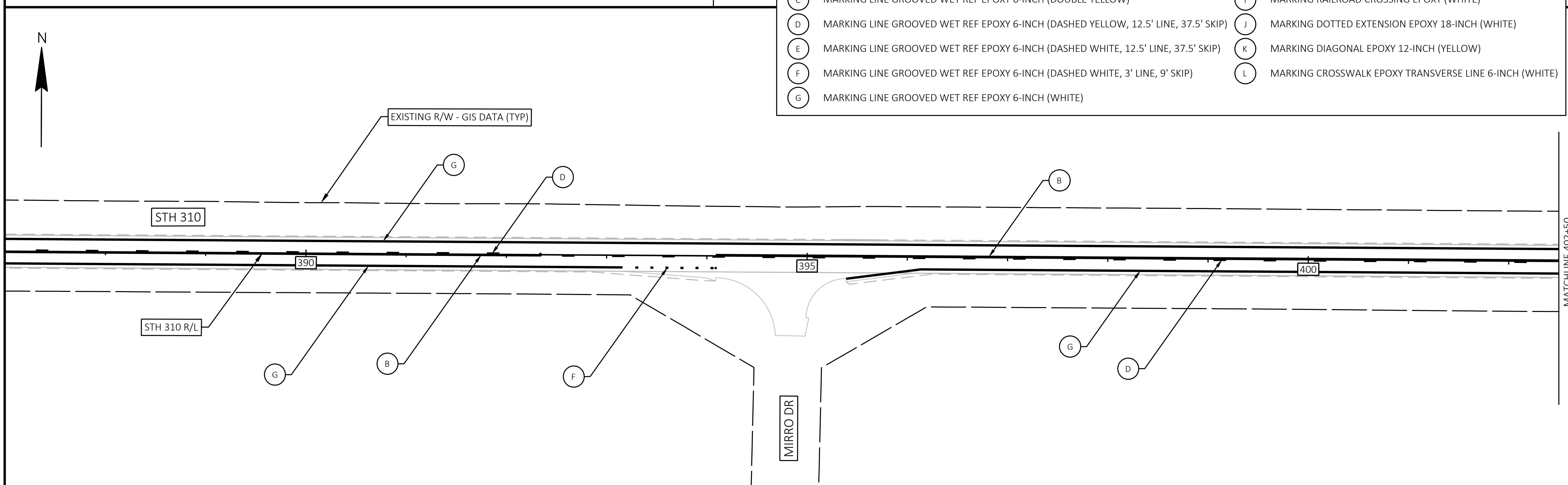


PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 26 E



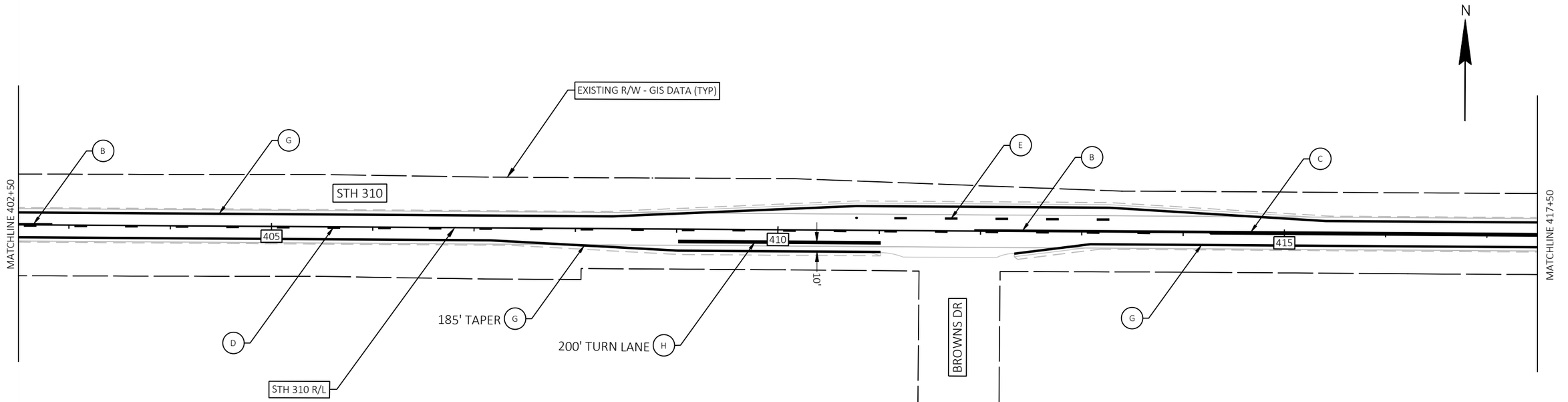
LEGEND

B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)	I	MARKING RAILROAD CROSSING EPOXY (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED YELLOW, 12.5' LINE, 37.5' SKIP)	J	MARKING DOTTED EXTENSION EPOXY 18-INCH (WHITE)
E	MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 12.5' LINE, 37.5' SKIP)	K	MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
F	MARKING LINE GROOVED WET REF EPOXY 6-INCH (DASHED WHITE, 3' LINE, 9' SKIP)	L	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
G	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)		



PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 27 E

2



LEGEND

- (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)
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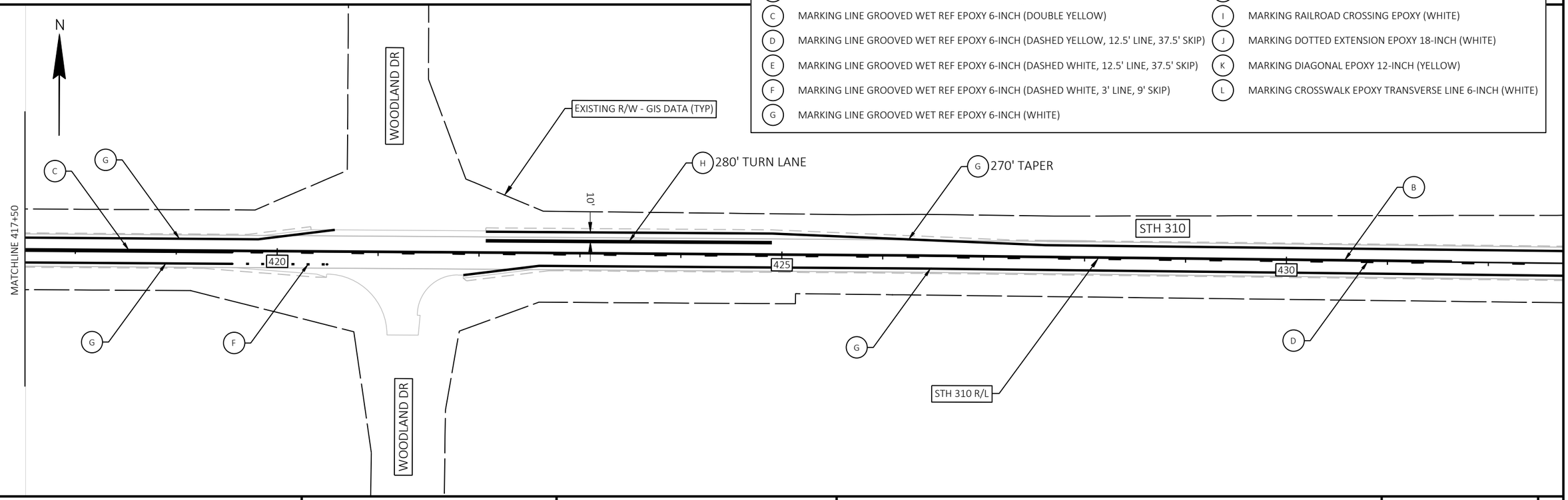
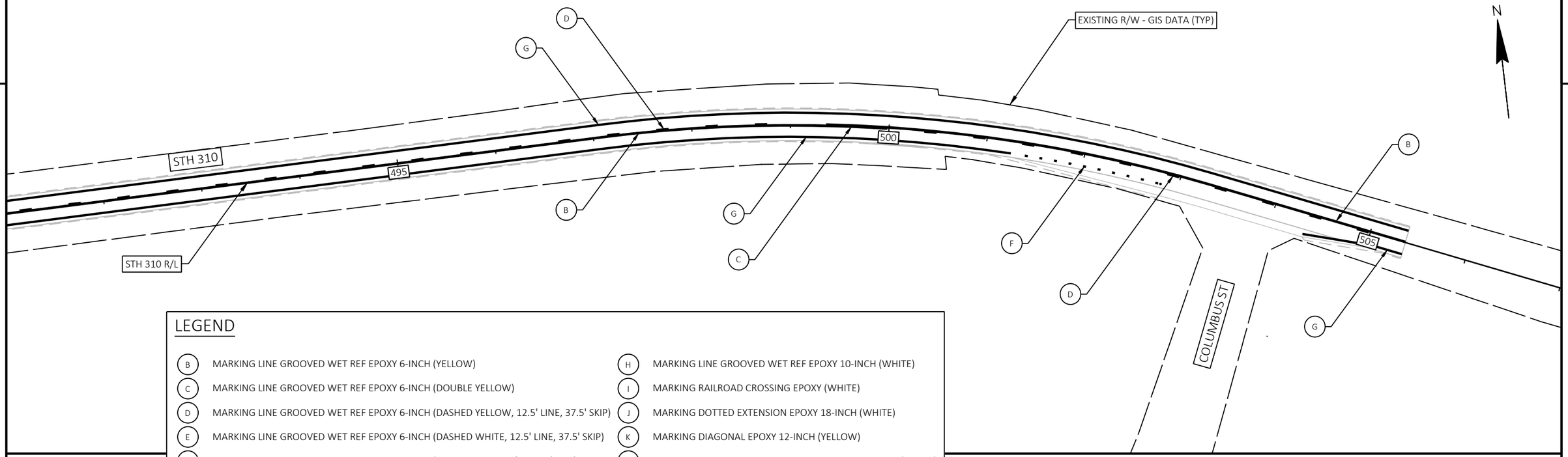
- (I) MARKING RAILROAD CROSSING EPOXY (WHITE)
- (J) MARKING DOTTED EXTENSION EPOXY 18-INCH (WHITE)
- (K) MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- (L) MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)



PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PAVEMENT MARKING	SHEET 28	E



LEGEND

- B — MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
- C — MARKING LINE GROOVED WET REF EPOXY 6-INCH (DOUBLE YELLOW)
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- I — MARKING RAILROAD CROSSING EPOXY (WHITE)
- J — MARKING DOTTED EXTENSION EPOXY 18-INCH (WHITE)
- K — MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- L — MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)

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LEGEND

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

EXIT 154
WEST
10 310
Two Rivers
Appleton
1 MILE

SB (1A) (21) NB
COVER

DETOUR
M04-8
36" X 18"
EAST
M3-2
36" X 18"
310
M1-6
36" X 36"
M06-1
30" X 30"
(5) (6)

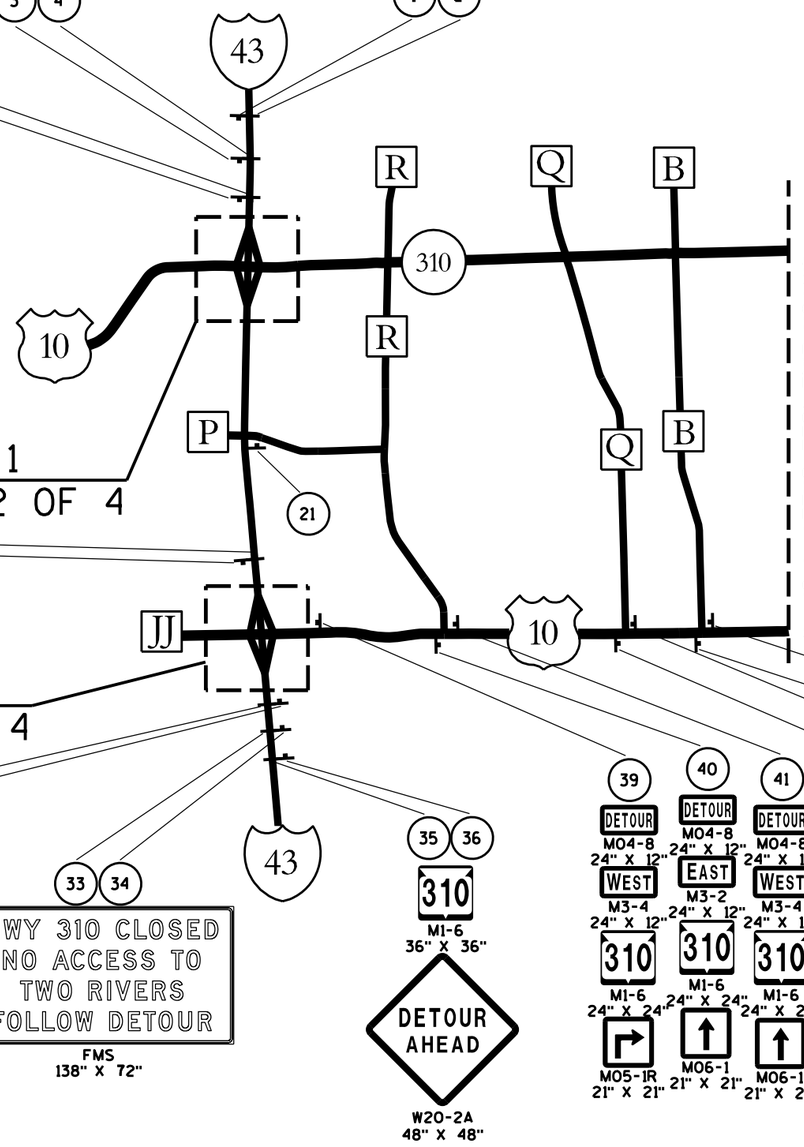
HWY 310 CLOSED
NO ACCESS TO
TWO RIVERS
FOLLOW DETOUR

FMS
138" X 72"
(3) (4)

310
M1-6
36" X 36"
DETOUR
AHEAD
W20-2A
48" X 48"
(1) (2)

DETOUR
M04-8
36" X 18"
EAST
M3-2
36" X 18"
310
M1-6
36" X 36"
M05-2R
30" X 30"
(23) (24)

DETAIL 1
SEE SHEET 2 OF 4



DETAIL 2
SEE SHEET 3 OF 4

(31) (32)
DETOUR
M04-8
36" X 18"
EAST
M3-2
36" X 18"
310
M1-6
36" X 36"
M05-2R
30" X 30"

(33) (34)
HWY 310 CLOSED
NO ACCESS TO
TWO RIVERS
FOLLOW DETOUR
FMS
138" X 72"

(35) (36)
310
M1-6
36" X 36"
DETOUR
AHEAD
W20-2A
48" X 48"

(39)	(40)	(41)	(42)	(43)	(44)	(45)
DETOUR M04-8 24" X 12"	DETOUR M04-8 24" X 12"	DETOUR M04-8 24" X 12"	DETOUR M04-8 24" X 12"	DETOUR M04-8 24" X 12"	DETOUR M04-8 24" X 12"	DETOUR M04-8 24" X 12"
WEST M3-4 24" X 12"	EAST M3-2 24" X 12"	WEST M3-4 24" X 12"	EAST M3-2 24" X 12"	WEST M3-4 24" X 12"	EAST M3-2 24" X 12"	WEST M3-4 24" X 12"
310 M1-6 24" X 24"	310 M1-6 24" X 24"	310 M1-6 24" X 24"	310 M1-6 24" X 24"	310 M1-6 24" X 24"	310 M1-6 24" X 24"	310 M1-6 24" X 24"
M05-1R 21" X 21"	M06-1 21" X 21"	M06-1 21" X 21"	M06-1 21" X 21"	M06-1 21" X 21"	M06-1 21" X 21"	M06-1 21" X 21"

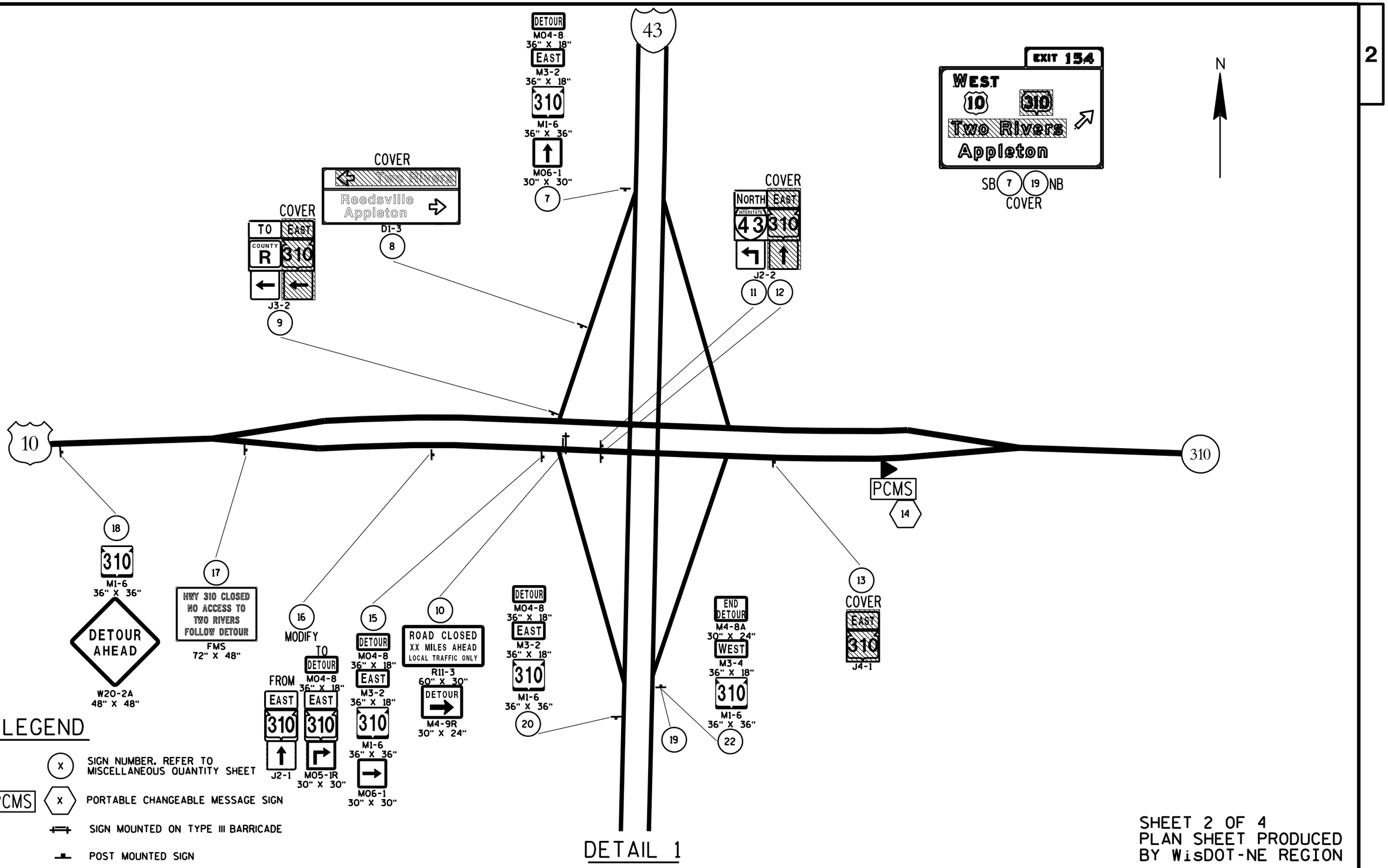
N

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

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

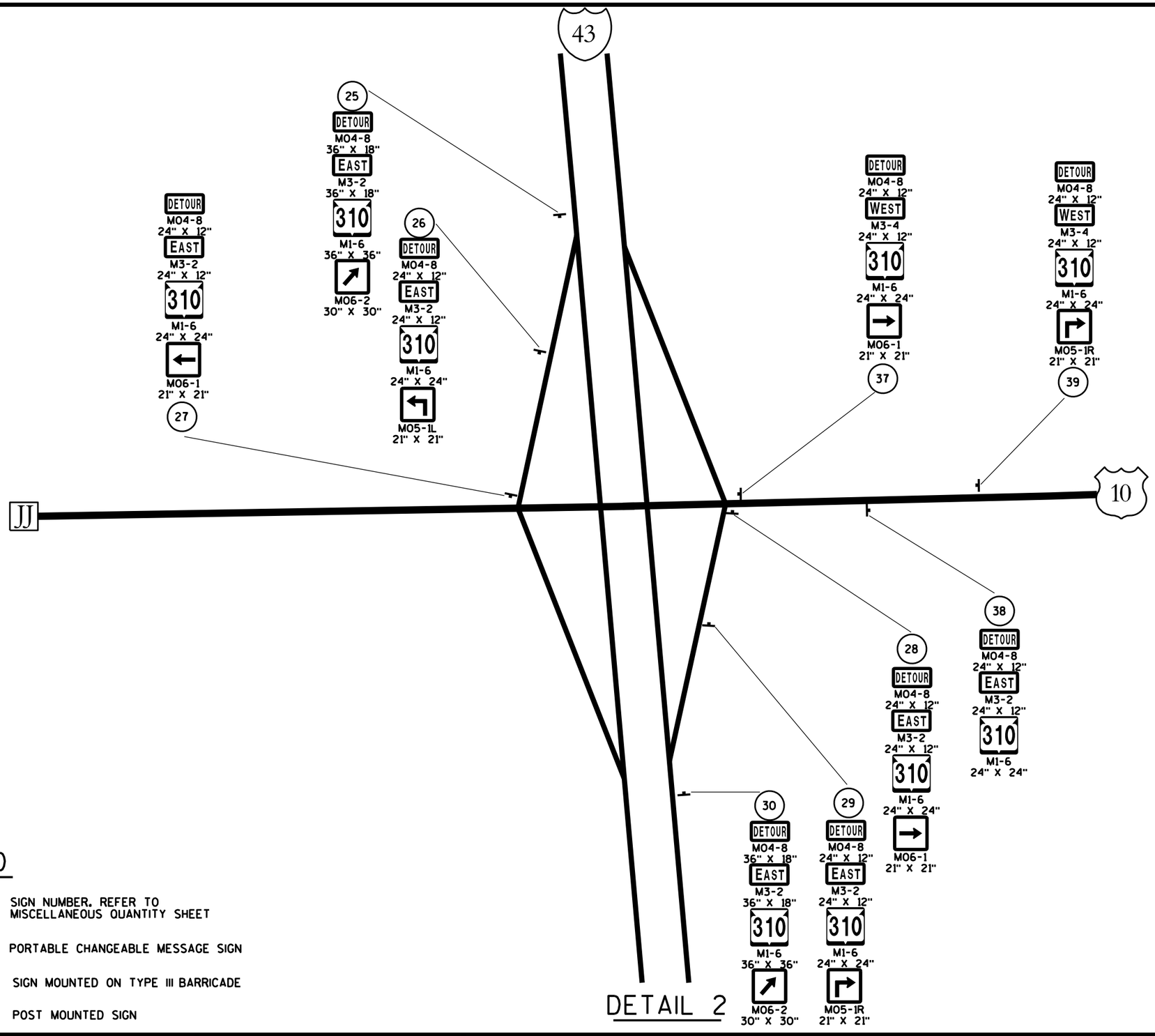


SHEET 2 OF 4
PLAN SHEET PRODUCED
BY WisDOT-NE REGION

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2



DETAIL 2

LEGEND

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

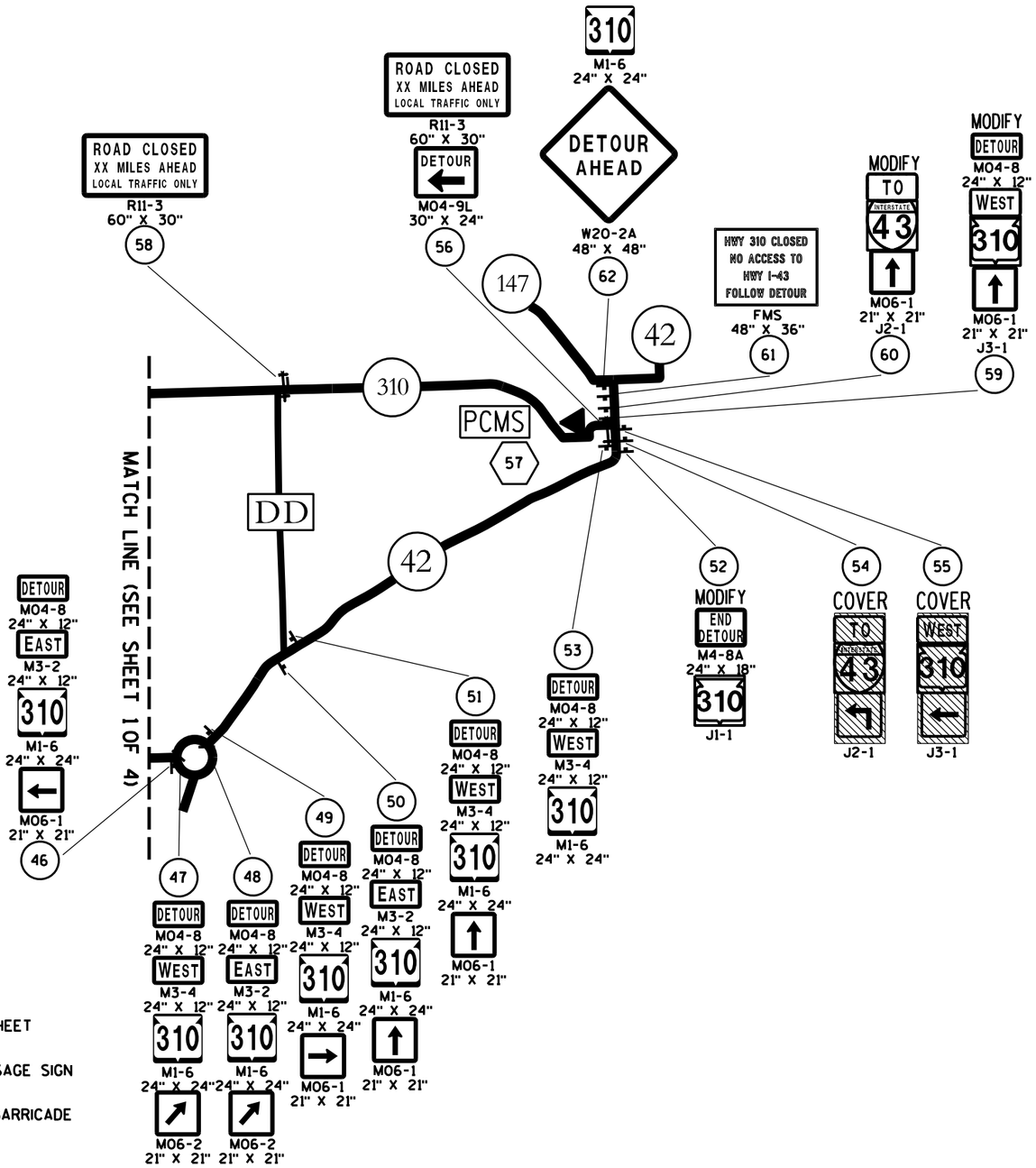
SHEET 3 OF 4
PLAN SHEET PRODUCED
BY WisDOT-NE REGION

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

2

N



LEGEND

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

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

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	DETOUR SIGNING DETAIL	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

2

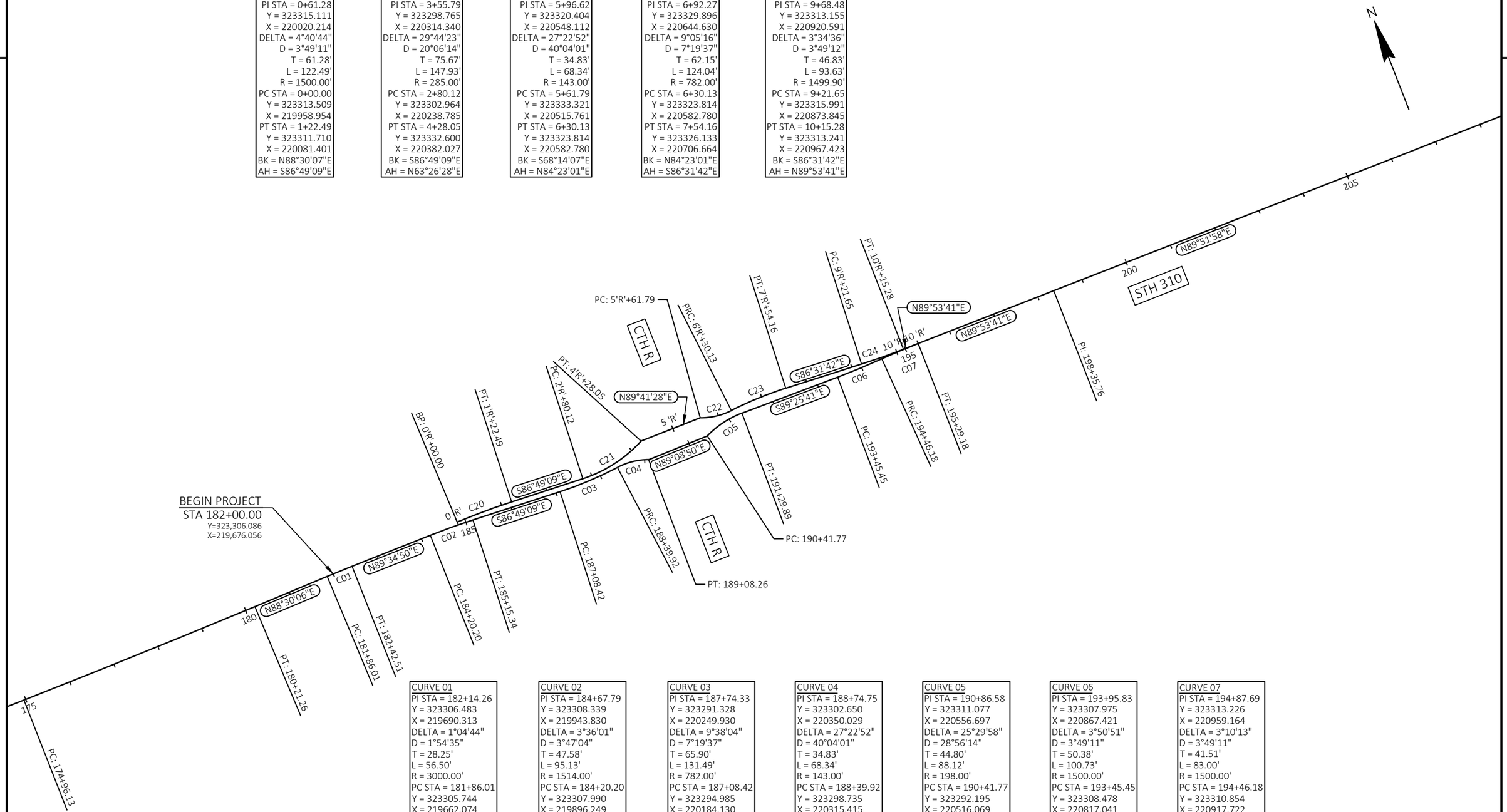
CURVE 20
PI STA = 0+61.28
Y = 323315.111
X = 220020.214
DELTA = 4°40'44"
D = 3°49'11"
T = 61.28'
L = 122.49'
R = 1500.00'
PC STA = 0+00.00
Y = 323313.509
X = 219958.954
PT STA = 1+22.49
Y = 323311.710
X = 220081.401
BK = N88°30'07"E
AH = S86°49'09"E

CURVE 21
PI STA = 3+55.79
Y = 323298.765
X = 220314.340
DELTA = 29°44'23"
D = 20°06'14"
T = 75.67'
L = 147.93'
R = 285.00'
PC STA = 2+80.12
Y = 323302.964
X = 220238.785
PT STA = 4+28.05
Y = 323332.600
X = 220382.027
BK = S86°49'09"E
AH = N63°26'28"E

CURVE 22
PI STA = 5+96.62
Y = 323320.404
X = 220548.112
DELTA = 27°22'52"
D = 40°04'01"
T = 34.83'
L = 68.34'
R = 143.00'
PC STA = 5+61.79
Y = 323333.321
X = 220515.761
PT STA = 6+30.13
Y = 323323.814
X = 220582.780
BK = S68°14'07"E
AH = N84°23'01"E

CURVE 23
PI STA = 6+92.27
Y = 323329.896
X = 220644.630
DELTA = 9°05'16"
D = 7°19'37"
T = 62.15'
L = 124.04'
R = 782.00'
PC STA = 6+30.13
Y = 323323.814
X = 220582.780
PT STA = 7+54.16
Y = 323326.133
X = 220706.664
BK = N84°23'01"E
AH = S86°31'42"E

CURVE 24
PI STA = 9+68.48
Y = 323313.155
X = 220920.591
DELTA = 3°34'36"
D = 3°49'12"
T = 46.83'
L = 93.63'
R = 1499.90'
PC STA = 9+21.65
Y = 323315.991
X = 220873.845
PT STA = 10+15.28
Y = 323313.241
X = 220967.423
BK = S86°31'42"E
AH = N89°53'41"E



CURVE 01
PI STA = 182+14.26
Y = 323306.483
X = 219690.313
DELTA = 1°04'44"
D = 1°54'35"
T = 28.25'
L = 56.50'
R = 3000.00'
PC STA = 181+86.01
Y = 323305.744
X = 219662.074
PT STA = 182+42.51
Y = 323306.690
X = 219718.561
BK = N88°30'06"E
AH = N89°34'50"E

CURVE 02
PI STA = 184+67.79
Y = 323308.339
X = 219943.830
DELTA = 3°36'01"
D = 3°47'04"
T = 47.58'
L = 95.13'
R = 1514.00'
PC STA = 184+20.20
Y = 323307.990
X = 219896.249
PT STA = 185+15.34
Y = 323305.699
X = 219991.339
BK = N89°34'50"E
AH = S86°49'09"E

CURVE 03
PI STA = 187+74.33
Y = 323291.328
X = 220249.930
DELTA = 9°38'04"
D = 7°19'37"
T = 65.90'
L = 131.49'
R = 782.00'
PC STA = 187+08.42
Y = 323294.985
X = 220184.130
PT STA = 188+39.92
Y = 323298.735
X = 220315.415
BK = S86°49'09"E
AH = N83°32'47"E

CURVE 04
PI STA = 188+74.75
Y = 323302.650
X = 220350.029
DELTA = 27°22'52"
D = 40°04'01"
T = 34.83'
L = 68.34'
R = 143.00'
PC STA = 188+39.92
Y = 323298.735
X = 220315.415
PT STA = 189+08.26
Y = 323290.208
X = 220382.566
BK = N83°32'47"E
AH = S69°04'20"E

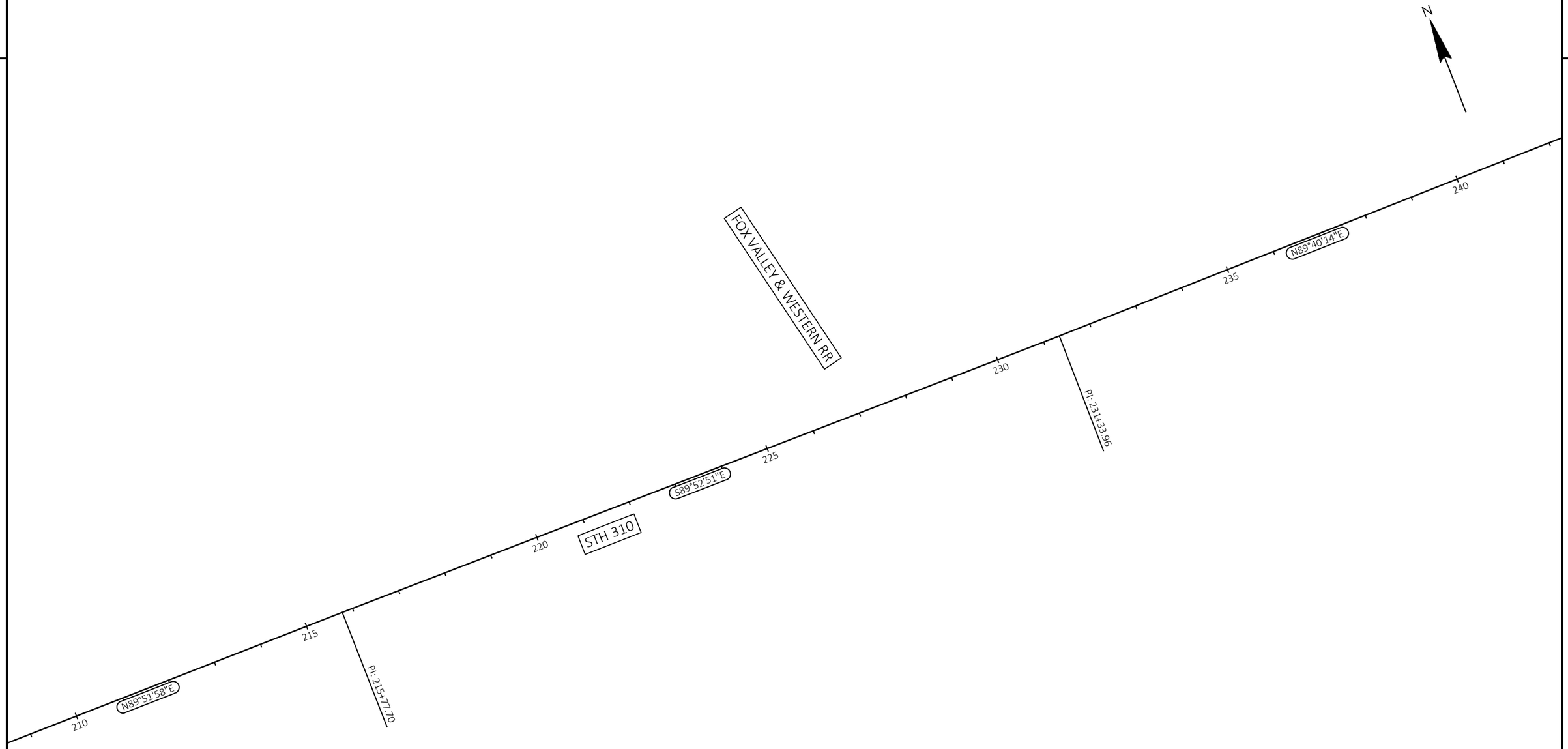
CURVE 05
PI STA = 190+86.58
Y = 323311.077
X = 220556.697
DELTA = 25°29'58"
D = 28°56'14"
T = 44.80'
L = 88.12'
R = 198.00'
PC STA = 190+41.77
Y = 323292.195
X = 220516.069
PT STA = 191+29.89
Y = 323310.630
X = 220601.496
BK = N65°04'22"E
AH = S89°25'41"E

CURVE 06
PI STA = 193+95.83
Y = 323307.975
X = 220867.421
DELTA = 3°50'51"
D = 3°49'11"
T = 50.38'
L = 100.73'
R = 1500.00'
PC STA = 193+45.45
Y = 323308.478
X = 220817.041
PT STA = 194+46.18
Y = 323310.854
X = 220917.722
BK = S89°25'41"E
AH = N86°43'28"E

CURVE 07
PI STA = 194+87.69
Y = 323313.226
X = 220959.164
DELTA = 3°10'13"
D = 3°49'11"
T = 41.51'
L = 83.00'
R = 1500.00'
PC STA = 194+46.18
Y = 323310.854
X = 220917.722
PT STA = 195+29.18
Y = 323313.302
X = 221000.674
BK = N86°43'28"E
AH = N89°53'41"E

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	ALIGNMENT SHEETS	SHEET 34	E

2



PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	ALIGNMENT SHEETS	SHEET 35	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 027202-ad

PLOT DATE : 7/14/2023 11:45 AM PLOT BY : DANA, SHARON T PLOT NAME : PLOT SCALE : 1 IN:200 FT

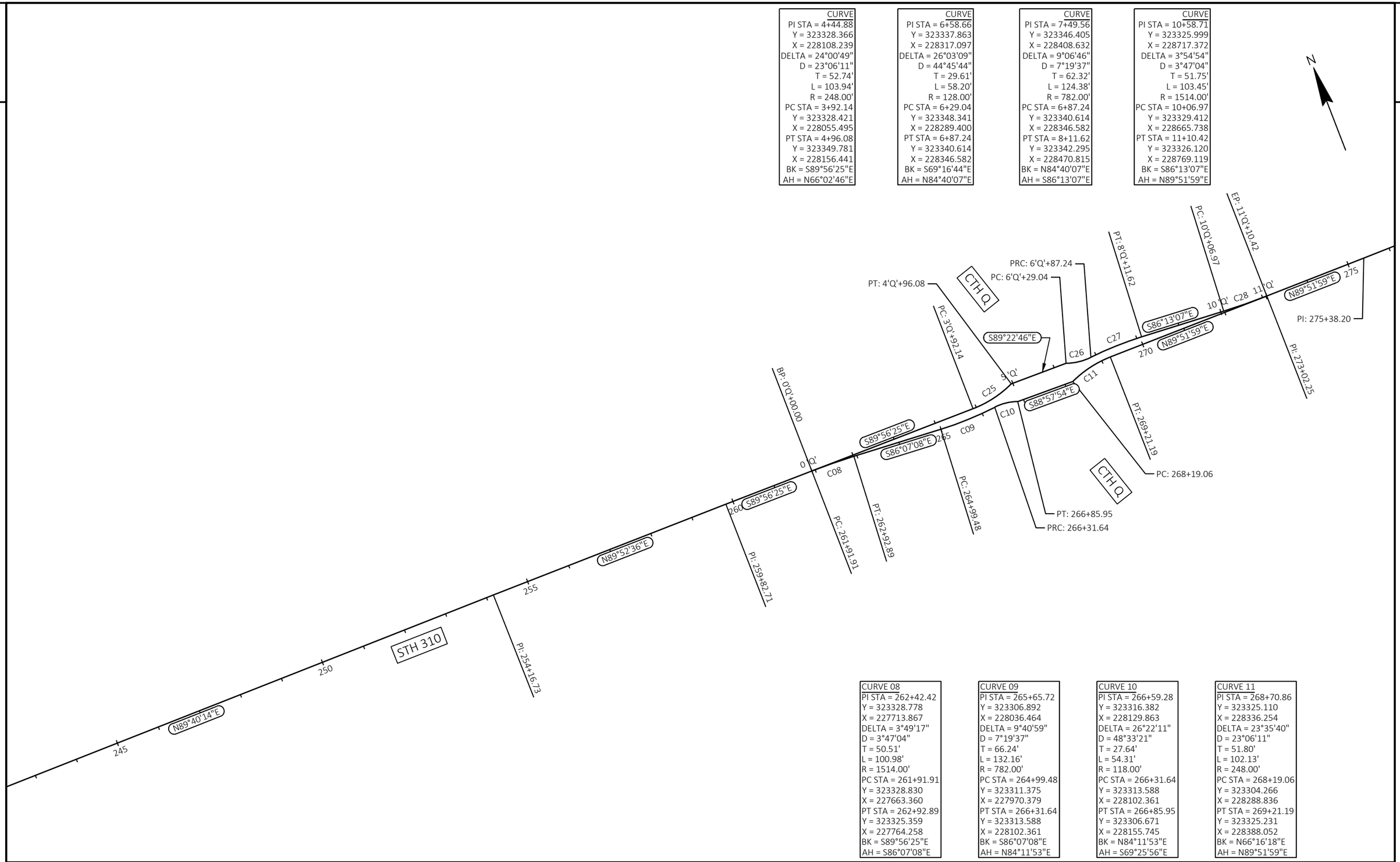
2

CURVE
PI STA = 4+44.88
Y = 323328.366
X = 228108.239
DELTA = 24°00'49"
D = 23°06'11"
T = 52.74'
L = 103.94'
R = 248.00'
PC STA = 3+92.14
Y = 323328.421
X = 228055.495
PT STA = 4+96.08
Y = 323349.781
X = 228156.441
BK = S89°56'25"E
AH = N66°02'46"E

CURVE
PI STA = 6+58.66
Y = 323337.863
X = 228317.097
DELTA = 26°03'09"
D = 44°45'44"
T = 29.61'
L = 58.20'
R = 128.00'
PC STA = 6+29.04
Y = 323348.341
X = 228289.400
PT STA = 6+87.24
Y = 323340.614
X = 228346.582
BK = S69°16'44"E
AH = N84°40'07"E

CURVE
PI STA = 7+49.56
Y = 323346.405
X = 228408.632
DELTA = 9°06'46"
D = 7°19'37"
T = 62.32'
L = 124.38'
R = 782.00'
PC STA = 6+87.24
Y = 323340.614
X = 228346.582
PT STA = 8+11.62
Y = 323342.295
X = 228470.815
BK = N84°40'07"E
AH = S86°13'07"E

CURVE
PI STA = 10+58.71
Y = 323325.999
X = 228717.372
DELTA = 3°54'54"
D = 3°47'04"
T = 51.75'
L = 103.45'
R = 1514.00'
PC STA = 10+06.97
Y = 323329.412
X = 228665.738
PT STA = 11+10.42
Y = 323326.120
X = 228769.119
BK = S86°13'07"E
AH = N89°51'59"E



CURVE 08
PI STA = 262+42.42
Y = 323328.778
X = 227713.867
DELTA = 3°49'17"
D = 3°47'04"
T = 50.51'
L = 100.98'
R = 1514.00'
PC STA = 261+91.91
Y = 323328.830
X = 227663.360
PT STA = 262+92.89
Y = 323325.359
X = 227764.258
BK = S89°56'25"E
AH = S86°07'08"E

