MAD JANUARY 2015

PROJECT ID: 1011-03-78
WITH: PROJECTID2

COUNTY: COLUMBIA

ORDER OF SHEETS

TOTAL SHEETS = 56

DESIGN DESIGNATION

A.A.D.T. (2014)	=	55,000
A.A.D.T. (2034)	=	71,300
D.H.V.	=	8,400
D.D.	=	58/42
T.	=	12.6%
DESIGN SPEED	=	70
ESALS	=	32,200,300

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			
SLOPE INTERCEPT		CULVERT (Profile View)	
REFERENCE LINE		UTILITIES	
EXISTING CULVERT		ELECTRIC	E
PROPOSED CULVERT (Box or Pipe)		FIBER OPTIC	FO
COMBUSTIBLE FLUIDS	CAUTION	GAS	G
		SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON-PORTAGE ROAD

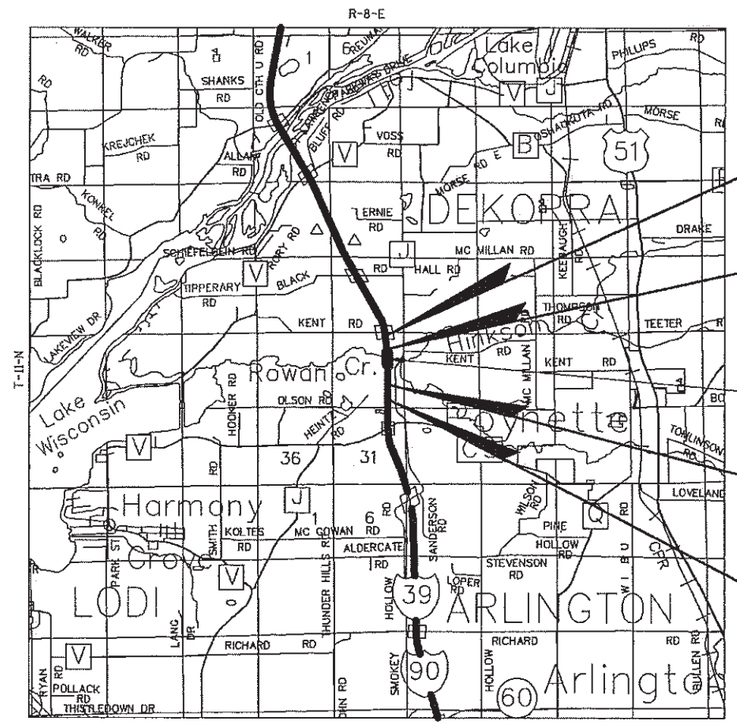
(ROWAN CREEK BRIDGES)

IH 39/90/94

COLUMBIA COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1011-03-78	WISC 2015001	1

STATE PROJECT NUMBER
1011-03-78



END PROJECT 1011-03-78
STA 1339+30'EB'

END CONSTRUCTION 1011-03-78
STA 1316+60'WB'

STRUCTURE B-11-40 STA 1309+73.30'EB'
STRUCTURE B-11-41 STA 1310+07.49'WB'

BEGIN PROJECT 1011-03-78
STA 1303+20'EB'
(Y= 344,440.776)
(X= 535,652.676)

BEGIN CONSTRUCTION 1011-03-78
STA 1280+50'WB'

LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.684 MI.

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

ORIGINAL PLANS PREPARED BY
Mead & Hunt
Mead & Hunt, Inc.
6501 Watts Road
Madison, WI 53719
608.273.6380
fax: 608.273.6391
www.meadhunt.com

WISCONSIN
GARY A. RUCHTI
E-30936
MADISON, WI
PROFESSIONAL ENGINEER
9-20-13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	Mead & Hunt, Inc.
Designer	Mead & Hunt, Inc.
Project Manager	Kristen Sommers
Regional Examiner	
Regional Supervisor	William Strobel
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 10/04/2013 Keith A. Johnson (Signature)

E

GENERAL NOTES

WHEN THE QUANTITY OF BASE AGGREGATE OR POLYMER MODIFIED ASPHALT OVERLAY IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND EROSION MATTED. PAYMENT INCLUDED IN THE BID ITEM "BARRIER SYSTEM GRADING SHAPING FINISHING"

BEARINGS SHOWN ON THE PLAN ARE REFERENCED TO THE EXISTING ROADWAY CENTERLINE AND ARE ASSUMED.

CONSTRUCT THE 2-INCH POLYMER MODIFIED ASPHALT OVERLAY IN ONE LAYER.

AN ENVIRONMENTALLY SENSITIVE AREA EXISTS IN THE PROJECT AREA, WHICH IS LOCATED ON THE NORTH SIDE OF BOTH BRIDGES AS SHOWN IN THE EROSION CONTROL DETAIL SHEET. WITHIN THE LIMITS SHOWN, ANY AREA NOT CURRENTLY CAPPED BY ASPHALT/CONCRETE SHOULD NOT BE USED FOR THE STAGING OF PERSONNEL, EQUIPMENT AND/OR SUPPLIES.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NAVD 1988.

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

MILLING 2-INCHES OF THE EXISTING ASPHALT AT THE BRIDGE APPROACHES TO ACCOMMODATE THE NEW 2-INCH POLYMER MODIFIED ASPHALT OVERLAY IS PAID FOR UNDER THE ITEM OF "REMOVING PAVEMENT BUTT JOINTS".

STANDARD ABBREVIATIONS

ASPH	ASPHALTIC
AVG	AVERAGE
AADT	ANNUAL AVERAGE DAILY TRAFFIC
BM	BENCH MARK
CL or C/L	CENTER LINE
CONC	CONCRETE
CY or CUYD	CUBIC YARD
DHV	DESIGN HOUR VOLUME
EB	EASTBOUND
EL or ELEV	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
FT	FOOT
FERT	FERTILIZE
LT	LEFT
LIN FT or LF	LINEAR FOOT
LS	LUMP SUM
NB	NORTHBOUND
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
R	RADIUS
RL or R/L	REFERENCE LINE
REQD	REQUIRED
RT	RIGHT
RHF	RIGHT-HAND FORWARD
R/W	RIGHT-OF-WAY
SHLDR	SHOULDER
SB	SOUTHBOUND
SF or SQ FT	SQUARE FEET
SY or SQ YD	SQUARE YARD
STA	STATION
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T	TRUCKS (PERCENT OF) OR TELEPHONE
TYP	TYPICAL
UG	UNDERGROUND
VAR	VARIABLE
V	VELOCITY OR DESIGN SPEED
VERT	VERTICAL
VPC	VERTICAL POINT OF CURVE
VPI	VERTICAL POINT OF INTERSECTION
WB	WESTBOUND
YD	YARD

DIGGERS HOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

UTILITY CONTACTS

DEKORRA SANITARY DISTRICT #1
MR. JERRY FOELLMI
GENERAL ENGINEERING COMPANY
916 SILVER LAKE DRIVE
P.O. BOX 340
PORTAGE, WI 53901
(608)742-2169
JFOELLMI@GENERALENGINEERING.NET

AT&T LEGACY
MR. CARL DONAHUE OR
WILLIAM KOENIG
JMC ENGINEERS &
ASSOCIATES
866 ROCK CREEK ROAD
PLANO, IL 60545
(847)420-9115
CDONAHUE@ATT.COM

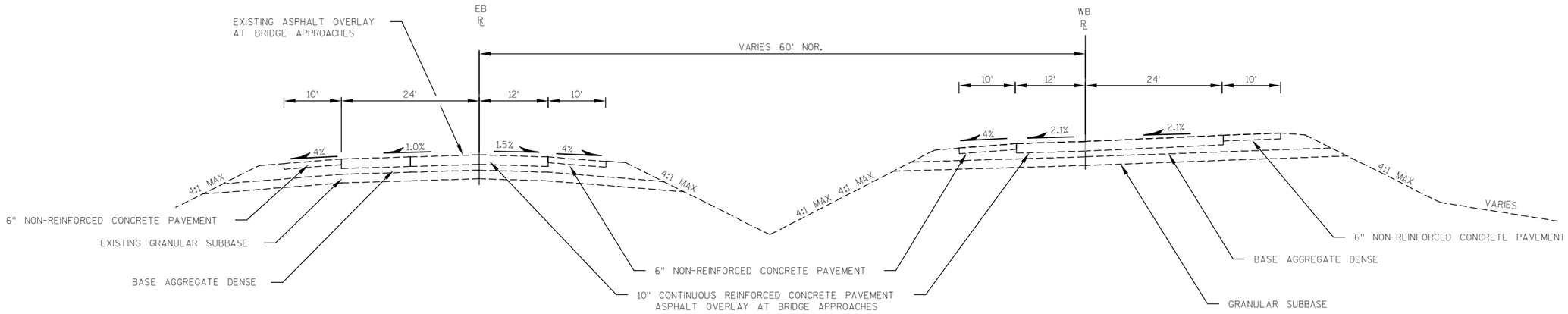
ALLIANT ENERGY
MR. JASON HOGAN
4902 NORTH BALTIMORE LN
SUITE 1000
MADISON, WI 53718
(608)458-4871
JASONHOGAN@ALLIANTENERGY.COM

CONSULTANT CONTACT

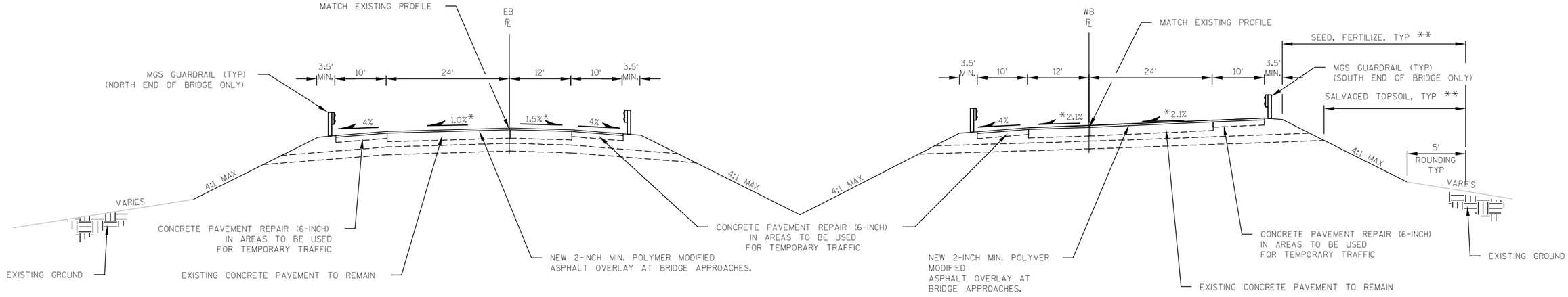
MEAD & HUNT, INC.
6501 WATTS ROAD
MADISON, WI. 53719-2700
ATTN: MR. GARY RUCHTI, PE
TELEPHONE: (608)273-6380
EMAIL: GARY.RUCHTI@MEADHUNT.COM

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711-5397
ATTN: MS. CATHY BLESER
TELEPHONE: (608)275-3308
EMAIL: CATHERINE.BLESER@WISCONSIN.GOV



EXISTING TYPICAL SECTIONS
AT BRIDGE APPROACHES



TYPICAL PROPOSED SECTIONS
AT BRIDGE APPROACHES

*ADJUST CROSS-SLOPES TO MATCH EXISTING

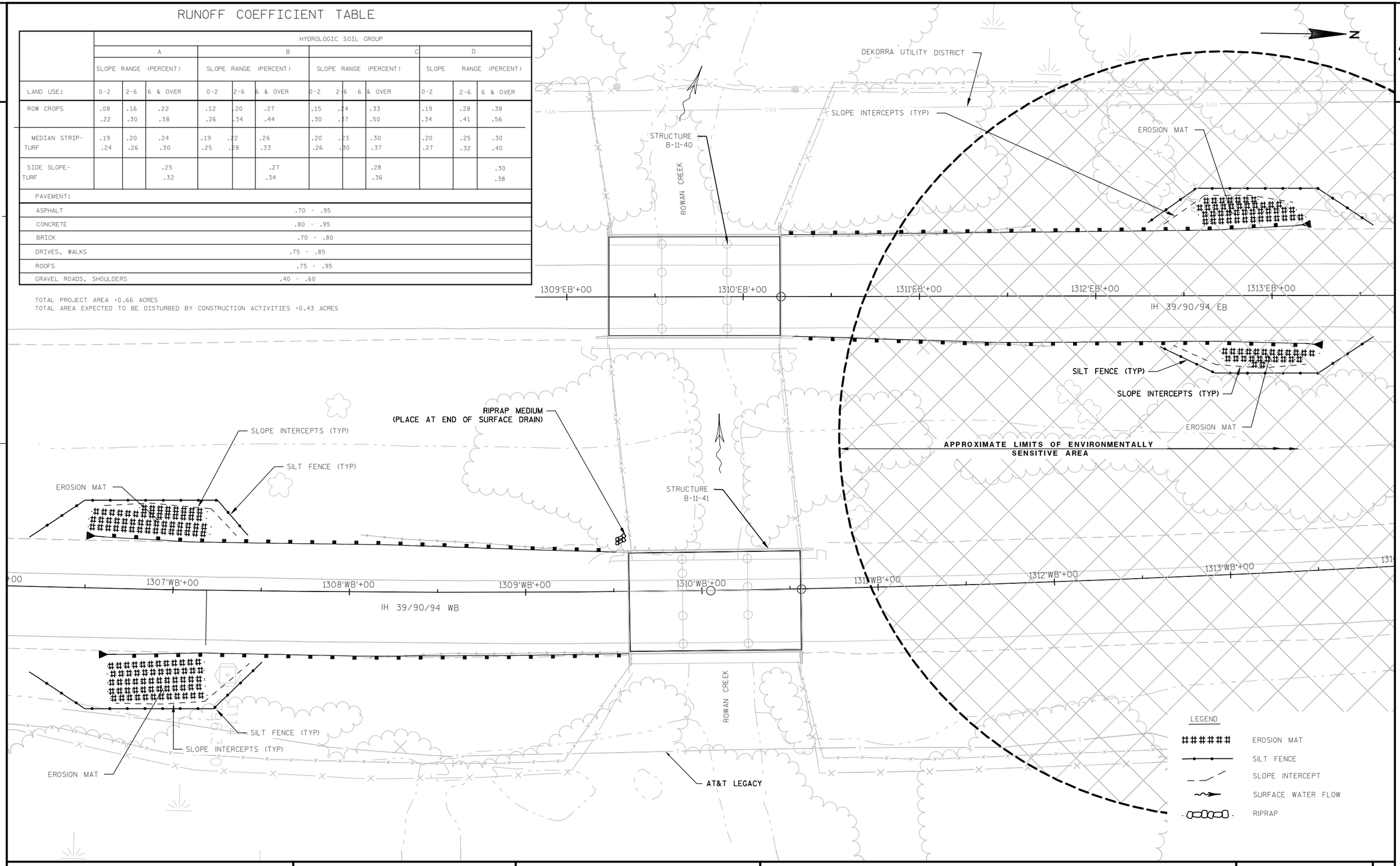
** INCLUDED IN THE BID ITEM "BARRIER SYSTEM GRADING SHAPING", TYP LT & RT EB & WB

PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	TYPICAL SECTIONS AND DETAIL	SHEET 3	E

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA =0.66 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES =0.43 ACRES



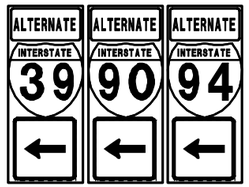
PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	PLAN: EROSION CONTROL	SHEET	E

