SUP

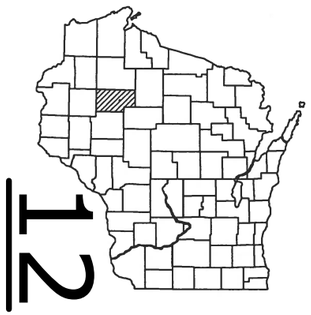
JAN 2016

PROJECT ID: 1580-05-72
WITH: 1580-09-73

COUNTY: RUSK

ORDER OF SHEETS

TOTAL SHEETS = 122



12

N

DESIGN DESIGNATION

A.A.D.T. (2016)	=	5500
A.A.D.T. (2036)	=	6700
D.H.V.	=	---
D.D.	=	60/40
T.	=	18.2%
DESIGN SPEED	=	60 MPH
ESALS	=	2,300,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CAMERON - LADYSMITH

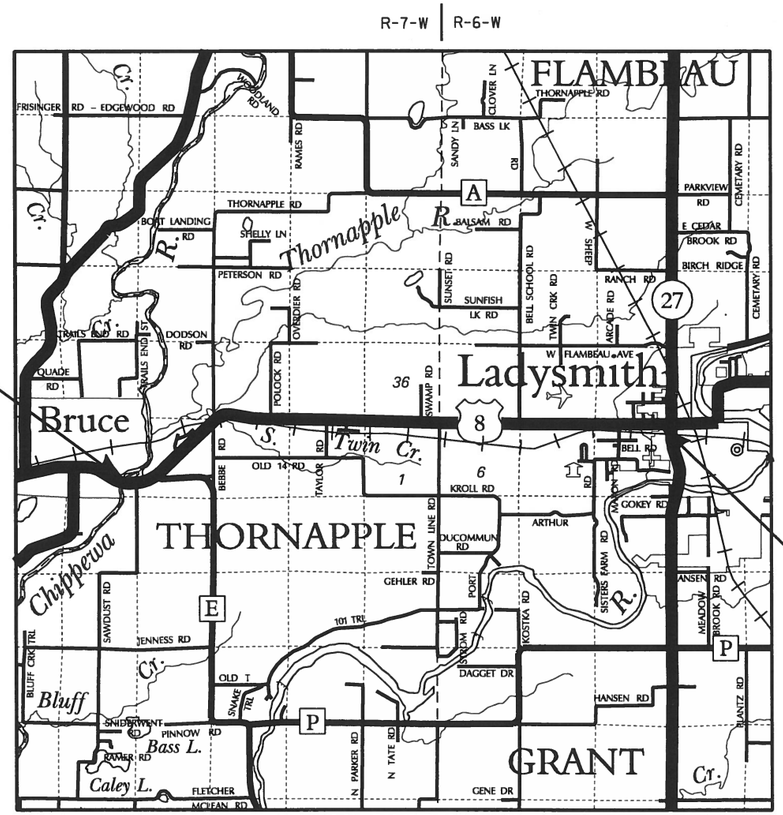
CHIPPEWA RIVER TO STH 27

USH 8

RUSK COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1580-05-72	WISC 2016010	1

STATE PROJECT NUMBER
1580-05-72



BEGIN PROJECT
STA 126+62.65
N 558919.68
E 772508.30

T-35-N
T-34-N

END PROJECT
STA 522+00.00

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 7.488 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RUSK COUNTY.

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES

WISCONSIN
MARK R. PETERSEN
E-36785
EAU CLAIRE
WI
PROFESSIONAL ENGINEER

DATE: 7/28/15

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT / AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Project Manager	MATTHEW DICKENSON
Regional Examiner	CHRISTINE KOSKI
Regional Supervisor	DAVE OSTROWSKI

APPROVED FOR THE DEPARTMENT

DATE: 7/29/2015

Matthew J. Dickenson

E

2

GENERAL NOTES

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

EXACT LOCATION OF ALL DRIVEWAY ENTRANCES TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA.

THERE ARE UTILITY FACILITIES SHOWN ON THE PLANS THAT WERE PLACED FROM FACILITY MAPS AND NOT LOCATED IN THE FIELD.

SHRINKAGE OF EARTHWORK IS VARIABLE. AN AVERAGE FACTOR FOR EXCAVATION COMMON IS 30%.

DISTURBED AREAS WITHIN THE RIGHT OF WAY SHALL BE SALVAGED TOPSOIL, FERTILIZED, SEEDED, TEMPORARY SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE NO.20 SHALL BE USED THROUGHOUT THE PROJECT, EXCEPT LAWN AREAS WHERE NO.40 SHALL BE USED.

WHEN THE QUANTITY OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD THE DEPTH OF THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

RAILROAD CONTACT

WISCONSIN CENTRAL LTD. D/B/A
CANADIAN NATIONAL RAILWAY CO.
1625 DEPOT STREET
STEVENS POINT, WI 54481
ATTN: JACKIE MACEWICZ
Jackie.Macewicz@cn.ca
(715) 345-2503
FLAGGING OPERATIONS
ATTN: MARY ELLEN CARMODY
MaryEllen.Carmody@cn.ca
(248) 740-6227

DESIGN CONTACT

AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: MARK PETERSEN, PE
petersenm@ayresassociates.com
(715) 834-3161

DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
810 WEST MAPLE STREET
SPOONER, WI 54801
ATTN: BILL GANTZ
william.gantz@wisconsin.gov
(715) 635-4227

UTILITIES

* ATC MANAGEMENT INC - ELECTRIC
801 O'KEEFE ROAD
P.O. BOX 6113
DE PERE, WI 54115-6113
ATTN: KIM HACKELBERG
khackelberg@atcllc.com
(920) 338-6556

* CENTURYLINK - COMMUNICATION LINE
P.O. BOX 13
SHELDON, WI 54766
ATTN: JIM ARQUETTE
jim.arquette@centurylink.com
(715) 452-5168

* DAIRYLAND POWER COOPERATIVE - ELECTRIC
3200 EAST AVENUE SOUTH
P.O. BOX 817
LA CROSSE, WI 54602-0817
ATTN: KURT CHILDS
kdc@dairynet.com
(608) 788-4000

* CHARTER COMMUNICATIONS - COMMUNICATION LINE
2304 SOUTH MAIN STREET
RICE LAKE, WI 54868
ATTN: THOMAS HAASE
tom.haase@charter.com
(715) 234-5341 EXT 252

* BRUCE TELEPHONE COMPANY INC - COMMUNICATION LINE
P.O. BOX 100
BRUCE, WI 54819
ATTN: JOHN MANOSKY
manoskyj@brusetel.net
(715) 868-5111

* NORTHERN NATURAL GAS COMPANY - GAS/PETROLEUM
6579 420TH STREET
HARRIS, MN 55032
ATTN: RON SPERRY
ron.sperry3@nngco.com
(651) 302-1485

* WISCONSIN INDEPENDENT NETWORK, LLC - COMMUNICATIONS
BLDG D02, SUITE 219, MB#107
800 WISCONSIN STREET
EAU CLAIRE, WI 54703
ATTN: JOHN LOUIS
JLouis@wins.net
(715) 838-4012

* XCEL ENERGY - TRANSMISSION
8701 MONTICELLO LANE
MAPLE GROVE, MN 55369
ATTN: CHARLIE DIENGER
charles.g.dienger@xcelenergy.com
(651) 955-1089

* XCEL ENERGY - ELECTRIC
1414 WEST HAMILTON AVENUE
P.O. BOX 8
EAU CLAIRE, WI 54702-0008
ATTN: DAWN SCHULTZ
dawn.schultz@xcelenergy.com
(715) 737-2482

LADYSMITH MUNICIPAL WATER UTILITY - WATER
P.O. BOX 431
LADYSMITH, WI 54848-0431
ATTN: KURT GORSEGNER
kurtg@centurytel.net
(715) 532-2603

* ENBRIDGE ENERGY - GAS/PETROLEUM
4898 YOUNG ROAD
VESPER, WI 54489
ATTN: RON FLEMING
ron.fleming@enbridge.com
(715) 569-4290

* WE ENERGIES - GAS/PETROLEUM
104 WEST SOUTH STREET
RICE LAKE, WI 54868494
ATTN: LEWIS KNAPP
lewis.knapp@we-energies.com
(715) 234-9605

* WISCONSIN DOT RWIS PROGRAM - COMMUNICATION TOWER
ROOM 501
P.O. BOX 7986
MADISON, WI 53707-7986
ATTN: MIKE ADAMS
michael.adams@dot.wi.gov
(608) 266-5004

* DENOTES DIGGERS HOTLINE MEMBER

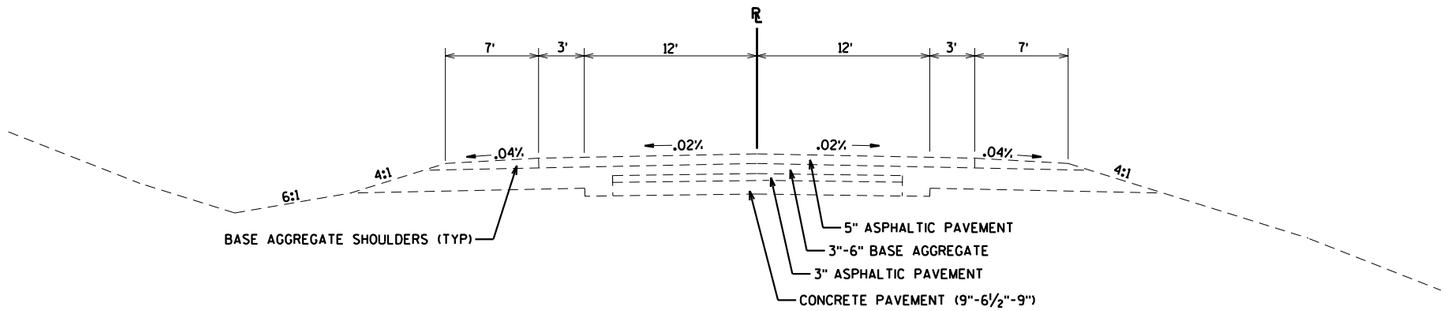
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

2

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	GENERAL NOTES, UTILITIES, & ABBREVIATIONS	SHEET 2	E

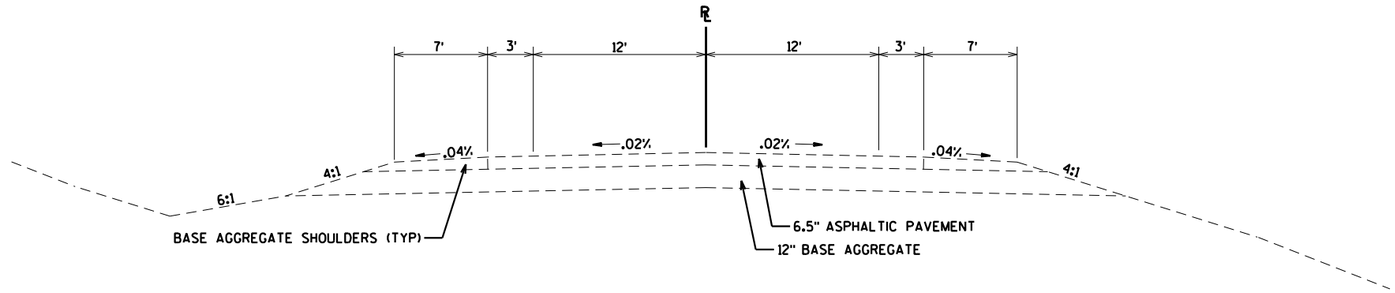
FILE NAME : T:\410645\DGN\020101_gn.dgn PLOT DATE : 1/5/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42



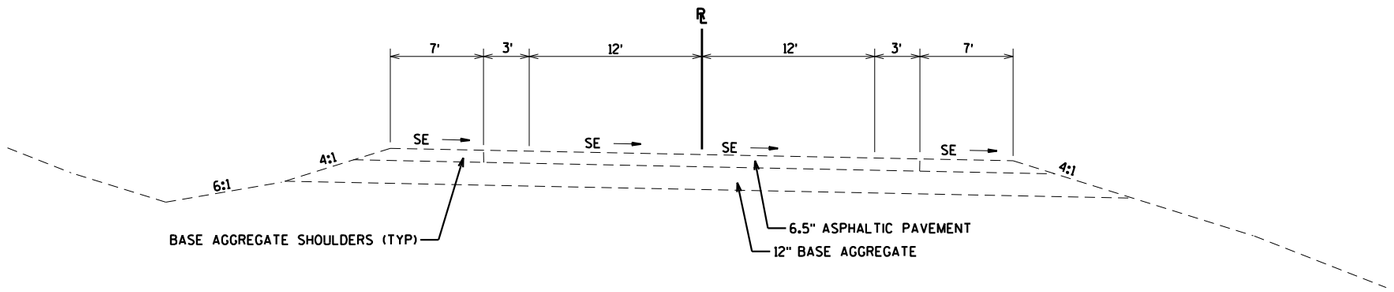
EXISTING TYPICAL SECTION - USH 8

STA 145+84.00 - STA 151+00.00
STA 211+50.00 - STA 272+00.00
STA 303+00.00 - STA 462+00.00



EXISTING TYPICAL SECTION - USH 8

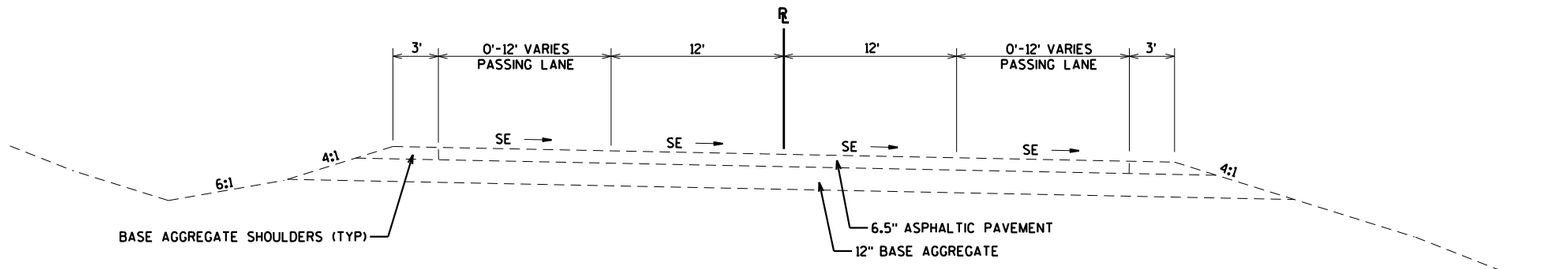
STA 151+00.00 - STA 205+00.00
STA 272+00.00 - STA 281+00.00
STA 293+00.00 - STA 303+00.00



EXISTING SUPERELEVATED TYPICAL SECTION - USH 8

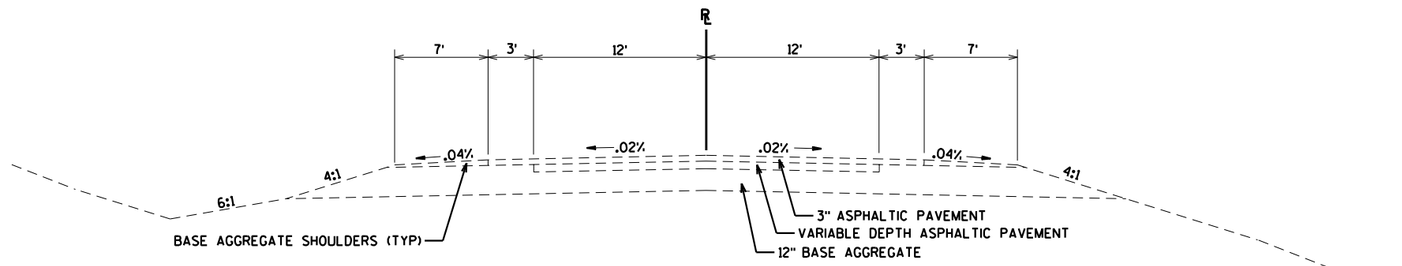
STA 126+62.65 - STA 145+84.00

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	TYPICAL SECTIONS	SHEET 3	E



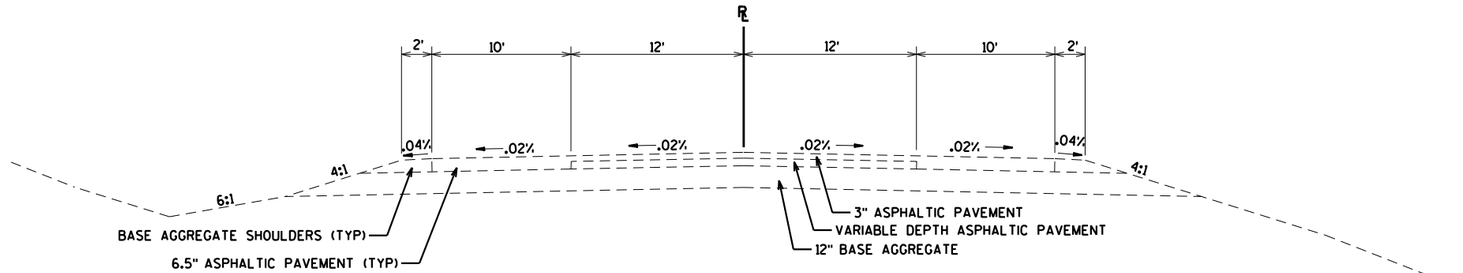
EXISTING SUPERELEVATED TYPICAL SECTION - USH 8

STA 205+00.00 - STA 211+50.00 (PASSING LANE RT)
STA 281+00.00 - STA 293+00.00 (PASSING LANE LT)



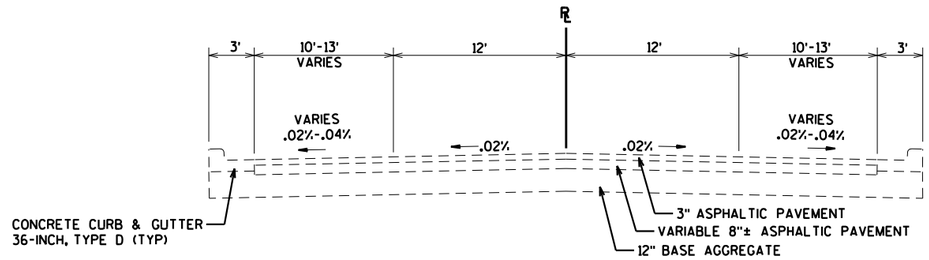
EXISTING TYPICAL SECTION - USH 8

STA 462+00.00 - STA 479+25.00



EXISTING TYPICAL SECTION - USH 8

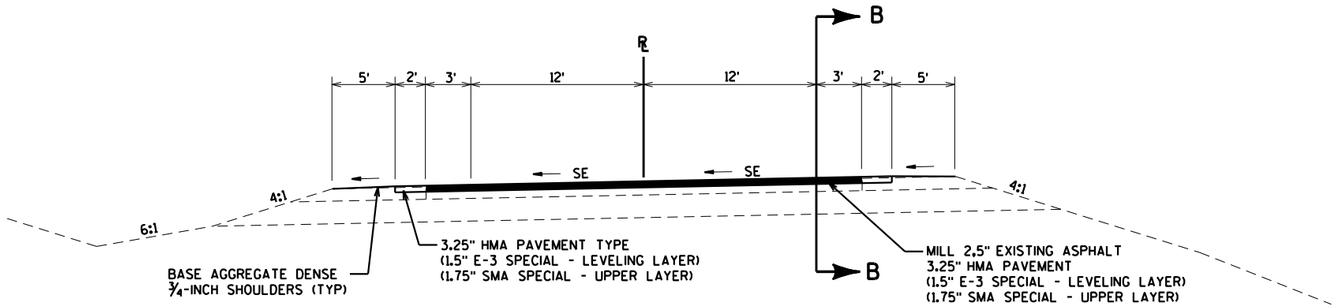
STA 479+25.00 - STA 505+50.00
STA 512+10.00 - STA 522+00.00



EXISTING TYPICAL SECTION - USH 8

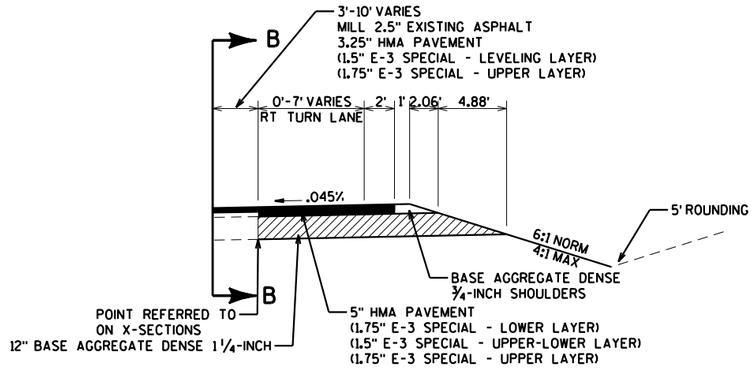
STA 505+50.00 - STA 512+10.00

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	TYPICAL SECTIONS	SHEET 4	E



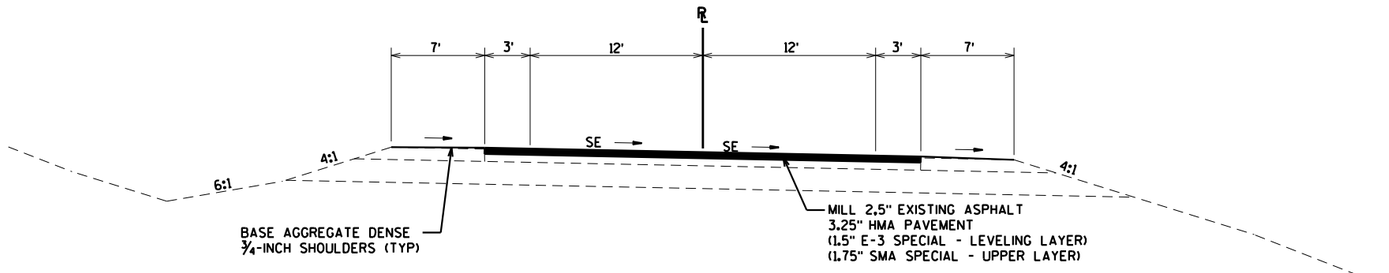
FINISHED SUPERELEVATED TYPICAL SECTION - USH 8

STA 126+62.65 - STA 149+77.10



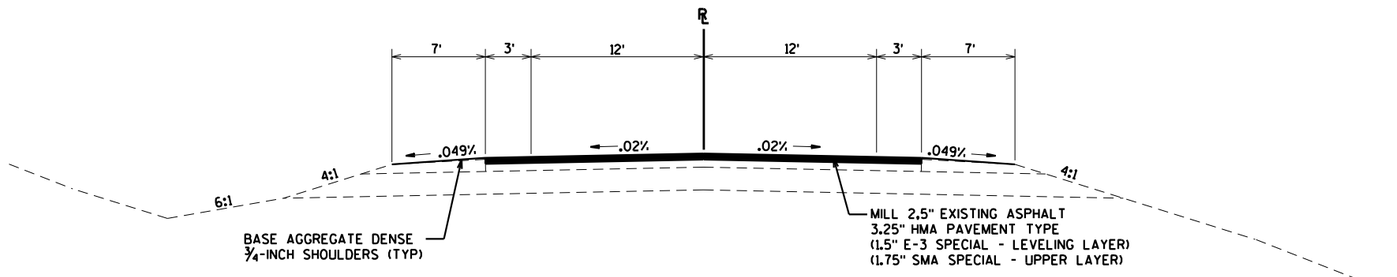
SECTION B-B

STA 145+84.15 - STA 149+09.15



FINISHED SUPERELEVATED TYPICAL SECTION - USH 8

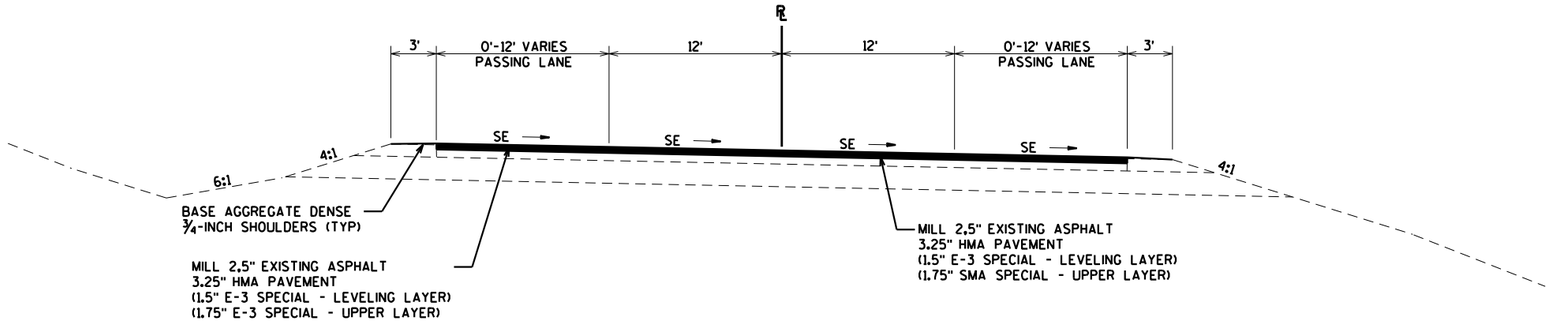
STA 149+77.10 - STA 152+99.03
STA 211+50.00 - STA 220+15.19
STA 363+95.74 - STA 367+28.40



FINISHED TYPICAL SECTION - USH 8

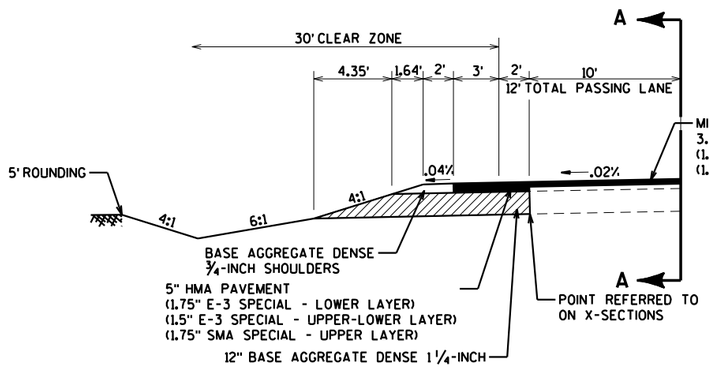
STA 152+99.03 - STA 205+00.00
STA 220+15.19 - STA 281+00.00
STA 293+00.00 - STA 363+95.74
STA 367+28.40 - STA 479+25.00

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	TYPICAL SECTIONS	SHEET 5	E



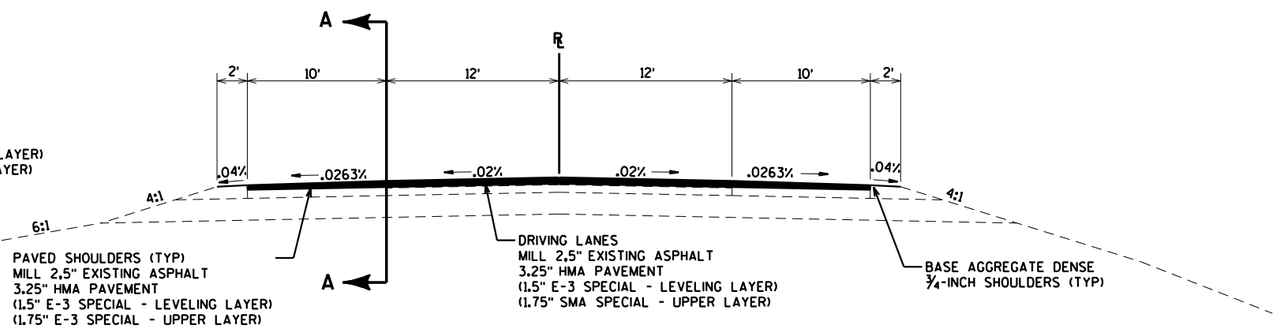
FINISHED SUPERELEVATED TYPICAL SECTION - USH 8

STA 205+00.00 - STA 211+50.00 (PASSING LANE RT)
STA 281+00.00 - STA 293+00.00 (PASSING LANE LT)



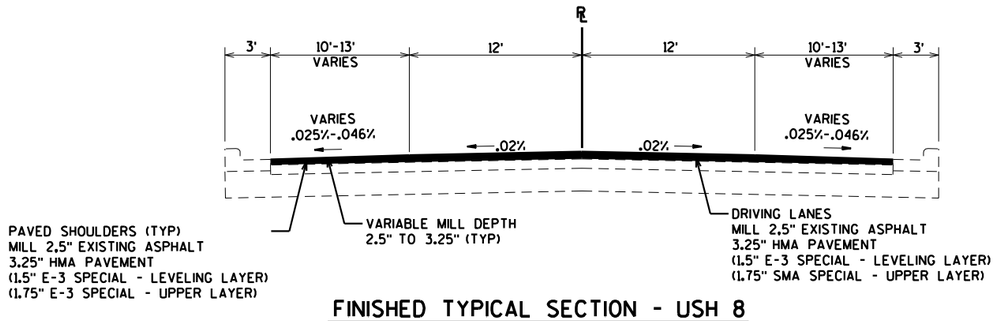
SECTION A-A

STA 485+16.00 - STA 493+10.00



FINISHED TYPICAL SECTION - USH 8

STA 479+25.00 - STA 505+50.00
STA 512+10.00 - STA 522+00.00



FINISHED TYPICAL SECTION - USH 8

STA 505+50.00 - STA 512+10.00

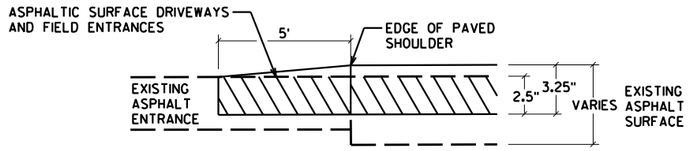
PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	TYPICAL SECTIONS	SHEET 6	E

2

RUNOFF COEFFICIENT TABLE

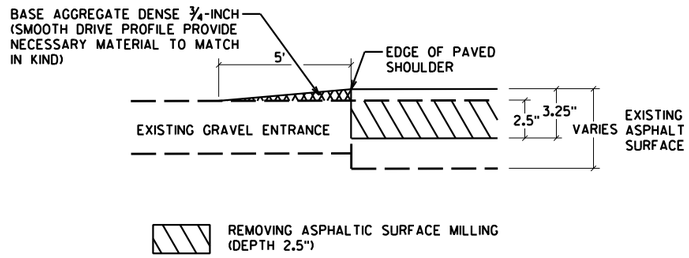
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .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 = 90.7 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 39.9 ACRE



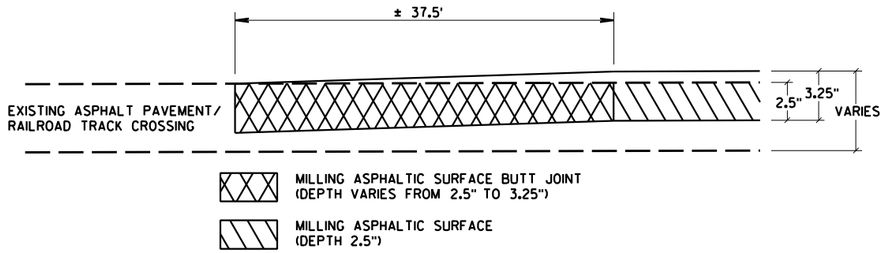
ASPHALTIC DRIVEWAY PAVING DETAIL

MATCH EXISTING WIDTH AND RADII OF DRIVEWAY
PREPARE SUBSURFACE FOR PAVING WITH BASE AGGREGATE DENSE ¾-INCH AS NECESSARY



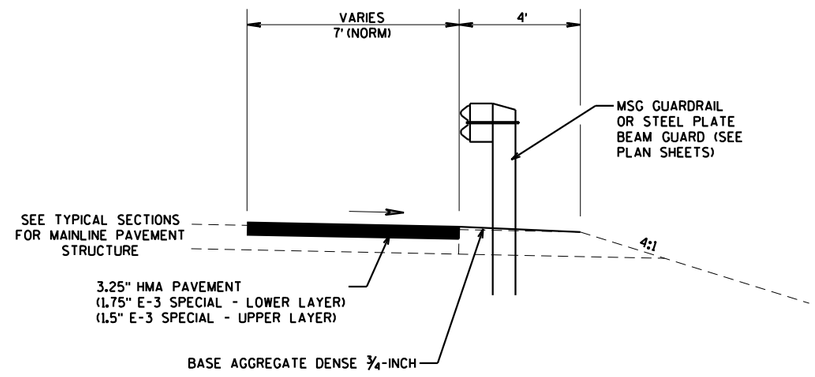
BASE AGGREGATE DRIVEWAY PAVING DETAIL

MATCH EXISTING WIDTH AND RADII OF DRIVEWAY



BUTT JOINT DETAIL

STA 126+62.65 - STA 127+00.15
STA 203+84.83 - STA 204+22.33
STA 204+40.88 - STA 204+78.38
STA 521+62.50 - STA 522+00.00



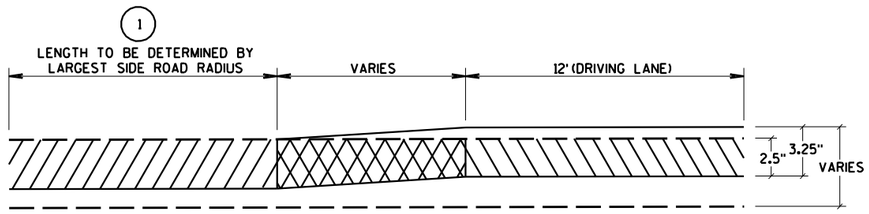
HMA PAVEMENT AT GUARDRAIL

STA 126+62 - STA 129+52, RT
STA 126+64 - STA 128+56, LT
STA 205+71 - THORNAPPLE RD, LT
STA 205+62 - STA 209+41, RT

2

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	CONSTRUCTION DETAILS	SHEET 7	E

2

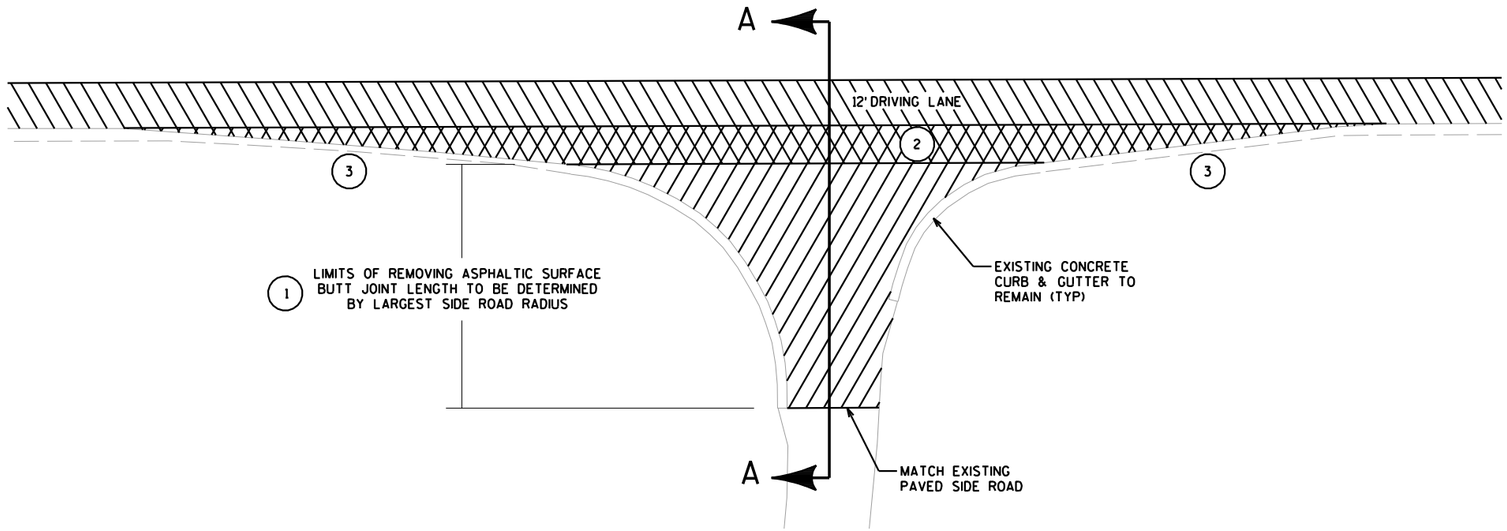


MILLING ASPHALTIC SURFACE BUTT JOINT (DEPTH 3.25")

MILLING ASPHALTIC SURFACE BUTT JOINT (DEPTH VARIES FROM 2.5" TO 3.25")

MILLING ASPHALTIC SURFACE (DEPTH 2.5")

1. LIMITS AS DIRECTED BY THE ENGINEER.
2. TRANSITION SHOULDER SLOPE AND SIDE ROAD CROSS-SLOPE TO MATCH THE EXISTING CONCRETE CURB AND GUTTER FLANGE LINE.
3. MATCH EXISTING TAPER RATES. THE ITEM "CONSTRUCTION STAKING INTERSECTION TAPERS" HAS BEEN INCLUDED TO STAKE THE EXISTING TAPERS.



DETAIL FOR RURAL PAVED SIDE ROAD WITH CONCRETE CURB & GUTTER

SAWDUST RD	SWAMP RD
CTH E	TOWNLINE RD
CHRISTMAN RD	BELL SCHOOL RD
BEEBE RD	PHOTIO RD
THORNAPPLE RD	SCHMIDT RD
POLACK AVE	W 15TH ST N
TAYLOR RD	W 13TH ST N
VAN WEY LN	W 11TH ST N

2

2

N

60' FROM EXISTING ℄
TO EXISTING R/W

146+00

147+00

148+00

149+00

150+00

151+00

USH 8

12.5:1 TAPER

12'

10'

200' TURN LANE

2'

1'

TEMPORARY DITCH
CHECK REQ'D

STA 146+29.61, 17' RT

STA 147+09.05, 24' RT

SLOPE INTERCEPT

60' FROM EXISTING ℄
TO EXISTING R/W

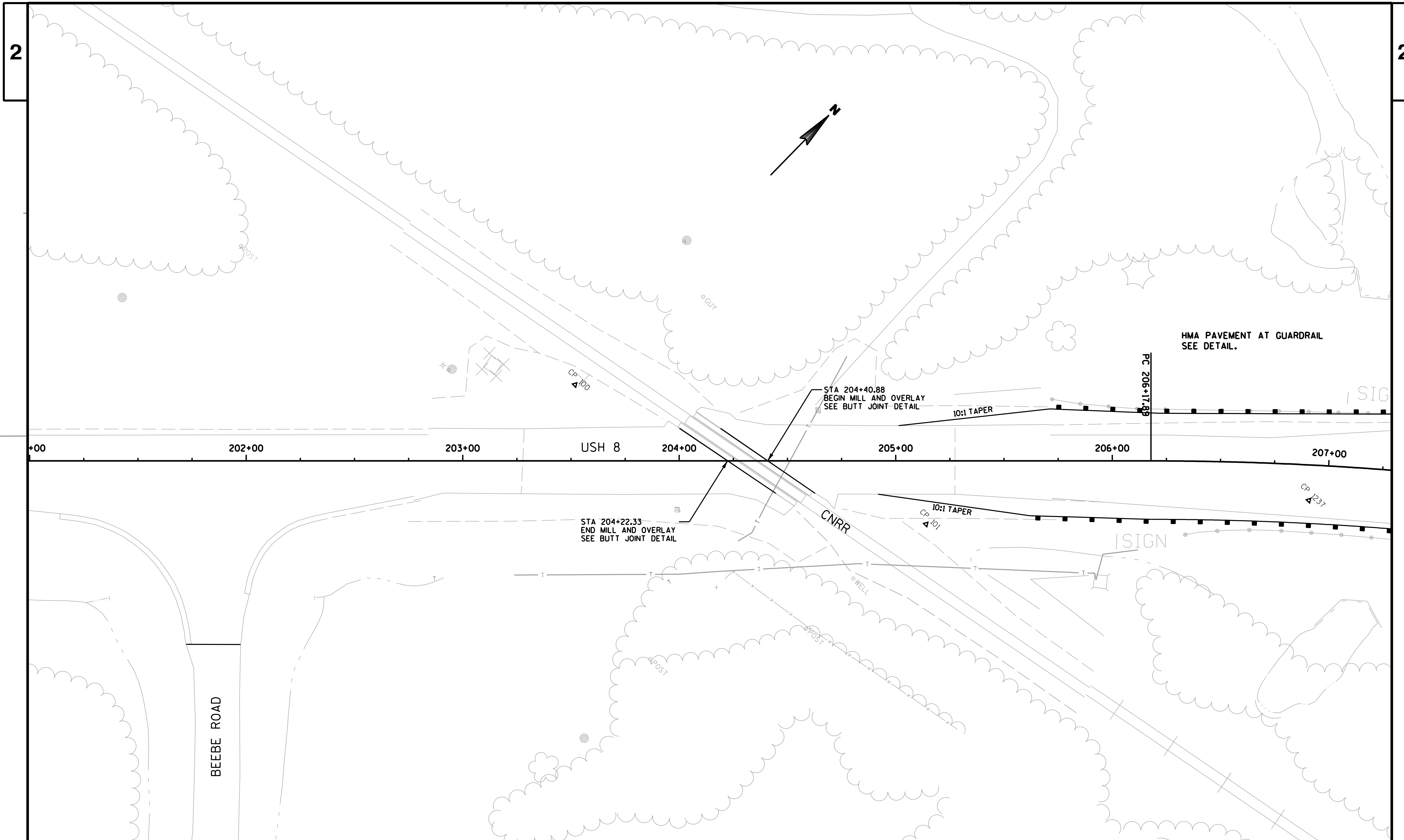
CTH E

ANT.

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	INTERSECTION DETAIL	SHEET	E

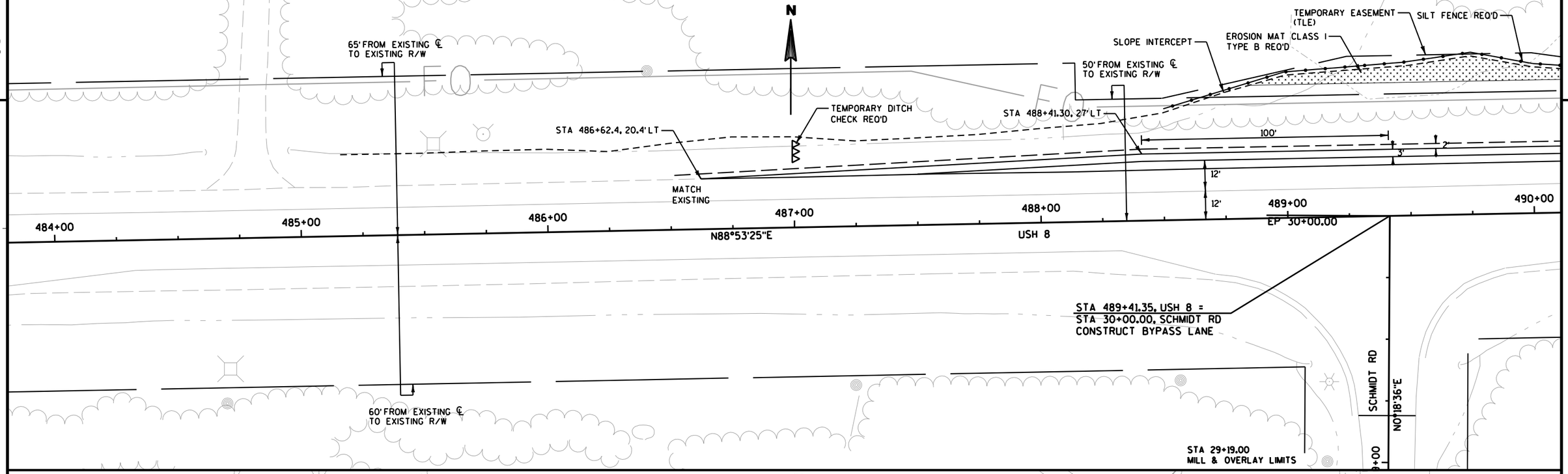
FILE NAME : T:\410645\DGN\021101_id.dgn PLOT DATE : 1/30/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:40

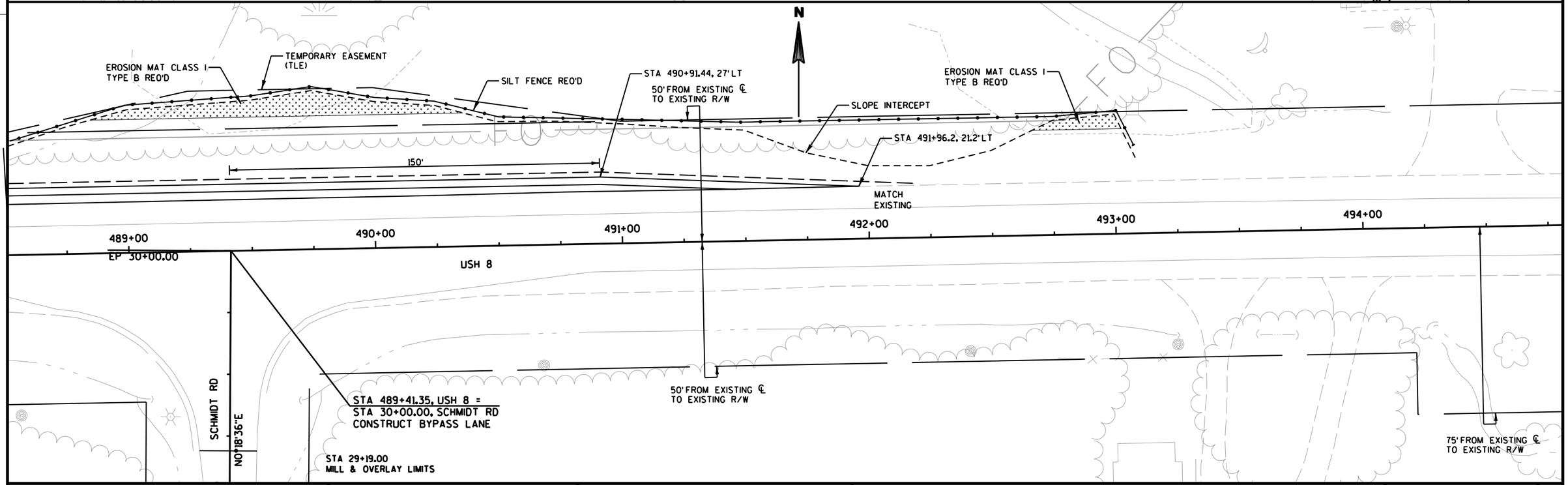
WISDOT/CADDS SHEET 42



PROJECT NO:1580-05-72	HWY:USH 8	COUNTY:RUSK	INTERSECTION DETAIL	SHEET 10	E

FILE NAME : T:\410645\DGN\021102_id.dgn PLOT DATE : 1/5/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:40 WISDOT/CADDS SHEET 42





PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	INTERSECTION DETAIL	SHEET	E

FILE NAME : T:\410645\DGN\021103_id.dgn PLOT DATE : 1/30/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:40

NO PASSING ZONE LIMITS TO BE DETERMINED WITH THE ITEM "LOCATING NO PASSING ZONES". ADJUST LOCATION OF NO PASSING ZONE SIGNS BASED ON "LOCATING NO PASSING ZONES" LOCATIONS.

N

Chippewa River
I3-1
84" X 15"
1-1

SPEED LIMIT 45
R2-1
24" X 30"
1-2

MOVING EXISTING SIGN
1-21

BRIDGE MAY BE ICY
W8-64
36" X 36"
1-5

STOP
R1-1
30" X 30"
1-6

SPEED LIMIT 45
W3-5
36" X 36"
1-8

W11-6
30" X 30"
1-11

Sawdust Rd
D1-1
78" X 15"
1-13

PAVEMENT MARKING
EPOXY 4-INCH YELLOW
(CENTERLINE)

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(EDGELINE)

1-3

SPEED LIMIT 55
R2-1
24" X 30"

1-4

Sawdust Rd
D1-1
78" X 15"

1-22

MOVING EXISTING SIGN

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(3' LINE 9' GAP) TYP

1-7

STOP
R1-1
30" X 30"

1-9

NEXT 3 MILES

REMOVING SIGN ONLY

1-12

JCT
COUNTY E
J1-1
24" X 39"

CHIPPEWA RIVER

USH 8

SAWDUST RD

CHRISTMAN RD

COUNTY E
J13-1
24" X 45"
1-16

W1-2R
30" X 30"

45 M.P.H.
W13-1
18" X 18"
1-19

JCT
COUNTY E
J1-1
24" X 39"
1-18

STOP
R1-1
30" X 30"
1-20

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(EDGELINE)

PAVEMENT MARKING
EPOXY 4-INCH YELLOW
(CENTERLINE)

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(3' LINE 9' GAP)

PAVEMENT MARKING
EPOXY 8-INCH WHITE
(CHANNELIZING)

1-14

COUNTY E
J13-1
24" X 45"

1-15

STOP
R1-1
30" X 30"

1-17

NO PASSING ZONE
W14-3
48" X 36"

CTH E

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PERMANENT SIGNING & PAVEMENT MARKING	SHEET E

FILE NAME : V:\Trans-EC\410645\DGN\023201_ps.dgn PLOT DATE : 7/28/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

NO PASSING ZONE LIMITS TO BE DETERMINED WITH THE ITEM "LOCATING NO PASSING ZONES". ADJUST LOCATION OF NO PASSING ZONE SIGNS BASED ON "LOCATING NO PASSING ZONES" LOCATIONS.

N

NO PASSING ZONE
W14-3
48" X 36"
2-2

REMOVING SIGN ONLY
8
W1-7
48" X 24"
2-7

PAVEMENT MARKING
EPOXY 4-INCH YELLOW
(CENTERLINE)

PAVEMENT MARKING
RAILROAD CROSSING
EPOXY

175 180 185 190 195 200

USH 8

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(EDGELINE)

2-1
NO PASSING ZONE
W14-3
48" X 36"

2-4
Beebe Rd
D1-1
66" X 15"

2-3
R R
W10-1
36" X 36"

2-6
DO NOT BLOCK INTERSECTION
R10-7
24" X 30"

BEEBE RD

2-8
STOP
R1-1
30" X 30"

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(3' LINE 9' GAP)

2-5
W1-2R
30" X 30"

MOVING EXISTING SIGN
2-17

Thornapple Rd
D1-1
96" X 15"
2-9

CNRR

2-16
MOVING EXISTING SIGN

THORNAPPLE RD

Beebe Rd
D1-1
66" X 15"
2-10

STOP
R1-1
30" X 30"
2-11

PAVEMENT MARKING
RAILROAD CROSSING
EPOXY

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(3' LINE 9' GAP)

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(12.5' LINE 37.5' GAP)

R R
W10-1
36" X 36"
2-13

Thornapple Rd
D1-1
96" X 15"
2-12

205 210 215 220 225 230 235

PAVEMENT MARKING
EPOXY 4-INCH WHITE
(EDGELINE)

PAVEMENT MARKING
EPOXY 4-INCH YELLOW
(CENTERLINE)

USH 8

W1-2L
30" X 30"
2-15

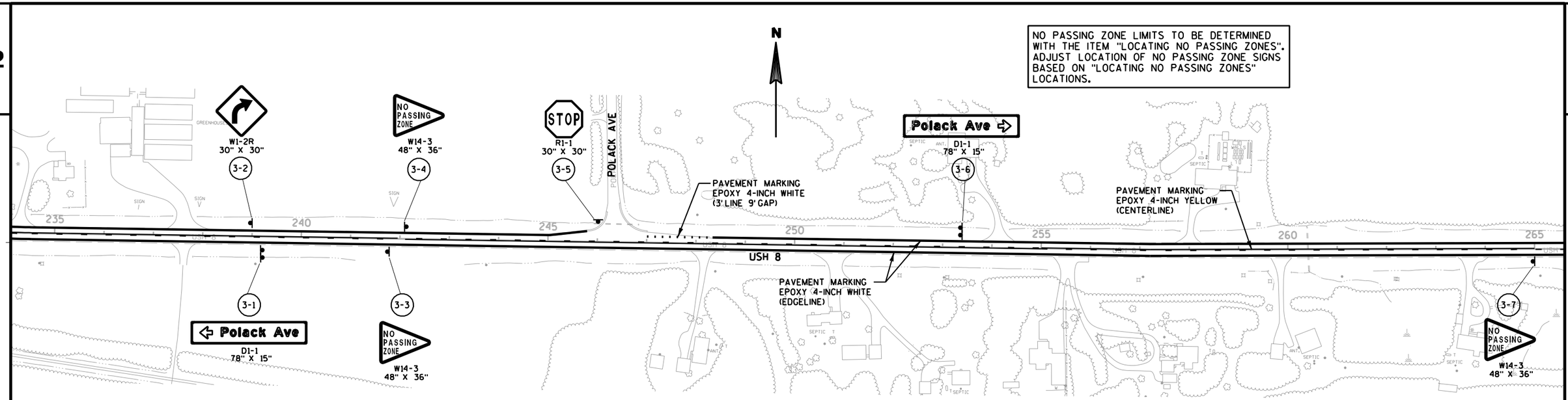
2-14
W1-2L
30" X 30"

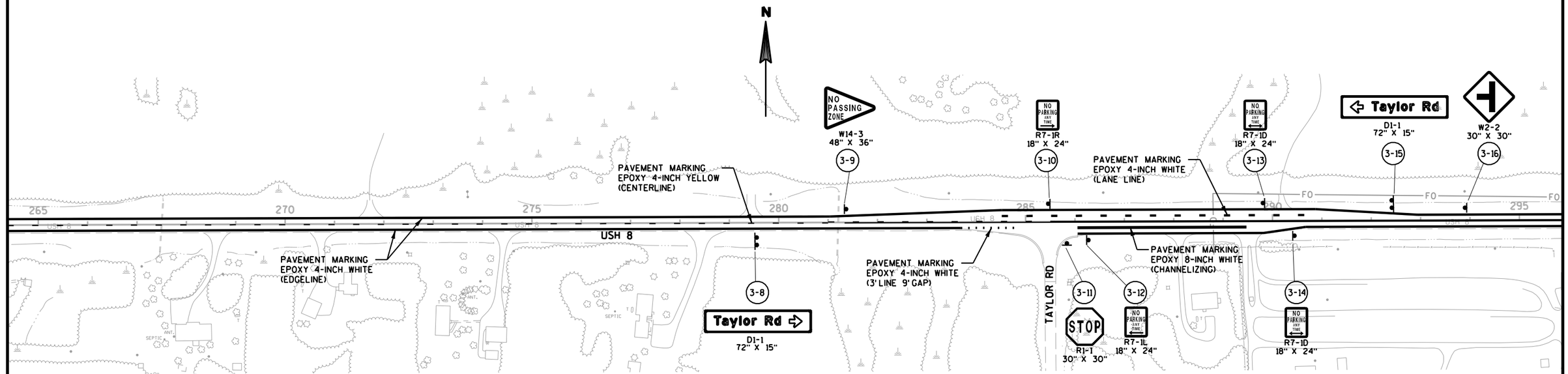
SEE SDD "SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD - HIGHWAY GRADE CROSSINGS" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PERMANENT SIGNING & PAVEMENT MARKING	SHEET	E

FILE NAME : V:\Trans-EC\410645\DGN\023202_ps.dgn PLOT DATE : 7/28/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200
WISDOT/CADDS SHEET 42

NO PASSING ZONE LIMITS TO BE DETERMINED WITH THE ITEM "LOCATING NO PASSING ZONES". ADJUST LOCATION OF NO PASSING ZONE SIGNS BASED ON "LOCATING NO PASSING ZONES" LOCATIONS.





PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PERMANENT SIGNING & PAVEMENT MARKING	SHEET	E

FILE NAME : V:\Trans-EC\410645\DGN\023203_ps.dgn PLOT DATE : 7/28/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

NO PASSING ZONE LIMITS TO BE DETERMINED WITH THE ITEM "LOCATING NO PASSING ZONES". ADJUST LOCATION OF NO PASSING ZONE SIGNS BASED ON "LOCATING NO PASSING ZONES" LOCATIONS.

N

R7-1D 18" X 24" (4-1)

R7-1D 18" X 24" (4-4)

R7-1L 18" X 24" (4-8)

MOVING EXISTING SIGN (4-12)

PAVEMENT MARKING EPOXY 4-INCH YELLOW (CENTERLINE)

PAVEMENT MARKING EPOXY 4-INCH WHITE (EDGELINE)

295 FO 300 FO 305 FO 310 FO 315 FO 320 FO 325

USH 8

VAN WEY LN

4-2 R7-1D 18" X 24"

4-3 R7-1D 18" X 24"

4-5 R1-1 STOP 30" X 30"

4-6 W14-3 NO PASSING ZONE 48" X 36"

4-7 R7-1R 18" X 24"

4-13 MOVING EXISTING SIGN

PAVEMENT MARKING EPOXY 4-INCH WHITE (3'LINE 9'GAP)

N

PAVEMENT MARKING EPOXY 4-INCH WHITE (3'LINE 9'GAP)

R1-1 STOP 30" X 30" (4-9)

SWAMP RD

PAVEMENT MARKING EPOXY 4-INCH WHITE (EDGELINE)

PAVEMENT MARKING EPOXY 4-INCH YELLOW (CENTERLINE)

325 FO 330 FO 335 FO 340 FO 345 FO 350 FO 355 FO

USH 8

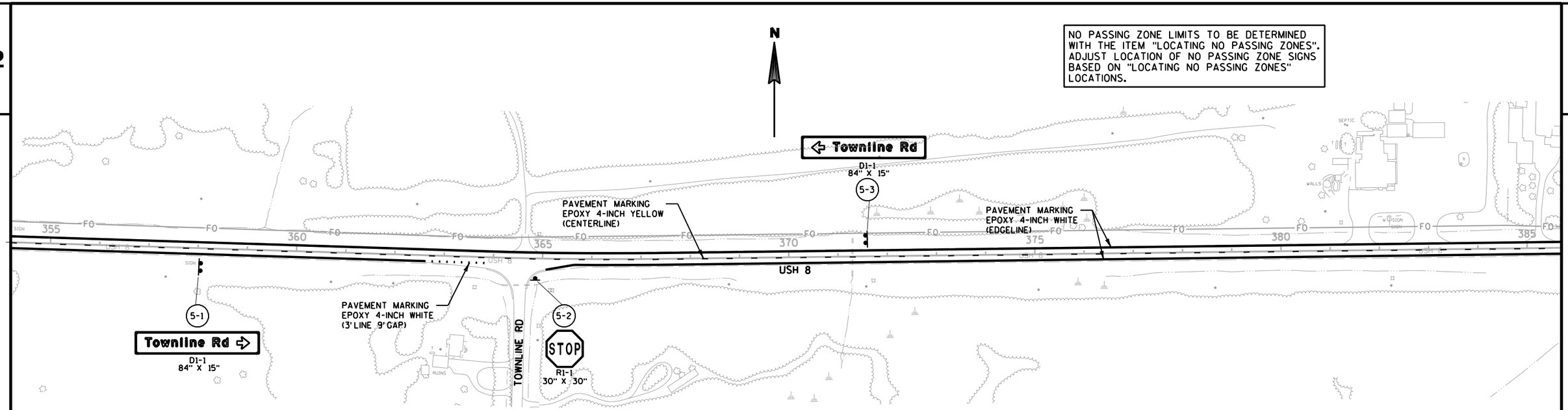
4-10 REMOVING SIGN ONLY

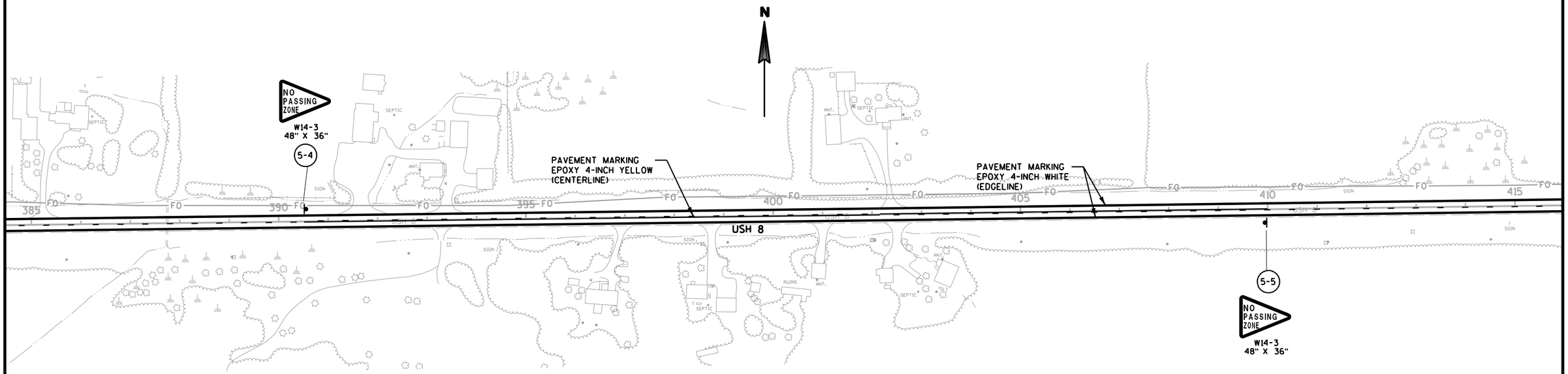
W1-7 48" X 24"

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 15	E

FILE NAME : V:\Trans-EC\410645\DGN\023204_ps.dgn PLOT DATE : 5/29/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

NO PASSING ZONE LIMITS TO BE DETERMINED WITH THE ITEM "LOCATING NO PASSING ZONES". ADJUST LOCATION OF NO PASSING ZONE SIGNS BASED ON "LOCATING NO PASSING ZONES" LOCATIONS.





PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 16	E

FILE NAME : V:\Trans-EC\410645\DGN\023205_ps.dgn PLOT DATE : 5/29/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

2

NO PASSING ZONE LIMITS TO BE DETERMINED WITH THE ITEM "LOCATING NO PASSING ZONES". ADJUST LOCATION OF NO PASSING ZONE SIGNS BASED ON "LOCATING NO PASSING ZONES" LOCATIONS.

N

NO PASSING ZONE
W14-3
48" X 36"
6-2

MOVING EXISTING SIGN
6-7

STOP
R1-1
30" X 30"
6-3

BELL SCHOOL RD

Bell School Rd
D1-1
96" X 15"
6-4

PAVEMENT MARKING EPOXY 4-INCH WHITE (3' LINE 9' GAP)

PAVEMENT MARKING EPOXY 4-INCH WHITE (EDGELINE)

PAVEMENT MARKING EPOXY 4-INCH YELLOW (CENTERLINE)

USH 8

6-1

Bell School Rd
D1-1
96" X 15"

6-5

NO PASSING ZONE
W14-3
48" X 36"

N

NO PASSING ZONE
W14-3
48" X 36"
6-6

PAVEMENT MARKING EPOXY 4-INCH WHITE (EDGELINE)

PAVEMENT MARKING EPOXY 4-INCH YELLOW (CENTERLINE)

USH 8

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 17	E

FILE NAME : V:\Trans-EC\410645\DGN\023206_ps.dgn PLOT DATE : 5/29/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

NO PASSING ZONE LIMITS TO BE DETERMINED WITH THE ITEM "LOCATING NO PASSING ZONES". ADJUST LOCATION OF NO PASSING ZONE SIGNS BASED ON "LOCATING NO PASSING ZONES" LOCATIONS.

N

BEGIN SPECIAL NO PASSING ZONE

PAVEMENT MARKING EPOXY 4-INCH YELLOW (CENTERLINE)

PAVEMENT MARKING EPOXY 4-INCH WHITE (LANE LINE)

PAVEMENT MARKING EPOXY 4-INCH WHITE (3'LINE 9'GAP)

PAVEMENT MARKING EPOXY 4-INCH WHITE (EDGELINE)

END SPECIAL NO PASSING ZONE

PHOTIO RD

SCHMIDT RD

USH 8

7-1 NO PASSING ZONE W14-3 48" X 36"

7-2 STOP R1-1 30" X 30"

7-3 SPEED LIMIT 45 W3-5 36" X 36"

7-4 SPEED LIMIT 55 R2-1 24" X 30"

7-5 WISCONSIN ROAD EMERGENCY CELLUAR 911 REMOVING SIGN ONLY

7-6 STOP R1-1 30" X 30"

7-7 NO PASSING ZONE W14-3 48" X 36"

7-8 Bruce Cameron D2-2 72" X 24"

7-9 SPEED LIMIT 45 R2-1 24" X 30"

7-10 WEST 8 J4-1 24" X 36"

7-11 Ladysmith POPULATION 3,414 I2-3 66" X 24"

7-12 BUCKLE UP IT'S THE LAW REMOVING SIGN ONLY

7-13 SPEED LIMIT 45 R2-1 24" X 30"

7-14 SPEED LIMIT 45 R2-1 24" X 30"

N

W 15TH ST N

W 13TH ST N

W 11TH ST N

W 10TH ST N

W 9TH ST N

USH 8

7-15 STOP R1-1 30" X 30"

7-16 SPEED LIMIT 45 R2-1 24" X 30"

7-17 SPEED LIMIT 35 R2-1 24" X 30"

7-18 STOP R1-1 30" X 30"

7-19 STOP R1-1 30" X 30"

7-20 SPEED LIMIT 35 R2-1 24" X 30"

7-21 JCT 27 JI-1 24" X 39"

7-22 W3-1 36" X 36"

7-23 NORTH EAST SOUTH 27 8 27 J2-3 72" X 57"

7-24 STOP R1-1 30" X 30"

7-25 NO PASSING ZONE W14-3 48" X 36"

7-26 SPEED LIMIT 35 R2-1 24" X 30"

7-27 8 REMOVING SIGN ONLY

7-28 Prentice Ojibwa Cornell D1-3 66" X 42"

TOURIST INFORMATION D7-59R 54" X 36"

PAVEMENT MARKING EPOXY 4-INCH WHITE (3'LINE 9'GAP)

PAVEMENT MARKING EPOXY 4-INCH YELLOW (CENTERLINE)

PAVEMENT MARKING EPOXY 4-INCH WHITE (EDGELINE)

PAVEMENT MARKING EPOXY 4-INCH WHITE (3'LINE 9'GAP)

PAVEMENT MARKING EPOXY 4-INCH WHITE (3'LINE 9'GAP)

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PERMANENT SIGNING & PAVEMENT MARKING	SHEET	E

FILE NAME : V:\Trans-EC\410645\DGN\023207_ps.dgn PLOT DATE : 5/29/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

SEE SDD "TRAFFIC CONTROL, ADVANCED WARNING SIGNS 45 MPH OR GREATER, TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR ADDITIONAL DETAILS.

SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)" FOR ADDITIONAL DETAILS.

SEE SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY" FOR ADDITIONAL DETAILS.

N

UNEVEN LANES
W8-11
36" X 36"

PLACE EVERY 1 MILE IN MILL AND OVERLAY ZONES

GROOVED PAVEMENT
W8-52
36" X 36"

PLACE PRIOR TO EVERY MILLED SURFACE SECTIONS AND ON SIDE ROAD APPROACH.

NOTE:
"ROAD WORK AHEAD" AND "END ROAD WORK" SIGNS SHALL BE PLACED AT THE FOLLOWING SIDE ROADS: SAWDUST RD, CTH E, CHRISTMAN RD, BEEBE RD, THORNAPPLE RD, POLACK AVE, TAYLOR RD, VAN WEY LN, SWAMP RD, TOWNLINE RD, BELL SCHOOL RD, PHOTIO RD, SCHMIDT RD, W 15TH ST N, W 13TH ST N, W 11TH ST N

TRAFFIC CONTROL NOTES:

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

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

EXISTING TRAFFIC SIGNS MAY REQUIRE RELOCATION DURING STAGES OF CONSTRUCTION AND SHALL BE LOCATED AS REQUIRED BY THE FIELD ENGINEER.

SIGNS FOR ADVANCED WARNING OF CONSTRUCTION SHALL BE PLACED IN THE INITIAL PHASE OF CONSTRUCTION.

DETAILS OF CONSTRUCTION NOT ON THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

LOCAL ACCESS SHALL BE MAINTAINED AT ALL TIMES.

DATE 03NOV15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1580-05-72 QUANTITY
0010	201.0105	Clearing	STA	4.000	4.000
0020	201.0205	Grubbing	STA	4.000	4.000
0030	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0050	204.0115	Removing Asphaltic Surface Butt Joints	SY	6,648.000	6,648.000
0060	204.0120	Removing Asphaltic Surface Milling	SY	142,591.000	142,591.000
0090	205.0100	Excavation Common	CY	350.000	350.000
0100	209.0100	Backfill Granular	CY	422.000	422.000
0110	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	12.000	12.000
0120	213.0100	Finishing Roadway (project) 01. 1580-05-72	EACH	1.000	1.000
0140	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,600.000	1,600.000
0150	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,000.000	1,000.000
0160	305.0500	Shaping Shoulders	STA	749.000	749.000
0190	440.4410	Incentive IRI Ride	DOL	29,960.000	29,960.000
0200	455.0605	Tack Coat	GAL	20,995.000	20,995.000
0210	460.2000	Incentive Density HMA Pavement	DOL	16,940.000	16,940.000
0220	465.0110	Asphaltic Surface Patching	TON	250.000	250.000
0230	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	350.000	350.000
0240	465.0475	Asphalt Center Line Rumble Strips 2-Lane Rural	LF	30,800.000	30,800.000
0400	520.8700	Cleaning Culvert Pipes	EACH	7.000	7.000
0410	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	16.000	16.000
0420	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
0430	524.0124	Culvert Pipe Salvaged 24-Inch	LF	40.000	40.000
0440	524.0624	Apron Endwalls for Culvert Pipe Salvaged 24-Inch	EACH	2.000	2.000
0490	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0500	614.0010	Barrier System Grading Shaping Finishing	EACH	1.000	1.000
0510	614.0305	Steel Plate Beam Guard Class A	LF	225.000	225.000
0520	614.0345	Steel Plate Beam Guard Short Radius	LF	75.000	75.000
0530	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	1.000	1.000
0540	614.0920	Salvaged Rail	LF	1,020.000	1,020.000
0550	614.2300	MGS Guardrail 3	LF	575.000	575.000
0560	614.2500	MGS Thrie Beam Transition	LF	78.000	78.000
0570	614.2610	MGS Guardrail Terminal EAT	EACH	5.000	5.000
0580	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1580-05-72	EACH	1.000	1.000
0590	619.1000	Mobilization	EACH	0.700	0.700
0600	624.0100	Water	MGAL	15.000	15.000
0620	625.0500	Salvaged Topsoil	SY	1,800.000	1,800.000
0630	627.0200	Mulching	SY	2,500.000	2,500.000
0640	628.1504	Silt Fence	LF	600.000	600.000
0650	628.1520	Silt Fence Maintenance	LF	600.000	600.000
0660	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0670	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0680	628.2004	Erosion Mat Class I Type B	SY	135.000	135.000
0700	628.7504	Temporary Ditch Checks	LF	30.000	30.000
0710	629.0210	Fertilizer Type B	CWT	3.000	3.000
0720	630.0120	Seeding Mixture No. 20	LB	61.000	61.000
0740	630.0200	Seeding Temporary	LB	40.000	40.000

3

DATE 03NOV15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1580-05-72 QUANTITY
0750	630.0300	Seeding Borrow Pit	LB	4.000	4.000
0760	633.5200	Markers Culvert End	EACH	3.000	3.000
0770	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	41.000	41.000
0780	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	69.000	69.000
0790	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	3.000	3.000
0800	637.2210	Signs Type II Reflective H	SF	438.490	438.490
0810	637.2230	Signs Type II Reflective F	SF	200.140	200.140
0820	638.2102	Moving Signs Type II	EACH	7.000	7.000
0830	638.2602	Removing Signs Type II	EACH	102.000	102.000
0840	638.3000	Removing Small Sign Supports	EACH	118.000	118.000
0850	638.4000	Moving Small Sign Supports	EACH	7.000	7.000
0860	642.5401	Field Office Type D	EACH	0.700	0.700
0870	643.0100	Traffic Control (project) 01. 1580-05-72	EACH	1.000	1.000
0890	643.0300	Traffic Control Drums	DAY	2,000.000	2,000.000
0920	643.0900	Traffic Control Signs	DAY	3,000.000	3,000.000
0930	646.0106	Pavement Marking Epoxy 4-Inch	LF	117,815.000	117,815.000
0940	646.0126	Pavement Marking Epoxy 8-Inch	LF	550.000	550.000
0960	647.0110	Pavement Marking Railroad Crossings Epoxy	EACH	2.000	2.000
0980	648.0100	Locating No-Passing Zones	MI	7.490	7.490
1000	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	151,550.000	151,550.000
1010	650.4500	Construction Staking Subgrade	LF	1,119.000	1,119.000
1020	650.5000	Construction Staking Base	LF	1,119.000	1,119.000
1040	650.8000	Construction Staking Resurfacing Reference	LF	39,537.000	39,537.000
1050	650.9910	Construction Staking Supplemental Control (project) 01. 1580-05-72	LS	1.000	1.000
1070	650.9920	Construction Staking Slope Stakes	LF	1,119.000	1,119.000
1100	ASP.1T0A	On-the-Job Training Apprentice at $5. 00/HR	HRS	315.000	315.000
1110	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,000.000	1,000.000
1120	SPV.0060	Special 01. Adjusting Water Valves	EACH	2.000	2.000
1150	SPV.0105	Special 01. Milling And Removing Temporary Joint	LS	1.000	1.000
1160	SPV.0105	Special 02. Prepare Foundation For Asphaltic Paving Special	LS	1.000	1.000
1170	SPV.0105	Special 03. Material Transfer Vehicle	LS	1.000	1.000
1190	SPV.0170	Special 01. Reheating Hma Pavement Longitudinal Joints Special	STA	396.000	396.000
1200	SPV.0195	Special 01. Hma Pavement Type Sma Special	TON	12,617.000	12,617.000
1210	SPV.0195	Special 02. Hma Pavement Type E-3 Special	TON	13,849.000	13,849.000
1220	SPV.0195	Special 03. Sma Pavement Compaction Acceptance	TON	12,617.000	12,617.000

3

3

CLEARING AND GRUBBING

STATION TO STATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
488+00 - 492+00 LT	4	4
PROJECT TOTALS	**4**	**4**

REMOVING ASPHALTIC SURFACE MILLING

STATION TO STATION	LOCATION	204.0120 SY
126+63 - 149+77	USH 8	7715
149+77 - 205+00	USH 8	18410
205+00 - 211+50	USH 8	3470
211+50 - 281+00	USH 8	23170
281+00 - 293+00	USH 8	6400
293+00 - 479+25	USH 8	62083
479+25 - 505+50	USH 8	12833
505+50 - 512+10	USH 8	3670
512+10 - 522+00	USH 8	4840
PROJECT TOTAL		**142591**

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

STATION TO STATION	LOCATION	211.0400 STA
126+64 - 128+56	LT	2
126+62 - 129+42	RT	3
205+71 - 208+71	LT	3
205+62 - 209+41	RT	4
PROJECT TOTAL		**12**

BASE AGGREGATE DENSE

STATION TO STATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
145+84 - 149+09	30	350
485+16 - 493+10	70	650
DRIVEWAYS	20	---
PROJECT WIDE SHOULDERS	1480	---
PROJECT TOTALS	**1600**	**1000**

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 EACH	LENGTH	SIZE	COMMENTS
267+50	RT	1	16'	24"	REMOVE 2 SECTIONS AND ENDWALL
PROJECT TOTAL		**1**			

FINISHING ROADWAY

LOCATION	213.0100 EACH
01. 1580-05-72	1
PROJECT TOTAL	**1**

SHAPING SHOULDERS

STATION TO STATION	LOCATION	305.0500 STA
126+62 - 145+84	RT	20
149+09 - 505+50	RT	357
126+62 - 485+16	LT	359
493+10 - 505+50	LT	13
PROJECT TOTAL		**749**

ASPHALTIC SURFACE PATCHING

LOCATION	465.0110 TON	COMMENTS
ENTIRE PROJECT	250	FILLING POT HOLES, TRAFFIC POPOUTS AND RAMPING AT BUTT JOINTS
PROJECT TOTAL	**250**	

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

LOCATION	465.0120 TON
ENTIRE PROJECT	350
PROJECT TOTAL	**350**

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION TO STATION	LOCATION	204.0115 SY	COMMENTS
126+63 - 127+00	USH 8	125	MAINLINE
203+85 - 204+22	USH 8	125	RR CROSSING
204+41 - 204+78	USH 8	125	RR CROSSING
521+63 - 522+00	USH 8	183	MAINLINE
SIDE ROADS	ENTIRE PROJECT	6090	
PROJECT TOTAL		**6648**	

EARTHWORK SUMMARY

DIVISION	STATION TO STATION	LOCATION	205.0100 EXCAVATION COMMON CY	UNEXPANDED FILL CY	(2) (4) EXPANDED FILL CY	(5) MASS ORDINATE +/- CY	(1) WASTE CY	(3) 209.0100 BACKFILL GRANULAR CY
	145+84 - 149+09	RT TURN LANE	150	8	10	140		
DIVISION 1 SUBTOTAL			150	8	10	140	140	---
	485+16 - 493+10	BYPASS LANE	200	478	622	-422		422
DIVISION 2 SUBTOTAL			200	---	622	-422	---	422
PROJECT TOTALS			**350**					**422**

(1) WASTE = EXPANDED FILL - EXCAVATION COMMON (FOR INFORMATION ONLY - NOT A BID ITEM)
(2) EXPANSION FACTOR = 1.3
(3) BACKFILL GRANULAR = EXPANDED FILL - EXCAVATION COMMON
(4) EXPANDED FILL = UNEXPANDED FILL * EXPANSION FACTOR
(5) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN

HMA PAVEMENT ITEMS

STATION TO STATION	LOCATION	SPV.0195.02 HMA PAVEMENT TYPE E-3 SPECIAL TON	SPV.0195.01 HMA PAVEMENT TYPE SMA SPECIAL TON	455.0605 TACK COAT GAL
126+63 - 149+77	MAINLINE	734	857	1224
145+84 - 149+09	RT TURN LANE	92	---	61
149+77 - 152+99	MAINLINE	90	105	150
152+99 - 205+00	MAINLINE	1456	1699	2427
205+00 - 211+50	MAINLINE	265	170	394
211+50 - 220+15	MAINLINE	242	283	404
220+15 - 281+00	MAINLINE	1704	1988	2840
281+00 - 293+00	MAINLINE	510	314	728
293+00 - 363+96	MAINLINE	1987	2318	3311
363+96 - 367+28	MAINLINE	93	108	155
367+28 - 479+25	MAINLINE	308	3658	5225
479+25 - 505+50	MAINLINE	1650	686	1797
485+16 - 493+10	BYPASS LANE	291	---	185
505+50 - 512+10	MAINLINE	495	172	513
512+10 - 522+00	MAINLINE	622	259	678
GUARDRAIL AREAS	PROJECT	202	---	51
SIDE ROADS	PROJECT	1108	---	852
UNDISTRIBUTED	PROJECT	2000	---	---
PROJECT TOTALS		**13849**	**12617**	**20995**

ASPHALTIC CENTERLINE RUMBLE STRIP 2-LANE RURAL

STATION TO STATION	LOCATION	465.0475 LF
126+63 - 485+00	C/L	30800
PROJECT TOTAL		**30800**

CULVERT PIPE SALVAGED 24-INCH

STATION	LOCATION	524.0124 PIPE LF	524.0624 APRON ENDWALL EACH
260+41	LT	24	1
503+64	LT	16	1
PROJECT TOTALS		**40**	**2**

MOBILIZATION

LOCATION	619.1000 EACH
ENTIRE PROJECT	0.7
PROJECT TOTAL	**0.7**

WATER

LOCATION	624.0100 MGAL
BASE COMPACTION	10
DUST CONTROL	5
PROJECT TOTAL	**15**

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 EACH	628.1910 EMERGENCY EACH
ENTIRE PROJECT	4	4
PROJECT TOTAL	**4**	**4**

CLEANING CULVERT PIPES

STATION	520.8700 EACH
182+98	1
230+30	1
260+41	1
267+50	1
418+29	1
462+04	1
503+69	1
PROJECT TOTAL	**7**

SALVAGED RAIL

STATION TO STATION	LOCATION	614.0920 LF
126+64 - 127+97	LT	133
126+64 - 129+46	RT	282
205+71 - THORNAPPLE RD	LT	352
206+37 - 208+90	RT	253
PROJECT TOTAL		**1020**

MAINTENANCE AND REPAIR OF HAUL ROAD

LOCATION	618.0100 EACH
01. 1580-05-72	1
PROJECT TOTAL	**1**

SILT FENCE

STATION TO STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
488+50 - 493+25	LT	475	475
UNDISTRIBUTED		125	125
PROJECT TOTALS		**600**	**600**

EROSION MAT CLASS I TYPE B

STATION TO STATION	LOCATION	628.2004 SY
488+75 - 490+50	LT	93
492+70 - 493+00	LT	17
UNDISTRIBUTED		25
PROJECT TOTAL		**135**

CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH

STATION	LOCATION	522.0124 PIPE LF	522.1024 ENDWALL EACH	COMMENT
267+50	RT	16	1	TIE INTO EXISTING CULVERT
PROJECT TOTALS		**16**	**1**	

ADJUSTING MANHOLE COVERS

STATION	LOCATION	611.8110 EACH
512+50	LT	1
PROJECT TOTAL		**1**

BARRIER SYSTEM GRADING SHAPING FINISHING

STATION TO STATION	LOCATION	EXCAVATION COMMON * CY	SALVAGED * TOPSOIL SY	FERTILIZER * TYPE B CWT	SEEDING * #20 LB	MULCHING * SY	614.0010 EACH
207+50 - THORNAPPLE RD	LT	50	100	0.1	3	100	1
TOTALS		50	100	0.1	3	100	**1**

* ITEMS & QUANTITIES LISTED FOR BID INFORMATION ONLY.