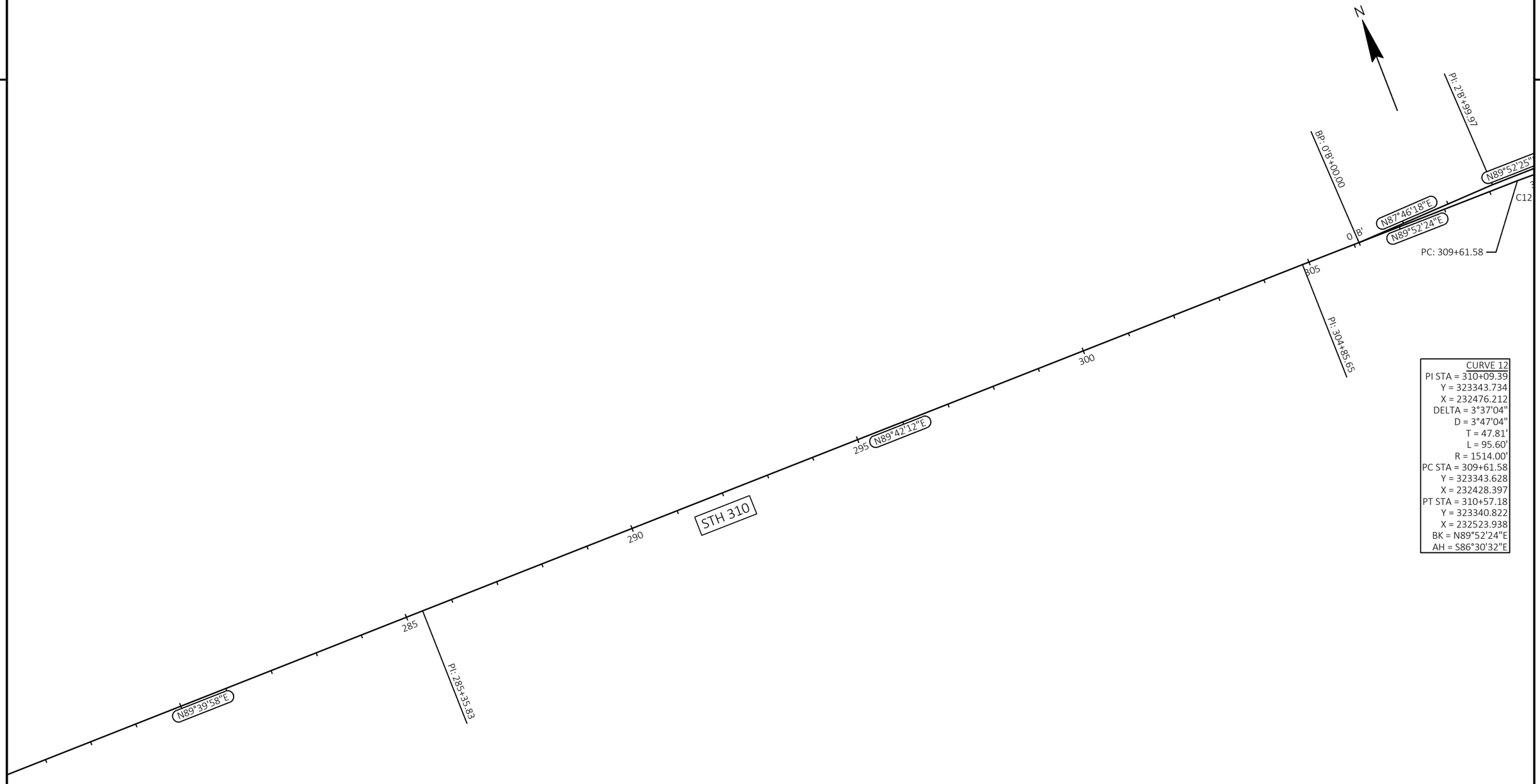
CURVE 09
PI STA = 265+65.72
Y = 323306.892
X = 228036.464
DELTA = 9°40'59"
D = 7°19'37"
T = 66.24'
L = 132.16'
R = 782.00'
PC STA = 264+99.48
Y = 323311.375
X = 227970.379
PT STA = 266+31.64
Y = 323313.588
X = 228102.361
BK = S86°07'08"E
AH = N84°11'53"E

CURVE 10
PI STA = 266+59.28
Y = 323316.382
X = 228129.863
DELTA = 26°22'11"
D = 48°33'21"
T = 27.64'
L = 54.31'
R = 118.00'
PC STA = 266+31.64
Y = 323313.588
X = 228102.361
PT STA = 266+85.95
Y = 323306.671
X = 228155.745
BK = N84°11'53"E
AH = S69°25'56"E

CURVE 11
PI STA = 268+70.86
Y = 323325.110
X = 228336.254
DELTA = 23°35'40"
D = 23°06'11"
T = 51.80'
L = 102.13'
R = 248.00'
PC STA = 268+19.06
Y = 323304.266
X = 228288.836
PT STA = 269+21.19
Y = 323325.231
X = 228388.052
BK = N66°16'18"E
AH = N89°51'59"E

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	ALIGNMENT SHEETS	SHEET 36	E

2



CURVE 12
PI STA = 310+09.39
Y = 323343.734
X = 232476.212
DELTA = 3°37'04"
D = 3°47'04"
T = 47.81'
L = 95.60'
R = 1514.00'
PC STA = 309+61.58
Y = 323343.628
X = 232428.397
PT STA = 310+57.18
Y = 323340.822
X = 232523.938
BK = N89°52'24"E
AH = S86°30'32"E

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	ALIGNMENT SHEETS	SHEET 37	E

CURVE 29
PI STA = 4+46.76
Y = 323354.840
X = 232524.081
DELTA = 3°37'03"
D = 3°49'11"
T = 47.37'
L = 94.71'
R = 1500.00'
PC STA = 3+99.38
Y = 323354.735
X = 232476.710
PT STA = 4+94.09
Y = 323351.955
X = 232571.363
BK = N89°52'25"E
AH = S86°30'32"E

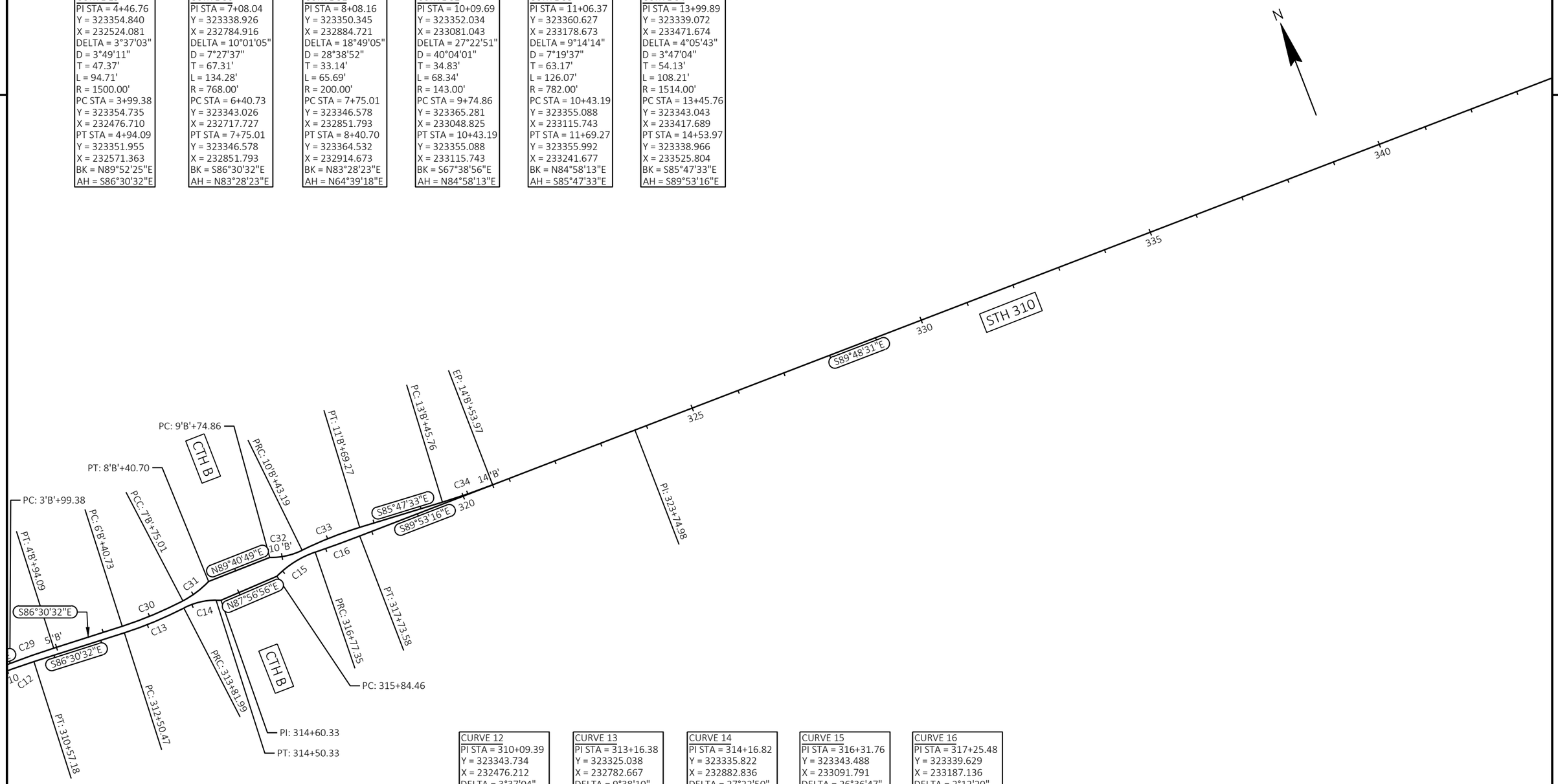
CURVE 30
PI STA = 7+08.04
Y = 323338.926
X = 232784.916
DELTA = 10°01'05"
D = 7°27'37"
T = 67.31'
L = 134.28'
R = 768.00'
PC STA = 6+40.73
Y = 323343.026
X = 232717.727
PT STA = 7+75.01
Y = 323346.578
X = 232851.793
BK = S86°30'32"E
AH = N83°28'23"E

CURVE 31
PI STA = 8+08.16
Y = 323350.345
X = 232884.721
DELTA = 18°49'05"
D = 28°38'52"
T = 33.14'
L = 65.69'
R = 200.00'
PC STA = 7+75.01
Y = 323346.578
X = 232851.793
PT STA = 8+40.70
Y = 323364.532
X = 232914.673
BK = N83°28'23"E
AH = N64°39'18"E

CURVE 32
PI STA = 10+09.69
Y = 323352.034
X = 233081.043
DELTA = 27°22'51"
D = 40°04'01"
T = 34.83'
L = 68.34'
R = 143.00'
PC STA = 9+74.86
Y = 323365.281
X = 233048.825
PT STA = 10+43.19
Y = 323355.088
X = 233115.743
BK = S67°38'56"E
AH = N84°58'13"E

CURVE 33
PI STA = 11+06.37
Y = 323360.627
X = 233178.673
DELTA = 9°14'14"
D = 7°19'37"
T = 63.17'
L = 126.07'
R = 782.00'
PC STA = 10+43.19
Y = 323355.088
X = 233115.743
PT STA = 11+69.27
Y = 323355.992
X = 233241.677
BK = N84°58'13"E
AH = S85°47'33"E

CURVE 34
PI STA = 13+99.89
Y = 323339.072
X = 233471.674
DELTA = 4°05'43"
D = 3°47'04"
T = 54.13'
L = 108.21'
R = 1514.00'
PC STA = 13+45.76
Y = 323343.043
X = 233417.689
PT STA = 14+53.97
Y = 323338.966
X = 233525.804
BK = S85°47'33"E
AH = S89°53'16"E



CURVE 12
PI STA = 310+09.39
Y = 323343.734
X = 232476.212
DELTA = 3°37'04"
D = 3°47'04"
T = 47.81'
L = 95.60'
R = 1514.00'
PC STA = 309+61.58
Y = 323343.628
X = 232428.397
PT STA = 310+57.18
Y = 323340.822
X = 232523.938
BK = N89°52'24"E
AH = S86°30'32"E

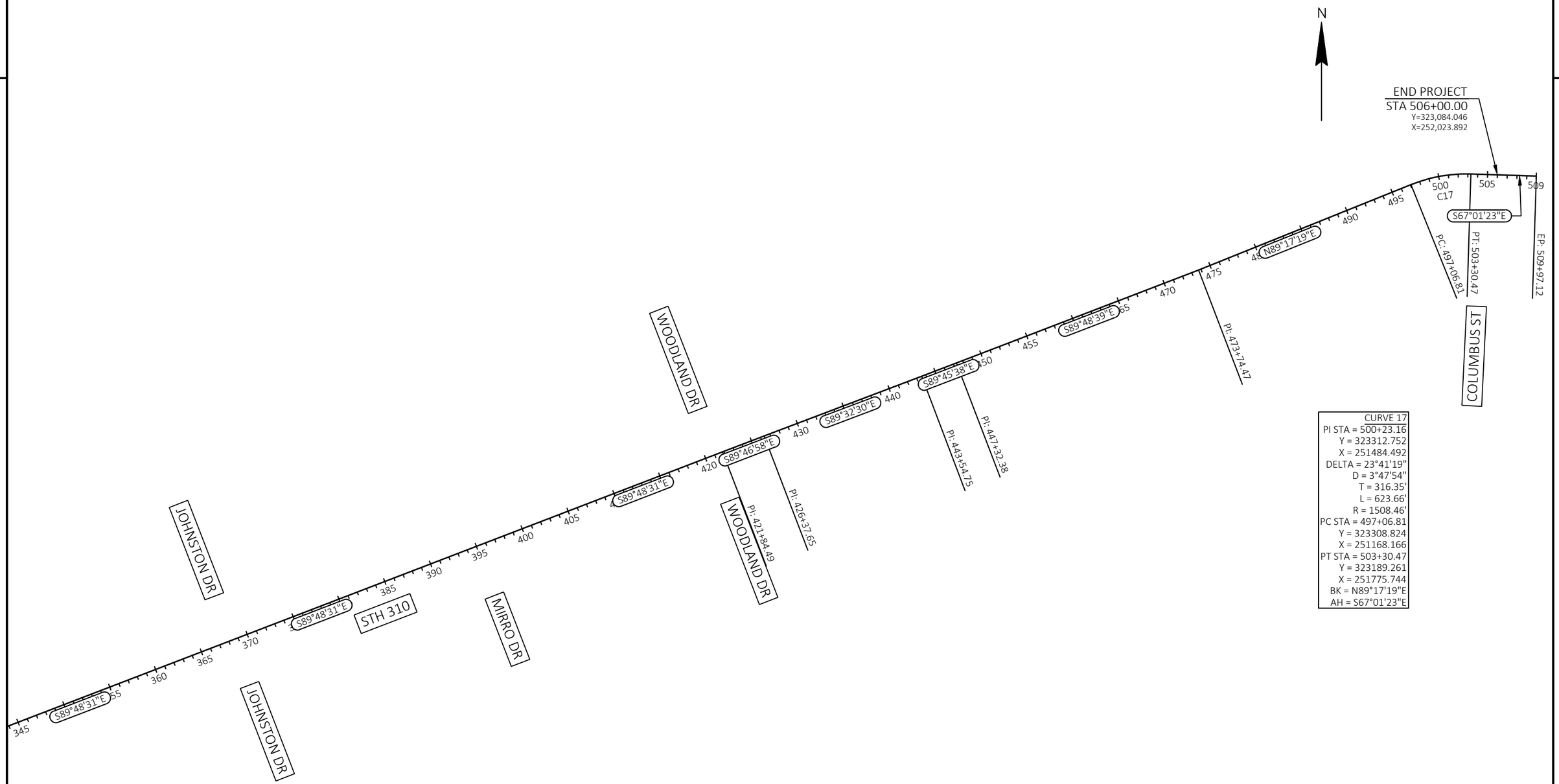
CURVE 13
PI STA = 313+16.38
Y = 323325.038
X = 232782.667
DELTA = 9°38'10"
D = 7°19'37"
T = 65.91'
L = 131.52'
R = 782.00'
PC STA = 312+50.47
Y = 323329.052
X = 232716.875
PT STA = 313+81.99
Y = 323332.093
X = 232848.202
BK = S86°30'32"E
AH = N83°51'19"E

CURVE 14
PI STA = 314+16.82
Y = 323335.822
X = 232882.836
DELTA = 27°22'50"
D = 40°04'01"
T = 34.83'
L = 68.34'
R = 143.00'
PC STA = 313+81.99
Y = 323332.093
X = 232848.202
PT STA = 314+50.33
Y = 323323.205
X = 232915.305
BK = N83°51'19"E
AH = S68°45'51"E

CURVE 15
PI STA = 316+31.76
Y = 323343.488
X = 233091.791
DELTA = 26°36'47"
D = 28°38'52"
T = 47.30'
L = 92.90'
R = 200.00'
PC STA = 315+84.46
Y = 323324.026
X = 233048.678
PT STA = 316+77.35
Y = 323341.575
X = 233139.054
BK = N65°42'16"E
AH = S87°40'57"E

CURVE 16
PI STA = 317+25.48
Y = 323339.629
X = 233187.136
DELTA = 2°12'20"
D = 2°17'31"
T = 48.12'
L = 96.23'
R = 2500.00'
PC STA = 316+77.35
Y = 323341.575
X = 233139.054
PT STA = 317+73.58
Y = 323339.535
X = 233235.257
BK = S87°40'57"E
AH = S89°53'16"E

2



CURVE 17
PI STA = 500+23.16
Y = 323312.752
X = 251484.492
DELTA = 23°41'19"
D = 3°47'54"
T = 316.35'
L = 623.66'
R = 1508.46'
PC STA = 497+06.81
Y = 323308.824
X = 251168.166
PT STA = 503+30.47
Y = 323189.261
X = 251775.744
BK = N89°17'19"E
AH = S67°01'23"E

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	ALIGNMENT SHEETS	SHEET 39	E

4337-23-71

Line	Item	Item Description	Unit	Total	Qty
0004	204.0100	Removing Concrete Pavement	SY	15.000	15.000
0006	204.0110	Removing Asphaltic Surface	SY	250.000	250.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	110.000	110.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	126,730.000	126,730.000
0012	204.0150	Removing Curb & Gutter	LF	195.000	195.000
0014	204.0155	Removing Concrete Sidewalk	SY	340.000	340.000
0018	205.0100	Excavation Common	CY	150.000	150.000
0022	211.0101	Prepare Foundation for Asphaltic Paving (project) 02. 4337-23-71	EACH	1.000	1.000
0026	211.0700.S	Prepare Foundation for CIR Base Layer (project) 02. 4337-23-71	EACH	1.000	1.000
0028	211.0800.S	Base Repair for CIR Layer	CY	105.000	105.000
0032	213.0100	Finishing Roadway (project) 02. 4337-23-71	EACH	1.000	1.000
0034	305.0110	Base Aggregate Dense 3/4-Inch	TON	605.000	605.000
0036	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	25.000	25.000
0038	305.0500	Shaping Shoulders	STA	650.000	650.000
0040	327.1000.S	CIR Asphaltic Base Layer	SY	93,910.000	93,910.000
0042	405.0100	Coloring Concrete WisDOT Red	CY	145.000	145.000
0044	405.1000	Stamping Colored Concrete	CY	5.000	5.000
0046	415.2010	Concrete Truck Apron 12-inch	SY	410.000	410.000
0048	416.0610	Drilled Tie Bars	EACH	81.000	81.000
0050	450.4000	HMA Cold Weather Paving	TON	1,740.000	1,740.000
0052	455.0605	Tack Coat	GAL	6,640.000	6,640.000
0054	455.0770.S	Asphalt Stabilizing Agent	TON	425.000	425.000
0060	460.2000	Incentive Density HMA Pavement	DOL	1,720.000	1,720.000
0062	460.2005	Incentive Density PWL HMA Pavement	DOL	7,315.000	7,315.000
0064	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	5,610.000	5,610.000
0066	460.2010	Incentive Air Voids HMA Pavement	DOL	14,785.000	14,785.000
0068	460.6224	HMA Pavement 4 MT 58-28 S	TON	14,805.000	14,805.000
0070	460.7424	HMA Pavement 4 HT 58-28 H	TON	2,665.000	2,665.000
0072	465.0105	Asphaltic Surface	TON	25.000	25.000
0074	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	35.000	35.000
0078	465.0520	Asphaltic Rumble Strips, Shoulder	LF	1,065.000	1,065.000
0080	465.0540	Asphaltic Rumble Strips, Edge Line	LF	35,480.000	35,480.000
0082	465.0560	Asphaltic Rumble Strips, Centerline	LF	24,180.000	24,180.000
0084	520.8700	Cleaning Culvert Pipes	EACH	7.000	7.000
0086	520.9700.S	Culvert Pipe Liners (size) 01. 48-Inch	LF	65.000	65.000
0088	520.9750.S	Cleaning Culvert Pipes for Liner Verification	EACH	1.000	1.000
0092	524.0648	Apron Endwalls for Culvert Pipe Salvaged 48-Inch	EACH	2.000	2.000
0094	602.0405	Concrete Sidewalk 4-Inch	SF	340.000	340.000
0096	611.8115	Adjusting Inlet Covers	EACH	10.000	10.000
0098	611.8120.S	Cover Plates Temporary	EACH	2.000	2.000
0100	611.9705	Salvaged Manhole Covers	EACH	2.000	2.000
0110	618.0100	Maintenance and Repair of Haul Roads (project) 02. 4337-23-71	EACH	1.000	1.000
0112	619.1000	Mobilization	EACH	0.600	0.600
0114	624.0100	Water	MGAL	7.000	7.000
0122	628.7015	Inlet Protection Type C	EACH	42.000	42.000
0124	628.7504	Temporary Ditch Checks	LF	80.000	80.000
0126	628.7555	Culvert Pipe Checks	EACH	25.000	25.000
0128	628.7570	Rock Bags	EACH	105.000	105.000
0130	633.5200	Markers Culvert End	EACH	3.000	3.000
0132	642.5001	Field Office Type B	EACH	0.600	0.600

4337-23-71

Line	Item	Item Description	Unit	Total	Qty
0134	643.0300	Traffic Control Drums	DAY	1,504.000	1,504.000
0136	643.0420	Traffic Control Barricades Type III	DAY	576.000	576.000
0138	643.0705	Traffic Control Warning Lights Type A	DAY	1,024.000	1,024.000
0142	643.0900	Traffic Control Signs	DAY	17,216.000	17,216.000
0144	643.0910	Traffic Control Covering Signs Type I	EACH	4.000	4.000
0146	643.0920	Traffic Control Covering Signs Type II	EACH	7.000	7.000
0148	643.1000	Traffic Control Signs Fixed Message	SF	312.000	312.000
0150	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0152	643.3165	Temporary Marking Line Paint 6-Inch	LF	241,900.000	241,900.000
0160	643.5000	Traffic Control	EACH	0.600	0.600
0162	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	120,625.000	120,625.000
0164	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	580.000	580.000
0168	646.5320	Marking Railroad Crossing Epoxy	EACH	2.000	2.000
0170	646.6320	Marking Dotted Extension Epoxy 18-Inch	LF	420.000	420.000
0172	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	2,925.000	2,925.000
0174	646.7120	Marking Diagonal Epoxy 12-Inch	LF	470.000	470.000
0176	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	250.000	250.000
0186	650.8000	Construction Staking Resurfacing Reference	LF	8,020.000	8,020.000
0188	650.9500	Construction Staking Sidewalk (project) 01. 4337-23-71	EACH	1.000	1.000
0192	650.9911	Construction Staking Supplemental Control (project) 02. 4337-23-71	EACH	1.000	1.000
0194	690.0150	Sawing Asphalt	LF	1,655.000	1,655.000
0196	690.0250	Sawing Concrete	LF	260.000	260.000
0198	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0200	740.0440	Incentive IRI Ride	DOL	44,000.000	44,000.000
0202	SPV.0060	Special 01. Grading, Shaping and Finishing Culvert Pipes and Apron Endwalls	EACH	2.000	2.000
0204	SPV.0060	Special 02. Grading, Shaping and Finishing Path Restoration	EACH	1.000	1.000
0206	SPV.0060	Special 03. Grading, Shaping and Finishing Curb & Gutter Replacement	EACH	2.000	2.000
0208	SPV.0060	Special 04. Adjusting Inlet Covers with Rubber Rings	EACH	10.000	10.000
0210	SPV.0090	Special 01. Grading and Shaping Ditch	LF	80.000	80.000
0212	SPV.0090	Special 02. Concrete Curb & Gutter HES 30-Inch Type D	LF	82.000	82.000
0214	SPV.0090	Special 03. Concrete Curb & Gutter HES 4-Inch Sloped 36-Inch Type T	LF	60.000	60.000
0216	SPV.0090	Special 04. Concrete Curb & Gutter HES 4-Inch Sloped 36-Inch Type D	LF	54.000	54.000
0218	SPV.0180	Special 01. Concrete Truck Apron HES 12-Inch	SY	15.000	15.000

3

REMOVALS

STATION	-	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0110 * REMOVING ASPHALTIC SURFACE SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	205.0100 EXCAVATION COMMON CY
182+84	-	196+35	ROUNDABOUT AT CTH R	5	20	90	190	-
260+54	-	274+51	ROUNDABOUT AT CTH Q	5	15	55	110	150
306+11	-	320+86	ROUNDABOUT AT CTH B	5	10	50	40	-
TOTALS				15	45	195	340	150

* ADDITIONAL QUANTITIES INCLUDED ELSEWHERE.

BASE AGGREGATE DENSE ITEMS

STATION	-	STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	624.0100 WATER MGAL
182+84	-	196+35	ROUNDABOUT AT CTH R	100	-	30	1.0
196+35	-	226+97	STH 310	40	-	60	0.5
227+08	-	260+54	STH 310	50	-	65	0.6
260+54	-	274+51	ROUNDABOUT AT CTH Q	45	25	30	0.8
274+51	-	306+11	STH 310	40	-	65	0.5
306+11	-	320+86	ROUNDABOUT AT CTH B	40	-	30	0.5
320+86	-	505+37	STH 310	260	-	370	2.7
UNDISTRIBUTED			DRIVEWAYS	30	-	-	0.4
TOTALS				605	25	650	7

CONCRETE ITEMS

STATION	-	STATION	LOCATION	405.0100 COLORING CONCRETE WISDOT RED CY	405.1000 STAMPING COLORED CONCRETE CY	415.2010 CONCRETE TRUCK APRON 12-INCH SY	602.0405 CONCRETE SIDEWALK 4-INCH SF	SPV.0180.01 CONCRETE TRUCK APRON HES 12-INCH SY
182+84	-	196+35	ROUNDABOUT AT CTH R	4	3	-	190	5
260+54	-	274+51	ROUNDABOUT AT CTH Q	139	1	410	110	5
306+11	-	320+86	ROUNDABOUT AT CTH B	2	1	-	40	5
TOTALS				145	5	410	340	15

CONCRETE CURB & GUTTER ITEMS

STATION	-	STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	SPV.0060.03 GRADING, SHAPING AND FINISHING CURB & GUTTER REPLACEMENT EACH	SPV.0090.02 HES 30-INCH TYPE D LF	SPV.0090.03 HES 4-INCH SLOPED 36-INCH TYPE T LF	SPV.0090.04 HES 4-INCH SLOPED 36-INCH TYPE D LF
182+84	-	196+35	ROUNDABOUT AT CTH R	39	1	46	20	27
260+54	-	274+51	ROUNDABOUT AT CTH Q	23	-	36	20	-
306+11	-	320+86	ROUNDABOUT AT CTH B	19	1	-	20	27
TOTALS				81	2	82	60	54

FINISHING ITEMS - FOR INFORMATION ONLY

SALVAGED TOPSOIL SY	EROSION MAT URBAN CLASS I TYPE B SY	SEEDING MIXTURE NO. 60 LB	SEED WATER MGAL
2	2	0.1	0.1
-	-	-	-
2	2	0.1	0.1
4	4	0.2	0.2

PWL MIXTURE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

LOCATION	STATION	-	STATION	BID ITEM	MIXTURE USE	UNDERLYING SURFACE	TONS	THICKNESS (IN)	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: DENSITY ACCEPTANCE
12-FOOT DRIVING LANES	196+35	-	226+97	4 MT 58-28 S	UPPER LAYER	4 MT 58-28 S	7,315	1 3/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
	227+08	-	260+54							
	274+51	-	306+11							
	320+86	-	505+37							
12-FOOT DRIVING LANES	196+35	-	226+97	4 MT 58-28 S	LEVELING LAYER	COLD IN-PLACE RECYCLING (CIR)	3,140	3/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION PER STANDARD SPEC 450
	227+08	-	260+54							
	274+51	-	306+11							
	320+86	-	505+37							
PAVED SHOULDERS, BYPASS LANES & INTERSECTIONS	196+35	-	226+97	4 MT 58-28 S	UPPER LAYER	4 MT 58-28 S	3,030	1 3/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
	227+08	-	260+54							
	274+51	-	306+11							
	320+86	-	505+37							
PAVED SHOULDERS	196+35	-	226+97	4 MT 58-28 S	LEVELING LAYER	COLD IN-PLACE RECYCLING (CIR)	1,075	3/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION PER STANDARD SPEC 450
	227+08	-	260+54							
	274+51	-	306+11							
	320+86	-	505+37							
BYPASS LANES & INTERSECTIONS	227+08	-	260+54	4 MT 58-28 S	LEVELING LAYER	MILLED EXISTING HMA SURFACE	225	3/4	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE BY ORDINARY COMPACTION PER STANDARD SPEC 450
	320+86	-	505+37							
ROUNDABOUTS	182+84	-	196+35	4 HT 58-28 H	OVERLAY	MILLED EXISTING HMA SURFACE	2,665	1 3/4	QMP AS PER STANDARD SPEC 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
	260+54	-	274+51							
	306+11	-	320+86							
RAILROAD	226+78	-	226+97	4 MT 58-28 S	OVERLAY	MILLED EXISTING HMA SURFACE	20	1 3/4	QMP AS PER STANDARD SPEC 460	INCENTIVE DENSITY HMA PAVEMENT 460.2000
	227+08	-	227+26							

PAVEMENT IMPROVEMENTS

STATION	-	STATION	LOCATION	204.0110 * REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	211.0800.S BASE REPAIR FOR CIR LAYER CY	327.1000.S COLD IN-PLACE RECYLCING (CIR) ASPHALTIC BASE LAYER SY	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	455.0770.S ASPHALTIC STABILIZATION AGENT TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	460.7424 HMA PAVEMENT 4 HT 58-28 H TON	465.0105 * ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF
PROJECT 4337-23-71				-	-	-	-	-	1,740	-	-	-	-	-	-	-
182+84	-	196+35	ROUNDABOUT AT CTH R	-	20	9,220	-	-	-	460	-	-	905	9	-	2,760
196+35	-	226+97	STH 310	5	-	10,220	10	10,150	-	540	45	1,530	-	-	1	-
227+08	-	260+54	STH 310	85	-	13,265	15	11,340	-	690	50	1,935	-	-	11	-
260+54	-	274+51	ROUNDABOUT AT CTH Q	-	20	8,300	-	-	-	415	-	-	815	6	-	2,470
274+51	-	306+11	STH 310	40	-	10,535	10	10,535	-	560	50	1,575	-	-	8	-
306+11	-	320+86	ROUNDABOUT AT CTH B	30	20	9,630	-	-	-	480	-	-	945	5	2	2,790
320+86	-	505+37	STH 310	45	50	65,560	70	61,885	-	3,495	280	9,765	-	-	13	-
TOTALS				205	110	126,730	105	93,910	1,740	6,640	425	14,805	2,665	20	35	8,020

*ADDITIONAL QUANTITIES INCLUDED ELSEWHERE.

PATH RESTORATION

STATION	-	STATION	LOCATION	465.0105 * ASPHALTIC SURFACE TON	SPV.0060.02 GRADING, SHAPING AND FINISHING PATH RESTORATION EACH
260+54	-	274+51	ROUNDABOUT AT CTH Q	5	1
TOTALS				5	1

*ADDITIONAL QUANTITIES INCLUDED ELSEWHERE.

FINISHING ITEMS - FOR INFORMATION ONLY

SALVAGED TOPSOIL SY	EROSION MAT URBAN CLASS I TYPE B SY	SEEDING MIXTURE NO. 60 LB	SEED WATER MGAL
1	1	0.1	0.1
1	1	0.1	0.1

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ASPHALTIC RUMBLE STRIPS

STATION	-	STATION	LOCATION	465.0520 SHOULDER LF	465.0540 EDGELINE LF	465.0560 CENTERLINE LF
196+35	-	226+75	CTH R - RAILROAD	-	4,495	2,765
227+31	-	260+54	RAILROAD - CTH Q	1,065	3,240	2,850
274+51	-	306+11	CTH Q - CTH B	-	4,305	2,670
320+86	-	368+34	CTH B - JOHNSTON DRIVE	-	6,245	4,540
368+34	-	394+84	JOHNSTON DRIVE - MIRRO DRIVE	-	3,255	2,255
394+84	-	411+70	MIRRO DRIVE - BROWNS DRIVE	-	1,760	1,285
411+70	-	421+25	BROWNS DRIVE - WOODLAND DRIVE	-	1,300	555
421+25	-	505+37	WOODLAND DRIVE - COLUMBUS STREET	-	10,880	7,260
TOTALS				1,065	35,480	24,180

CULVERT ITEMS

STATION	LOCATION	PIPE SIZE	520.8700 CLEANING CULVERT PIPES EACH	520.9700.S.01 CULVERT PIPE LINERS 48-INCH LF	520.9750.S CLEANING CULVERT PIPES FOR LINER VERIFICATION EACH	524.0648 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 48-INCH EACH	633.5200 MARKERS CULVERT END EACH	SPV.0060.01 GRADING, SHAPING AND FINISHING CULVERT PIPES AND APRON ENDWALLS EACH	SPV.0090.01 GRADING AND SHAPING DITCH LF
188+40	STH 310 - EB LANE	12-INCH	1	-	-	-	-	-	10
189+52	CTH R NORTH - SB LANE	12-INCH	1	-	-	-	-	-	10
190+45	STH 310 - EB LANE	12-INCH	1	-	-	-	-	-	10
193+43	STH 310 - EB LANE	12-INCH	1	-	-	-	-	-	10
226+89	WEST OF RR XING	29X45-INCH	1 *	-	-	-	1	-	15
227+18	EAST OF RR XING	29X45-INCH	1 *	-	-	-	-	-	15
271+15	STH 310 - WB LANE	12-INCH	1	-	-	-	-	-	10
435+88	STH 310	48-INCH	-	65	1	2	2	2	-
TOTALS			7	65	1	2	3	2	80

FINISHING ITEMS - FOR INFORMATION ONLY

SALVAGED TOPSOIL SY	EROSION MAT URBAN CLASS I TYPE B SY	SEEDING MIXTURE NO. 60 LB	SEED WATER MGAL
6	6	0.1	0.1
6	6	0.1	0.1
6	6	0.1	0.1
6	6	0.1	0.1
18	18	0.4	0.4
18	18	0.4	0.4
6	6	0.1	0.1
50	50	1.0	1.0
116	116	2.3	2.3

* PRIOR TO CLEANING, REMOVE AND STORE EXISTING PIPE GRATES WITHOUT DAMAGE. AFTER CLEANING CULVERT PIPE, REINSTALL PIPE GRATES. REPLACE ANY CONTRACTOR DAMAGED PARTS. ALL COSTS ASSOCIATED WITH REMOVING AND SALVAGING GRATES IS INCIDENTAL TO CLEANING CULVERT PIPES.

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INLET ITEMS

STATION	-	STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	SPV.0060.04 ADJUSTING INLET COVERS WITH RUBBER RINGS EACH
182+84	-	196+35	ROUNDABOUT AT CTH R	3	6
260+54	-	274+51	ROUNDABOUT AT CTH Q	4	2
306+11	-	320+86	ROUNDABOUT AT CTH B	3	2
TOTALS				10	10

MANHOLE ITEMS

STATION	OFFSET	LOCATION	611.8120.S COVER PLATES TEMPORARY EACH	611.9705 SALVAGED MANHOLE COVERS EACH
503+65	RT	COLUMBUS STREET	1	1
503+65	LT	COLUMBUS STREET	1	1
TOTALS			2	2

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EROSION CONTROL ITEMS

STATION	-	STATION	LOCATION	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH
182+84	-	196+35	ROUNDABOUT AT CTH R	10	32	-	36
226+78	-	227+26	RR XING	-	16	10	-
260+54	-	274+51	ROUNDABOUT AT CTH Q	12	8	-	27
306+11	-	320+86	ROUNDABOUT AT CTH B	12	-	-	21
435+88			STH 310	-	8	10	-
UNDISTRIBUTED				8	16	5	21
TOTALS				42	80	25	105

TRAFFIC CONTROL

LOCATION	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	643.0900 SIGNS * NO.	643.0900 SIGNS * DAYS	643.1050 SIGNS PCMS ** NO.	643.1050 SIGNS PCMS ** DAYS
STAGE 1	10	-	-	-	-	-	-	112	1,120	2	14
STAGE 2	15	-	-	-	-	-	-	112	1,680	-	-
STAGE 3	5	-	-	-	-	-	-	112	560	-	-
STAGE 4	10	-	-	-	-	-	-	112	1,120	-	-
STAGE 5	16	40	640	-	-	-	-	114	1,824	-	-
STAGE 6	50	-	-	-	-	-	-	112	5,600	-	-
ROUNDABOUTS	16	54	864	33	528	58	928	185	2,960	-	-
TOTALS			1,504		528		928		14,864		14

* ADDITIONAL QUANTITY NOTED ELSEWHERE

** ADDITIONAL QUANTITY NOTED ELSEWHERE; PLACE 7 DAYS PRIOR TO STARTING CONSTRUCTION AND/OR CLOSURES

MARKING LINE

STATION	-	STATION	LOCATION	646.2040 GROOVED WET REF EPOXY 6-INCH WHITE LF	646.2040 GROOVED WET REF EPOXY 6-INCH YELLOW LF	646.2040 GROOVED WET REF EPOXY 6-INCH DOUBLE YELLOW LF	646.2040 GROOVED WET REF EPOXY 6-INCH 3' LINE 9' SKIP WHITE LF	646.2040 GROOVED WET REF EPOXY 6-INCH 12.5' LINE 37.5' SKIP WHITE LF	646.2040 GROOVED WET REF EPOXY 6-INCH 12.5' LINE 37.5' SKIP YELLOW LF	646.4040 GROOVED WET REF EPOXY 10-INCH WHITE LF	646.5320 MARKING RAILROAD CROSSING EPOXY WHITE EACH	646.6320 MARKING DOTTED EXTENSION EPOXY 18-INCH WHITE LF	646.7120 MARKING DIAGONAL EPOXY 12-INCH YELLOW LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH WHITE LF
182+84	-	196+35	ROUNDABOUT AT CTH R	4,830	2,505	4,075	-	-	80	-	-	140	165	-
196+35	-	226+75	STH 310	6,080	1,385	1,685	-	-	1,650	-	1	-	-	-
227+31	-	260+54	STH 310	6,555	895	-	-	-	3,295	100	1	-	-	-
260+54	-	274+51	ROUNDABOUT AT CTH Q	4,425	2,020	3,150	-	-	215	-	-	140	105	250
274+51	-	306+11	STH 310	6,320	825	-	-	-	2,370	-	-	-	-	-
306+11	-	320+86	ROUNDABOUT AT CTH B	5,085	2,740	4,560	-	-	20	-	-	140	200	-
320+86	-	505+37	STH 310	35,430	5,535	1,155	140	190	13,410	480	-	-	-	-
SUBTOTALS				68,725	15,905	14,625	140	190	21,040	-	-	-	-	-
TOTALS						120,625				580	2	420	470	250

TEMPORARY MARKING LINE

STATION	-	STATION	LOCATION	643.3165 PAINT 6-INCH YELLOW LF	643.3165 PAINT 6-INCH DOUBLE YELLOW LF	643.3165 PAINT 6-INCH 12.5' LINE 37.5' SKIP YELLOW LF
196+35	-	226+75	STH 310	1,385	26,000	530
227+31	-	260+54	STH 310	895	26,590	1,050
274+51	-	306+11	STH 310	825	25,280	760
320+86	-	505+37	STH 310	5,535	148,760	4,290
SUBTOTALS				8,640	226,630	6,630
TOTALS					241,900	

SAWING ITEMS

STATION	-	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
182+84	-	196+35	ROUNDABOUT AT CTH R	130	125
196+35	-	226+75	STH 310	40	-
227+31	-	260+54	STH 310	435	-
260+54	-	274+51	ROUNDABOUT AT CTH Q	75	75
274+51	-	306+11	STH 310	355	-
306+11	-	320+86	ROUNDABOUT AT CTH B	170	60
320+86	-	505+37	STH 310	450	-
TOTALS				1,655	260

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DETOUR SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS * DAYS	643.0420 BARRICADES TYPE III * DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PCMS * DAYS	NO. OF CYCLES	643.0910 COVERING SIGNS TYPE I EACH	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
1	I-43 SB, N. OF STH 310, PLACE 1/2 MILE N. OF STH 310 EXIT ON RIGHT SHOULDER	M 1-6	36"X36"	1	12	12								310
	"	W 20-2A	48"X48"	1	12	12								
1A	I-43 SB, N. OF STH 310, COVER EXISTING TYPE I SIGN AS SHOWN										1	1		COVER "310-TWO RIVERS"
2	I-43 SB, N. OF STH 310, PLACE 1/2 MILE N. OF STH 310 EXIT IN MEDIAN	M 1-6	36"X36"	1	12	12								310
	"	W 20-2A	48"X48"	1	12	12								
3	I-43 SB, N. OF STH 310, PLACE 2000' N. OF STH 310 EXIT ON RIGHT SHOULDER	FMS	138"X72"	1					69					SEE SIGN DETAIL SHEET
4	I-43 SB, N. OF STH 310, PLACE 2000' N. OF STH 310 EXIT IN MEDIAN	FMS	138"X72"	1					69					SEE SIGN DETAIL SHEET
5	I-43 SB, N. OF STH 310, PLACE 1000' N. OF STH 310 EXIT ON RIGHT SHOULDER	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 6-1	30"X30"	1	12	12								AHEAD
6	I-43 SB, N. OF STH 310, PLACE 1000' N. OF STH 310 EXIT IN MEDIAN	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 6-1	30"X30"	1	12	12								AHEAD
7	I-43 SB, N. OF STH 310, PLACE LEFT OF EXISTING TYPE I SIGN AT EXIT RAMP	MO 4-8	36"X18"	1	12	12					1	1		COVER "310-TWO RIVERS"
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 6-1	30"X30"	1	12	12								AHEAD
8	I-43 SB OFF-RAMP TO STH 310, COVER EXISTING D1-3 SIGN AS SHOWN										1		1	COVER "TWO RIVERS"
9	I-43 SB OFF-RAMP TO STH 310, COVER EXISTING J3-2 SIGN AS SHOWN										1		1	COVER "EAST 310 LT"
10	STH 310, AT I-43 SB RAMP, PLACE ON RIGHT SHOULDER IN SE QUADRANT OF INTERSECTION	R 11-3	60"X30"	1	12	12	12	24						XX MILES AHEAD, WILL CHANGE AS WORK MOVES
	"	M 4-9R	30"X24"	1	12	12								
11	STH 310, BETWEEN I-43 RAMPS, COVER EXISTING J2-2 SIGN AS SHOWN IN MEDIAN										1		1	COVER "EAST 310 AHEAD"
12	STH 310, BETWEEN I-43 RAMPS, COVER EXISTING J2-2 SIGN AS SHOWN ON RIGHT SHOULDER										1		1	COVER "EAST 310 AHEAD"
13	STH 310, E. OF I-43, COVER EXISTING J4-1 SIGN AS SHOWN										1		1	COVER ENTIRE SIGN
14	STH 310, E. OF I-43, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7				PLACE IN ADVANCE OF CLOSURE
15	US 10, AT I-43 SB RAMP, PLACE ON RIGHT SHOULDER AT RIGHT TURN LANE TO 43 SB RAMP	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 6-1	30"X30"	1	12	12								RIGHT
16	US 10, W. OF I-43 SB RAMP, MODIFY EXISTING J2-2 SIGN AS SHOWN	MO 4-8	36"X18"	1	12	12								
	"	MO 5-1R	30"X30"	1	12	12								
17	US 10, W. OF I-43 SB RAMP, PLACE 2000' W. OF I-43 SB RAMP INTERSECTION	FMS	72"X48"	1					24					SEE SIGN DETAIL SHEET
18	US 10, W. OF I-43 SB RAMP, PLACE 3000' W. OF I-43 SB RAMP INTERSECTION	M 1-6	36"X36"	1	12	12								310
	"	W 20-2A	48"X48"	1	12	12								
19	I-43 NB, AT STH 310 EXIT, COVER EXISTING TYPE I SIGN AS SHOWN										1	1		COVER "310 - TWO RIVERS"
20	I-43 SB, S. OF STH 310, PLACE RIGHT OF EXISTING J4-2 SIGN	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
21	I-43 NB, S. OF STH 310, COVER EXISTING TYPE I SIGN AS SHOWN										1	1		COVER "310 - TWO RIVERS"
22	I-43 NB, AT STH 310 EXIT, PLACE LEFT OF EXISTING TYPE I SIGN	M 4-8A	30"X24"	1	12	12								
	"	M 3-4	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
23	I-43 SB, N. OF US 10/STH 42 EXIT, PLACE 1000' N. OF US 10/STH 42 EXIT ON RIGHT SHOULDER	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 5-2R	30"X30"	1	12	12								
	PAGE SUBTOTALS			40		432	12	24	162.0	7		4	5	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

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DETOUR SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS * DAYS	643.0420 BARRICADES TYPE III * DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PCMS * DAYS	NO. OF CYCLES	643.0910 COVERING SIGNS TYPE I EACH	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
24	I-43 SB, N. OF US 10/STH 42 EXIT, PLACE 1000' N. OF US 10/STH 42 EXIT IN MEDIAN	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 5-2R	30"X30"	1	12	12								
25	I-43 SB, AT US 10/STH 42 EXIT, PLACE LEFT OF EXISTING TYPE I SIGN AT US 10/STH 42 EXIT	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 6-2	30"X30"	1	12	12								TILT RIGHT
26	I-43 SB OFF-RAMP TO US 10/STH 42, PLACE 500' PRIOR TO RAMP INTERSECTION ON LEFT SHOULDER	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 5-1L	21"X21"	1	12	12								
27	I-43 SB OFF-RAMP TO US 10/STH 42, PLACE LEFT OF EXISTING HOSPITAL J-ASSEMBLY AT RAMP INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								LEFT
28	I-43 NB OFF-RAMP TO US 10/STH 42, PLACE RIGHT OF EXISTING R1-1 SIGN AT RAMP INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								RIGHT
29	I-43 NB OFF-RAMP TO US 10/STH 42, PLACE 500' PRIOR TO RAMP INTERSECTION ON RIGHT SHOULDER	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 5-1R	21"X21"	1	12	12								
30	I-43 NB, AT US 10/STH 42 EXIT, PLACE LEFT OF EXISTING TYPE I SIGN AT EXIT	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 6-2	30"X30"	1	12	12								TILT RIGHT
31	I-43 NB, S. OF US 10/STH 42 EXIT, PLACE 1000' S. OF EXIT RAMP IN MEDIAN	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 5-2R	30"X30"	1	12	12								
32	I-43 NB, S. OF US 10/STH 42 EXIT, PLACE 1000' S. OF EXIT RAMP ON RIGHT SHOULDER	MO 4-8	36"X18"	1	12	12								
	"	M 3-2	36"X18"	1	12	12								
	"	M 1-6	36"X36"	1	12	12								310
	"	MO 5-2R	30"X30"	1	12	12								
33	I-43 NB, S. OF US 10/STH 42 EXIT, PLACE 2000' S. OF EXIT RAMP IN MEDIAN	FMS	138"X72"	1					69					SEE SIGN DETAIL SHEET
34	I-43 NB, S. OF US 10/STH 42 EXIT, PLACE 2000' S. OF EXIT RAMP ON RIGHT SHOULDER	FMS	138"X72"	1					69					SEE SIGN DETAIL SHEET
35	I-43 NB, S. OF US 10/STH 42 EXIT, PLACE 1/2 MILE S. OF EXIT RAMP IN MEDIAN	M 1-6	36"X36"	1	12	12								310
	"	W 20-2A	48"X48"	1	12	12								
36	I-43 NB, S. OF US 10/STH 42 EXIT, PLACE 1/2 MILE S. OF EXIT RAMP ON RIGHT SHOULDER	M 1-6	36"X36"	1	12	12								310
	"	W 20-2A	48"X48"	1	12	12								
37	US 10/STH 42, AT I-43 NB RAMP, PLACE ON RIGHT SHOULDER AT RIGHT TURN LANE AT I-43 NB RAMP INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								RIGHT
	PAGE SUBTOTALS			46		528	0	0	138.0	0		0	0	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

