EAU

PROJECT ID: 1020-03-81

WITH:

COUNTY: ST. CROIX

NOVEMBER 2017

ORDER OF SHEETS

TOTAL SHEETS = 142

43

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

HUDSON - BALDWIN

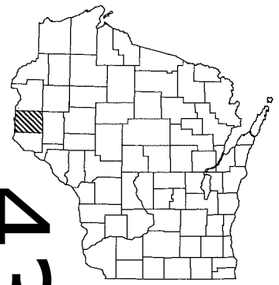
USH 12 TO STH 65 (EB & WB)

IH 94

ST. CROIX

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1020-03-81	WISC 2017621	1

STATE PROJECT NUMBER
1020-03-81



N

DESIGN DESIGNATION

A.A.D.T.	2018	=	50900
A.A.D.T.	2028	=	62300
D.H.V.		=	3397
D.D.		=	58/42
T.		=	24.1%
DESIGN SPEED		=	75 MPH
ESALS		=	30,000,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300'EBP	ELECTRIC	E
EXISTING CULVERT		OVERHEAD UTILITY	OH
PROPOSED CULVERT (Box or Pipe)		FIBER OPTIC	FO
COMBUSTIBLE FLUIDS	CAUTION	GAS	G
		SANITARY SEWER	SAN
MARSH AREA		STORM SEWER	SS
		TELEPHONE	T
		WATER	W
WOODED OR SHRUB AREA		UTILITY PEDESTAL	
		POWER POLE	
		TELEPHONE POLE	

BEGIN PROJECT 1020-03-81
STA. 221EB+00
X= 534633.58
Y= 338650.60
STA. 220WB+67
X= 534598.71
Y= 338724.12

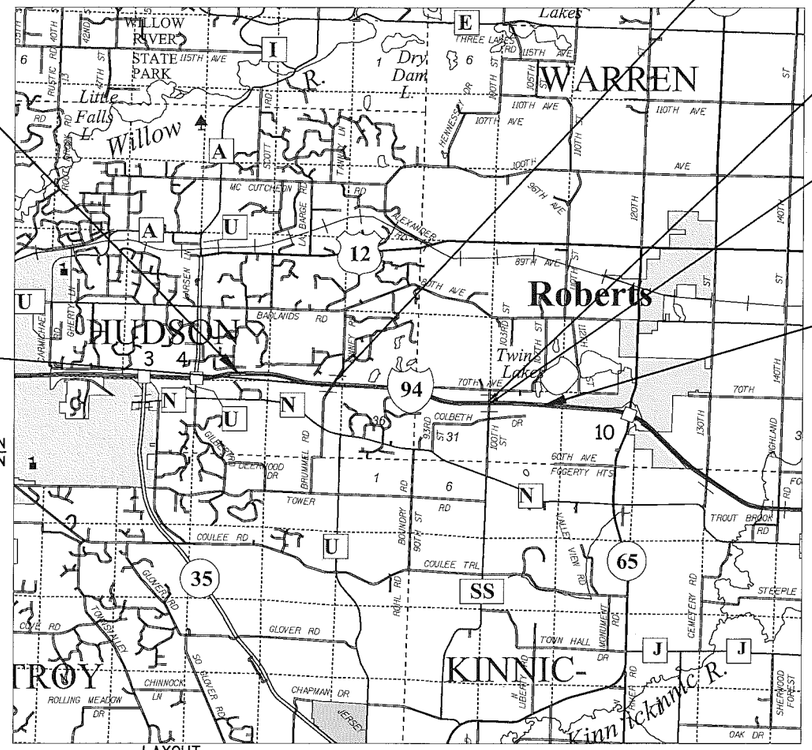
EXCEPTION TO NET CENTERLINE LENGTH
STA. 281EB+32 - STA. 282EB+56
B-55-0032

EXCEPTION TO NET CENTERLINE LENGTH
STA. 281WB+90 - STA. 283WB+14
B-55-0031

EXCEPTION TO NET CENTERLINE LENGTH
STA. 395WB+56 - STA. 396WB+60
B-55-0033

EXCEPTION TO NET CENTERLINE LENGTH
STA. 395EB+68 - STA. 396EB+72
B-55-0034

END PROJECT 1020-03-81
STA. 413EB+00
X= 553634.43
Y= 337164.59
STA. 413WB+00
X= 553645.39
Y= 337263.73



TOTAL NET LENGTH OF CENTERLINE = 3.64 MI EB
3.64 MI WB

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, ST. CROIX COUNTY, NAD83 (2014), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WILLIAM HOLME
Designer	NICHOLAS PITSCH
Project Manager	ADAM SARAUER
Regional Examiner	JENNIFER OLDENBURG
Regional Supervisor	TARA WEISS

APPROVED FOR THE DEPARTMENT
DATE: 6/27/17 (Signature)

E

LIST OF STANDARD ABBREVIATIONS

ABUT.	ABUTMENT
AGG.	AGGREGATE
AH.	AHEAD
APPROX.	APPROXIMATE
A.E.W.	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
AZ.	AZIMUTH
BK.	BACK
BEG.	BEGIN
B.M.	BENCH MARK
C/L	CENTER LINE
CONC.	CONCRETE
CONST.	CONSTRUCTION
CO.	COUNTY
C.T.H.	COUNTY TRUNK HIGHWAY
X-SEC.	CROSS SECTION
CR.	CRUSHED
CFS	CUBIC FEET/SECOND
C.Y., CU. YD.	CUBIC YARD
CULV.	CULVERT
C.P.	CULVERT PIPE
D.O.T.	DEPARTMENT OF TRANSPORTATION
D.H.V.	DESIGN HOUR VOLUME
DIA.	DIAMETER
D.	DIRECTIONAL DISTRIBUTION
DISCH. OR DIS.	DISCHARGE
EA.	EACH
ELECT.	ELECTRIC
EL. OR ELEV.	ELEVATION
EMB.	EMBANKMENT
E.B.S.	EXCAVATION BELOW SUBGRADE
EXIST.	EXISTING
FERT.	FERTILIZE
F.E.	FIELD ENTRANCE
FIN.	FINISHED
FT.	FOOT
F.L.	FLOW LINE
GA.	GAUGE
HORIZ.	HORIZONTAL
CWT.	HUNDREDWEIGHT
INL.	INLET
LT.	LEFT
L.H.F.	LEFT-HAND FORWARD
LIN.	LINEAR
LIN. FT.	LINEAR FOOT
L.S.	LUMP SUM
MAX.	MAXIMUM
MI.	MILE
MISC.	MISCELLANEOUS
N.E.	NORTH EAST
N.W.	NORTH WEST
PAV'T	PAVEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
P.O.T.	POINT ON TANGENT
LB.	POUND
P.E.	PRIVATE ENTRANCE
PROJ.	PROJECT
R.	RANGE
REQ'D	REQUIRED
RT.	RIGHT
R.H.F.	RIGHT-HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHR.	SHRINKAGE
SL.	SLOPE
STD.	STANDARD
S.D.D.	STANDARD DETAIL DRAWINGS
S.T.H.	STATE TRUNK HIGHWAY
STA.	STATION
S.P.P.A.	STRUCTURAL PLATE PIPE ARCH
STRUCT.	STRUCTURE
SURF.	SURFACE
TEL.	TELEPHONE
TN.	TOWN
T.	TRUCKS (PERCENT OF)
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND
V.	VELOCITY OR DESIGN SPEED
V.C.	VERTICAL CURVE

GENERAL NOTES

THE ENGINEER WILL DETERMINE ANY DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN.

REMOVAL OF ANY SURVEY MARKER REQUIRES APPROVAL OF THE ENGINEER.

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

RESHAPE AND SEED ANY PREVIOUSLY GRASSED AREAS THAT ARE DISTURBED BY OPERATIONS OUTSIDE THE NORMAL CONSTRUCTION LIMITS.

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

STATIONING, DISTANCE, AND OFFSETS FOR PERMANENT SIGNS SHOWN ON THE PLANS ARE APPROXIMATE. ACTUAL LOCATIONS OF SIGNS ARE TO BE COORDINATED IN THE FIELD BY THE ENGINEER.

UTILITIES

COMMUNICATIONS LINE
AT&T LEGACY
BRAD KEMPH (LOCATOR)
715-254-5238
COPY ALL CORRESPONDENCE TO:
BILL KOENIG (ENGINEER)
JMC ENGINEERS & ASSOCIATES
128 W SUNSET AVENUE
APPLETON, WI 54911
608-628-0575 (MOBILE)
wekoenig@att.net

AT&T WISCONSIN
RICK PODOLAK
304 SOUTH DEWEY STREET, 4TH FLOOR
EAU CLAIRE, WI 54701
715-839-5565 (OFFICE)
715-410-0656 (MOBILE)
rp4514@att.com

CENTURYLINK COMMUNICATIONS
BOB SAMPSON
1310 E. MARY STREET
OTTUMWA, IA 52501
641-684-4106 (OFFICE)
636-887-5367 (MOBILE)
Robert.Sampson@Centurylink.com

FRONTIER COMMUNICATIONS
CHRIS POLLACK
521 N. 4TH AVE
WAUSAU, WI 54403
715-847-1240 (OFFICE)
715-297-4773 (MOBILE)
Christopher.Pollack@ftr.com

LEVEL 3 COMMUNICATIONS
BOB STRONG
5480 FELTL RD
MINNETONKA, MN 55343
952-351-2353 (OFFICE)
612-805-6827 (MOBILE)
bob.strong@level3.com
COPY ALL CORRESPONDENCE TO:
Level3.networkrelocations@level3.com

WISDOT
JEFF MADSON
STE. 300
433 W. ST. PAUL AVE.
MILWAUKEE, WI 53203-3007
414-225-3723 (OFFICE)
Jeffrey.madson@dot.wi.gov

ELECTRICITY - DISTRIBUTION
ST. CROIX ELECTRIC COOPERATIVE
ROB DOOLEY
1925 RIDGEWAY STREET
PO BOX 160
HAMMOND, WI 54015-0160
715-796-7000 (OFFICE)
robd@scecnet.net

XCEL ENERGY
BRIAN MELLO
320 HELLER ROAD
MENOMONIE, WI 54751
715-232-7412 (OFFICE)
715-577-5828 (MOBILE)
Brian.M.Mello@XcelEnergy.com
COPY ALL CORRESPONDENCE TO:
DAWN SCHULTZ
1414 W HAMILTON AVE
PO BOX 8
EAU CLAIRE, WI 54702-0008
715-737-2482 (OFFICE)
dawn.schultz@xcelenergy.com

GAS
MIDWEST NATURAL GAS
24-HOUR EMERGENCY (GAS)
877-817-3119
JUSTIN JACOBS
611 SHAY STREET
SOMERSET, WI 54025
715-247-5279 (OFFICE)
715-797-0590 (MOBILE)
justinj@midwestnaturalgas.com

XCEL ENERGY
24-HOUR EMERGENCY (GAS)
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715-737-2482 (OFFICE)
dawn.schultz@xcelenergy.com

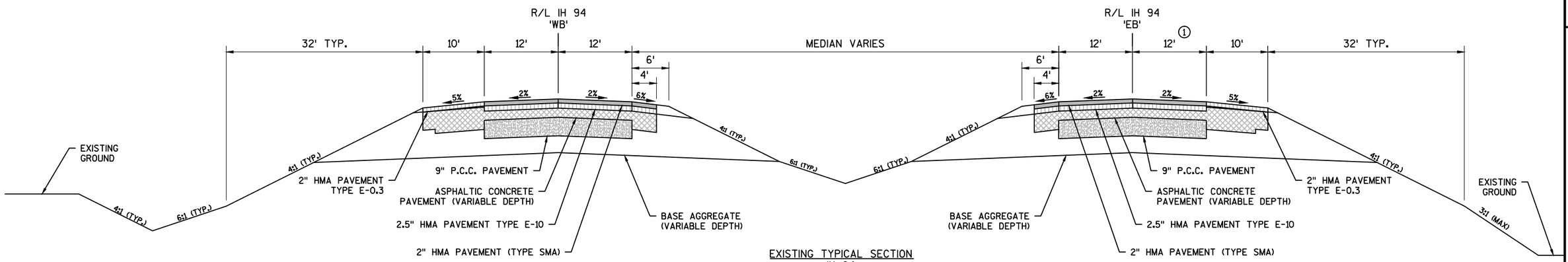
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

WISCONSIN DNR - LIASON

DNR - WEST CENTRAL REGION
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: 715-839-1609
ATTN: CHRIS WILLGER

WISCONSIN DOT - DESIGN

ADAM SARAUER, P.E.
DOT - NORTHWEST REGION
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: 715-579-4377
ATTN: NICHOLAS PITSCH



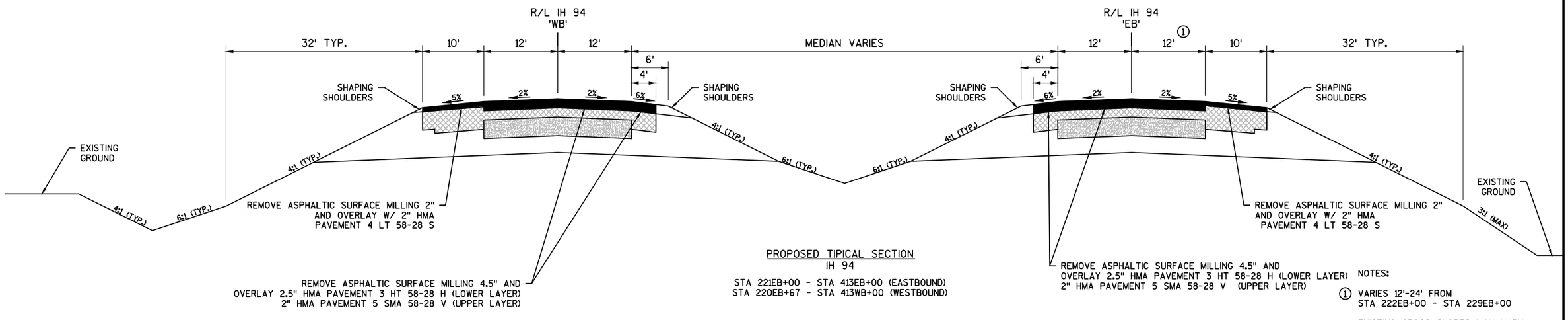
EXISTING TYPICAL SECTION
IH 94

STA 221EB+00 - STA 413EB+00 (EASTBOUND)
STA 220EB+67 - STA 413WB+00 (WESTBOUND)

NOTES:

① VARIES 12'-24' FROM STA 222EB+00 - STA 229EB+00

EXISTING CROSS SLOPES MAY VARY DUE TO SUPERELEVATION.



PROPOSED TIPICAL SECTION
IH 94

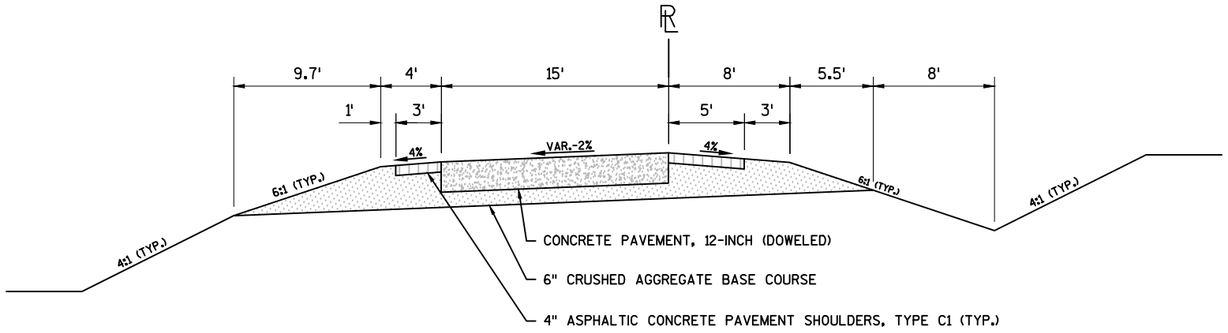
STA 221EB+00 - STA 413EB+00 (EASTBOUND)
STA 220EB+67 - STA 413WB+00 (WESTBOUND)

NOTES:

① VARIES 12'-24' FROM STA 222EB+00 - STA 229EB+00

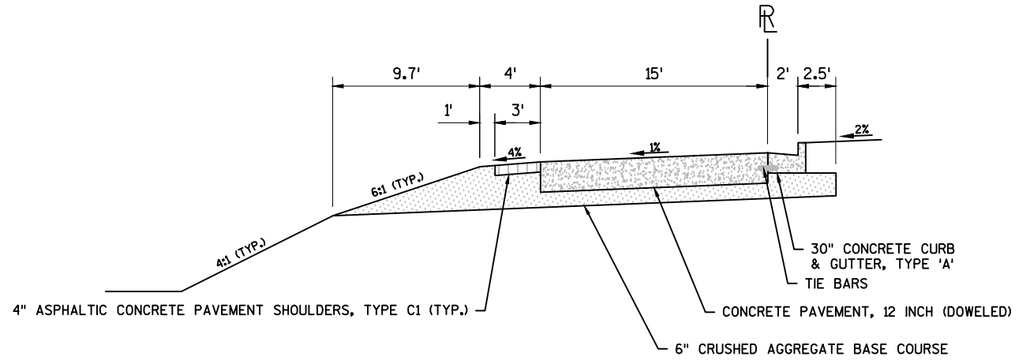
EXISTING CROSS SLOPES MAY VARY MATCH EXISTING SUPERELEVATION.

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	TYPICAL SECTIONS - MAINLINE	SHEET 3	E



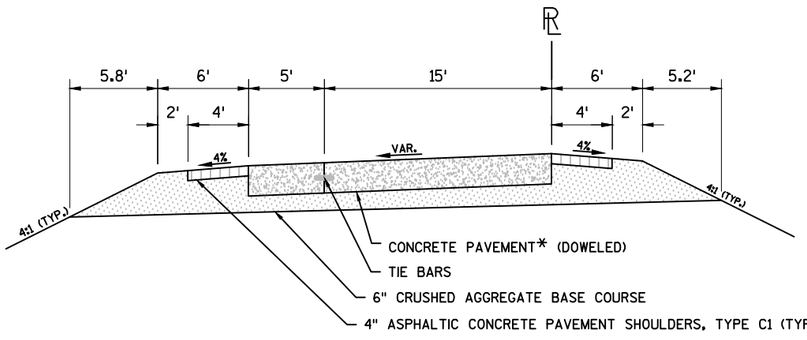
EXISTING MAINLINE RAMPS
WEIGH STATION

STA 101J+30 - STA 116J+35
STA 120J+37 - STA 122J+86
STA 300L+00 - STA 305L+45
STA 154J+20 - STA 162J+51



EXISTING MAINLINE RAMPS
WEIGH STATION

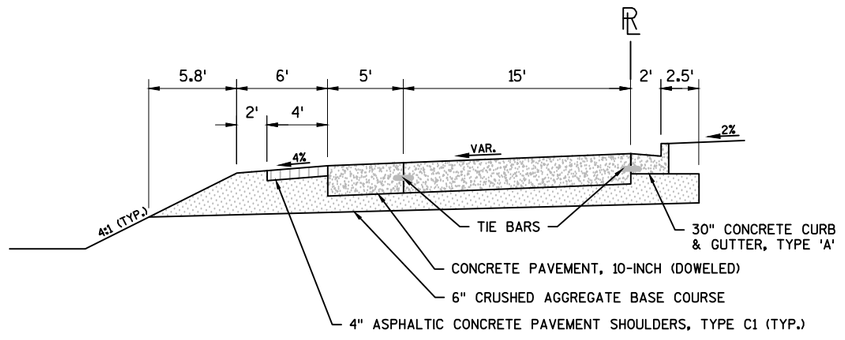
STA 116J+35 - STA 120J+37



EXISTING LOOPS AND PARKING AREA
WEIGH STATION

STA 122J+86 - STA 124J+28
STA 125J+28 - STA 131J+15
STA 136J+69 - STA 139J+77
STA 144J+67 - STA 152J+77
STA 153J+97 - STA 155J+71

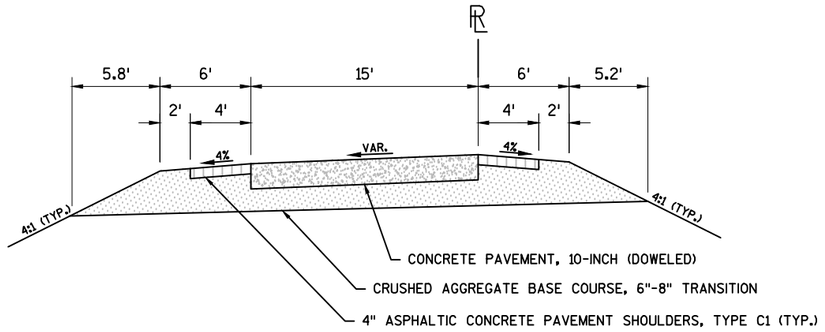
* 10" NORMAL
12" STA 122J+86 - STA 124J+28
12" STA 153J+97 - STA 155J+71



EXISTING LOOPS AND PARKING AREA
WEIGH STATION

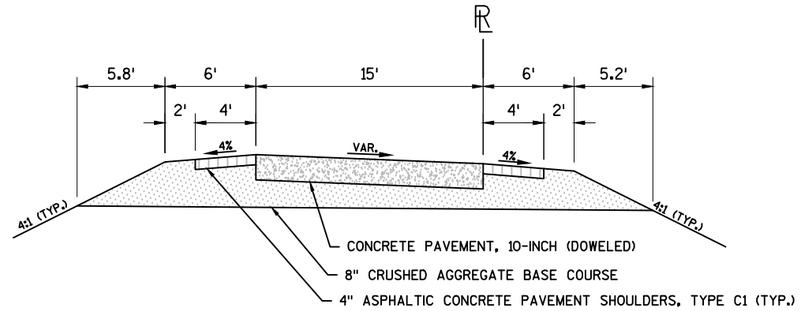
STA 131J+15 - STA 136J+69

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	TYPICAL SECTIONS - WEIGH STATION	SHEET 4	E



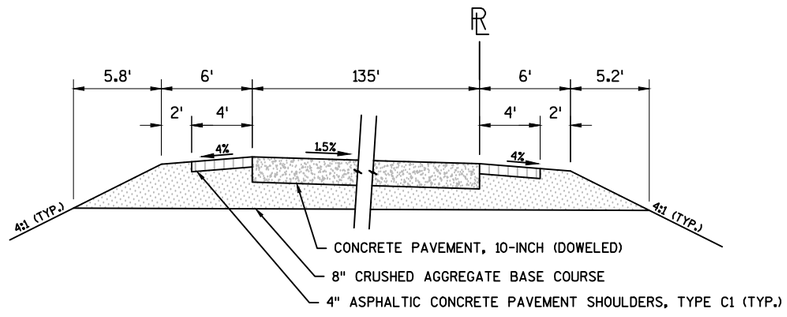
EXISTING PARKING LOT RAMPS
WEIGH STATION

STA 124J+28 - STA 125J+28
STA 152J+77 - STA 153J+97



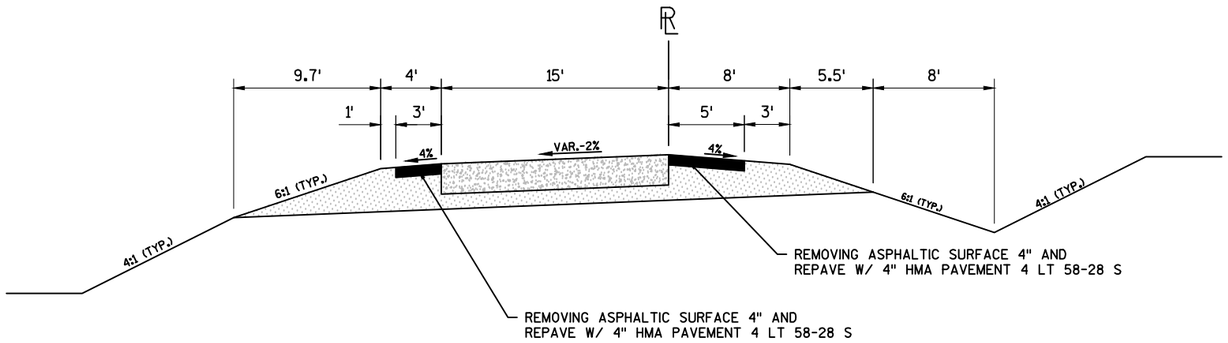
EXISTING PARKING LOT RAMPS
WEIGH STATION

STA 200K+50 - STA 202K+39



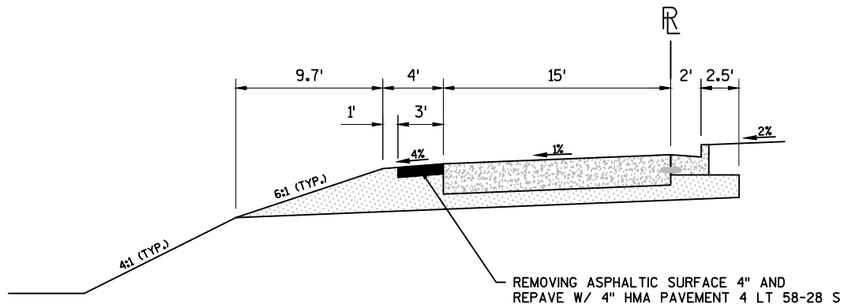
EXISTING PARKING LOT
WEIGH STATION

STA 139J+77 - STA 144J+67



PROPOSED MAINLINE RAMPS
WEIGH STATION

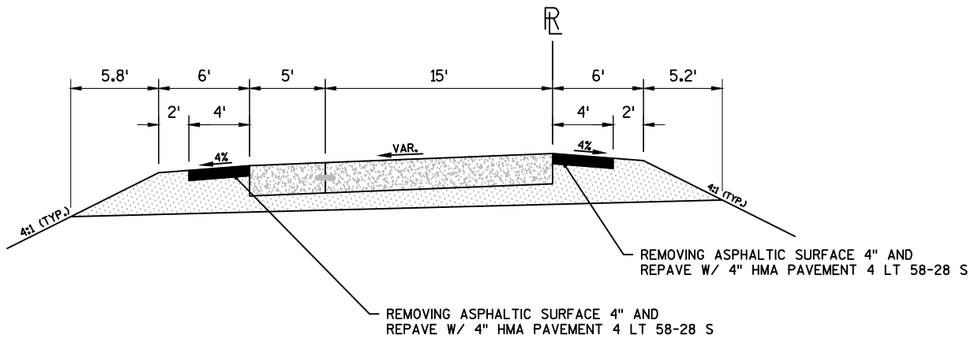
STA 101J+30 - STA 116J+35
STA 120J+37 - STA 122J+86
STA 300L+00 - STA 305L+45
STA 154J+20 - STA 162J+51



PROPOSED MAINLINE RAMPS
WEIGH STATION

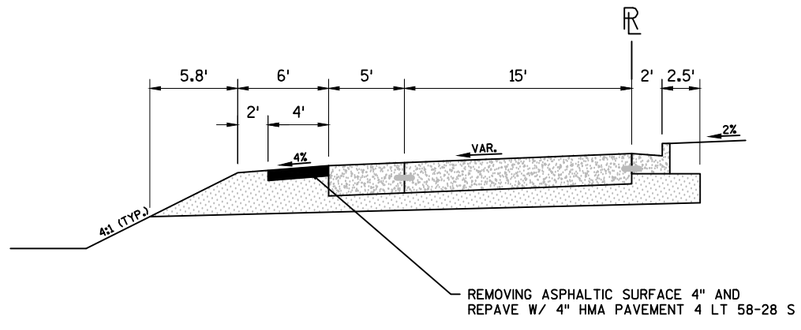
STA 116J+35 - STA 120J+37

NOTES:
EXISTING CROSS SLOPES MAY VARY
MATCH EXISTING SUPERELEVATION.



PROPOSED LOOPS AND PARKING AREA
WEIGH STATION

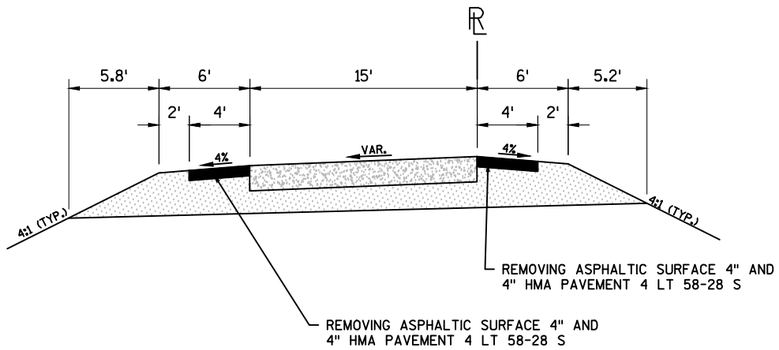
STA 122J+86 - STA 124J+28
STA 125J+28 - STA 131J+15
STA 136J+69 - STA 139J+77
STA 144J+67 - STA 152J+77
STA 153J+97 - STA 155J+71



PROPOSED LOOPS AND PARKING AREA
WEIGH STATION

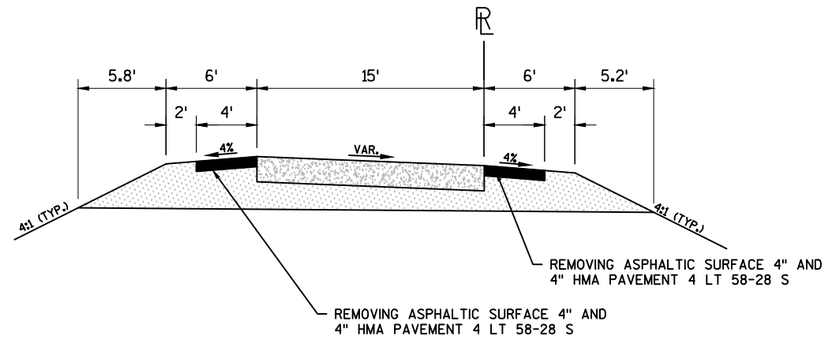
STA 131J+15 - STA 136J+69

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	TYPICAL SECTIONS - WEIGH STATION	SHEET 6	E



PROPOSED PARKING LOT RAMPS
WEIGH STATION

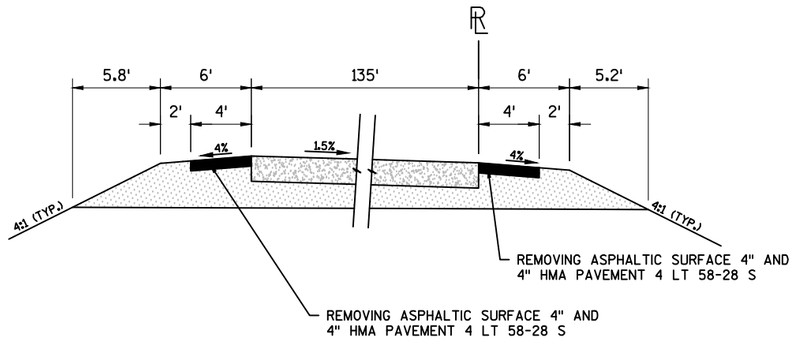
STA 124J+28 - STA 125J+28
STA 152J+77 - STA 153J+97



PROPOSED PARKING LOT RAMPS
WEIGH STATION

STA 200K+50 - STA 202K+39

NOTES:
EXISTING CROSS SLOPES MAY VARY
MATCH EXISTING SUPERELEVATION.



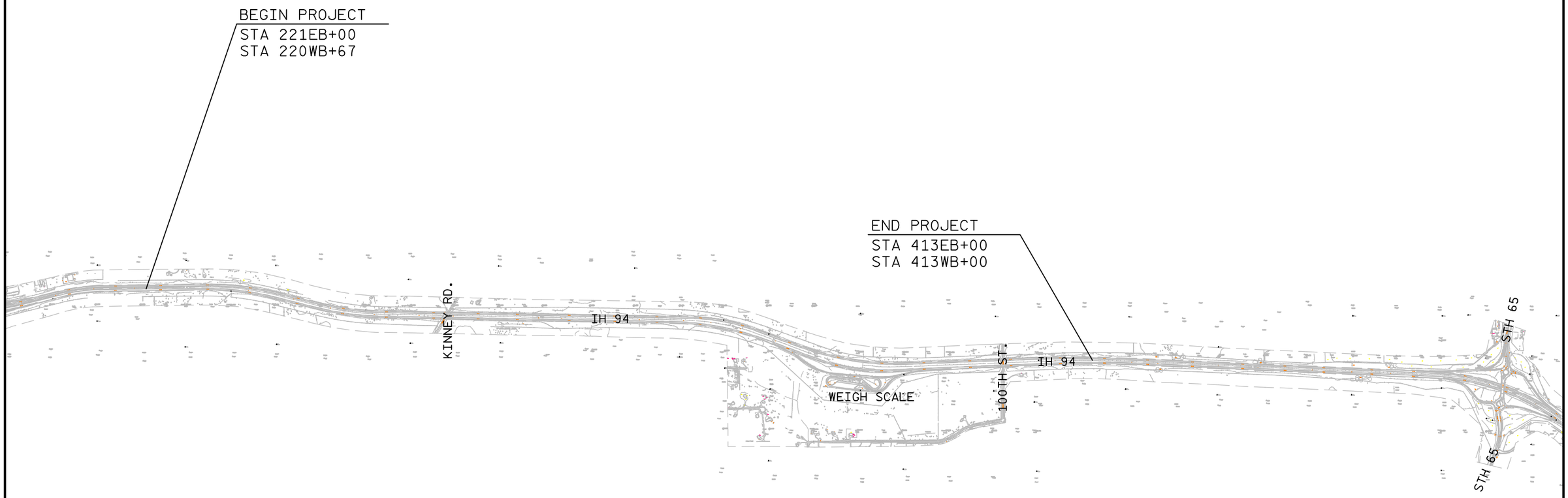
PROPOSED PARKING LOT
WEIGH STATION

STA 139J+77 - STA 144J+67

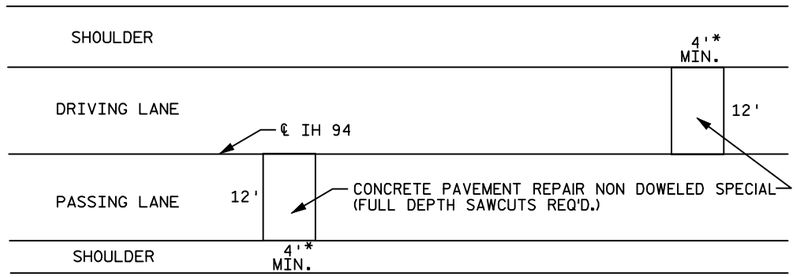
2

N

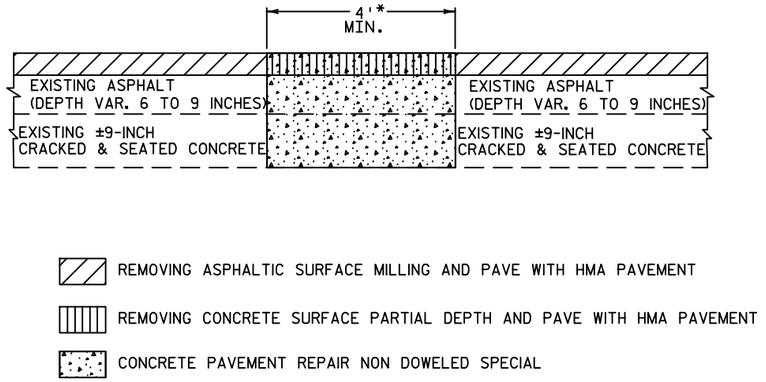
PROJECT 1020-03-81 OVERVIEW



PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	PROJECT OVERVIEW	SHEET 8	E



PLAN VIEW



SIDE VIEW

* 4'-8' TYPICAL OR AS DIRECTED BY THE ENGINEER.

NOTES

CONSTRUCT CONCRETE PAVEMENT REPAIR PRIOR TO HMA MILL & OVERLAY.

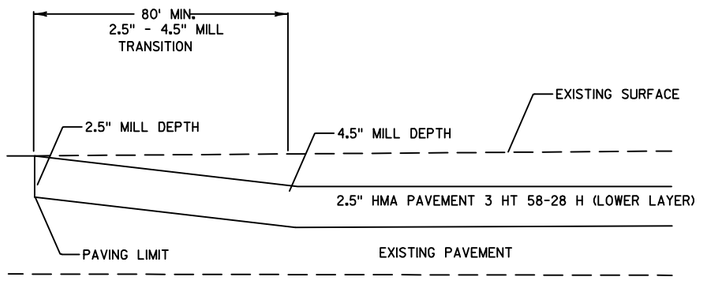
SAWING EXISTING ASPHALT OVERLAYED ON CONCRETE IS CONSIDERED INCIDENTAL TO SAWING CONCRETE.

THICKNESS OF CONCRETE REPAIR MAY VARY. 15" TO 18" THICKNESS IS EXPECTED.

DAMAGE TO EITHER EXISTING PAVEMENTS OR EXISTING SHOULDERS DURING CONCRETE PAVEMENT REPAIR NON DOWELED SPECIAL SHALL BE REPAIRED AND CONSIDERED INCIDENTAL TO THE ITEM OF CONCRETE PAVEMENT REPAIR NON DOWELED SPECIAL.

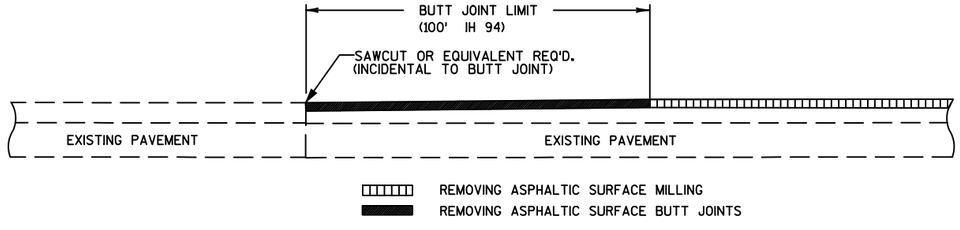
CONCRETE PAVEMENT REPAIR NON DOWELED SPECIAL DETAIL

EXACT LOCATIONS DETERMINED BY THE ENGINEER.



JOINT TRANSITION DETAIL: LOWER LAYER

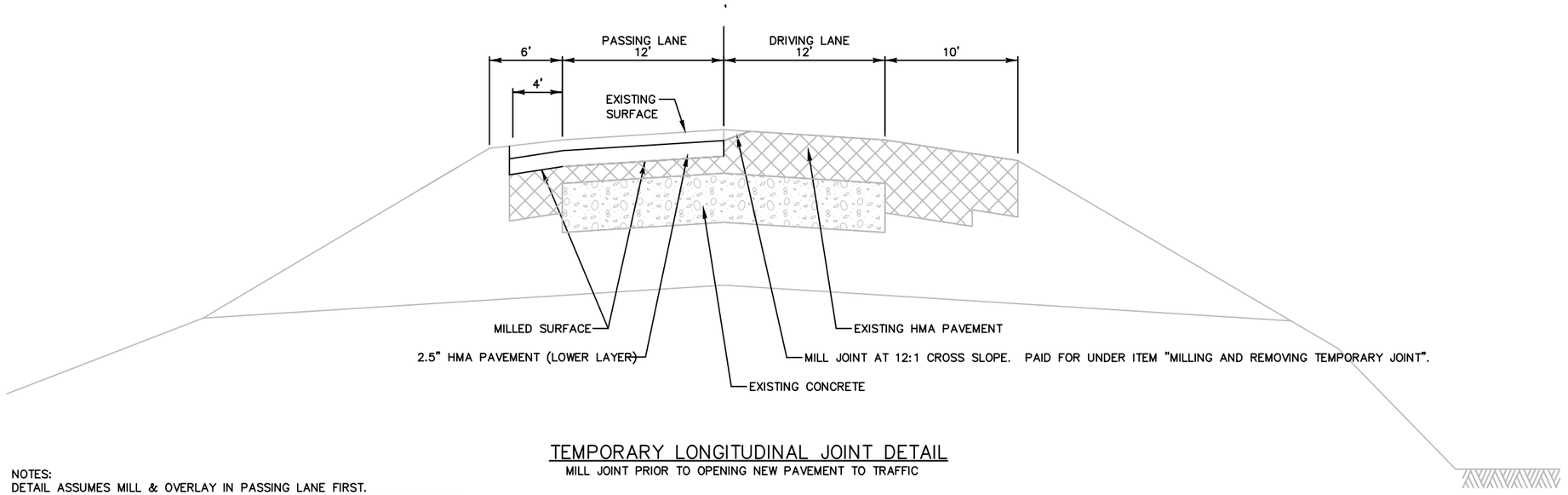
REQUIRED AT BEGIN AND END PRIOR TO OPENING TO TRAFFIC



BUTT JOINT DETAIL (ASPHALT)

EXACT LOCATIONS AND LENGTHS DETERMINED BY THE ENGINEER.

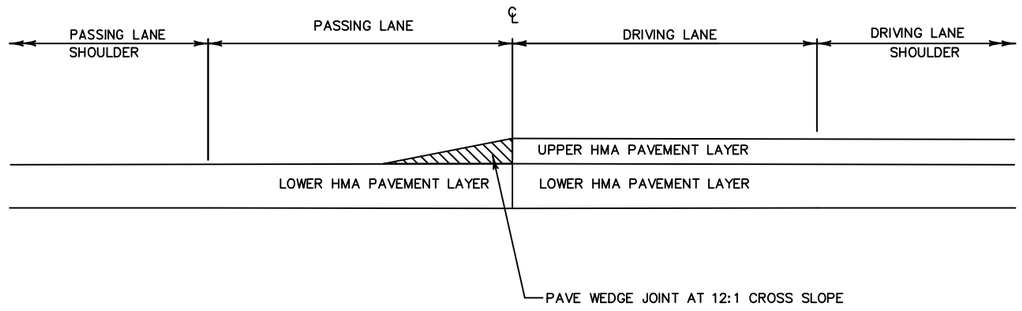
2



TEMPORARY LONGITUDINAL JOINT DETAIL

MILL JOINT PRIOR TO OPENING NEW PAVEMENT TO TRAFFIC

NOTES:
DETAIL ASSUMES MILL & OVERLAY IN PASSING LANE FIRST.
MILL AND REMOVE TEMPORARY JOINT PRIOR TO OPENING LANE TO TRAFFIC.



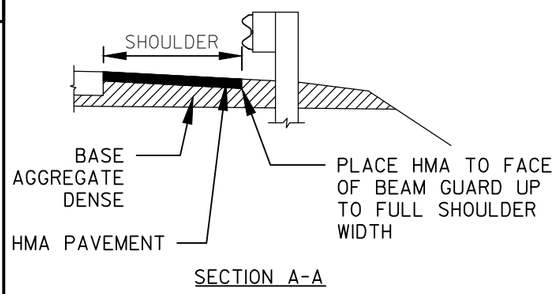
TEMPORARY WEDGE JOINT DETAIL

REQUIRED AT LONGITUDINAL JOINT PRIOR TO OPENING TO TRAFFIC

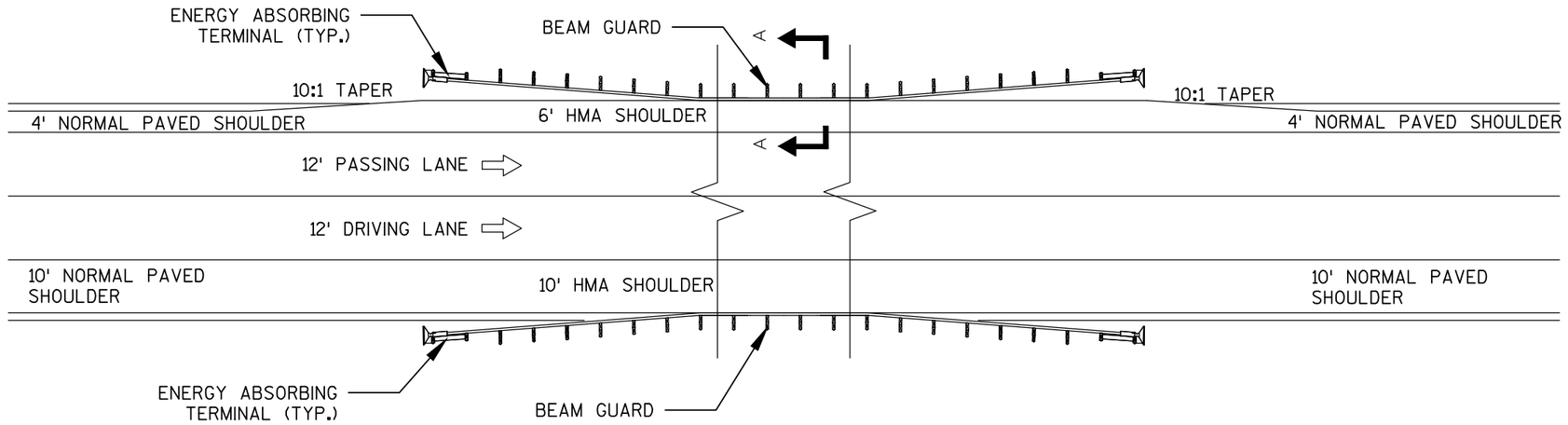
NOTE: TEMPORARY WEDGE JOINT REMOVAL TO BE PAID UNDER ITEM "MILLING AND REMOVING TEMPORARY JOINT"

NOTES:
DETAIL ASSUMES PAVING WEDGE JOINT FROM DRIVING LANE.
PLACE TEMPORARY WEDGE JOINT PRIOR TO OPENING LANE TO TRAFFIC.

2



SECTION A-A



PLAN VIEW

HMA SHOULDER AT BEAM GUARD DETAIL

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	DETAIL - BEAMGUARD PAVING	SHEET 11 E

2

BEGIN PROJECT 1020-03-81
STA. 221EB+00
X= 534633.58
Y= 338650.60
STA. 220WB+67
X= 534598.71
Y= 338724.12

N

REMOVE
Willow River State Park EXIT 4

E3-1
156"X84"
Willow River State Park EXIT 4

REMOVE
MILE 5

D10-1
12"X24"
MILE 5

REMOVE
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES

R3-4-B
36"X48"
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES

SIS
REMAIN IN PLACE
GAS - EXIT 4
SHELL
BP

SIS
REMAIN IN PLACE
FOOD - EXIT 4
TA RESTAURANT

LODGING - EXIT 4
REGENCY INN & SUITES

225WB+00
225EB+00
230WB+00
230EB+00
235WB+00
235EB+00
240WB+00
240EB+00
245EB+00
250WB+00
250EB+00

REMOVE
MILE 5

MILE 5
D10-1
12"X24"

REMOVE
EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES

R3-4-B
36"X48"

REMOVE
SLOWER TRAFFIC KEEP RIGHT

SLOWER TRAFFIC KEEP RIGHT
R4-3
48"X60"

WEIGH STATION 2 MILE
REMAIN IN PLACE

REMAIN IN PLACE

ROBERTS	8
MENOMONIE	37
EAU CLAIRE	61

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE - PERMANENT SIGNING	SHEET 12	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CONSTRUCTION DETAILS\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023201

PLOT DATE : 4/27/2017 5:40 PM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

REMOVE
EXIT 4
12 U
SOMERSET
1 MILE
REMOVE

E1-5-P
96"X24"
EXIT 4
12 U
SOMERSET
1 MILE
E1-1A
192"X126"

REMOVE
TRAFFIC INFO
TUNE TO 530 AM
WHEN FLASHING

D12-3A
132"X78"
TRAFFIC INFO
TUNE TO 530 AM
WHEN FLASHING

REMOVE
MILE 6
D10-1
12"X24"
MILE 6

255WB+00
260WB+00
265WB+00
270WB+00
275WB+00
280WB+00
255EB+00
260EB+00
265EB+00
270EB+00
275EB+00
280EB+00

TRUCKS USE RIGHT LANE
R4-5
48"X60"
REMOVE

TRUCKS USE RIGHT LANE
R4-5
48"X60"
REMOVE

MILE 6
REMOVE
MILE 6
D10-1
12"X24"

KINNEY RD

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE - PERMANENT SIGNING	SHEET 13	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CONSTRUCTION DETAILS\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023202

PLOT DATE : 4/27/2017 5:40 PM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

285WB+00 290WB+00 295WB+00 300WB+00 305WB+00 310WB+00

IH 94

285EB+00 290EB+00 295EB+00 300EB+00 305EB+00 310EB+00

EMERGENCY STOPPING ONLY
REMOVE

EMERGENCY STOPPING ONLY
R8-7
48"X36"

PREPASS
FOLLOW
IN- CAB SIGNALS
REMAIN IN PLACE

WEIGH STATION 1 MILE
REMAIN IN PLACE

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE - PERMANENT SIGNING	SHEET 14	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CONSTRUCTION DETAILS\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023203

PLOT DATE : 4/27/2017 5:40 PM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

REMOVE MILE 7

D10-1 12"X24" MILE 7

315WB+00
320WB+00
325WB+00
330WB+00
335WB+00
340WB+00
345WB+00

315EB+00
320EB+00
325EB+00
330EB+00
335EB+00
340EB+00
345EB+00

TRUCKS OVER 5 TONS STOP AT WEIGH STA.

REMAIN IN PLACE

REMOVE MILE 7

D10-1 12"X24" MILE 7

WEIGH STATION RIGHT LANE

REMAIN IN PLACE

HILLARY FARM RD

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE - PERMANENT SIGNING	SHEET 15	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CONSTRUCTION DETAILS\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023204

PLOT DATE : 4/27/2017 5:40 PM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

N

REMOVE

R3-4-B
36"X48"

EXCEPT MAINTENANCE AND POLICE AUTHORIZED VEHICLES

350WB+00
355WB+00
360WB+00
365WB+00
370WB+00
375WB+00
350EB+00
355EB+00
360EB+00
365EB+00
370EB+00
375EB+00
IH 94

WEIGH STATION

MOVE SIGN AND MESSAGE BOARD TO RAMP TAPER POINT

*COORDINATE WITH DEPARTMENT ELECTRICIAN TO RELOCATE MESSAGE SIGN UTILITIES.

WEIGH STATION

E5-58
78"X66"

REMOVE

W4-1R
48"X48"

SCALE

RIPRAP

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE - PERMANENT SIGNING	SHEET 16	E

2

2

N

380WB+00 385WB+00 390WB+00 395WB+00 400WB+00 405WB+00

380EB+00 385EB+00 390EB+00 395EB+00 400EB+00 405EB+00

IH 94

100th ST

REMOVE

MILE 7

D10-1
12"X24"

2_044

2_045

2_046

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE - PERMANENT SIGNING	SHEET 17	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CONSTRUCTION DETAILS\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023206

PLOT DATE : 4/27/2017 5:41 PM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

400WB+00
405WB+00
410WB+00
415WB+00
420WB+00
425WB+00
400EB+00
405EB+00
410EB+00
415EB+00
420EB+00
425EB+00
IH 94
INL
RIPRAP

END PROJECT 1020-03-81
STA. 413EB+00
STA. 413WB+00

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE - PERMANENT SIGNING	SHEET 18	E

2

N

T122
993.820

INL

IH 94

PAVEMENT MARKING GROOVED WET REFLECTIVE
CONTRAST TAPE, EPOXY
8-INCH (WHITE)

105+00

2_040

1_014_3A
973.84

2_040_4
1000.53

INL

2_040_4A
1000.

1_014_3
978.97

REMOVE
RAMP
30
M.P.H.

W13-3
48"X60"
RAMP
30
M.P.H.

2_041

1_013_3A
1003.20

1_013_3
1002.91

PAVEMENT MARKING, EPOXY
4-INCH (YELLOW)

110+00

RAMP
30
M.P.H.
REMOVE

RAMP
30
M.P.H.
W13-3
48"X60"

PAVEMENT MARKING, EPOXY
4-INCH (WHITE)

IH 9

REMOVE
WRONG
WAY

R5-1A
36"X24"
WRONG
WAY

IN
MOTION
WEIGHING
20-25 MPH

SP--
72"X48"
REUSE

115+00

WRONG
WAY
REMOVE

WRONG
WAY
R5-1A
36"X24"

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	WEIGH SCALE - PAVEMENT MARKING/PERMANENT SIGNING	SHEET 19	E

2

N

IH 94

IH 94

IH 94

PAVEMENT MARKING, EPOXY
4-INCH (YELLOW)

PAVEMENT MARKING, EPOXY
6-INCH (YELLOW)
DIAGONAL SPACING 10' TYP.

PAVEMENT MARKING STOP LINE,
EPOXY
18-INCH (WHITE)

PAVEMENT MARKING, EPOXY
8-INCH (WHITE)

PAVEMENT MARKING, EPOXY
4-INCH (WHITE)

PAVEMENT MARKING CROSSWALK
EPOXY 6-INCH (WHITE)

PAVEMENT MARKING, EPOXY
12-INCH (YELLOW)

PAVEMENT MARKING, EPOXY
4-INCH (YELLOW)

PAVEMENT MARKING PARKING
STALL, EPOXY
4-INCH (WHITE)

PAVEMENT MARKING, EPOXY
4-INCH (YELLOW)

PAVEMENT MARKING, EPOXY
4-INCH (WHITE)

115J+00
120J+00
125J+00
130J+00
135J+00
140J+00
145J+00
150J+00
155J+00
305L+00

15' TYP.

100.00

RIPRAP

INL

W

2_065_1A
1030.67

2_042_3A
1028.63

2_042_3
1030.19

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	WEIGH SCALE - PAVEMENT MARKING/PERMANENT SIGNING	SHEET 20	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CONSTRUCTION DETAILS\024501_PM_WEIGHSCALE.DWG
LAYOUT NAME - 024501_PM_WEIGHSCALE - 024502

PLOT DATE : 6/22/2017 4:40 PM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

N

IH 94

IH 94

IH 94

WHEN YELLOW PULL INTO BACK LOT
SP--
REMAIN IN PLACE

REMOVE STOP

R1-1
36"X36"
STOP

115J+00

120J+00

135J+00

130J+00

125J+00

305L+00

155L+00

150L+00

140J+00

145J+00

3_065_1
1029.94

3_065_1A
1030.67

I127
1029.48

2_042_3A
1028.63

2_042_3
1030.19

INL

W

RIPRAP

DO NOT ENTER
REMOVE

DO NOT ENTER
R5-1
30"X30"

EXIT
REMOVE

EXIT
D52-54-R
24"X24"

YIELD
REMOVE

YIELD
R1-2
36"X31"

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	WEIGH SCALE - PAVEMENT MARKING/PERMANENT SIGNING	SHEET 21	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CONSTRUCTION DETAILS\024501_PM_WEIGHSCALE.DWG
LAYOUT NAME - 024501_PM_WEIGHSCALE - 024502 (2)
PLOT DATE : 6/22/2017 4:40 PM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

N

PAVEMENT MARKING, EPOXY
4-INCH (YELLOW)

PAVEMENT MARKING GROOVED WET REFLECTIVE
CONTRAST TAPE, EPOXY
8-INCH (WHITE)

PAVEMENT MARKING, EPOXY
4-INCH (WHITE)

IH 94

150+00

155+00

170+00

2_043_2A
1017.80

2_043_2
1020.33

2_043_4
1020.96

2_043_4A
1021.28

2_044_2A
1021.53

2_044_2
1022.43

2_044_4A
1027.86

2_044_4
1028.97

T123
1026.830

3_064_1A
1026.34

3_064_1
1026.69

3_063_1
1018.96

3_063_1A
1015.57

T154
1029.320

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	WEIGH SCALE - PAVEMENT MARKING/PERMANENT SIGNING	SHEET 22	E

1020-03-81

Line	Item	Item Description	Unit	Total	Qty
0002	202.0105	Roadside Clearing	STA	6.000	6.000
0004	204.0109.S	Removing Concrete Surface Partial Depth	SF	3,535.000	3,535.000
0006	204.0110	Removing Asphaltic Surface	SY	6,866.000	6,866.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	5,064.000	5,064.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	165,228.000	165,228.000
0012	204.0180	Removing Delineators and Markers	EACH	106.000	106.000
0014	204.9060.S	Removing (item description) 01. Apron Endwalls	EACH	5.000	5.000
0016	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1020-03-81	LS	1.000	1.000
0018	213.0100	Finishing Roadway (project) 01. 1020-03-81	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	5,000.000	5,000.000
0022	305.0500	Shaping Shoulders	STA	928.000	928.000
0024	440.4410	Incentive IRI Ride	DOL	29,224.000	29,224.000
0026	455.0605	Tack Coat	GAL	19,575.000	19,575.000
0028	460.0100.S	HMA Pavement Test Strip	EACH	1.000	1.000
0030	460.2000	Incentive Density HMA Pavement	DOL	23,620.000	23,620.000
0032	460.5224	HMA Pavement 4 LT 58-28 S	TON	6,668.000	6,668.000
0034	460.7423	HMA Pavement 3 HT 58-28 H	TON	16,741.000	16,741.000
0036	460.8625	HMA Pavement 5 SMA 58-28 V	TON	13,497.000	13,497.000
0038	465.0110	Asphaltic Surface Patching	TON	500.000	500.000
0040	465.0125	Asphaltic Surface Temporary	TON	709.000	709.000
0042	465.0400	Asphaltic Shoulder Rumble Strips	LF	75,954.000	75,954.000
0044	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	1.000	1.000
0046	520.1030	Apron Endwalls for Culvert Pipe 30-Inch	EACH	4.000	4.000
0048	520.8700	Cleaning Culvert Pipes	EACH	13.000	13.000
0050	520.9700.S	Culvert Pipe Liners (size) 01. 30-Inch	LF	238.000	238.000
0052	520.9750.S	Cleaning Culvert Pipes for Liner Verification	EACH	2.000	2.000
0054	614.0010	Barrier System Grading Shaping Finishing	EACH	10.000	10.000
0056	614.0920	Salvaged Rail	LF	11,902.000	11,902.000
0058	614.0925	Salvaged Guardrail End Treatments	EACH	18.000	18.000
0060	614.2300	MGS Guardrail 3	LF	12,012.000	12,012.000
0062	614.2500	MGS Thrie Beam Transition	LF	433.400	433.400
0064	614.2610	MGS Guardrail Terminal EAT	EACH	18.000	18.000
0066	614.2620	MGS Guardrail Terminal Type 2	EACH	13.000	13.000
0068	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1020-03-81	EACH	1.000	1.000
0070	619.1000	Mobilization	EACH	1.000	1.000
0072	624.0100	Water	MGAL	76.000	76.000
0074	625.0500	Salvaged Topsoil	SY	50.000	50.000
0076	627.0200	Mulching	SY	50.000	50.000

1020-03-81

Line	Item	Item Description	Unit	Total	Qty
0078	628.1504	Silt Fence	LF	2,000.000	2,000.000
0080	628.1520	Silt Fence Maintenance	LF	2,000.000	2,000.000
0082	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0086	629.0210	Fertilizer Type B	CWT	0.100	0.100
0088	630.0120	Seeding Mixture No. 20	LB	1.200	1.200
0090	633.0100	Delineator Posts Steel	EACH	106.000	106.000
0092	633.0500	Delineator Reflectors	EACH	106.000	106.000
0094	633.5200	Markers Culvert End	EACH	17.000	17.000
0096	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	1.000	1.000
0098	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	20.000	20.000
0100	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	18.000	18.000
0102	634.0620	Posts Wood 4x6-Inch X 20-FT	EACH	2.000	2.000
0104	635.0200	Sign Supports Structural Steel HS	LB	972.200	972.200
0106	635.0300	Sign Supports Replacing Base Connection Bolts	EACH	24.000	24.000
0108	636.0100	Sign Supports Concrete Masonry	CY	1.600	1.600
0110	636.0500	Sign Supports Steel Reinforcement	LB	100.000	100.000
0112	637.1220	Signs Type I Reflective SH	SF	346.500	346.500
0114	637.2210	Signs Type II Reflective H	SF	248.970	248.970
0116	637.2230	Signs Type II Reflective F	SF	56.000	56.000
0118	638.2101	Moving Signs Type I	EACH	1.000	1.000
0120	638.2601	Removing Signs Type I	EACH	4.000	4.000
0122	638.2602	Removing Signs Type II	EACH	33.000	33.000
0124	638.3000	Removing Small Sign Supports	EACH	39.000	39.000
0126	642.5201	Field Office Type C	EACH	1.000	1.000
0128	643.0100	Traffic Control (project) 01. 1020-03-81	EACH	1.000	1.000
0130	643.0300	Traffic Control Drums	DAY	20,540.000	20,540.000
0132	643.0420	Traffic Control Barricades Type III	DAY	1,360.000	1,360.000
0134	643.0705	Traffic Control Warning Lights Type A	DAY	2,922.000	2,922.000
0136	643.0715	Traffic Control Warning Lights Type C	DAY	1,584.000	1,584.000
0138	643.0800	Traffic Control Arrow Boards	DAY	372.000	372.000
0140	643.0900	Traffic Control Signs	DAY	5,042.000	5,042.000
0142	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
0144	643.1051	Traffic Control Signs PCMS with Cellular Communications	DAY	196.000	196.000
0146	643.4100.S	Traffic Control Interim Lane Closure 01. 1020-03-81	EACH	174.000	174.000
0148	646.0106	Pavement Marking Epoxy 4-Inch	LF	13,882.000	13,882.000
0150	646.0116	Pavement Marking Epoxy 6-Inch	LF	356.000	356.000
0152	646.0126	Pavement Marking Epoxy 8-Inch	LF	204.000	204.000
0154	646.0136	Pavement Marking Epoxy 12-Inch	LF	122.000	122.000

1020-03-81

Line	Item	Item Description	Unit	Total	Qty
0156	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	9,673.000	9,673.000
0158	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	2,679.000	2,679.000
0160	646.2304.S	Pavement Marking Grooved Wet Reflective Epoxy 4-Inch	LF	74,934.000	74,934.000
0162	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	23.000	23.000
0164	647.0656	Pavement Marking Parking Stall Epoxy	LF	2,527.000	2,527.000
0166	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	90.000	90.000
0168	649.0403	Temporary Pavement Marking Epoxy 4-Inch	LF	169,214.000	169,214.000
0170	649.0803	Temporary Pavement Marking Epoxy 8-Inch	LF	5,358.000	5,358.000
0172	650.8000	Construction Staking Resurfacing Reference	LF	46,294.000	46,294.000
0174	650.9910	Construction Staking Supplemental Control (project) 01. 1020-03-81	LS	1.000	1.000
0176	690.0150	Sawing Asphalt	LF	1,671.000	1,671.000
0178	690.0250	Sawing Concrete	LF	3,840.000	3,840.000
0180	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,400.000	2,400.000
0182	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,380.000	1,380.000
0184	SPV.0105	Special 01. Milling and Removing Temporary Joint	LS	1.000	1.000
0186	SPV.0105	Special 02. Material Transfer Vehicle	LS	1.000	1.000
0188	SPV.0170	Special 01. Reheating HMA Pavement Longitudinal Joints Special	STA	386.000	386.000
0190	SPV.0180	Special 01. Concrete Pavement Repair Non Doweled Special	SY	640.000	640.000

3

ROADSIDE CLEARING

NOTE: USED IN AREAS OUTSIDE OF THE CLEAR ZONE

CATEGORY	STATION TO	STATION	LOCATION	202.0105 STA	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	3	
0010	220WB+67	- 413WB+00	IH 94 WB	3	
			TOTAL 0010	6	

REMOVING CONCRETE SURFACE PARTIAL DEPTH

NOTE: PATCHES ARE MOSTLY 4' WIDE WITH A FEW 6' & 9'

CATEGORY	STATION TO	STATION	LOCATION	204.0109.S SF	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	2121	PATCHES
0010	220WB+67	- 413WB+67	IH 94 WB	1414	PATCHES
			TOTAL 0010	3535	

REMOVING CONCRETE SURFACE PARTIAL DEPTH

NOTE: PATCHES ARE MOSTLY 4' WIDE WITH A FEW 6' & 9'

CATEGORY	STATION TO	STATION	LOCATION	204.0109.S SF	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	2121	PATCHES
0010	220WB+67	- 413WB+67	IH 94 WB	1414	PATCHES
			TOTAL 0010	3535	
0030	100J+00	- 170J+60	WEIGH SCALE	180691	WEIGH SCALE RAMPS & LOT
			TOTAL 0030	180691	

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION TO	STATION	LOCATION	204.0110 SY	REMARKS
0020	100J+00	- 170J+60	WEIGH SCALE	6866	WEIGH SCALE RAMP SHOULDERS
			TOTAL 0020	6866	

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION TO	STATION	LOCATION	204.0120 SY	REMARKS
0010	221EB+00	- 281EB+32	IH 94 EB	25468	* 38' WIDE - MILLED @ 4.5" AND 2"
0010	282EB+56	- 395EB+68	IH 94 EB	47762	DEPTH ON MAINLINE INTERSTATE
0010	396EB+72	- 413EB+00	IH 94 EB	6874	
0010	347EB+00	- 350EB+00	IH 94 EB	597	WEIGH SCALE RAMP
0010	382EB+00	- 392EB+60	IH 94 EB	1608	WEIGH SCALE RAMP
0010	220WB+67	- 281WB+90	IH 94 WB	25853	
0010	283WB+14	- 395WB+56	IH 94 WB	47466	
0010	396WB+60	- 413WB+00	IH 94 WB	6924	
0010	221EB+00	- 413EB+00	IH 94	822	MEDIAN CROSSOVERS
0010			IH 94 EB	1854	WEIGH SCALE RAMP GORES
			TOTAL 0010	165228	

REMOVING DELINEATORS AND MARKERS

CATEGORY	STATION TO	STATION	LOCATION	204.0180 EACH	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	48	
0010	220WB+67	- 413WB+00	IH 94 WB	48	
			TOTAL 0010	96	
0020	100J+00	- 170J+60	WEIGH SCALE	10	
			TOTAL 0020	10	

3

PREPARE FOUNDATION FOR ASPHALTIC PAVING (01. 1020-03-81)

CATEGORY	STATION TO	STATION	LOCATION	211.0100 LS	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB & WB	0.75	
			TOTAL 0010	0.75	
0020	100J+00	- 170J+60	WEIGH SCALE	0.25	
			TOTAL 0020	0.25	

SHAPING SHOULDERS

CATEGORY	STATION TO	STATION	LOCATION	305.0500 STA	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	385.0	
0010	220WB+67	- 413WB+00	IH 94 WB	385.0	
			TOTAL 0010	770	
0020	100J+00	- 170J+60	IH 94 WEIGH SCALE	158.0	
			TOTAL 0020	158	

BASE AGGREGATE DENSE 3/4-INCH

CATEGORY	STATION TO	STATION	LOCATION	305.0110 TON	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	2250.0	* SHOULDER REPAIR AND
0010	220WB+67	- 413WB+00	IH 94 WB	2250.0	BEAMGUARD EAT UPGRADES
			TOTAL 0010	4500	
0020	100J+00	- 170J+60	IH 94 WEIGH SCALE	500.0	* SHOULDER REPAIR
			TOTAL 0020	500	

ASPHALTIC SURFACE PATCHING

CATEGORY	STATION TO	STATION	LOCATION	465.0110 TON	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	250	BASE PATCHING
0010	220WB+67	- 413WB+00	IH 94 WB	250	BASE PATCHING
			TOTAL 0010	500	

CATEGORY	STATION TO	STATION	LOCATION	TACK COAT 455.0605 GAL	HMA PAVEMENT 4 LT 58-28 S 460.5224 TON	HMA PAVEMENT 3 HT 58-28 H 460.7423 TON	HMA PAVEMENT 5 SMA 58-28 V 460.8625 TON	REMARKS
0010	221EB+00	- 281EB+32	IH 94 EB	3056	751	2827	2102	
0010	282EB+56	- 395EB+68	IH 94 EB	5731	1408	4927	3942	
0010	347EB+00	- 350EB+00	IH 94 EB	42	29		37	WEIGH SCALE RAMP
0010	382EB+00	- 392EB+00	IH 94 EB	113	85		95	WEIGH SCALE RAMP
0010	396EB+72	- 413EB+00	IH 94 EB	825	203	709	567	
0010	220WB+67	- 281WB+90	IH 94 WB	3102	762	2667	2134	
0010	283WB+14	- 395WB+56	IH 94 WB	5696	1399	4897	3917	
0010	396WB+60	- 413WB+00	IH 94 WB	831	204	714	571	
0010			IH 94 MEDIAN	49	81			MAINTENANCE CROSSOVERS
0010			IH 94 EB	130	208			WEIGH SCALE GORE AREAS
			TOTAL 0010	19575	5130	16741	13365	
0020			WEIGH SCALE				132	
0020			WEIGH SCALE		1538			WEIGH SCALE RAMP SHOULDERS
			TOTAL 0020	0	1538	0	132	

ASPHALTIC SURFACE TEMPORARY

CATEGORY	STATION TO	STATION	LOCATION	465.0125 TON	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	354	* 2' WIDE x .75" THICK
0010	220WB+67	- 413WB+00	IH 94 WB	355	RUMBLE STRIP FILL
			TOTAL 0010	709	

ASPHALTIC SHOULDER RUMBLE STRIPS

CATEGORY	STATION TO	STATION	LOCATION	465.0400 LF	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	37944	
0010	220WB+67	- 413WB+00	IH 94 WB	38010	
			TOTAL 0010	75954	

3

CATEGORY	STATION	LOCATION	REMOVING (01. APRON ENDWALLS) 204.9060.S EACH	APRON ENDWALLS FOR CULVERT PIPE 24-INCH 520.1024 EACH	APRON ENDWALLS FOR CULVERT PIPE 30-INCH 520.1030 EACH	CLEANING CULVERT PIPES 520.8700 EACH	CULVERT PIPE LINERS (01. 30-INCH) 520.9700.S LF	CLEANING CULVERT PIPES FOR LINER VERIFICATION 520.9750.S EACH	MARKERS CULVERT END 633.5200 EACH	REMARKS
0010	227EB+85	IH 94 EB				1			2	*SEE PLAN SHEETS
0010	239EB+25	IH 94 EB				1				FOR SPECIFIC RELATED
0010	251EB+00	IH 94 EB				1				WORK
0010	258EB+75	IH 94 EB				1			2	
0010	264EB+75	IH 94 EB				1				
0010	280EB+75	IH 94 EB	1		1				1	
0010	283EB+65	IH 94 EB				1			2	
0010	321EB+15	IH 94 EB							1	
0010	330EB+10	IH 94 EB				1				
0010	360EB+25	IH 94 EB	1		1		124	1		
0010	267WB+75	IH 94 WB				1			2	
0010	276WB+50	IH 94 WB				1			2	
0010	300WB+90	IH 94 WB				1				
0010	305WB+75	IH 94 WB							1	
0010	313WB+75	IH 94 WB				1			1	
0010	343WB+00	IH 94 WB	1	1		1			1	
0010	349WB+60	IH 94 WB				1				
0010	360WB+50	IH 94 WB	2		2		114	1	2	
		TOTAL 0010	5	1	4	13	238	2	17	

3

SALVAGED RAIL

CATEGORY	STATION TO STATION	LOCATION	614.0920 LF	REMARKS
0010	225EB+02 - 229EB+42	IH 94 EB	349	RIGHT
0010	235EB+16 - 241EB+32	IH 94 EB	563	RIGHT
0010	252EB+46 - 258EB+58	IH 94 EB	559	RIGHT
0010	277EB+88 - 281EB+19	IH 94 EB	278	RIGHT
0010	277EB+74 - 281EB+42	IH 94 EB	315	LEFT
0010	282EB+43 - 287EB+61	IH 94 EB	426	RIGHT
0010	294EB+40 - 296EB+91	IH 94 EB	198	RIGHT
0010	300EB+11 - 314EB+00	IH 94 EB	1336	RIGHT
0010	387EB+85 - 395EB+65	IH 94 EB	727	RIGHT
0010	391EB+74 - 395EB+67	IH 94 EB	340	LEFT
0010	234WB+00 - 242WB+36	IH 94 WB	783	LEFT
0010	254WB+42 - 259WB+45	IH 94 WB	450	LEFT
0010	277WB+76 - 282WB+03	IH 94 WB	427	LEFT
0010	283WB+05 - 284WB+00	IH 94 WB	42	RIGHT
0010	283WB+29 - 288WB+19	IH 94 WB	437	LEFT
0010	300WB+00 - 315WB+01	IH 94 WB	1448	LEFT
0010	320WB+02 - 326WB+54	IH 94 WB	599	LEFT
0010	333WB+18 - 341WB+90	IH 94 WB	819	LEFT
0010	390WB+78 - 395WB+56	IH 94 WB	478	LEFT
0010	396WB+62 - 407WB+16	IH 94 WB	1001	LEFT
0010	396WB+60 - 400WB+40	IH 94 WB	327	RIGHT
		TOTAL 0010	11902	

SALVAGED GUARDRAIL END TREATMENTS

CATEGORY	STATION TO STATION	LOCATION	614.0925 EACH	REMARKS
0010	221EB+00 - 413EB+00	IH 94 EB	9	
0010	220WB+67 - 413WB+00	IH 94 WB	9	
		TOTAL 0010	18	

BARRIER SYSTEM GRADING SHAPING FINISHING

CATEGORY	STATION TO STATION	LOCATION	614.0010 EACH	* FILL CY	* SALVAGED TOPSOIL SY	* FERTILIZER TYPE B CWT	* SEEDING MIX NO.30 LB	* MULCHING SY	REMARKS
0010	233EB+34 - 235EB+04	IH 94 EB	1	24	170	0.11	3	169	RT
0010	276EB+00 - 277EB+69	IH 94 EB	1	59	405	0.25	7	405	LT
0010	276EB+10 - 278EB+02	IH 94 EB	1	59	310	0.19	6	309	RT
0010	292EB+18 - 293EB+86	IH 94 EB	1	10	80	0.05	2	79	RT
0010	390EB+26 - 391EB+95	IH 94 EB	1	93	380	0.23	7	379	LT
0010	258WB+74 - 260WB+43	IH 94 WB	1	46	260	0.17	5	259	LT
0010	286WB+76 - 288WB+26	IH 94 WB	1	43	325	0.21	6	321	RT
0010	287WB+76 - 289WB+44	IH 94 WB	1	43	60	0.04	1	60	LT
0010	325WB+77 - 327WB+45	IH 94 WB	1	45	185	0.12	4	181	LT
0010	341WB+68 - 343WB+36	IH 94 WB	1	3	40	0.03	1	39	LT
		TOTAL 0010	10	425	2215	1.40	42	2201	

* FOR INFORMATIONAL PURPOSES ONLY. CONDITIONS IN THE FIELD MAY VARY FROM QUANTITIES.
* ITEMS SHOWN ELSEWHERE IN PLAN.