GUARDRAIL ITEMS

STATION TO STATION	LOCATION	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.0345 SHORT RADIUS LF	614.0390 SHORT RADIUS TERMINAL EACH	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
126+64 - 128+56	LT	---	---	---	100	39	1
126+62 - 129+52	RT	---	---	---	200	39	1
205+71 - THORNAPPLE RD	LT	225	75	1	---	---	1
205+62 - 209+41	RT	---	---	---	275	---	2
PROJECT TOTALS		**225**	**75**	**1**	**575**	**78**	**5**

SALVAGED TOPSOIL, MULCHING, FERTILIZER, & SEEDING

STATION TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB
145+84 - 149+09	RT	400	400	0.5	11	6	---
485+16 - 493+10	LT	1350	1350	1.0	37	19	---
VARIOUS PIPE LOCATIONS	LT/RT	50	50	0.5	1	1	---
BORROW SITE		---	200	1	---	6	3
UNDISTRIBUTED		---	500	1	12	8	1
PROJECT TOTALS		**1800**	**2500**	**3**	**61**	**40**	**4**

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 LF
145+75	RT	10
487+00	LT	10
UNDISTRIBUTED		10
PROJECT TOTAL		**30**

MARKERS CULVERT ENDS

STATION	LOCATION	633.5200 EACH
267+50	RT	1
260+41	LT	1
503+64	LT	1
PROJECT TOTAL		**3**

SIGNS TYPE II REFLECTIVE & POSTS WOOD

SIGN NO.	STATION	SIGN CODE	SIZE	634.0614 POSTS WOOD 4X6-INCH 14-FT EACH	634.0616 POSTS WOOD 4X6-INCH 16-FT EACH	634.0618 POSTS WOOD 4X6-INCH 18-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
1-1	125+95, LT	I3-1	84 X 15	2	---	---	8.75	---	1	2
1-2	128+50, LT	R2-1	24 X 30	---	1	---	5.00	---	1	1
1-3	128+50, RT	R2-1	24 X 30	---	1	---	5.00	---	1	1
1-4	130+25, RT	D1-1	78 X 15	2	---	---	8.13	---	1	2
1-5	133+50, LT	W8-64	36 X 36	---	1	---	---	9.00	1	1
1-6	134+10, LT	R1-1	30 X 30	---	1	---	5.18	---	1	1
1-7	134+90, RT	R1-1	30 X 30	---	1	---	5.18	---	1	1
1-8	135+60, LT	W3-5	36 X 36	---	1	---	---	9.00	1	1
1-9	136+00, RT			---	---	---	---	---	1	1
1-9	136+00, RT			---	---	---	---	---	1	---
1-11	138+00, LT	W11-6	30 X 30	---	1	---	---	6.25	1	1
1-12	139+75, RT	J1-1	24 X 39	1	---	---	6.50	---	1	1
1-13	141+50, LT	D1-1	78 X 15	2	---	---	8.13	---	1	2
1-14	149+05, RT	J13-1	24 X 45	---	---	1	7.50	---	1	1
1-15	150+10, RT	R1-1	30 X 30	---	1	---	5.18	---	1	1
1-16	150+75, LT	J13-1	24 X 45	---	1	---	7.50	---	1	1
1-17	158+00, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
1-18	160+00, LT	J1-1	24 X 39	---	1	---	6.50	---	1	1
1-19	158+00, LT	W13-1	18 X 18	1	---	---	---	2.25	1	1
1-19	158+00, LT	W1-2R	30 X 30	---	---	---	---	6.25	1	---
1-20	169+10, LT	R1-1	30 X 30	---	1	---	5.18	---	1	1
2-1	179+50, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
2-2	181+00, LT	W14-3	48 X 36	---	1	---	---	6.00	1	1
2-3	196+30, RT	W10-1	36 X 36	---	1	---	---	7.07	1	1
2-4	194+00, RT	D1-1	66 X 15	2	---	---	6.88	---	1	2
2-5	203+00, RT	W1-2R	30 X 30	---	1	---	---	6.25	1	1
2-6	200+75, RT	R10-7	24 X 30	---	1	---	5.00	---	1	1
2-7	202+00, LT	W1-7	48 X 24	1	---	---	---	8.00	1	1
2-8	202+10, RT	R1-1	30 X 30	---	1	---	5.18	---	1	1
2-9	206+00, RT	D1-1	96 X 15	2	---	---	10.00	---	1	2
2-10	207+00, LT	D1-1	66 X 15	2	---	---	6.88	---	1	2
2-11	207+95, LT	R1-1	30 X 30	---	1	---	5.18	---	1	1
2-12	213+75, LT	D1-1	96 X 15	2	---	---	10.00	---	1	2
2-13	214+75, LT	W10-1	36 X 36	---	1	---	---	7.07	1	1
2-14	226+00, RT	W1-2L	30 X 30	---	1	---	---	6.25	1	1
2-15	224+00, LT	W1-2L	30 X 30	---	1	---	---	6.25	1	1
3-1	239+10, RT	D1-1	78 X 15	2	---	---	8.13	---	1	2
3-2	239+00, LT	W1-2R	30 X 30	---	1	---	---	6.25	1	1
3-3	241+75, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
3-4	242+10, LT	W14-3	48 X 36	---	1	---	---	6.00	1	1
3-5	246+00, LT	R1-1	30 X 30	---	1	---	5.18	---	1	1
3-6	253+40, LT	D1-1	78 X 15	2	---	---	8.13	---	1	2
3-7	265+00, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
3-8	279+50, RT	D1-1	72 X 15	2	---	---	7.50	---	1	2
3-9	281+40, LT	W14-3	48 X 36	---	1	---	---	6.00	1	1
3-10	285+50, LT	R7-1R	18 X 24	---	1	---	3.00	---	1	1
3-11	285+80, RT	R1-1	30 X 30	---	1	---	5.18	---	1	1
3-12	286+20, RT	R7-1L	18 X 24	---	1	---	3.00	---	1	1
3-13	289+80, LT	R7-1D	18 X 24	---	1	---	3.00	---	1	1
3-14	290+50, RT	R7-1D	18 X 24	---	1	---	3.00	---	1	1
3-15	292+50, LT	D1-1	72 X 15	2	---	---	7.50	---	1	2
3-16	293+95, LT	W2-2	30 X 30	---	1	---	---	6.25	1	1

- CONTINUED -

SIGNS TYPE II REFLECTIVE & POSTS WOOD

SIGN NO.	STATION	SIGN CODE	SIZE	634.0614 POSTS WOOD 4X6-INCH 14-FT EACH	634.0616 POSTS WOOD 4X6-INCH 16-FT EACH	634.0618 POSTS WOOD 4X6-INCH 18-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
4-1	295+80, LT	R7-1D	18 X 24	---	1	---	3.00	---	1	1
4-2	295+80, RT	R7-1D	18 X 24	---	1	---	3.00	---	1	1
4-3	300+00, RT	R7-1D	18 X 24	---	1	---	3.00	---	1	1
4-4	300+00, LT	R7-1D	18 X 24	---	1	---	3.00	---	1	1
4-5	303+00, RT	R1-1	30 X 30	---	1	---	5.18	---	1	1
4-6	305+50, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
4-7	307+00, RT	R7-1R	18 X 24	---	1	---	3.00	---	1	1
4-8	307+00, LT	R7-1L	18 X 24	---	1	---	3.00	---	1	1
4-9	350+90, LT	R1-1	30 X 30	---	1	---	5.18	---	1	1
4-10	351+24, RT	W1-7	48 X 24	---	---	---	8.00	---	1	1
5-1	358+00, RT	D1-1	84 X 15	2	---	---	8.75	---	1	2
5-2	364+90, RT	R1-1	30 X 30	---	1	---	5.18	---	1	1
5-3	371+50, LT	D1-1	84 X 15	2	---	---	8.75	---	1	2
5-4	390+50, LT	W14-3	48 X 36	---	1	---	---	6.00	1	1
5-5	410+00, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
6-1	414+90, RT	D1-1	96 X 15	2	---	---	10.00	---	1	2
6-2	418+00, LT	W14-3	48 X 36	---	1	---	---	6.00	1	1
6-3	420+50, LT	R1-1	30 X 30	---	1	---	5.18	---	1	1
6-4	427+90, LT	D1-1	96 X 15	2	---	---	10.00	---	1	2
6-5	436+00, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
6-6	457+90, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
7-1	477+00, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
7-2	483+20, RT	R1-1	30 X 30	---	1	---	5.18	---	1	1
7-3	488+00, RT	W3-5	36 X 36	---	1	---	---	9.00	1	1
7-4	488+00, LT	R2-1	24 X 30	---	1	---	5.00	---	1	1
7-5	488+00, LT			---	---	---	---	---	1	1
7-6	489+80, RT	R1-1	30 X 30	---	1	---	5.18	---	1	1
7-7	491+00, RT	W14-3	48 X 36	---	1	---	---	6.00	1	1
7-8	492+50, LT	D2-2	72 X 24	2	---	---	12.00	---	1	2
7-9	496+25, RT	R2-1	24 X 30	---	1	---	5.00	---	1	1
7-10	497+30, LT	J4-1	24 X 36	---	1	---	6.00	---	1	1
7-11	500+25, RT	I2-3	66 X 24	2	---	---	11.00	---	1	2
7-12	501+00, LT			---	---	---	---	---	1	1
7-13	504+00, LT	R2-1	24 X 30	---	1	---	5.00	---	1	1
7-14	504+00, RT	R2-1	24 X 30	---	1	---	5.00	---	1	1
7-15	505+75, LT	R1-1	30 X 30	1	---	---	5.18	---	1	1
7-16	510+00, LT	R2-1	24 X 30	1	---	---	5.00	---	1	1
7-17	510+00 RT	R2-1	24 X 30	1	---	---	5.00	---	1	1
7-18	511+90, RT	R1-1	30 X 30	1	---	---	5.18	---	1	1
7-19	512+30, LT	R1-1	30 X 30	---	1	---	5.18	---	1	1
7-20	513+60, RT	R2-1	24 X 30	---	1	---	5.00	---	1	1
7-21	514+25, RT	J1-1	24 X 39	---	1	---	6.50	---	1	1
7-22	515+75, RT	W3-1	36 X 36	---	1	---	---	9.00	1	1
7-23	518+30, RT	J2-3	72 X 57	---	---	2	28.50	---	1	2
7-24	518+90, LT	R1-1	30 X 30	---	1	---	5.18	---	1	1
7-25	520+00, LT	W14-3	48 X 36	---	1	---	---	6.00	1	1
7-26	520+00, LT	R2-1	24 X 30	---	1	---	5.00	---	1	1
7-27	520+00, RT			---	---	---	---	---	1	1
7-28	521+50, RT	D1-3	66 X 42	---	2	---	19.25	---	1	2
7-28	521+50, RT	D7-59R	54 X 36	---	---	---	13.50	---	1	---
PROJECT TOTALS				**41**	**69**	**3**	**438.49**	**200.14**	**102**	**118**

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MOVING SIGNS TYPE II & SMALL SIGN SUPPORTS

SIGN NO.	FROM STATION	TO STATION	LOCATION	638.2102 SIGNS TYPE II EACH	638.4000 SMALL SIGN SUPPORTS EACH
1-21	132+00	132+00	LT	1	1
1-22	132+00	132+00	RT	1	1
2-16	203+00	203+00	LT	1	1
2-17	203+00	204+00	LT	1	1
4-12	314+80	314+80	LT	1	1
4-13	314+80	314+80	RT	1	1
6-7	419+40	419+40	LT	1	1
PROJECT TOTALS				**7**	**7**

FIELD OFFICE TYPE D

PROJECT	642.5401 EACH
ENTIRE PROJECT	0.7
PROJECT TOTAL	**0.7**

TRAFFIC CONTROL

LOCATION	643.0300 DRUMS EACH	643.0300 DRUMS DAYS	643.0900 SIGNS EACH	643.0900 SIGNS DAYS
USH 8	30	1800	44	2640
UNDISTRIBUTED		200		360
PROJECT TOTALS		**2000**		**3000**

TRAFFIC CONTROL (1580-05-72)

PROJECT	643.0100 EACH
01. 1580-05-72	1
PROJECT TOTAL	**1**

PAVEMENT MARKING

STATION TO STATION	LOCATION	646.0106 EPOXY 4-INCH WHITE LF	646.0106 EPOXY 4-INCH YELLOW LF	646.0126 EPOXY 8-INCH WHITE LF	647.0110 RAILROAD CROSSING EPOXY EACH	649.0402 TEMPORARY PAVEMENT MARKING PAINT 4-INCH YELLOW LF
126+63 - 157+00	US 8	5658	6074	200	---	24296
157+00 - 192+00	US 8	6677	4375	---	---	15715
192+00 - 232+00	US 8	7665	8000	---	2	32000
232+00 - 265+00	US 8	6427	4125	---	---	14817
265+00 - 281+00	US 8	3200	400	---	---	784
281+00 - 285+50	US 8	671	563	---	---	2021
285+50 - 298+20	US 8	2703	2540	350	---	10160
298+20 - 305+75	US 8	1331	944	---	---	3390
305+75 - 390+50	US 8	16551	2119	---	---	4153
390+50 - 410+00	US 8	3900	2438	---	---	8756
410+00 - 418+00	US 8	1600	200	---	---	392
418+00 - 424+50	US 8	1124	813	---	---	2919
424+50 - 428+00	US 8	700	88	---	---	172
428+00 - 436+00	US 8	1600	1000	---	---	3592
436+00 - 458+00	US 8	4400	550	---	---	1078
458+00 - 477+00	US 8	3800	2375	---	---	8531
477+00 - 498+00	US 8	3871	4200	---	---	16800
498+00 - 520+00	US 8	3936	550	---	---	1078
520+00 - 522+00	US 8	400	250	---	---	898
SUB TOTALS		76214	41602	550	2	151550
PROJECT TOTALS		**117815**		**550**	**2**	**151550**

LOCATING NO-PASSING ZONES

PROJECT	648.0100 MI
1580-05-72	7.49
PROJECT TOTAL	**7.49**

CONSTRUCTION STAKING

STATION TO STATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9920 SLOPE STAKES LF
145+84 - 149+09	325	325	325
485+16 - 493+10	794	794	794
PROJECT TOTALS	**1119**	**1119**	**1119**

CONSTRUCTION STAKING RESURFACING REFERENCE

STATION TO STATION	650.8000 LF
126+63 - 522+00	39537
PROJECT TOTAL	**39537**

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

PROJECT	650.9910 LS
01. 1580-05-72	**1**

ADJUSTING WATER VALVES

STATION	LOCATION	SPV.0060.01 EACH
519+10	LT	1
519+20	LT	1
PROJECT TOTAL		**2**

REHEATING HMA PAVEMENT LONGITUDINAL JOINTS SPECIAL

STATION TO STATION	SPV.0170.01 STA
126+63 - 522+00	396
PROJECT TOTAL	**396**

MILLING AND REMOVING TEMPORARY JOINT

LOCATION	SPV.0105.01 LS
ENTIRE PROJECT	**1**

PREPARE FOUNDATION FOR ASPHALTIC PAVING SPECIAL

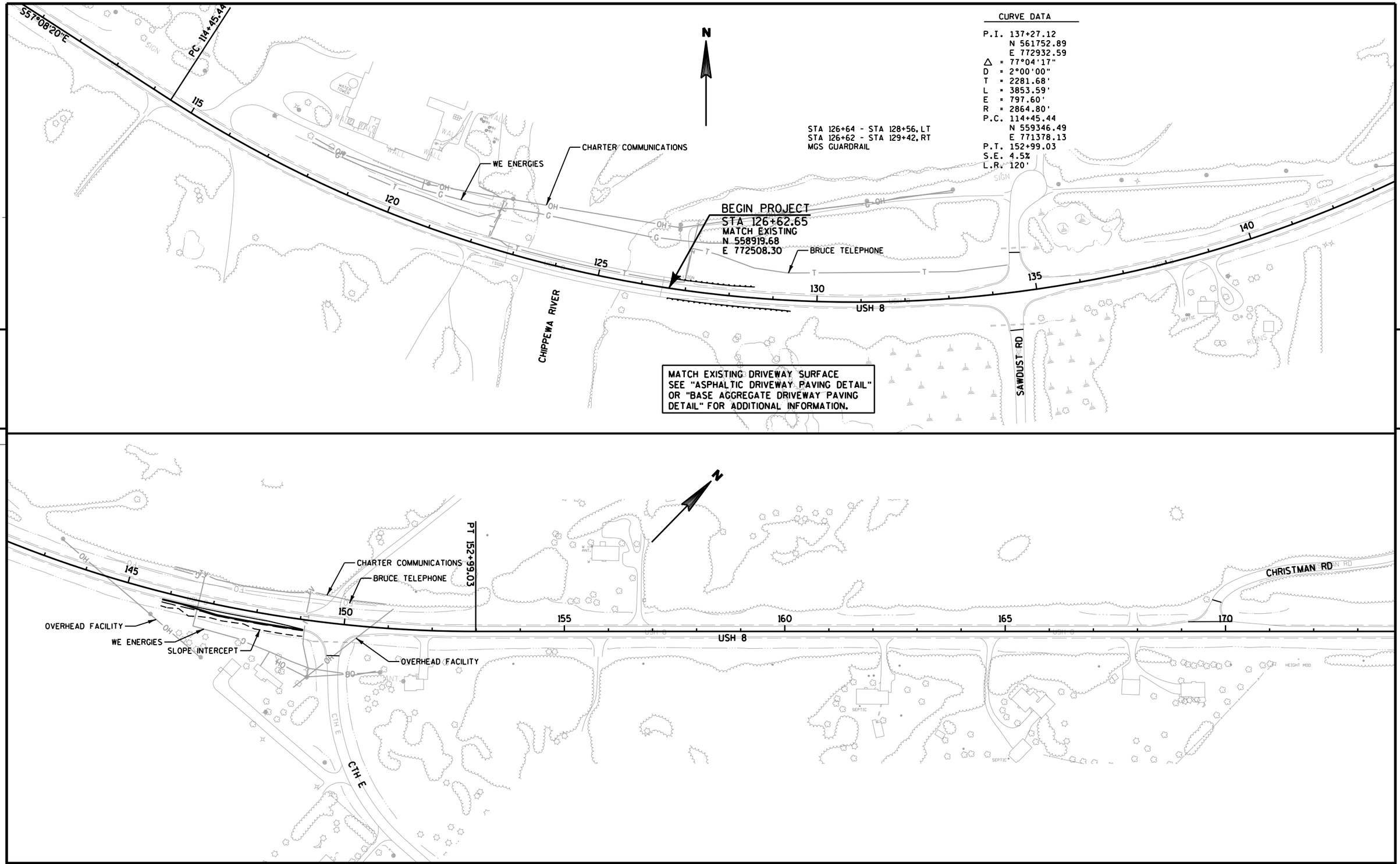
LOCATION	SPV.0105.02 LS
ENTIRE PROJECT	**1**

MATERIAL TRANSFER VEHICLE

LOCATION	SPV.0105.03 LS
ENTIRE PROJECT	**1**

SMA PAVEMENT COMPACTION ACCEPTANCE

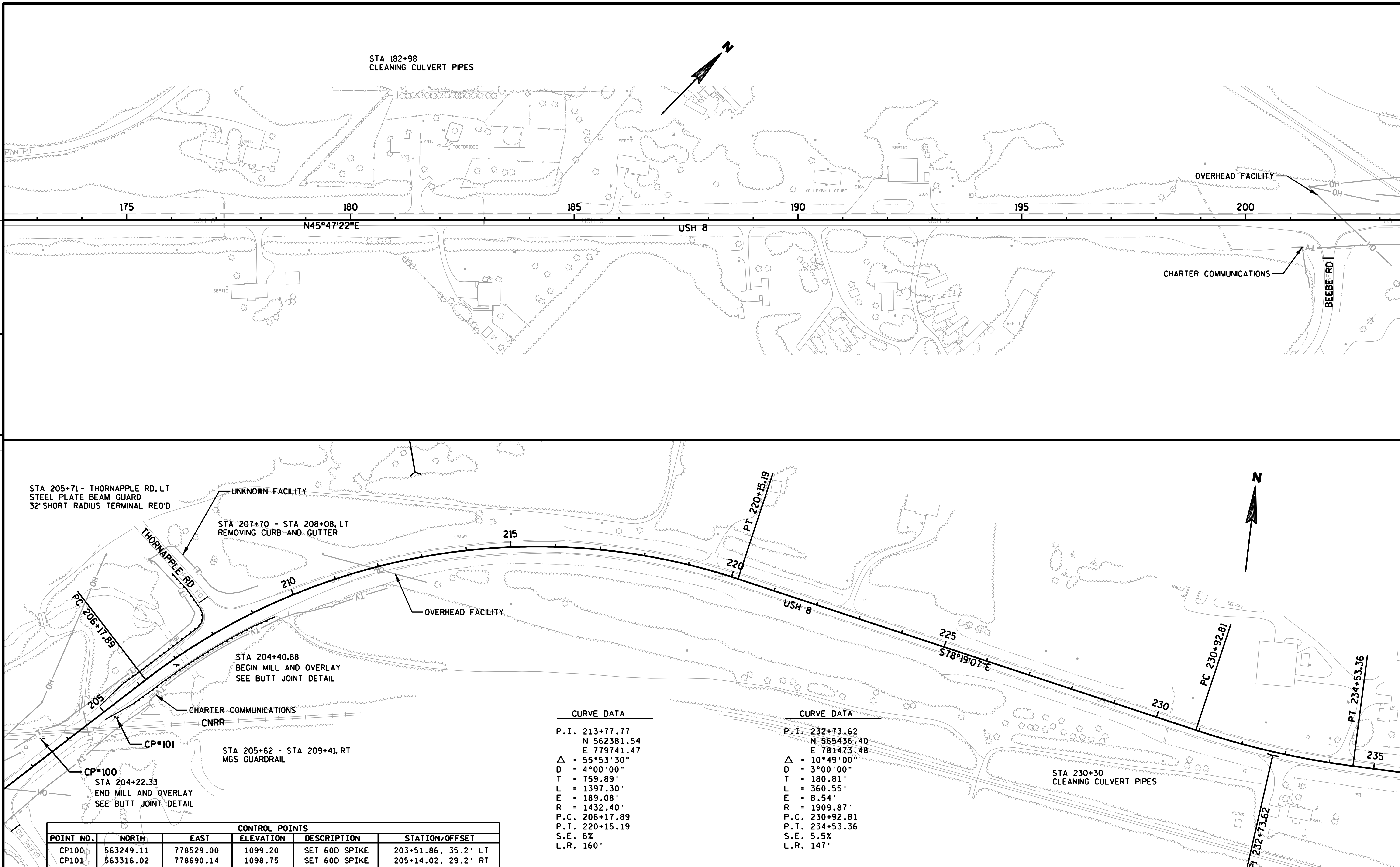
STATION TO STATION	SPV.0195.03 TON
126+63 - 149+77	857
145+84 - 149+09	---
149+77 - 152+99	105
152+99 - 205+00	1699
205+00 - 211+50	170
211+50 - 220+15	283
220+15 - 281+00	1988
281+00 - 293+00	314
293+00 - 363+96	2318
363+96 - 367+28	108
367+28 - 479+25	3658
479+25 - 505+50	686
485+16 - 493+10	---
505+50 - 512+10	172
512+10 - 522+00	259
PROJECT TOTAL	**12617**



PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET 26 E

FILE NAME : V:\Trans-EC\410645\DGN\050101_pp.dgn PLOT DATE : 7/28/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 44



STA 182+98
CLEANING CULVERT PIPES
N
MAN RD
ANT.
FOOTBRIDGE
SEPTIC
VOLLEYBALL COURT
SIGN
OVERHEAD FACILITY
OH
175
180
185
190
195
200
N45°47'22"E
USH 8
CHARTER COMMUNICATIONS
BEEBE RD
5
5
STA 205+71 - THORNAPPLE RD, LT
STEEL PLATE BEAM GUARD
32' SHORT RADIUS TERMINAL REQ'D
UNKNOWN FACILITY
STA 207+70 - STA 208+08, LT
REMOVING CURB AND GUTTER
THORNAPPLE RD
PC 206+17.89
PT 220+15.19
210
215
220
225
230
235
USH 8
S78°19'07"E
OVERHEAD FACILITY
STA 204+40.88
BEGIN MILL AND OVERLAY
SEE BUTT JOINT DETAIL
CHARTER COMMUNICATIONS
CNRR
CP#101
CP#100
STA 204+22.33
END MILL AND OVERLAY
SEE BUTT JOINT DETAIL
STA 205+62 - STA 209+41, RT
MGS GUARDRAIL
PC 230+92.81
PT 234+53.36
PI 232+73.62
STA 230+30
CLEANING CULVERT PIPES
WALLS
RUINS
BEEBE RD

CURVE DATA

P.I. 213+77.77
N 562381.54
E 779741.47
△ = 55°53'30"
D = 4°00'00"
T = 759.89'
L = 1397.30'
E = 189.08'
R = 1432.40'
P.C. 206+17.89
P.T. 220+15.19
S.E. 6%
L.R. 160'

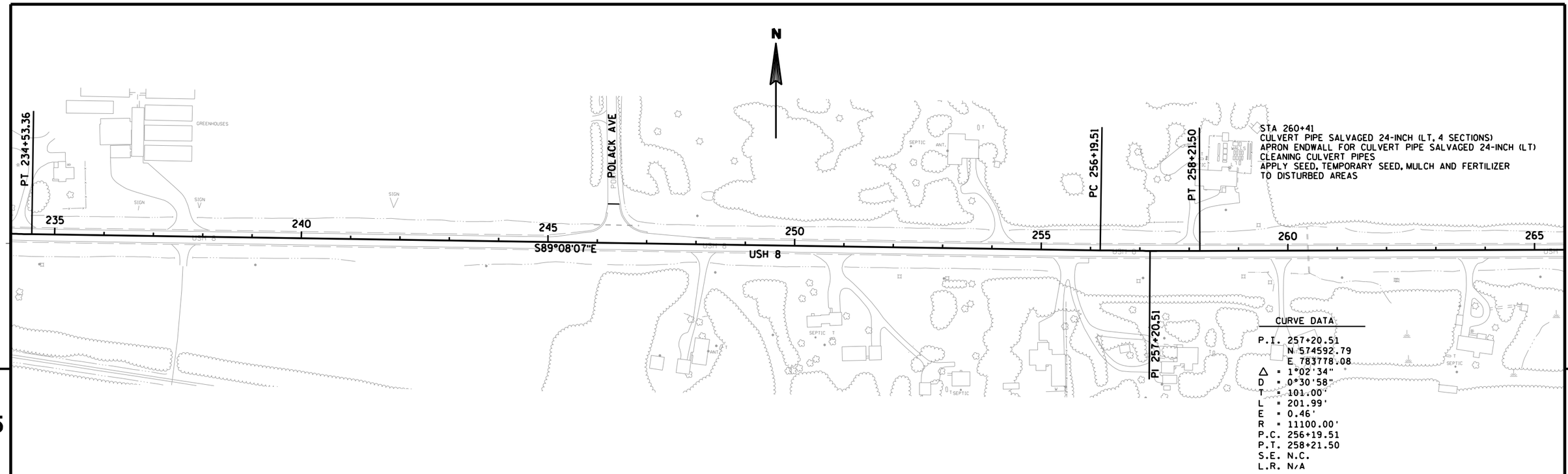
CURVE DATA

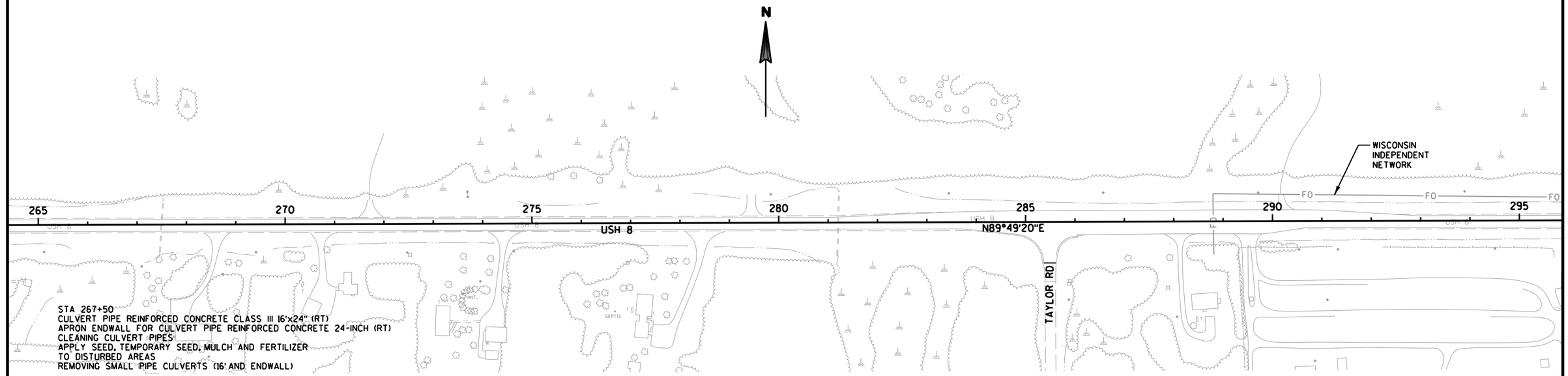
P.I. 232+73.62
N 565436.40
E 781473.48
△ = 10°49'00"
D = 3°00'00"
T = 180.81'
L = 360.55'
E = 8.54'
R = 1909.87'
P.C. 230+92.81
P.T. 234+53.36
S.E. 5.5%
L.R. 147'

CONTROL POINTS

POINT NO.	NORTH	EAST	ELEVATION	DESCRIPTION	STATION/OFFSET
CP100	563249.11	778529.00	1099.20	SET 60D SPIKE	203+51.86, 35.2' LT
CP101	563316.02	778690.14	1098.75	SET 60D SPIKE	205+14.02, 29.2' RT

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET 27	E

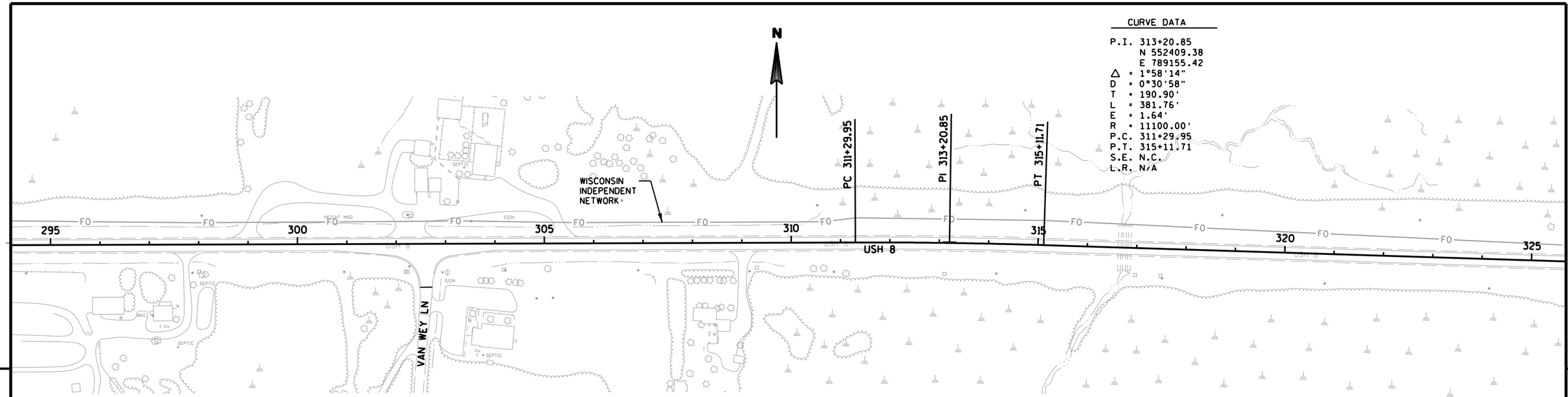


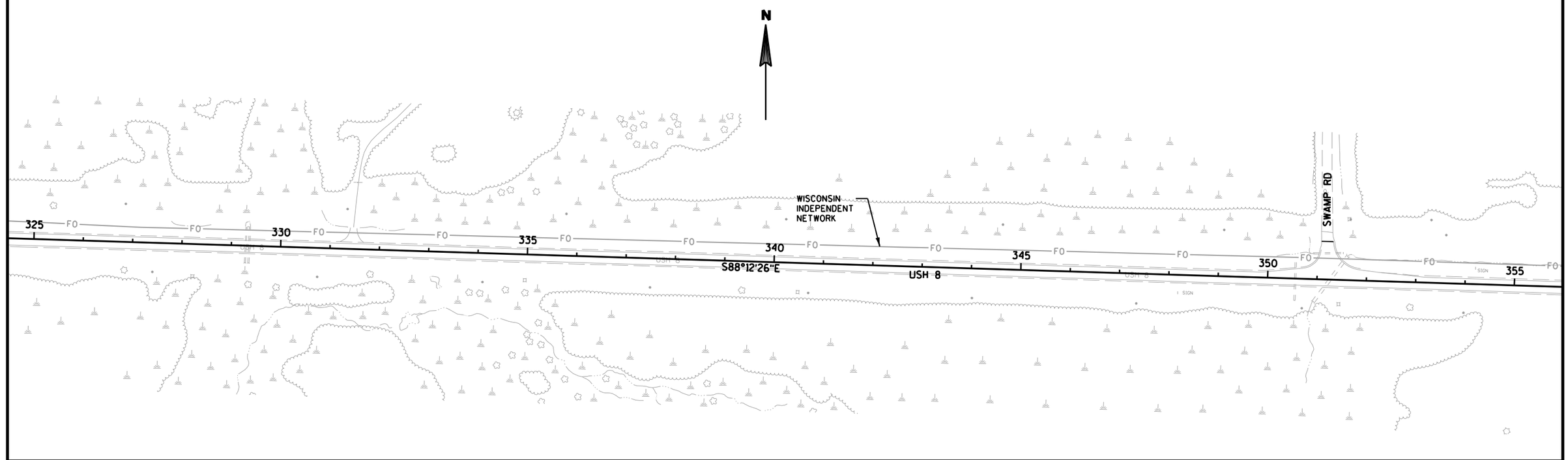


PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET 28	E

FILE NAME : T:\410645\DGN\050103_pp.dgn PLOT DATE : 1/5/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 44

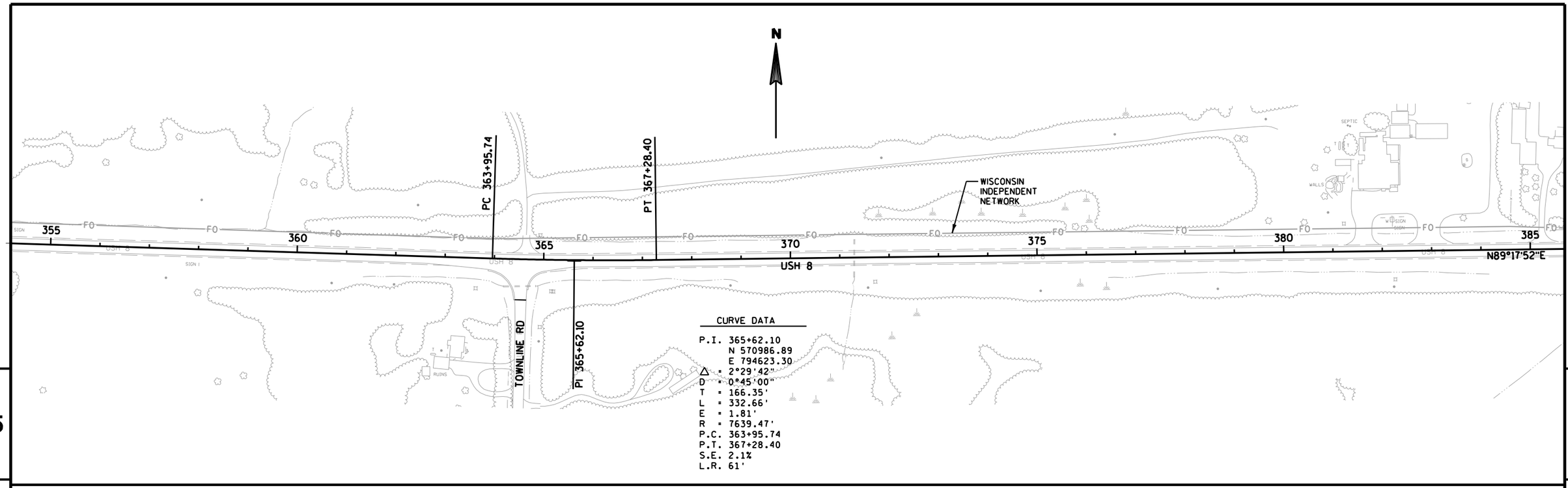




PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET 29	E

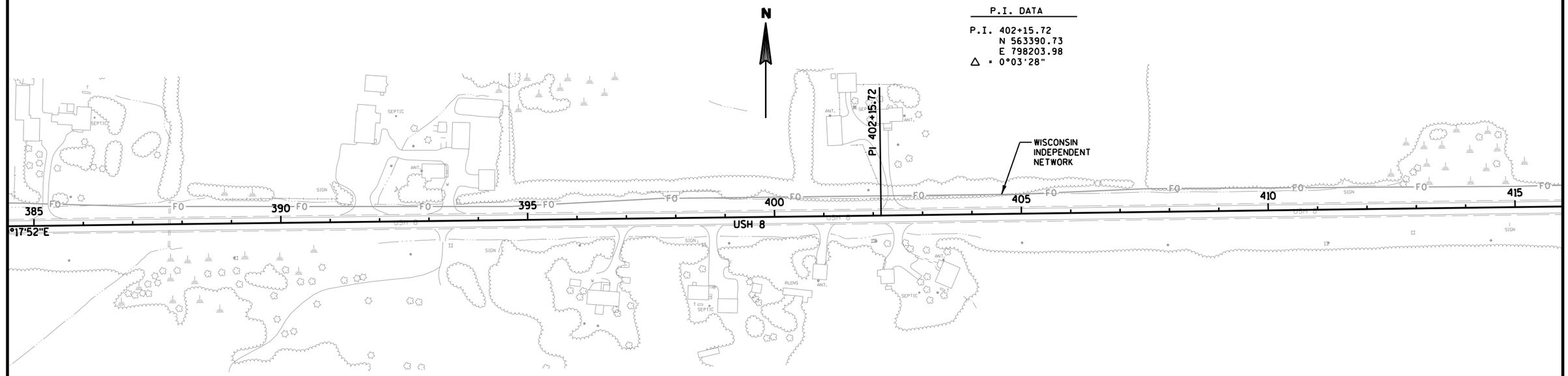
FILE NAME : T:\410645\DGN\050104_pp.dgn PLOT DATE : 1/5/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 44



CURVE DATA

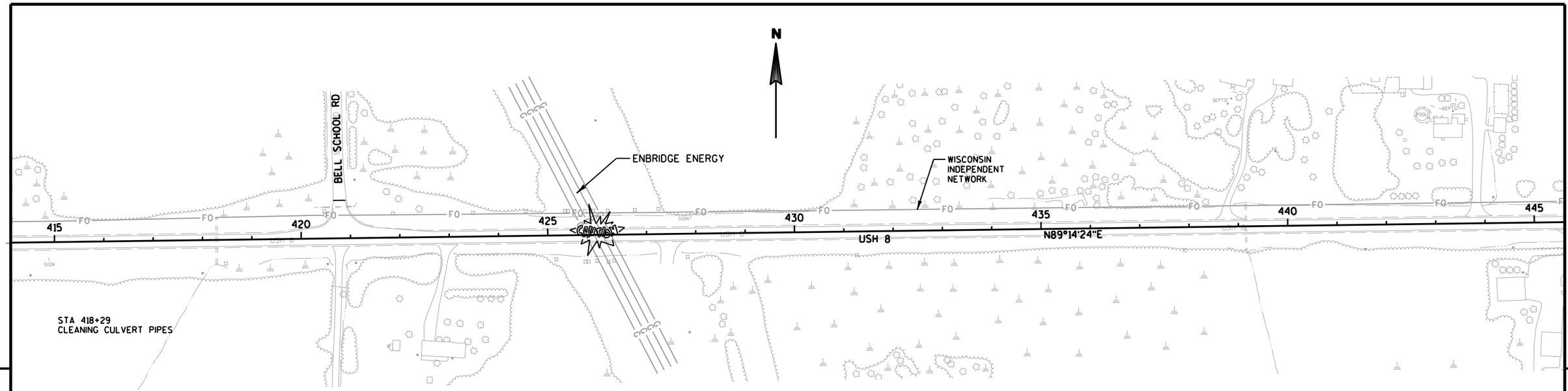
P.I. 365+62.10
N 570986.89
E 794623.30
△ = 2°29'42"
D = 0°45'00"
T = 166.35'
L = 332.66'
E = 1.81'
R = 7639.47'
P.C. 363+95.74
P.T. 367+28.40
S.E. 2.1%
L.R. 61'



PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET 30	E

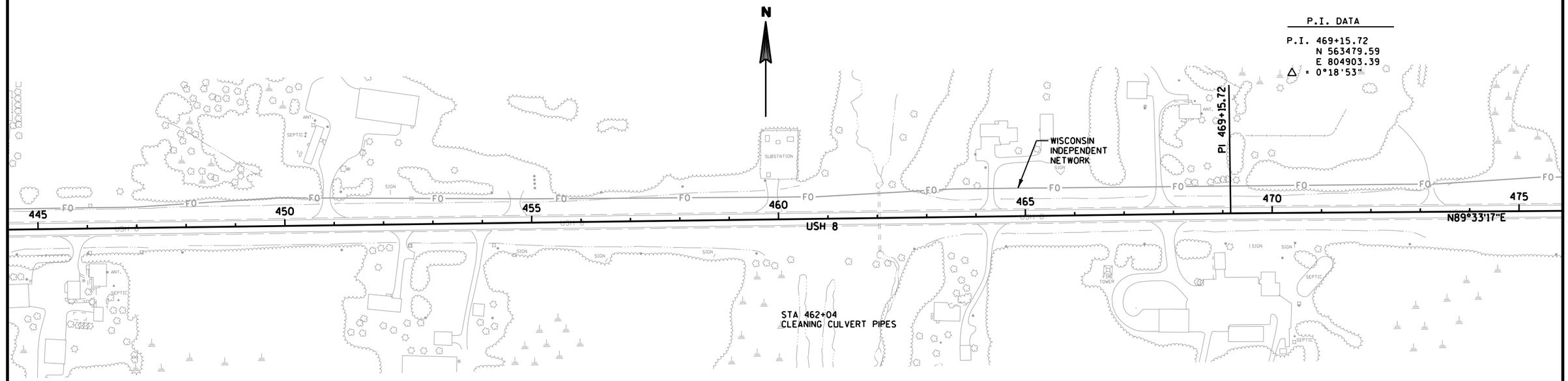
FILE NAME : T:\410645\DGN\050105_pp.dgn PLOT DATE : 1/5/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 44



5

5



PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET	E

FILE NAME : T:\410645\DGN\050106_pp.dgn PLOT DATE : 1/5/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:200

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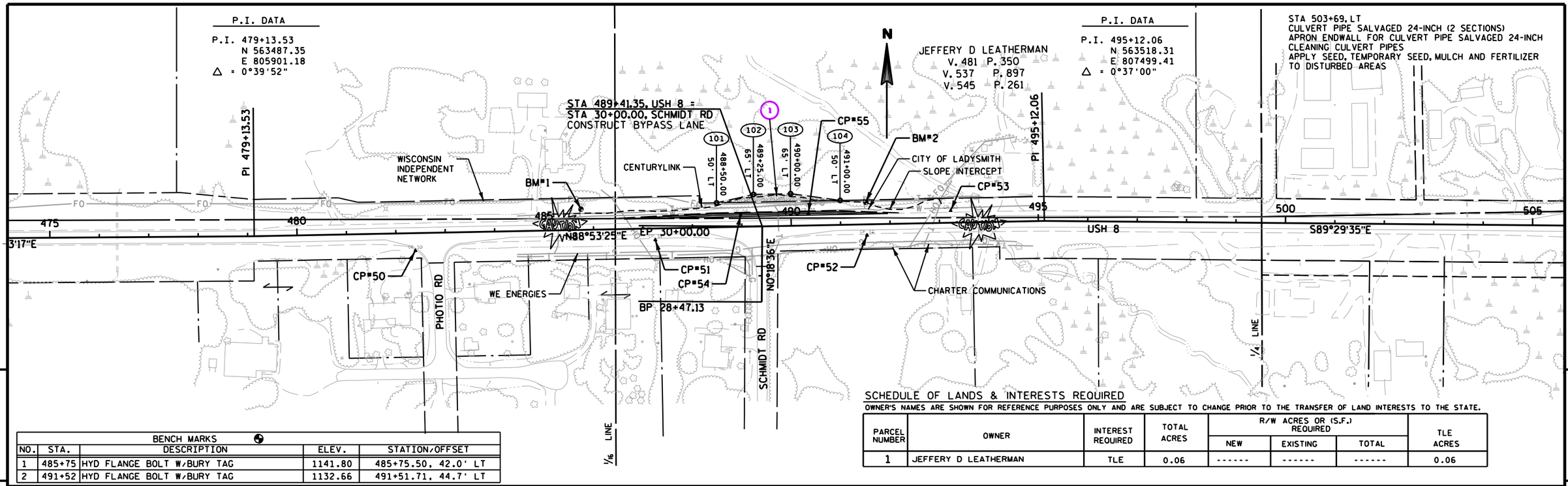


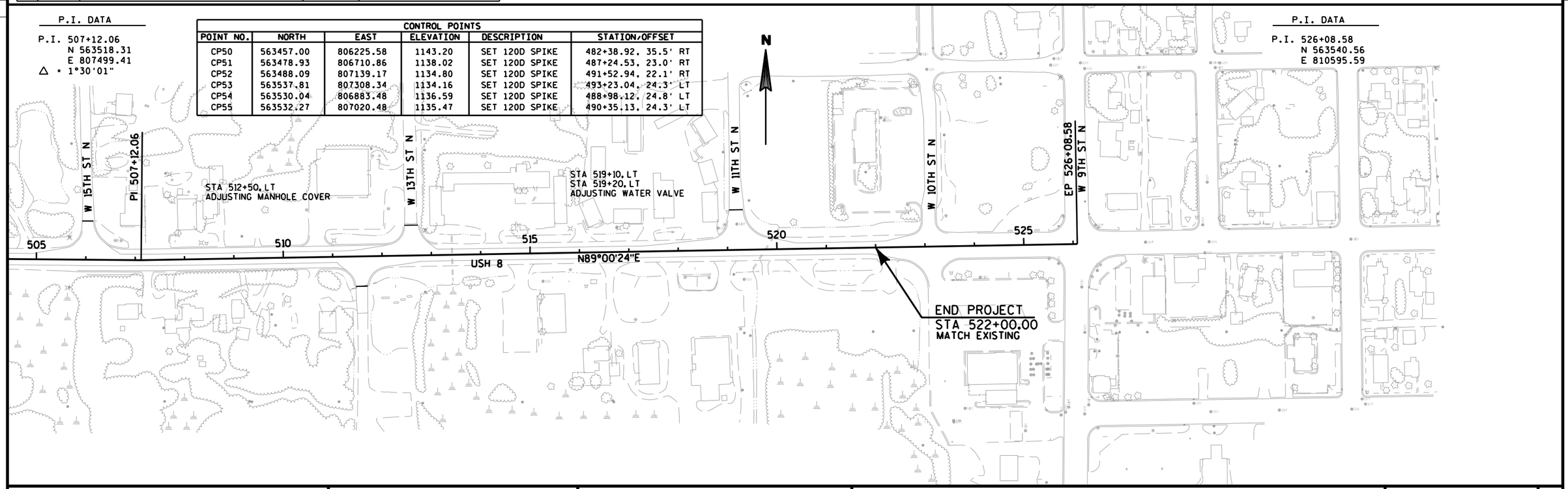
5

BENCH MARKS				
NO.	STA.	DESCRIPTION	ELEV.	STATION/OFFSET
1	485+75	HYD FLANGE BOLT W/BURY TAG	1141.80	485+75.50, 42.0' LT
2	491+52	HYD FLANGE BOLT W/BURY TAG	1132.66	491+51.71, 44.7' LT

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE STATE.

PARCEL NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRES	R/W ACRES OR (S.F.) REQUIRED			TLE ACRES
				NEW	EXISTING	TOTAL	
1	JEFFERY D LEATHERMAN	TLE	0.06	------	------	------	0.06

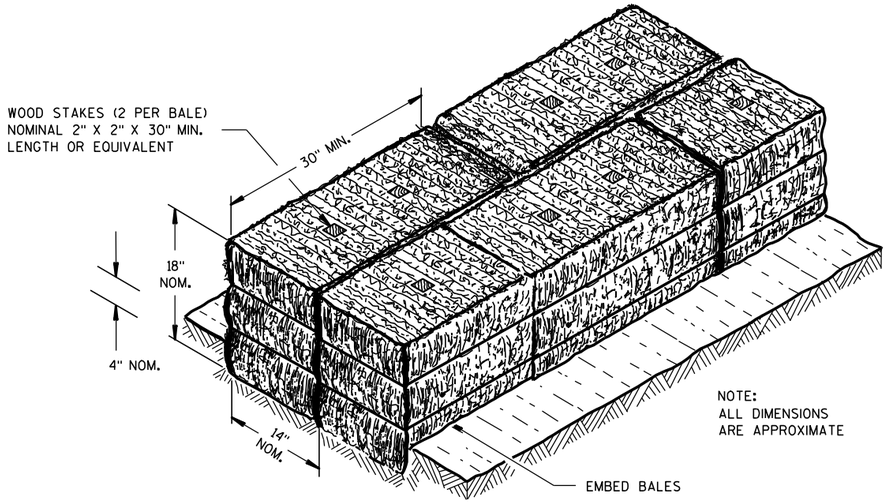


PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET 32	E

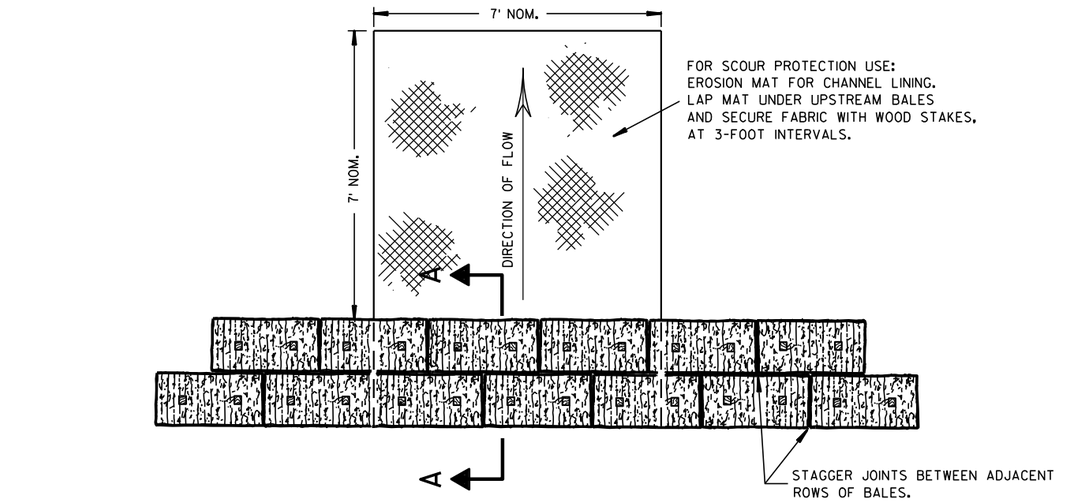
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B24-08A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B29-01	SAFETY EDGE
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C09-09A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

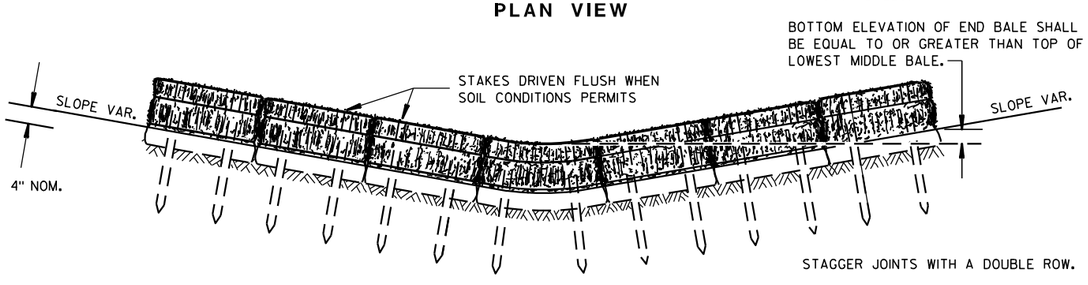
6



SECTION A-A



PLAN VIEW



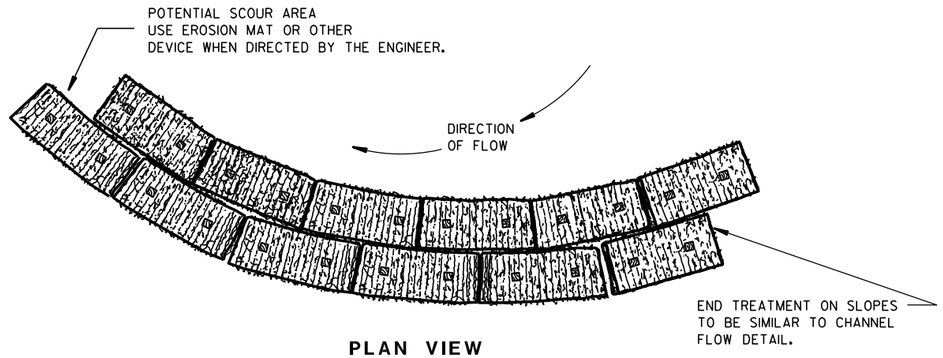
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

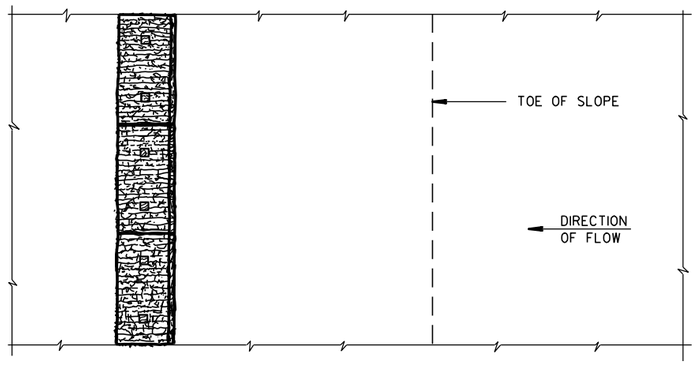
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

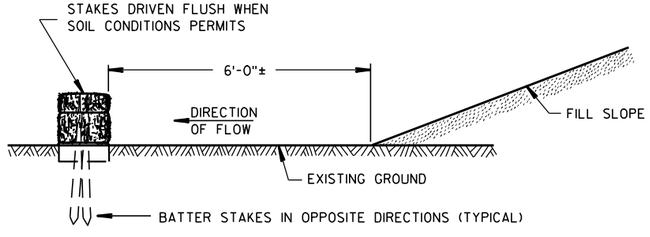


PLAN VIEW

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

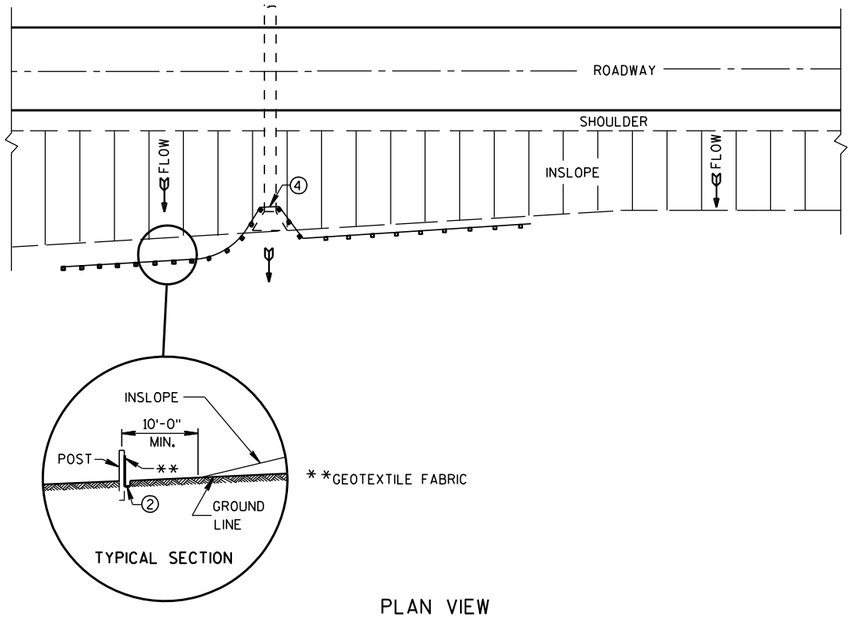
FHWA

6

S.D.D. 8 E 8-3

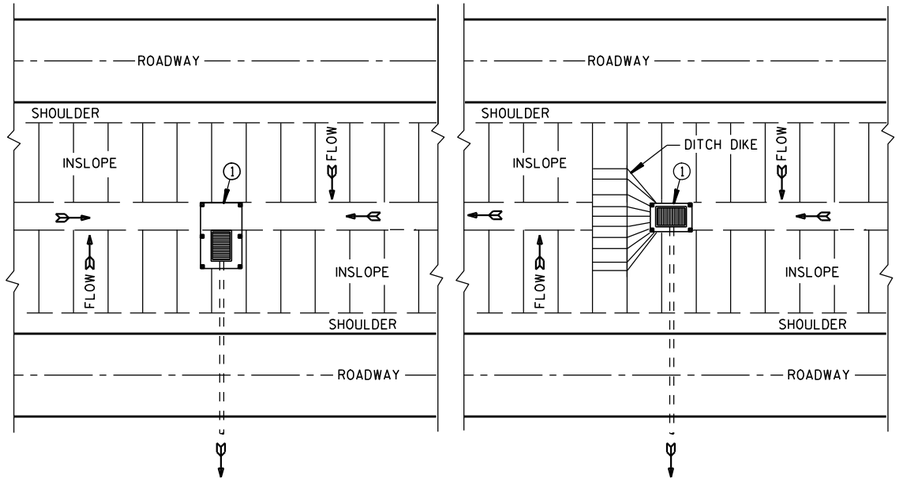
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

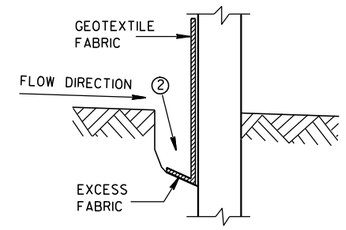
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

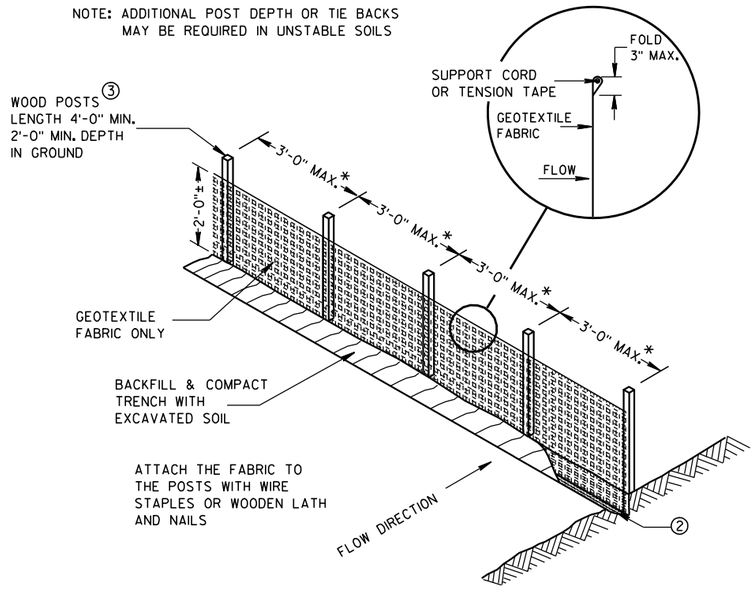
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

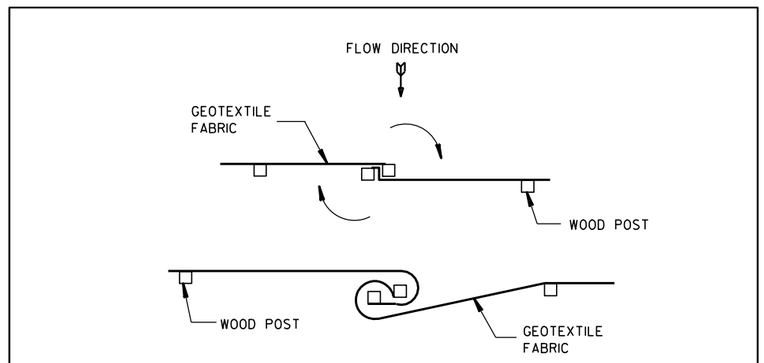
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



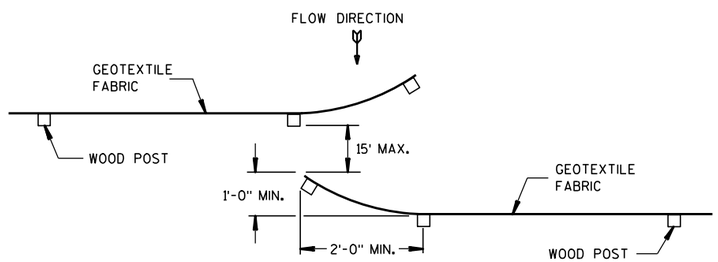
TRENCH DETAIL



SILT FENCE

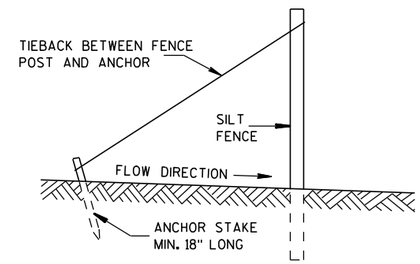


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

METAL APRON ENDWALLS

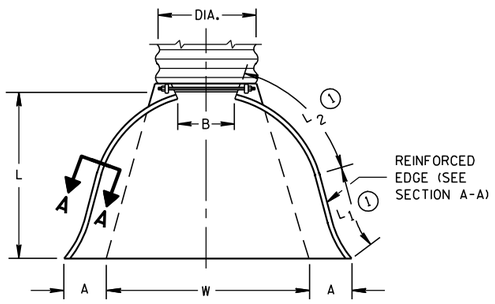
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

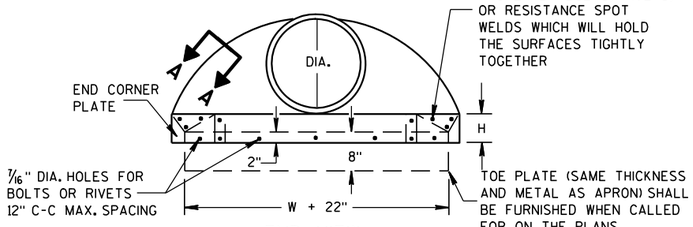
REINFORCED CONCRETE APRON ENDWALLS

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

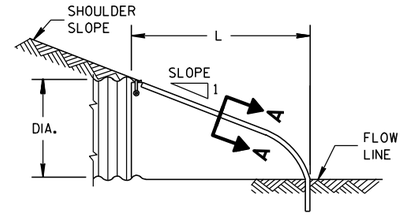
*MINIMUM
**MAXIMUM



PLAN VIEW

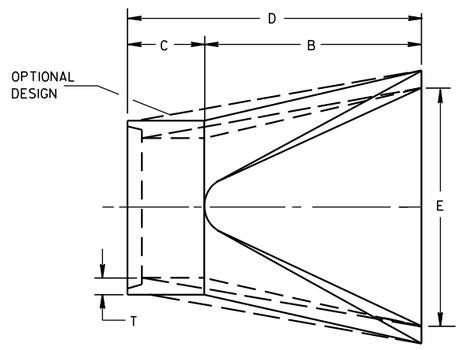


END VIEW

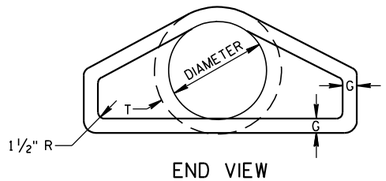


SIDE ELEVATION

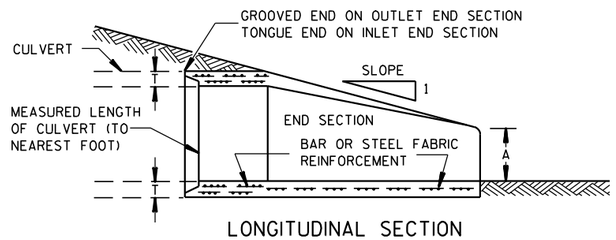
METAL ENDWALLS



PLAN

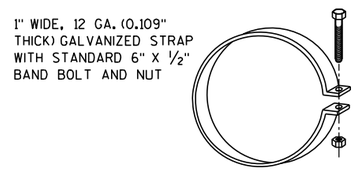


END VIEW



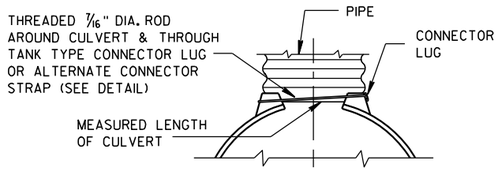
LONGITUDINAL SECTION

CONCRETE ENDWALLS

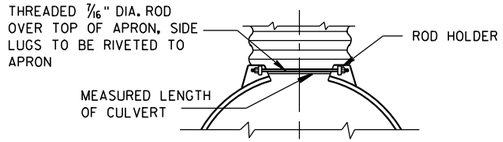


ALTERNATE FOR TYPE 1 CONNECTION

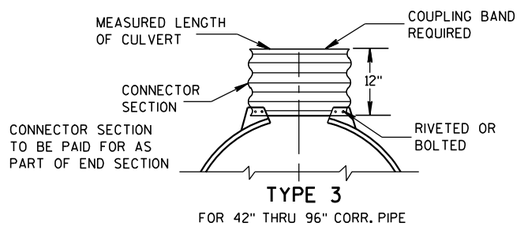
END SECTION CONNECTOR STRAP



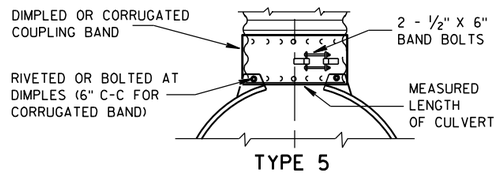
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

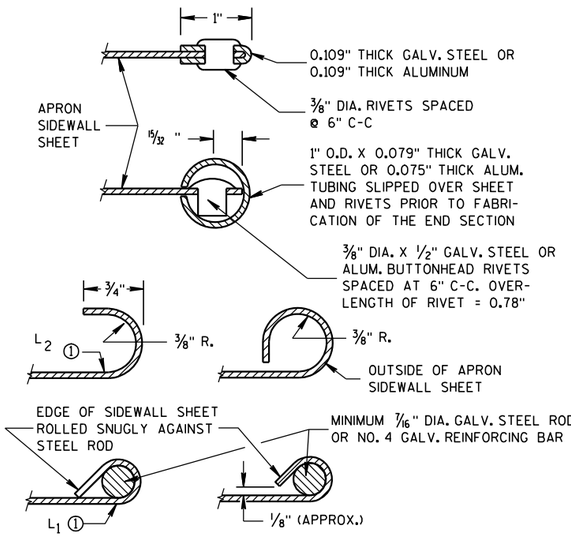
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

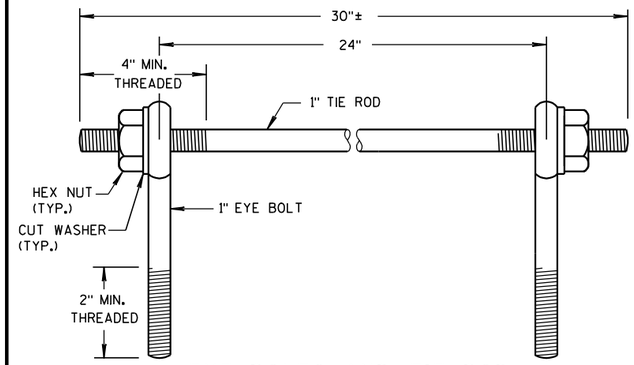
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

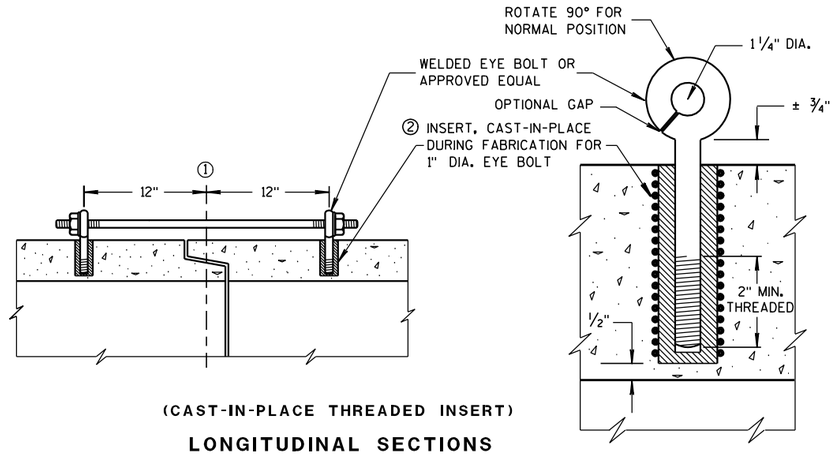
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

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

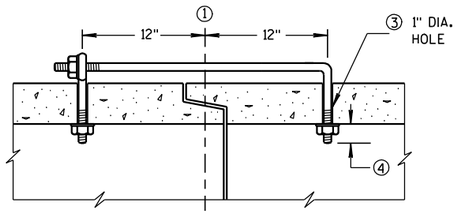
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

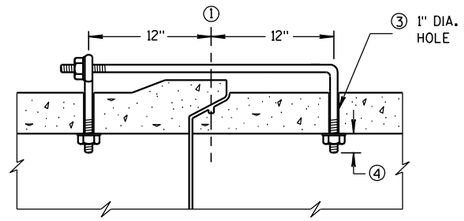
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

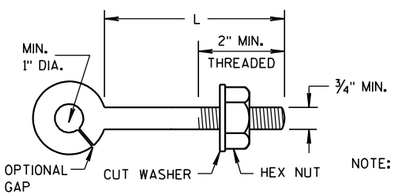


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

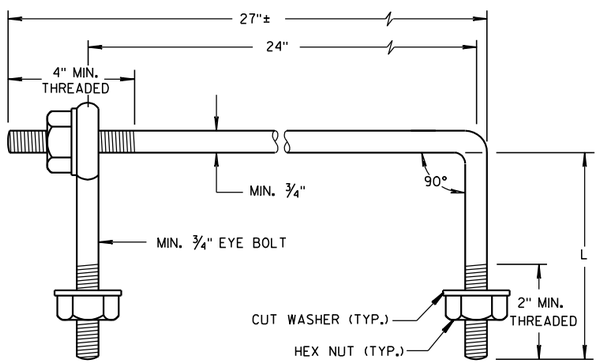
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

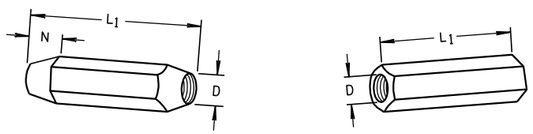
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

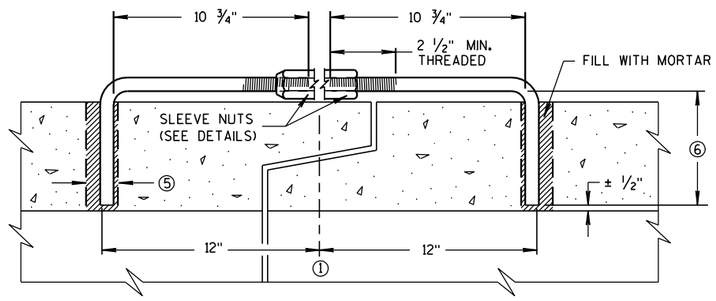
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

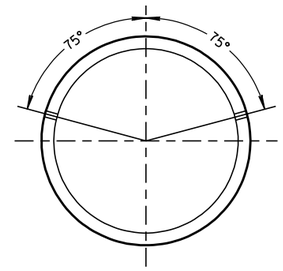
SLEEVE NUTS



LONGITUDINAL SECTION

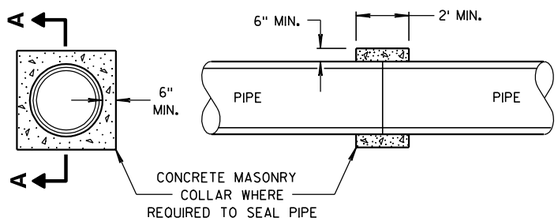
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

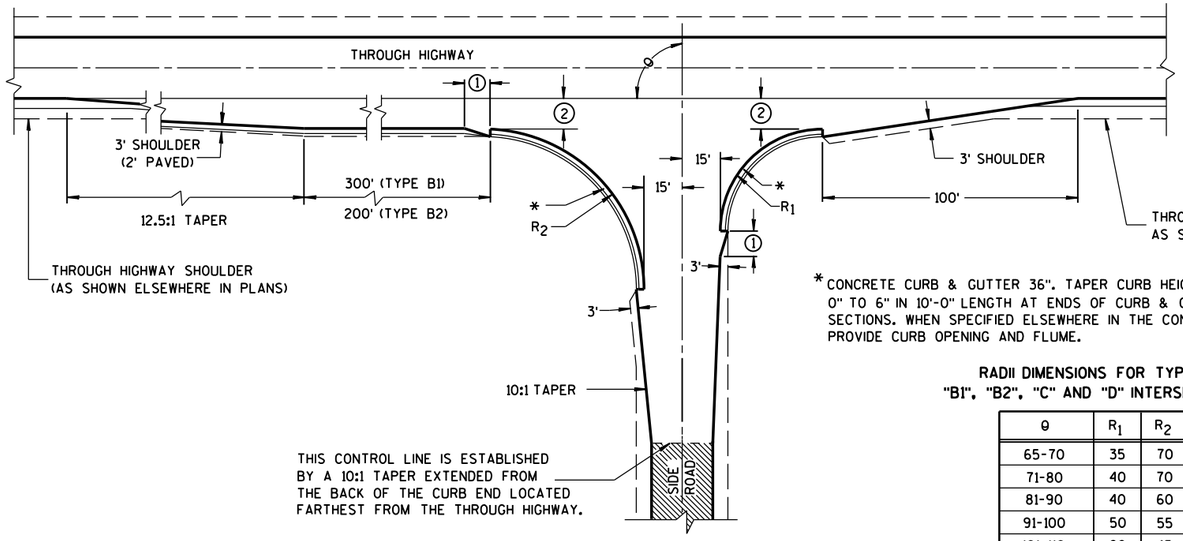
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
37
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

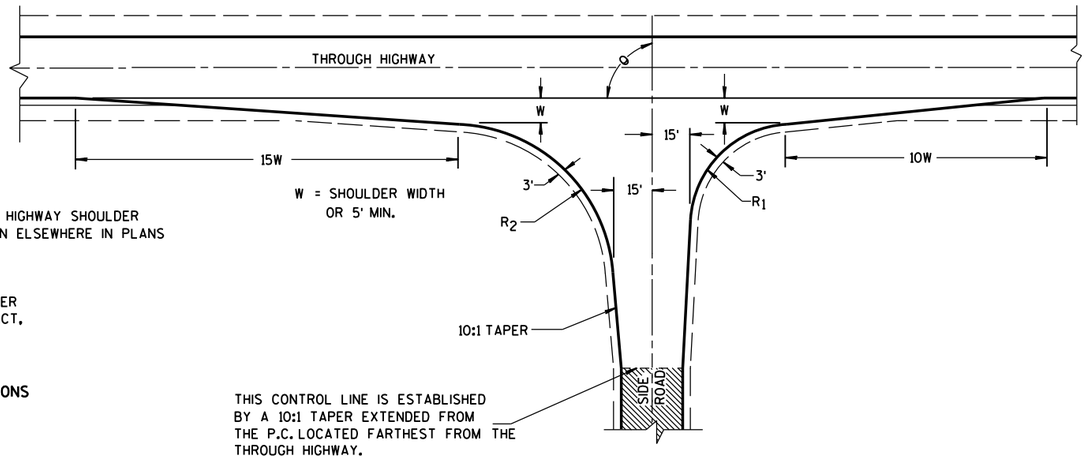


TYPE "B1" AND "B2"

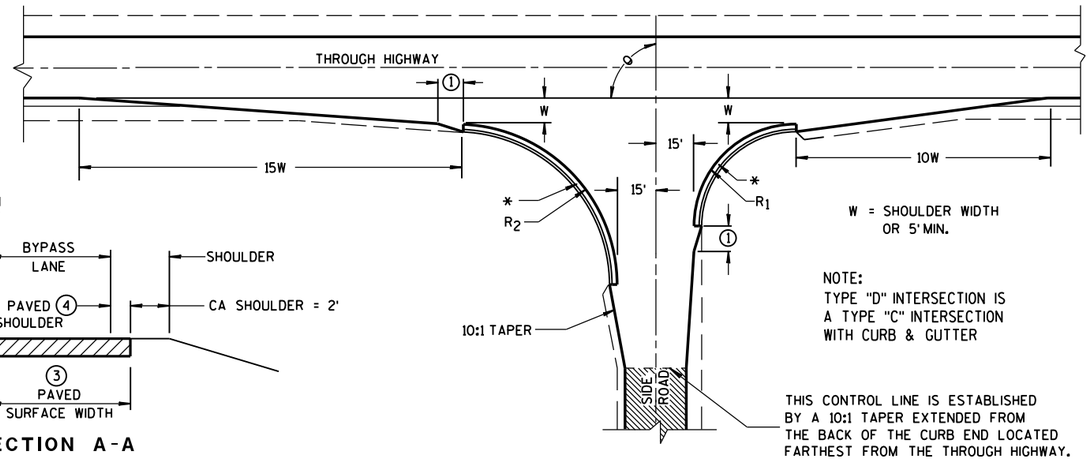
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

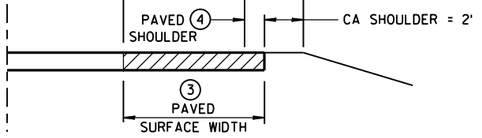
(1) 10-FT TYPICAL.

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

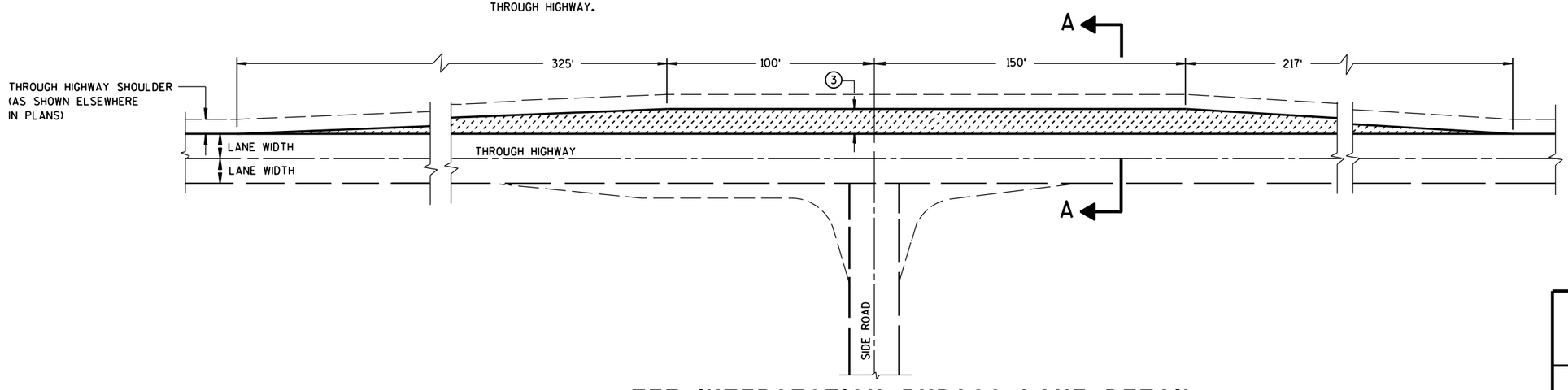
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

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

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



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)

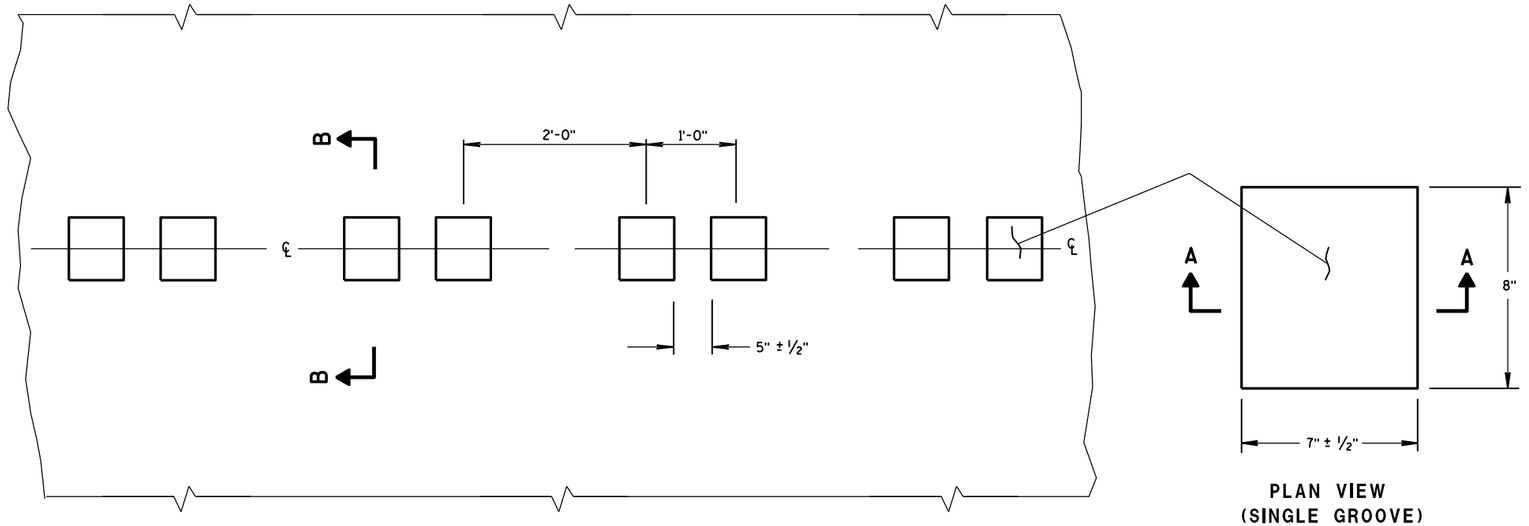


TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 9 A 1-13a



PLAN VIEW
CENTER LINE WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

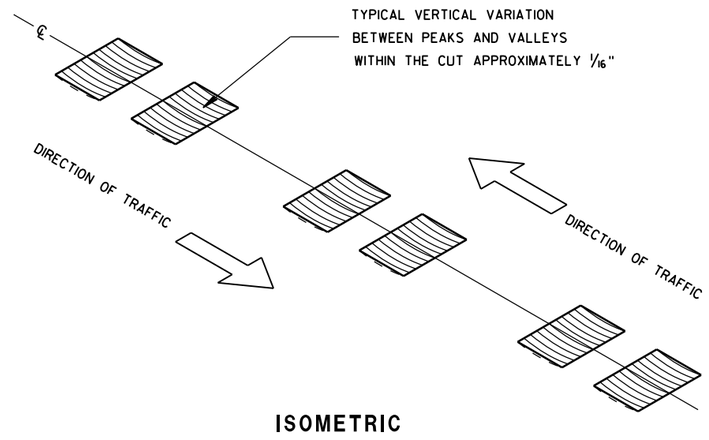
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

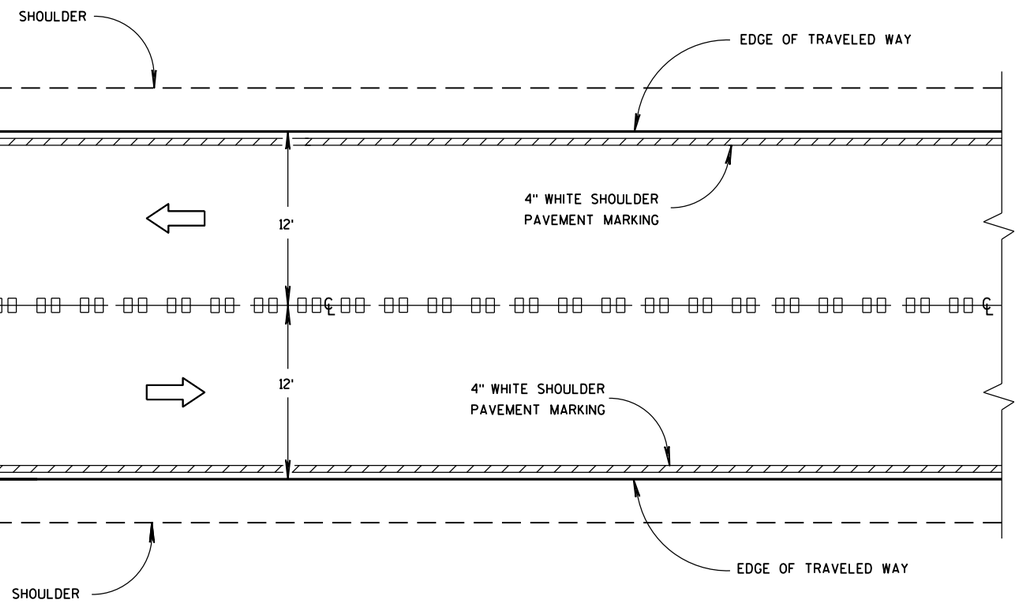
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

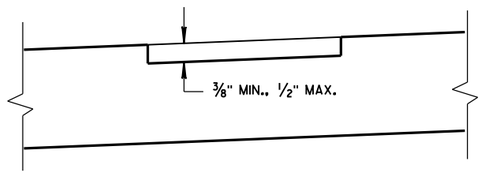
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



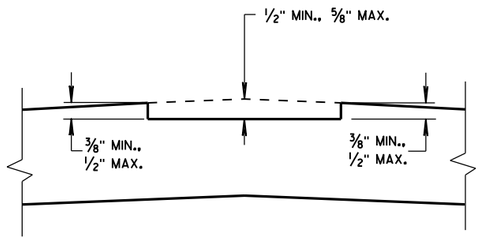
ISOMETRIC



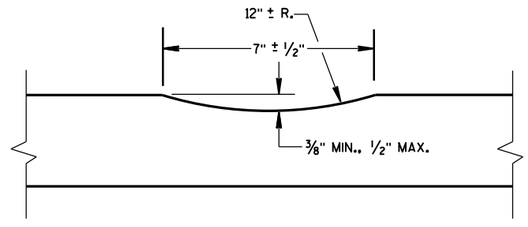
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY



SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

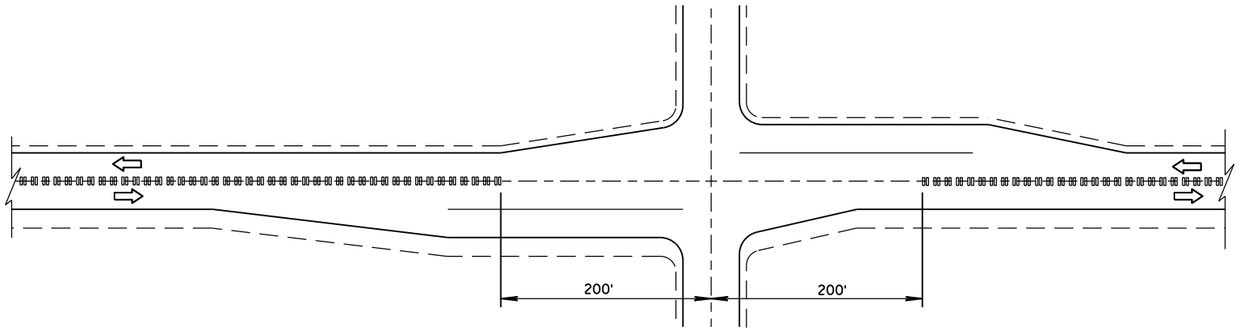
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

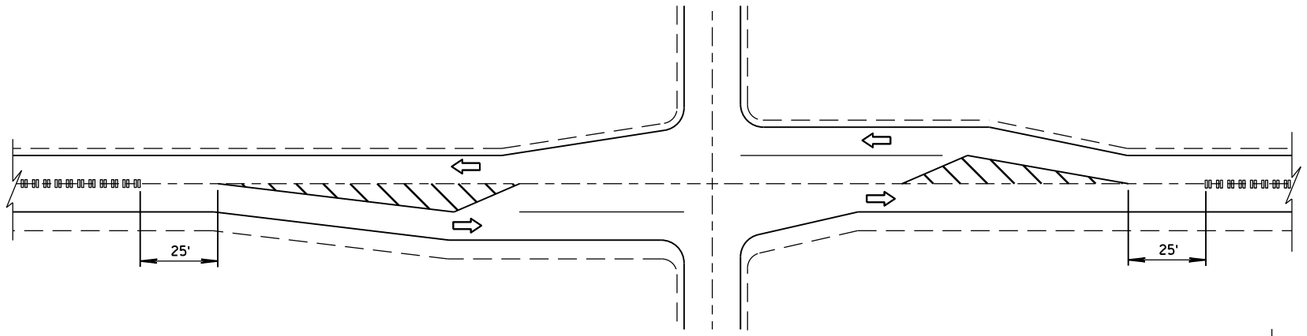
S.D.D. 13 A 11-2a

6

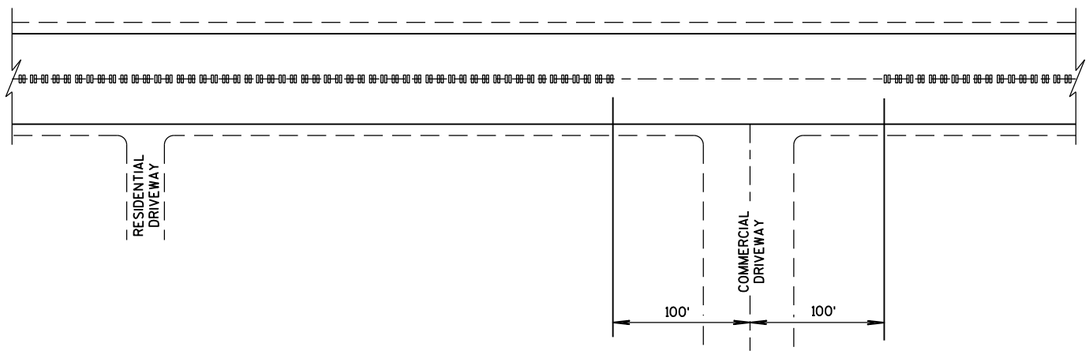
S.D.D. 13 A 11-2a



CENTER LINE GROOVES AT INTERSECTIONS

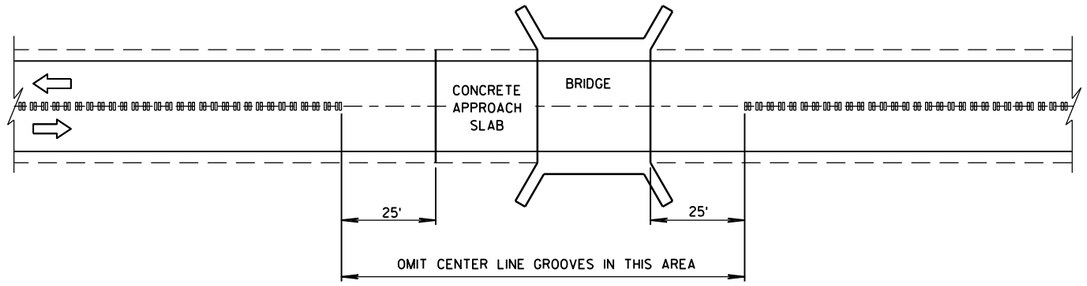


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

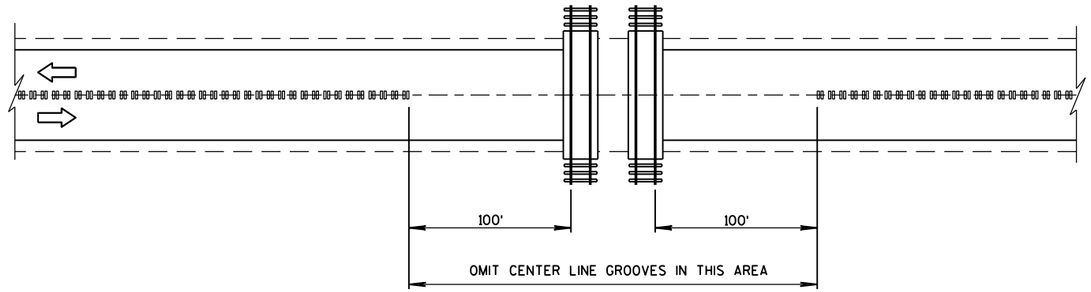


CENTER LINE GROOVES AT DRIVEWAYS (1)

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



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

6

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

6

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

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

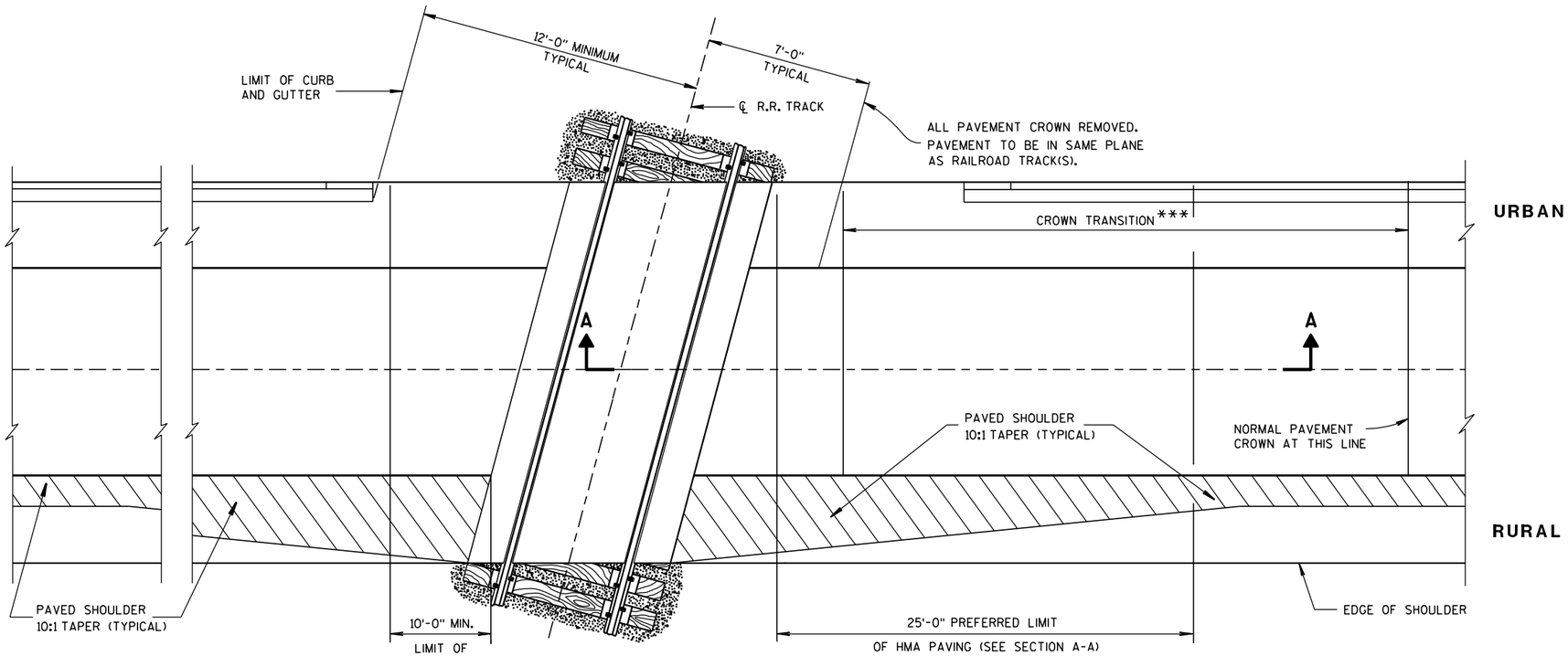
APPROVED

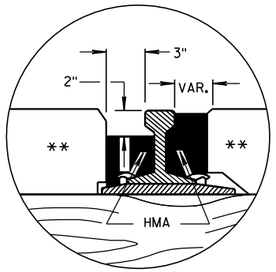
5/15/2013
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

FHWA





DETAIL B

HMA FLANGEWAY AND FIELD FILLERS

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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

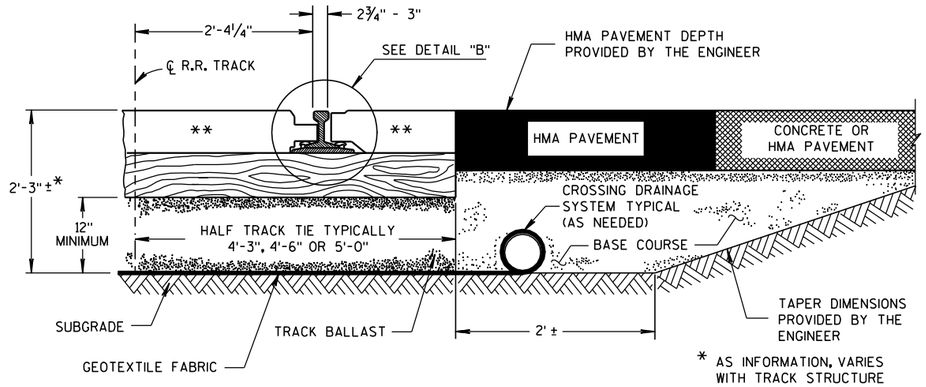
HMA PAVEMENT APPROACHES AND HMA PAVEMET CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

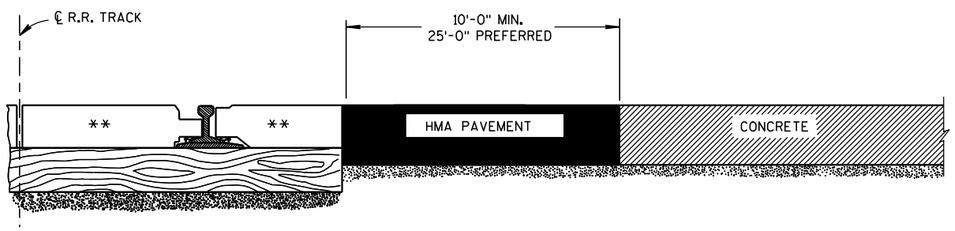
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

** CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

*** CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.

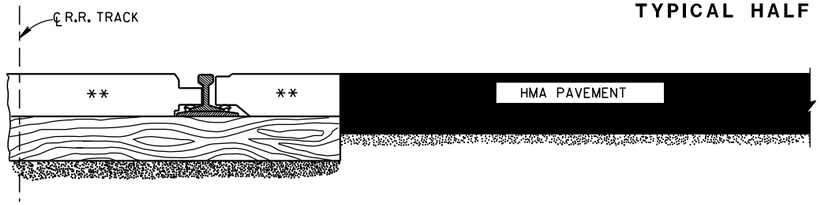


TYPICAL HALF SECTION



SECTION A-A

CONCRETE PAVEMENT APPROACH



SECTION A-A

HMA PAVEMENT APPROACH

EXAMPLES OF PAVEMENT APPROACHES

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-28-09 DATE
/S/ Ronald E. Adams
CHIEF, RAILROADS & HAI CTION
FHWA

6

S.D.D. 13 B 1-10

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) 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.