3

DETOUR SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS * DAYS	643.0420 BARRICADES TYPE III * DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PCMS * DAYS	NO. OF CYCLES	643.0910 COVERING SIGNS TYPE I EACH	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
38	US 10/STH 42, E. OF I-43, PLACE RIGHT OF EXISTING J4-2 SIGN	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
39	US 10/STH 42, E. OF I-43 NB RAMP, PLACE 500' E. OF I-43 NB RAMP INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 5-1R	21"X21"	1	12	12								
40	US 10/STH 42, W. OF CTH R, PLACE 150' W. OF CTH R INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								AHEAD
41	US 10/STH 42, E. OF CTH R, PLACE 150' E. OF CTH R INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								AHEAD
42	US 10/STH 42, W. OF CTH Q, PLACE 150' W. OF CTH Q INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								AHEAD
43	US 10/STH 42, E. OF CTH Q, PLACE 150' E. OF CTH Q INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								AHEAD
44	US 10/STH 42, W. OF CTH B, PLACE 150' W. OF CTH B INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								AHEAD
45	US 10/STH 42, E. OF CTH B, PLACE 150' E. OF CTH B INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								AHEAD
46	STH 42, W. OF MARITIME RAB, PLACE 150' W. OF MARITIME RAB INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								LEFT
47	STH 42, AT MARITIME RAB, PLACE IN WEST LEG SPLITTER ISLAND AT RAB INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-2	21"X21"	1	12	12								TILT RIGHT
48	STH 42, AT MARITIME RAB, PLACE IN NORTH LEG SPLITTER ISLAND AT RAB INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-2	21"X21"	1	12	12								TILT RIGHT
	PAGE SUBTOTALS			43		516	0	0	0.0	0		0	0	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PLAN SHEET PRODUCED

BY WisDOT - NE REGION

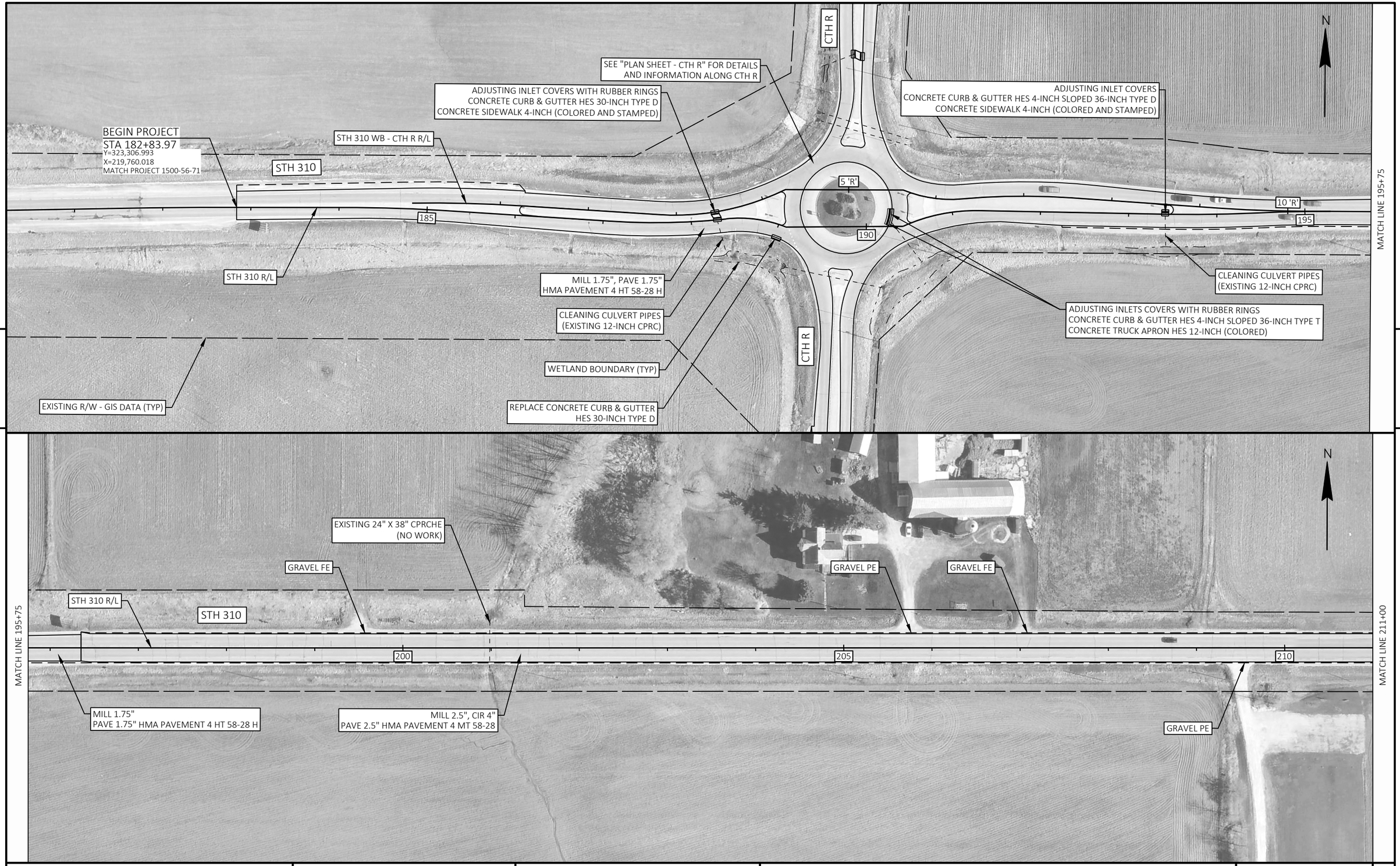
3

DETOUR SUMMARY

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 12 DAYS	643.0900 SIGNS * DAYS	643.0420 BARRICADES TYPE III * DAYS	643.0705 WARNING LIGHTS TYPE A * DAYS	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PCMS * DAYS	NO. OF CYCLES	643.0910 COVERING SIGNS TYPE I EACH	643.0920 COVERING SIGNS TYPE II EACH	REMARKS
49	STH 42, N. OF MARITIME RAB, PLACE 150' N. OF MARITIME RAB INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								RIGHT
50	STH 42, W. OF CTH DD, PLACE 150' W. OF CTH DD INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-2	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								AHEAD
51	STH 42, E. OF CTH DD, PLACE 150' E. OF CTH DD INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
	"	MO 6-1	21"X21"	1	12	12								AHEAD
52	STH 42, S. OF STH 310, MODIFY EXISITNG J1-1 SIGN AS SHOWN	M 4-8A	24"X18"	1	12	12								
53	STH 42, S. OF STH 310, PLACE 250' S. OF STH 310 INTERSECTION	MO 4-8	24"X12"	1	12	12								
	"	M 3-4	24"X12"	1	12	12								
	"	M 1-6	24"X24"	1	12	12								310
54	STH 42, S. OF STH 310, COVER EXISTING J2-1 SIGN AS SHOWN										1		1	COVER ENTIRE SIGN
55	STH 42, S. OF STH 310, COVER EXISTING J3-1 SIGN AS SHOWN										1		1	COVER ENTIRE SIGN
56	STH 310, AT STH 42, PLACE ON RIGHT SHOULDER IN NW QUADRANT OF INTERSECTION	R 11-3	60"X30"	1	12	12	12	24						XX MILES AHEAD, WILL CHANGE AS WORK MOVES
	"	MO 4-9L	30"X24"	1	12	12								
57	STH 310, W. OF STH 42, PLACE ON RIGHT SHOULDER, FIELD DETERMINE LOCATION	PCMS		1						7				PLACE IN ADVANCE OF CLOSURE
58	STH 310, AT CTH DD, PLACE ON RIGHT SHOULDER IN NW QUADRANT OF CTH DD INTERSECTION	R 11-3	60"X30"	1	12	12	12	24						XX MILES AHEAD, WILL CHANGE AS WORK MOVES
59	STH 42, N. OF STH 310, MODIFY EXISTING J3-1 SIGN AS SHOWN	MO 4-8	24"X12"	1	12	12								
	"	MO 6-1	21"X21"	1	12	12								AHEAD
60	STH 42, N. OF STH 310, MODIFY EXISTING J2-1 SIGN AS SHOWN	MO 6-1	21"X21"	1	12	12								AHEAD
61	STH 42, N. OF STH 310, PLACE 1000' N. OF STH 310 INTERSECTION	FMS	48"X36"	1					12					SEE SIGN DETAIL SHEET
62	STH 42, N. OF STH 310, PLACE 1500' N. OF STH 310 INTERSECTION	M 1-6	24"X24"	1	12	12								310
	"	W 20-2A	48"X48"	1	12	12								
	PAGE SUBTOTALS			26		288	24	48	12	7		0	2	
	*ADDITIONAL QUANTITIES SHOWN ELSEWHERE													
	DETOUR TOTALS			**155**		**1,764**	**36**	**72**	**312**	**14**		**4**	**7**	

PLAN SHEET PRODUCED

BY WisDOT - NE REGION



5

5

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 52	E

5

5

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 53	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050202-pn

PLOT DATE : 8/1/2023 12:39 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 54	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050203-pn
PLOT DATE : 8/1/2023 12:39 PM
PLOT BY : ERICSON, SARAH L
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

5

5

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 55	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050204-pn

PLOT DATE : 8/1/2023 12:39 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 56	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050205-pn

PLOT DATE : 8/1/2023 12:39 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 57

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050206-pn

PLOT DATE : 8/1/2023 12:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

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PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 58	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050207-pn

PLOT DATE : 8/1/2023 12:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

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PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 59	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050208-pn

PLOT DATE : 8/1/2023 12:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

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PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 60	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050209-pn

PLOT DATE : 2/21/2024 3:43 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

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PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 61	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050210-pn

PLOT DATE : 8/1/2023 12:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

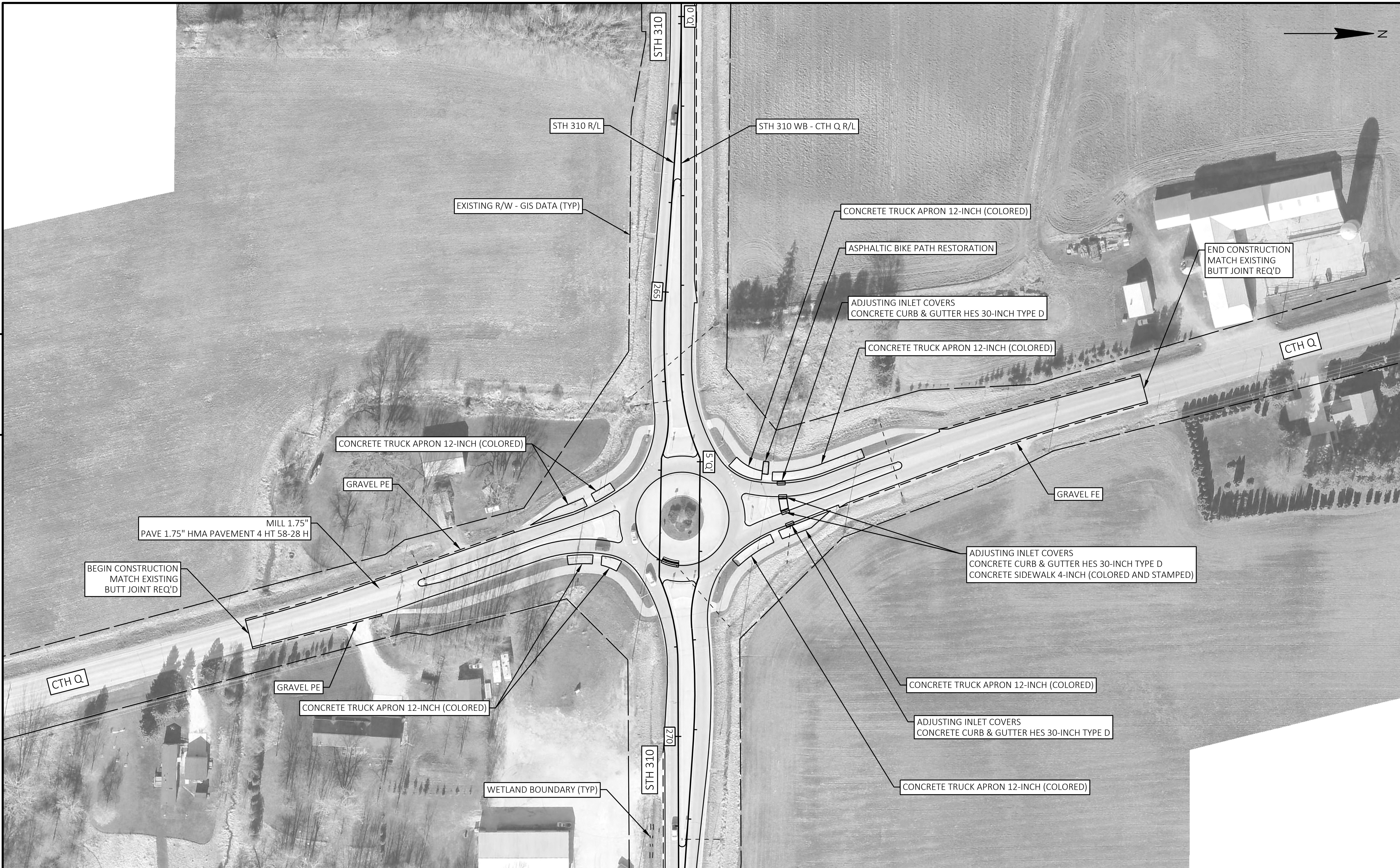
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS	SHEET 62	E

PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS - CTH R	SHEET 63 E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050202-PN.DWG
LAYOUT NAME - 050212-pn

PLOT DATE : 8/1/2023 12:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS - CTH Q	SHEET 64	E

FILE NAME : N:\PDS\C3D\43372300\SHEETSPLAN\050202-PN.DWG
LAYOUT NAME - 050213-pn
PLOT DATE : 8/1/2023 12:40 PM PLOT BY : ERICSON, SARAH L PLOT NAME : PLOT SCALE : 1 IN:100 FT

5

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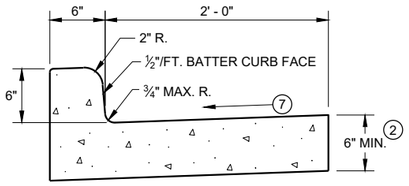
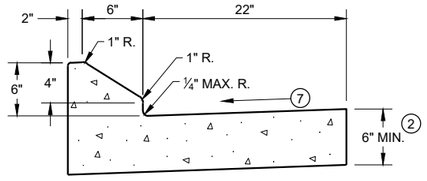
PROJECT NO: 4337-23-71	HWY: STH 310	COUNTY: MANITOWOC	PLAN SHEETS - CTH B	SHEET 65	E

Standard Detail Drawing List

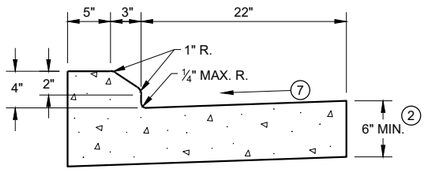
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-14A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A10-03A	SHOULDER RUMBLE STRIPS - ASPHALT
13A10-03E	EDGE LINE RUMBLE STRIPS - ASPHALT
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13A10-03H	SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13B01-11A	PAVEMENT DETAILS FOR RAILROAD APPROACH
13B01-11B	TYPICAL SECTIONS FOR RAILWAY APPROACH
13C19-03	HMA LONGITUDINAL JOINTS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C09-13A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C19-08A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES



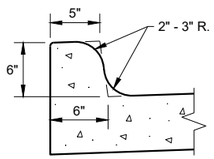
TYPES A (1) & D



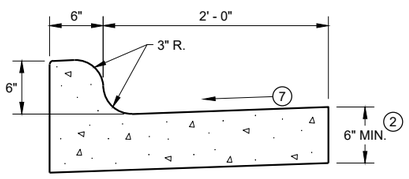
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

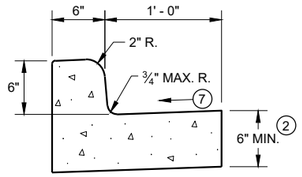


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



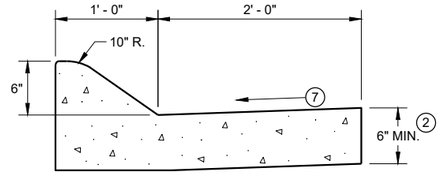
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

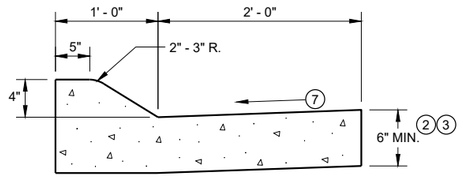


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

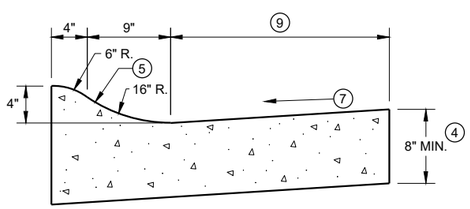


6" SLOPED CURB TYPES A (1) & D



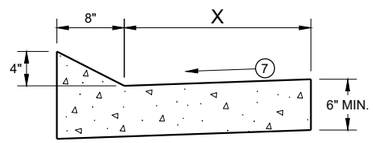
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

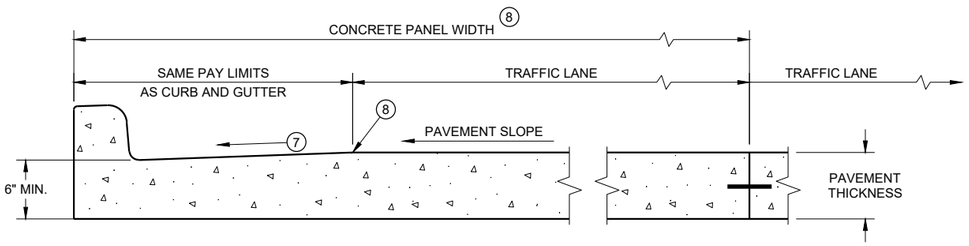


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

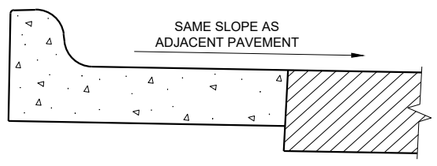
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

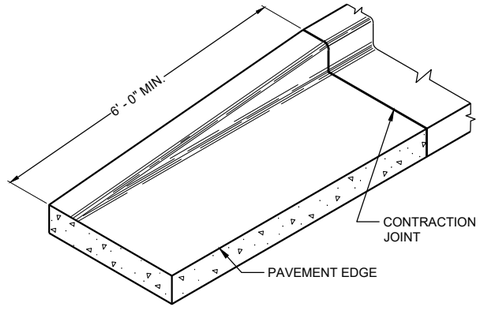
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

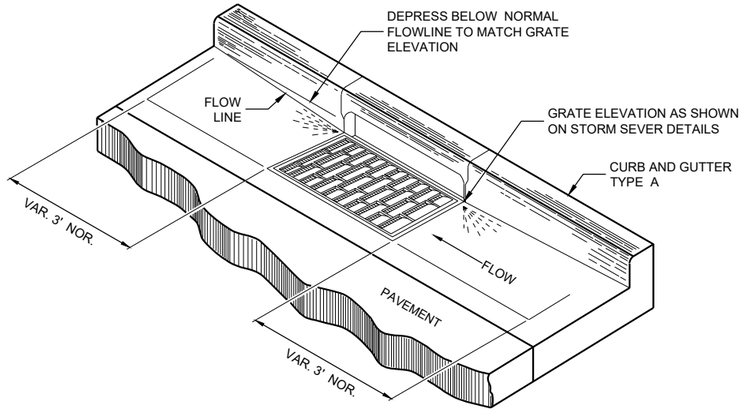
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D01 - 23a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

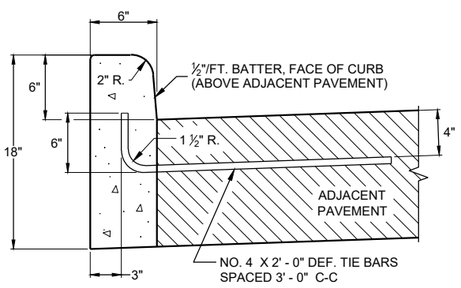
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

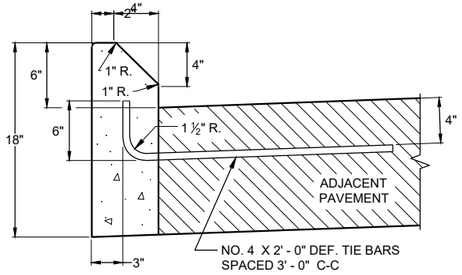
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

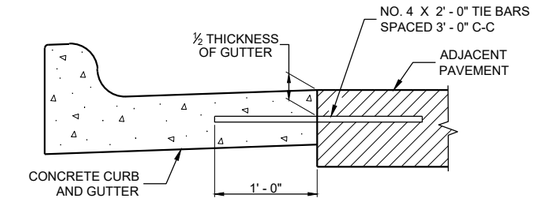


TYPES A (1) & D

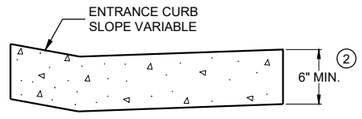


TYPES G (1) & J

CONCRETE CURB

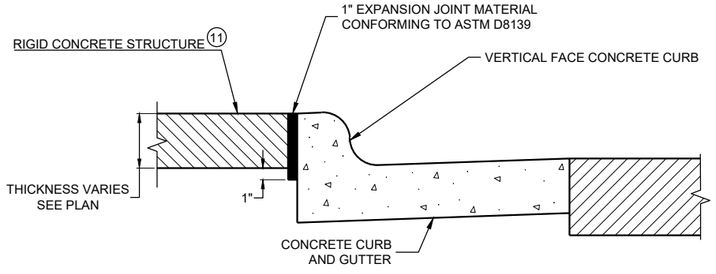


TYPICAL TIE BAR LOCATION (1)

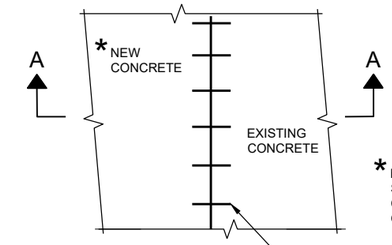


DRIVEWAY ENTRANCE CURB (10)

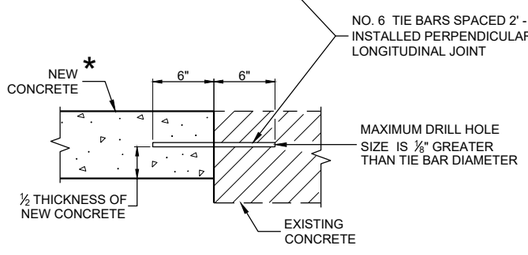
(WHEN DIRECTED BY THE ENGINEER)



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

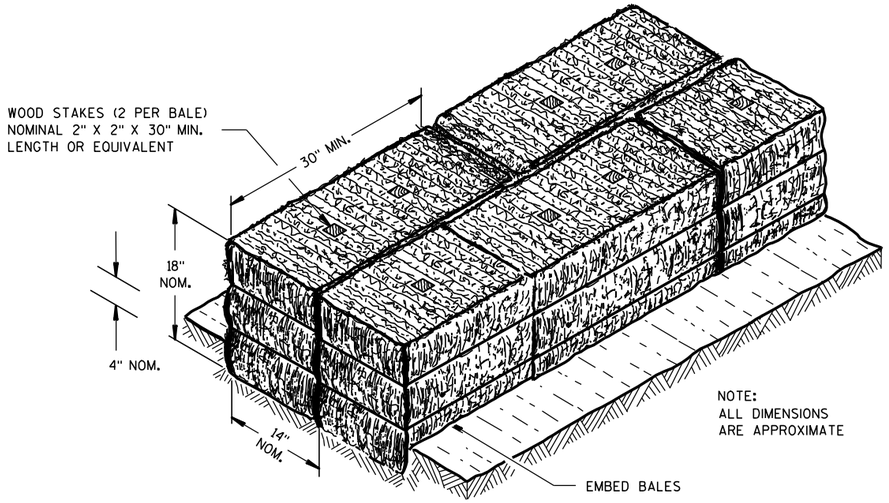
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER

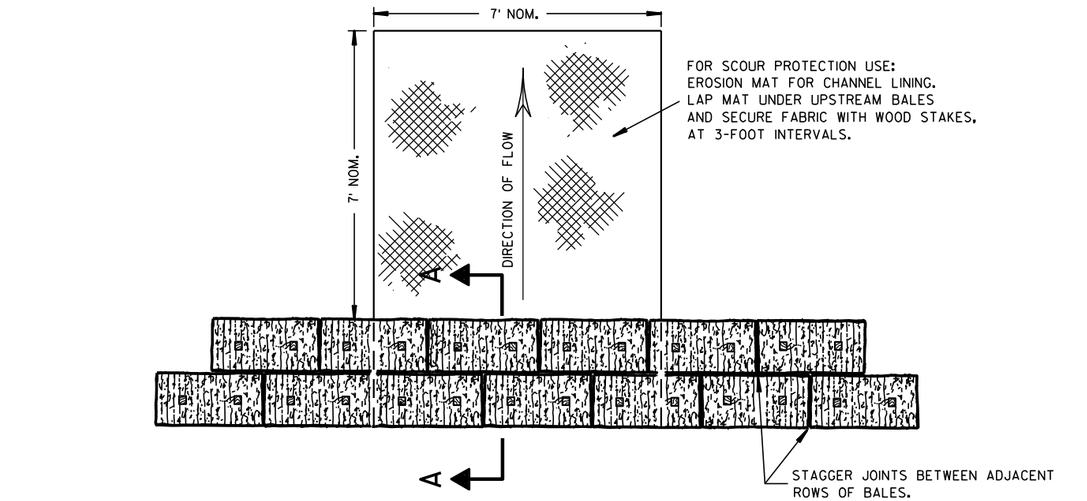
FHWA

6

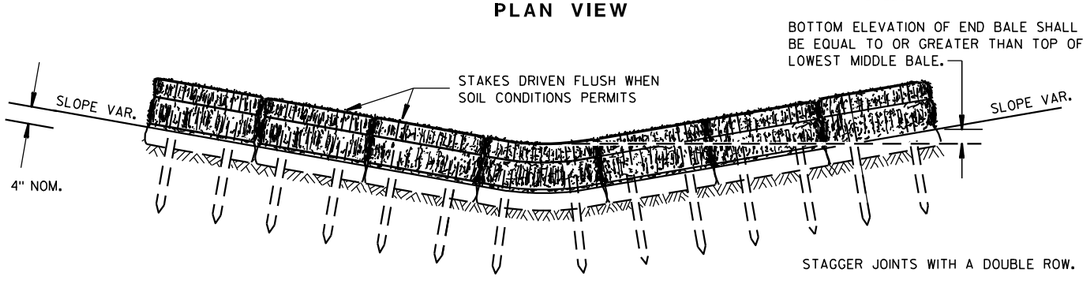
SDD08D01 - 23b



SECTION A-A



PLAN VIEW



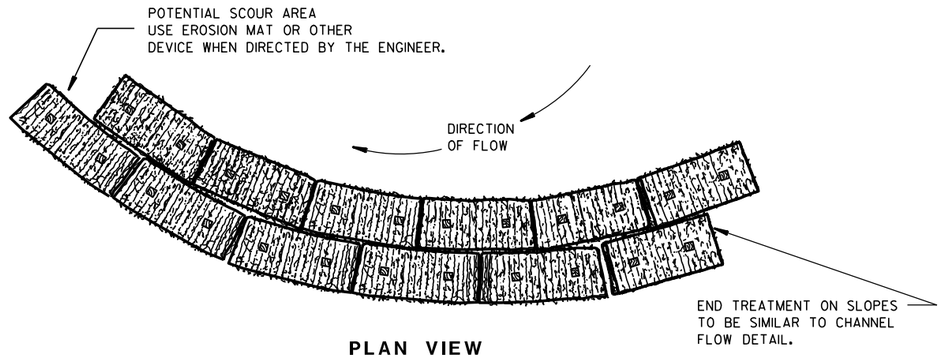
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

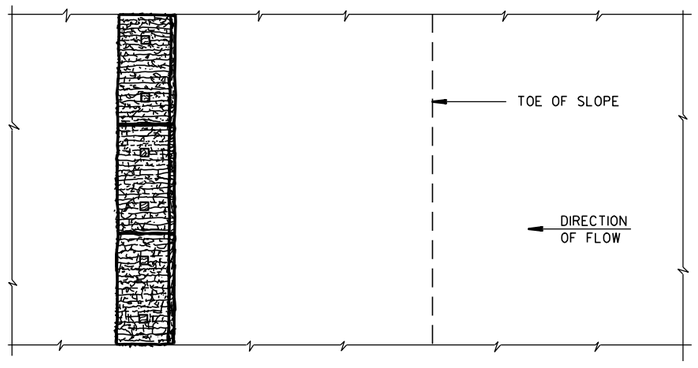
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

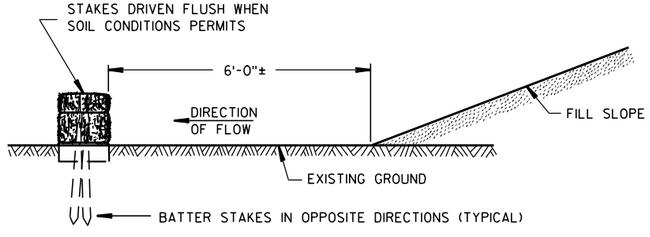


PLAN VIEW

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

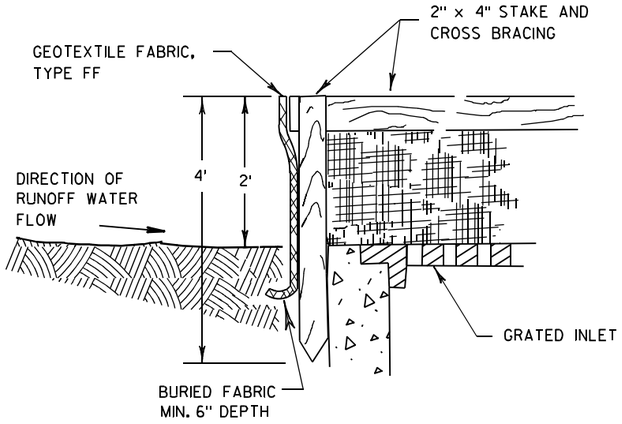
6/04/02 — DATE

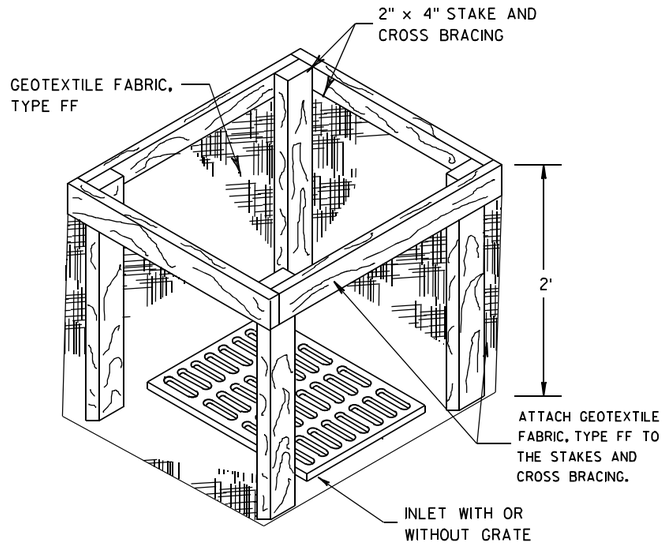
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

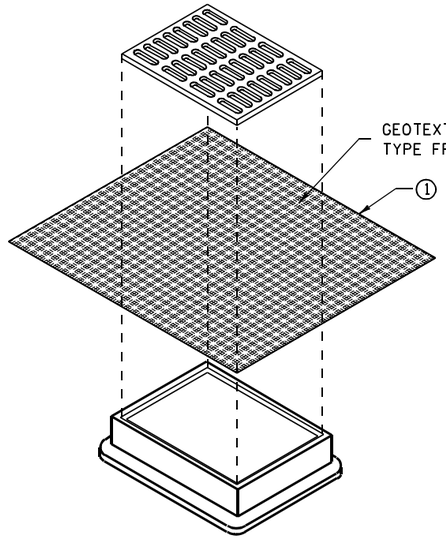
6

S.D.D. 8 E 8-3



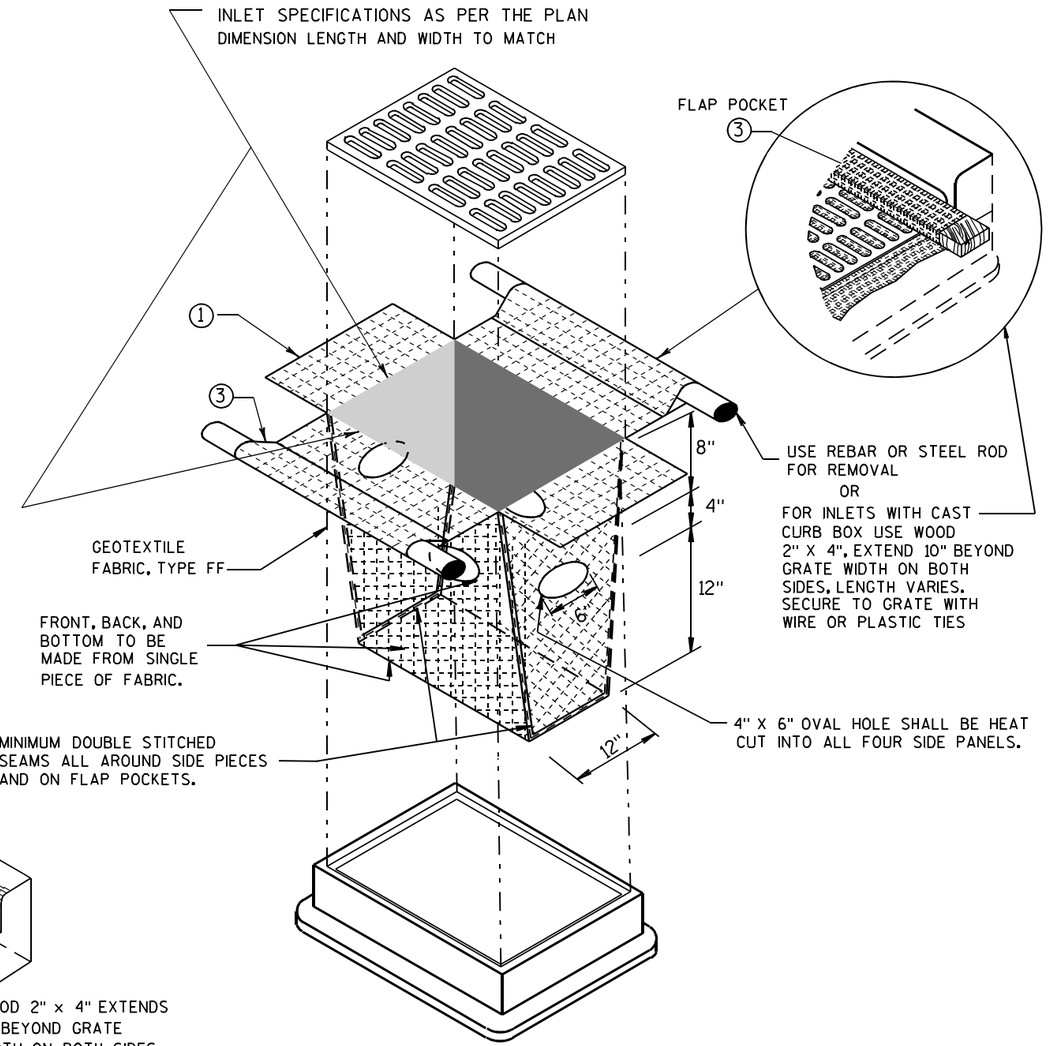


INLET PROTECTION, TYPE A



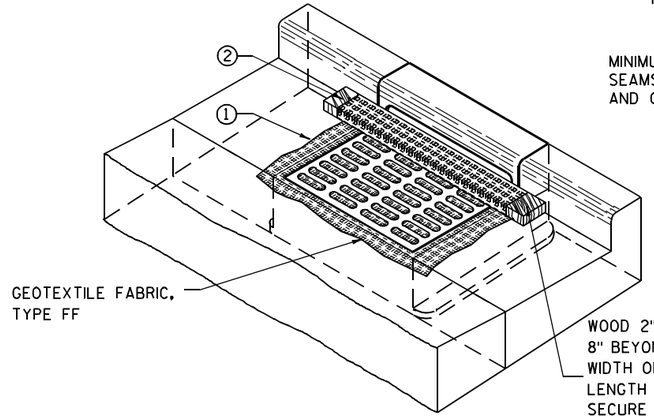
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

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.

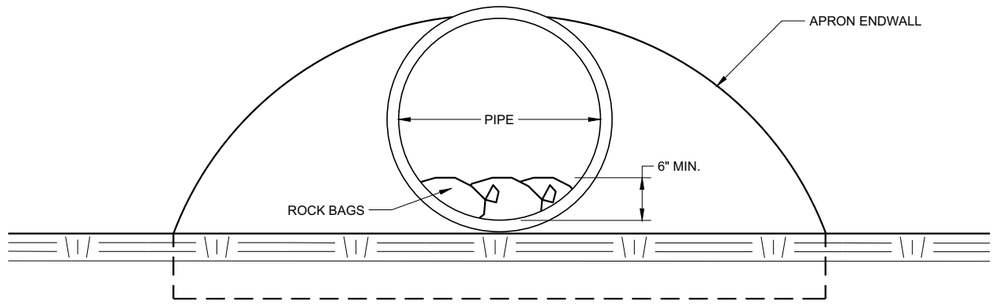
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

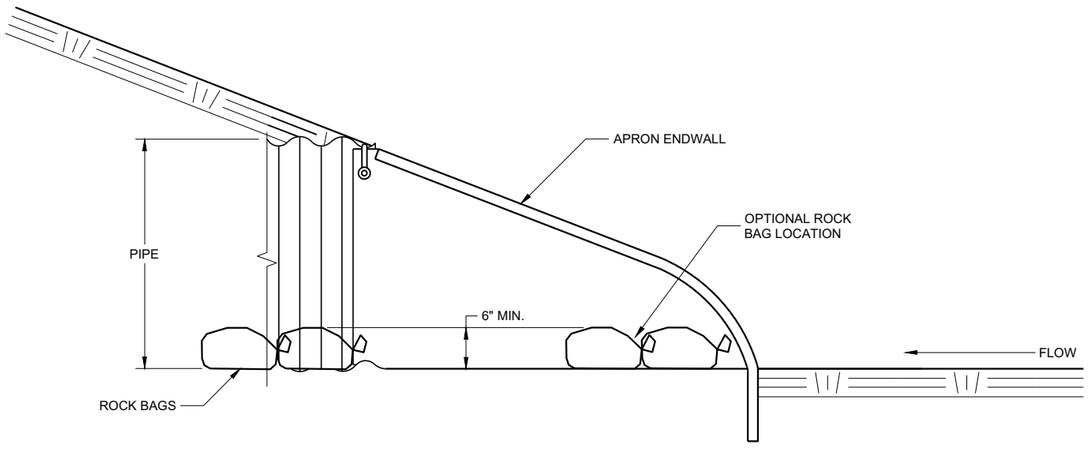
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 10-2



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

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SDD 08E15 - 01

METAL APRON ENDWALLS

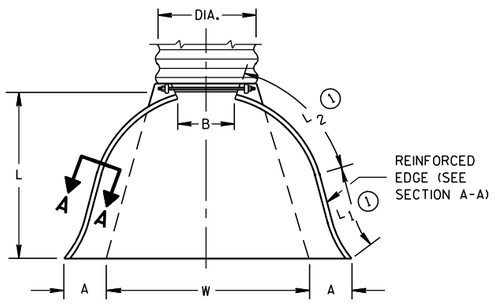
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 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

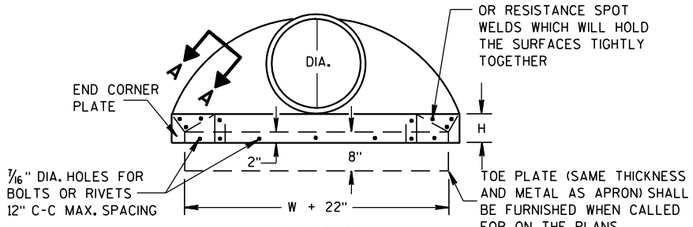
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
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

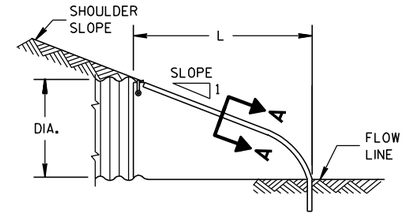
* MINIMUM
** MAXIMUM



PLAN VIEW

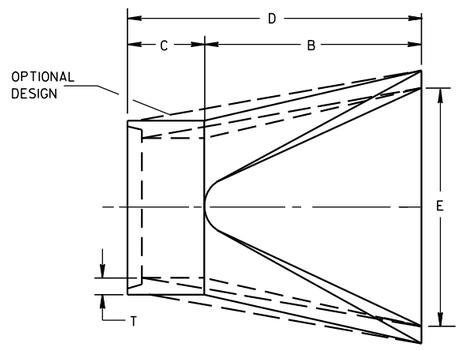


END VIEW

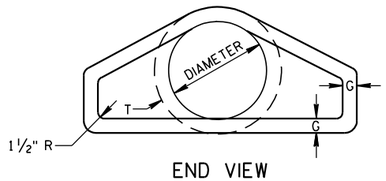


SIDE ELEVATION

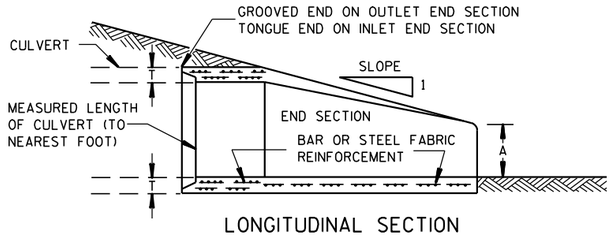
METAL ENDWALLS



PLAN

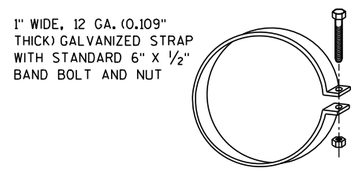


END VIEW



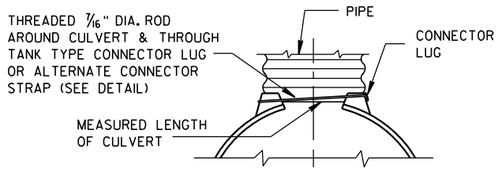
LONGITUDINAL SECTION

CONCRETE ENDWALLS

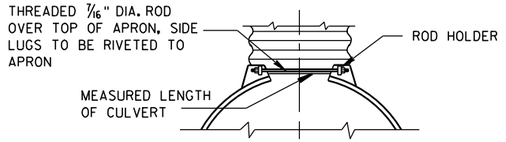


ALTERNATE FOR TYPE 1 CONNECTION

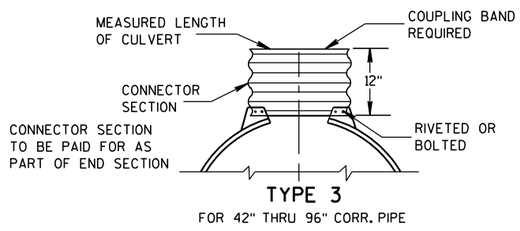
END SECTION CONNECTOR STRAP



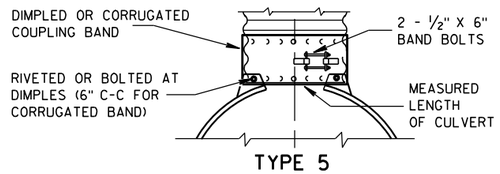
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

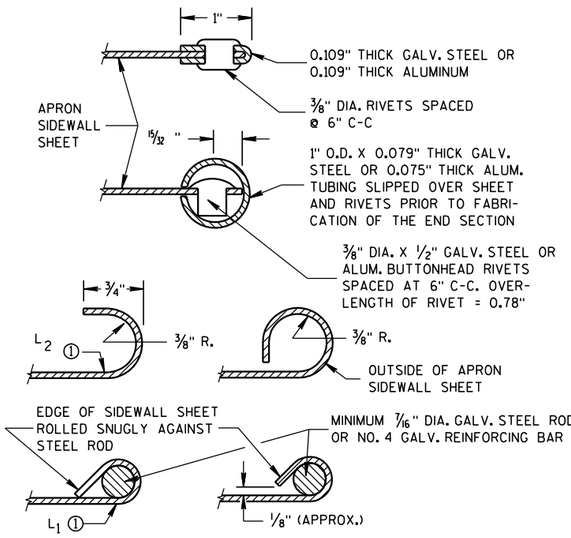
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

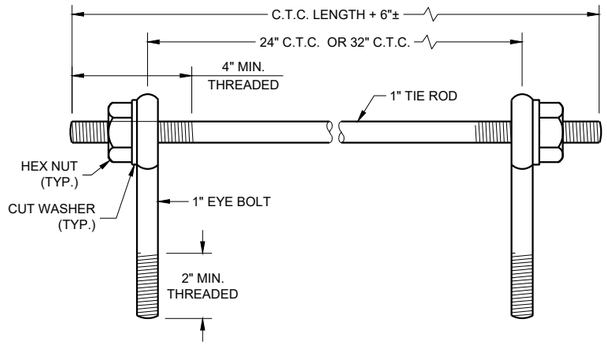
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

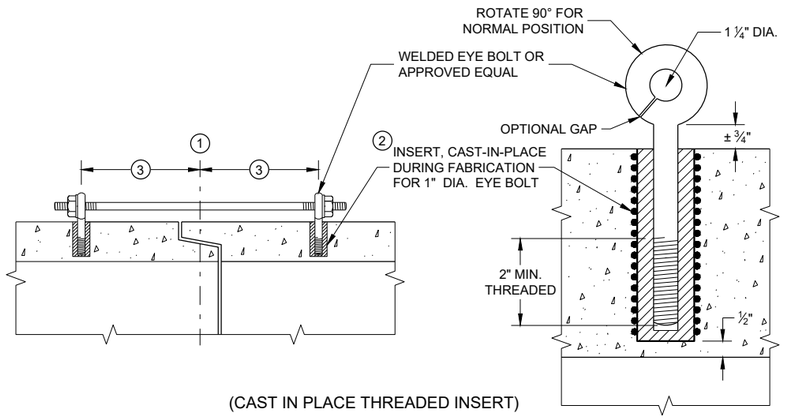
APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



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) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

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

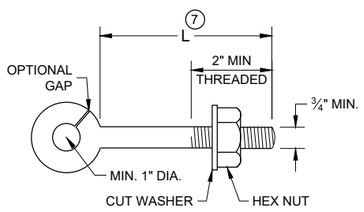
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

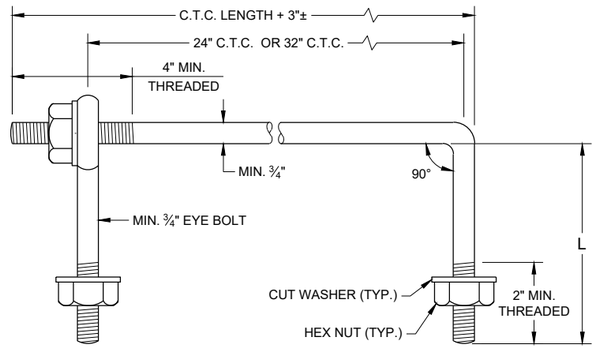
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

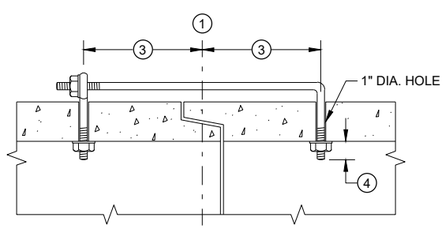


EYE BOLT (7)

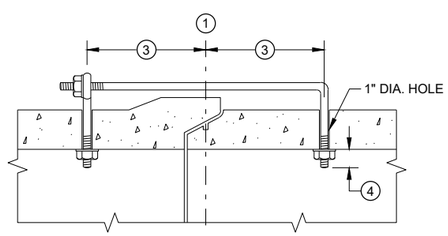
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

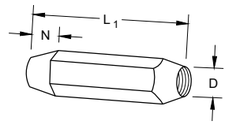
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



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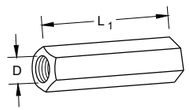
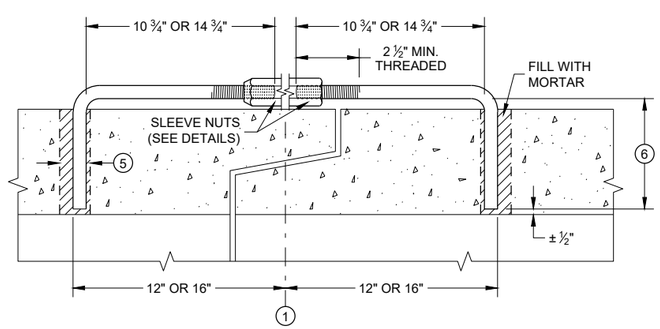


PLAIN

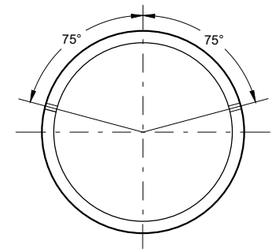
RIGHT AND LEFT THREADS

SLEEVE NUTS



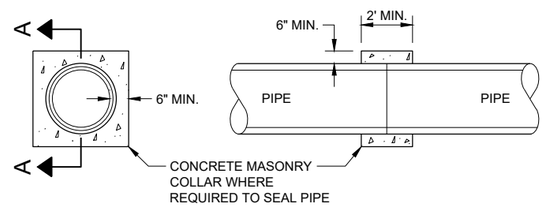
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

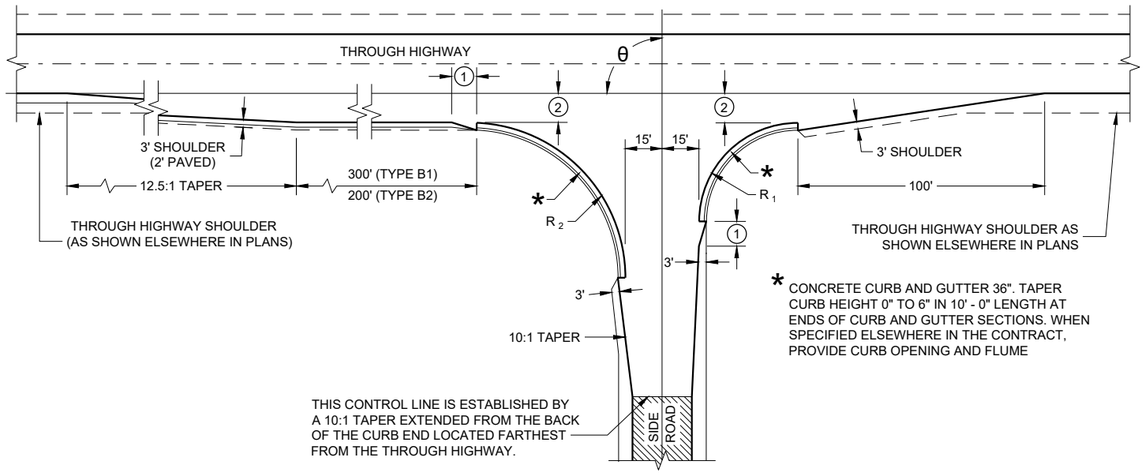
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 08F04 - 08

SDD 08F04 - 08



* CONCRETE CURB AND GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10' - 0" LENGTH AT ENDS OF CURB AND GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME

TYPE "B1" AND "B2"

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

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.