CATEGORY	STATION TO STATION	LOCATION	MGS GUARDRAIL 3 614.2300 LF	MGS THRIE BEAM TRANSITION 614.2500 LF	MGS GUARDRAIL TERMINAL EAT 614.2610 EACH	MGS GUARDRAIL TERMINAL TYPE 2 614.2620 EACH	REMARKS
0010	224EB+15 - 229EB+42	IH 94 EB	467		1	1	RIGHT
0010	234EB+54 - 241EB+35	IH 94 EB	622		1	1	RIGHT
0010	252EB+47 - 258EB+59	IH 94 EB	550		1	1	RIGHT
0010	277EB+52 - 281EB+18	IH 94 EB	235	39	1		RIGHT
0010	277EB+19 - 281EB+42	IH 94 EB	291	39	1		LEFT
0010	282EB+43 - 287EB+60	IH 94 EB	469	39		1	RIGHT
0010	293EB+36 - 296EB+91	IH 94 EB	294		1	1	RIGHT
0010	300EB+03 - 314EB+00	IH 94 EB	1336		1	1	RIGHT
0010	389EB+35 - 395EB+65	IH 94 EB	538	39	1		RIGHT
0010	391EB+45 - 395EB+67	IH 94 EB	421	39	1		LEFT
0010	234WB+00 - 242WB+28	IH 94 WB	767		1	1	LEFT
0010	254WB+42 - 259EB+24	IH 94 WB	422		1	1	LEFT
0010	277WB+76 - 282WB+03	IH 94 WB	381	39		1	LEFT
0010	283WB+05 - 287WB+26	IH 94 WB	329	39	1		RIGHT
0010	283WB+29 - 288WB+26	IH 94 WB	405	39	1		LEFT
0010	300WB+00 - 315WB+12	IH 94 WB	1451		1	1	LEFT
0010	320WB+02 - 326WB+27	IH 94 WB	565		1	1	LEFT
0010	333WB+19 - 342WB+18	IH 94 WB	839		1	1	LEFT
0010	391WB+29 - 395WB+57	IH 94 WB	381	39		1	LEFT
0010	396WB+62 - 407WB+14	IH 94 WB	959	39	1		LEFT
0010	396WB+60 - 400WB+43	IH 94 WB	290	39	1		RIGHT
		TOTAL 0010	12012	433	18	13	

3

CATEGORY	STATION	LOCATION	SALVAGED TOPSOIL 625.0500 SY	MULCHING 627.0200 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 20 630.0120 LB	REMARKS
0010	280EB+75	IH 94	10.00	10.00	0.0200	0.24	PIPE WORK AEW
0010	360EB+25	IH 94	10.00	10.00	0.0200	0.24	PIPE WORK AEW
0010	343WB+00	IH 94	10.00	10.00	0.0200	0.24	PIPE WORK AEW
0010	360WB+50	IH 94	20.00	20.00	0.0400	0.48	PIPE WORK AEW
		TOTAL 0010	50	50	0.1000	1	

CATEGORY	STATION TO	STATION	LOCATION	DELINEATOR POST STEEL 633.0100 EACH	DELINEATOR REFLECTORS 633.0500 EACH	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	48	48	
0010	220WB+67	- 413WB+00	IH 94 WB	48	48	
			TOTAL 0010	96	96	
0020				10	10	
			TOTAL 0020	10	10	

3

CATEGORY	SIGN CODE	STATION	SIZE	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS 635.0300 EACH	SIGNS TYPE I REFLECTIVE SH 637.1220 SF	MOVING SIGNS TYPE I 638.2101 EACH	REMOVING SIGNS TYPE 1 638.2601 EACH	REMARKS
0010	E5-57	347EB+00 RT	144" X 42"			1		WEIGH STATION - MOVE TO RAMP TAPER POINT
0010	D12-3A	269WB+67 LT	132" X 78"	8	71.50		1	TRAFFIC INFO TUNE TO 530 AM WHEN FLASHING
0010	E1-5-P	251WB+58 LT	96" X 24"	8	16.00		1	EXIT 4
0010	E1-1A	251WB+58 LT	192" X 126"		168.00		1	12 U; SOMERSET; 1 MILE
0010	E3-1	222WB+00 LT	156" X 84"	8	91.00		1	WILD RIVER STATE PARK EXIT 4
			TOTAL 0010	24	346.50	1	4	

WATER

CATEGORY	STATION TO	STATION	LOCATION	624.0100 MGAL	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	34.0	* SHOULDER REPAIR AND
0010	220WB+67	- 413WB+00	IH 94 WB	34.0	BEAMGUARD EAT UPGRADES
			TOTAL 0010	68	
0020	100J+00	- 170J+60	IH 94 WEIGH SCALE	8.0	* SHOULDER REPAIR
			TOTAL 0020	8	

SILT FENCE

CATEGORY	STATION TO	STATION	LOCATION	628.1504 LF	REMARKS
0010	221EB+00	- 413EB+00	IH 94 EB	1000	VARIOUS LOCATIONS
0010	220WB+67	- 413WB+00	IH 94 WB	1000	VARIOUS LOCATIONS
			TOTAL 0010	2000	

3

SIGN SUPPORTS STRUCTURAL STEEL HS

CATEGORY	STATION	LOCATION	635.0200 LB	REMARKS
0010	347EB+00	IH 94 EB RT	972.2	MOVING WEIGH STATION SIGN
		TOTAL 0010	972.2	

SIGN SUPPORTS CONCRETE MASONRY

CATEGORY	STATION	LOCATION	636.0100 CY	REMARKS
0010	347EB+00	IH 94 EB RT	1.6	MOVING WEIGH STATION SIGN
		TOTAL 0010	1.6	

3

SIGN SUPPORTS STEEL REINFORCEMENT

CATEGORY	STATION	LOCATION	636.0500 LB	REMARKS
0010	347EB+00	IH 94 EB RT	100	MOVING WEIGH STATION SIGN
		TOTAL 0010	100	

CATEGORY	SIGN CODE	STATION	SIZE	SIGN DISCRIPTION	POST WOOD 4X6-INCH X 14-FT 634.0614 EACH	POST WOOD 4X6-INCH X 16-FT 634.0616 EACH	POST WOOD 4X6-INCH X 18-FT 634.0618 EACH	POST WOOD 4X6-INCH X 20-FT 634.0620 EACH	SIGNS TYPE II REFLECTIVE H 637.2210 SF	SIGNS TYPE II REFLECTIVE F 637.2230 SF	REMOVING SIGNS TYPE II 638.2602 EACH	REMOVING SMALL SIGN SUPPORTS 638.3000 EACH	REMARKS
0010	D10-1	226EB+89 RT	12" X 24"	MILE 5		1			2.00		1	1	IH 94 EB
0010	R3-4-B	228EB+64 LT	36" X 48"	NO U TURN			1		12.00		1	1	IH 94 EB
0010	R4-3	238EB+64 RT	48" X 60"	SLOWER TRAFFIC KEEP RIGHT			2		20.00		1	2	IH 94 EB
0010	R4-5R	251EB+89 RT	48" X 60"	TRUCKS USE RIGHT LANE			1	1	20.00		1	2	IH 94 EB
0010	R4-5R	251EB+89 LT	48" X 60"	TRUCKS USE RIGHT LANE			1	1	20.00		1	2	IH 94 EB
0010	D10-1	278EB+90 RT	12" X 24"	MILE 6		1			2.00		1	1	IH 94 EB
0010	R8-7	289EB+38 RT	48" X 36"	EMERGENCY STOPPING ONLY		1			12.00		1	1	IH 94 EB
0010	D10-1	331EB+23 RT	12" X 24"	MILE 7		1			2.00		1	1	IH 94 EB
0010	R3-4-B	348EB+34 LT	36" X 48"	NO U TURN			1		12.00		1	1	IH 94 EB
0010	E5-58	353EB+21 RT	78" X 66"	WEIGH STATION RIGHT ARROW			2		35.75				IH 94 EB
0010	W4-1	375EB+73 RT	48" X 48"	MERGING TRAFFIC SYMBOL			1			16.00	1	1	IH 94 EB GORE
0010	D10-1	384EB+56 RT	12" X 24"	MILE 8		1			2.00		1	1	IH 94 EB
0010	D10-1	227WB+78 LT	12" X 24"	MILE 8		1			2.00		1	1	IH 94 WB
0010	R3-4-B	228WB+62 RT	36" X 48"	NO U TURN			1		12.00		1	1	IH 94 WB
0010	D10-1	280WB+22 LT	12" X 24"	MILE 7		1			2.00		1	1	IH 94 WB
0010	D10-1	333WB+00 LT	12" X 24"	MILE 6	1				2.00		1	1	IH 94 WB
0010	R3-4-B	349WB+46 RT	36" X 48"	NO U TURN			1		12.00		1	1	IH 94 WB
0010	D10-1	384WB+83 LT	12" X 24"	MILE 5		1			2.00		1	1	IH 94 WB
				TOTAL 0010	1	8	11	2	171.75	16.00	17	20	
0020	W13-3	107J+22 RT	48" X 60"	RAMP SPEED 30 MPH			2			20.00	1	2	WEIGH SCALE
0020	W13-3	107J+22 LT	48" X 60"	RAMP SPEED 30 MPH			2			20.00	1	2	WEIGH SCALE
0020	R5-1A	113J+83 RT	36" X 24"	WRONG WAY			2		8.75		1	2	WEIGH SCALE
0020	R5-1A	113J+83 LT	36" X 24"	WRONG WAY			1		6.00		1	1	WEIGH SCALE
0020	R1-1	131J+83 RT	36" X 36"	STOP		1			7.46		1	1	WEIGH SCALE
0020	R1-2	129J+41 LT	36" X 31"	YIELD		1			3.88		1	1	WEIGH SCALE
0020	D52-54-R	141J+60 LT	24" X 24"	EXIT ARROW		1			4.00		1	1	WEIGH SCALE
0020	D52-54-R	143J+33 LT	24" X 24"	EXIT ARROW		1			4.00		1	1	WEIGH SCALE
0020	D52-54-R	144J+98 LT	24" X 24"	EXIT ARROW		1			4.00		1	1	WEIGH SCALE
0020	D52-54-R	200K+82 LT	24" X 24"	EXIT ARROW		1			4.00		1	1	WEIGH SCALE
0020	R5-1	129J+52 RT	30" X 30"	DO NOT ENTER		1			6.25		1	1	WEIGH SCALE
0020	R5-1	129J+52 LT	30" X 30"	DO NOT ENTER		1			6.25		1	1	WEIGH SCALE
0020	R5-1	130J+56 LT	30" X 30"	DO NOT ENTER		1			6.25		1	1	WEIGH SCALE
0020	R5-1	139J+43 RT	30" X 30"	DO NOT ENTER		1			6.25		1	1	WEIGH SCALE
0020	R5-1	139J+43 RT	30" X 30"	DO NOT ENTER		1			6.25		1	1	WEIGH SCALE
0020	R1-2	153J+70 RT	36" X 31"	YIELD		1			3.88		1	1	WEIGH SCALE
				TOTAL 0020	0	12	7	0	77.22	40.00	16	19	

CATEGORY	DAYS	LOCATION	TRAFFIC CONTROL DRUMS 643.0300 NO.	DAYS	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 NO.	DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 NO.	DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 NO.	DAY	TRAFFIC CONTROL ARROW BOARDS 643.0800 NO.	DAY	TRAFFIC CONTROL SIGNS 643.0900 NO.	DAY	TRAFFIC CONTROL SIGNS PCMS WITH CELLULAR COMMUNICATIONS 643.1051 NO.	DAY
0010	87	IH 94 EB	230	10120	15	660	29	1421	18	792	2	186	19	1767	1	93
0010	87	IH 94 WB	230	10120	15	660	29	1421	18	792	2	186	19	1767	1	93
0010	87	ADVANCED WARNING	0	0	0	0	0	0	0	0	0	0	16	1488		
		TOTAL 0010		20240		1320		2842		1584		372		5022		186
0020	10	WEIGH SCALE	30	300	4	40	8	80	0	0	0	0	2	20	1	10
		TOTAL 0020		300		40		80		0		0		20		10

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	STATION	NUMBER OF CYCLES		643.0920 EACH	REMARKS
0010	211EB+50	1	IH 94 EB	1	SPEED LIMIT 70
0010	458WB+41	1	IH 94 WB	1	SPEED LIMIT 70
			TOTAL 0010	2	

TRAFFIC CONTROL INTERIM LANE CLOSURE

CATEGORY	DAYS	LOCATION	643.4100.S EACH	REMARKS
0010	87	IH 94 EB	87	
0010	87	IH 94 WB	87	
		Total 0010	174	

CATEGORY	STATION TO STATION	LOCATION	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH 646.0841.S LF	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH 646.0843.S LF	PAVEMENT MARKING GROOVED WET REFLECTIVE EPOXY 4-INCH 646.2304.S LF	TEMPORARY PAVEMENT MARKING EPOXY 4-INCH 649.0403 LF	TEMPORARY PAVEMENT MARKING EPOXY 8-INCH 649.0803 LF	REMARKS
0010	221EB+00 - 281EB+32	IH 94 EB - RT			6032	12064		WHITE - EDGELINE
0010	221EB+00 - 281EB+32	IH 94 EB - LT			6032	12064		YELLOW - EDGELINE
0010	221EB+00 - 281EB+32	IH 94 EB - CL	1508			3016		WHITE DASHED - LANELINE
0010	282EB+56 - 346EB+94	IH 94 EB - RT			6438	12876		WHITE - EDGELINE
0010	282EB+56 - 395EB+68	IH 94 EB - LT			11312	22624		YELLOW - EDGELINE
0010	282EB+56 - 395EB+68	IH 94 EB - CL	2828			5656		WHITE DASHED - LANELINE
0010	346EB+94 - 348EB+79	IH 94 EB - RT	47			94		WHITE DASHED - WEIGH STATION ENTRANCE RAMP
0010	346EB+94 - 350EB+00	IH 94 EB - RT			306	612		WHITE - WEIGH STATION RAMP EDGELINE
0010	348EB+79 - 353EB+55	IH 94 EB - RT		1101			2202	WHITE - WEIGH STATION ENTRANCE RAMP GORE
0010	353EB+55 - 377EB+17	IH 94 EB - RT			2362	4724		WHITE - EDGELINE
0010	377EB+17 - 385EB+03	IH 94 EB - RT		1578			3156	WHITE - WEIGH STATION EXIT RAMP GORE
0010	385EB+66 - 390EB+90	IH 94 EB - RT	131			262		WHITE DASHED - WEIGH STATION EXIT RAMP
0010	382EB+00 - 391EB+06	IH 94 EB - RT			906	1812		WHITE - WEIGH STATION RAMP EDGELINE
0010	392EB+88 - 395EB+68	IH 94 EB - RT			280	560		WHITE - EDGELINE
0010	396EB+72 - 413EB+00	IH 94 EB - RT			1628	3256		WHITE - EDGELINE
0010	396EB+72 - 413EB+00	IH 94 EB - LT			1628	3256		YELLOW - EDGELINE
0010	396EB+72 - 413EB+00	IH 94 EB - CL	407			814		WHITE DASHED - LANELINE
0010	220WB+67 - 281WB+90	IH 94 WB - RT			6123	12246		WHITE - EDGELINE
0010	220WB+67 - 281WB+90	IH 94 WB - LT			6123	12246		YELLOW - EDGELINE
0010	220WB+67 - 281WB+90	IH 94 WB	1531			3062		WHITE - LANELINE
0010	283WB+14 - 395WB+56	IH 94 WB - RT			11242	22484		WHITE - EDGELINE
0010	283WB+14 - 395WB+56	IH 94 WB - LT			11242	22484		YELLOW - EDGELINE
0010	283WB+14 - 395WB+56	IH 94 WB	2811			5622		WHITE - LANELINE
0010	396WB+60 - 413WB+00	IH 94 WB - RT			1640	3280		WHITE - EDGELINE
0010	396WB+60 - 413WB+00	IH 94 WB - LT			1640	3280		YELLOW - EDGELINE
0010	396WB+60 - 413WB+00	IH 94 WB	410			820		WHITE - LANELINE
		TOTAL 0010	9673	2679	74934	169214	5358	

CATEGORY	STATION TO STATION	LOCATION	PAVEMENT MARKING EPOXY 4-INCH 646.0106 LF	PAVEMENT MARKING EPOXY 6-INCH 646.0116 LF	PAVEMENT MARKING EPOXY 8-INCH 646.0126 LF	PAVEMENT MARKING EPOXY 12-INCH 646.0136 LF	PAVEMENT MARKING STOP LINE EPOXY 18-INCH 647.0566 LF	PAVEMENT MARKING PARKING STALL EPOXY 647.0656 LF	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH 647.0766 LF	REMARKS
0020	105J+72 - 122J+85	WEIGH SCALE	1710							YELLOW - LT
0020	123J+79 - 129J+81	WEIGH SCALE	541							YELLOW - LT
0020	130J+19 - 147J+29	WEIGH SCALE	297							YELLOW - LT
0020	147J+73 - 154J+21	WEIGH SCALE	736							YELLOW - LT
0020	154J+21 - 157J+17	WEIGH SCALE	1967							YELLOW - LT
0020	200K+00 - 202K+56	WEIGH SCALE	243							YELLOW - LT
0020	300L+00 - 305L+45	WEIGH SCALE	640							YELLOW - LT
0020	100J+00 - 170J+60	WEIGH SCALE	7060							WHITE - RT
0020	200K+00 - 202K+56	WEIGH SCALE	256							WHITE - RT
0020	301L+13 - 305L+45	WEIGH SCALE	432							WHITE - RT
0020	100J+00 - 170J+60	WEIGH SCALE		356	204	122	23	2527	90	*LOCATION AND COLOR VARIES - SEE PLAN
		TOTAL 0020	13882	356	204	122	23	2527	90	

CONSTRUCTION STAKING RESURFACING REFERENCE

CATEGORY	STATION TO STATION	LOCATION	650.8000 LF	REMARKS
0010	221EB+00 - 413EB+00	IH 94 EB	19200	CENTERLINE
0010	220WB+67 - 413WB+00	IH 94 WB	19233	CENTERLINE
		TOTAL 0010	38433	
0020	100J+00 - 170J+60		7060	RT LANE EDGE
0020	200K+00 - 202K+56		256	RT LANE EDGE
0020	300L+00 - 305L+45		545	RT LANE EDGE
		TOTAL 0020	7861	

SAWING ASPHALT

CATEGORY	STATION STATION	LOCATION	690.0150 LF	REMARKS
0010	221EB+00 - 413EB+00	IH 94 EB	835	*BASE PATCHING
0010	220WB+67 - 413WB+00	IH 94 WB	836	UNDISTRIBUTED
		TOTAL 0010	1671	

SAWING CONCRETE

NOTE: PATCHES ARE MOSTLY 4' WIDE WITH A FEW 6'

CATEGORY	STATION TO STATION	LOCATION	690.0250 LF	REMARKS
0010	221EB+00 - 413EB+00	IH 94 EB	1920.0	30 LT. LANE / 30 RT. LANE
0010	220WB+67 - 413WB+00	IH 94 WB	1920.0	30 LT. LANE / 30 RT. LANE
		TOTAL 0010	3840	

3

SPECIAL (01. MILLING AND REMOVING TEMPORARY JOINT)

CATEGORY	STATION TO	STATION	LOCATION	SPV.0105.01 LS	REMARKS
0010	221EB+00 -	413EB+00	IH 94	1.0	
			TOTAL 0010	1.0	

SPECIAL (02. MATERIAL TRANSFER VEHICLE)

CATEGORY	STATION TO	STATION	LOCATION	SPV.0105.02 LS	REMARKS
0010	221EB+00 -	413EB+00	IH 94	1.0	
			TOTAL 0010	1	

3

SPECIAL (01. REHEATING HMA PAVEMENT LONGITUDINAL JOINTS SPECIAL)

CATEGORY	STATION TO	STATION	LOCATION	SPV.0170.01 STA	REMARKS
0010	221EB+00 -	413EB+00	IH 94 EB	193	CENTERLINE
0010	220WB+67 -	413WB+00	IH 94 WB	193	CENTERLINE
			TOTAL 0010	386	

SPECIAL (01. CONCRETE PAVEMENT REPAIR NON DOWELED SPECIAL)

NOTE: PATCHES ARE MOSTLY 4' WIDE WITH A FEW 6'

CATEGORY	STATION TO	STATION	LOCATION	SPV.0180.01 SY	REMARKS
0010	221EB+00 -	413EB+00	IH 94 EB	320.0	30 LT. LANE / 30 RT. LANE
0010	220WB+67 -	413WB+00	IH 94 WB	320.0	30 LT. LANE / 30 RT. LANE
			TOTAL 0010	640.0	

N

SALVAGE EXISTING GUARDRAIL
STA. 234WB+00 - STA. 242WB+36 (LT)

STA. 234WB+00 - STA. 242WB+28 (LT)
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

PI STA = 240WB+68.58
Y = 338745.087
X = 536600.171
DELTA = 14°30'32"
D = 1°00'21"
T = 725.04'
L = 1442.33'
R = 5695.78'
PC STA = 233+43.54
PT STA = 247+85.86
S.E. = 3.40%

BEGIN PROJECT 1020-03-81
STA. 221EB+00
X= 534633.58
Y= 338650.60
STA. 220WB+67
X= 534598.71
Y= 338724.12
BUTT JOINTS REQUIRED
SEE CONSTRUCTION DETAIL

CLEAN EB APRON ENDWALL
REPLACE END MARKERS

PC: 233WB+43.54

PT: 247WB+85.86

225WB+00
230WB+00
235WB+00
240WB+00
245WB+00
250WB+00

N89° 24' 00"E
2094.37'

S76° 05' 28"E
859.16'

225EB+00
230EB+00
235EB+00
240EB+00
245EB+00
250EB+00

N89° 21' 49"E
1800.82'

S76° 02' 20"E
928.05'

REPAVE MAINTENANCE CROSSOVER
MILL 1.75" AND PAVE 1.75"
W/ 4 LT 58-28S

PC: 232EB+24.46

PT: 233EB+64.46

PC: 235EB+80.94

CLEAN EB AND WB APRON ENDWALLS

PT: 246EB+13.21

CLEAN EB APRON ENDWALL
AND MEDIAN INLET COVER

PI STA = 232EB+94.46
Y = 338663.863
X = 535827.966
DELTA = 1°42'51"
D = 1°13'28"
T = 70.01'
L = 140.00'
R = 4679.61'
PC STA = 232+24.46
PT STA = 233+64.46
S.E. = 4.00%

PI STA = 240EB+98.49
Y = 338628.214
X = 536631.151
DELTA = 10°21'53"
D = 1°00'15"
T = 517.54'
L = 1032.26'
R = 5706.24'
PC STA = 235+80.94
PT STA = 246+13.21
S.E. = 3.40%

SALVAGE EXISTING GUARDRAIL
STA. 225EB+02 - STA. 229EB+42 (RT)
STA. 235EB+16 - STA. 241EB+32 (RT)

STA. 224EB+15 - STA. 229EB+42 (RT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D

STA. 234EB+54 - STA. 241EB+35 (RT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE	SHEET 37	E

N

SALVAGE EXISTING GUARDRAIL
STA. 254WB+42 - STA. 259WB+45 (LT)
STA. 277WB+76 - STA. 282WB+03 (LT)

STA. 254WB+42 - STA. 259WB+24 (LT)
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 277WB+76 - STA. 282WB+03 (LT)
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D
MGS GUARDRAIL 3 REQ'D
MGS THRIE BEAM TRANSITION REQ'D

PI STA = 262WB+84.59
Y = 338210.544
X = 538758.739
DELTA = 12°49'18"
D = 1°00'24"
T = 639.57'
L = 1273.79'
R = 5692.10'
PC STA = 256+45.03
PT STA = 269+18.82
S.E. = 3.40%

PC: 256WB+45.03

PT: 269WB+18.82

CLEAN WB APRON ENDWALL
AND MEDIAN INLET COVER
REPLACE BOTH END MARKER

CLEAN MEDIAN INLET COVER
REPLACE BOTH END MARKERS
CLEARING IN WB DITCH

EXCEPTION TO NET CENTERLINE LENGTH
STA. 281WB+90 - STA. 283WB+14
B-55-0031
BUTT JOINTS REQUIRED
SEE CONSTRUCTION DETAIL

255WB+00 260WB+00 265WB+00 270WB+00 275WB+00 280WB+00

S88° 54' 47"E
1271.19'

255EB+00 260EB+00 265EB+00 270EB+00 275EB+00 280EB+00

S88° 58' 29"E
4546.31'

REPLACE EB APRON ENDWALL

KINNEY RD

PC: 256EB+41.69

PT: 265EB+83.33

CLEAN EB APRON END WALL
CLEARING ON WB END

CLEAN MEDIAN INLET COVER
REPLACE BOTH END MARKERS

EXCEPTION TO NET CENTERLINE LENGTH
STA. 281EB+32 - STA. 282EB+56
B-55-0032
BUTT JOINTS REQUIRED
SEE CONSTRUCTION DETAIL

PI STA = 261EB+13.66
Y = 338148.923
X = 538591.369
DELTA = 9°47'39"
D = 1°02'24"
T = 471.97'
L = 941.63'
R = 5508.50'
PC STA = 256+41.69
PT STA = 265+83.33
S.E. = 3.50%

SALVAGE EXISTING GUARDRAIL
STA. 252EB+46 - STA. 258EB+58 (RT)
STA. 277EB+88 - STA. 281EB+19 (RT)
STA. 277EB+74 - STA. 281EB+42 (LT)

STA. 252EB+47 - STA. 258EB+59 (RT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D

STA. 277EB+52 - STA. 281EB+18 (RT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
MGS THRIE BEAM TRANSITION REQ'D

STA. 277EB+19 - STA. 281EB+42 (LT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
MGS THRIE BEAM TRANSITION REQ'D

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE	SHEET 38	E

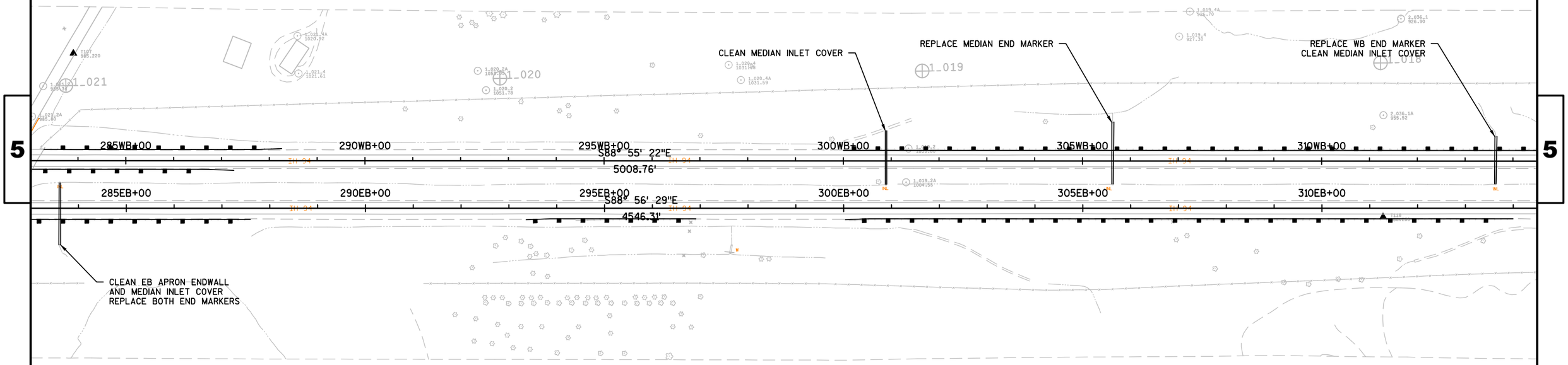
SALVAGE EXISTING GUARDRAIL
STA. 283WB+05 - STA. 284WB+00 (RT)
STA. 283WB+29 - STA. 288WB+19 (LT)
STA. 300WB+00 - STA. 315WB+01 (LT)

STA. 283WB+05 - STA. 287WB+26 (RT)
MGS THRIE BEAM TRANSITION REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 283WB+29 - STA. 288WB+26 (LT)
MGS THRIE BEAM TRANSITION REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 300WB+00 - STA. 315WB+12 (LT)
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

N



SALVAGE EXISTING GUARDRAIL
STA. 282EB+43 - STA. 287EB+61 (RT)
STA. 294EB+40 - STA. 296EB+91 (RT)
STA. 300EB+11 - STA. 314EB+00 (RT)

STA. 282EB+43 - STA. 287EB+60 (RT)
MGS THRIE BEAM TRANSITION REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D

STA. 293EB+36 - STA. 296EB+91 (RT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D

STA. 300EB+03 - STA. 314EB+00 (LT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE	SHEET 39	E

SALVAGE EXISTING GUARDRAIL
STA. 320WB+02 - STA. 326WB+54 (LT)
STA. 333WB+18 - STA. 341WB+90 (LT)

STA. 320WB+02 - STA. 326WB+27 (LT)
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 333WB+19 - STA. 342WB+18 (LT)
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

PI STA = 338WB+32.36
Y = 338068.207
X = 546310.508
DELTA = 19°09'32"
D = 1°31'34"
T = 633.60'
L = 1255.37'
R = 3754.25'
PC STA = 331+98.76
PT STA = 344+54.13
S.E. = 4.70%

PC: 331WB+98.76

PT: 344WB+54.13

REPLACE WB APRON END WALL
REPLACE WB END MARKER
CLEAN PIPE

315WB+00
320WB+00
325WB+00
330WB+00
335WB+00
340WB+00
345WB+00

315EB+00
320EB+00
325EB+00
330EB+00
335EB+00
340EB+00
345EB+00

PC: 328EB+13.24

CLEAN EB APRON ENDWALL

REPLACE MEDIAN END MARKER

PI STA = 337EB+30.85
Y = 337969.547
X = 546207.956
DELTA = 18°57'18"
D = 1°02'33"
T = 917.61'
L = 1818.45'
R = 5496.68'
PC STA = 328+13.24
PT STA = 346+31.69
S.E. = 3.50%

PT: 346EB+31.69

HILLARY FARM RD

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE	SHEET 40	E

REPAVE MAINTENANCE CROSSOVER
MILL 1.75" AND PAVE 1.75"
W/ 4 LT 58-28S

CLEAN WB APRON ENDWALL

PC: 354WB+52.50

PI STA = 365WB+89.81
Y = 337110.332
X = 548908.855
DELTA = 22°31'24"
D = 1°00'11"
T = 1137.32'
L = 2245.27'
R = 5711.62'
PC STA = 354+52.50
PT STA = 376+97.76
S.E. = 3.40%

PT: 376WB+97.76

CLEAN PIPE
ADD LINER
REPLACE ENDWALLS
REPLACE END MARKERS

PT: 346EB+31.69

REPAVE GORE AREA
MILL 2" AND PAVE 2"
W/ 4 LT 58-28S
(PAY UNDER CATEGORY 0010)

REPAVE RAMP TO
STA. 350EB+00
MILL 2" AND PAVE 2"
W/ SMA - DRIVING LANE
4 LT 58-28S - SHOULDER
(PAY UNDER CATEGORY 0020)

PC: 358EB+56.86

CLEAN PIPE
ADD LINER
REPLACE ENDWALLS
REPLACE END MARKERS

PI STA = 365EB+81.47
Y = 336984.752
X = 548900.927
DELTA = 22°23'28"
D = 1°33'54"
T = 724.61'
L = 1430.72'
R = 3661.00'
PC STA = 358+56.86
PT STA = 372+87.58
S.E. = 4.70%

PT: 372EB+87.58

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE	SHEET 41	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\PLAN\050101_PLAN.DWG
LAYOUT NAME - 050105

PLOT DATE : 9/8/2017 12:03 PM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

SALVAGE EXISTING GUARDRAIL
STA. 390WB+78 - STA. 395WB+56 (LT)
STA. 396WB+62 - STA. 407WB+16 (LT)
STA. 396WB+60 - STA. 400WB+40 (RT)

STA. 391WB+29 - STA. 395WB+57 (LT)
1 - MGS GUARDRAIL TERMINAL TYPE 2 REQ'D
MGS GUARDRAIL 3 REQ'D
MGS THRIE BEAM TRANSITION REQ'D

STA. 396WB+62 - STA. 407WB+14 (LT)
MGS THRIE BEAM TRANSITION REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 396WB+60 - STA. 400WB+43 (RT)
MGS THRIE BEAM TRANSITION REQ'D
MGS GUARDRAIL 3 REQ'D
1 - MGS GUARDRAIL TERMINAL EAT REQ'D

EXCEPTION TO NET CENTERLINE LENGTH
STA. 395WB+56 - STA. 396WB+60
B-55-0033
BUTT JOINTS REQUIRED
SEE CONSTRUCTION DETAIL

N

5

380WB+00 385WB+00 390WB+00 395WB+00 400WB+00 405WB+00

N87° 42' 12"E
1962.87'

IH 94

380EB+00 385EB+00 390EB+00 395EB+00 400EB+00 405EB+00

N87° 41' 21"E
2075.42'

100th ST

PC: 406EB+29.36

REPAVE GORE AREA
MILL 2" AND PAVE 2"
W/ 4 LT 58-28S
(PAY UNDER CATEGORY 0010)

REPAVE RAMP TO
STA. 382EB+00
MILL 2" AND PAVE 2"
W/ SMA - DRIVING LANE
4 LT 58-28S - SHOULDER
(PAY UNDER CATEGORY 0020)

EXCEPTION TO NET CENTERLINE LENGTH
STA. 395EB+68 - STA. 396EB+72
B-55-0034
BUTT JOINTS REQUIRED
SEE CONSTRUCTION DETAIL

SALVAGE EXISTING GUARDRAIL
STA. 387EB+85 - STA. 395EB+65 (RT)
STA. 391EB+74 - STA. 395EB+67 (LT)

STA. 389EB+35 - STA. 395EB+65 (RT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
MGS THRIE BEAM TRANSITION REQ'D

STA. 391EB+45 - STA. 395EB+67 (LT)
1 - MGS GUARDRAIL TERMINAL EAT REQ'D
MGS GUARDRAIL 3 REQ'D
MGS THRIE BEAM TRANSITION REQ'D

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE	SHEET 42	E

N

PI STA = 414WB+65.44
Y = 337261.503
X = 553810.813
DELTA = 1°20'16"
D = 0°37'46"
T = 106.25'
L = 212.48'
R = 9100.75'
PC STA = 413+59.19
PT STA = 415+71.67
S.E. = 2.30%

PC: 413WB+59.19

PT: 415WB+71.67

400WB+00 405WB+00 410WB+00 415WB+00 420WB+00 425WB+00

S87° 42' 53"E
973.29'

400EB+00 405EB+00 410EB+00 415EB+00 420EB+00 425EB+00

S87° 29' 56"E
5883.51'

PC: 406EB+29.36

PT: 423EB+56.79

PI STA = 414EB+93.58
Y = 337183.322
X = 553827.533
DELTA = 4°48'39"
D = 0°16'43"
T = 864.22'
L = 1727.43'
R = 20572.69'
PC STA = 406+29.36
PT STA = 423+56.79
S.E. = NORMAL CROWN

END PROJECT 1020-03-81
STA. 413EB+00
STA. 413WB+00
BUTT JOINT REQUIRED
SEE CONSTRUCTION DETAIL

RIPRAP

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	IH 94 - MAINLINE	SHEET 43	E

N

T122
993.820

BP: 100J+00.00

S65° 01' 46"E
503.52'

IH 94

INL

105J+00

PC: 105J+03.52

PI STA = 106J+36.09
Y = 337340.359
X = 547732.910
DELTA = 13°54'58"
D = 5°16'30"
T = 132.56'
L = 263.82'
R = 1086.20'
PC STA = 105J+03.52
PT STA = 107J+67.34
S.E. = 3.70%

PT: 107J+67.34

S51° 06' 48"E
97.33'

PC: 108J+64.91

110J+00

PI STA = 112J+29.93
Y = 336973.503
X = 548201.495
DELTA = 32°06'49"
D = 4°31'04"
T = 365.02'
L = 710.82'
R = 1268.22'
PC STA = 108J+64.91
PT STA = 115J+75.73
S.E. = 3.30%

115J+00

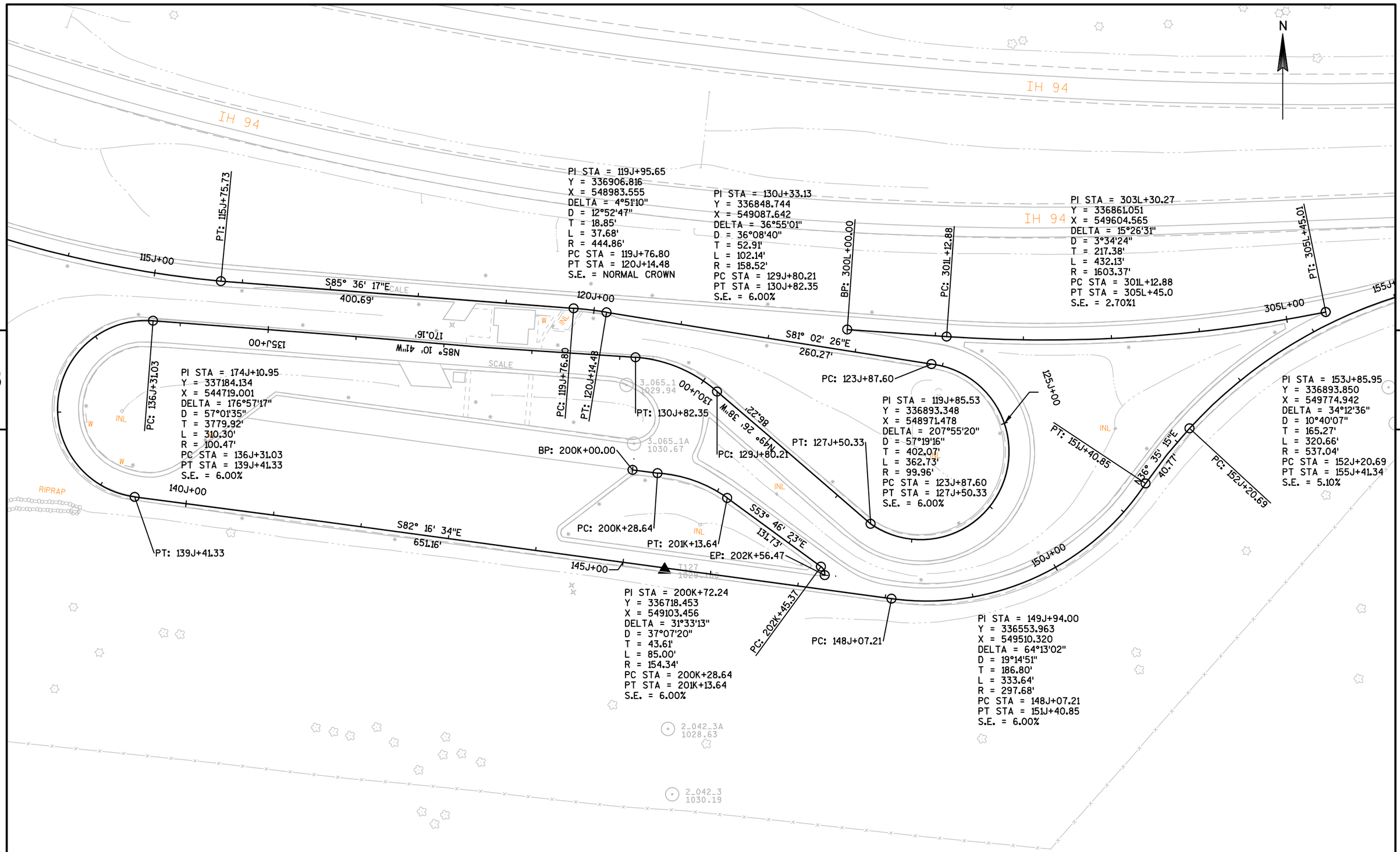
PT: 115J+75.73

2_040
2_041
1_014_3A
973.84
1_014_3
978.97
2_040_4
1000.53
2_040_4A
1000.65
1_013_3A
1003.20
1_013_3
1002.91

5
5

PROJECT NO:1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	WEIGH SCALE	SHEET 44	E

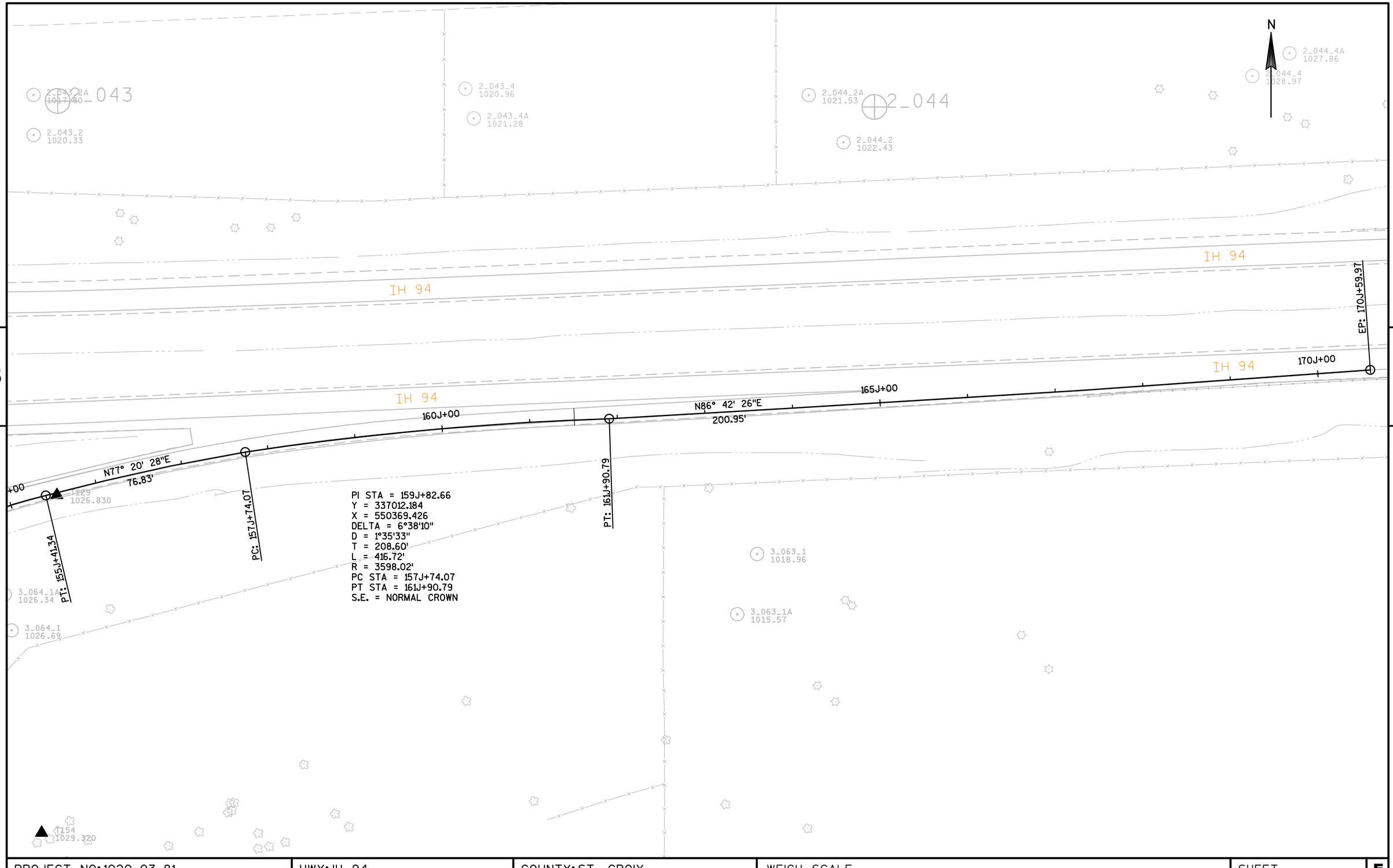
FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\PLAN\050102_PLAN_WEIGHSCALE.DWG
LAYOUT NAME - 05010 (_NEXT COUNTER_)
PLOT DATE : 6/23/2017 10:30 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME :
PLOT SCALE : 1 IN:100 FT



PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	WEIGH SCALE	SHEET 45	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\PLAN\050102_PLAN_WEIGHSCALE.DWG
LAYOUT NAME - 05010 (_NEXT COUNTER_) (1)

PLOT DATE : 6/23/2017 10:30 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:100 FT



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5

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	WEIGH SCALE	SHEET 46	E

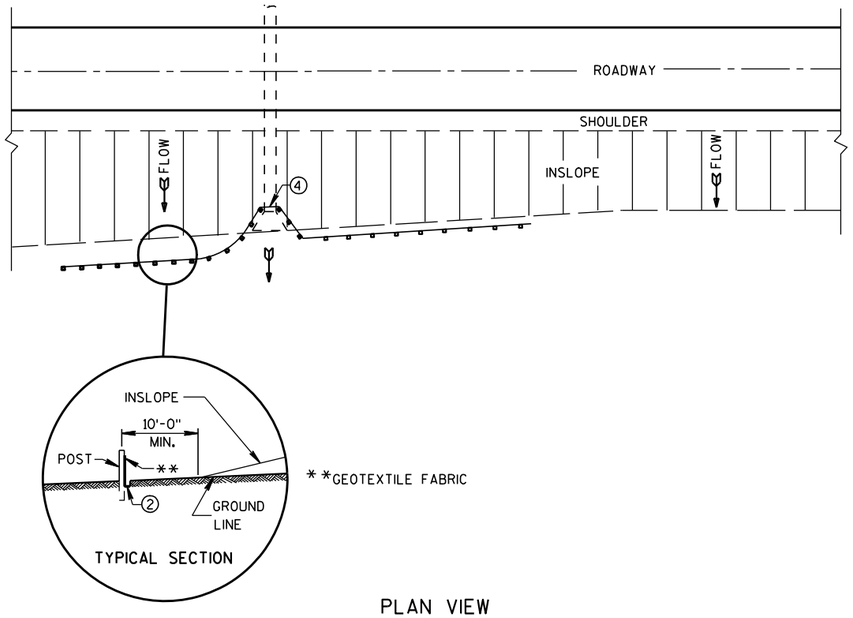
FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\PLAN\050102_PLAN_WEIGHSCALE.DWG
LAYOUT NAME - 05010 (_NEXT COUNTER_) (2)

PLOT DATE : 6/23/2017 10:30 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:100 FT

Standard Detail Drawing List

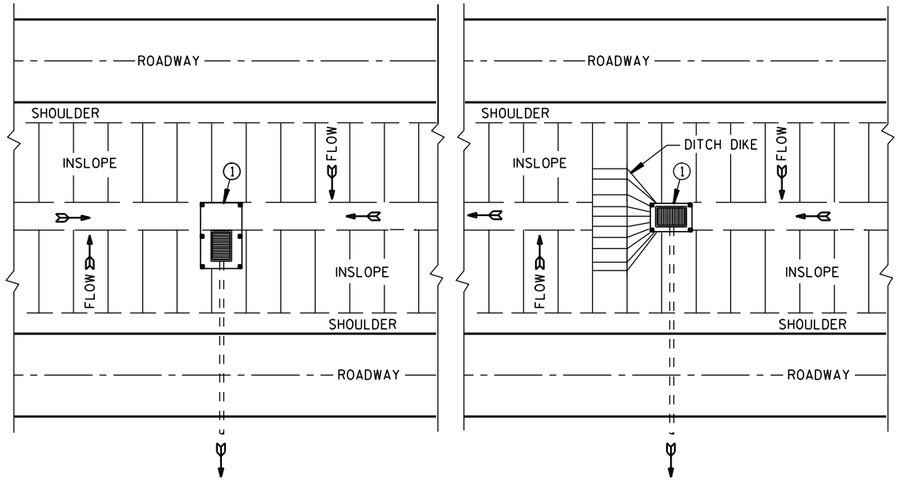
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13C14-06A	BASE PATCHING CONCRETE
13C14-06B	BASE PATCHING CONCRETE
13C14-06C	BASE PATCHING CONCRETE
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	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)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A02-09	DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C19-04C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-02A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-02B	PAVEMENT MARKING MAJOR SPLIT FREEWAY TO FREEWAY
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-06B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

6



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.