J2-1
36" X 84"

Ⓐ

J2-2
72" X 84"

Ⓑ

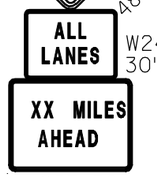


J2-3
108" X 84"

Ⓒ

* ORIENT ARROW IN DIRECTION OF TRAVEL AS NECESSARY, (LEFT TURN SHOWN)

W12-52
48" X 48"



W24-1cP
30" X 30"

W057-52
48"X36"

Ⓓ

Ⓔ

R12-70B
114" X 42"

Ⓕ

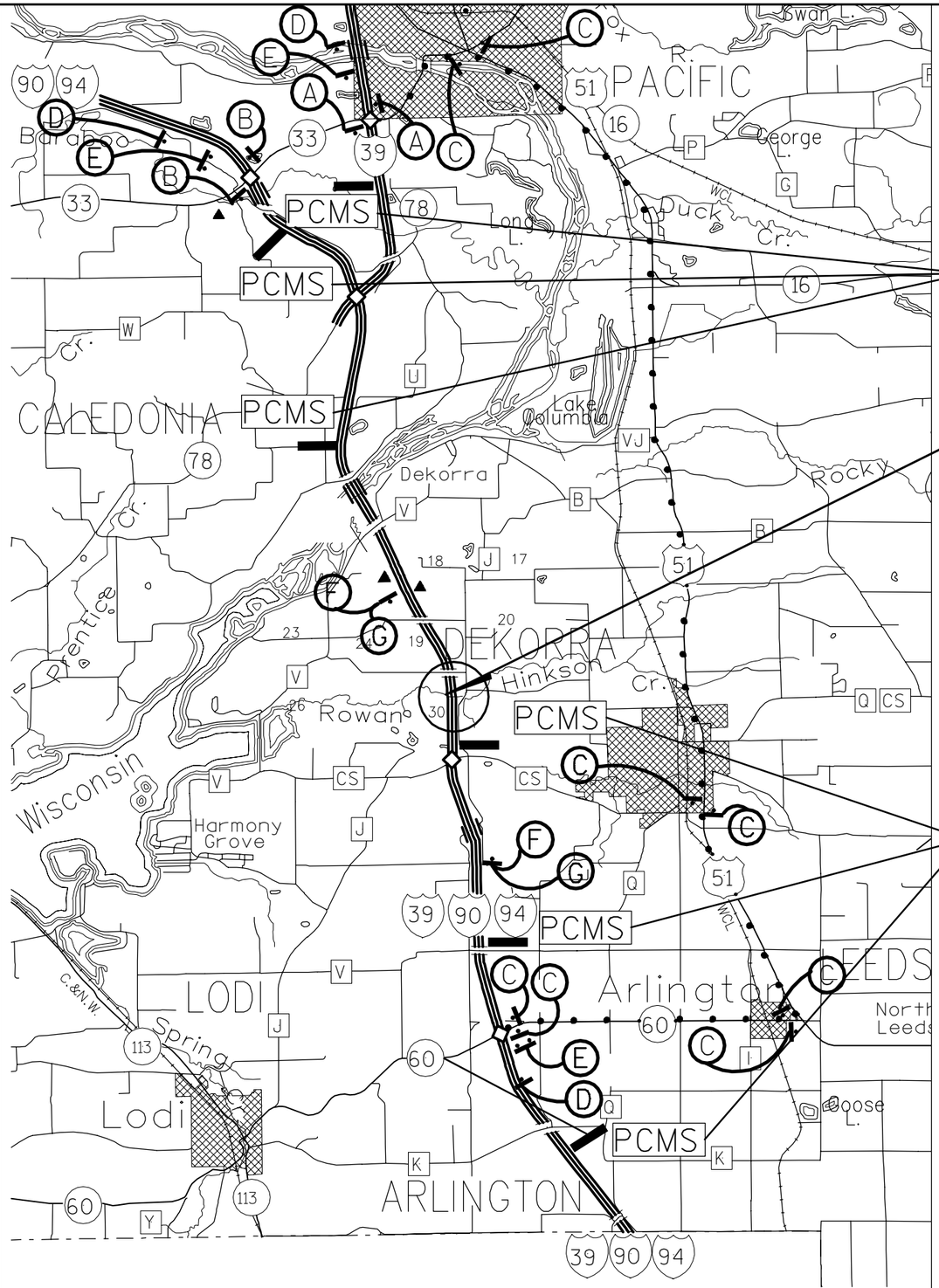
R4-5L
48" X 60"
(STAGE 2)

Ⓖ

R4-5R
48" X 60"
(STAGE 1)

LOCATIONS OF AND MESSAGES ON PORTABLE CHANGEABLE MESSAGE SIGNS TO BE PROVIDED BY WisDOT, CONTACT
JEFF GUSTAFSON
TELEPHONE: 608-516-6400

LAYOUT
SCALE 0 1 MI.



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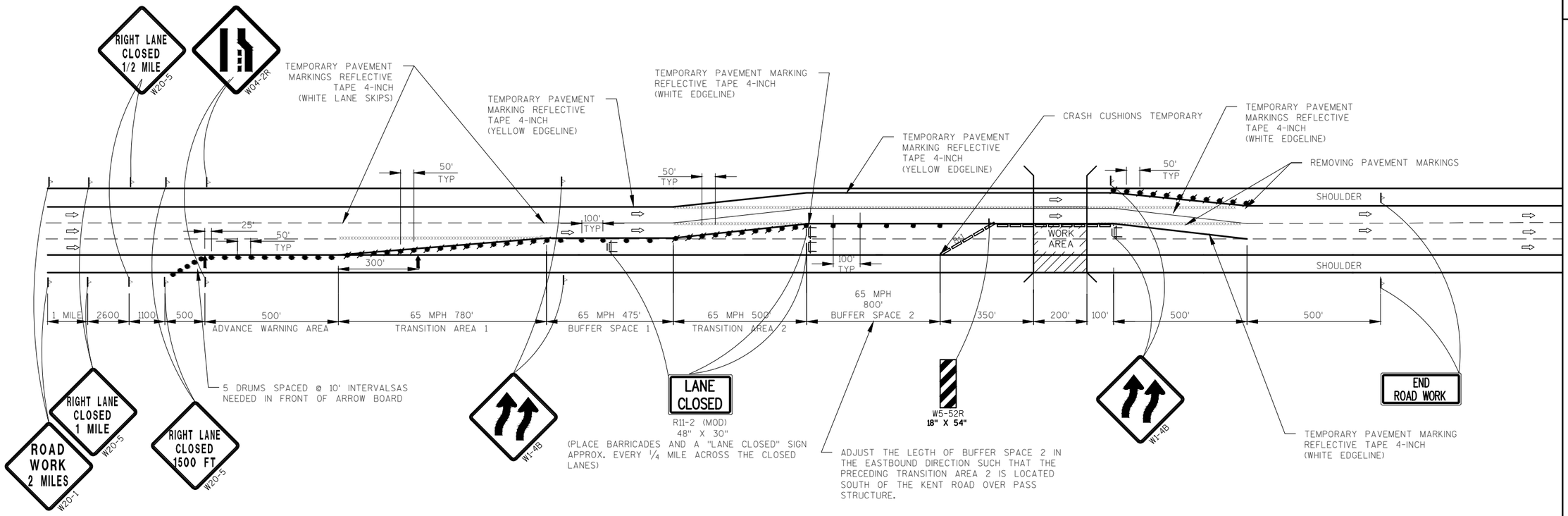
NOTE
PORTABLE CHANGEABLE MESSAGE SIGNS USED TO NOTIFY TRAFFIC OF ALL LANE OR SHOULDER CLOSURES.

ROWAN CREEK BRIDGES
(B-11-40 & B-11-41)

NOTE
PORTABLE CHANGEABLE MESSAGE SIGNS USED TO NOTIFY TRAFFIC OF ALL LANE OR SHOULDER CLOSURES.

PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	PLAN: ADVANCED TRAFFIC CONTROL	SHEET ----- E

FILE NAME : X:\3230900\120214.01\TECH\10110308\SHEETSPLAN\025001_TC.DWG PLOT DATE : 9/10/2013 2:25 PM PLOT BY : JASON KLEIST PLOT NAME : ---------- PLOT SCALE : 1 IN:200 FT



GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, 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 THE EXISTING SIGNS. 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.

"WO" SIGNS ARE THE SAME AS "W" SIGNS 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.

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

TYPICAL DRUM PLACEMENT IS 2' OFFSET FROM THE "ACTIVE" PAVEMENT MARKING

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION.

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

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

STAGE 1

TRAFFIC: BOTH EB AND WB LEFT LANE AND SHOULDER ARE CLOSED TO TRAFFIC. TRAFFIC WILL RUN ON THE MIDDLE AND RIGHT LANES. FOLLOW THE DETAILS OF STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH"

CONSTRUCTION: PREPARE THE LEFT SHOULDER FOR THE ACCOMMODATION OF MAINLINE TRAFFIC. THE WORK INCLUDES BASE PATCHING CONCRETE AND FILLING OF RUMBLE STRIPS.

STAGE 2

TRAFFIC: BOTH EB AND WB MIDDLE AND RIGHT LANES ARE CLOSED. TRAFFIC WILL RUN ON THE LEFT LANE AND LEFT SHOULDER. FOLLOW THE DETAILS OF THIS DETAIL DRAWING

CONSTRUCTION: THE WORK INCLUDES BASE PATCHING CONCRETE, FILLING RUMBLE STRIPS, BRIDGE OVERLAY AND BEAMGAURD. PREPARE THE RIGHT SHOULDER FOR THE FUTURE ACCOMMODATION OF MAINLINE TRAFFIC AND COMPLETE THE OVERLAY ON THE RIGHT HALF OF THE BRIDGES.

STAGE 3

TRAFFIC: BOTH EB AND WB MIDDLE AND LEFT LANES ARE CLOSED. TRAFFIC WILL RUN ON THE RIGHT LANE AND RIGHT SHOULDER. REVERSE THE DETAILS OF THIS DETAIL DRAWING TO CLOSE THE LEFT TWO LANES.

CONSTRUCTION: WORK INCLUDES BRIDGE OVERLAY, BEAM GAURD AND RESTORING THE LEFT SHOULDER RUMBLE STRIPS. (BEAM GUARD MAY ALSO BE COMPLETED ON STAGE 1 AS AN OPTION)

STAGE 4

TRAFFIC: BOTH EB AND WB RIGHT LANE AND SHOULDER ARE CLOSED TO TRAFFIC. TRAFFIC WILL RUN ON THE MIDDLE AND LEFT LANE. FOLLOW THE CONSTRUCTION DETAILS OF STANDARD DETAIL DRAWING " TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH"

CONSTRUCTION: WORK INCLUDES RESTORING THE RIGHT SHOULDER RUMBLE STRIPS.

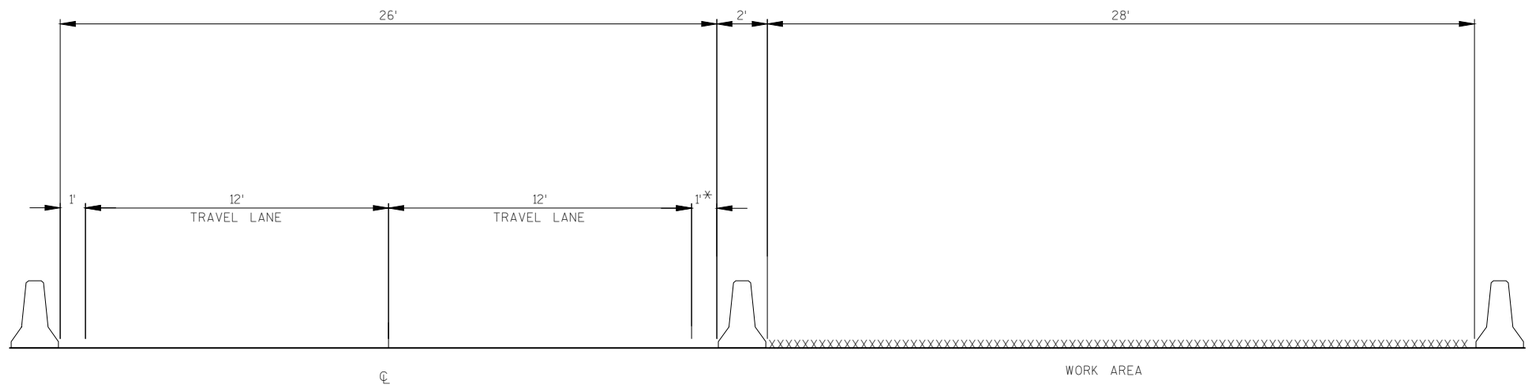
LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- ARROW BOARD
- DIRECTION OF TRAFFIC
- XXXXXXXXX REMOVING PAVEMENT MARKINGS

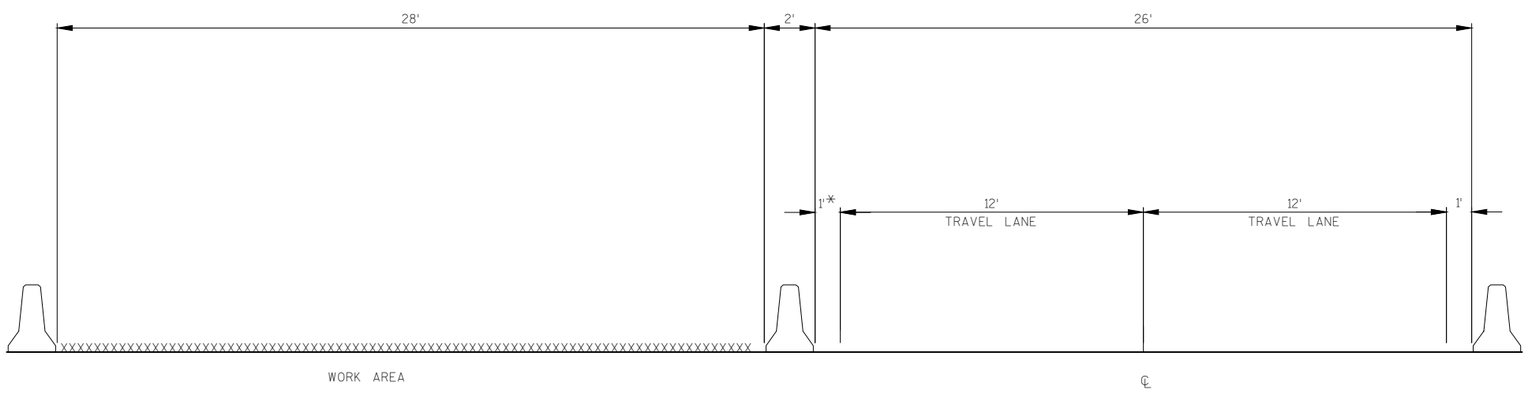
PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	PLAN: TRAFFIC CONTROL CONSTRUCTION STAGING DETAILS	SHEET 6	E

IH 39/94/90
ROWAN CREEK

STAGE 2 WB & EB



STAGE 3 WB & EB



* NOTE: SHOULDER WIDTH MAY BE TEMPORARILY REDUCED FOR THE OPERATIONS OF REMOVING PAVEMENT BUTT JOINTS AND POLYMER MODIFIED ASPHALT OVERLAY, AS DIRECTED BY THE ENGINEER.

PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	PLAN: TRAFFIC CONTROL CONSTRUCTION STAGING DETAILS	SHEET 7	E

BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
BM 1	1307'WB'+83.18	91.25 RT	PK NAIL IN 6" ELM	789.06
BM 2	1310'WB'+53.66	34.10 RT	PAINTED BOLT	800.93
BM 3	1311'EB'+43.47	38.87 LT	PK NAIL IN 3RD POST BEAM GUARD	799.54
BM 4	1309'EB'+28.03	35.07 LT	"+" ON PARAPET WALL	800.63

600' LIMITS OF CONCRETE PAVEMENT REPAIR SHES

1650' LIMITS OF CONCRETE PAVEMENT REPAIR SHES

DEKORRA UTILITY DISTRICT

N

REMOVING PAVEMENT BUTT JOINTS AT BRIDGE APPROACHES. NEW 2-INCH POLYMER OVERLAY TO REPLACE EXISTING TYP. BOTH ENDS OF STRUCTURE B-11-40.

EXISTING STRUCTURE B-11-40

ROWAN CREEK

STATION 1309+73 STRUCTURE (B-11-40) REHAB REQ'D SEE STRUCTURE PLANS

BACKFILL ALL HOLES REMAINING DUE TO GUARDRAIL POST REMOVAL WITH BASE AGGREGATE DENSE 3/4-INCH, TYP

MGS THRIEBEAM TRANSITION, TYP

MGS TERMINAL EAT, TYP

MGS GUARDRAIL 3, TYP

SALVAGE GUARD RAIL END TREATMENTS

SAWING CONCRETE, PAVEMENT TIES, CONCRETE PAVEMENT REPAIRS SHES, REPLACE RUMBLE STRIPS, PRIOR TO USE OF SHOULDERS FOR TRAFFIC STAGING (VARIOUS LOCATIONS)

BM 4

BM 3

1310+58 34' LT

1312+59 34' LT

STA 1313'EB'+09, 36' LT

SALVAGED RAIL TYP.

IH 39SB/90EB/94EB

1306'EB'+00 1307'EB'+00 1308'EB'+00 1309'EB'+00 1310'EB'+00 1311'EB'+00 1312'EB'+00 1313'EB'+00

STA 1309+24.71'EB'

STA 1308+79±'EB'

STA 1310+21.88'EB'

STA 1310+77±'EB'

STA 1313'EB'+09, 24' RT

SAW ROUTE AND SEAL CONSTRUCTION JOINTS ALONG ABUTMENT AND AT ENDS OF APPROACH SLAB, TYP.

EXISTING SURFACE DRAIN TO REMAIN

1310+58 22' RT

1312+59 22' RT

SALVAGED RAIL TYP.

REMOVE BURIED BEAMGUARD TERMINALS

BEGIN PROJECT
STA 1303+20'EB'

END PROJECT
STA 1339+30'EB'

BACKFILL ALL HOLES REMAINING DUE TO GUARDRAIL POST REMOVAL WITH BASE AGGREGATE DENSE 3/4-INCH, TYP.

1650' LIMITS OF CONCRETE PAVEMENT REPAIR SHES

600' LIMITS OF CONCRETE PAVEMENT REPAIR SHES

SALVAGED RAIL TYP.

SAWING CONCRETE, PAVEMENT TIES, CONCRETE PAVEMENT REPAIRS SHES, REPLACE RUMBLE STRIPS PRIOR TO USE OF SHOULDERS FOR TRAFFIC STAGING (VARIOUS LOCATIONS)

REMOVE BURIED BEAMGUARD TERMINALS

STA 1309+45'WB', LT REMOVE SURFACE DRAIN AND INSTALL CONCRETE SURFACE DRAIN

EXISTING STRUCTURE B-11-41

STA 1310+56.08'WB'

SAW ROUTE AND SEAL CONSTRUCTION JOINTS ALONG ABUTMENT JOINT AND AT ENDS OF APPROACH SLAB, TYP.

STATION 1309+84 STRUCTURE (B-11-41) REHAB REQ'D SEE STRUCTURE PLANS

TEMPORARY SURFACED CONSTRUCTION ROUTE (TYP)

1307+13 22' LT

1309+14 22' LT

RIPRAP MEDIUM

STA 1306'WB'+63, 24' LT

STA 1309+17±'WB'

1307'WB'+00 1308'WB'+00 1309'WB'+00 1310'WB'+00 1311'WB'+00 1312'WB'+00 1313'WB'+00

IH 39NB/90WB/94WB

MGS TERMINAL EAT, TYP

STA 1306'WB'+72, 36' RT

SALVAGED RAIL TYP.

STA 1309+58.90'WB'

STA 1311+16±'WB'

BM 2

END CONSTRUCTION
STA 1316+60'WB'

BEGIN CONSTRUCTION
STA 1280+50'WB'

1307+22 34' RT

MGS GUARDRAIL 3, TYP

1309+23 34' RT

ROWAN CREEK

REMOVING PAVEMENT BUTT JOINTS AT BRIDGE APPROACHES. NEW 2-INCH POLYMER MODIFIED ASPHALT OVERLAY TO REPLACE EXISTING TYP. BOTH ENDS OF STRUCTURE B-11-41.

SALVAGE GUARD RAIL END TREATMENTS

MGS THRIEBEAM TRANSITION, TYP

BM 1

AT&T LEGACY

PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	PLAN: DETAILS	SHEET 8 E

DATE 17OCT14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1011-03-78 QUANTITY
0010	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 01. B-11-40	LS	1.000	1.000
0020	204.0105	REMOVING PAVEMENT BUTT JOINTS	SY	1,300.000	1,300.000
0030	204.0190	REMOVING SURFACE DRAINS	EACH	1.000	1.000
0040	204.9060.S	REMOVING (ITEM DESCRIPTION) 01. BURIED BEAM GUARD TERMINALS	EACH	2.000	2.000
0050	209.0200.S	BACKFILL CONTROLLED LOW STRENGTH	CY	2.000	2.000
0060	213.0100	FINISHING ROADWAY (PROJECT) 01. 1011-03-78	EACH	1.000	1.000
0070	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	110.000	110.000
0080	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	280.000	280.000
0090	416.0610	DRILLED TIE BARS	EACH	1,588.000	1,588.000
0100	416.1010	CONCRETE SURFACE DRAINS	CY	1.000	1.000
0110	416.1715	CONCRETE PAVEMENT REPAIR SHES	SY	3,520.000	3,520.000
0120	502.0717.S	CRACK SEALING EPOXY	LF	1,090.000	1,090.000
0130	502.3200	PROTECTIVE SURFACE TREATMENT	SY	174.000	174.000
0140	509.0301	PREPARATION DECKS TYPE 1	SY	146.000	146.000
0150	509.0302	PREPARATION DECKS TYPE 2	SY	59.000	59.000
0160	509.1500	CONCRETE SURFACE REPAIR	SF	139.000	139.000
0170	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (STRUCTURE) 01. B-11-40	SY	605.000	605.000
0180	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY (STRUCTURE) 02. B-11-41	SY	605.000	605.000
0190	509.9020.S	EPOXY CRACK SEALING	LF	47.000	47.000
0200	509.9050.S	CLEANING PARAPETS	LF	436.000	436.000
0210	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	1,300.000	1,300.000
0220	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	5,800.000	5,800.000
0230	606.0200	RIPRAP MEDIUM	CY	2.000	2.000
0240	606.0300	RIPRAP HEAVY	CY	10.000	10.000
0250	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	4.000	4.000
0260	614.0905	CRASH CUSHIONS TEMPORARY	EACH	2.000	2.000
0270	614.0920	SALVAGED RAIL	LF	595.000	595.000
0280	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	2.000	2.000
0290	614.2300	MGS GUARDRAIL 3	LF	790.000	790.000
0300	614.2500	MGS THRIE BEAM TRANSITION	LF	160.000	160.000
0310	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000
0320	619.1000	MOBILIZATION	EACH	1.000	1.000
0330	628.1504	SILT FENCE	LF	560.000	560.000
0340	628.1520	SILT FENCE MAINTENANCE	LF	560.000	560.000
0350	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0360	643.0200	TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1011-03-78	DAY	39.000	39.000
0370	643.0300	TRAFFIC CONTROL DRUMS	DAY	4,902.000	4,902.000
0380	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	276.000	276.000
0390	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	552.000	552.000
0400	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	2,400.000	2,400.000
0410	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	156.000	156.000
0420	643.0900	TRAFFIC CONTROL SIGNS	DAY	5,514.000	5,514.000
0430	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	234.000	234.000
0440	645.0130	GEOTEXTILE FABRIC TYPE R	SY	15.000	15.000
0450	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	11,810.000	11,810.000
0460	646.0600	REMOVING PAVEMENT MARKINGS	LF	11,410.000	11,410.000

3

DATE 17OCT14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1011-03-78 QUANTITY
0470	649.0300	TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH	LF	36,580.000	36,580.000
0480	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1011-03-78	LS	1.000	1.000
0490	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	205.000	205.000
0500	690.0250	SAWING CONCRETE	LF	2,760.000	2,760.000
0510	SPV.0035	SPECIAL 01. CONCRETE MASONRY OVERLAY DECK PATCHING	CY	45.000	45.000
0520	SPV.0045	SPECIAL 01. PCMS REMOTE COMMUNICATIONS	DAY	117.000	117.000
0530	SPV.0090	SPECIAL 01. SAW, ROUTE AND SEAL CONSTRUCTION JOINTS	LF	224.000	224.000
0540	SPV.0090	SPECIAL 02. TEMPORARY SURFACED CONSTRUCTION ROUTE	LF	200.000	200.000
0550	SPV.0090	SPECIAL 03. REPLACE SHOULDER RUMBLE STRIPS	LF	1,070.000	1,070.000
0560	SPV.0180	SPECIAL 01. REMOVING CONCRETE MASONRY OVERLAY DELAMINATIONS	SY	585.000	585.000
0570	SPV.0180	SPECIAL 02. RESTORING RUMBLE STRIPS	SY	1,090.000	1,090.000
0580	SPV.0180	SPECIAL 03. FILLING RUMBLE STRIPS	SY	1,090.000	1,090.000
0590	SPV.0195	SPECIAL 01. POLYMER MODIFIED ASPHALT OVERLAY	TON	329.000	329.000

3

REMOVING SURFACE DRAINS

STATION	LOCATION	204.0190 REMOVING SURFACE DRAINS (EACH)
1309'WB'+46	LT	1
	TOTAL	1

REMOVING BURIED BEAM GUARD TERMINALS

STATION	LOCATION	204.9060.S REMOVING BURIED BEAM GUARD TERMINALS (EACH)
1311'EB'+75	LT	1
1308'WB'+10	LT	1
	TOTAL	2

BASE AGGREGATE

STATION	-	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1-1/4-INCH (TON)
1310'EB'+21	-	1313'EB'+12	LT	28	70
1310'EB'+29	-	1313'EB'+19	RT	30	72
1306'WB'+61	-	1313'WB'+51	LT	27	70
1306'WB'+68	-	1309'WB'+58	RT	25	68
			TOTAL	110	280

NOTE: 3/4-INCH AGGREGATE USED FOR FILLING OLD POST HOLES AND 4-INCH THICK LAYER ON EAT FLAIRS. 1-1/4-INCH AGGREGATE USED FOR 6 -INCH THICK LAYER ON EAT FLAIRS.

REMOVING PAVEMENT BUTT JOINTS

STATION	-	STATION	LOCATION	204.0105 REMOVING PAVEMENT BUTT JOINTS (SY)
1308'EB'+79	-	1309'EB'+24	MAINLINE	295
1310'EB'+21	-	1310'EB'+77	MAINLINE	360
1309'WB'+17	-	1309'WB'+59	MAINLINE	270
1310'WB'+56	-	1311'WB'+16	MAINLINE	375
			TOTAL	1300

CONCRETE PAVEMENT REPAIR SHES

STATION	-	STATION	LOCATION	416.1715 PAVEMENT REPAIR SHES (SY)
1310'EB'+21	-	1328'EB'+96	RT	135
1310'EB'+21	-	1328'EB'+96	LT	600
1299'EB'+94	-	1309'EB'+24	RT	380
1299'EB'+94	-	1309'EB'+24	LT	645
1287'WB'+84	-	1309'WB'+59	RT	380
1287'WB'+84	-	1309'WB'+59	LT	911
1310'WB'+56	-	1319'WB'+86	RT	179
1310'WB'+56	-	1319'WB'+86	LT	290
			TOTAL	3,520

RIPRAP AND GEOTEXTILE FABRIC

STATION	LOCATION	606.0200 RIPRAP MEDIUM (CY)	645.0130 GEOTEXTILE FABRIC TYPE R (SY)
1309'WB'+45	LT	2	15
	TOTAL	2	15

PAVEMENT TIES

STATION	-	STATION	LOCATION	416.0610 DRILED TIE BARS (EACH)
1310'EB'+21	-	1328'EB'+96	RT	61
1310'EB'+21	-	1328'EB'+96	LT	271
1299'EB'+94	-	1309'EB'+24	RT	171
1299'EB'+94	-	1309'EB'+24	LT	291
1287'WB'+84	-	1309'WB'+59	LT	171
1287'WB'+84	-	1309'WB'+59	RT	411
1310'WB'+56	-	1319'WB'+86	LT	81
1310'WB'+56	-	1319'WB'+86	RT	131
			TOTAL	1,588

NOTE: TO TIE SHOULDER TO PAVEMENT

POLYMER MODIFIED ASPHALT OVERLAY

STATION	-	STATION	LOCATION	SPV.0195.01 POLYMER MODIFIED ASPHALT OVERLAY (TON)
1308'EB'+79	-	1309'EB'+24	MAINLINE	34
1310'EB'+21	-	1310'EB'+77	MAINLINE	43
1309'WB'+17	-	1309'WB'+59	MAINLINE	32
1310'WB'+56	-	1311'WB'+16	MAINLINE	46
			TOTAL	155

CONCRETE BARRIER TEMPORARY

STATION	-	STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED (LF)	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	603.8125 *CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	614.0905 CRASH CUSHIONS TEMPORARY (EACH)
1305'EB'+21	-	1311'EB'+71	MAINLINE	650	650	2,250	1
1305'WB'+56	-	1312'WB'+06	MAINLINE	650	650	2,250	1
			TOTAL	1,300	1,300	4,500	2

* NOTE: FOR REPOSITIONING BARRIER.