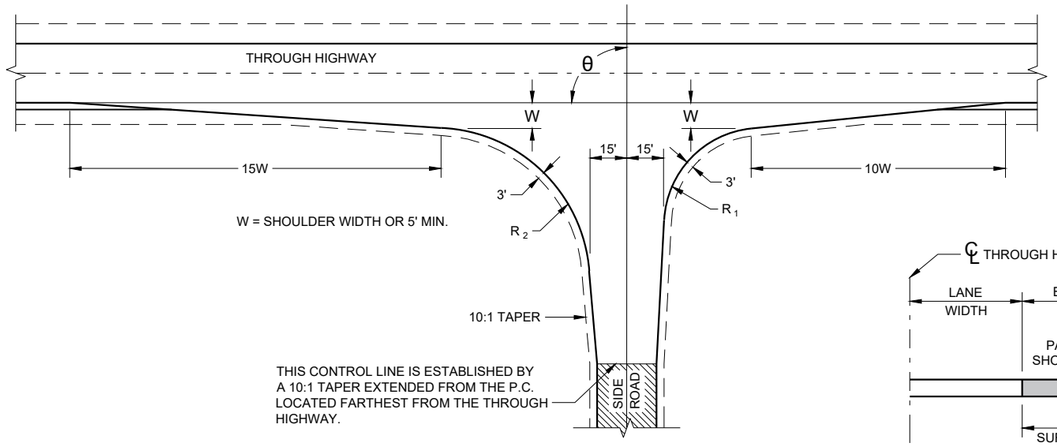
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

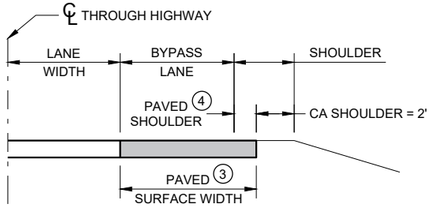
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH
- PC CONCRETE = 13-FT PLUS PAVED SHOULDER WIDTH

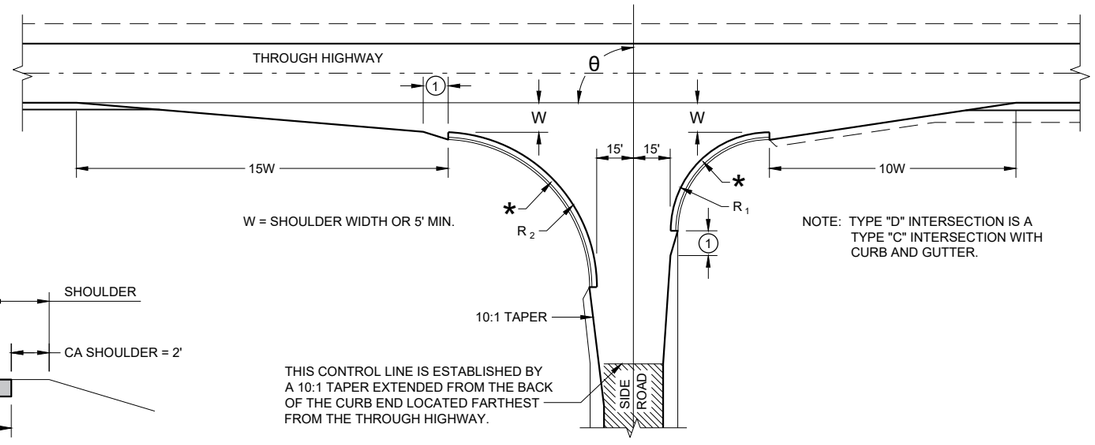
(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



TYPE "C"

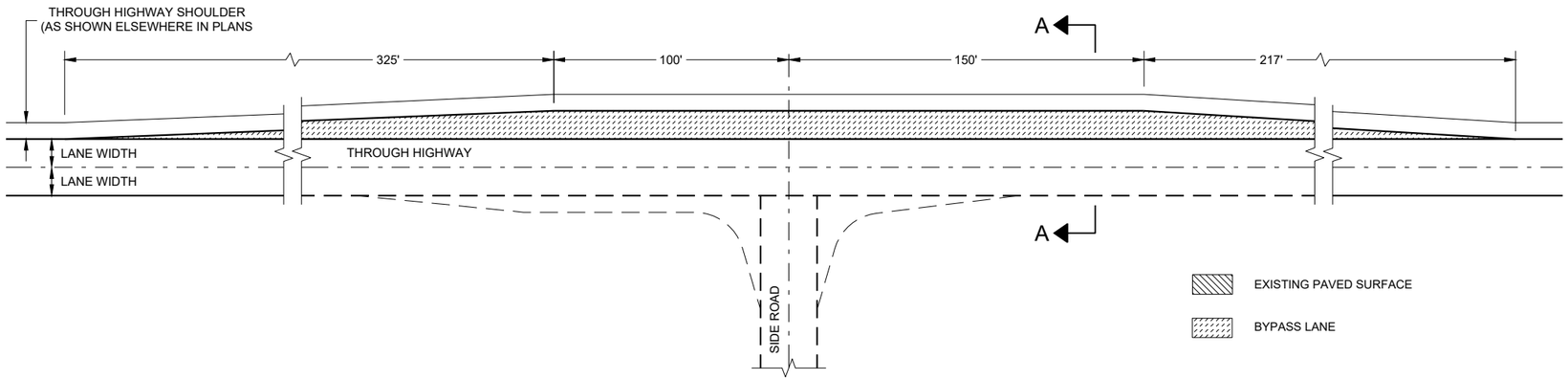


SECTION A - A
(SHOWING BYPASS LANE AND SHOULDER)



NOTE: TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB AND GUTTER.

TYPE "D"



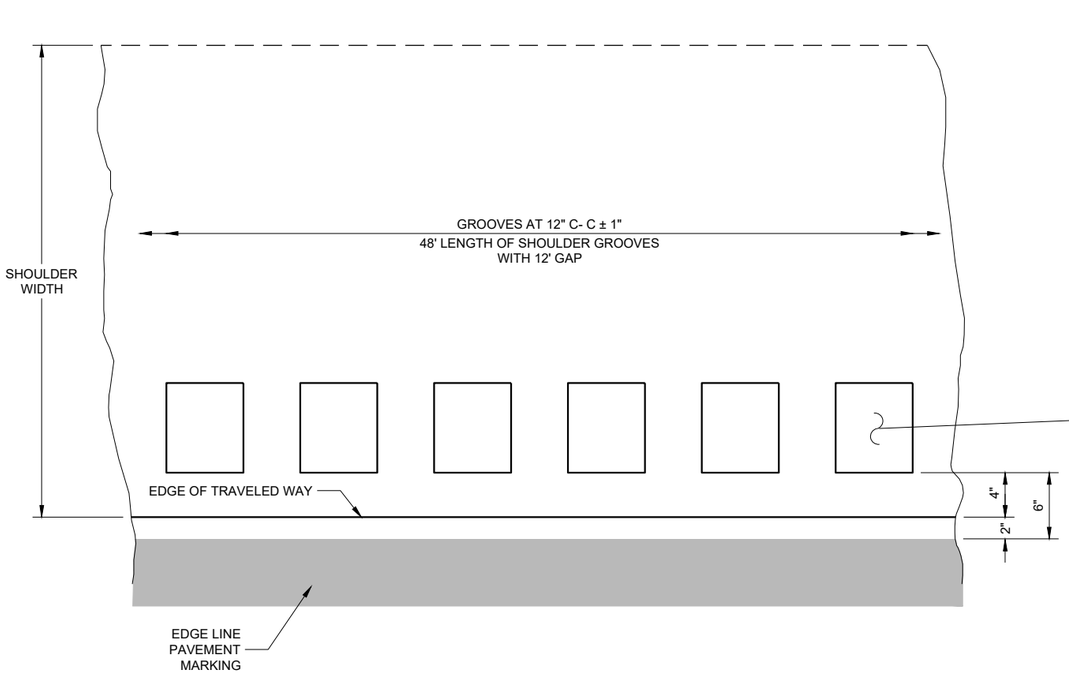
TEE INTERSECTION BYPASS LANE DETAIL

AT GRADE SIDE ROAD INTERSECTION TYPES "B1", "B2", "C", "D" AND TEE INTERSECTION BYPASS LANE

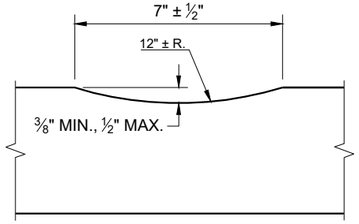
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

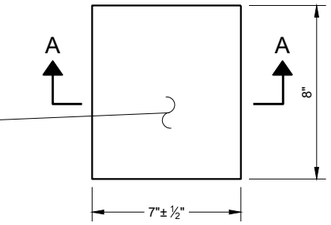
SDD 09A01 - 14a



PLAN DETAIL VIEW
SHOULDER WITH GROOVES



SECTION A - A

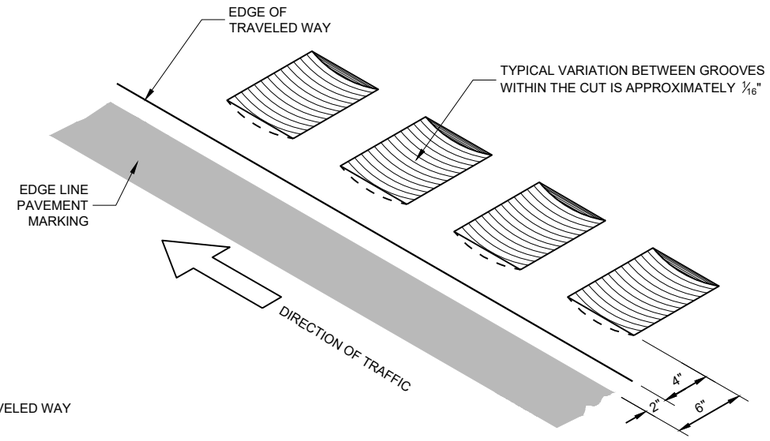


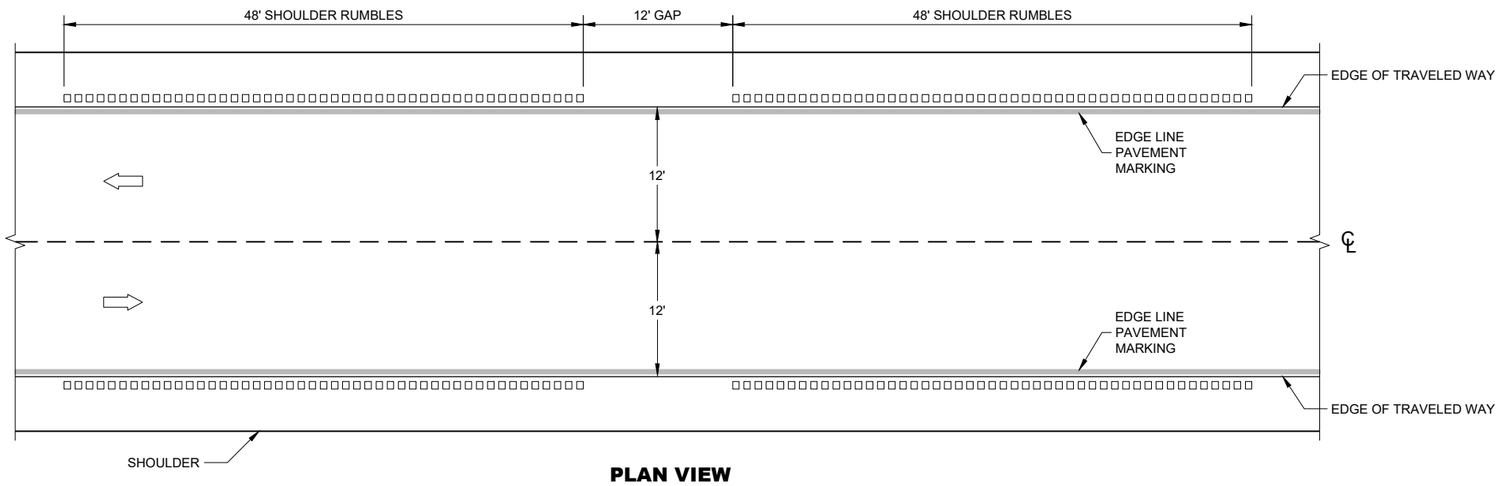
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

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





PLAN VIEW

SHOULDER RUMBLE STRIPS - ASPHALT

6

SDD 13A10 - 03a

SHOULDER RUMBLE STRIPS ASPHALT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

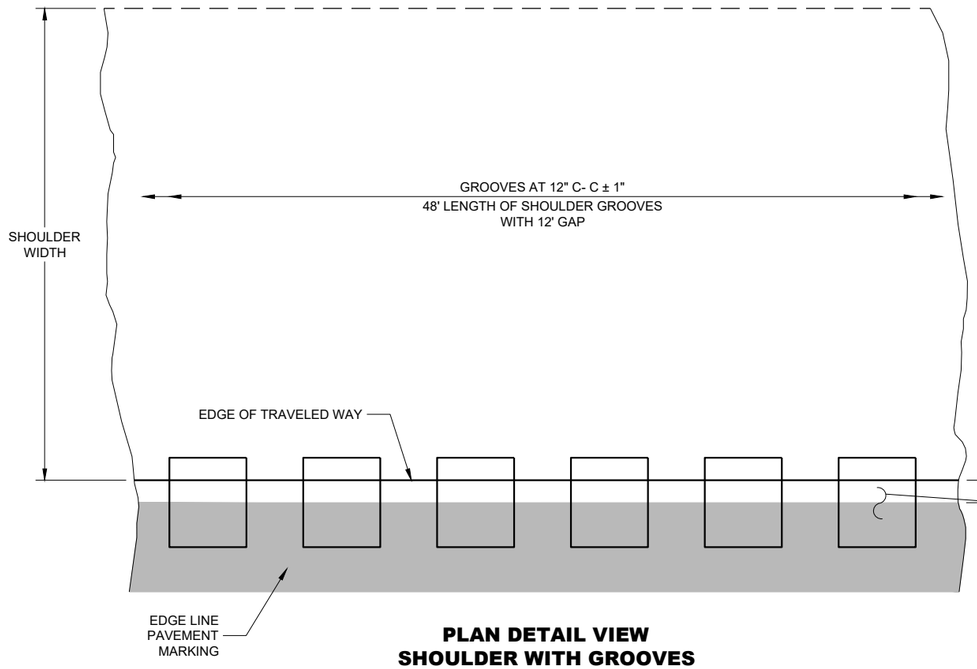
6

SDD 13A10 - 03a

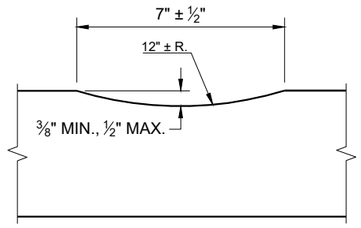
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

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

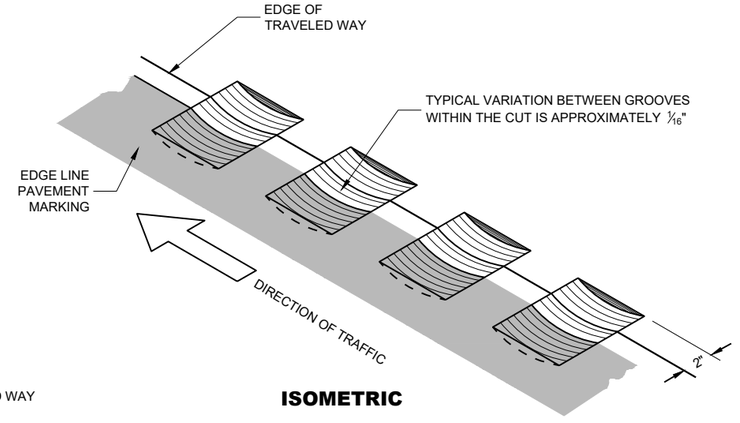


PLAN DETAIL VIEW
SHOULDER WITH GROOVES



SECTION A - A

PLAN VIEW
(SINGLE GROOVE)



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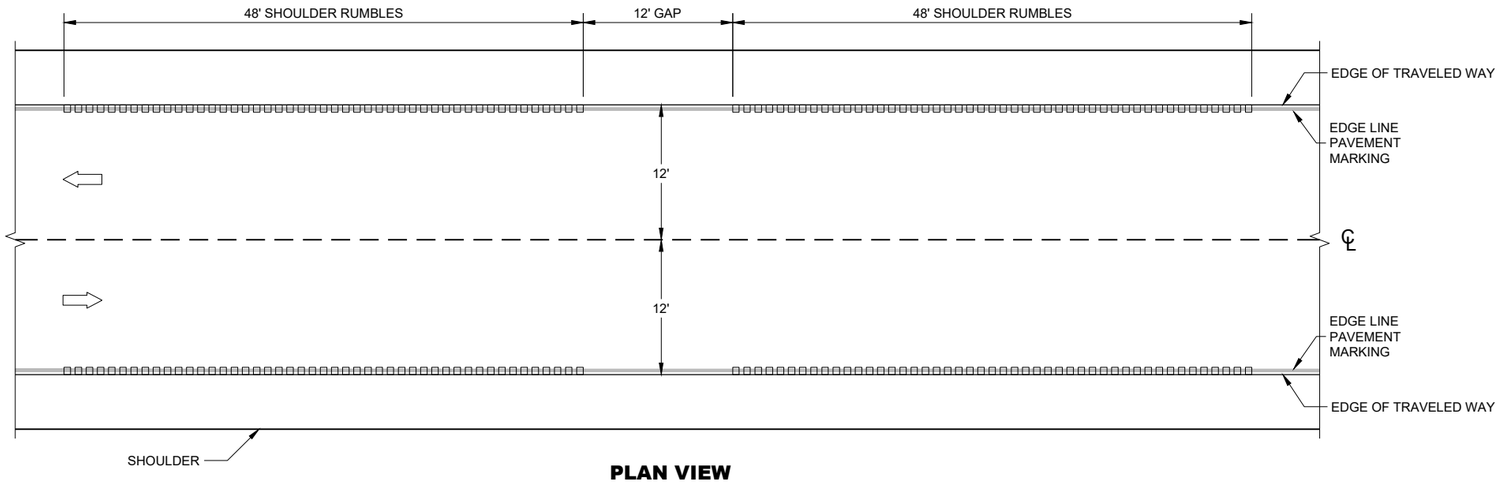


PLAN VIEW

EDGE LINE RUMBLE STRIPS - ASPHALT

6

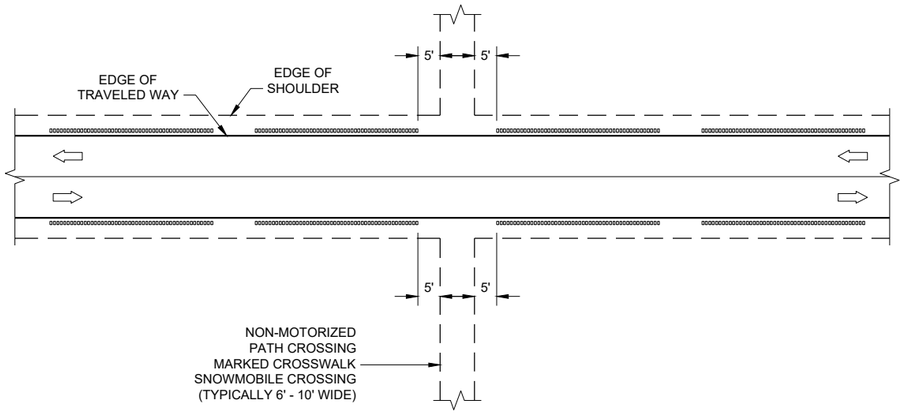
SDD 13A10 - 03e

6

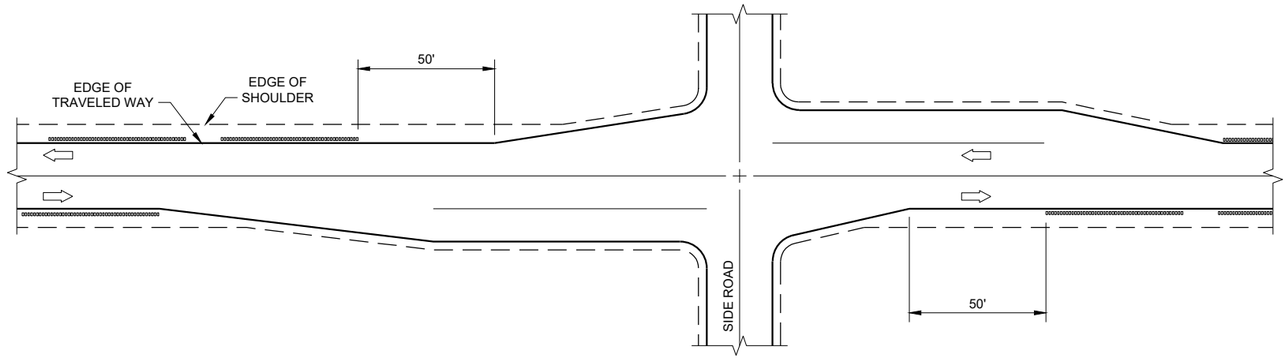
SDD13A10 - 03e

EDGE LINE RUMBLE STRIPS - ASPHALT

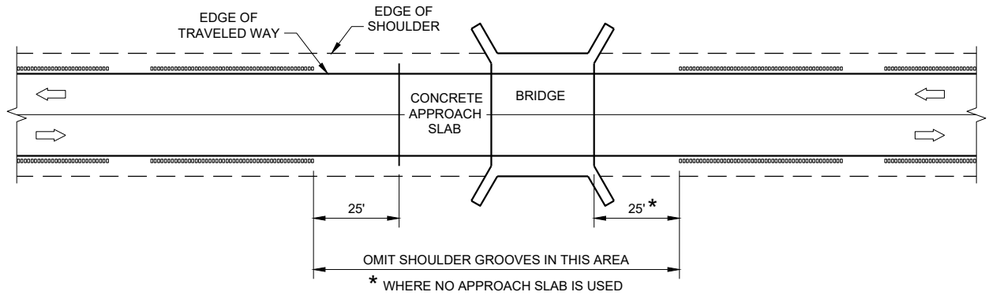
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



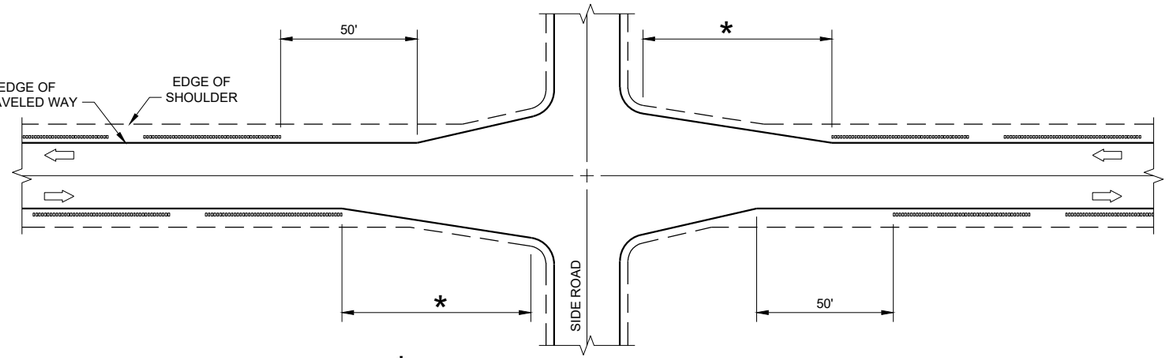
GROOVES AT MISCELLANEOUS CROSSINGS



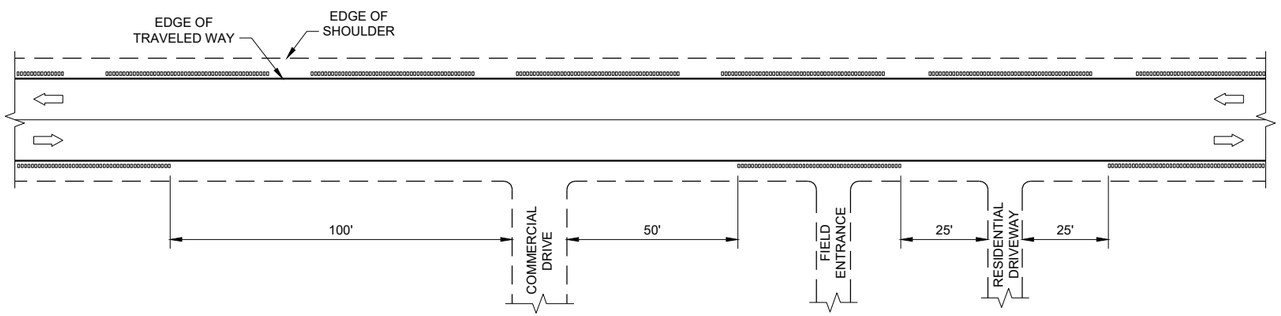
GROOVES AT RIGHT TURN LANE



GROOVES AT BRIDGES



GROOVES AT INTERSECTIONS WITH APPROACH TAPER



GROOVES AT DRIVEWAYS ①

GENERAL NOTES

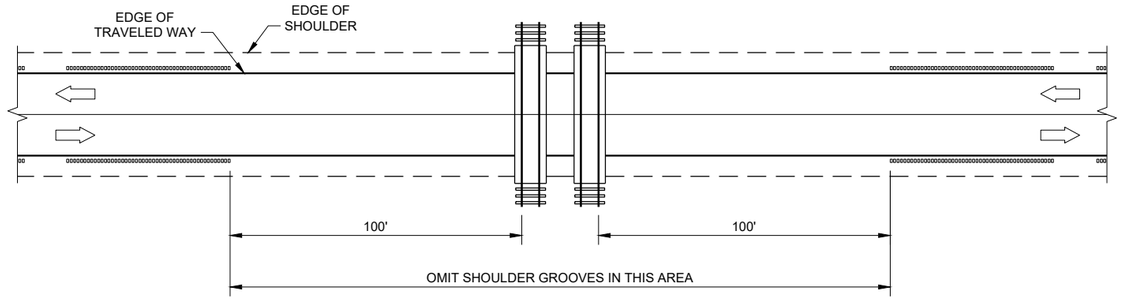
① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

SHOULDER AND EDGE LINE RUMBLE STRIPS CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS

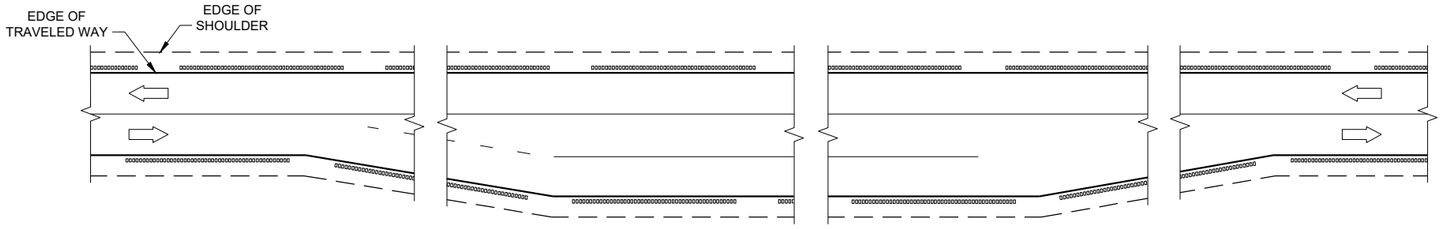
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

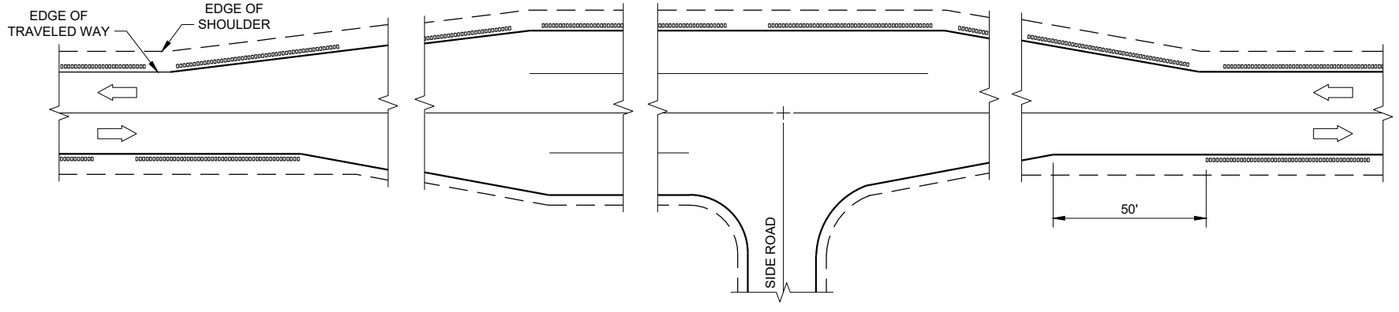
SDD 13A10 - 03g
SDD 13A10 - 03g



GROOVES AT RAILROADS



GROOVES AT PASSING AND CLIMBING LANES



GROOVES AT BYPASS LANES

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SDD 13A10 - 03h

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SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

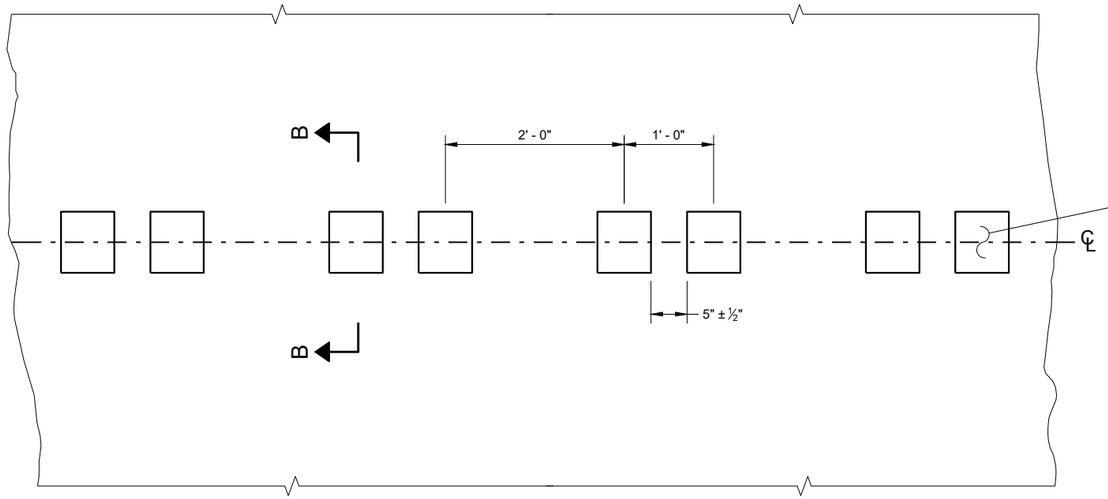
/S/ John Jenkins
ROADWAY STANDARDS DEVE ENGINEER

FHWA

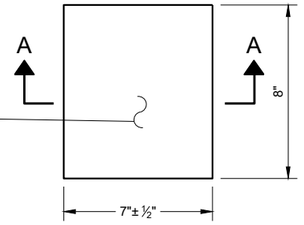
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

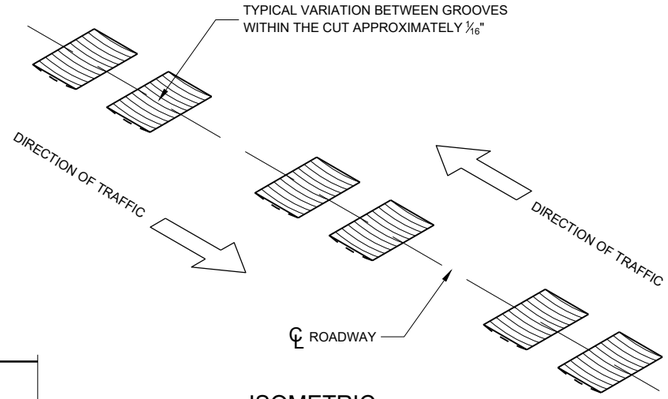
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



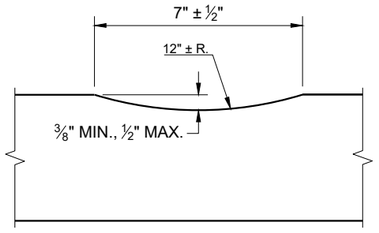
PLAN DETAIL VIEW



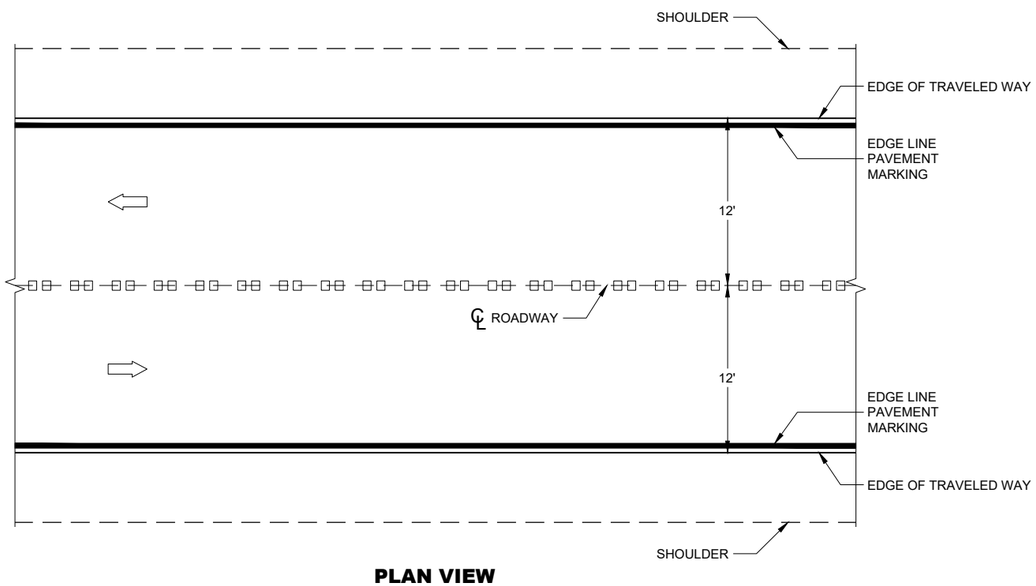
PLAN VIEW
(SINGLE GROOVE)



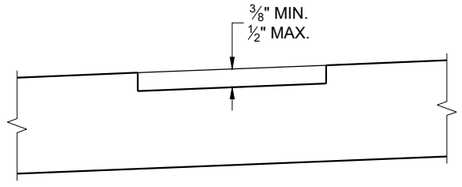
ISOMETRIC



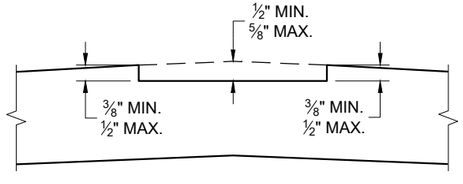
SECTION A - A



PLAN VIEW



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY

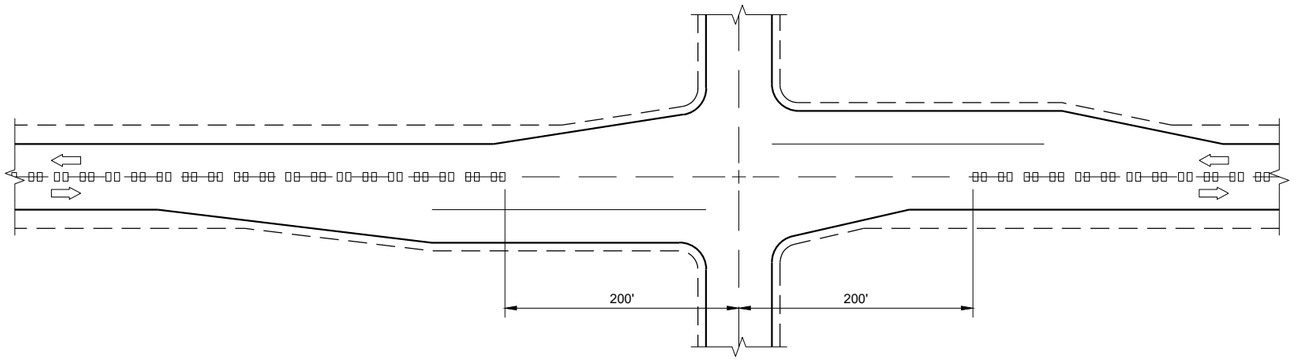
CENTERLINE RUMBLE STRIPS - ASPHALT

CENTERLINE RUMBLE STRIPS - ASPHALT

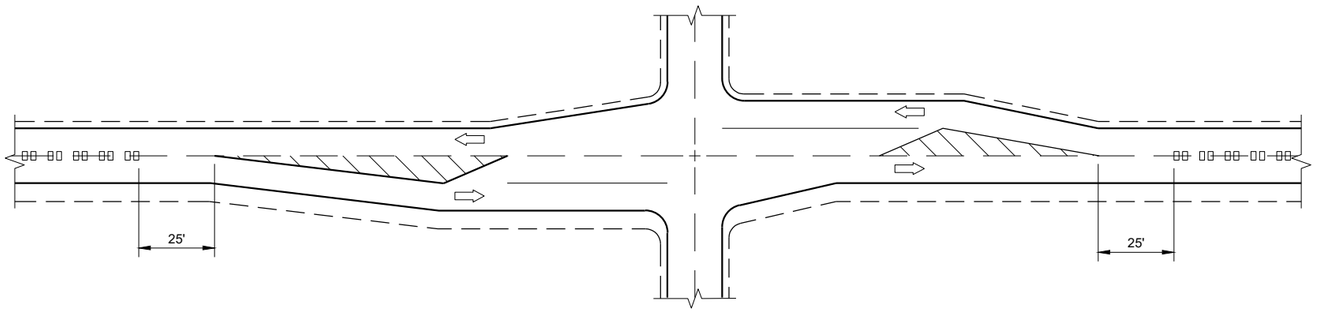
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

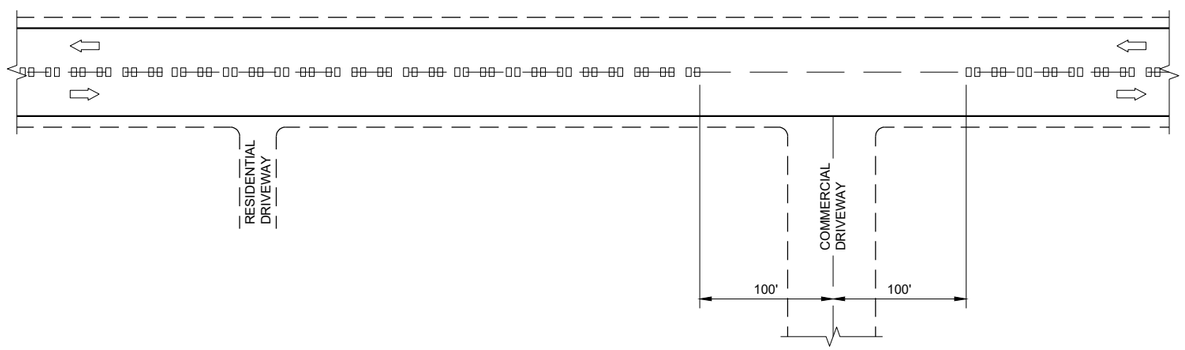
SDD 13A11 - 04a



CENTERLINE GROOVES AT INTERSECTIONS



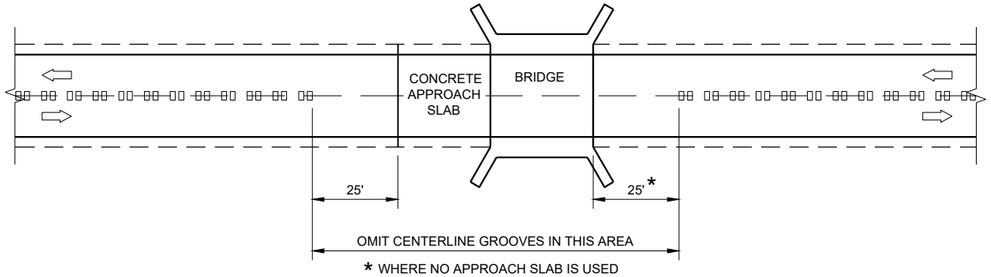
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



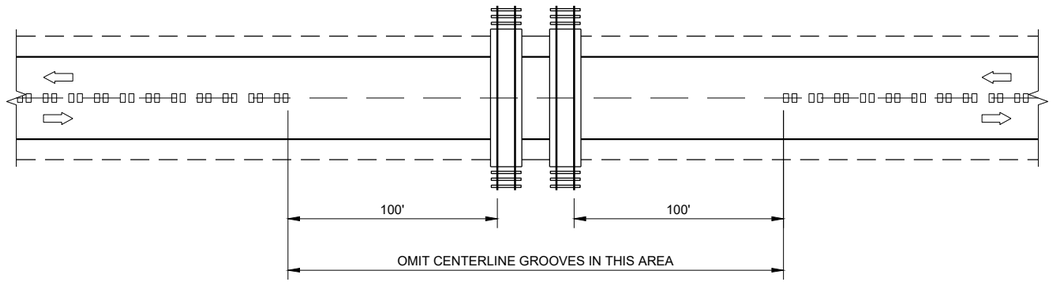
CENTERLINE GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD 13A11 - 04d

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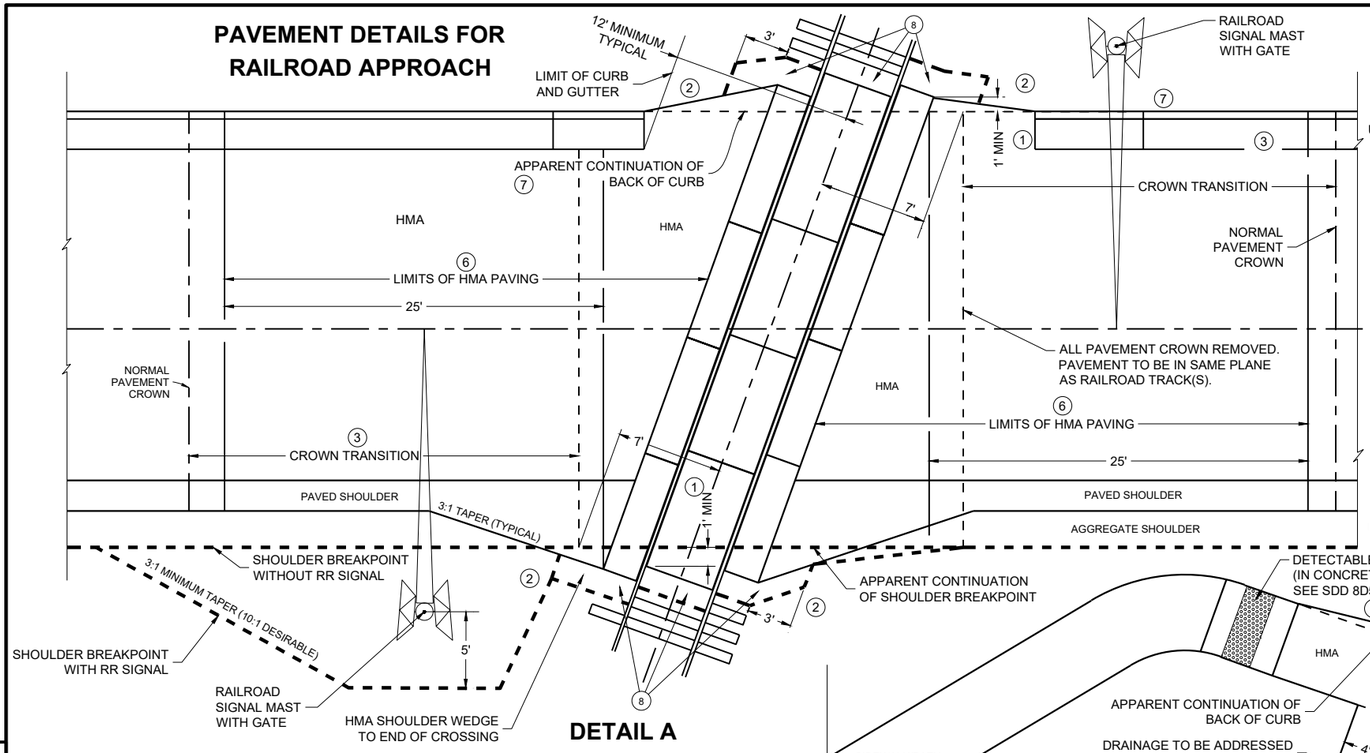
SDD 13A11 - 04d

PAVEMENT DETAILS FOR RAILROAD APPROACH



DETAIL A
RAILROAD APPROACH

GENERAL NOTES CONTINUED

(1) 1' MINIMUM CROSSING SURFACE COVERAGE PAST THE APPARENT CONTINUATION OF SHOULDER BREAKPOINT, BACK OF CURB, OR OUTSIDE EDGE OF SIDEWALK/PATH. INDIVIDUAL RAILROADS MAY HAVE DIFFERENT MINIMUM STANDARDS.