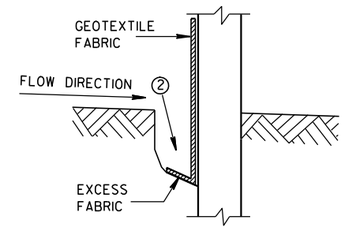
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

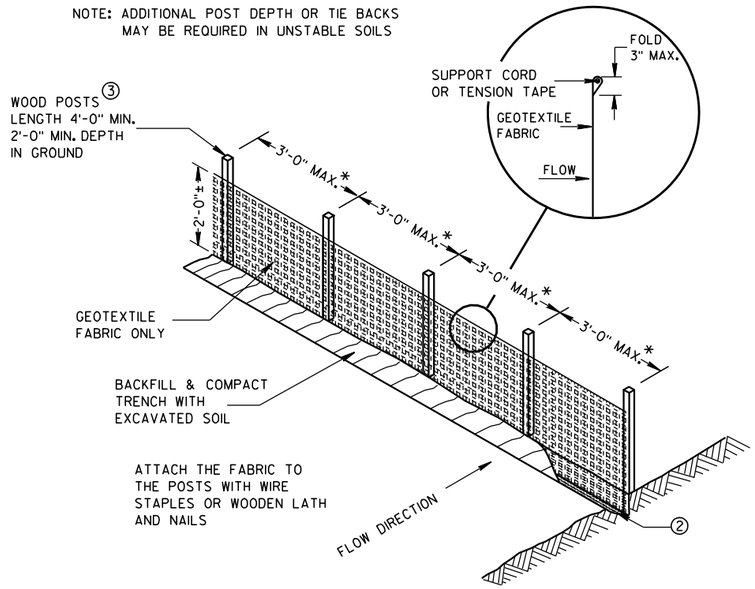
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

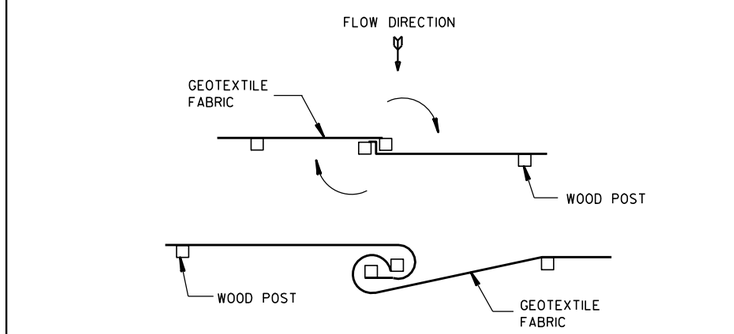
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



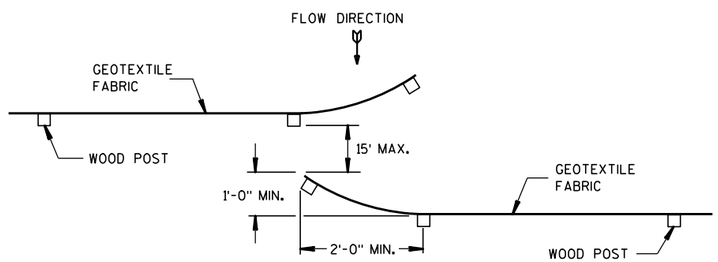
TRENCH DETAIL



SILT FENCE

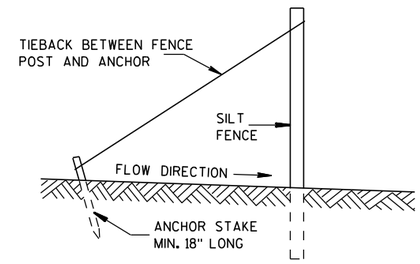


TWIST METHOD



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

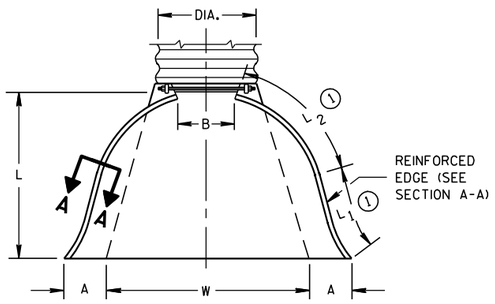
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

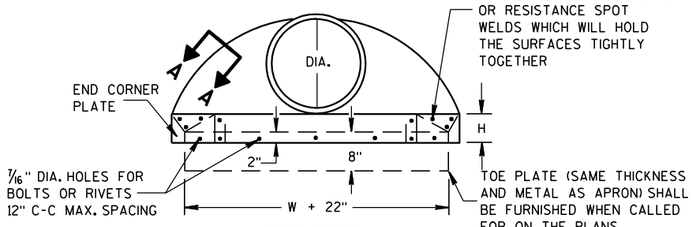
REINFORCED CONCRETE APRON ENDWALLS

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

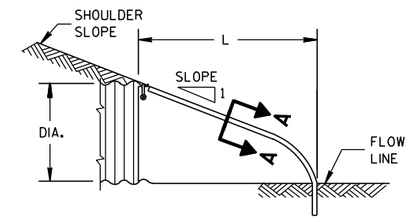
* MINIMUM
** MAXIMUM



PLAN VIEW

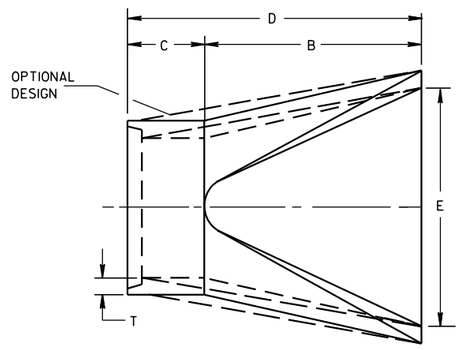


END VIEW

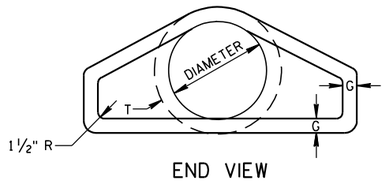


SIDE ELEVATION

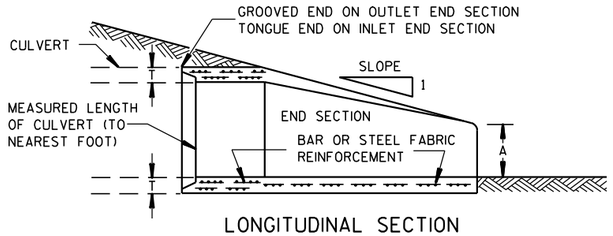
METAL ENDWALLS



PLAN

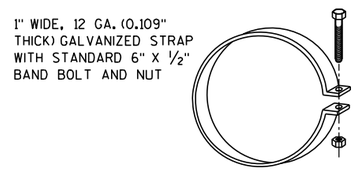


END VIEW



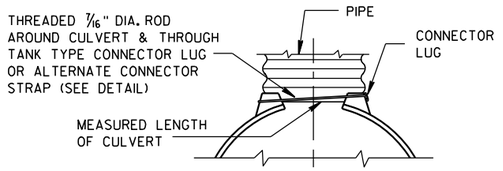
LONGITUDINAL SECTION

CONCRETE ENDWALLS

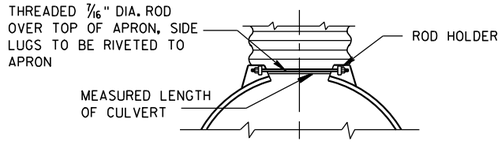


ALTERNATE FOR TYPE 1 CONNECTION

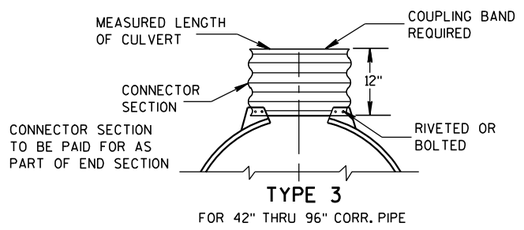
END SECTION CONNECTOR STRAP



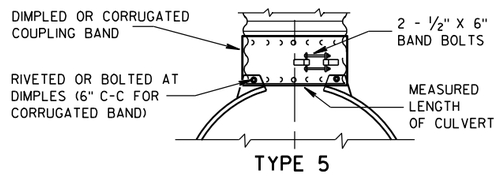
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

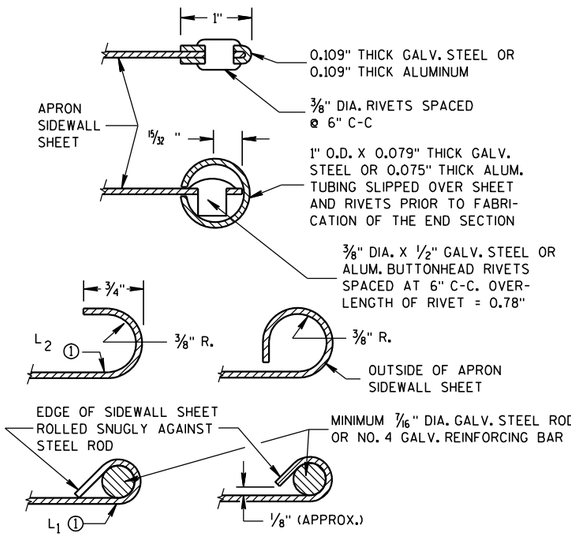
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

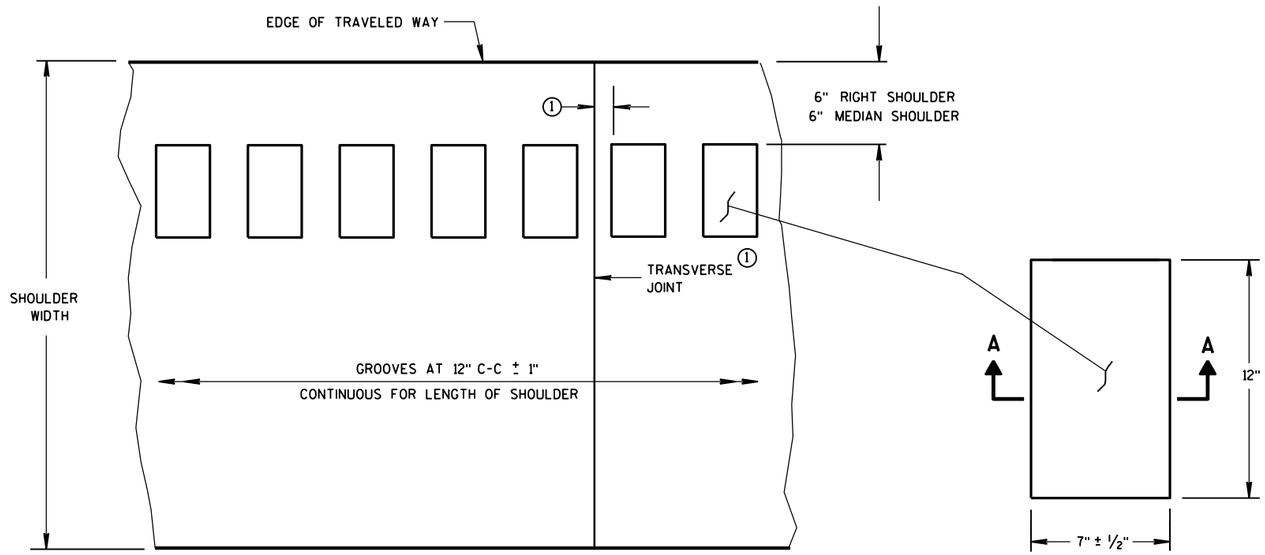
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 F 1-11



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

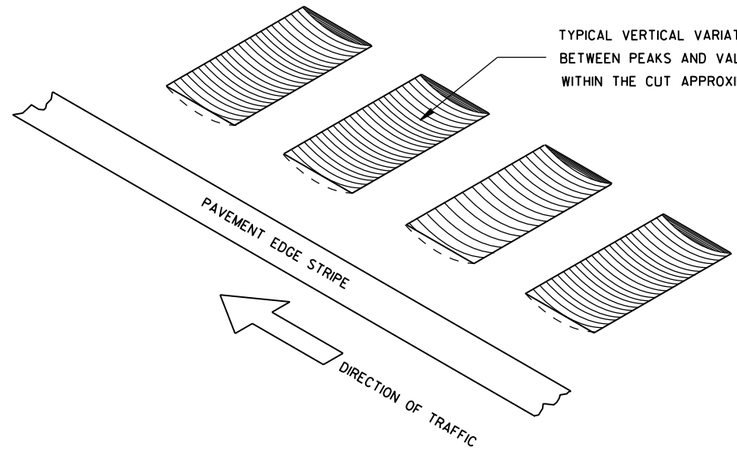
GENERAL NOTES

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

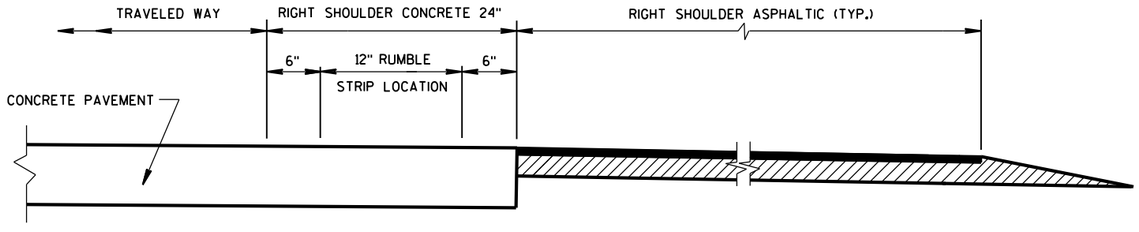
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

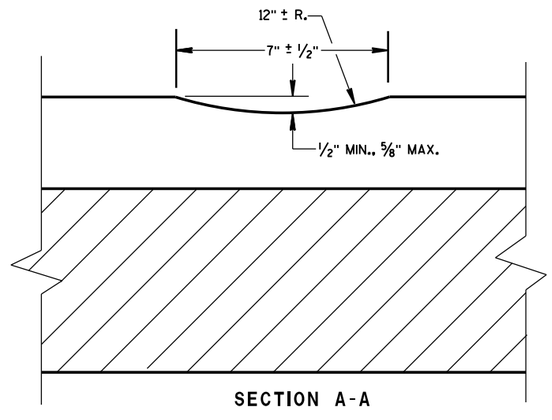
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



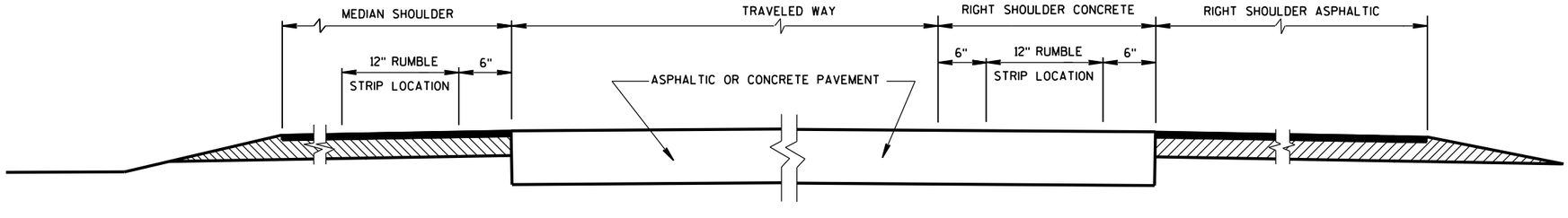
ISOMETRIC



SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION A-A



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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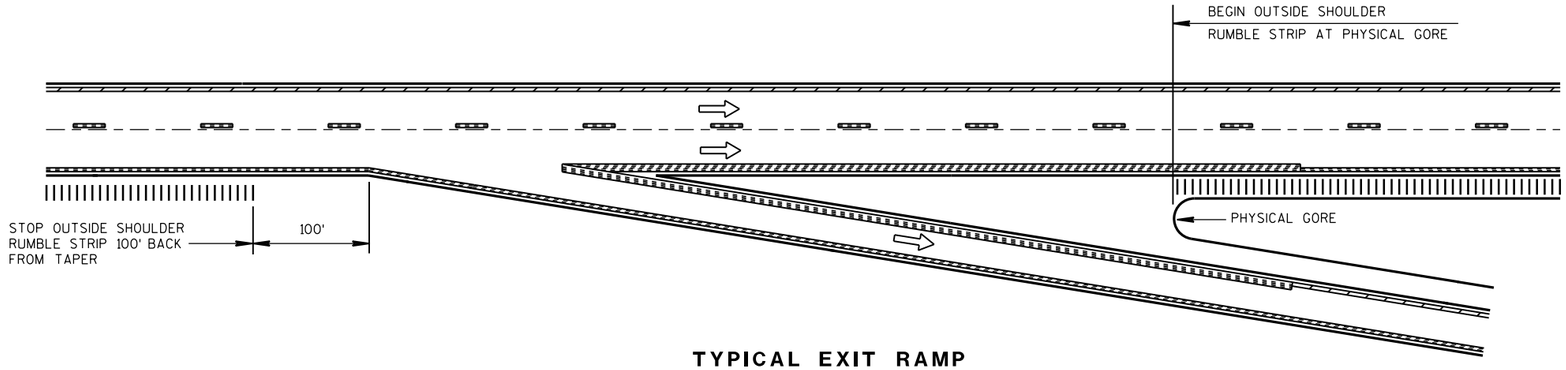
S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



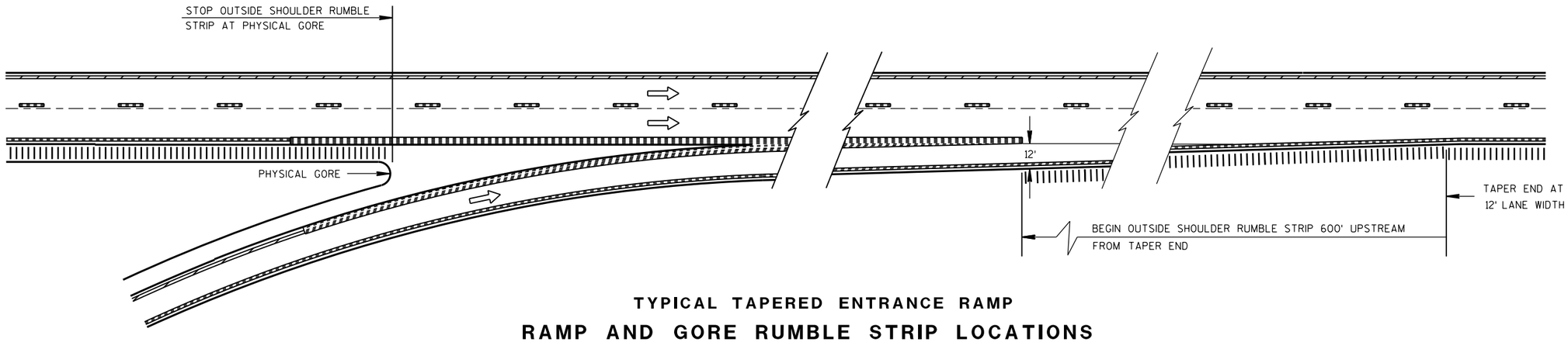
TYPICAL EXIT RAMP

NOTES:

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

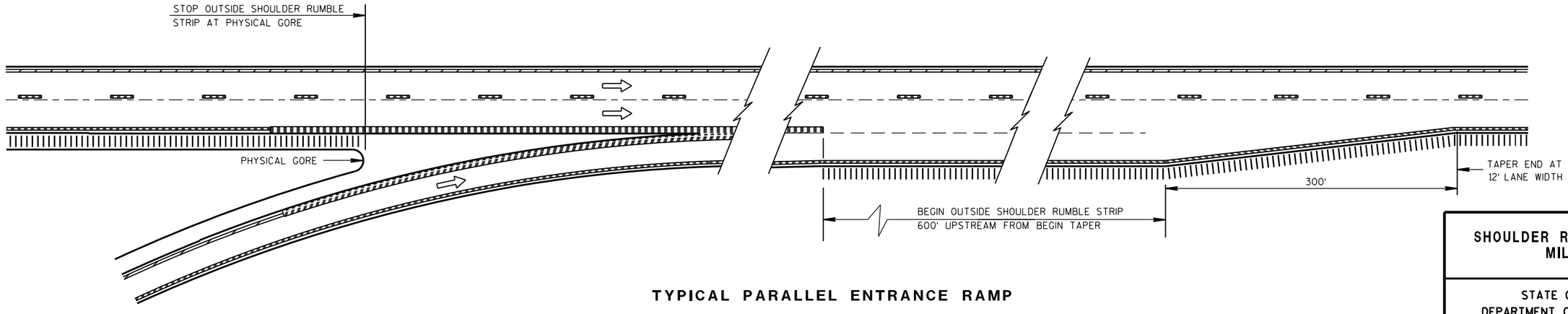
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 13 A 5-5b

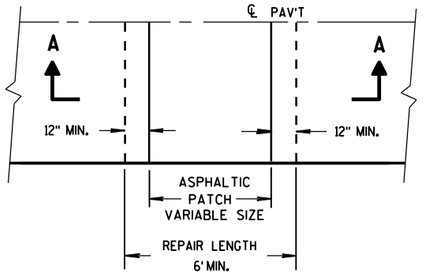
GENERAL NOTES

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

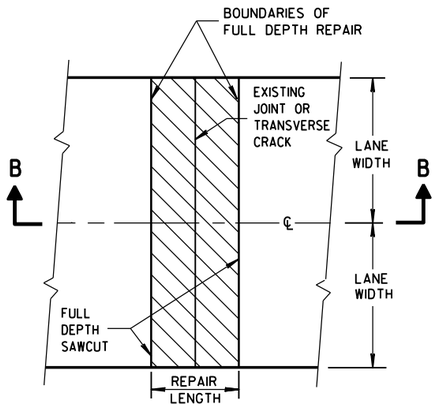
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

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

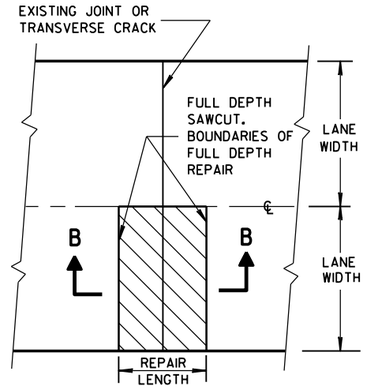
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

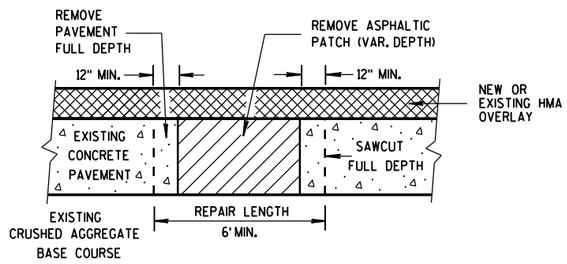


PLAN VIEW
(DOUBLE LANE REPAIR)



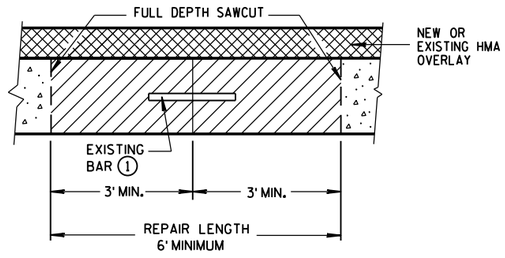
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



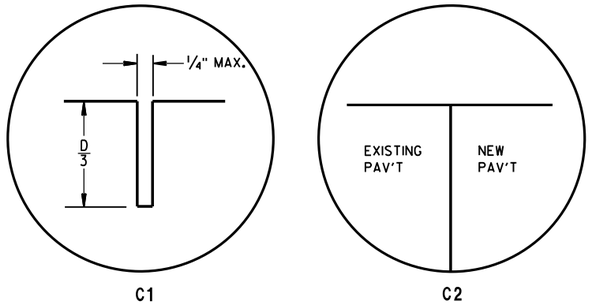
SECTION B-B

CONCRETE REMOVAL

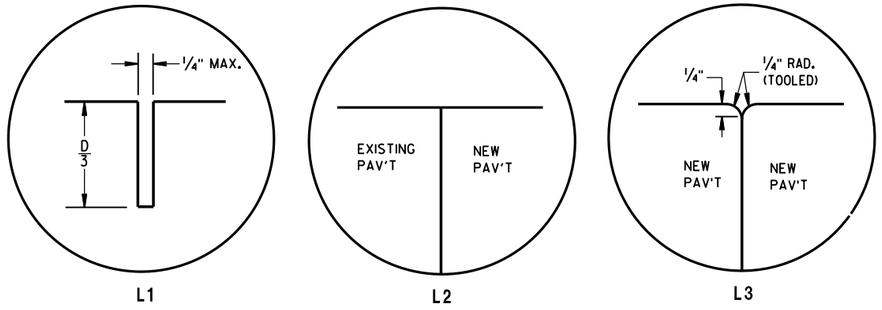
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

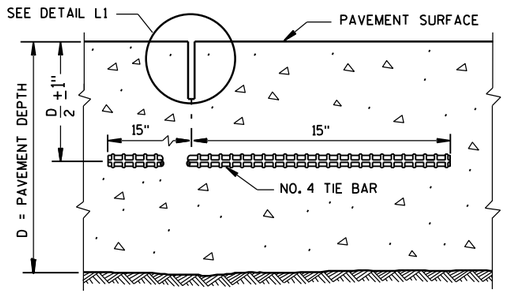
S.D.D. 13 C 14-6a



TRANSVERSE JOINTS

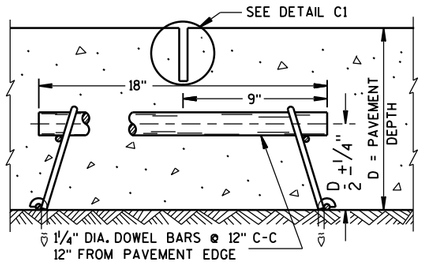


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

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

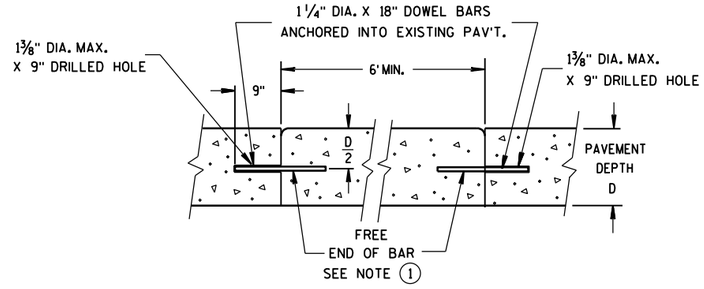
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

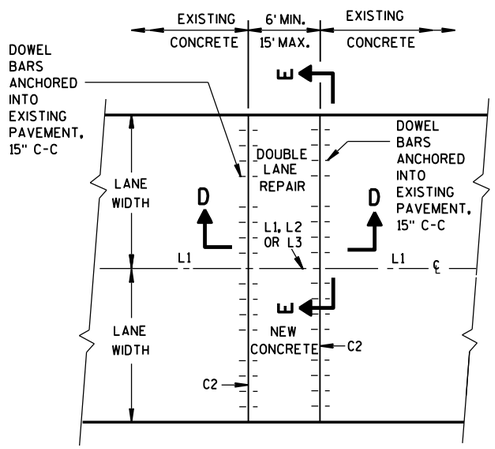
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

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

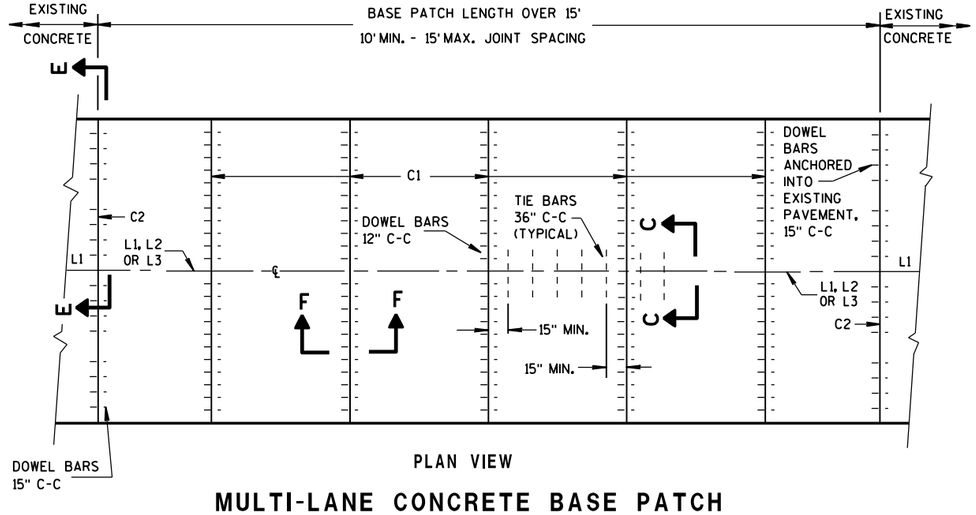


SECTION D-D



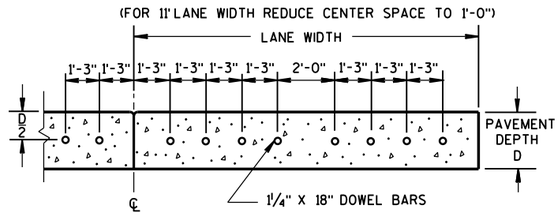
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

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



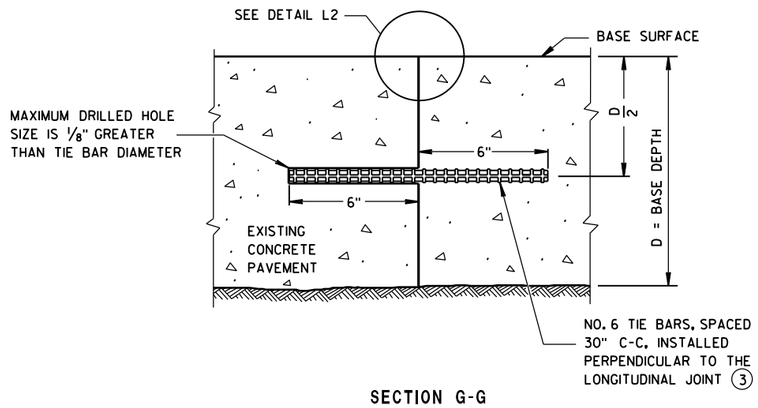
SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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



SECTION G-G

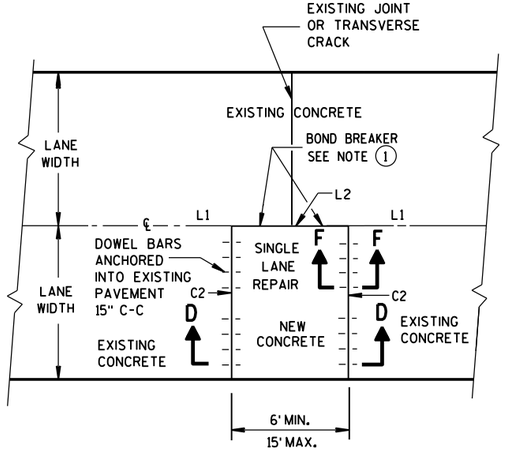
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

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

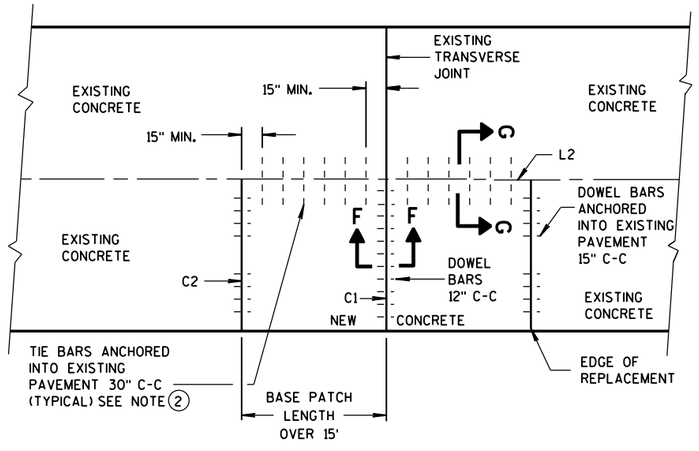
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO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

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



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

(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.

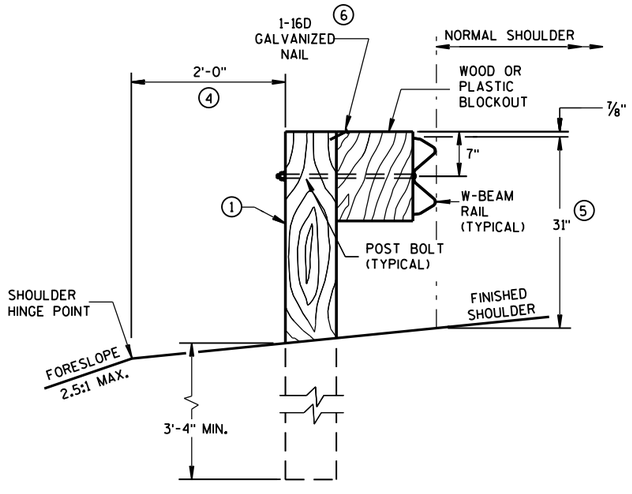
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(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).

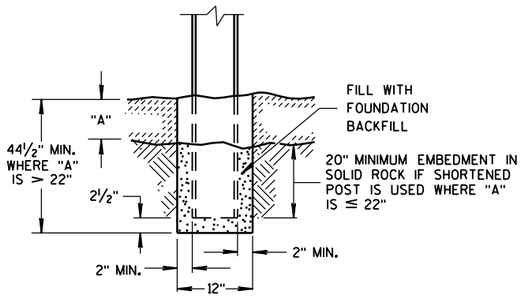
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(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.



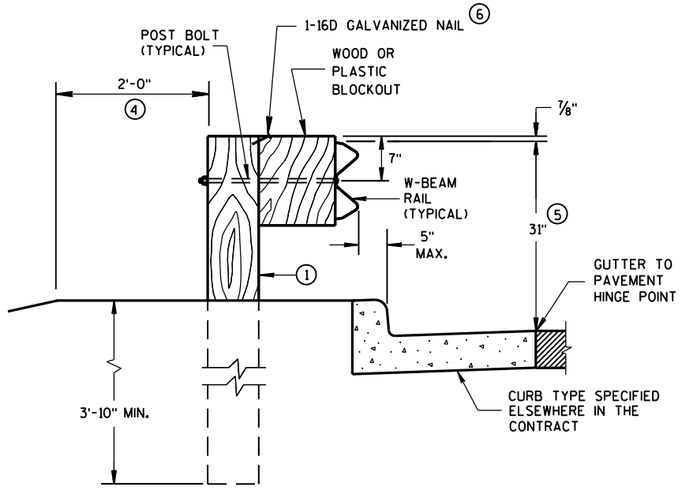
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



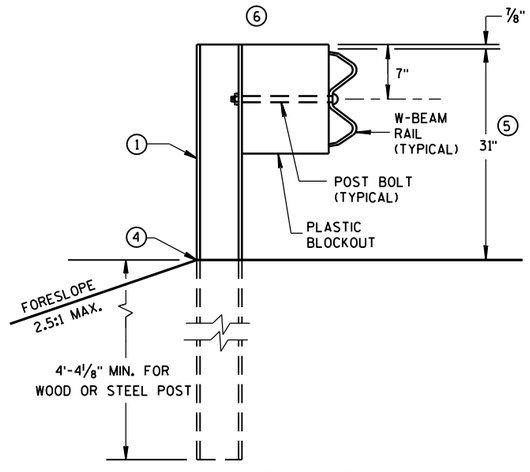
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



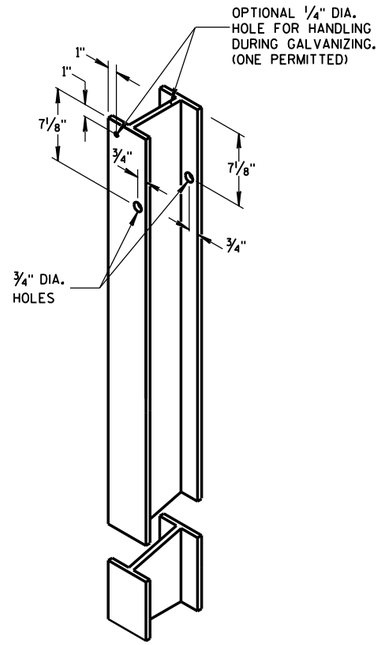
END VIEW

LOCATED ALONG A CURBED ROADWAY

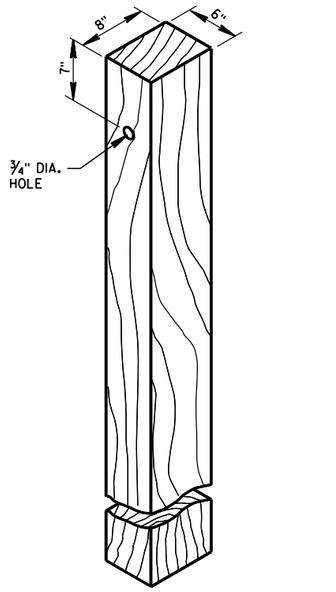


END VIEW

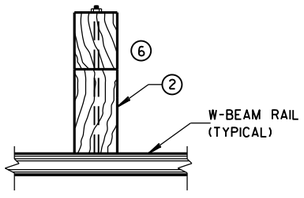
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



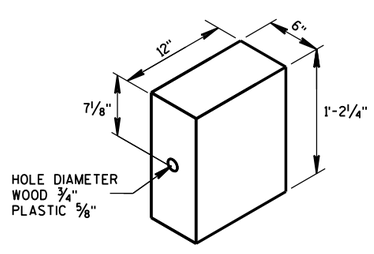
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



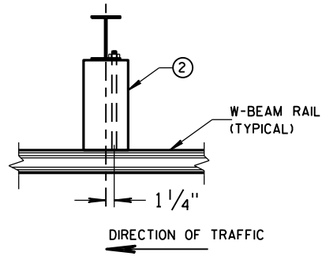
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

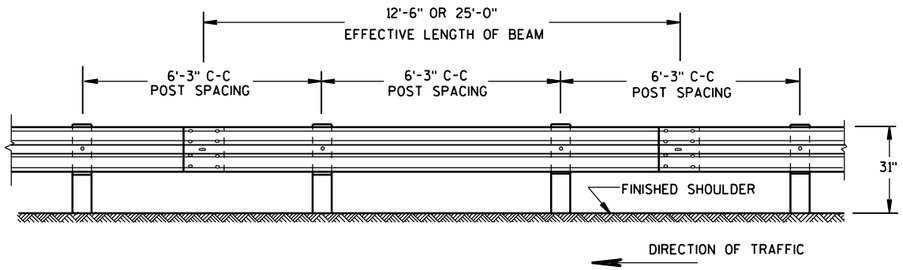


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

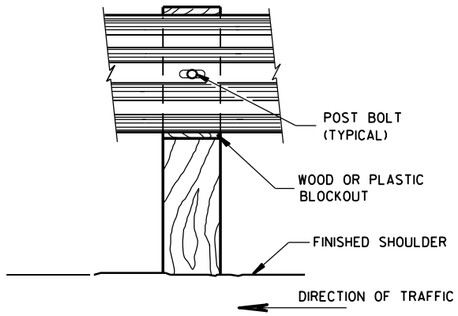
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

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.

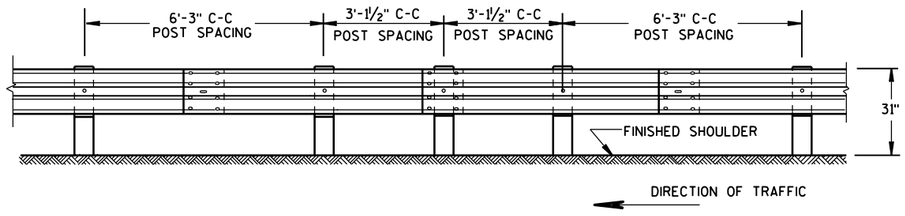
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

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.

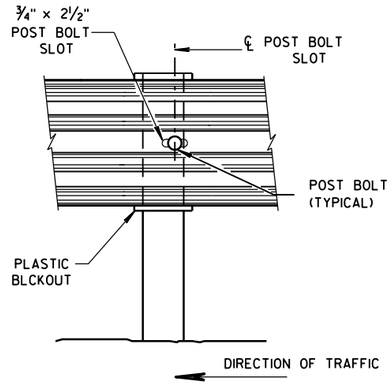
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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.

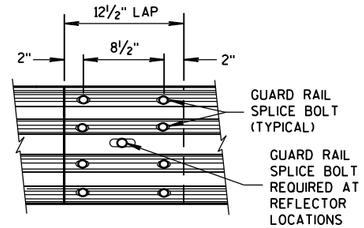


FRONT VIEW

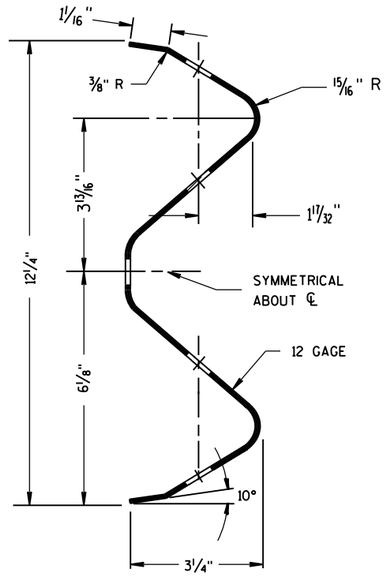
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



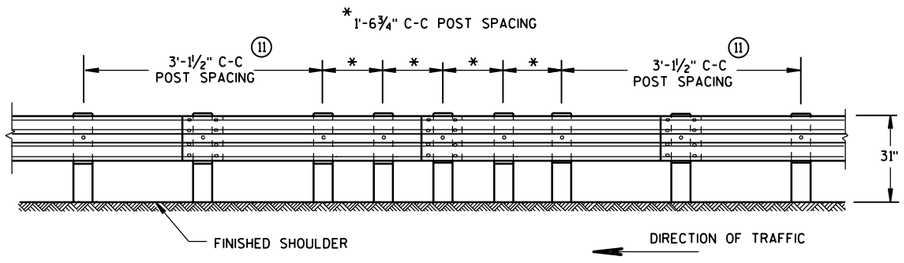
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

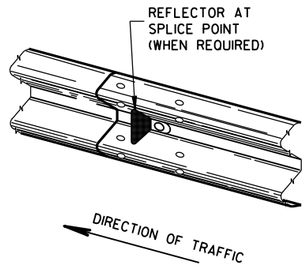


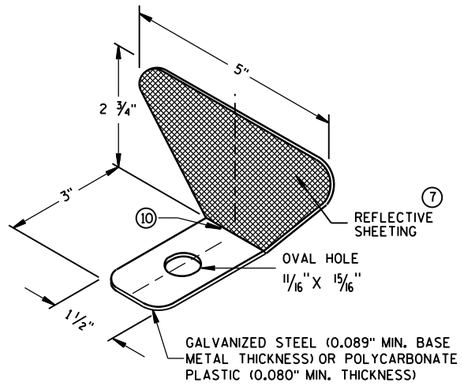
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

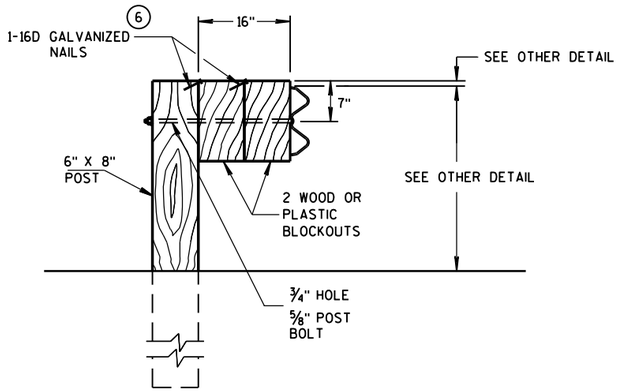
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (9)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (10)	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

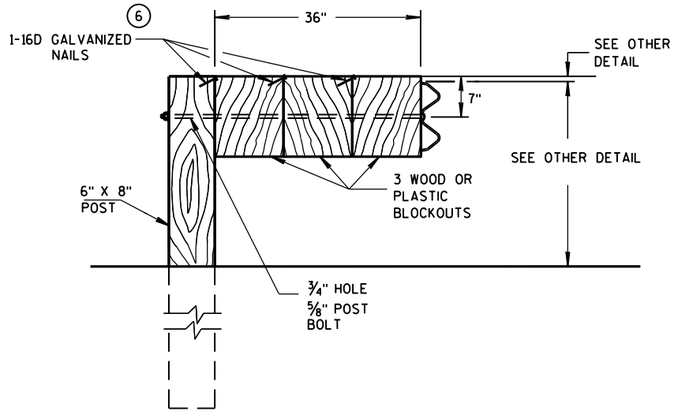
6

S.D.D. 14 B 42-4b



DETAIL FOR 16" BLOCKOUT DEPTH

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

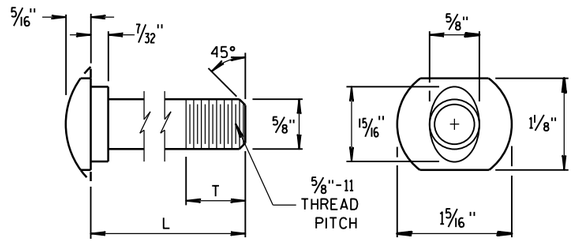


DETAIL FOR 36" BLOCKOUT DEPTH

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

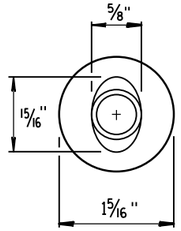
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

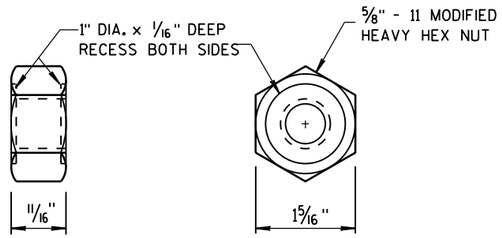


POST BOLT TABLE

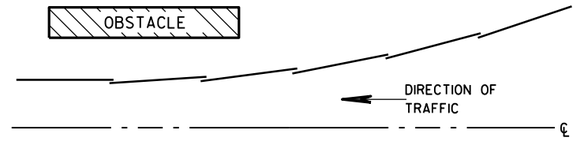
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

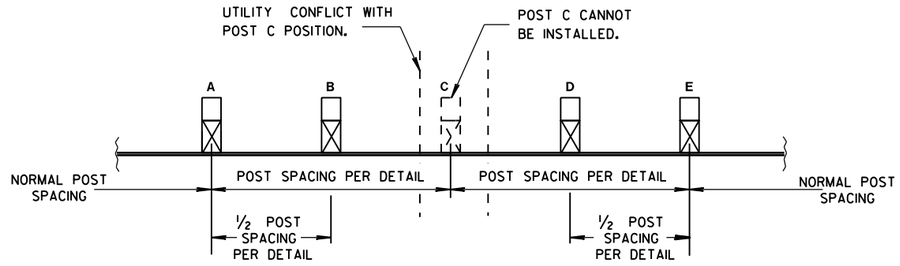


POST BOLT, SPLICE BOLT AND RECESS NUT

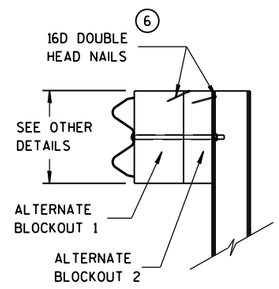


PLAN VIEW

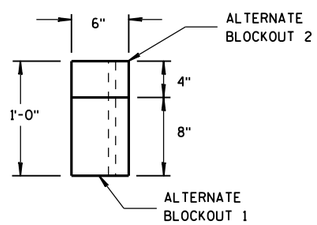
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 42-4c

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.

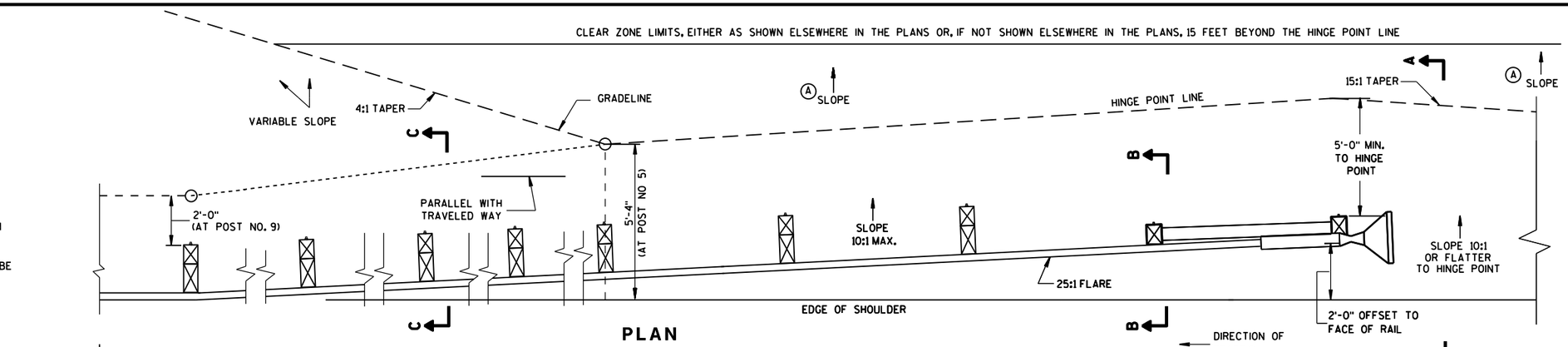
SEE SDD 14B42 FOR MORE INFORMATION.

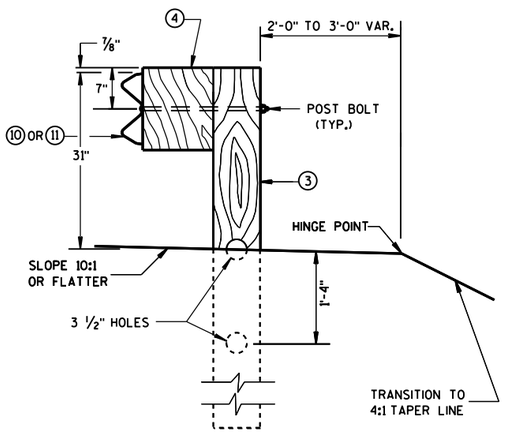
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

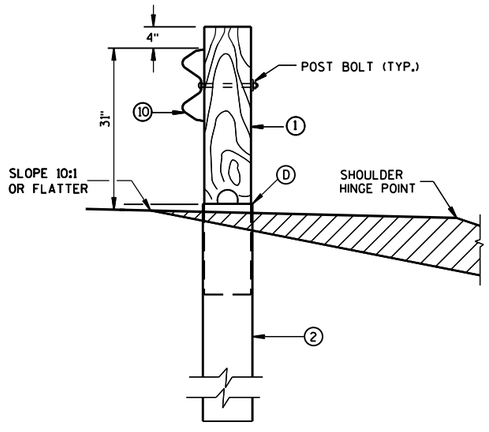
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.

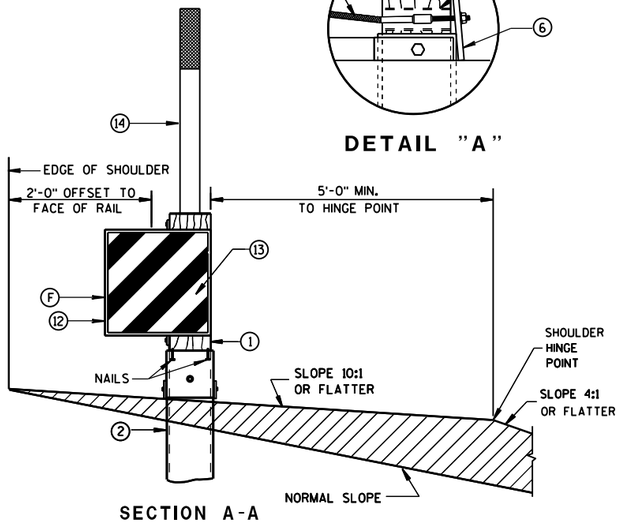




SECTION C-C
TYPICAL AT POST NOS. 3-9

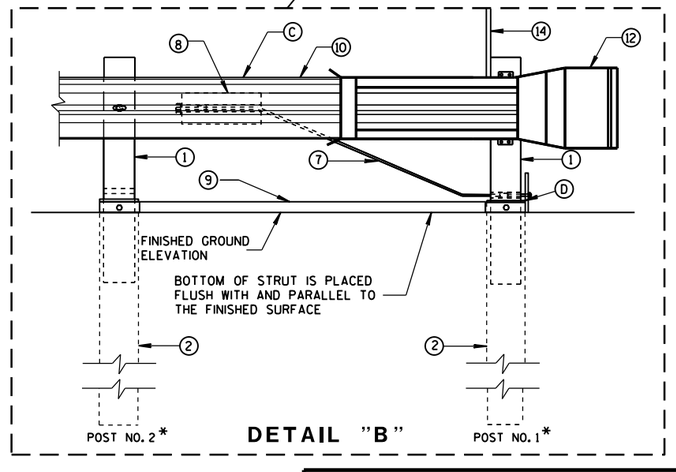


SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*

DETAIL "A"

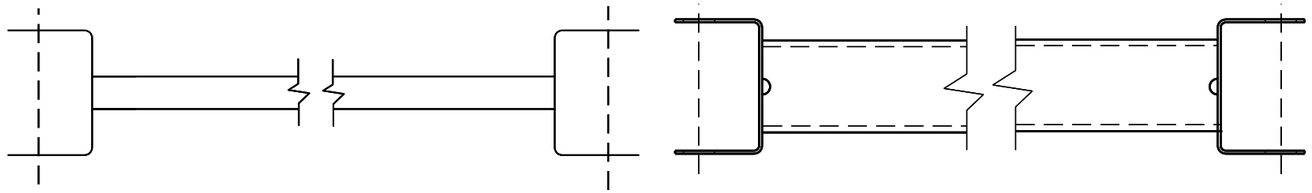


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

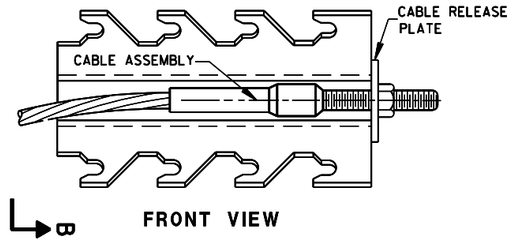
S.D.D. 14 B 44-2a



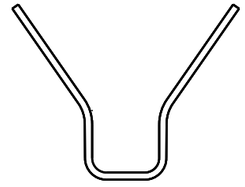
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

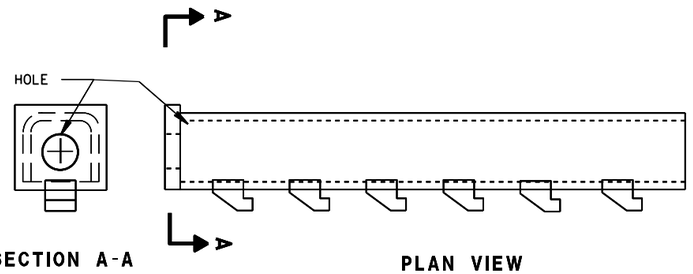
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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)



FRONT VIEW



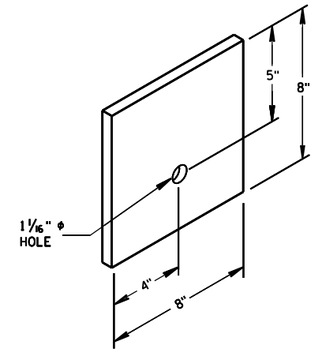
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



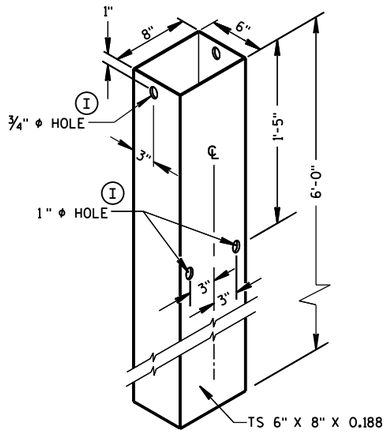
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

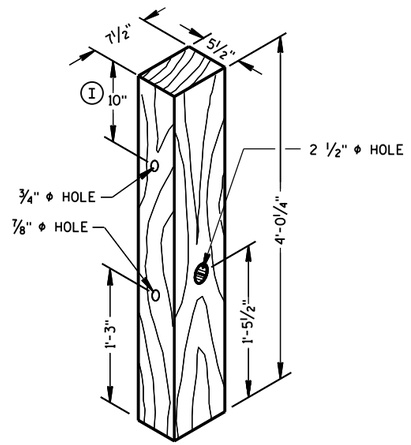
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

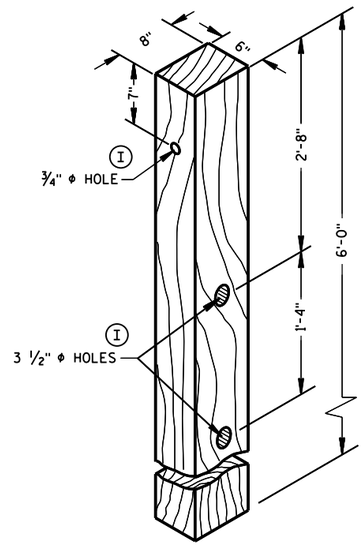


FOUNDATION TUBE (2)



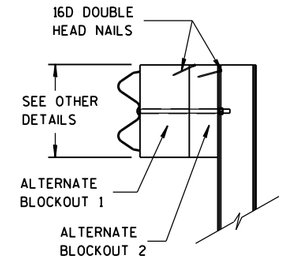
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

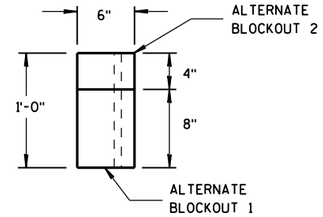


POSTS NUMBER 3-9

WOOD CRT POST (3)

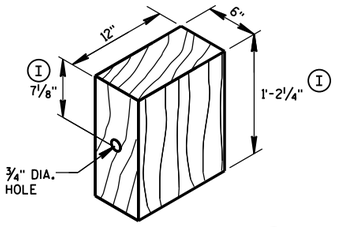


SIDE VIEW



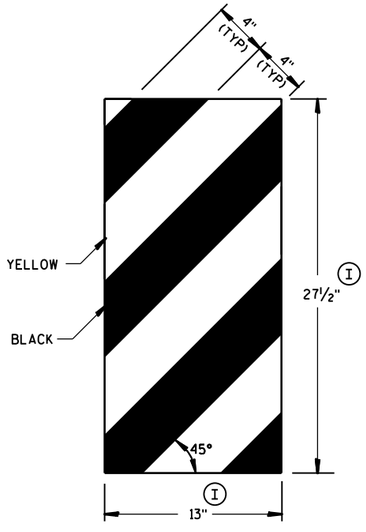
TOP VIEW

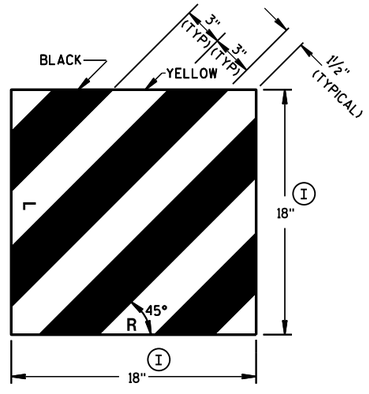
ALTERNATE WOOD BLOCKOUT DETAIL



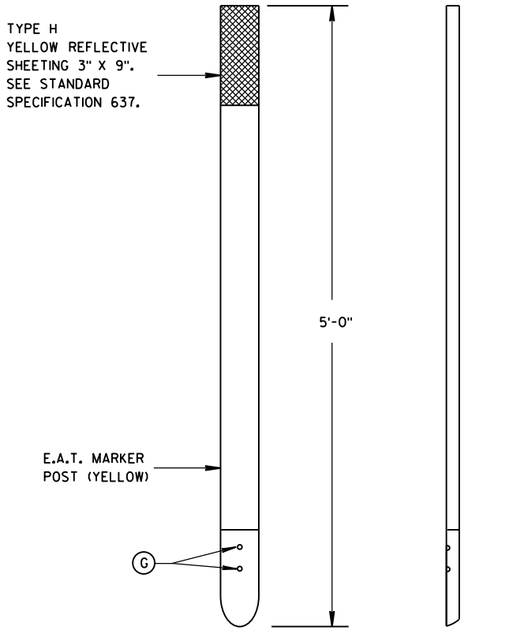
WOOD BLOCKOUT (4)

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





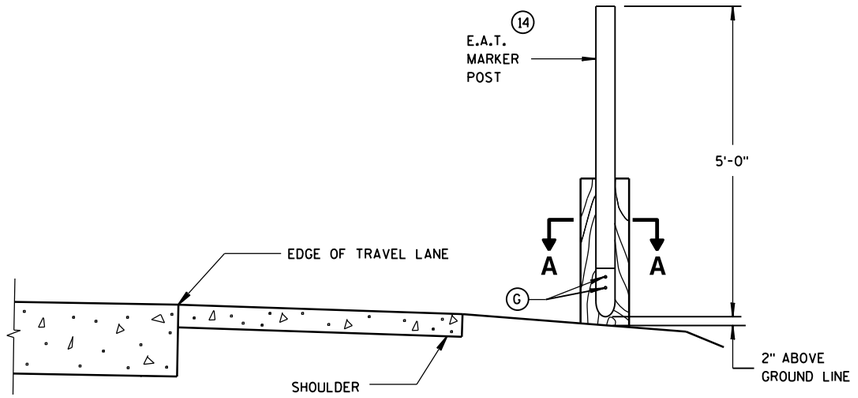
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

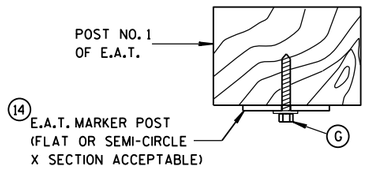
SIDE VIEW

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

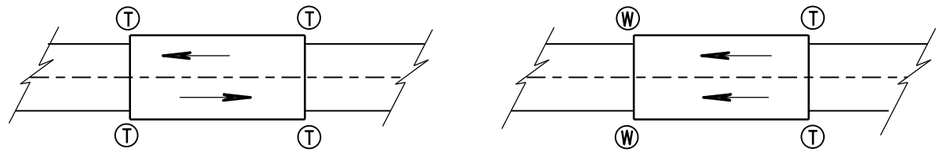
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

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

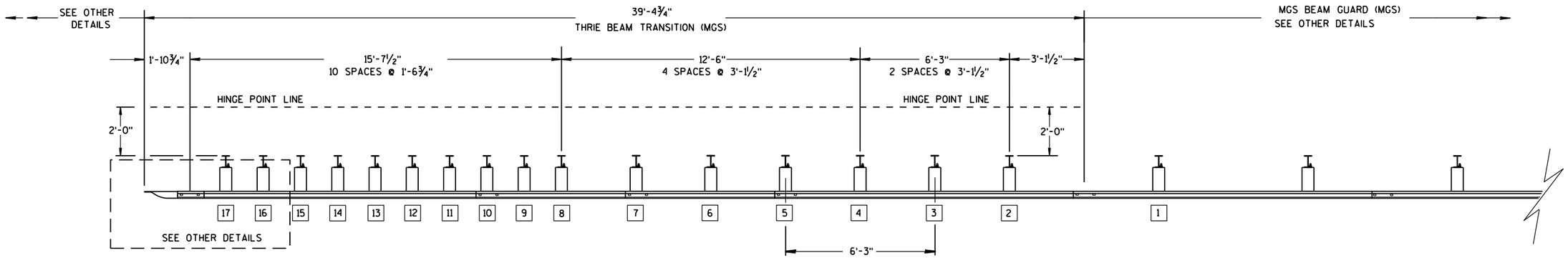
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

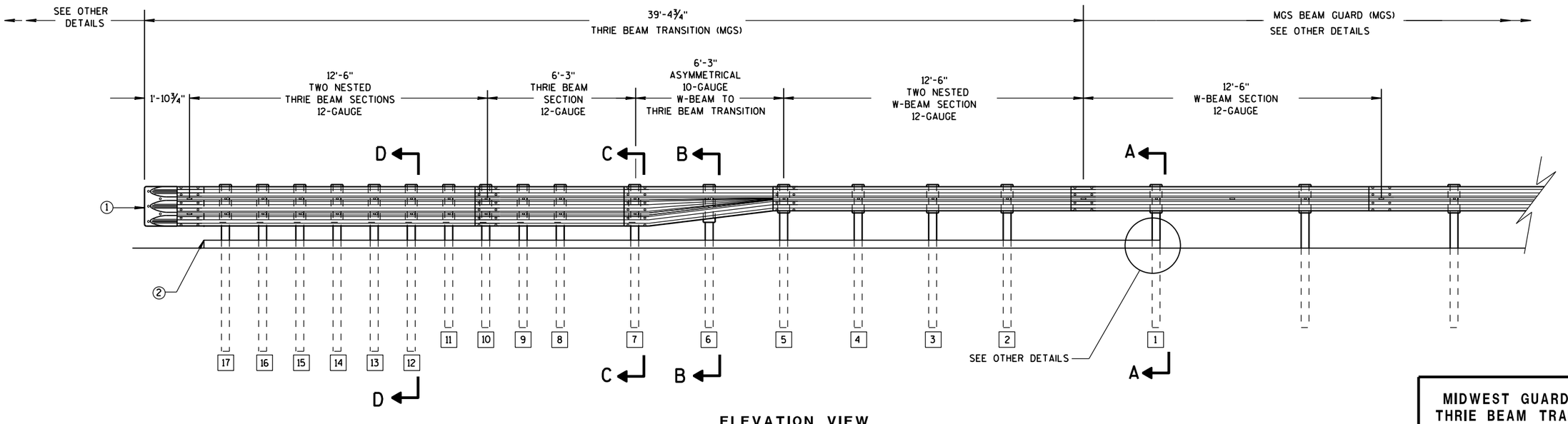
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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 TRANSPOI

6

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

6

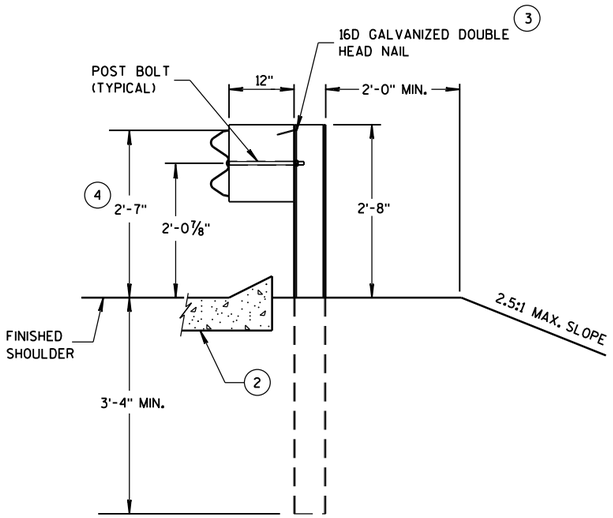
S.D.D. 14 B 45-4a

GENERAL NOTES

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

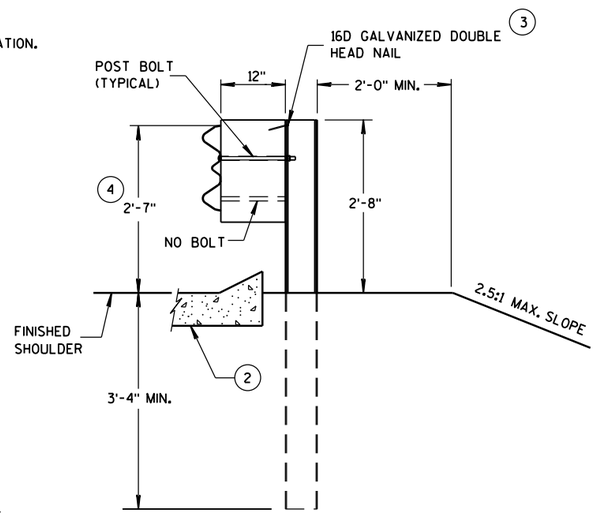
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



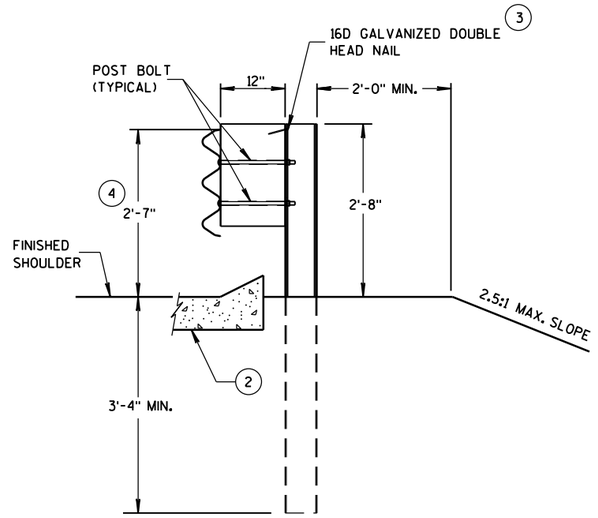
SECTION A-A

POSTS 1-5



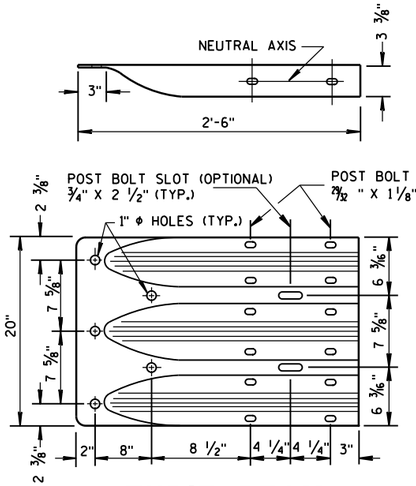
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

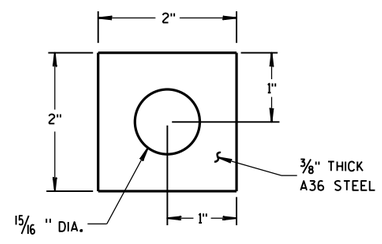
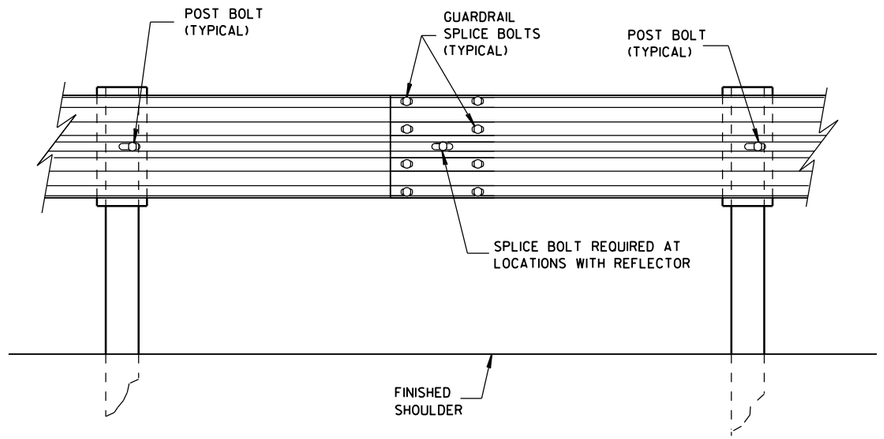
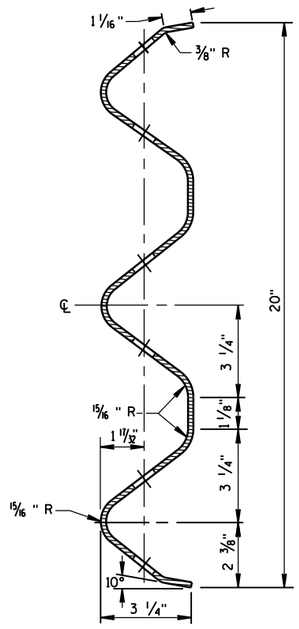


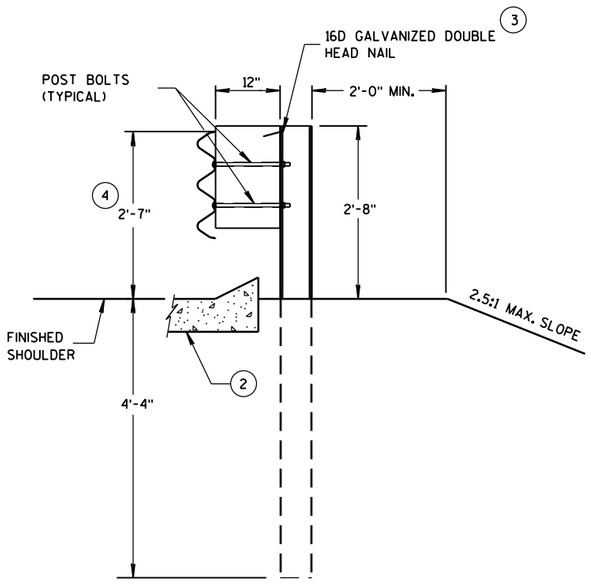
PLATE WASHER DETAIL



SPLICE DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

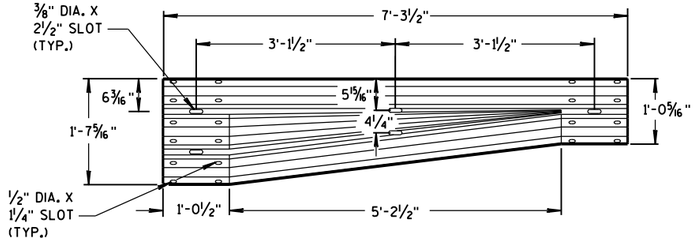
POSTS 12-17

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

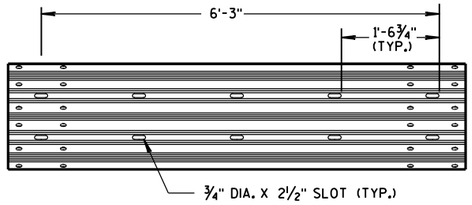
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

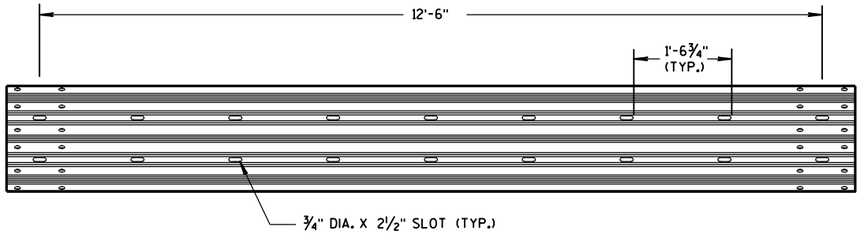
S.D.D. 14 B 45-4b



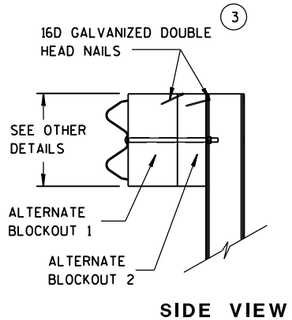
W-BEAM TO THRIE BEAM TRANSITION SECTION



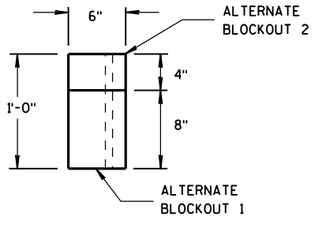
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

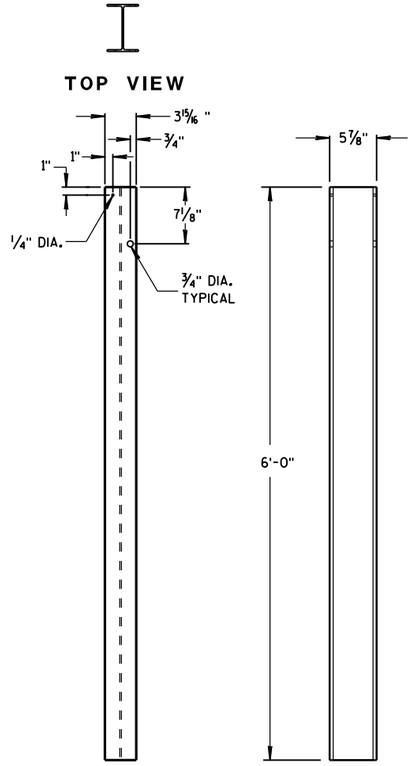


SIDE VIEW



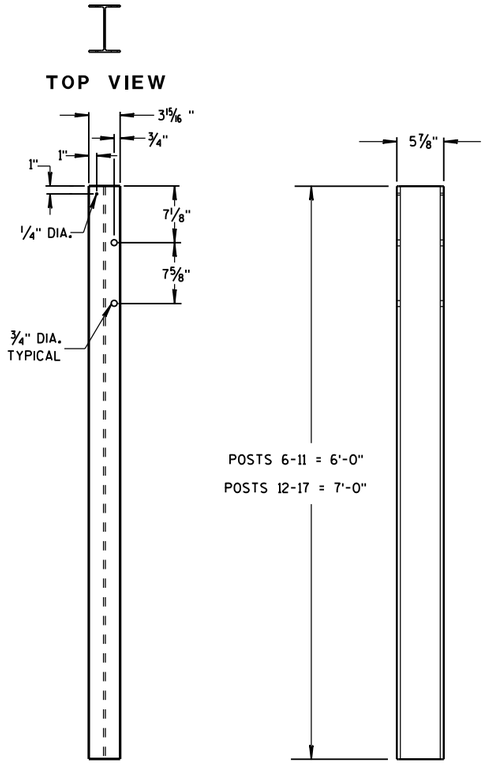
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



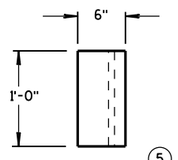
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

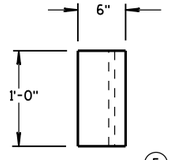


FRONT VIEW SIDE VIEW

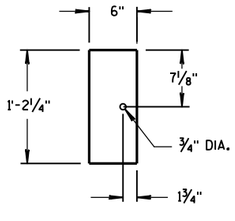
STEEL POSTS 6-17



TOP VIEW (5)

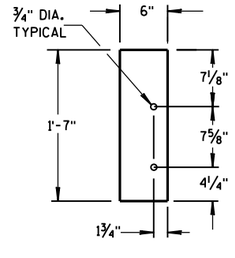


TOP VIEW (5)



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

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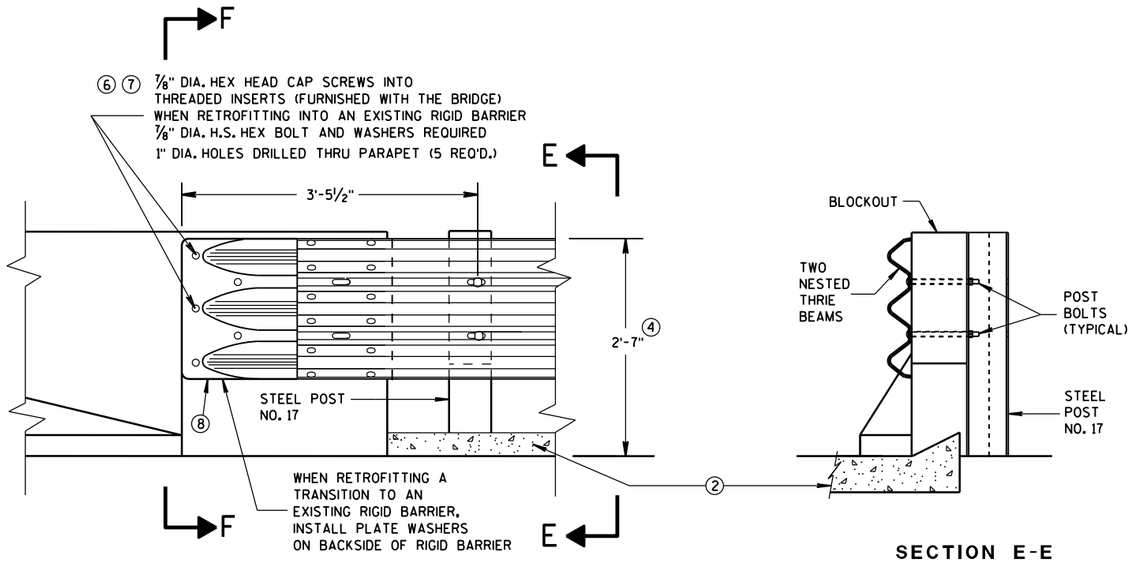


FRONT VIEW

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.