ALL QUANTITIES SHOWN ARE ASSOCIATED WITH GROUP 0010 – ROADWAY ITEMS

TRAFFIC CONTROL

ROADWAY	LOCATION	DURATION (DAYS)	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (DAY)	643.0300 TRAFFIC CONTROL DRUMS (DAY)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAY)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (DAY)	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C (DAY)	643.0800 TRAFFIC CONTROL ARROW BOARDS (DAY)	643.0900 TRAFFIC CONTROL SIGNS (DAY)	643.1050 TRAFFIC CONTROL SIGNS PCMS (DAY)	SPV.0045.01 PCMS REMOTE COMMUNICATIONS (DAY)
STAGE 1											
IH 39/90/94	EB	6	6	354	12	24	96	12	450	18	12
IH 39/90/94	WB	6		354	12	24	96	12	306	18	6
STAGE 2											
IH 39/90/94	EB	15	15	960	60	120	540	30	1,275	45	30
IH 39/90/94	WB	15		960	60	120	540	30	915	45	15
STAGE 3											
IH 39/90/94	EB	15	15	960	60	120	540	30	1,275	45	30
IH 39/90/94	WB	15		960	60	120	540	30	915	45	15
STAGE 4											
IH 39/90/94	EB	3	3	177	6	12	24	6	225	9	6
IH 39/90/94	WB	3		177	6	12	24	6	153	9	3
	TOTAL		39	4,902	276	552	2,400	156	5,514	234	117

GUARDRAIL

STATION	-	STATION	LOCATION	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2300 MGS GUARDRAIL 3 (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
1310'EB'+21	-	1313'EB'+12	LT	40	198	1
1310'EB'+29	-	1313'EB'+19	RT	40	197	1
1306'WB'+61	-	1313'WB'+51	LT	40	198	1
1306'WB'+68	-	1309'WB'+58	RT	40	197	1
			TOTAL	160	790	4

SALVAGED RAIL

STATION	-	STATION	LOCATION	614.0920 SALVAGED RAIL (LF)
1310'EB'+21	-	1311'EB'+63	LT	145
1310'EB'+29	-	1313'EB'+76	RT	150
1308'WB'+06	-	1313'WB'+58	LT	150
1308'WB'+08	-	1309'WB'+58	RT	150
			TOTAL	595

BARRIER SYSTEM GRADING SHAPING FINISHING

STATION	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING (EACH)	FOR INFORMATIONAL PURPOSES ONLY: BORROW (CY)	SALVAGED TOPSOIL (SY)	FERTILIZER TYPE B (CWT)	SEEDING MIXTURE NO. 20 (LB)	SEEDING TEMPORARY (LB)	EROSION MAT CLASS I TYPE B (SY)
1313'EB'+12	EB LT APPROACH	1	35	100	0.1	4	4	100
1313'EB'+19	EB RT APPROACH	1	22	71	0.1	3	3	71
1306'WB'+69	WB RT APPROACH	1	106	169	0.1	5	5	169
1306'WB'+61	WB LT APPROACH	1	47	130	0.1	4	4	130
	TOTAL	4	210	470	0.4	15	15	470

SALVAGED GUARD RAIL END TREATMENTS

STATION	LOCATION	614.0925 SALVAGED GUARD RAIL END TREATMENTS (EACH)
1311'EB'+60	RT	1
1308'WB'+10	RT	1
	TOTAL	2

SILT FENCE

STATION	-	STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
1306'WB'+18	-	1307'WB'+50	LT	140	140
1306'WB'+19	-	1307'WB'+50	RT	150	150
1312'EB'+40	-	1313'EB'+58	LT	140	140
1312'EB'+40	-	1313'EB'+57	RT	130	130
			TOTAL	560	560

CONCRETE SUFRACE DRAINS

STATION	LOCATION	416.1010 CONCRETE SUFRACE DRAINS (CY)
1309'WB'+46	LT	1
	TOTAL	1

CONSTRUCTION STAKING

STATION	-	STATION	LOCATION	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (LS)	650.9920 CONSTRUCTION STAKING SLOPE STAKES (LF)
1312'EB'+68	-	1313'EB'+19	RT		52
1312'EB'+62	-	1313'EB'+12	LT		51
1306'EB'+60	-	1307'WB'+11	LT		51
1306'WB'+69	-	1307'WB'+19	RT		51
PROJECT				1	
			TOTAL	1	205

SAWING CONCRETE

STATION	-	STATION	LOCATION	690.0250 SAWING CONCRETE (LF)
1310'EB'+21	-	1328'EB'+96	RT	120
1310'EB'+21	-	1328'EB'+96	LT	480
1299'EB'+94	-	1309'EB'+24	RT	300
1299'EB'+94	-	1309'EB'+24	LT	600
1287'WB'+84	-	1309'WB'+59	RT	300
1287'WB'+84	-	1309'WB'+59	RT	600
1310'WB'+56	-	1319'WB'+86	RT	160
1310'WB'+56	-	1319'WB'+86	RT	200
			TOTAL	2,760

ALL QUANTITIES SHOWN ARE ASSOCIATED WITH GROUP 0010 – ROADWAY ITEMS

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PAVEMENT MARKING

STATION	-	STATION	LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH (LF)	646.0600 REMOVING PAVEMENT MARKINGS (LF)	649.0300 TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH YELLOW (LF)	649.0300 TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH WHITE (LF)
STAGE 1							
1280'WB'+03	-	1287'WB'+83	LANE SKIPS		205		
1331'EB'+97	-	1339'EB'+77	LANE SKIPS		205		
STAGE 2							
1312'WB'+07	-	1317'WB'+07	LANE SKIPS		125		
1292'WB'+58	-	1297'WB'+58	LANE SKIPS		125		
1280'WB'+03	-	1287'WB'+83	LANE SKIPS		200		
1292'WB'+58	-	1317'WB'+07	YELLOW EDGE LINE		2,450		
1280'WB'+02	-	1317'WB'+07	WHITE EDGE LINE				3,705
1287'WB'+82	-	1317'WB'+07	WHITE CL				2,925
1292'WB'+83	-	1317'WB'+07	YELLOW EDGE LINE			2,450	
1280'WB'+02	-	1287'WB'+83	LANE SKIPS				65
1302'EB'+97	-	1307'EB'+73	LANE SKIPS		125		
1322'EB'+22	-	1327'EB'+22	LANE SKIPS		125		
1331'EB'+97	-	1339'EB'+77	LANE SKIPS		200		
1302'EB'+73	-	1327'EB'+22	YELLOW EDGE LINE		2,450		
1302'EB'+73	-	1339'EB'+77	WHITE EDGE LINE				3,705
1302'EB'+73	-	1331'EB'+97	WHITE CL				2,925
1302'EB'+73	-	1327'EB'+22	YELLOW EDGE LINE			2,450	
1331'EB'+97	-	1339'EB'+77	LANE SKIPS				65
STAGE 3							
1312'WB'+07	-	1317'WB'+07	LANE SKIPS		125		
1292'WB'+58	-	1297'WB'+58	LANE SKIPS		125		
1292'WB'+58	-	1317'WB'+07	WHITE EDGE LINE		2,350		
1280'WB'+02	-	1287+WB'+82	LANE SKIPS				65
1280'WB'+02	-	1317'WB'+07	YELLOW EDGE LINE			3,705	
1292'WB'+58	-	1317'WB'+07	WHITE EDGE LINE				2,450
1287'WB'+82	-	1317'WB'+07	WHITE CL				2,925
1312'WB'+07	-	1317'WB'+07	LANE SKIPS	125			
1292'WB'+58	-	1297'WB'+58	LANE SKIPS	125			
1292'WB'+58	-	1317'WB'+07	YELLOW EDGE LINE	2,450			
1280'WB'+02	-	1287'WB'+82	LANE SKIPS	200			
1309'WB'+08	-	1311'WB'+07	LANE SKIPS	50			
1302'EB'+97	-	1307'EB'+73	LANE SKIPS		125		
1322'EB'+22	-	1327'EB'+22	LANE SKIPS		125		
1302'EB'+73	-	1327'EB'+22	WHITE EDGE LINE		2,350		
1331'EB'+97	-	1339'EB'+77	LANE SKIPS				65
1302'EB'+73	-	1339'EB'+77	YELLOW EDGE LINE			3,705	
1302'EB'+73	-	1327'EB'+22	WHITE EDGE LINE				2,450
1302'EB'+73	-	1331'EB'+97	WHITE CL				2,925
1302'EB'+97	-	1307'EB'+73	LANE SKIPS	125			
1322'EB'+22	-	1327'EB'+22	LANE SKIPS	125			
1302'EB'+73	-	1327'EB'+22	YELLOW EDGE LINE	2,450			
1331'EB'+97	-	1339'EB'+77	LANE SKIPS	200			
1308'EB'+73	-	1310'EB'+72	LANE SKIPS	50			
STAGE 4							
1280'WB'+02	-	1287'WB'+82	LANE SKIPS	200			
1292'WB'+58	-	1317'WB'+07	WHITE EDGE LINE	2,405			
1312'WB'+07	-	1317'WB'+07	LANE SKIPS	125			
1292'WB'+58	-	1297'WB'+58	LANE SKIPS	125			
1309'WB'+08	-	1311'WB'+07	LANE SKIPS	100			
1331'EB'+97	-	1339'EB'+77	LANE SKIPS	200			
1302'EB'+73	-	1327'EB'+22	WHITE EDGE LINE	2,405			
1302'EB'+97	-	1307'EB'+73	LANE SKIPS	125			
1322'EB'+22	-	1327'EB'+22	LANE SKIPS	125			
1308'EB'+73	-	1310'EB'+72	LANE SKIPS	100			
			TOTAL	11,810	11,410	12,310	24,270

SAW, ROUTE AND SEAL CONSTRUCTION JOINTS

STATION	LOCATION	SPV.0090.01 SAW, ROUTE AND SEAL (LF)
1309'WB'+58.90	MAINLINE	56
1310'WB'+56.08	MAINLINE	56
1309'EB'+24.71	MAINLINE	56
1310'EB'+21.88	MAINLINE	56
	TOTAL	224

FILLING RUMBLE STRIPS

STATION	-	STATION	LOCATION	SPV.0180.03 FILLING RUMBLE STRIPS (SY)
1287'WB'+68	-	1320'WB'+02	LT	285
1287'WB'+69	-	1320'WB'+03	RT	285
1299'EB'+78	-	1329'EB'+12	LT	260
1299'EB'+79	-	1329'EB'+13	RT	260
			TOTAL	1,090

RESTORING RUMBLE STRIPS

STATION	-	STATION	LOCATION	SPV.0180.02 RESTORING RUMBLE STRIPS (SY)
1287'WB'+68	-	1320'WB'+02	LT	285
1287'WB'+69	-	1320'WB'+03	RT	285
1299'EB'+78	-	1329'EB'+12	LT	260
1299'EB'+79	-	1329'EB'+13	RT	260
			TOTAL	1,090

TEMPORARY SURFACED CONSTRUCTION ROUTE

STATION	-	STATION	LOCATION	SPV.0090.02 TEMPORARY SURFACED CONSTRUCTION ROUTE (LF)
1308'WB'+70	-	1309'WB'+70	LT	100
1310'WB'+50	-	1311'WB'+50	LT	100
			TOTAL	200

REPLACE SHOULDER RUMBLE STRIPS

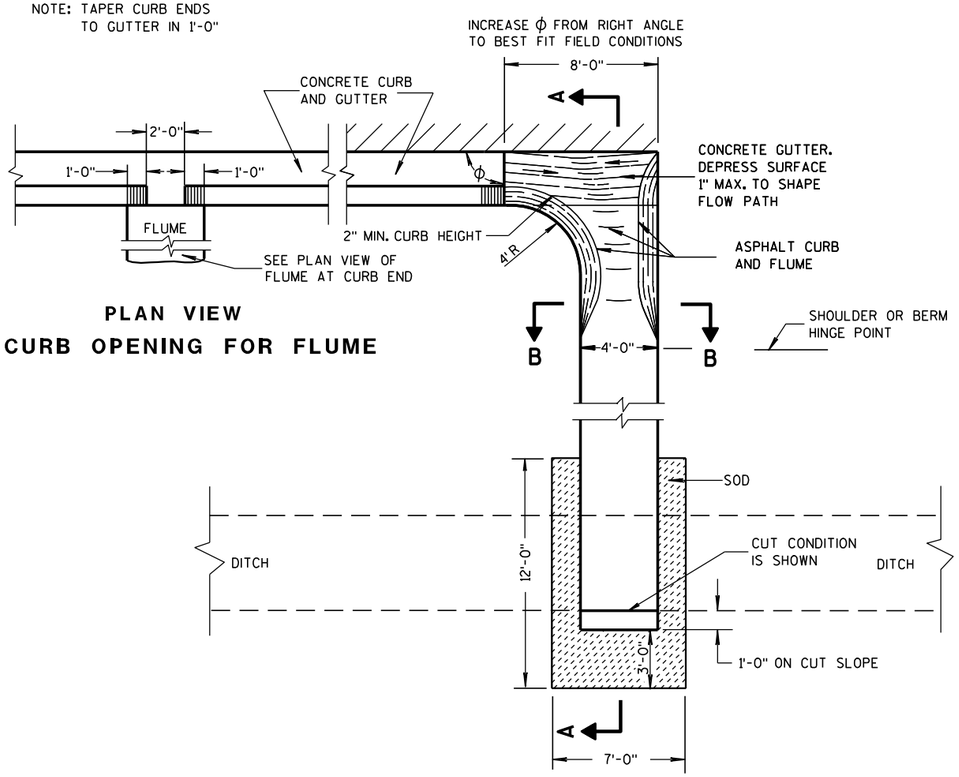
STATION	-	STATION	LOCATION	SPV.0090.03 REPLACE SHOULDER RUMBLE STRIPS (LF)
1310'EB'+21	-	1328'EB'+96	RT	40
1310'EB'+21	-	1328'EB'+96	LT	180
1299'EB'+94	-	1309'EB'+24	RT	115
1299'EB'+94	-	1309'EB'+24	LT	195
1287'WB'+84	-	1309'WB'+59	LT	115
1287'WB'+84	-	1309'WB'+59	RT	280
1310'WB'+56	-	1319'WB'+86	LT	55
1310'WB'+56	-	1319'WB'+86	RT	90
			TOTAL	1,070

ALL QUANTITIES SHOWN ARE ASSOCIATED WITH GROUP 0010 – ROADWAY ITEMS

Standard Detail Drawing List

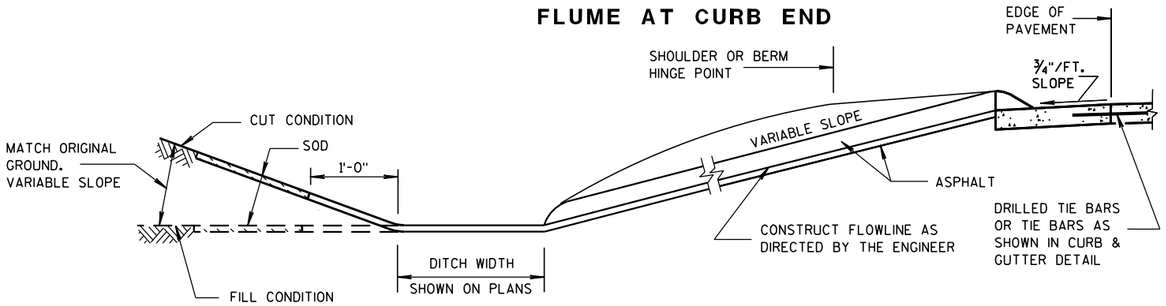
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15D12-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

ASPHALTIC FLUME

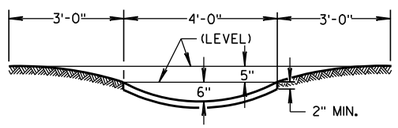


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

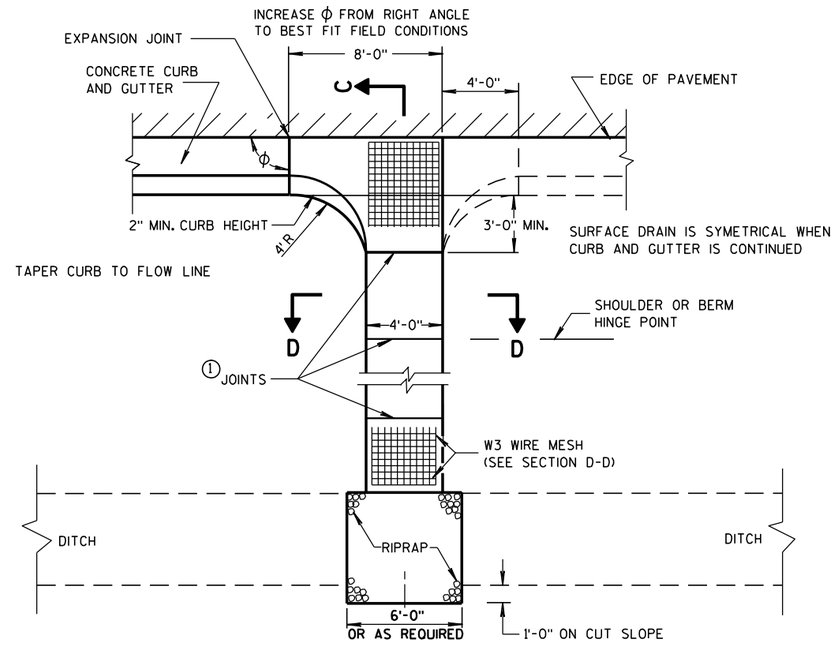
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