(2) HMA FLARE FROM OUTSIDE EDGE OF SIDEWALK/PATH, BACK OF CURB, OR AGGREGATE SHOULDER BREAKPOINT TO THE END OF CROSSING SURFACE MATERIAL.

(3) CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.

(4) NEAR EDGE OF PATH TO THE CENTER OF SIGNAL OR GATE MAST SHOULD BE A MINIMUM OF 5'-0". FOR SIDEWALK, THE NEAR EDGE SHOULD BE A MINIMUM OF 3'-0" TO THE CENTER OF SIGNAL OR GATE. NEAR EDGE OF SIDEWALK TO A NON-GATED MAST OR CANTILEVER SHOULD BE A MINIMUM OF 2'-6". SEE PLAN FOR RAILROAD SIGNAL AND GATE LOCATION IF THEY ARE NOT ALREADY INSTALLED.

(5) TERRACE WIDTH VARIES. SEE PLAN FOR RAILROAD SIGNAL AND GATE LOCATIONS. PER PLAN OR PROJECT ENGINEER THE TERRACE AND SIDEWALK/PATH GRADES SHALL BE TRANSITIONED TO MATCH THE GRADE OF THE TRACK. FIELD FIT TO AVOID PONDING.

(6) 25' MINIMUM HMA PAVING MEASURED PARALLEL TO THE ROAD OR 10' MINIMUM MEASURED PERPENDICULAR TO THE TRACK FROM THE EDGE OF THE CROSSING SURFACE, WHICHEVER IS GREATER.

(7) REFERENCE SDD 8-D-01 END SECTION CURB AND GUTTER. MEDIAN END NEAR THE TRACK SHOULD BE PARALLEL TO THE TRACK. 6'-0" TAPER FOR A MEDIAN SHOULD BE REDUCED TO GET FULL HEIGHT CURB WHERE THE GATE COMES DOWN. DESIGN OPTION TO POUR MEDIAN TAPER IN ONE PIECE. BUILD PER PLAN UNLESS OTHERWISE APPROVED BY THE RAILROAD ENGINEER AND THE PROJECT ENGINEER.

(8) IF METAL END PLATES ARE NOT INSTALLED BY THE RAILROAD THEN HMA PAVEMENT WEDGE SHALL BE PLACED AT THE END OF THE LAST PANEL TAPERED TO BACK EDGE OF NEXT TIE AND THOROUGHLY COMPACTED. SEE DETAIL G.

GENERAL NOTES

PLANS AND SECTIONS ARE TYPICAL. DIMENSIONS VARY PER PROJECT.

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

CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS DIRECTED OTHERWISE. IF THE FINAL GRADES DON'T MATCH TO THE PLAN GRADES THEN GRADE ADJUSTMENTS WILL BE NECESSARY. CONFIRM NEW GRADES WITH PROJECT ENGINEER.

HMA PAVEMENT APPROACHES, HMA PAVEMENT CROSSING SURFACES, AND HMA FLANGEWAY/FIELD FILLERS TO BE REPLACED BY ROADWAY CONTRACTOR UNLESS DIRECTED OTHERWISE BY THE PLANS, SPECIAL PROVISIONS, RAILROAD ENGINEER, OR PROJECT ENGINEER.

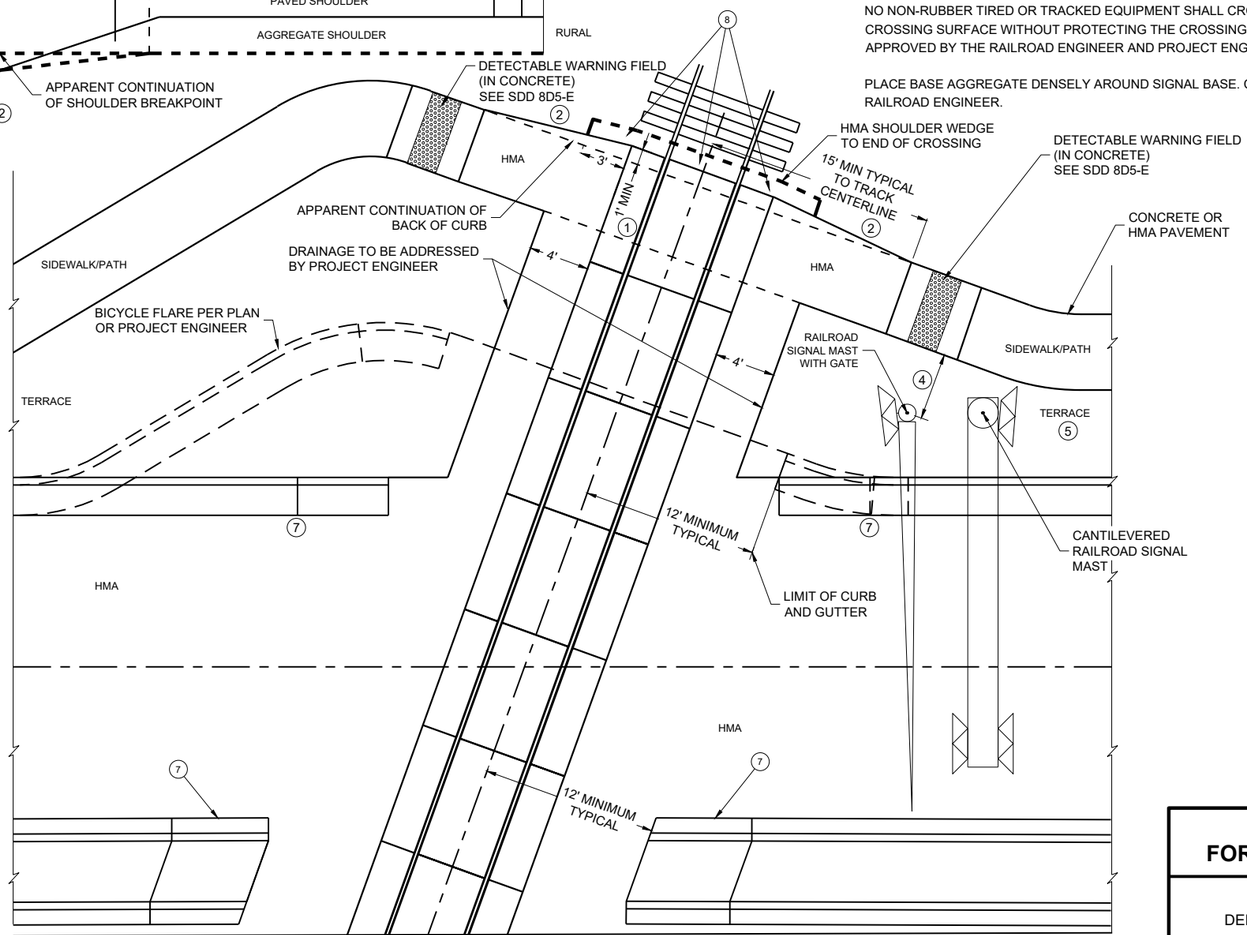
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

WHEN THERE IS A SIDEWALK OR SHARED-USE PATH, ADD DETECTABLE WARNING FIELDS PER CURRENT STANDARD DETAIL DRAWING 8D5-E.

THE CROSSING SHALL NOT BE OPENED TO ANY TYPE OF TRAFFIC UNTIL IT IS FULLY PAVED AND COOLED SUFFICIENTLY UNLESS OTHERWISE APPROVED BY THE RAILROAD ENGINEER AND THE PROJECT ENGINEER.

NO NON-RUBBER TIRED OR TRACKED EQUIPMENT SHALL CROSS OR SIT ON THE CROSSING SURFACE WITHOUT PROTECTING THE CROSSING SURFACE WITH A METHOD APPROVED BY THE RAILROAD ENGINEER AND PROJECT ENGINEER.

PLACE BASE AGGREGATE Ddensely AROUND SIGNAL BASE. COORDINATE WITH THE RAILROAD ENGINEER.



DETAIL B
MEDIAN AND SIDEWALK/SHARED-USE PATH APPROACH

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

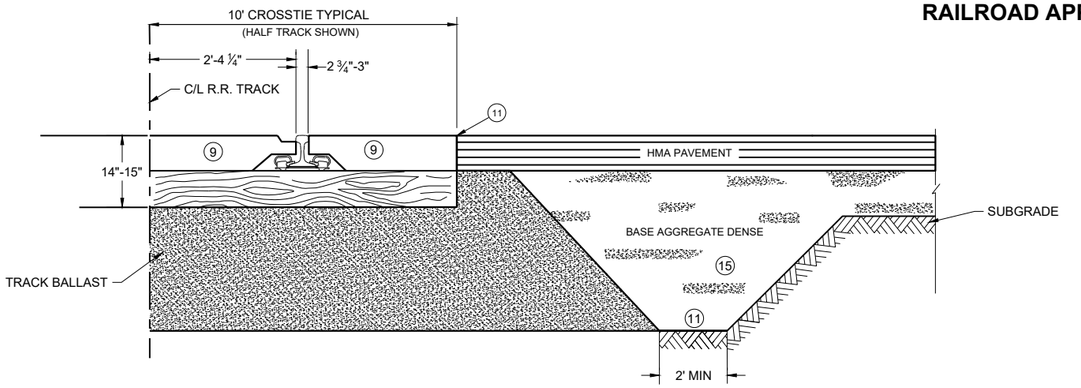
/S/ Kristen Sommers
STATE RAILROAD ENGINEERING AND SAFETY SUPERVISOR

FHWA

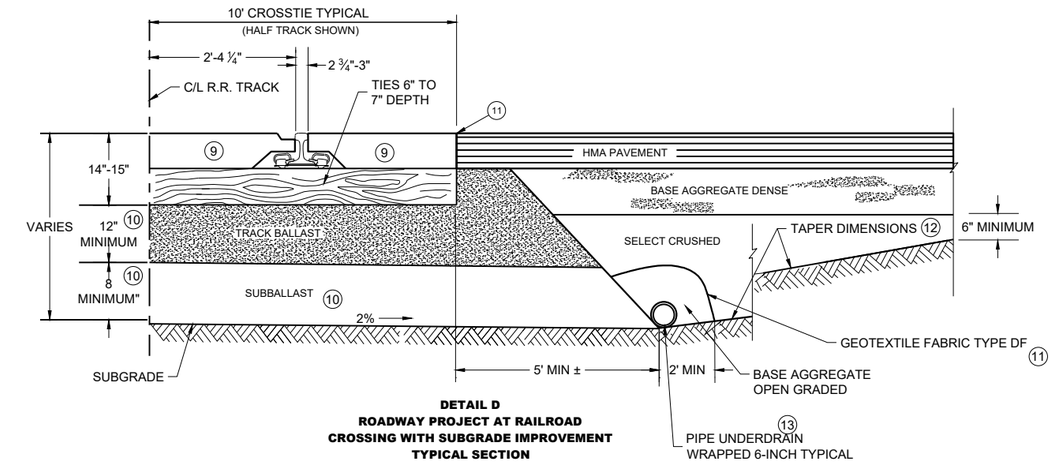
6

SDD 13B01-11a

TYPICAL SECTIONS FOR RAILROAD APPROACH



DETAIL C
ROADWAY PROJECT AT RAILROAD
CROSSING WITHOUT SUBGRADE IMPROVEMENT
TYPICAL SECTION



DETAIL D
ROADWAY PROJECT AT RAILROAD
CROSSING WITH SUBGRADE IMPROVEMENT
TYPICAL SECTION

GENERAL NOTES

(8) IF METAL END PLATES ARE NOT INSTALLED BY THE RAILROAD THEN HMA PAVEMENT WEDGE SHALL BE PLACED AT THE END OF THE LAST PANEL TAPERED TO BACK EDGE OF NEXT TIE AND THOROUGHLY COMPACTED. SEE DETAIL A AND B.

(9) MATCH THE CROSSING TYPE THAT IS INSTALLED UNLESS OTHERWISE DIRECTED BY PROJECT ENGINEER.

(10) TRACK BALLAST AND SUBBALLAST REQUIRED 12" AND 8" MINIMUM DEPTHS RESPECTIVELY. DIMENSION FROM BOTTOM OF TRACK TIE TO HIGH SIDE OF 2% SLOPE. THE 2% SLOPE IS REQUIRED ON RAILROAD SUBBALLAST. SEE PLAN FOR CROWN, MATERIAL THICKNESS, AND SLOPE DIRECTION. SUBBALLAST CAN BE HMA, 1 1/2" BASE AGGREGATE DENSE, SELECT CRUSHED, OR A COMBINATION OF THEM.

(11) GEOTEXTILE FABRIC TYPE SAS PLACED IN ORDER TO PROVIDE STABILIZATION AND SEPARATION ON TOP OF THE TRACK BALLAST WHERE IT IS UNDER HMA PAVEMENT, BASE AGGREGATE DENSE OR SELECT CRUSHED MATERIAL AND THE FIELD SIDE BALLAST CRIBS. GEOTEXTILE FABRIC TYPE DF PLACED IN ORDER TO PROVIDE STABILIZATION AND SEPARATION UNDER AND AROUND THE PIPE UNDERDRAIN. PLACING GEOTEXTILE FABRIC OR GEOGRID UNDER THE SUBBALLAST IS OPTIONAL.

(12) TAPER DIMENSIONS PROVIDED BY PLAN OR BY PROJECT ENGINEER.

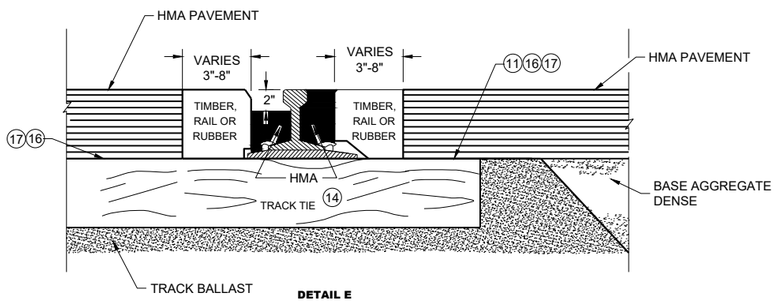
(13) IF SHOWN ON THE PLAN, TYPICAL 6-INCH PERFORATED PVC SCHEDULE 80 PIPE UNDERDRAIN TO BE PLACED ALONG THE TOE OF SLOPE, GRADED TO DRAIN AND DAYLIGHT OR INTO STORM SEWER. BASE AGGREGATE OPEN GRADED OVER PIPE UNDERDRAIN AND THEN WRAPPED IN GEOTEXTILE FABRIC TYPE DF SCHEDULE A IN ORDER TO STABILIZE AND SEPARATE FROM SELECT CRUSHED.

(14) HMA FLANGEWAY AND FIELD FILLERS ARE TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR, WHEN NOT PROVIDED BY OTHERS AS PART OF THE CROSSING SURFACE MATERIAL. IF THE CROSSING SURFACE IS NOT BEING REPLACED, THEN REMOVE AND REPLACE THE HMA FLANGEWAY AND FIELD FILLERS AS DIRECTED BY THE RAILROAD OR PROJECT ENGINEER.

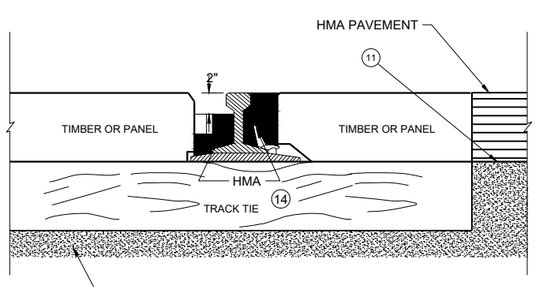
(15) GRADE TO MATCH EXISTING OR PROPOSED TYPICAL SECTION OF ROADWAY. SEE PLAN OR PROJECT ENGINEER FOR MORE DETAIL. IF NOT NOTED OTHERWISE IN THE PLAN, BACKFILL ANY REMOVED BASE AND SUBGRADE WITH BASE AGGREGATE DENSE.

(16) IF THE CROSSING IS NOT BEING REPLACED, REMOVE AND REPLACE HMA AS DIRECTED BY RAILROAD AND PROJECT ENGINEER. CARE MUST BE TAKEN TO NOT DAMAGE CROSSING PANELS, TIES, RAIL, PLATES AND SPIKES.

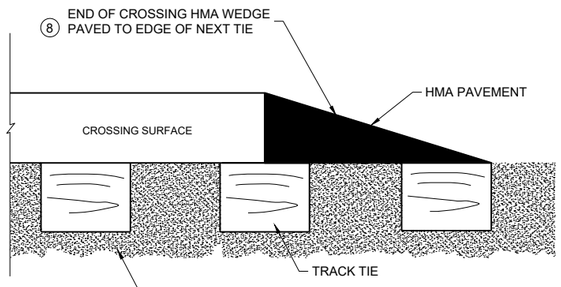
(17) PLACE HMA FULL DEPTH. AGGREGATE IS NOT TO BE PLACED BETWEEN THE RAILROAD TIES AND THE HMA PAVEMENT.



DETAIL E
TIMBER, RAIL OR RUBBER SECTION
HMA FLANGEWAY AND FIELD FILLERS



DETAIL F
PANEL SECTION
HMA FLANGEWAY AND FIELD FILLERS



DETAIL G
END OF CROSSING HMA WEDGE

TYPICAL SECTIONS FOR RAILWAY APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Kristen Sommers
STATE RAILROAD ENGINEERING AND SAFETY SUPERVISOR

FHWA

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SDD 13B01-11b

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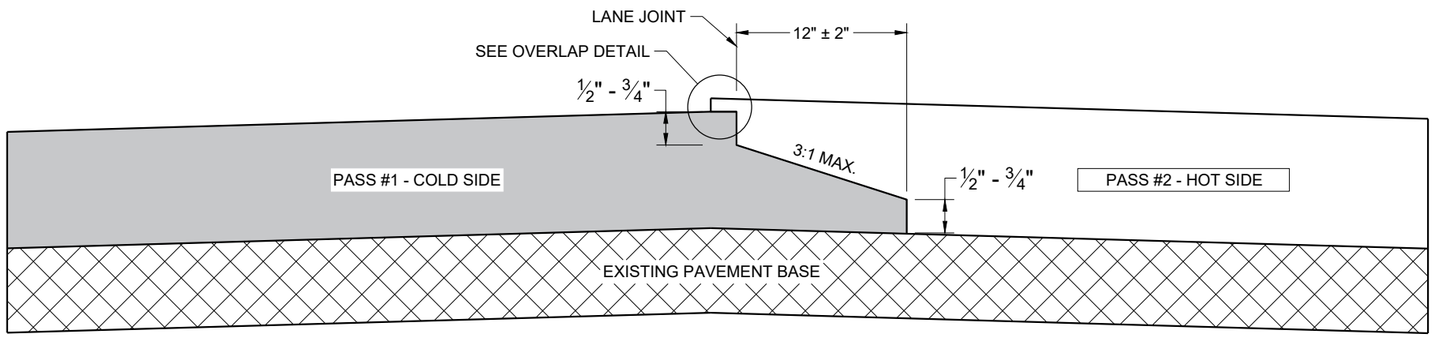
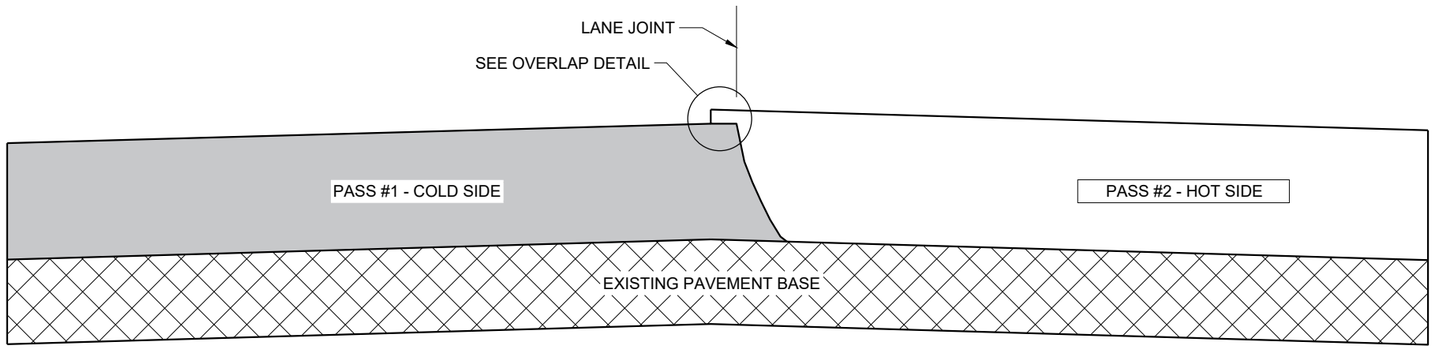
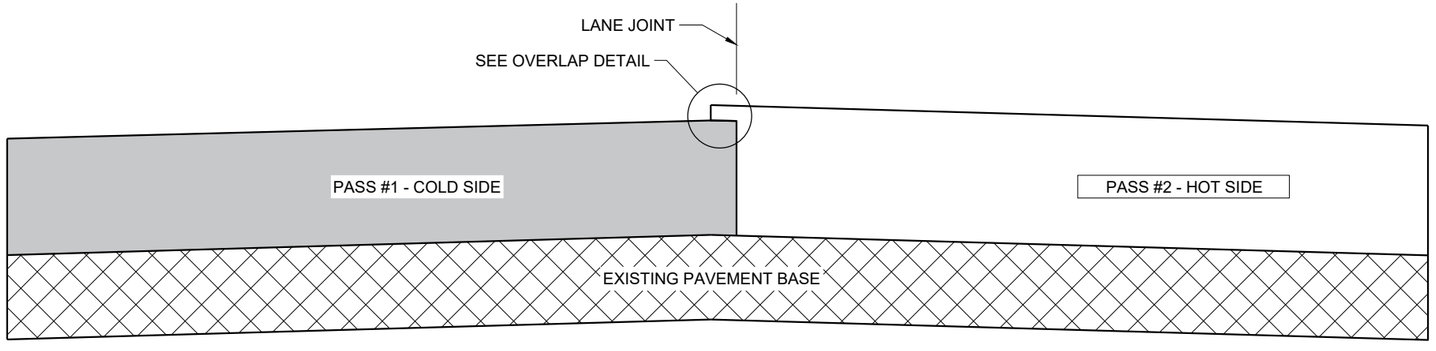
SDD 13B01-11b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

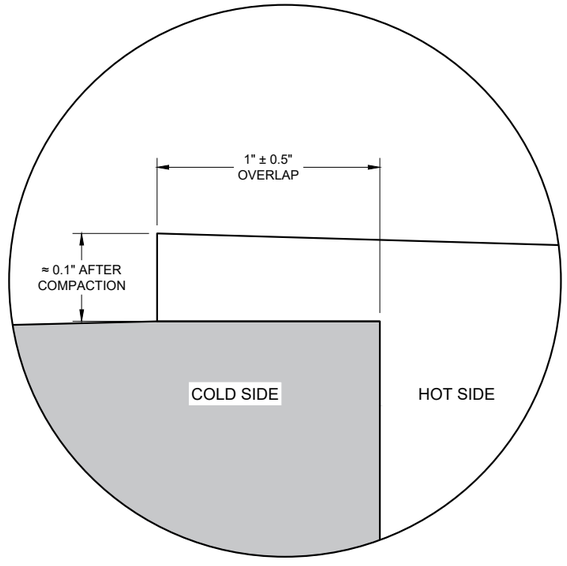
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

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SDD 13C19 - 03

SDD 13C19 - 03

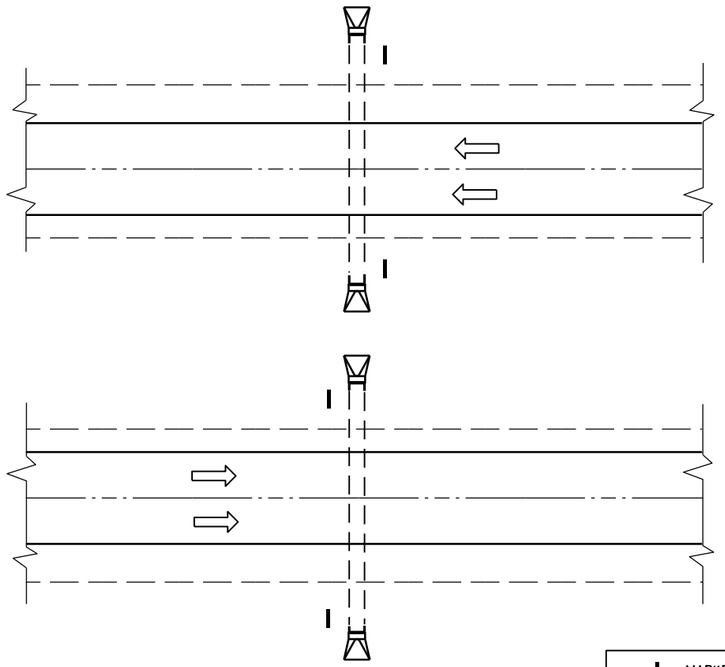
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

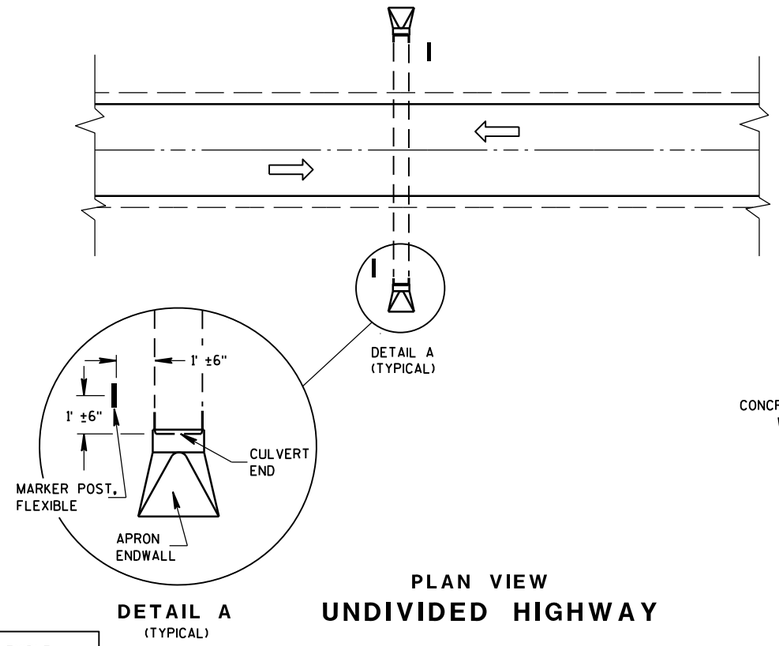
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

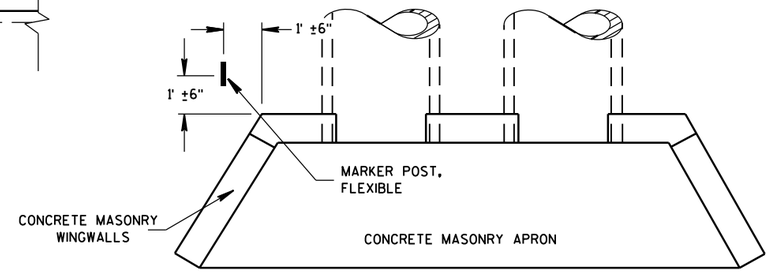
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

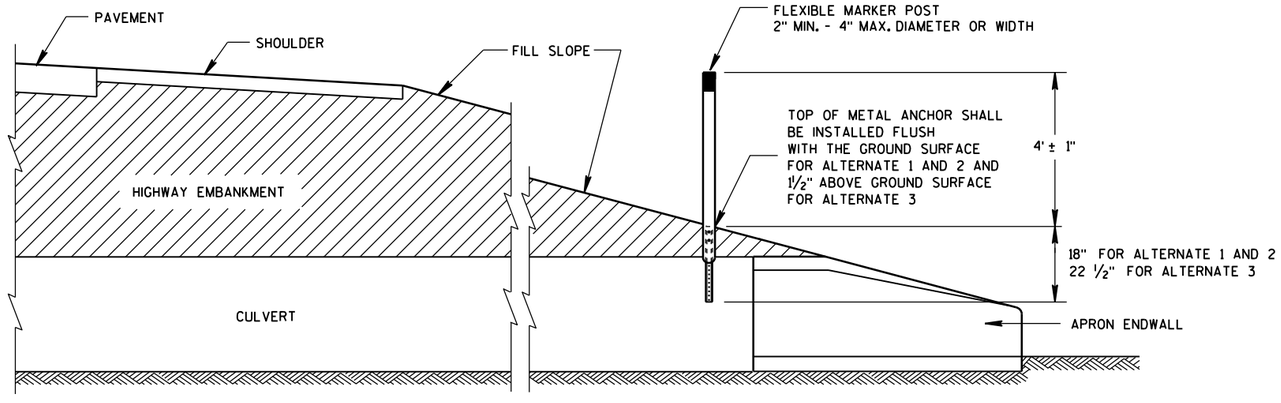
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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 TRANSPOR

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

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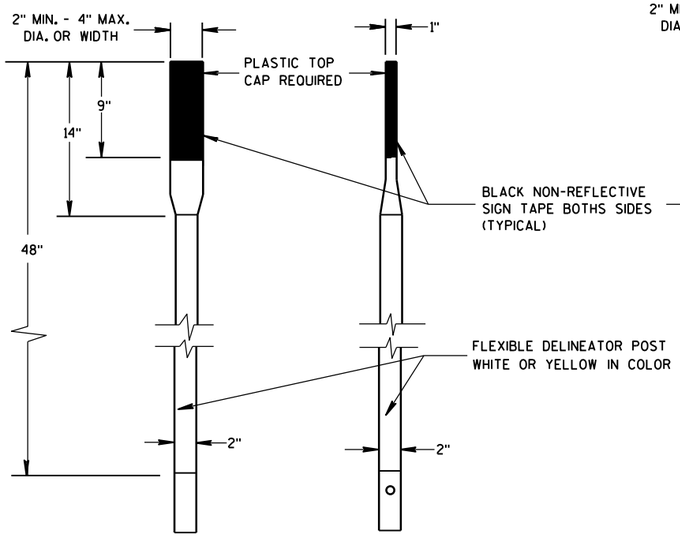
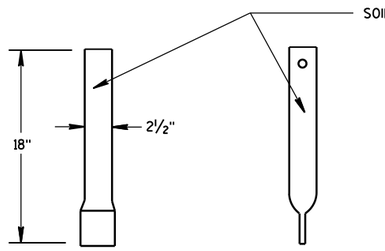
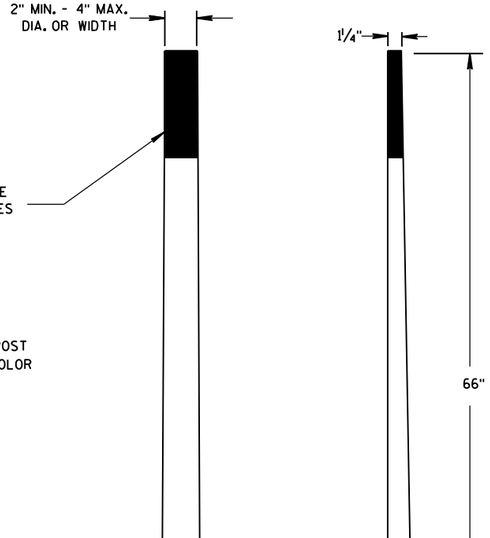
S.D.D. 15 A 3-2a





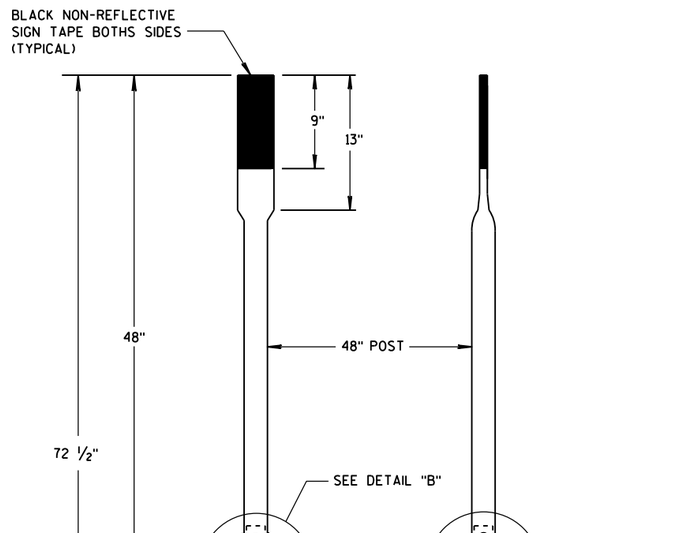
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

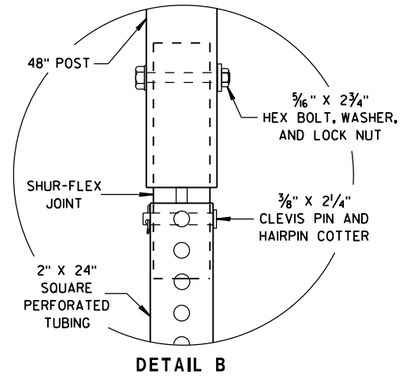
ALTERNATE 2



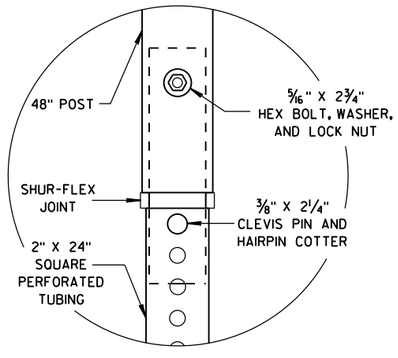
FRONT VIEW SIDE VIEW

ALTERNATE 3

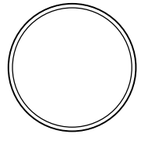
FLEXIBLE MARKER POSTS



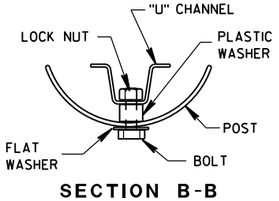
DETAIL B



DETAIL C



SECTION A-A



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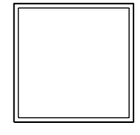

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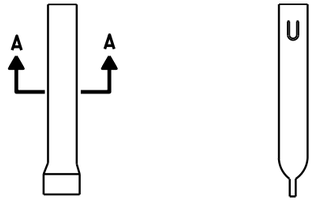
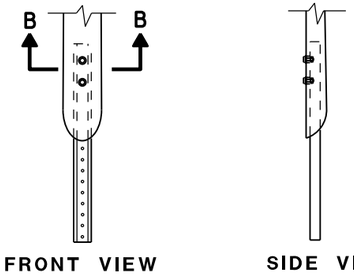


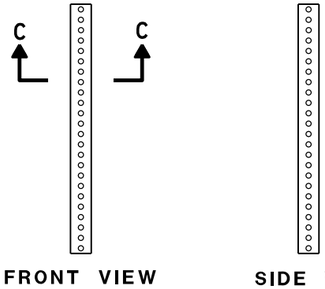
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

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

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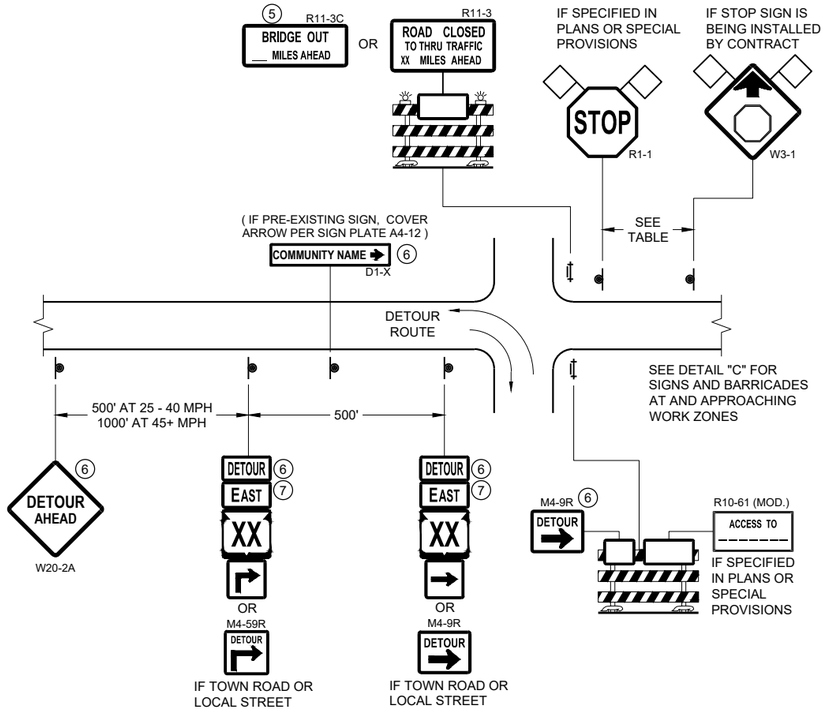
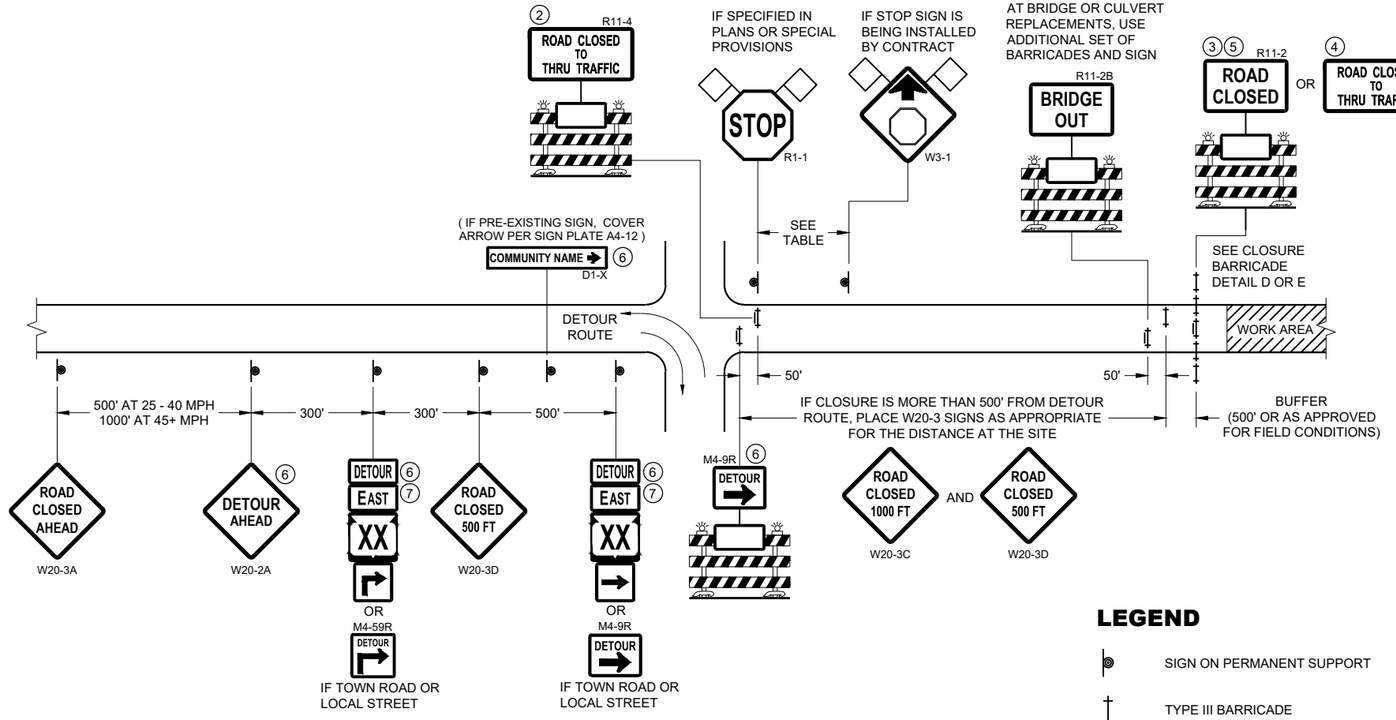
S.D.D. 15 A 3-2b



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

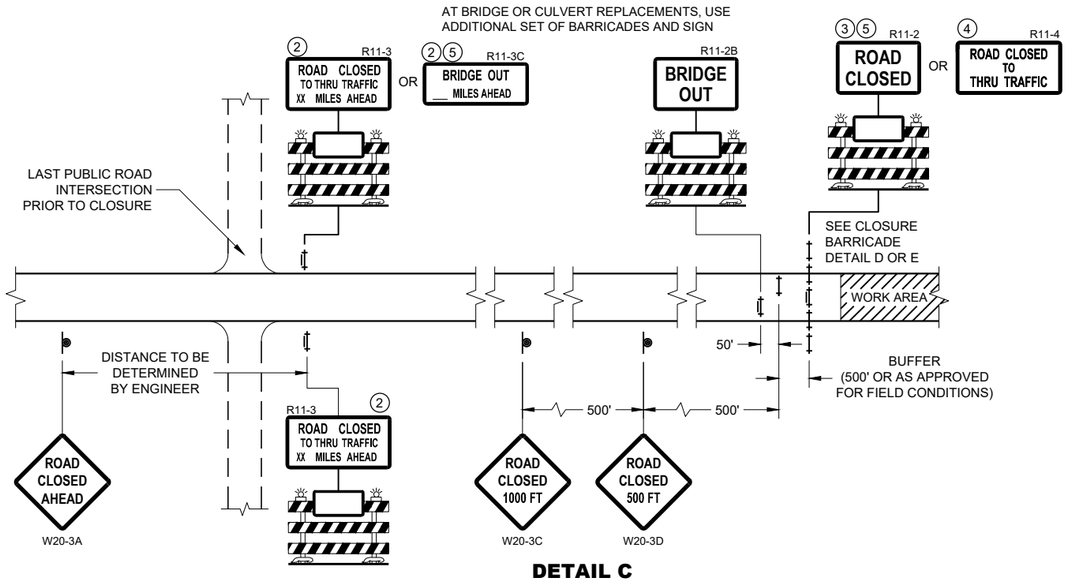


DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

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

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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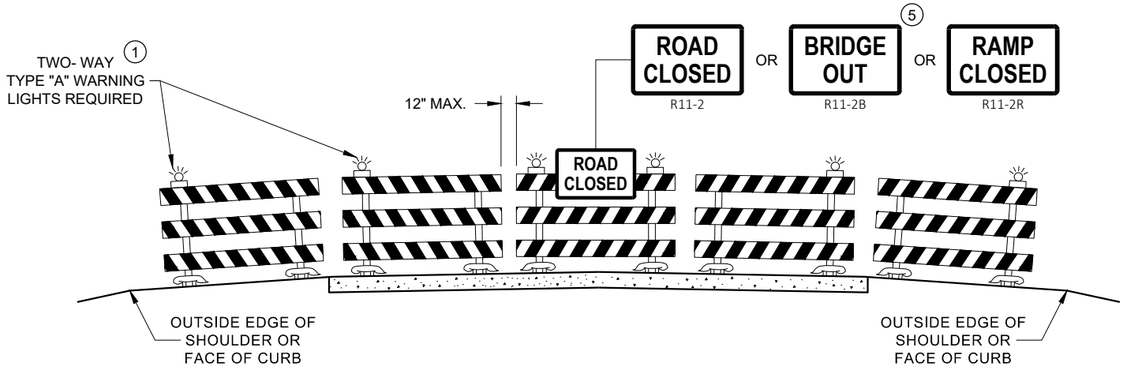
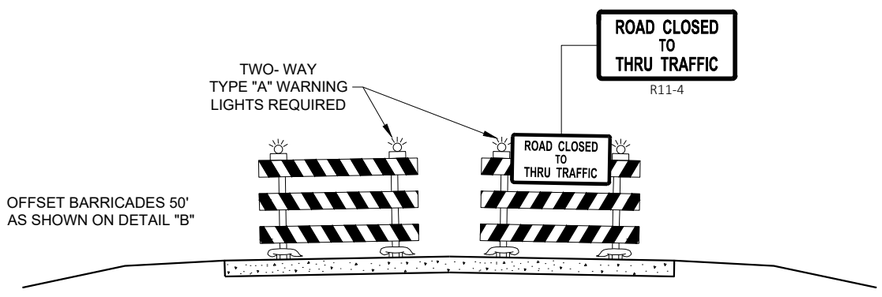
SDD 15C02 - 09a