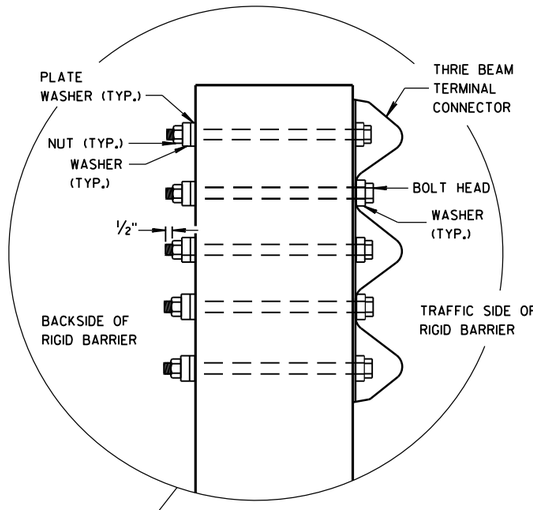
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

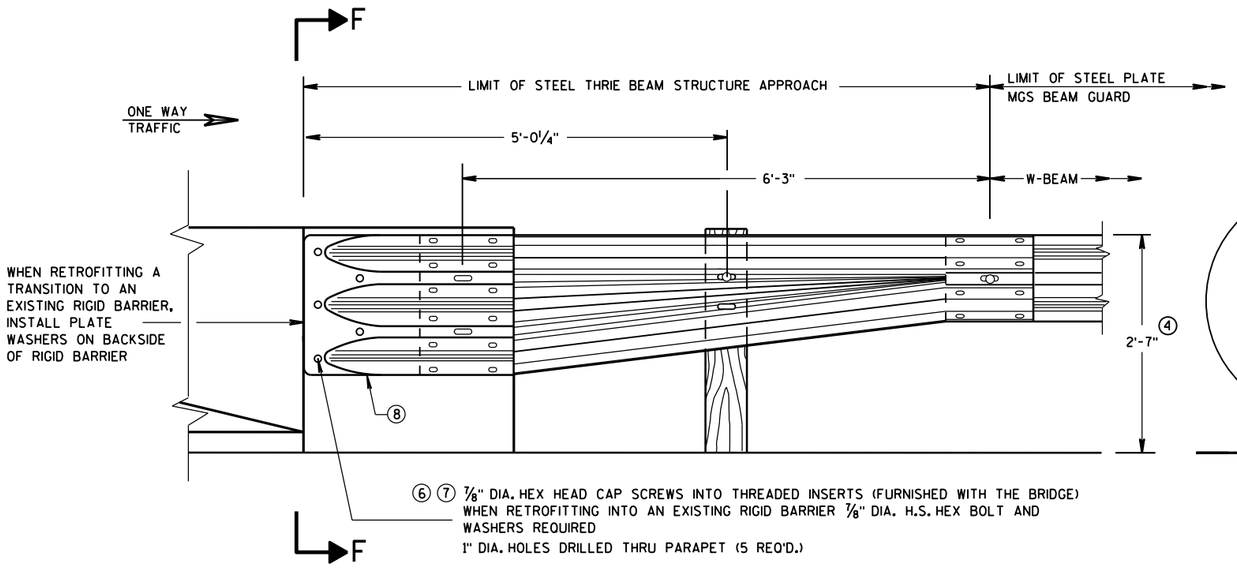
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

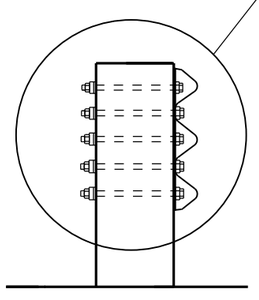
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

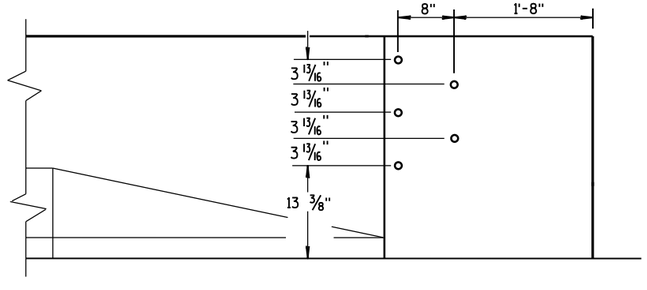




FRONT VIEW



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

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

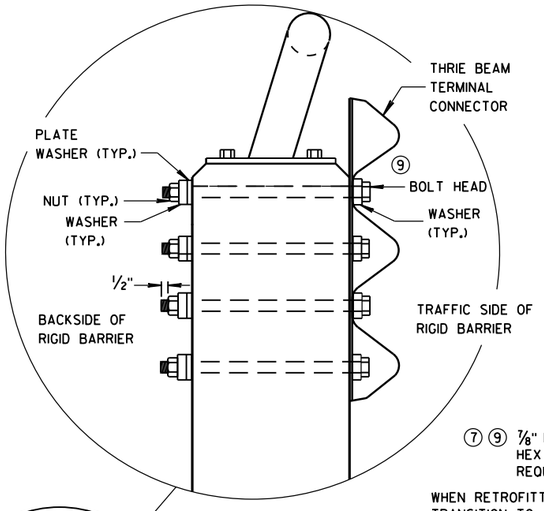
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

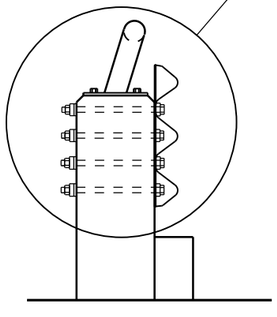
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

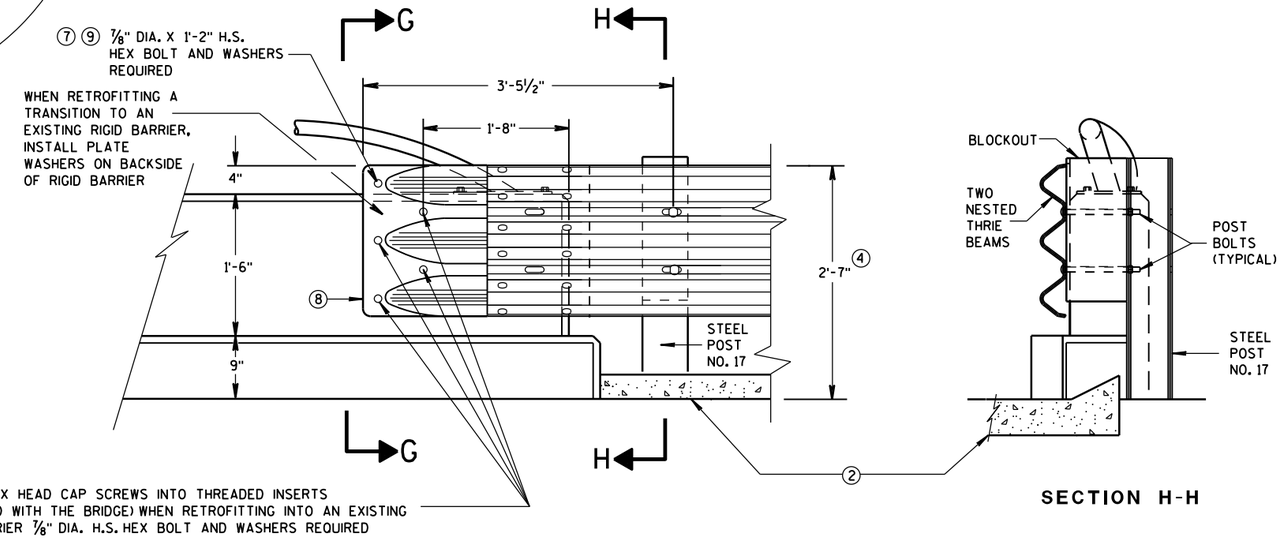
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(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.





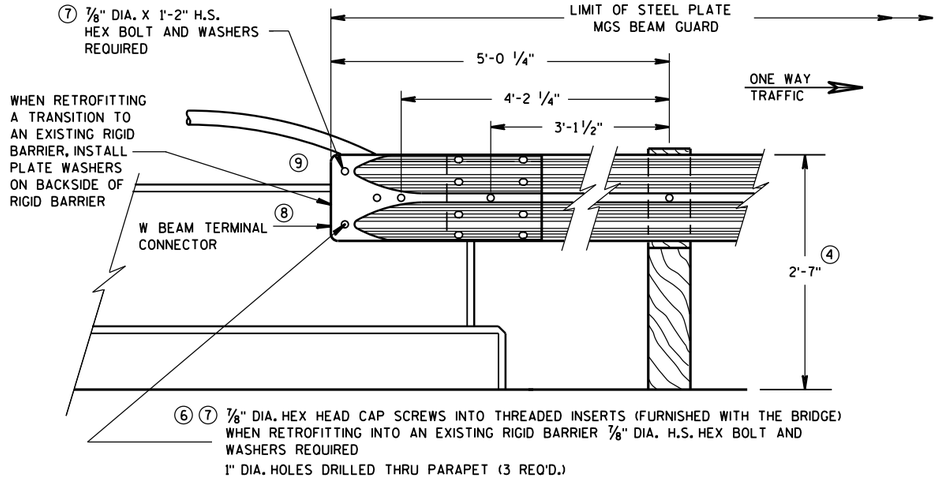
SECTION G-G



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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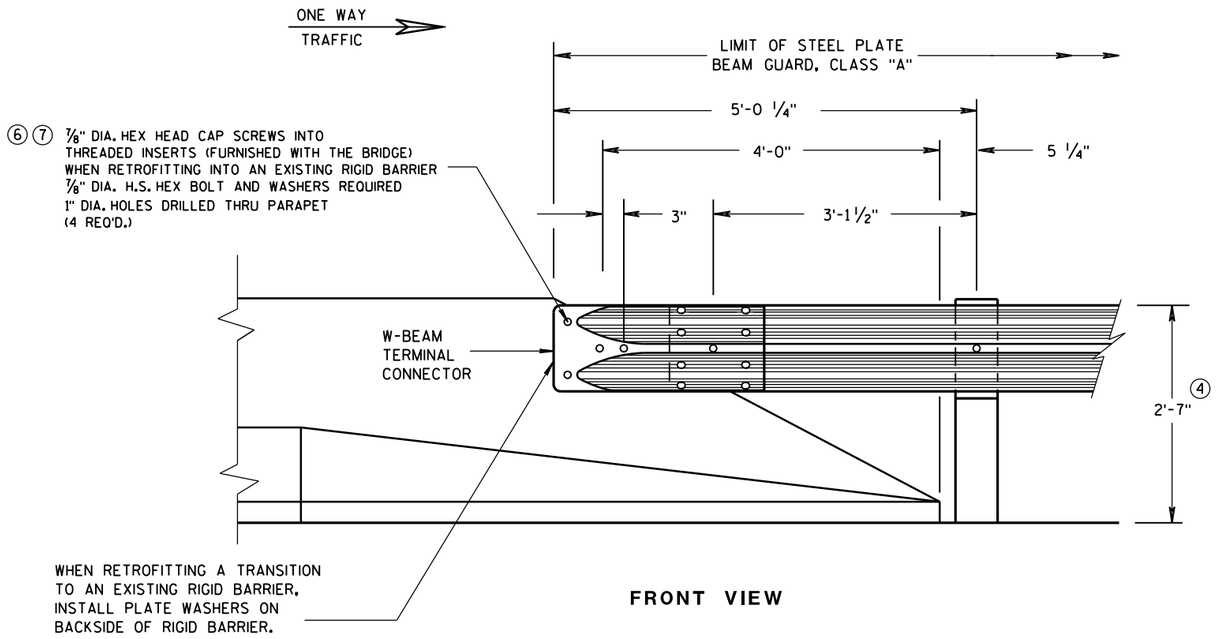

FRONT VIEW

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.

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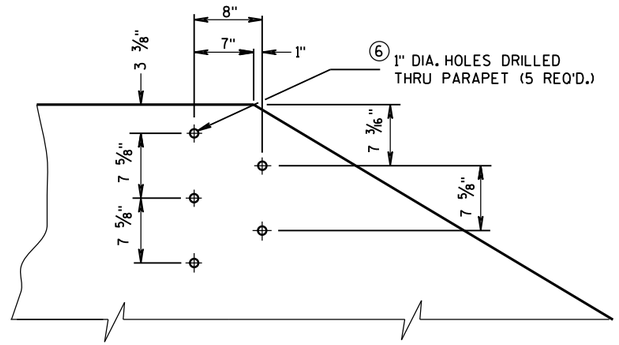
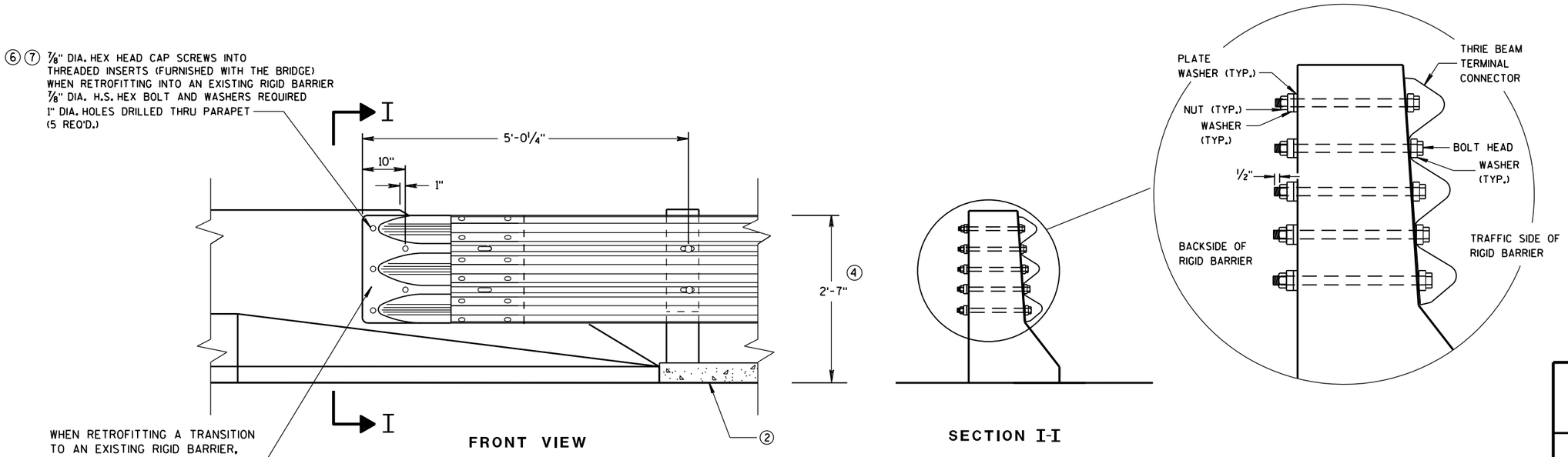


DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW

SECTION I-I

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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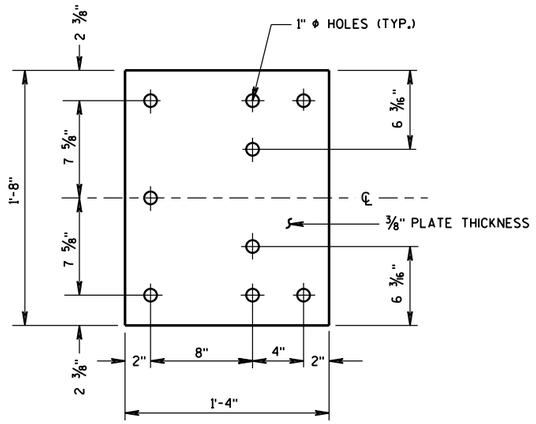
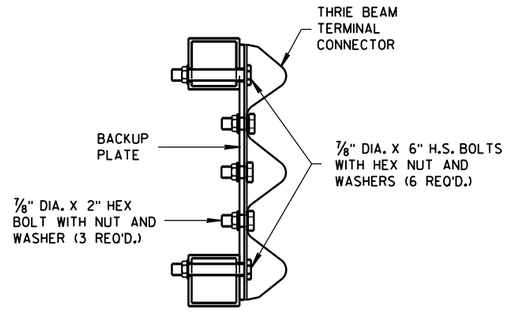
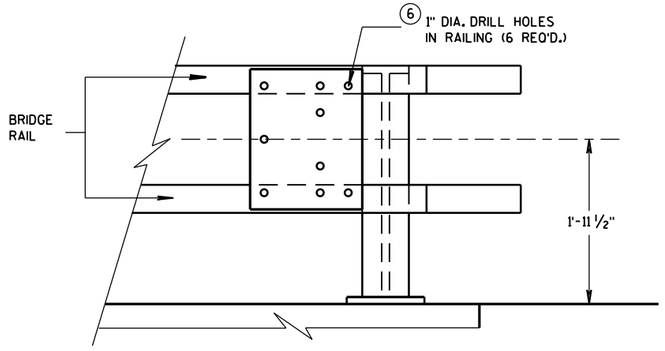


BACK-UP PLATE DETAIL



SECTION J-J

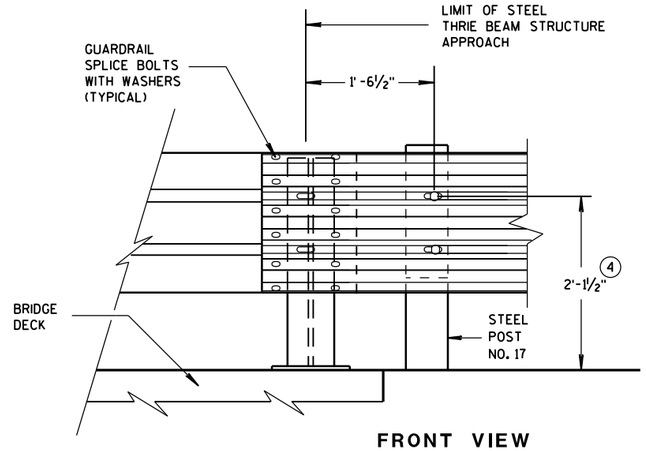


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

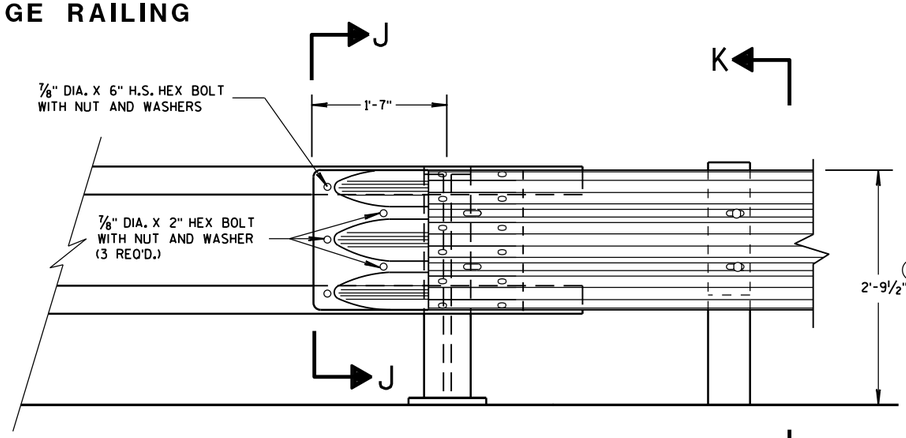
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

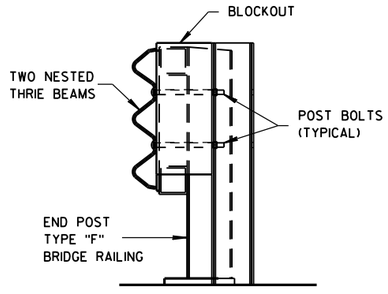


FRONT VIEW

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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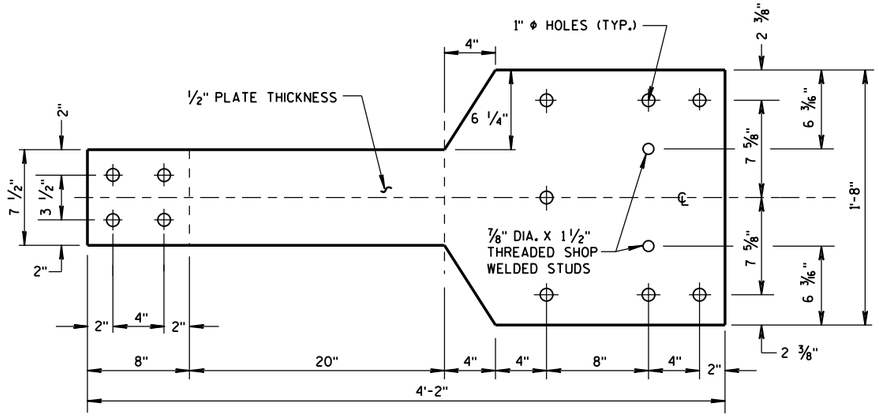
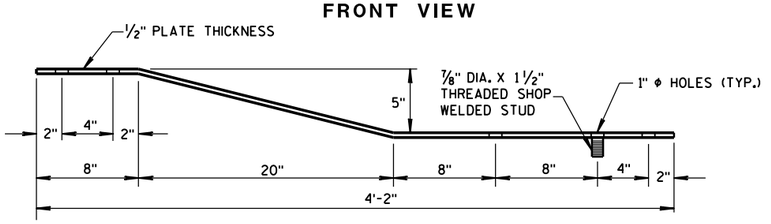
GENERAL NOTES

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

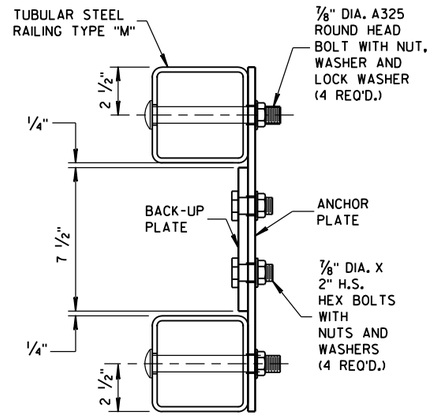


FRONT VIEW

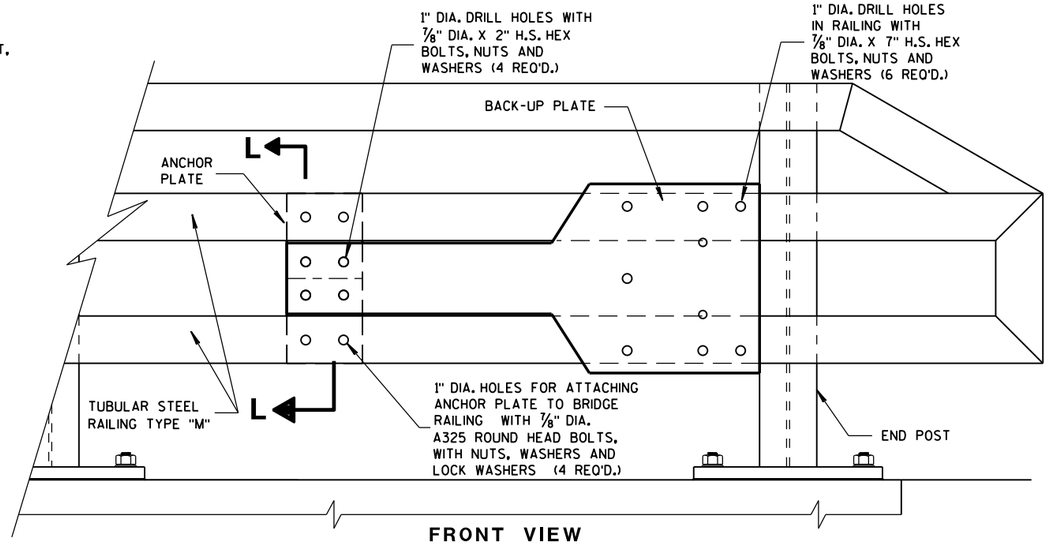


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

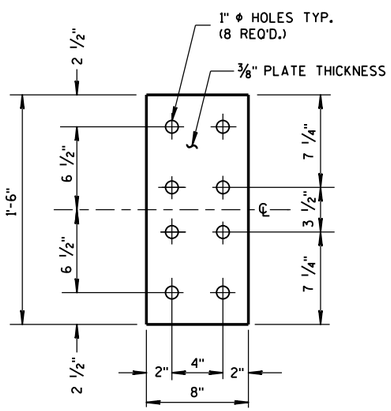


SECTION L-L



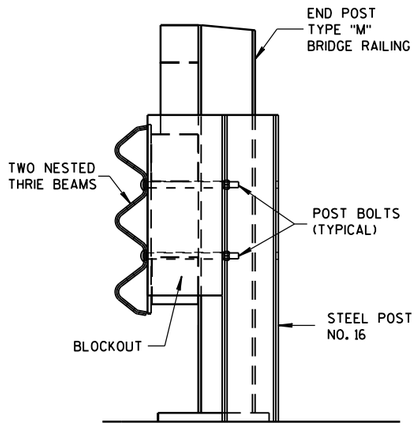
FRONT VIEW

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

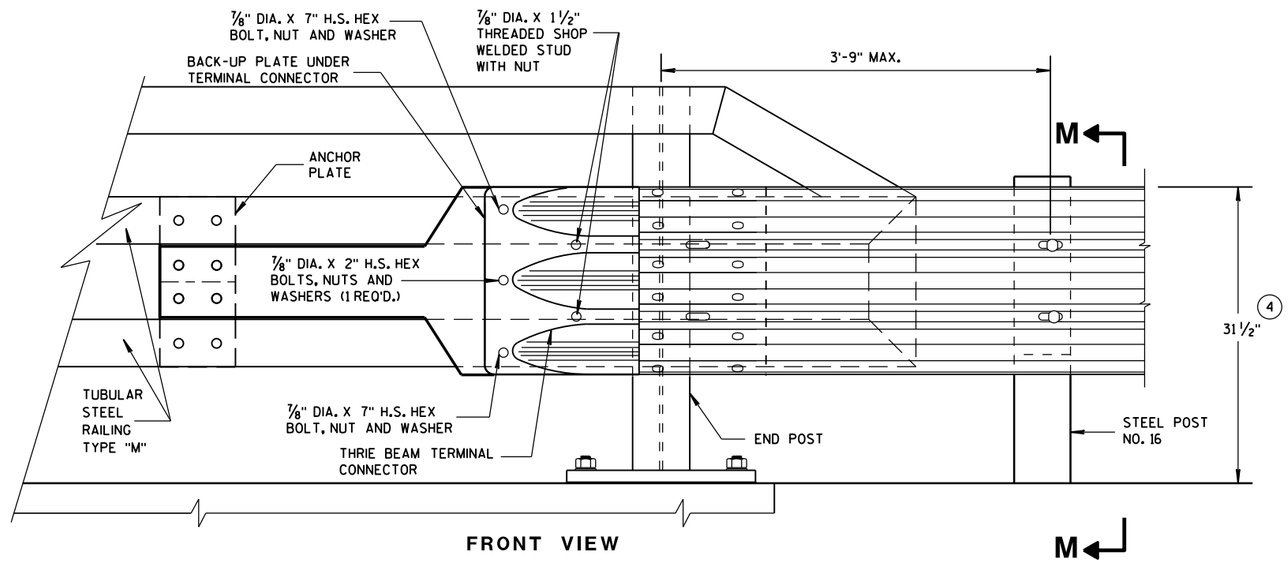


FRONT VIEW

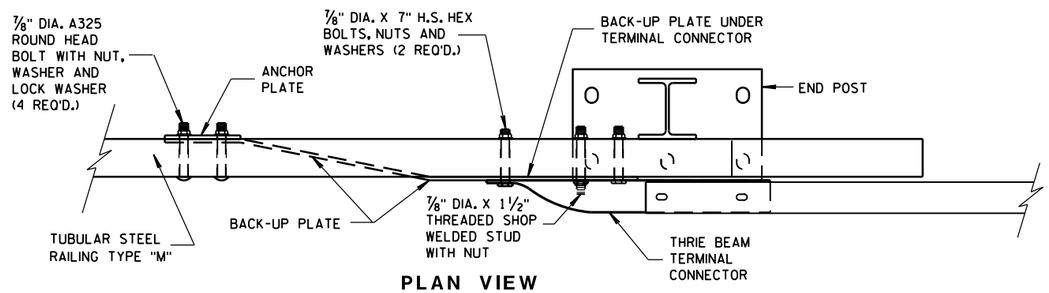
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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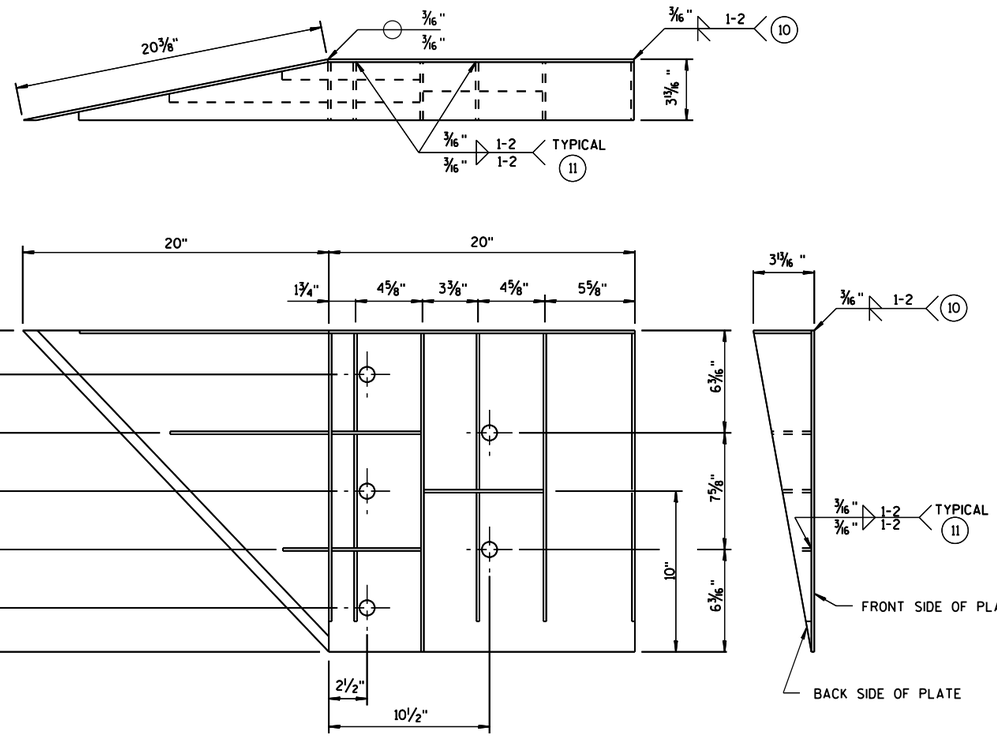

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

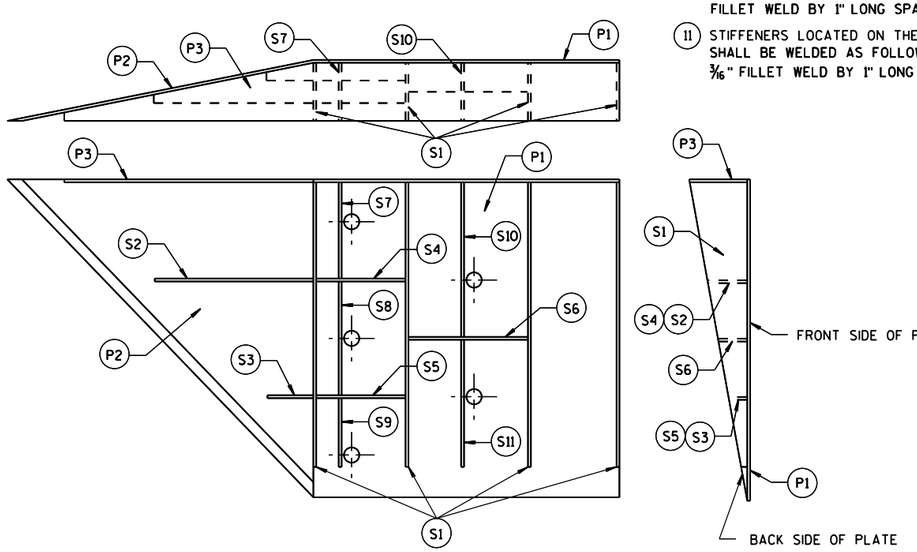

PLATE AND STIFFENER IDENTIFICATION

(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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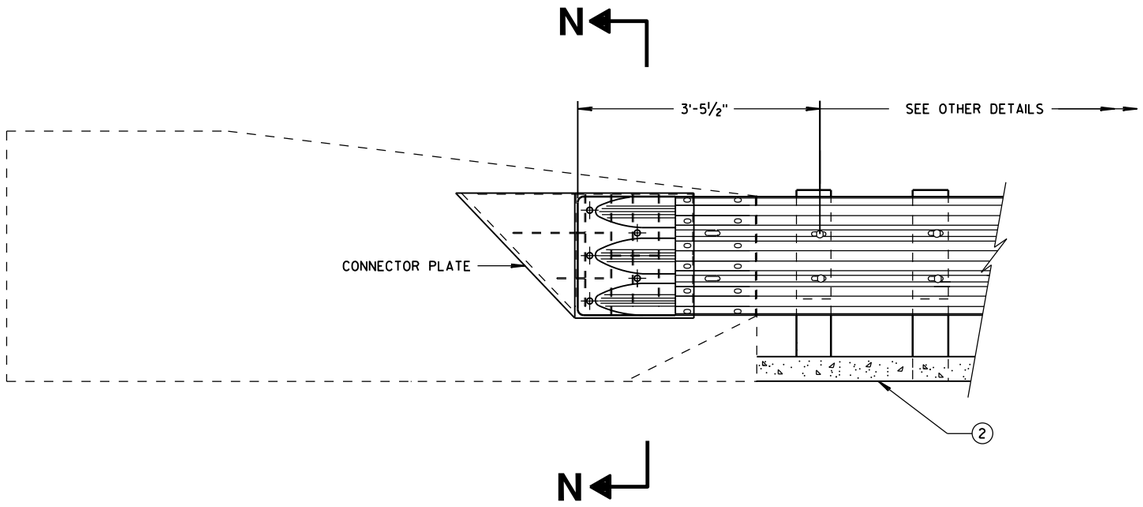
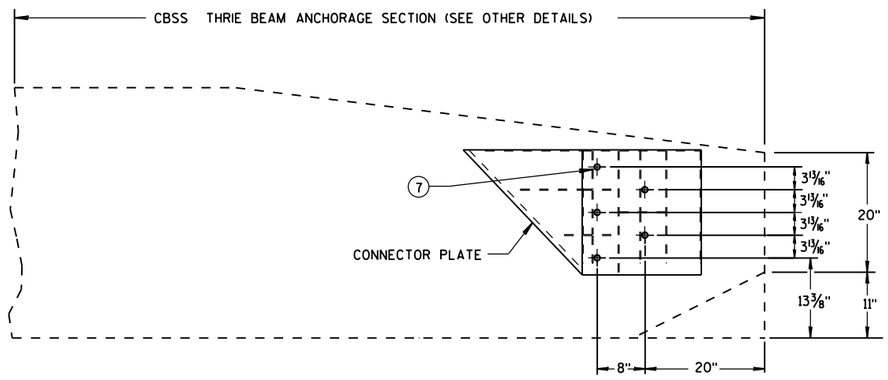


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



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.

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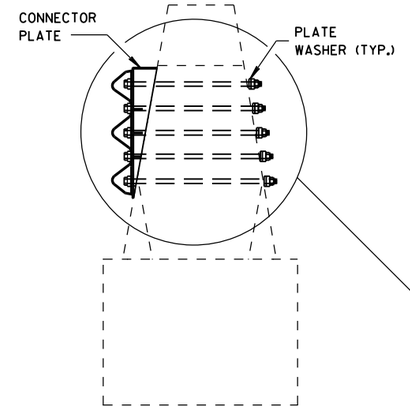
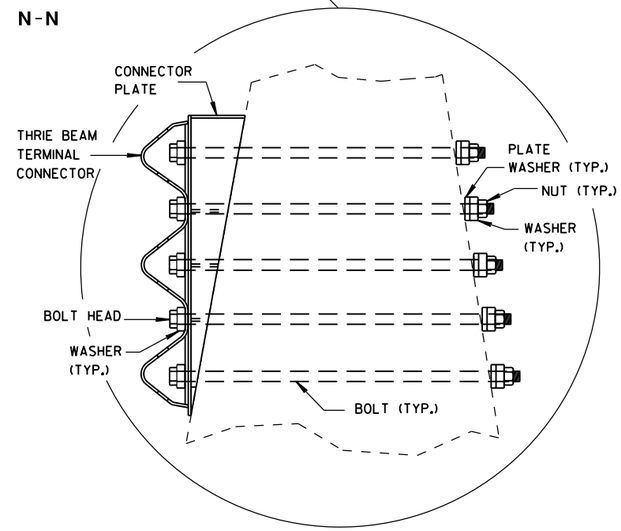


SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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S.D.D. 14 B 45-4j

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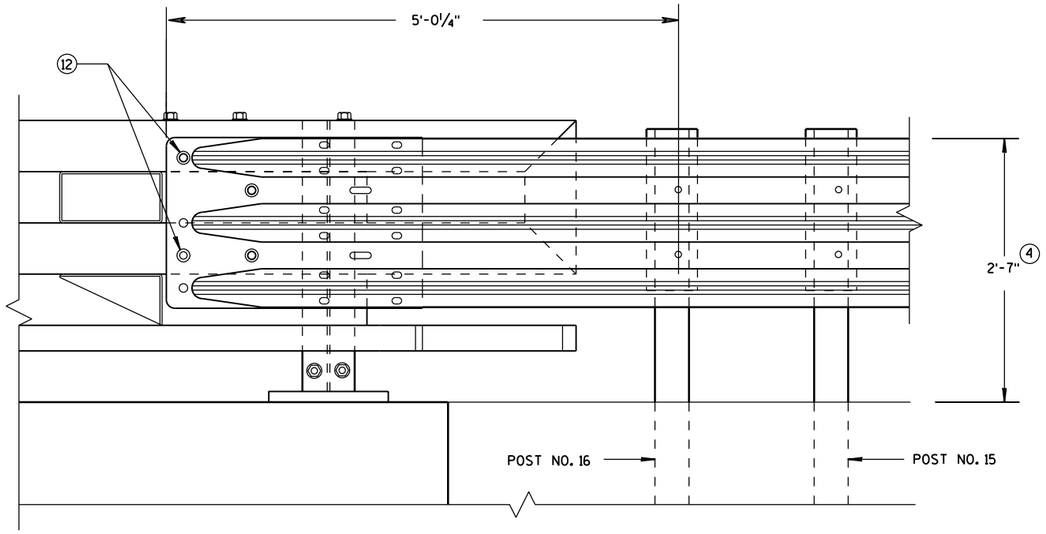
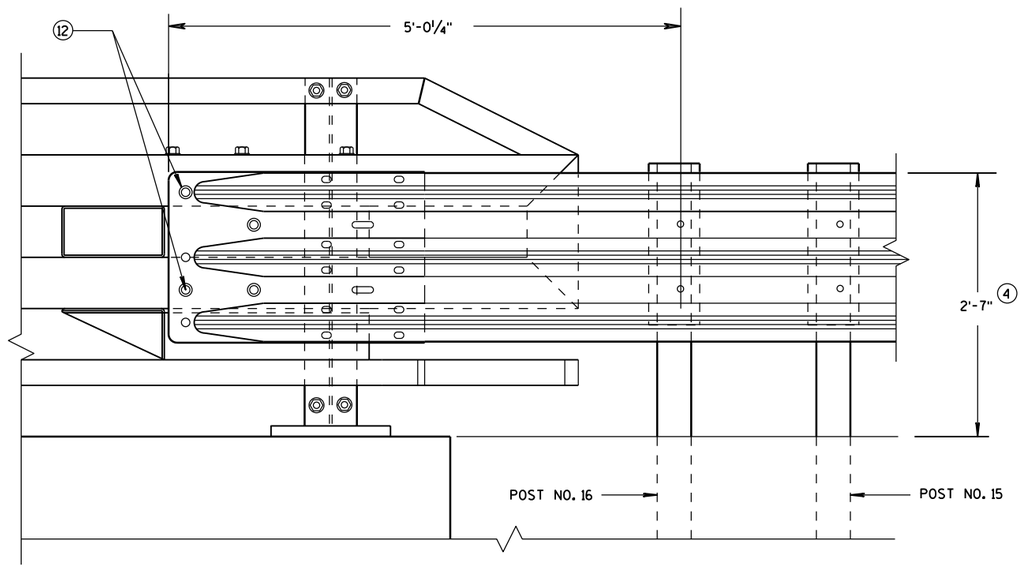
S.D.D. 14 B 45-4j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER

FHWA

NT

6

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

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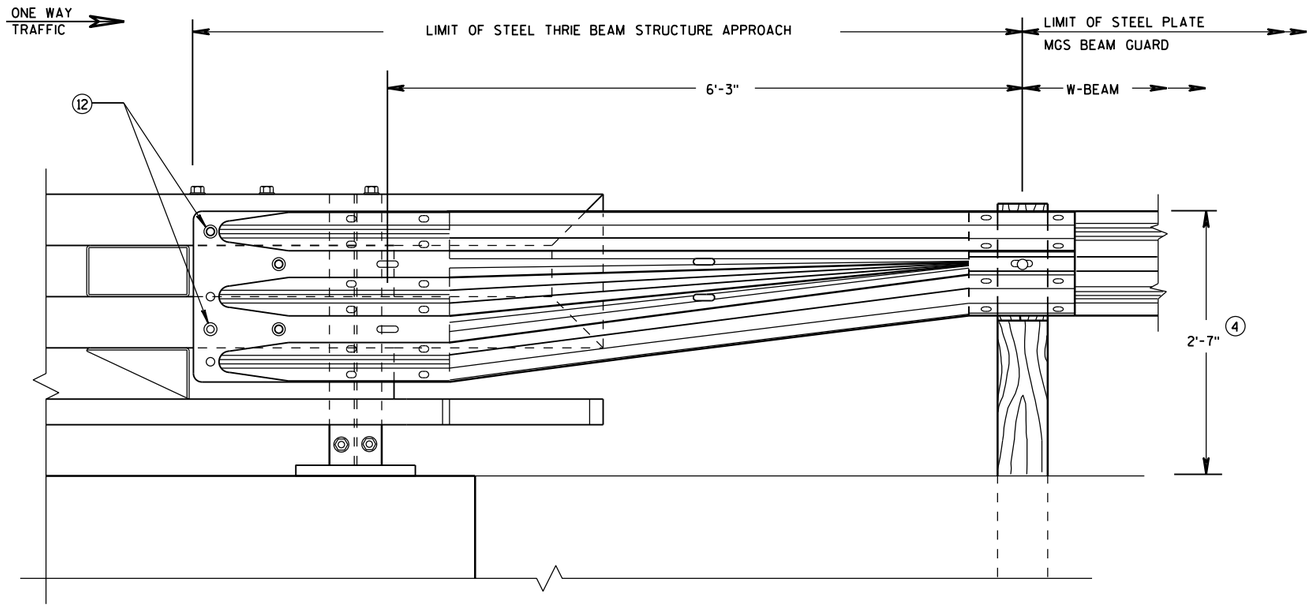
S.D.D. 14 B 45-4k



FRONT VIEW

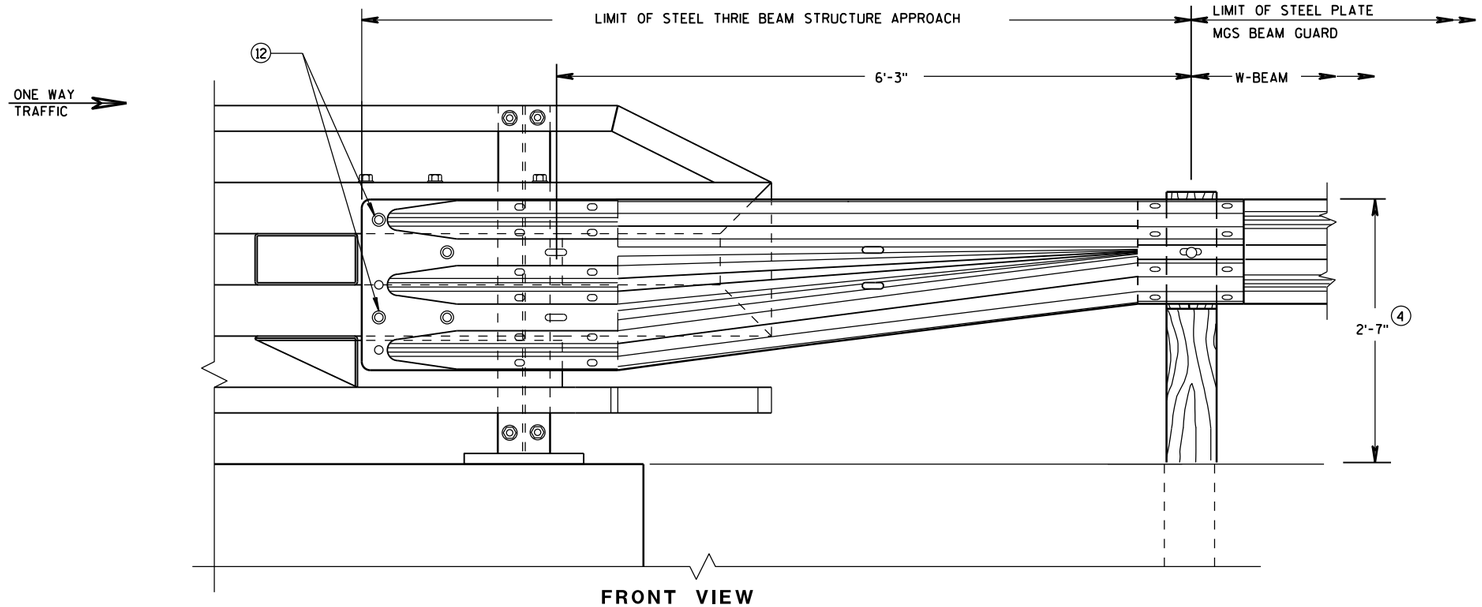
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

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



FRONT VIEW

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DIRECTOR
NT
FHWA

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

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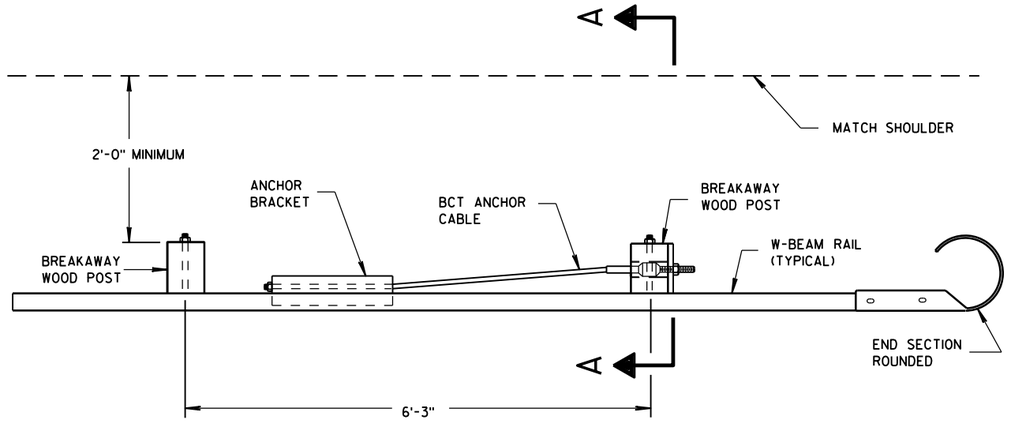
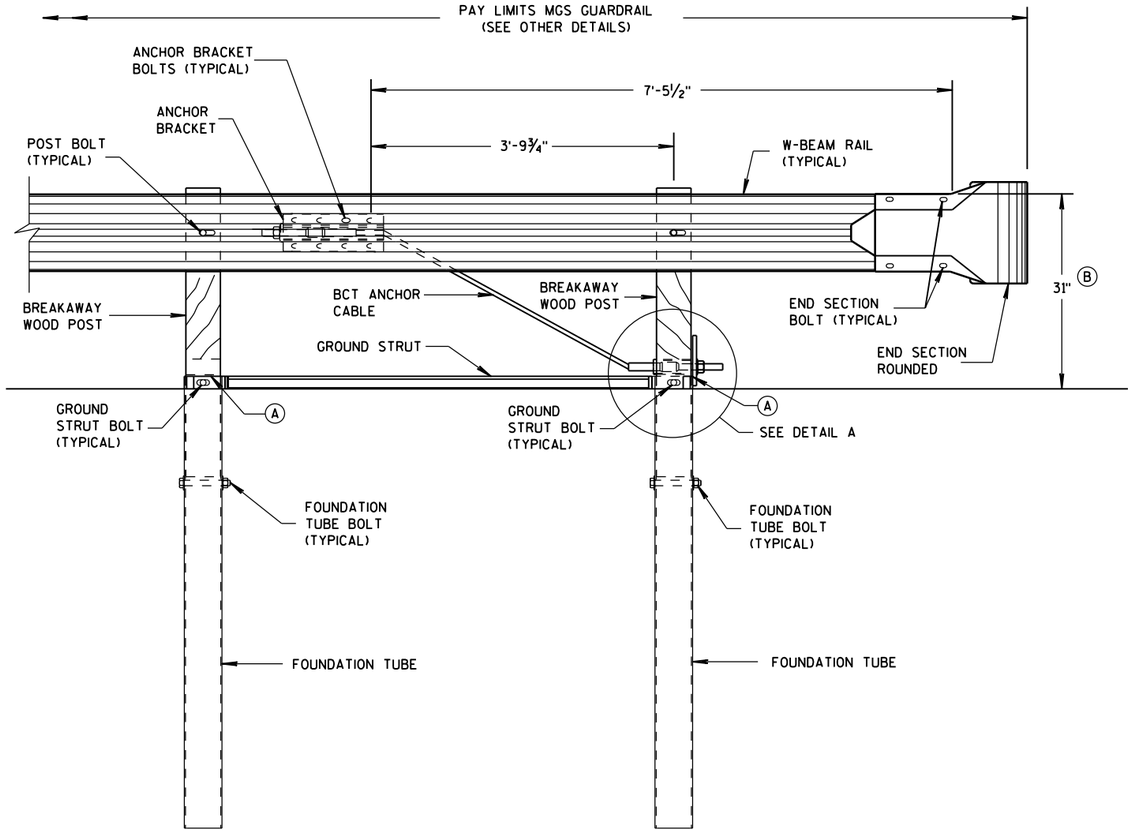
S.D.D. 14 B 45-4L

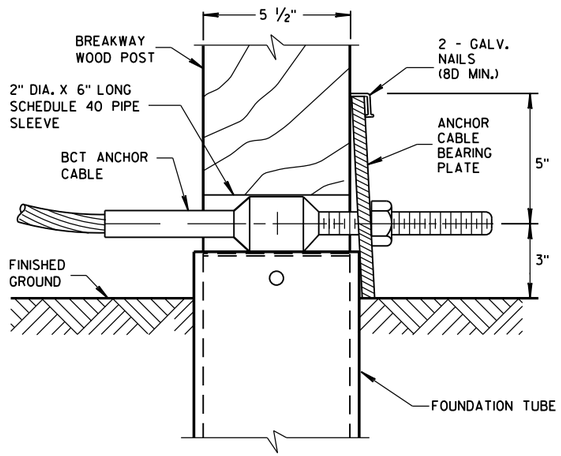


PLAN VIEW



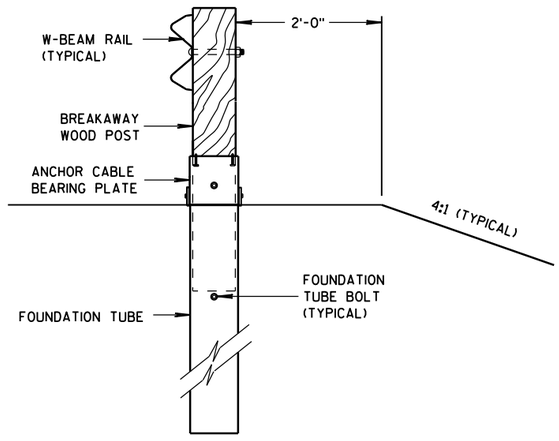
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

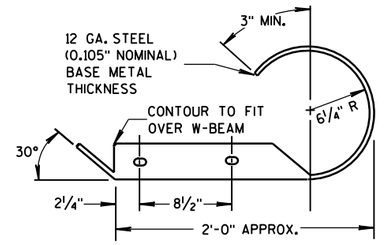
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

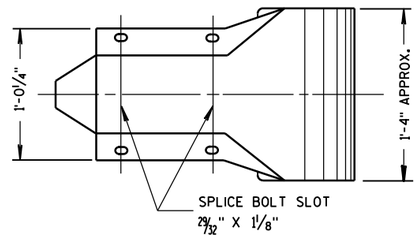
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



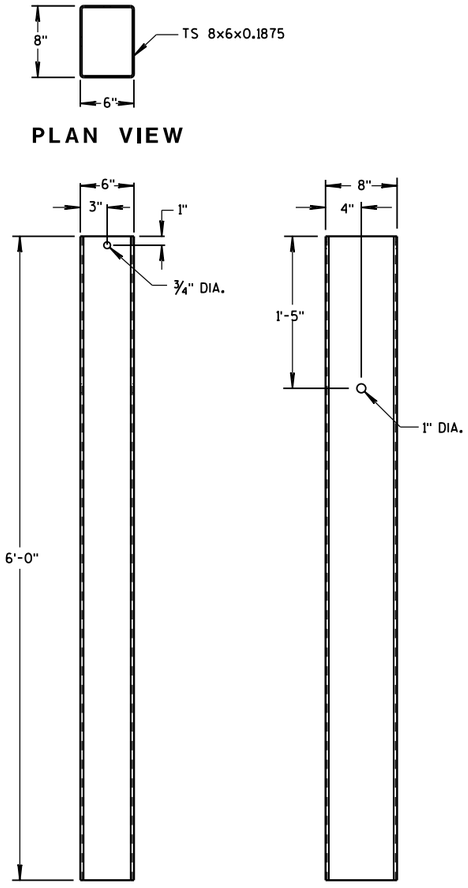
FRONT VIEW

W BEAM END SECTION ROUNDED

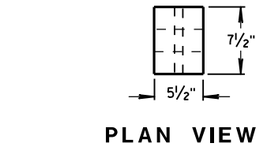
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

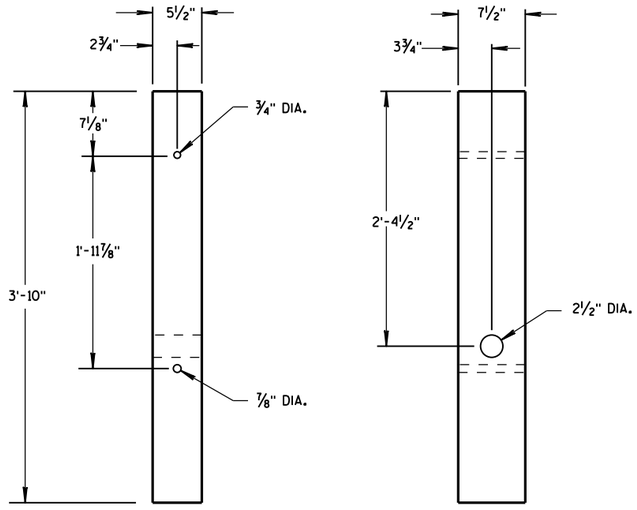
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 47-2a



FOUNDATION TUBE



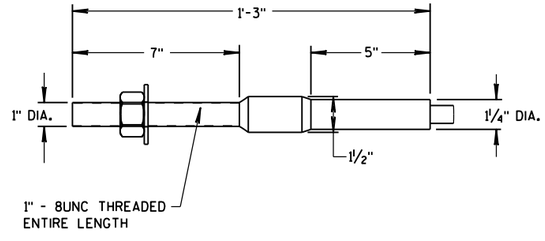


BREAKAWAY WOOD POST

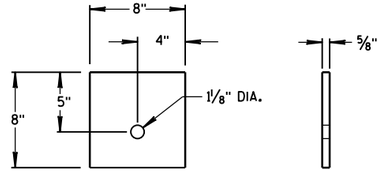
GENERAL NOTES

BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 47-2b

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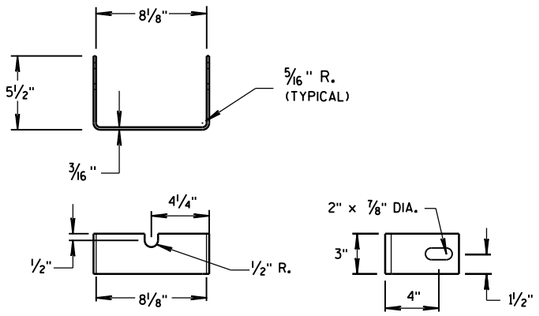
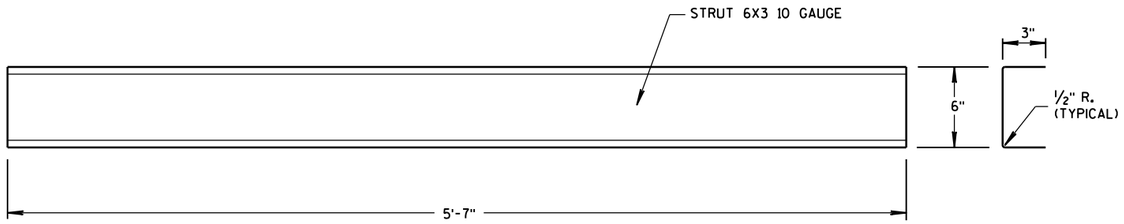
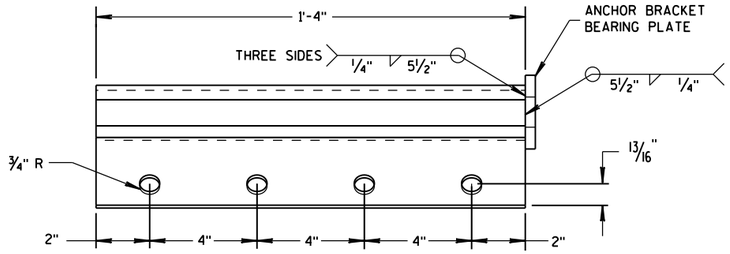
S.D.D. 14 B 47-2b