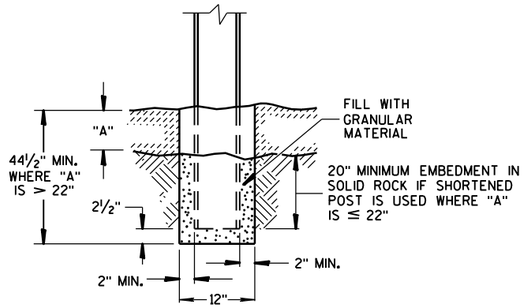
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(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.

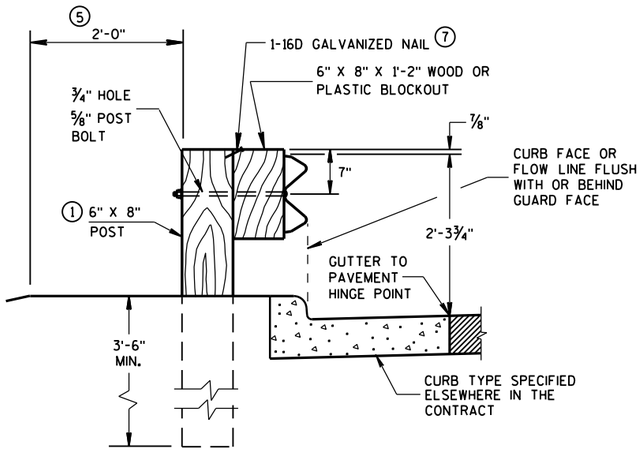
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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

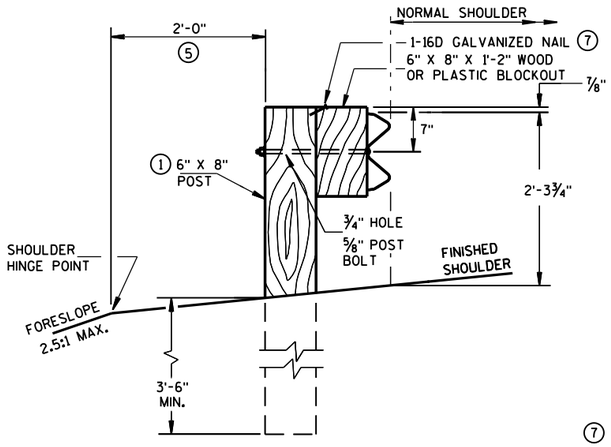
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



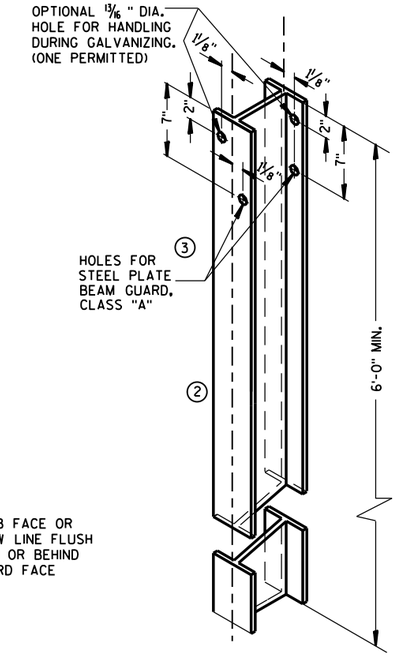
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



END VIEW
LOCATED ALONG A CURBED ROADWAY

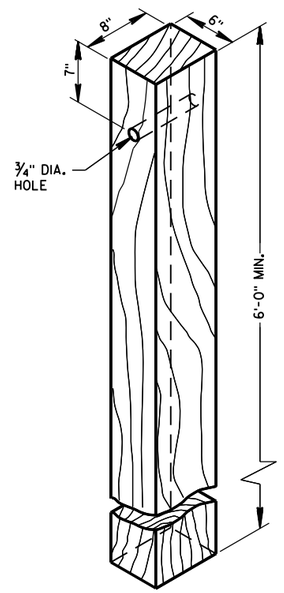


END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION

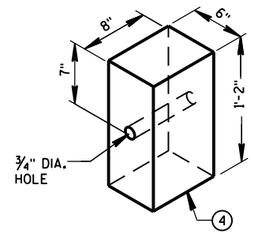


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

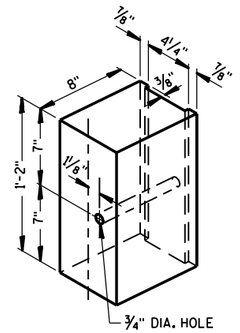
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



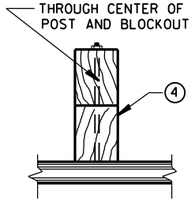
WOOD POST
(6"X8") NOMINAL



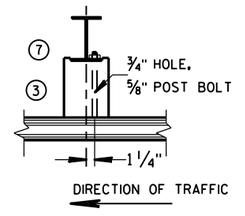
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



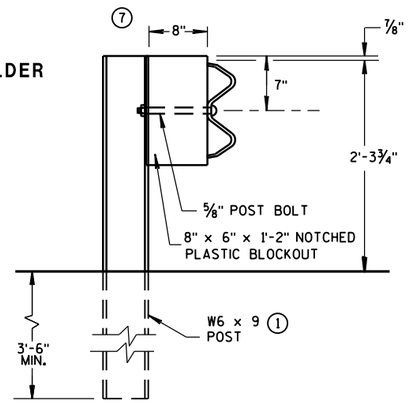
TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



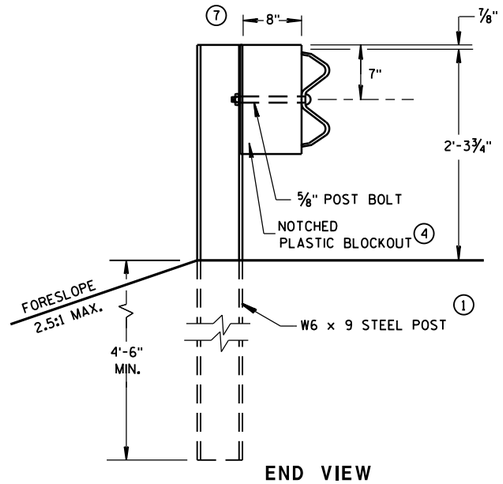
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



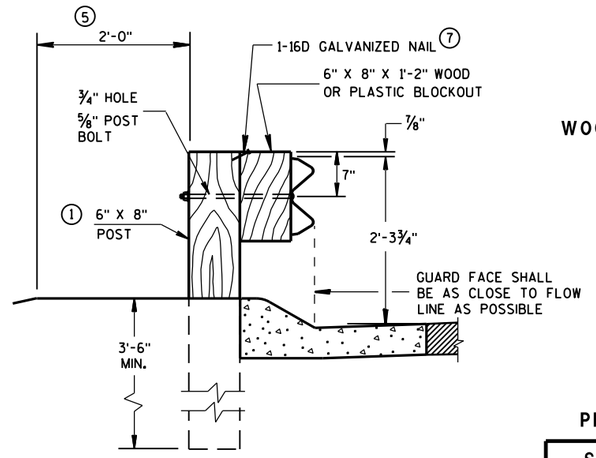
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



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



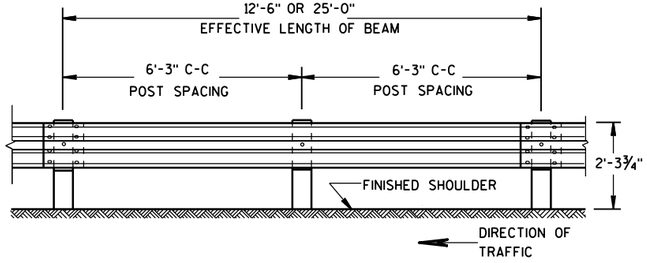
END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

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

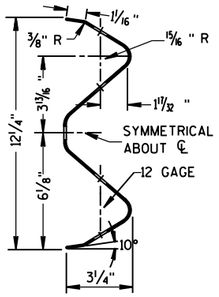
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 15-8a

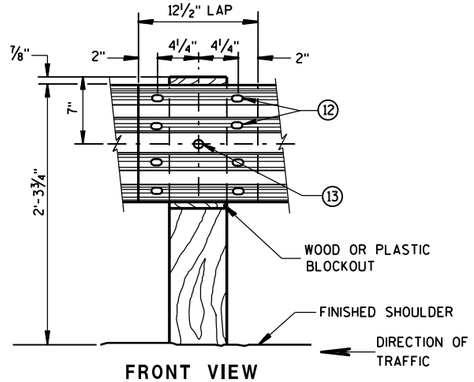


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

(8) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

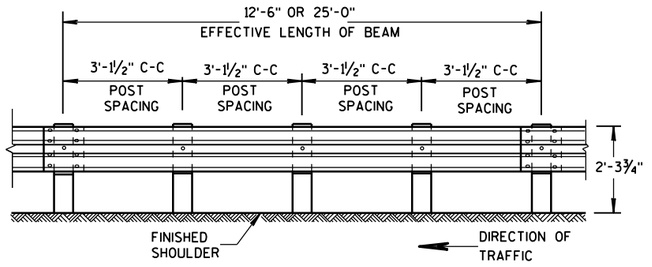
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

(10) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

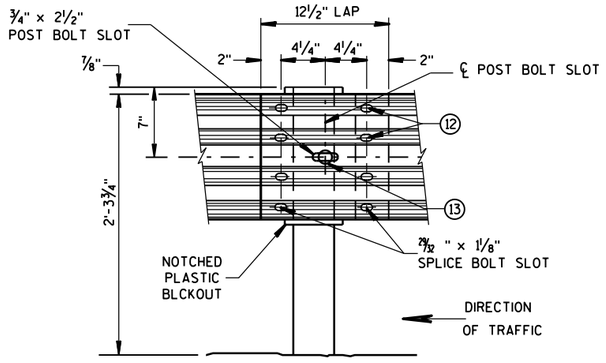
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



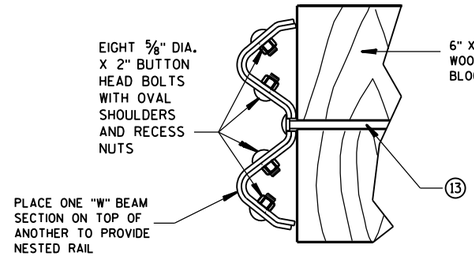
FRONT VIEW

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



FRONT VIEW

BEAM SPLICE AT STEEL POST



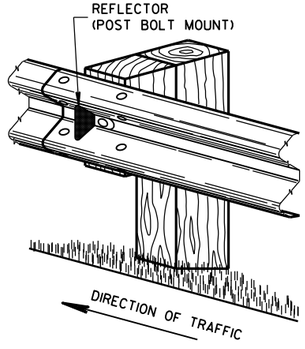
NESTED W BEAM (NW)

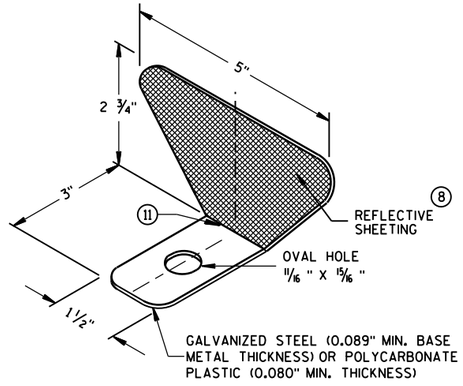
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

REFLECTOR SPACING (9)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (10) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 (11)	3



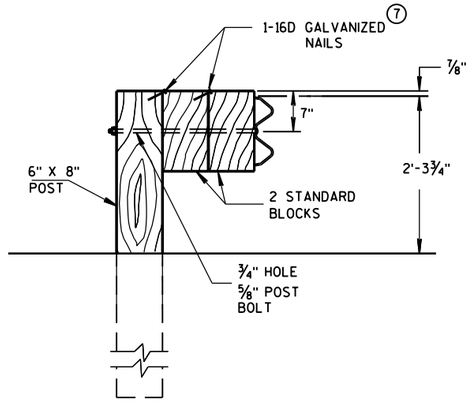


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

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

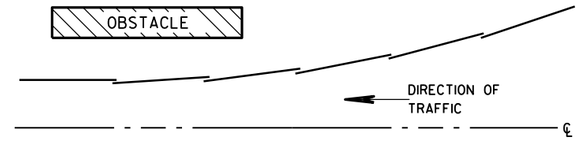
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 15-8b

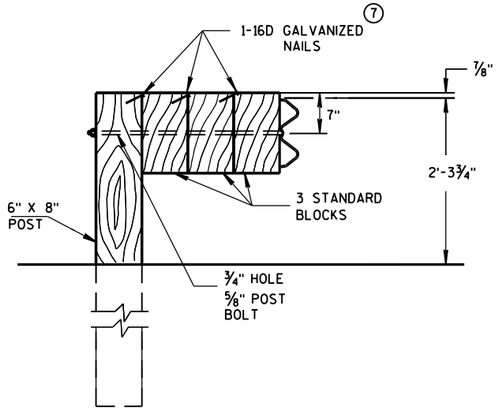


DETAIL FOR DOUBLE BLOCKS

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

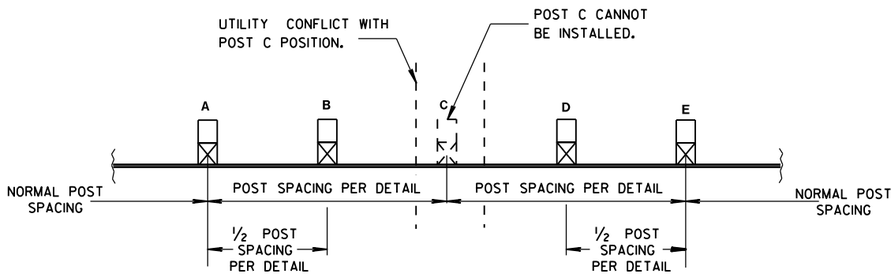


PLAN VIEW
BEAM LAPPING DETAIL



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

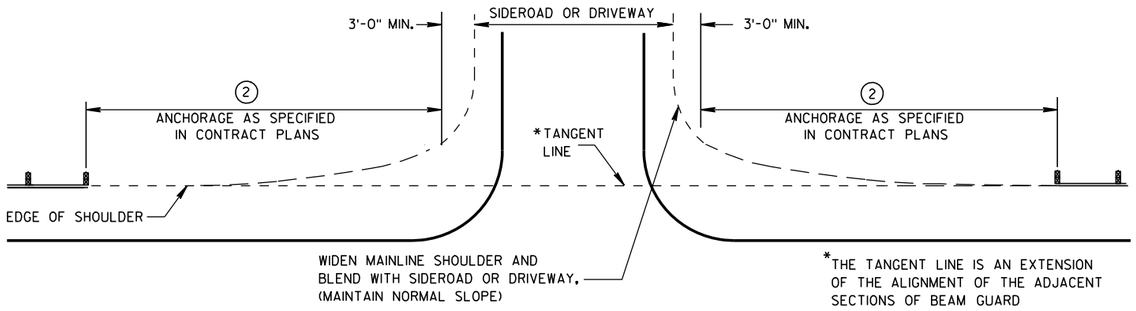
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

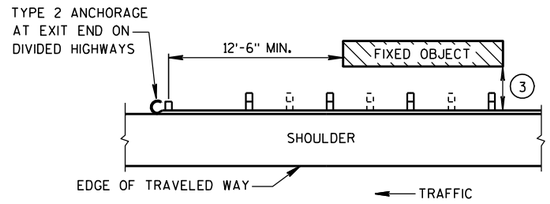
June 2014	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER	FHWA

6

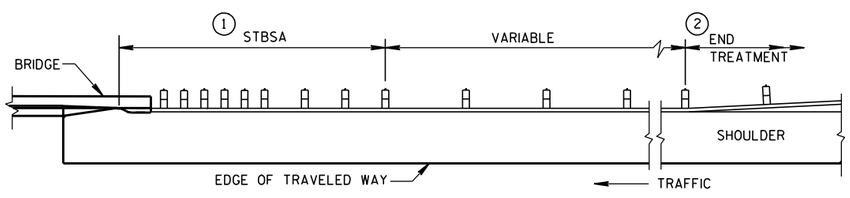
S.D.D. 14 B 15-8c



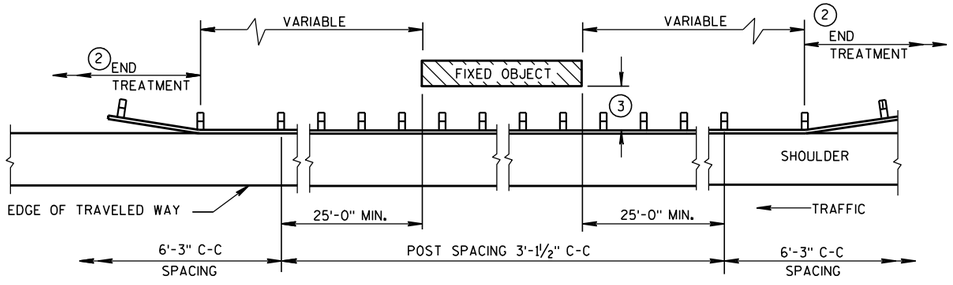
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

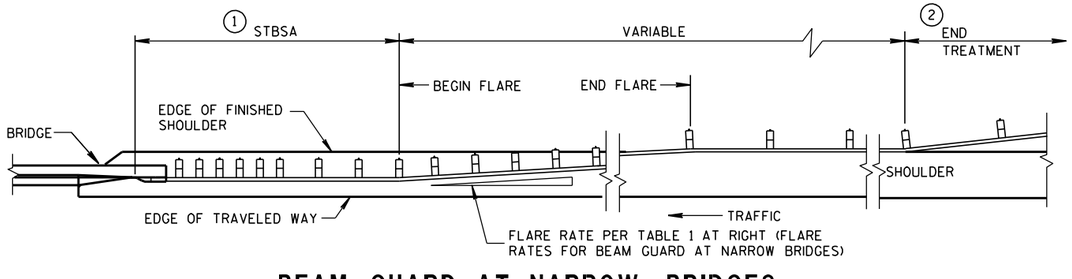


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH 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.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 18-6a

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
①	4	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	**	STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
③	2	SOIL PLATE: 2'-0" X 1'-6" X ¼" **
④	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	1	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	1	BEARING PLATE
⑧	1	BCT CABLE ASSEMBLY
⑨	1	CABLE ANCHOR BOX
⑩	1	STRUT & YOKE
⑪	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
⑫	3	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
⑭	1	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑮	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ø X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

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

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

(C) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

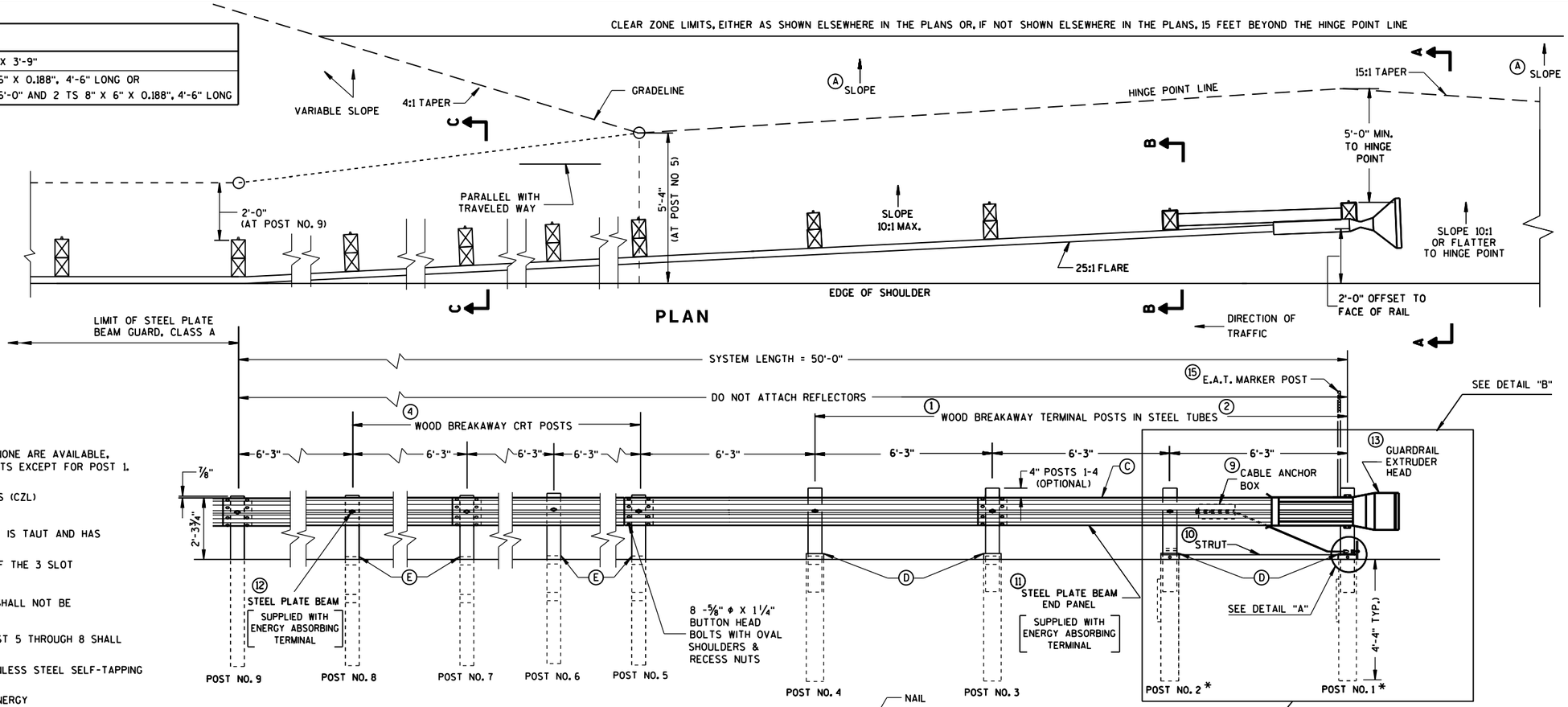
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

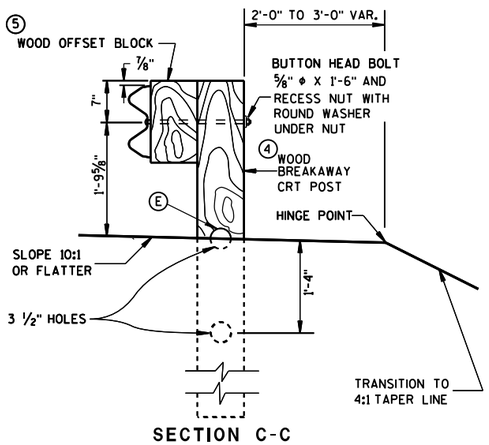
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

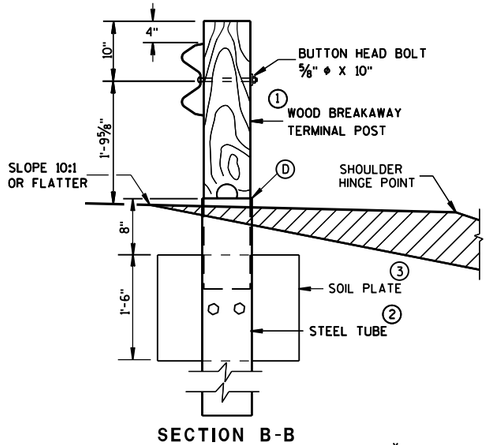
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.

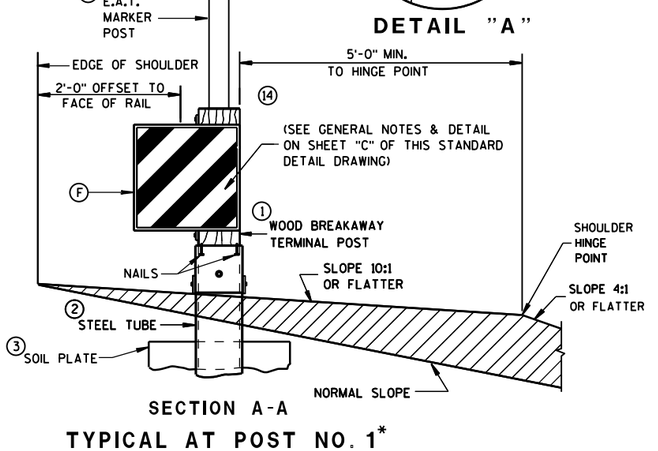




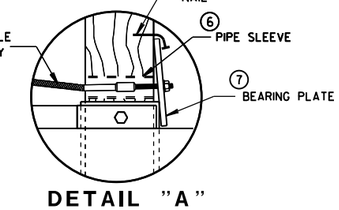
SECTION C-C
TYPICAL AT POST NOS. 6, 8



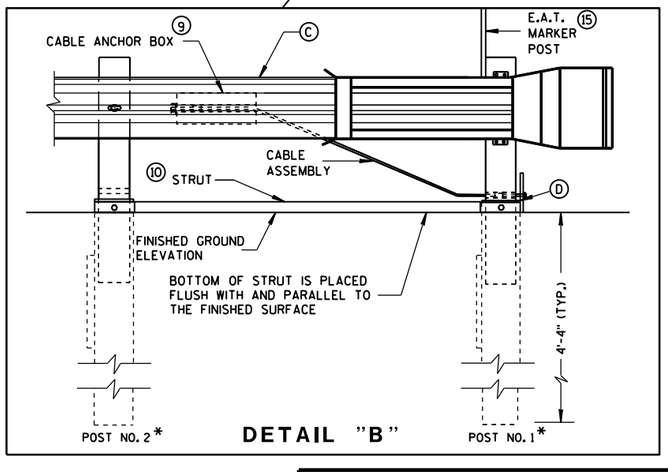
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



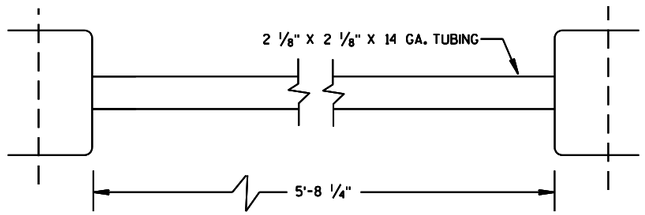
DETAIL "B"

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

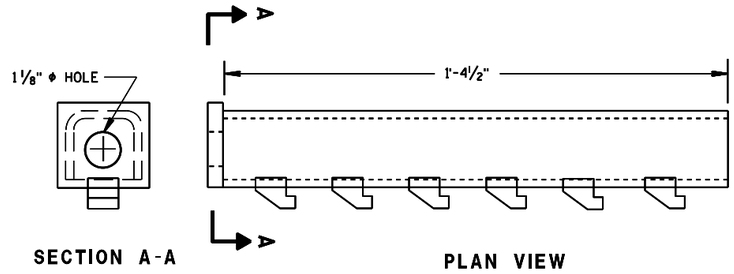
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

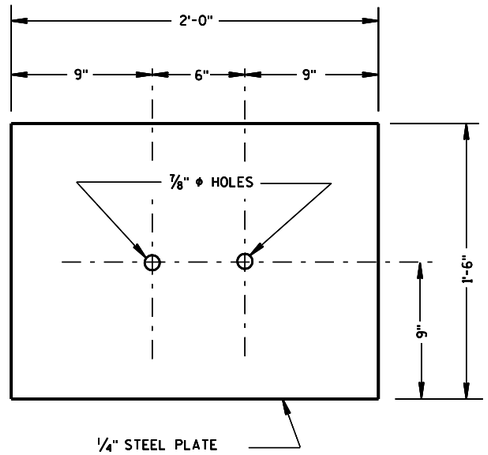
S.D.D. 14 B 24-8a



⑩ STRUT DETAIL (SKT-350)

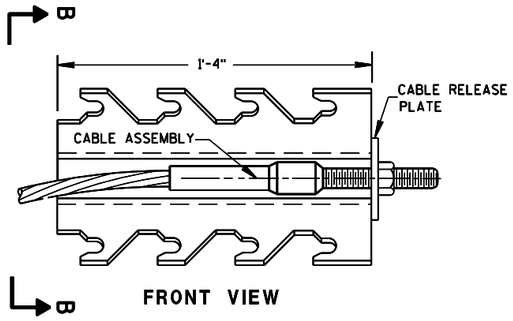


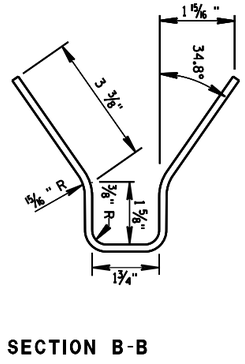
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



③ SOIL PLATE

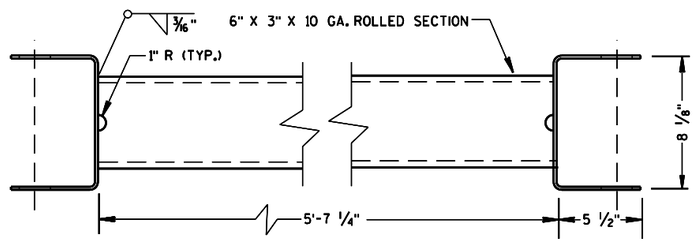
(SKT-350, ET-2000/ET-2000 PLUS)





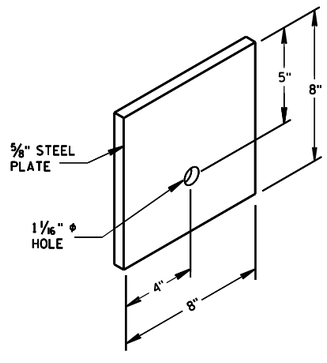
⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



⑦ STEEL BEARING PLATE

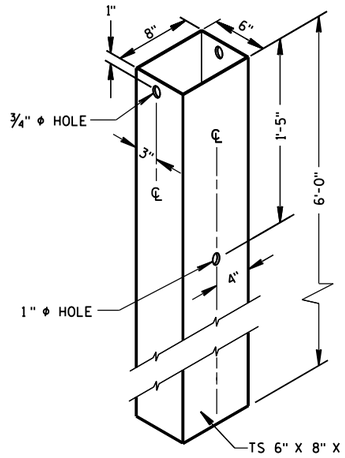
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

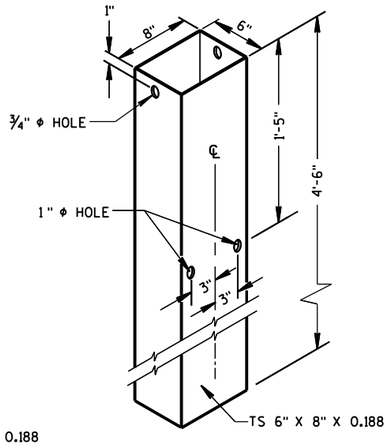
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

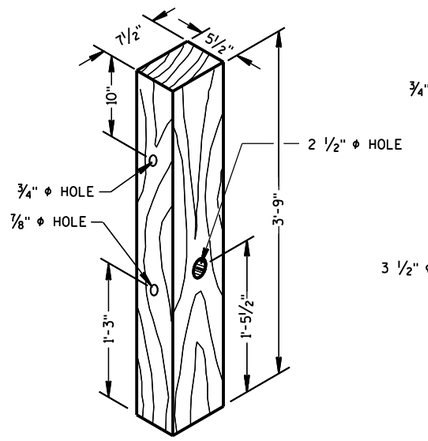
S.D.D. 14 B 24-8b



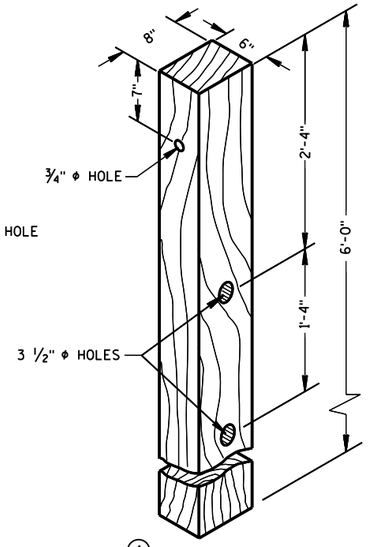
② 72" STEEL TUBE
(POSTS NO. 1-4



② 54" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST
(POSTS NO. 1-4



④ CRT POST
(POSTS NO'S 5-8

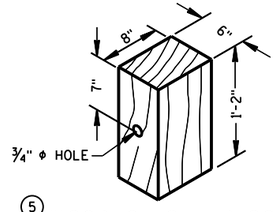
WOOD BREAKAWAY POSTS

GENERAL NOTES

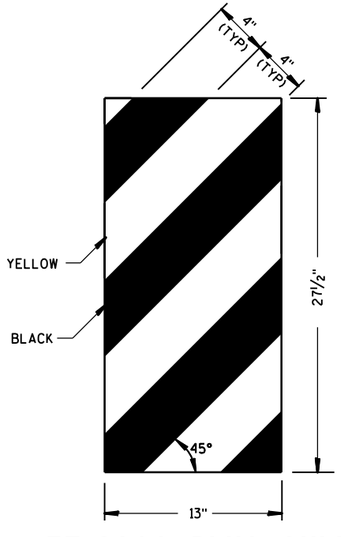
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

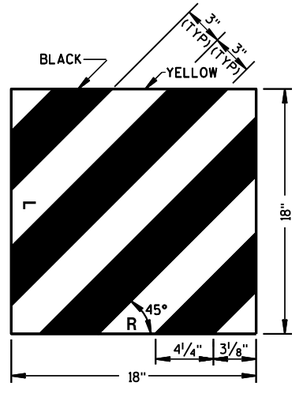
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

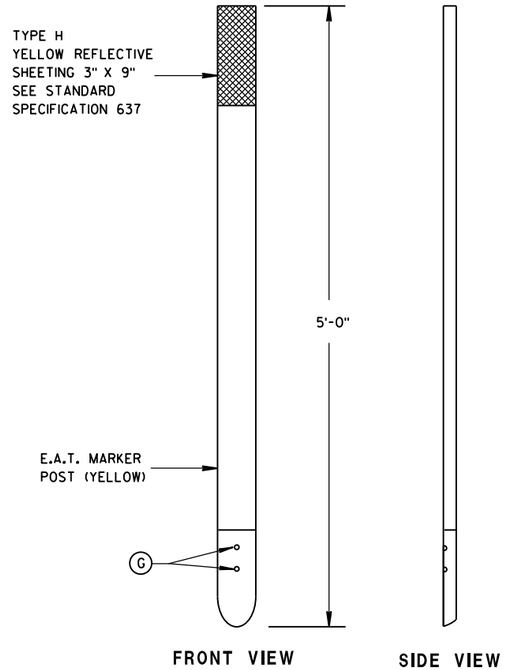


ET-2000 PLUS ONLY



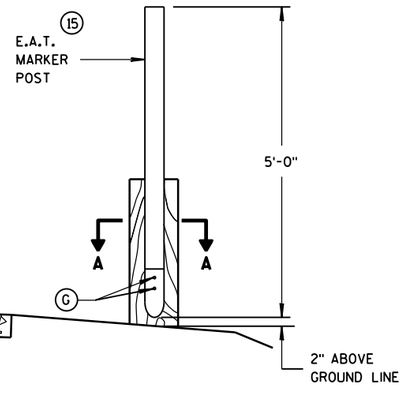
ET-2000 AND SKT-350

⑭ REFLECTIVE SHEETING DETAILS

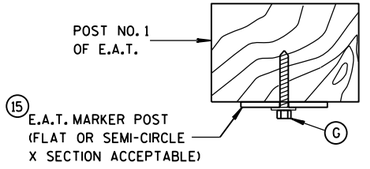


FRONT VIEW SIDE VIEW

⑮ E.A.T. MARKER POST



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

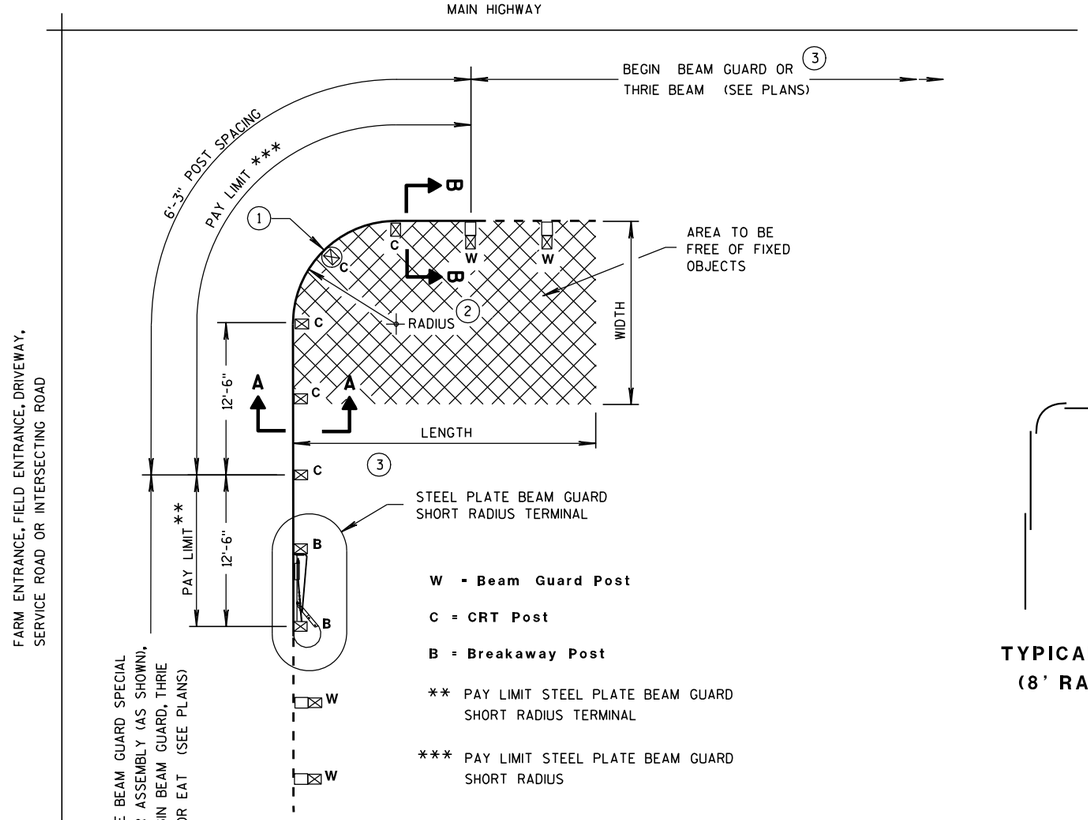
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS ENGINEER
FHWA

6

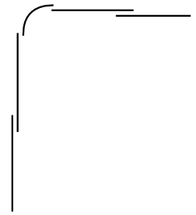
S.D.D. 14 B 24-8c

6

S.D.D. 14 B 24-8c



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

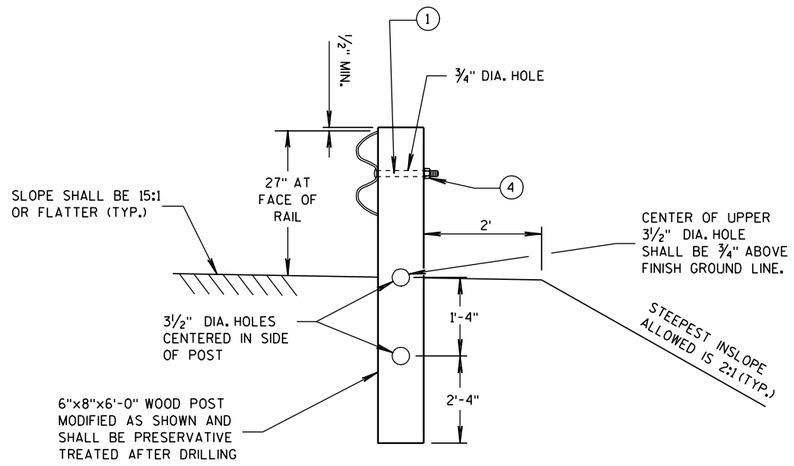
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

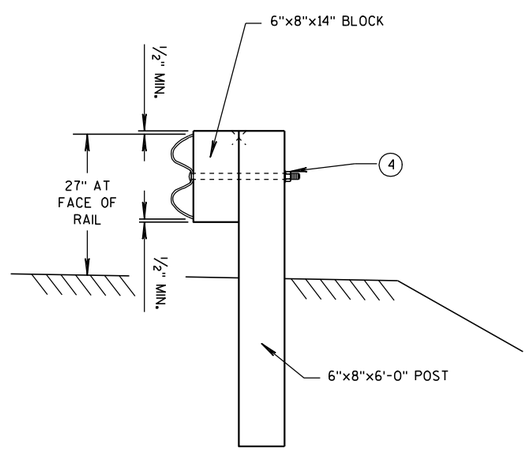
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)



SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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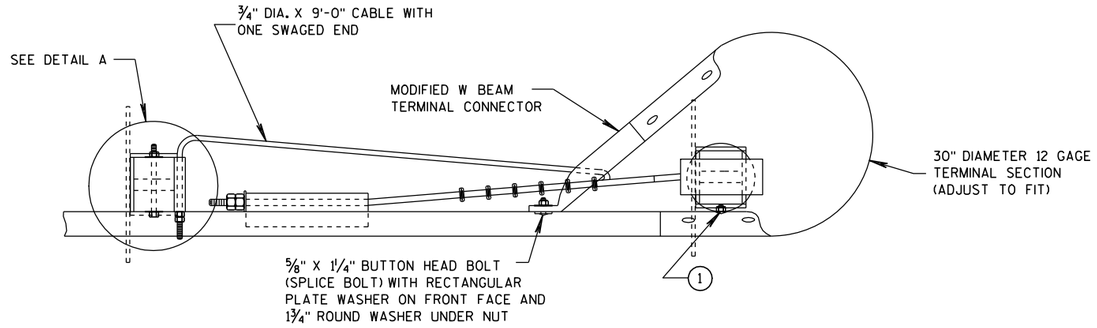
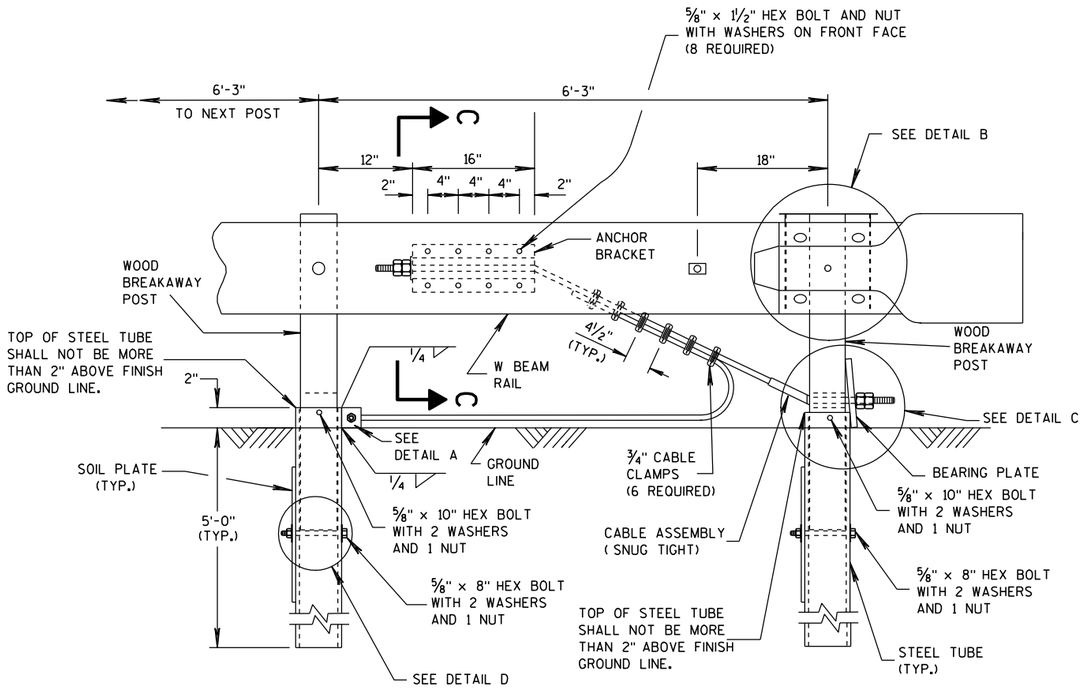
S.D.D. 14 B 27-1a



PLAN VIEW



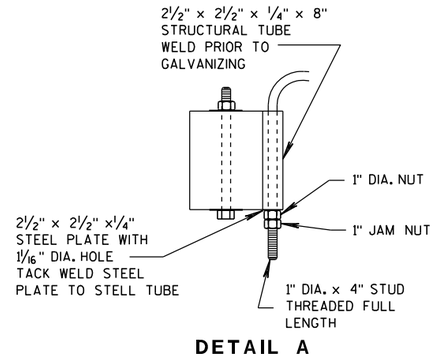
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

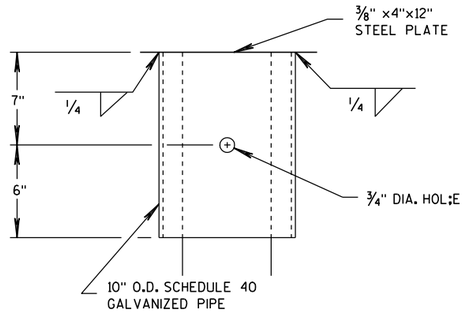
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

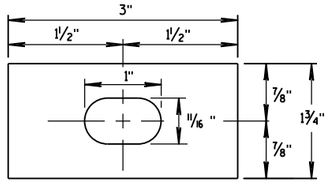
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

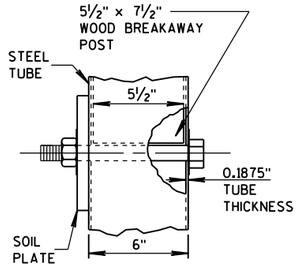
S.D.D. 14 B 27-1b

6

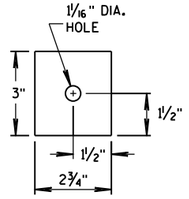
S.D.D. 14 B 27-1b



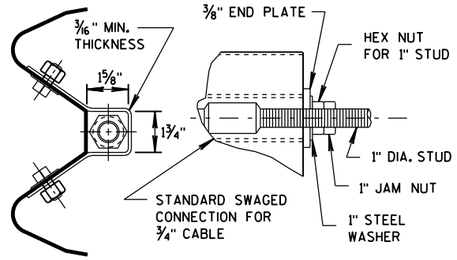
RECTANGULAR PLATE WASHER



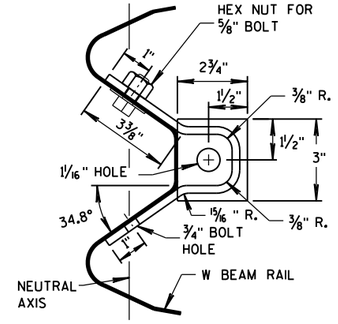
DETAIL D



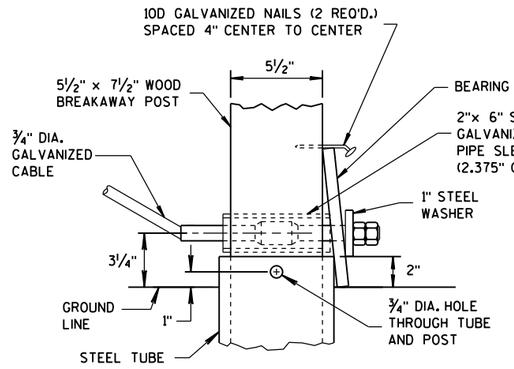
END PLATE



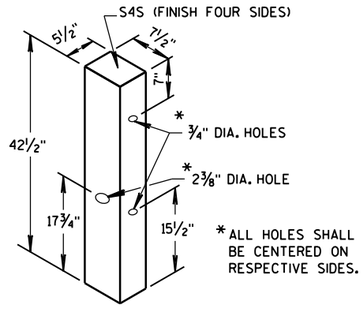
SECTION C-C
(END PLATE REMOVED)



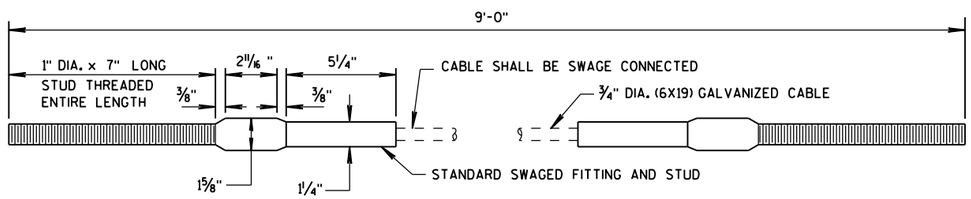
ANCHOR BRACKET



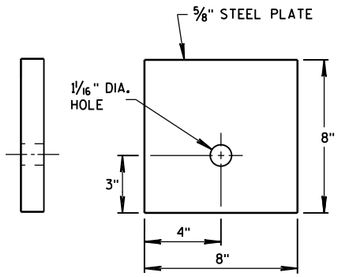
DETAIL C



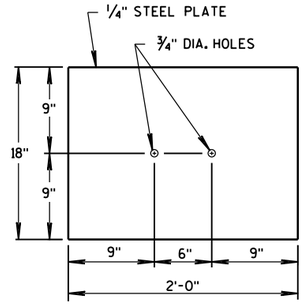
WOOD BREAKAWAY POST



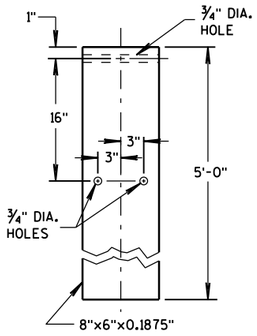
CABLE ASSEMBLY



BEARING PLATE



SOIL PLATE



STEEL TUBE

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 27-1c

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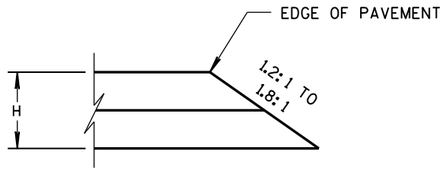
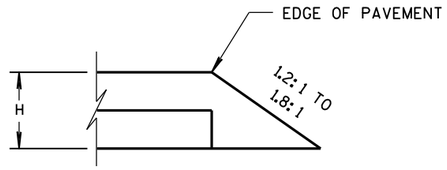
S.D.D. 14 B 27-1c



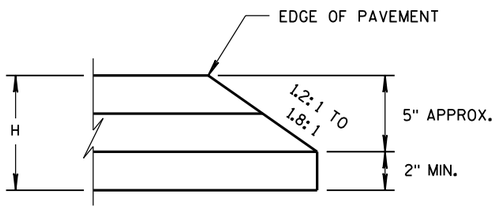
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



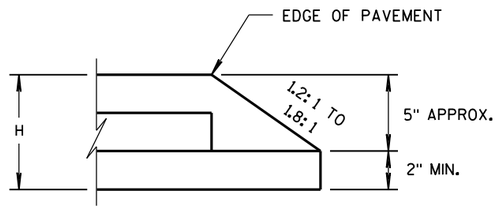
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

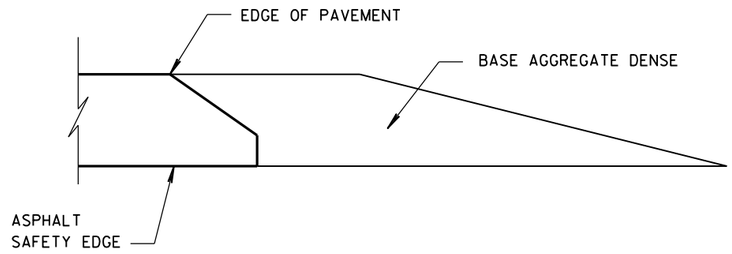
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

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S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

GENERAL NOTES

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

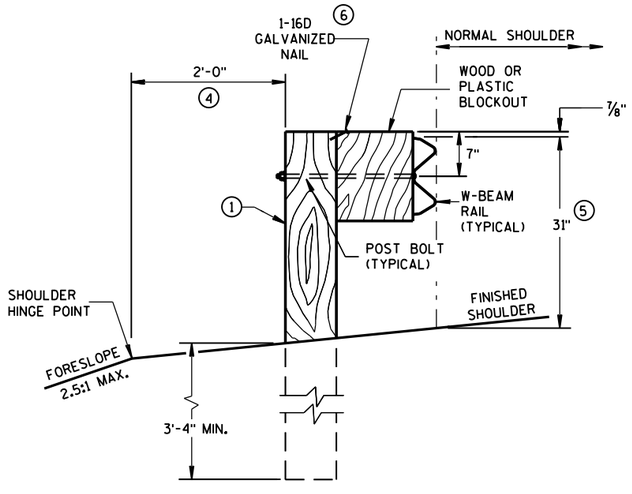
2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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

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

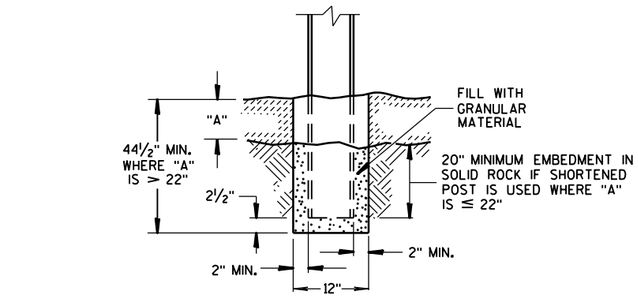
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



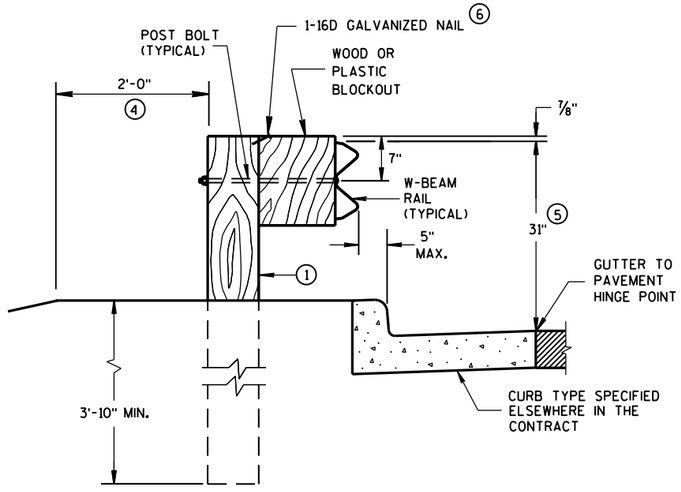
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



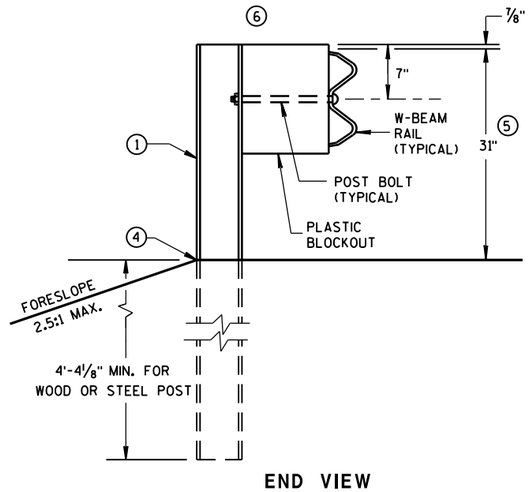
END VIEW

SETTING STEEL OR WOOD POST IN ROCK 3



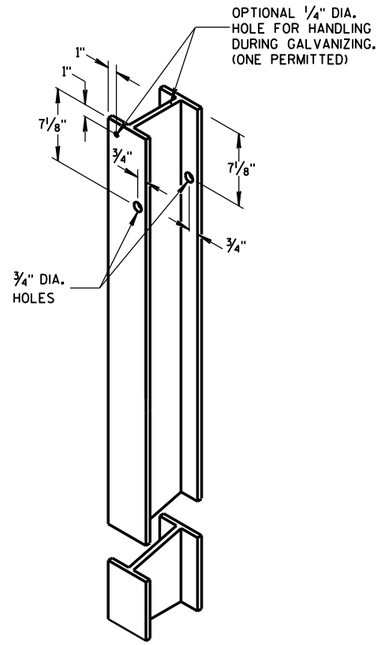
END VIEW

LOCATED ALONG A CURBED ROADWAY

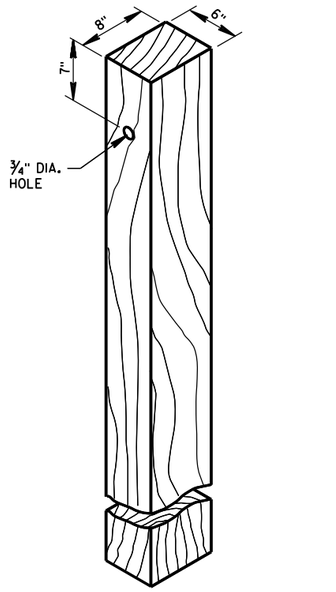


END VIEW

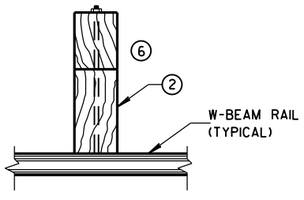
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



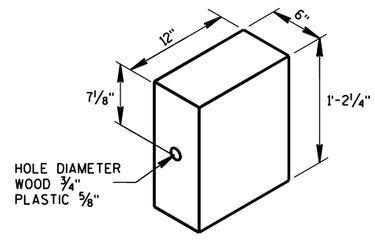
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) 1



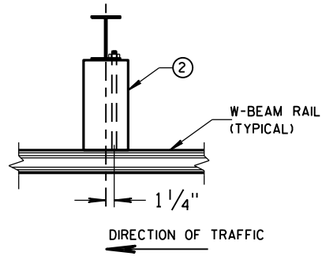
WOOD POST
(6" X 8") NOMINAL 1



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT 2



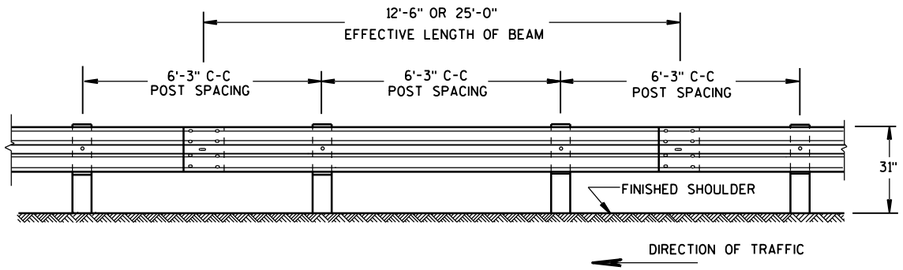
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

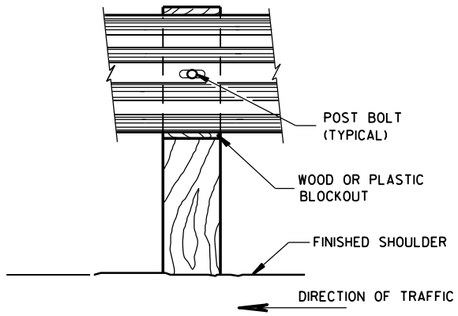
6

S.D.D. 14 B 42-3a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

GENERAL NOTES

(7) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

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

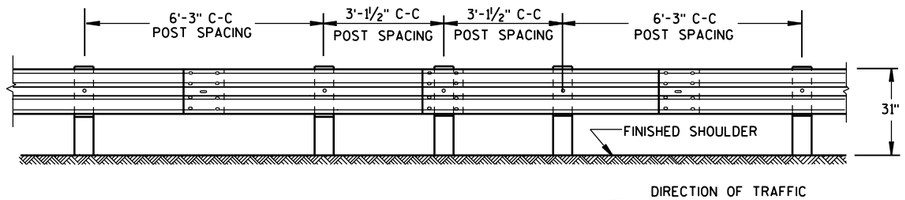
(9) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(10) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

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

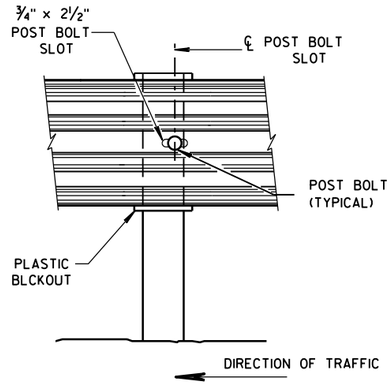
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

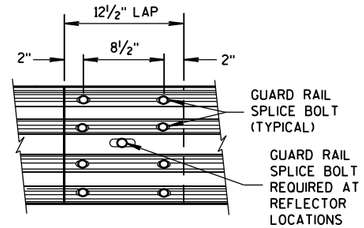


FRONT VIEW

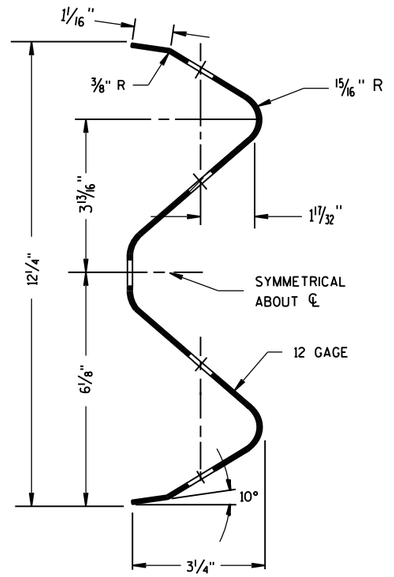
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



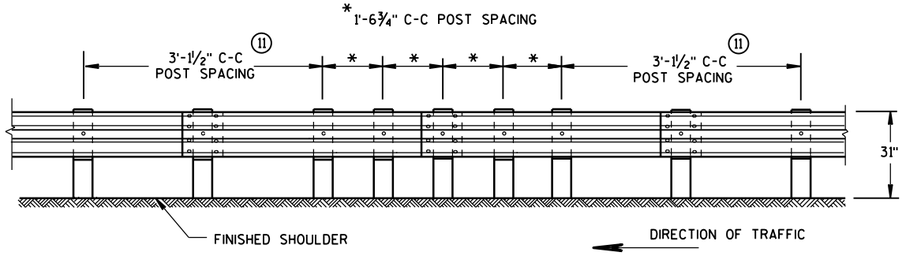
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

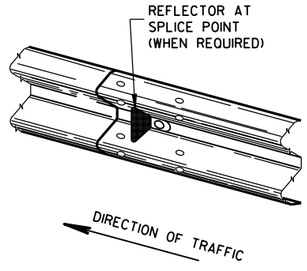


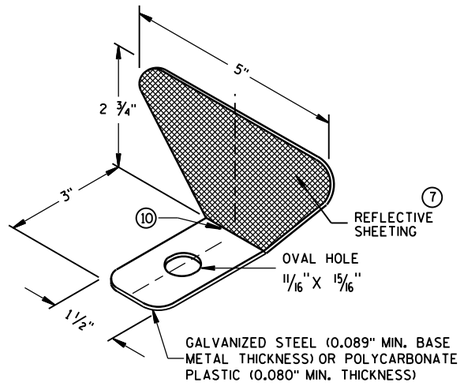
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





REFLECTOR SPACING (8)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (9)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (10)	

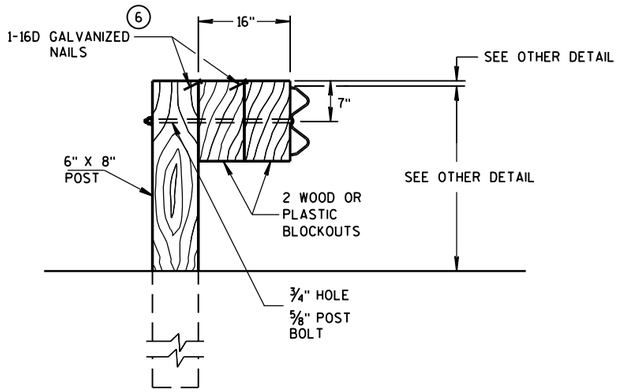
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

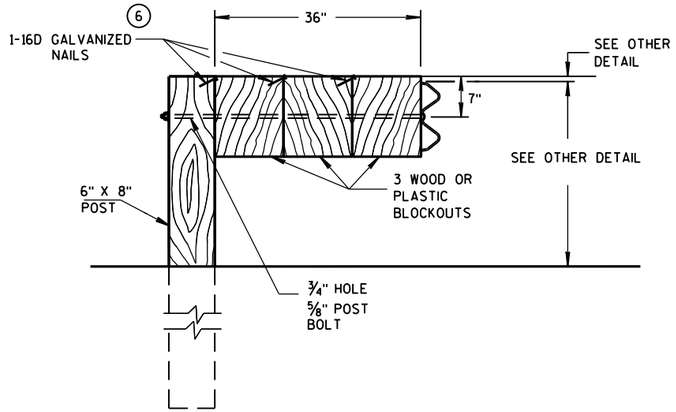
6

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

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

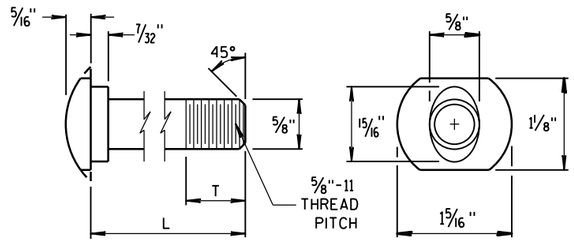


DETAIL FOR 36" BLOCKOUT DEPTH

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

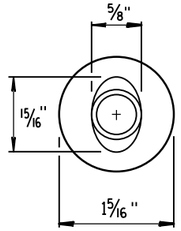
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

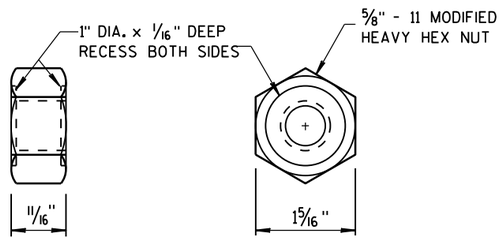


POST BOLT TABLE

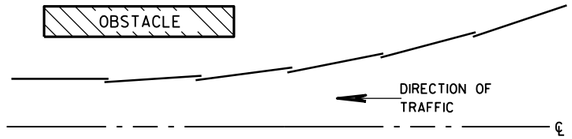
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

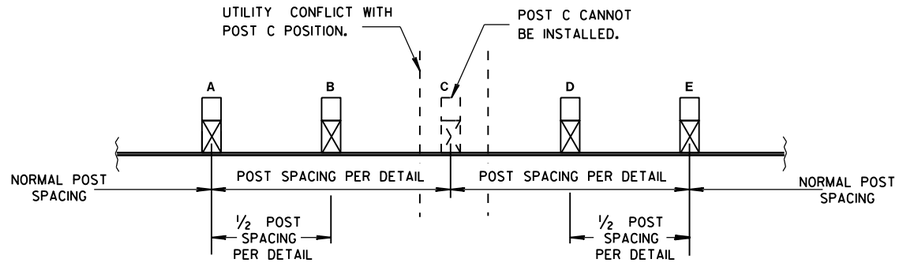


POST BOLT AND RECESS NUT

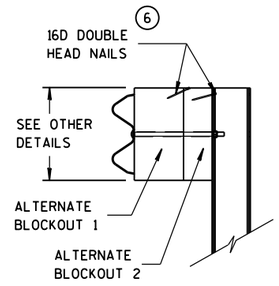


PLAN VIEW

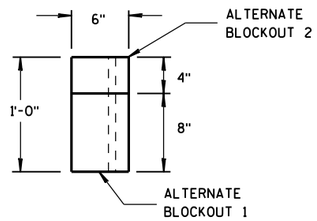
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 42-3c

GENERAL NOTES

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

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

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

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

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

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

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

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

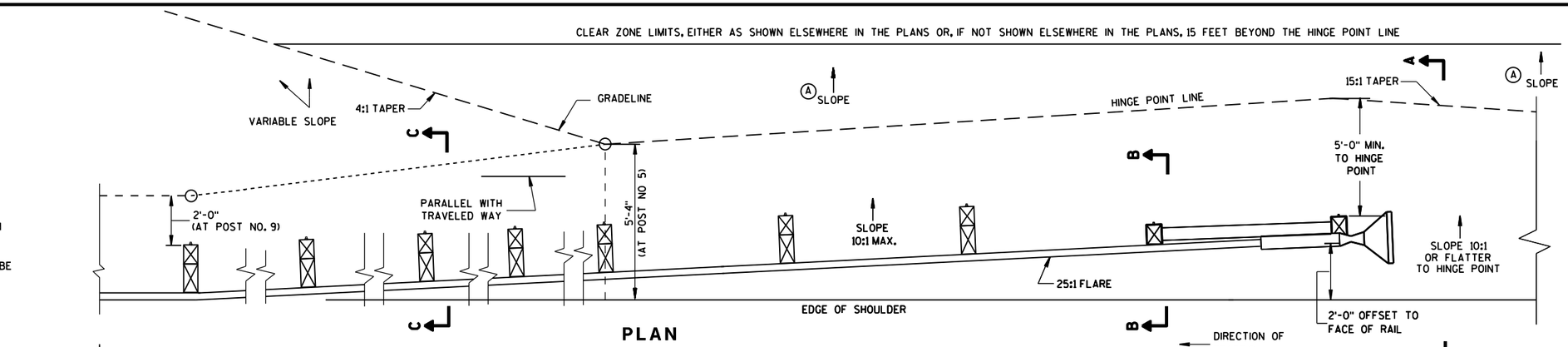
SEE SDD 14B42 FOR MORE INFORMATION.

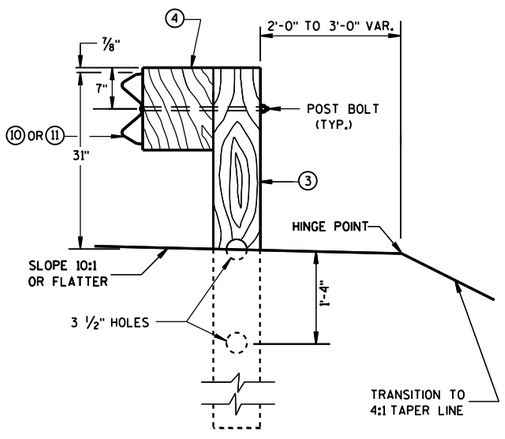
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

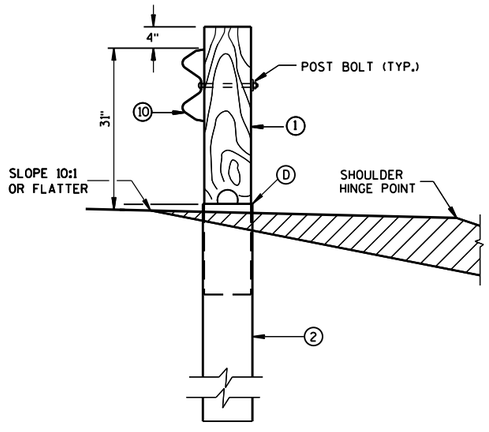
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

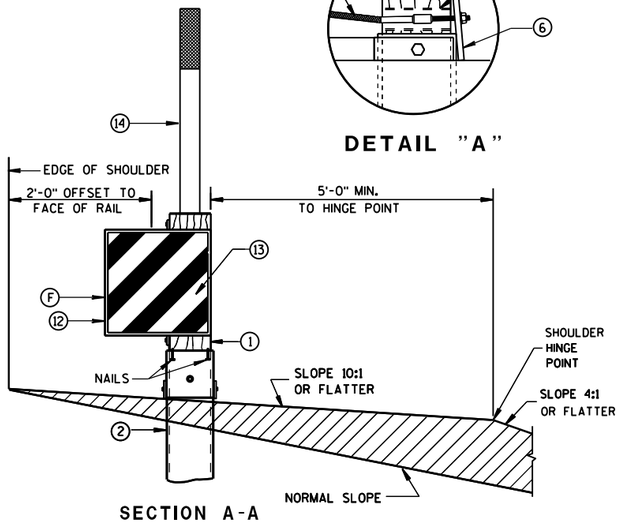




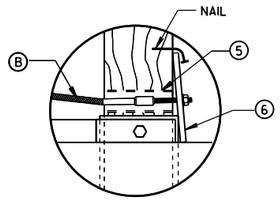
SECTION C-C
TYPICAL AT POST NOS. 3-9



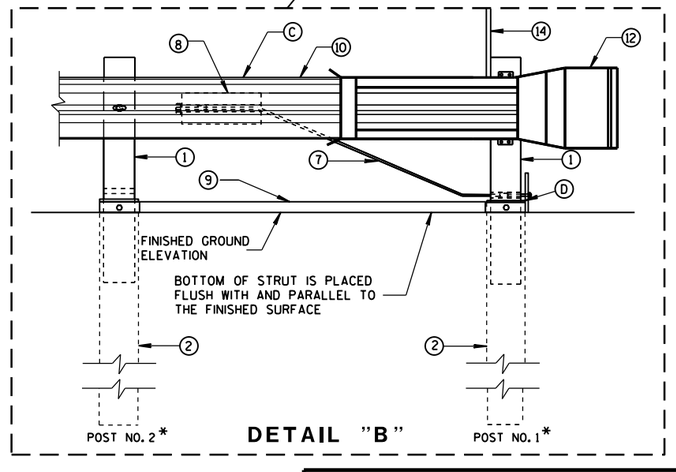
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



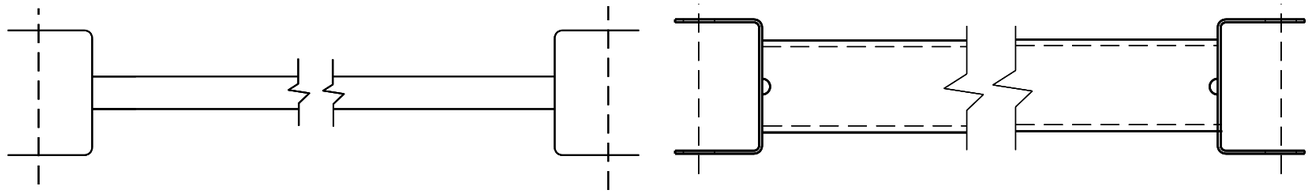
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

S.D.D. 14 B 44-2a

S.D.D. 14 B 44-2a

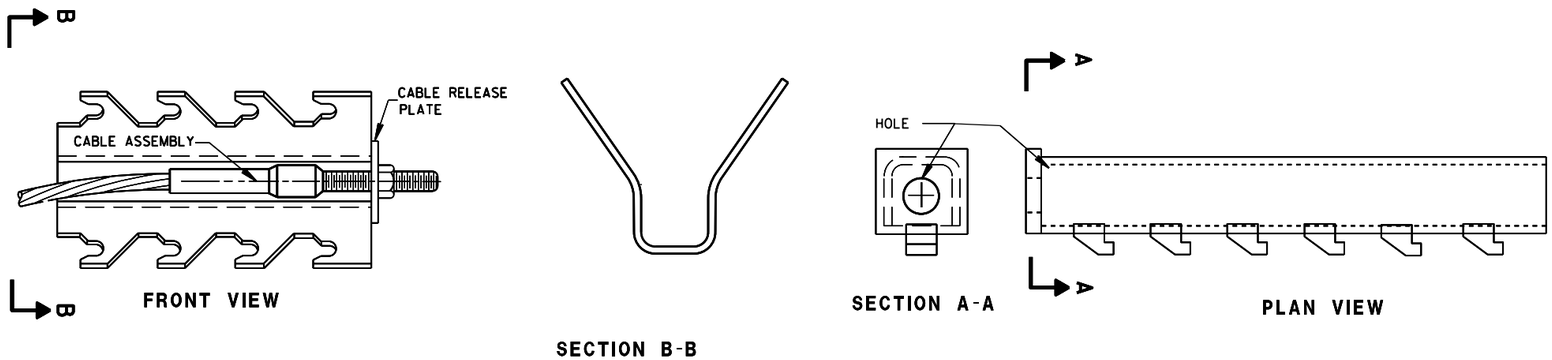


(9) (H)

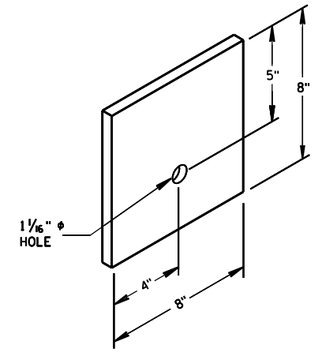
GENERIC GROUND STRUT

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)



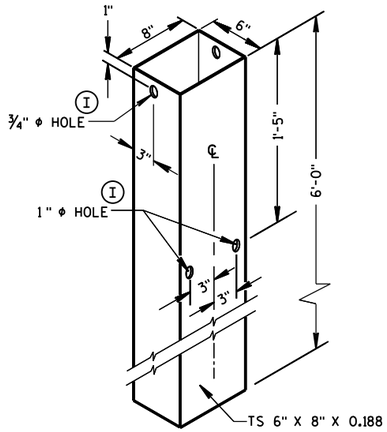
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

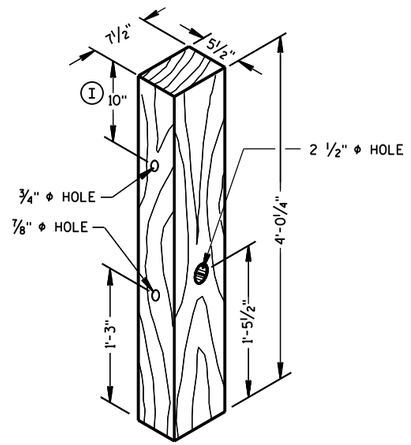
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 44-2b

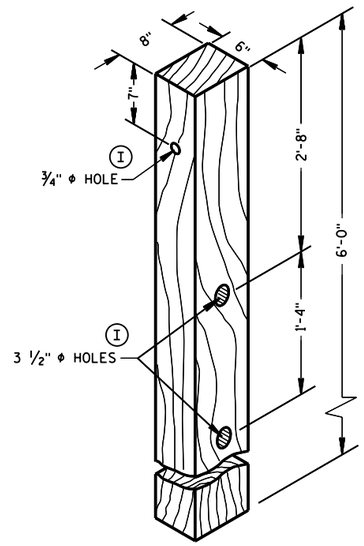


FOUNDATION TUBE (2)



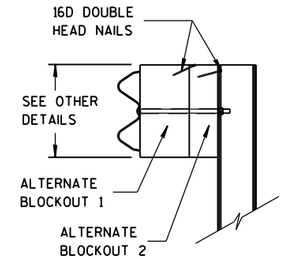
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

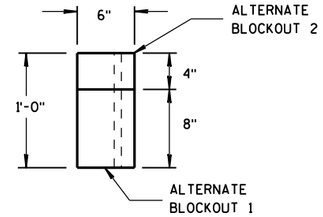


POSTS NUMBER 3-9

WOOD CRT POST (3)

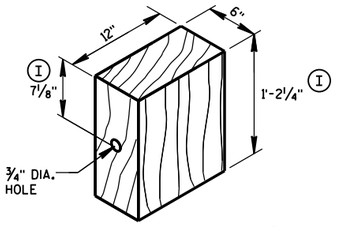


SIDE VIEW



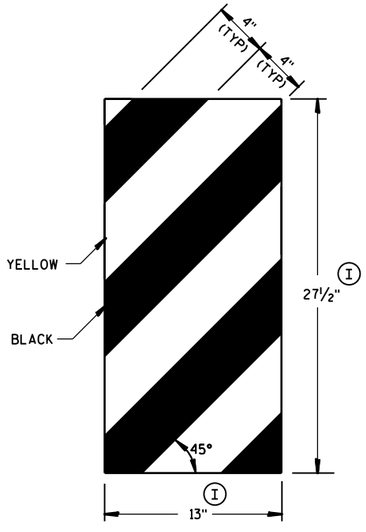
TOP VIEW

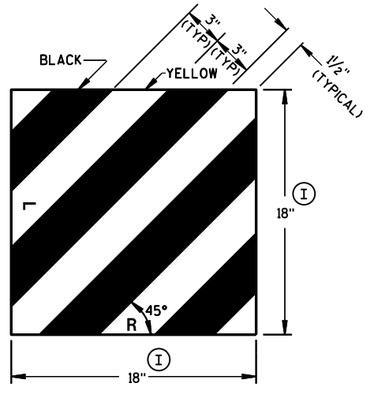
ALTERNATE WOOD BLOCKOUT DETAIL



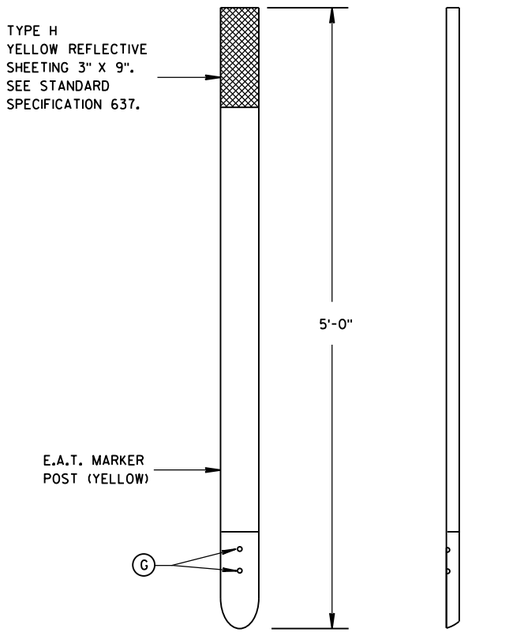
WOOD BLOCKOUT (4)

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





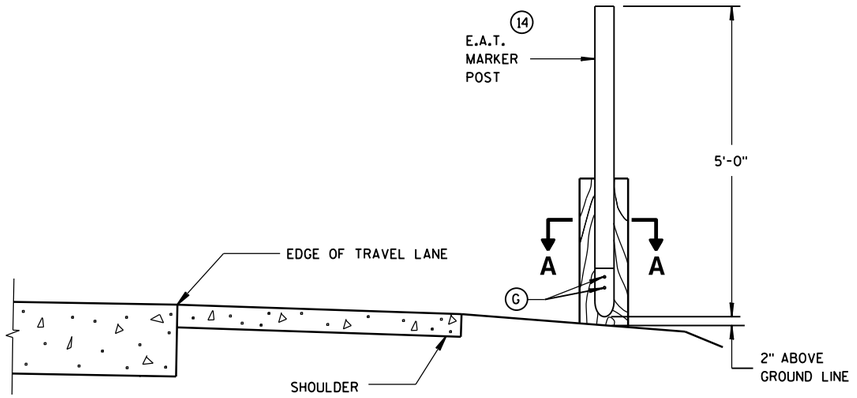
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

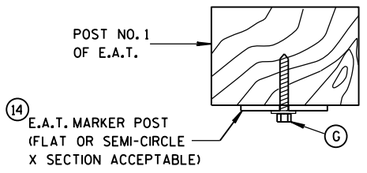
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

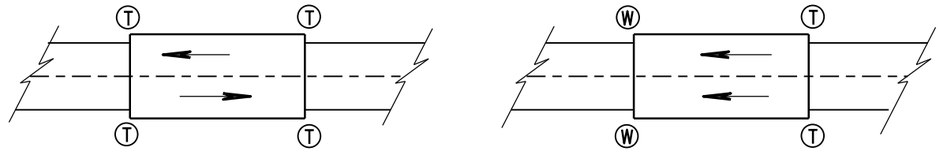
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

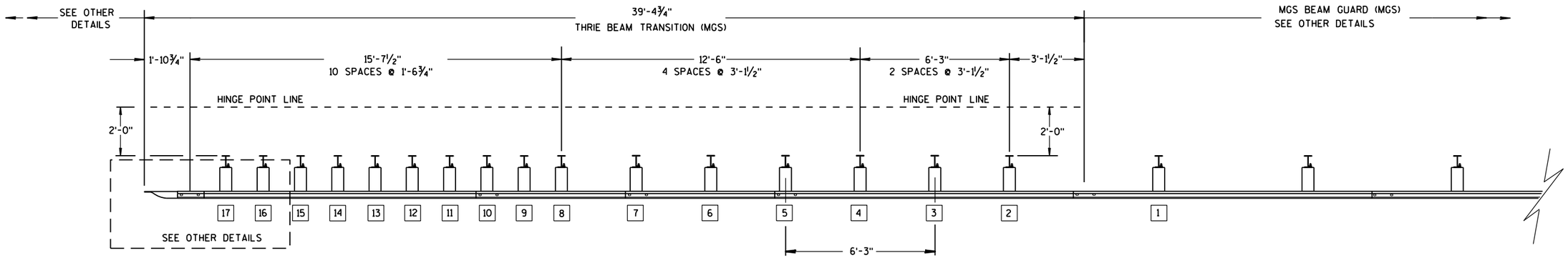
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