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

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SDD 15C02 - 09b

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SDD 15C02 - 09b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4; XX — M1 - 6; COUNTY X — M1 - 5A
- M05 - 1; M06 - 1; M06 - 1

GENERAL NOTES

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

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

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

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

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

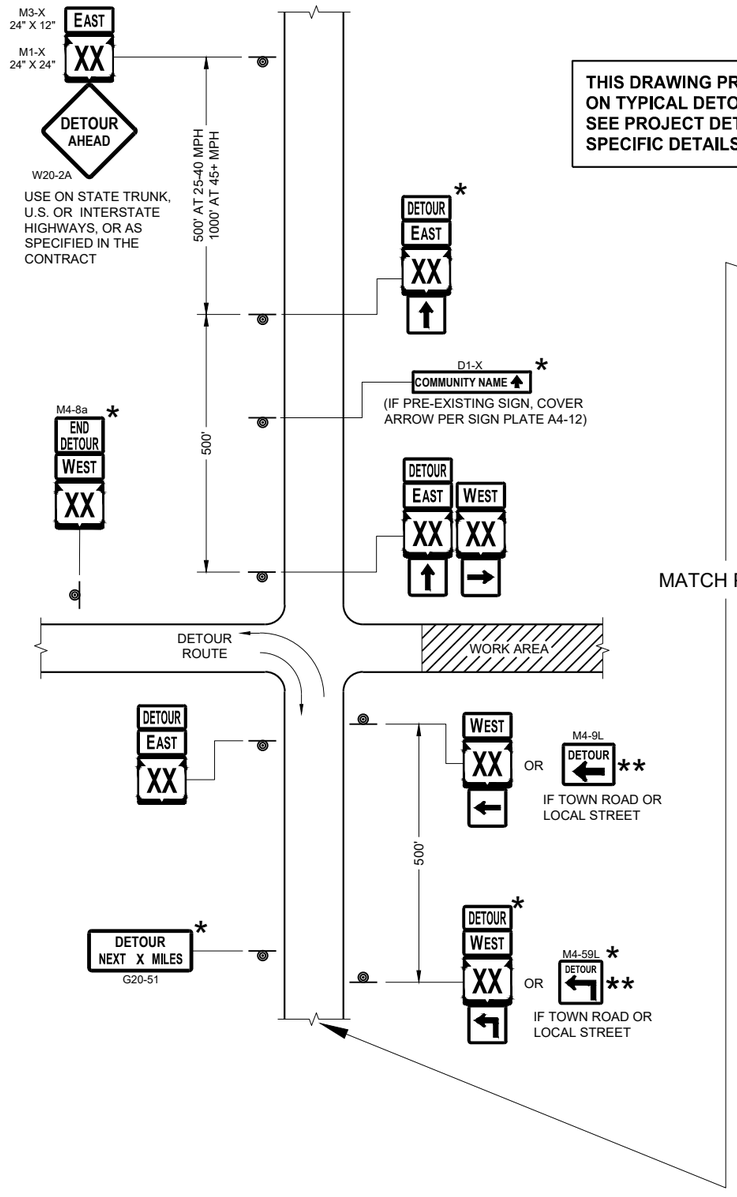
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

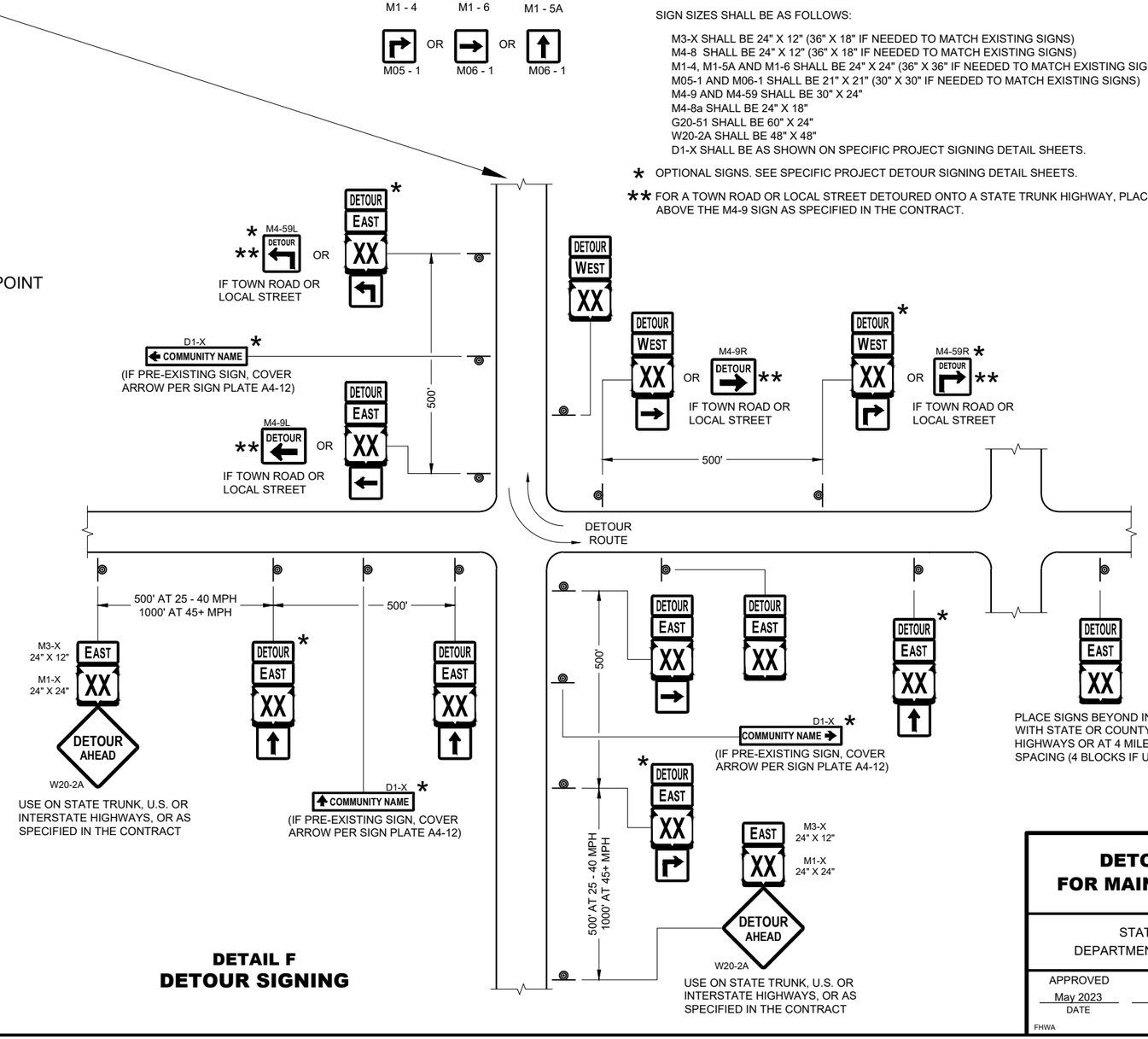
SIGN SIZES SHALL BE AS FOLLOWS:

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

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

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





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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

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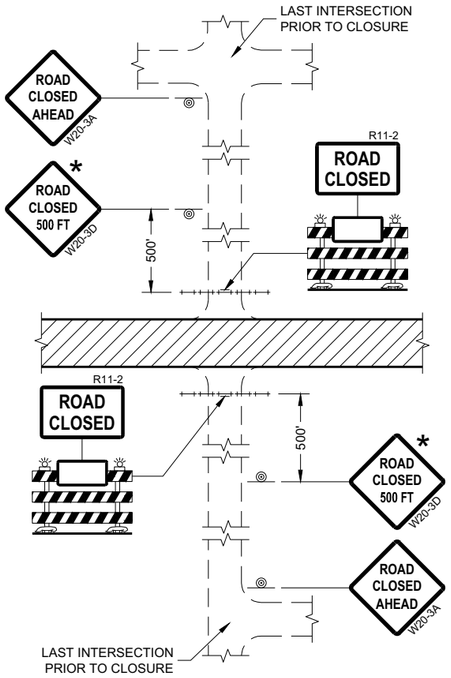
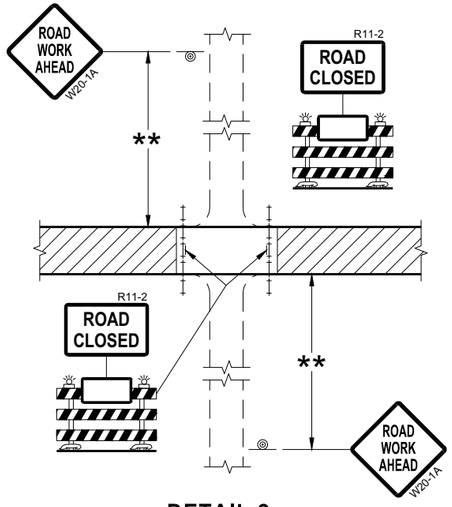
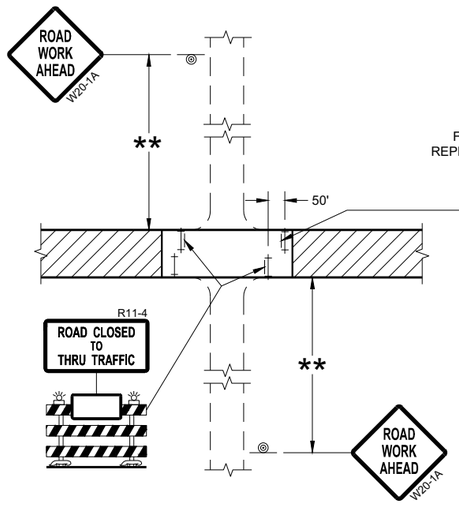
SDD 15C02 - 09c



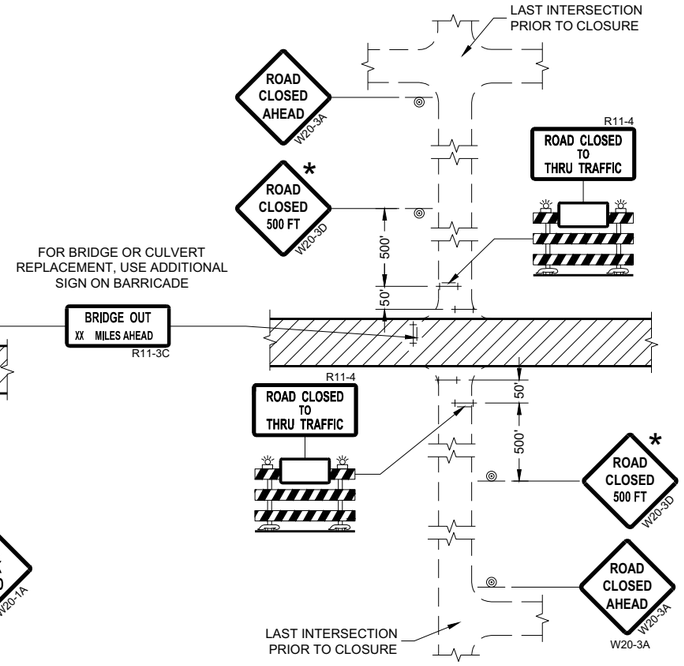
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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

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

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

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

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C03 - 05

GENERAL NOTES

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

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

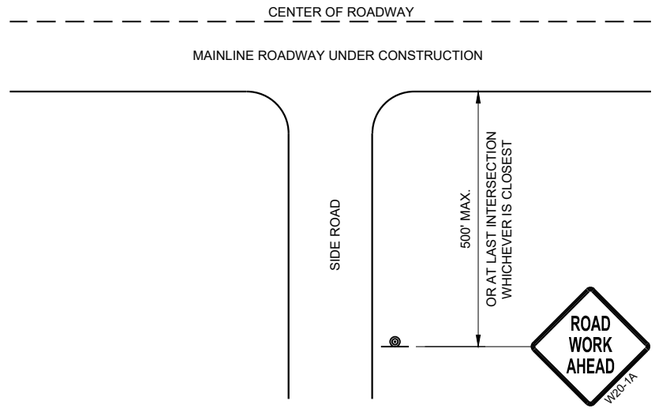
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

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



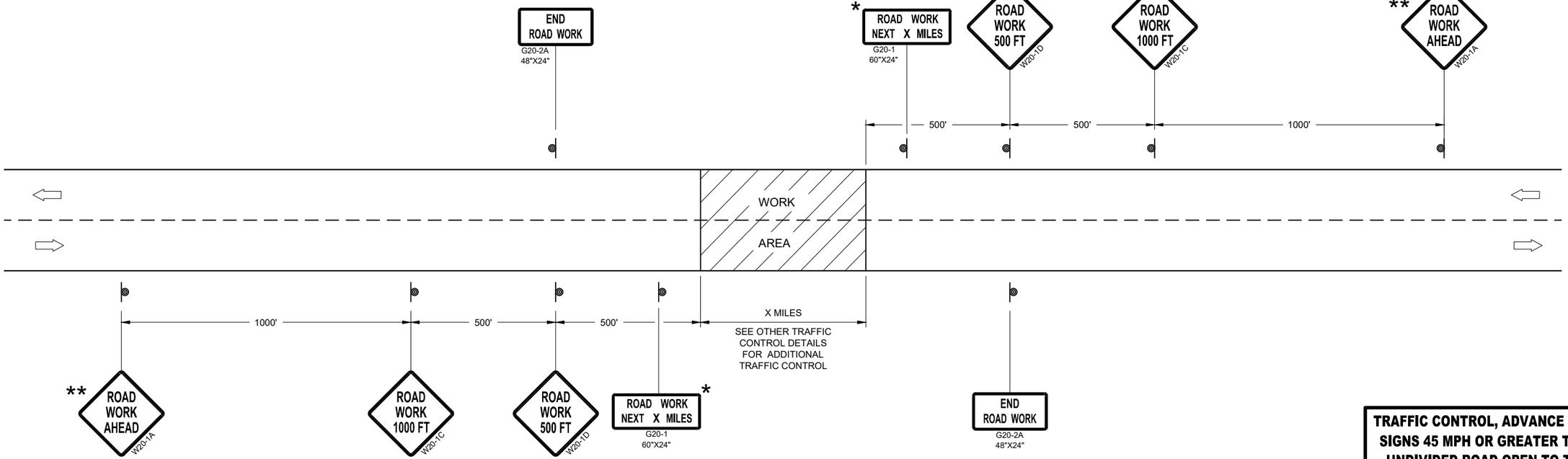
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C04 - 05

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

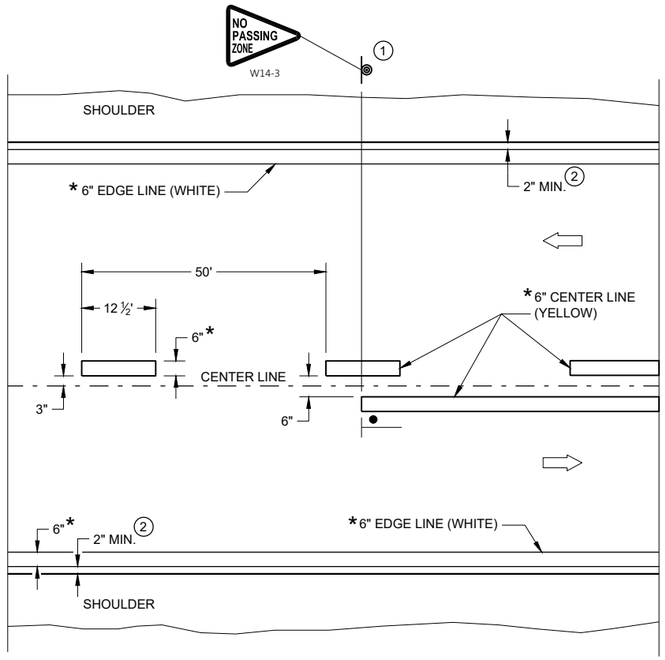
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

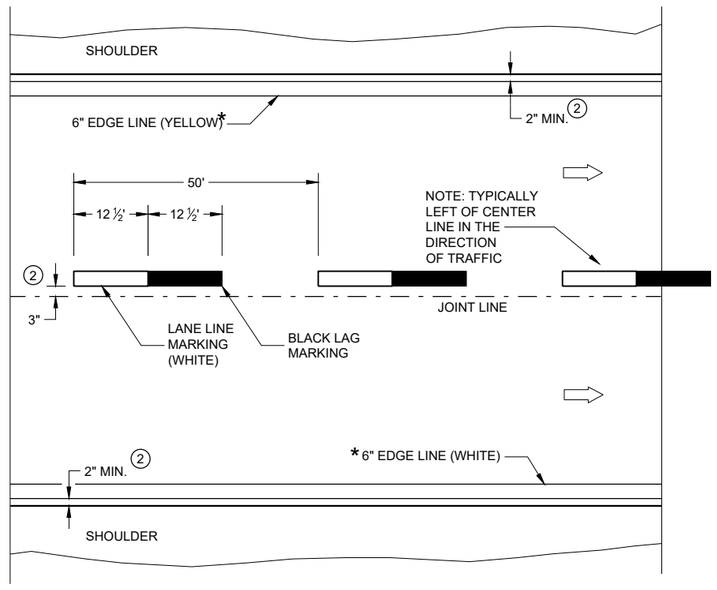
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ Jeannie Silver
STATEWIDE SIGNING AND M ENGINEER

FHWA

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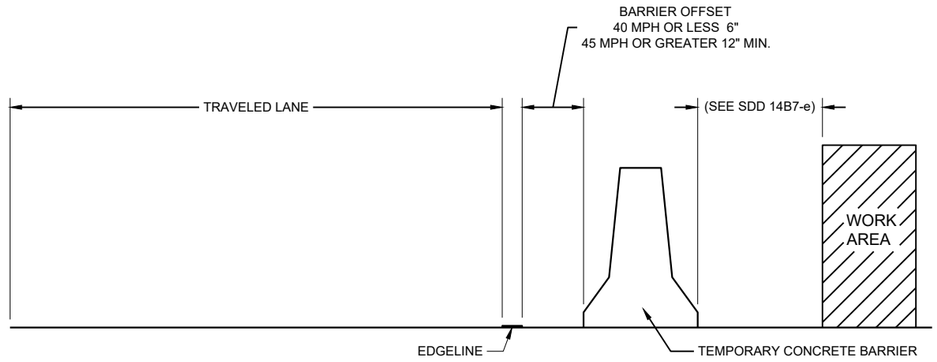
SDD 15C08-23a



TEMPORARY BARRIER OFFSET FROM EDGELINE

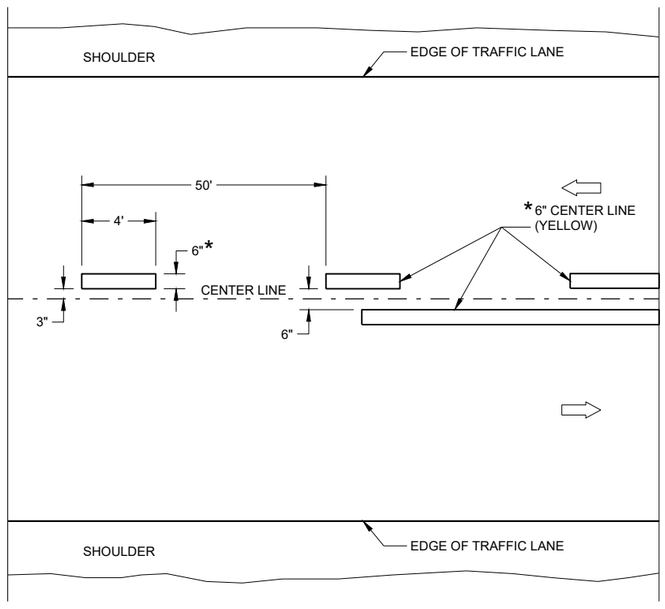
GENERAL NOTES

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

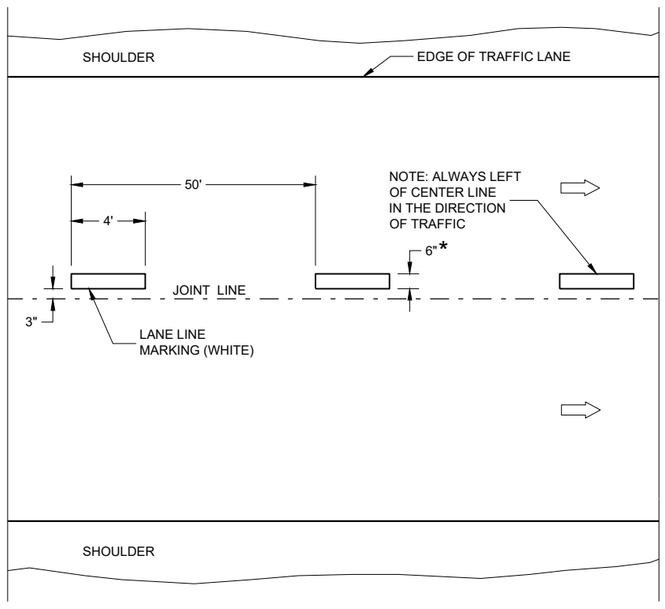
LEGEND

⇨ DIRECTION OF TRAFFIC

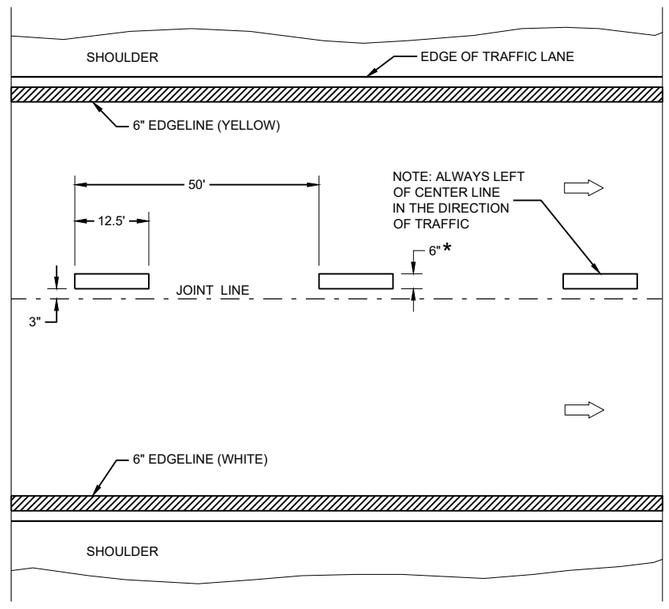
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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SDD 15C08-23b

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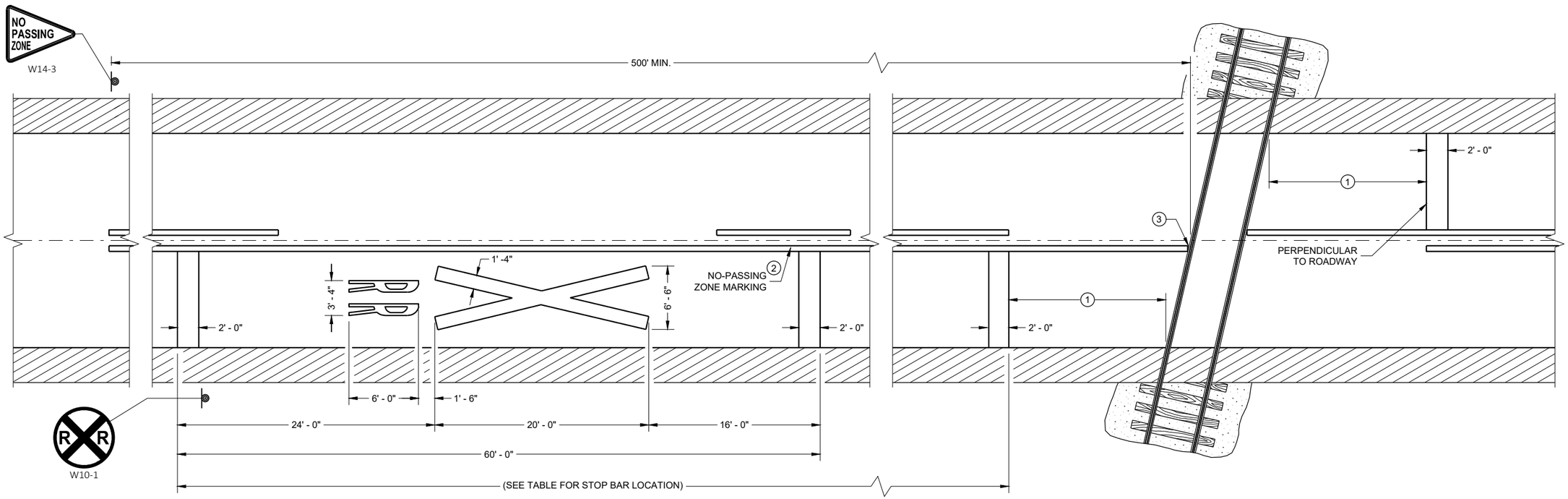
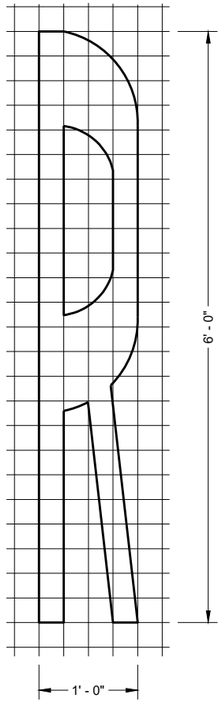
SDD 15C08-23b



PAVEMENT MARKING



LEGEND

SIGN ON PERMANENT SUPPORT

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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

TRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

(1) PLACE STOP BAR APPROXIMATELY 8 FEET IN ADVANCE OF THE GATE (IF PRESENT), BUT NO CLOSER THAN 15 FEET IN ADVANCE OF THE NEAREST RAIL. FIELD-FIT STOP BAR TO MAXIMIZE VIEW OF APPROACHING TRAIN.

(2) 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.

(3) FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

DISTANCE TABLE

TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

POSTED SPEED (M.P.H.)	DIMENSION RANGE (FEET)
25	150* - 250'
30	200* - 300'
35	250* - 450'
40	300* - 500'
45	400* - 650'
50	550* - 800'
55	750* - 1000'
60	1000* - 1250'
65	1000* - 1250'

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSED PROXIMITY OF DRIVEWAYS, BRIDGES, SIDE ROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.

SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD - HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR ENGINEER

FHWA

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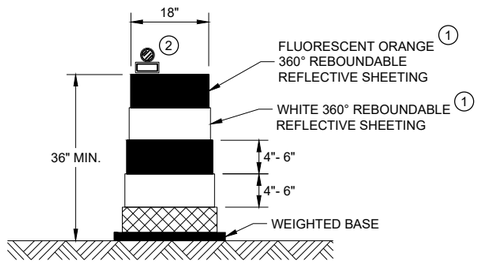
SDD 15C09-13a

SDD 15C09-13a

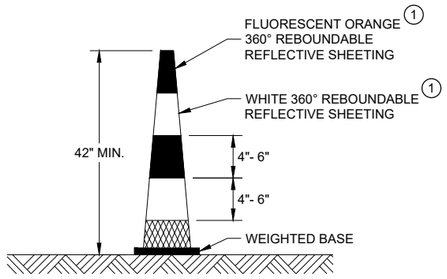
GENERAL NOTES

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



DRUM

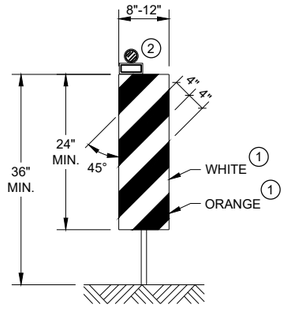
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

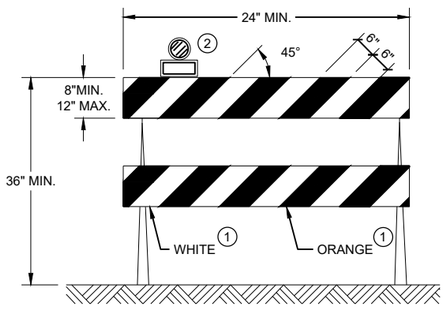
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



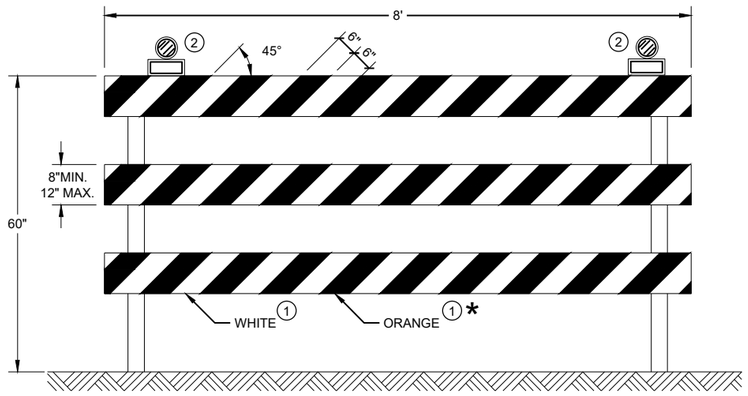
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C11 - 10b

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SDD 15C11 - 10b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

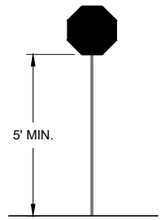
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



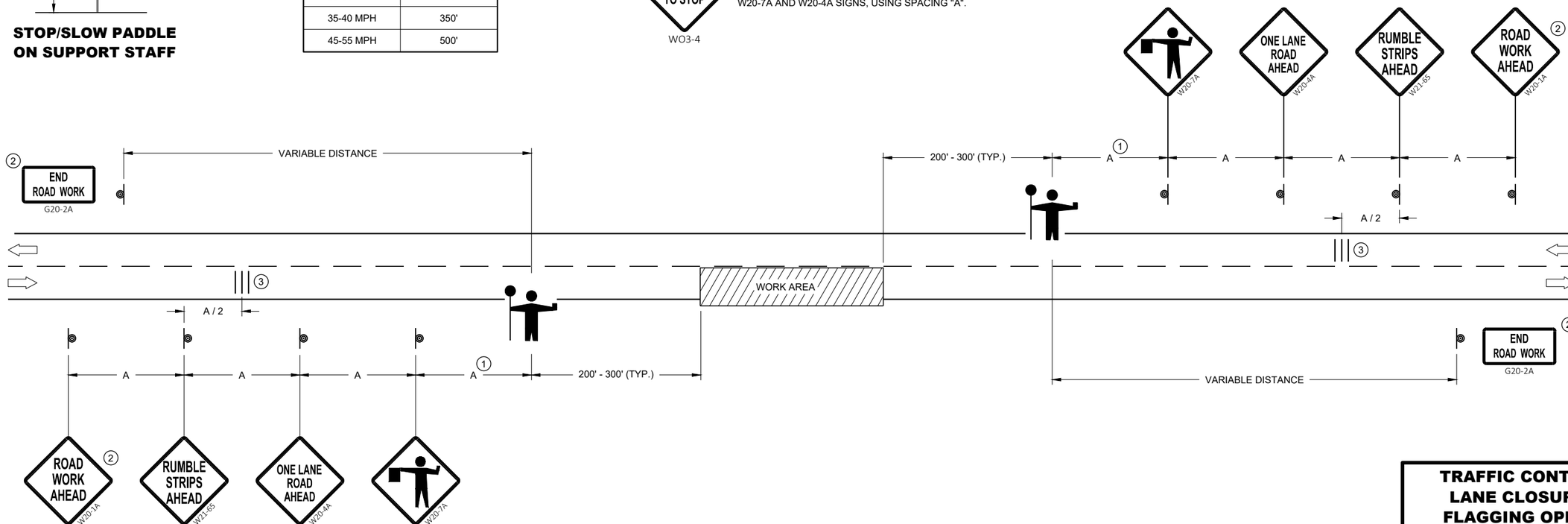
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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SDD 15C12 - 09a

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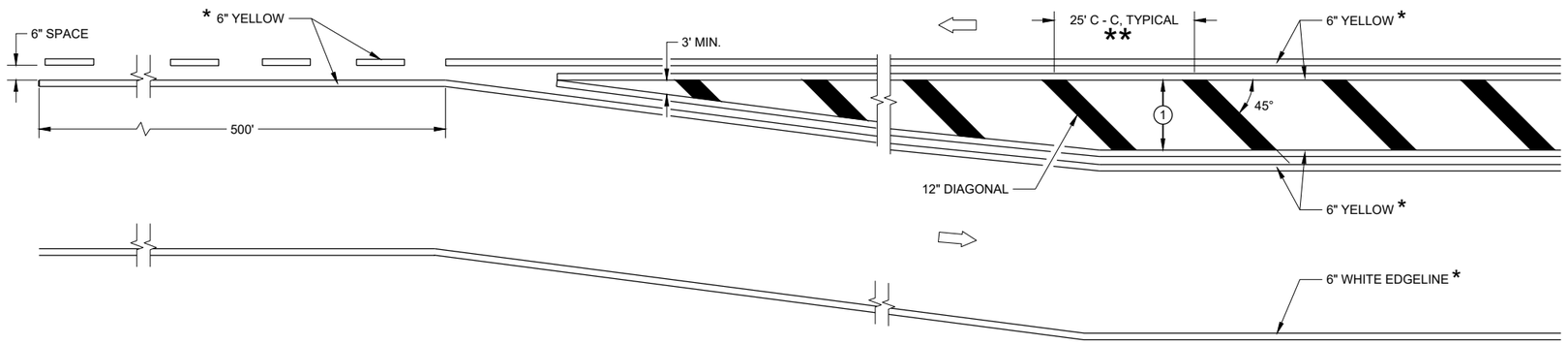
SDD 15C12 - 09a



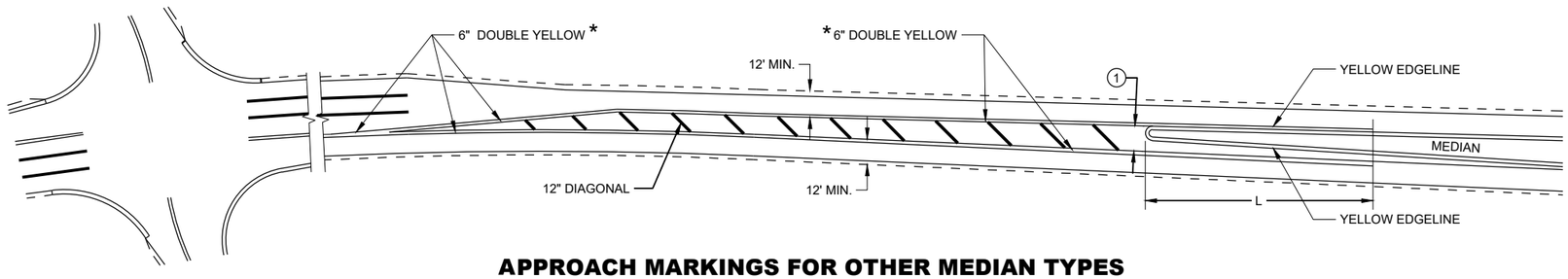
MEDIAN ISLAND DETAIL

GENERAL NOTES

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

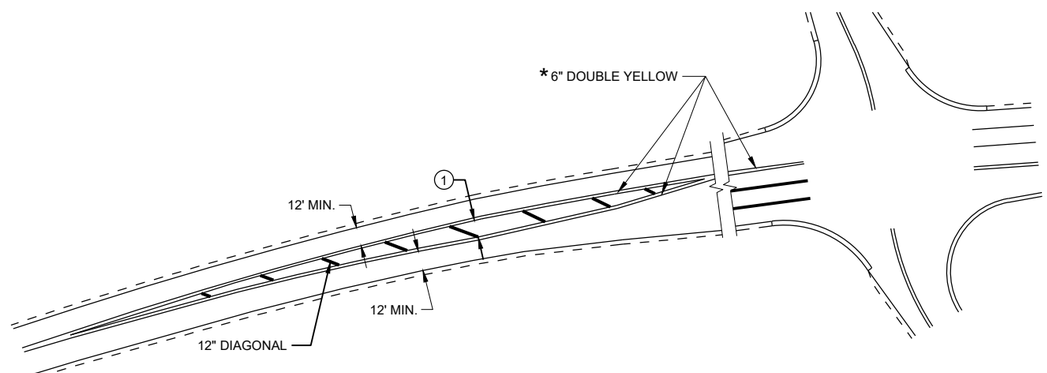
⇨ DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



APPROACH MARKINGS FOR OTHER MEDIAN TYPES

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



NON-APPROACH MARKINGS

MEDIAN ISLAND PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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SDD 15C18-08a

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SDD 15C18-08a

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

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.

ALL 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.

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 AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

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

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

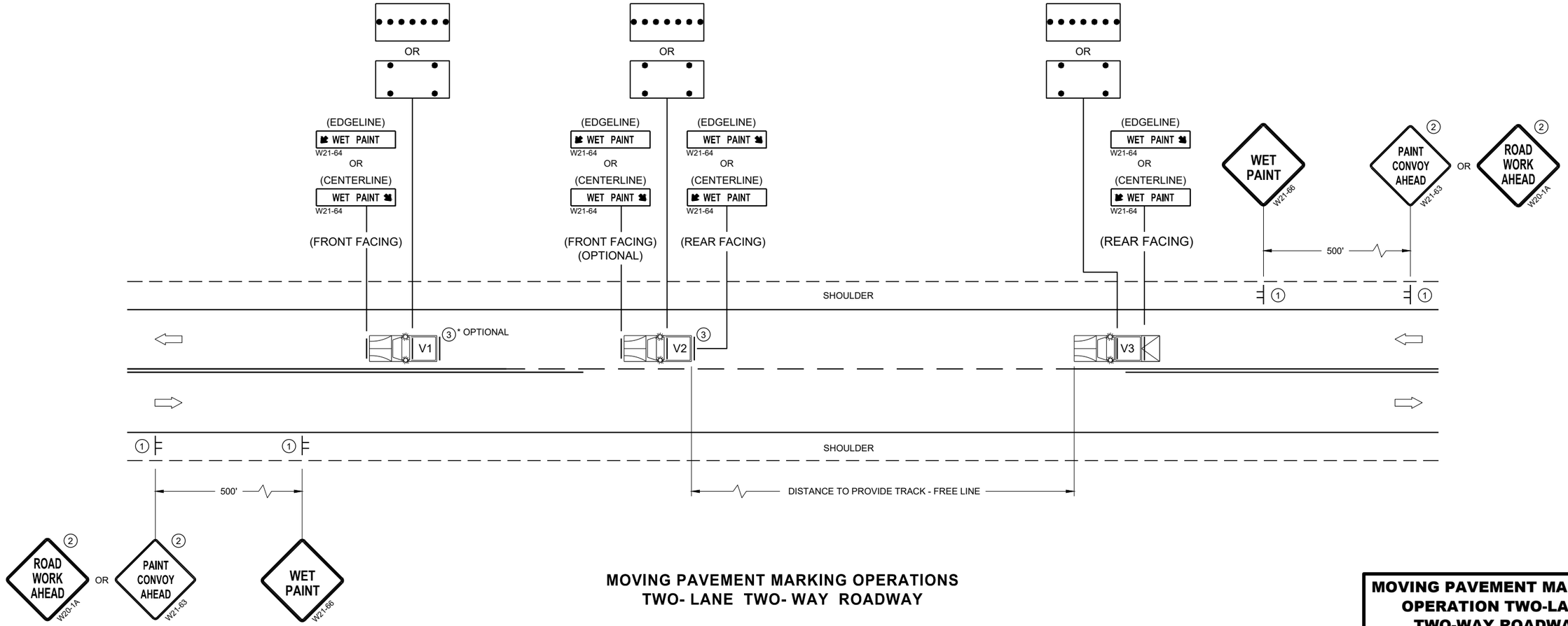
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

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

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

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS
TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023
DATE

/S/ Andrew I
WORK ZONE EN

FHWA

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SDD 15C19-08a

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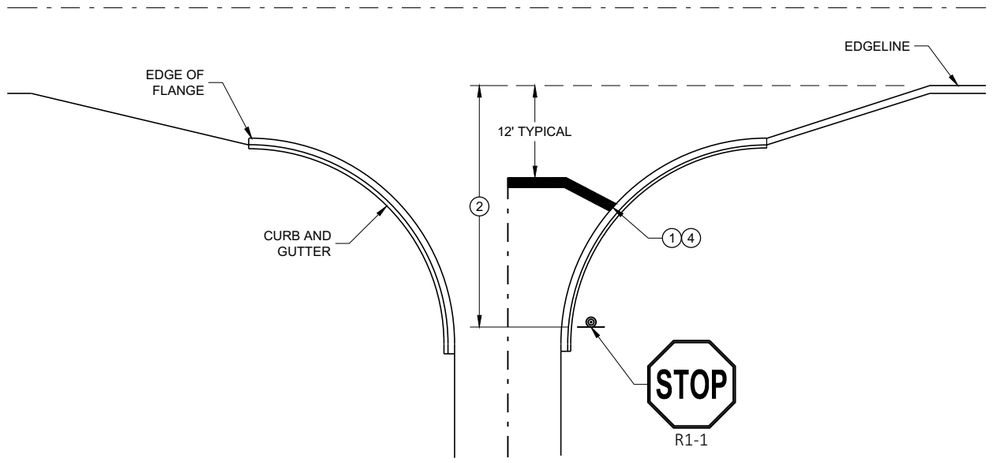
SDD 15C19-08a

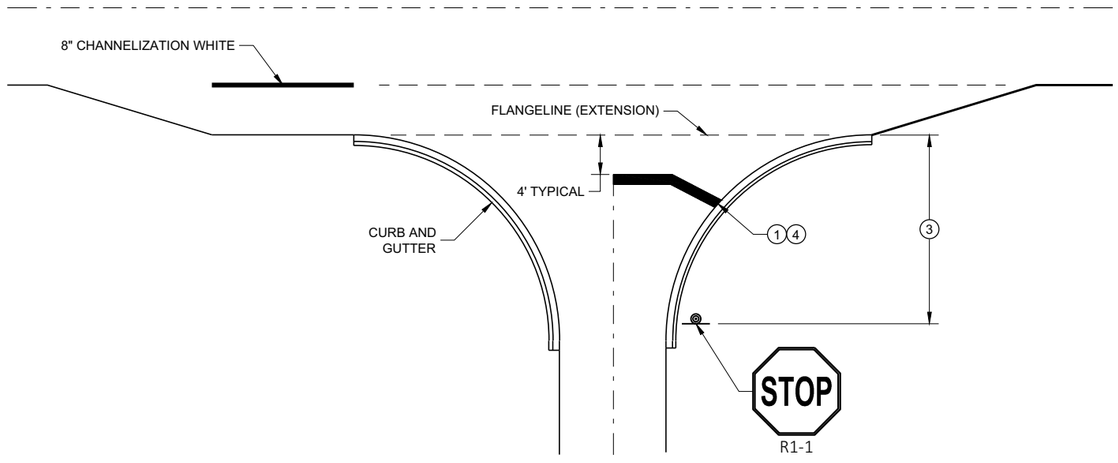
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

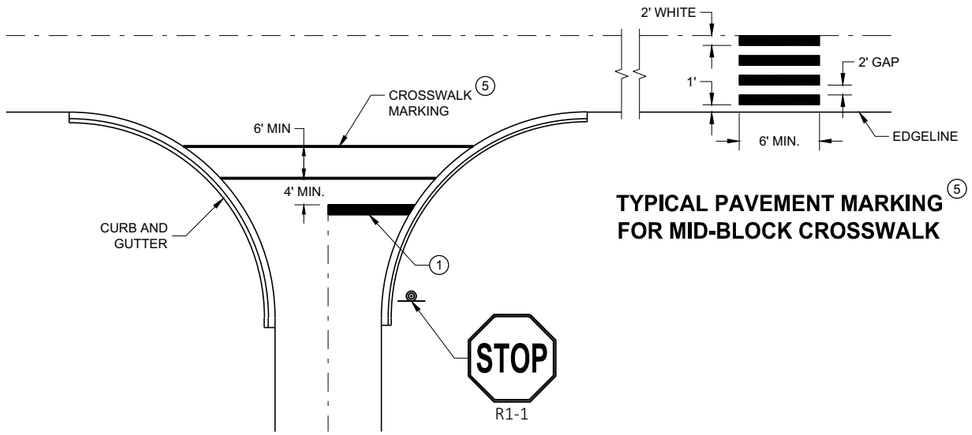
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

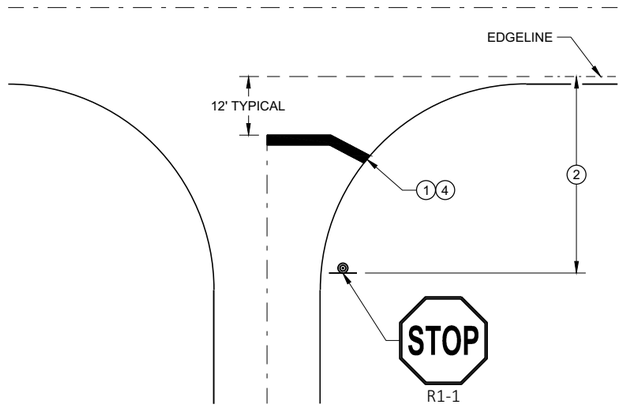


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

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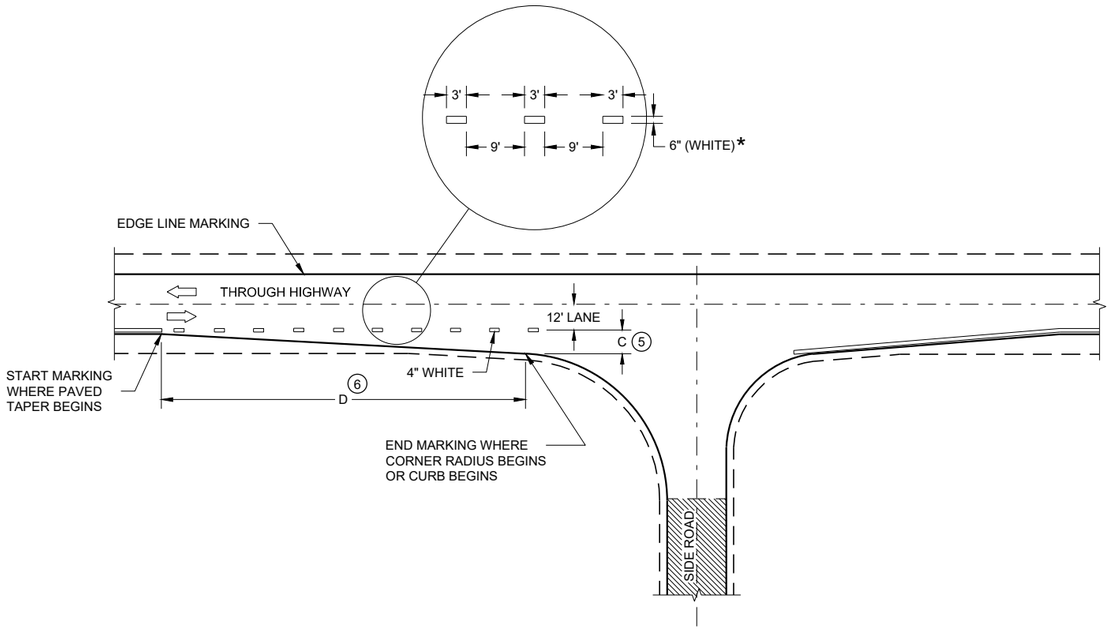
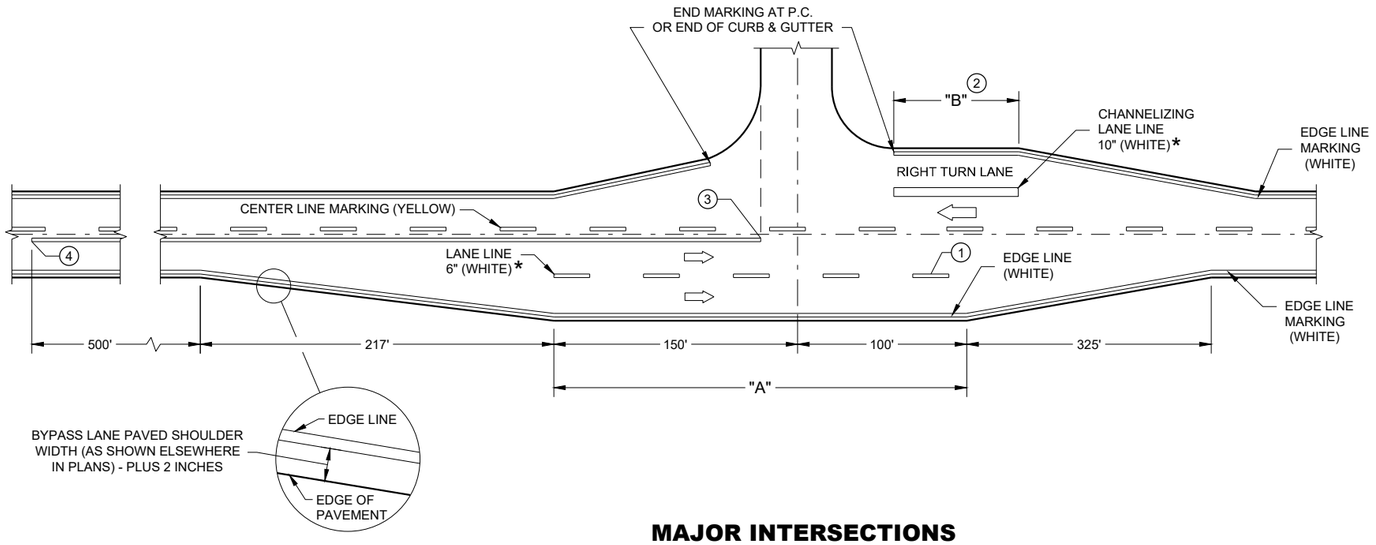
SDD 15C33 - 04



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

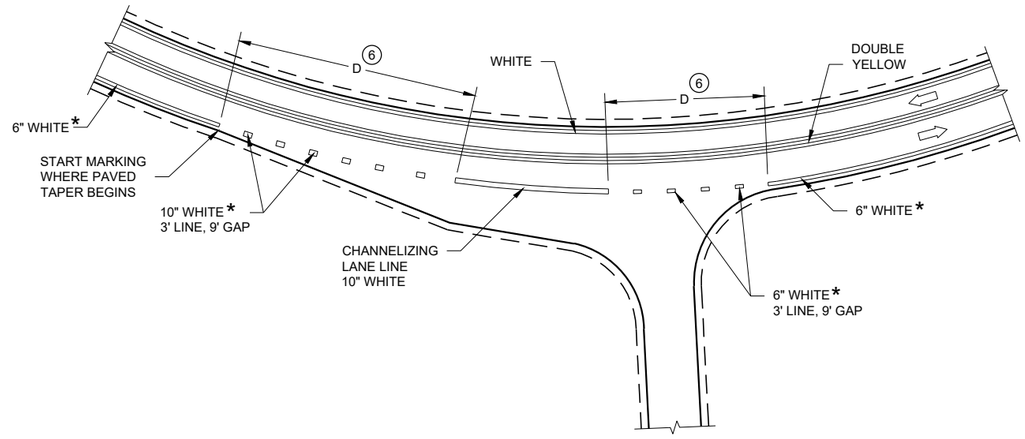
GENERAL NOTES

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

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

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

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 THE REGIONAL TRAFFIC UNIT.