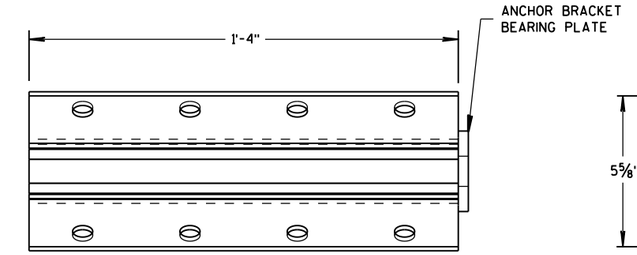


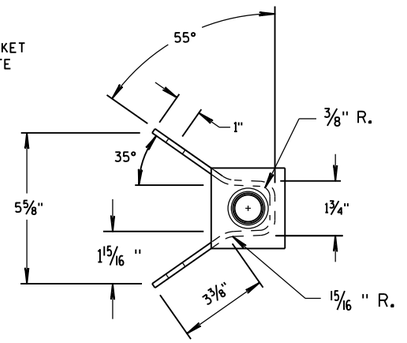
YOKE DETAIL



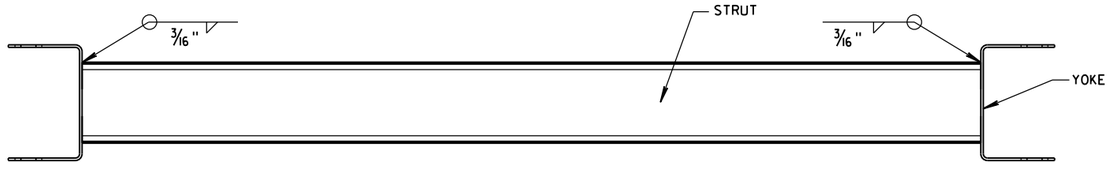
STRUT DETAIL



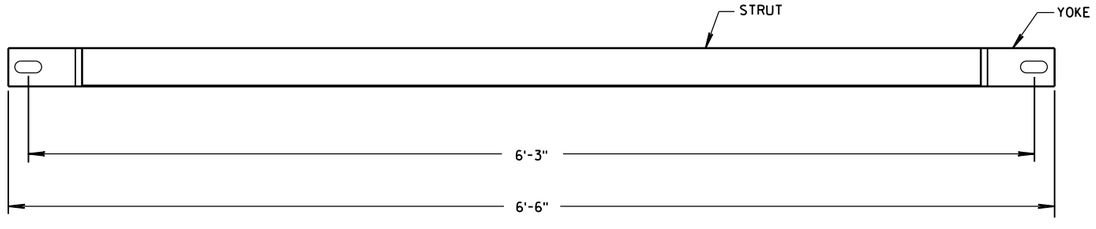




ANCHOR BRACKET

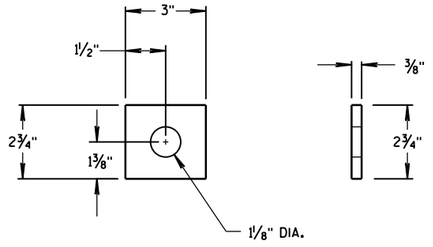


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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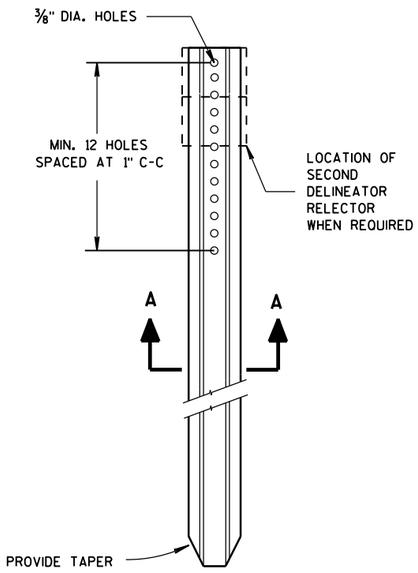
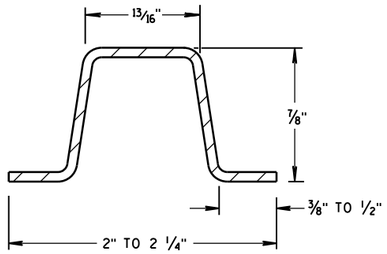
S.D.D. 14 B 47-2c

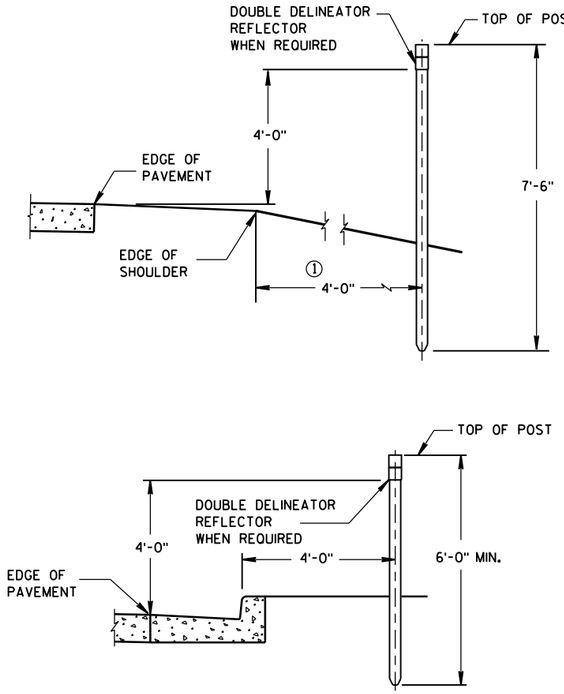


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

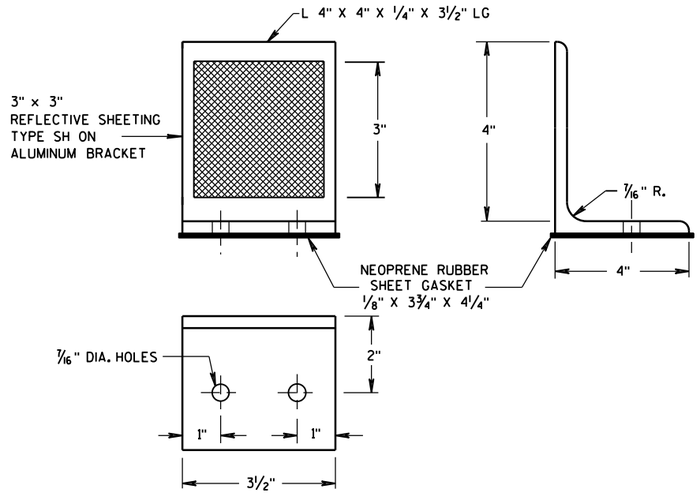


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

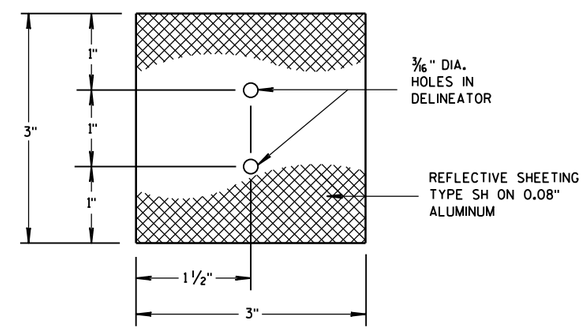
GENERAL NOTES

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

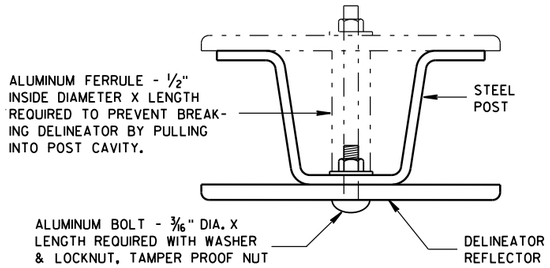
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



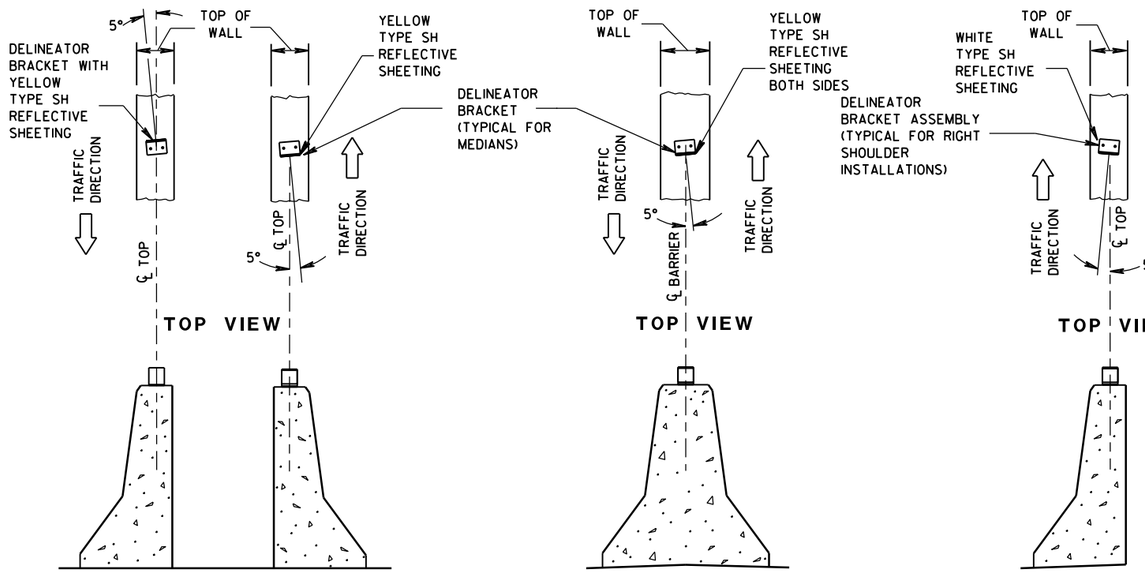
DELINEATOR BRACKET



3"x 3" DELINEATOR REFLECTOR

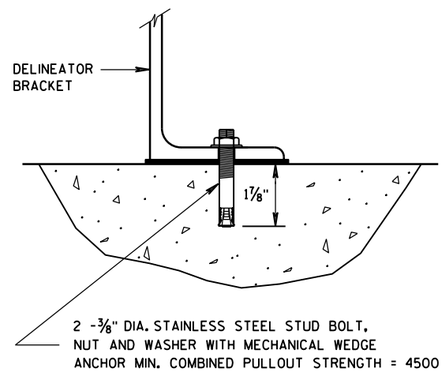


MOUNTING DETAIL FOR DELINEATOR REFLECTOR



DOUBLE BARRIERS IN MEDIAN | MEDIAN BARRIER | BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS

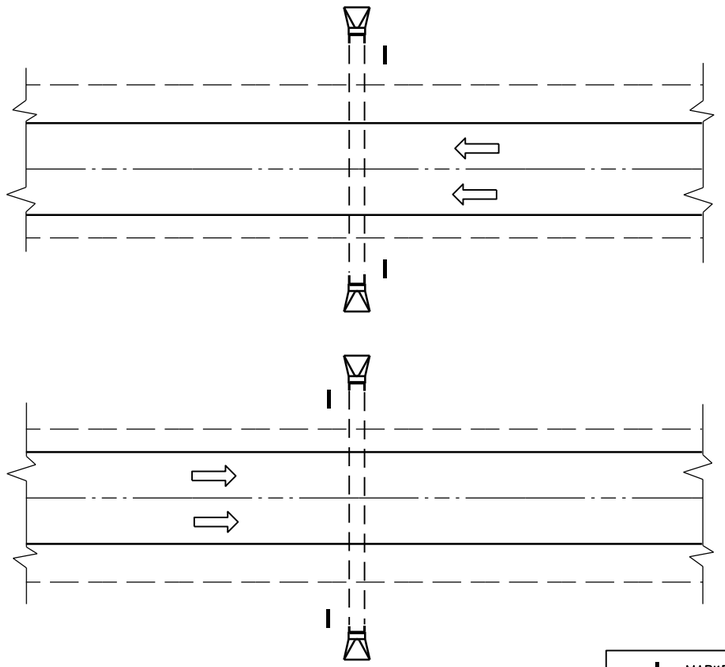


DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

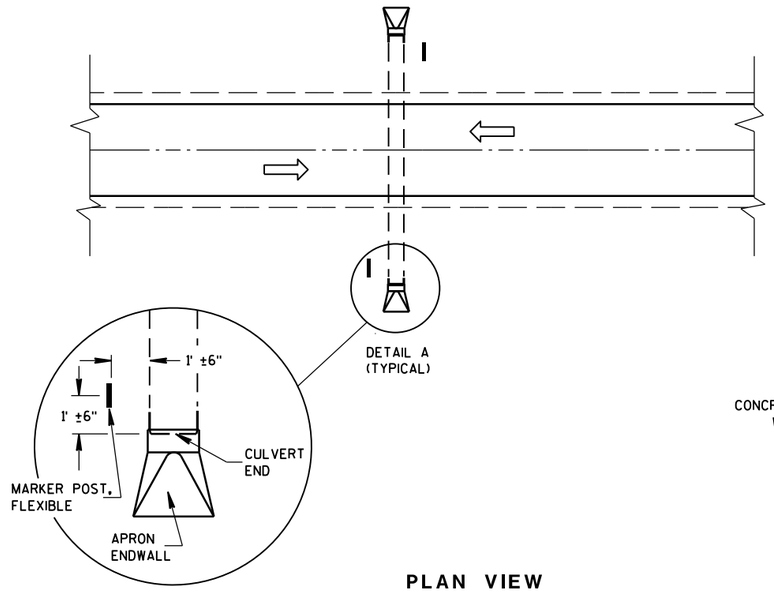
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR[illegible] GINEER
FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

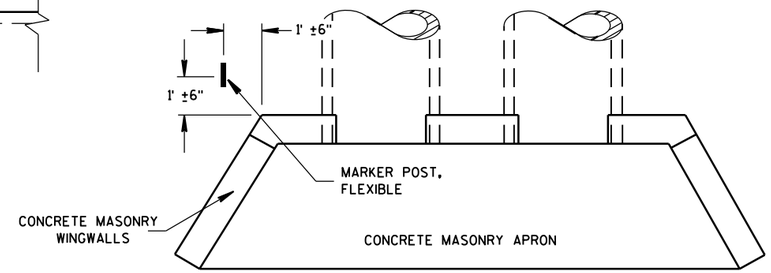
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

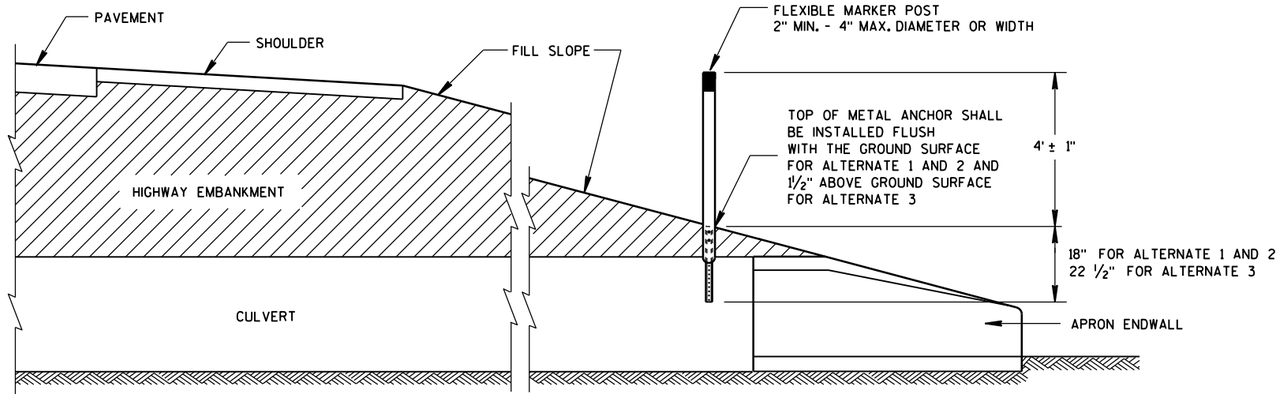
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

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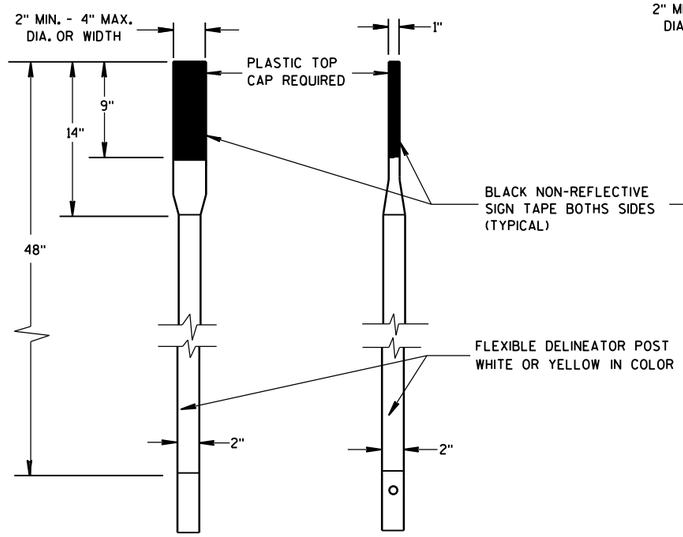
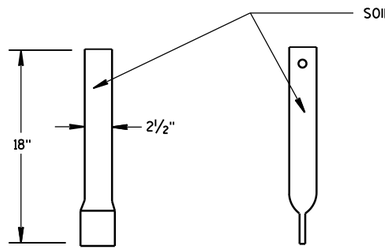
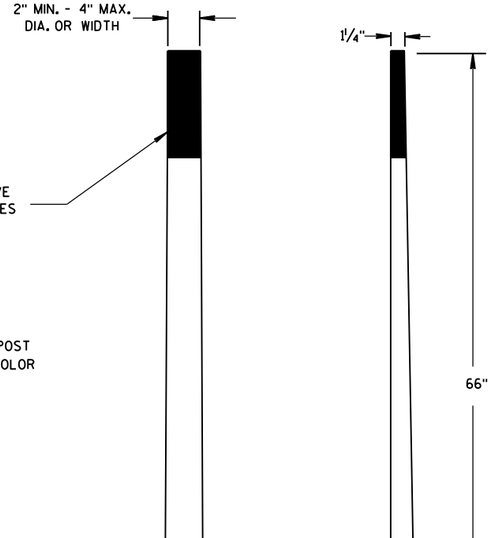
S.D.D. 15 A 3-2a





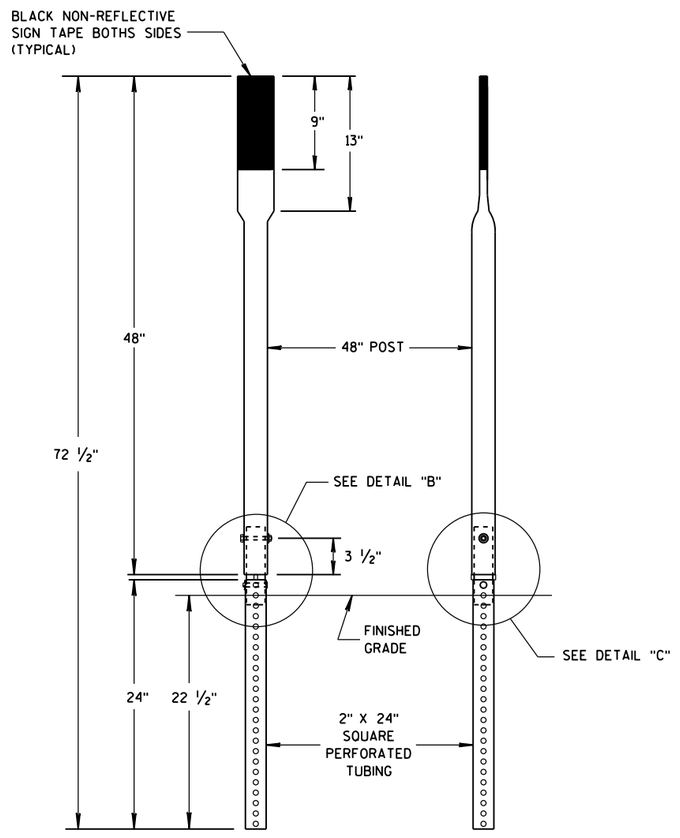
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

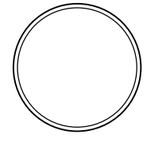
ALTERNATE 2



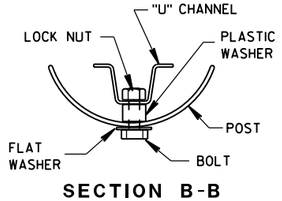
FRONT VIEW SIDE VIEW

ALTERNATE 3

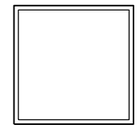
FLEXIBLE MARKER POSTS



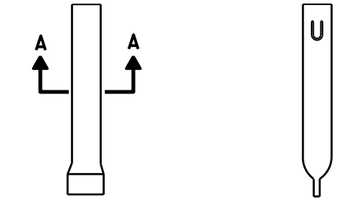
SECTION A-A



SECTION B-B

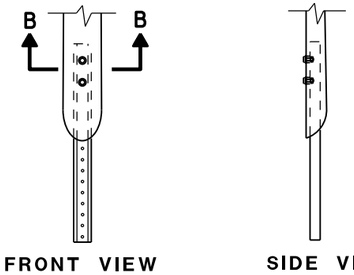


SECTION C-C



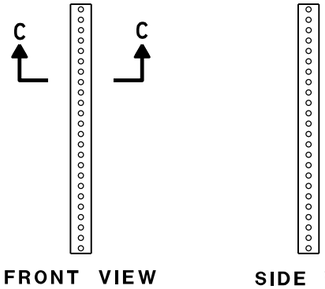
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

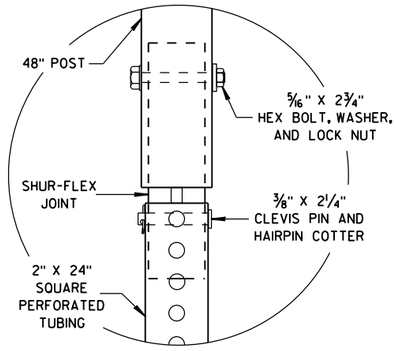
ALTERNATE 2



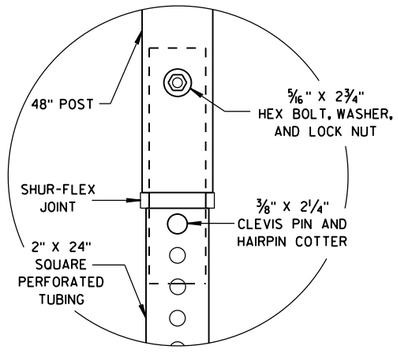
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



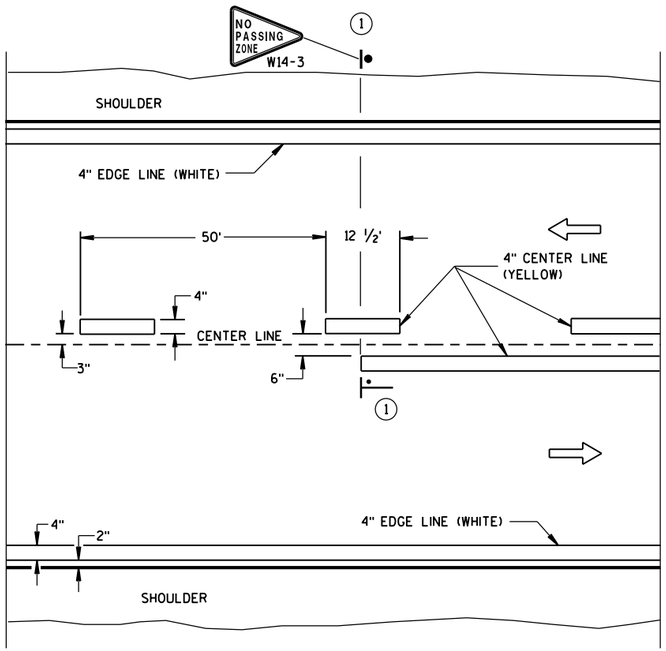
DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

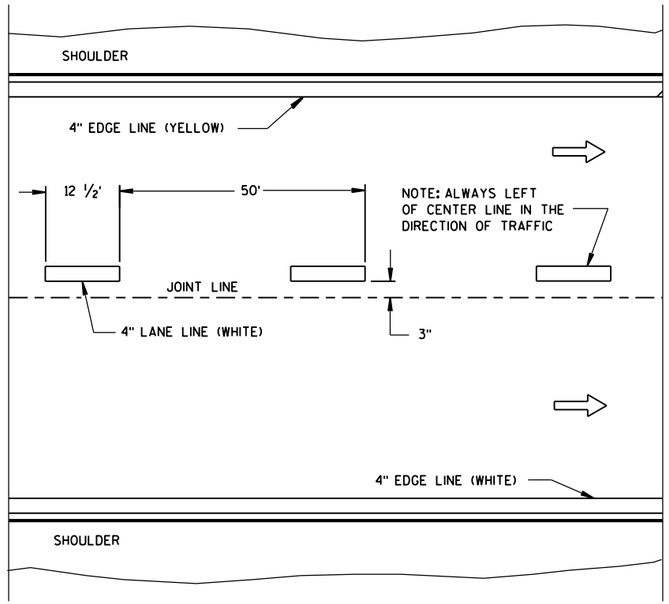
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

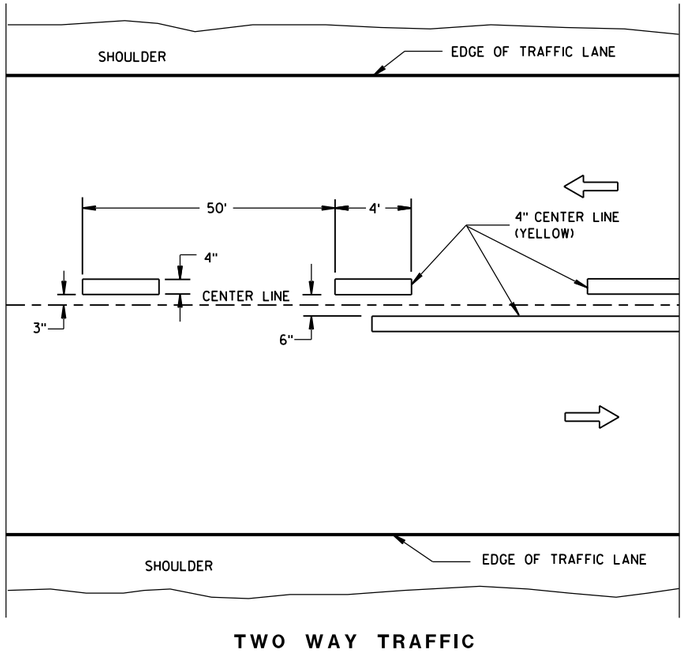
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

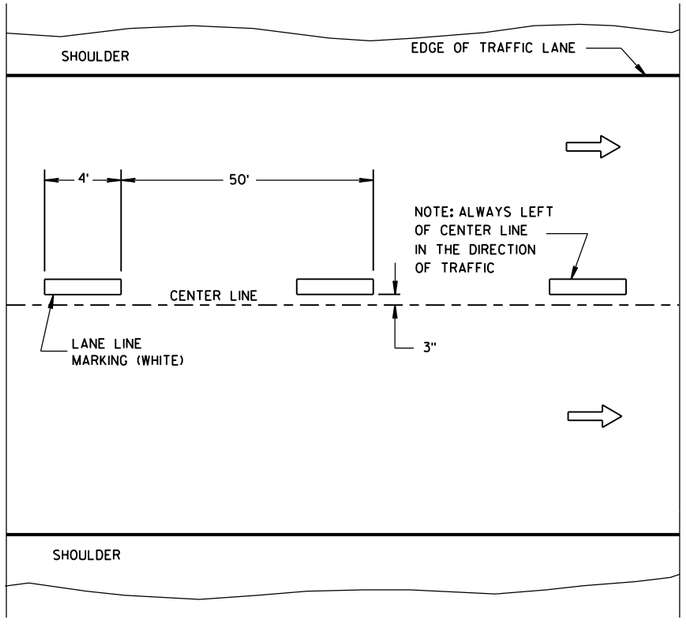
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — /S/ Matthew R. Rauch
DATE — STATE SIGNING AND MAR[illegible]INEER
FHWA

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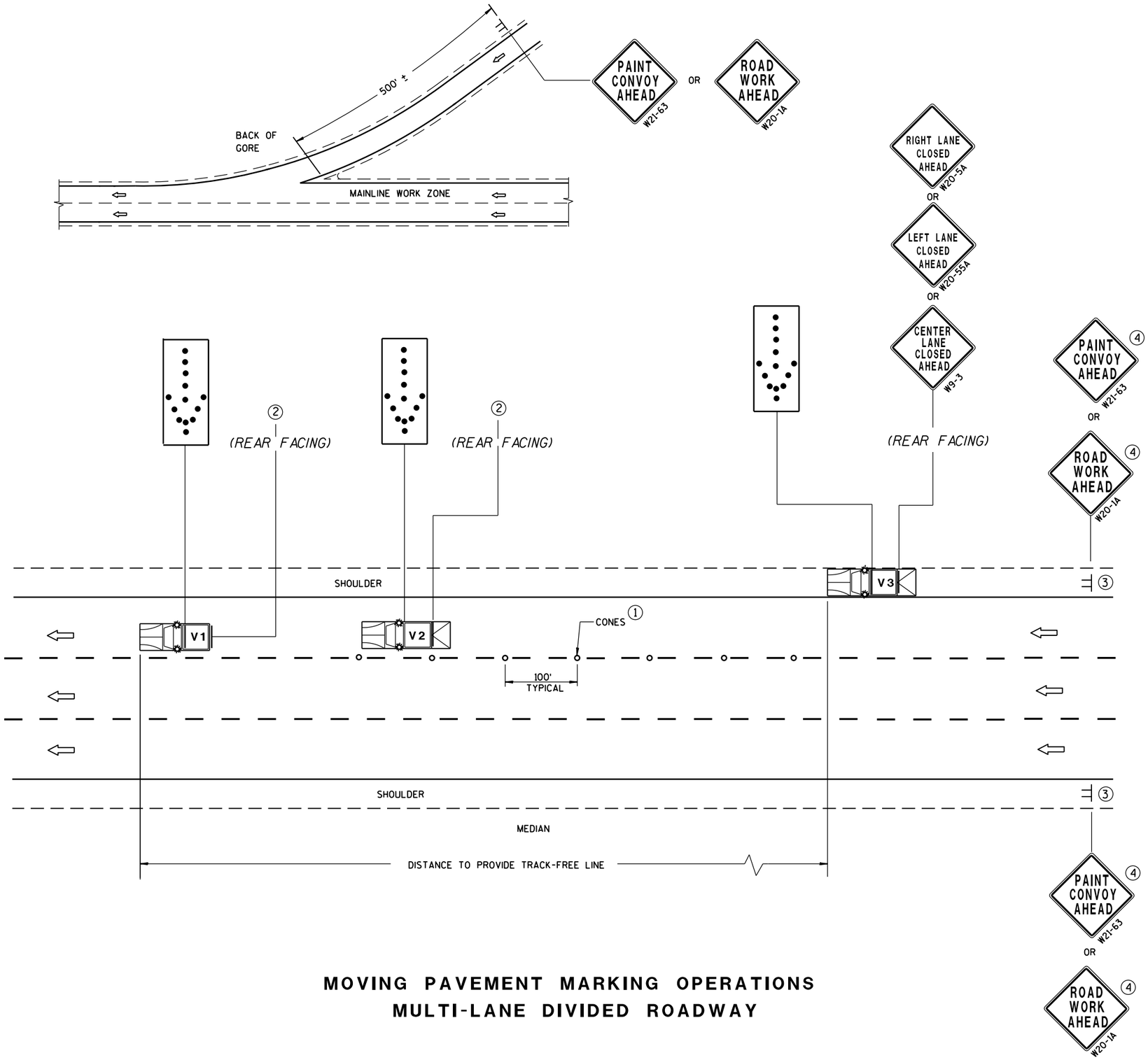
S.D.D. 15 C 8-17a



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED 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.

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

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

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.

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

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

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

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

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

THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

(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) SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.

(4) 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 (MERGE)

MOVING PAVEMENT MARKING OPERATION
MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGINI
FHWA

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S.D.D. 15 C 19-4c

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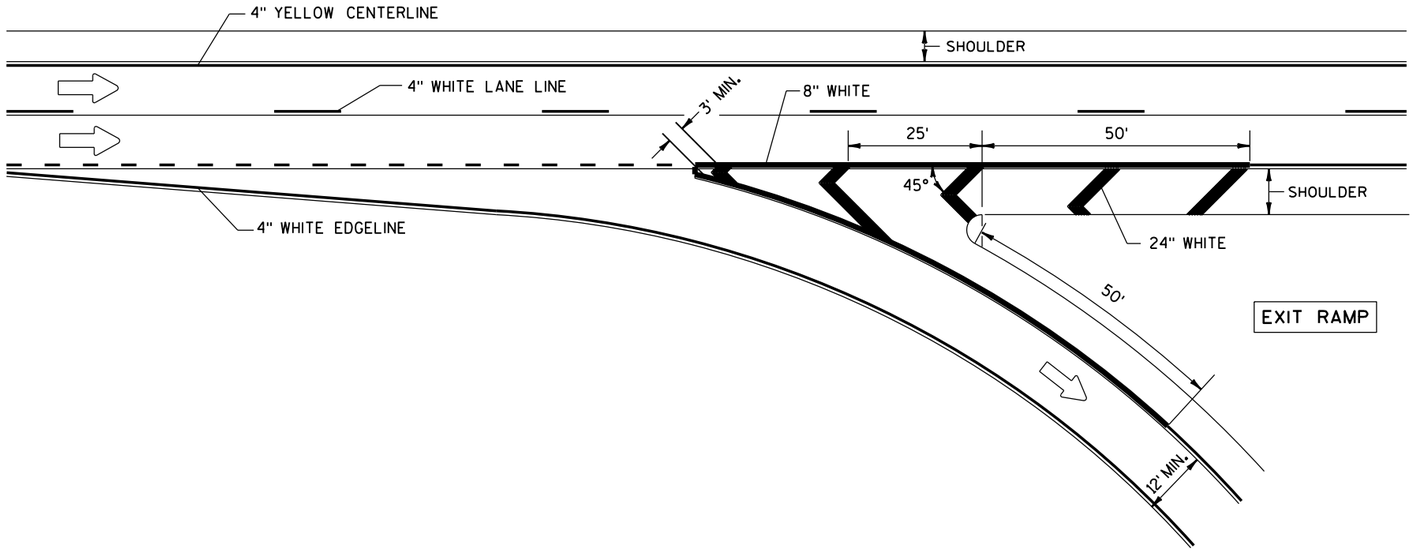
S.D.D. 15 C 19-4c



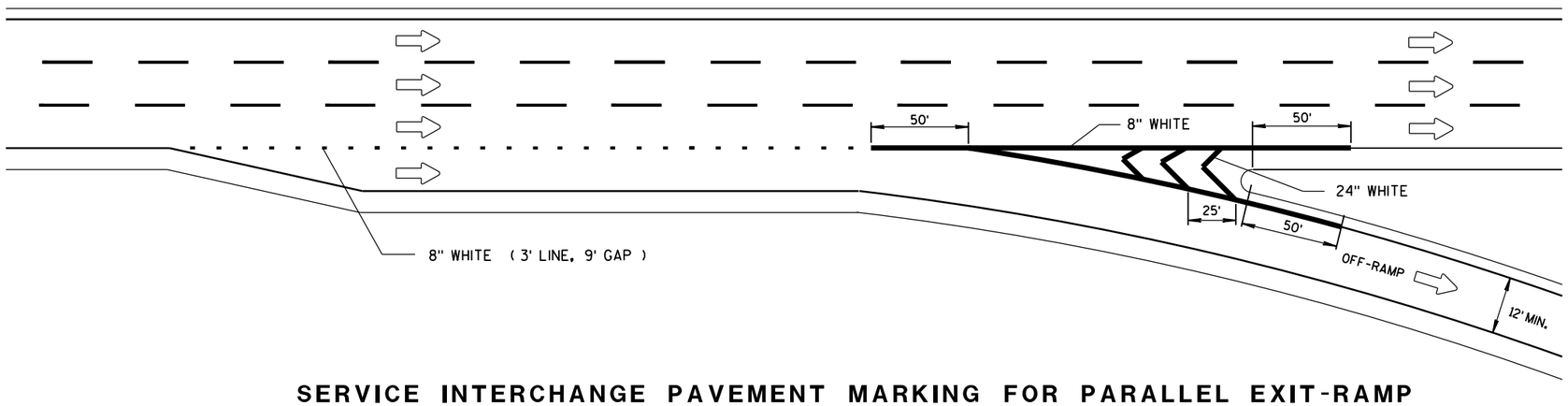
PAVEMENT MARKING FOR EXIT RAMP

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

6

S.D.D. 15 C 31-2a

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S.D.D. 15 C 31-2a

PAVEMENT MARKING (RAMPS AND GORES)

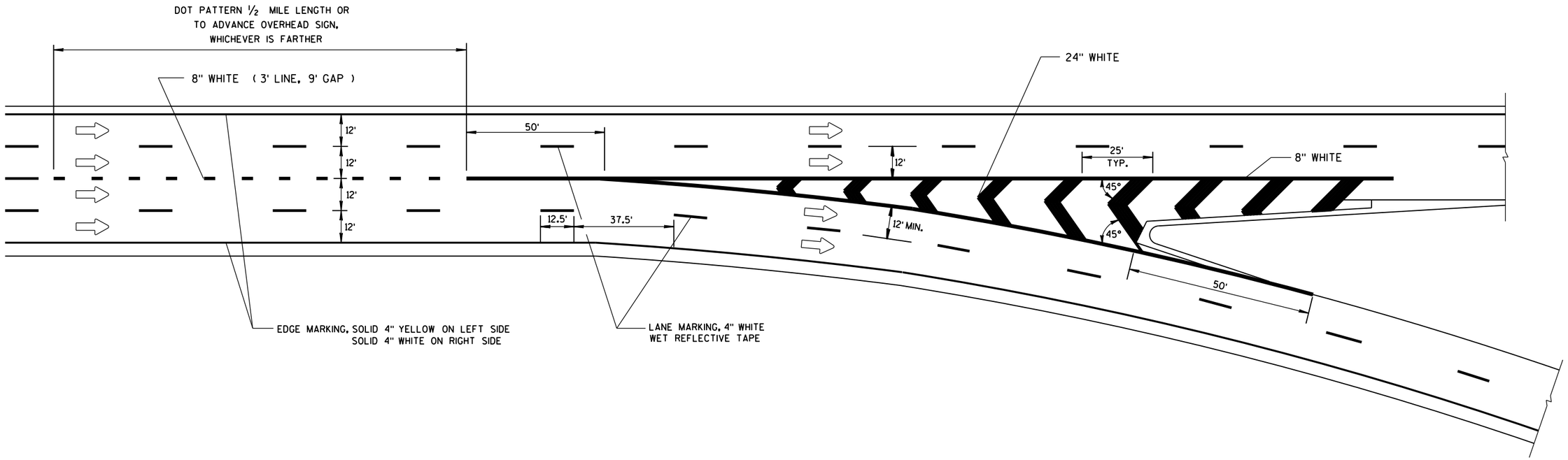
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL



PAVEMENT MARKING
MAJOR SPLIT
FREEWAY TO FREEWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 31-2b

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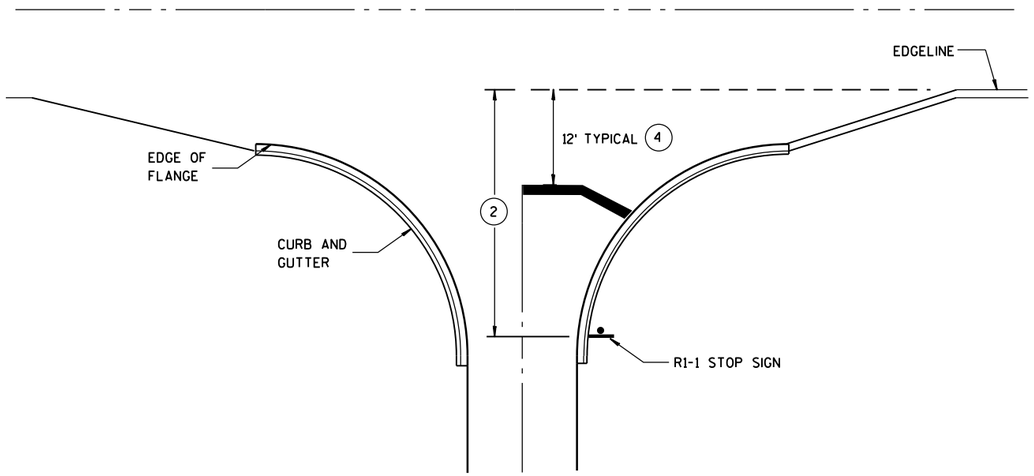
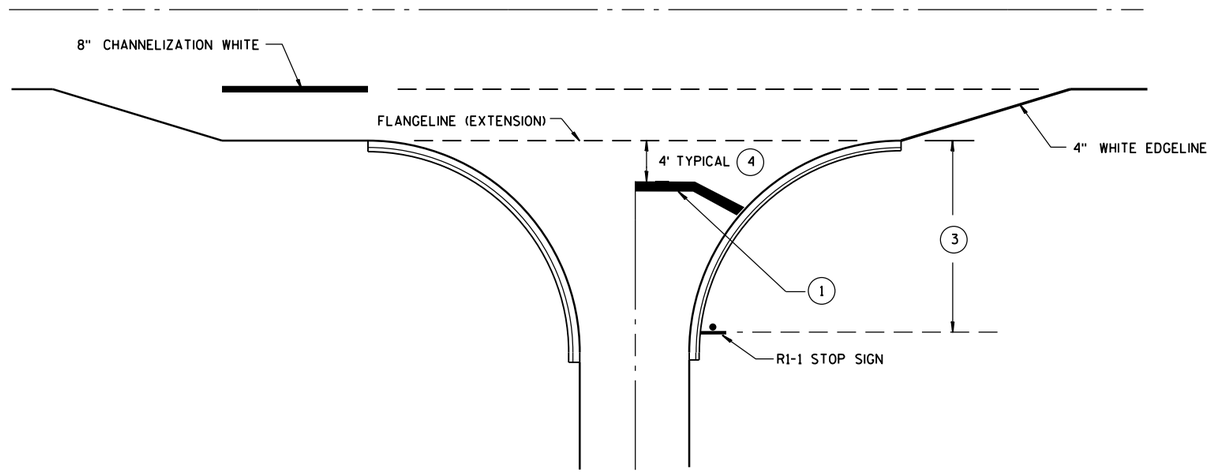
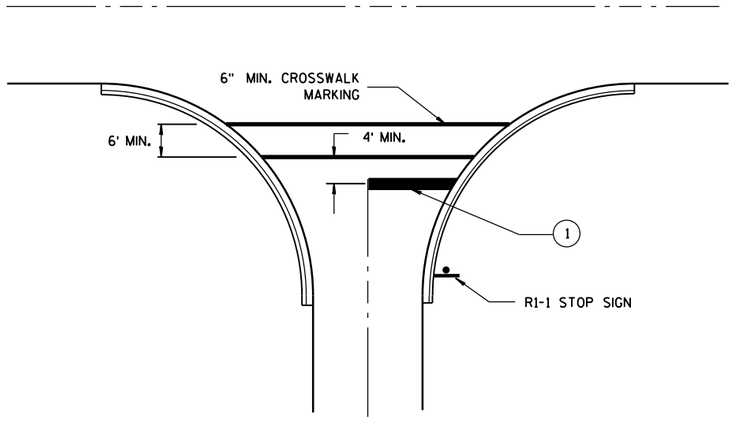
S.D.D. 15 C 31-2b



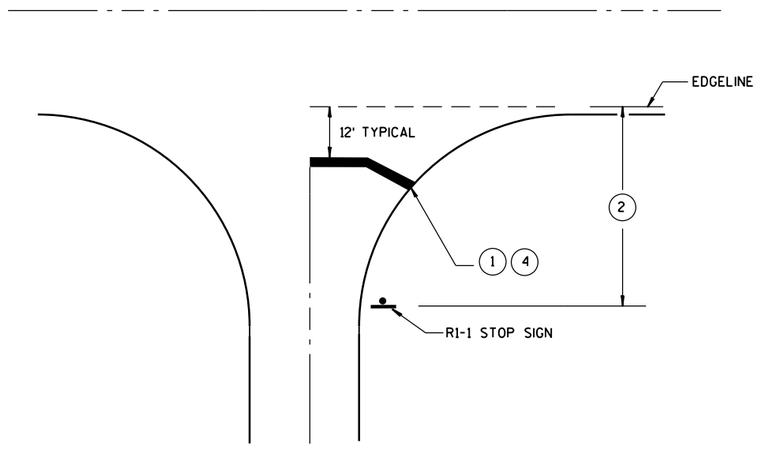
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR

NEER

FHWA

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S.D.D. 15 C 33-2

S.D.D. 15 C 33-2

LEGEND

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

GENERAL NOTES

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

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

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

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

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

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

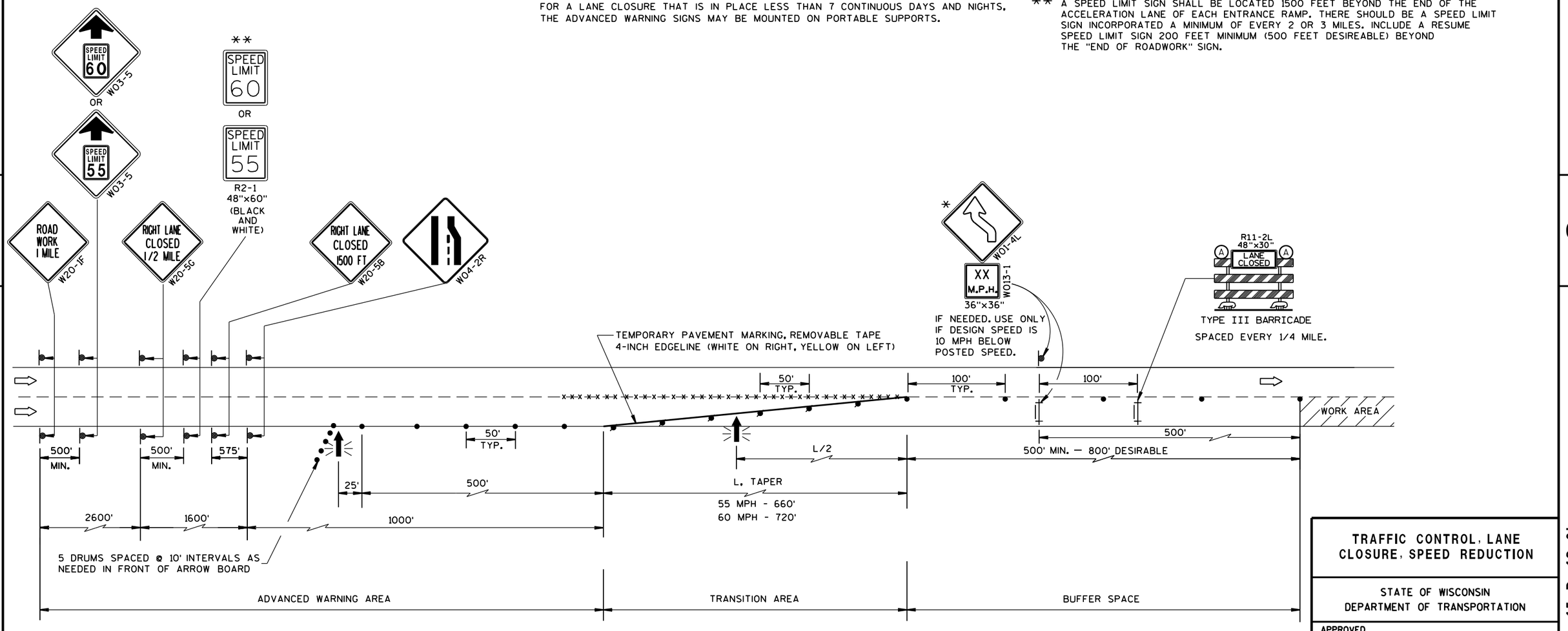
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

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

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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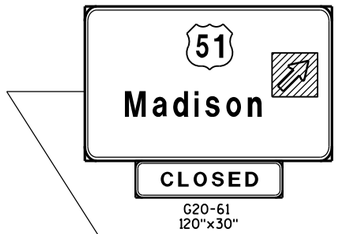
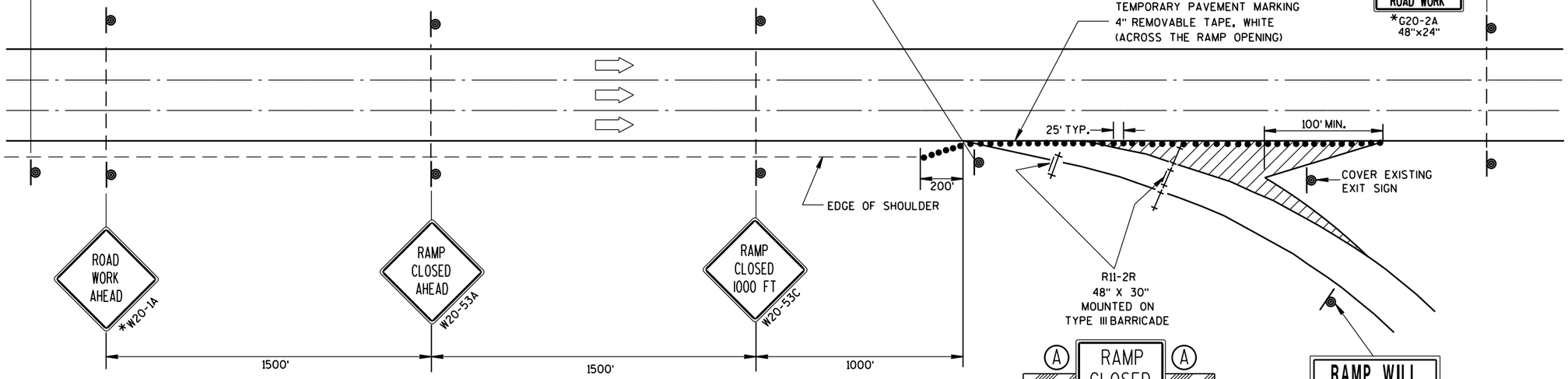
S.D.D. 15 D 12-6b

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN



COVER ARROW ON EXISTING E4-1A SIGN (COVERING SIGNS TYPE I)

G20-61
120"x30"



GENERAL NOTES

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

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

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN 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.

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

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

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

** PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

LEGEND

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

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC
FHWA

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S.D.D. 15 D 16-3

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S.D.D. 15 D 16-3

LEGEND

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

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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.

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

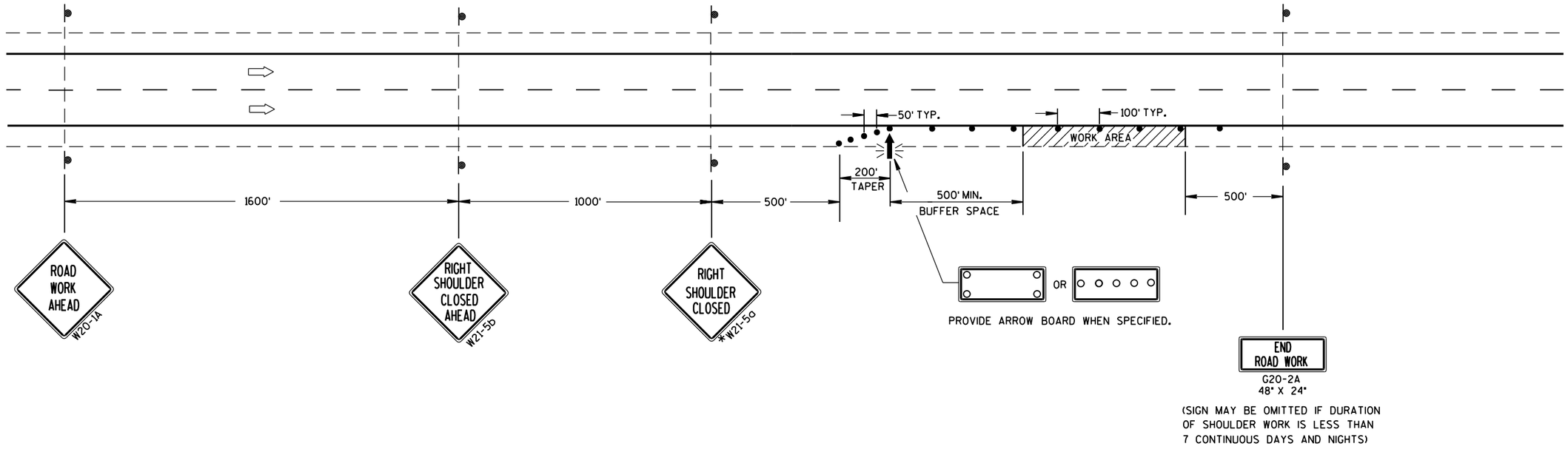
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

WHEN A 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.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

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

FHWA

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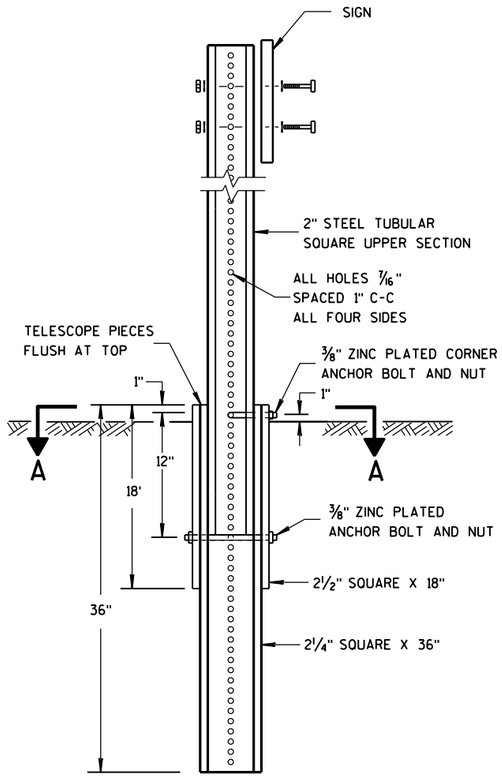
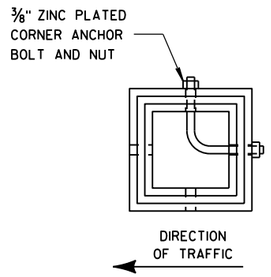
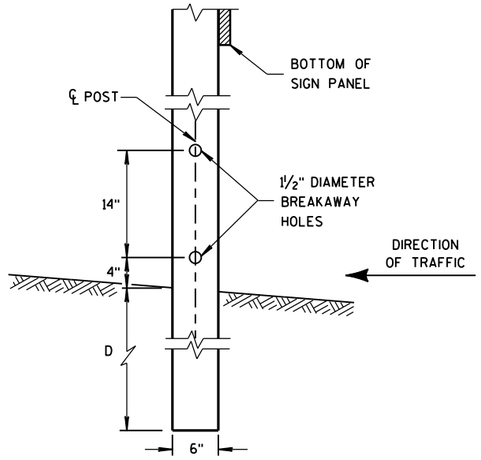


DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



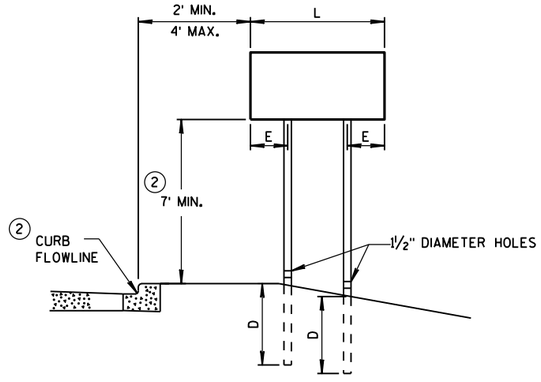
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

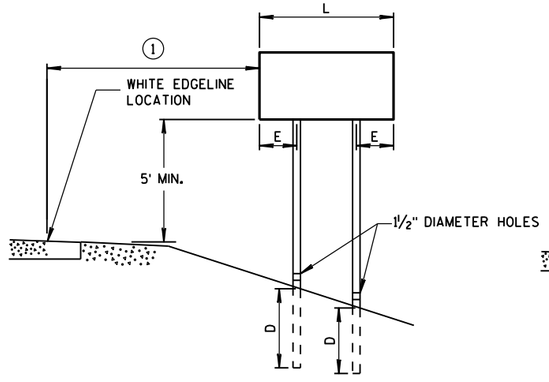
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

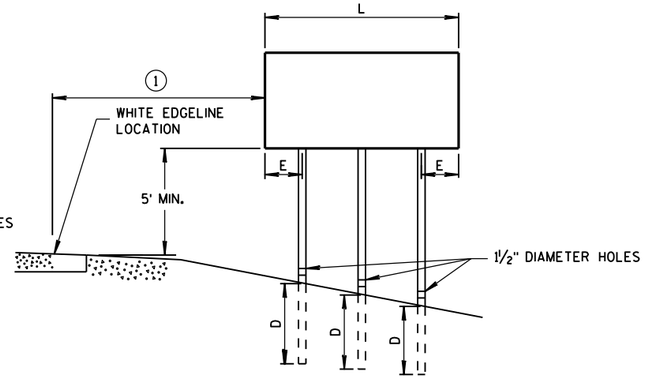
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

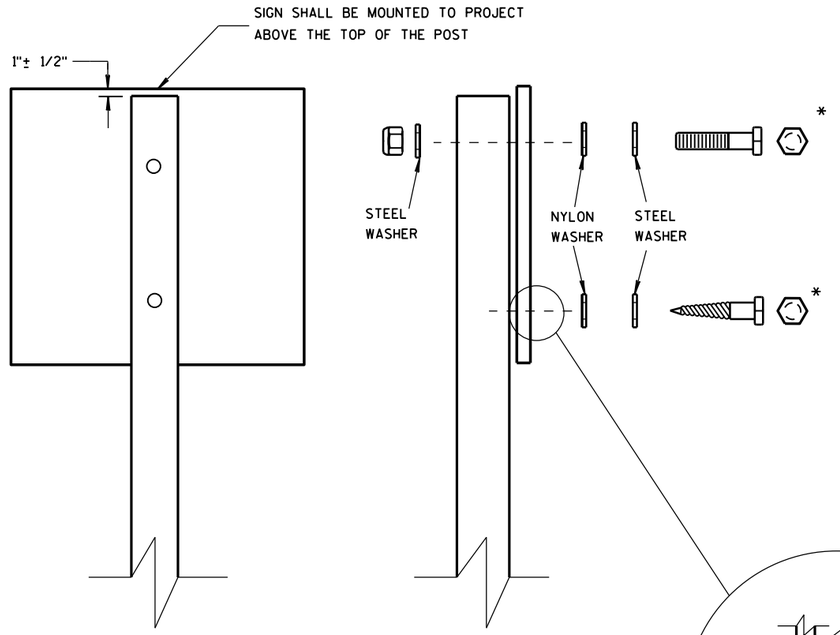
POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

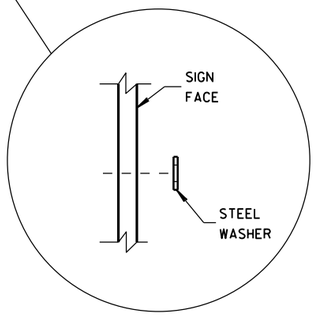
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN DEPARTMENT OF TRANSPO

6
S.D.D. 15 D 38-1a





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

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

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

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

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

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

LAG SCREWS - 3/8" X 3"

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

6

6

S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

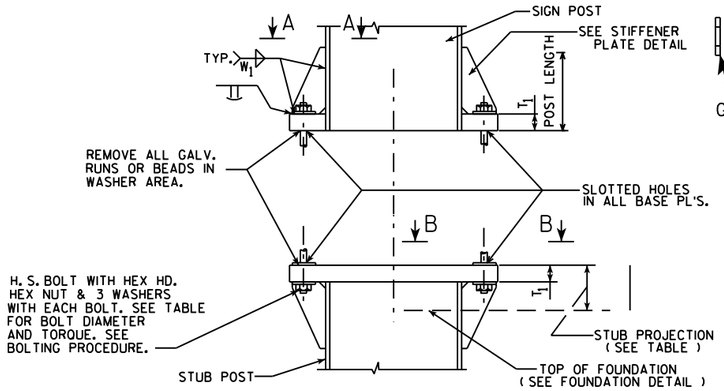
APPROVED

Feb. 2015 — DATE

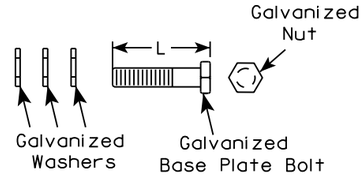
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

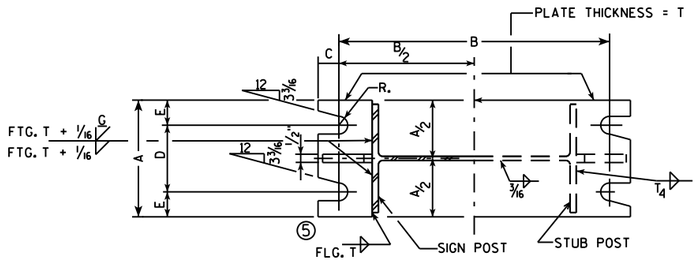
FHWA

SIGN

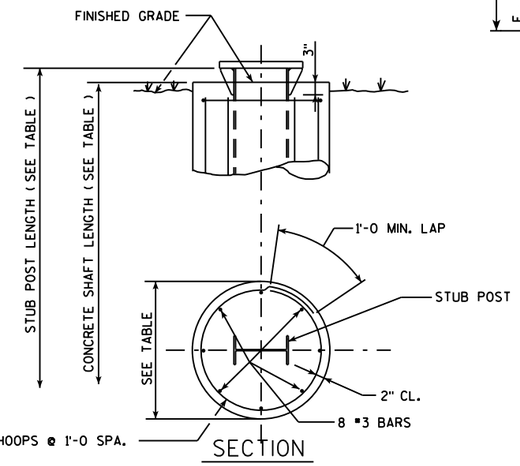


SIGN POST AND STUB POST ELEVATION

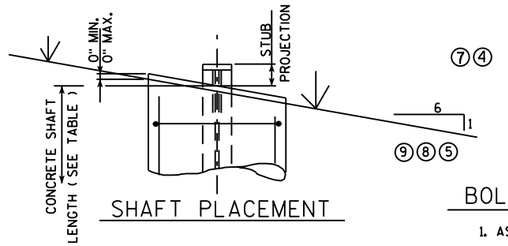




SECTION A-A SECTION B-B



SECTION



SHAFT PLACEMENT

⑦④ ⑨⑧⑤

DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

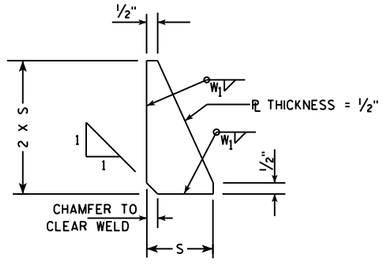
GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & 1/2 WIND[4]	140

[4] 25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

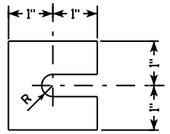
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123. ⑨
THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
FURNISH STEEL BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SECTION 635 OF THE STANDARD SPECIFICATIONS.



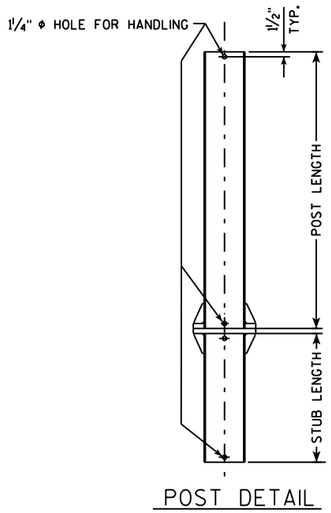
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)



FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

SHIM DETAIL



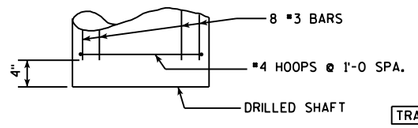
POST DETAIL

QUANTITIES FOR 1 FOOTING		
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
E	1.0	62

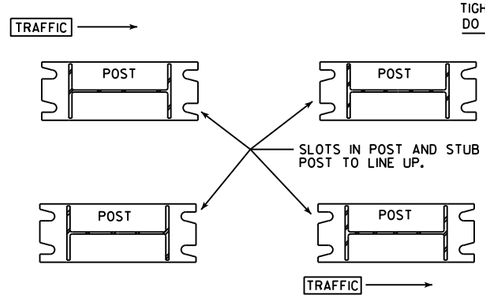
⑦

REINF.	TYPE	#3	#4
	A	8 @ 4'-5	5 @ 6'-3
	B	8 @ 6'-5	7 @ 6'-3
	C	8 @ 6'-11	7 @ 6'-3
	D	8 @ 7'-5	8 @ 6'-3
	E	8 @ 7'-11	9 @ 6'-3

⑦



FOUNDATION DETAIL



POST SLOT ORIENTATION ⑦

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

BASE CONNECTION DATA TABLE															FOUNDATION DATA				②
L	X	TYPE	POST SIZE	WEIGHT PER FT	BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	K
3 3/4	④	A	W10"X12.0	12.0 LBS	3/4" ø @ 75"-FT.	5 1/4"	1'-0 3/8"	7/8"	3 1/2"	7/8"	1"	3/16"	5/16"	13/32"	2 1/8"	3'-6	3"	2'-0 ø	5'-0	76.0" ④
4 3/4	④	B	W12"X16.0	16.0 LBS	7/8" ø @ 85"-FT.	5 1/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/4"	1/4"	5/16"	15/32"	3"	5'-6	3"	2'-0 ø	7'-0	146.5" ④
5		C	W12"X19.0	19.0 LBS	7/8" ø @ 85"-FT.	5 1/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/2"	5/16"	5/16"	15/32"	3"	6'-0	3"	2'-0 ø	7'-6	182.1"
5		D	W12"X22.0	22.0 LBS	7/8" ø @ 85"-FT.	5 1/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/2"	3/8"	5/16"	15/32"	3"	6'-6	3"	2'-0 ø	8'-0	210.5"
5	③	E	W12"X26.0	26.0 LBS	1" ø @ 90"-FT.	7"	1'-4 1/4"	1 1/4"	4"	1 1/2"	1 1/2"	3/8"	5/16"	17/32"	3"	7'-0	3"	2'-0 ø	8'-6	293.0" ③

① ⑥ ①

STRUCTURAL CARBON STEEL PAY WTS. (1 POST) = K+ (POST LENGTH X POST WT.)
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 8/22/17 PLATE NO. A3-1.17

⑩	1-21-14	LUBRICATION OF BASE BOLTS
⑨	4-26-11	REMOVE NON-GALVANIZED
⑧	10-30-96	NOT GALVANIZED/GALVANIZED
⑦	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
⑥	8-24-87	BASE CONN. WELD
⑤	10-13-81	BASE CONN. WELD & FUSE & WASHERS
④	10-19-79	POST A & B, A572 GR. 50, & K
②	11-28-78	"K" ③ 4-23-79 TYPE "E"
①	5-4-78	T_1 . T_2 & W_1
NO.	DATE	REVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

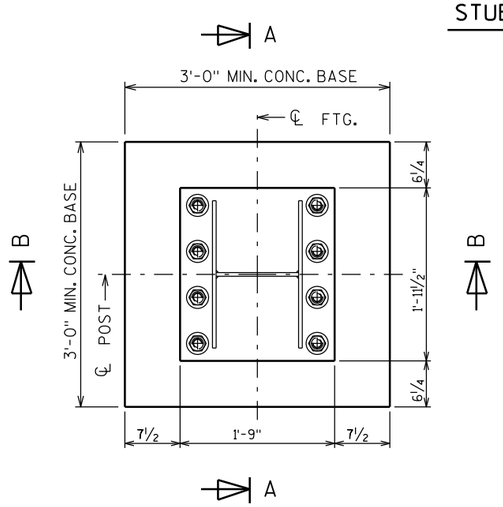
CONST. SPEC. 2011	DRAWN BY JPH	PLANS CK'D.