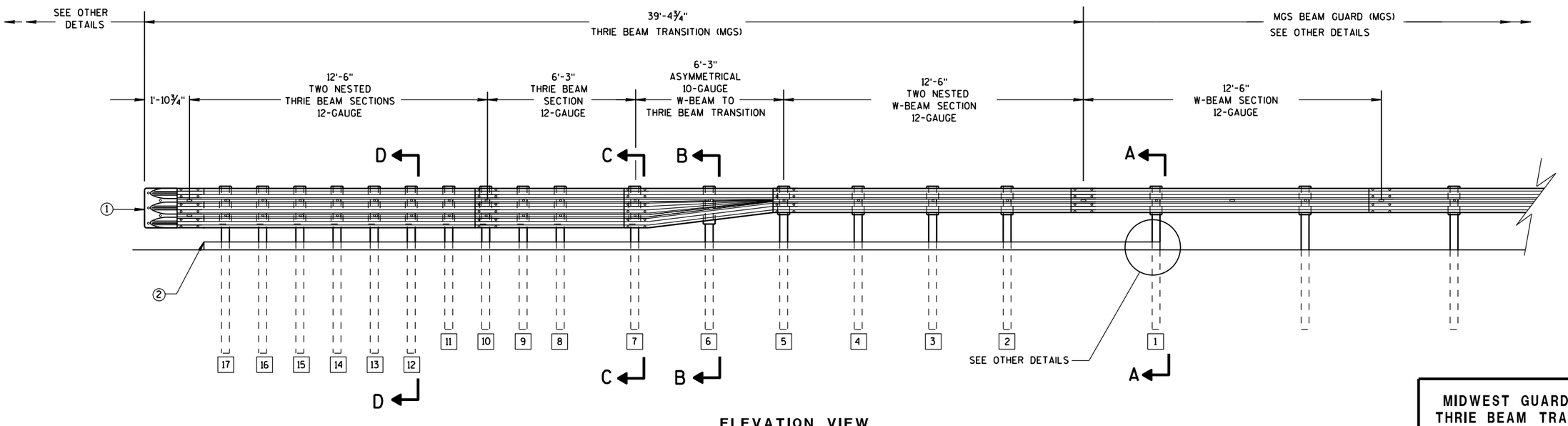
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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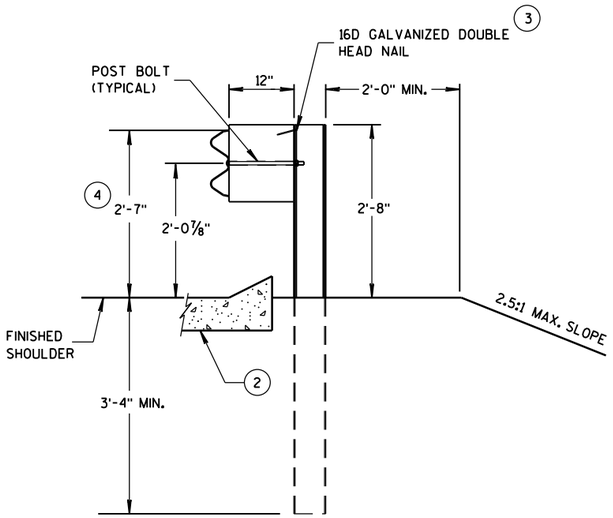
S.D.D. 14 B 45-4a

GENERAL NOTES

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

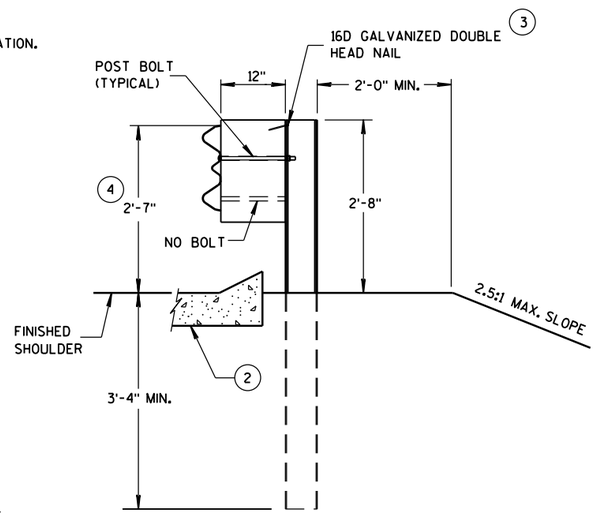
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



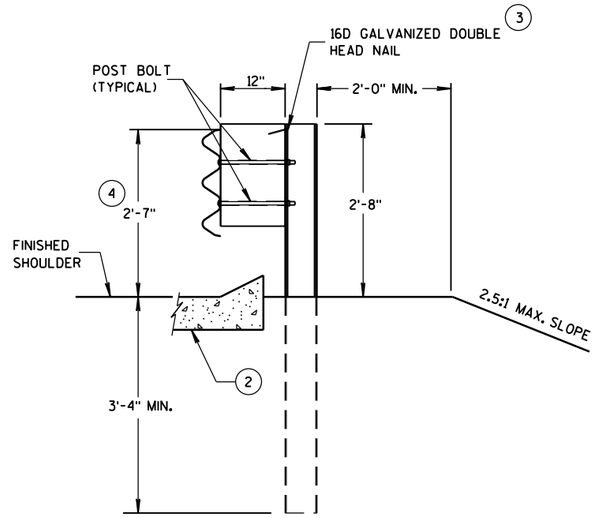
SECTION A-A

POSTS 1-5



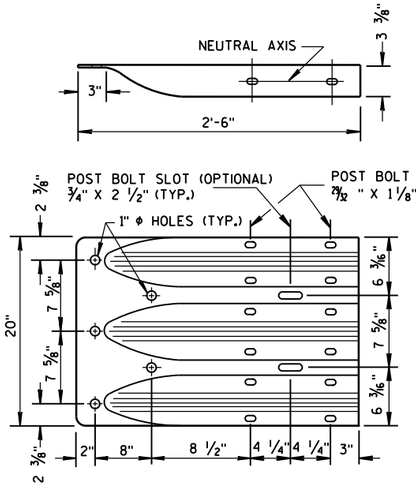
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

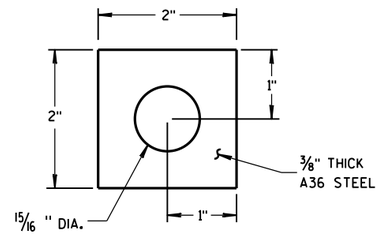
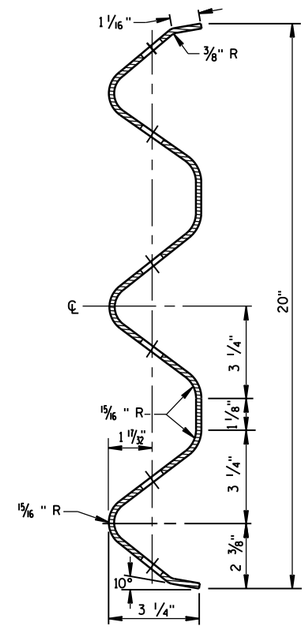
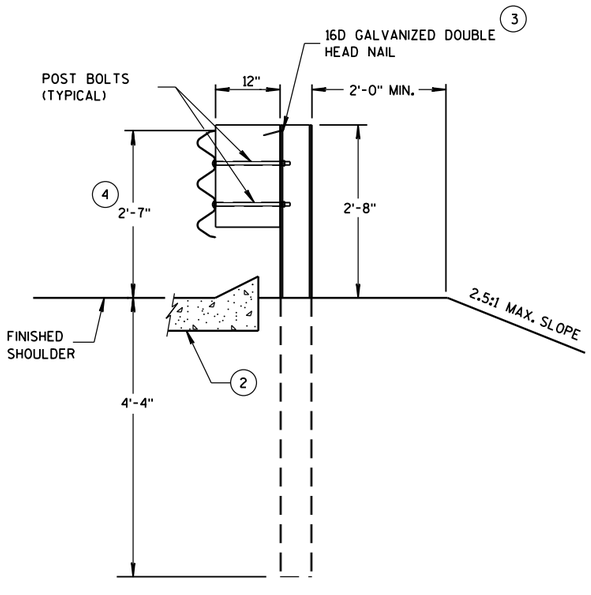


PLATE WASHER DETAIL

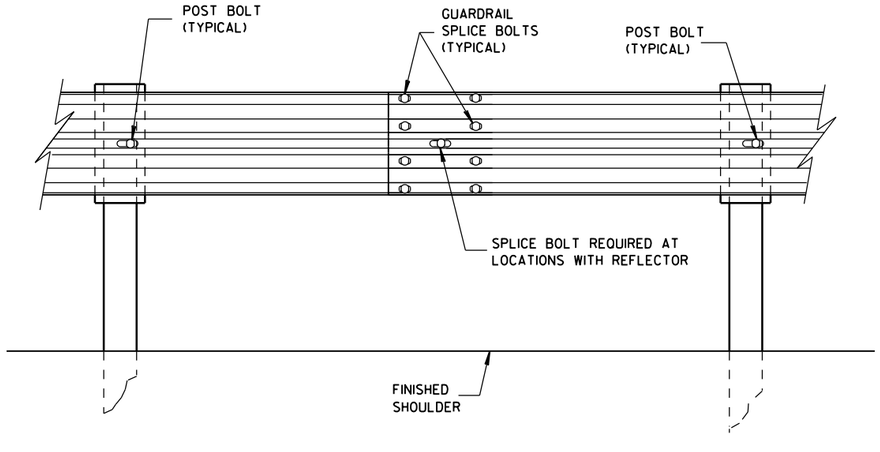


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



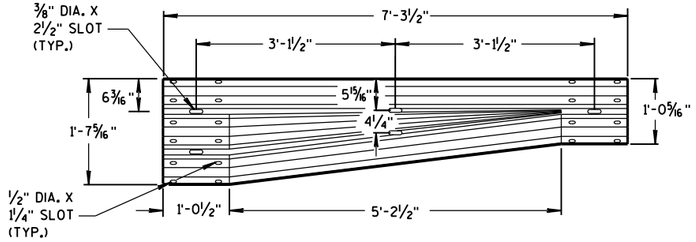
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

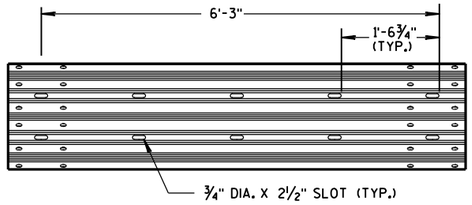
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

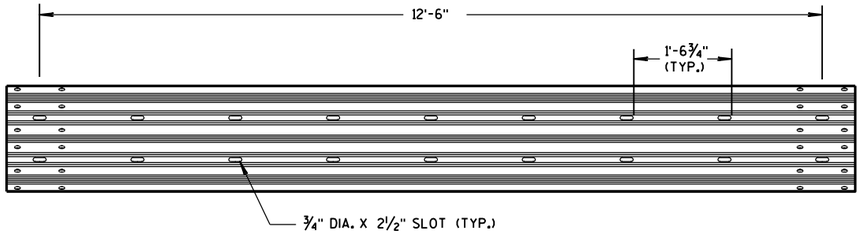
S.D.D. 14 B 45-4b



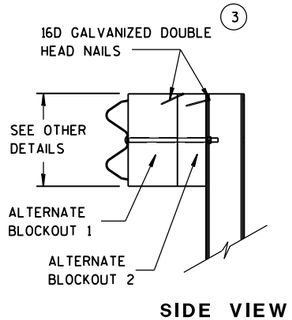
W-BEAM TO THRIE BEAM TRANSITION SECTION



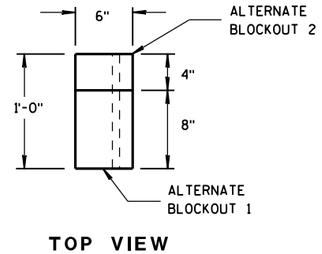
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

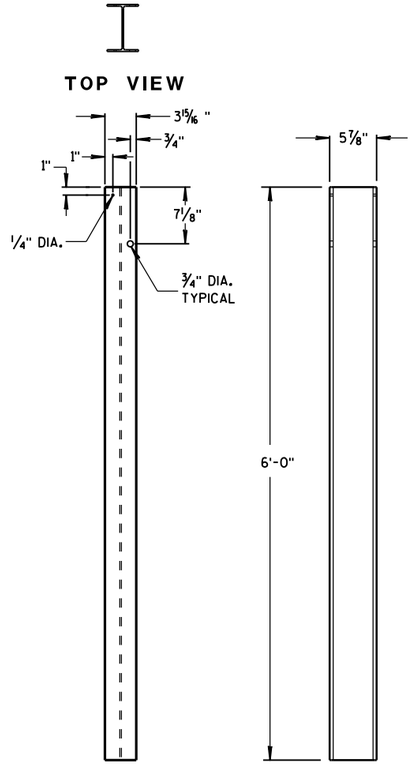


SIDE VIEW

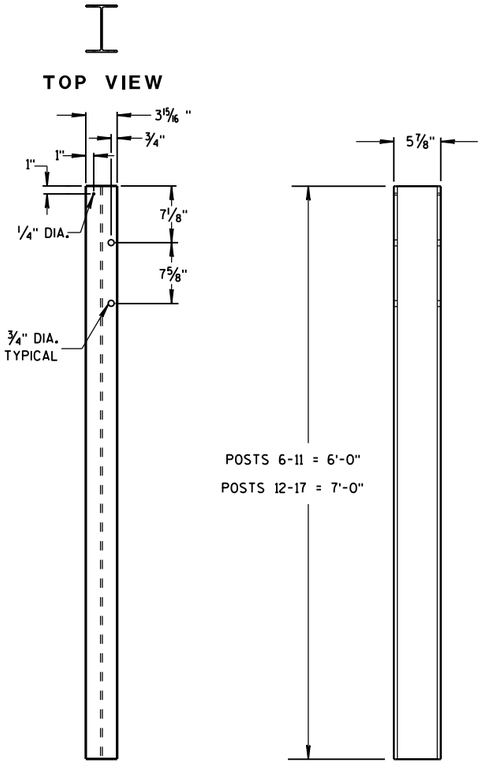


TOP VIEW

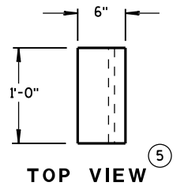
ALTERNATE WOOD BLOCKOUT DETAIL



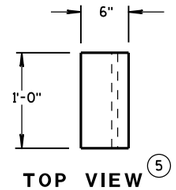
STEEL POSTS 1-5



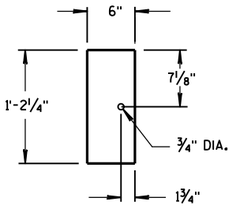
STEEL POSTS 6-17



TOP VIEW (5)

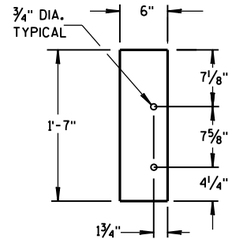


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

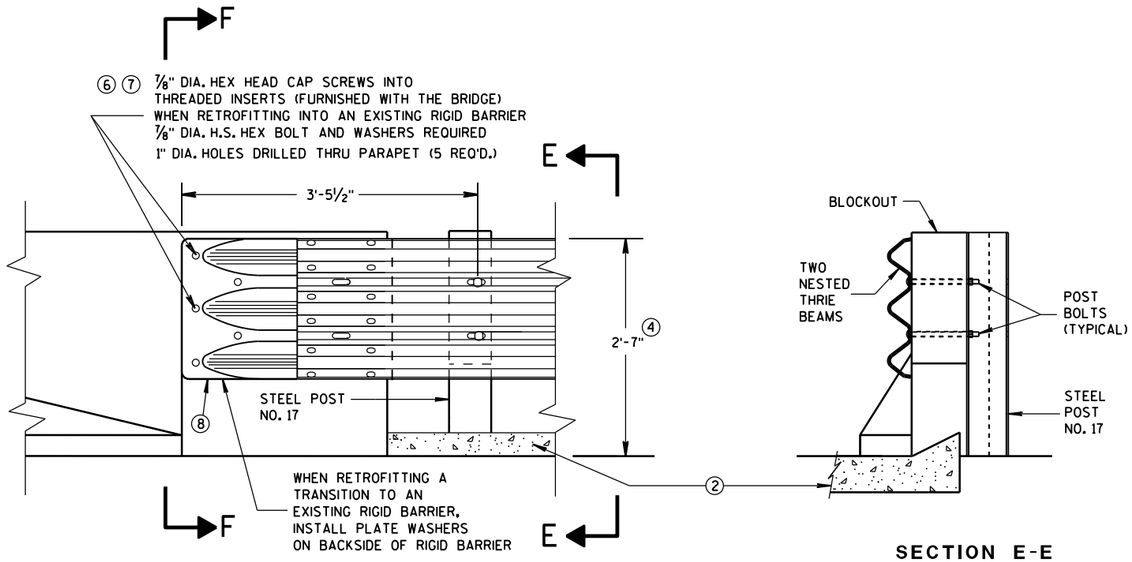
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

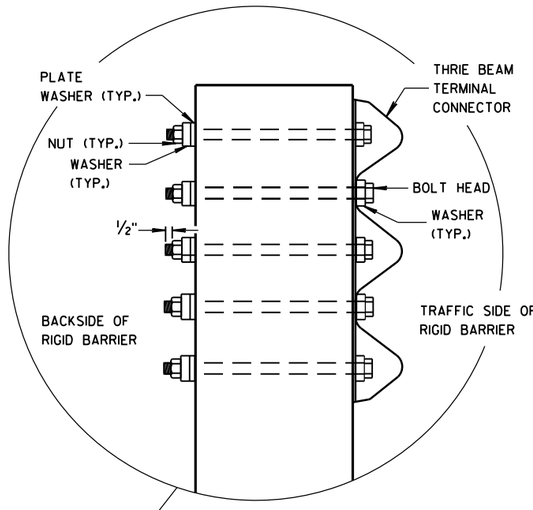
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

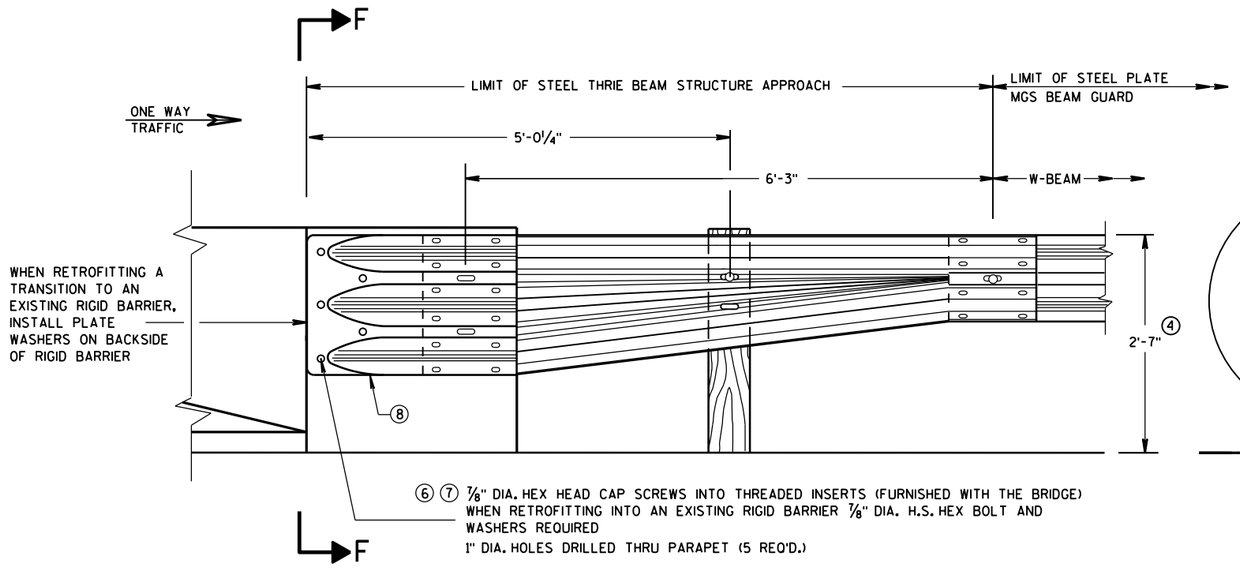
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

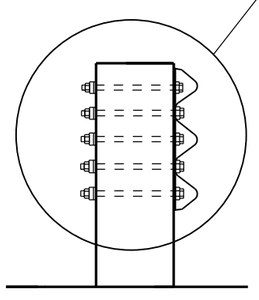
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

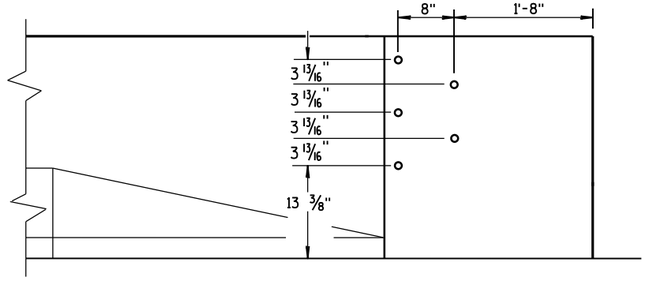




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

6

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

GENERAL NOTES

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

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

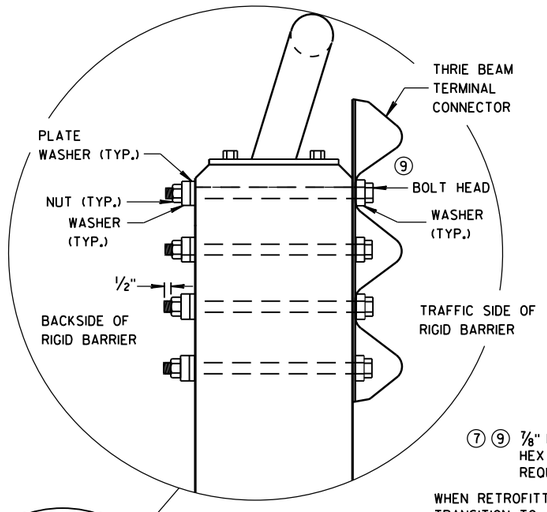
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

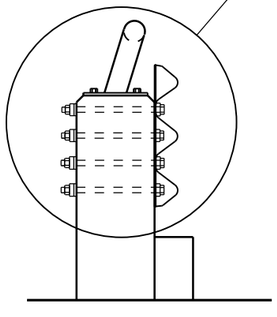
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

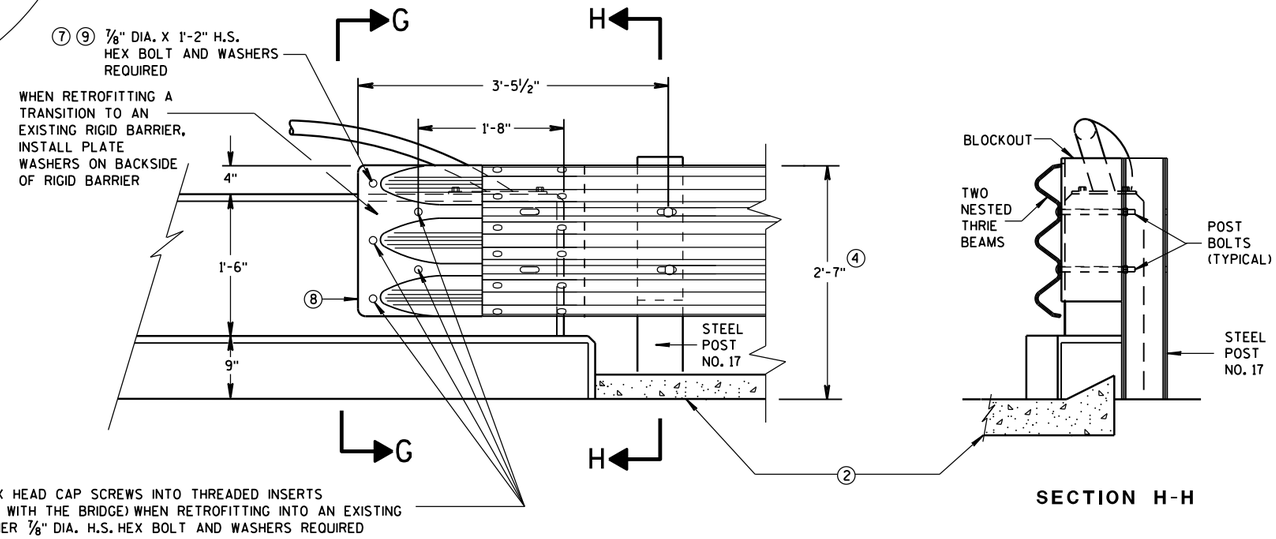
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

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





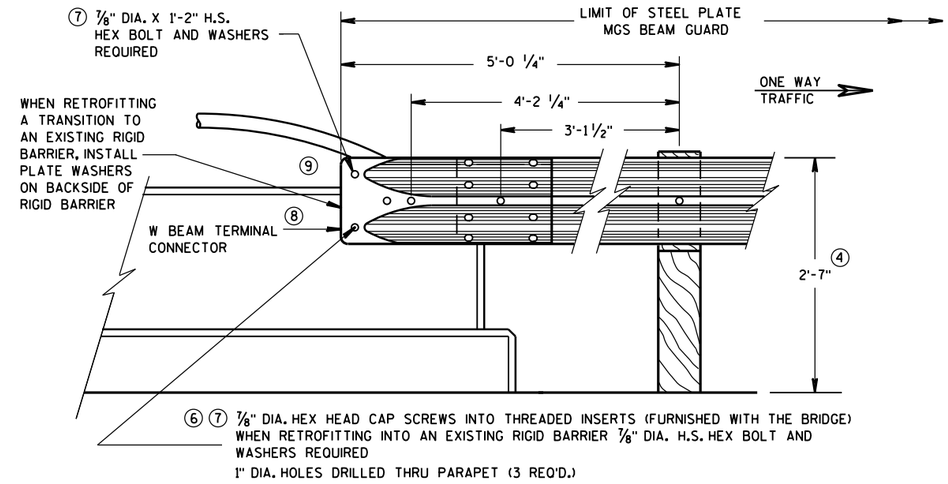
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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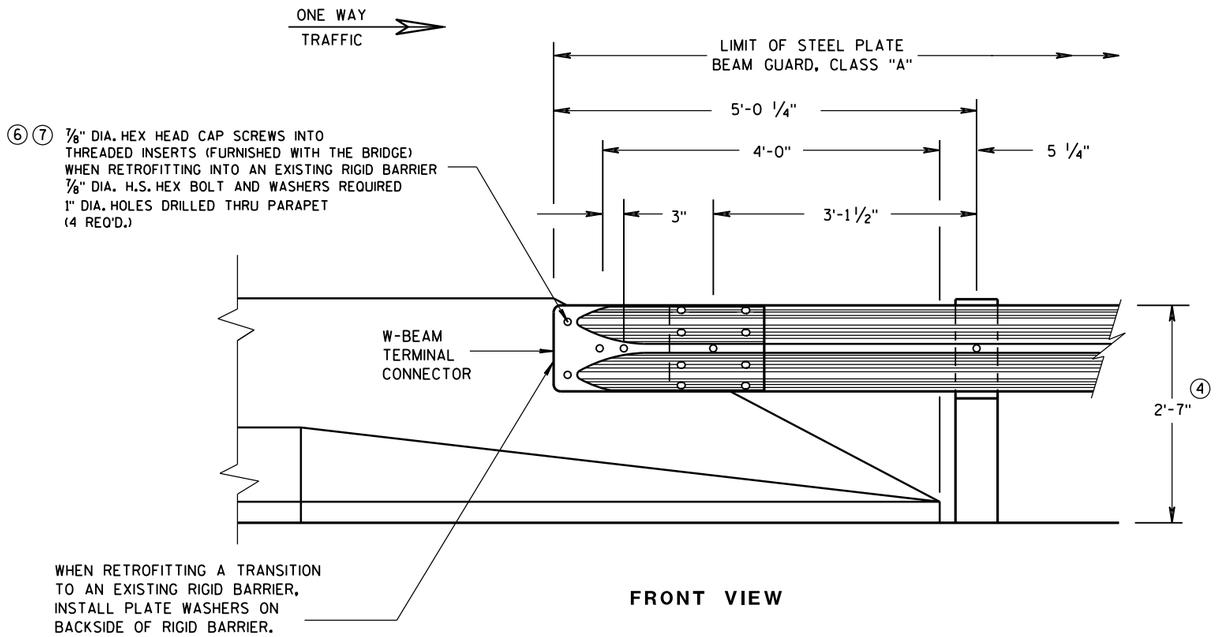


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

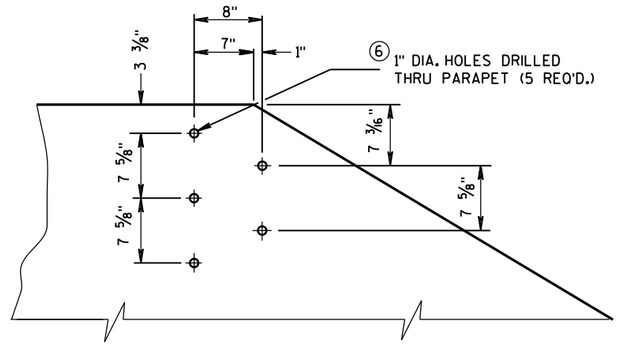
GENERAL NOTES

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

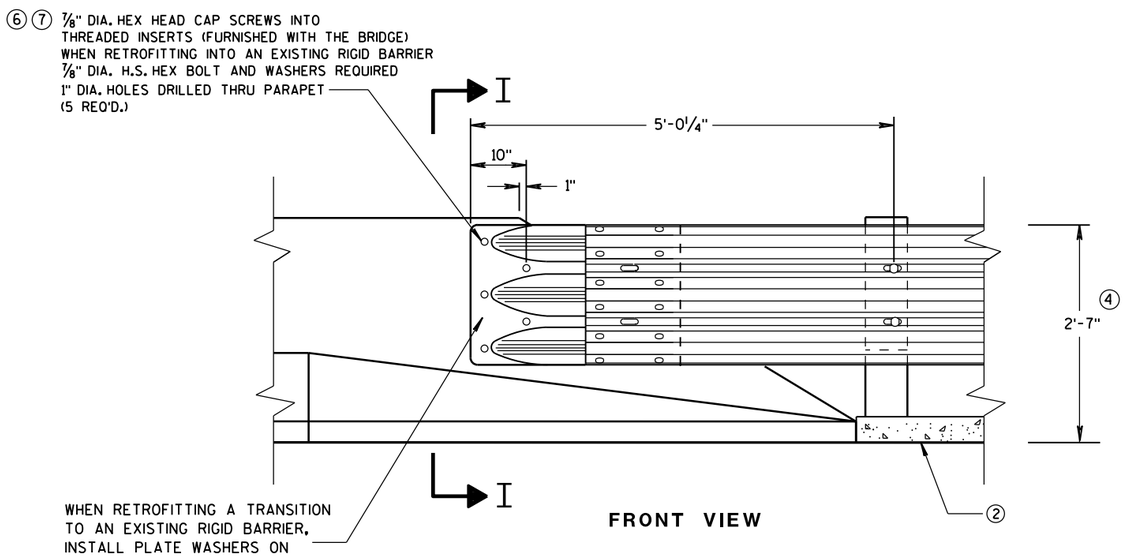
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

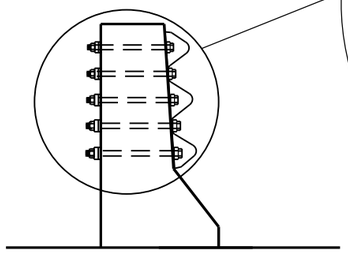
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



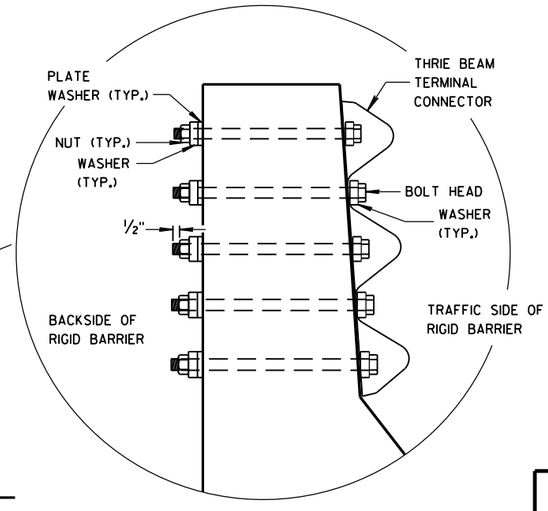
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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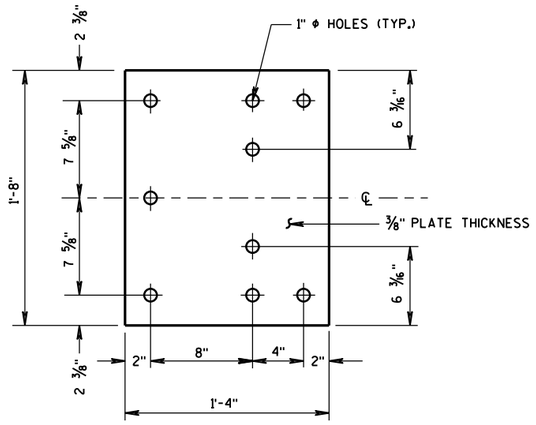
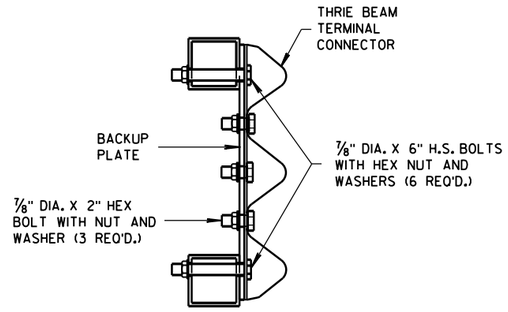
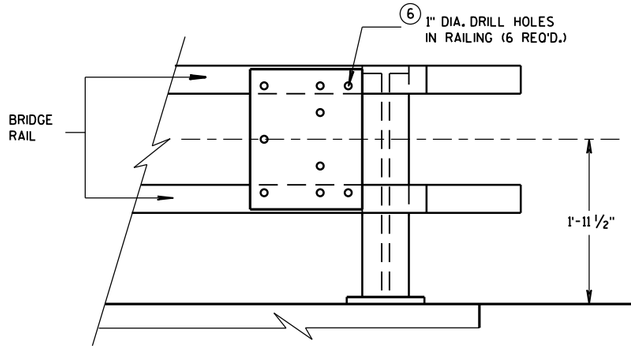


BACK-UP PLATE DETAIL



SECTION J-J

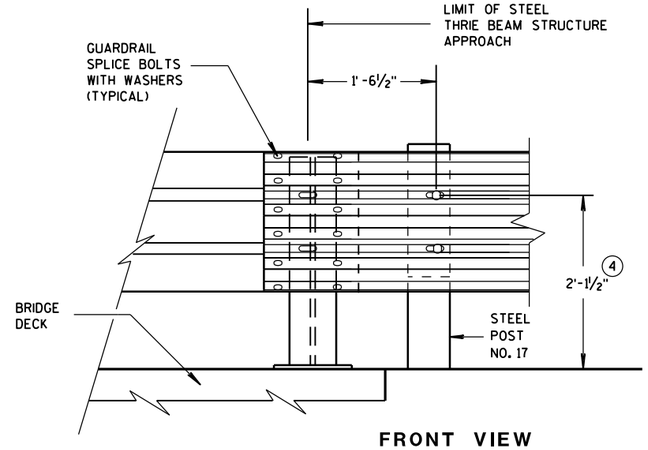


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

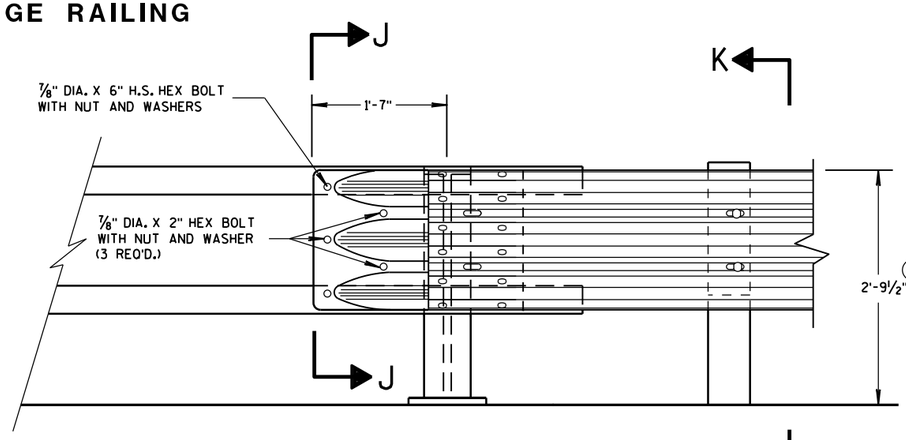
4 TOLERANCE FOR TOP OF BEAM IS ± 1".

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

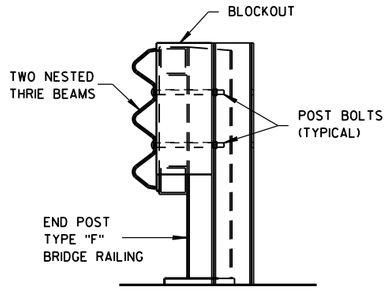


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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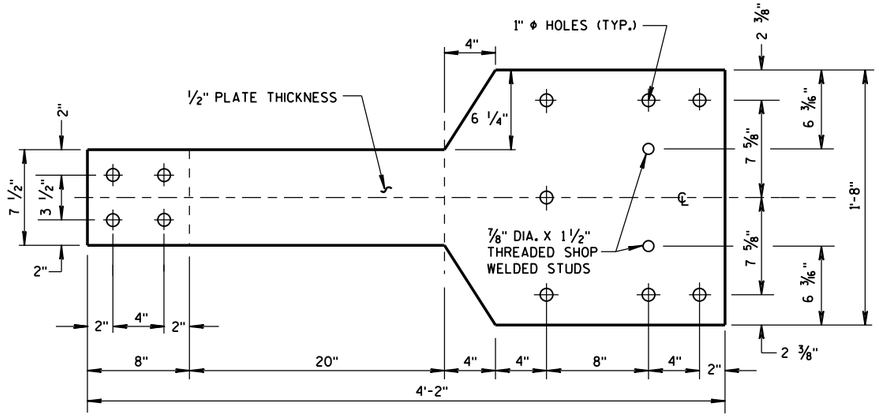
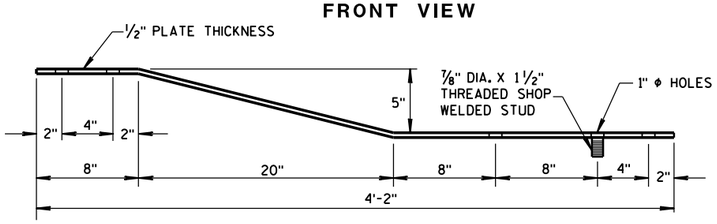
GENERAL NOTES

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

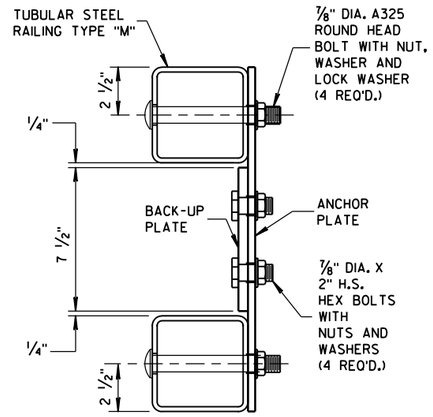


FRONT VIEW

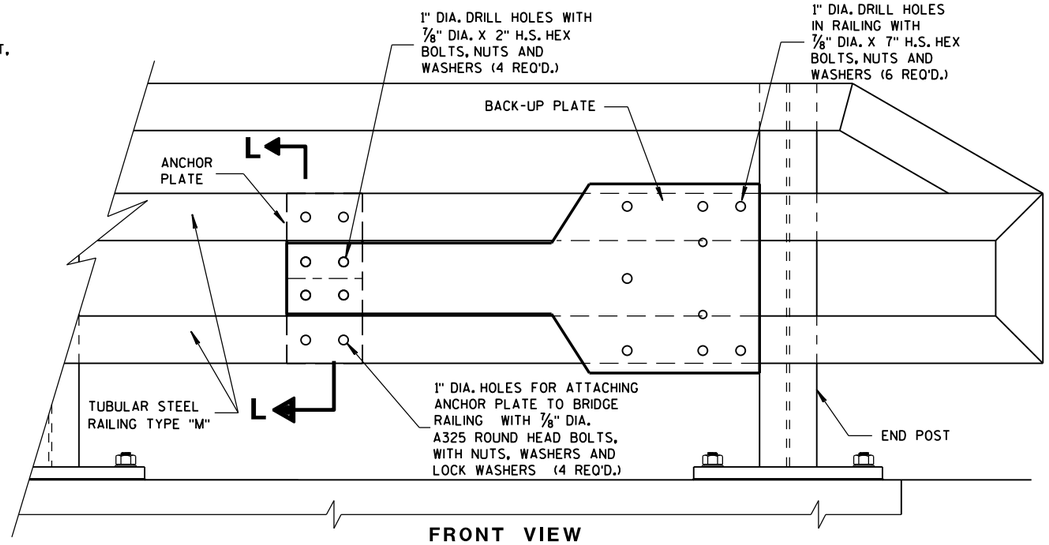


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

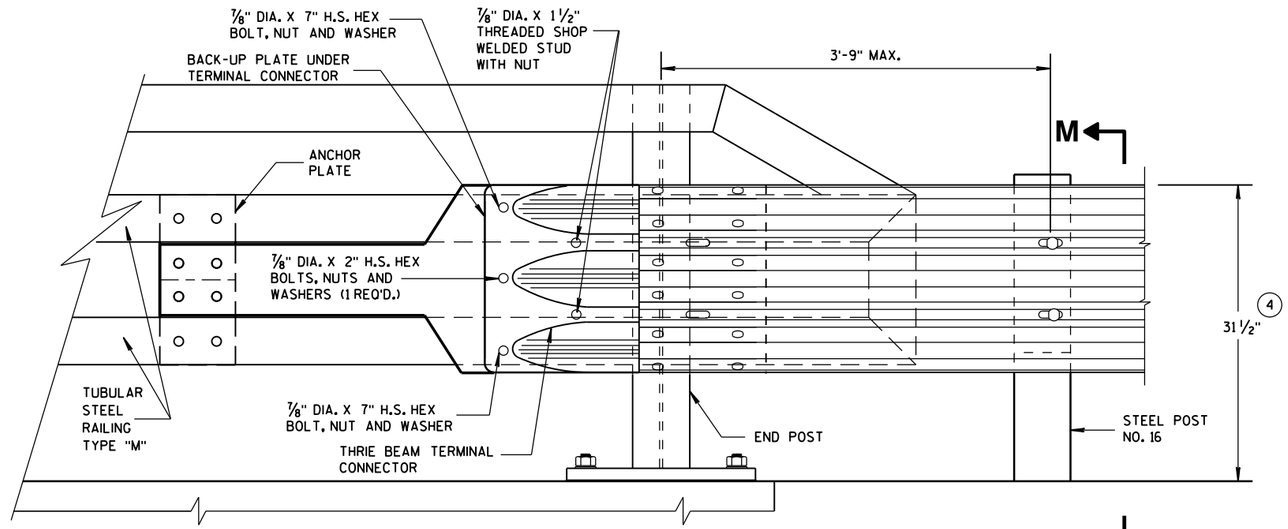


SECTION L-L

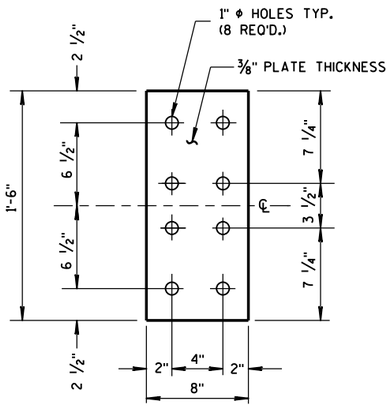


FRONT VIEW

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

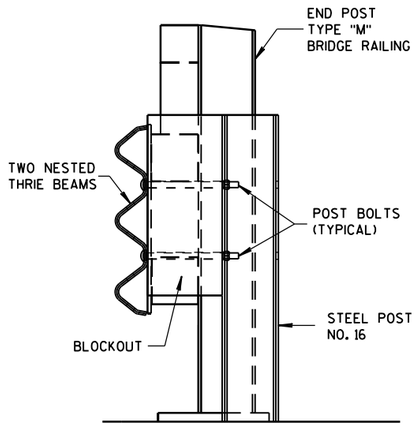


FRONT VIEW

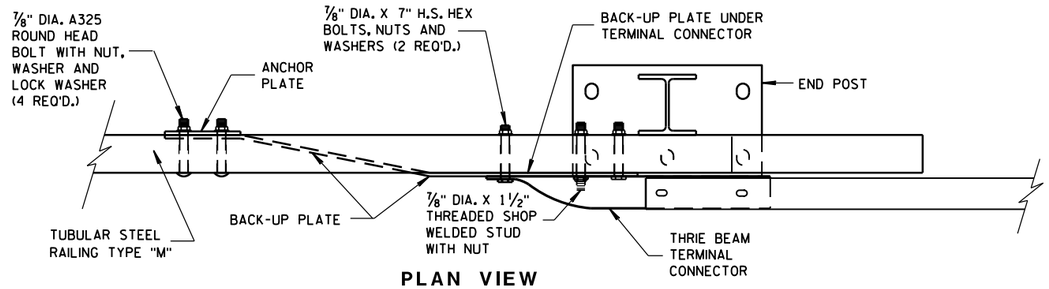


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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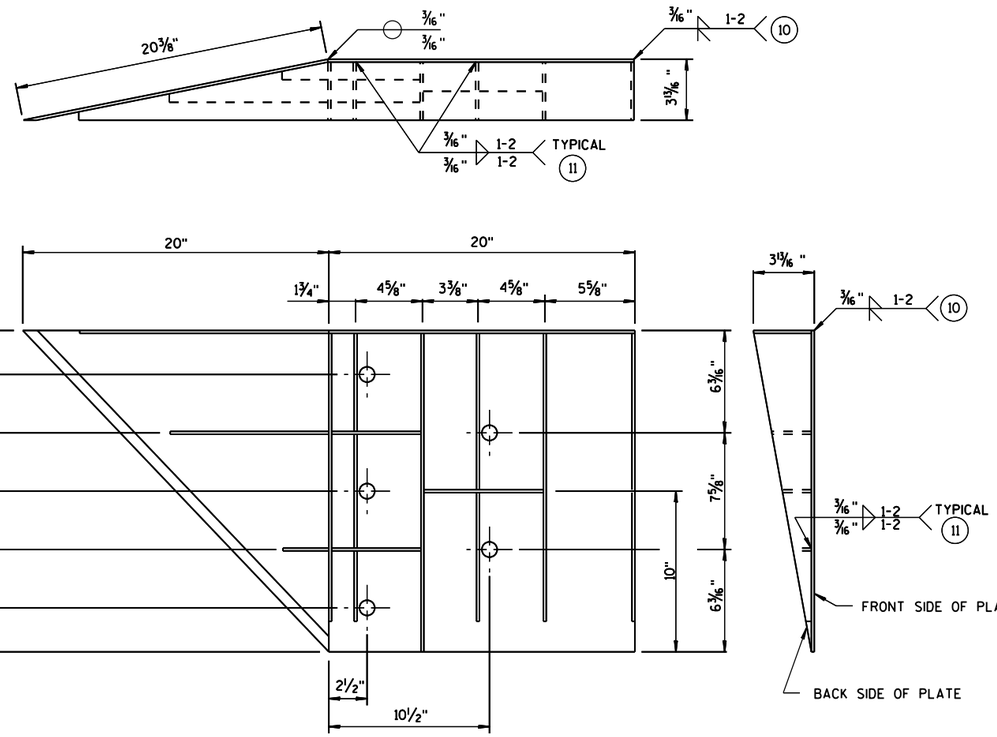

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

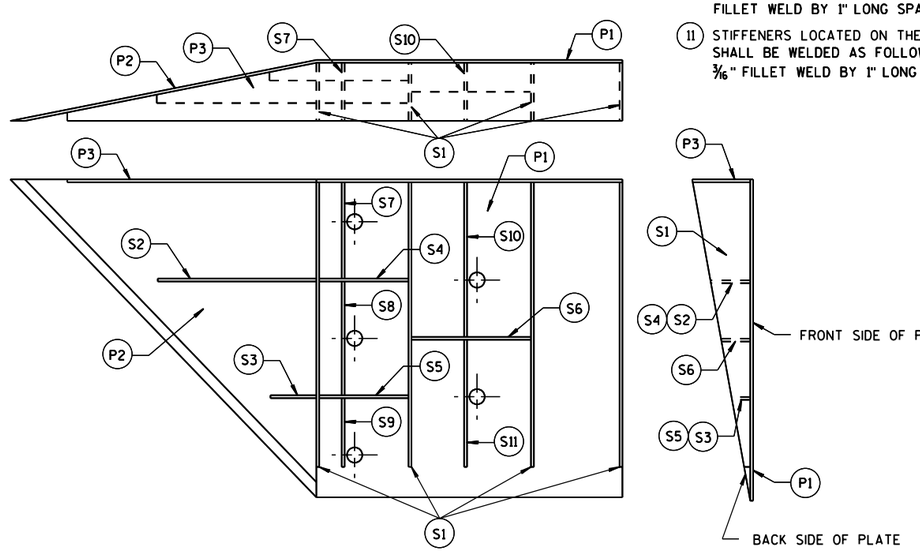

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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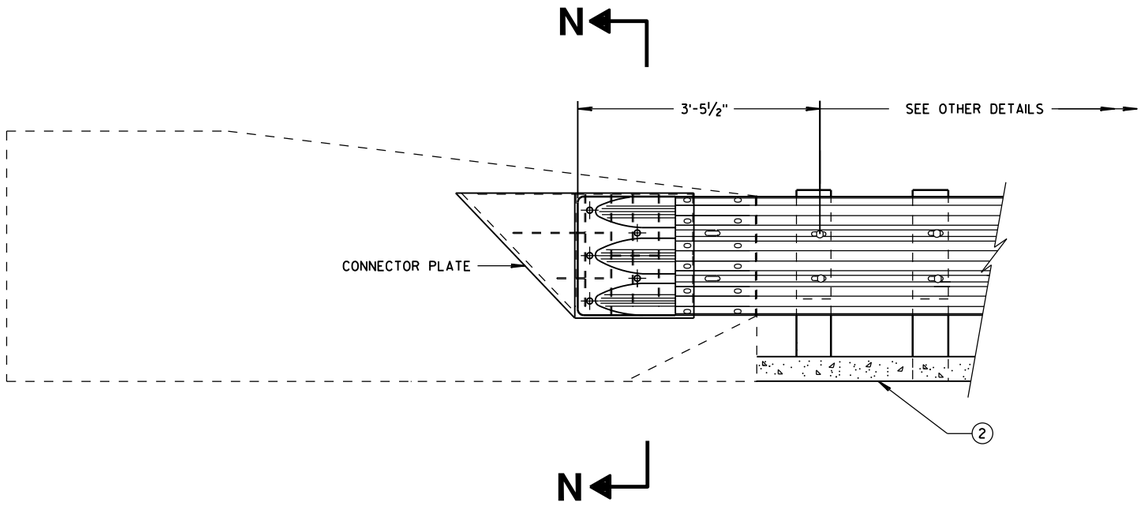
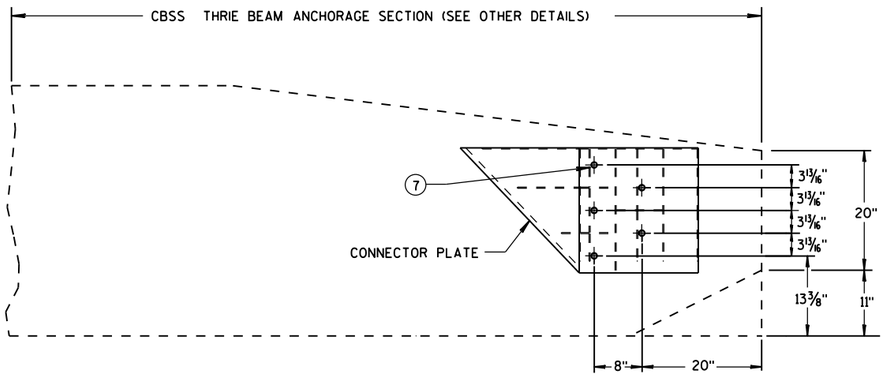


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



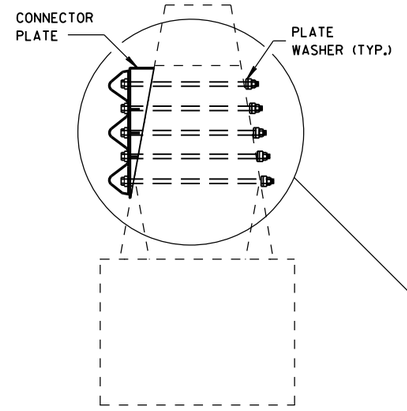
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

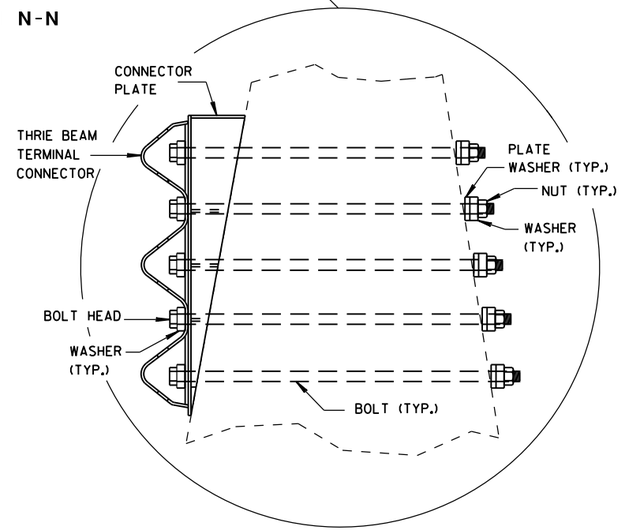
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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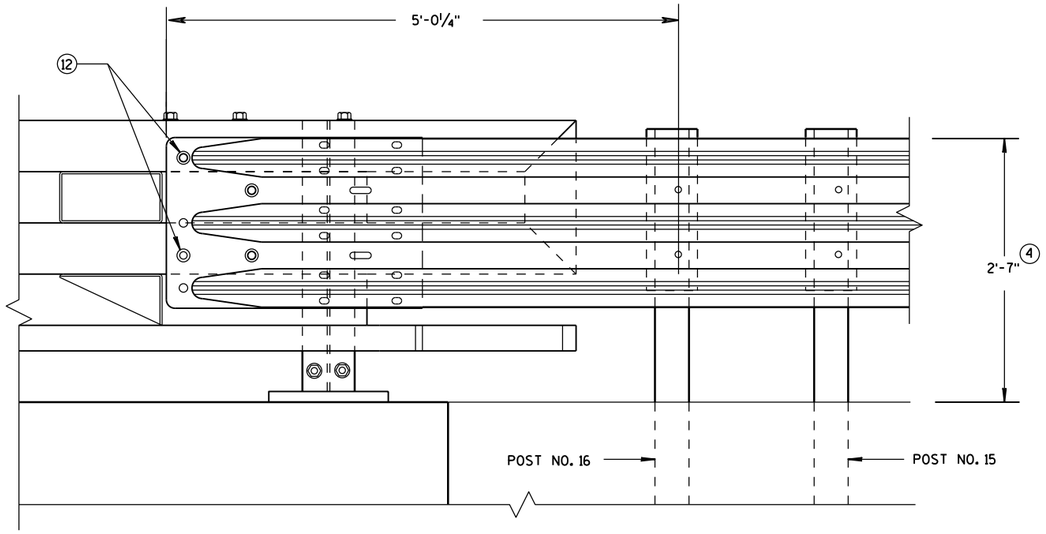
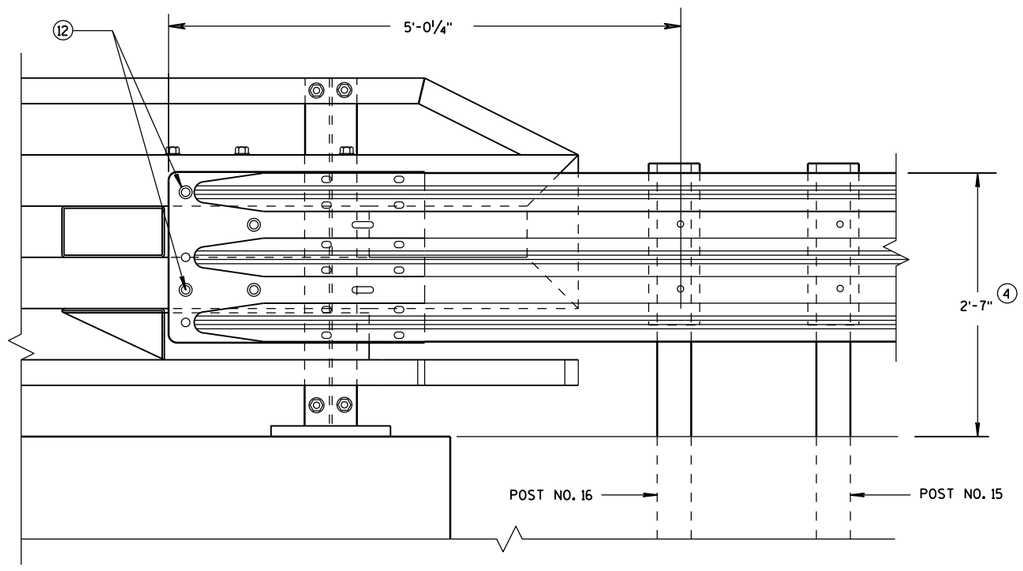


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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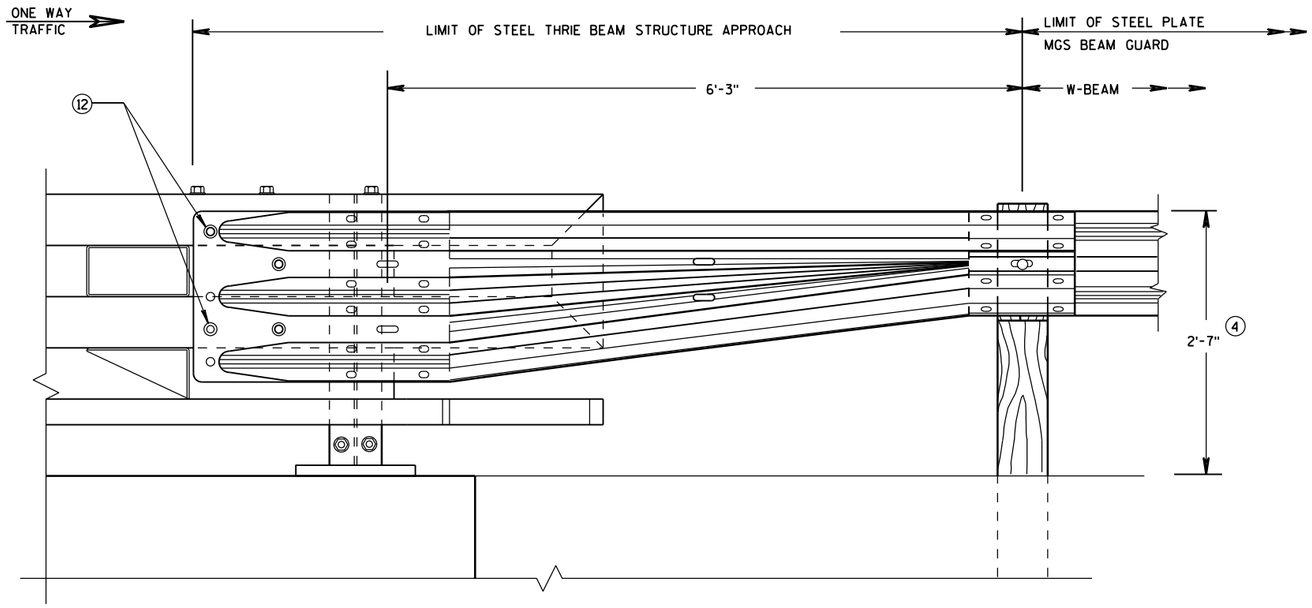


FRONT VIEW

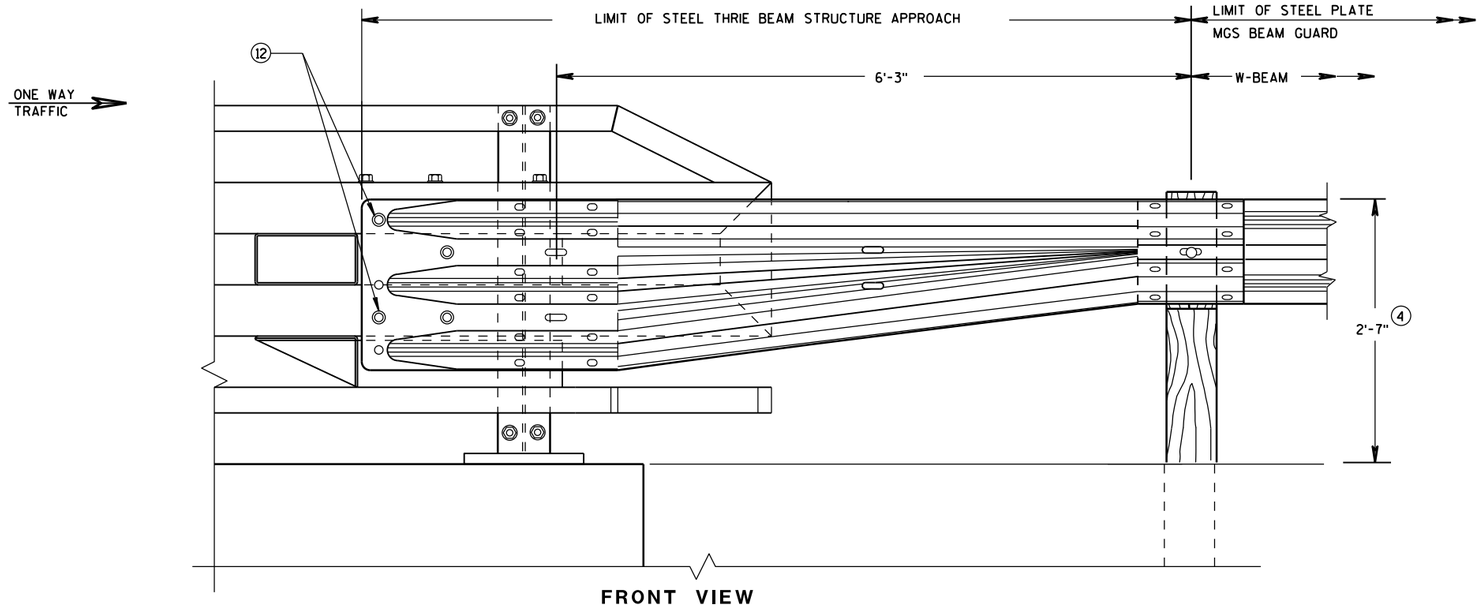
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

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



FRONT VIEW

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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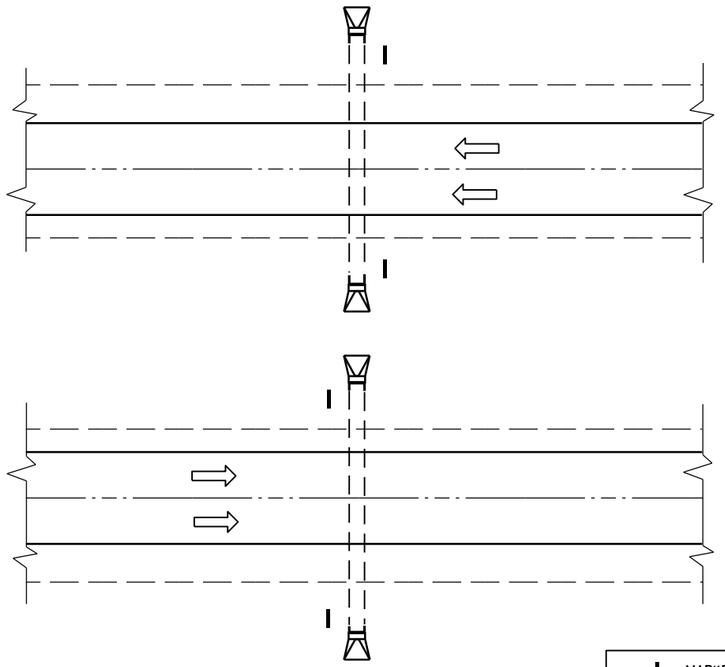
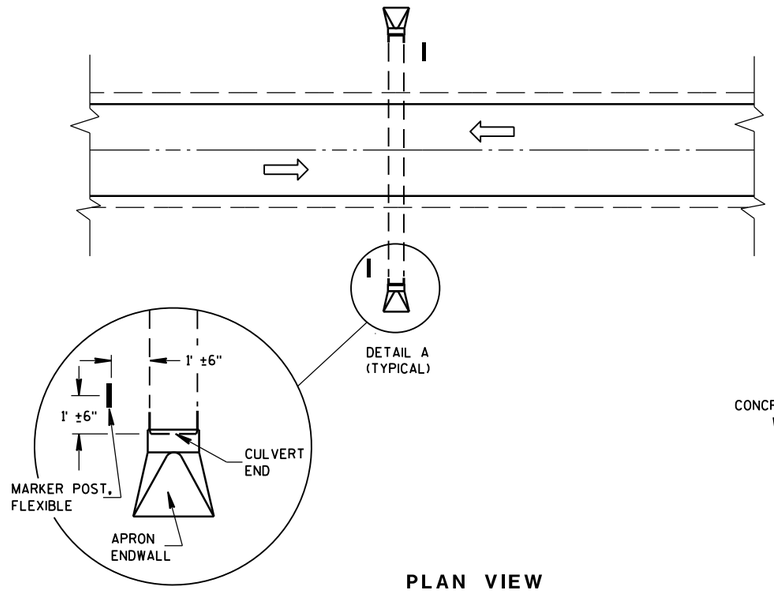


PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

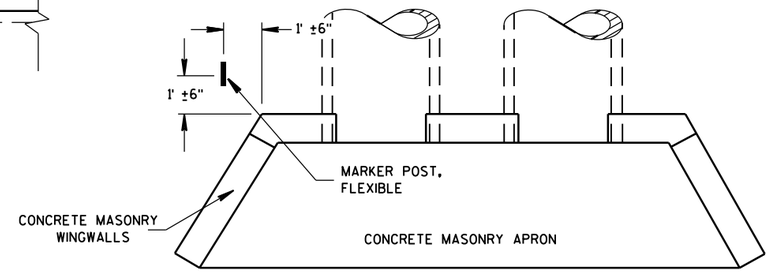
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

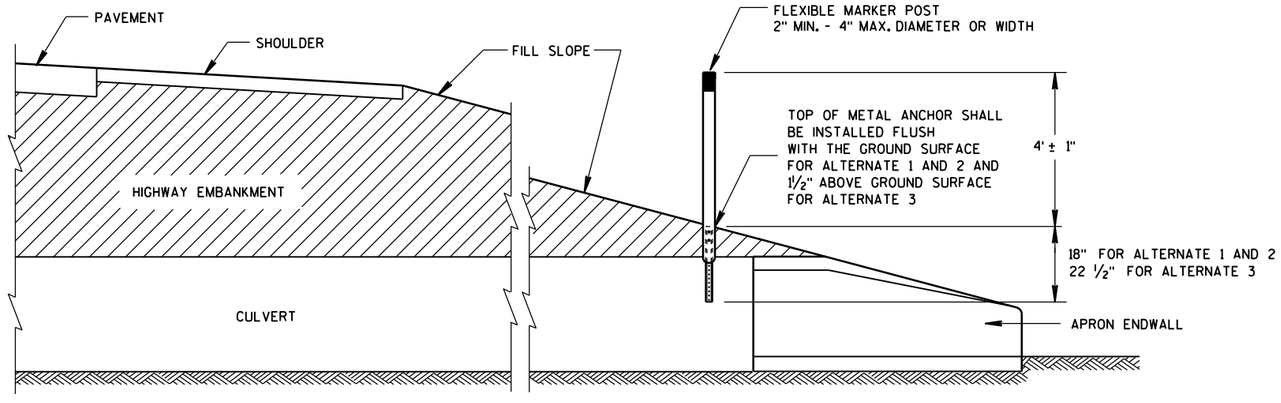
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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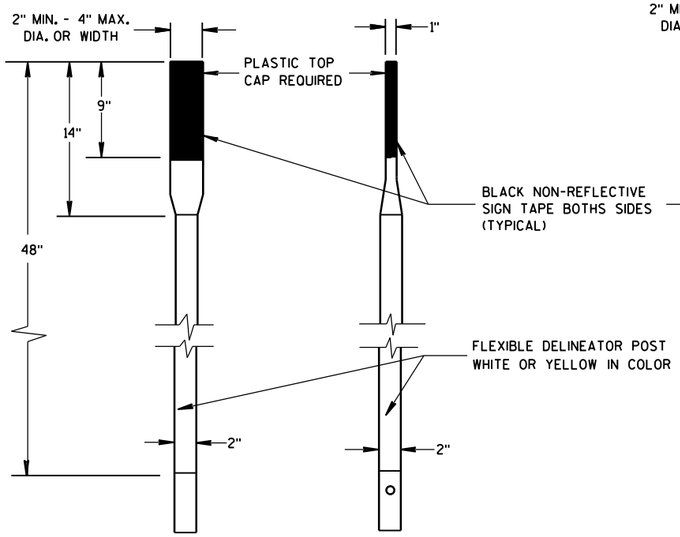
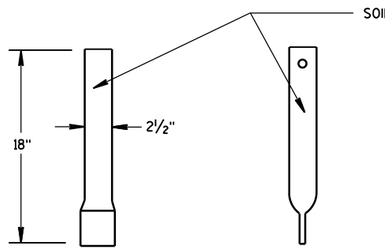
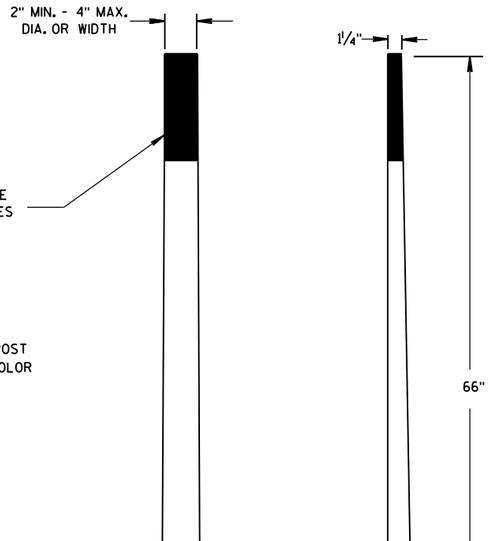
S.D.D. 15 A 3-2a





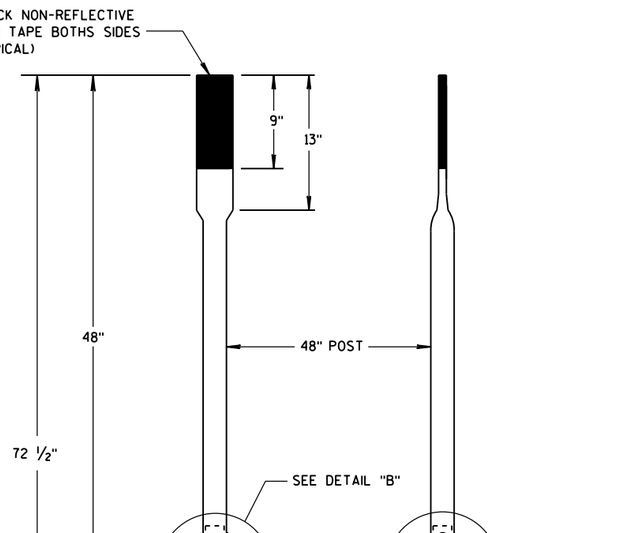
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

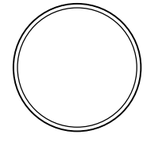
ALTERNATE 2



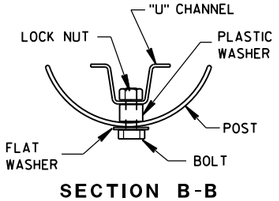
FRONT VIEW SIDE VIEW

ALTERNATE 3

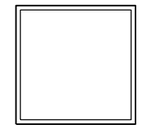
FLEXIBLE MARKER POSTS



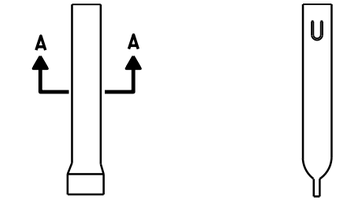
SECTION A-A



SECTION B-B

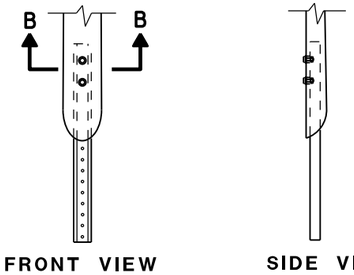


SECTION C-C



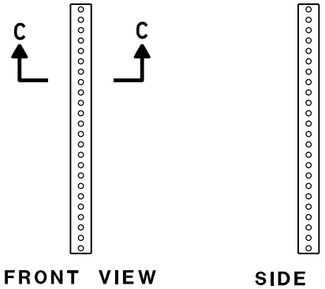
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

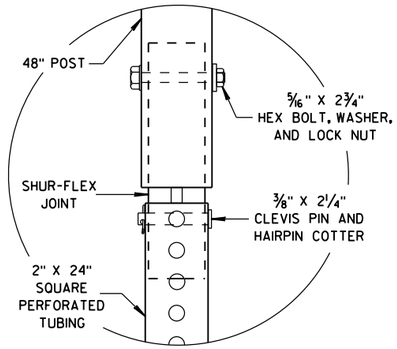
ALTERNATE 2



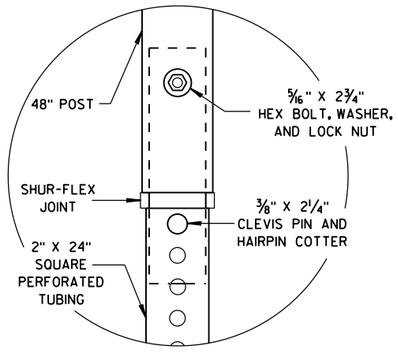
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



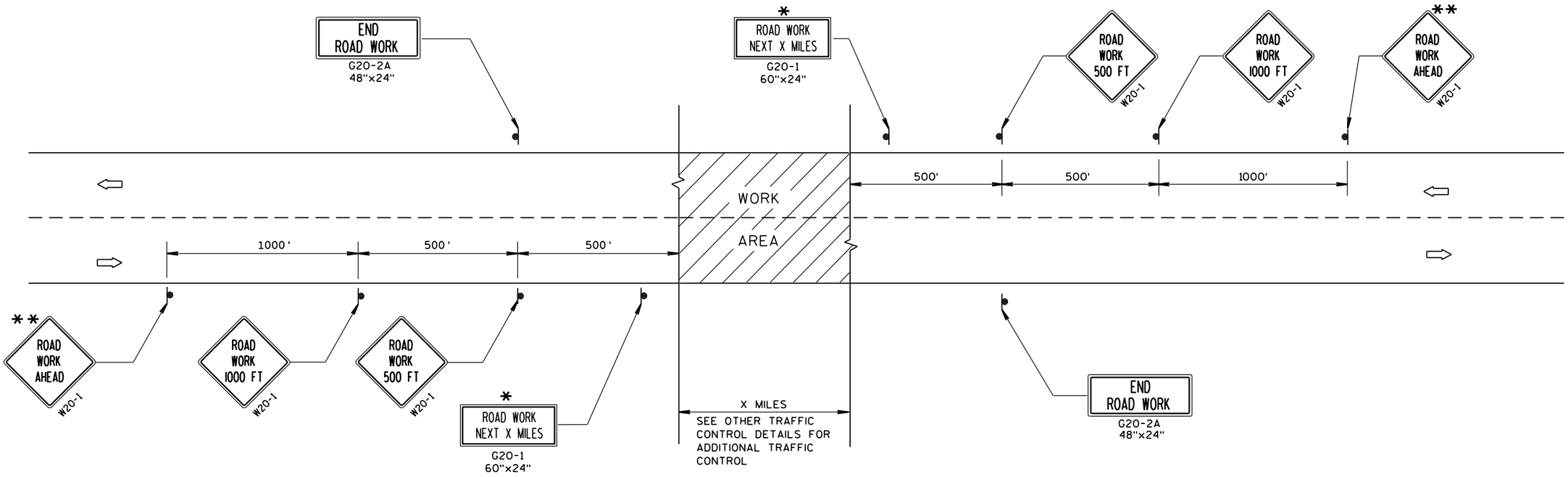
DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 15 A 3-2b



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

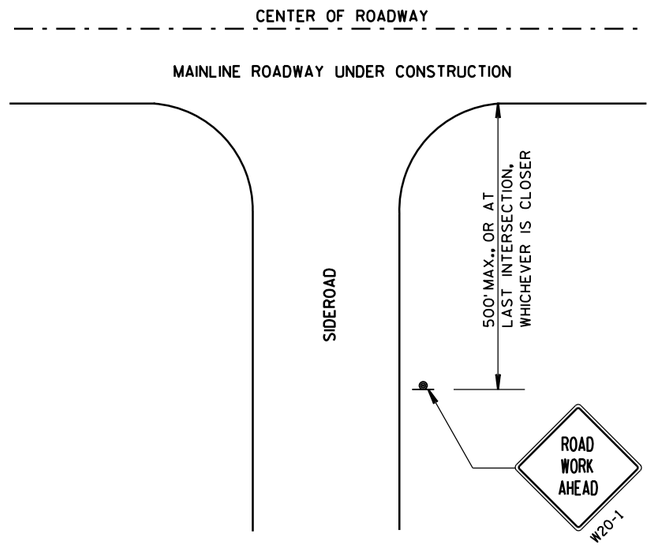
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

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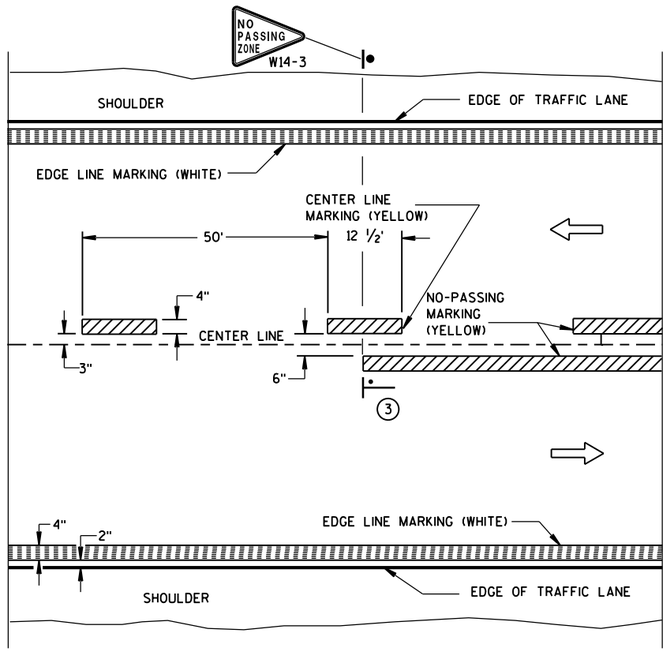
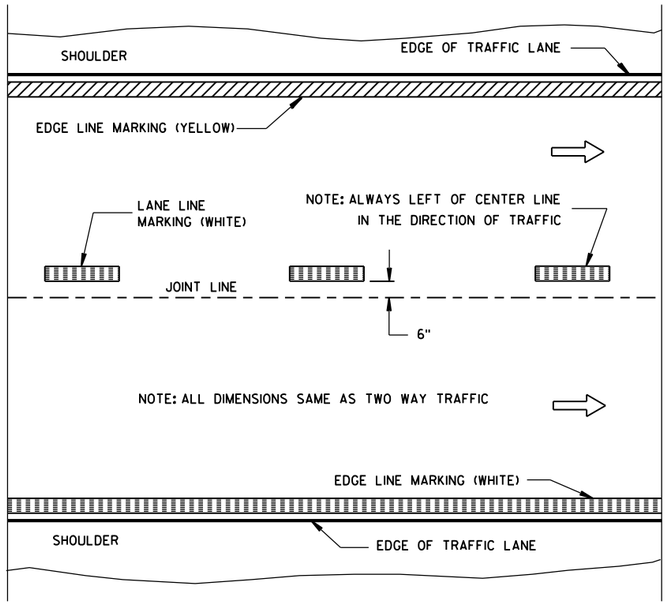
S.D.D. 15 C 4-2

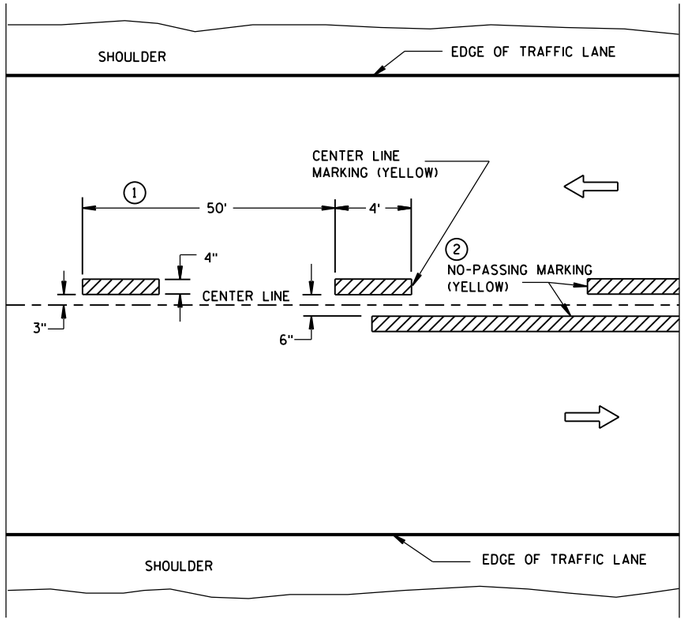


TWO WAY TRAFFIC

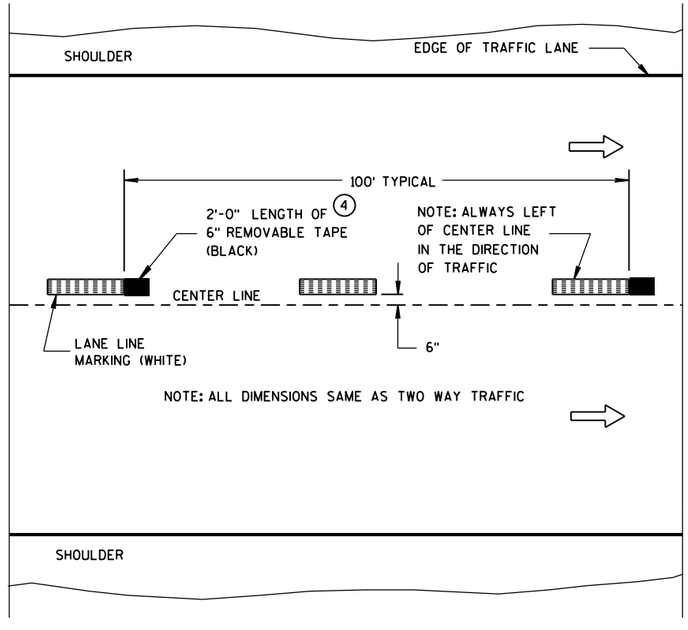


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

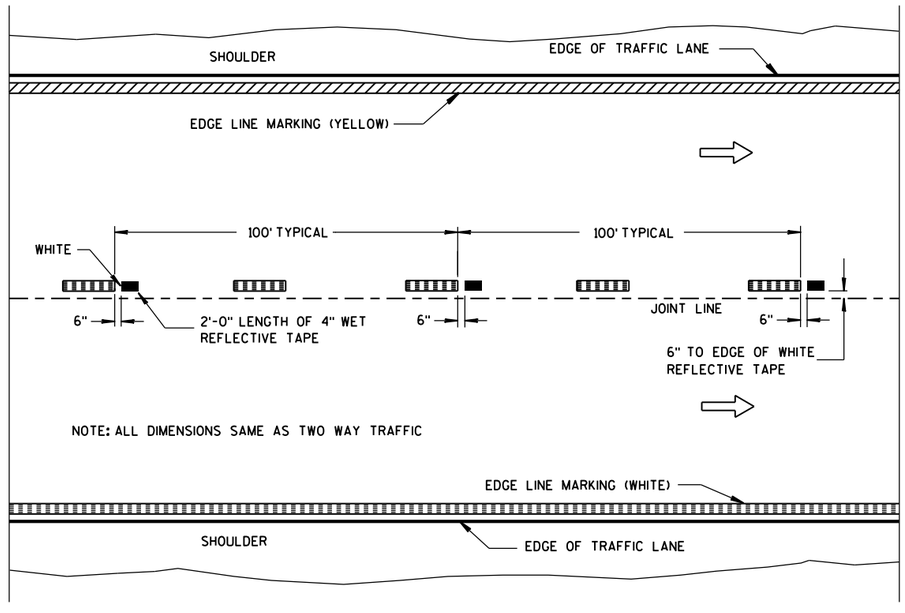
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

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S.D.D. 15 C 8-16a

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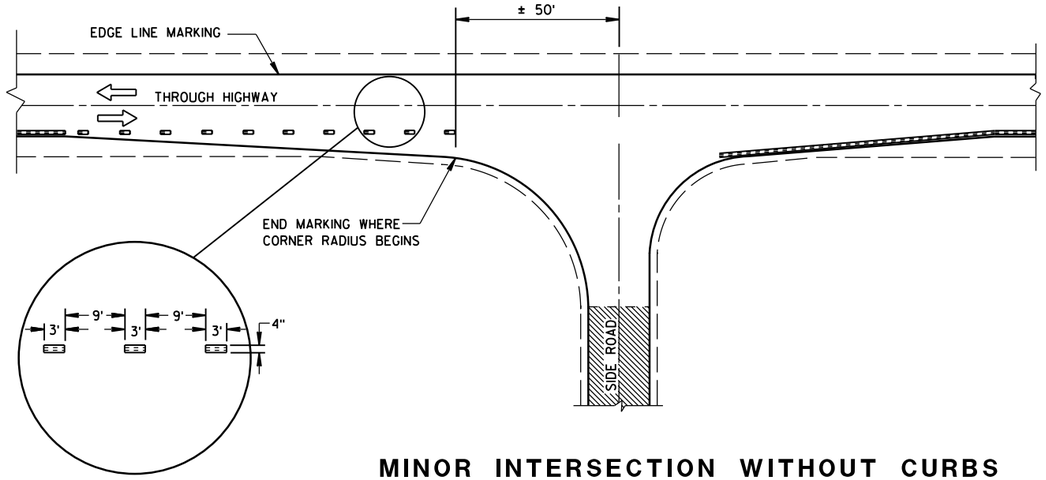
S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

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

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

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

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

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

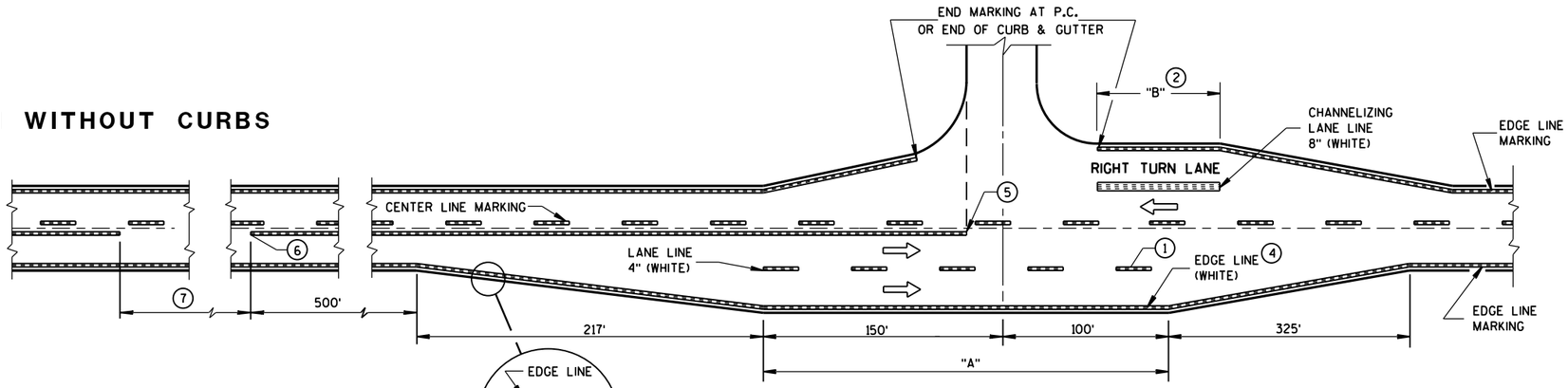
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

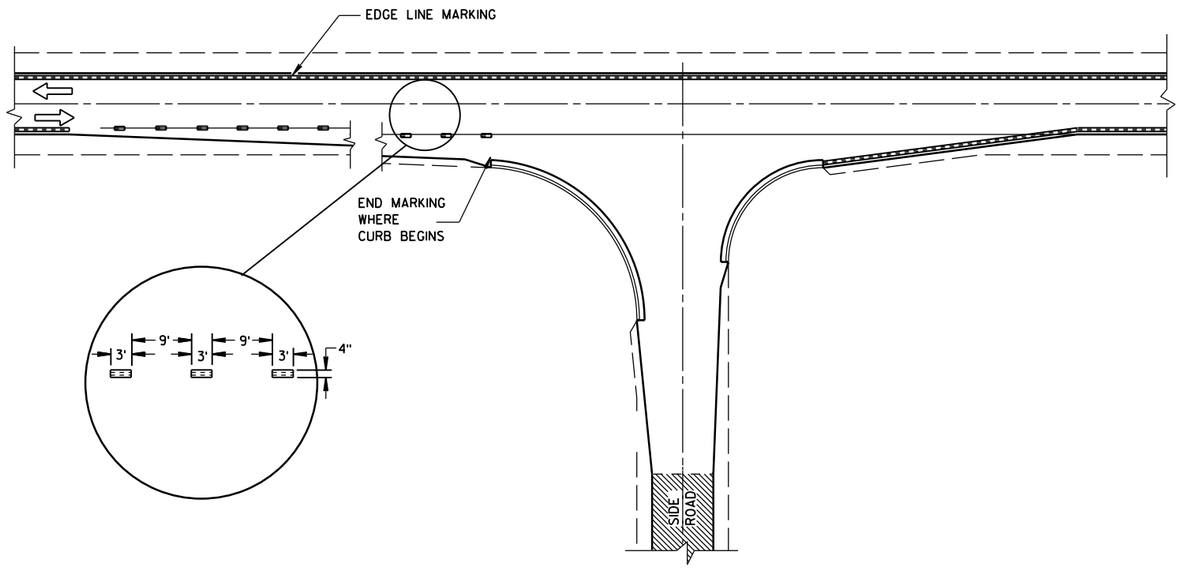
(7)

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



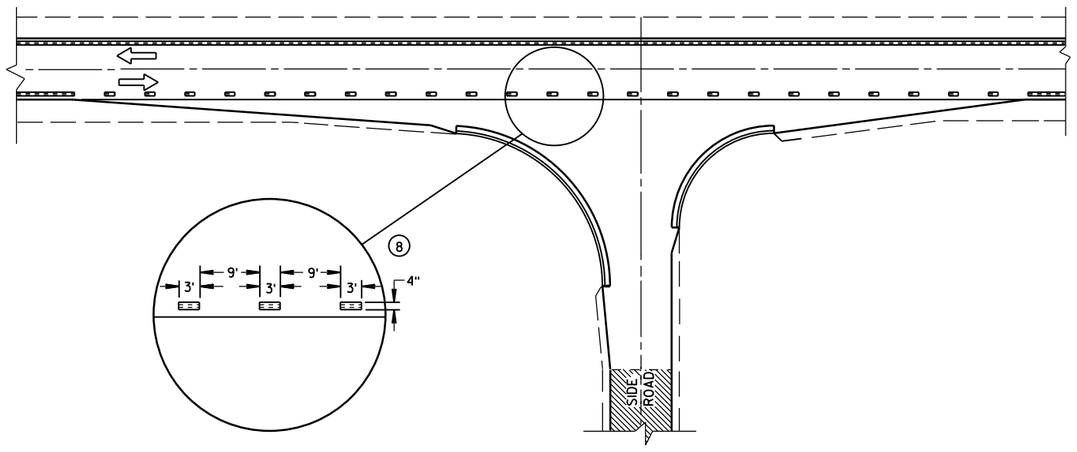
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 15 C 8-16b

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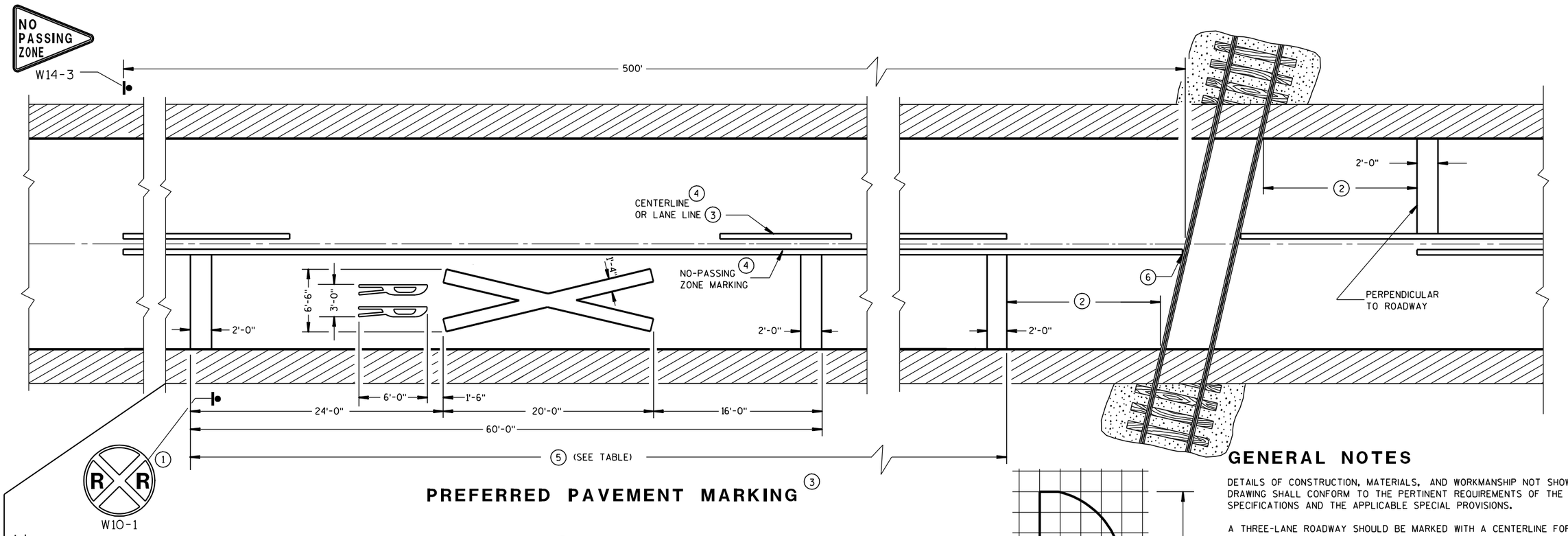
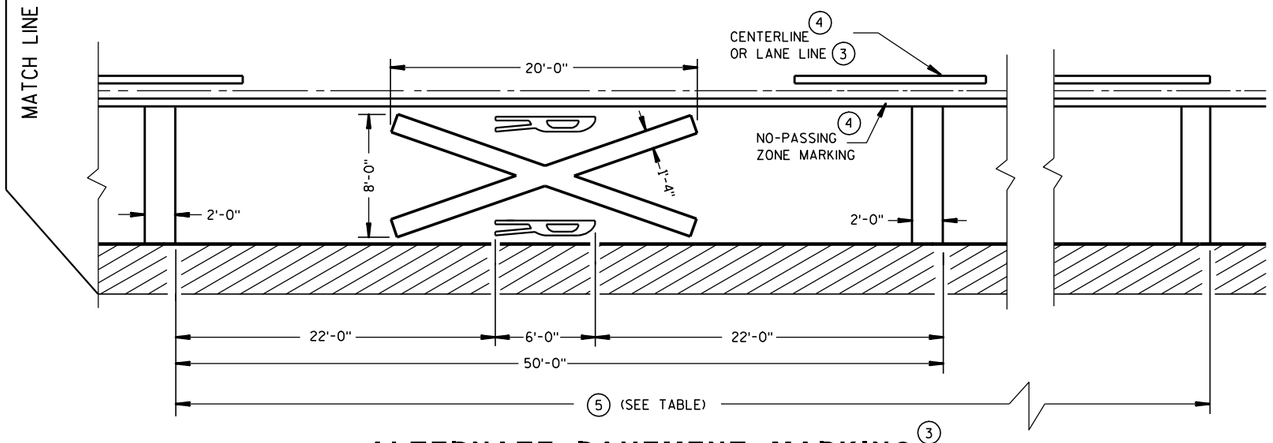
S.D.D. 15 C 8-16b



PREFERRED PAVEMENT MARKING 3

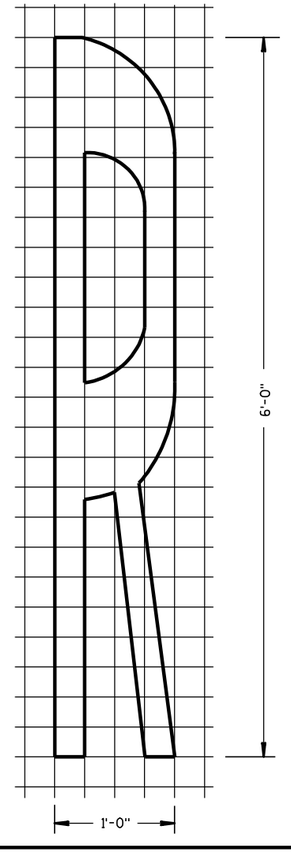


ALTERNATE PAVEMENT MARKING 3

5

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 CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



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.