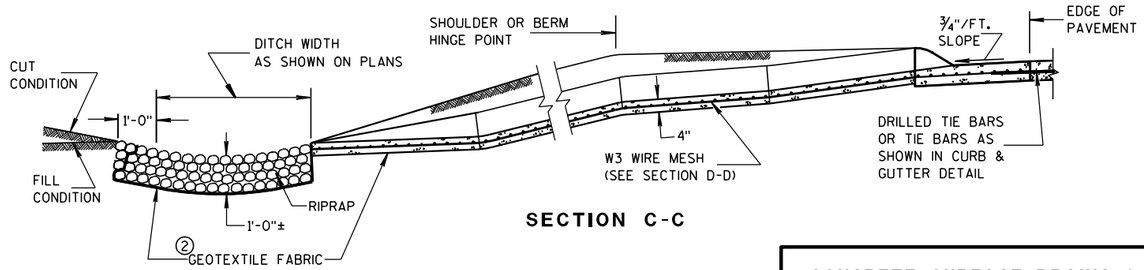
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

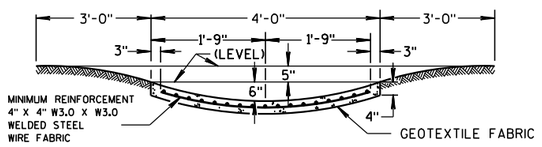
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
15
MENT

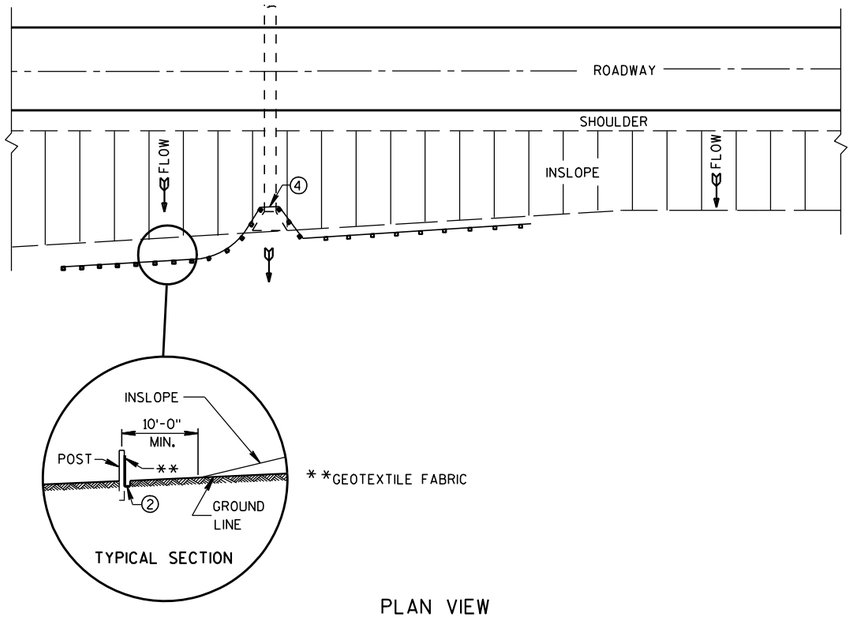
FHWA

6

S.D.D. 8 D 4-5

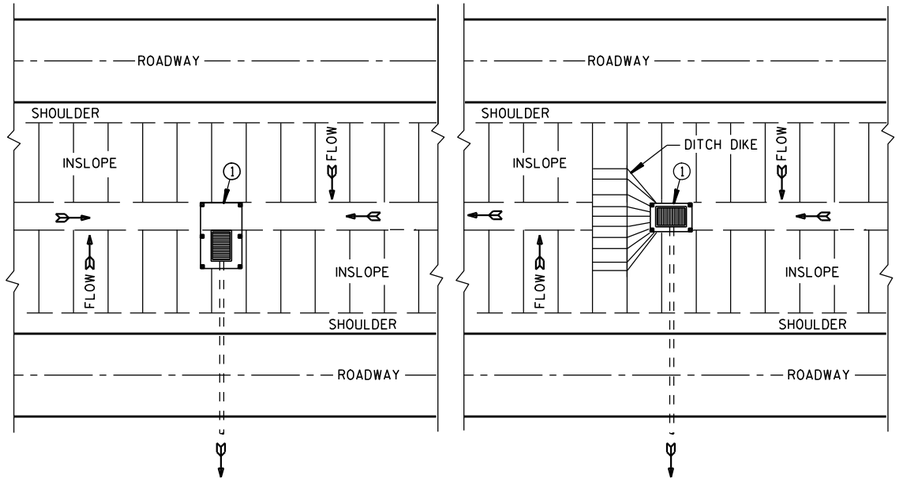
6

S.D.D. 8 D 4-5



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.

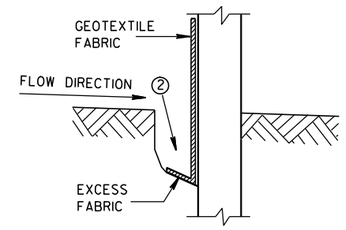
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

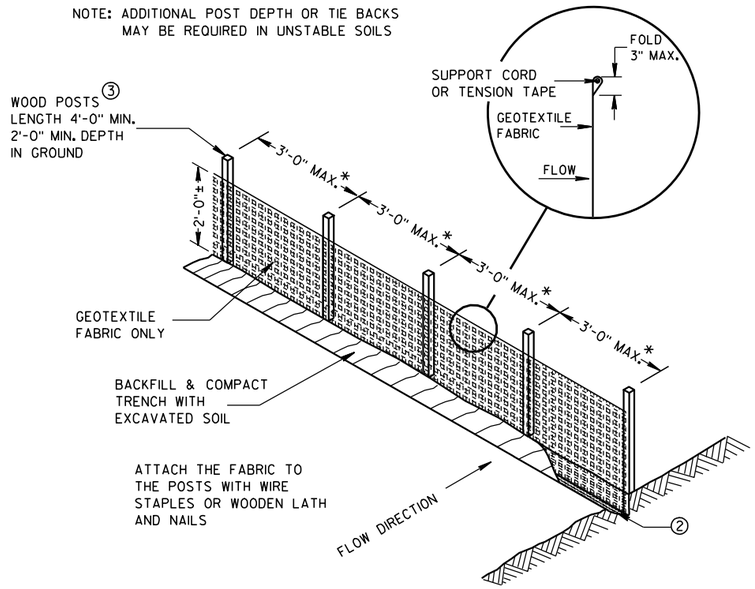
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

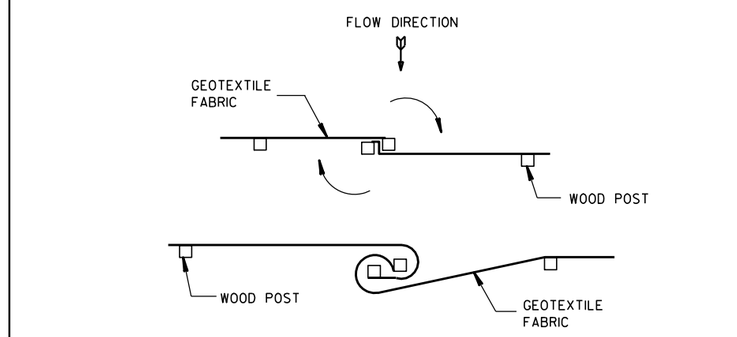


TRENCH DETAIL

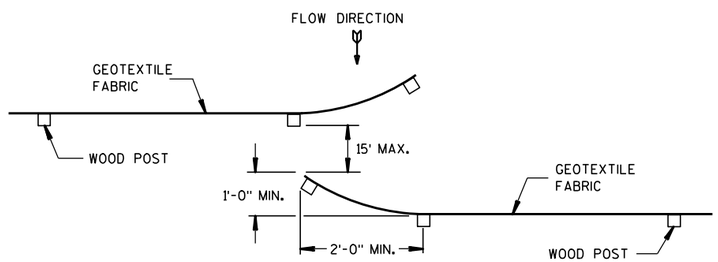


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

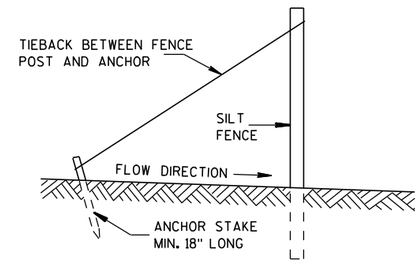


TWIST METHOD



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

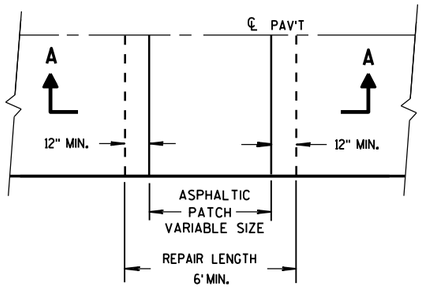
GENERAL NOTES

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. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

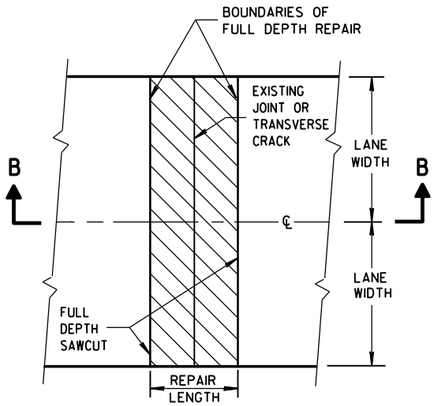
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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

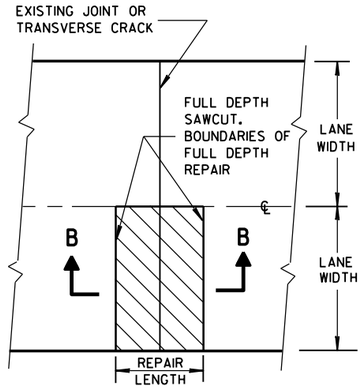
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



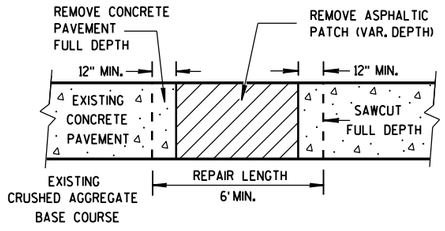
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

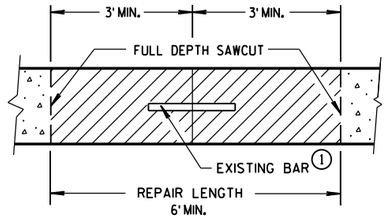
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

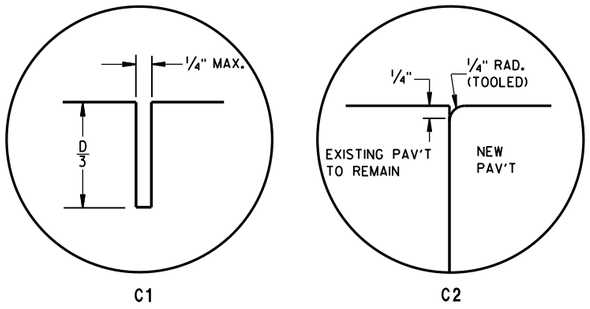
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 13 C 9-11a

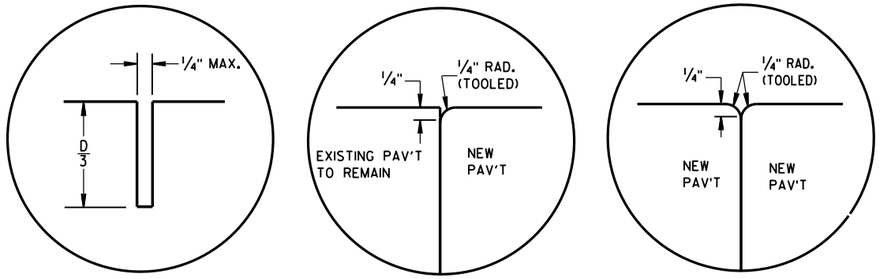


C1 C2

TRANSVERSE JOINTS

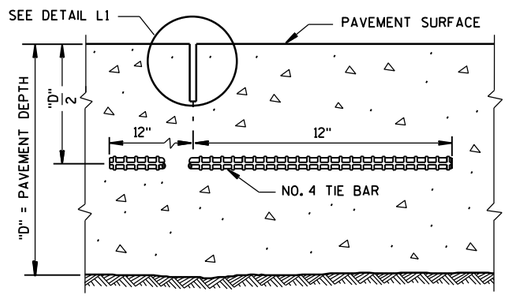
TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



L1 L2 L3

LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

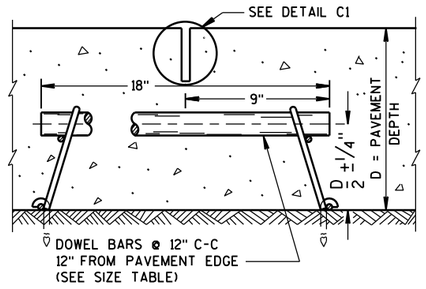
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

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

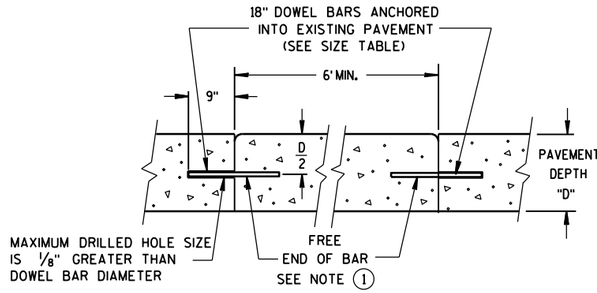
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