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

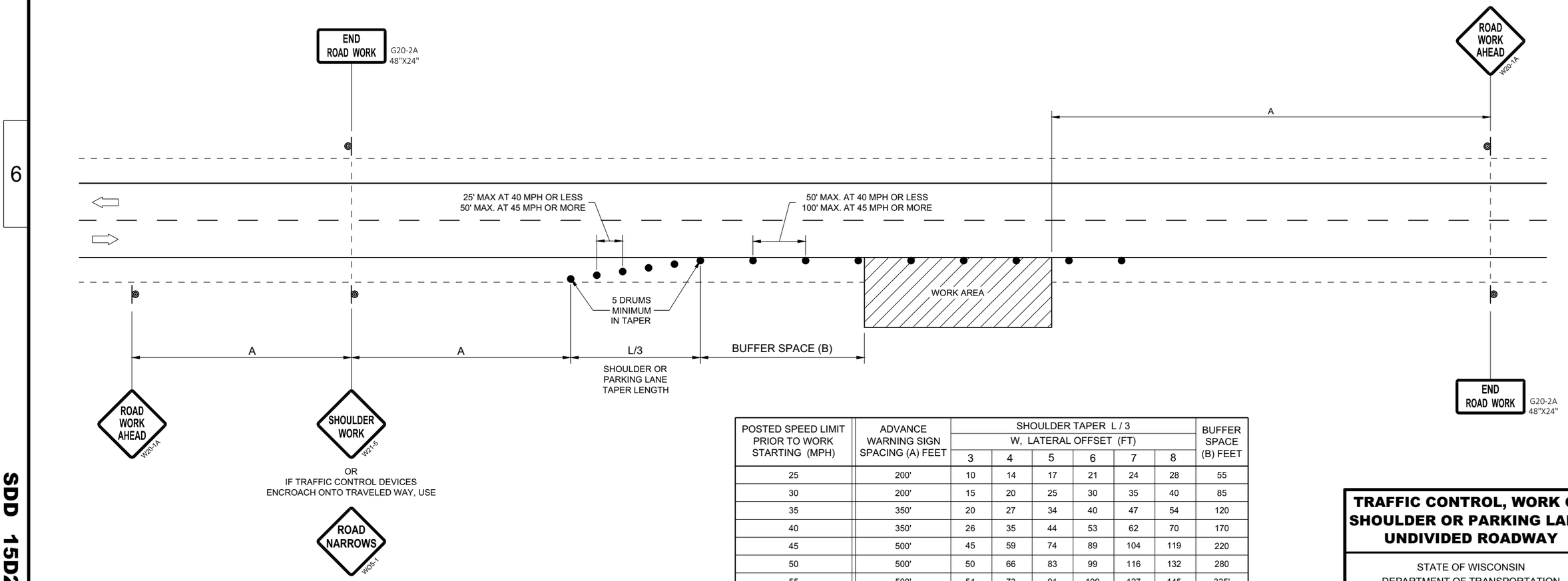
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

SDD 15D28 - 04

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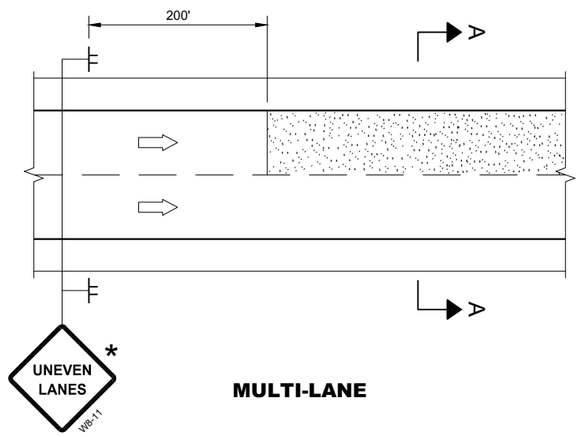
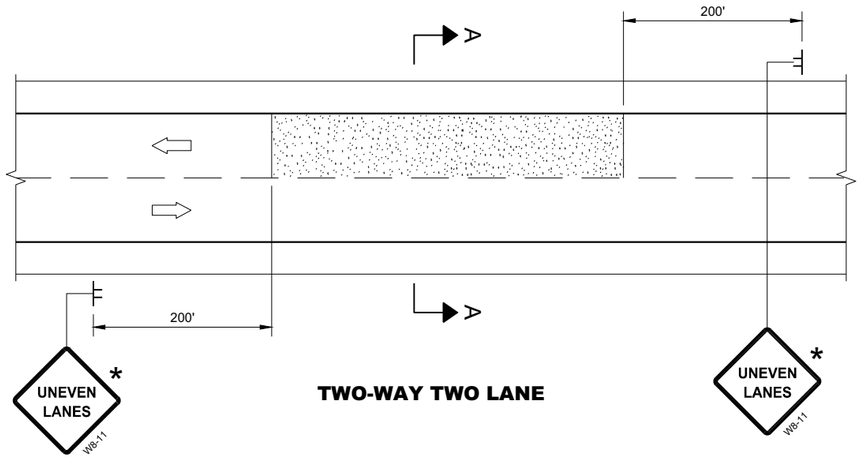


MULTI-LANE



TWO-WAY TWO LANE

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.

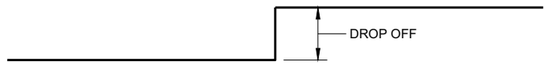
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

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

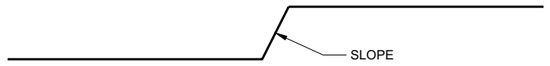
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

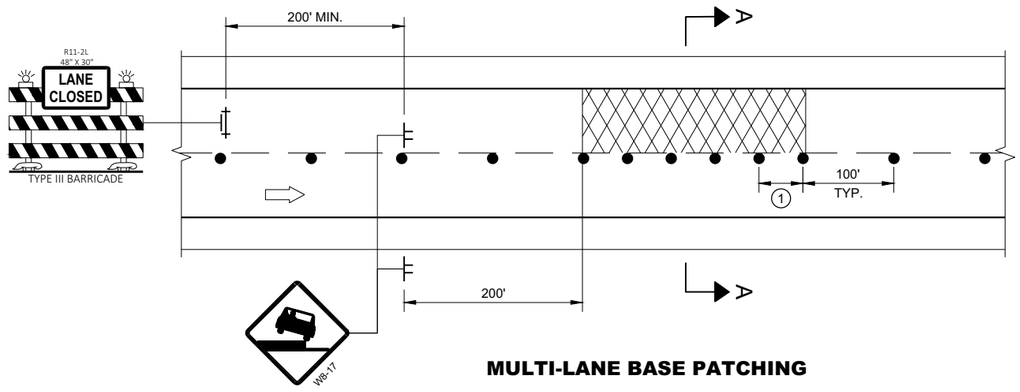


SECTION A - A

OR

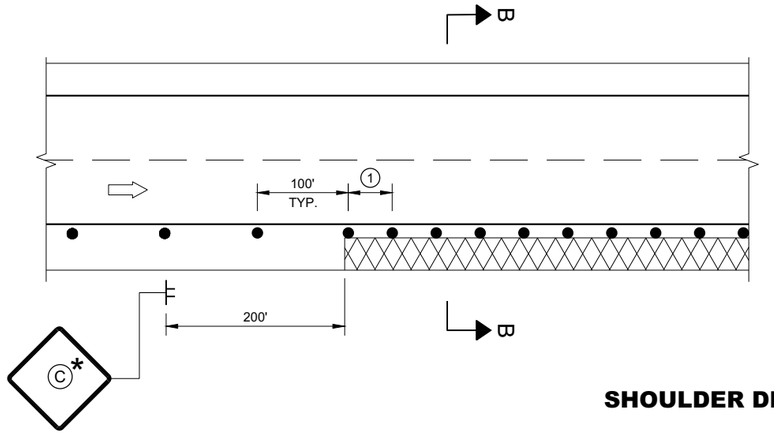


SECTION A - A

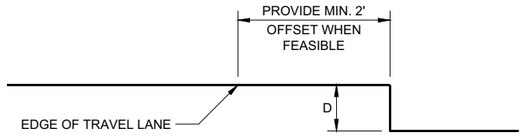


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
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 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D39 - 02

6

SDD 15D39 - 02

GENERAL NOTES

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

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

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

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

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

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

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

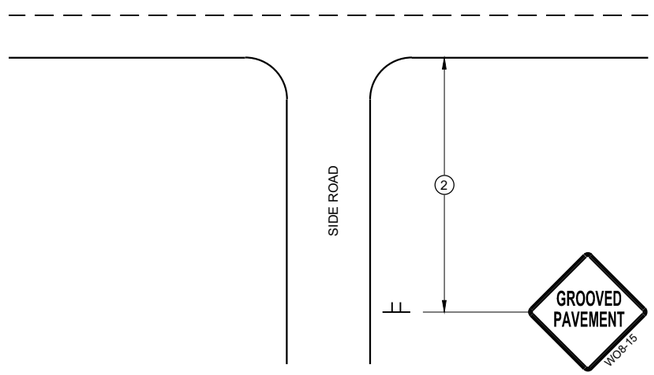
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

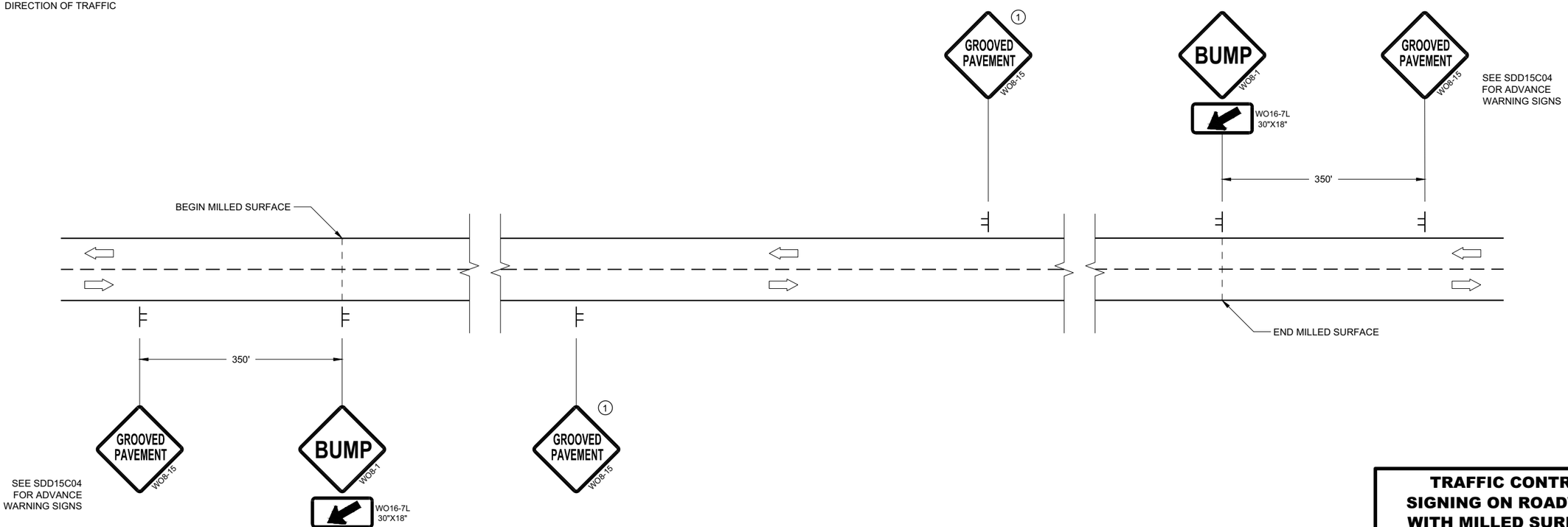
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

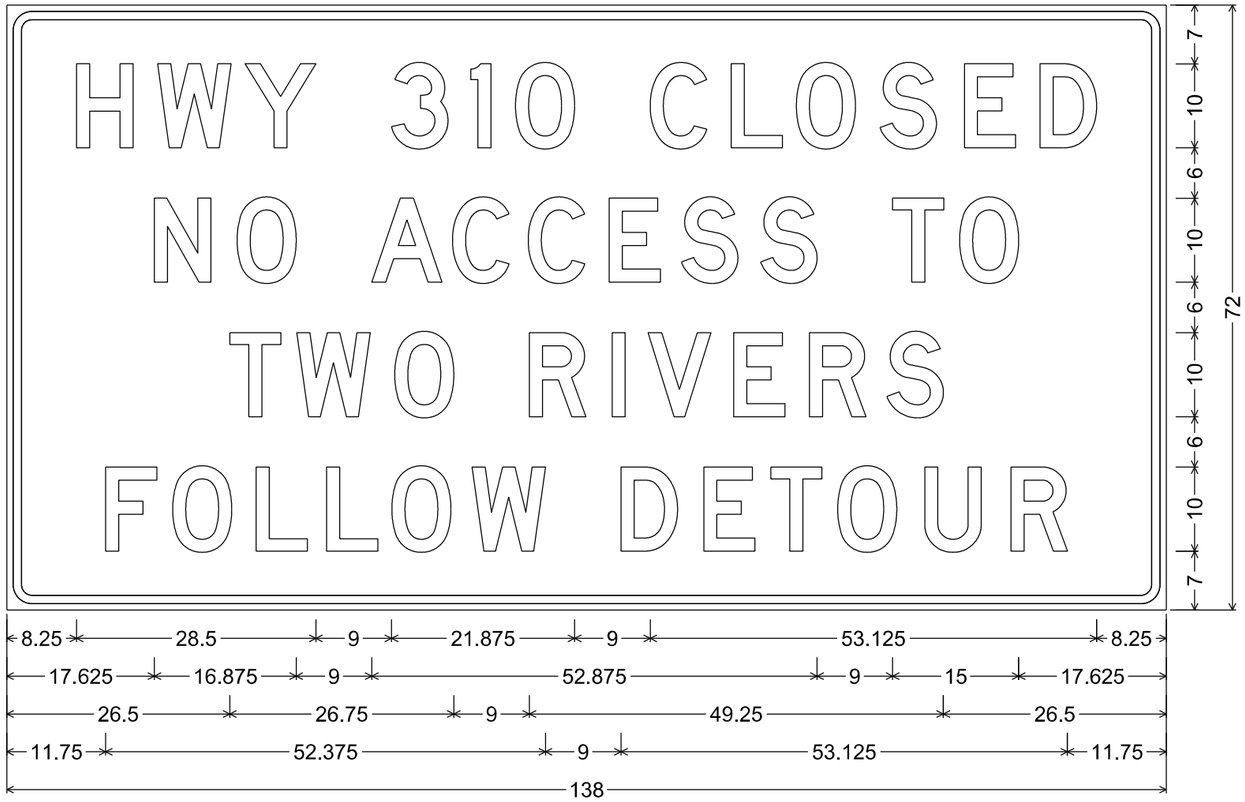
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

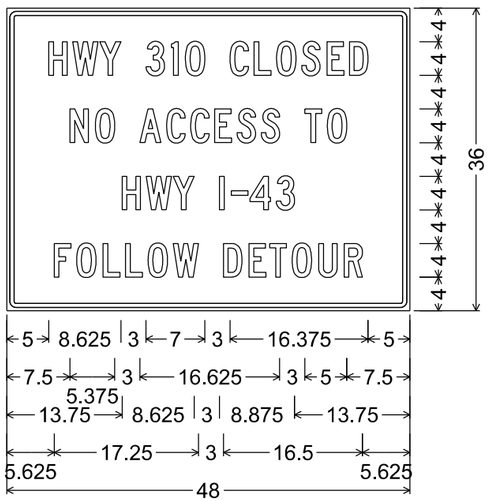
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6
SDD 15D44 - 02



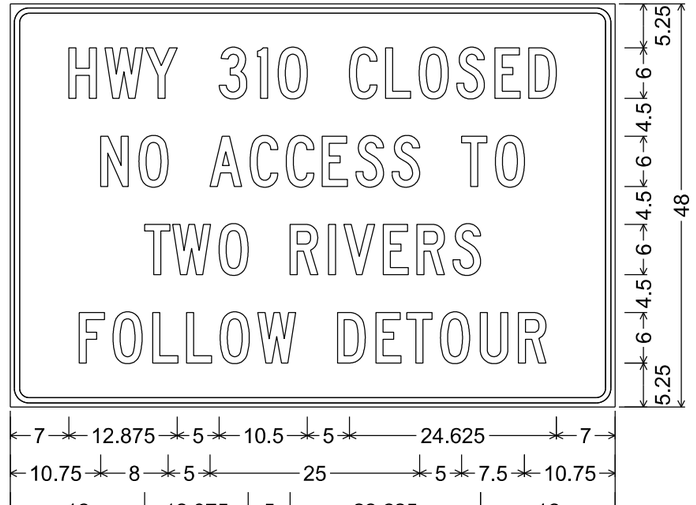
3.000" Radius, 1.000" Border, 0.750" Indent



1.125" Radius, 0.500" Border, 0.375" Indent
"HWY", C; "310", C; "CLOSED", C; "NO", C; "ACCESS",
C; "TO", C; "HWY", C; "I-43", C; "FOLLOW", C; "DETOUR", C;

NOTES

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

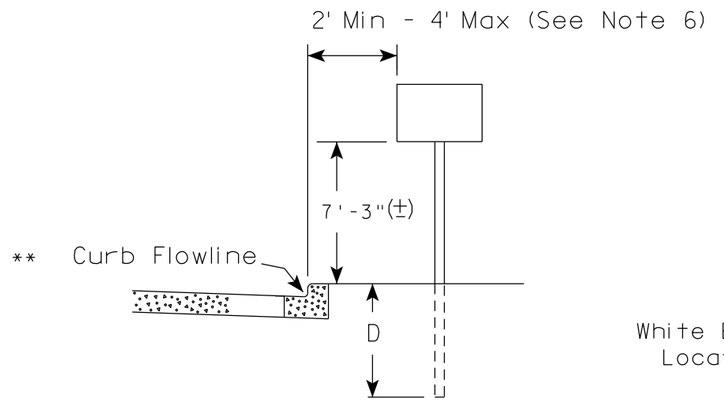


2.250" Radius, 0.625" Border, 0.500" Indent
"HWY", C; "310", C; "CLOSED", C; "NO", C;
"ACCESS", C; "TO", C; "TWO", C; "RIVERS", C;
"FOLLOW", C; "DETOUR", C;

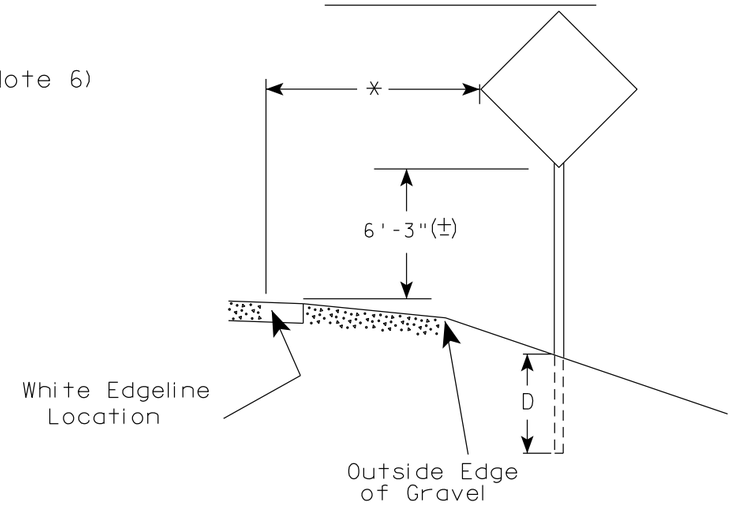
7

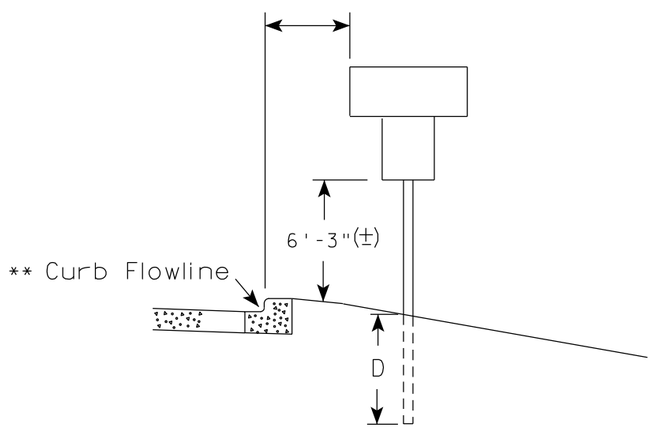
7

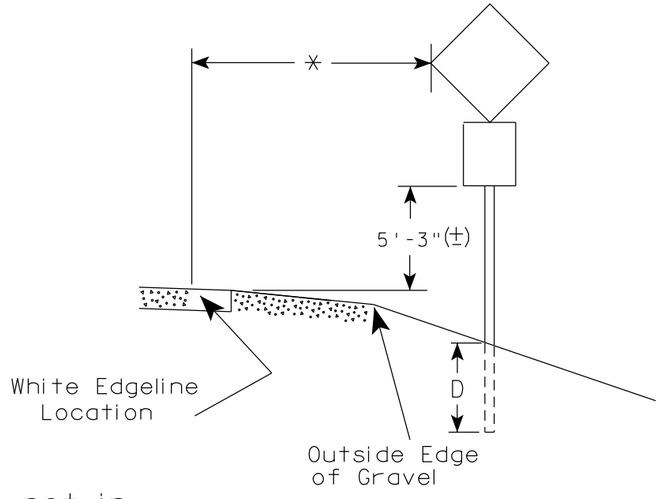
URBAN AREA



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

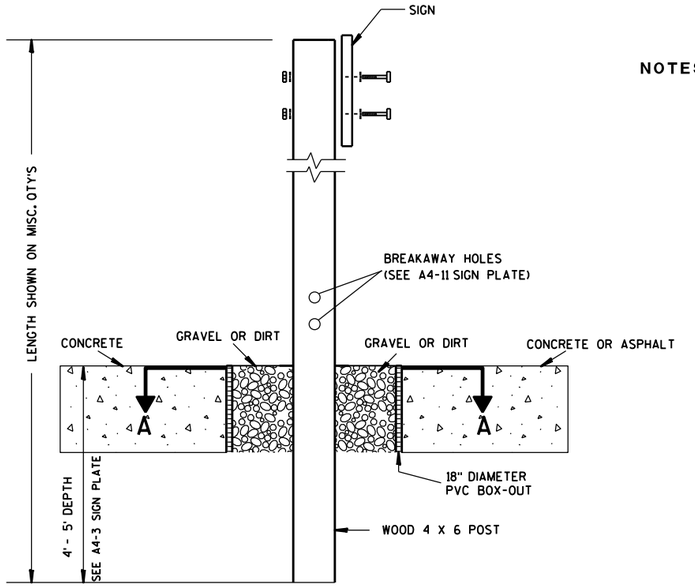
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

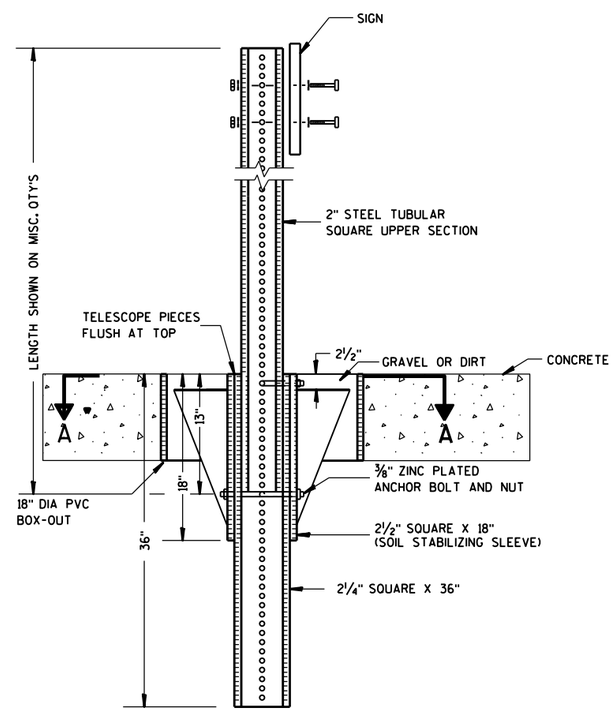
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 104	E



ELEVATION VIEW

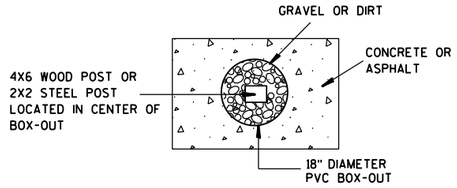
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

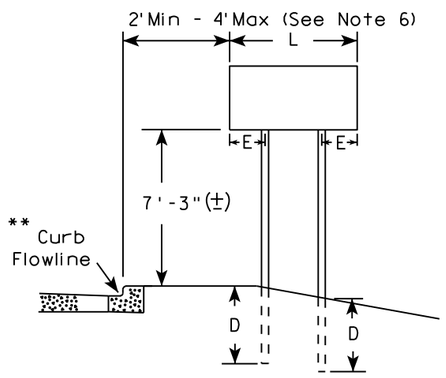
APPROVED Matthew R Rauch
for State Traffic Engineer

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

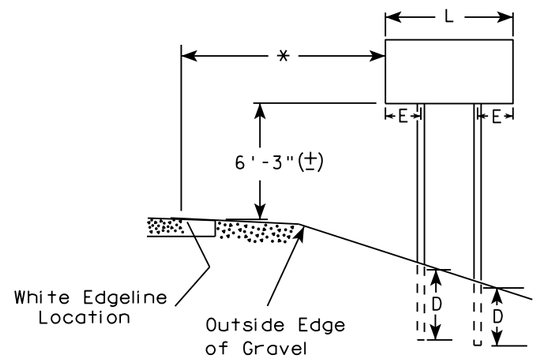
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

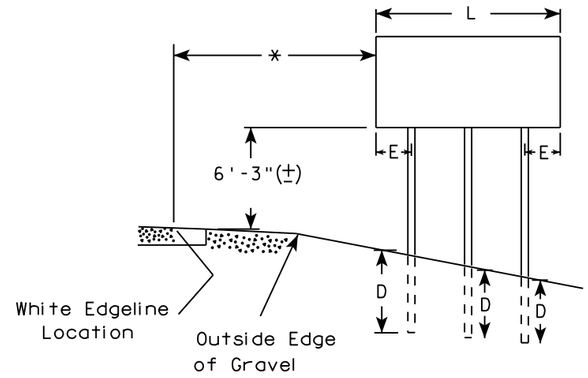
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

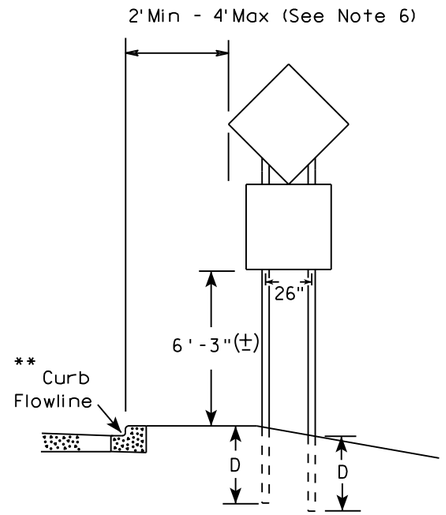
URBAN AREA



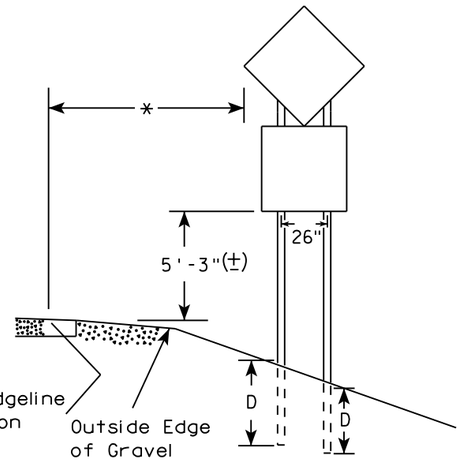
RURAL AREA (See Note 3)







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'

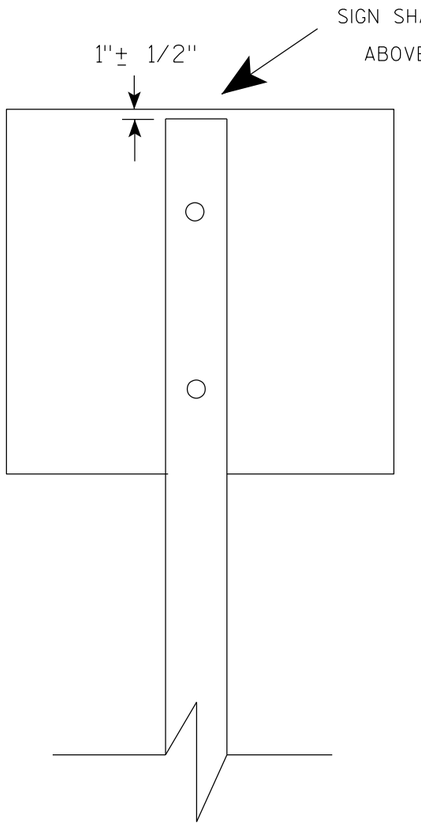
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

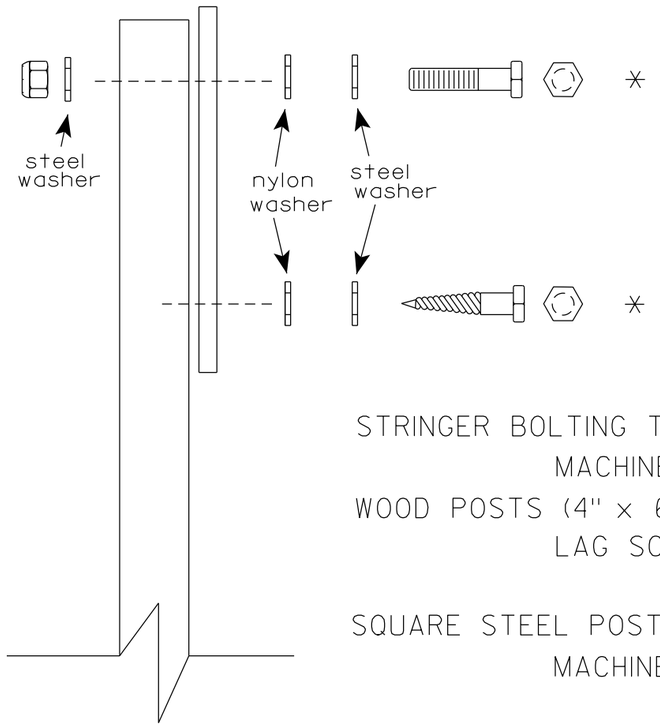
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 106	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 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

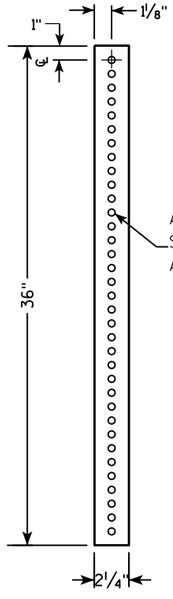
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

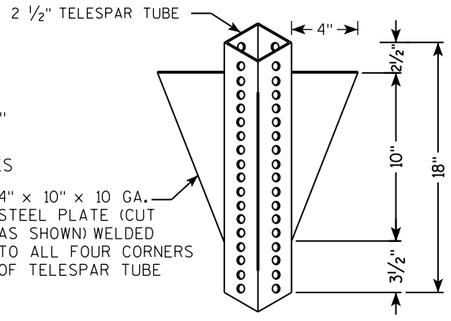
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

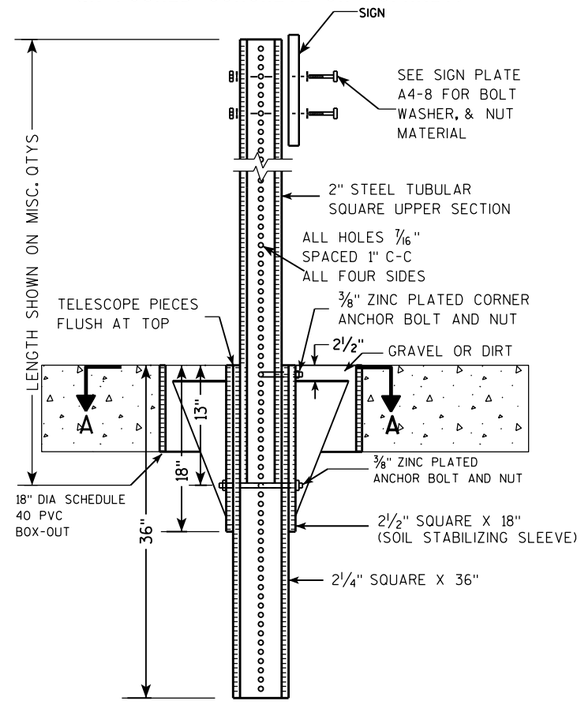
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



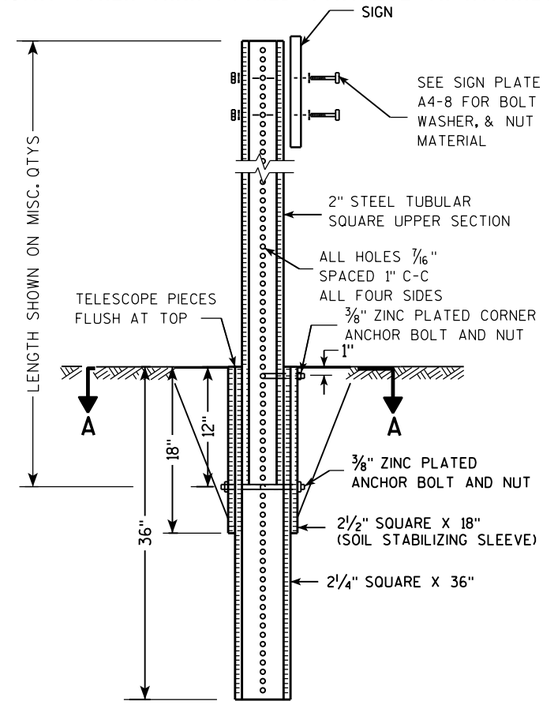
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

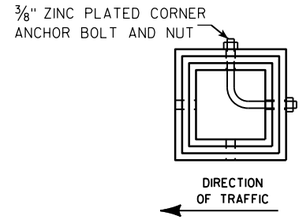


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





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

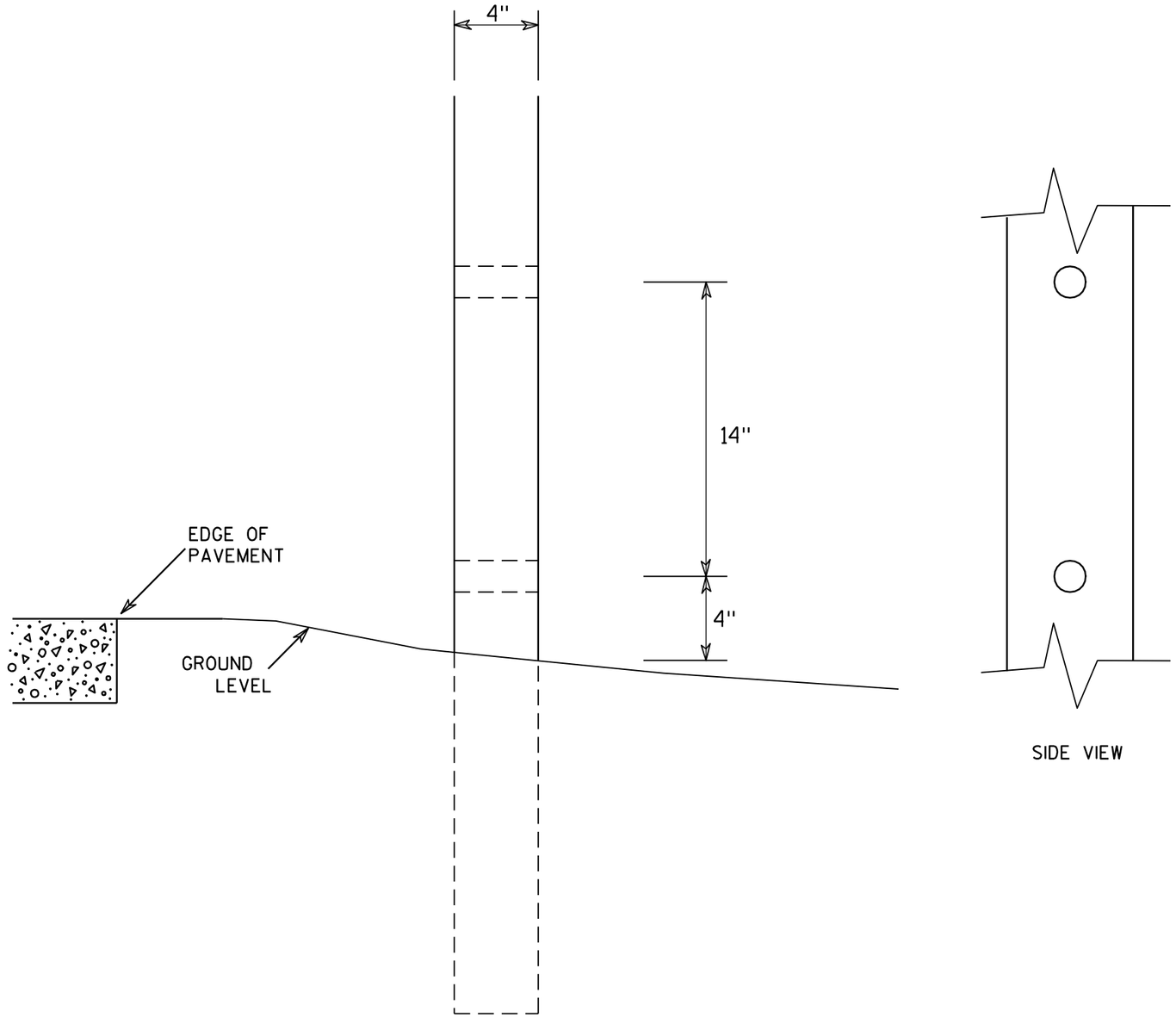
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



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.