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

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. ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" (ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION).

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

1. A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
2. MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
3. REFLECTIVE WHITE.
4. REFLECTIVE YELLOW 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
5. TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1-9-2012
DATE

/S/ Thomas N. [illegible]
STATE TRAFFIC ENGINEER

FHWA

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S.D.D. 15 C 9-9a

6

S.D.D. 15 C 9-9a

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

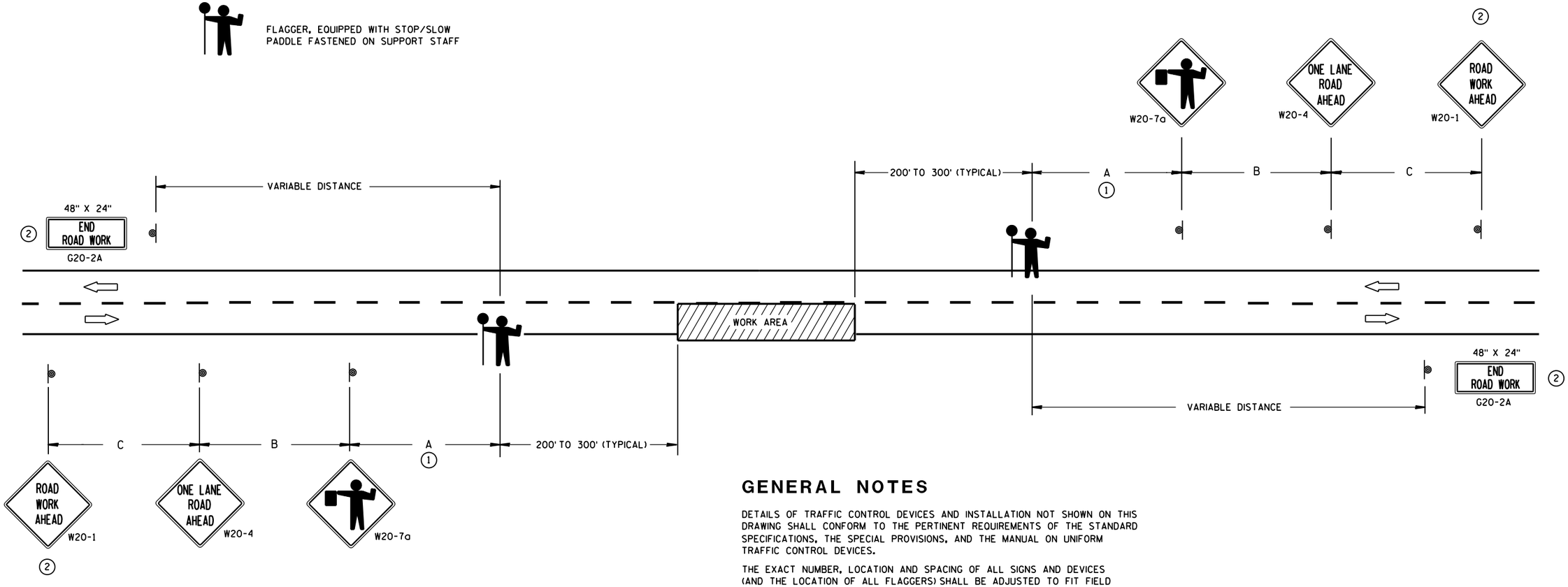
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

GENERAL NOTES

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

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

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

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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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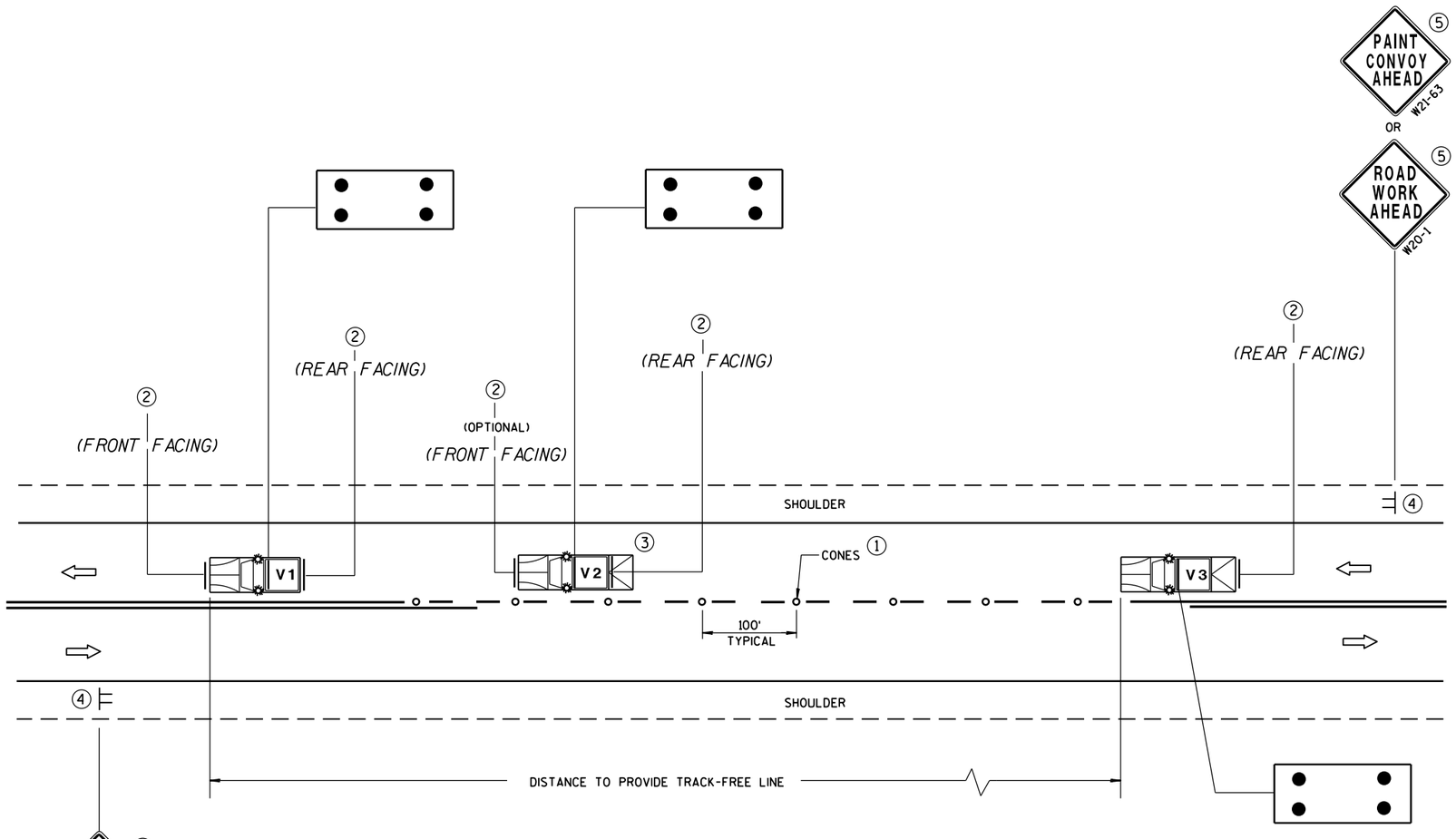
S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

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

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

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

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

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

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

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

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

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

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

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

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

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

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

LEGEND

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

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/3/2013 DATE FHWA	/S/ Travis Feltes STATE TRAFFIC E

6

S.D.D. 15 C 19-2a

GENERAL NOTES

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

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

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

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

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

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

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

TABLE A

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

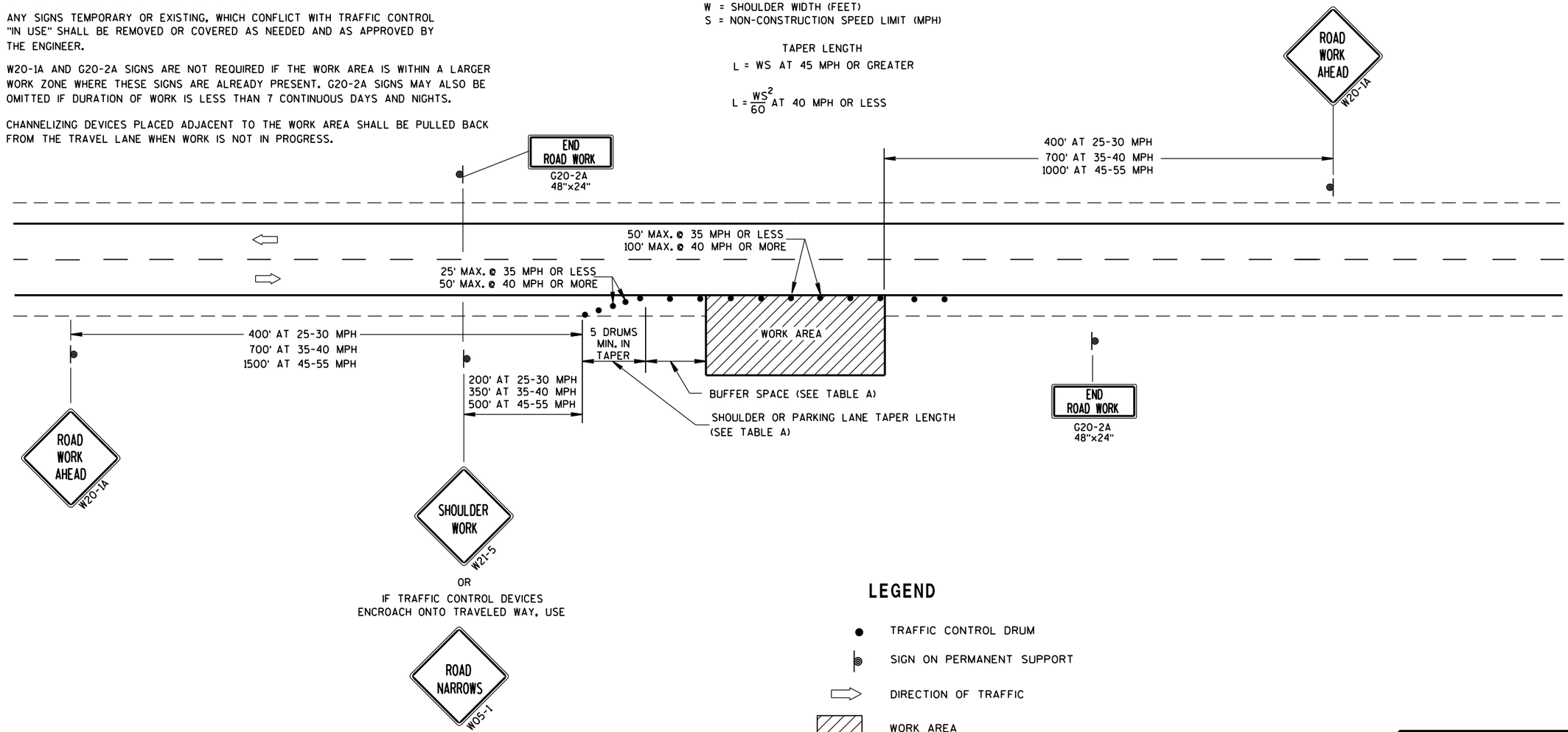
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

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

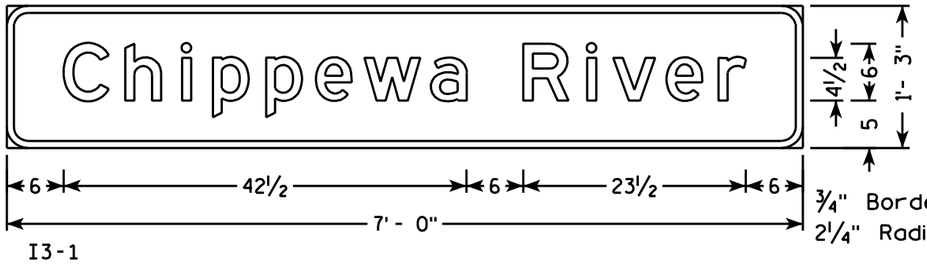
FHWA

6

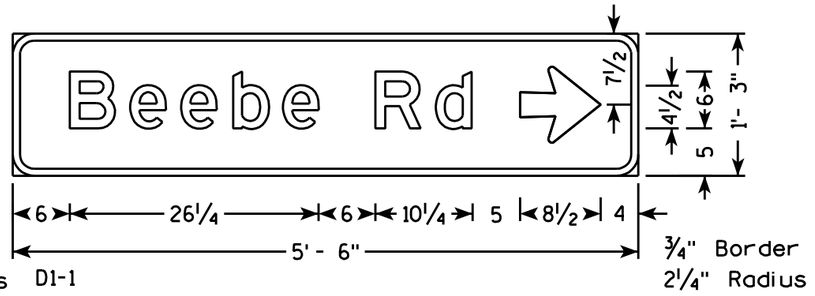
S.D.D. 15 D 28-3

6

S.D.D. 15 D 28-3



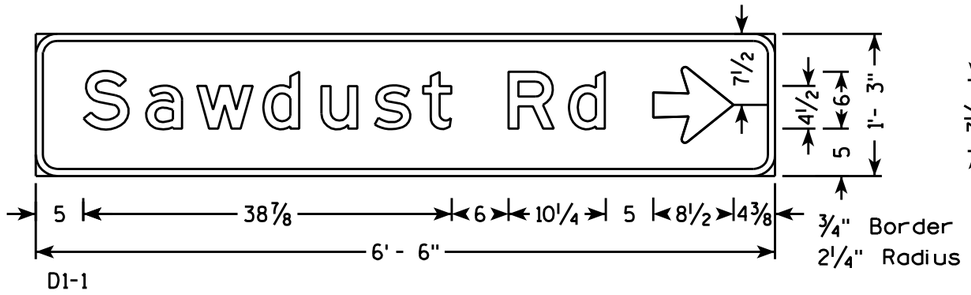
I3-1



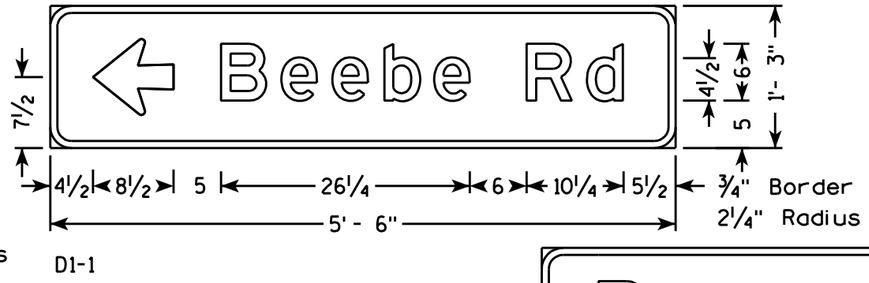
D1-1

NOTES

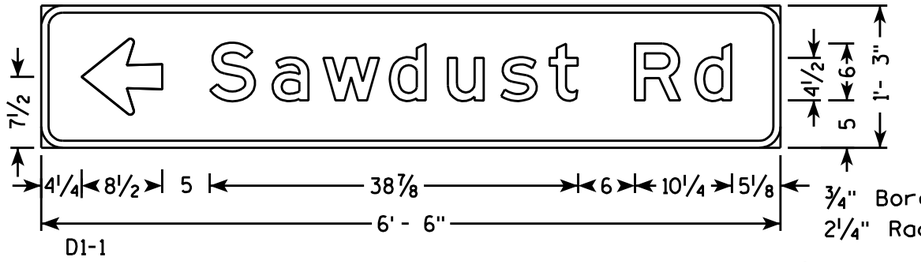
1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



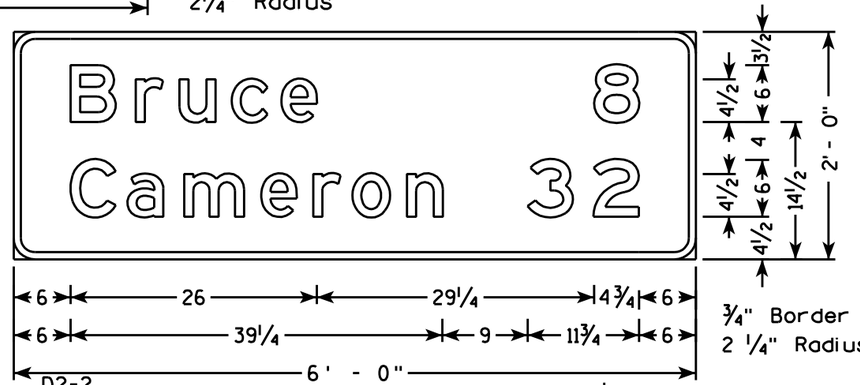
D1-1



D1-1

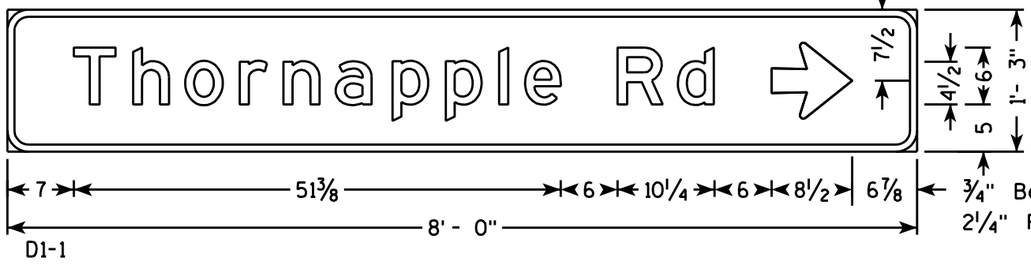


D1-1

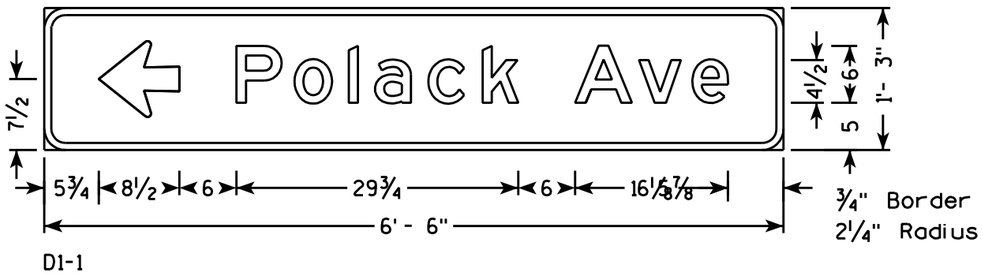


D2-2

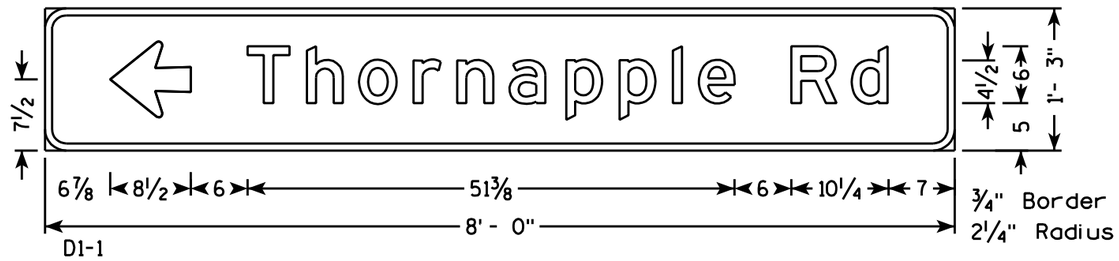
D1-1



D1-1



D1-1



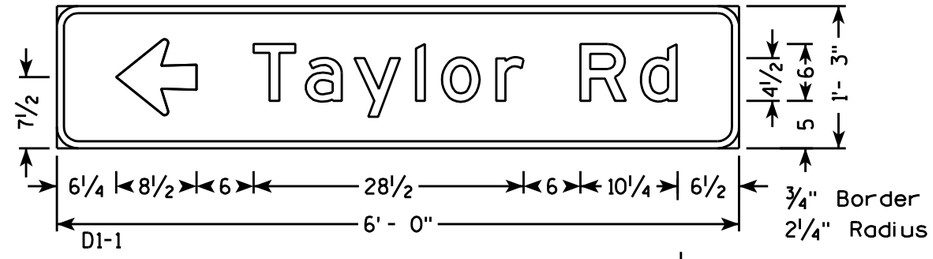
D1-1

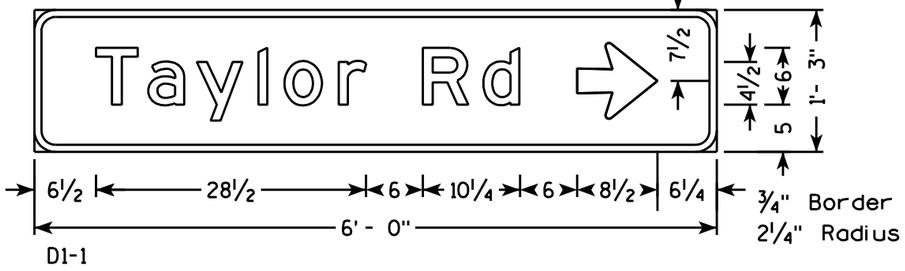
7

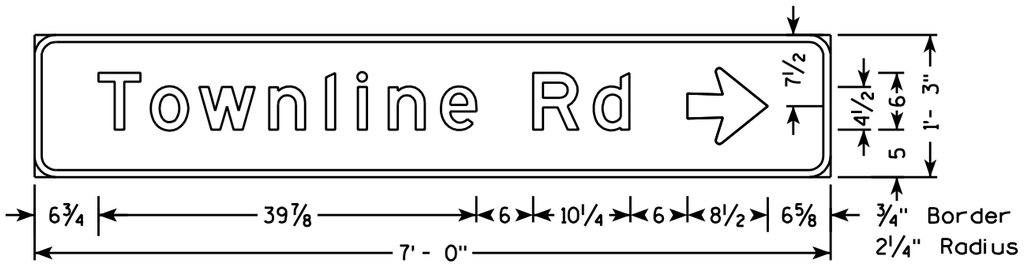
7

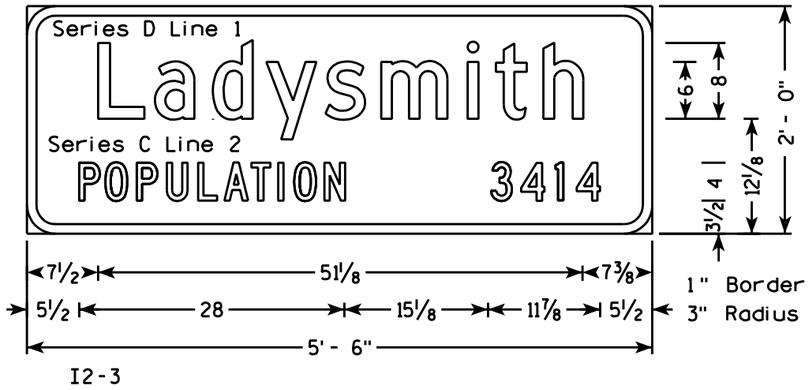
PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	SIGN DETAILS	SHEET NO:	E

FILE NAME : T:\410645\DGN\070101_sd.dgn PLOT DATE : 1/5/2015 PLOT BY : AYRES-EC PLOT NAME : ..... PLOT SCALE : 1:15.99
WISDOT/CADDS SHEET 42



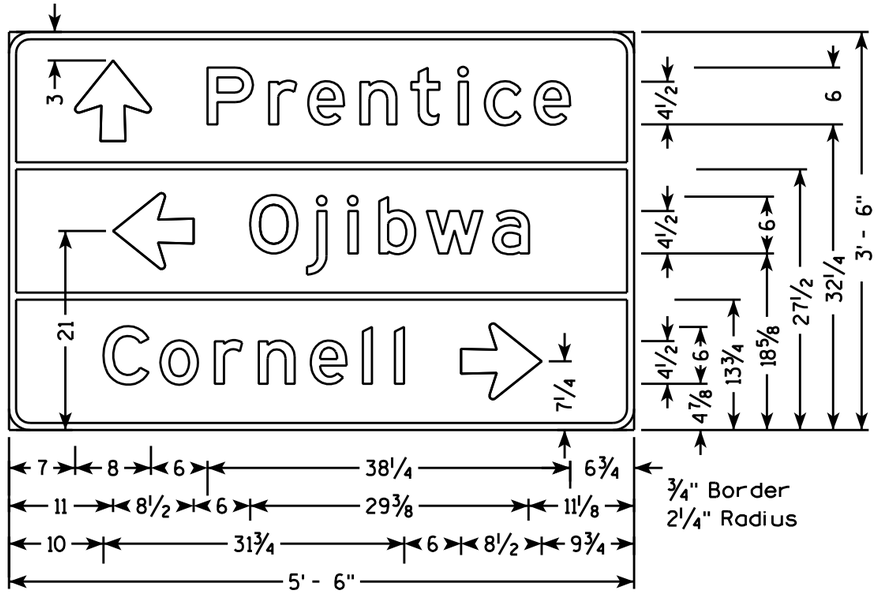


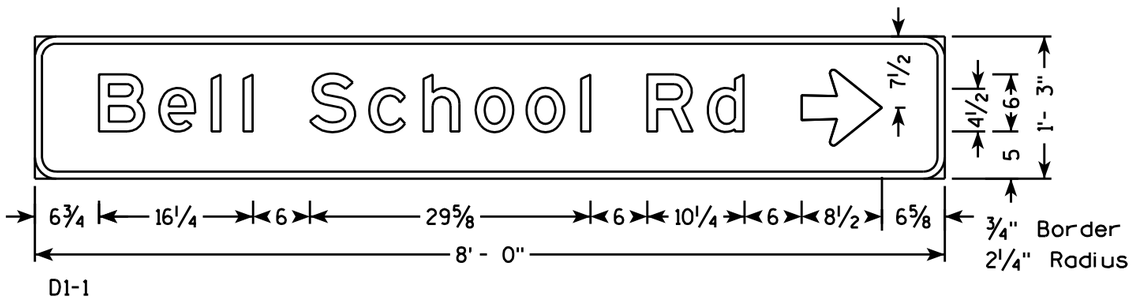


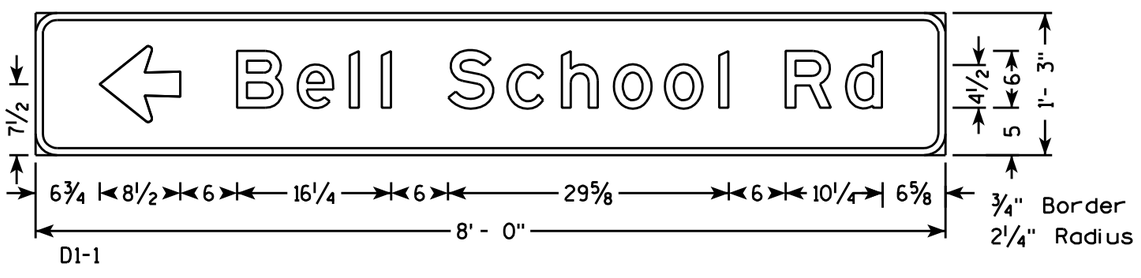


NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as Shown







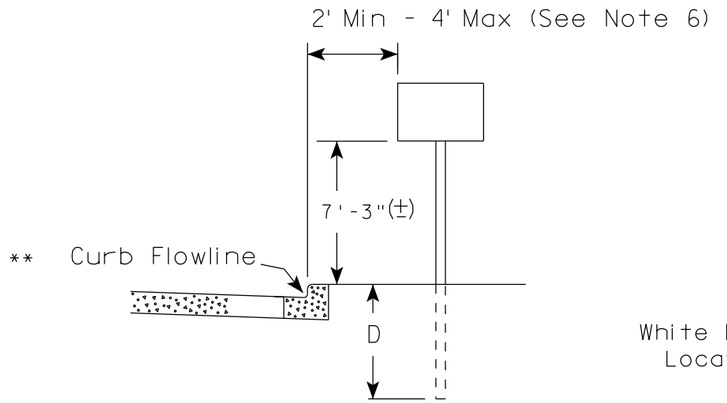
7

7

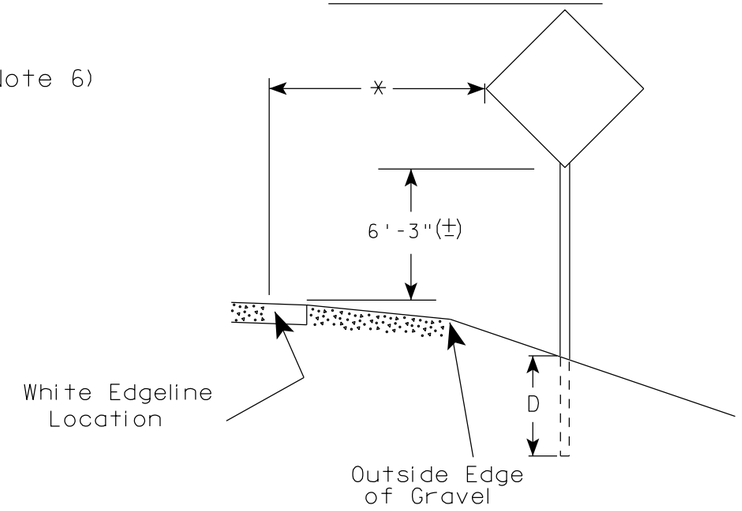
PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	SIGN DETAILS	SHEET NO:	E

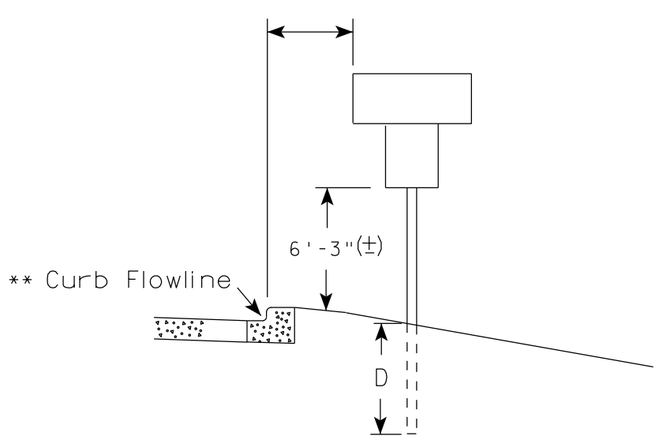
FILE NAME : T:\410645\DGN\070101_sd.dgn PLOT DATE : 1/5/2015 PLOT BY : AYRES-EC PLOT NAME : ..... PLOT SCALE : 1:15.99
WISDOT/CADDS SHEET 42

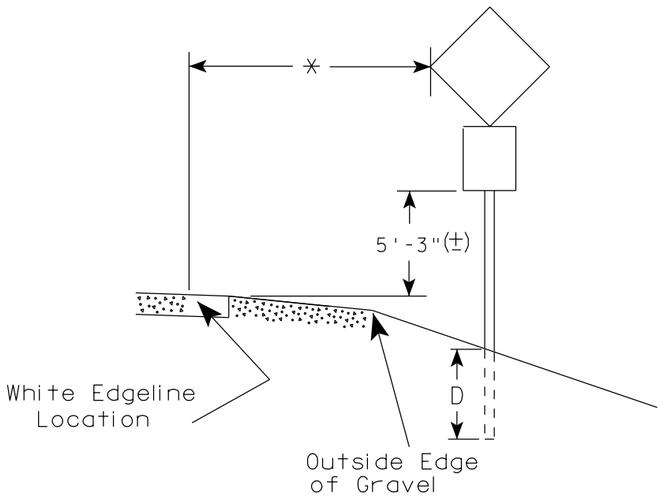
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

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

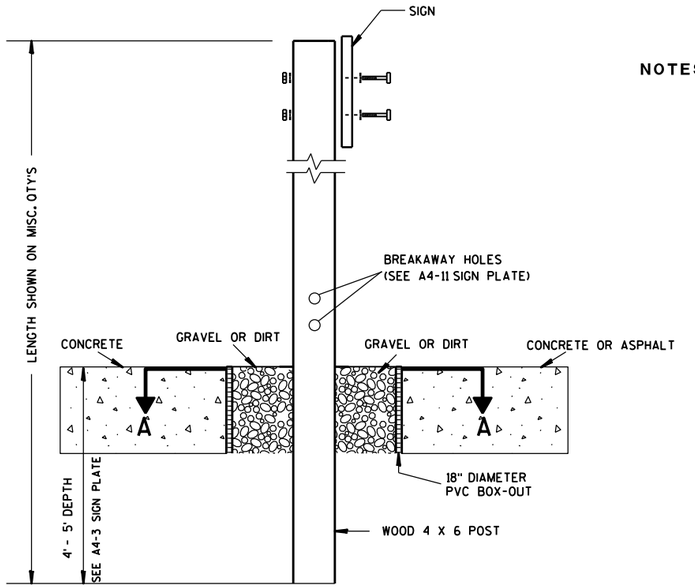
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

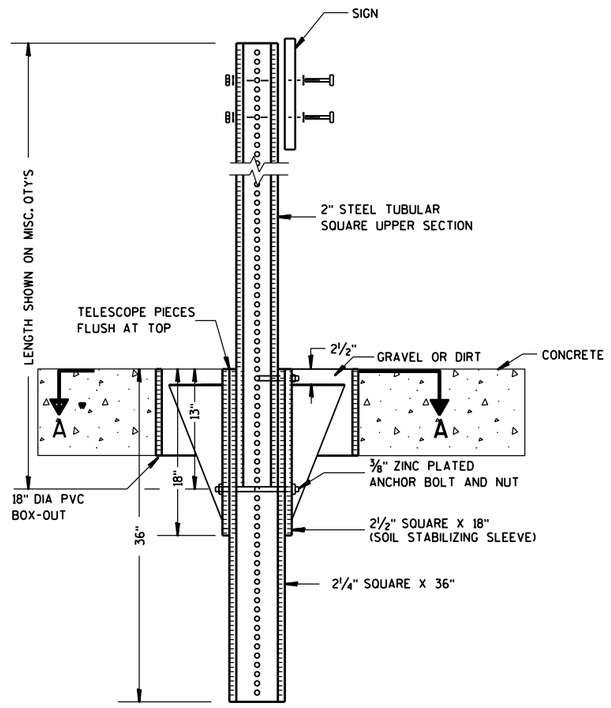
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

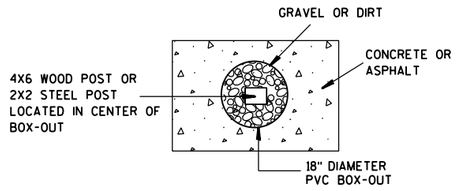
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

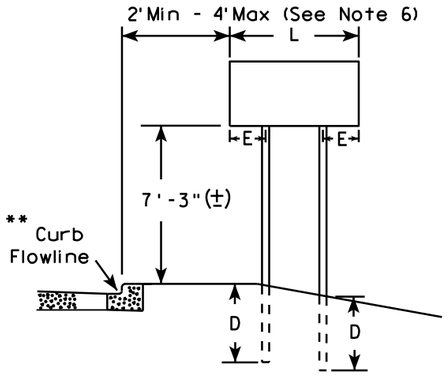
APPROVED Matthew R Rauch
for State Traffic Engineer

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

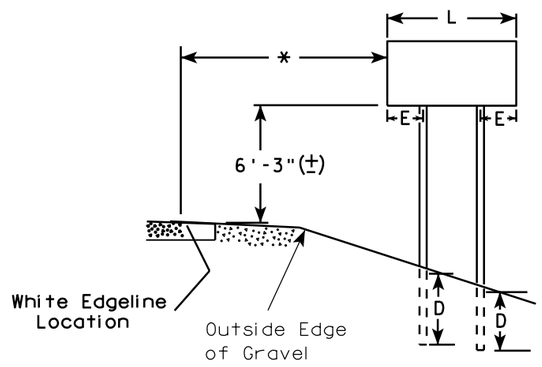
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

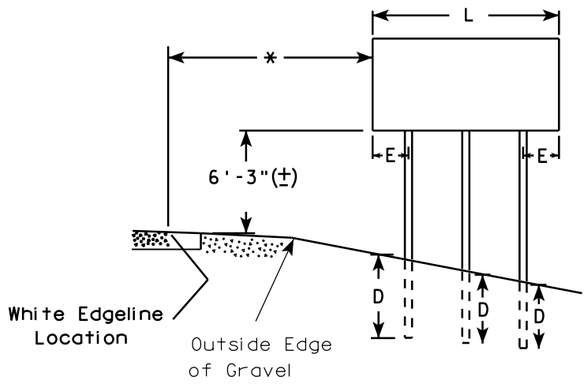
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

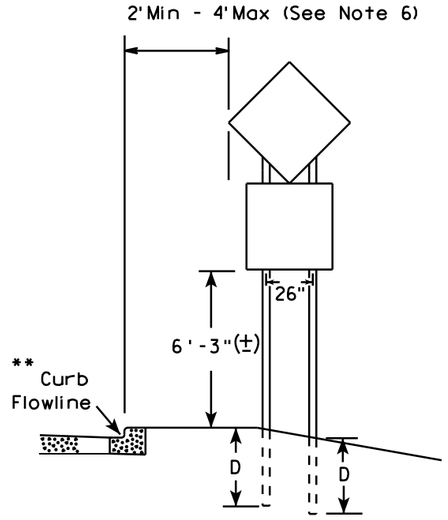
URBAN AREA



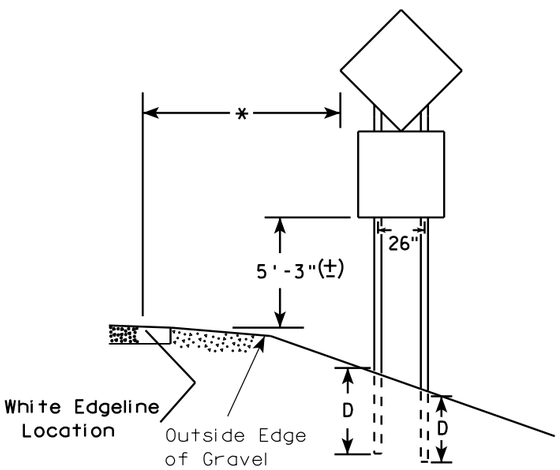
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding 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.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

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

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

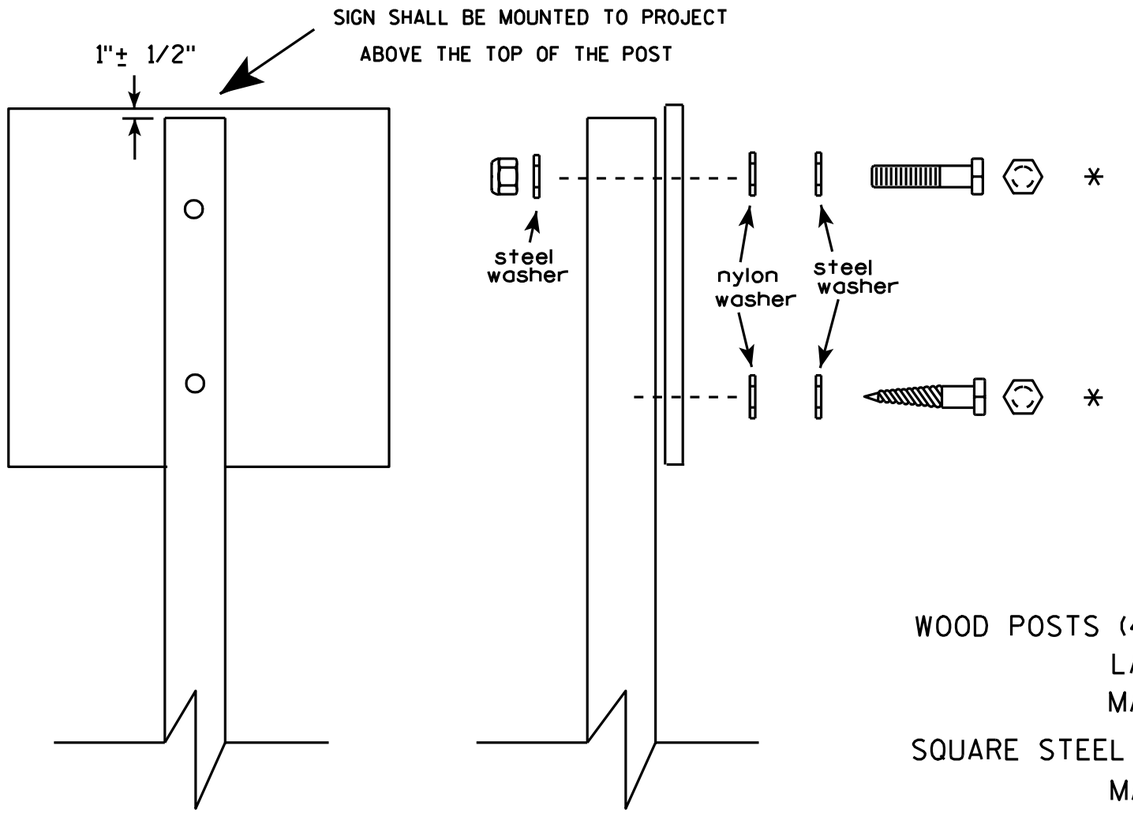
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42



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

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

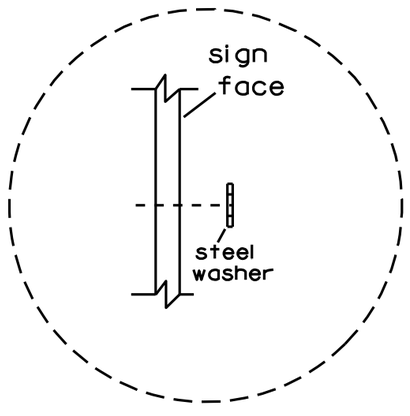
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

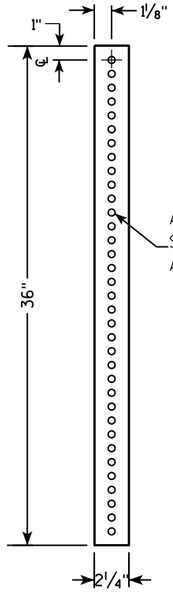
7

PROJECT NO:

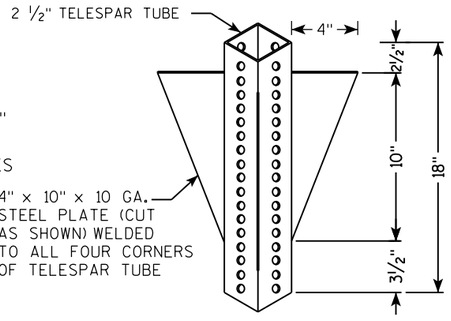
SHEET NO: 85 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

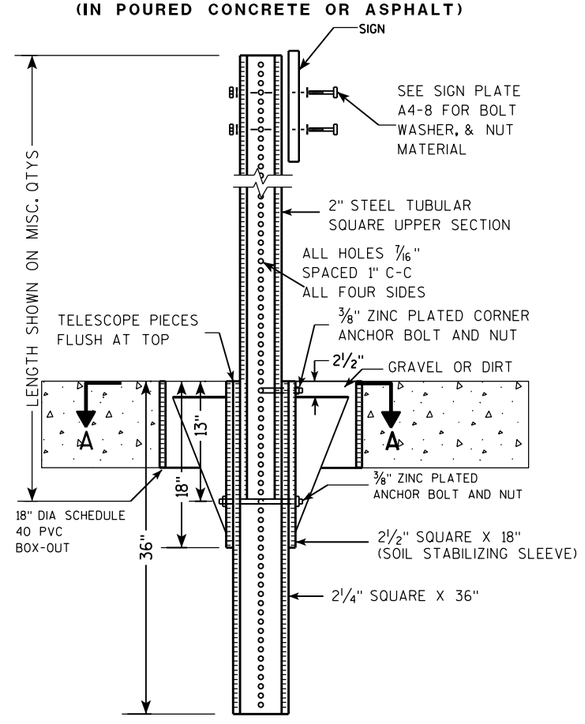
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



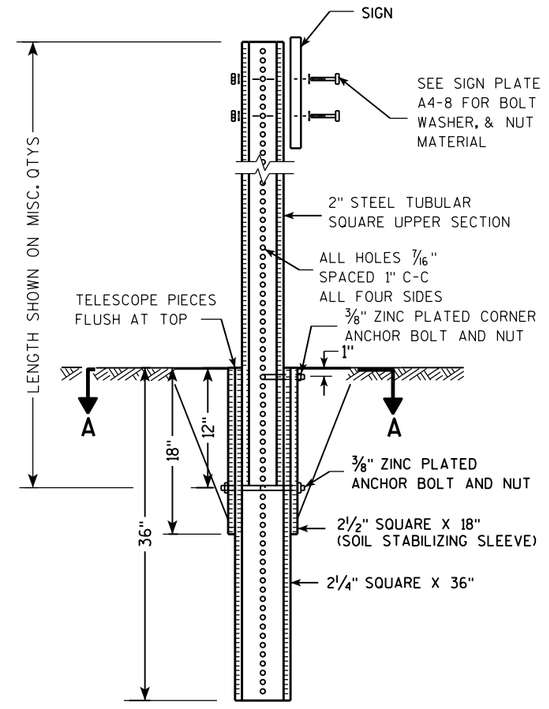
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

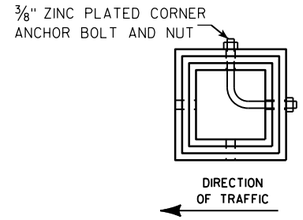


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

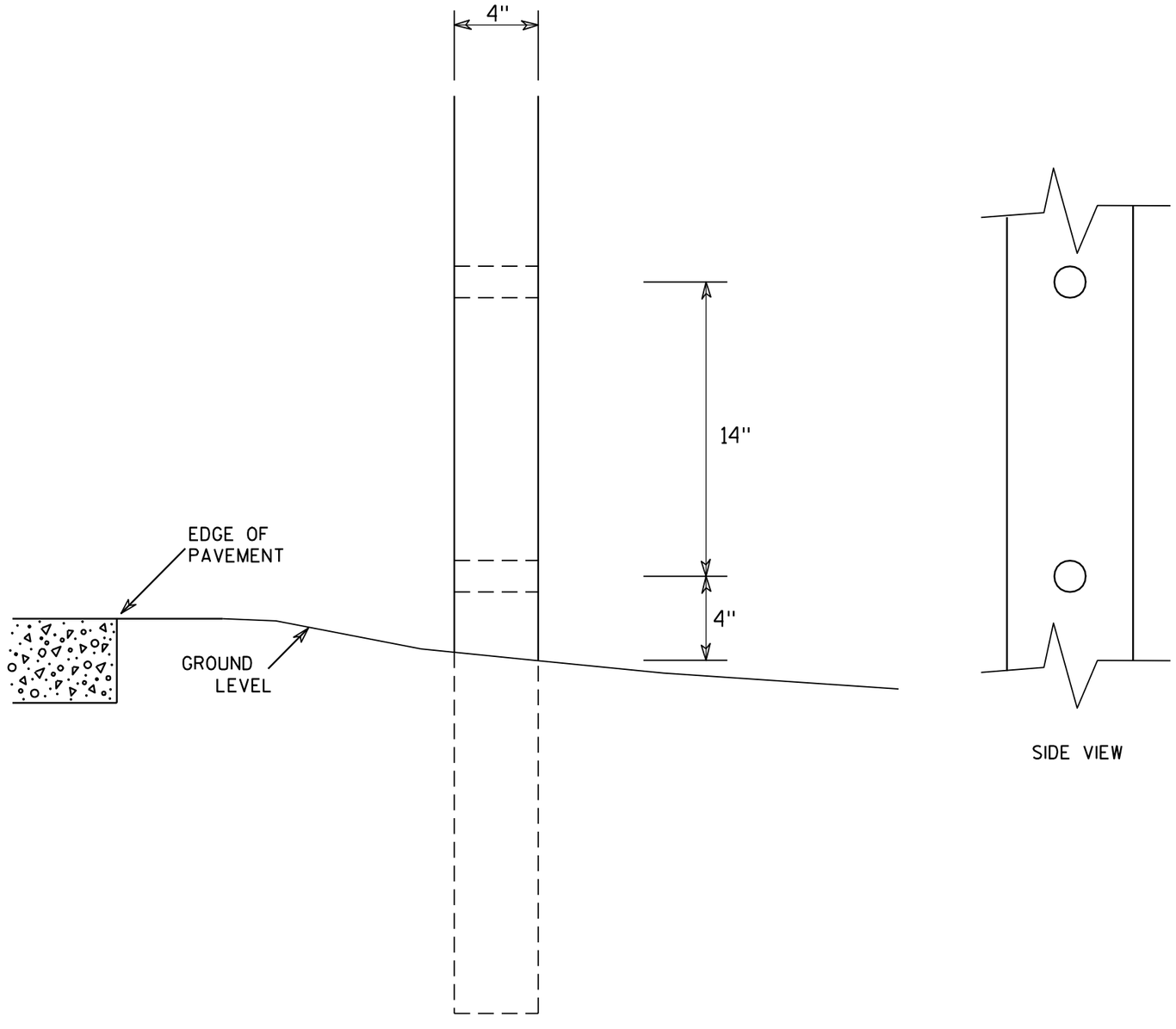
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 86 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

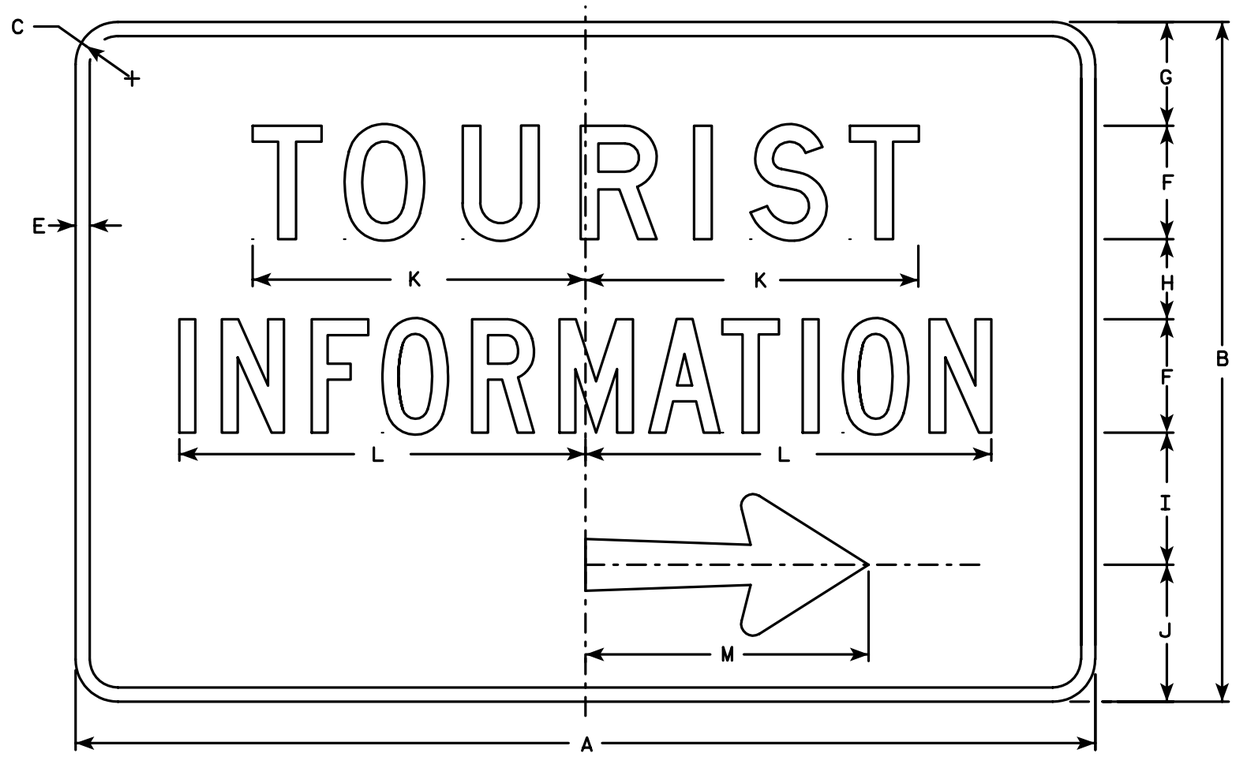
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

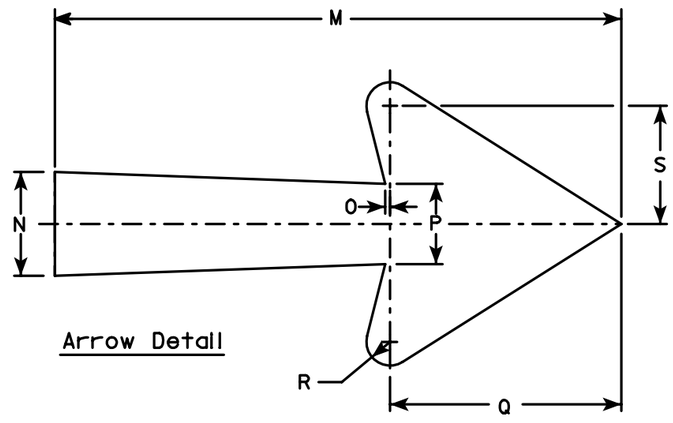
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 87	E



D7-59R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White - Type H Reflective
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 are series D
   Line 2 is series C
6. D7-59L is same as D7-59R except the arrow is reversed.



Arrow Detail

Metric equivalent for this sign is:

SIZE	
1	
2	1350 mm X 900 mm
3	
4	
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.	Area m2
1																												
2	54	36	2 1/4		3/4	6	5 1/2	4 1/4	7	7 1/4	17 5/8	21 1/2	15	2 3/4	1/8	2 1/8	6 1/8	5/8	3 1/8								13.5	1.22
3																												
4																												
5																												

STANDARD SIGN
D7-59

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spear
for State Traffic Engineer

DATE 1/11/02 PLATE NO. D7-59.6

STATE PROJECT NUMBER:

SHEET NO: 88 E

7

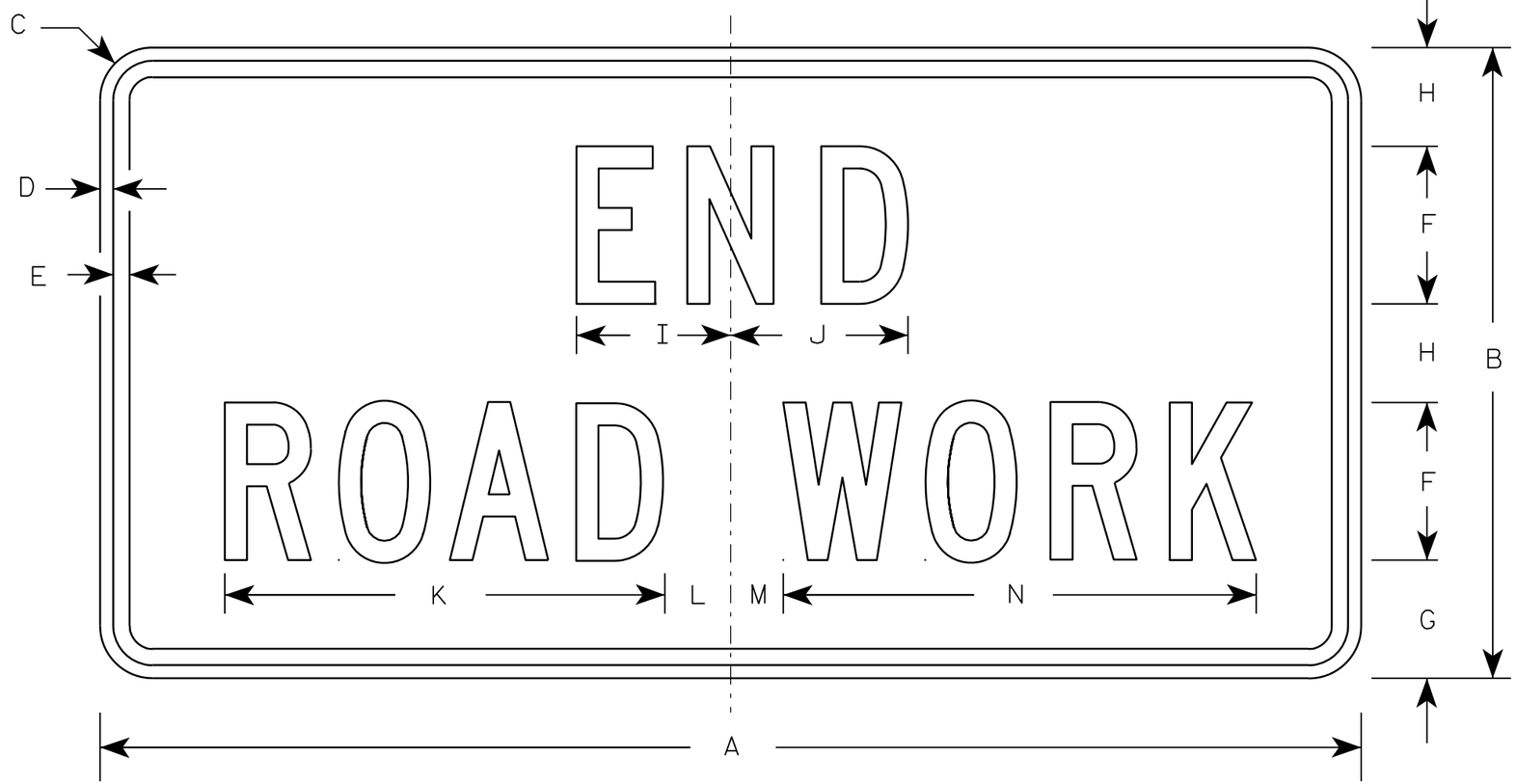
7

58,59,60,61,62,63

LEVELS ON - 2.3. 5.6. 10.

FILE NAME : C:\Users\Projects\tr_stdplate\D759.DGN PLOT DATE : 22-JAN-2002 08:12 ORG DATE : 5/21/97 Originator : Don Kluever

WISDOT/CADDS SHEET 42



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

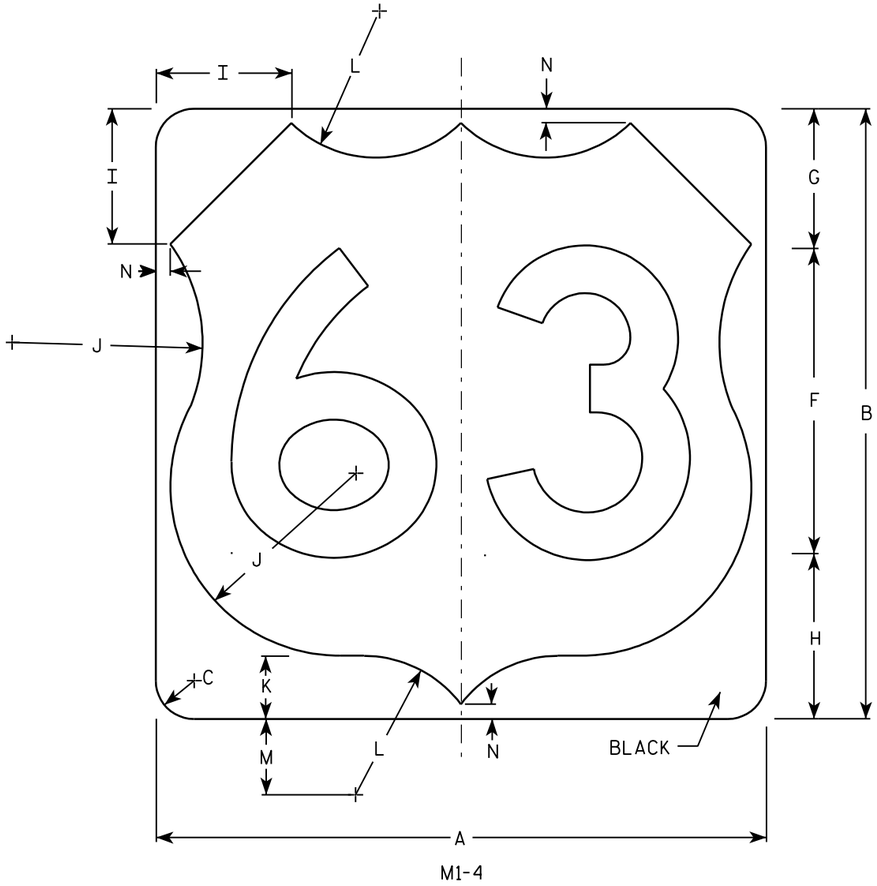
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

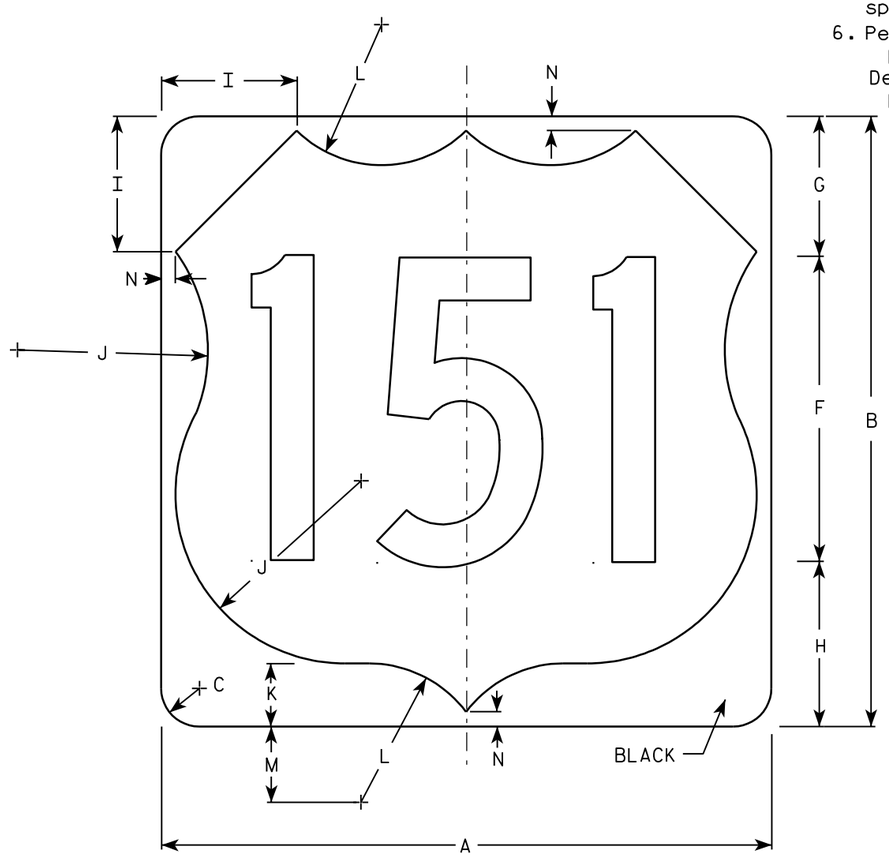
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 89	E

NOTES

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



M1-4



M1-4

Metric equivalent for this sign is:

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

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

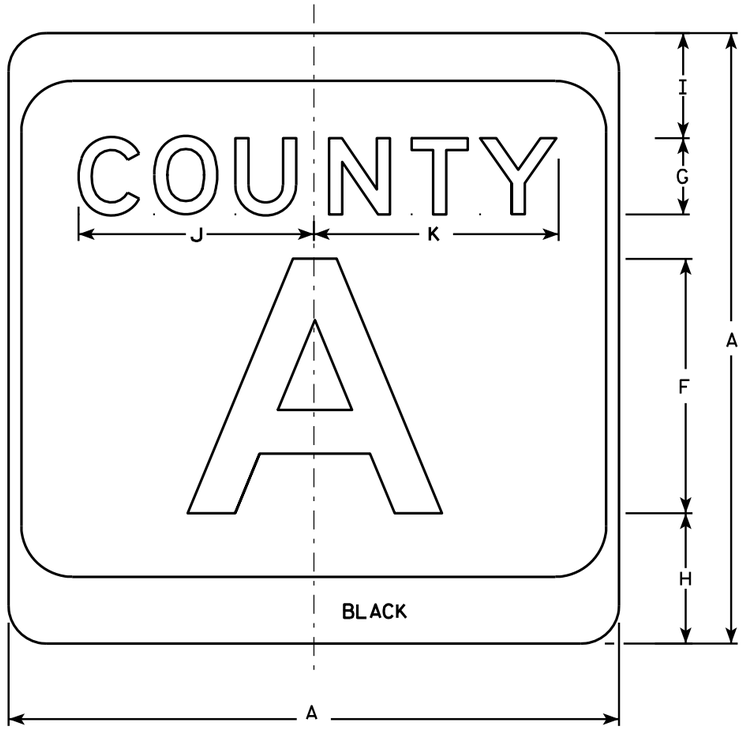
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

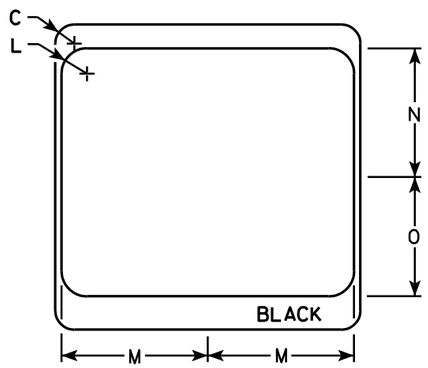
APPROVED Matthew R Rauch
for State Traffic Engineer

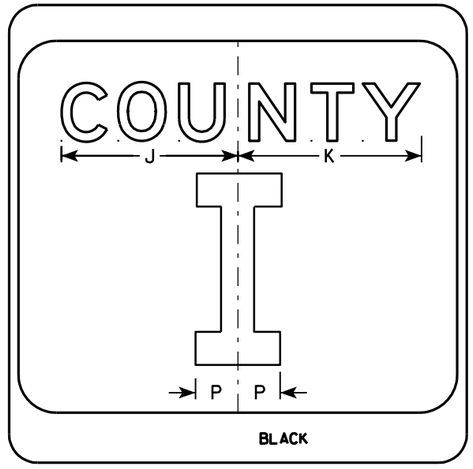
DATE 08/25/05 PLATE NO. M1-4.9

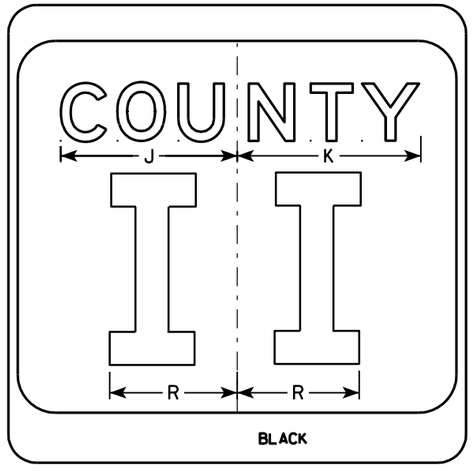
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 90 | E



M1-5A







NOTES

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

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

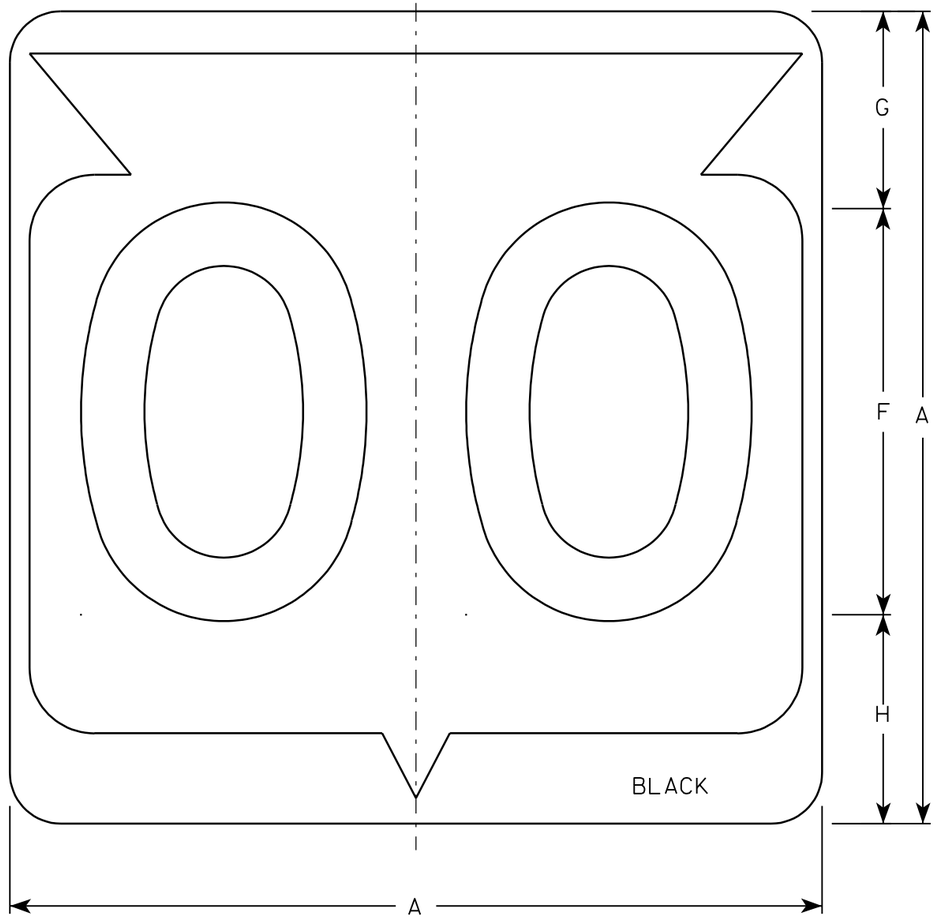
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

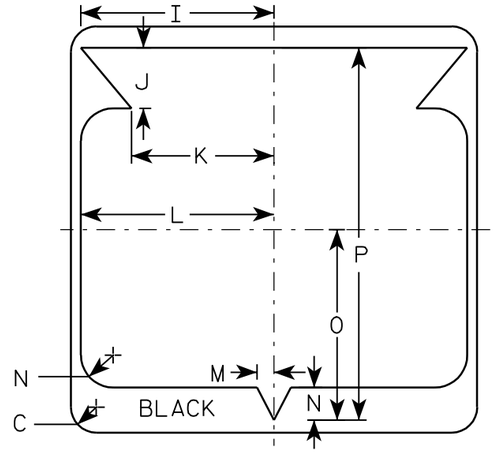
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 91 | E



M1-6

NOTES

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



Metric equivalent for this sign is:

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

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

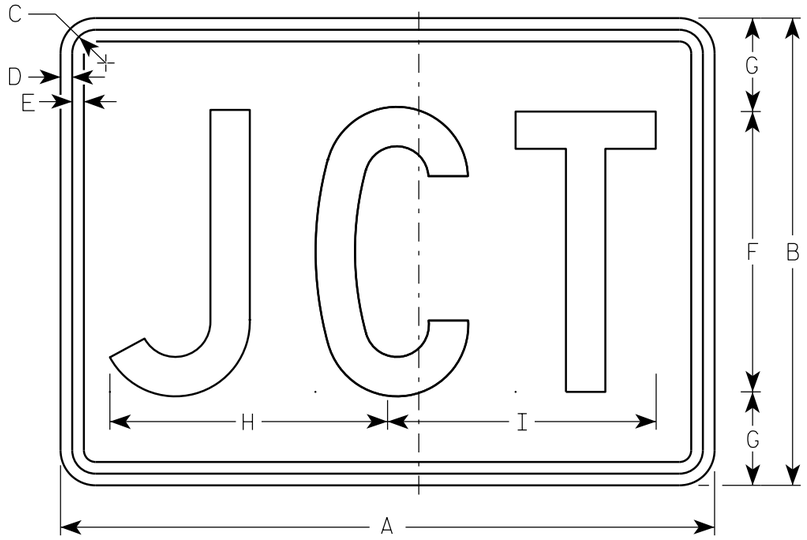
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

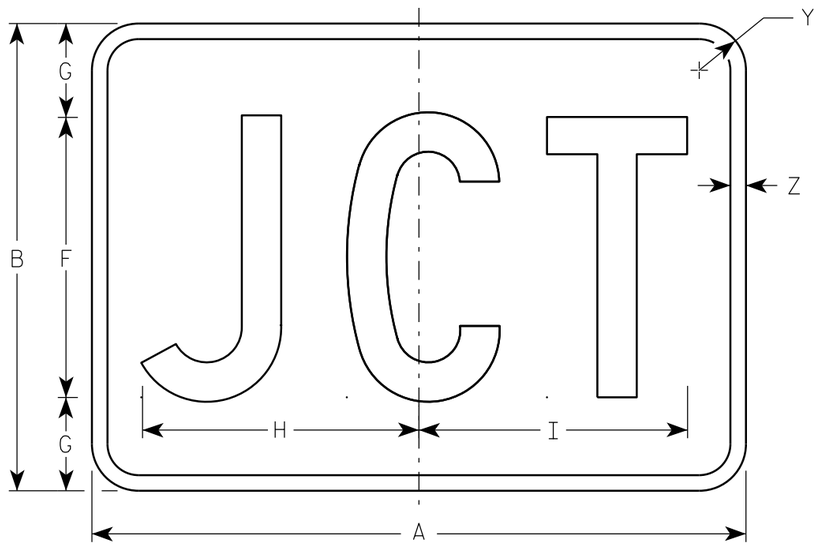
APPROVED Chester J Spang for State Traffic Engineer

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

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



M2-1
MK2-1
MM2-1
MN2-1
MR2-1



MB2-1

NOTES

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

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

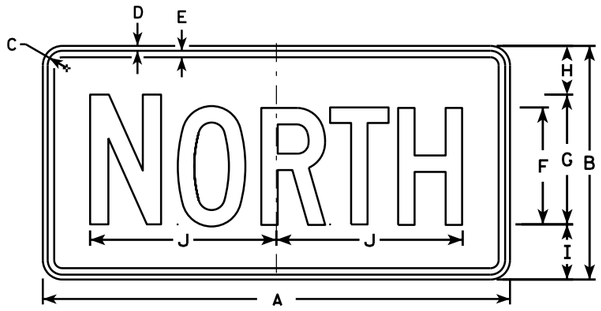
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

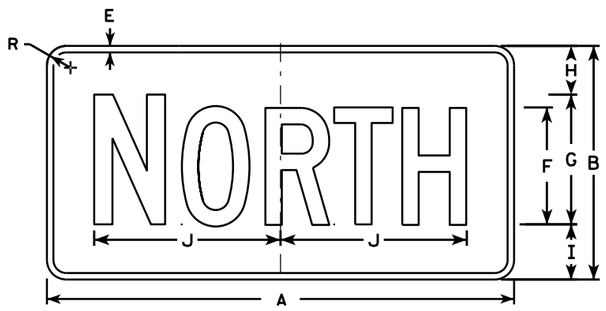
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/30/14 PLATE 93 12-1.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



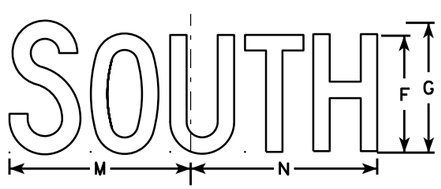
M3-1
MK3-1
MM3-1
MN3-1



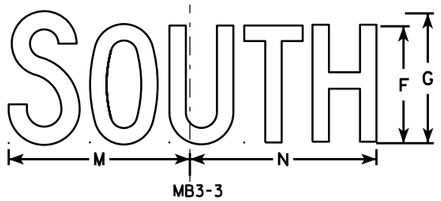
MB3-1

M3-2
MK3-2
MM3-2
MN3-2

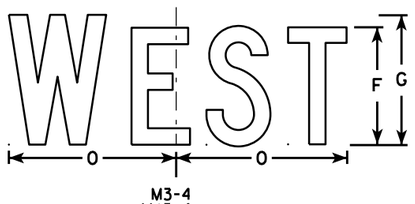
MB3-2



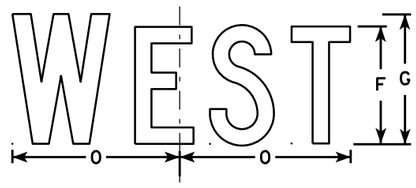
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

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
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

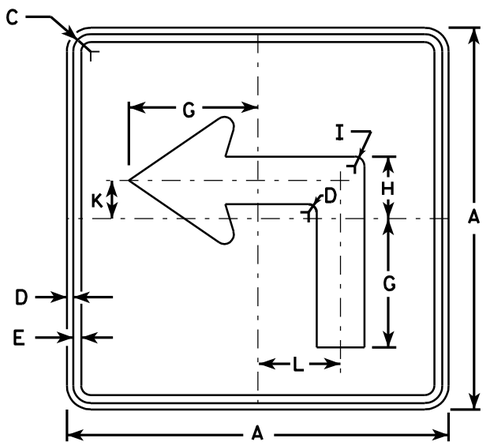
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

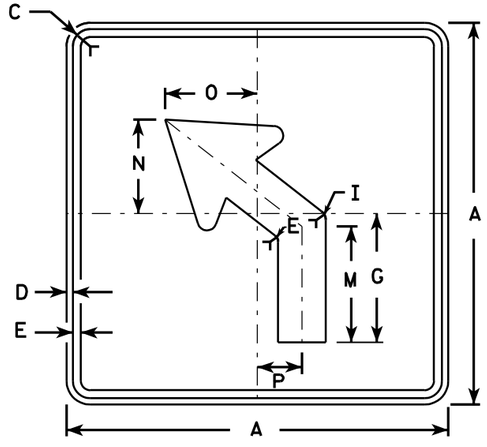
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO. M3-1.13

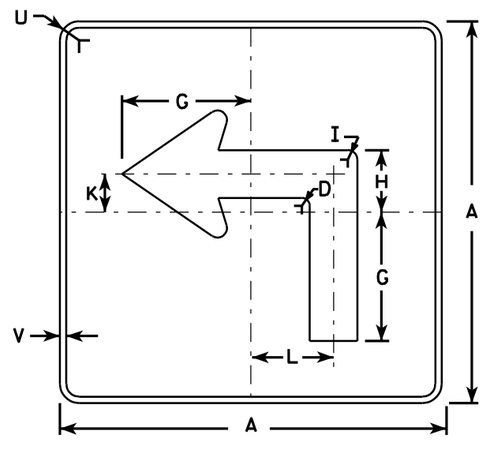
PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E



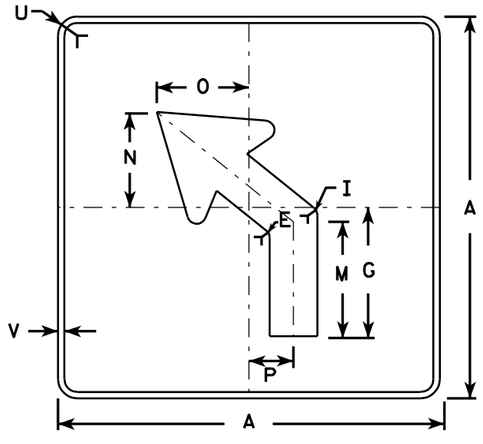
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



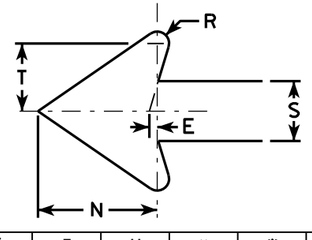
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



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



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



NOTES

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

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

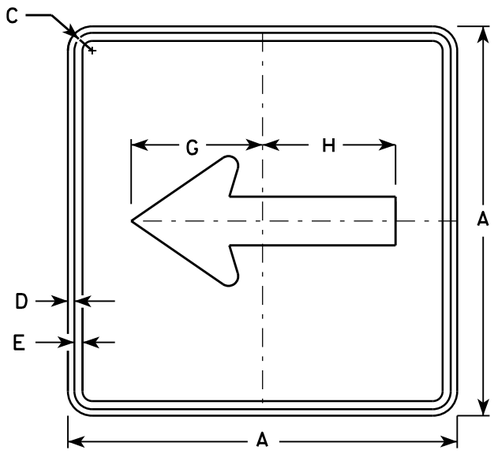
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