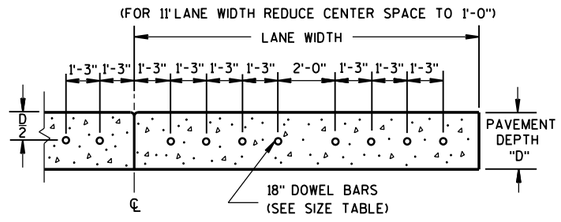


SECTION F-F

CONTRACTION JOINT



SECTION D-D

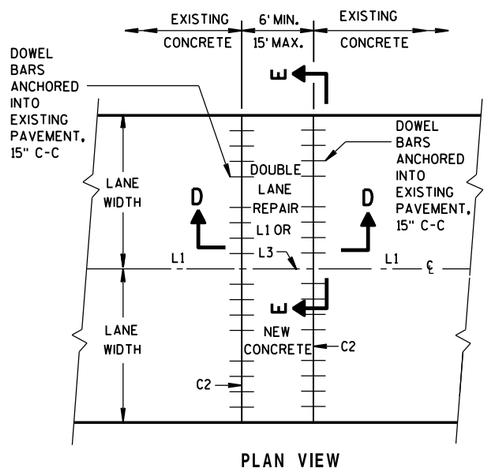


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

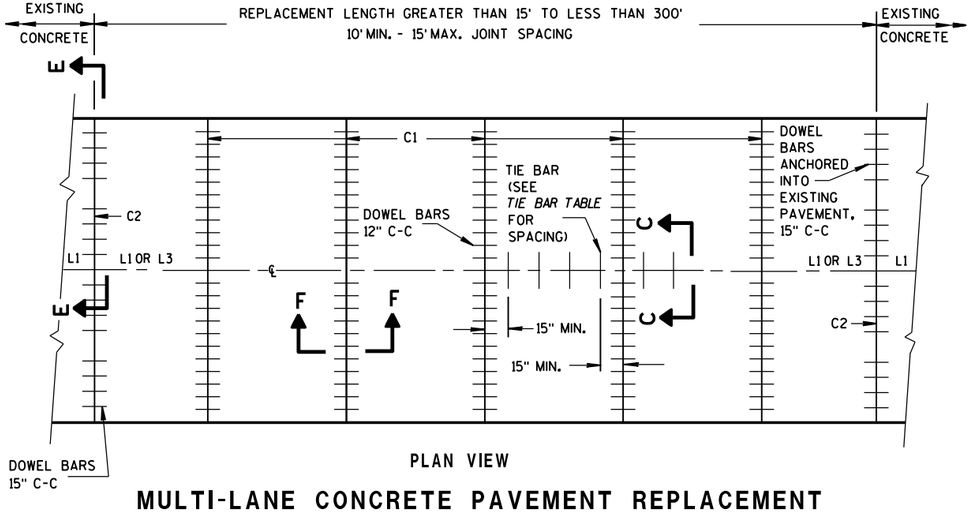
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

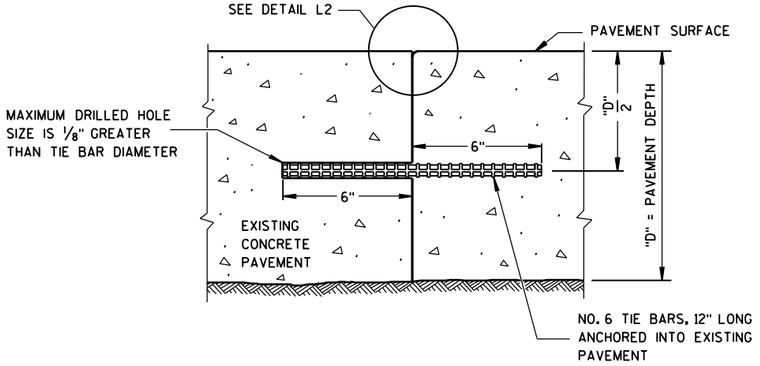
MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 13 C 9-11b



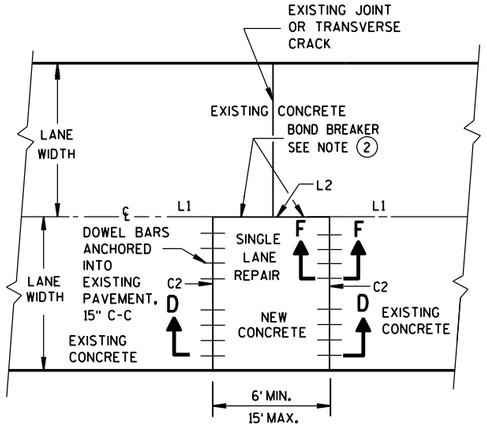
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

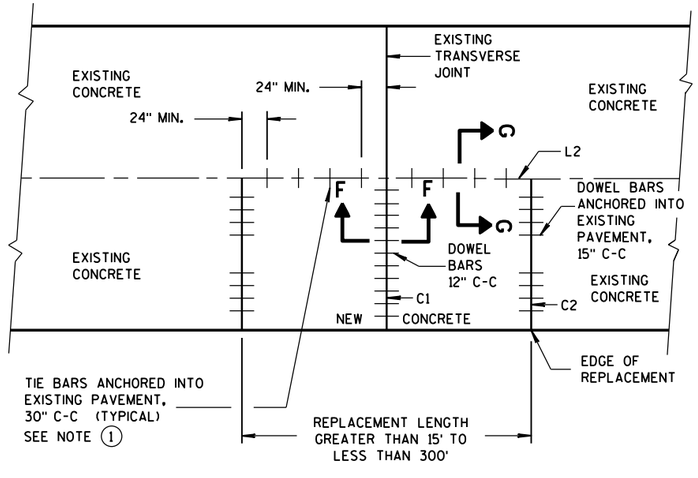
(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS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

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE

FHWA

IEER

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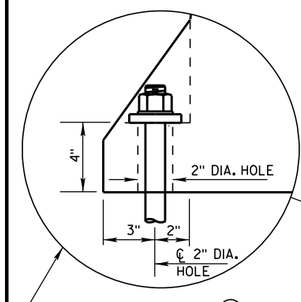
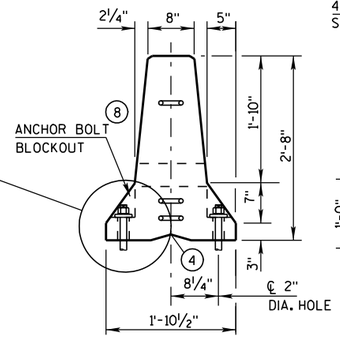
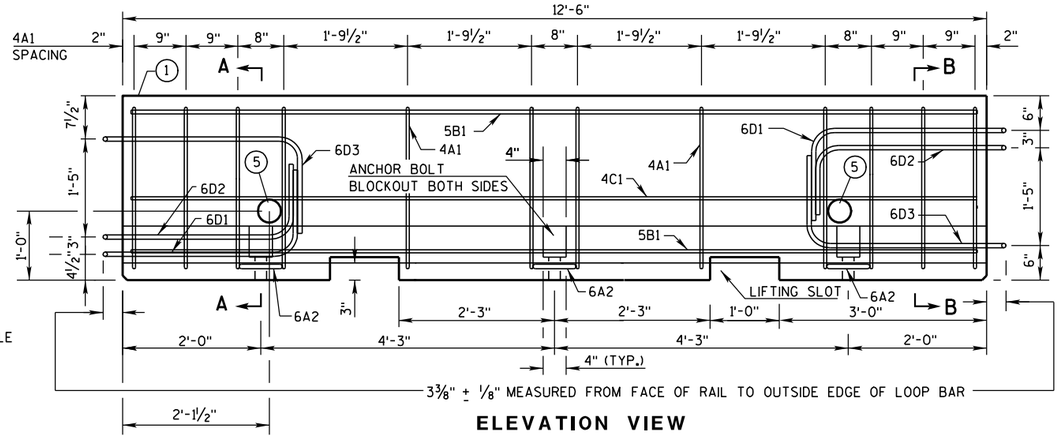
S.D.D. 13 C 9-11c

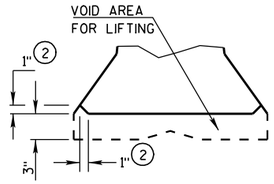




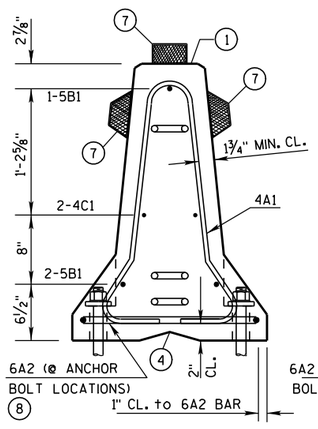
END VIEW



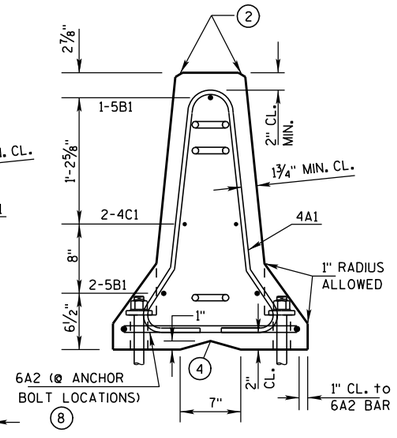
ELEVATION VIEW



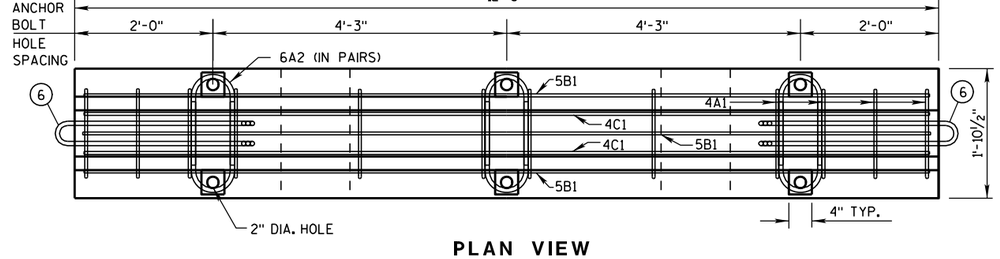
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

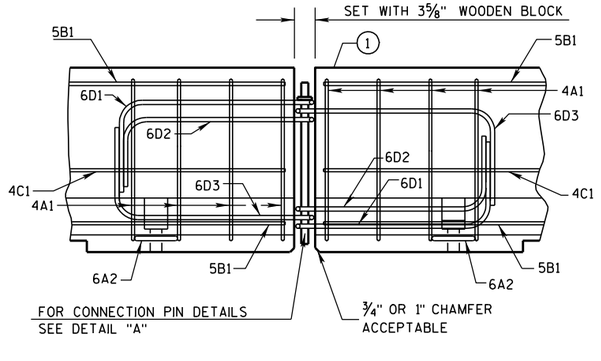


SECTION B-B
(STIRRUP PLACEMENT)

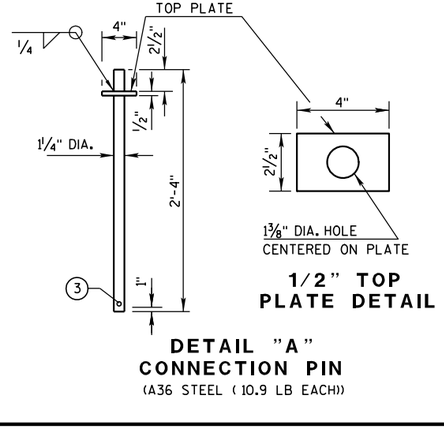


PLAN VIEW

DETAILS OF BARRIER SECTION

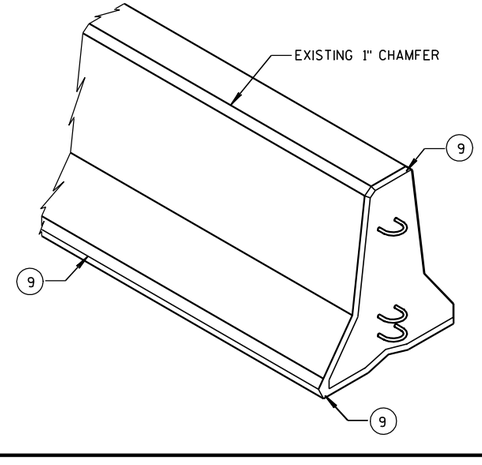


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

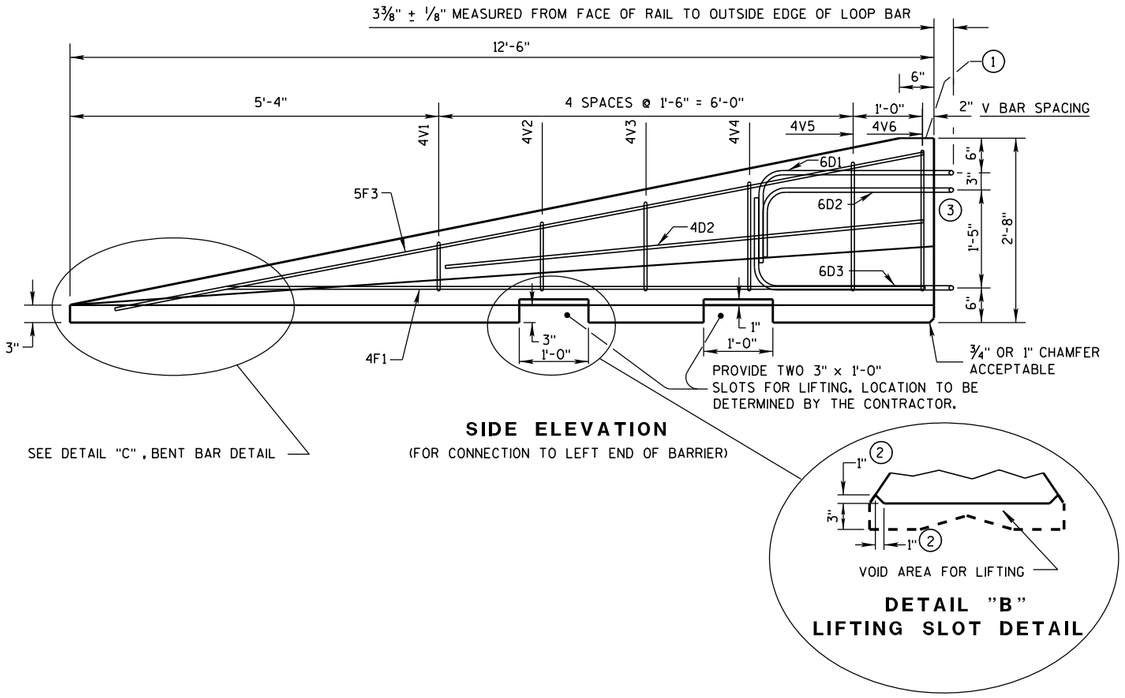
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....