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

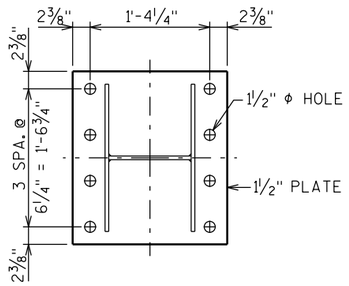
SHEET

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

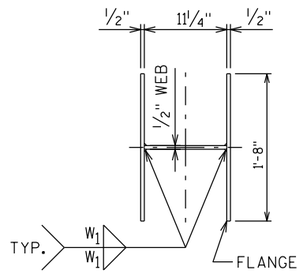
STUB AND MASONRY ANCHOR DETAILS



STUB SECTION



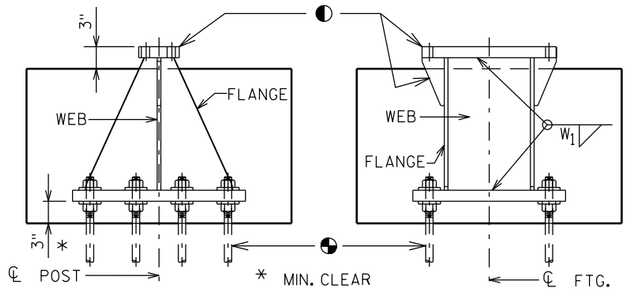
BASE PLATE



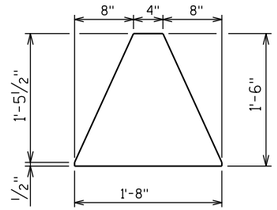
STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.



SECTION A SECTION B



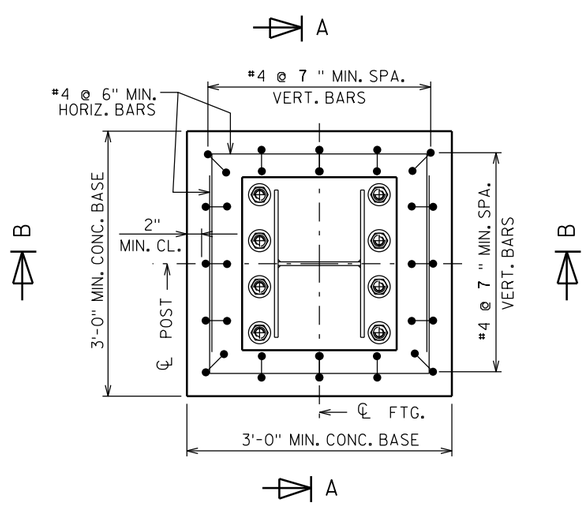
FLANGE

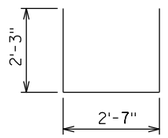
GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

CONCRETE BASE AND REINFORCING STEEL DETAILS

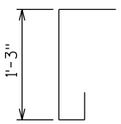
CONCRETE BASE SECTION





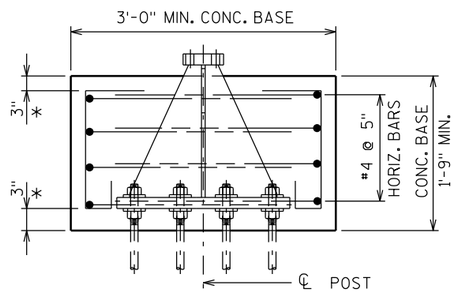
HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



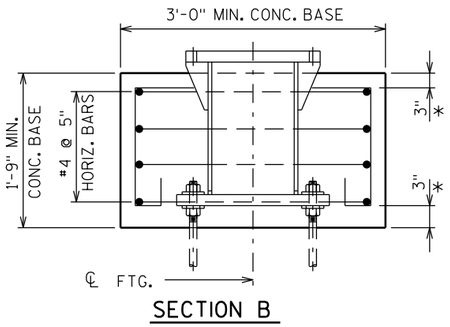
VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A

* MIN. CLEAR



SECTION B

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

WISCONSIN DEPT OF TRANSPORTATION

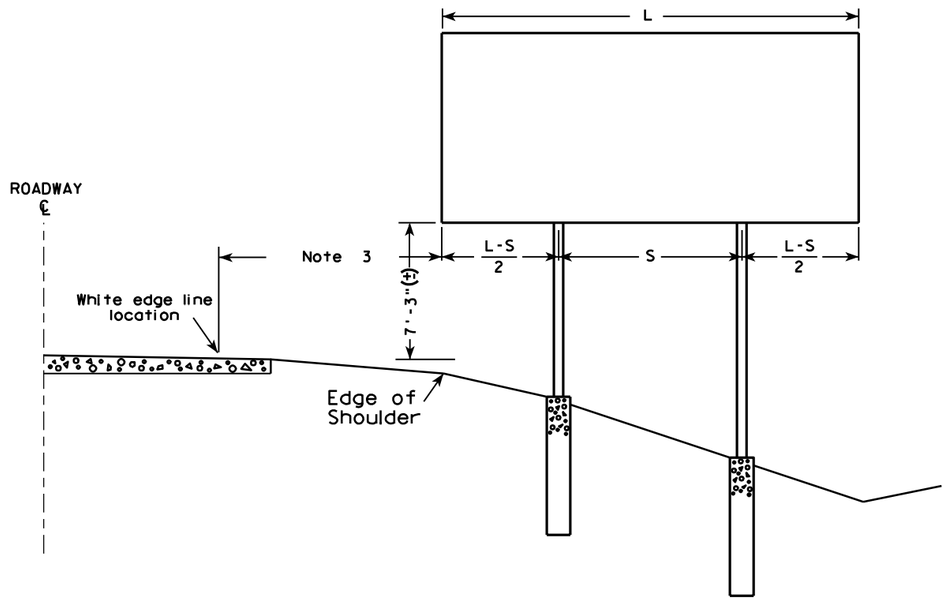
APPROVED Matthew R Rauch for State Traffic Engineer

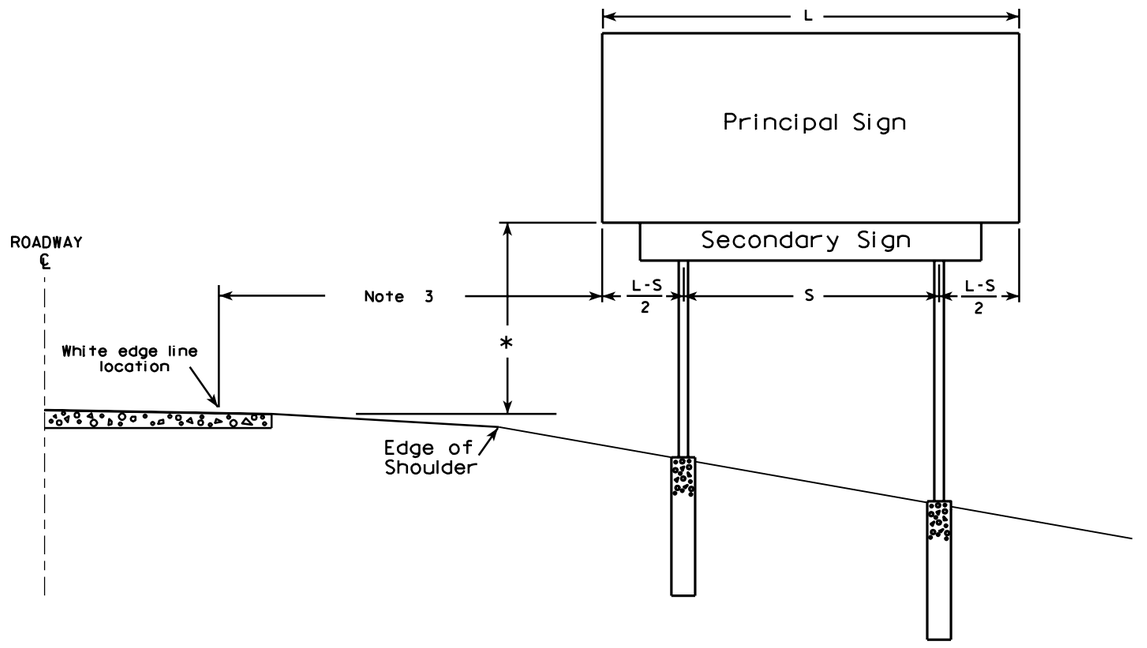
DATE 2/06/2014 PLATE A3-1M.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31M.DGN PLOT DATE : 10-MAR-2014 15:16 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.556674:1.000000

WISDOT/CADDS SHEET 42





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

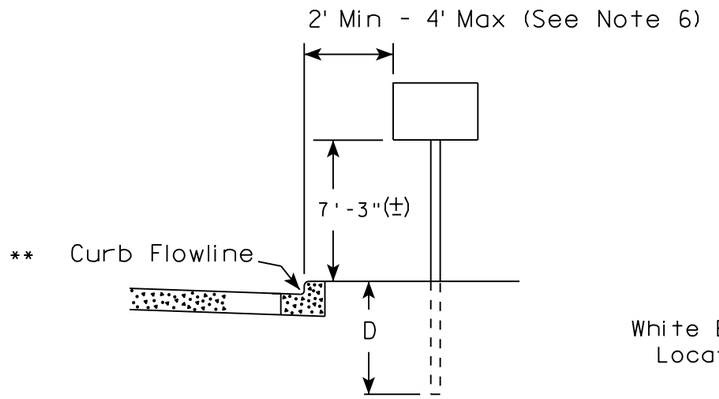
TYPICAL INSTALLATION
OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

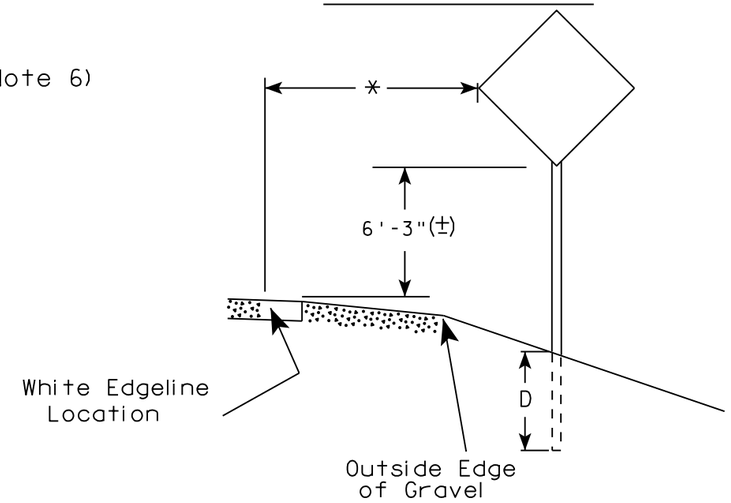
APPROVED Matthew R Rauch
for State Traffic Engineer

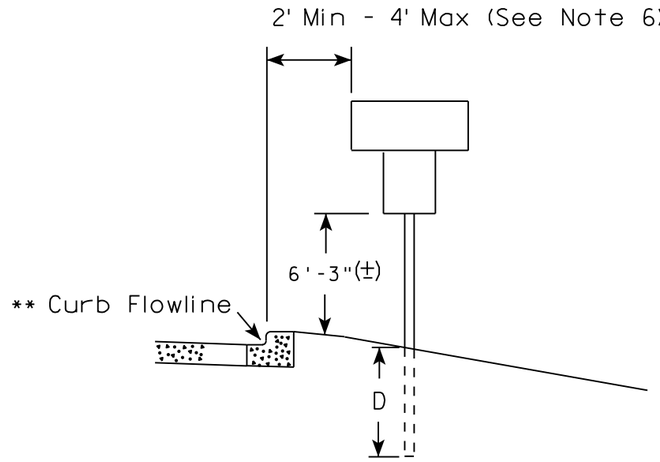
DATE 4/02/08 PLATE NO. A4-1.9

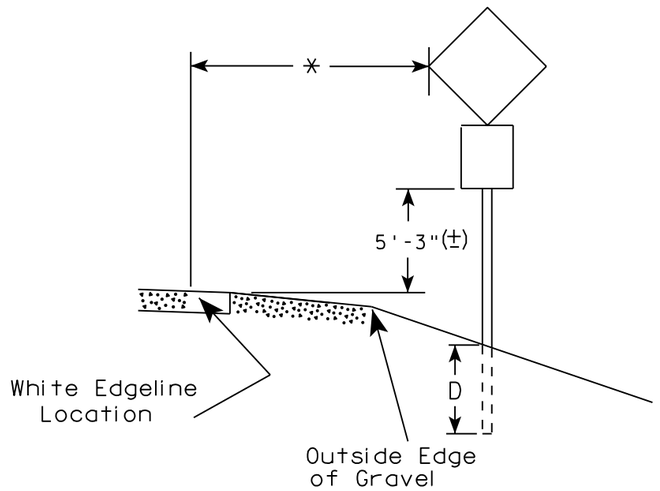
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

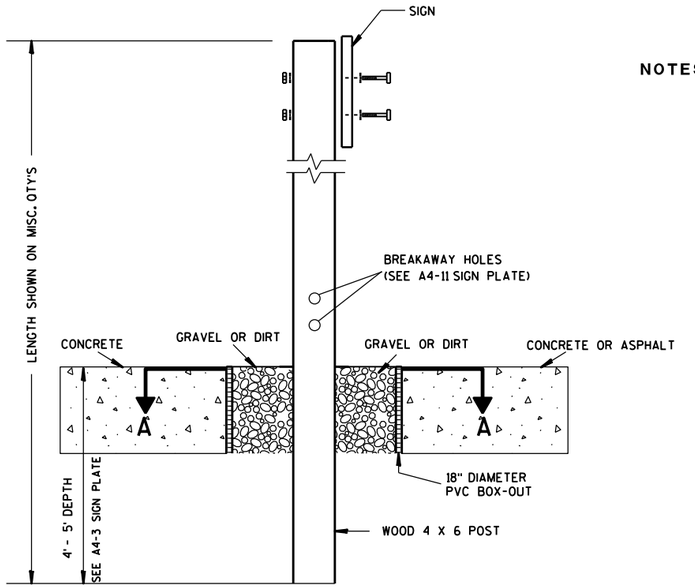
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

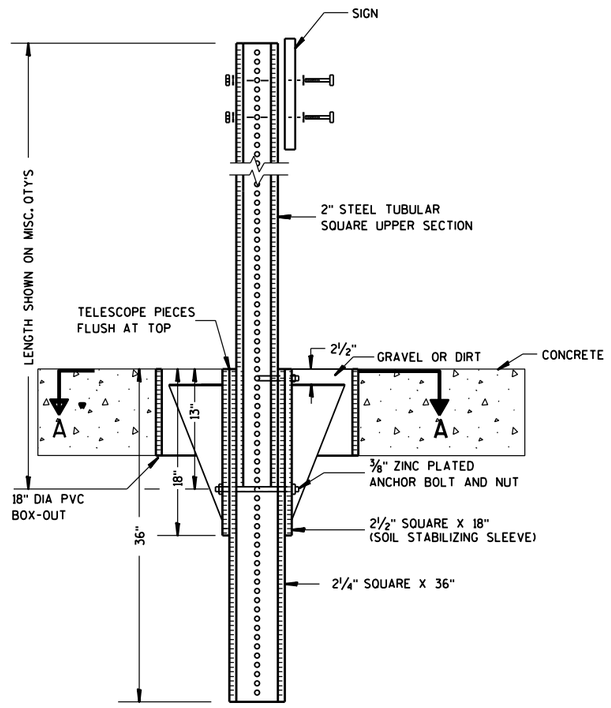
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 92	E



ELEVATION VIEW

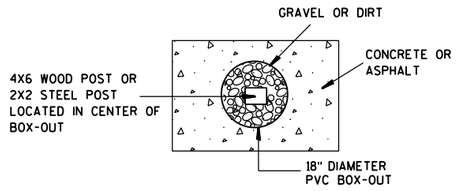
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

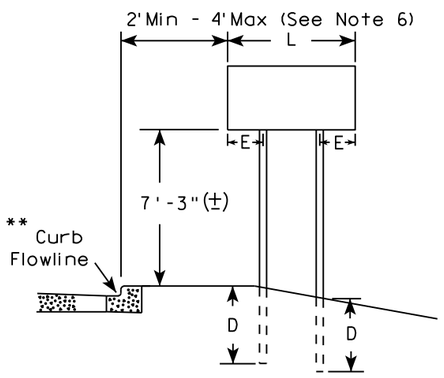
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

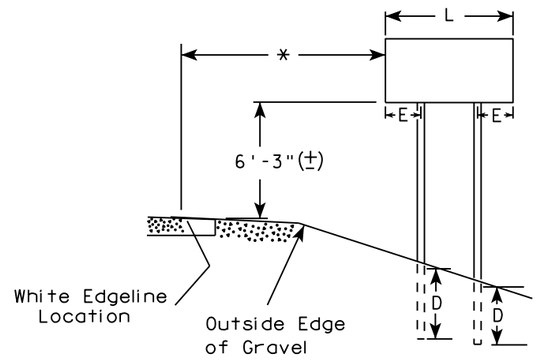
DATE 1/27/14 PLATE NO. A4-3B.1

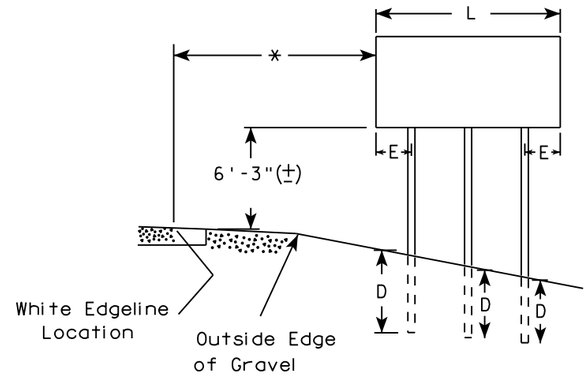
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

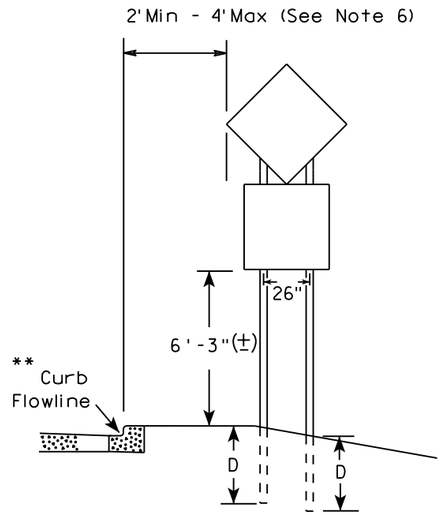
URBAN AREA



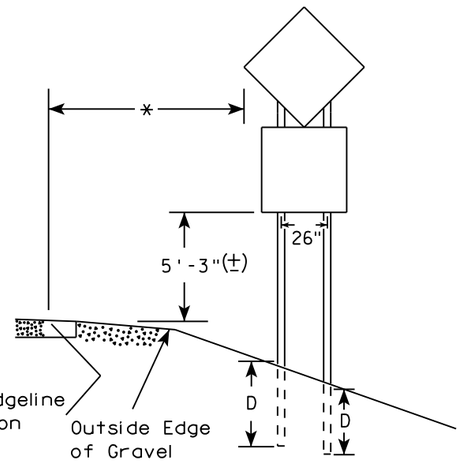
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

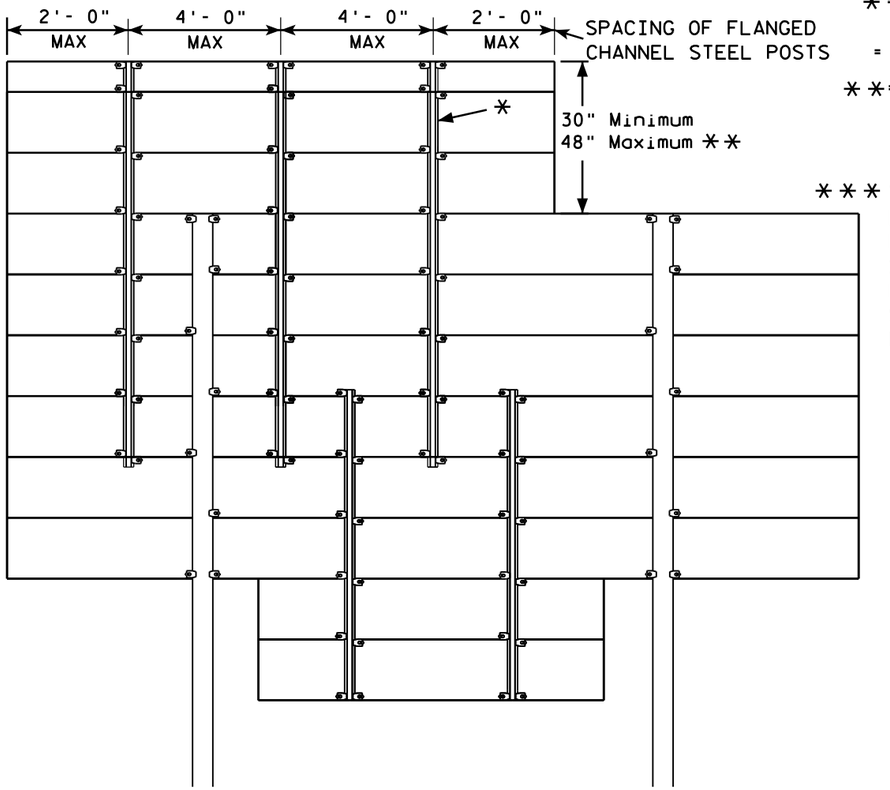
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 94	E

GROUND MOUNTED SIGN

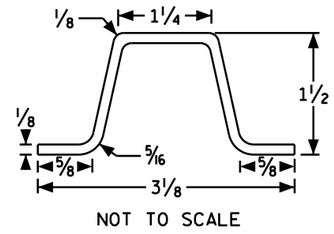


*=2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

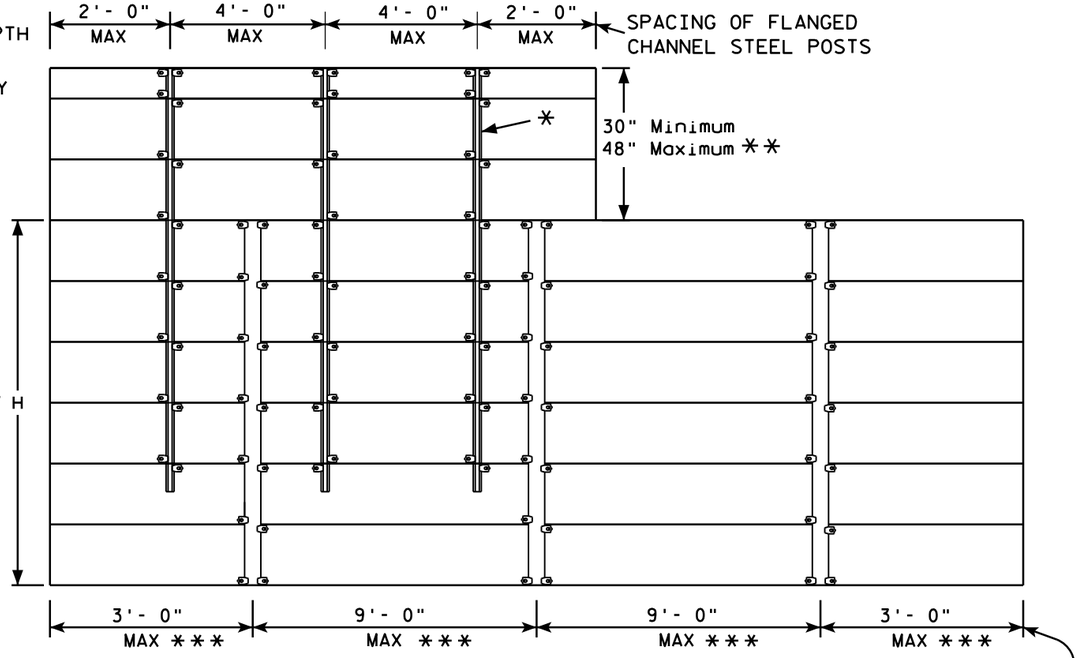
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS
5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

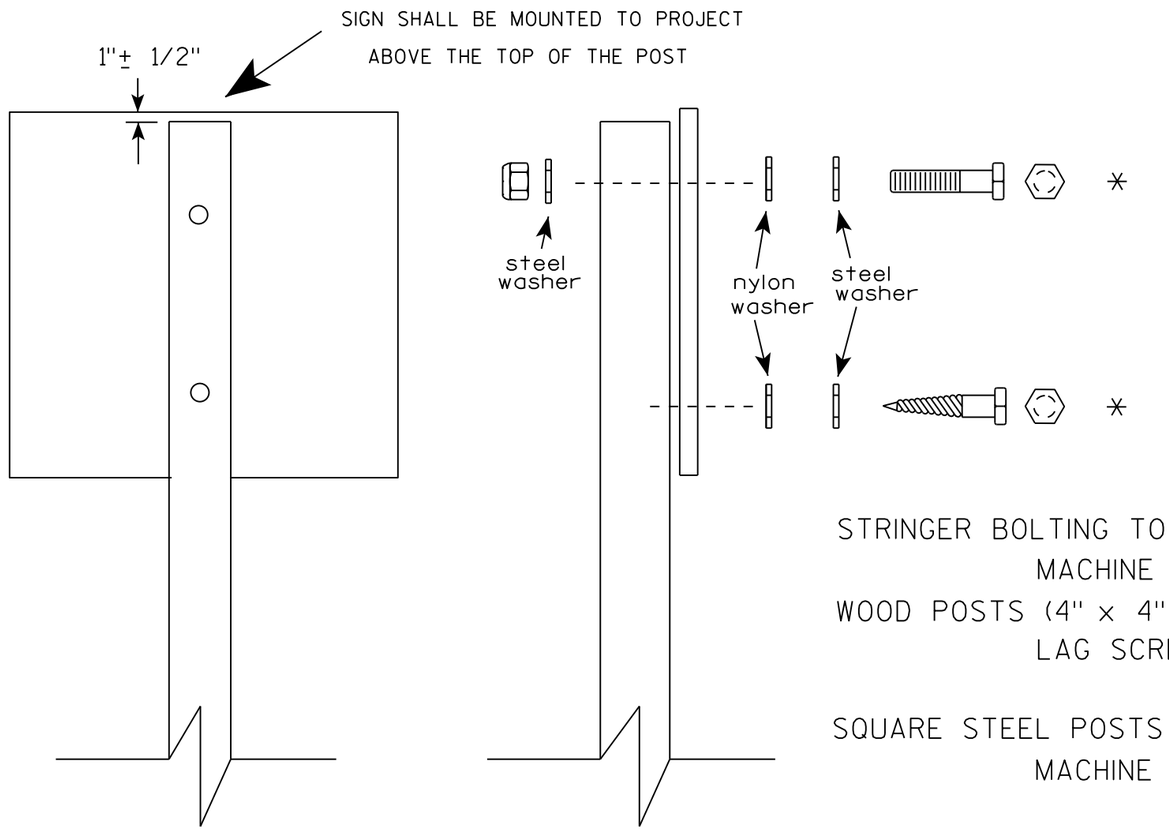
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 95 A4-6.12

PROJECT NO: | SHEET NO: E



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

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

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

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

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

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

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

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

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

SQUARE STEEL POSTS (2" x 2")

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

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

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

7

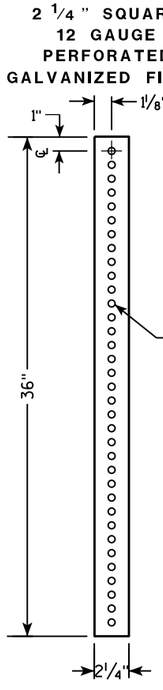
PROJECT NO:

SHEET NO: E

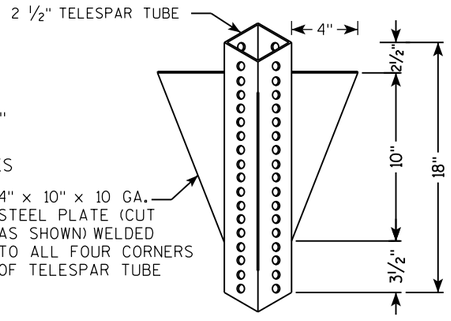
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

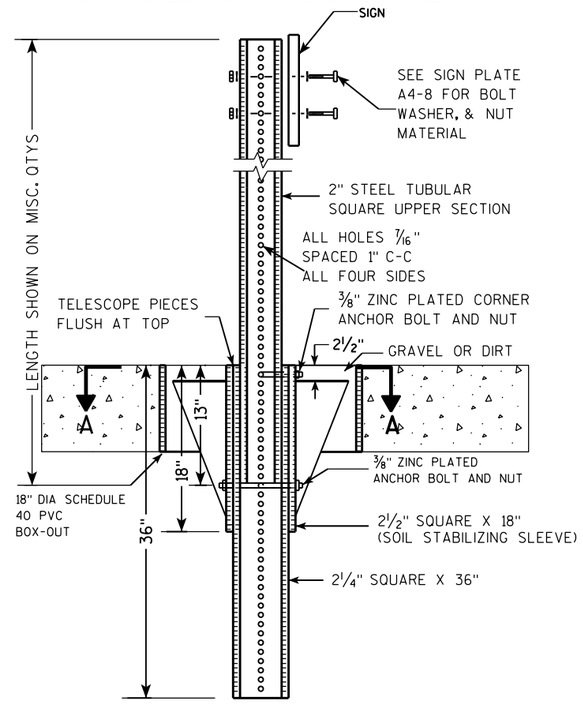
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



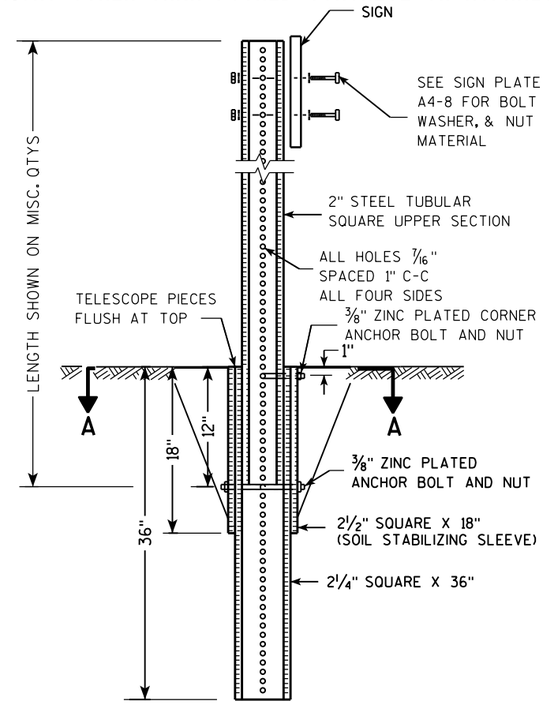
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

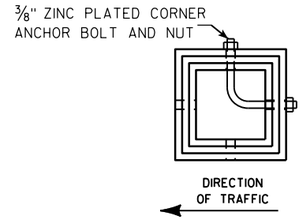


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

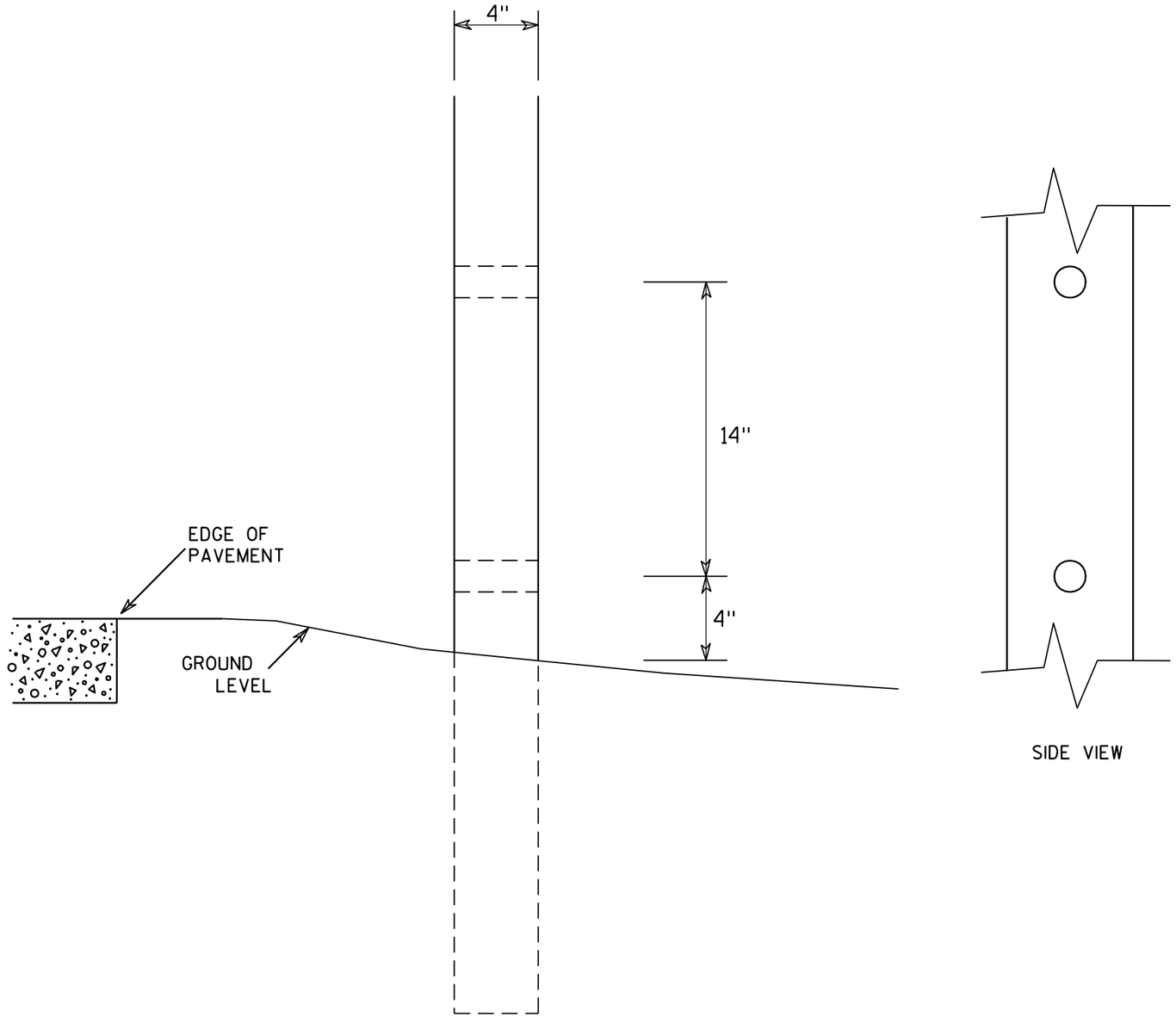
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 97 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

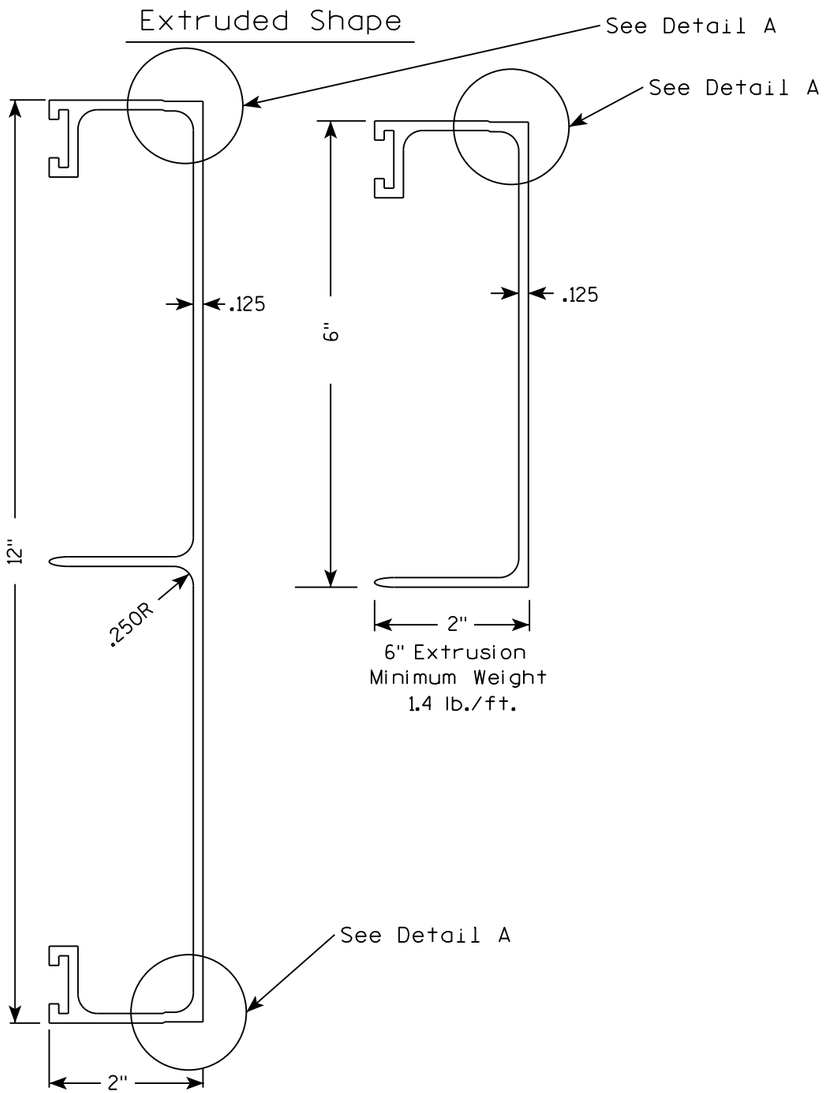
WISCONSIN DEPT OF TRANSPORTATION

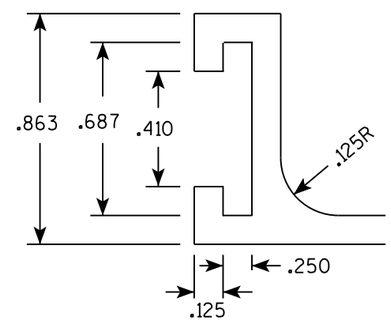
APPROVED Chester J Spang for State Traffic Engineer

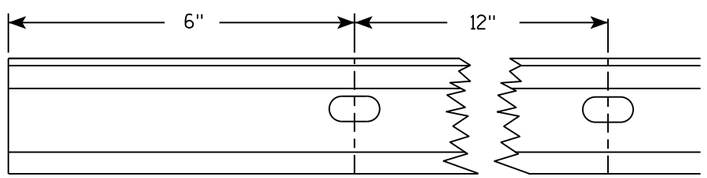
DATE 3/27/97 PLATE NO. A4-11.2

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

Extruded Shape







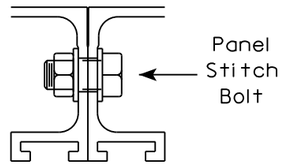
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

Hardware

STITCH BOLT, WASHER & NUT

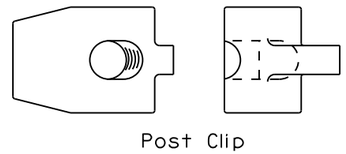
The hardware includes:

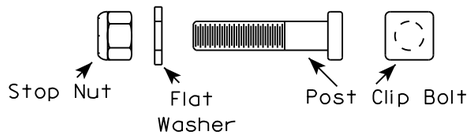
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

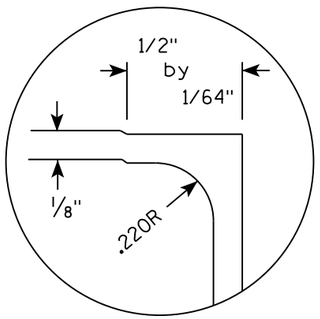
Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



DETAIL A (EDGE WRAP JOINT)

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

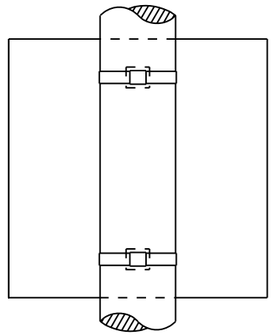
APPROVED Matthew R Rauch
for State Traffic Engineer

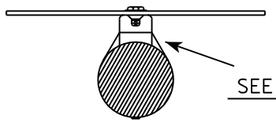
DATE 11/30/16 PLATE NO. A5-2.10

PROJECT NO:				SHEET NO: 99	E

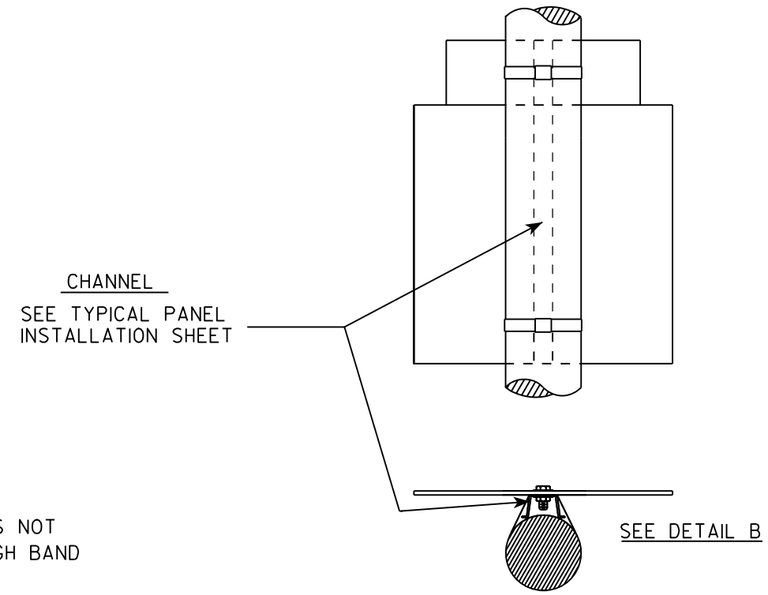
BANDING

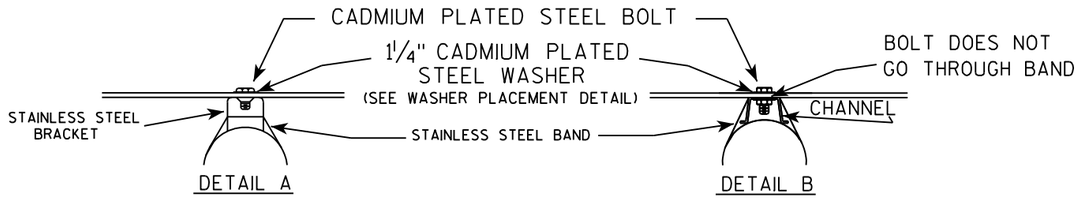
SINGLE SIGN



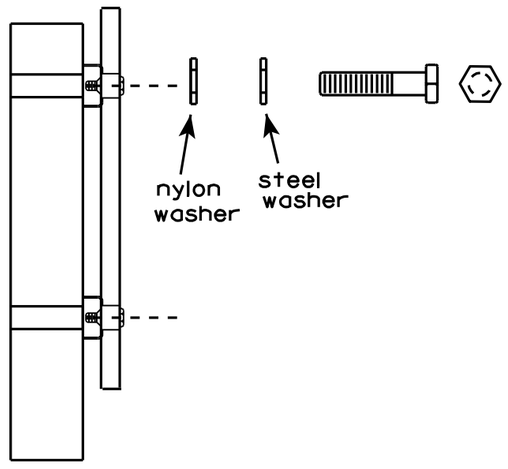


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

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

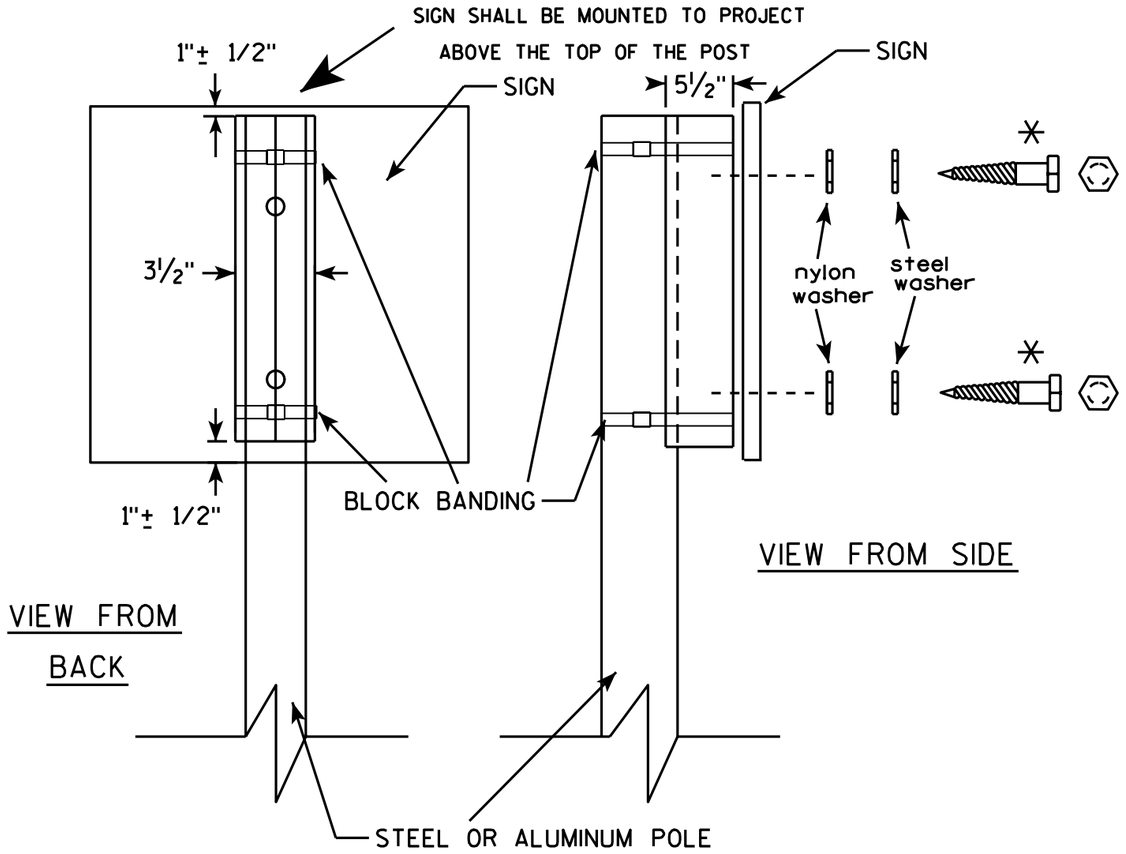
STANDARD SIGN
SIGN BANDING DETAILS

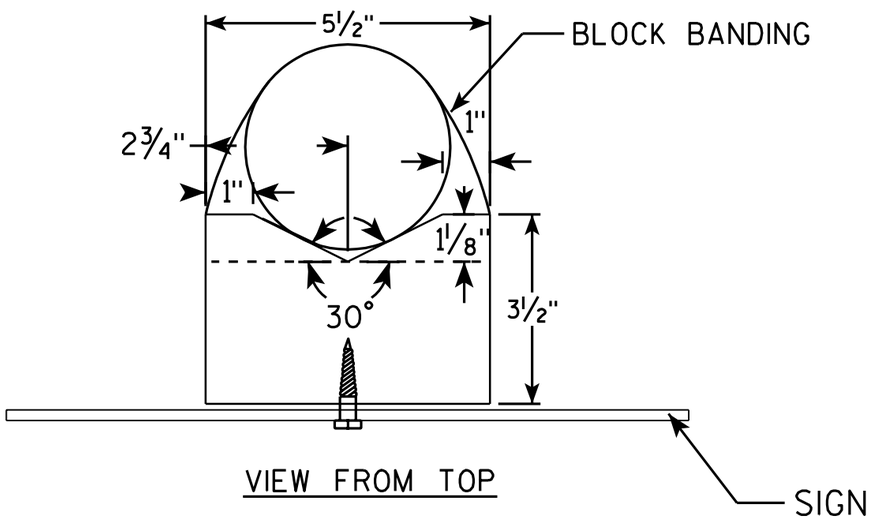
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

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





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

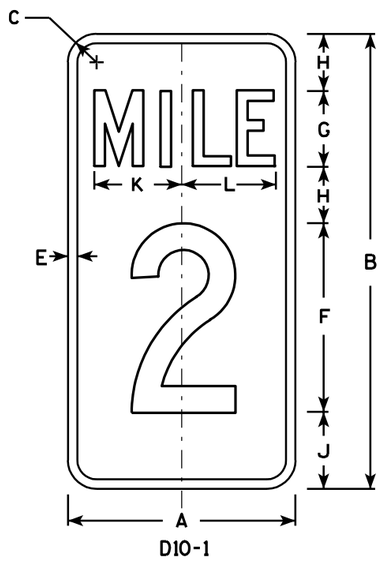
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

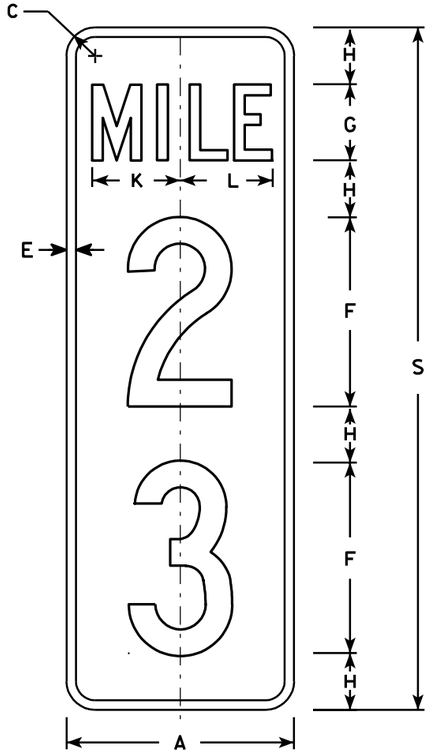
SHEET NO: 101 E

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

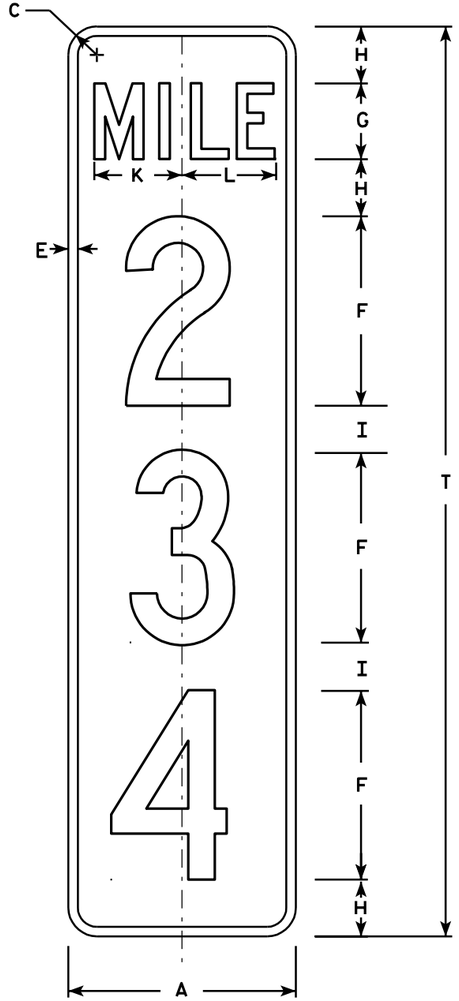
WISDOT/CADDS SHEET 42



D10-1



D10-2



D10-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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. Optically adjust numerals about the centerline of the sign to achieve proper balance.

Metric equivalent for this sign is:

PHY. SIZE	
12 X 24	300 mm X 600 mm
12 X 36	300 mm X 900 mm
12 X 48	300 mm X 1200 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
1																										
2																										
3																										
4	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						
5	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						

D10-1	D10-2	D10-3
Area sq. ft.	Area sq. ft.	Area sq. ft.
2.0	3.0	4.0
Area m2	Area m2	Area m2
.19	.28	.38

STANDARD SIGN
D10-1 , D10-2 & D10-3

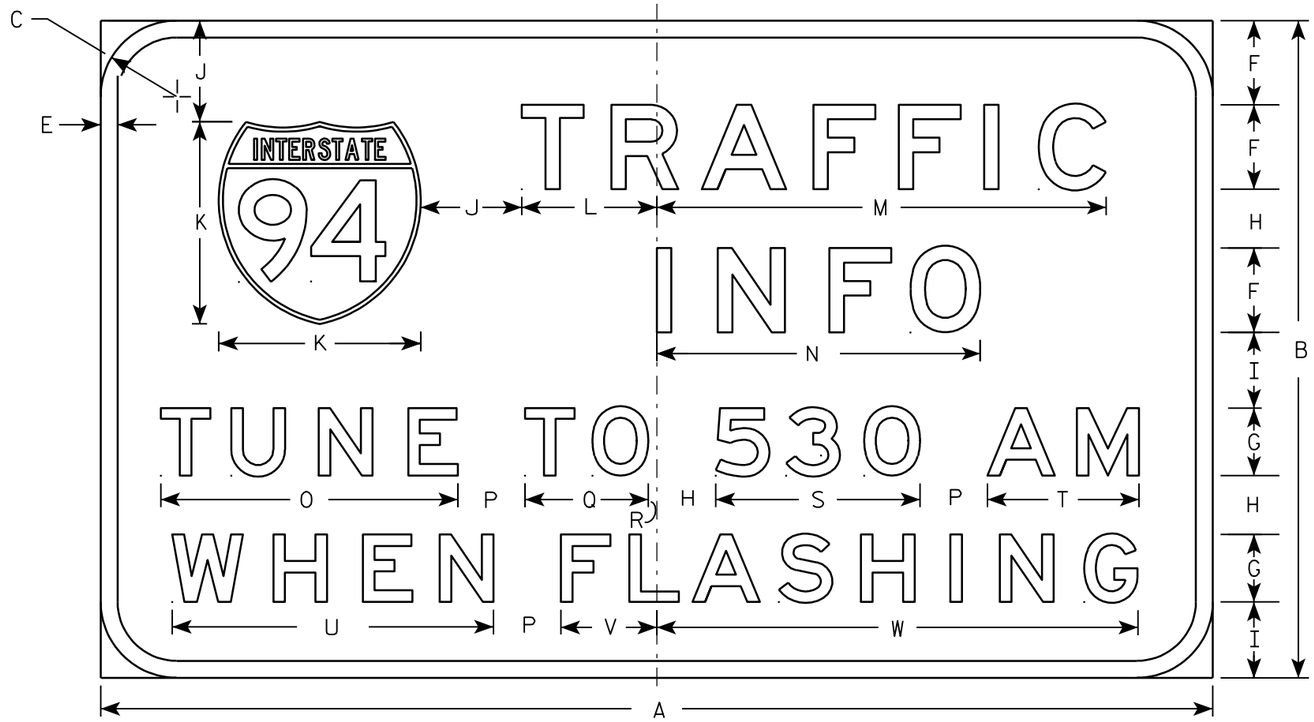
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for Director, Office of Traffic

DATE 1/16/02 PLATE NO. D10-3.2

PROJECT NO:

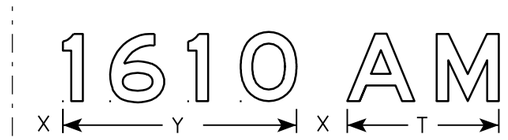
SHEET NO: 102 E



D12-3A

NOTES

1. Sign is Type I - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   Message - White
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. For any other radio frequency, substitute appropriate numerals and adjust spacing to achieve proper balance.
6. The 94 highway shield shall be in accordance with M1-51 standard sign detail.



Metric equivalent for this sign is:

SIZE	
1	
2	3300 mm X 1950 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	132	78	9		2	10	8	7	9	12	24	16	53 3/8	38 3/8	35 1/4	8	14 5/8	1	24 1/4	18	38 1/8	11 3/8	57 1/8	6	27 3/4		71.5	6.44
3																												
4																												
5																												

STANDARD SIGN
D12-3A

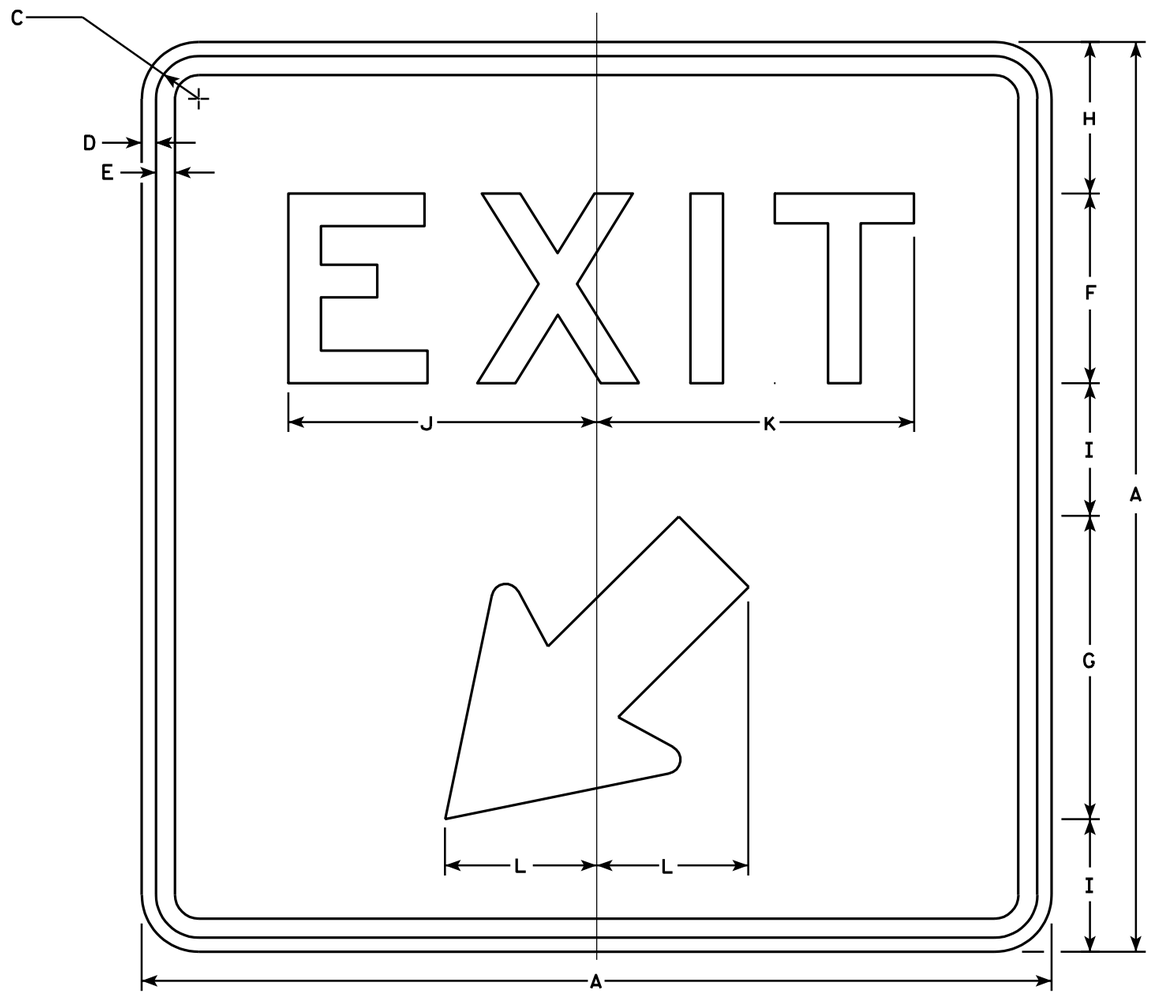
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/08 PLATE NO. D12-3A.1

PROJECT NO:

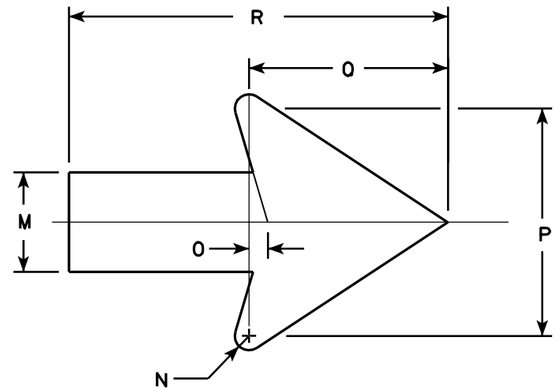
SHEET NO: 103 E



D52-54L

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. R52-54R is the same as R52-54L except that the arrow is reversed.