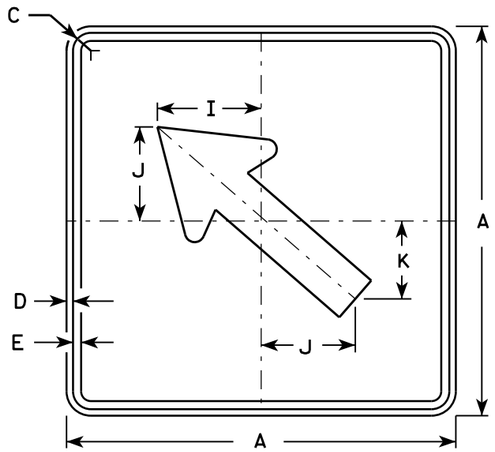
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 95 | E



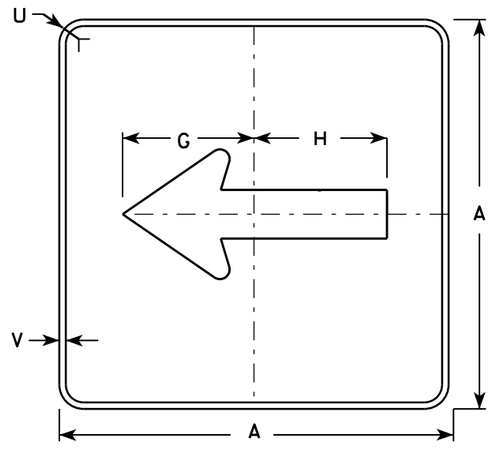
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



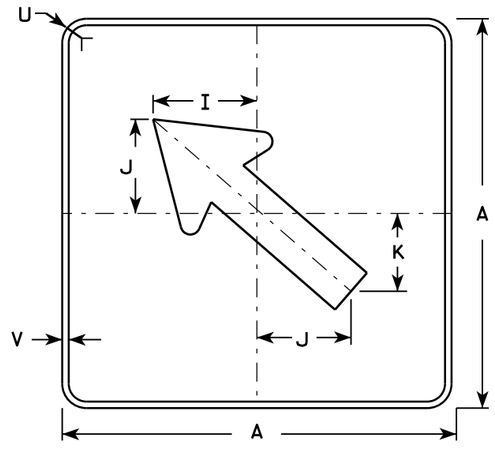
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

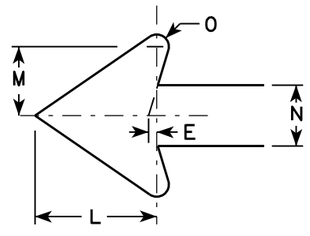
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MG6-1 and MG6-2 Background - Green
   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



MB6-2



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

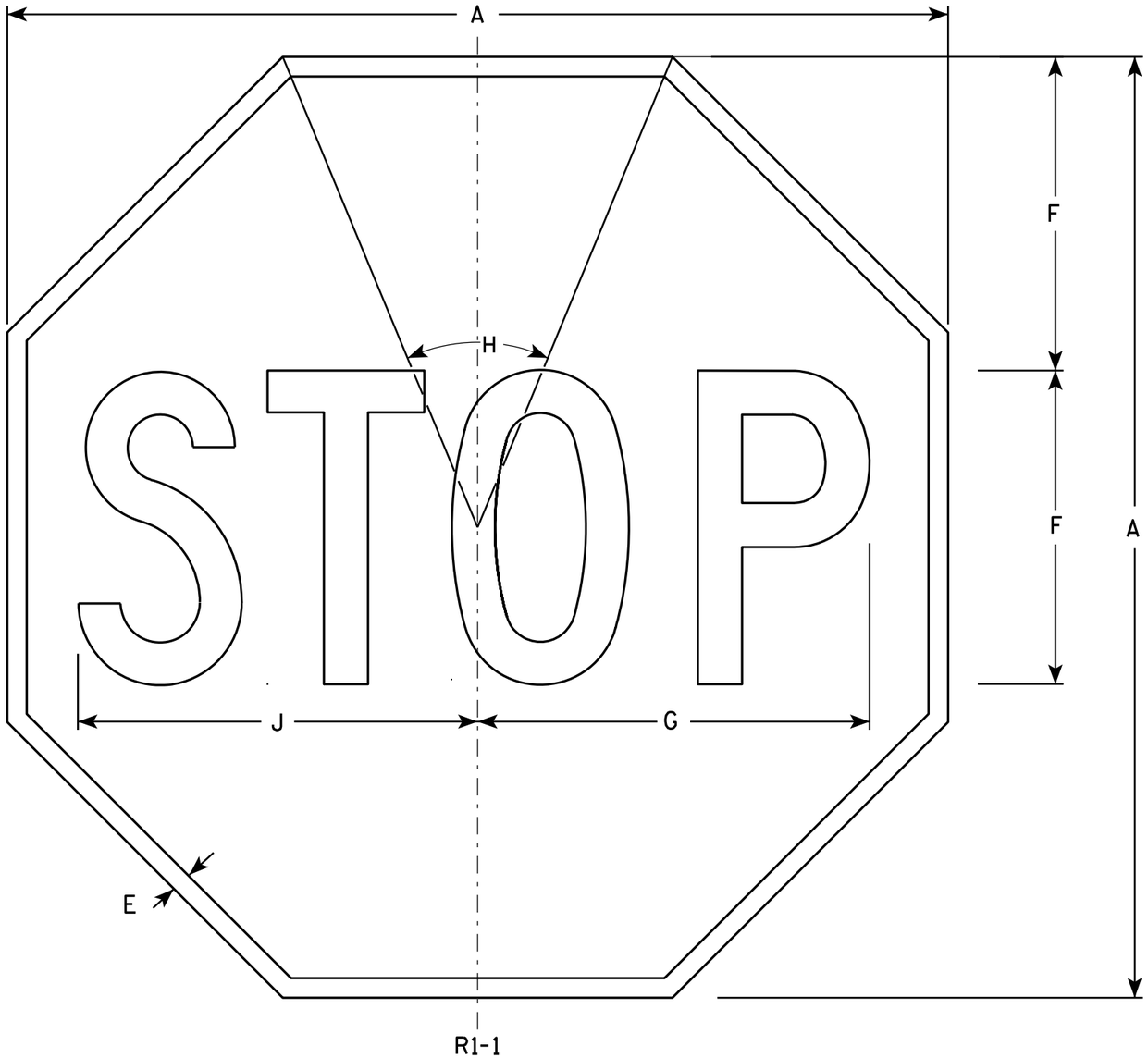
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE 96 M6-1.14

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



NOTES

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

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

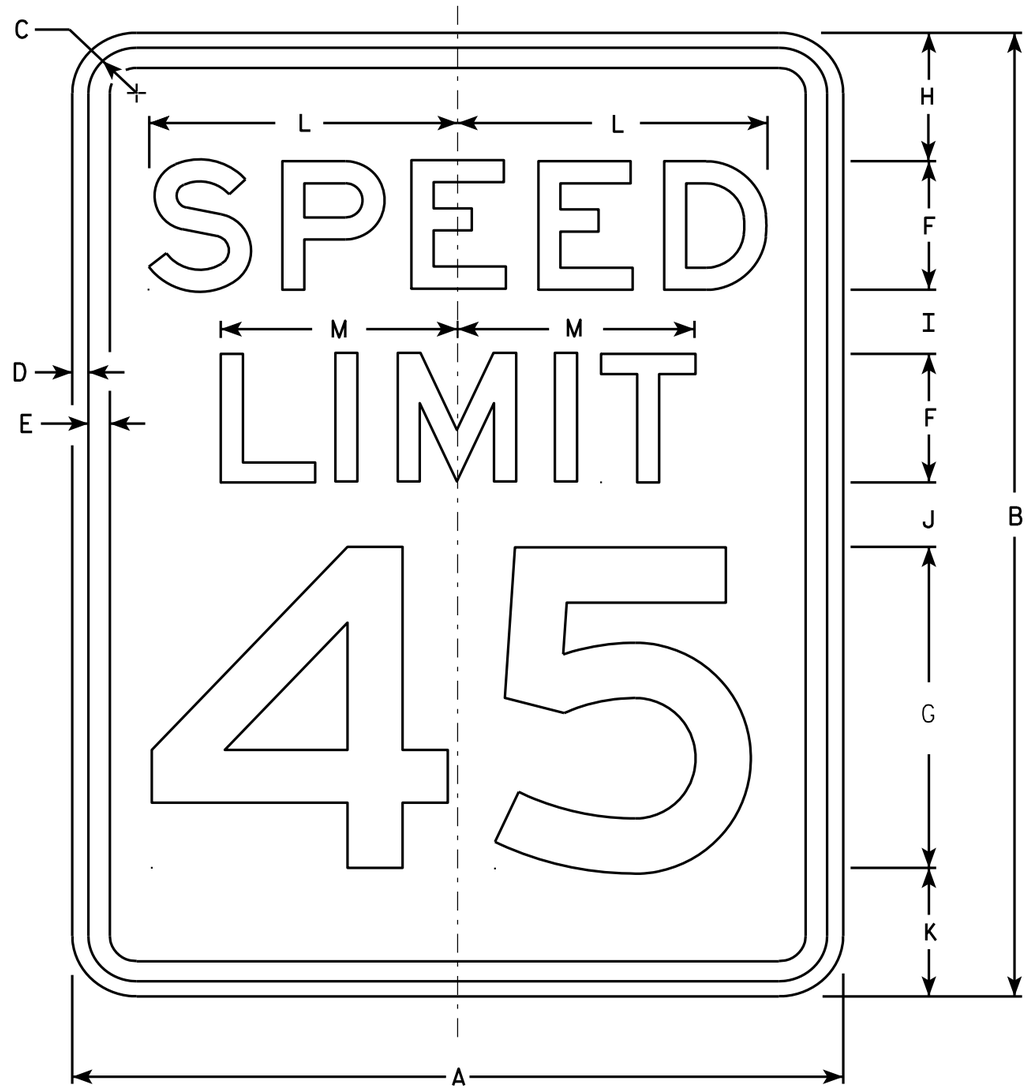
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 97	E



R2-1

NOTES

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

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

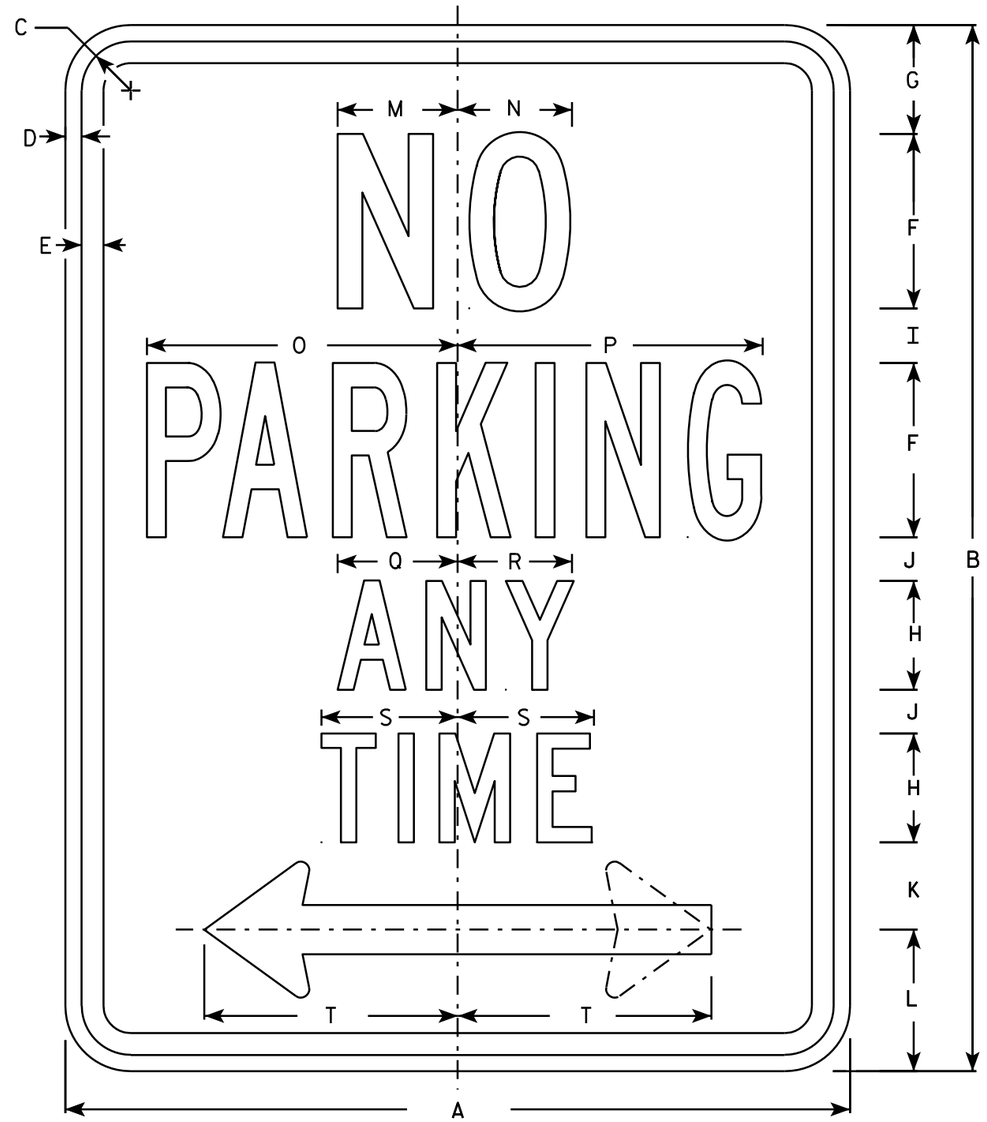
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

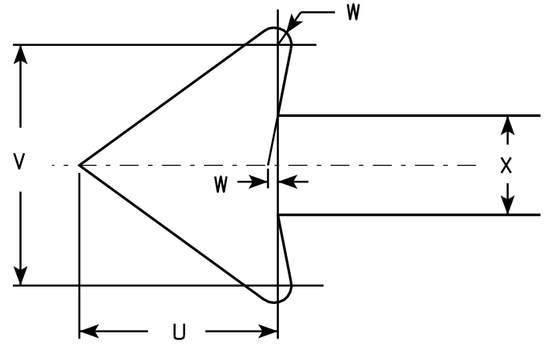
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 98 | E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

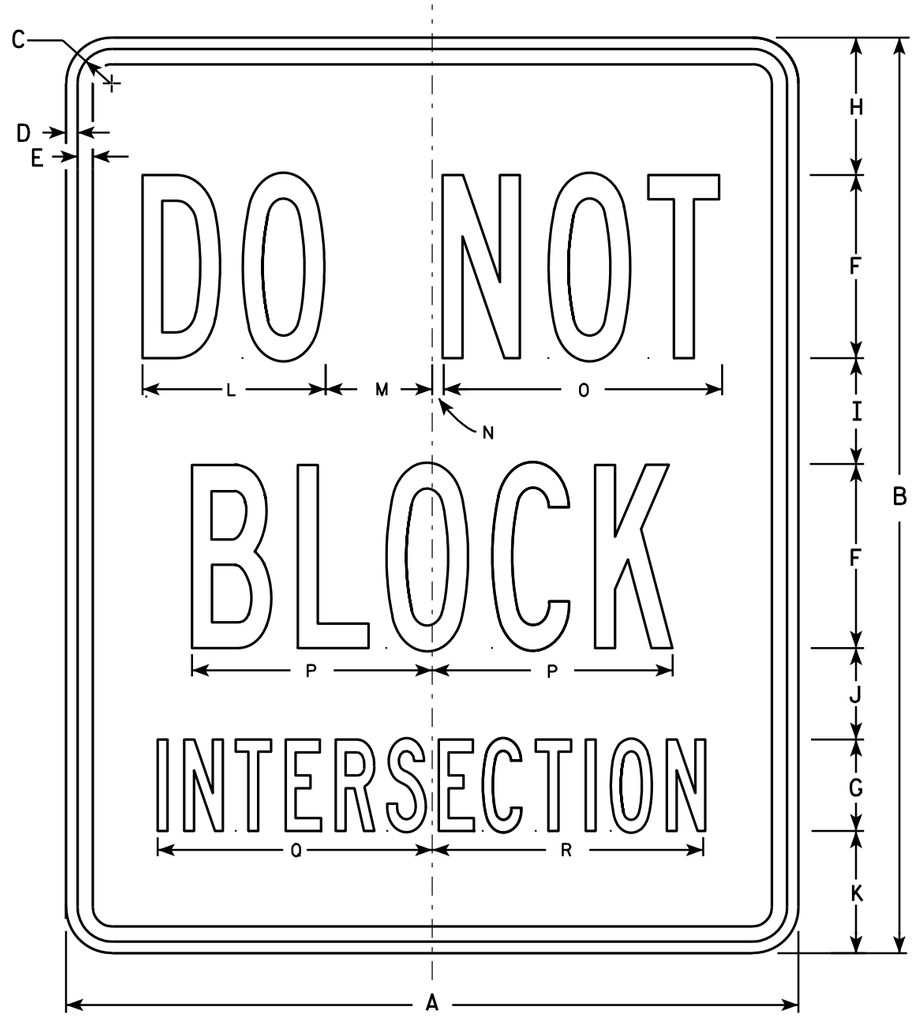
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 99 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R71.DGN PLOT DATE : 31-MAR-2011 09:20 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.476110:1.000000

WISDOT/CADDS SHEET 42



R10-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - 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																											
2S	24	30	1 1/8	3/8	1/2	6	3	4 1/2	3 1/2	3	4	6	3 1/2	3/8	9 1/8	7 7/8	9	8 7/8									5.0
2M	24	30	1 1/8	3/8	1/2	6	3	4 1/2	3 1/2	3	4	6	3 1/2	3/8	9 1/8	7 7/8	9	8 7/8									5.0
3	36	48	1 3/8	1/2	5/8	10	5	7	5 1/4	4 1/2	6 1/4	10	5 5/8	1/2	15 1/8	13 1/8	15	14 7/8									12.0
4																											
5																											

STANDARD SIGN
R10-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-7.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 100	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R107.DGN PLOT DATE : 05-APR-2011 09:44 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.965868:1.000000

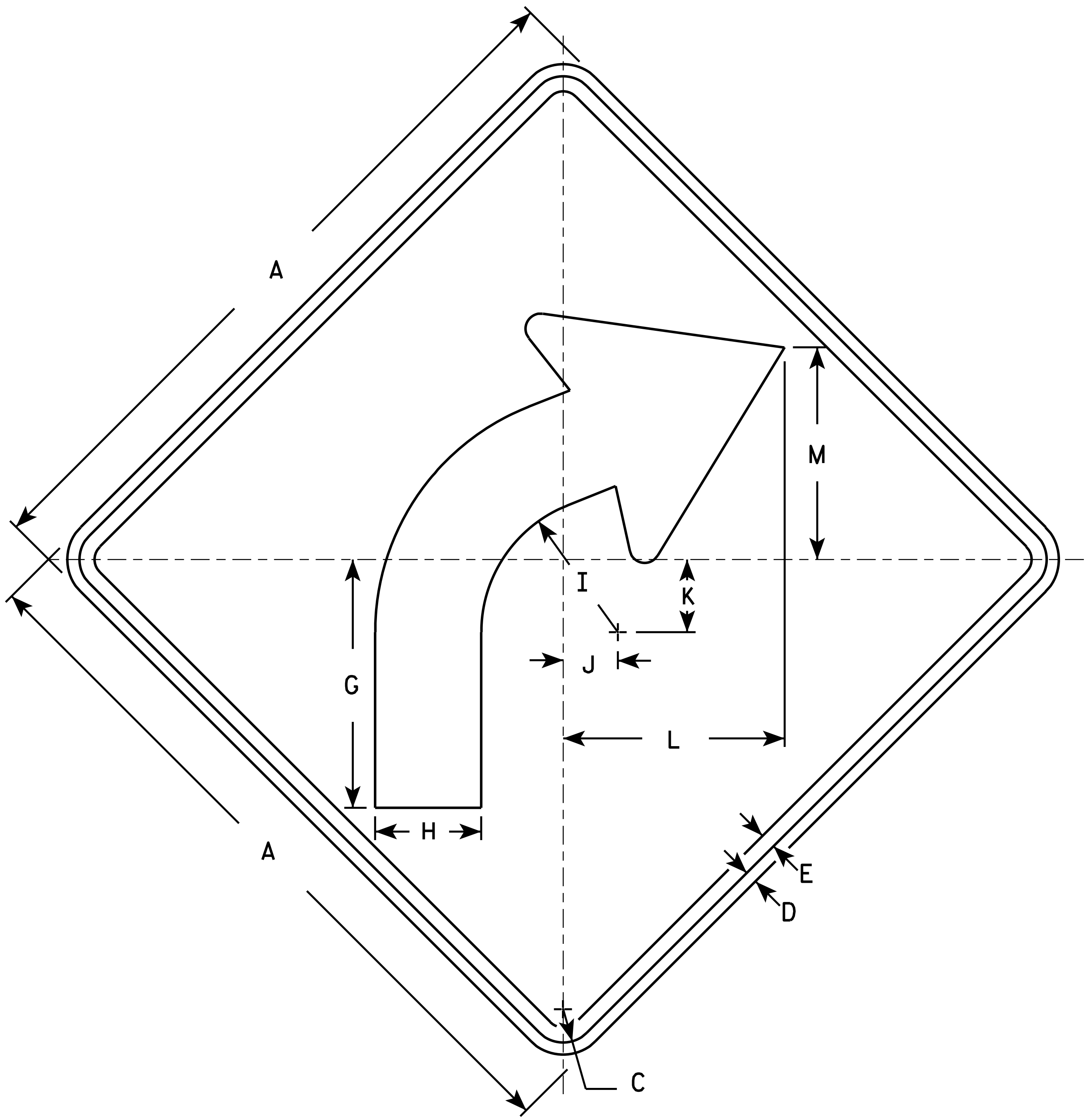
WISDOT/CADDS SHEET 42

7

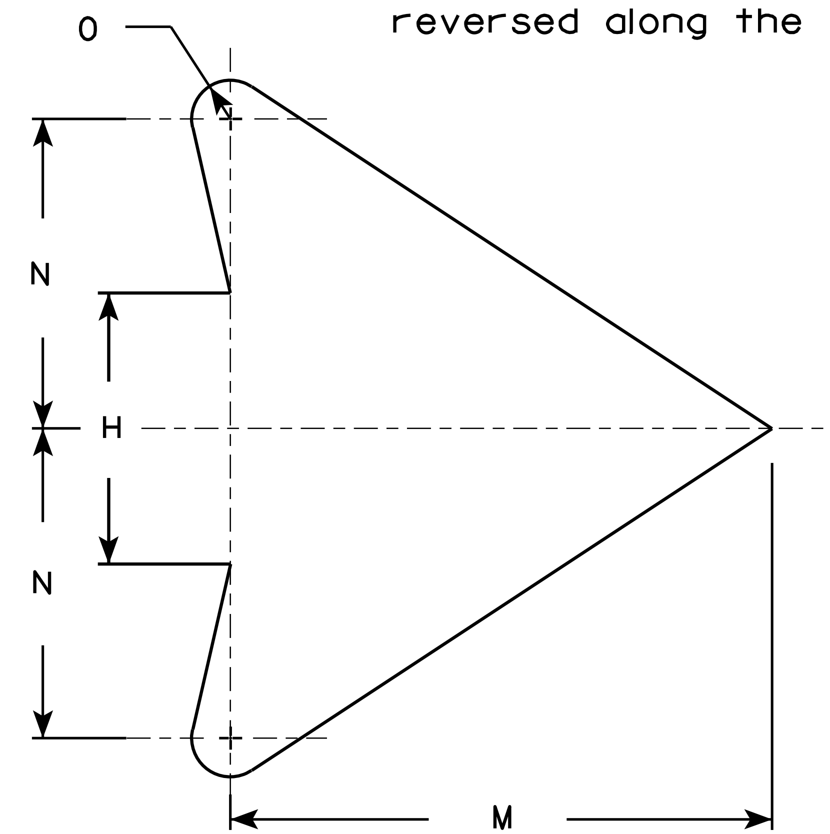
7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



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	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

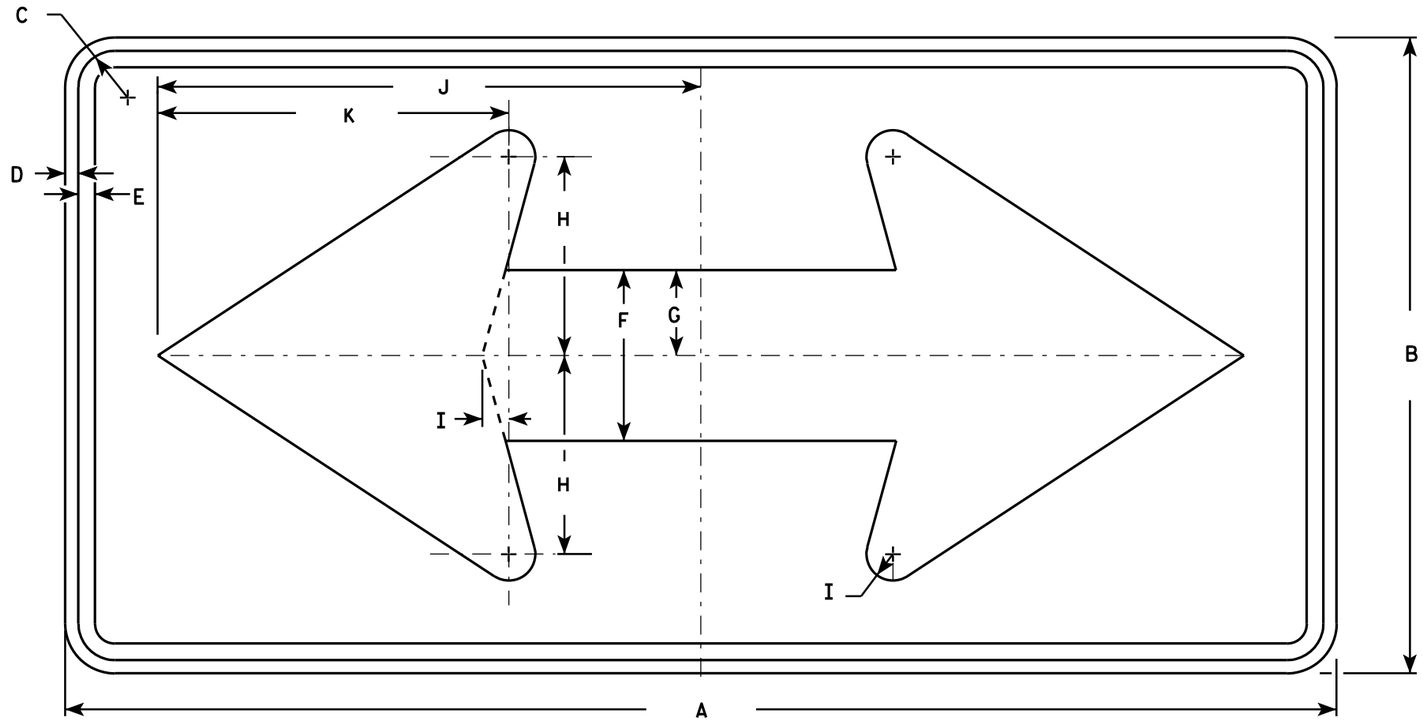
STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 101 | E



W1-7

NOTES

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

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 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

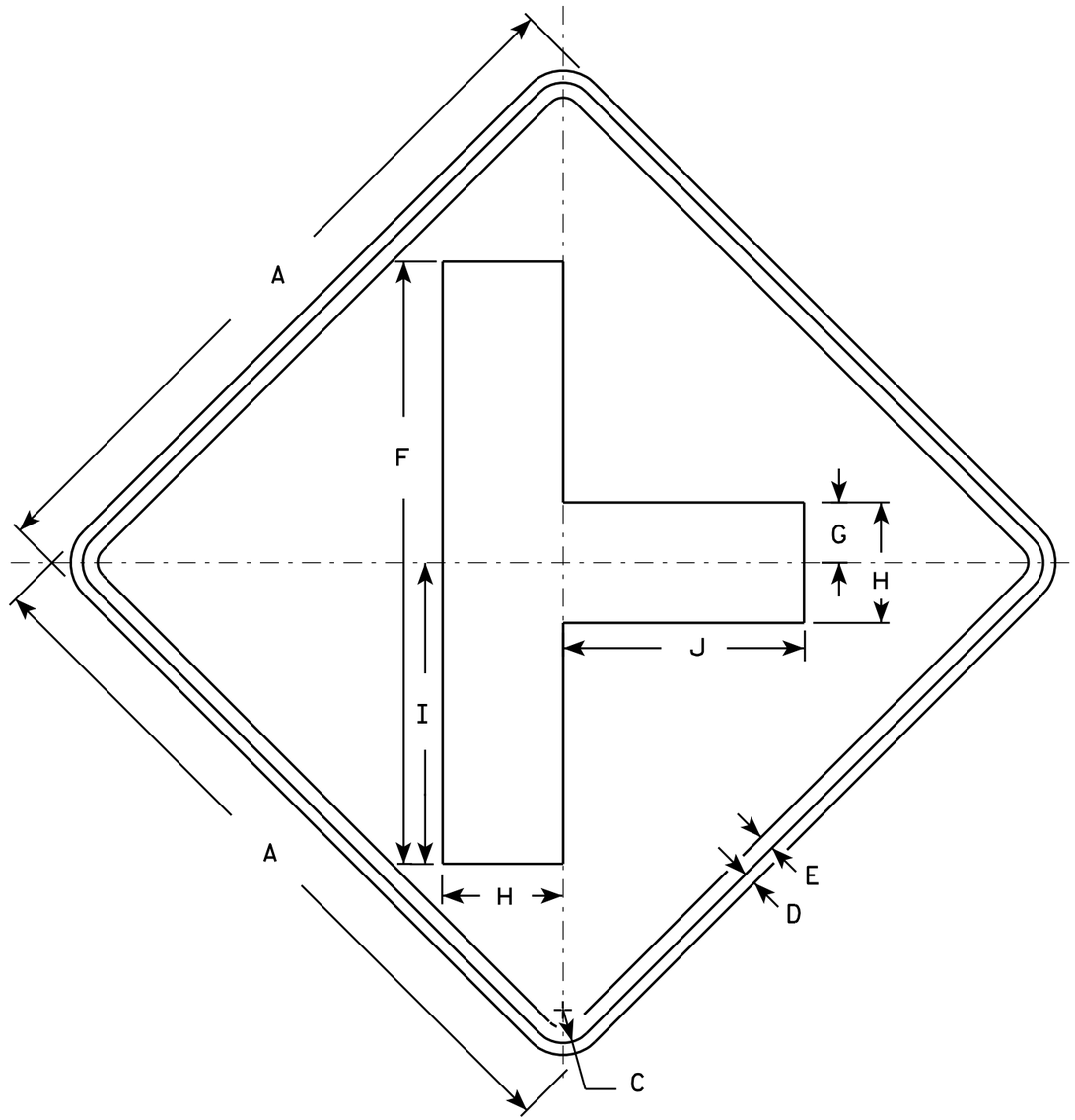
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 102 | E



W2-2

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	20	2	4	10	8																	4.0
2S	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
2M	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
3	36		1 5/8	5/8	3/4	30	3	6	15	12																	9.0
4	48		2 1/4	3/4	1	40	4	8	20	16																	16.0
5																											

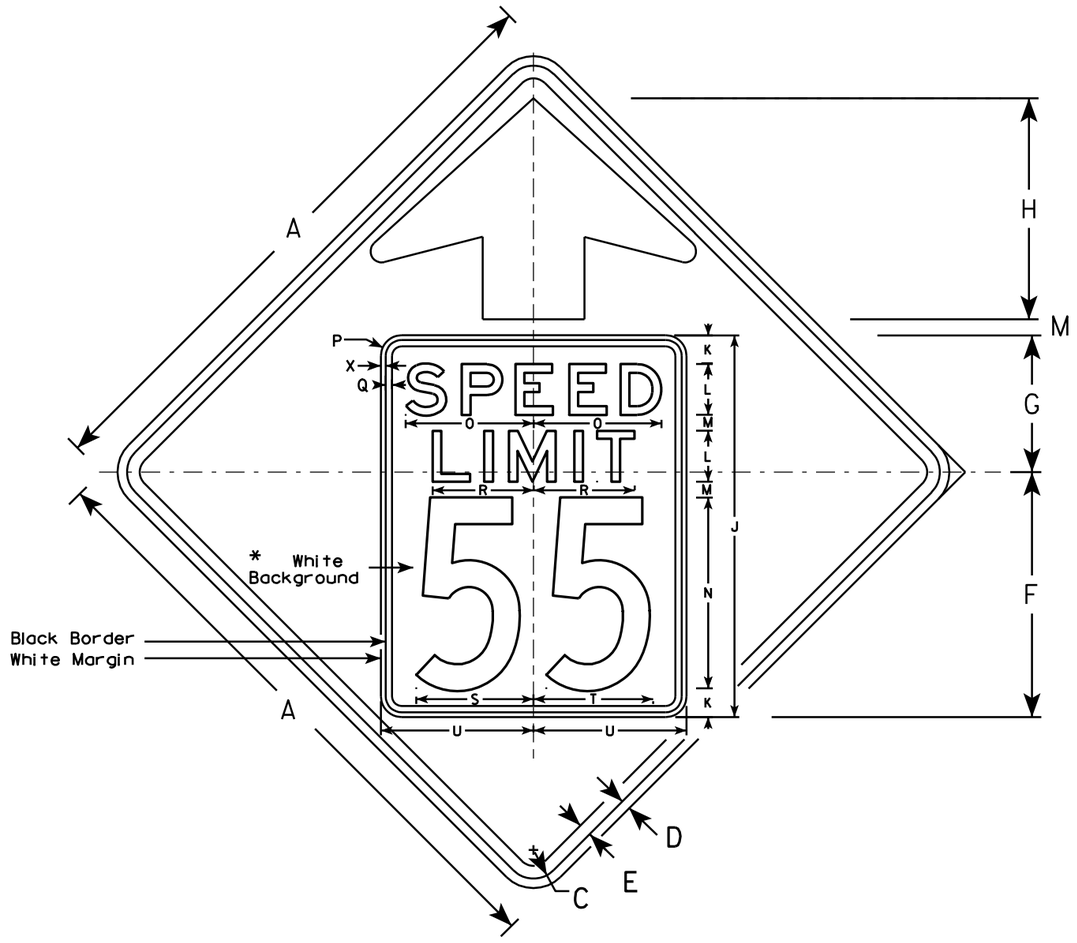
STANDARD SIGN
W2-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-2.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 103 | E

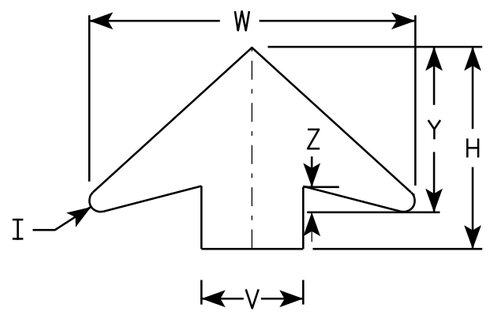


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

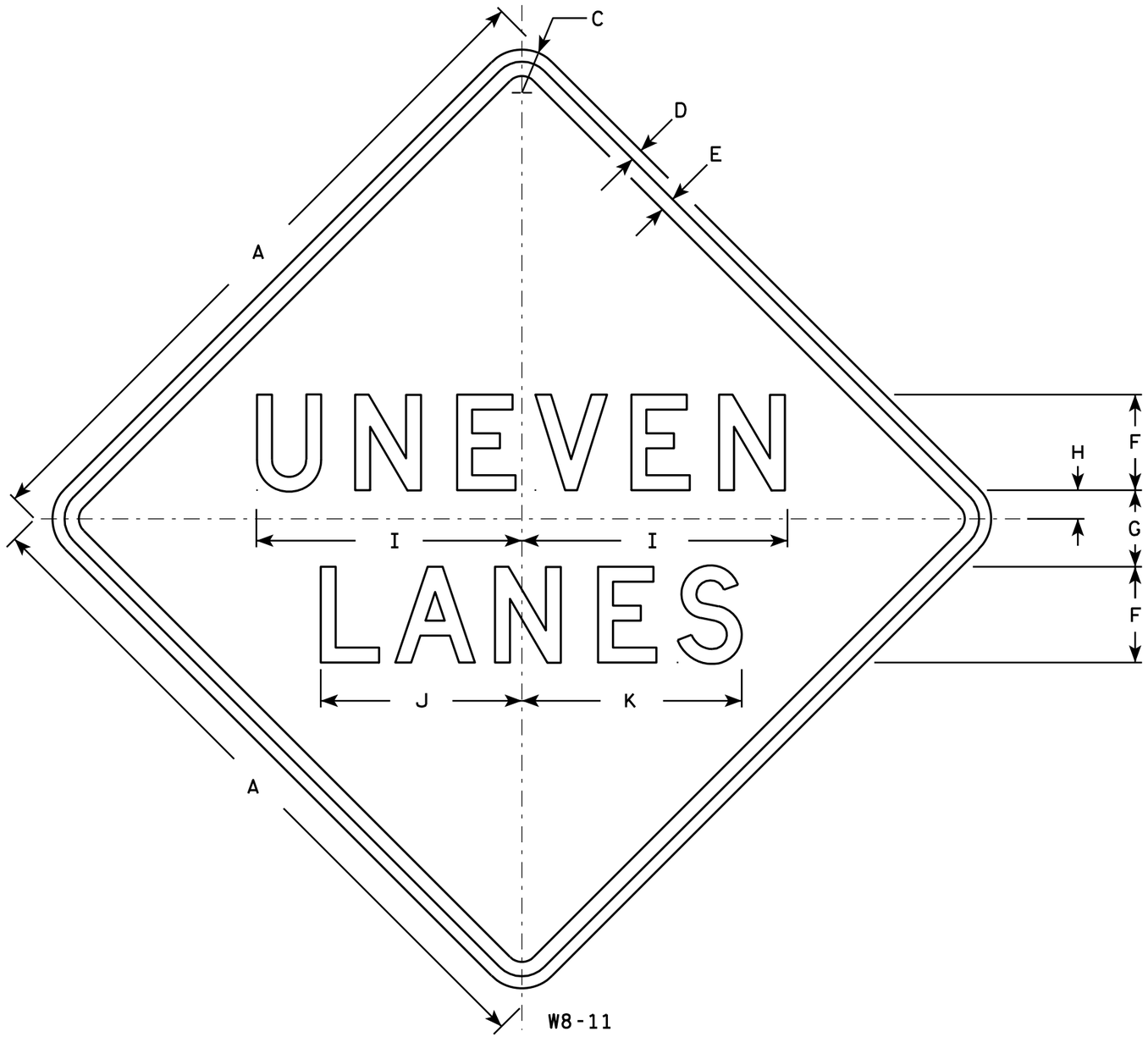
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 104 E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	5	4	1 1/2	13 7/8	10 1/2	11 1/2																9.0
2M	36		1 5/8	5/8	3/4	5	4	1 1/2	13 7/8	10 1/2	11 1/2																9.0
3																											
4	36		1 5/8	5/8	3/4	5	4	1 1/2	13 7/8	10 1/2	11 1/2																9.0
5	48		2 1/4	3/4	1	7	5	2	18 1/2	14	15 3/8																16.0

STANDARD SIGN
W8-11

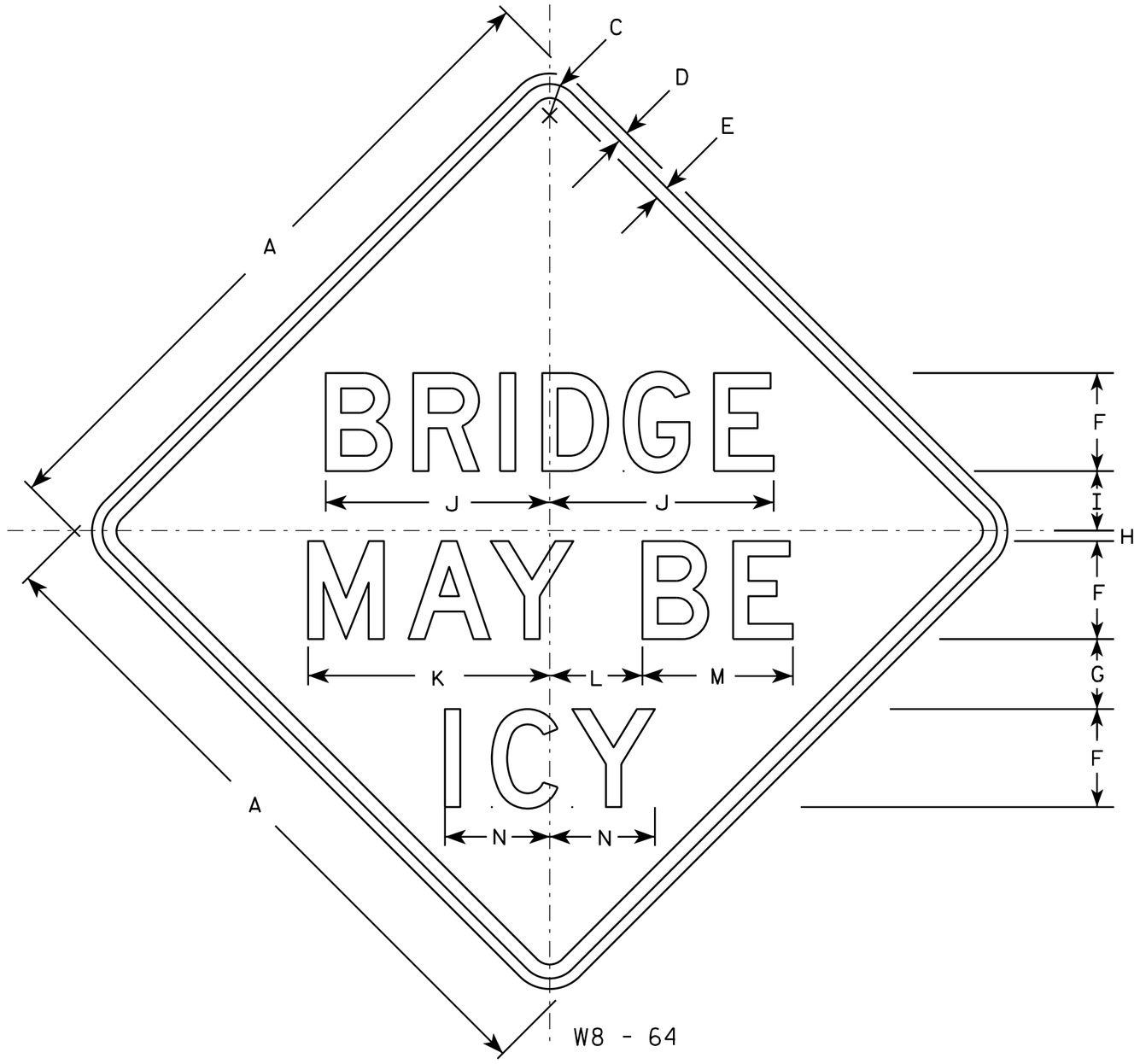
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/22/11 PLATE NO. W8-11.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 105 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W811.DGN PLOT DATE : 22-MAR-2011 14:12 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.703924:1.000000
WISDOT/CADDS SHEET 42



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	5	3 3/4	5/8	3 1/8	12	13	5	8	5 5/8													9.0
2M	36		1 5/8	5/8	3/4	5	3 3/4	5/8	3 1/8	12	13	5	8	5 5/8													9.0
3																											
4	48		2 1/4	3/4	1	7	5	3/4	4 1/4	16	17 1/4	6 5/8	10 3/4	7 1/2													16.0
5	48		2 1/4	3/4	1	7	5	3/4	4 1/4	16	17 1/4	6 5/8	10 3/4	7 1/2													16.0

STANDARD SIGN
W8-64

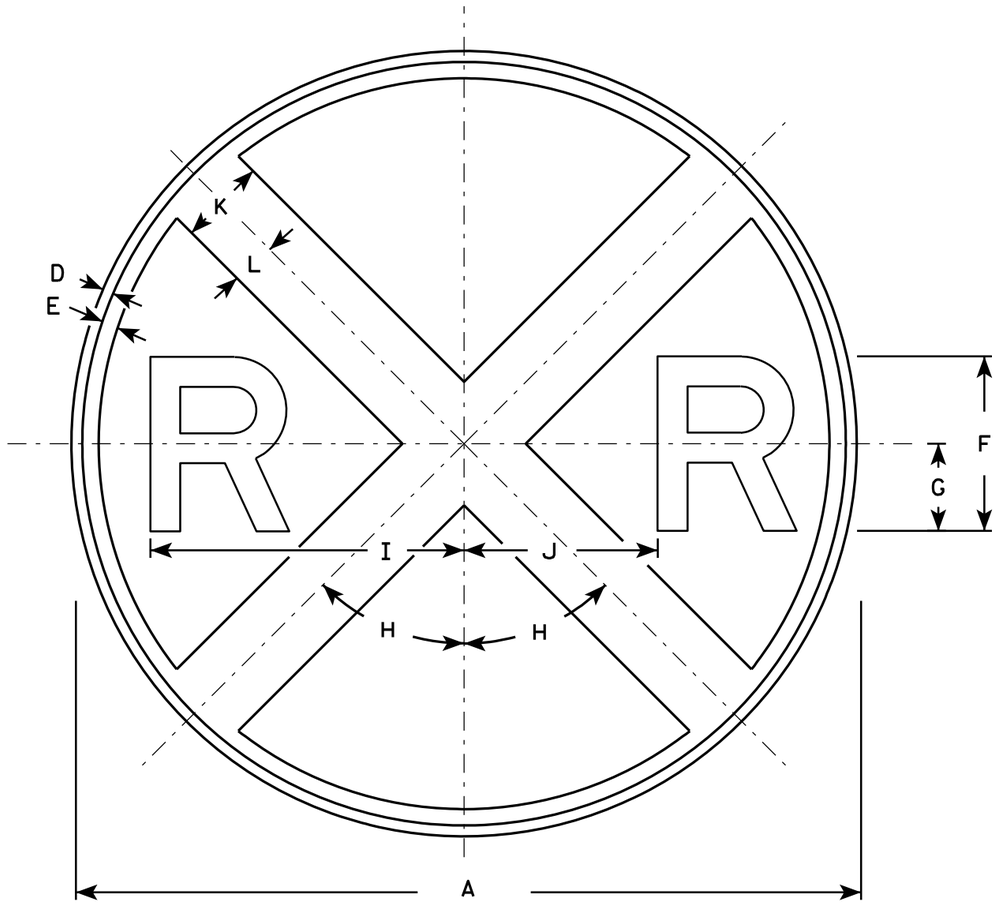
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/14/13 PLATE W8-64.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W864.DGN PLOT DATE : 30-SEP-2013 09:40 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 9.242750:1.000000
WISDOT/CADDS SHEET 42



W10-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3																											
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

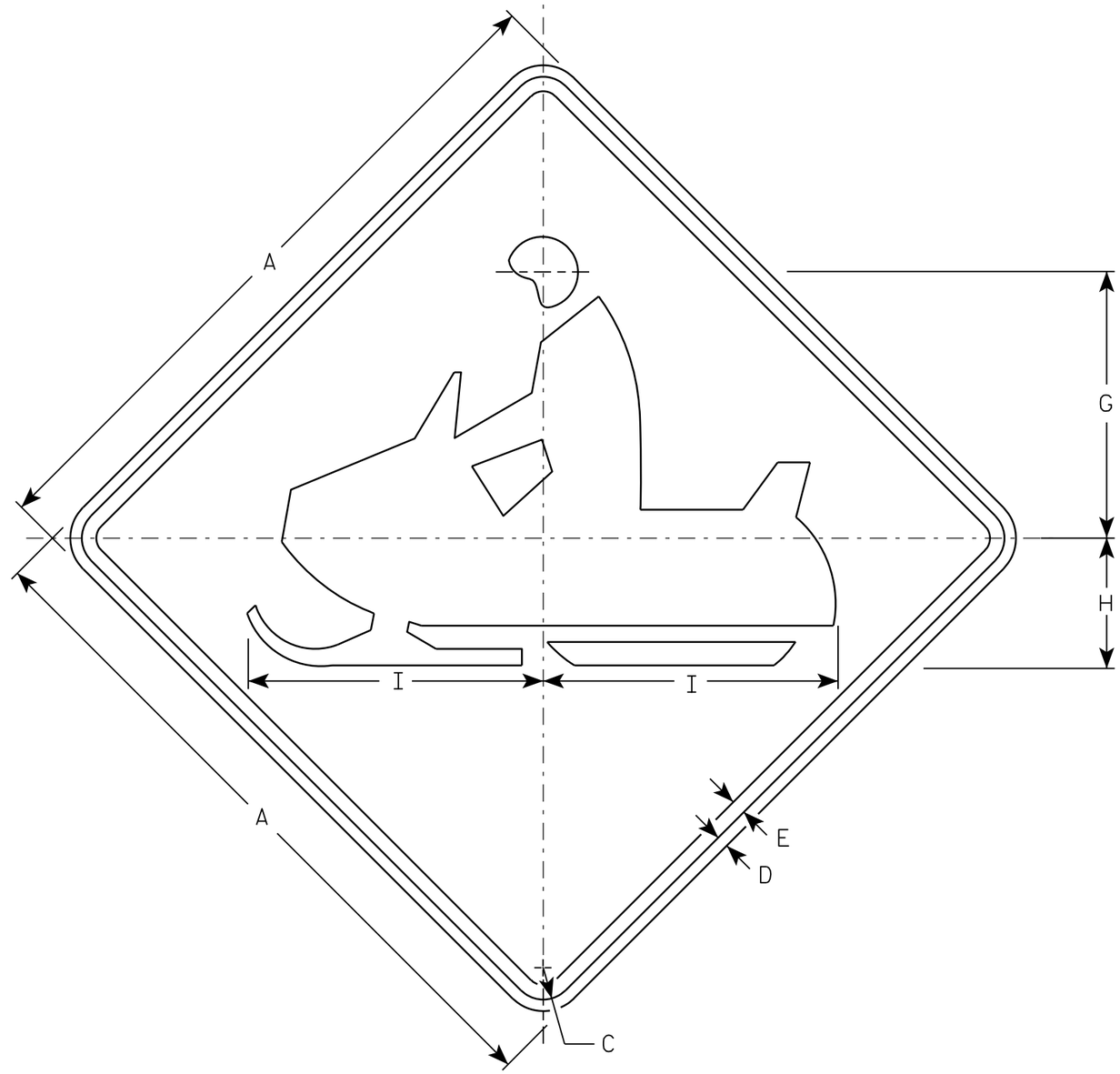
STANDARD SIGN
W10-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/13/13 PLATE NO. W10-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 107	E



W11-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		9 1/2	4 1/2	10 1/4																		4.0
2S	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
2M	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
3	36		1 5/8	5/8	3/4		14 1/8	6 3/4	15 1/4																		9.0
4	48		2 1/4	3/4	1		19	9	20 1/2																		16.0
5																											

STANDARD SIGN
W11-6

WISCONSIN DEPT OF TRANSPORTATION

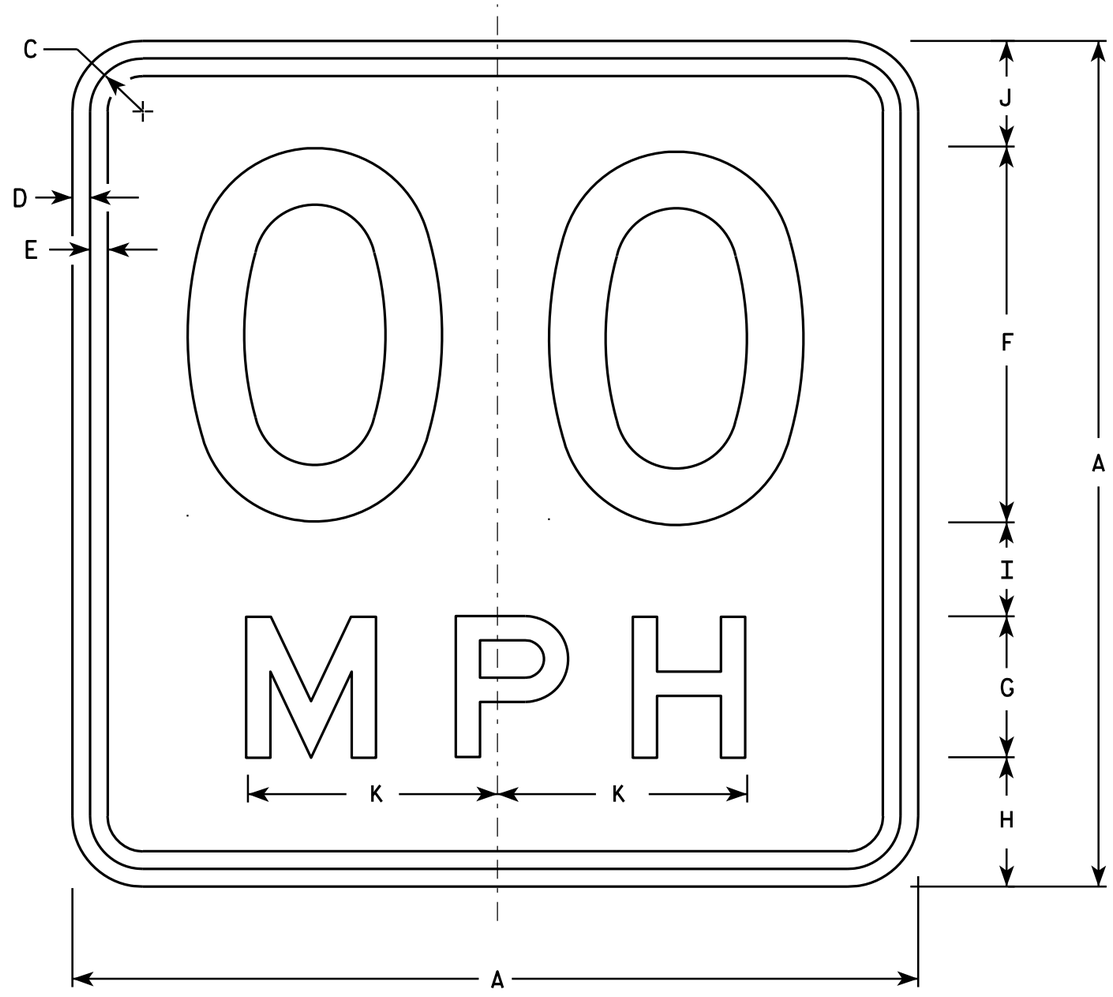
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W11-6.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 108	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W116.DGN PLOT DATE : 13-MAR-2013 12:57 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.954276:1.000000

WISDOT/CADDS SHEET 42



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

	SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
	1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

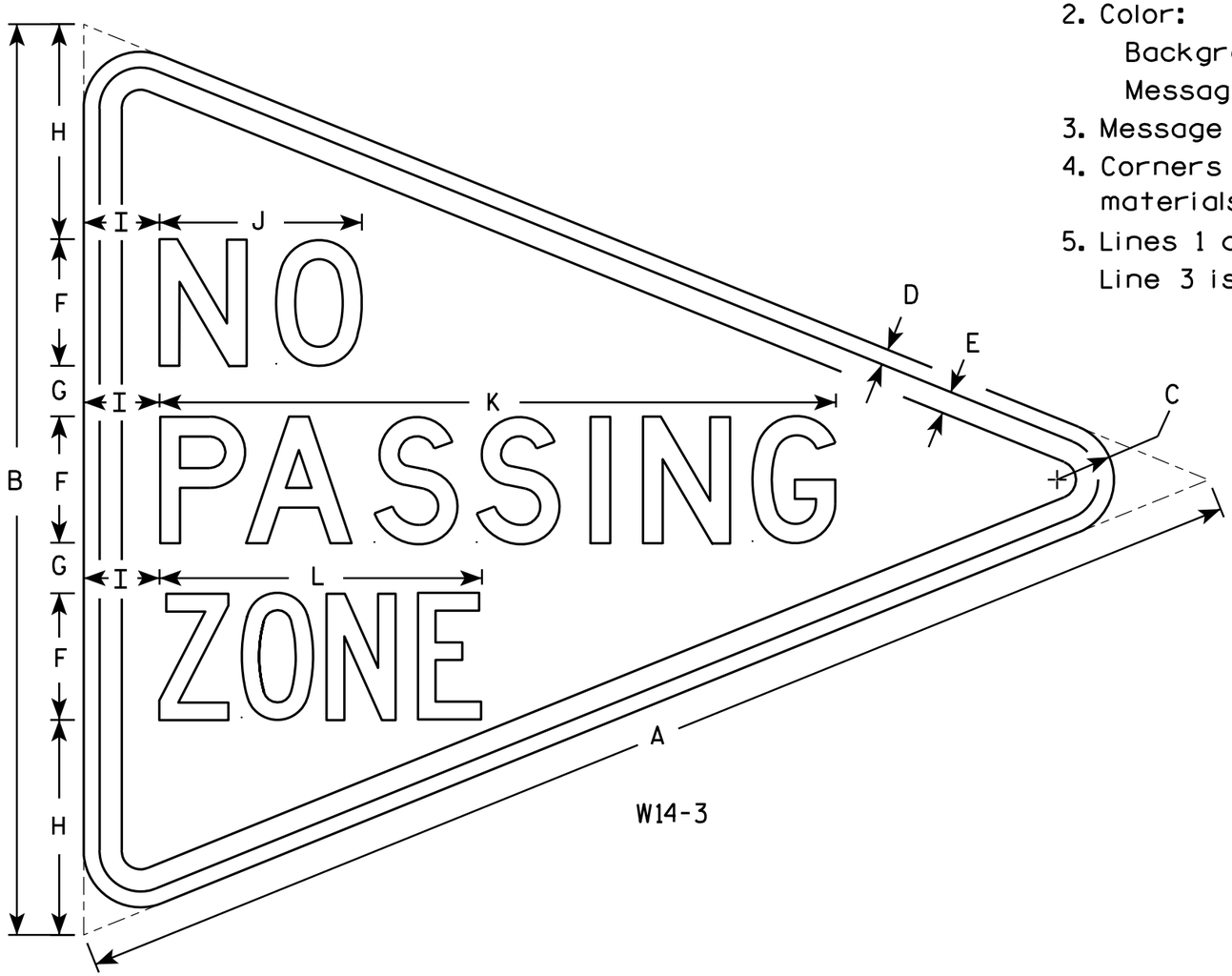
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 109 | E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

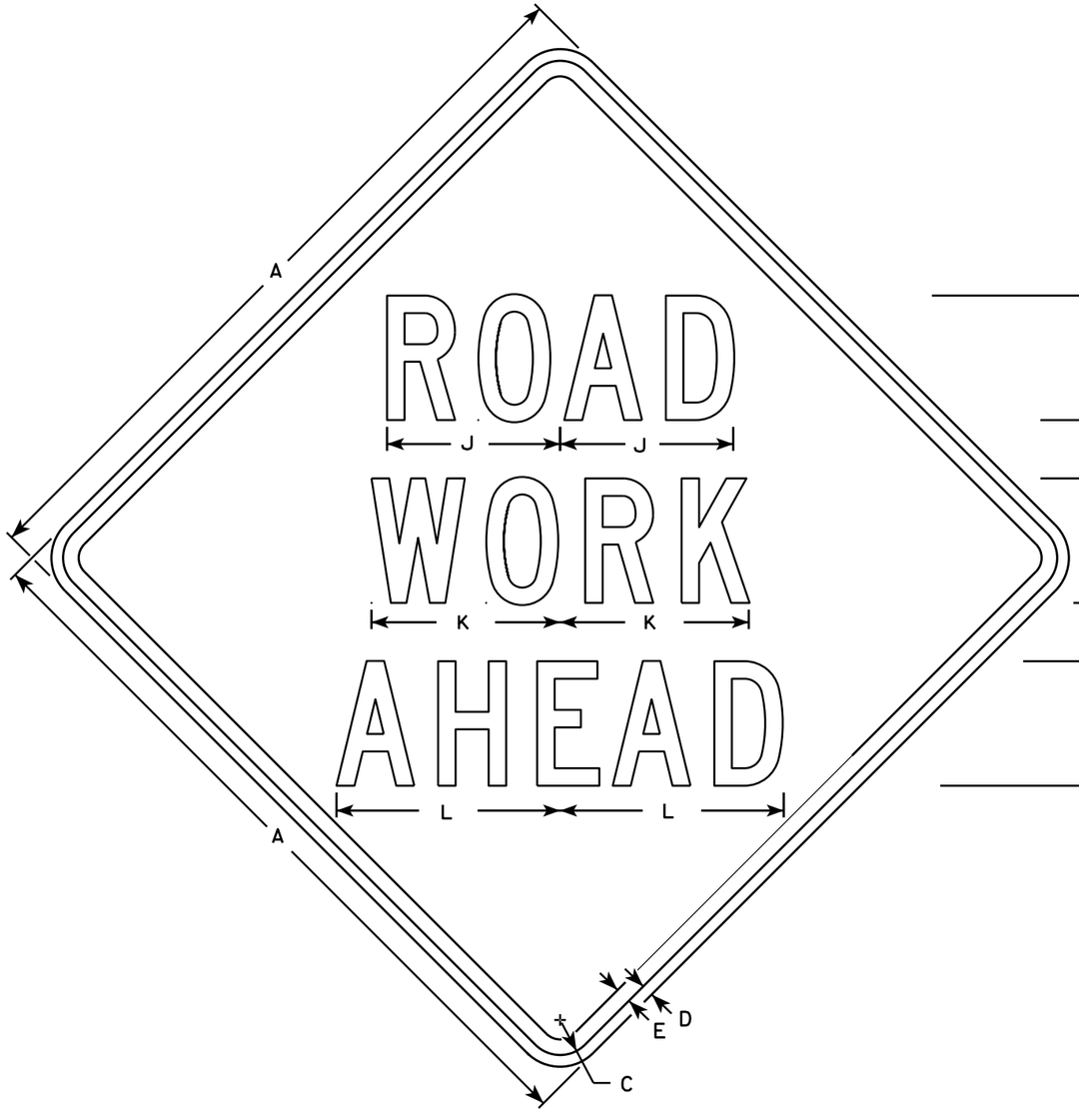
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

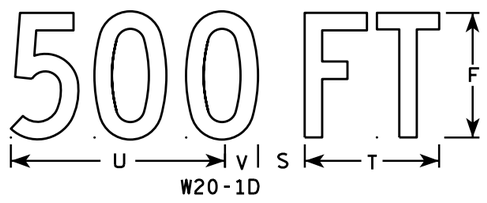
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

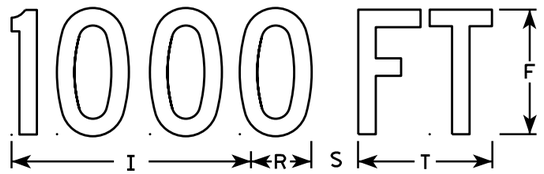
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 110	E



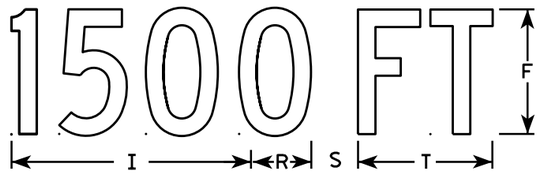
W20-1A



W20-1D



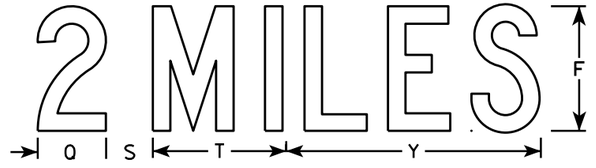
W20-1C



W20-1B

W20-1G

W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

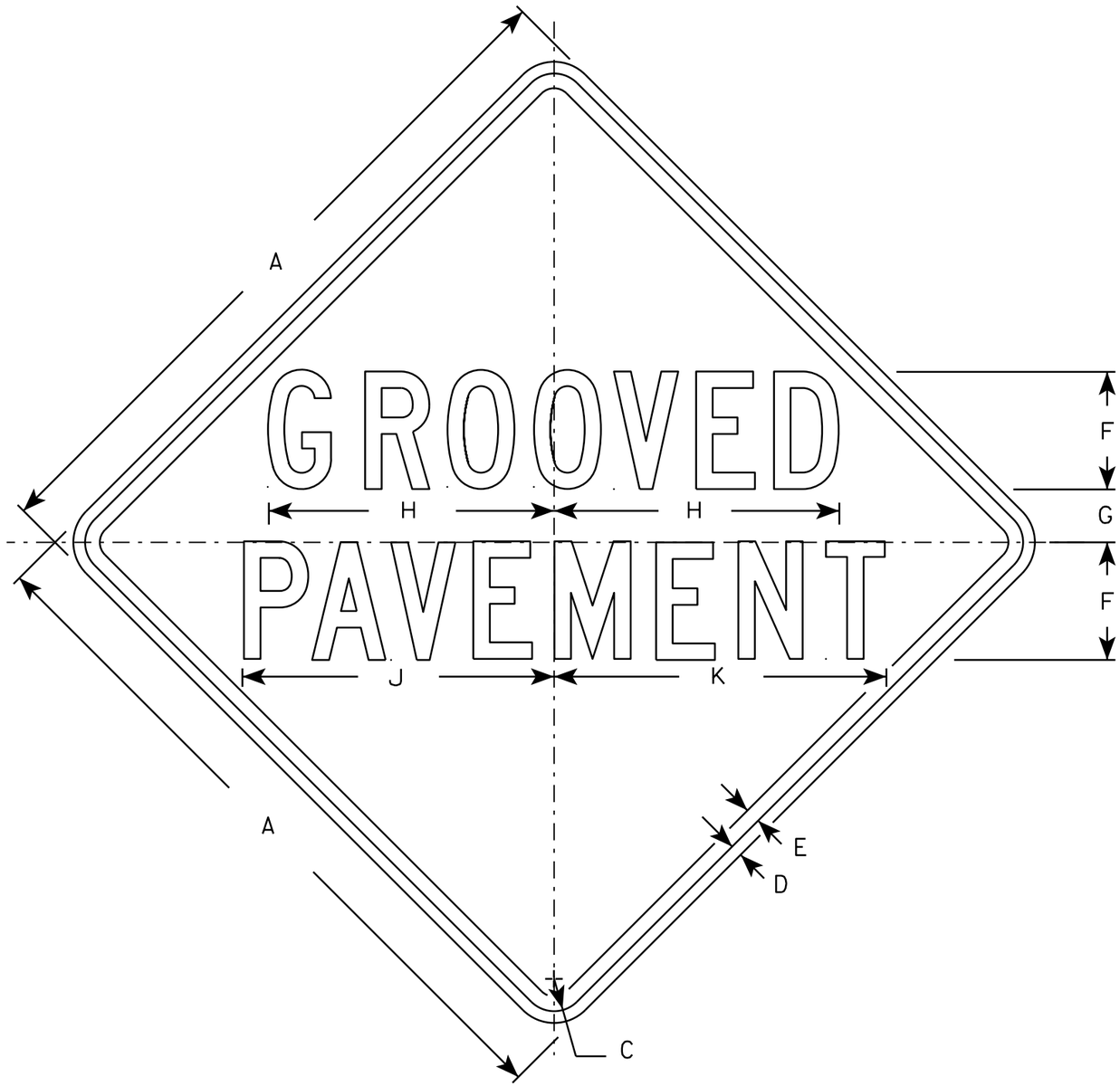
PROJECT NO:

SHEET NO: E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W201.dgn PLOT DATE : 27-MAY-2015 15:58 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



W08-52

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	2 5/8	14 1/2		15 7/8	17																9.0
2S	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
2M	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
3	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
4	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
5	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0

STANDARD SIGN
W08-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 11/20/13 PLATE NO W08-52.1

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

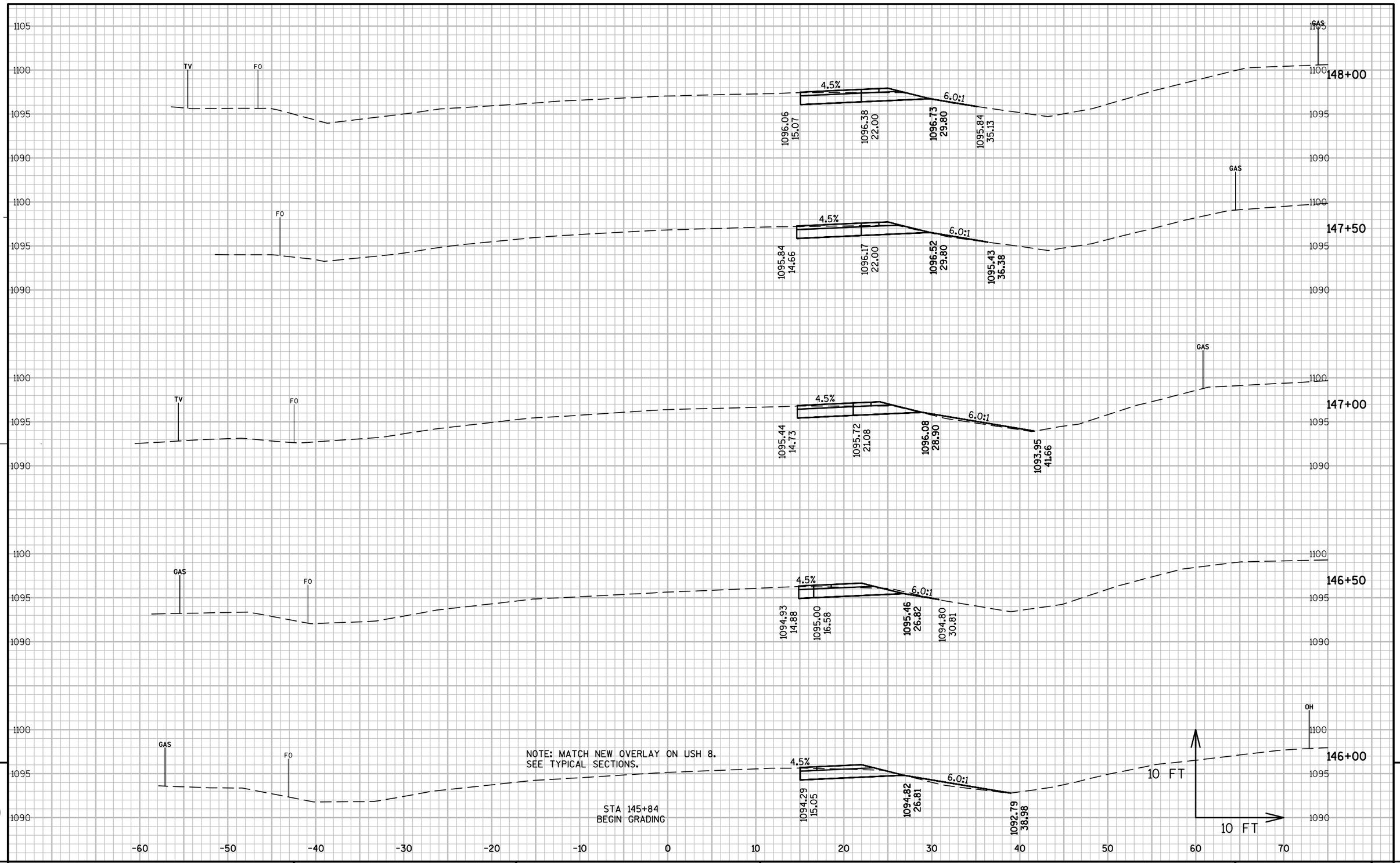
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W0852.DGN PLOT DATE : 28-FEB-2014 11:41 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.997243:1.000000
WISDOT/CADDS SHEET 42

EARTHWORK DATA - SCHMIDT ROAD BYPASS

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Unadjusted	Incremental Vol (CY) Fill Unadjusted	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Exp. Fill 1.30	Mass Ordinate
485+50	10.15	0.09	0.00	0.00	0.00	0.00	0.00
486+00	8.74	1.29	17.49	1.28	17.49	1.66	15.83
486+50	10.49	0.00	17.81	1.19	35.30	3.21	32.08
487+00	13.24	0.00	21.97	0.00	57.27	3.21	54.05
487+50	8.66	0.46	20.28	0.43	77.55	3.77	73.78
488+00	6.31	6.25	13.86	6.21	91.41	11.84	79.56
488+50	6.48	9.40	11.84	14.49	103.25	30.68	72.57
489+00	4.43	48.12	10.10	53.26	113.35	99.92	13.43
489+50	4.18	72.93	7.97	112.08	121.32	245.63	-124.30
490+00	4.24	59.43	7.80	122.56	129.12	404.95	-275.83
490+50	4.70	26.11	8.28	79.20	137.40	507.91	-370.52
491+00	4.19	19.58	8.23	42.31	145.63	562.91	-417.28
491+50	5.31	9.99	8.80	27.38	154.43	598.51	-444.08
492+00	12.55	0.00	16.54	9.25	170.96	610.53	-439.57
492+50	6.20	0.00	17.36	0.00	188.32	610.53	-422.21
493+00	6.45	9.82	11.71	9.09	200.04	622.35	-422.31

EARTHWORK DATA - CTH E TURN LANE

STATION	AREA (SF) Cut	AREA (SF) Fill	Incremental Vol (CY) Cut Unadjusted	Incremental Vol (CY) Fill Unadjusted	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Exp. Fill 1.30	Mass Ordinate
146+00	10.37	2.38	0.00	0.00	0.00	0.00	0.00
146+50	11.85	0.00	20.57	2.20	20.57	2.86	17.71
147+00	13.46	2.10	23.44	1.94	44.01	5.39	38.62
147+50	15.12	0.53	26.46	2.44	70.47	8.56	61.91
148+00	14.27	0.14	27.21	0.62	97.69	9.36	88.32
148+50	14.88	0.00	26.99	0.13	124.68	9.53	115.14
149+00	12.47	0.00	25.32	0.00	150.00	9.53	140.47

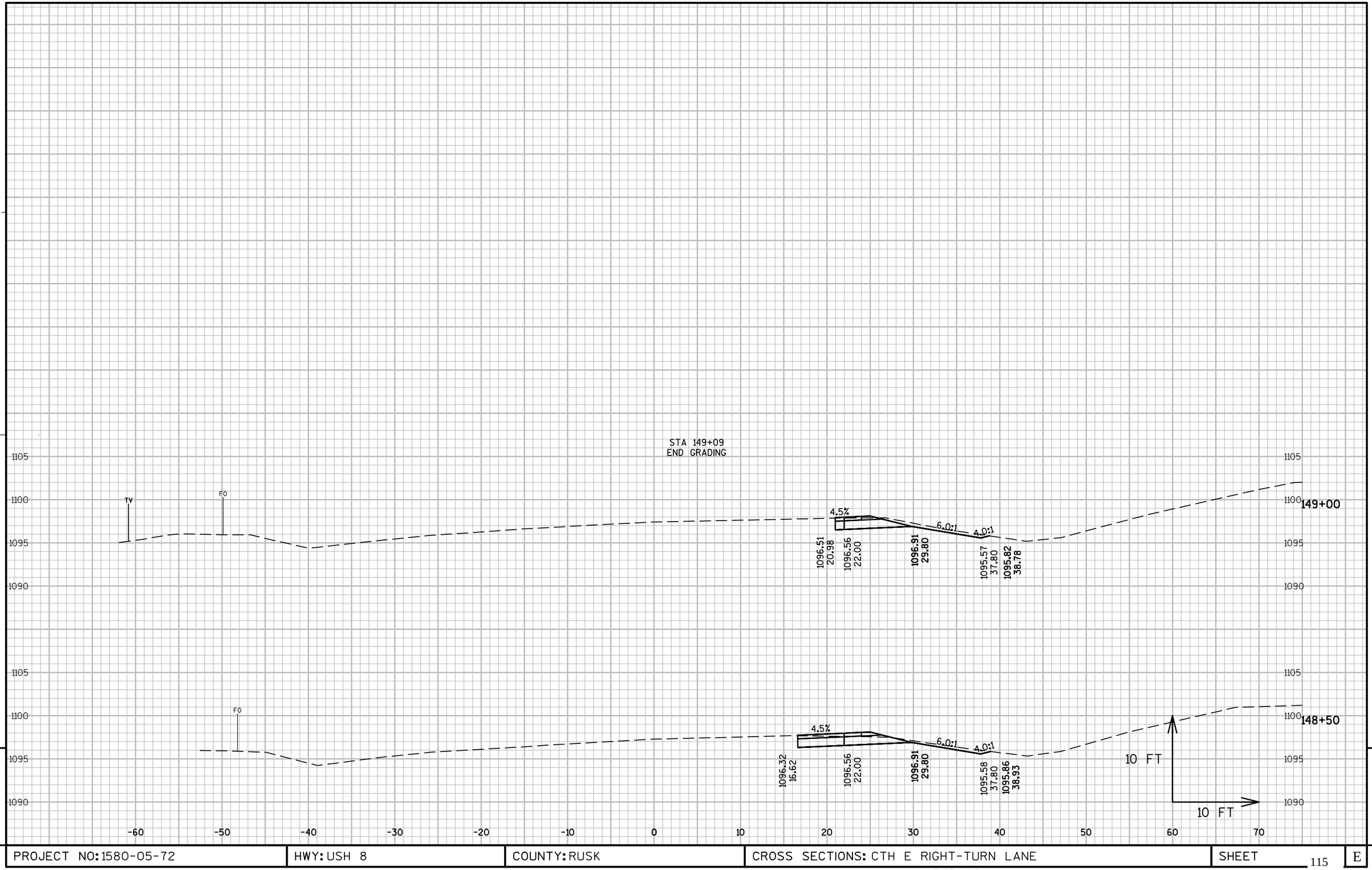


PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	CROSS SECTIONS: CTH E RIGHT-TURN LANE	SHEET 114	E

FILE NAME : N:\C3D\41064500\DESIGN\CORRIDORS\41064500_CORRIDOR_CTHE.DWG PLOT DATE : 4/28/2014 9:10 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT

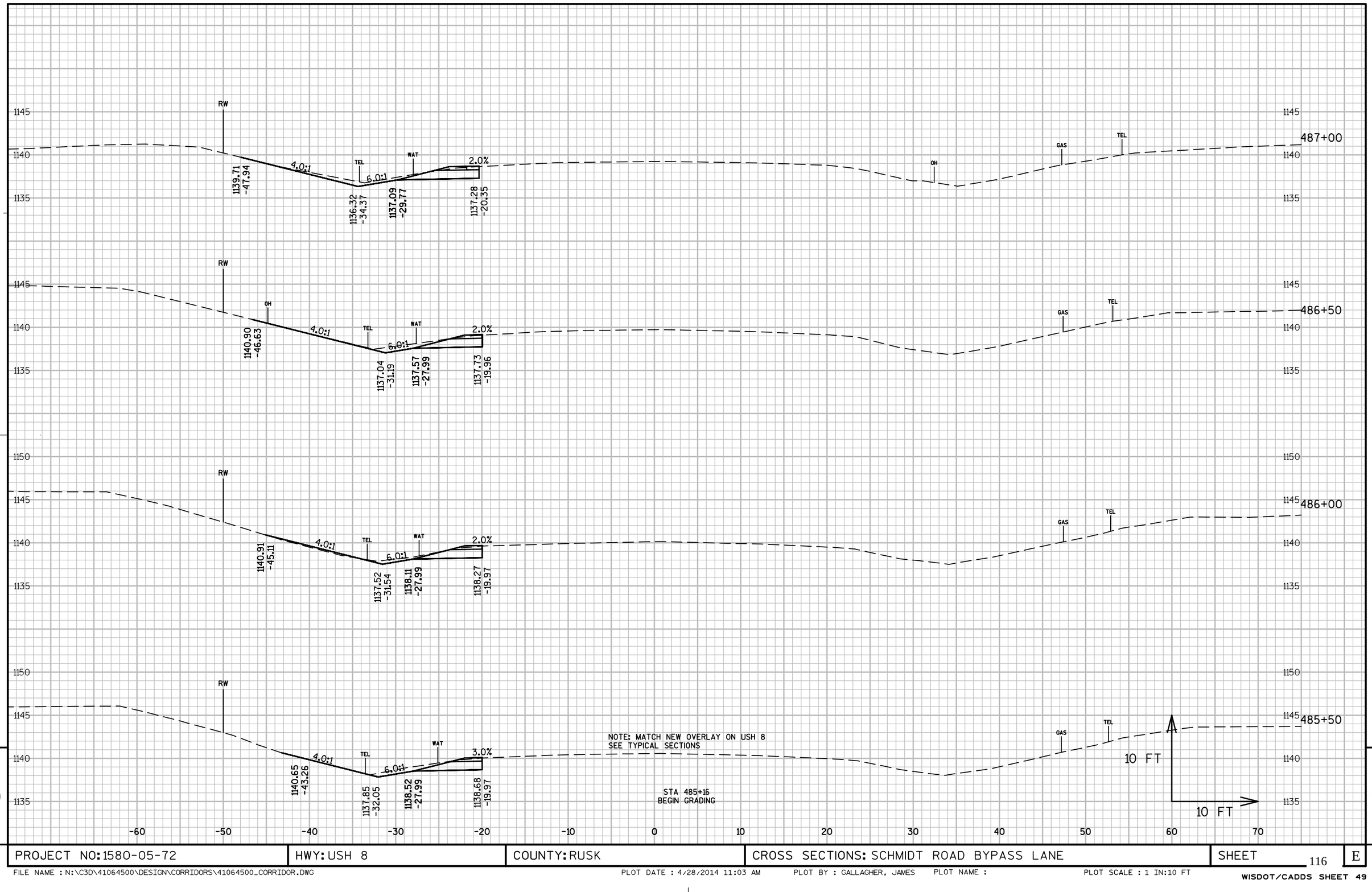
WISDOT/CADDS SHEET 49

STA 149+09
END GRADING

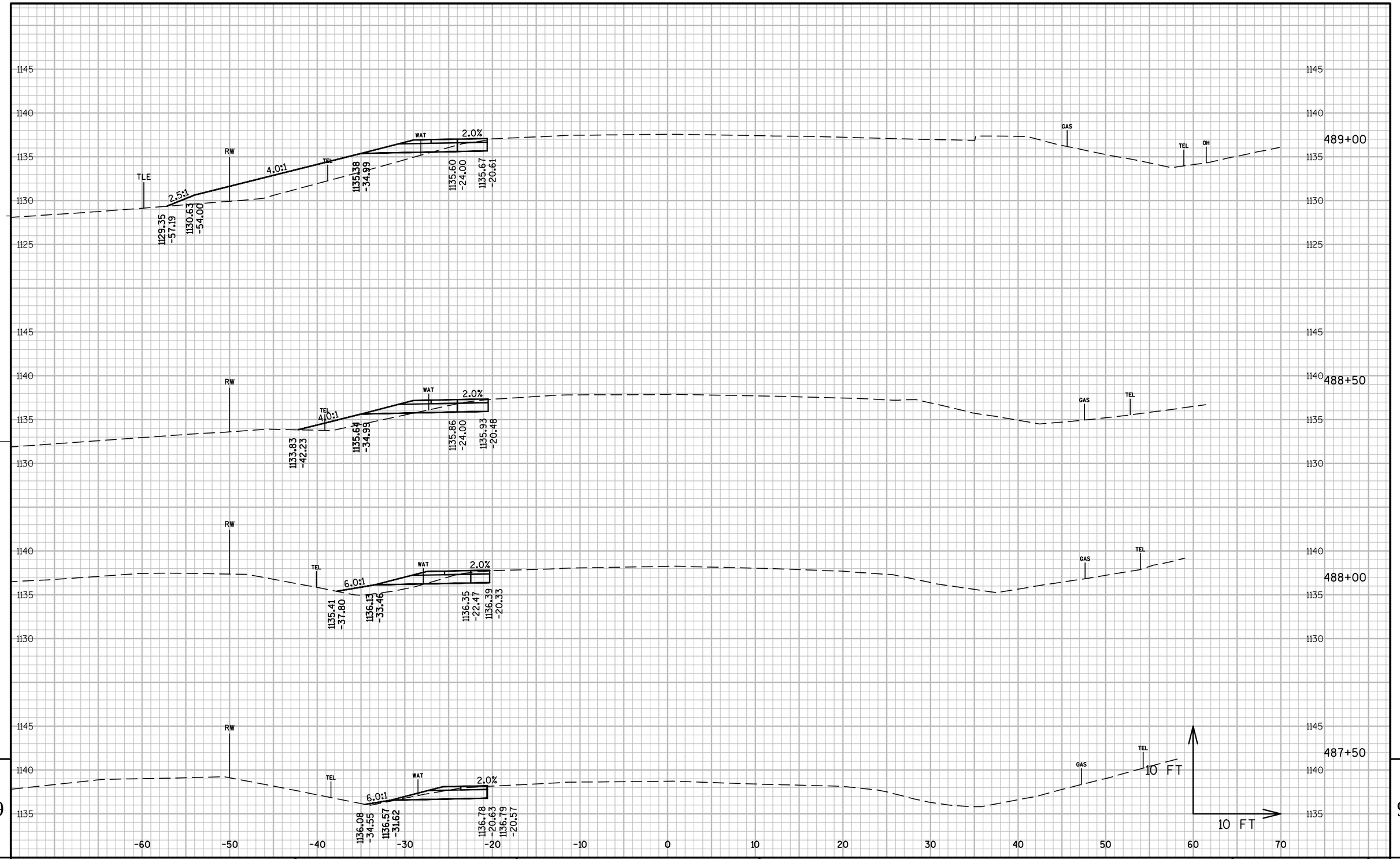


PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	CROSS SECTIONS: CTH E RIGHT-TURN LANE	SHEET 115	E

FILE NAME : N:\C3D\41064500\DESIGN\CORRIDORS\41064500_CORRIDOR_CTHE.DWG PLOT DATE : 4/28/2014 9:10 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT



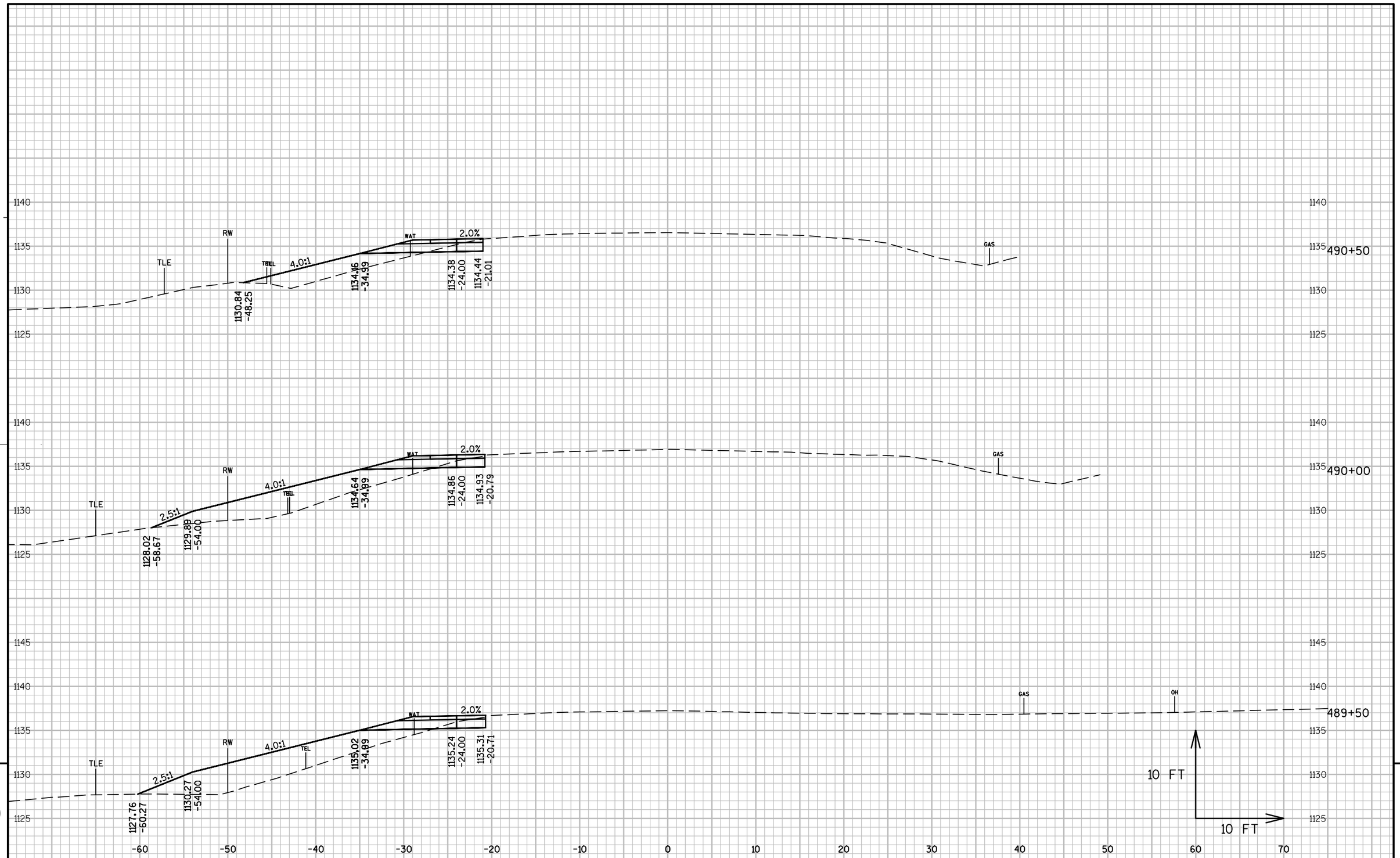
PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	CROSS SECTIONS: SCHMIDT ROAD BYPASS LANE	SHEET 116	E



PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	CROSS SECTIONS: SCHMIDT ROAD BYPASS LANE	SHEET 117	E

FILE NAME : N:\C3D\41064500\DESIGN\CORRIDORS\41064500_CORRIDOR.DWG PLOT DATE : 4/28/2014 11:03 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT

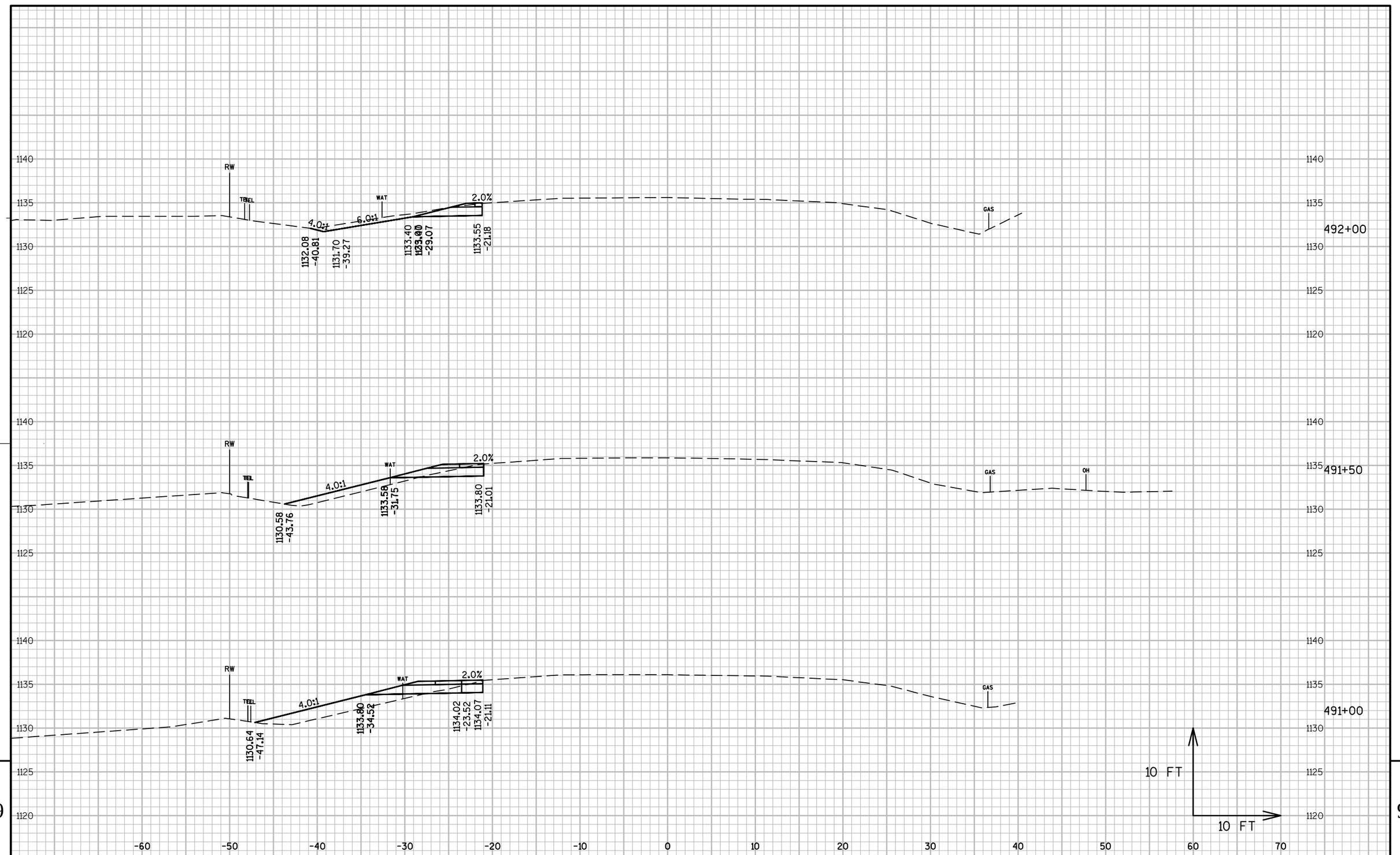
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	CROSS SECTIONS: SCHMIDT ROAD BYPASS LANE	SHEET 118	E



PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	CROSS SECTIONS: SCHMIDT ROAD BYPASS LANE	SHEET 119	E

FILE NAME : N:\C3D\41064500\DESIGN\CORRIDORS\41064500_CORRIDOR.DWG PLOT DATE : 4/28/2014 11:03 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

STA 493+10
END GRADING

493+00

492+50

RW
TEL
OH
WAT
GAS
TV

4.0%
4.0:1
2.5:1
1127.21
-47.68
1129.29
-42.51
1132.89
-28.09
1133.03
-21.15

2.0%
6.0:1
1132.44
-32.17
1133.11
-28.16
1133.25
-21.20

10 FT
10 FT

PROJECT NO: 1580-05-72	HWY: USH 8	COUNTY: RUSK	CROSS SECTIONS: SCHMIDT ROAD BYPASS LANE	SHEET 120	E

FILE NAME : N:\C3D\41064500\DESIGN\CORRIDORS\41064500_CORRIDOR.DWG PLOT DATE : 4/28/2014 11:04 AM PLOT BY : GALLAGHER, JAMES PLOT NAME : PLOT SCALE : 1 IN:10 FT

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

SUP

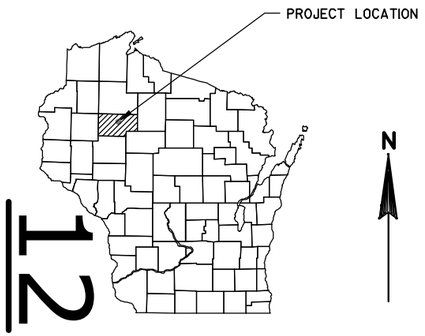
PROJECT ID: 1580-09-73
WITH: 1580-05-72

COUNTY: RUSK

JAN 2016

ORDER OF SHEETS

TOTAL SHEETS = 38



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C. LADYSMITH, 3RD STREET

(FLAMBEAU RIVER BRIDGE B-54-0065)

USH 8

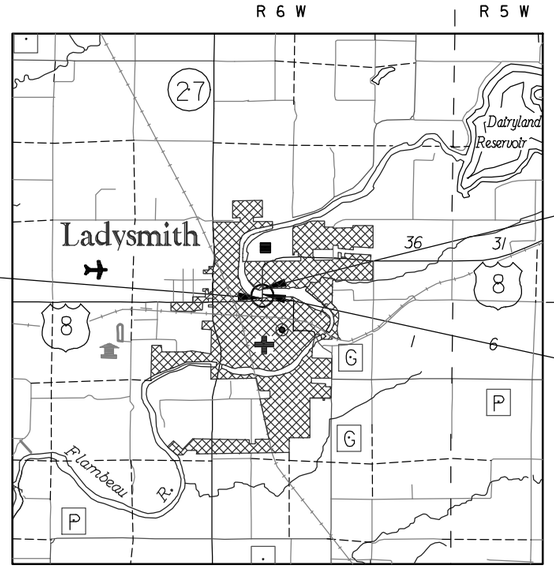
RUSK COUNTY

STATE PROJECT NUMBER
1580-09-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1580-09-73	WISC 2015014	1

DESIGN DESIGNATION

A.A.D.T.	2015	=	8020
A.A.D.T.	2035	=	9720
D.H.V.		=	1350
D.D.		=	59/41
T.		=	18.2%
DESIGN SPEED		=	30 MPH
ESALS		=	N/A



BEGIN PROJECT
STA. 357+76.46

Y = 563741.80
X = 813889.84

END PROJECT
STA. 362+28.46

Y = 564193.20
X = 813866.50

STRUCTURE B-54-0065

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.085 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS). RUSK COUNTY

ORIGINAL PLANS PREPARED BY
FAA CONSULTING ENGINEERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FAA, INC.
Designer	FAA, INC.
Project Manager	MATTHEW DICKENSON
Regional Examiner	CHRISTINE KOSKI
Regional Supervisor	DAVID OSTROWSKI
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 7/24/2015

E

STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BAH	BEARING AHEAD
BBK	BEARING BACK
BF	BACK FACE
BM	BENCH MARK
BR	BRIDGE
C/L	CENTER LINE
△	CENTRAL ANGLE OR DELTA
CE	COMMERCIAL ENTRANCE
CMP	CORRICATED METAL PIPE
CONC	CONCRETE
CP	CULVERT PIPE
CP	CONTROL POINT
CPCP	CULVERT PIPE CORRUGATED POLYETHYLENE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III
CR	CREEK
CWT	HUNDREDWEIGHT
CY	CUBIC YARD
C & G	CURB AND GUTTER
D	DEGREE OF CURVE/BOX DEPTH
DHV	DESIGN HOUR VOLUME
DD	DIRECTIONAL DISTRIBUTION
DISCH	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
E	EAST
EL/ELEV	ELEVATION
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FE	FIELD ENTRANCE
FERT	FERTILIZE
FF	FACE TO FACE
FL	FLOW LINE
FO	FIBER OPTIC
FS	FULL SUPER ELEVATION
FT	FOOT
G	GRADE
HMA	HOT MIX ASPHALT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE OR PIN
K	RATE OF VERTICAL CURVATURE
LHF	LEFT-HAND FORWARD
L	LENGTH OF CURVE
LB	POUND
LF	LINEAR FOOT
LCB	LONG CHORD BEARING
LC	LONG CHORD
LN	LANE
LT	LEFT
LN	LANE
LS	LUMP SUM
LT	LEFT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MI	MILE
ML	MAINLINE
N	NORTH
NC	NORMAL CROWN
NO	NUMBER
NOR	NORMAL
OBLIT	OBLITERATE
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
POE	POINT OF ENDING
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENCY
R/RAD	RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
REQ'D	REQUIRED
RES	RESIDENCE OR RESIDENTIAL
RHF	RIGHT-HAND FORWARD
R/W	RIGHT OF WAY
RD	ROAD
RDWY	ROADWAY
RR	RAILROAD
RT	RIGHT
SALV	SALVAGED
SAN S	SANITARY SEWER
S	SOUTH
SQ	SQUARE
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
SE	SUPERELEVATION
T	TANGENT LENGTH
T.	TRUCKS (PERCENT OF)
TC	TOP OF CURB
T OR TN	TOWN
TLE	TEMPORARY LIMITED EASEMENT
†	TON
TYP.	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
W	WEST
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE
YD	YARD

GENERAL NOTES

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. CONTACT DIGGERS HOTLINE BEFORE THE START OF CONSTRUCTION.