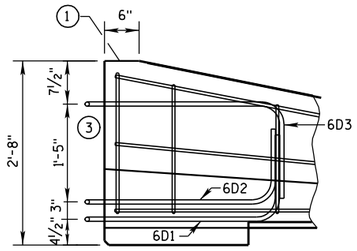
6

S.D.D. 14 B 7-13a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)

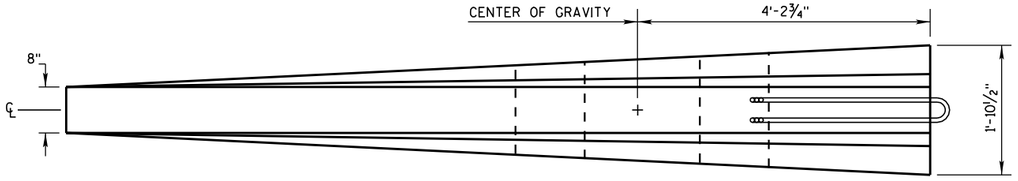
DETAIL "B"
LIFTING SLOT DETAIL



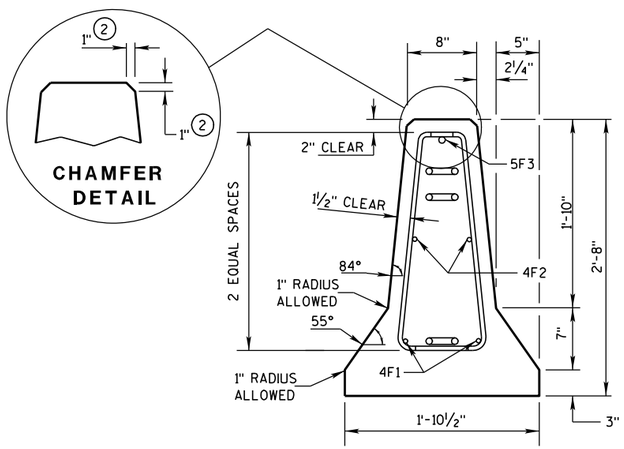
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

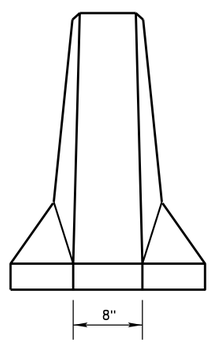
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



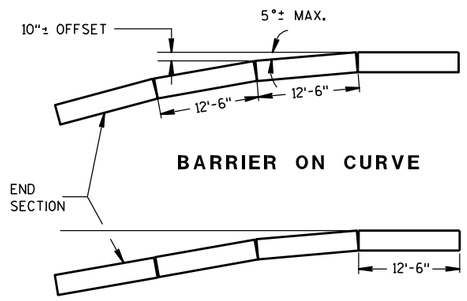
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 7-13b

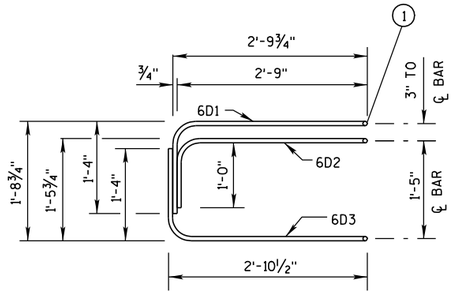
6

S.D.D. 14 B 7-13b

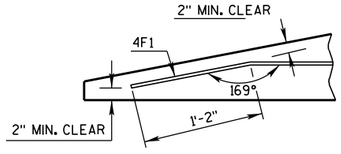
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

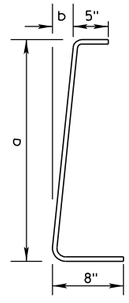
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

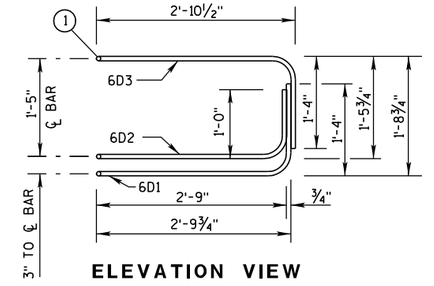
GENERAL NOTES

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

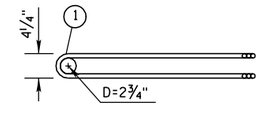
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

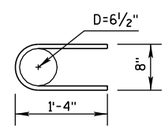
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



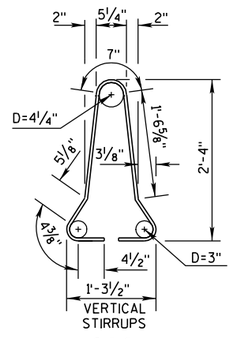
ELEVATION VIEW



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



6A2



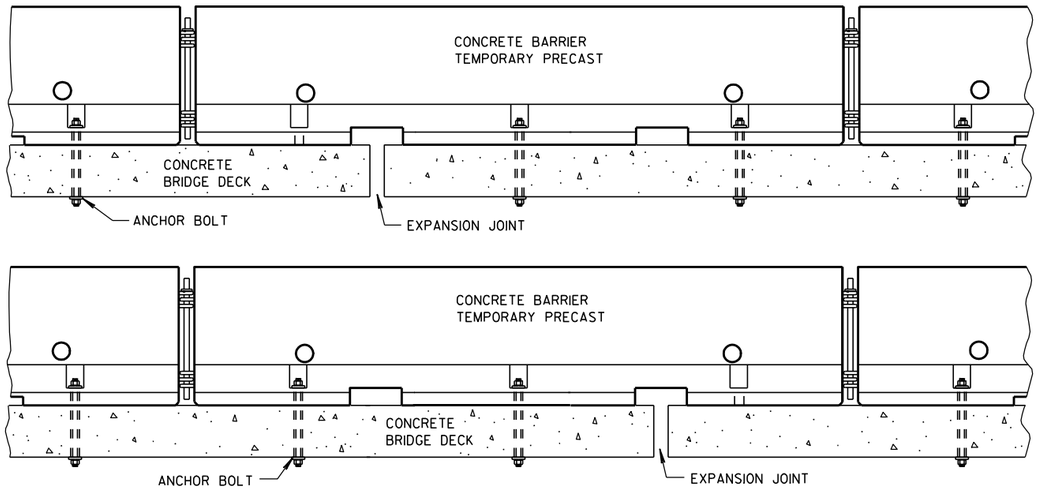
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

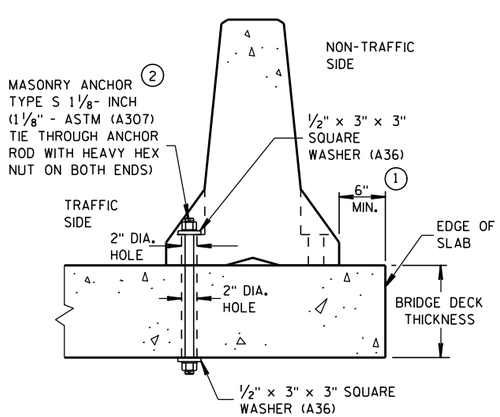
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-13c



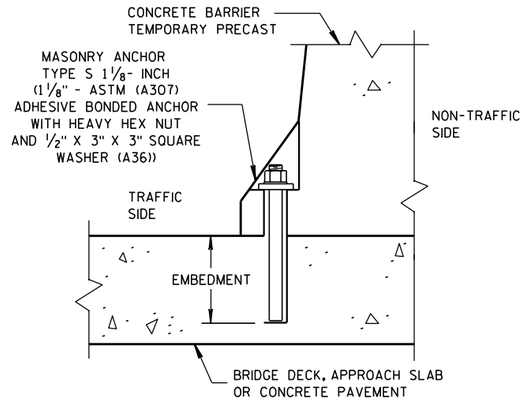
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR (2) INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

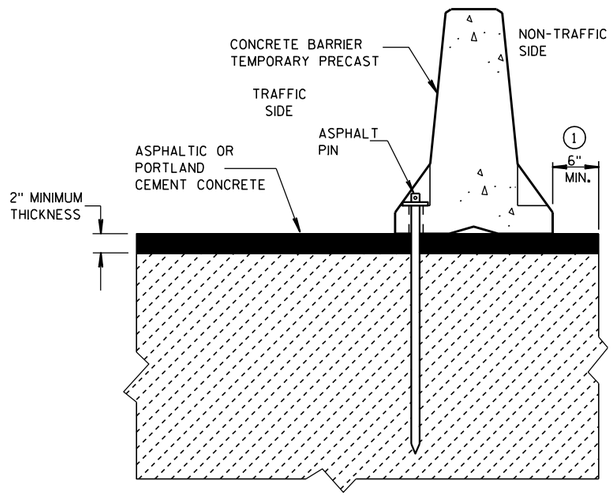
(1) CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

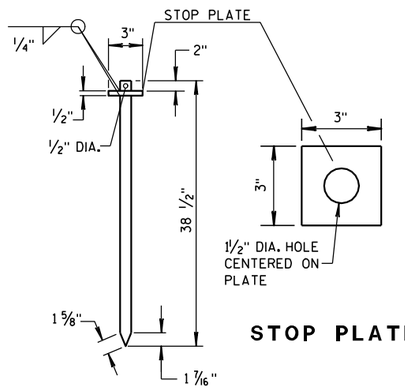
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

(2) ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.





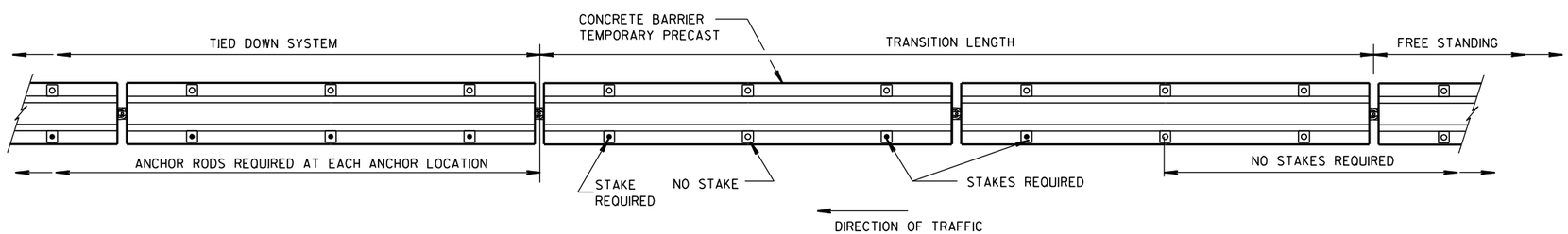
STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



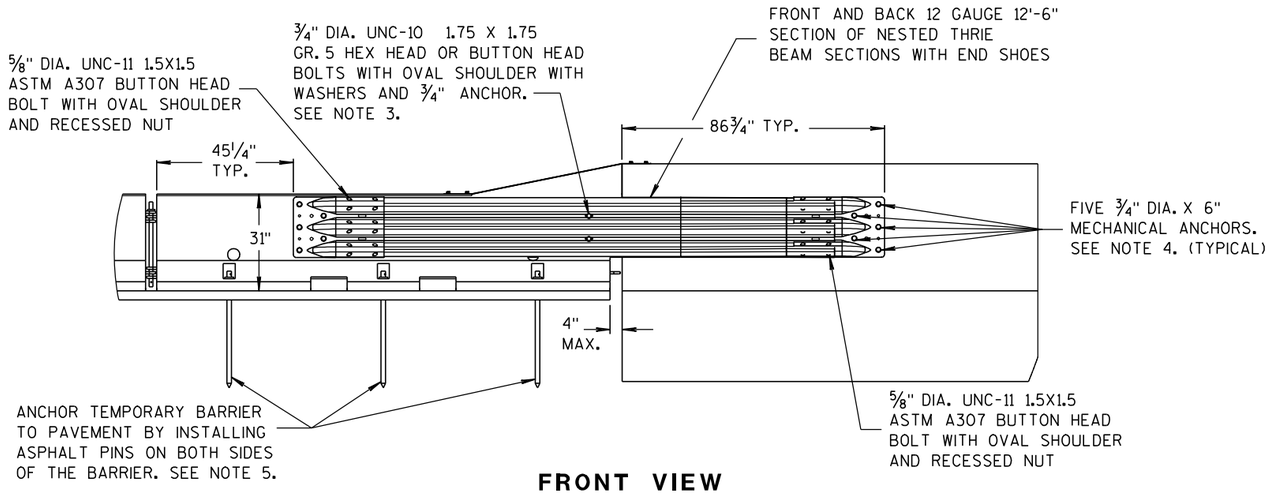
PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

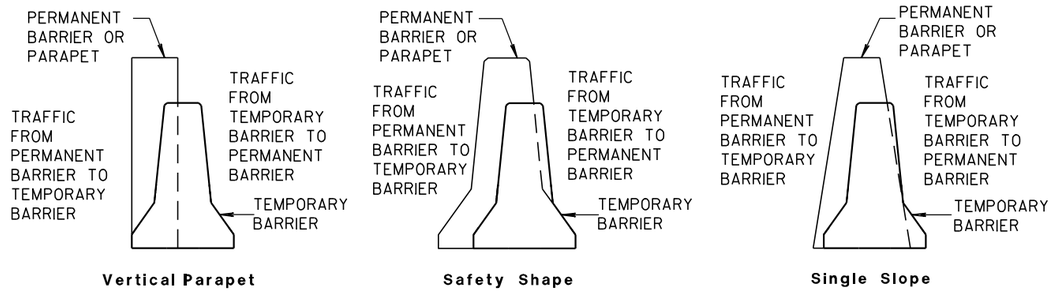
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...



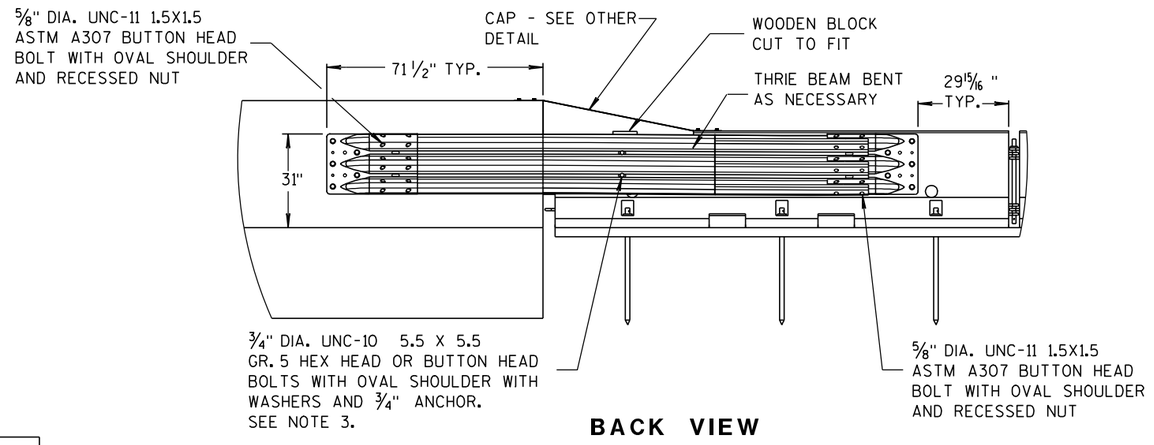
FRONT VIEW

NOTES

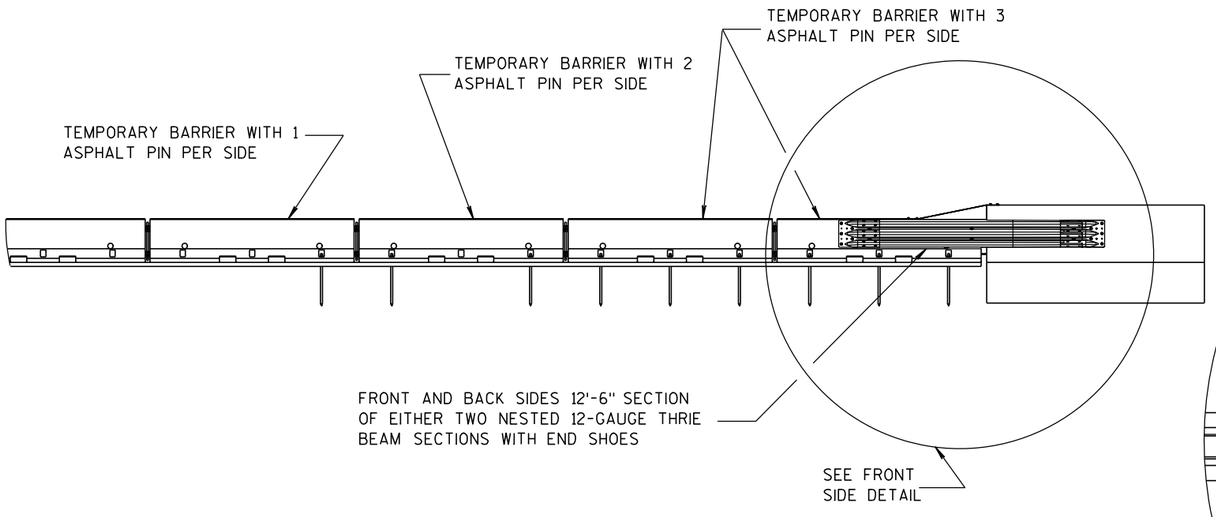
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48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