Arrow Detail

Metric equivalent for this sign is:

SIZE	
1	600 mm X 600 mm
2	600 mm X 600 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 sq. m.
1	24		1 1/8	3/8	1/2	5	8	4	3 1/2	8 1/8	8 3/8	4	2 5/8	3/8	1/2	6	5 1/4	10									4.0	.37
2	24		1 1/8	3/8	1/2	5	8	4	3 1/2	8 1/8	8 3/8	4	2 5/8	3/8	1/2	6	5 1/4	10									4.0	.37
3																												
4																												
5																												

STANDARD SIGN
D52-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

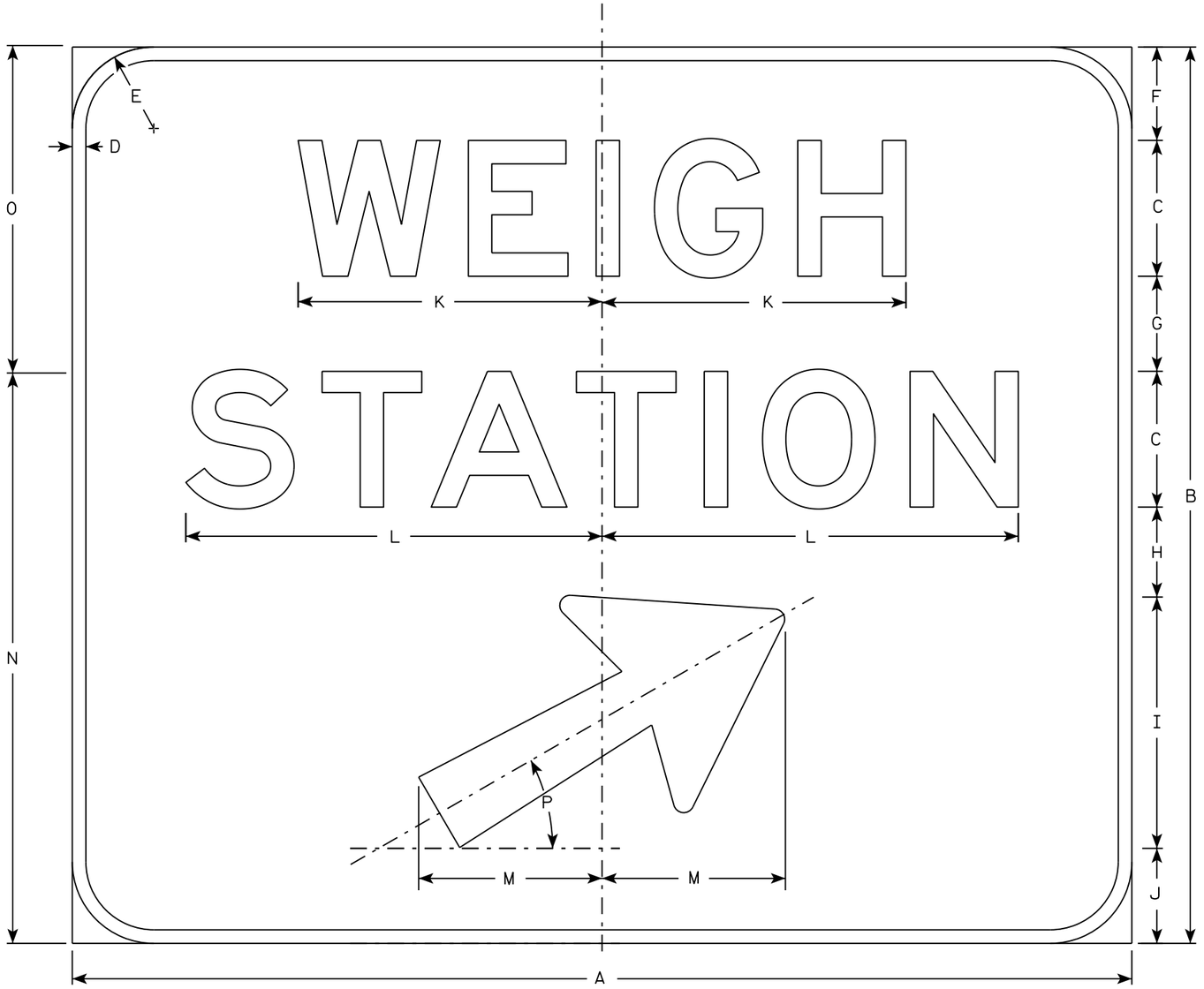
DATE 1/18/02 PLATE NO. D52-54.7

PROJECT NO:

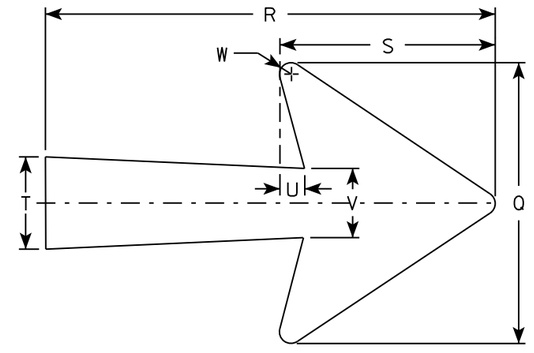
SHEET NO: 104 E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E
4. Arrow is Type A as per A1-1 standard
5. Dimensions N & O Indicate cutting lines for panels



E5-58



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	78	66	10	1	6	7	7	6 ½	18 ½	7	22 ⅜	30 ⅝	13 ½	42	24	30°	18 ¼	29 ¼	14	6	1 ½	4 ½	¾				35.75
5	90	72	12	1	9	7 ¼	7	8	18 ½	7 ¼	26 ⅞	36 ¾	13 ½	48	24	30°	18 ¼	29 ¼	14	6	1 ½	4 ½	¾				45.0

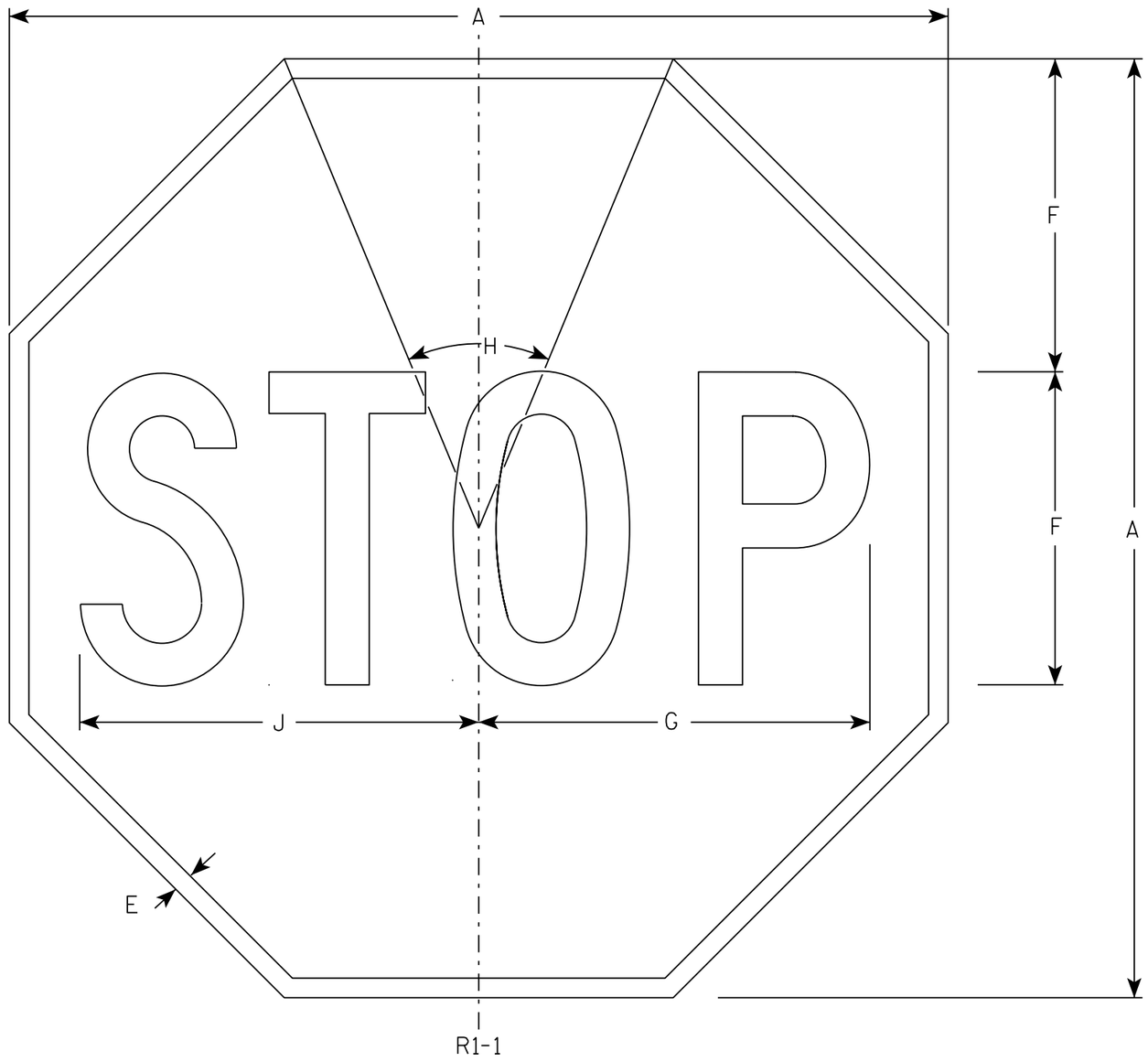
STANDARD SIGN
E5-58

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/6/17 PLATE NO. E5-58.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 105	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	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN

R1-1

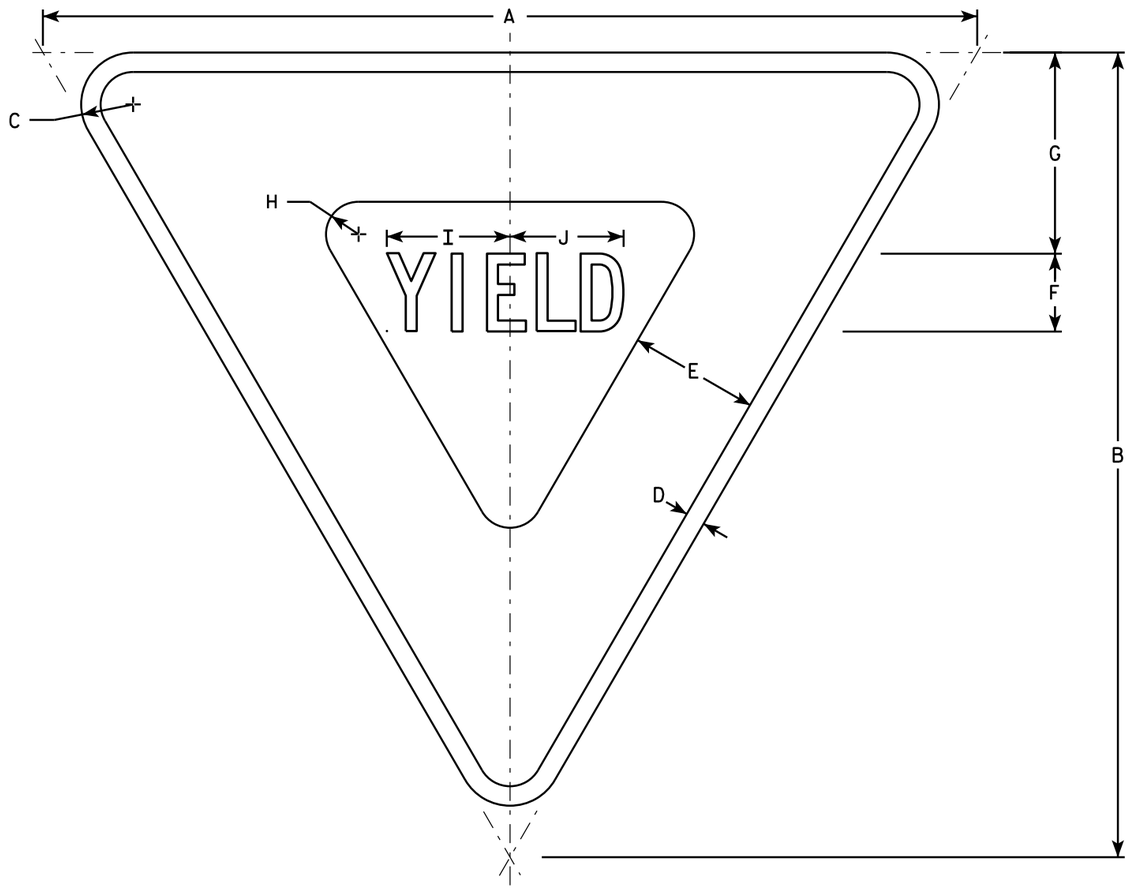
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 106	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - 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. The border strip and word message are reflectorized red.

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	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

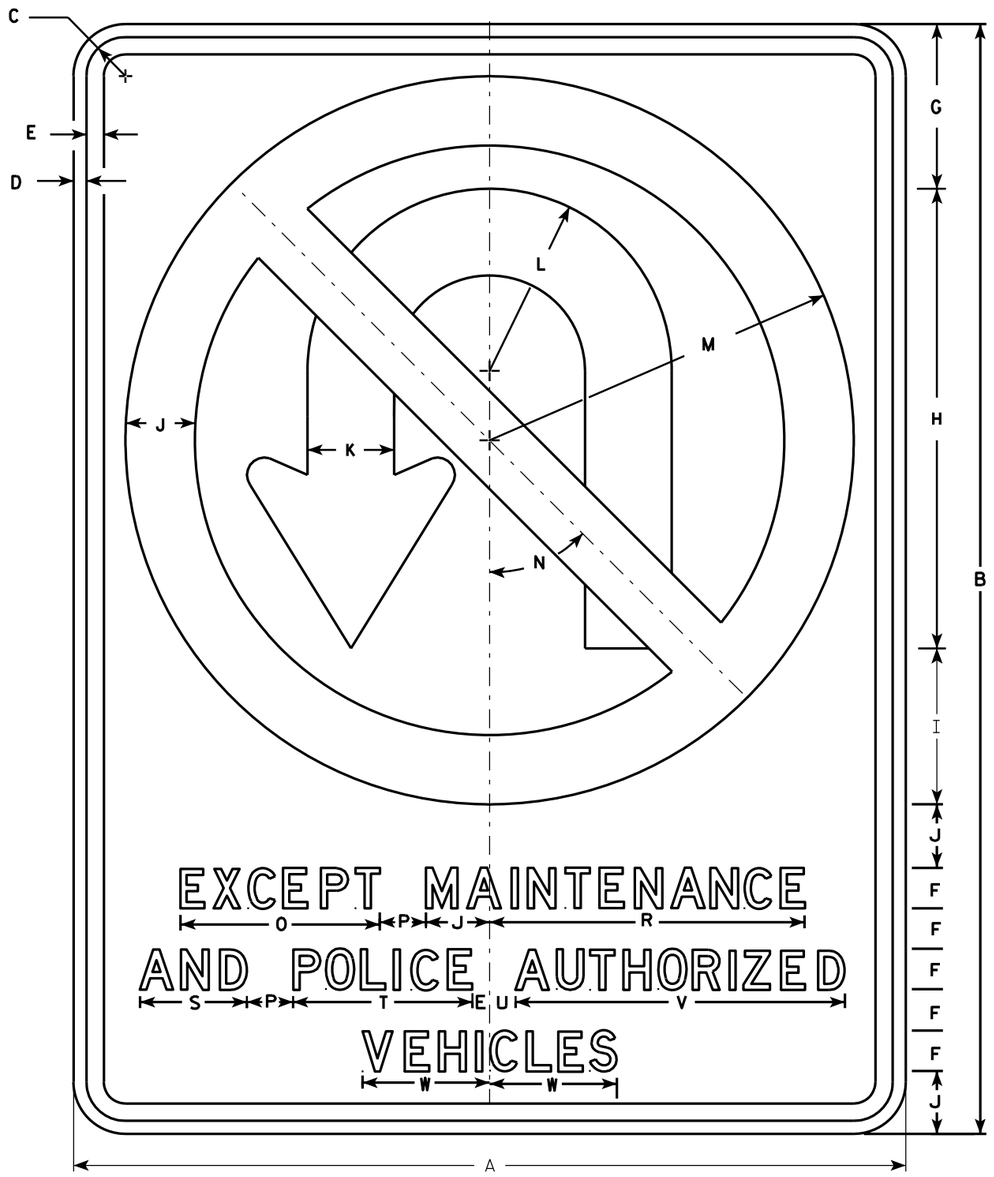
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

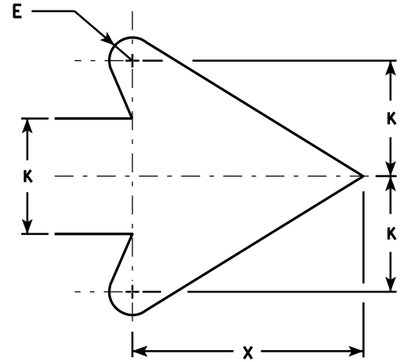
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R3-4B

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 - 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. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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																											
2M																											
3																											
4	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0
5	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0

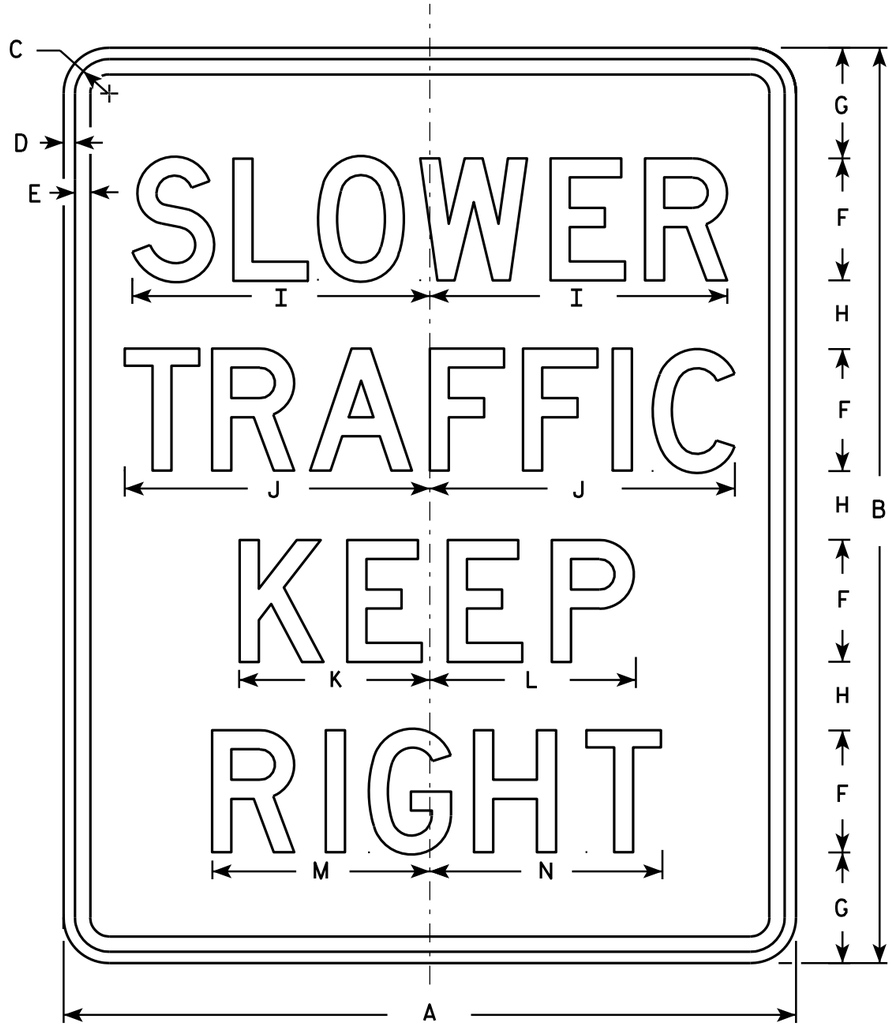
STANDARD SIGN
R3-4B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-4B.2

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



R4-3

NOTES

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

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	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
2M	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
3	36	48	1 5/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
4	36	48	1 5/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
5	48	60	2 1/4	3/4	1	8	7 1/4	4 1/2	19 1/2	20	12 1/2	13 1/2	14 1/4	15 1/4													20.0

STANDARD SIGN
R4-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-3.8

PROJECT NO:

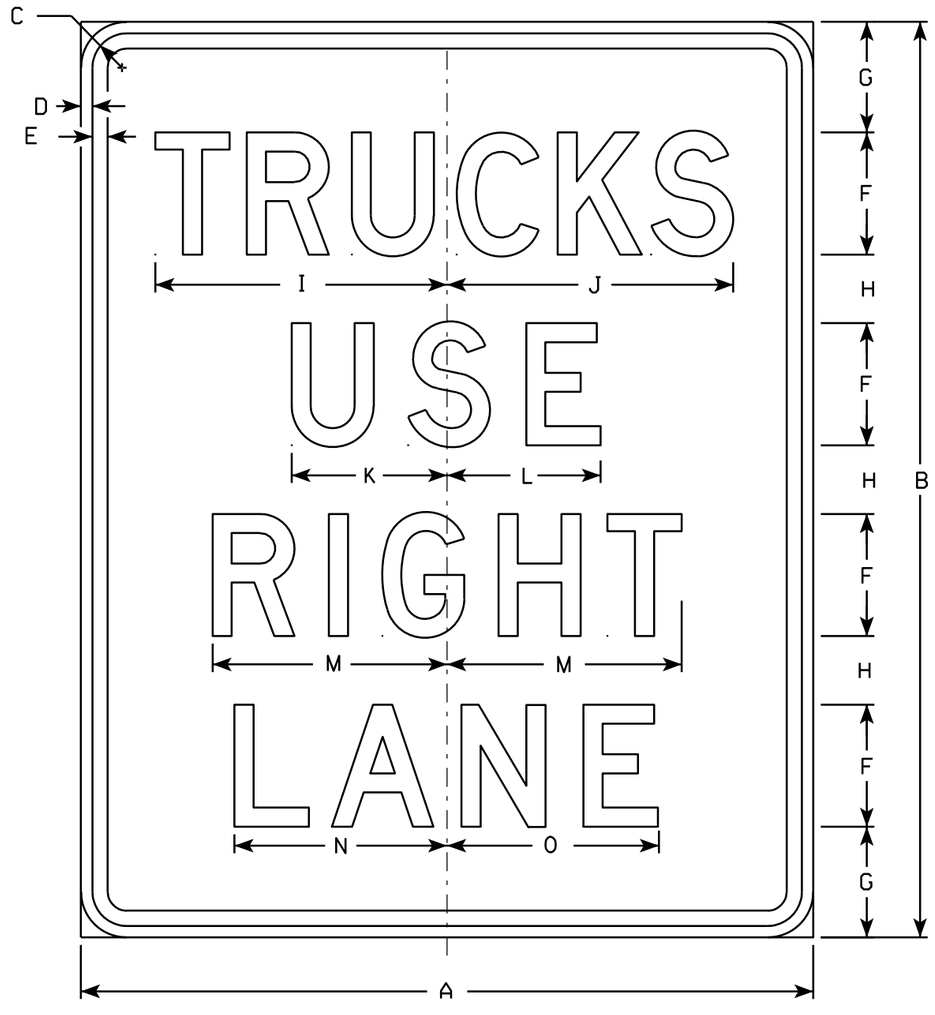
SHEET NO: 109 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R43.DGN PLOT DATE : 25-MAR-2011 13:40 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

7

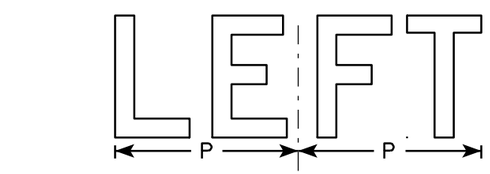


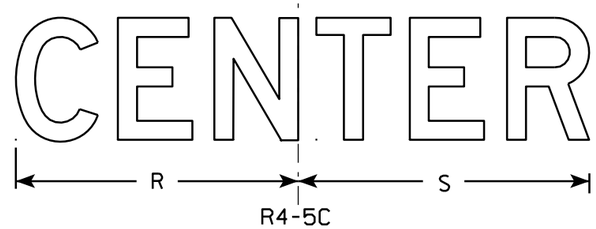
R4-5

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R4-5L & R4-5C are the same as R4-5 except LEFT or CENTER replaces RIGHT as order by code.

R4-5L





R4-5C

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	4	3 5/8	2 1/4	9 5/8	9 3/8	5 1/8	5 1/8	7 3/4	7 1/4	7	6		9 1/4	9 1/2								5.0
2M	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 5/8	9 3/8	5 1/8	5 1/8	7 3/4	7 1/4	7	6		9 1/4	9 1/2								5.0
3																											
4	36	48	2 1/4	5/8	3/4	6	6	4	14 3/8	14 1/8	7 7/8	7 7/8	12 1/4	10 3/4	10 1/2	9 5/8		13 7/8	14 1/4								12.0
5	48	60	2 1/4	3/4	1	8	7 1/4	4 1/2	19 1/8	18 3/4	10 1/4	10 1/8	15 3/8	14	13 7/8	12		18 1/2	19 1/8								20.0

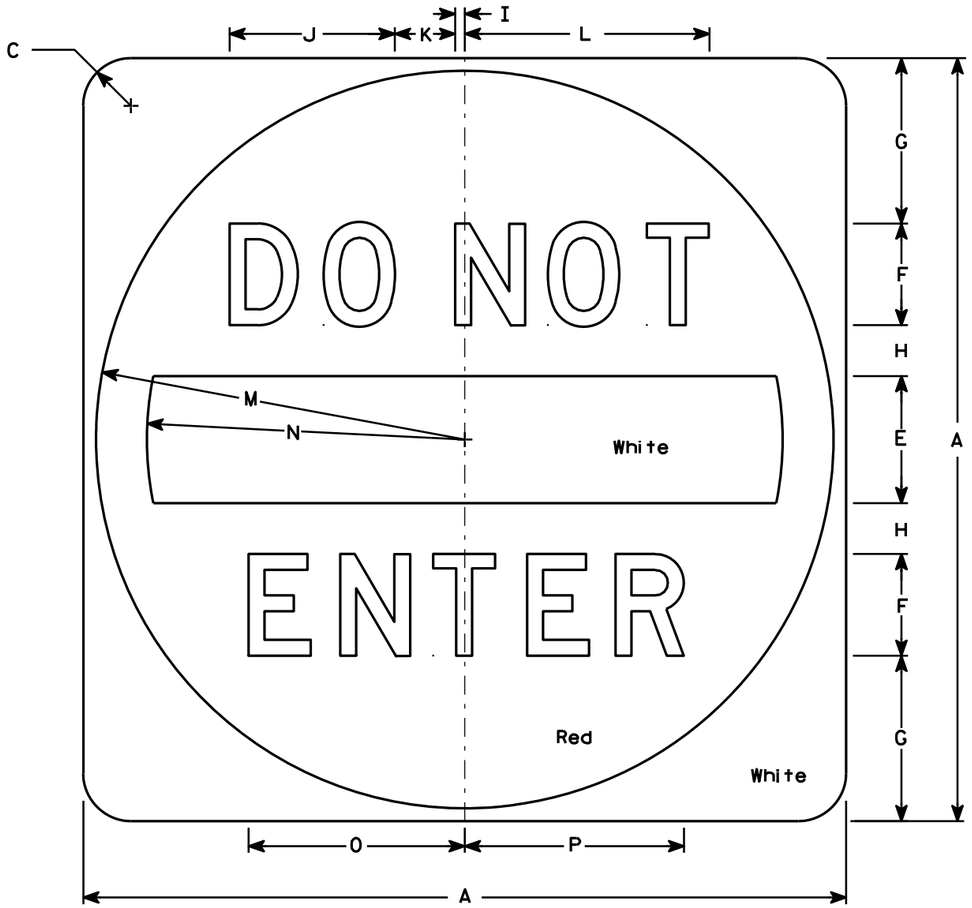
STANDARD SIGN
R4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-5.3

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



R5-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

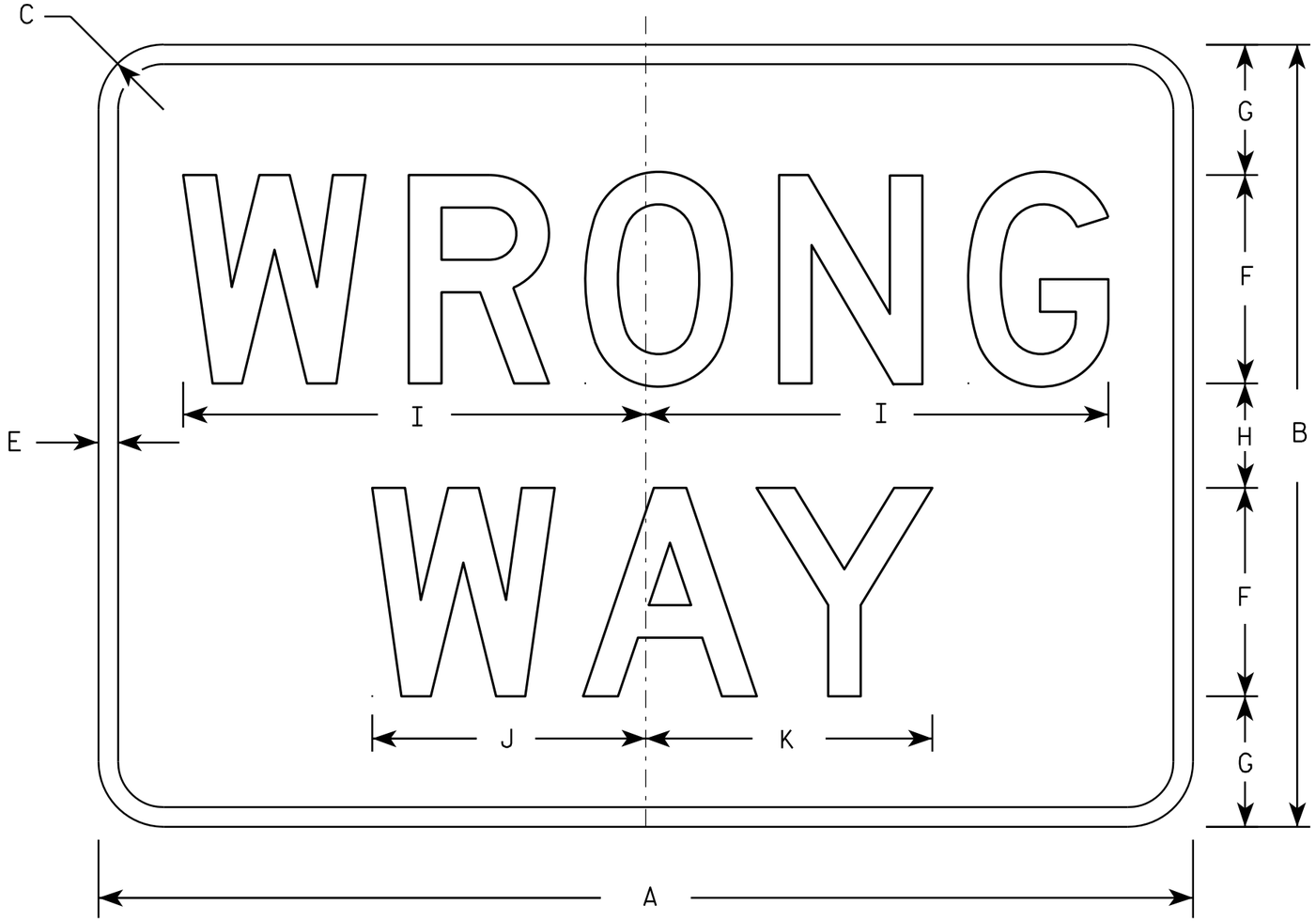
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 111 | E



R5-1A

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 - 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	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

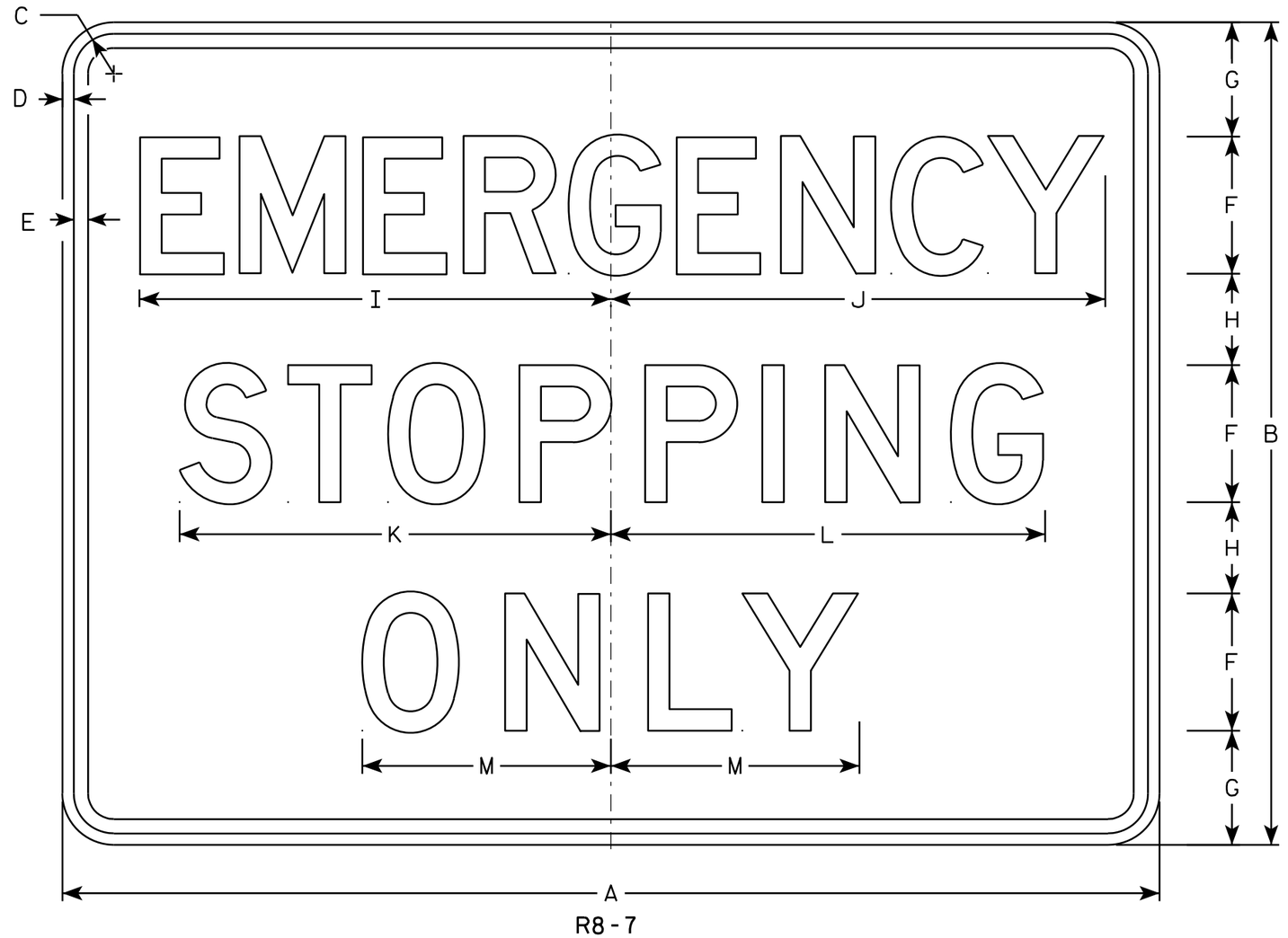
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 112 | E



R8-7

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 - 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																											
2M																											
3																											
4	48	36	1 3/4	1/2	5/8	6	5	4	20 5/8	21 5/8	18 7/8	19	10 7/8														12.0
5	48	36	1 3/4	1/2	5/8	6	5	4	20 5/8	21 5/8	18 7/8	19	10 7/8														12.0

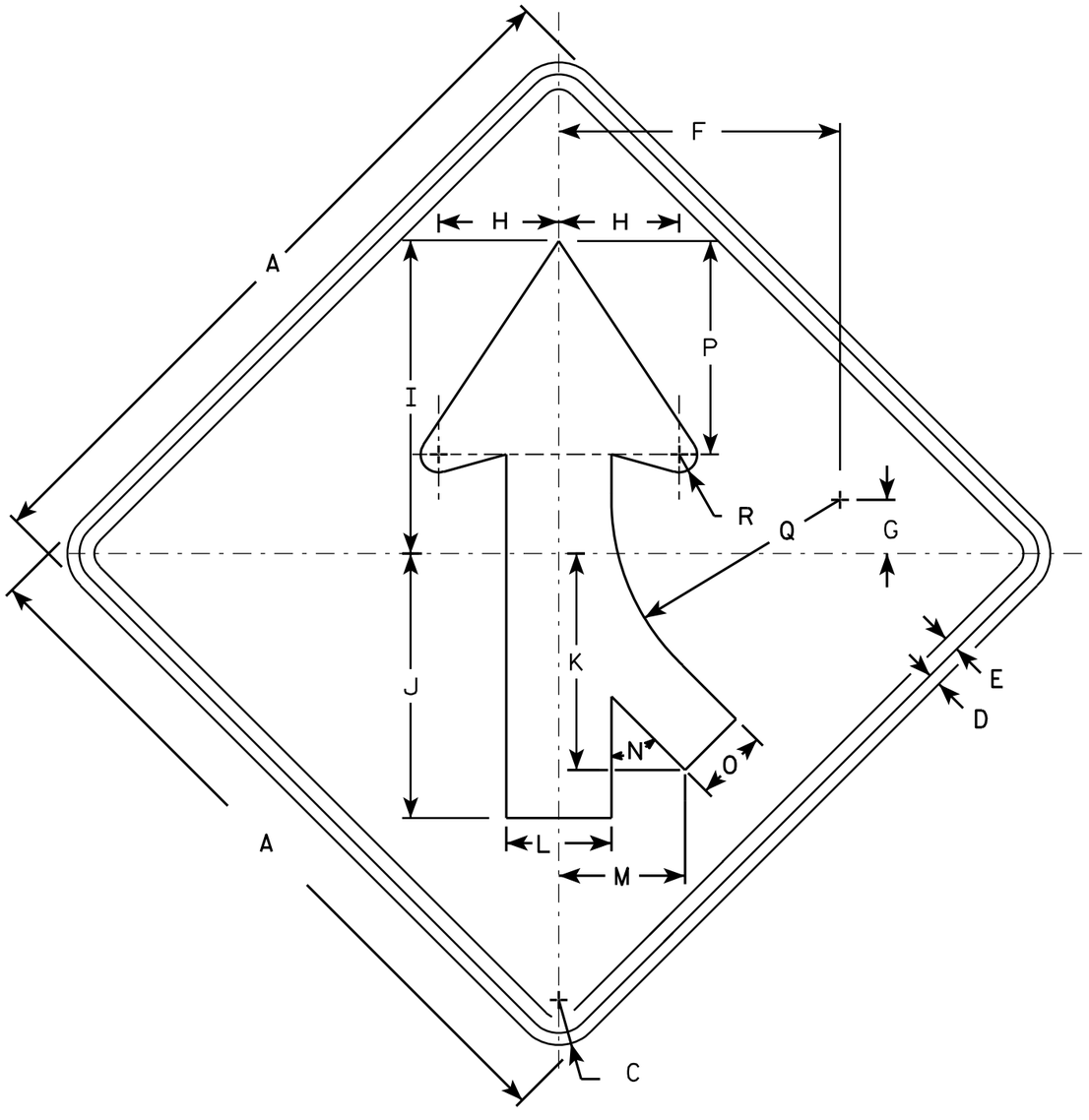
STANDARD SIGN
R8-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R8-7.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 113 | E



W4-1 R

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. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

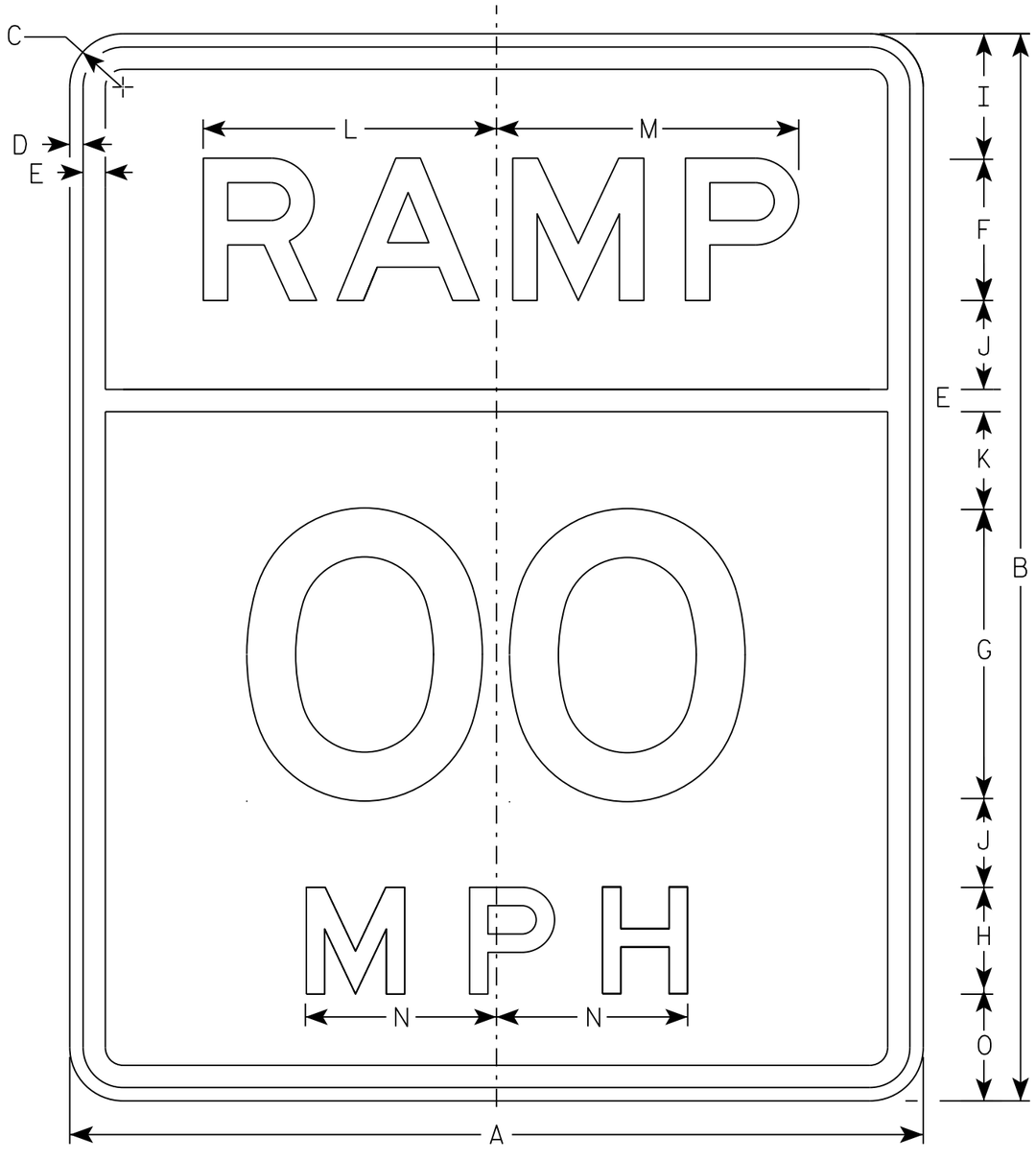
STANDARD SIGN
W4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rausch for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 114	E



W13-3

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E
4. Substitute appropriate numerals and optically space about centerline 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	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2S	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
2M	24	30	1 1/8	3/8	5/8	4	8	3	3 1/2	2 1/2	2 7/8	8 1/4	8 1/2	5 3/8	3												5.0
3	36	48	1 5/8	5/8	7/8	6	12	4	6	4 1/8	5 1/8	13 1/2	13 5/8	7 1/8	6												12.0
4	36	48	1 5/8	5/8	7/8	6	12	4	6	4 1/8	5 1/8	13 1/2	13 5/8	7 1/8	6												12.0
5	48	60	2 1/4	3/4	1 1/4	8	16	6	7	5	5 3/4	16 1/2	17	10 5/8	6												20.0

STANDARD SIGN
W13-3

WISCONSIN DEPT OF TRANSPORTATION

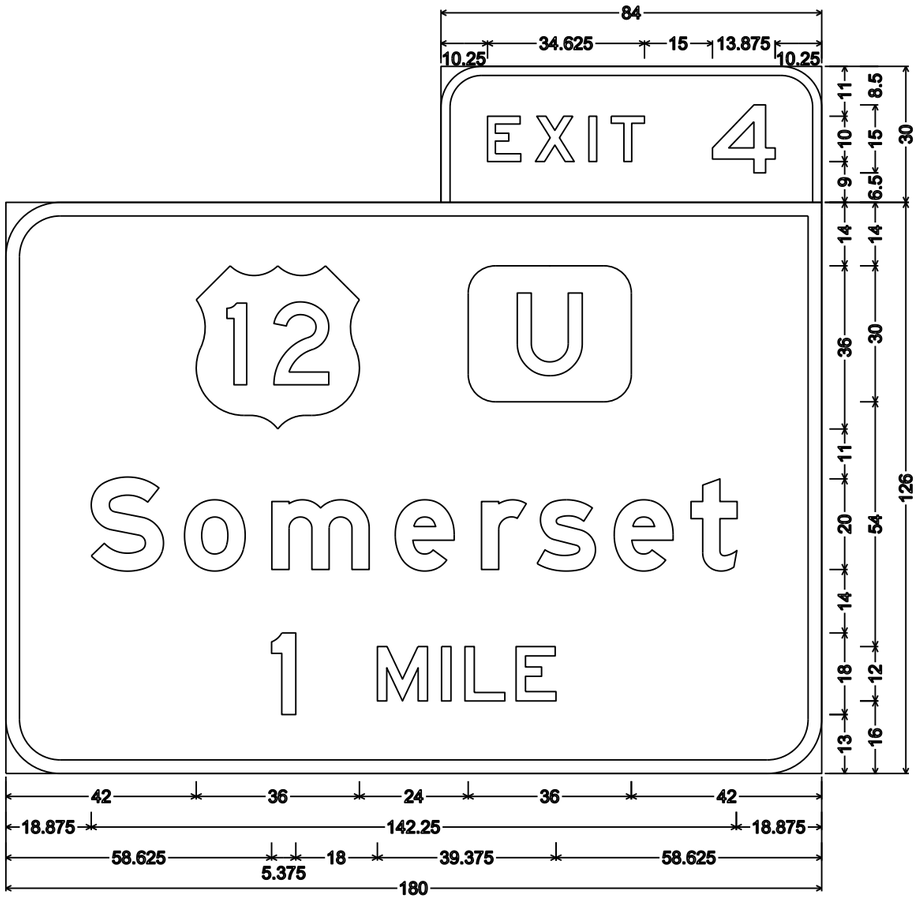
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/1/16 PLATE NO W13-3.10

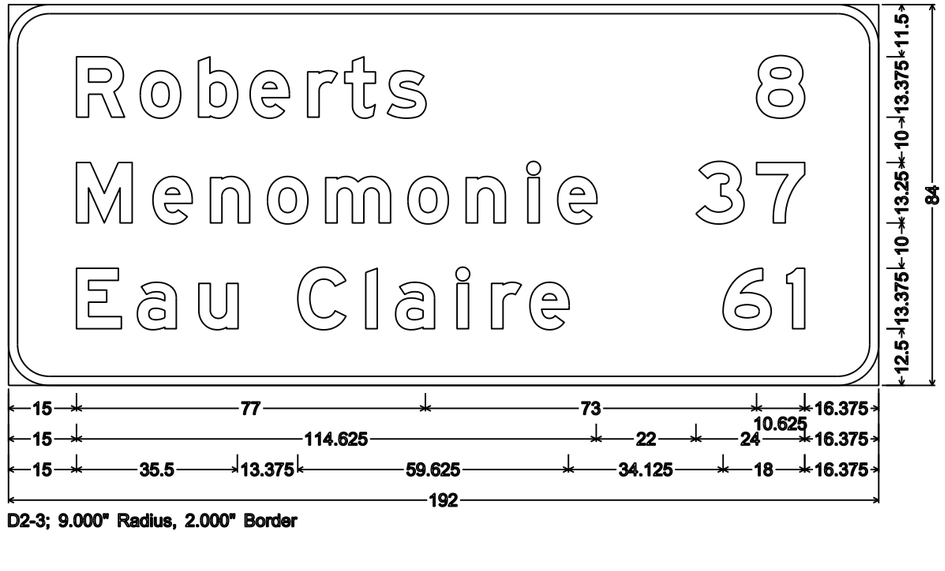
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

NOTES

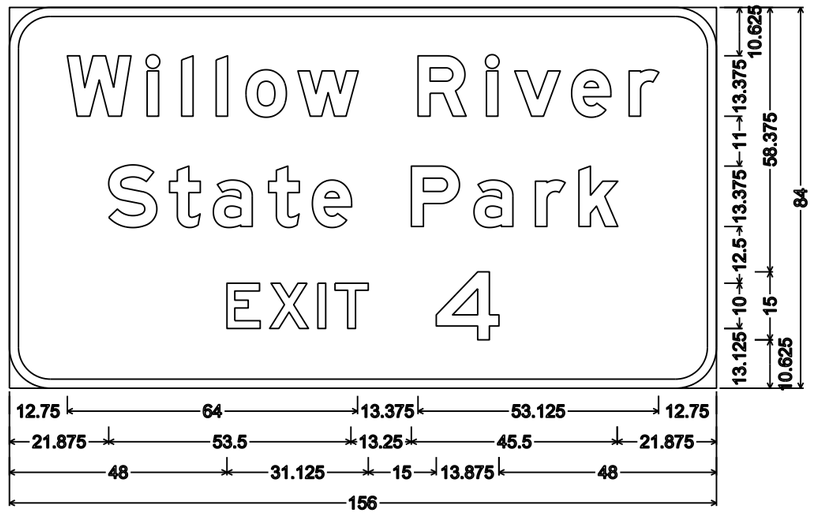
1. Sign is Type I - Type SH Reflective
2. Color:
   Background - Green except as noted
   Message - White
3. Message Series - E Modified except all Cap Words Series E.



E1-5P; 9.000" Radius, 2.000" Border,
E1-1a;12.000" Radius, 3.000" Border



D2-3; 9.000" Radius, 2.000" Border

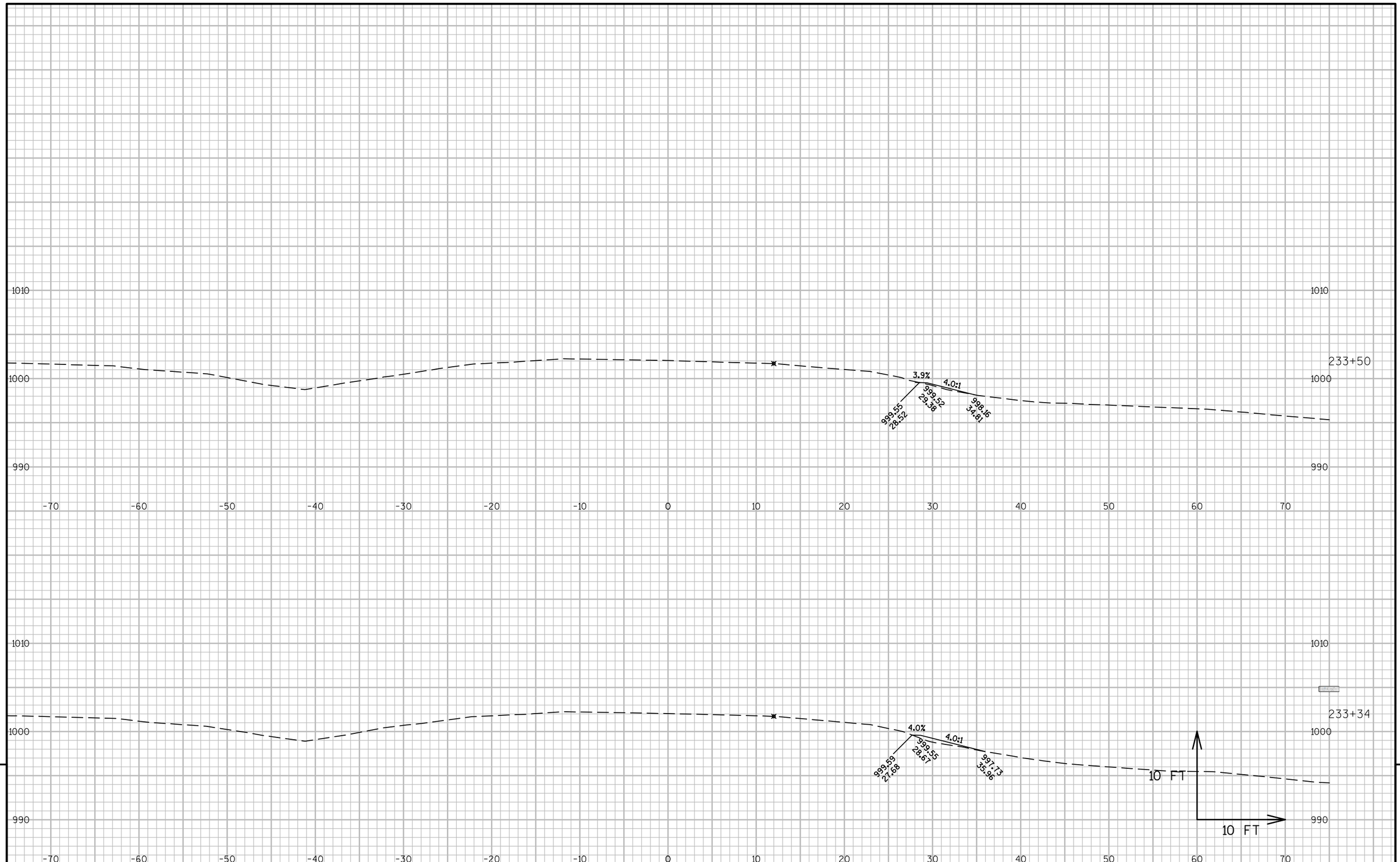


E3-1; 9.000" Radius, 2.000" Border, White on Brown

7

7

PROJECT NO: 1020-03-81	HWY: USH 53	COUNTY: ST CROIX	PERMANENT SIGNING	SHEET NO: 116	E



9

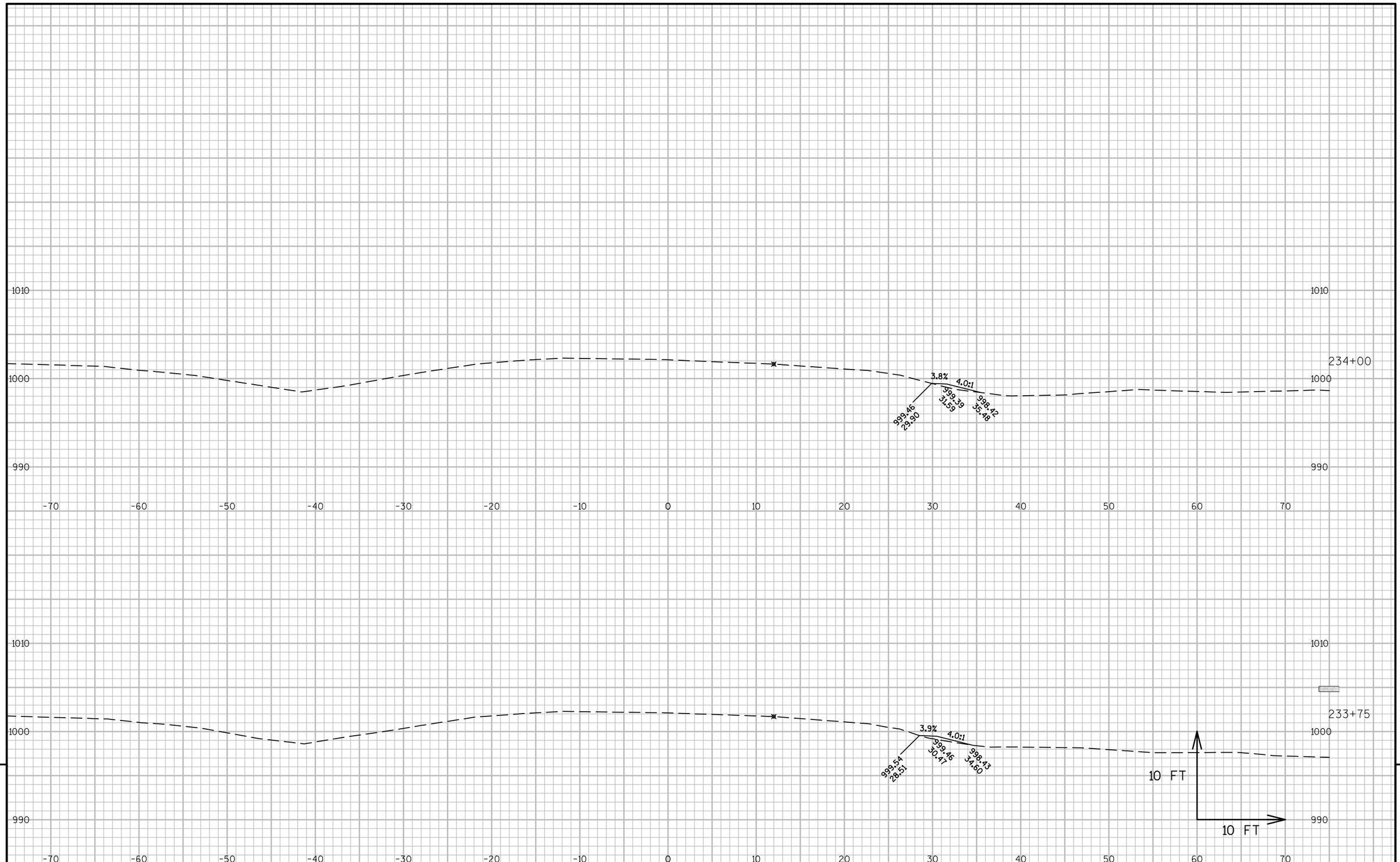
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 117	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090128

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

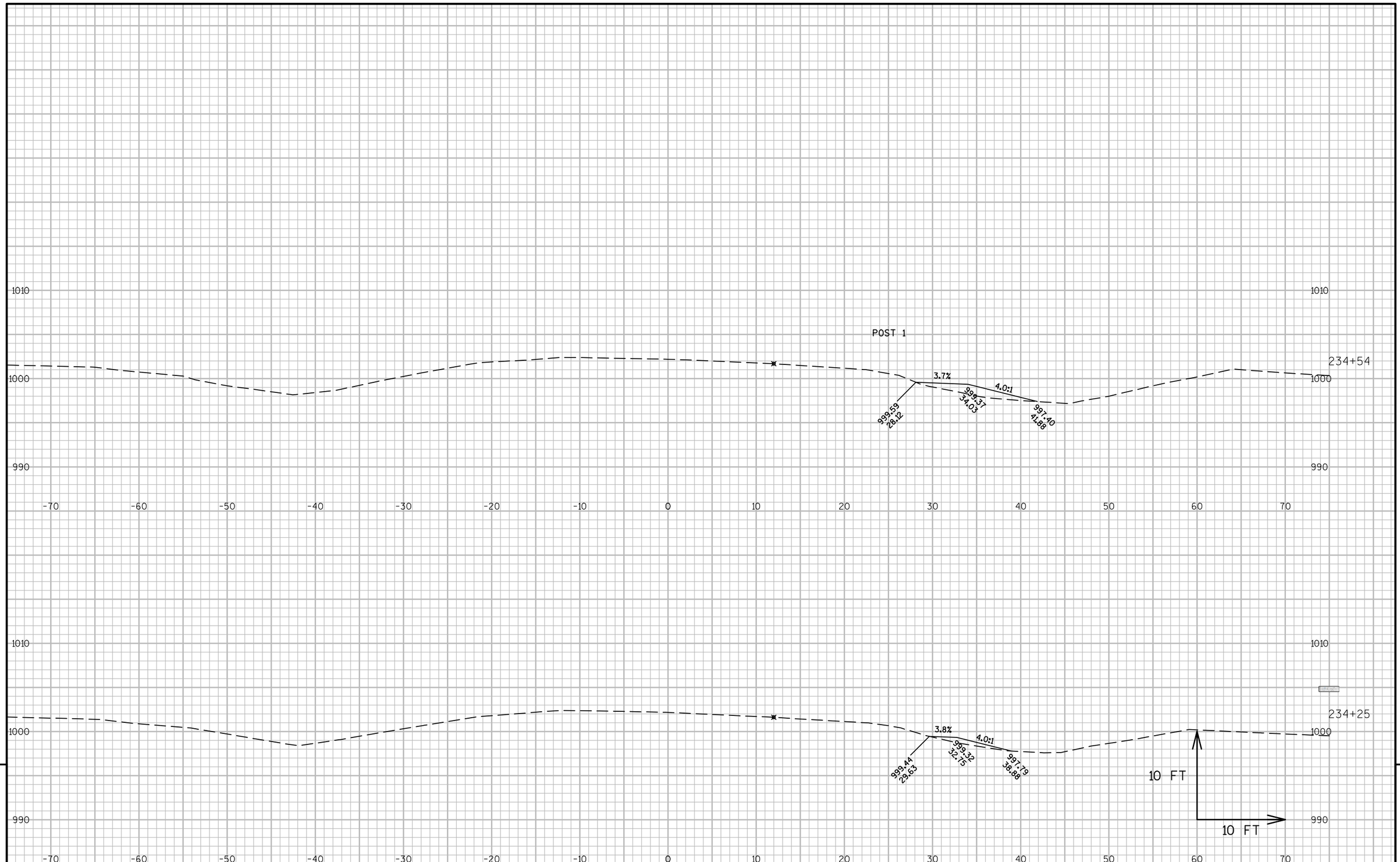
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 118	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090129

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

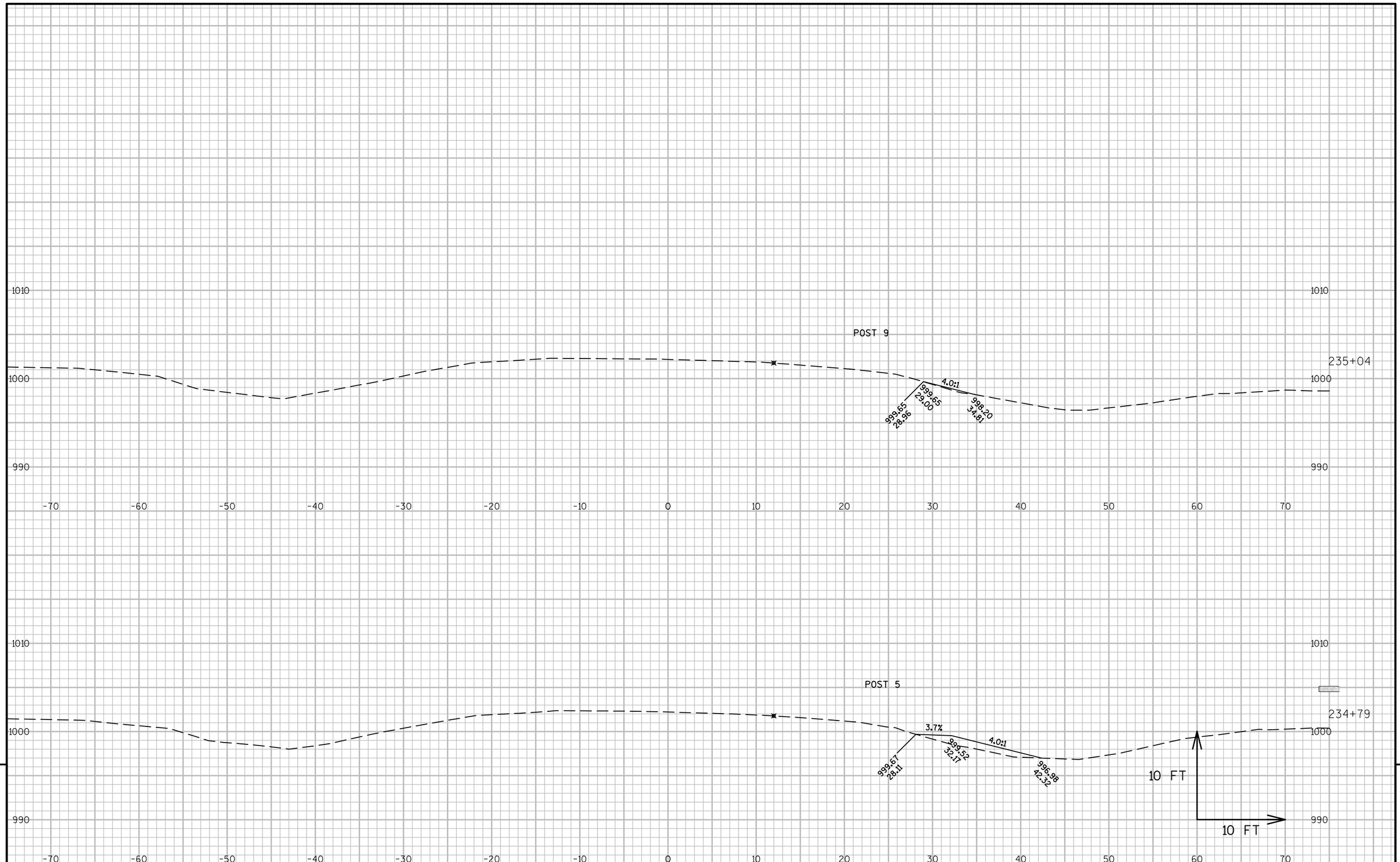
PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 119	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090130

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

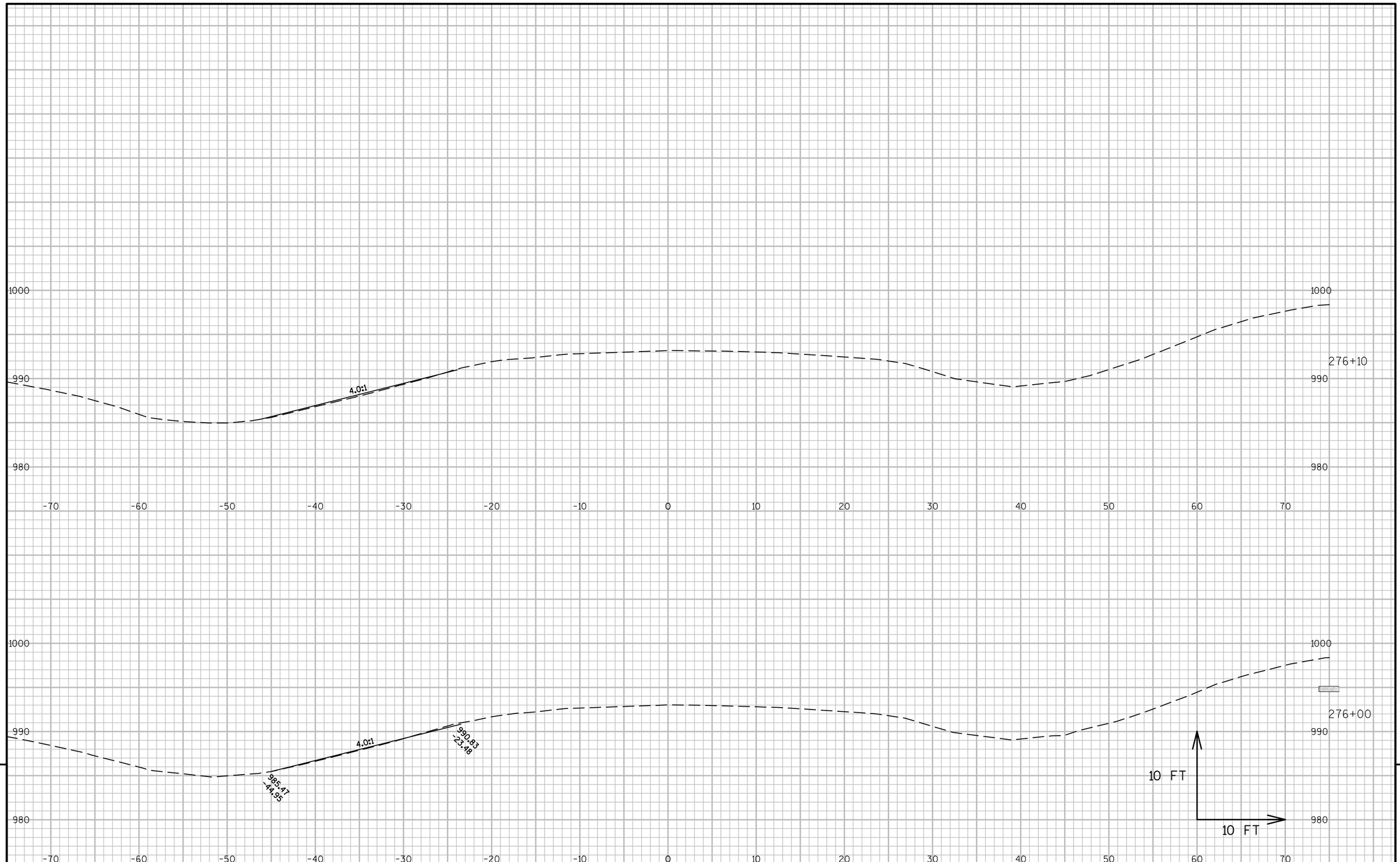
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 120	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090131