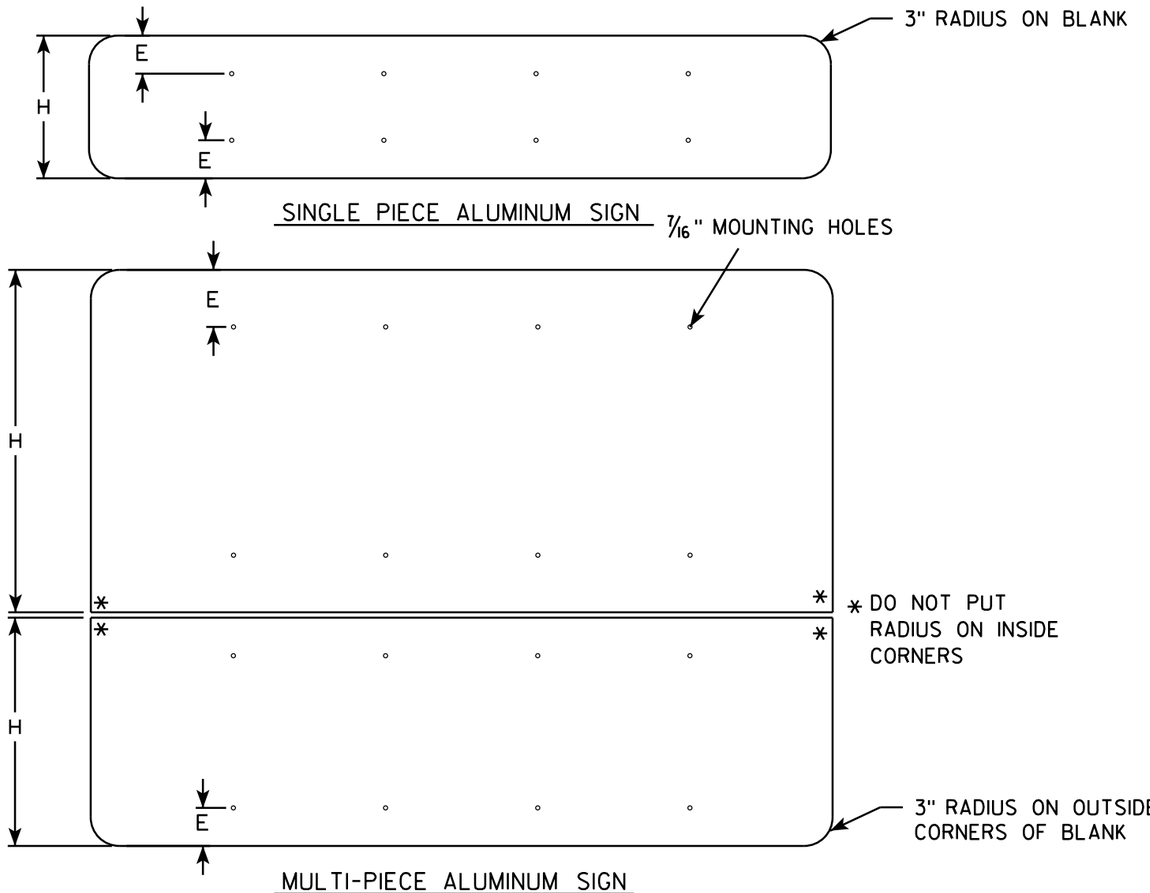
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

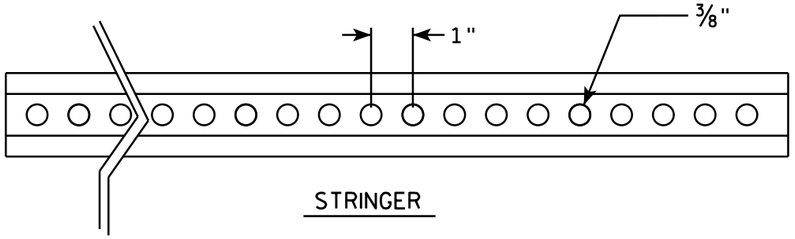
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 109	E



GENERAL NOTES

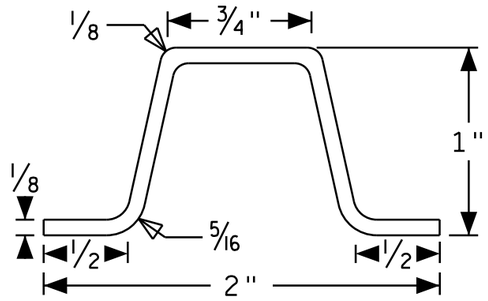
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 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"

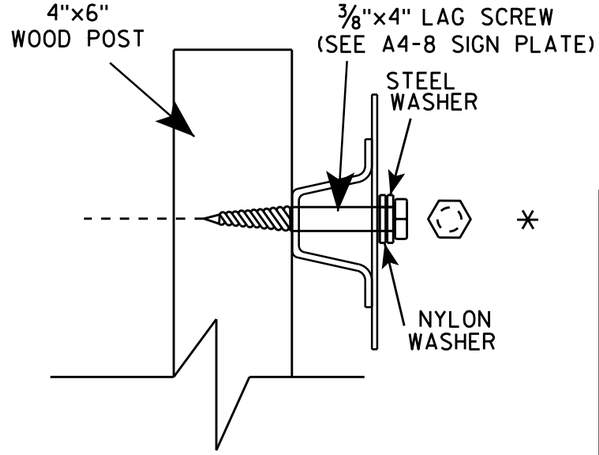


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

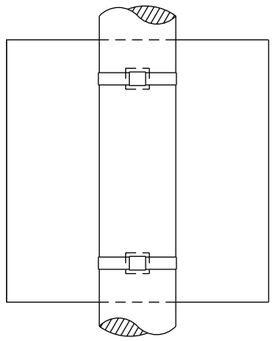
DATE 4/26/16 PLATE NO A4-18.1

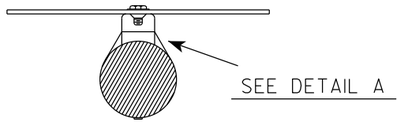
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

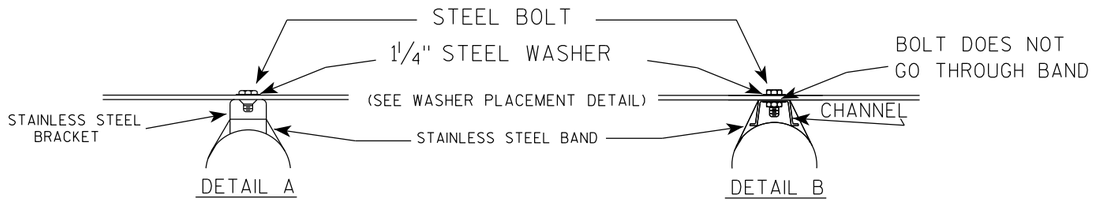
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

BANDING

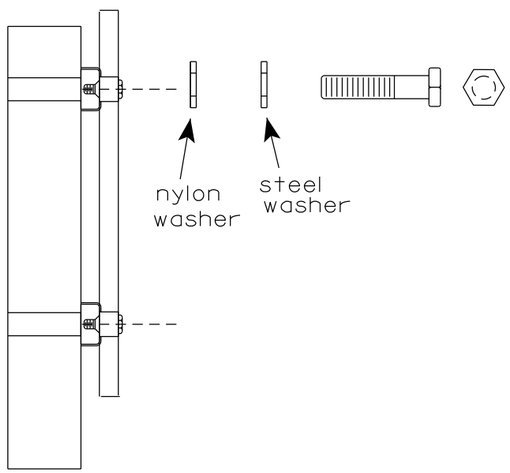
SINGLE SIGN







WASHER PLACEMENT

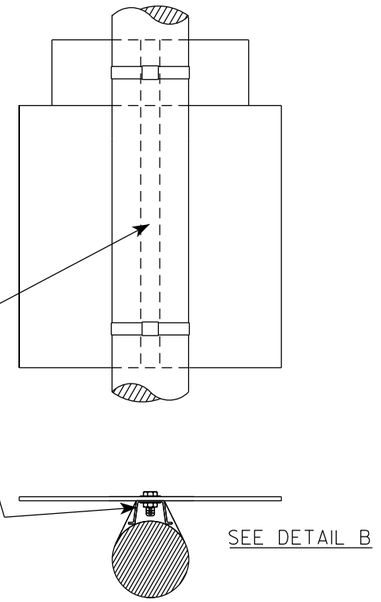


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

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

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

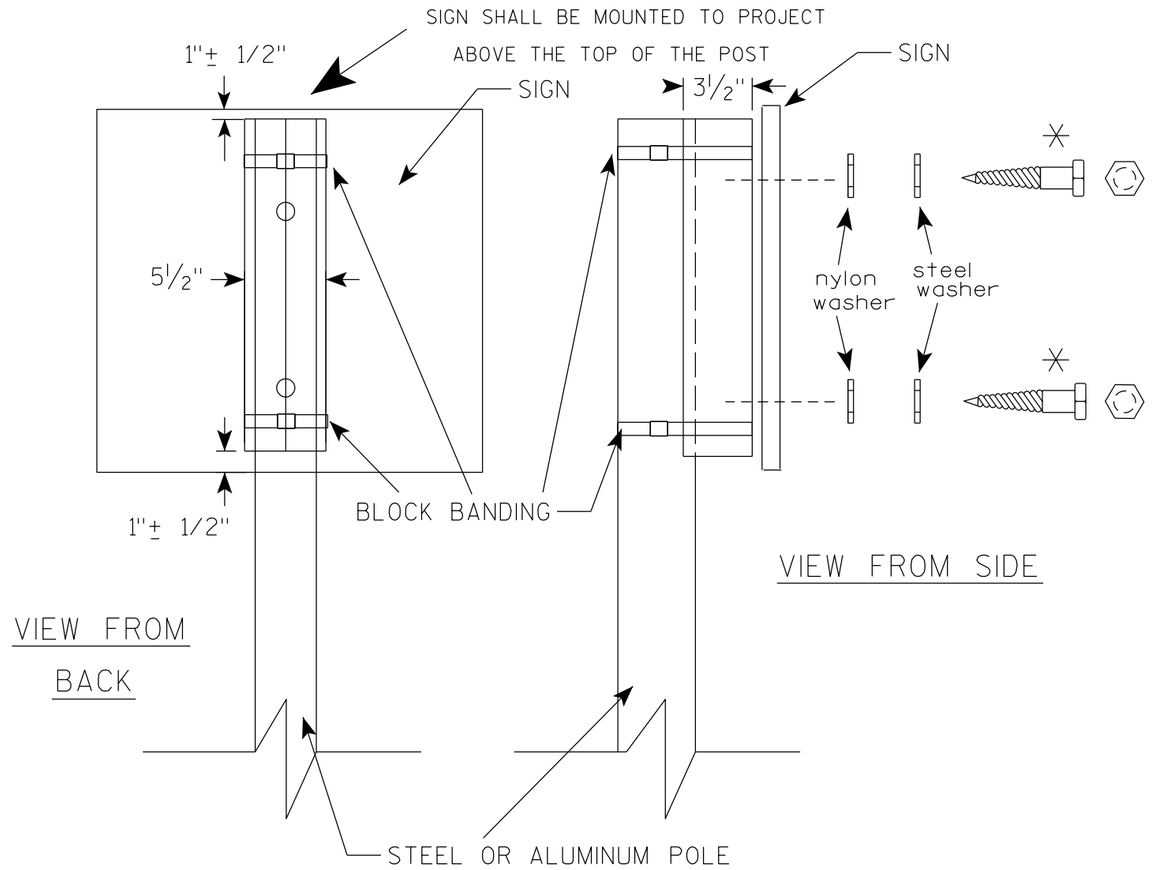
DATE 6/10/19 PLATE NO. A5-9.4

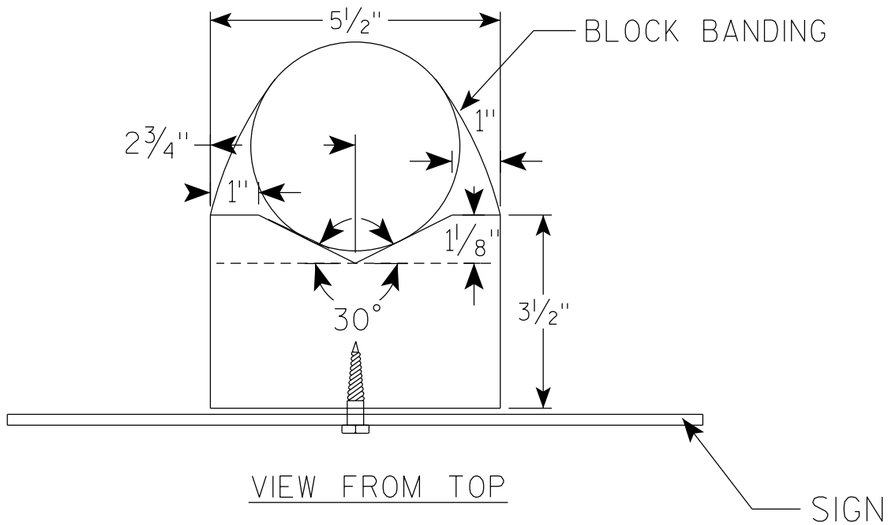
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 111	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





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
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 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)

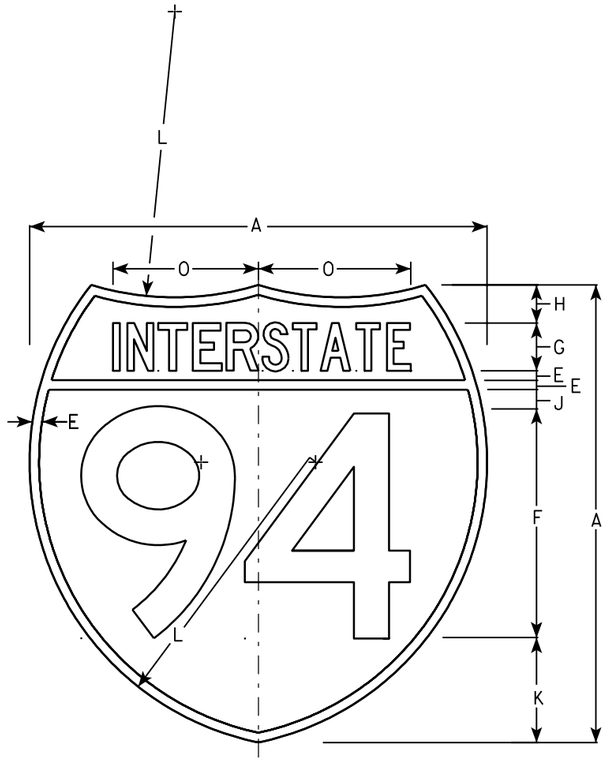
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

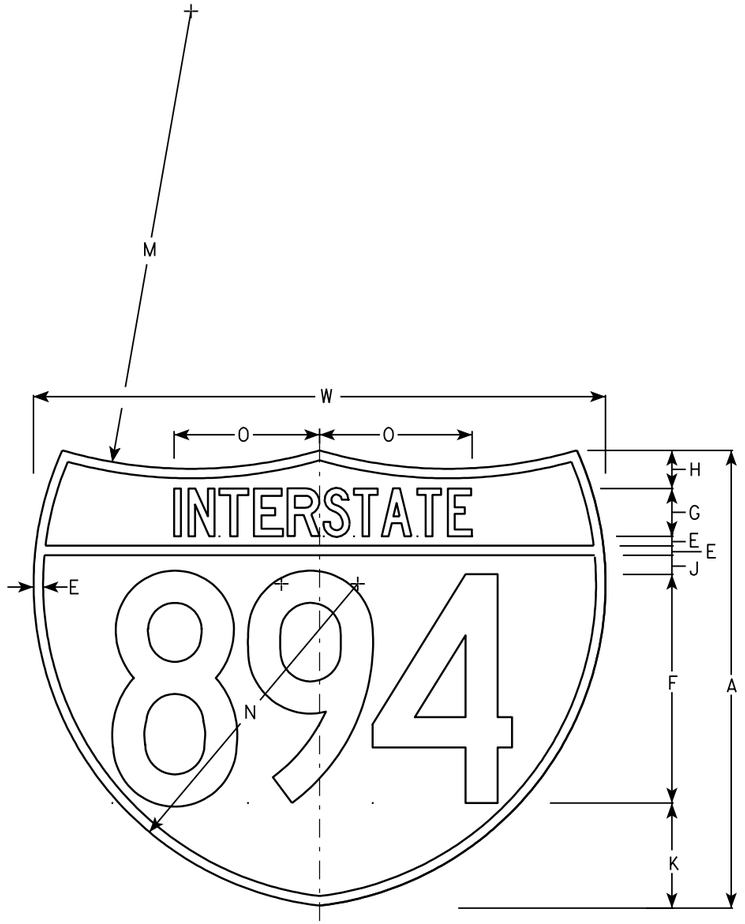
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 112 E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

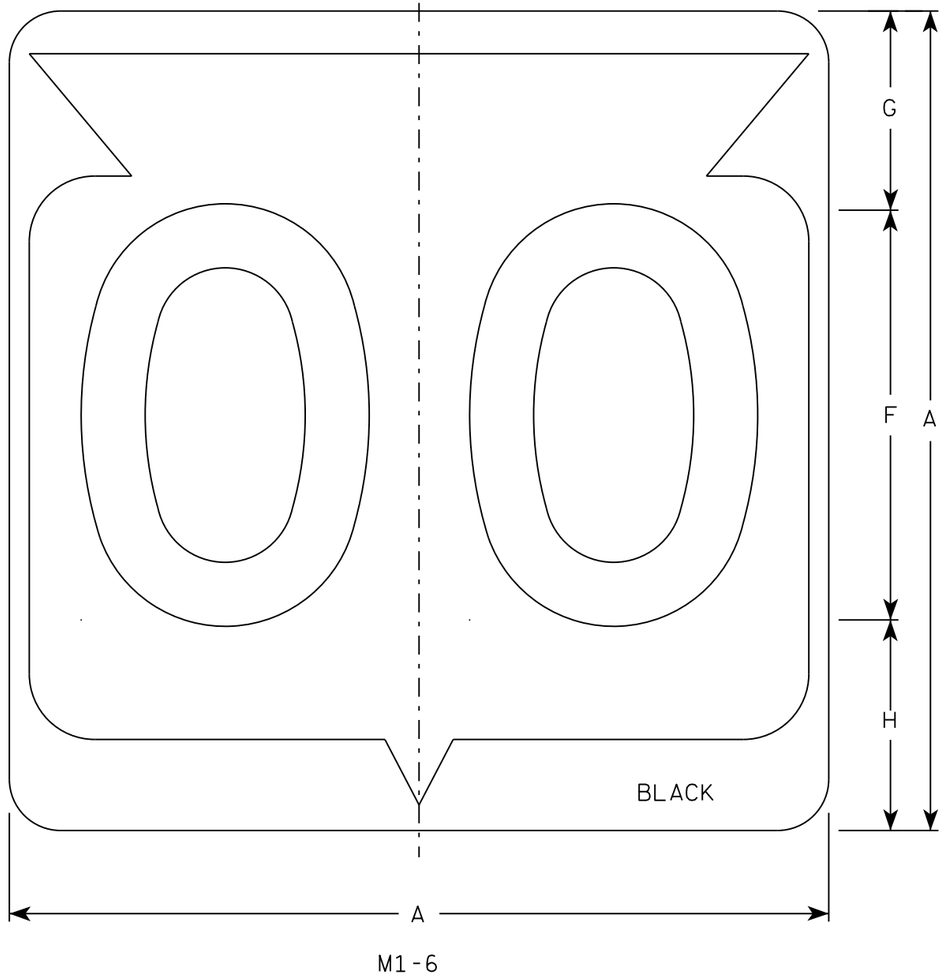
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

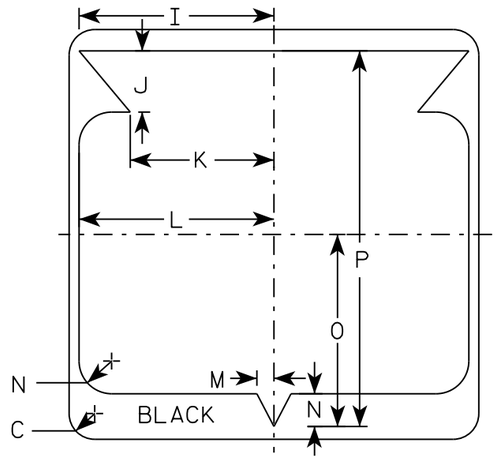
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 113	E



M1-6

NOTES

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



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

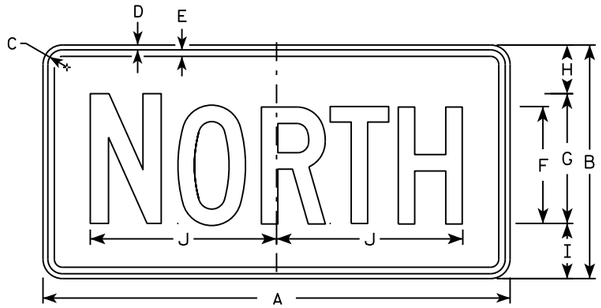
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

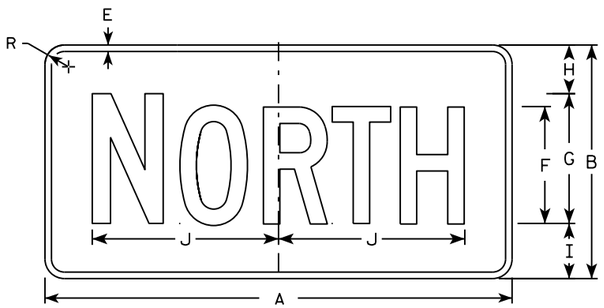
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 114 E



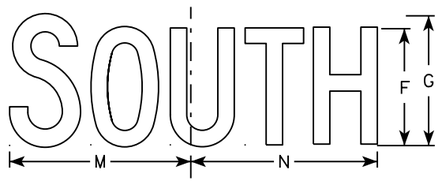
M3-1
MM3-1
MP3-1



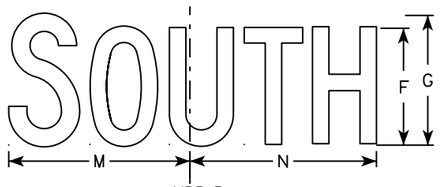
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

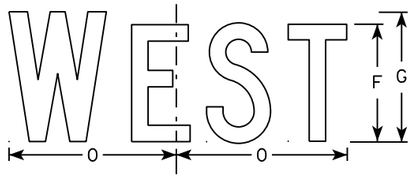
MB3-2
MK3-2
MN3-2



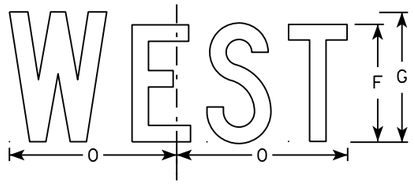
M3-3
MM3-3
MP3-3



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

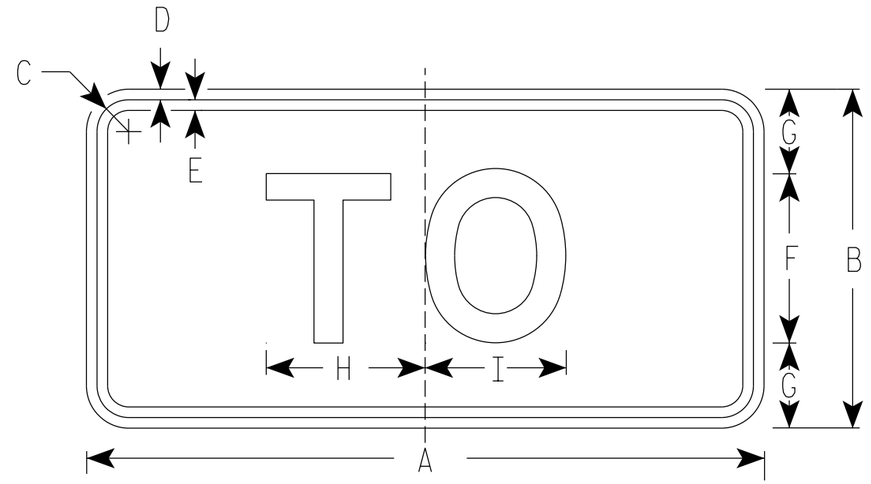
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

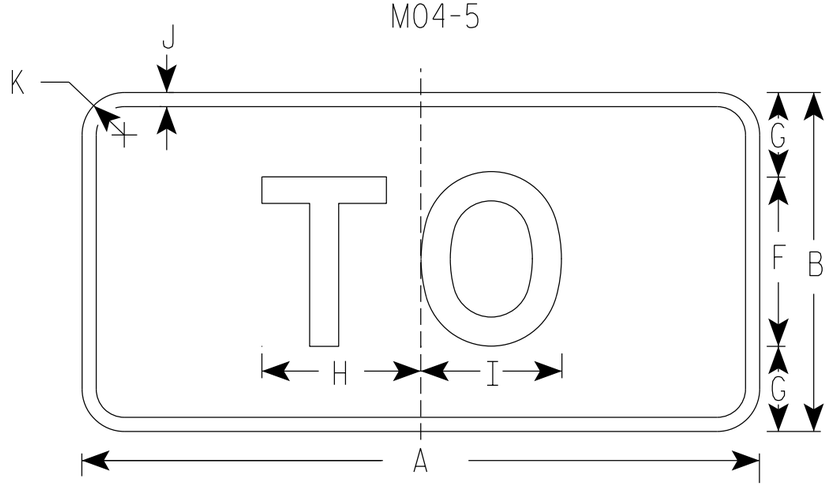
DATE 10/15/15 PLATE NO M3-1.14

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



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
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. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

   M04-5 Background - Orange Type F Reflective
   Message - Black

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

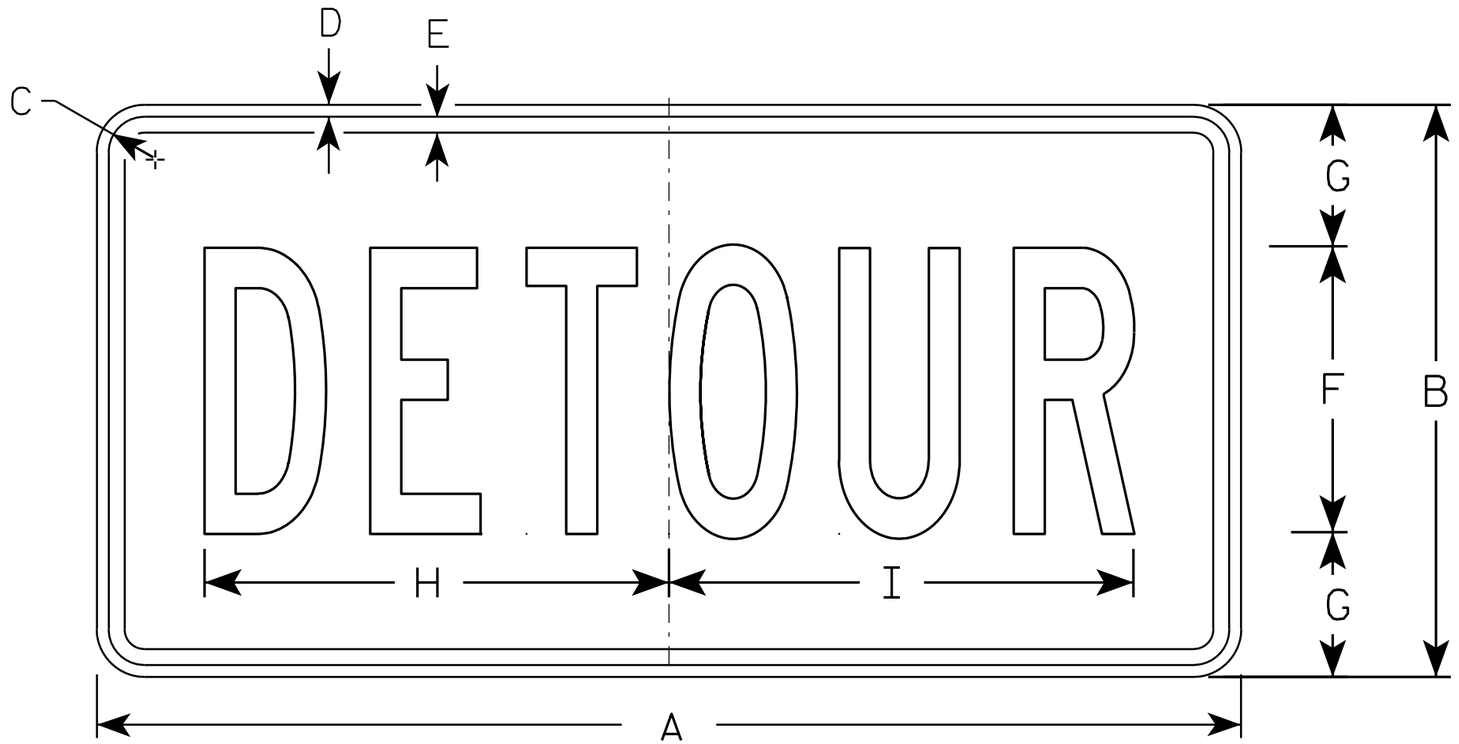
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/7/19 PLATE NO. M4-5.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 116 | E



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																											

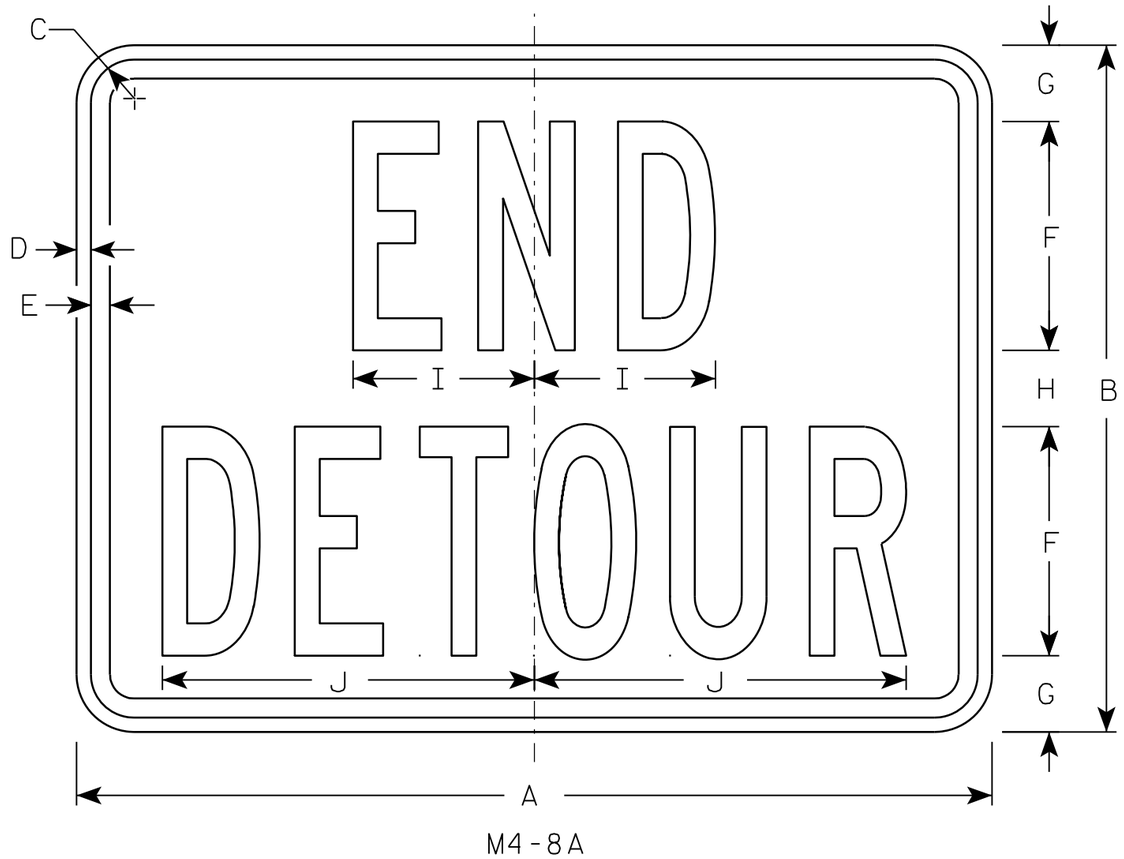
STANDARD SIGN
M4-8

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: 117	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																											

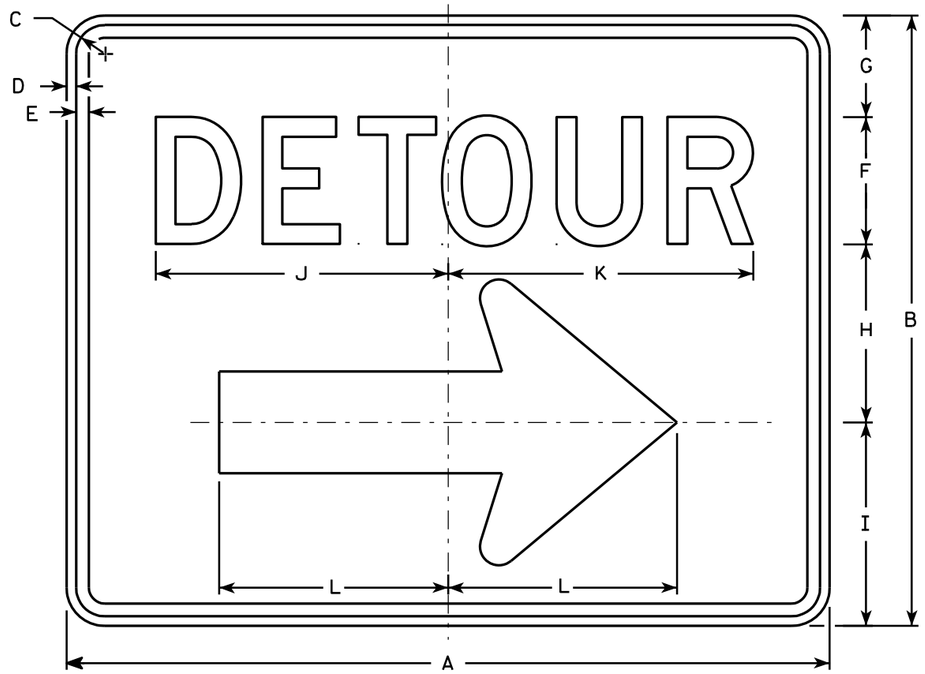
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

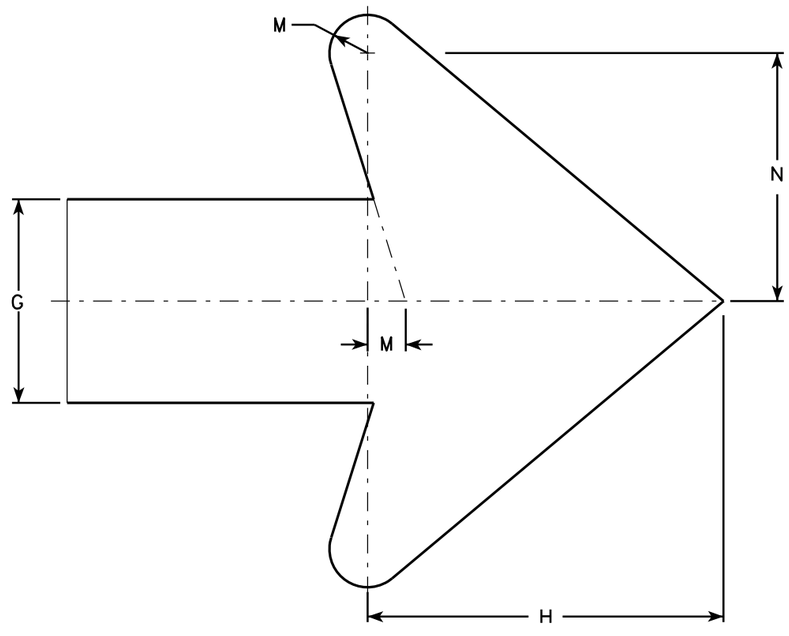
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 118	E



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

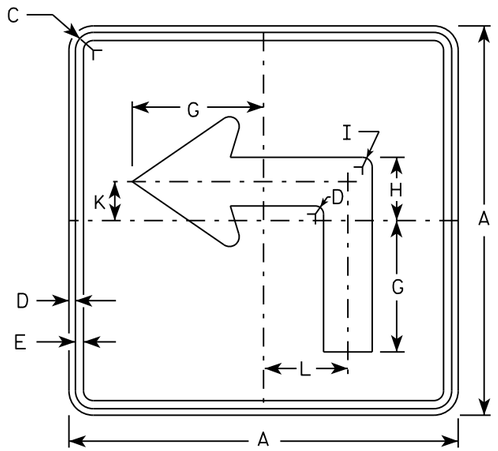
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

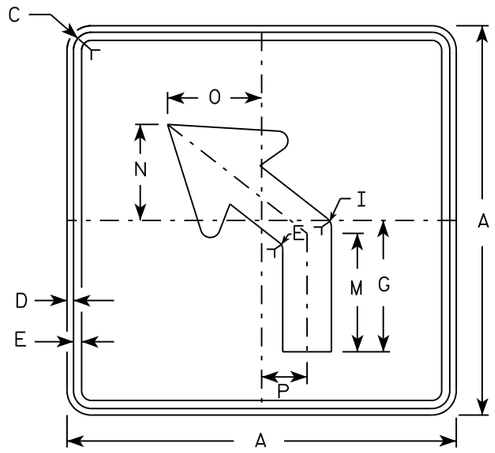
APPROVED Matthew R Rauch
for State Traffic Engineer

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

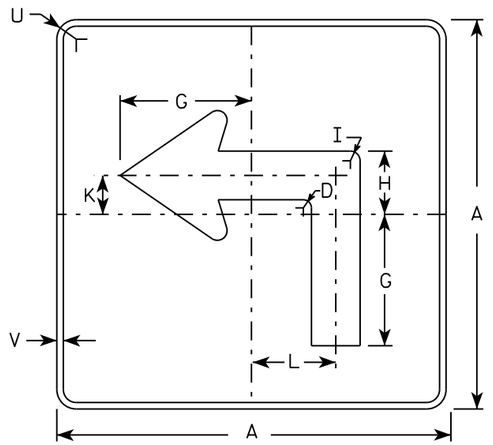
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 119 | E



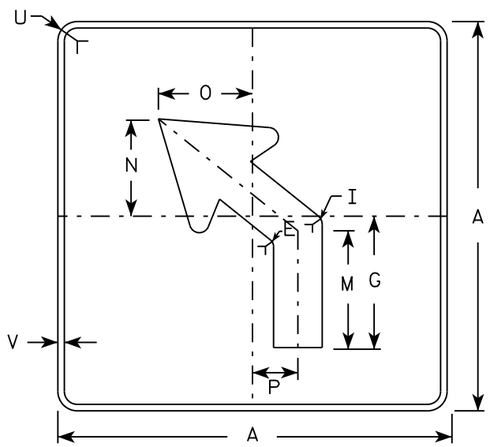
M5-1L
MM5-1L
MO5-1L
MP5-1L



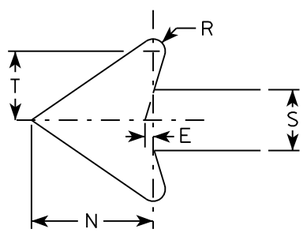
M5-2L
MM5-2L
MO5-2L
MP5-2L



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

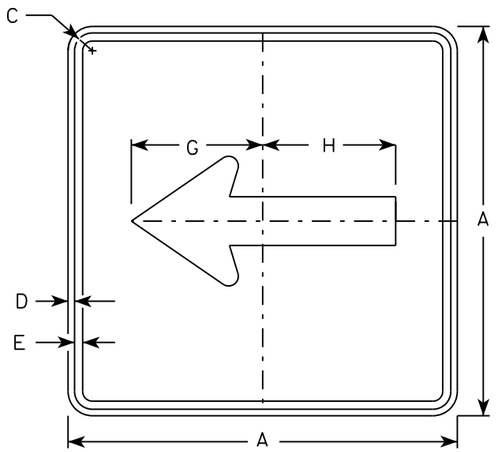
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

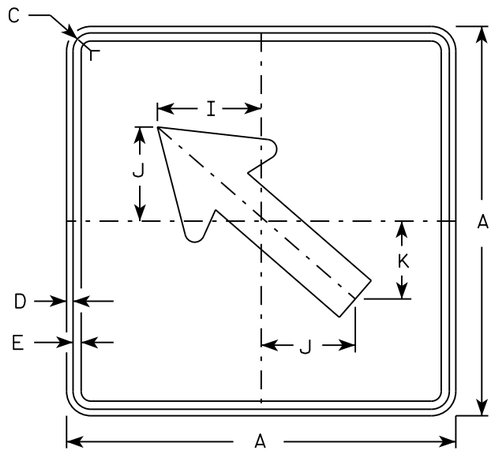
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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



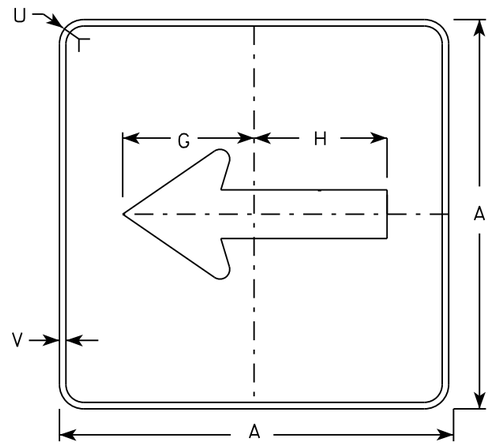
M6-1
MM6-1
MO6-1
MP6-1



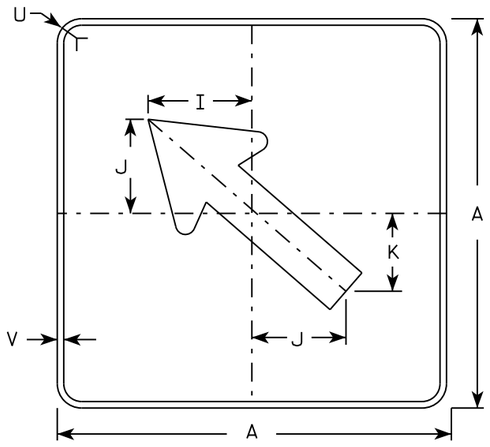
M6-2
MM6-2
MO6-2
MP6-2

NOTES

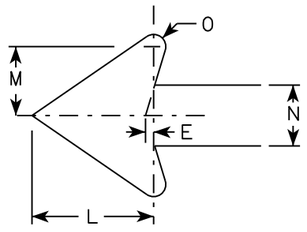
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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

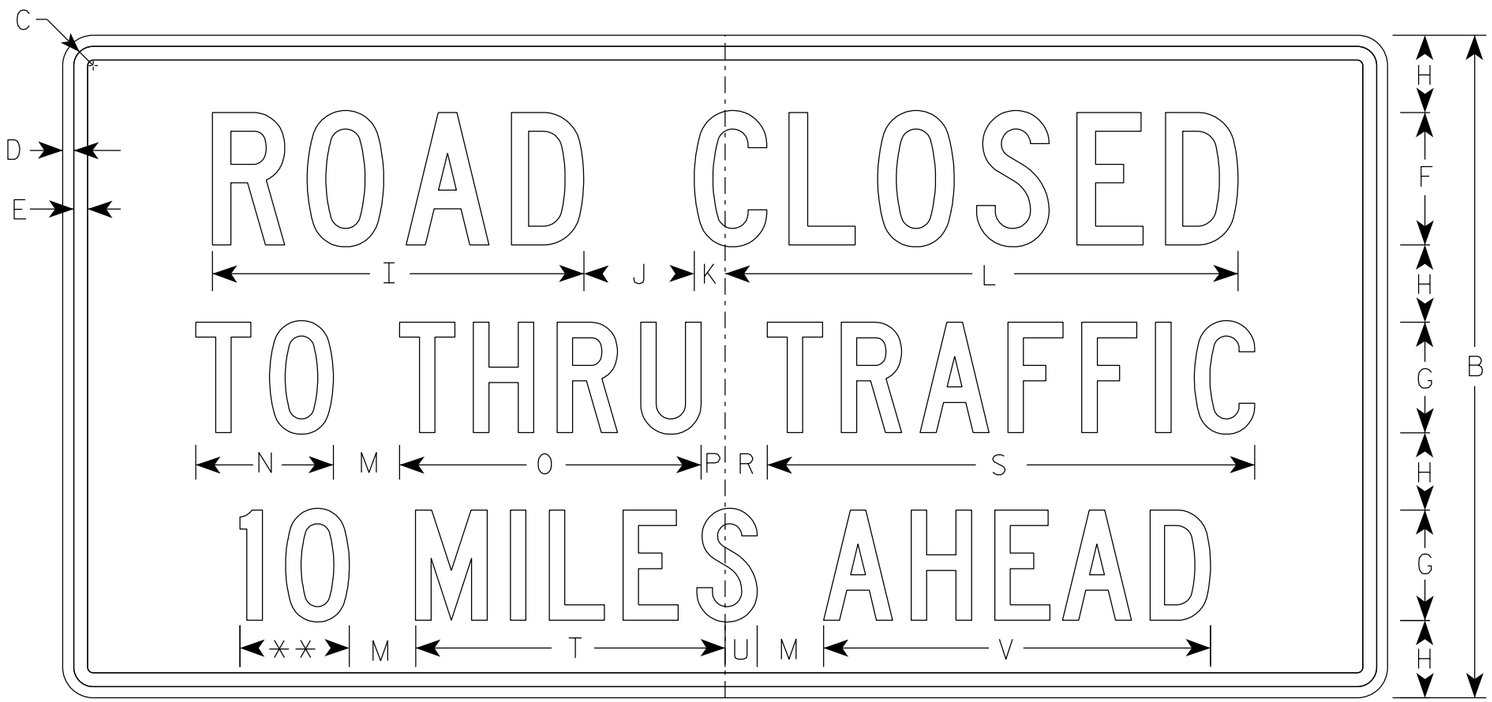
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 121 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

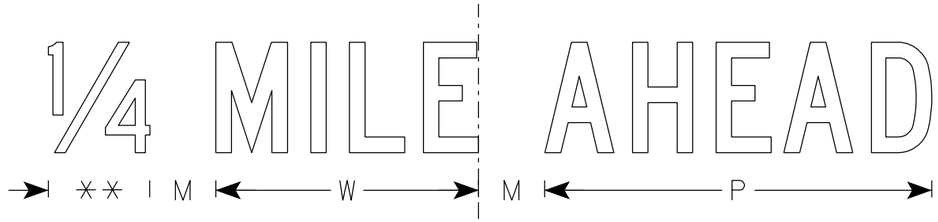
NOTES

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



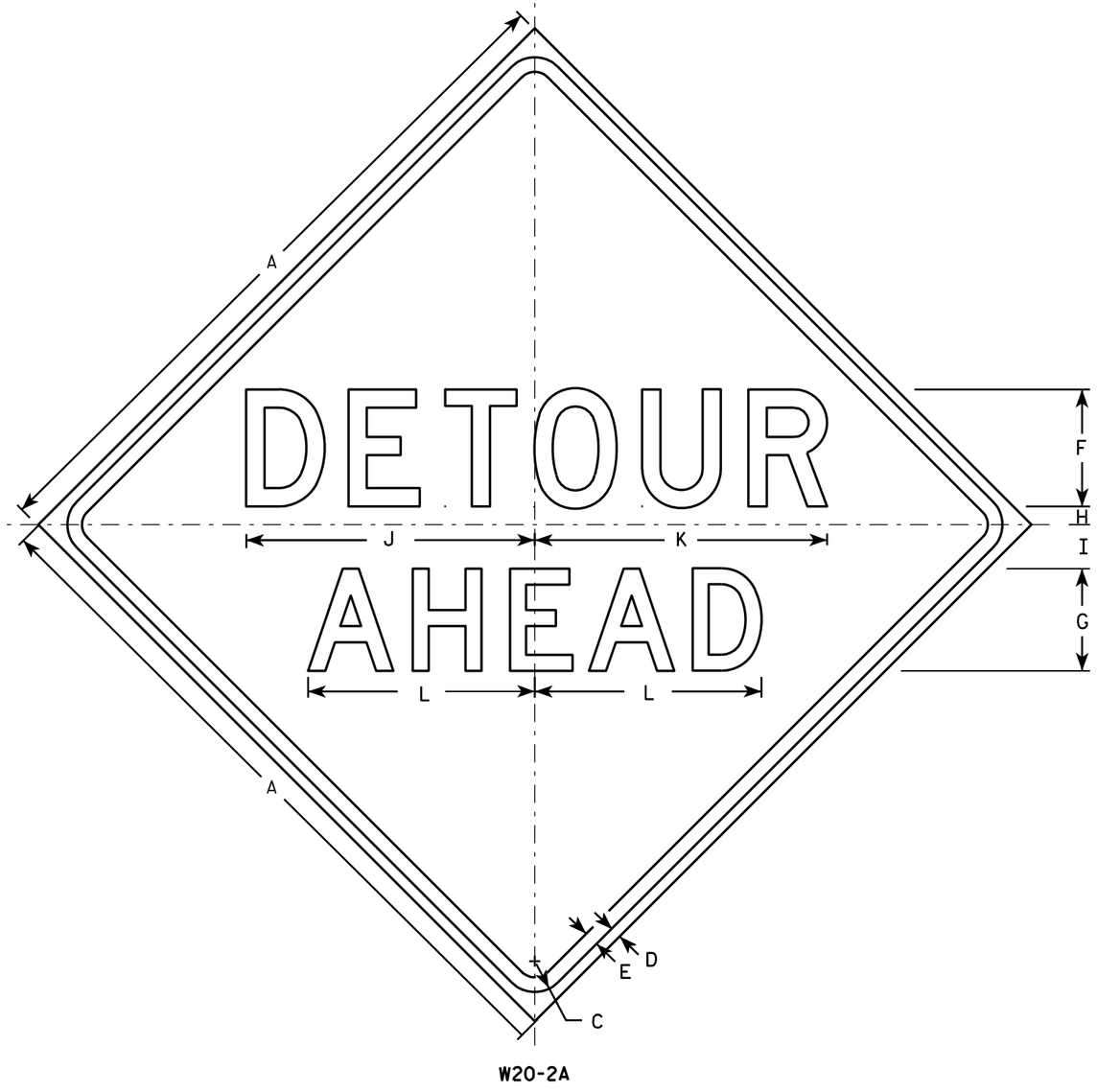
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/4	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

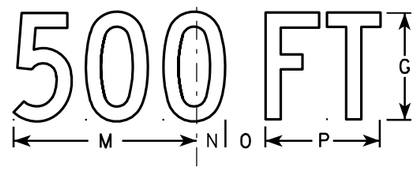
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 6/14/2021 PLATE NO. R11-3.9

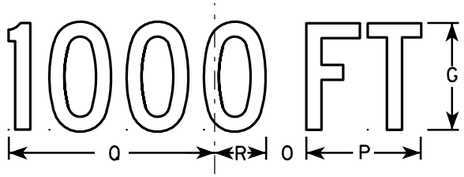
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 122	E



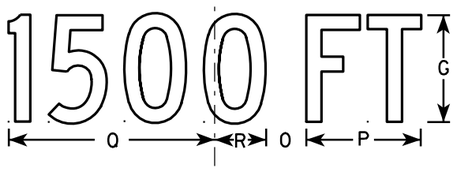
W20-2A



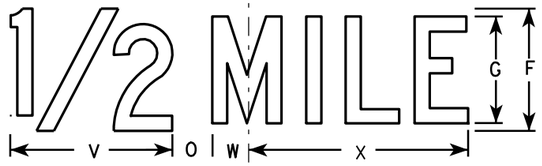
W20-2D



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	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 123	E

Wisconsin Department of Transportation

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