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE TOPSOILED, FERTILIZED, SEEDED AND MULCHED OR SODDED

SIGN PLATE DETAILS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" UNLESS OTHERWISE PROVIDED FOR IN THE PLAN.

SEED MIXTURE NO. 40 SHALL BE USED THROUGHOUT THE PROJECT.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE COUNTY LAND SURVEYOR CONCERNING MONUMENT AND PROPERTY CORNER PRESERVATION. LANDMARK REFERENCE MONUMENTS SHALL BE PERPETUATED BY THE COUNTY SURVEYOR.

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

UTILITIES

CENTURYLINK COMMUNICATIONS
JIM ARQUETTE
20 S WILSON AVENUE
RICE LAKE, WI 54868
OFFICE PHONE: 715-452-5168
MOBILE PHONE: 715-563-8295
JIM.ARQUETTE@CENTURYLINK.NET

CHARTER COMMUNICATIONS
THOMAS HAASE
2304 S. MAIN STREET
RICE LAKE, WI 54868
PHONE: 715-234-5341

LADYSMITH MUNICIPAL WATER UTILITY
KURTIS GORSEGNER
P.O. BOX 431
LADYSMITH, WI 54848-0431
PHONE: 715-532-2600

WE ENERGIES
LEWIS KNAPP
104 W SOUTH STREET
RICE LAKE, WI 54868
PHONE: 715-234-9605
LEWIS.KNAPP@WE-ENERGIES.COM

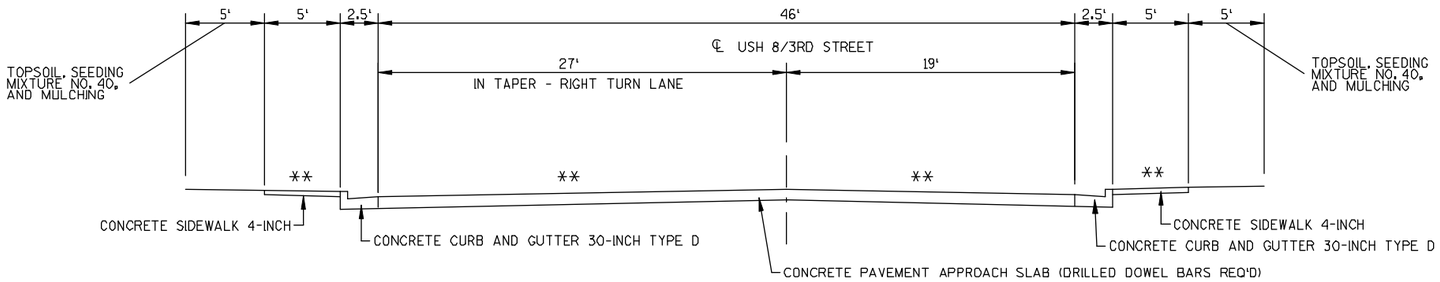
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

DESIGN CONTACT

FLEMING, ANDRE & ASSOCIATES, INC.
3615 N. HASTINGS WAY
SUITE 100
EAU CLAIRE, WI. 54703-0474
ATTENTION: MATT GUNDRY
PHONE: 715-832-8400

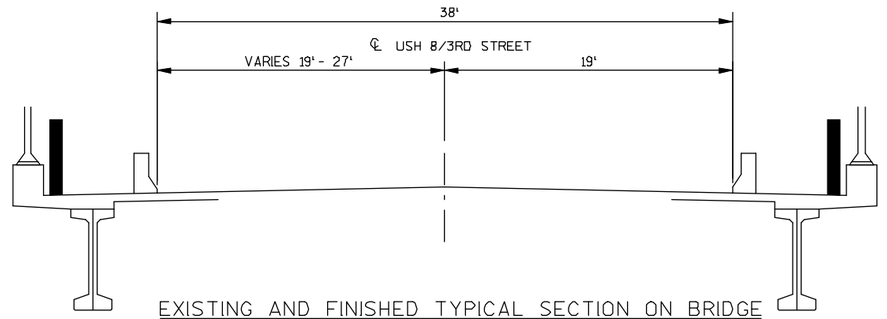
W.D.N.R. CONTACT

DEPARTMENT OF NATURAL RESOURCES
810 WEST MAPLE ST.
SPOONER, WI 54801
ATTENTION: AMY CRONK
PHONE: 715-635-4229



EXISTING AND FINISHED TYPICAL SECTION AT SOUTH APPROACH

STA. 357+76 TO STA. 357+98

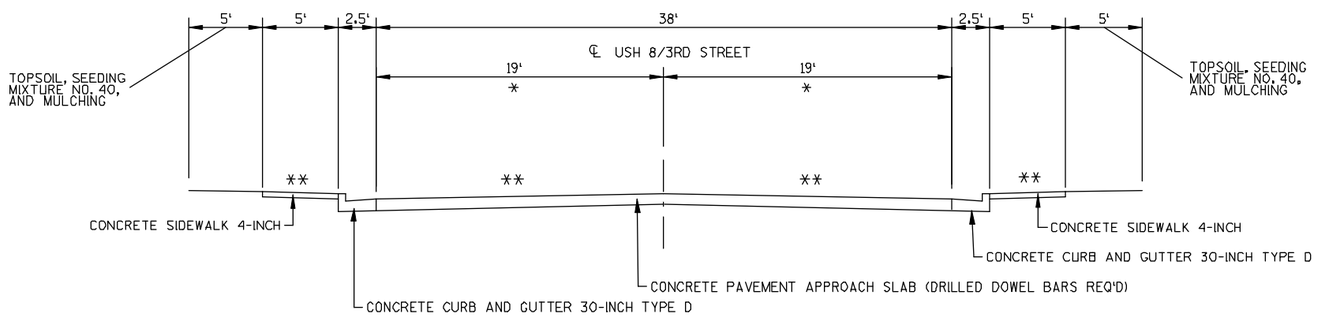


** MATCH FINISHED PAVEMENT AND SIDEWALK SLOPES TO EXISTING PAVEMENTS AND THE END OF DECK

EXISTING AND FINISHED TYPICAL SECTION ON BRIDGE

STA. 357+98 TO STA. 362+06

* LANE NARROWS TO 16' AT A DISTANCE OF 20' FROM THE END OF DECK



EXISTING AND FINISHED TYPICAL SECTION AT NORTH APPROACH

STA. 362+06 TO STA. 362+28

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TYPICAL SECTIONS	SHEET 3	E

2

N

W5-52R
12" X 36"

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH YELLOW

TAPERS IN PAVEMENT MARKING ARE
60 FEET IN LENGTH

ROAD CLOSED
R11-2
48" X 30"

SIDEWALK CLOSED AHEAD
CROSS HERE
R9-11
48" X 30"
(PLACE AT CROSSWALK)

ROAD CLOSED
R11-2
48" X 30"

SIDEWALK CLOSED AHEAD
CROSS HERE
R9-11
48" X 30"
(PLACE AT CROSSWALK)

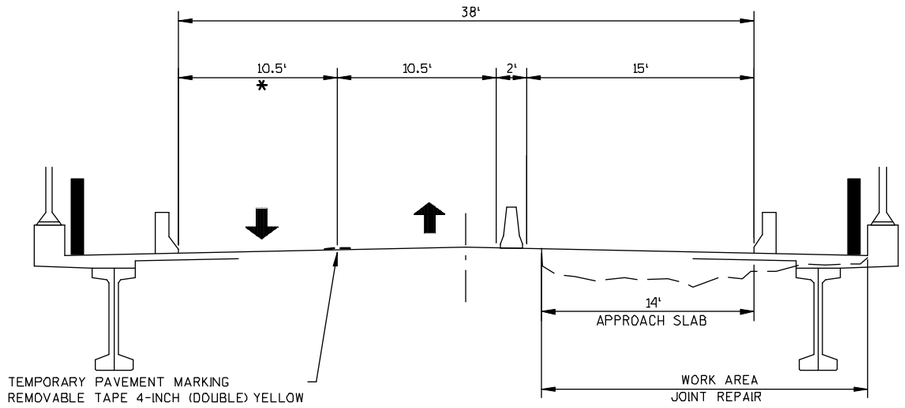
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28, "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY", FOR ADDITIONAL REQUIREMENTS AND SDD 15D30, "TRAFFIC CONTROL, SIDEWALK CLOSURE".

x x x x	REMOVING PAVEMENT MARKINGS
	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
©	WARNING LIGHT TYPE C
	BARRICADE
	TEMPORARY CONCRETE BARRIER PRE-CAST
	WORK ZONE

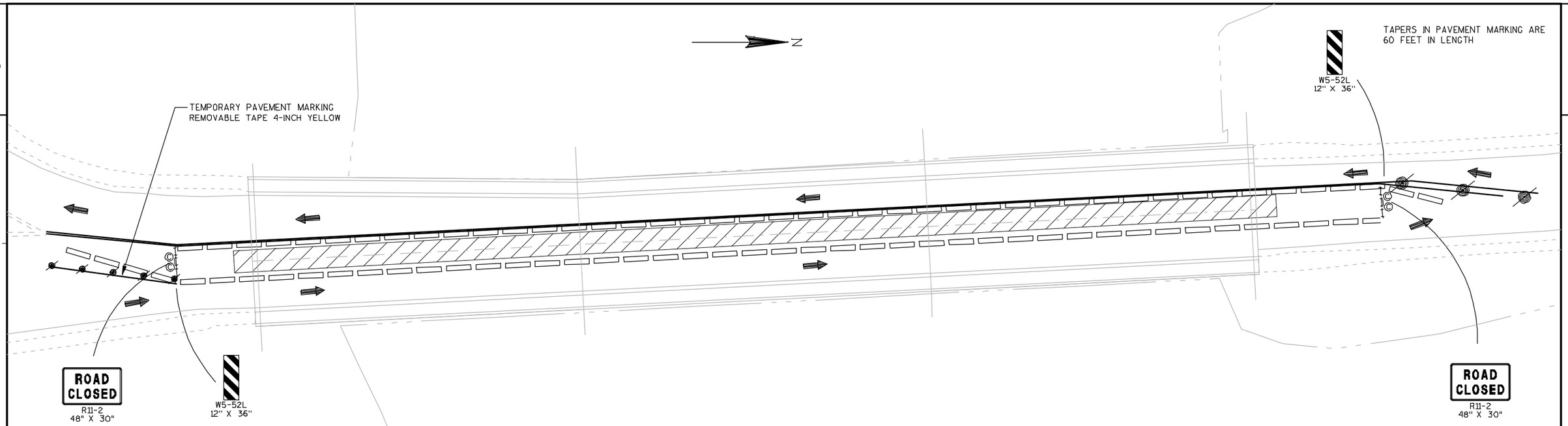
LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



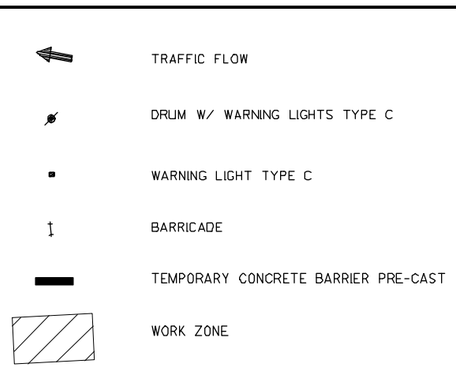
TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 1	SHEET 4	E



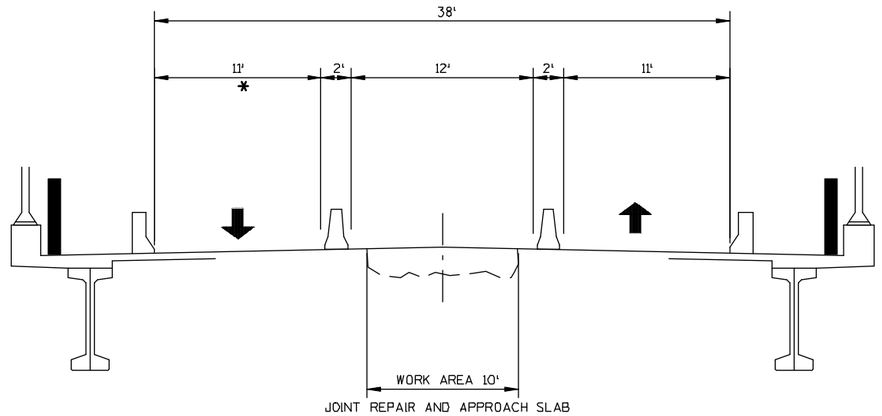
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28, "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY", FOR ADDITIONAL REQUIREMENTS.



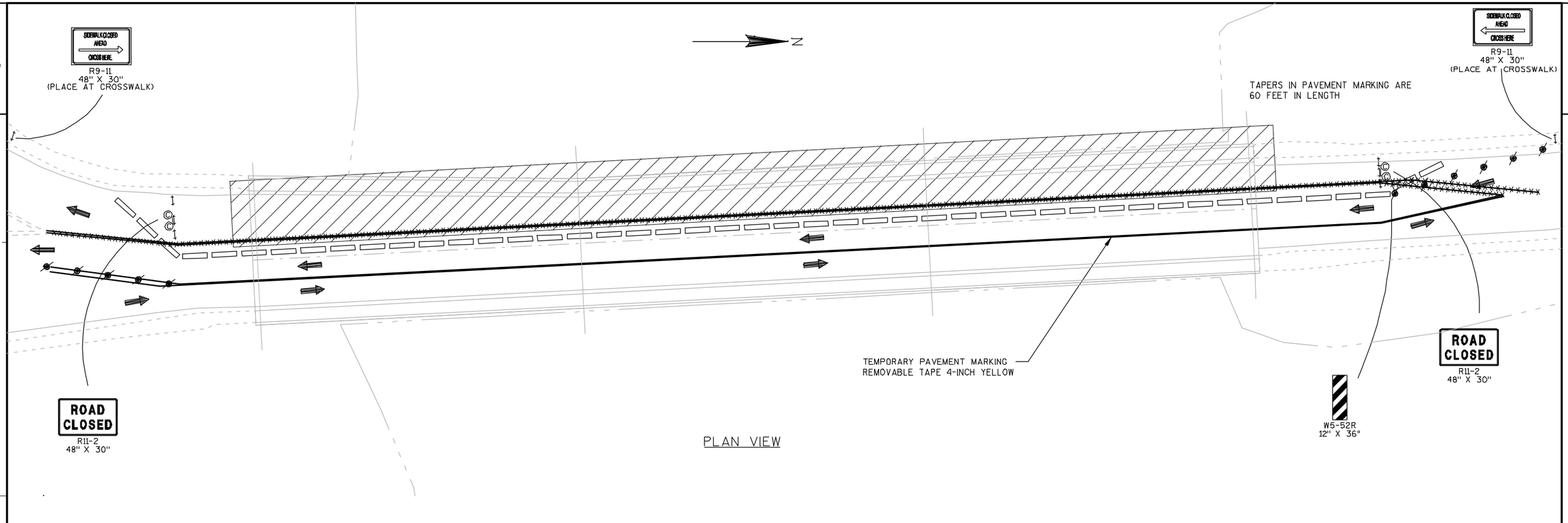
LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 2	SHEET 5	E



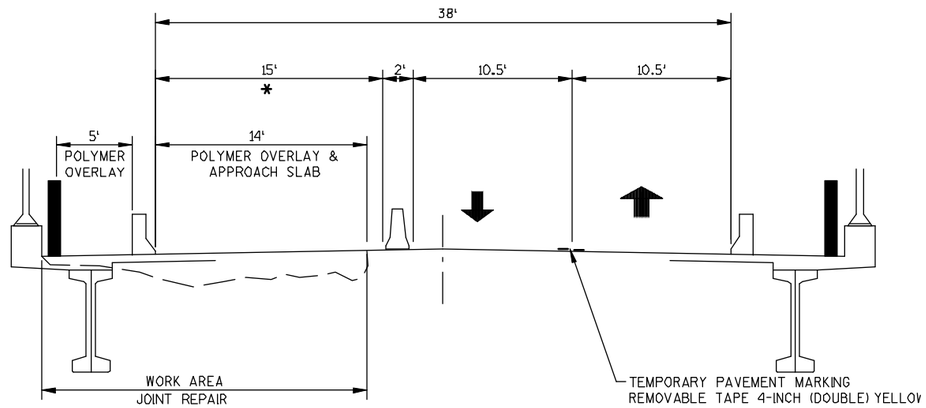
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28. "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE. UNDIVIDED HIGHWAY". FOR ADDITIONAL REQUIREMENTS AND SDD 15D30, "TRAFFIC CONTROL, SIDEWALK CLOSURE".

x x x x	REMOVE TEMPORARY PAVEMENT MARKINGS
	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
©	WARNING LIGHT TYPE C
	BARRICADE
	TEMPORARY CONCRETE BARRIER PRE-CAST
	WORK ZONE

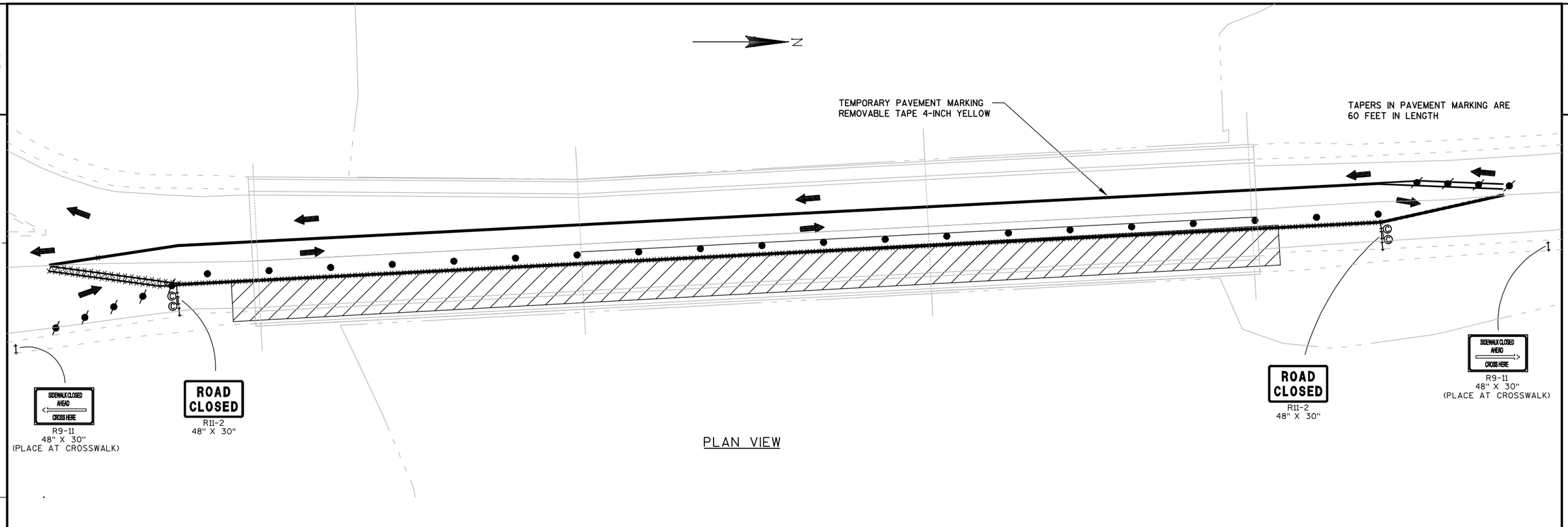
LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 3	SHEET 6	E



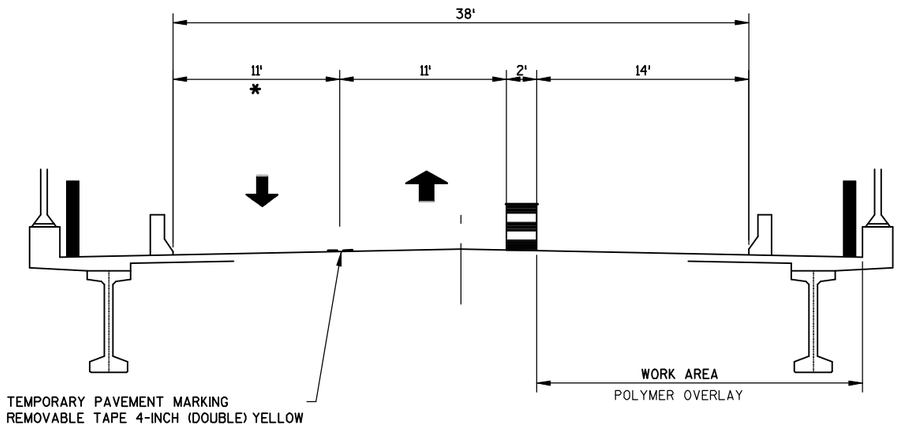
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28, "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY", FOR ADDITIONAL REQUIREMENTS AND SDD 15D30, "TRAFFIC CONTROL, SIDEWALK CLOSURE".

x x x x	REMOVE TEMPORARY PAVEMENT MARKINGS
	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
	DRUM
©	WARNING LIGHT TYPE C
	BARRICADE
	WORK ZONE

LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



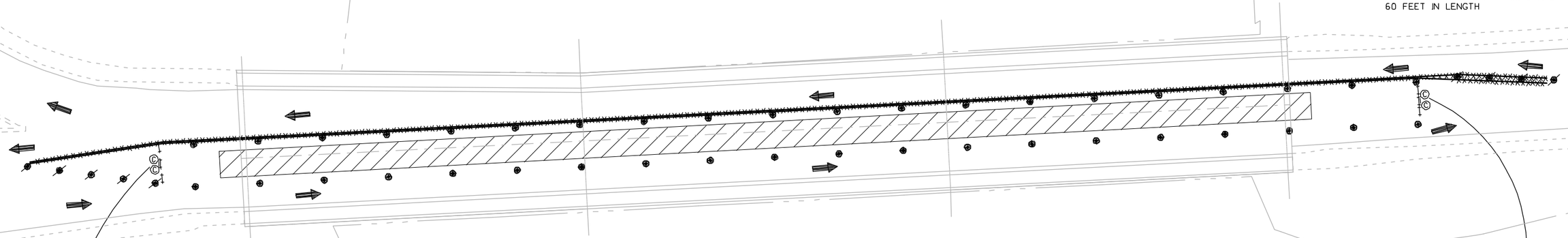
TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 4	SHEET 7	E

2

N

TAPERS IN PAVEMENT MARKING ARE
60 FEET IN LENGTH



ROAD CLOSED
R11-2
48" X 30"

ROAD CLOSED
R11-2
48" X 30"

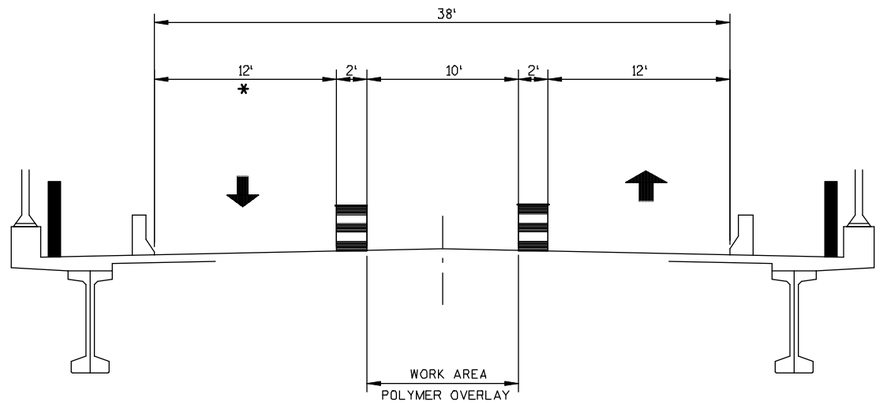
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28, "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY", FOR ADDITIONAL REQUIREMENTS.

x x x x	REMOVE TEMPORARY PAVEMENT MARKINGS
	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
	DRUM
	WARNING LIGHT TYPE C
	BARRICADE
	WORK ZONE

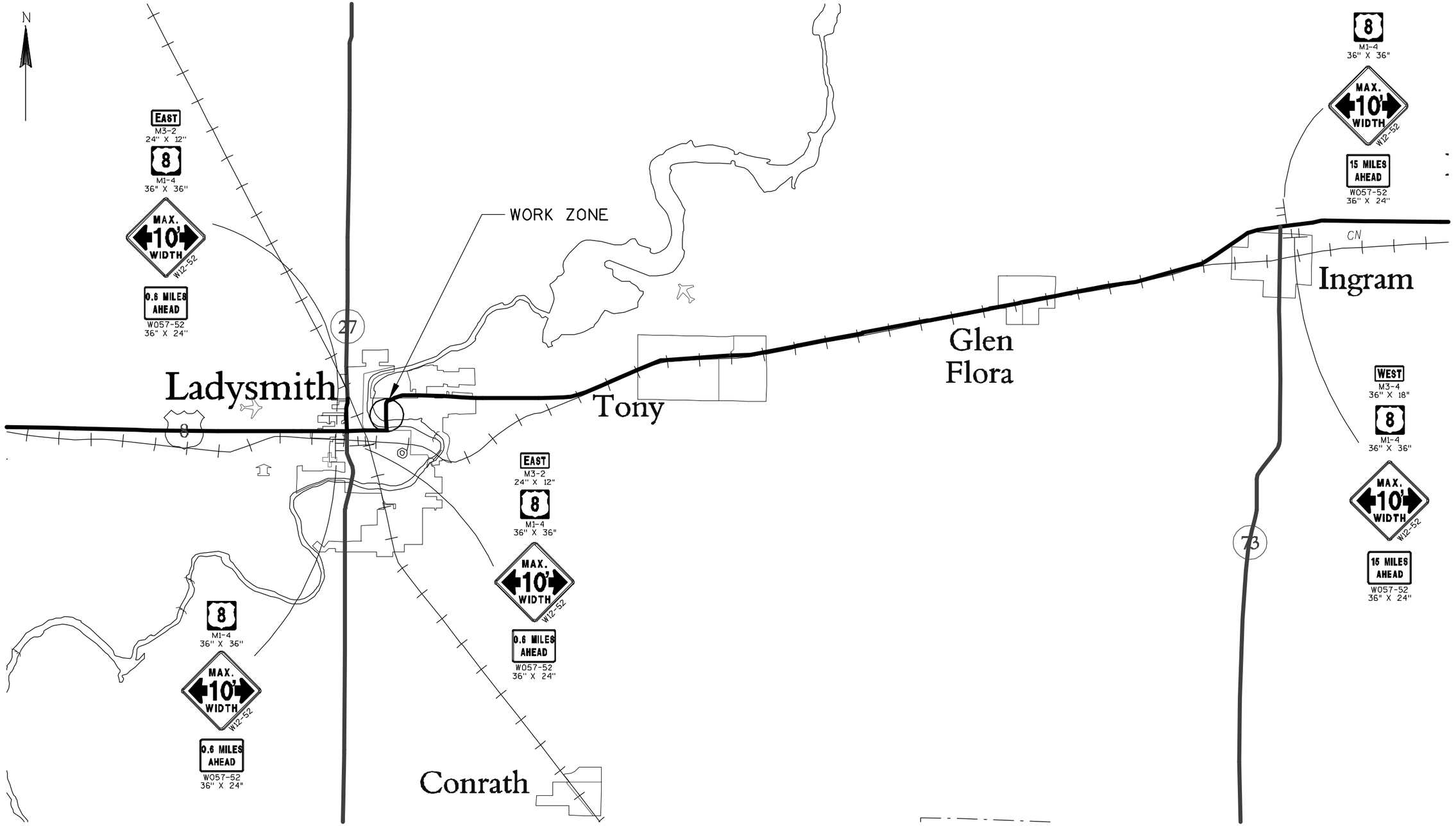
LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 5	SHEET 8	E



2

PROJECT NO:1580-09-73	HWY:USH 8	COUNTY:RUSK	TRAFFIC CONTROL - ADVANCE SIGNING	SHEET 9	E

DATE 03NOV15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1580-09-73 QUANTITY
0040	204.0100	Removing Pavement	SY	210.000	210.000
0070	204.0150	Removing Curb & Gutter	LF	90.000	90.000
0080	204.0155	Removing Concrete Sidewalk	SY	50.000	50.000
0130	213.0100	Finishing Roadway (project) 02. 1580-09-73	EACH	1.000	1.000
0170	415.1410	Concrete Pavement Approach Slab HES	SY	210.000	210.000
0180	416.0620	Drilled Dowel Bars	EACH	78.000	78.000
0250	502.3100	Expansion Device (structure) 01. B-54-0065	LS	1.000	1.000
0260	502.3210	Pigmented Surface Sealer	SY	575.000	575.000
0270	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	112.000	112.000
0280	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	2,120.000	2,120.000
0290	505.0904	Bar Couplers No. 4	EACH	20.000	20.000
0300	505.0905	Bar Couplers No. 5	EACH	12.000	12.000
0310	509.0301	Preparation Decks Type 1	SY	1.000	1.000
0320	509.0302	Preparation Decks Type 2	SY	1.000	1.000
0330	509.1000	Joint Repair	SY	50.000	50.000
0340	509.1500	Concrete Surface Repair	SF	200.000	200.000
0350	509.2500	Concrete Masonry Overlay Decks	CY	15.000	15.000
0360	509.5100.S	Polymer Overlay	SY	2,325.000	2,325.000
0370	509.9020.S	Epoxy Crack Sealing	LF	40.000	40.000
0380	509.9050.S	Cleaning Parapets	LF	815.000	815.000
0390	514.0900	Adjusting Floor Drains	EACH	2.000	2.000
0450	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	90.000	90.000
0460	602.0405	Concrete Sidewalk 4-Inch	SF	440.000	440.000
0470	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,200.000	1,200.000
0480	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,400.000	2,400.000
0590	619.1000	Mobilization	EACH	0.300	0.300
0610	625.0105	Topsoil	CY	5.000	5.000
0630	627.0200	Mulching	SY	20.000	20.000
0640	628.1504	Silt Fence	LF	100.000	100.000
0650	628.1520	Silt Fence Maintenance	LF	100.000	100.000
0660	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0670	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0690	628.7015	Inlet Protection Type C	EACH	6.000	6.000
0730	630.0140	Seeding Mixture No. 40	LB	2.000	2.000
0860	642.5401	Field Office Type D	EACH	0.300	0.300
0880	643.0100	Traffic Control (project) 02. 1580-09-73	EACH	1.000	1.000
0890	643.0300	Traffic Control Drums	DAY	470.000	470.000
0900	643.0420	Traffic Control Barricades Type III	DAY	260.000	260.000
0910	643.0715	Traffic Control Warning Lights Type C	DAY	490.000	490.000
0920	643.0900	Traffic Control Signs	DAY	950.000	950.000
0930	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,220.000	1,220.000
0950	646.0600	Removing Pavement Markings	LF	1,220.000	1,220.000
0970	647.0456	Pavement Marking Curb Epoxy	LF	90.000	90.000
0990	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	3,840.000	3,840.000
1030	650.6500	Construction Staking Structure Layout (structure) 01. B-54-0065	LS	1.000	1.000
1060	650.9910	Construction Staking Supplemental Control (project) 02. 1580-09-73	LS	1.000	1.000
1080	690.0250	Sawing Concrete	LF	222.000	222.000

3

DATE 03NOV15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1580-09-73 QUANTITY
1090	715.0415	Incentive Strength Concrete Pavement	DOL	250.000	250.000
1100	ASP.1T0A	On-the-Job Training Apprentice at $5. 00/HR	HRS	315.000	315.000
1110	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,000.000	1,000.000
1130	SPV.0090	Special 01. Concrete Curb And Gutter Cure And Seal Treatment	LF	90.000	90.000
1140	SPV.0090	Special 02. Sawing Pavement Deck Preparation Areas	LF	150.000	150.000
1180	SPV.0165	Special 01. Concrete Sidewalk Cure And Seal Treatment	SF	440.000	440.000

REMOVING PAVEMENT		204.0100	
STATION TO STATION	LOCATION	S.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPR. SLAB	115	010
STA. 362+06 TO STA. 362+28	NORTH APPR. SLAB	95	010
ITEM TOTAL		210	

REMOVING CURB AND GUTTER		204.0150	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH RT	22	010
STA. 357+76 TO STA. 357+98	SOUTH APPROACH LT	23	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH RT	22	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH LT	23	010
ITEM TOTAL		90	

REMOVING CONCRETE SIDEWALK		204.0155	
STATION TO STATION	LOCATION	S.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH RT	12	010
STA. 357+76 TO STA. 357+98	SOUTH APPROACH LT	13	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH RT	12	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH LT	13	010
ITEM TOTAL		50	

CONCRETE PAVEMENT APPROACH SLAB HES		415.1410	
STATION TO STATION	LOCATION	S.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH	115	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH	95	010
ITEM TOTAL		210	

DRILLED DOWEL BARS		416.0620	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+76	SOUTH APPROACH	46	010
STA. 362+28	NORTH APPROACH	32	
ITEM TOTAL		78	

CONCRETE CURB AND GUTTER, 30-INCH, TYPE D		601.0411	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH RT	22	010
STA. 357+76 TO STA. 357+98	SOUTH APPROACH LT	23	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH RT	22	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH LT	23	010
ITEM TOTAL		90	

CONCRETE SIDEWALK 4-INCH		602.0405	
STATION TO STATION	LOCATION	S.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH RT	110	010
STA. 357+76 TO STA. 357+98	SOUTH APPROACH LT	110	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH RT	110	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH LT	110	010
ITEM TOTAL		440	

CONCRETE BARRIER TEMPORARY PRECAST DELIVERED		603.8000	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+00	STAGE 1 WORKZONE	600	010
STA. 357+00 TO STA. 363+00	STAGE 2 WORKZONE	600	010
ITEM TOTAL		1200	

CONCRETE BARRIER TEMPORARY PRECAST INSTALLED		603.8125	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+00	STAGE 1 WORKZONE	600	010
STA. 357+00 TO STA. 363+00	STAGE 2 WORKZONE	1200	010
STA. 357+00 TO STA. 363+00	STAGE 3 WORKZONE	600	010
ITEM TOTAL		2400	

MOBILIZATION		619.1000	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+00 TO STA. 363+10	APPROACHES	0.1	010
STA. 357+98 TO STA. 362+06	B-54-0065	0.2	020
ITEM TOTAL		0.3	

TOPSOIL		625.0105	
STATION TO STATION	LOCATION	C.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SIDEWALK RT & LT	3	010
STA. 362+06 TO STA. 362+28	SIDEWALK RT & LT	2	010
ITEM TOTAL		5	

MULCHING		627.0200	
STATION TO STATION	LOCATION	S.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SIDEWALK RT & LT	10	010
STA. 362+06 TO STA. 362+28	SIDEWALK RT & LT	10	010
ITEM TOTAL		20	

SILT FENCE		628.1504	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SIDEWALK RT & LT	50	010
STA. 362+06 TO STA. 362+28	SIDEWALK RT & LT	50	010
ITEM TOTAL		100	

SILT FENCE MAINTENANCE		628.1520	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SIDEWALK RT & LT	50	010
STA. 362+06 TO STA. 362+28	SIDEWALK RT & LT	50	010
ITEM TOTAL		100	

MOBILIZATIONS EROSION CONTROL		628.1905	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+76 TO STA. 362+28	PROJECT	2	010
ITEM TOTAL		2	

MOBILIZATIONS EMERGENCY EROSION CONTROL		628.1910	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+76 TO STA. 362+28	PROJECT	1	010
ITEM TOTAL		1	

INLET PROTECTION TYPE C		628.7015	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+36	RT & LT	2	010
STA. 365+00	RT & LT	4	010
ITEM TOTAL		6	

SEEDING MIXTURE NO. 40		630.0140	
STATION TO STATION	LOCATION	LB	CATEGORY
STA. 357+76 TO STA. 357+98	RT & LT	1	010
STA. 362+06 TO STA. 362+28	RT & LT	1	010
ITEM TOTAL		2	

FIELD OFFICE TYPE D		642.5401	
STATION TO STATION	LOCATION	EACH	CATEGORY
		0.3	010
ITEM TOTAL		0.3	

TRAFFIC CONTROL PROJECT 1580-09-73		643.0100	
STATION TO STATION	LOCATION	EACH	CATEGORY
	PROJECT	1	010
ITEM TOTAL		1	

TRAFFIC CONTROL DRUMS		CAL:		643.0300	
STATION TO STATION	LOCATION	EACH	DAYS	DAYS	CATEGORY
STA. 357+00 TO STA. 363+00	STG 1-5 SHIFT TAPER	10	35	350	010
STA. 357+00 TO STA. 363+00	STAGE 4 WORKZONE	20	2	40	010
STA. 357+00 TO STA. 363+00	STAGE 5 WORKZONE	40	2	80	010
ITEM TOTAL				470	

TRAFFIC CONTROL BARRICADES TYPE III		CAL:		643.0420	
STATION	LOCATION	EACH	DAYS	DAYS	CATEGORY
STA. 357+00 & STA. 363+00	WORKZONE	6	35	210	010
STA. 357+00 & STA. 363+00	SIDEWALKS	5	10	50	010
ITEM TOTAL				260	

TRAFFIC CONTROL WARNING LIGHTS TYPE C		CAL:		643.0715	
STATION TO STATION	LOCATION	EACH	DAYS	DAYS	CATEGORY
STA. 357+00 & STA. 363+00	SHIFTING TAPERS	10	35	350	010
STA. 357+00 & STA. 363+00	WORKZONE BARRICADES	4	35	140	010
ITEM TOTAL				490	

TRAFFIC CONTROL SIGNS		CAL:		643.0900	
STATION TO STATION	LOCATION	EACH	DAYS	DAYS	CATEGORY
STA. 357+00 & STA. 363+00	APPR. AND WORKZONE	10	35	350	010
STA. 357+00 & STA. 363+00	SIDEWALKS	6	10	60	010
	ADVANCE WARNING	18	30	540	010
ITEM TOTAL				950	

PAVEMENT MARKING EPOXY 4-INCH		646.0106	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+10	DBL YLW CENTERLINE	1220	010
ITEM TOTAL		1220	

REMOVING PAVEMENT MARKINGS		646.0600	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+10	EXISTING CENTERLINE	1220	010
ITEM TOTAL		1220	

NOTE: METHODS FOR REMOVING PAVEMENT MARKINGS ARE LIMITED TO WATER BLASTING ONLY ON THE BRIDGE DECK

PAVEMENT MARKING CURB EPOXY		647.0456	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	RT & LT	45	010
STA. 362+06 TO STA. 362+28	RT & LT	45	010
ITEM TOTAL		90	

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH		649.0400	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+10	STAGE 1 TEMP. CL	1260	010
STA. 357+00 TO STA. 363+10	STAGE 2 SHIFT TAPER	60	010
STA. 357+00 TO STA. 363+10	STAGE 3 TEMP. CL	1270	010
STA. 357+00 TO STA. 363+10	STAGE 4 TEMP. CL	1250	010
ITEM TOTAL		3840	

SAWING CONCRETE		690.0250	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76	SOUTH APPROACH	123	010
STA. 362+28	NORTH APPROACH	99	010
ITEM TOTAL		222	

CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT		SPV.0090.01	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	RT & LT	45	010
STA. 362+06 TO STA. 362+28	RT & LT	45	010
ITEM TOTAL		90	

CONCRETE SIDEWALK CURE AND SEAL TREATMENT		SPV.0165.01	
STATION TO STATION	LOCATION	S.F.	CATEGORY
STA. 357+76 TO STA. 357+98	RT & LT	220	010
STA. 362+06 TO STA. 362+28	RT & LT	220	010
ITEM TOTAL		440	

N

INLET PROTECTION TYPE C

25 LF SILT FENCE

STA 357+76 TO STA 357+98
115 SY REMOVING PAVEMENT
25 SY REMOVING CONCRETE SIDEWALK
45 SF REMOVING CURB & GUTTER
SAWCUT REQ'D

PAVEMENT MARKING CURB EPOXY

359+00

360+00

361+00

362+00

363+00

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING CURB EPOXY

25 LF SILT FENCE

PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)

STA. 362+06 TO STA. 362+28
95 SY REMOVING PAVEMENT
25 SY REMOVING CONCRETE SIDEWALK
45 LF REMOVING CURB & GUTTER
SAWCUT REQ'D

25 LF SILT FENCE

INLET PROTECTION TYPE C

25 LF SILT FENCE

STA. 632+06 TO STA. 362+28
95 SY CONCRETE PAVEMENT APPROACH SLAB
32 EA DRILLED DOWEL BARS REQ'D
220 SF CONCRETE SIDEWALK 4-INCH
45 LF CONCRETE CURB & GUTTER 30-INCH TYPE D
3 CY TOPSOIL
10 SY MULCH
1 LB SEED MIXTURE NO. 40

STA 357+76 TO STA 357+98
115 SY CONCRETE PAVEMENT APPROACH SLAB
46 EA DRILLED DOWEL BARS REQ'D
220 SF CONCRETE SIDEWALK 4-INCH
45 LF CONCRETE CURB & GUTTER 30-INCH TYPE D
2 CY TOPSOIL
10 SY MULCH
1 LB SEED MIXTURE NO. 40

5

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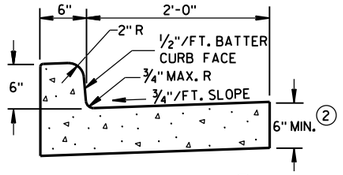
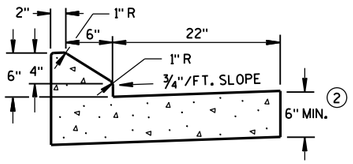
PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET 14	E

Standard Detail Drawing List

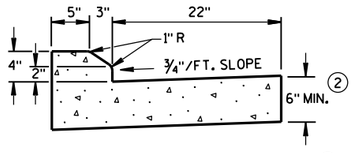
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-02A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-02B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-02C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



TYPES A & D ①

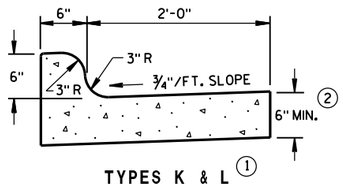


6" SLOPED CURB TYPES G & J ①

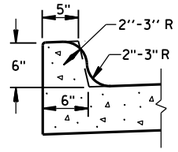


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

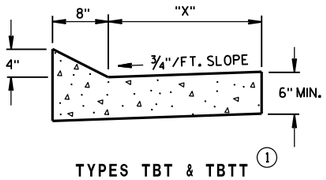


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

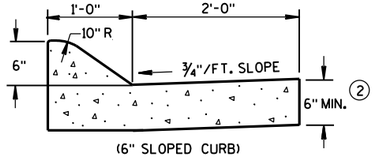
CONCRETE CURB & GUTTER 30"



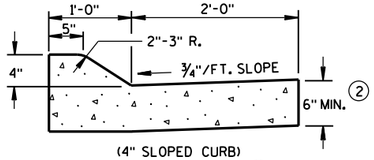
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

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

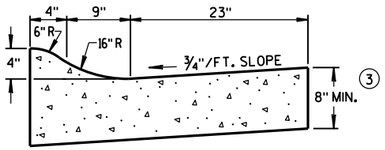


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

GENERAL NOTES

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

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

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

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

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

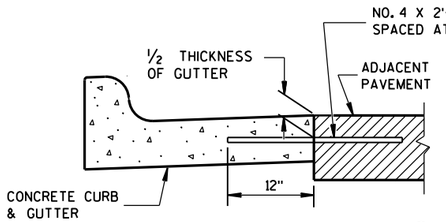
① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

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.

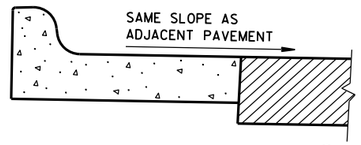
③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

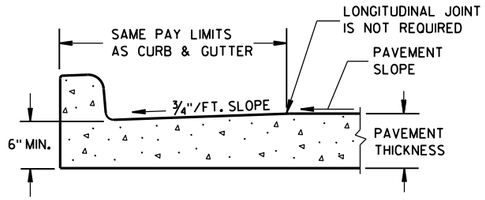
⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



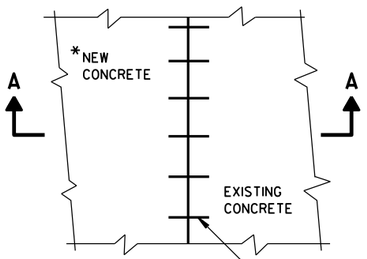
TYPICAL TIE BAR LOCATION ①



REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)

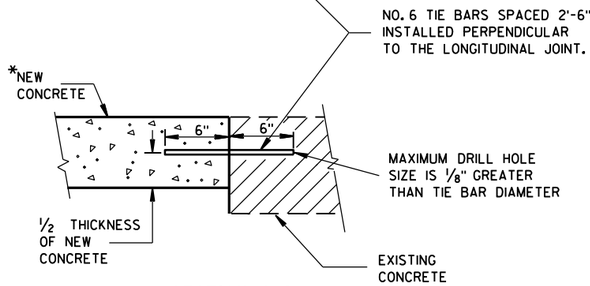


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



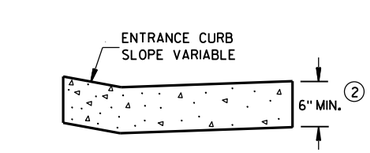
PLAN VIEW

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

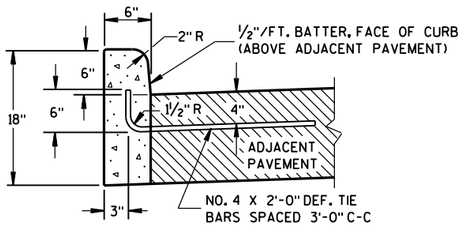


SECTION A-A

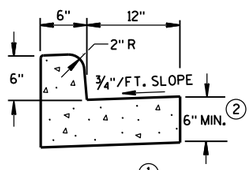
TIE BARS DRILLED
INTO EXISTING PAVEMENT



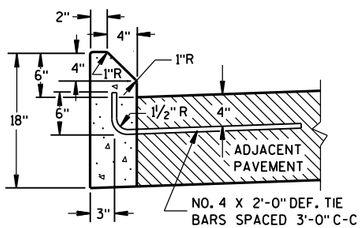
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



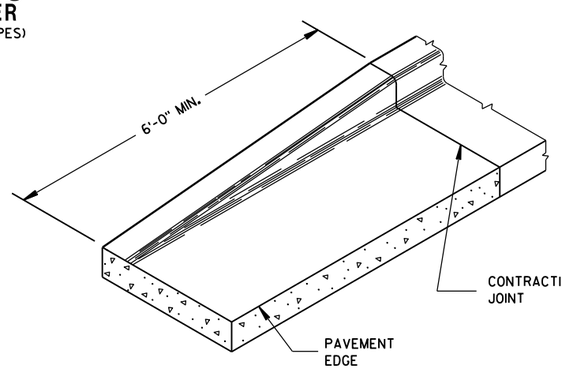
① TYPES A & D



① TYPES A & D
CONCRETE CURB & GUTTER 18"



① TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

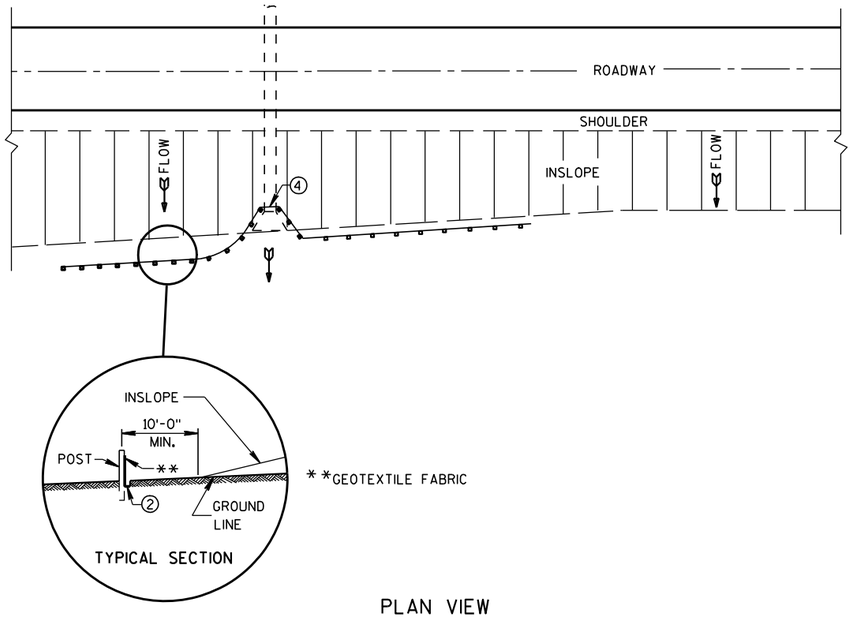
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

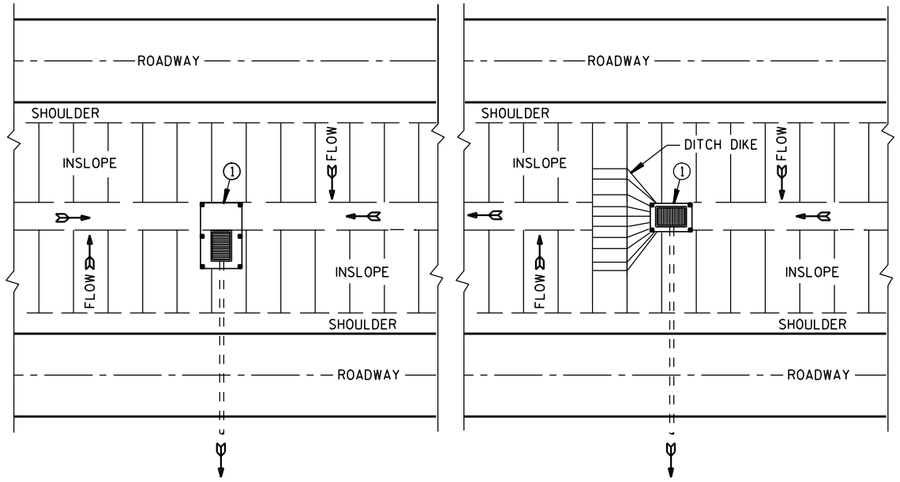
6

S.D.D. 8 D 1-18



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

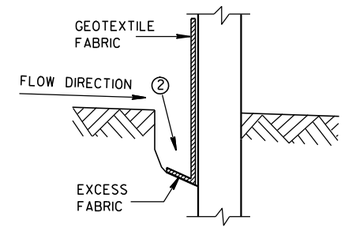
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

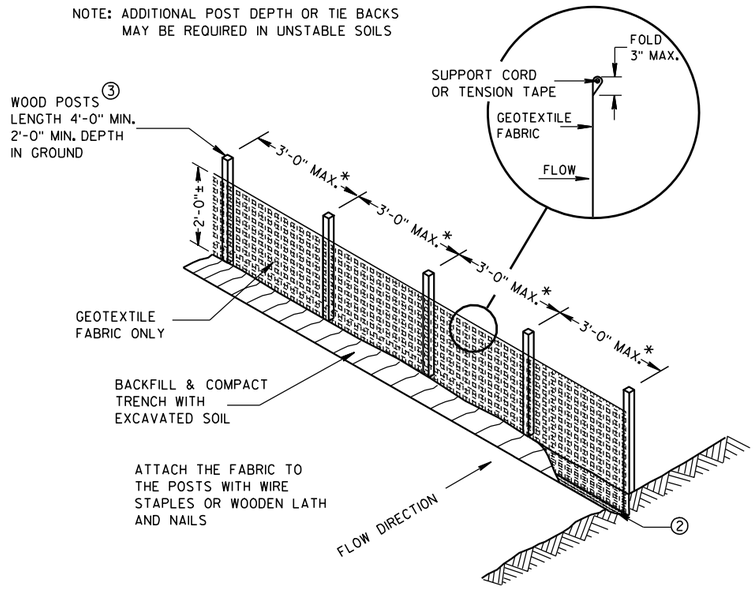
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

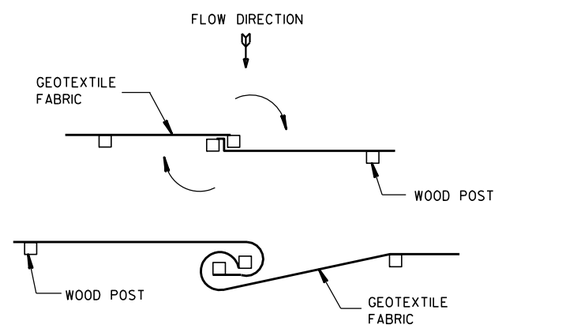
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



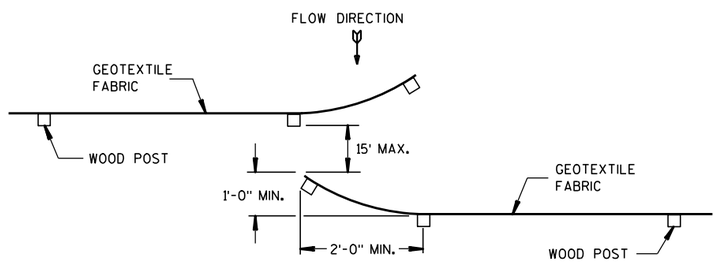
TRENCH DETAIL



SILT FENCE

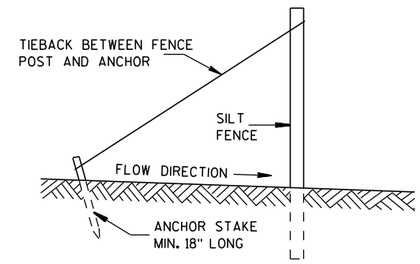


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 E 9-6

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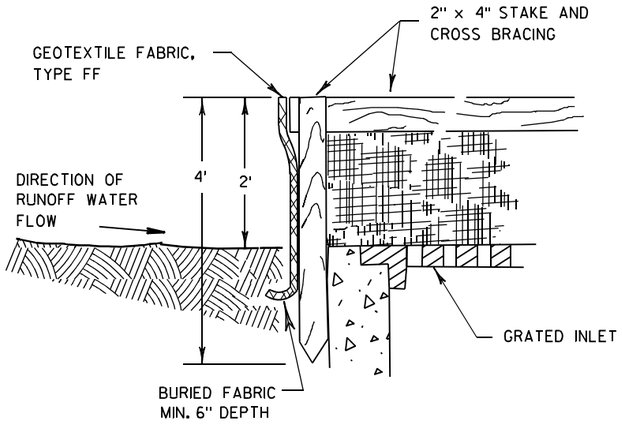
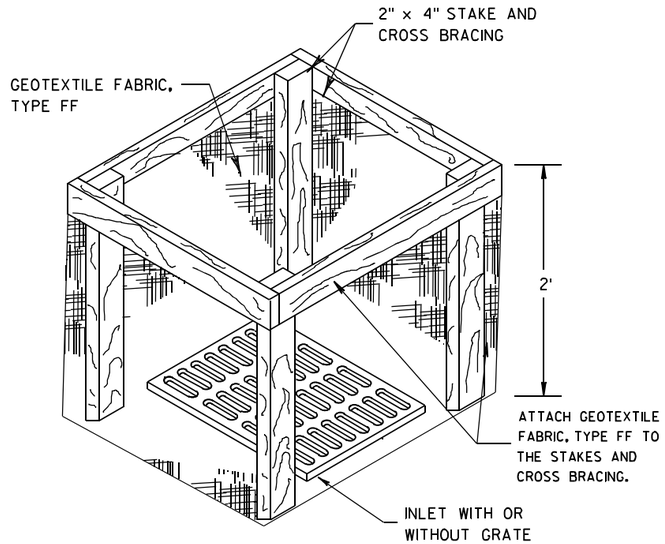
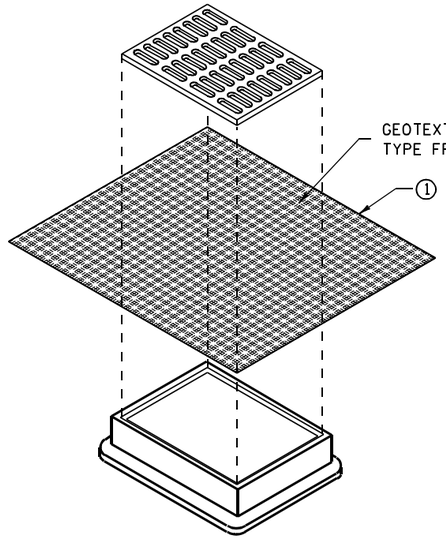
S.D.D. 8 E 9-6



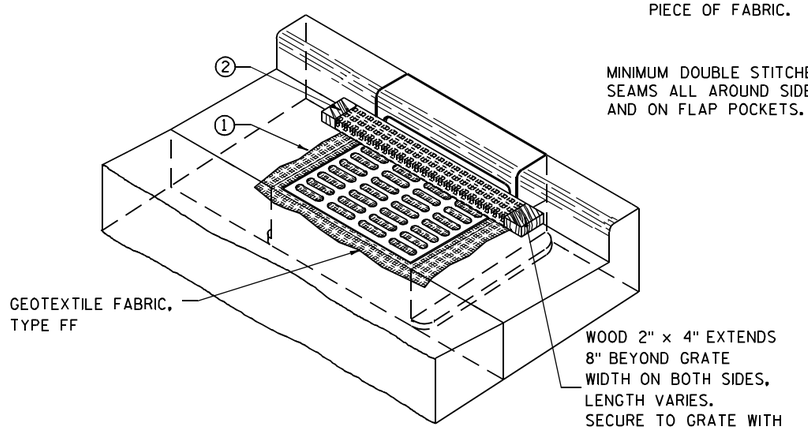


INLET PROTECTION, TYPE A

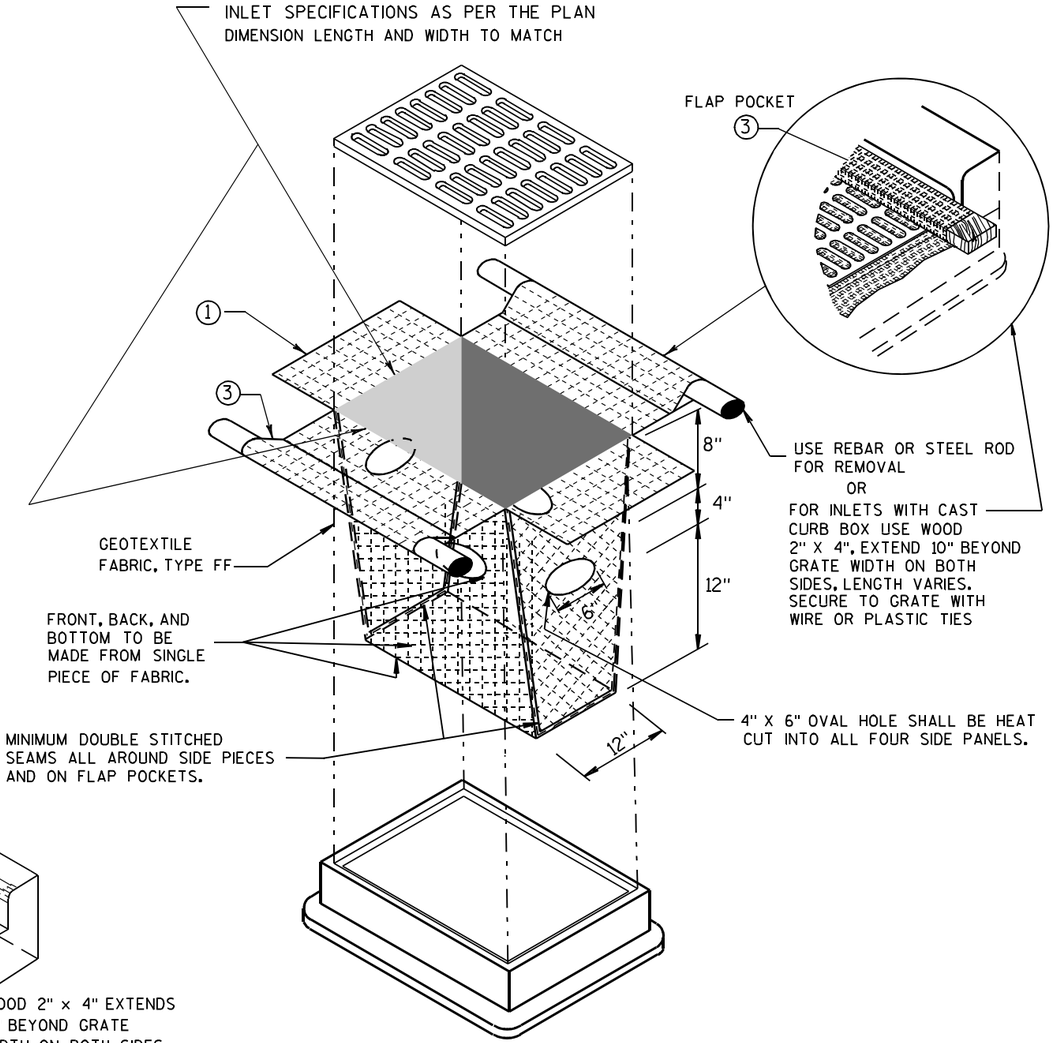


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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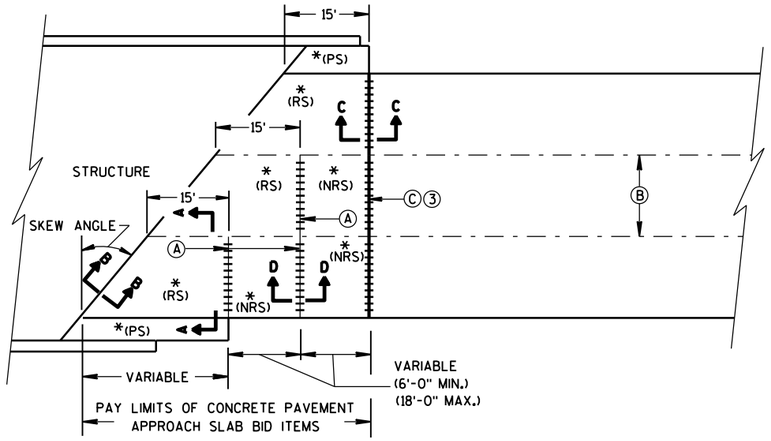
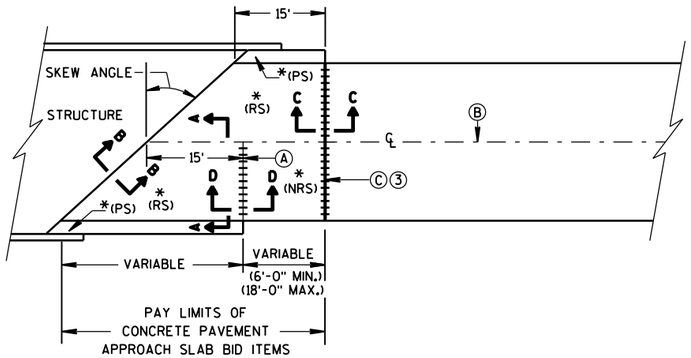
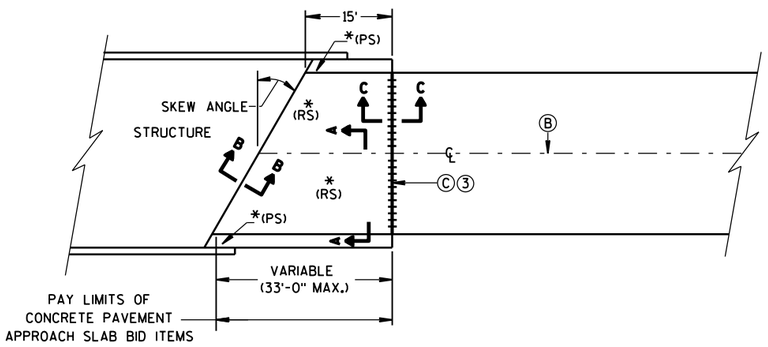
S.D.D. 8 E 10-2



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

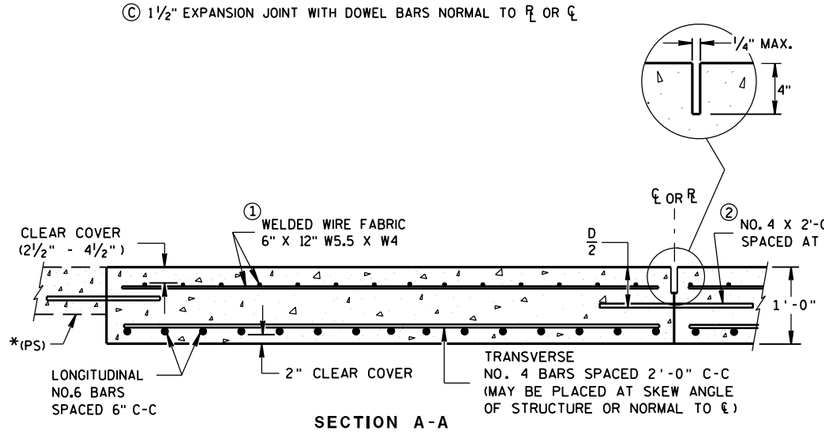
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

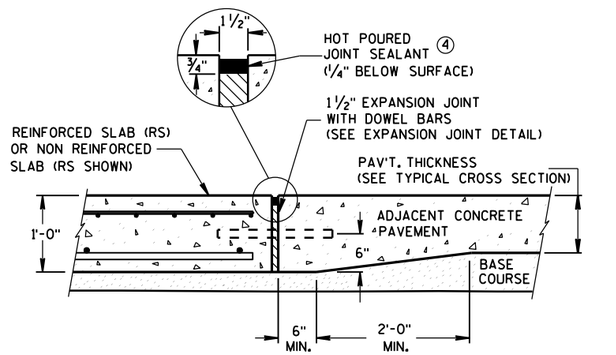
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

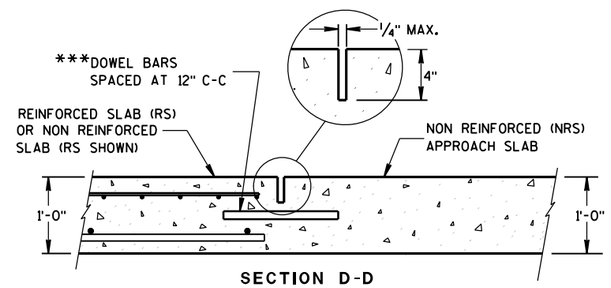
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

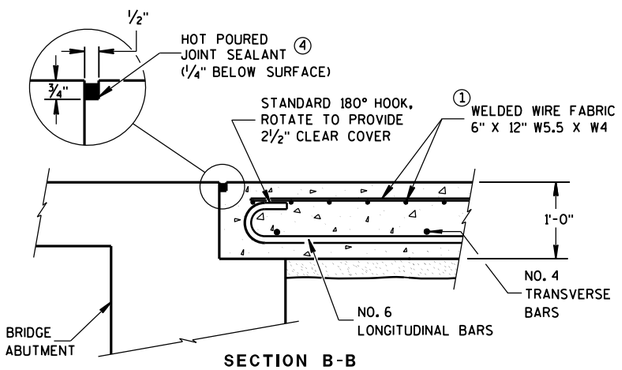
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

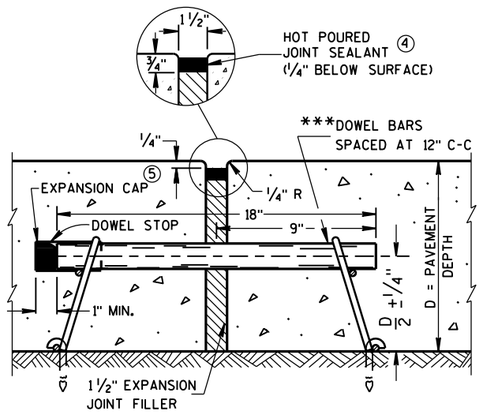
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT
APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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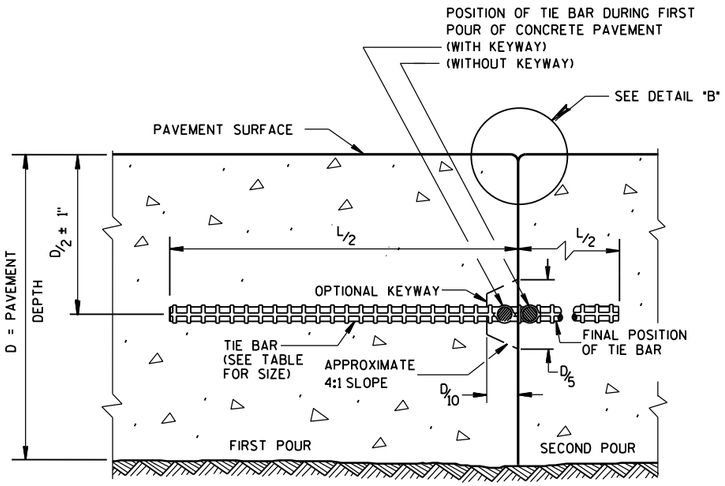
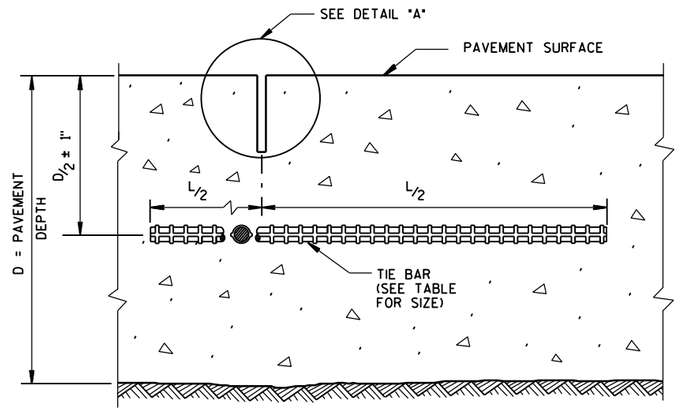
S.D.D. 13 B 2-8a



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

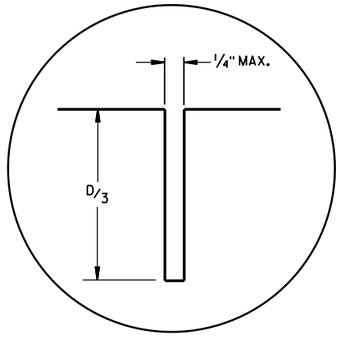
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

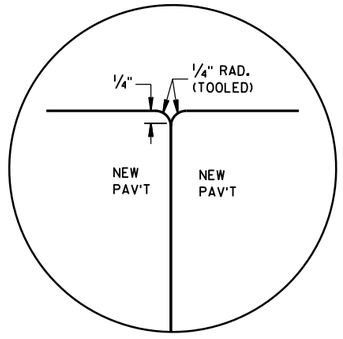
PLAN VIEW

SECTION A-A

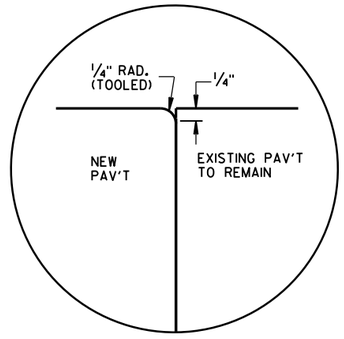
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



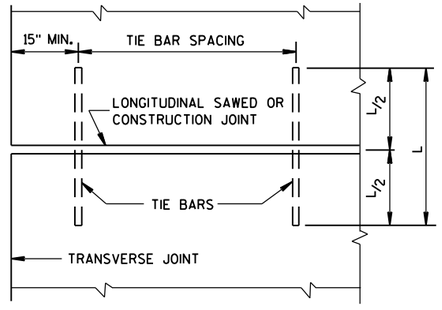
DETAIL "C"

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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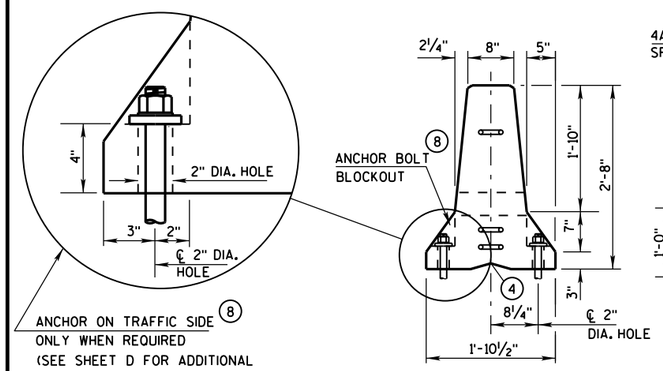
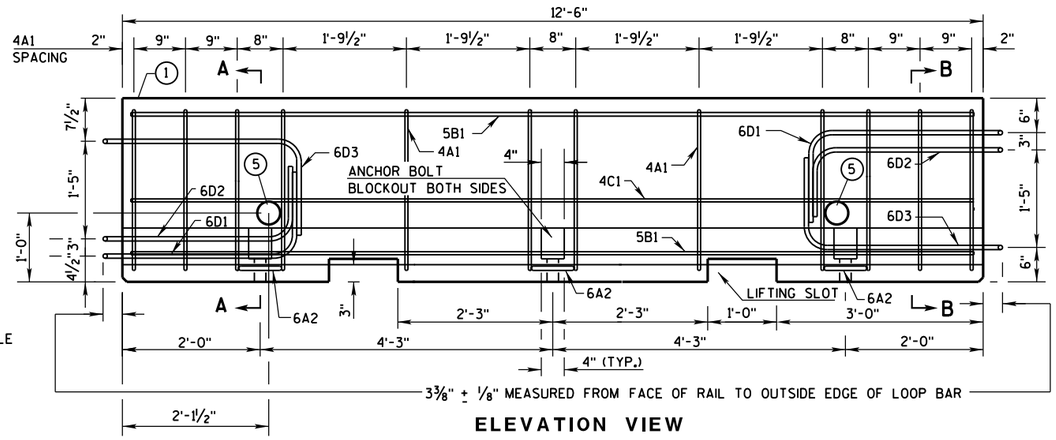
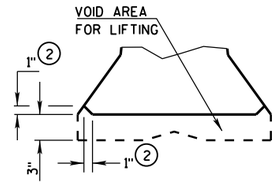
S.D.D. 13 C 1-18



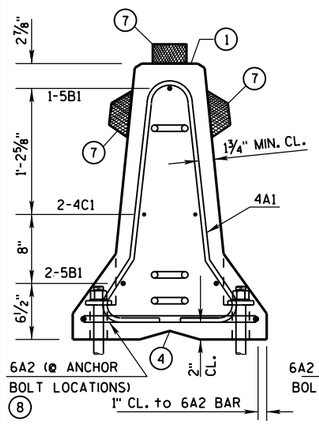
END VIEW



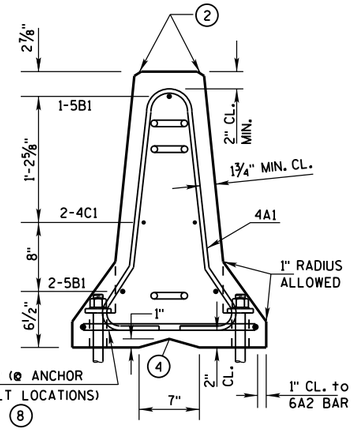
ELEVATION VIEW



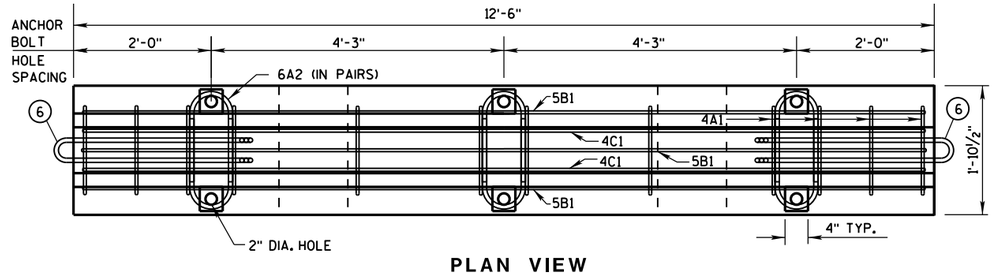
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

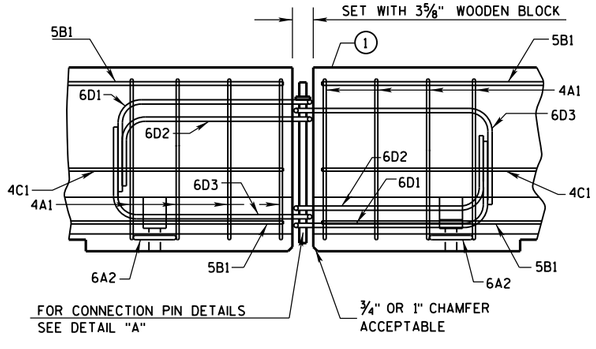


SECTION B-B
(STIRRUP PLACEMENT)

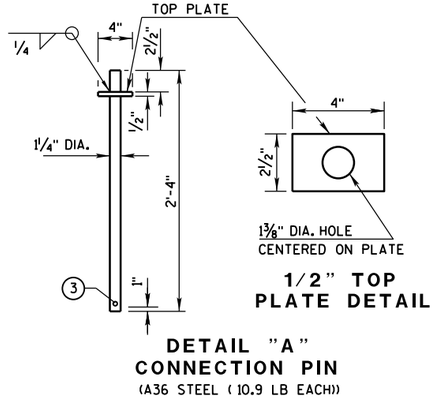


PLAN VIEW

DETAILS OF BARRIER SECTION

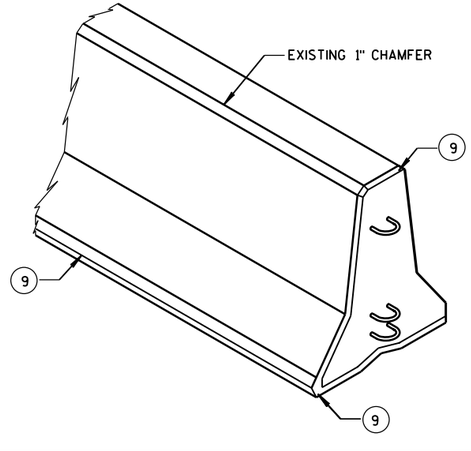


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

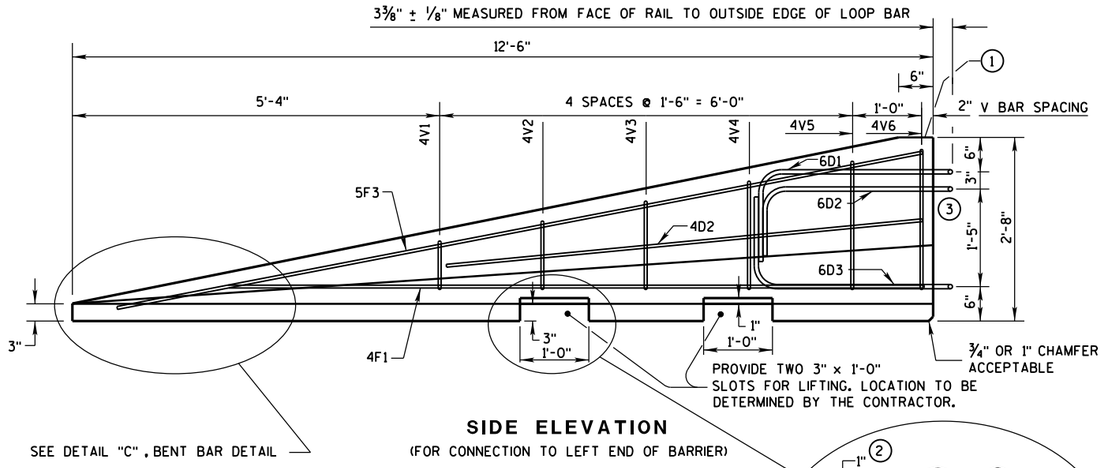
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