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME :

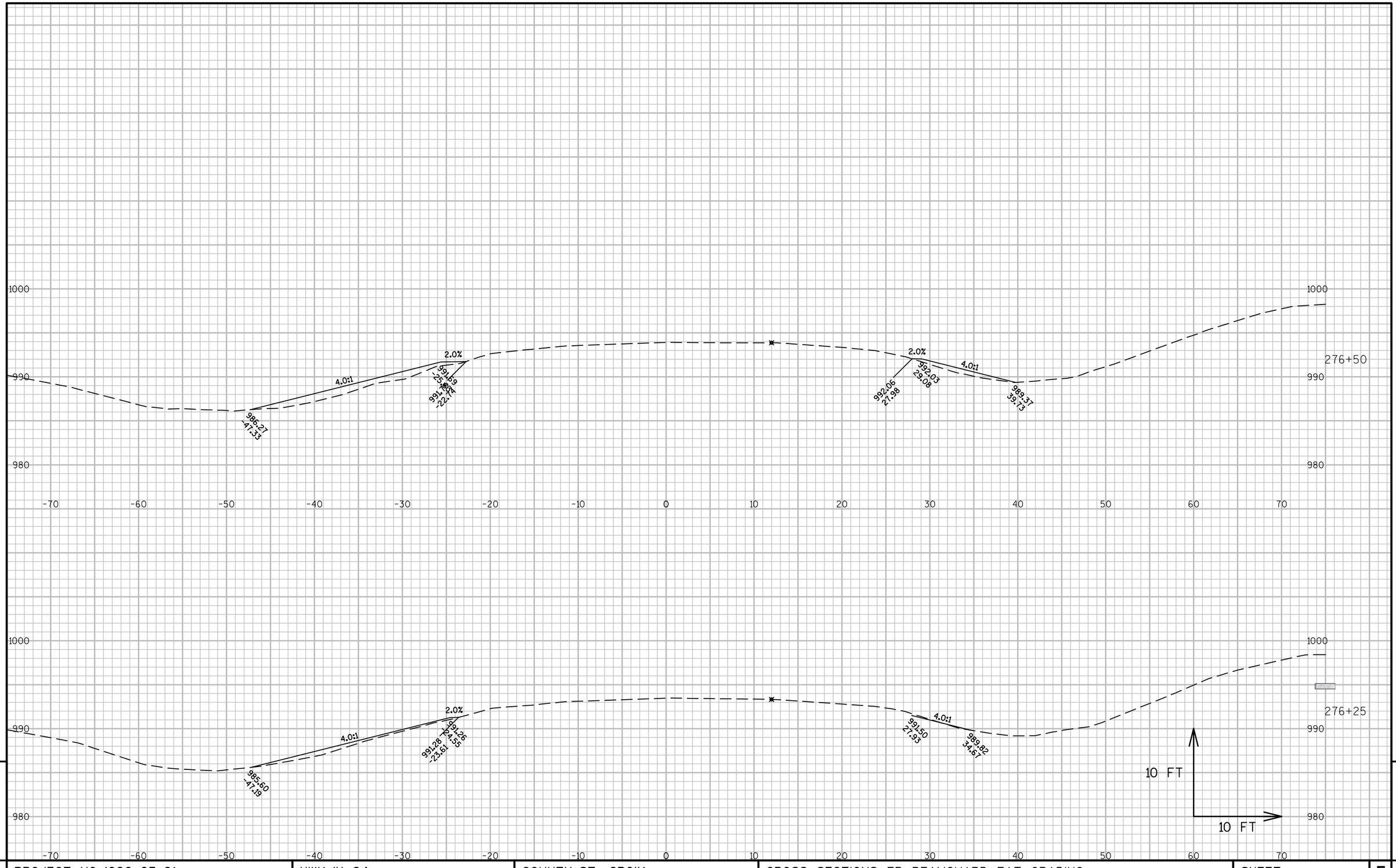
PLOT SCALE : 1 IN:10 FT



PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 121	E

9

9



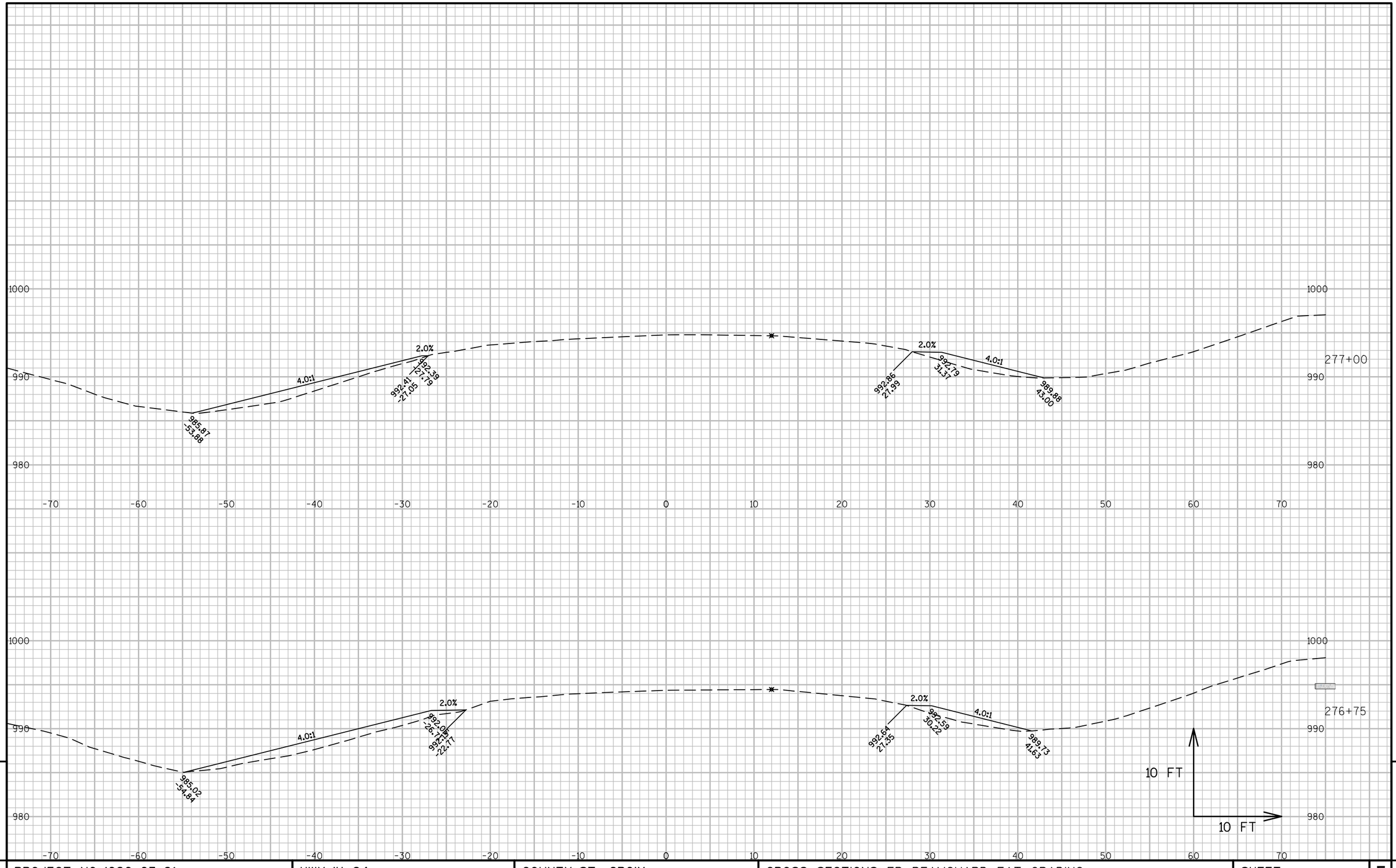
9

9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090133

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

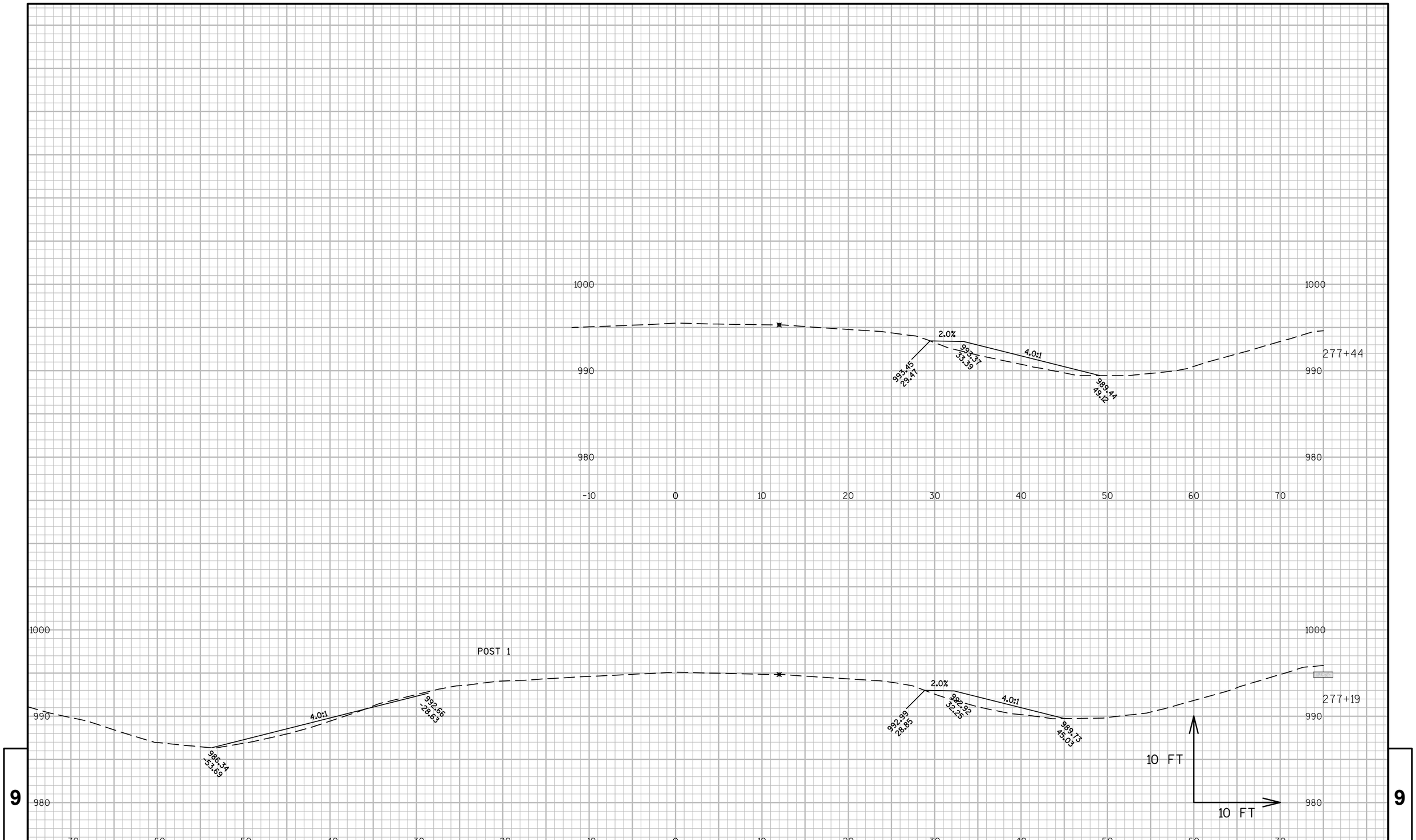


9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 123	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090134

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT



9

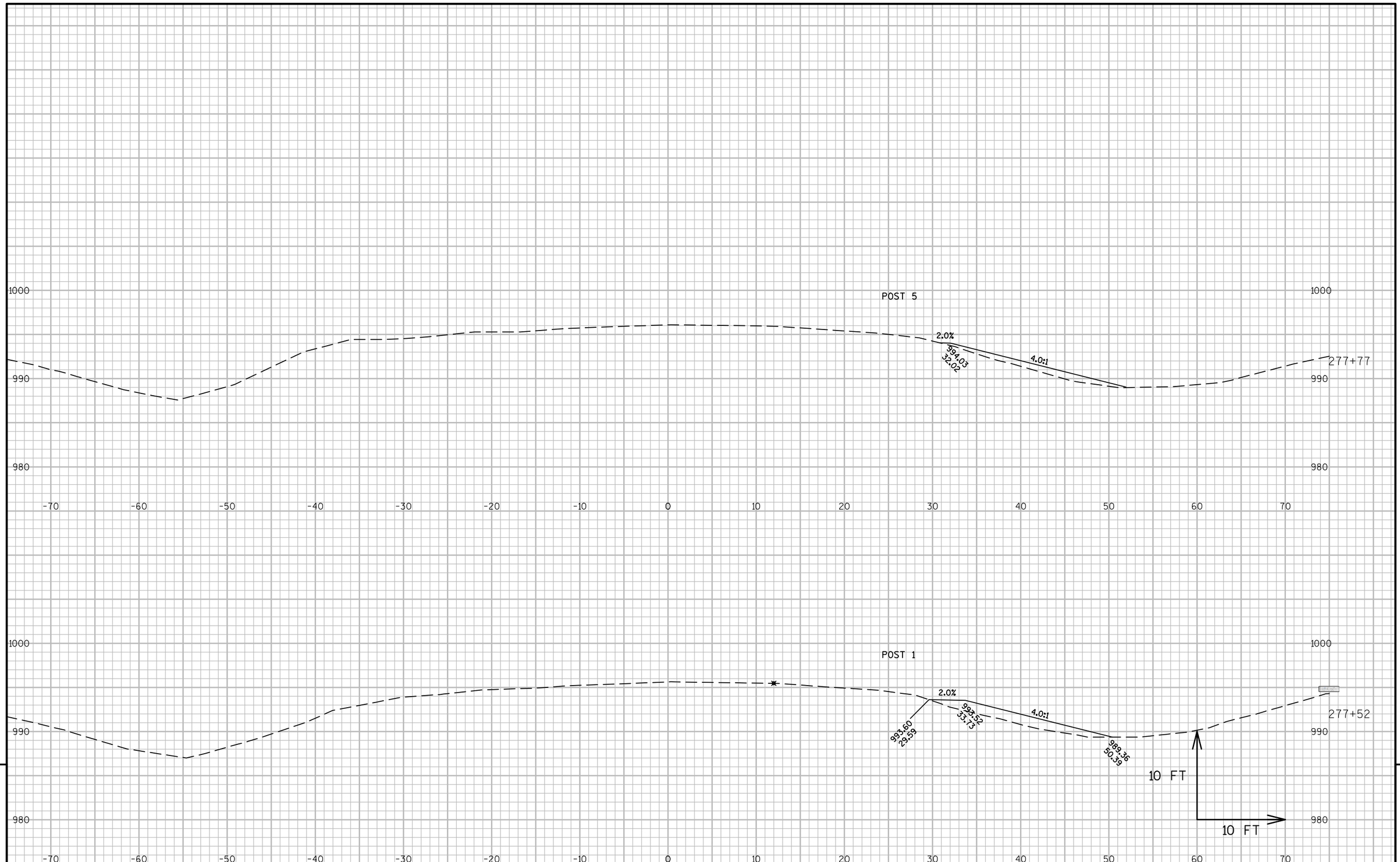
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 124	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090135

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

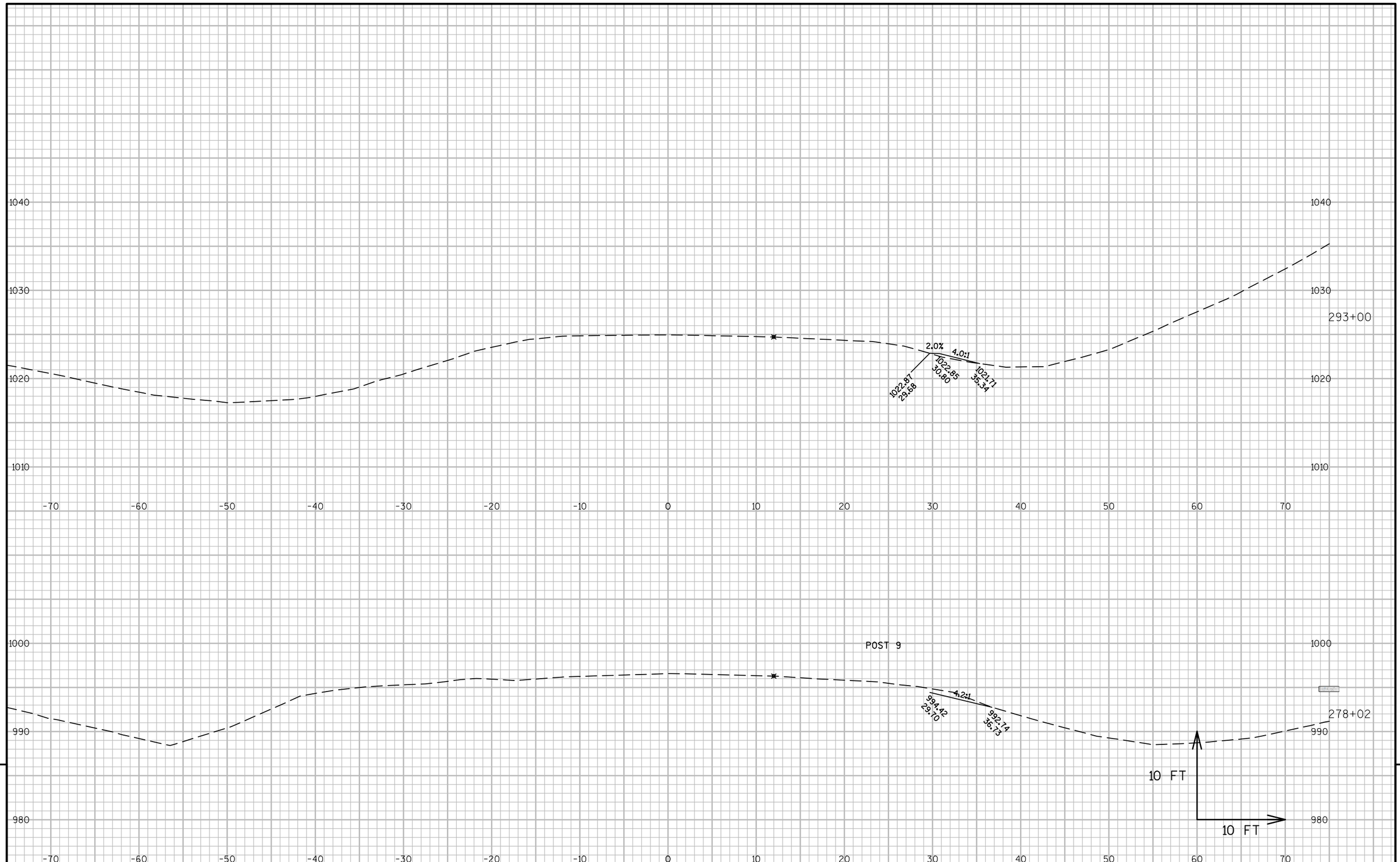
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 125	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090136

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



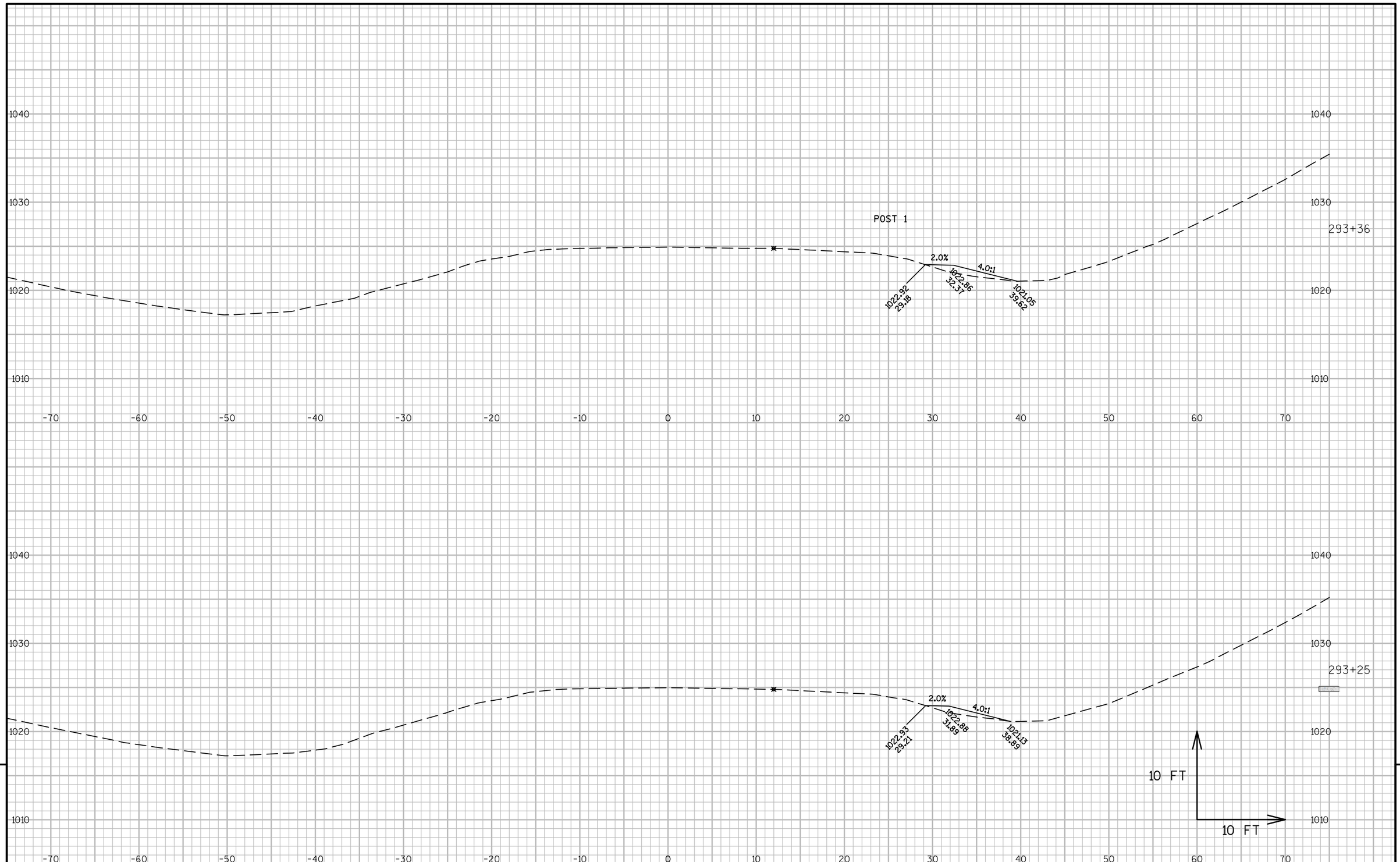
9

9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 126	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090137

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT



9

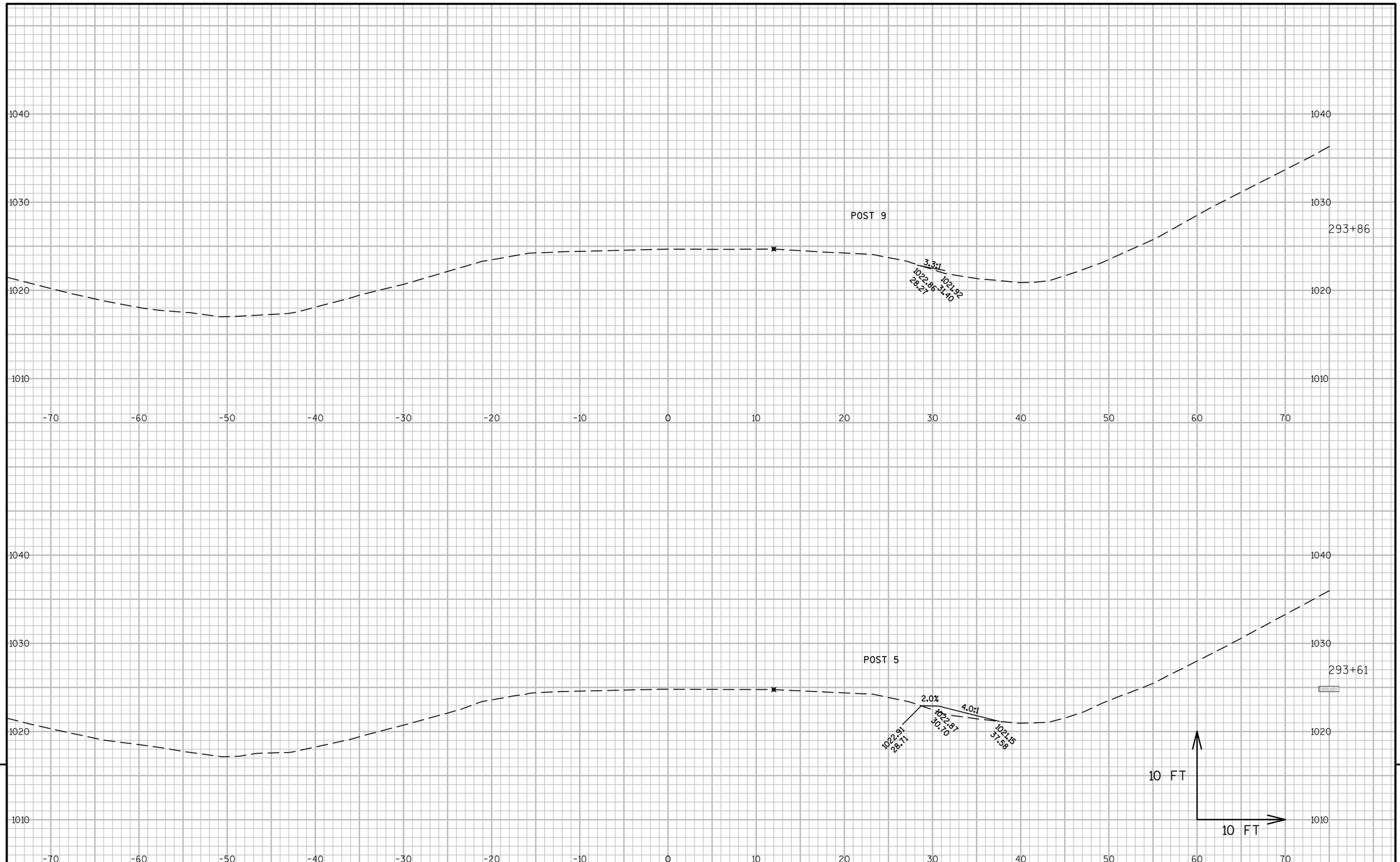
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 127	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090138

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



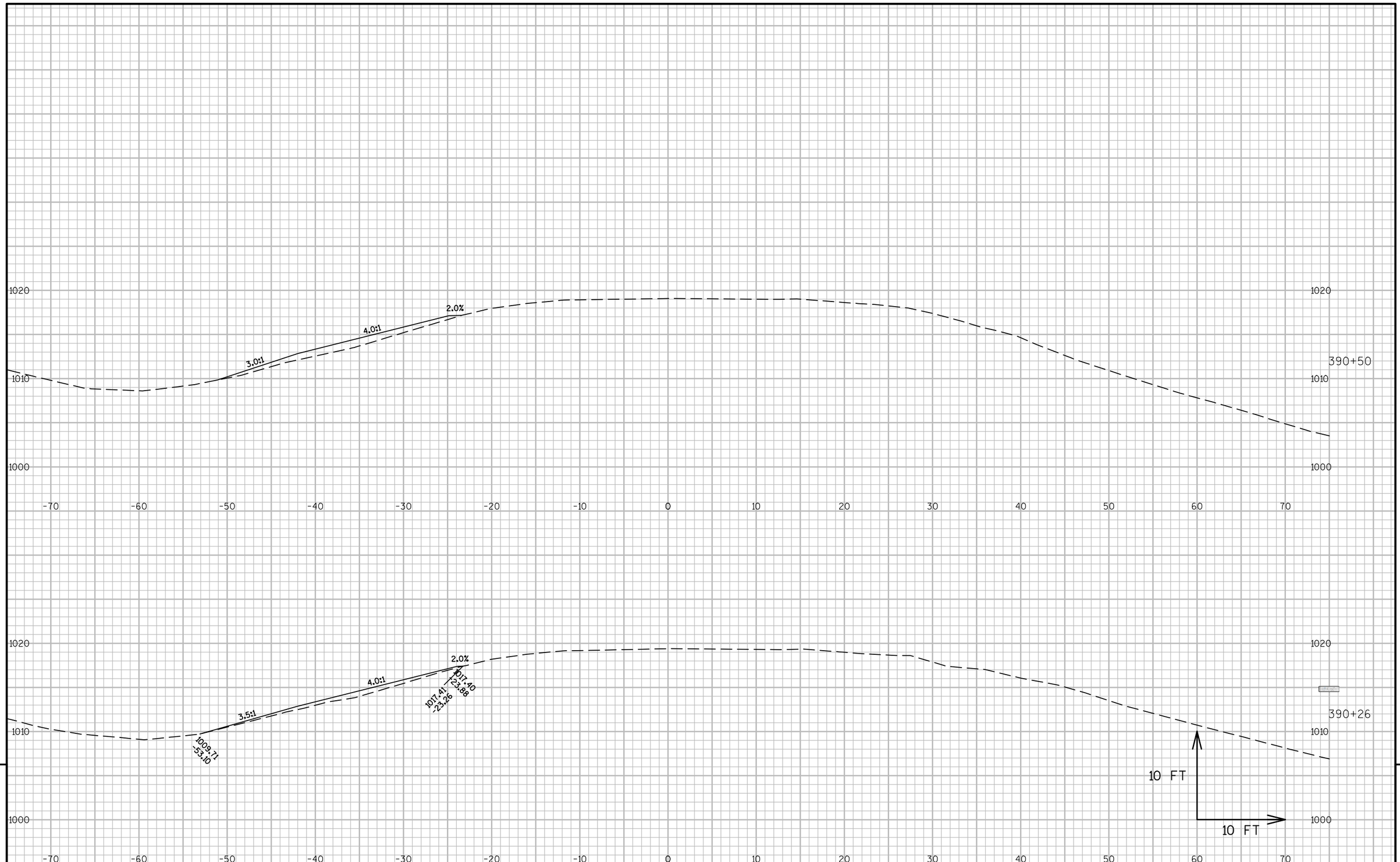
9

9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 128	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090139

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT



9

9

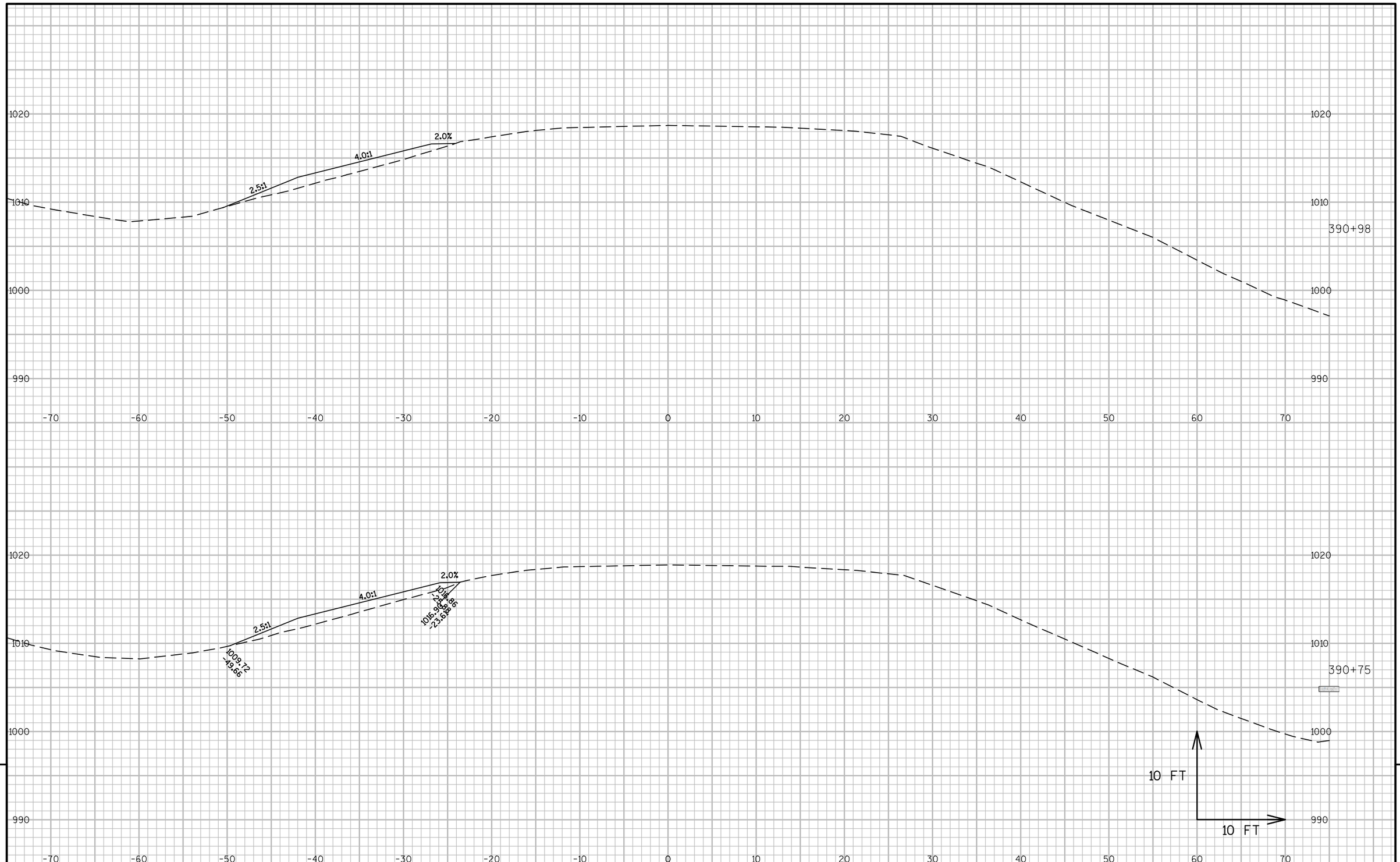
PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 129	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090140

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

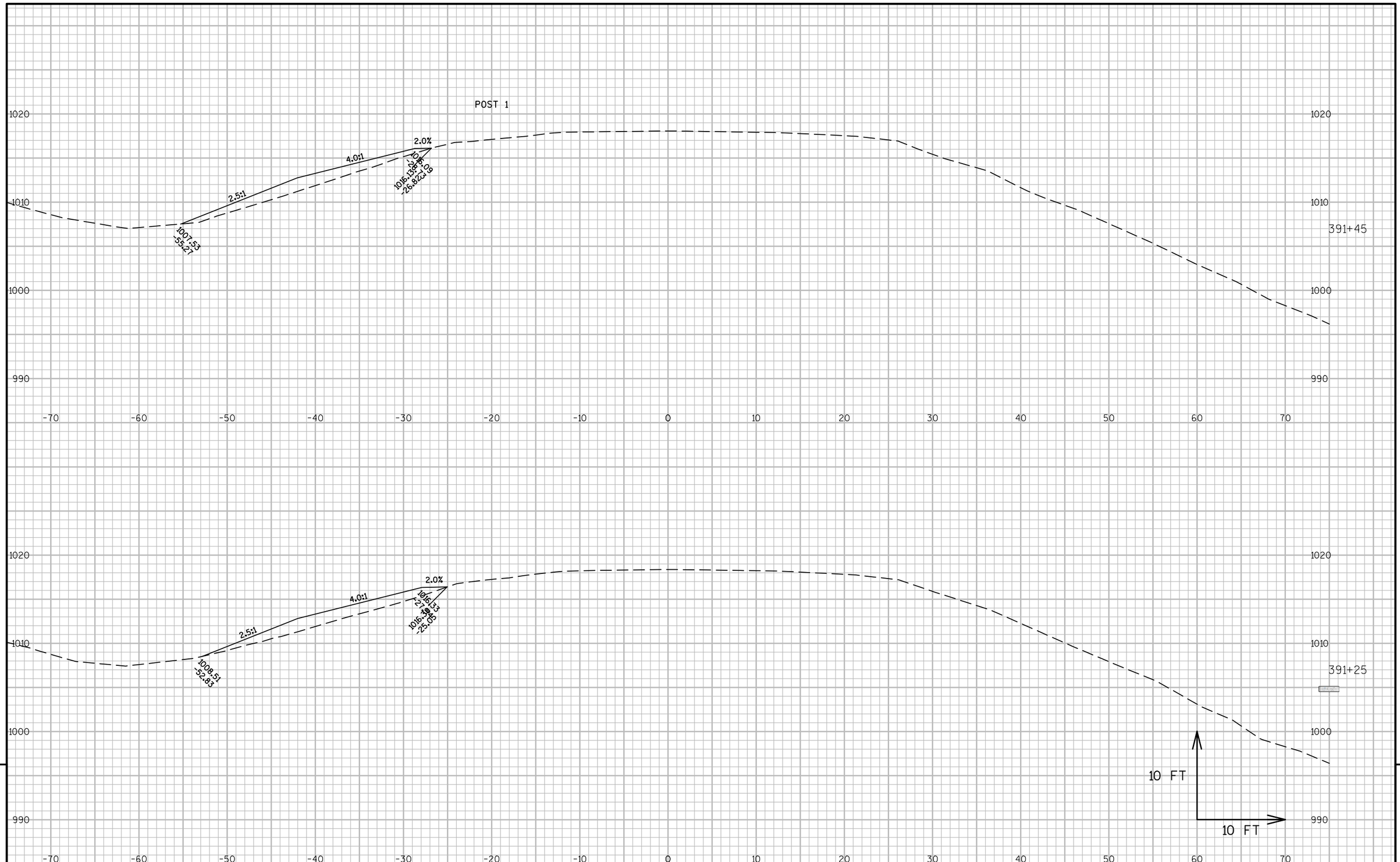
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 130	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090141

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME :

PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: EB BEAMGUARD EAT GRADING	SHEET 131	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090101_XS_EB.DWG
LAYOUT NAME - 090142

PLOT DATE : 6/23/2017 10:48 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME :

PLOT SCALE : 1 IN:10 FT

POST 5

990
980
970

983.49
-29.39
4.9%
4.0:1
983.40
-31.91
980.28
-44.41

258+99

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

POST 9

990
980
970

983.68
-27.44
3.4%
3.9:1
983.63
-28.89
979.65
-44.39

258+74

10 FT
10 FT

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

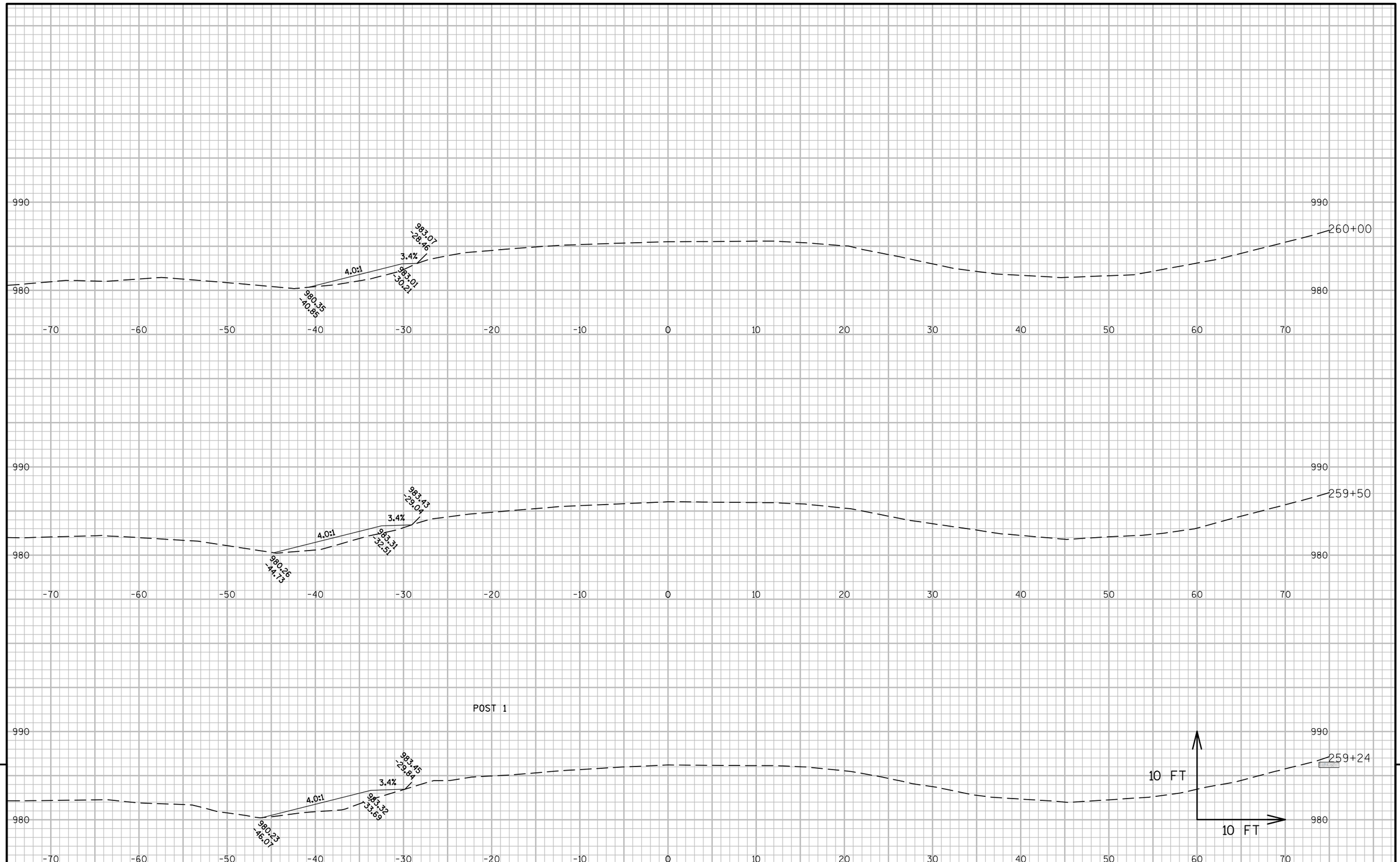
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET 132	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090201_XS_WB.DWG
LAYOUT NAME - SECTION SHEET - (27)

PLOT DATE : 1/9/2017 7:45 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

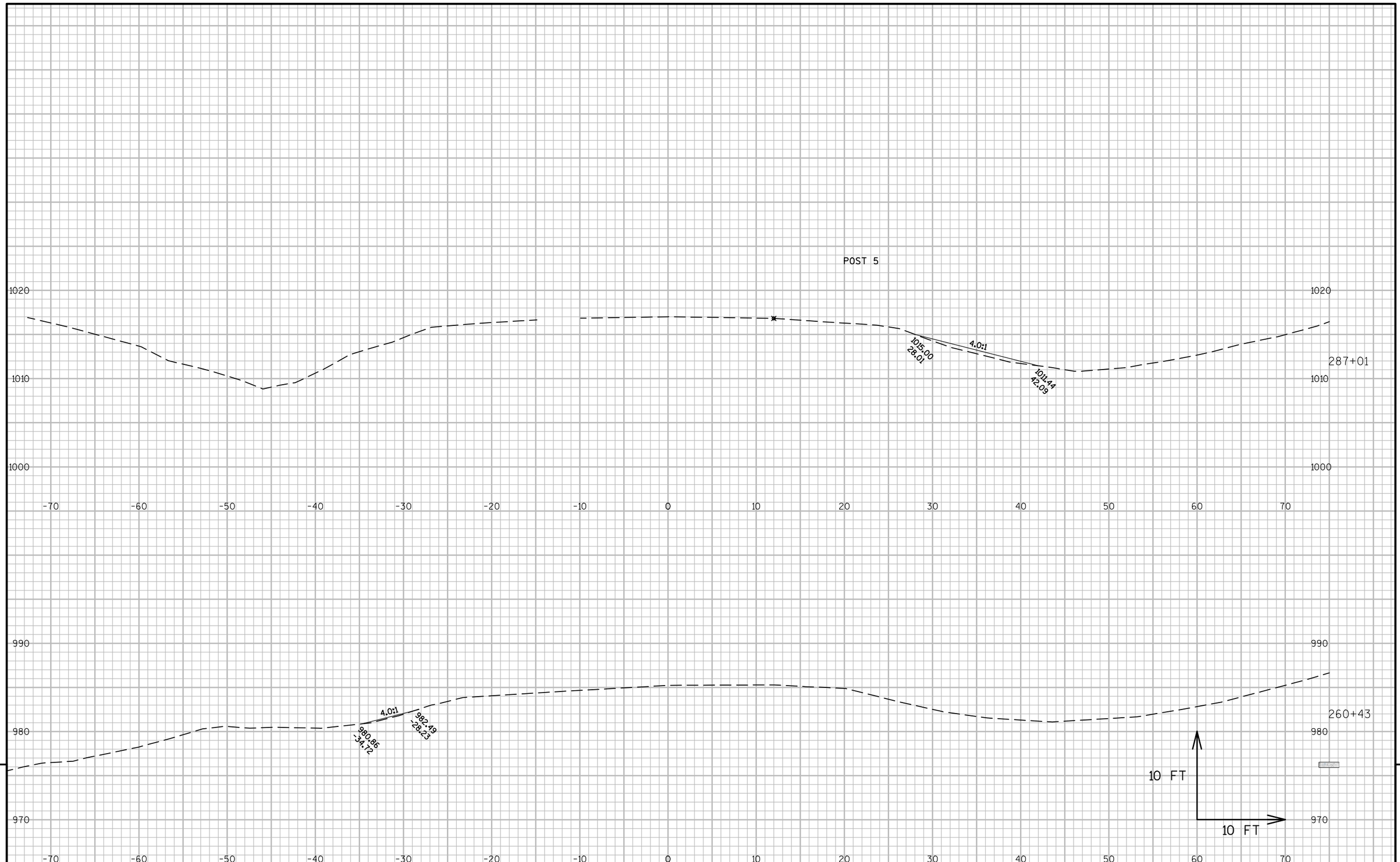
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET 133	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090201_XS_WB.DWG
LAYOUT NAME - SECTION SHEET - (28)

PLOT DATE : 1/9/2017 7:45 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

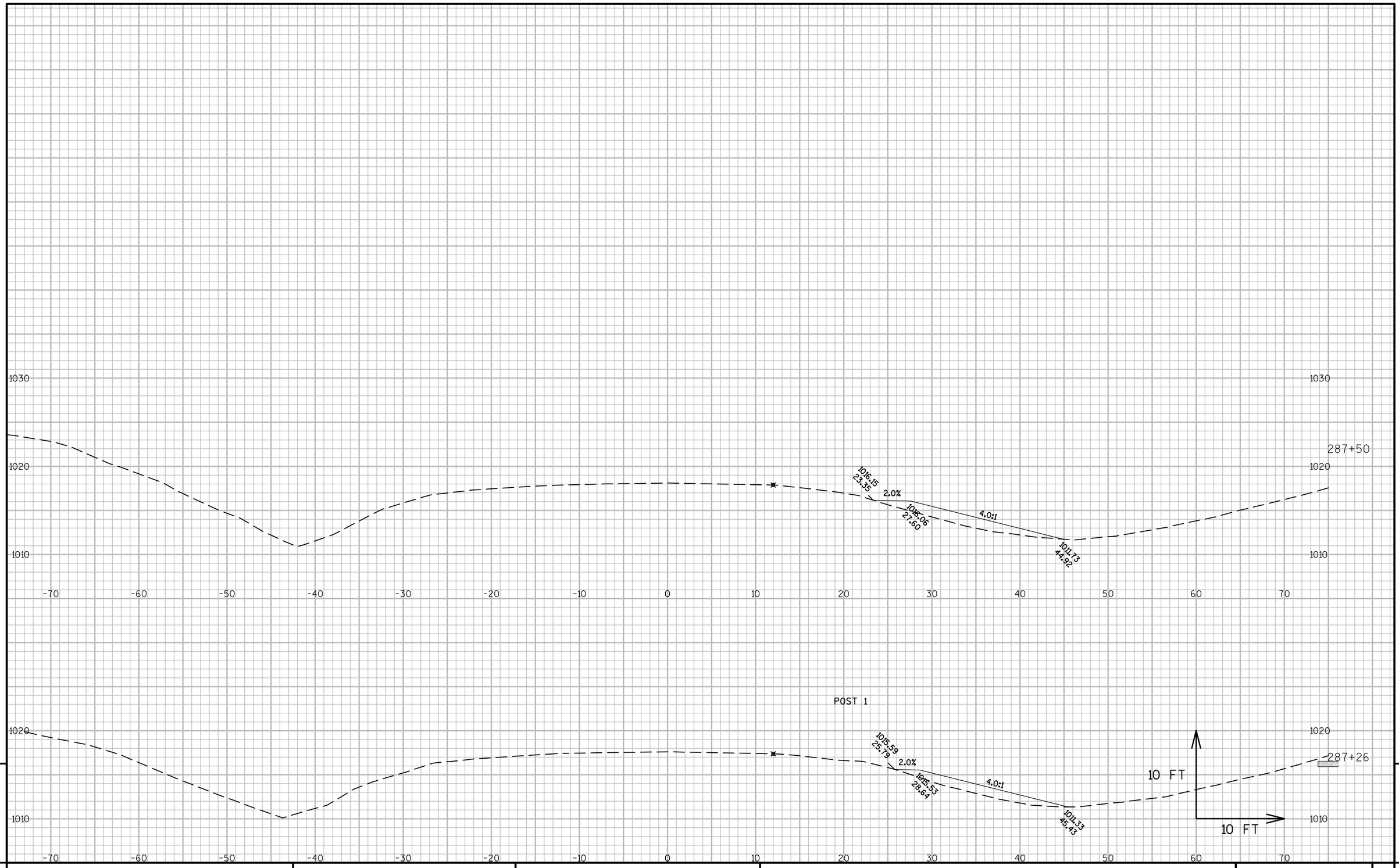
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET 134	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090201_XS_WB.DWG
LAYOUT NAME - SECTION SHEET - (29)

PLOT DATE : 1/9/2017 7:45 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

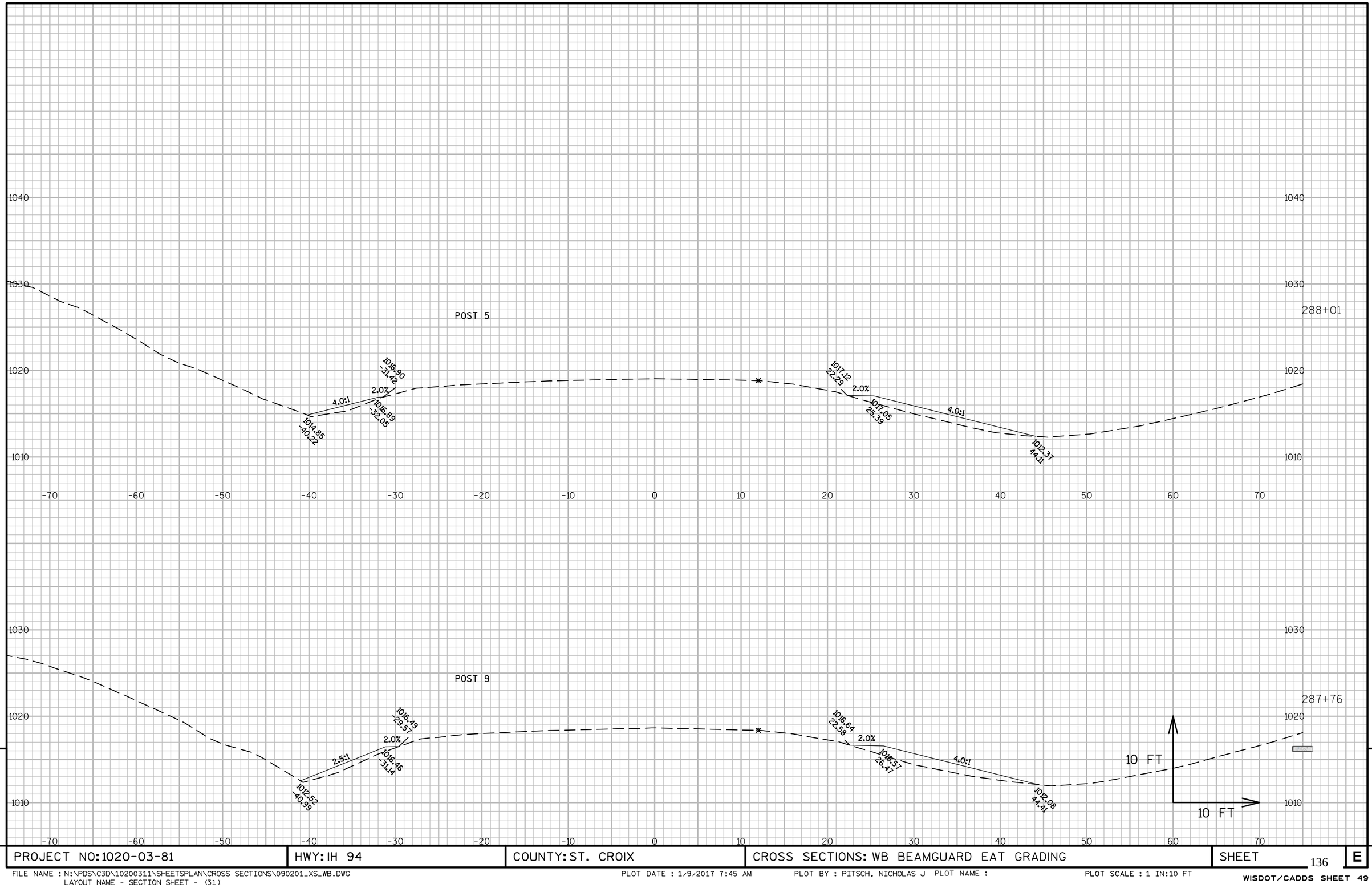
PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET 135	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090201_XS_WB.DWG
LAYOUT NAME - SECTION SHEET - (30)

PLOT DATE : 1/9/2017 7:45 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

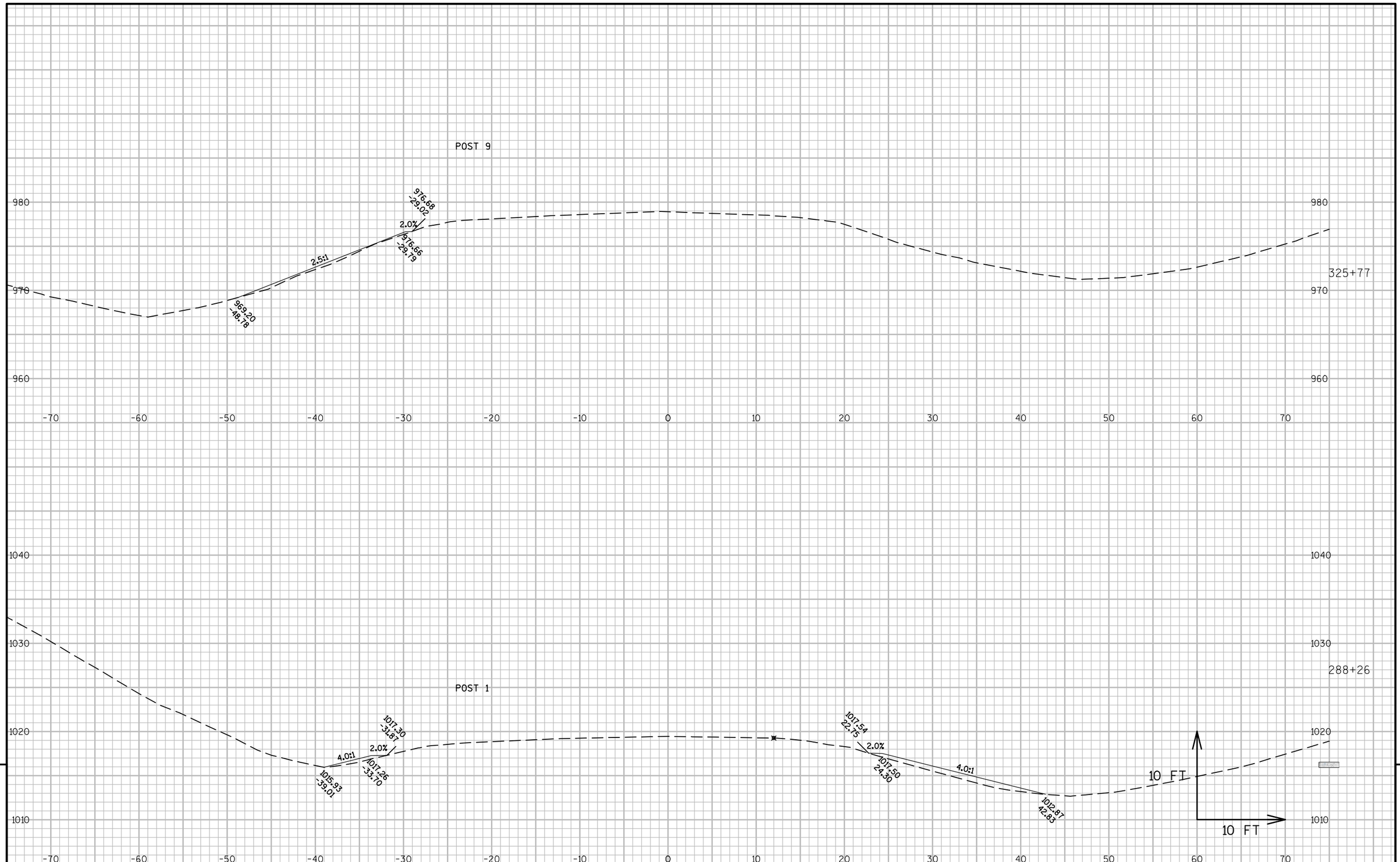
PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090201_XS_WB.DWG
LAYOUT NAME - SECTION SHEET - (31)

PLOT DATE : 1/9/2017 7:45 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET 137	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090201_XS_WB.DWG
LAYOUT NAME - SECTION SHEET - (32)

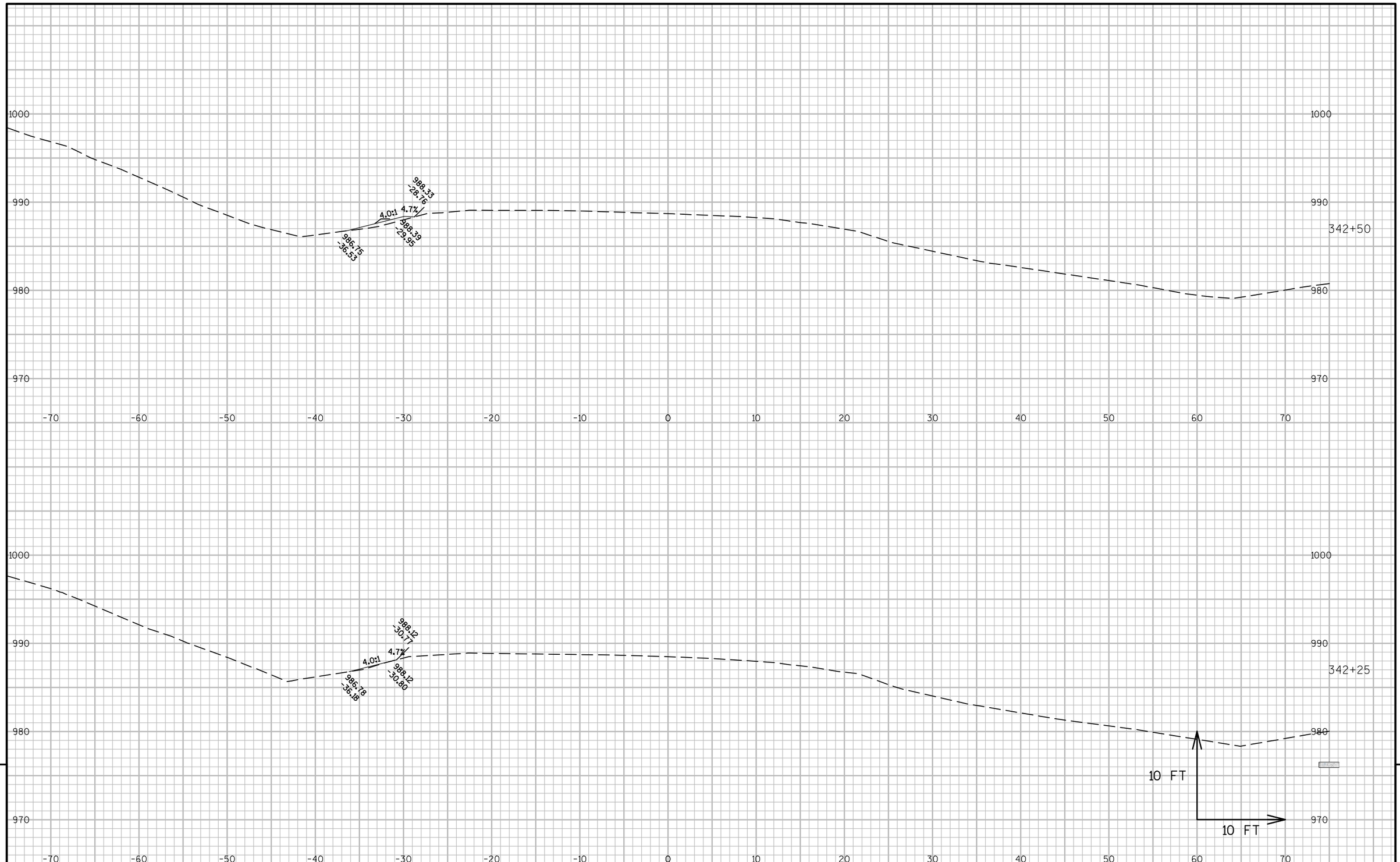
PLOT DATE : 1/9/2017 7:45 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

980
970
960
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70
326+50
971.97
-48.85
4.0:1
976.34
-31.35
POST 1
326+27
971.07
-53.76
4.0:1
976.42
-32.31
2.0%
976.44
-31.55
POST 5
326+02
969.30
-55.53
3.0:1
973.74
-42.00
4.0:1
976.55
-30.70
2.0%
976.56
-30.05
10 FT
10 FT
9
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET 138	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090201_XS_WB.DWG
LAYOUT NAME - SECTION SHEET - (33)
PLOT DATE : 1/9/2017 7:45 AM
PLOT BY : PITSCH, NICHOLAS J PLOT NAME :
PLOT SCALE : 1 IN:10 FT



9

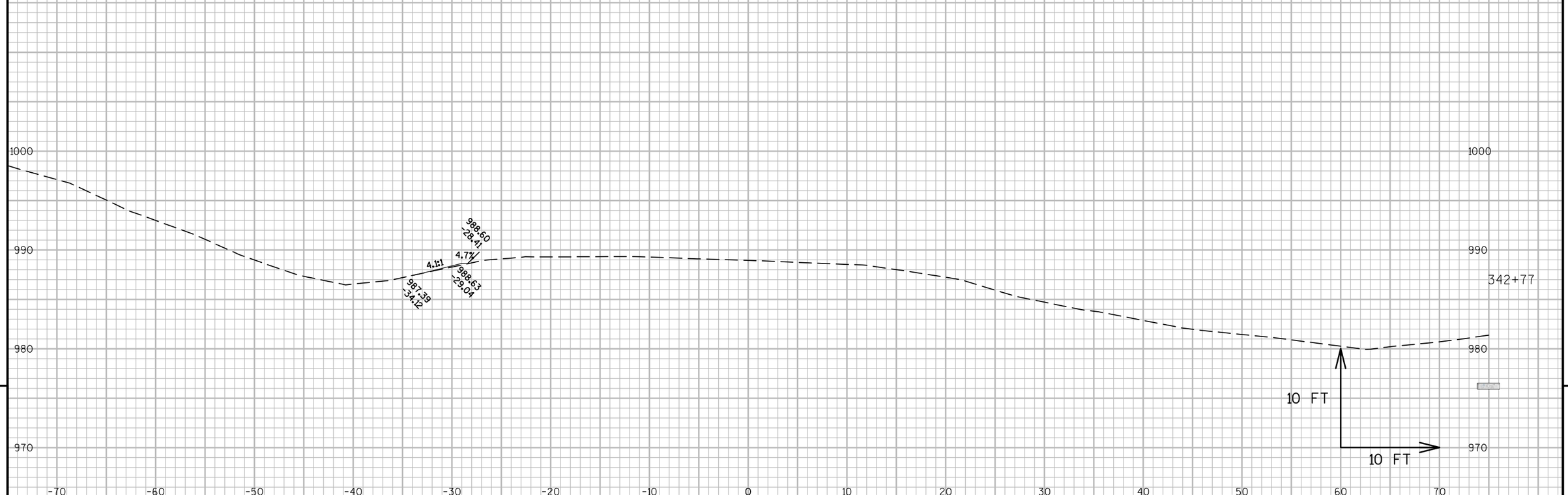
9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET 139	E

FILE NAME : N:\PDS\C3D\10200311\SHEETSPLAN\CROSS SECTIONS\090201_XS_WB.DWG
LAYOUT NAME - SECTION SHEET - (34)

PLOT DATE : 1/9/2017 7:45 AM PLOT BY : PITSCH, NICHOLAS J PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1020-03-81	HWY: IH 94	COUNTY: ST. CROIX	CROSS SECTIONS: WB BEAMGUARD EAT GRADING	SHEET 140	E

Notes

Wisconsin Department of Transportation

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