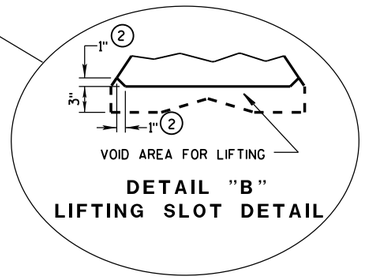
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

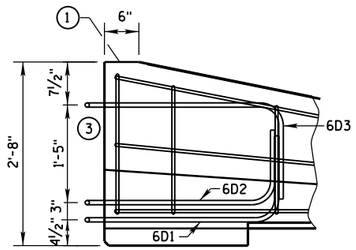
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



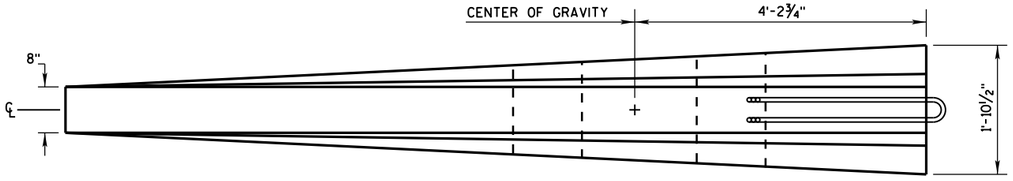
DETAIL "B"
LIFTING SLOT DETAIL



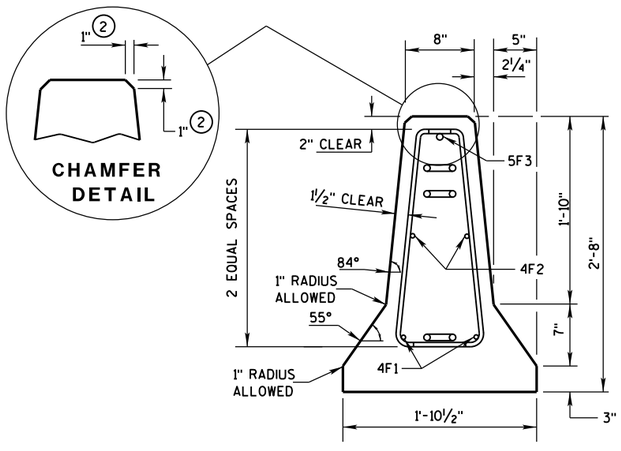
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

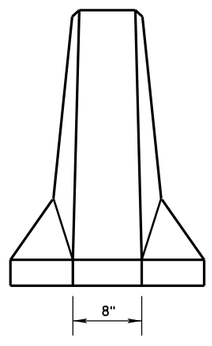
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



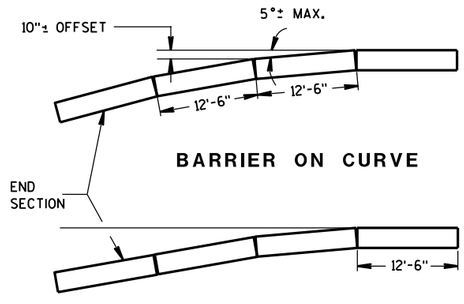
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

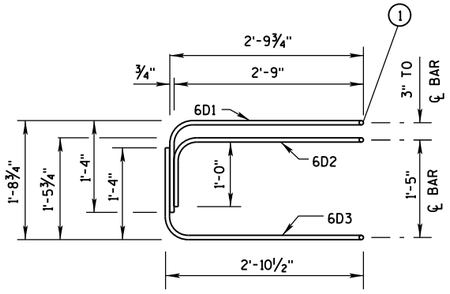
6

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

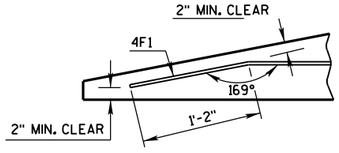
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

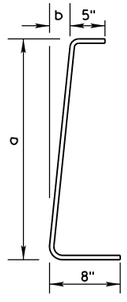
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

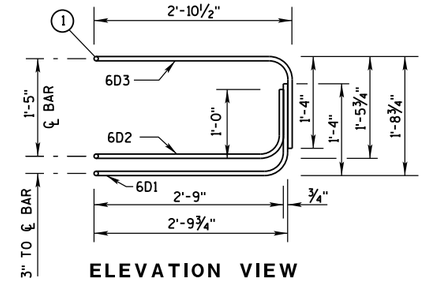
GENERAL NOTES

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

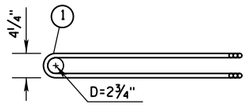
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

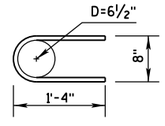
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



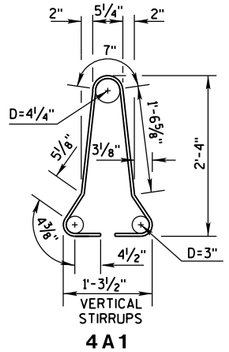
ELEVATION VIEW



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



6A2



4A1

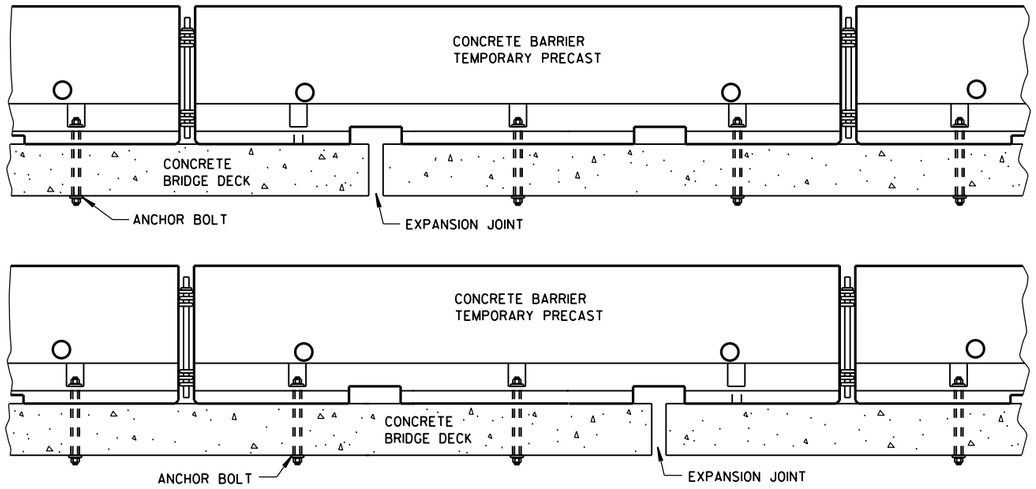
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

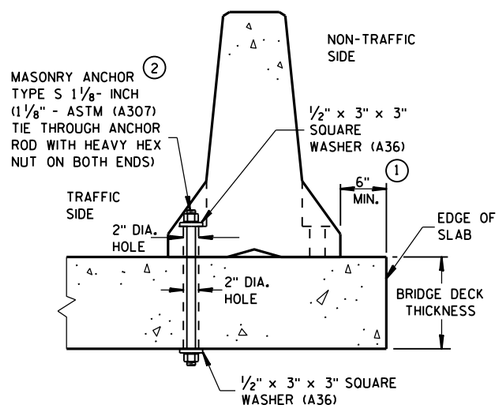
6

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



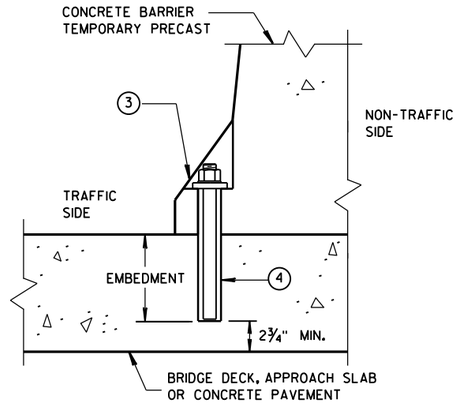
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT ②

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

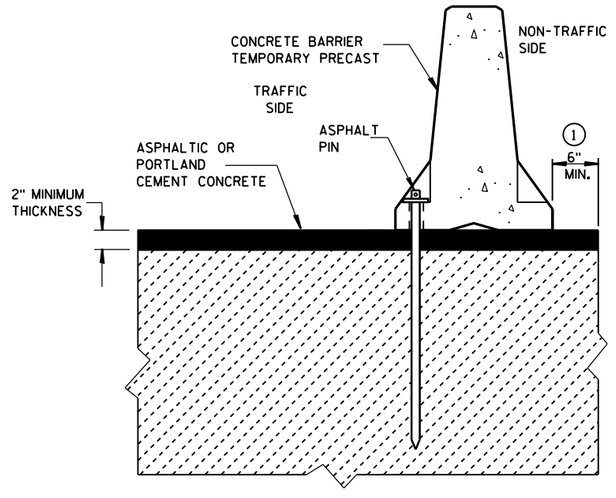
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

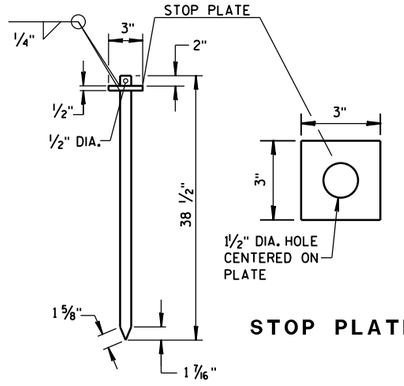
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

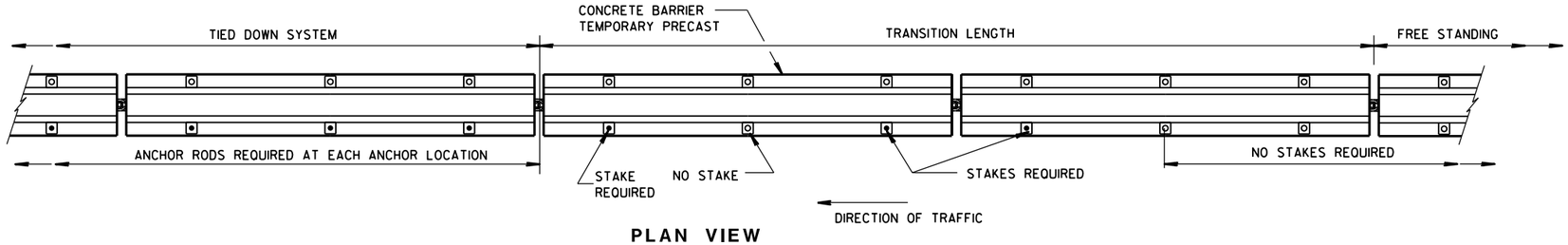
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

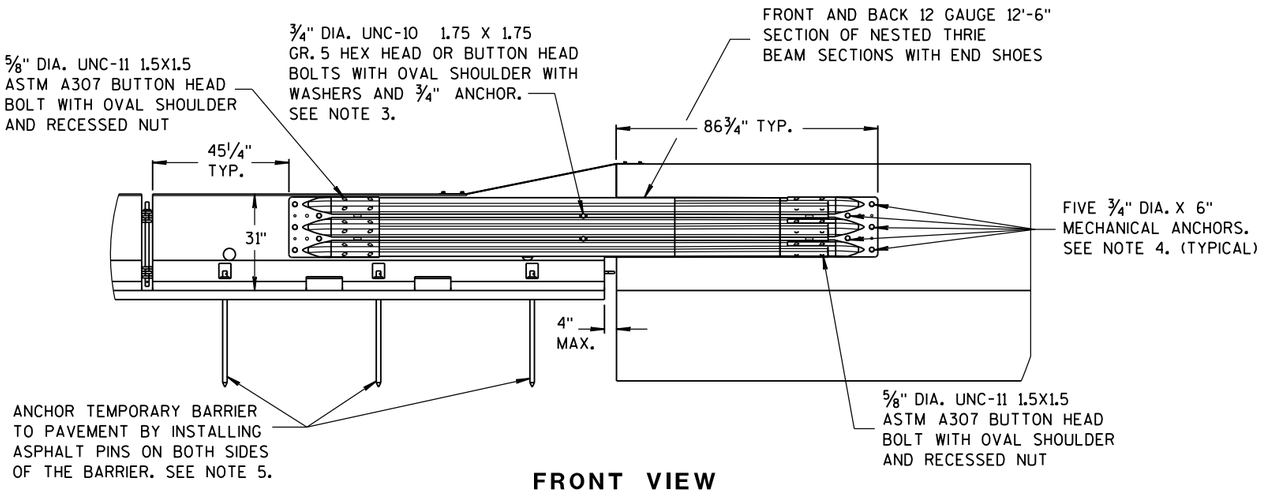
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

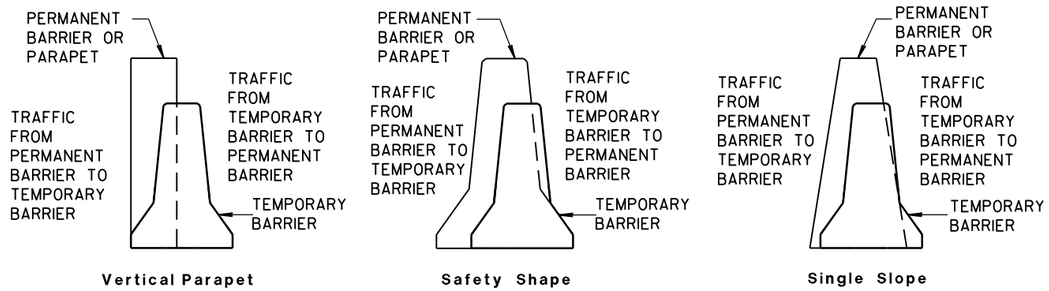
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
STATE OF WISCONSIN DEPARTMENT OF TRANSPOI

6

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



FRONT VIEW

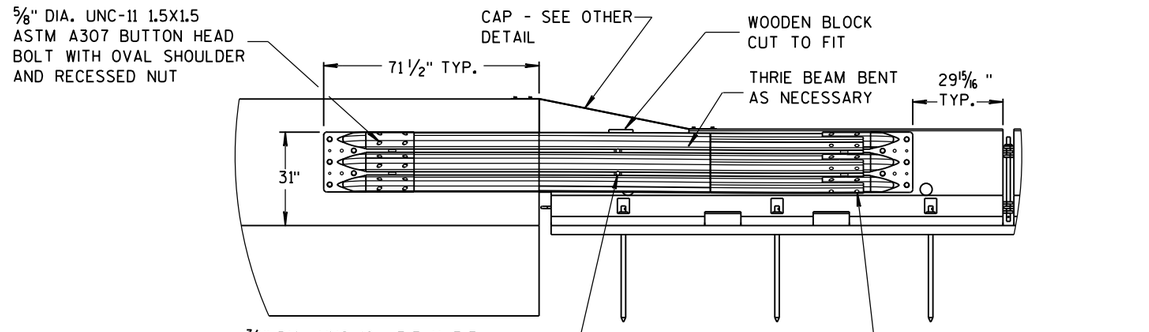


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

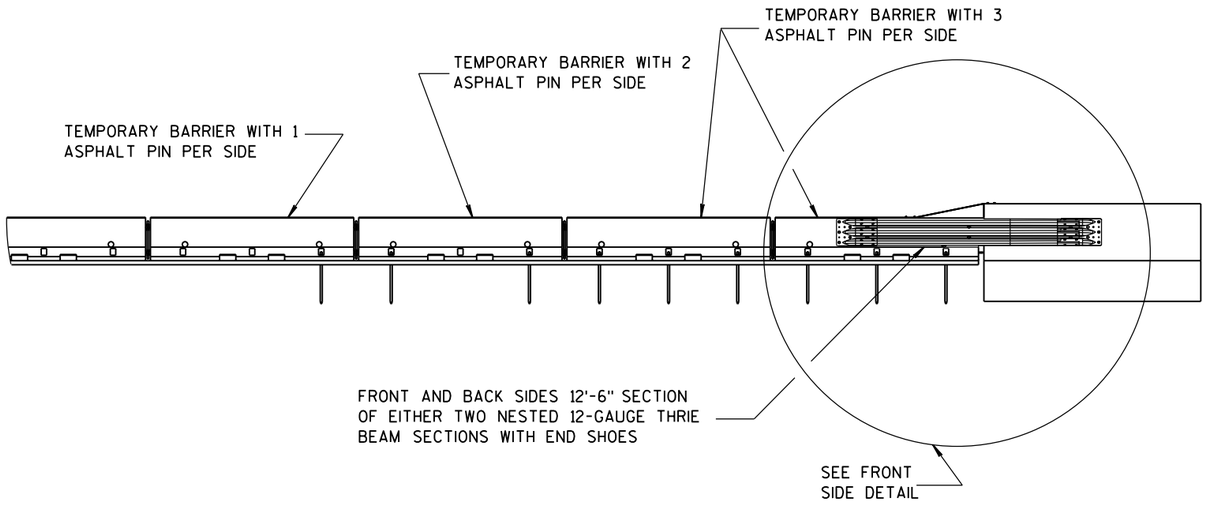
NOTES

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

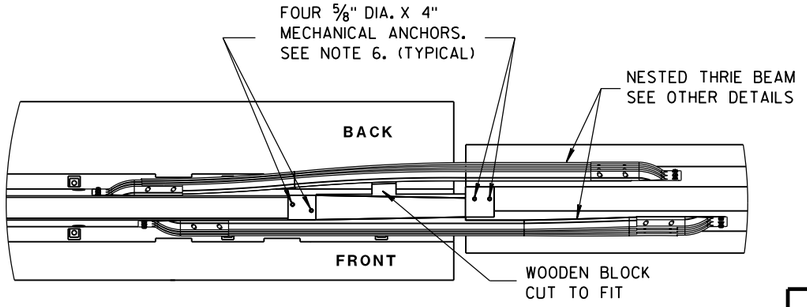
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

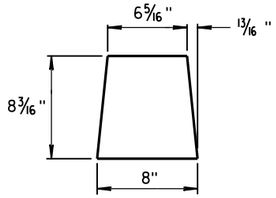
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

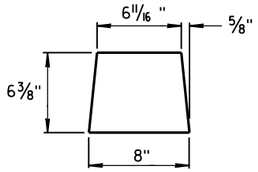
S.D.D. 14 B 7-14e

6

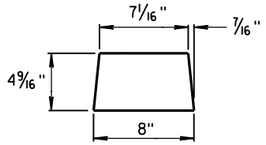
S.D.D. 14 B 7-14e



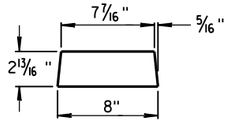
GUSSET 1



GUSSET 2

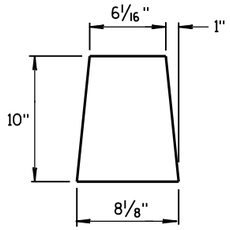


GUSSET 3

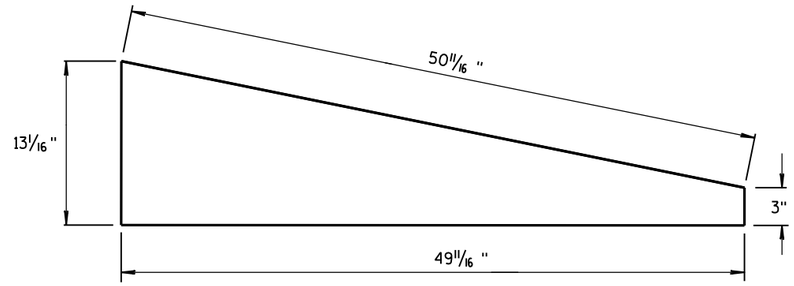


GUSSET 4

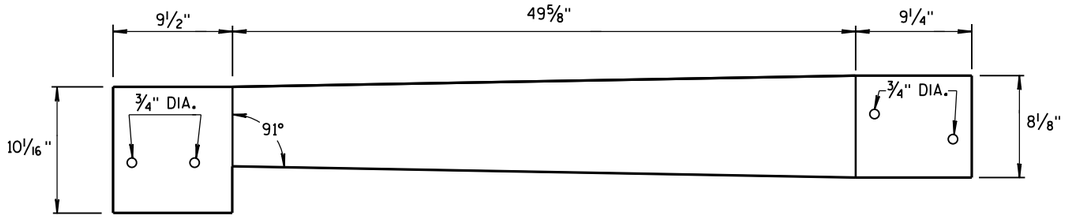
GUSSETS

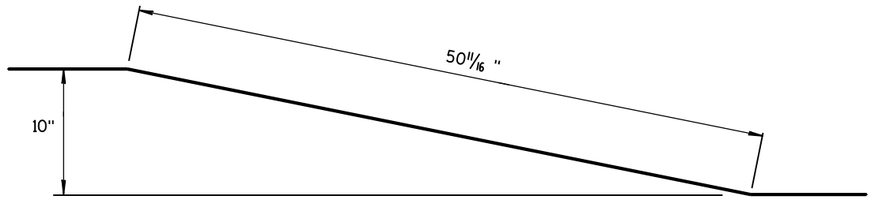


END PLATE



SIDE PLATE

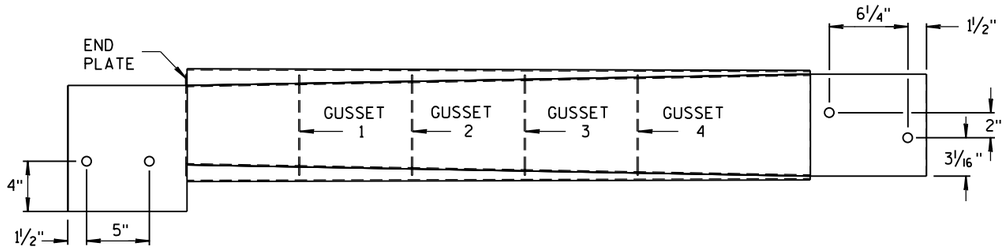


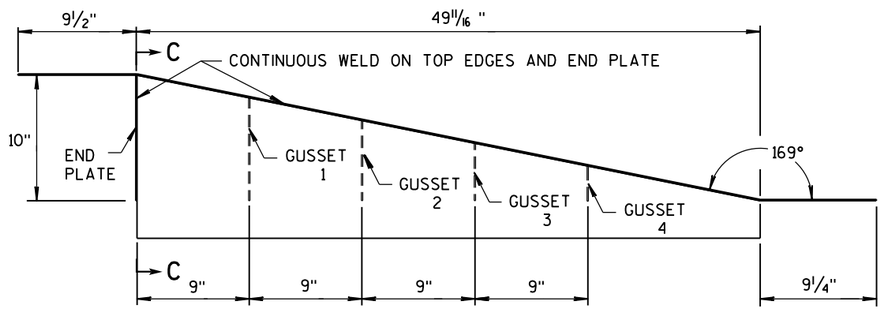


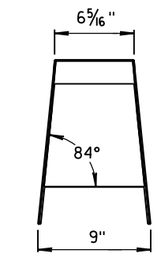
TOP PLATE

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

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







SECTION C-C

NOTES

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

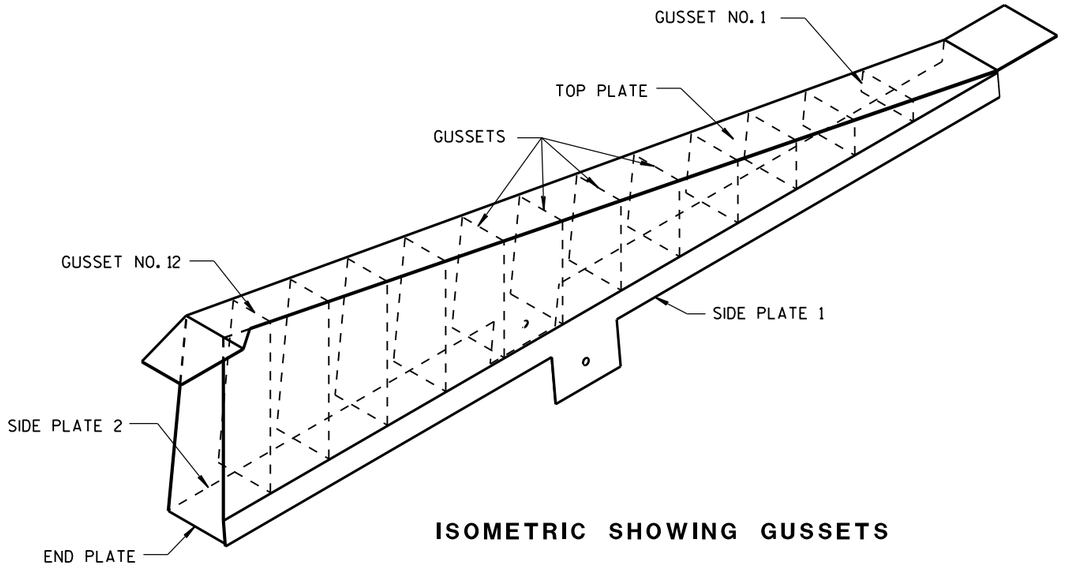
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

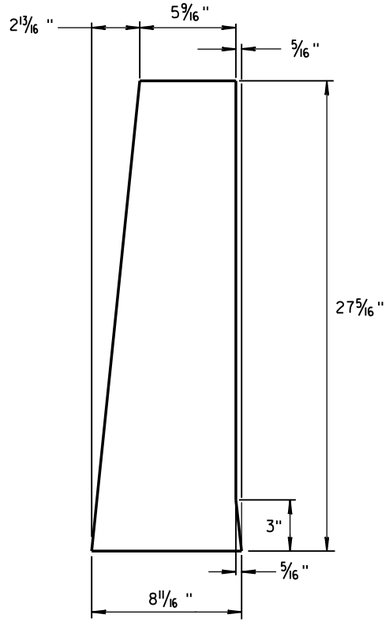
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

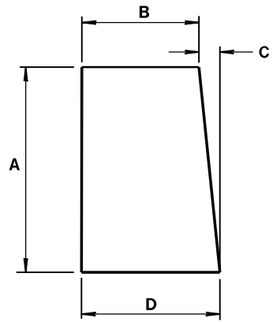


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



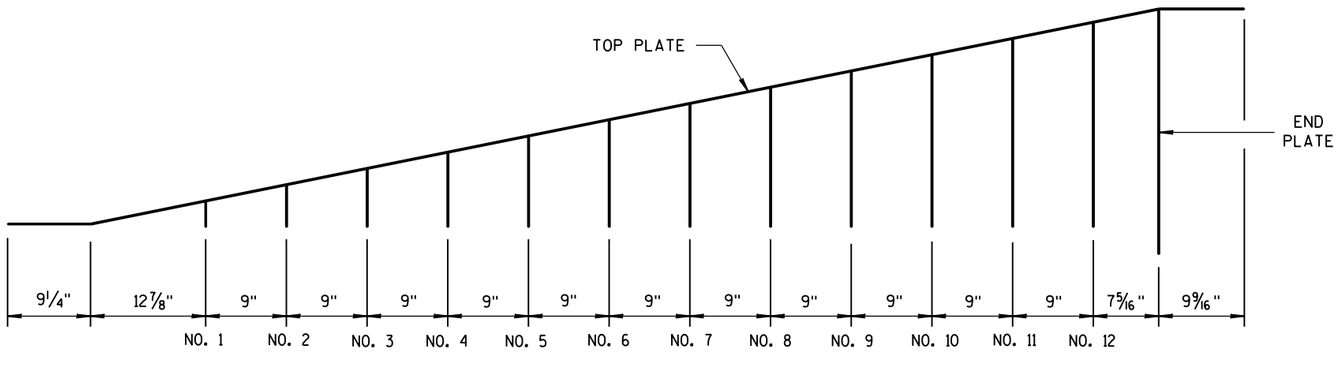
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

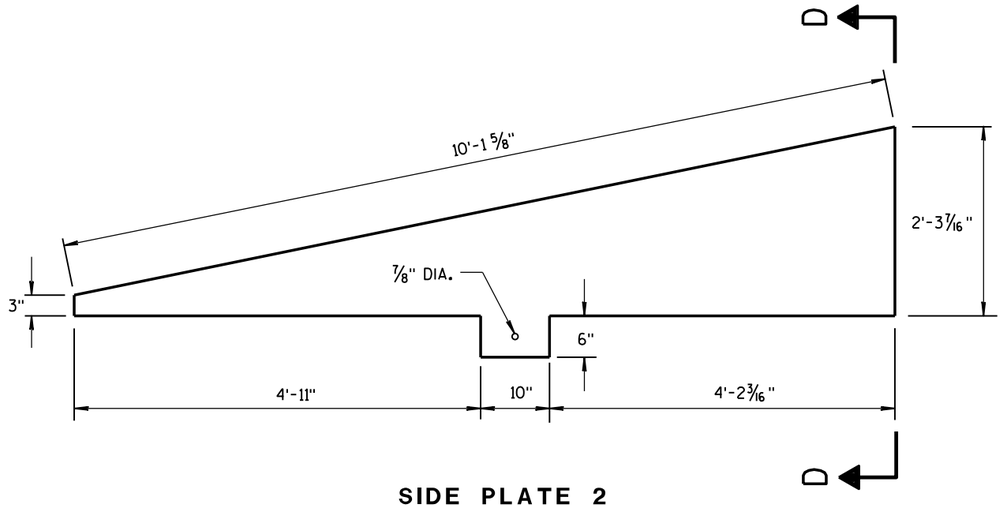
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

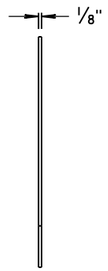
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

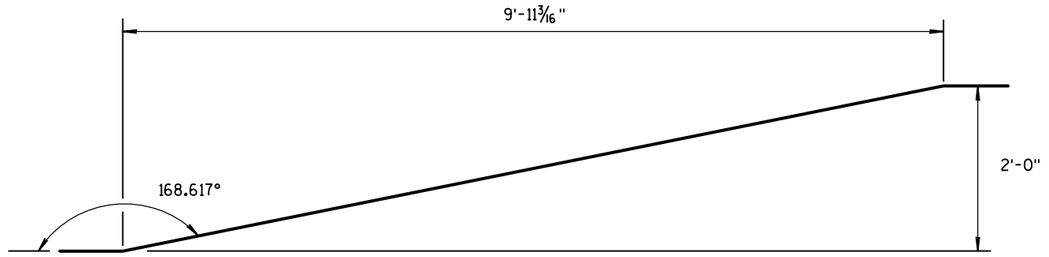
S.D.D. 14 B 7-14g



SIDE PLATE 2

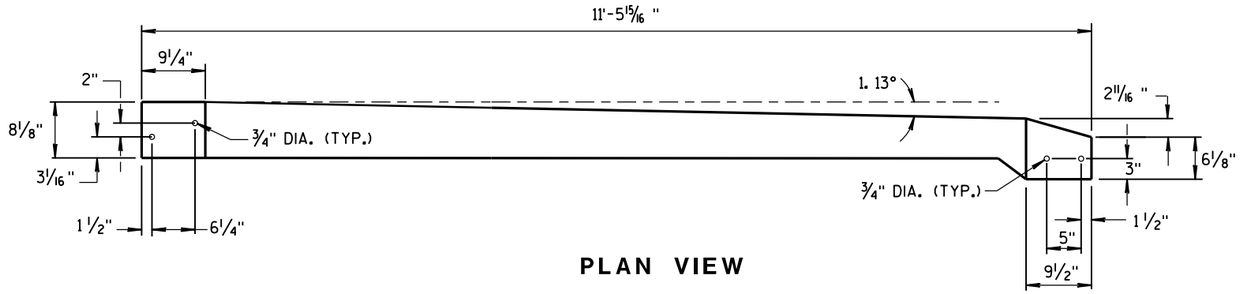


END VIEW



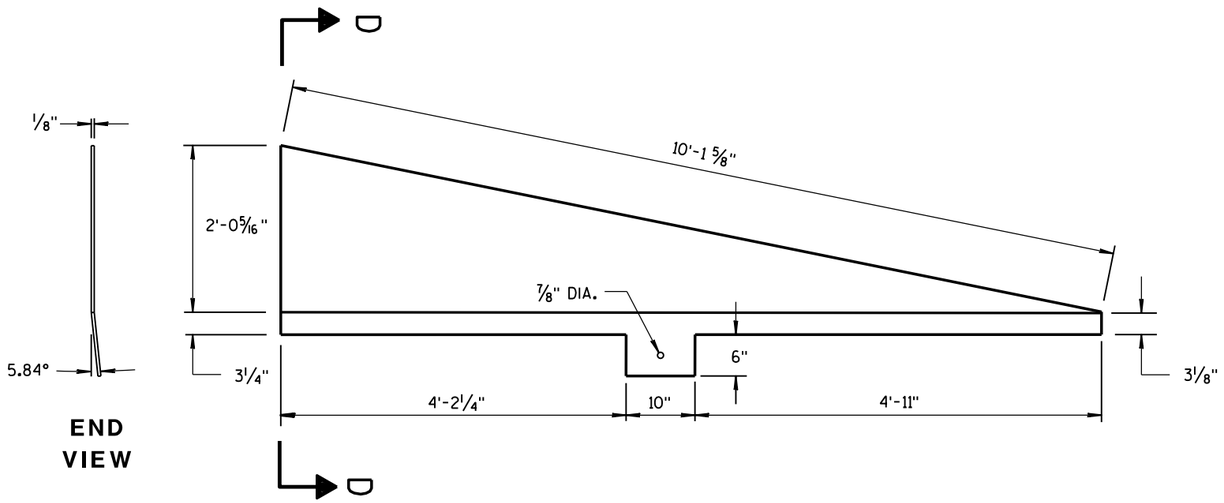
SIDE VIEW

TOP PLATE



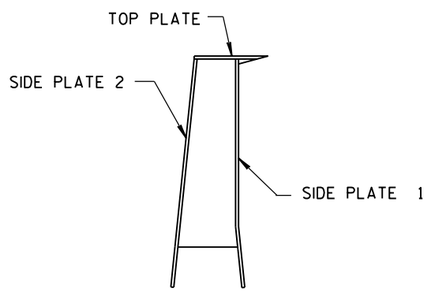
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 7-14h

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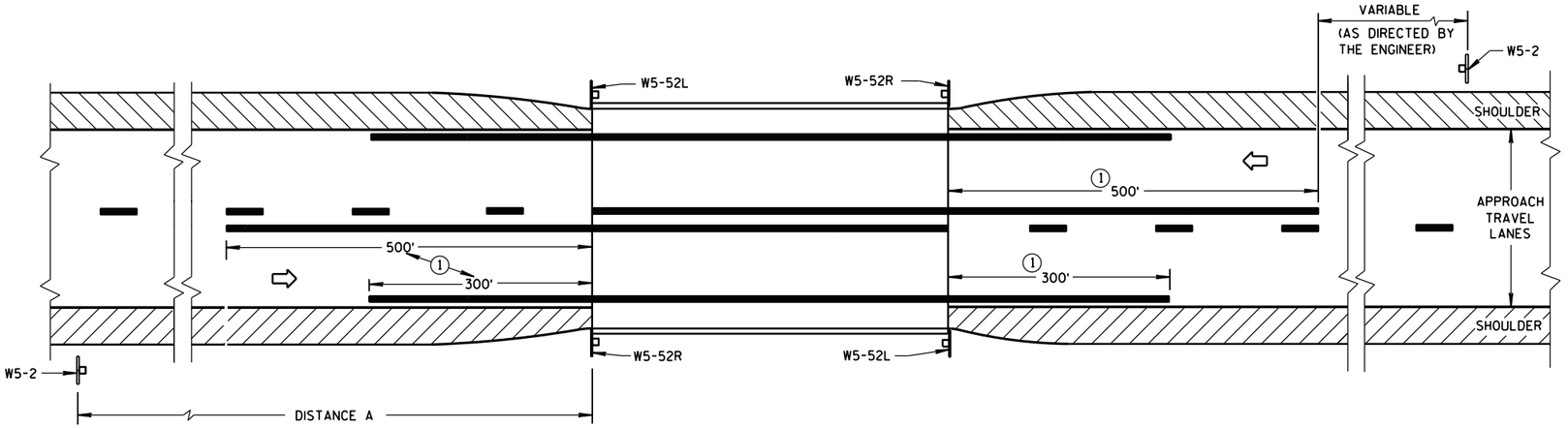
S.D.D. 14 B 7-14h



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.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

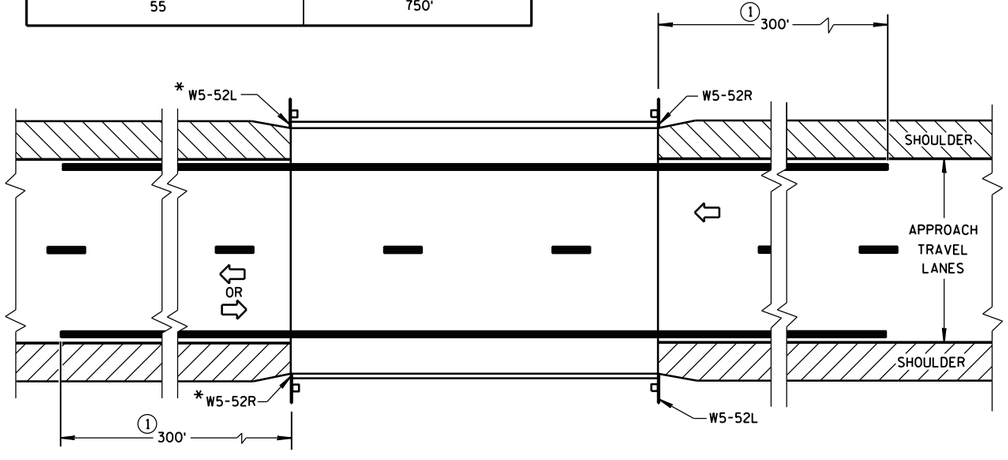
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET



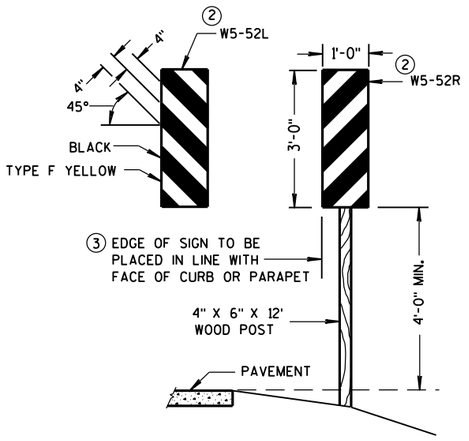
*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

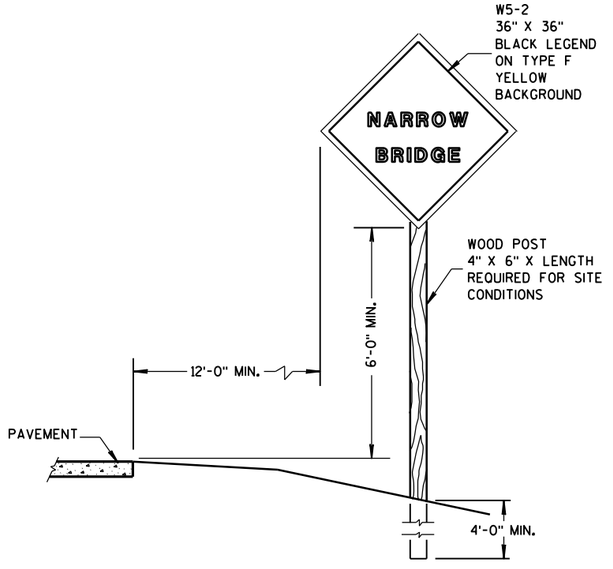
WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND

2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 6-7

GENERAL NOTES

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

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

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

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

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

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

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

TABLE A

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

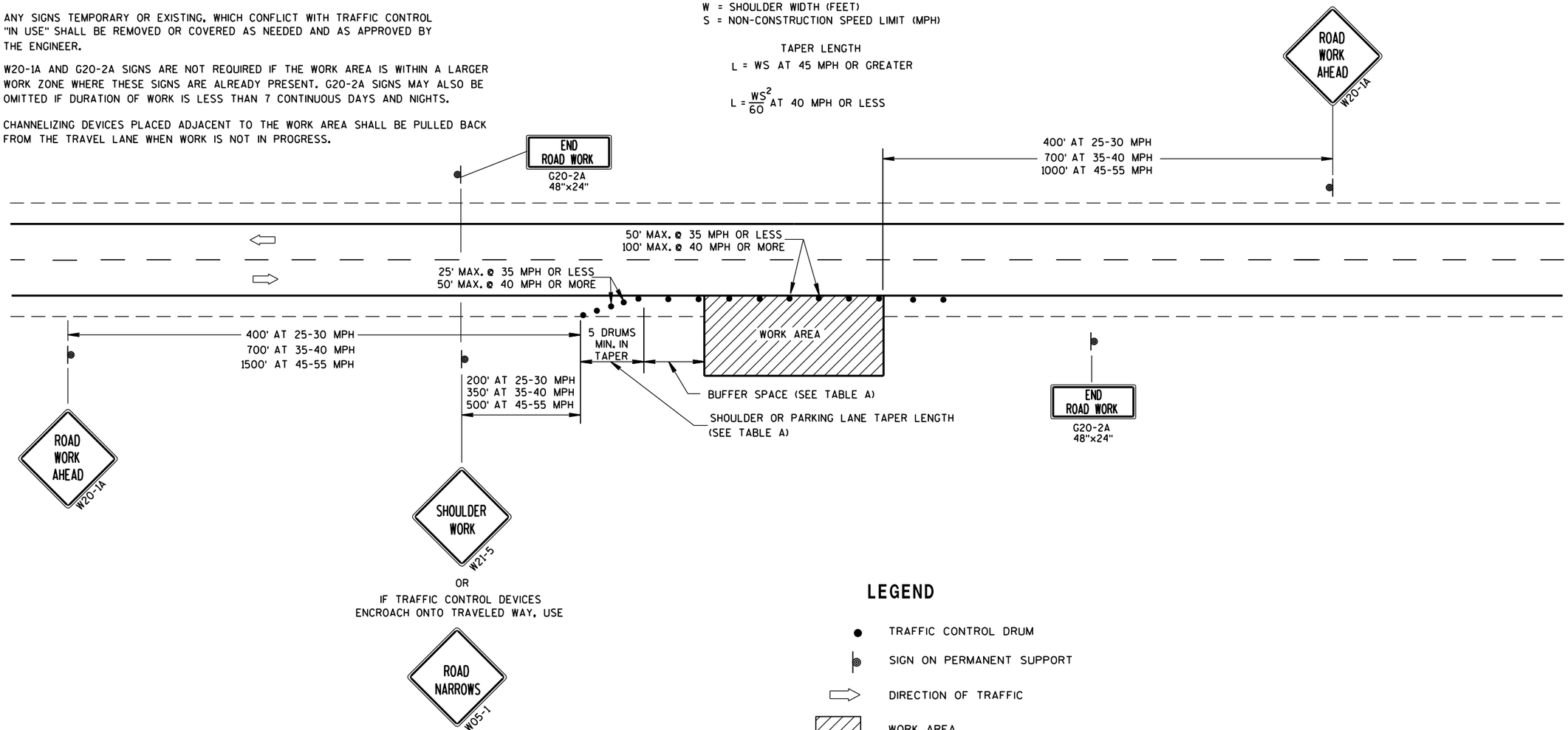
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

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

FHWA

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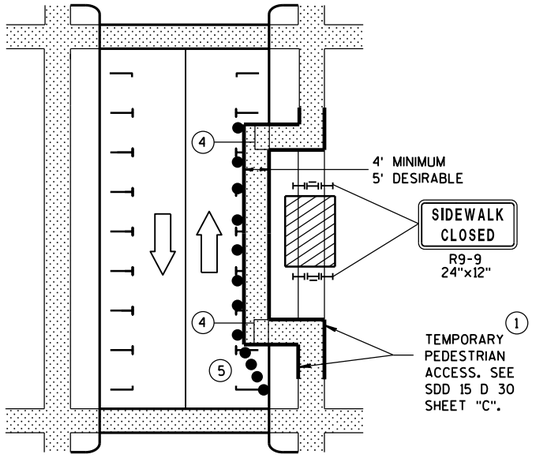
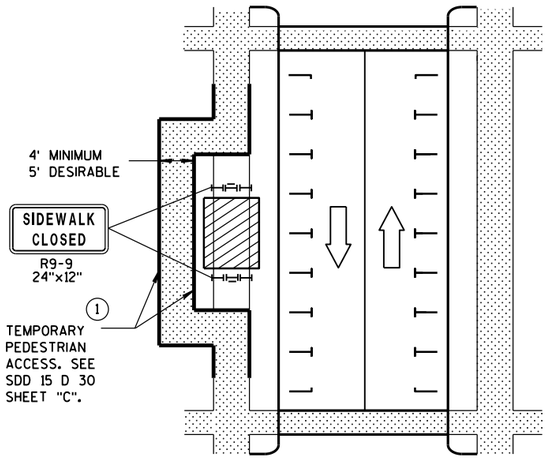
S.D.D. 15 D 28-3

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

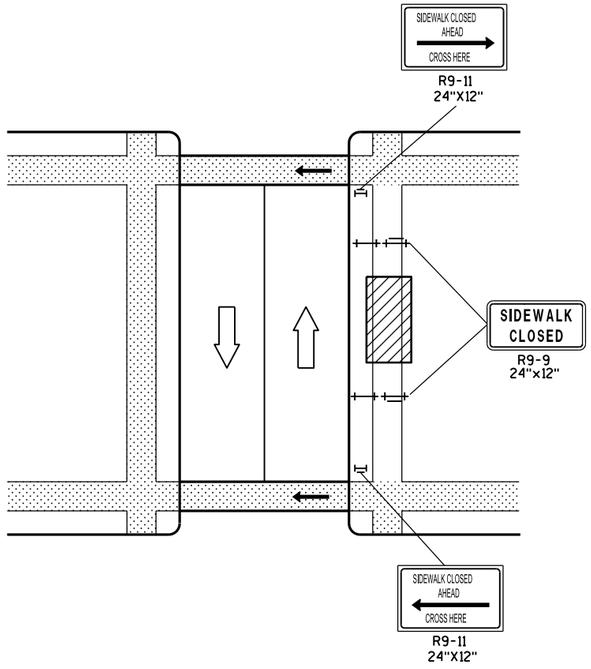


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

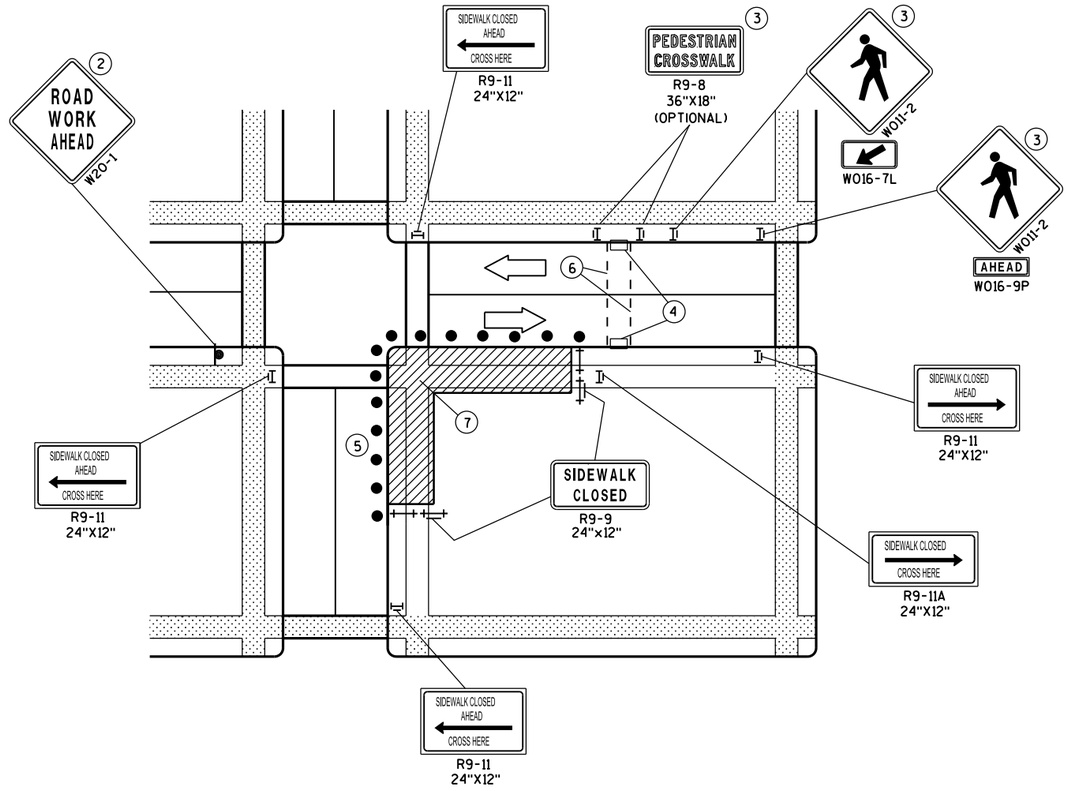
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

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

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

LEGEND

- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC
- TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 30-2a

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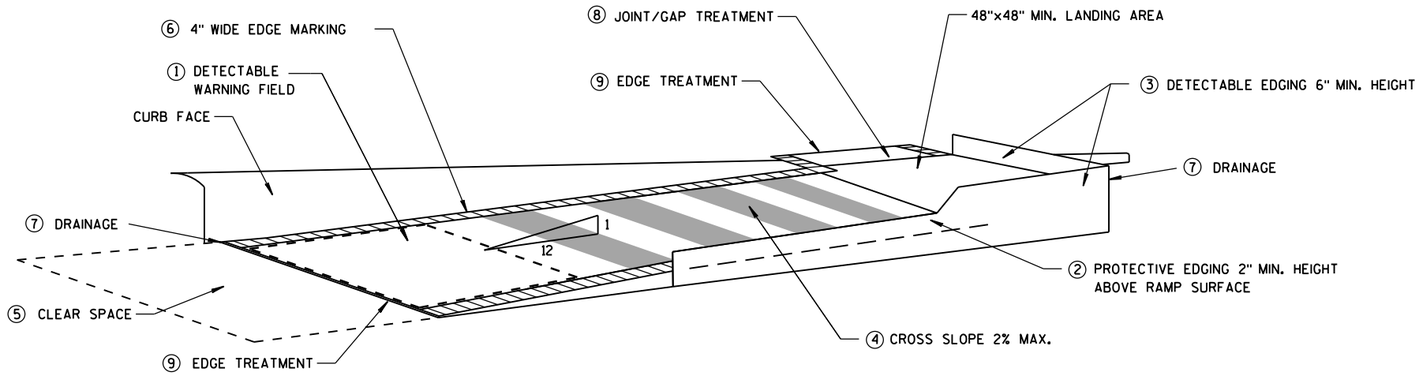
S.D.D. 15 D 30-2a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

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

① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 SHEET "E".

② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

④ CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

⑤ CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

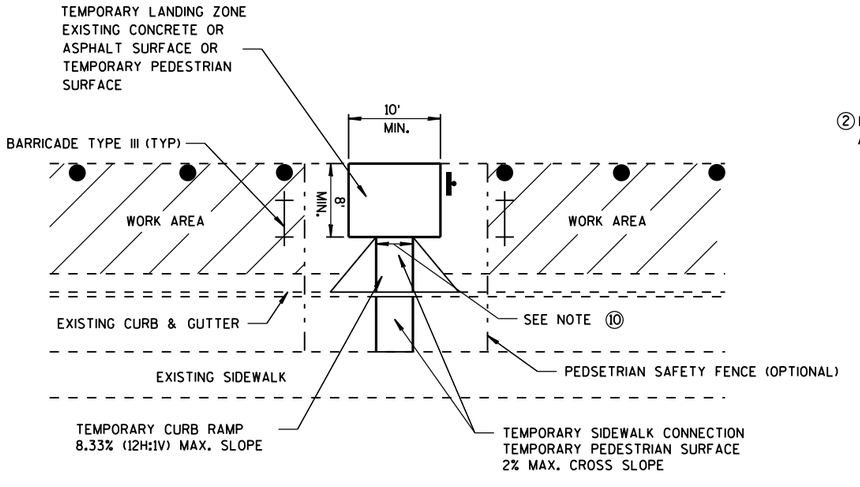
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

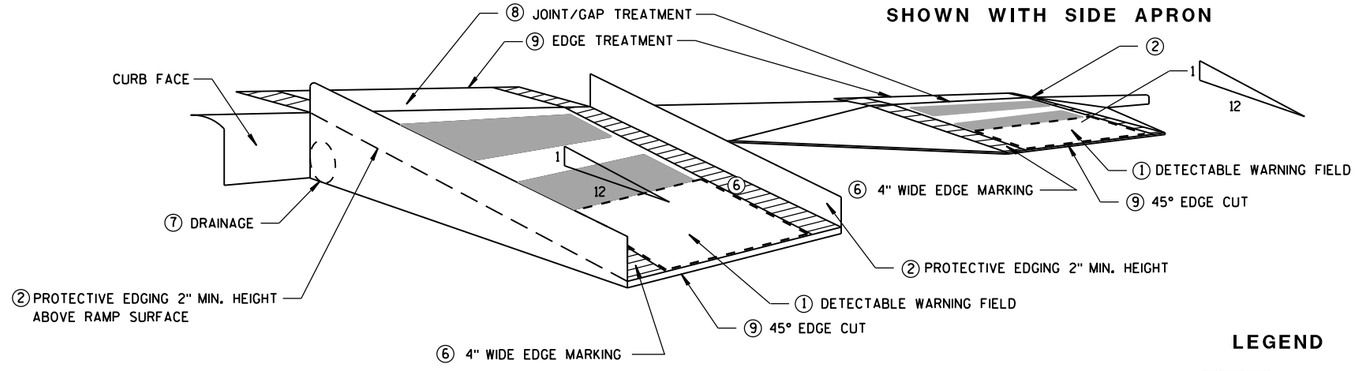
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

March 2015 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN

FHWA

6

S.D.D. 15 D 30-2b

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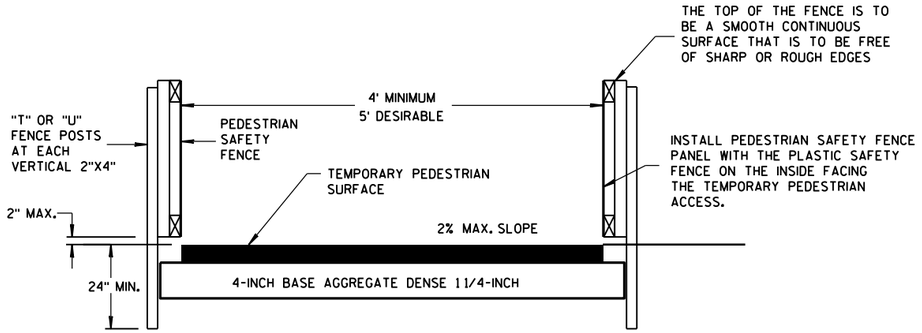
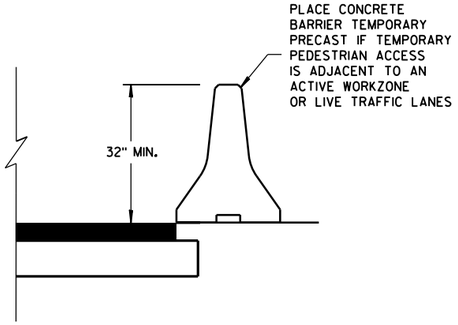
S.D.D. 15 D 30-2b

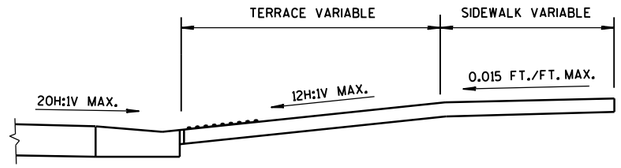




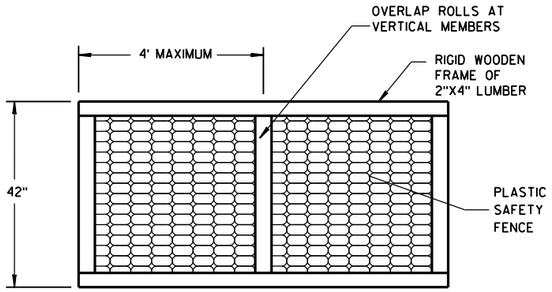
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

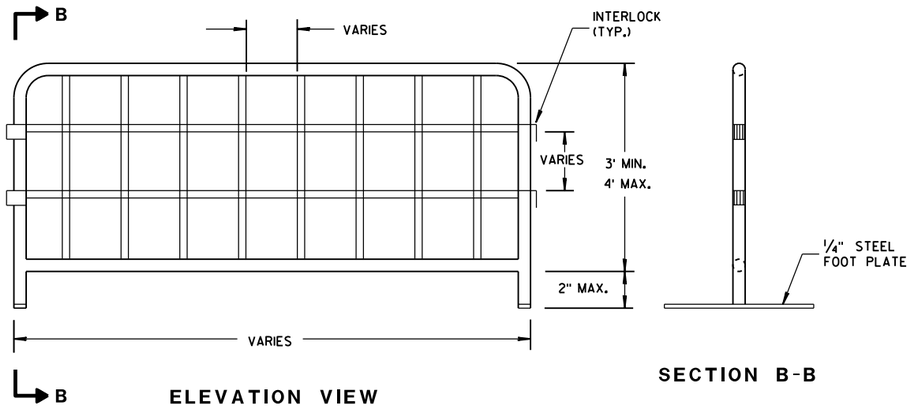
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



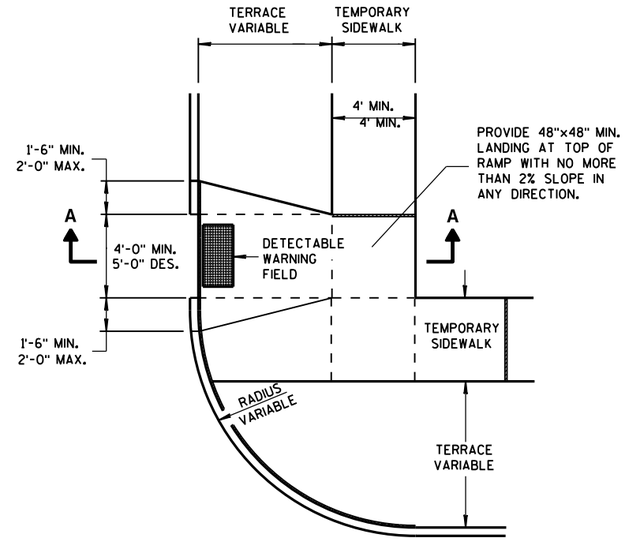
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

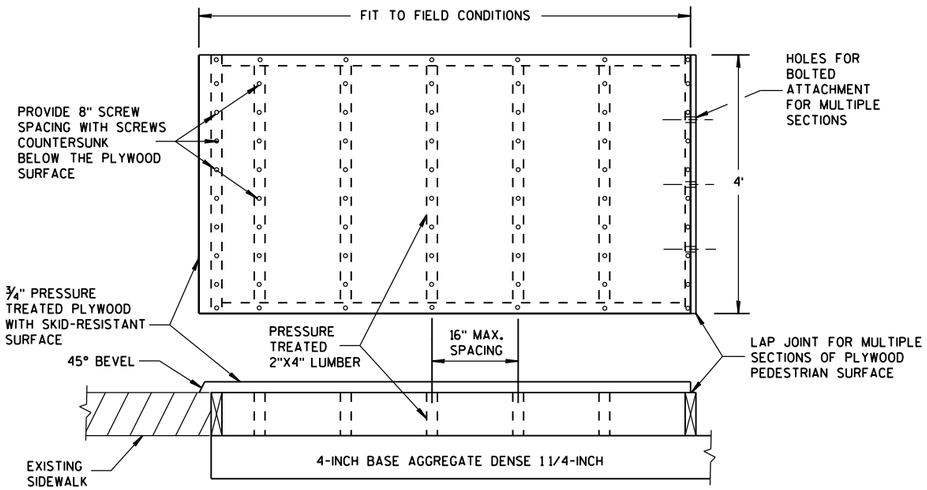
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



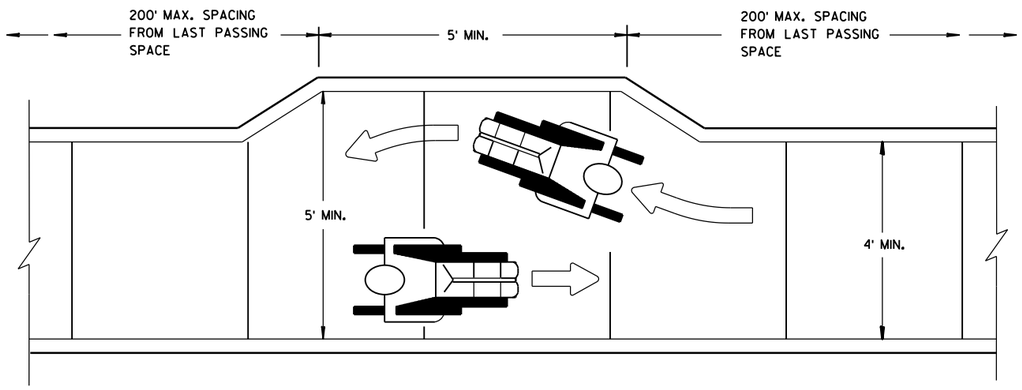
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN
FHWA

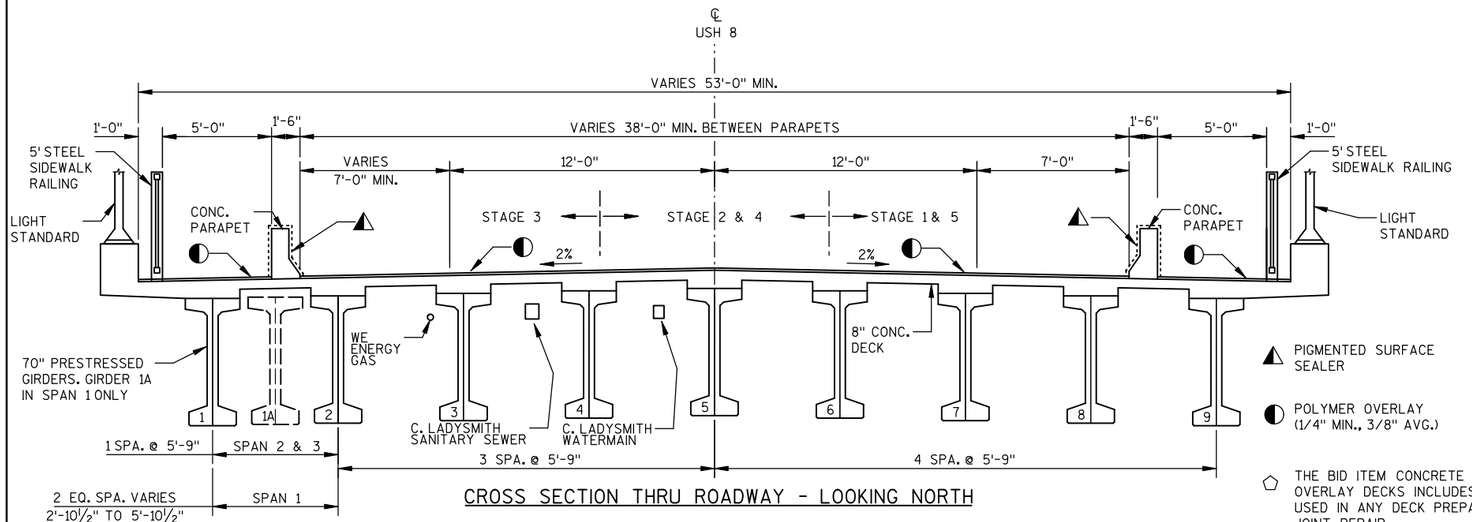
6

S.D.D. 15 D 30-2c

6

S.D.D. 15 D 30-2c

STATE PROJECT NUMBER
1580-09-73

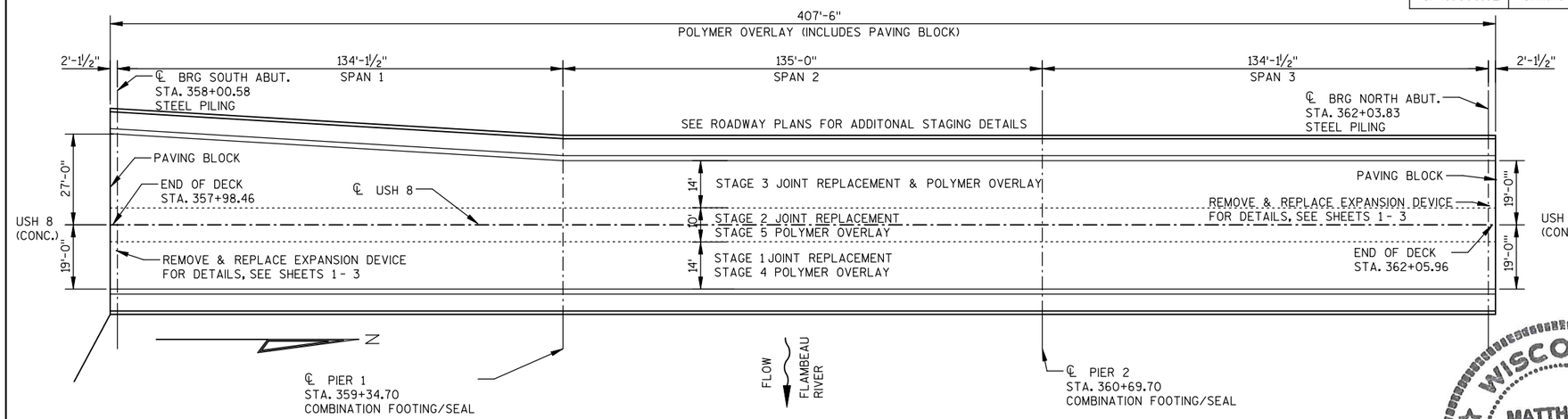


CROSS SECTION THRU ROADWAY - LOOKING NORTH

⬠ THE BID ITEM CONCRETE MASONRY OVERLAY DECKS INCLUDES CONCRETE USED IN ANY DECK PREPARATION AND JOINT REPAIR

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	SUPER.	TOTALS
502.3100	EXPANSION DEVICE STRUCTURE B-54-065	LS	1	1
502.3210	PIGMENTED SURFACE SEALER	SY	575	575
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	112	112
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2120	2120
505.0904	BAR COUPLERS NO. 4	EACH	20	20
505.0905	BAR COUPLERS NO. 5	EACH	12	12
509.0301	PREPARATION DECKS TYPE 1	SY	1	1
509.0302	PREPARATION DECKS TYPE 2	SY	1	1
509.1000	JOINT REPAIR	SY	50	50
509.1500	CONCRETE SURFACE REPAIR	SF	200	200
509.2500 ⬠	CONCRETE MASONRY OVERLAY DECKS	CY	15	15
509.5100.S	POLYMER OVERLAY	SY	2325	2325
509.9020.S	EPOXY CRACK SEALING	LF	40	40
509.9050.S	CLEANING PARAPETS	LF	815	815
514.0900	ADJUSTING FLOOR DRAINS	EACH	2	2
SPV.0090.02	SAWING PAVEMENT DECK PREPARATION AREAS	LF	150	150



PLAN B-54-65

THREE-SPAN PRESTRESSED GIRDER BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN RATING = HS20
INVENTORY RATING = HS23
OPERATING RATING = HS48
WISCONSIN STANDARD PERMIT VEHICLE LOAD = 250 KIPS

NOTE:
RATINGS ARE BASED ON A SUPERIMPOSED DEADLOAD OF 5 LBS/SF FOR THE EPOXY OVERLAY

GENERAL NOTES

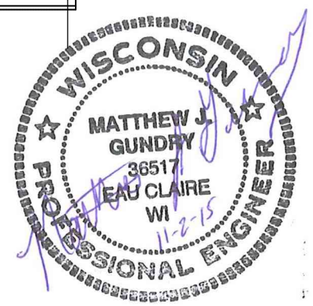
DRAWING SHALL NOT BE SCALED

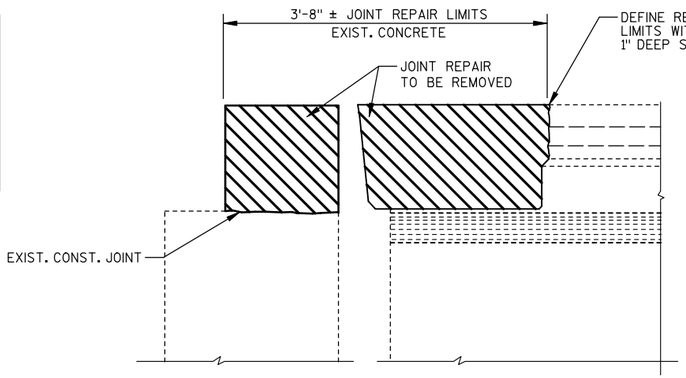
DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT

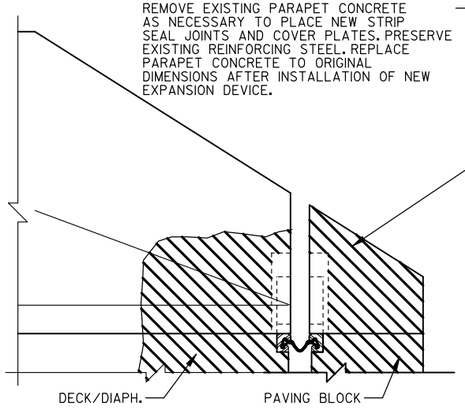
ANY EXCAVATION REQ'D TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTS. IS INCIDENTAL TO THE BID ITEM CONCRETE MASONRY OVERLAY DECKS

ORIGINAL PLANS PREPARED BY:
FLEMING, ANDRE AND ASSOC., INC.
3615 N. HASTINGS WAY, EAU CLAIRE, WI 54703
715-832-8400 FAX: 715-832-1367

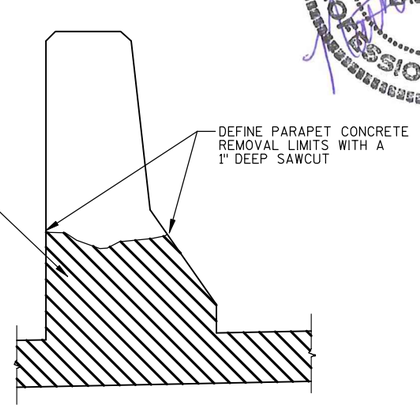




REMOVAL LIMITS AT EXISTING JOINT



REMOVAL LIMITS AT PARAPET - SIDE VIEW



REMOVAL LIMITS AT PARAPET - SECT. VIEW

BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MATT GUNDRY (715) 832-8400

LIST OF DRAWINGS

NO.	DATE	REVISION	BY

FAA CONSULTING ENGINEERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 11/3/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-54-065

U.S.H. 8 OVER FLAMBEAU RIVER

COUNTY	TOWN/CITY/VILLAGE
RUSK	LADYSMITH

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MJG	RMJ	RMJ	

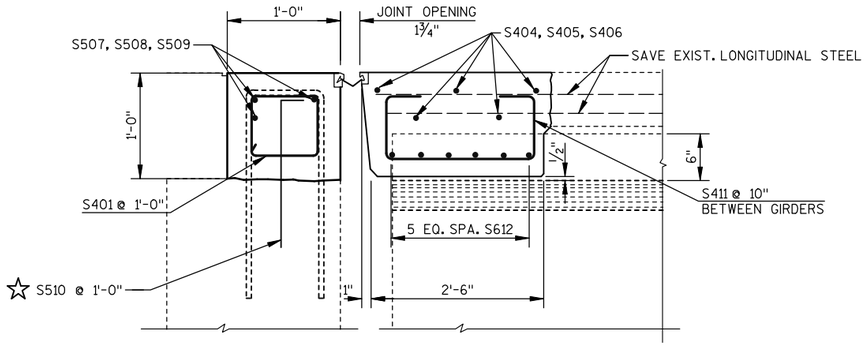
GENERAL PLAN

SHEET 1 OF 3
34

8

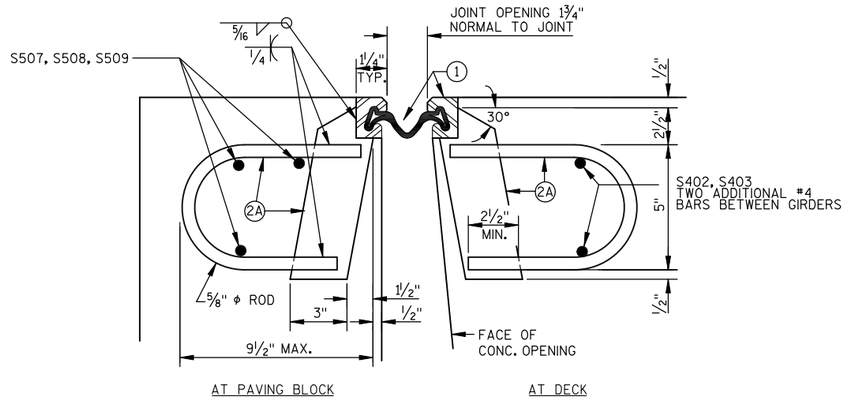
8

STATE PROJECT NUMBER
1580-09-73



PAVING BLOCK & DIAPHRAM DETAILS

☆ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN LEG AS NECESSARY TO FIT.

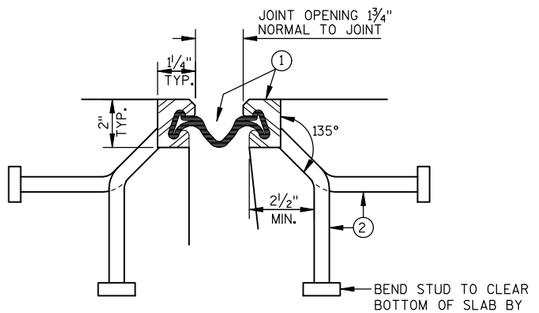


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN GIRDERS
1A & 8 (S. ABUT.) OR 2 & 8 (N. ABUT.)

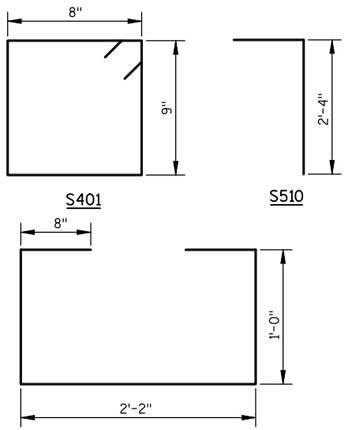
LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
2. STUDS ⅝"ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.
7. ¾"ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"ϕ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
11. SIDEWALK COVER PLATE ⅜" X 2'-0" X LIMITS SHOWN WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS, MEDIANS & SIDEWALKS



BILL OF BARS

BAR MARK	COAT	NO. REQ'D. S. ABUT.	NO. REQ'D. N. ABUT.	LENGTH	BENT	LOCATION
S401	X	60	52	3'-4"	X	PAVING BLOCK - VERT.
S402	X	2	-	5'-4"		EXP. JOINT BETWEEN GIRDERS 1A & 2
S403	X	12	12	5'-2"		EXP. JOINT BETWEEN GIRDERS 2 THRU 8
S404	X	5	10	21'-4"		DECK - TRANS. STAGE 1& 3 *
S405	X	5	5	10'-0"		DECK - TRANS. STAGE 2 *
S406	X	5	-	29'-4"		DECK - TRANS. STAGE 3 *
S507	X	3	6	21'-4"		PAVING BLOCK - TRANS. STAGE 1& 3 *
S508	X	3	3	10'-0"		PAVING BLOCK - TRANS. STAGE 2 *
S509	X	3	-	29'-4"		PAVING BLOCK - TRANS. STAGE 3 *
S510	X	60	52	3'-1"	X	PAVING BLOCK VERT.
S411	X	36	32	5'-2"	X	DIAPH. STIRRUPS
S612	X	54	48	2'-11"		DIAPH. BOTTOM TRANS.

* BAR COUPLERS REQ'D TO PROVIDE CONTINUITY OF TRANSVERSE BARS IN DECK AND PAVING BLOCK. BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERTICAL CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGING, HANDLING, CROWN MATCHING, OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

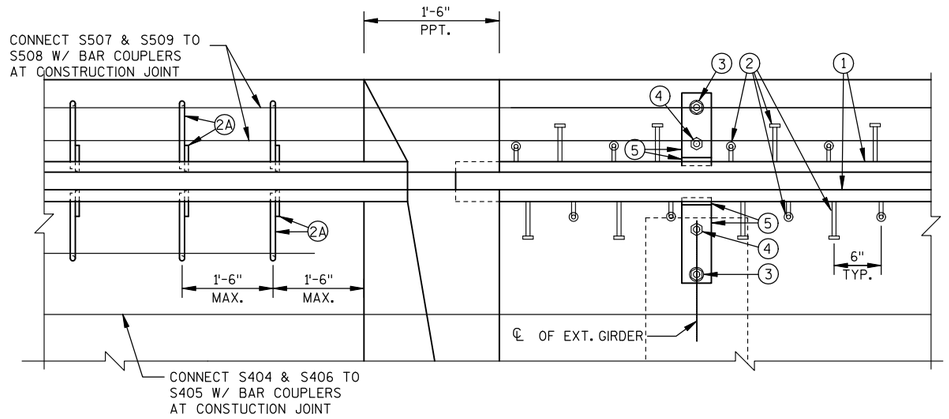
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

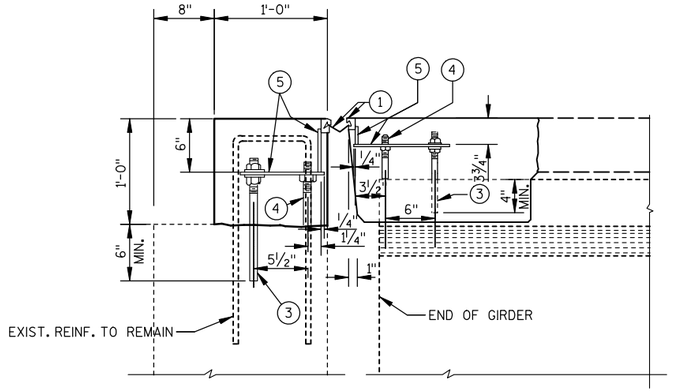
SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE".



PART PLAN



TYPICAL SECTION THRU JOINT AT PRESTRESSED GIRDER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-065

DRAWN BY	RMJ	PLANS CK'D.	MJG

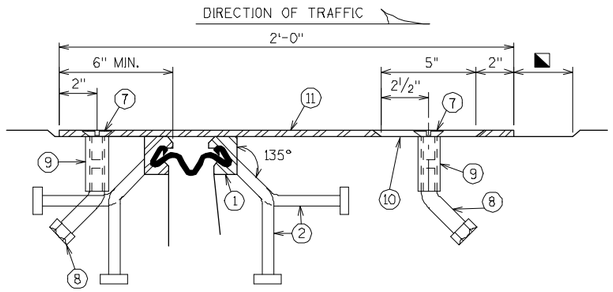
JOINT DETAILS

SHEET 2
35

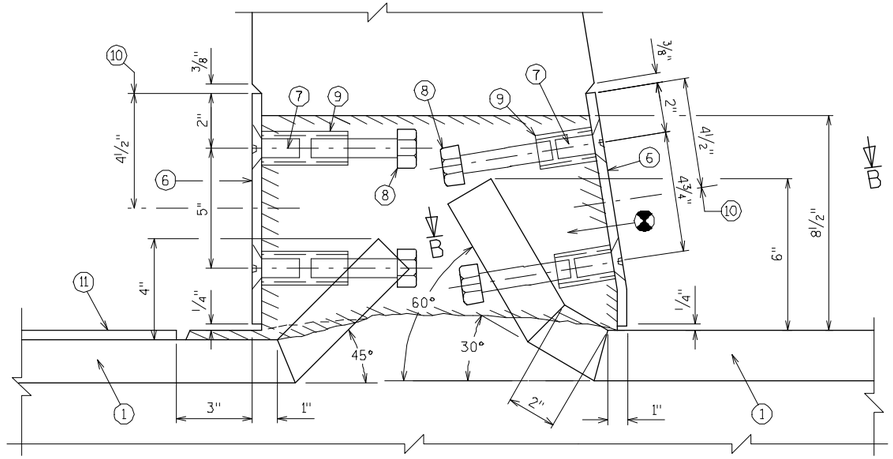
8

8

STATE PROJECT NUMBER
1580-09-73

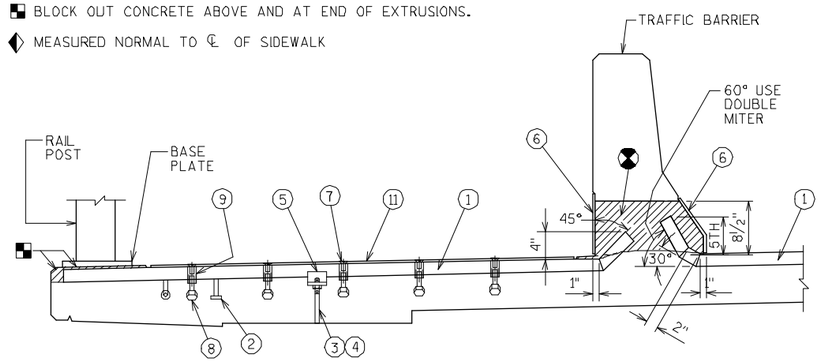


SECTION C-C

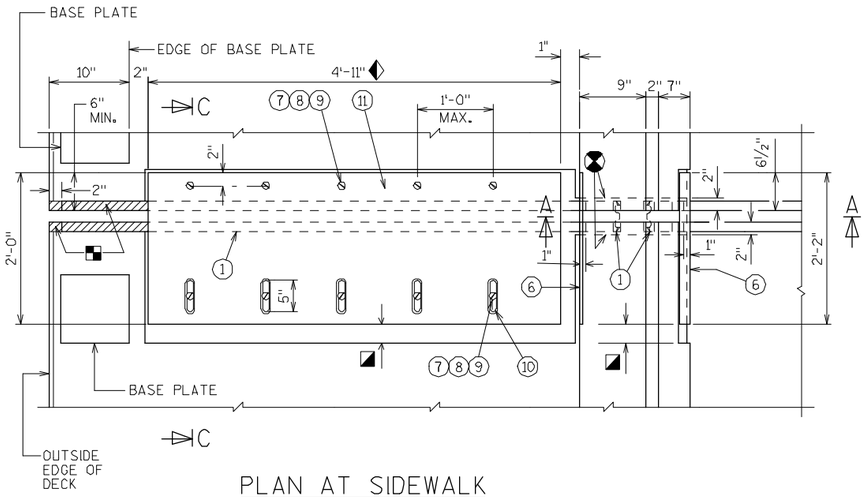


SECTION A-A
TRAFFIC BARRIER

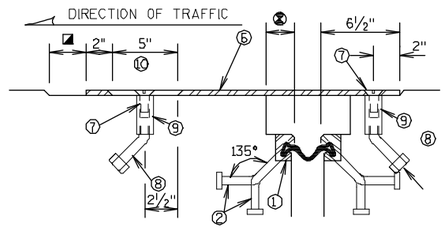
- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIMENSION ALONG SKEW PLUS ½".
- BLOCK OUT CONCRETE ABOVE AND AT END OF EXTRUSIONS.
- MEASURED NORMAL TO ℄ OF SIDEWALK



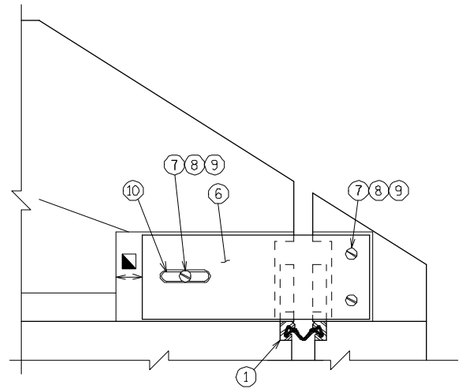
SECTION AT SIDEWALK



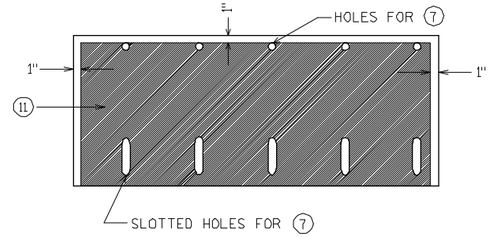
PLAN AT SIDEWALK



SECTION B-B



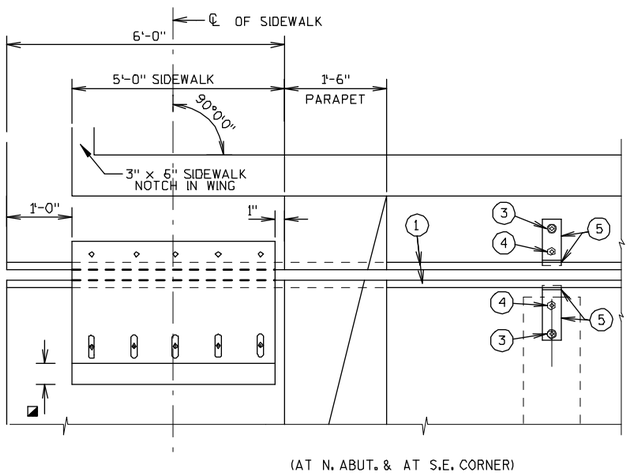
VIEW OF PARAPET PLATES FROM ROADWAY
TRAFFIC BARRIER



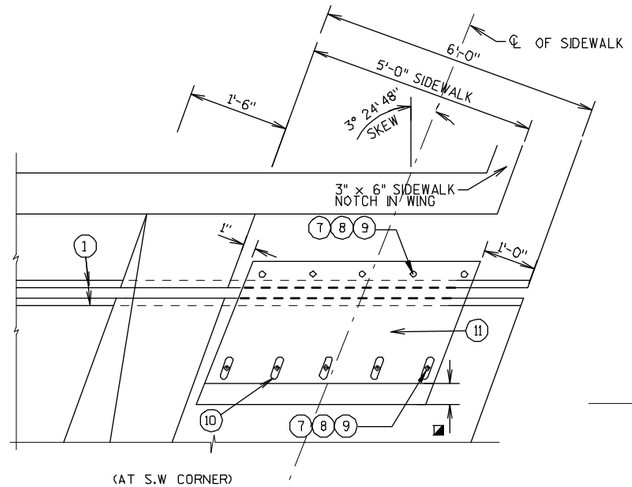
PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY. PROVIDE SKEWED PLATE AT SW CORNER

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170



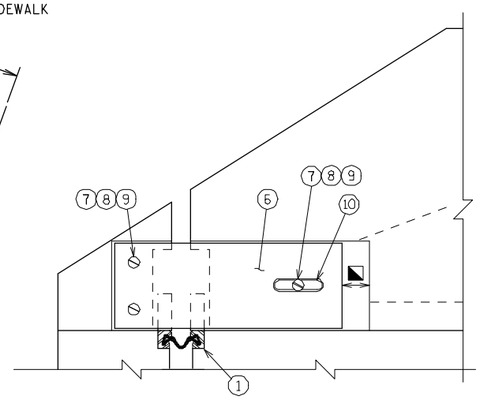
(AT N. ABUT. & AT S.E. CORNER)



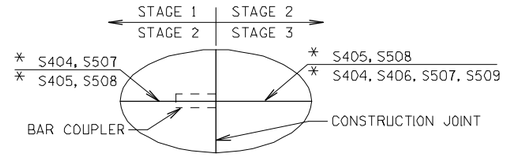
(AT S.W CORNER)

PLAN OF PROPOSED JOINT

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"



VIEW OF PARAPET PLATES FROM SIDEWALK
TRAFFIC BARRIER



BAR COUPLER DETAIL

* BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERTICAL CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-065

DRAWN BY RMJ | PLANS CK'D. MJG

JOINT DETAILS

SHEET 3
36

8

8

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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