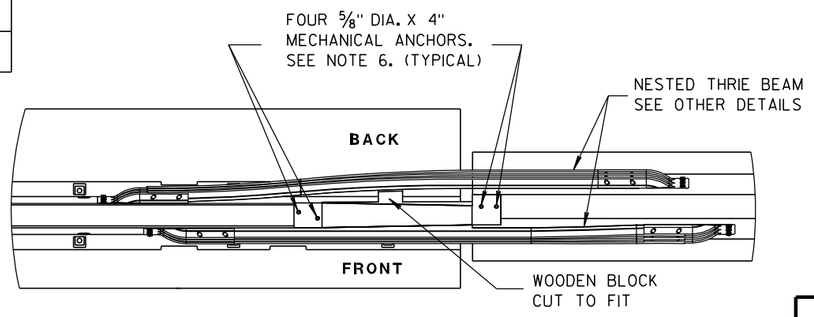
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



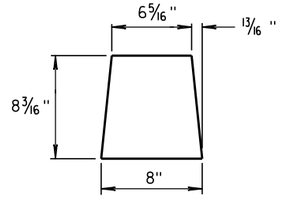
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

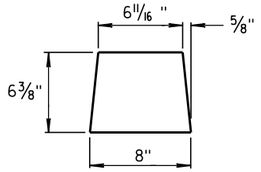
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

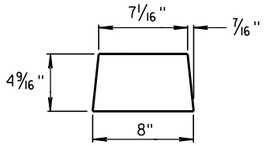
6
S.D.D. 14 B 7-13e



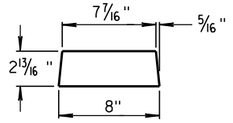
GUSSET 1



GUSSET 2

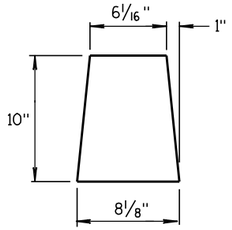


GUSSET 3

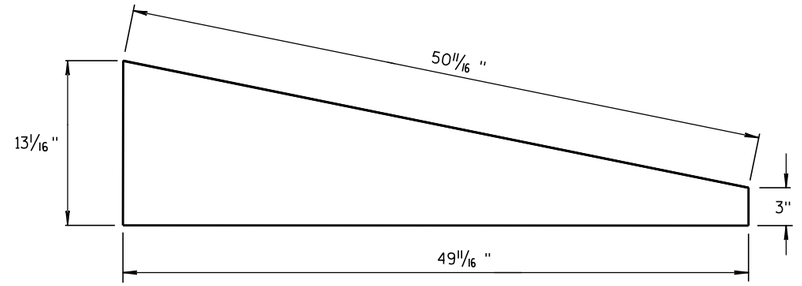


GUSSET 4

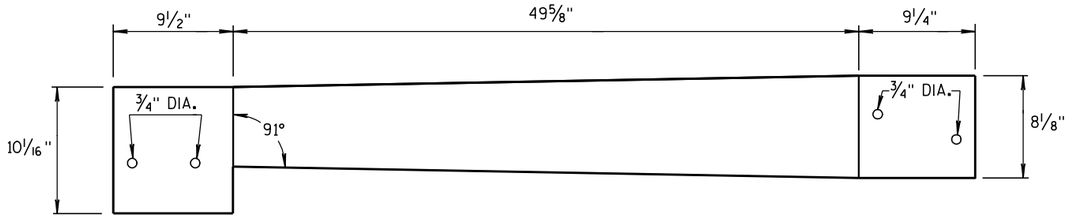
GUSSETS

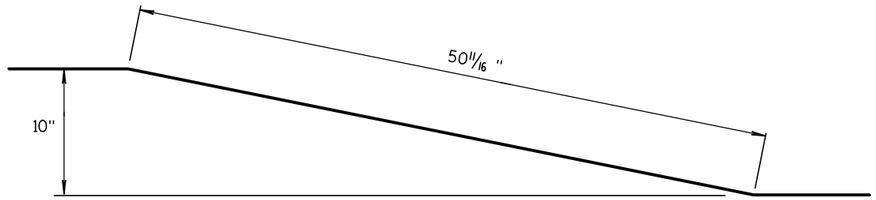


END PLATE

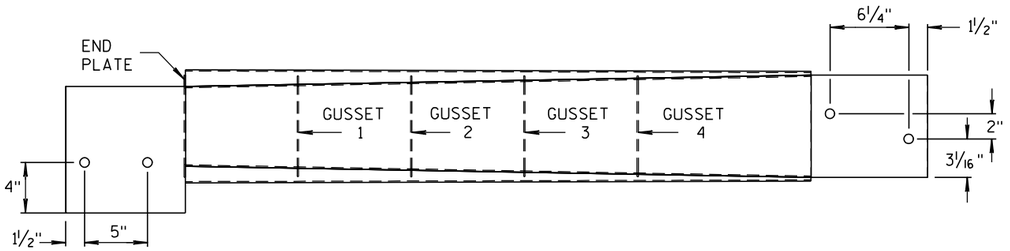


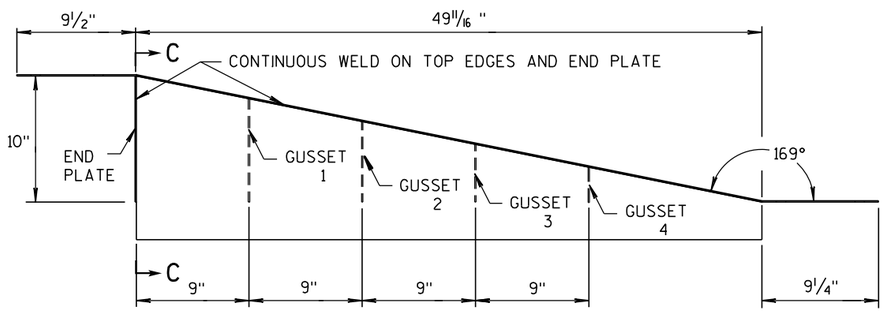
SIDE PLATE

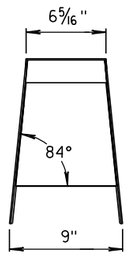




TOP PLATE







SECTION C-C

NOTES

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

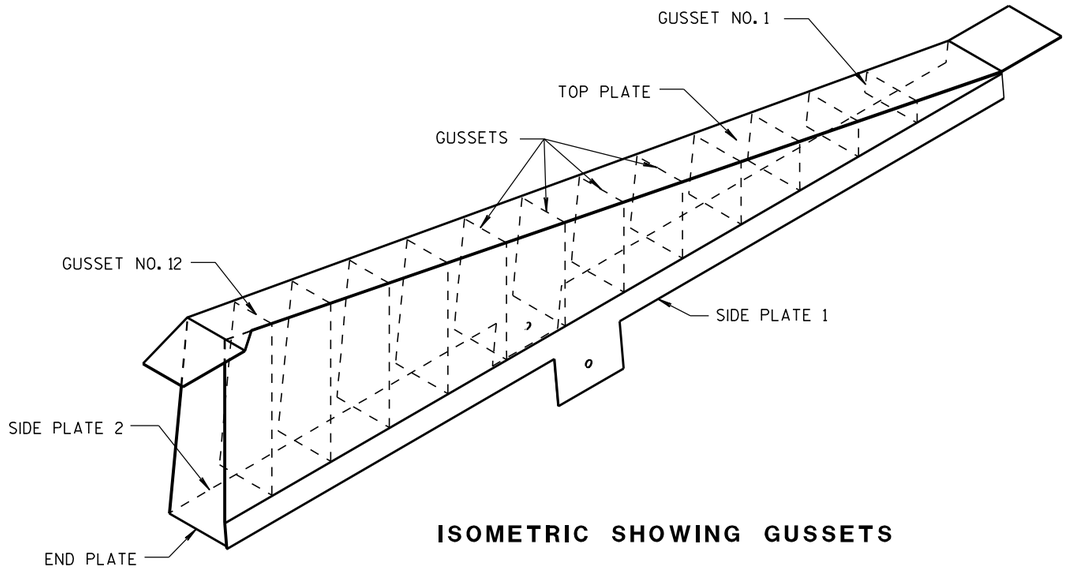
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

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

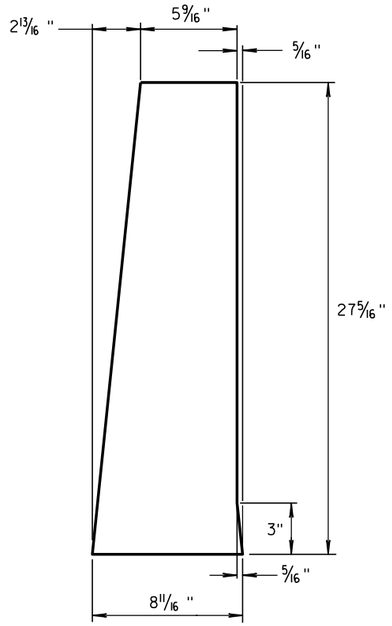
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

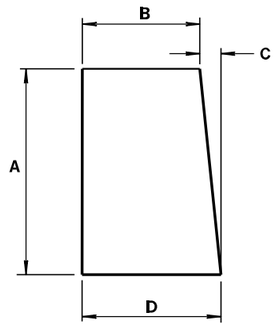


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



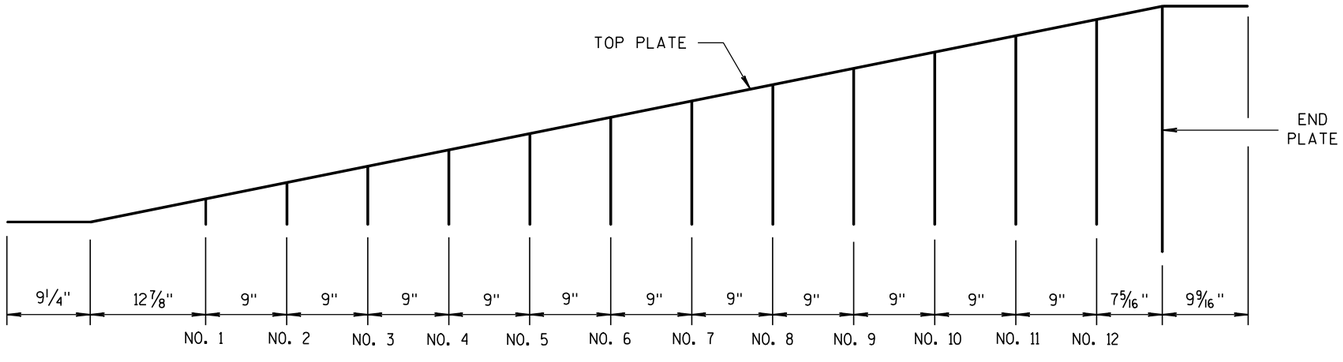
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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S.D.D. 14 B 7-13g

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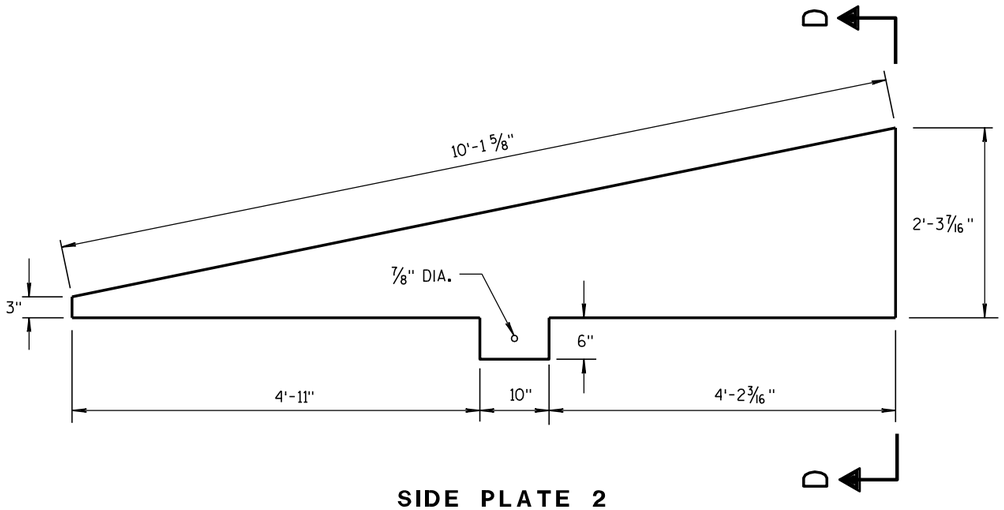
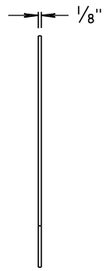
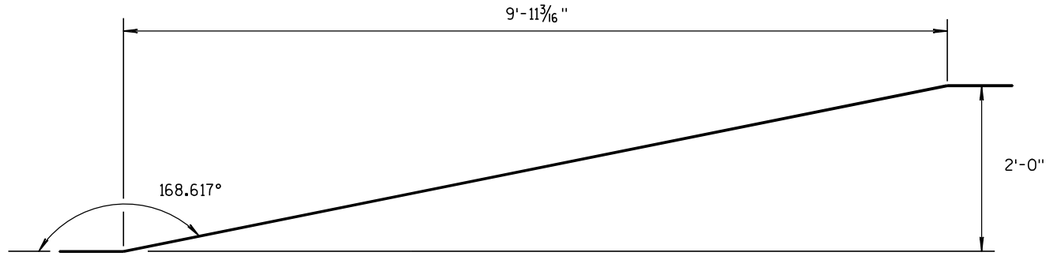


SIDE PLATE 2

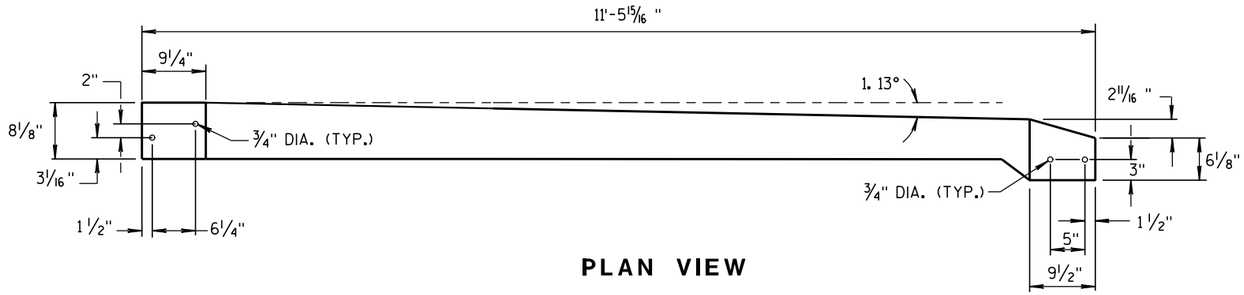


END VIEW



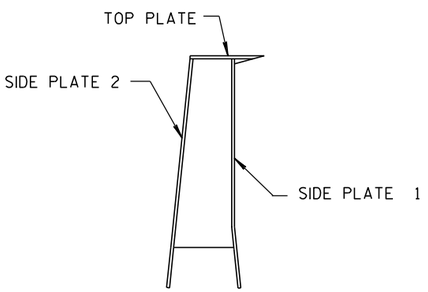
SIDE VIEW

TOP PLATE

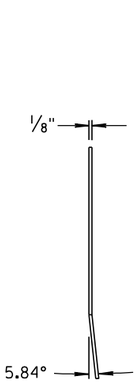


PLAN VIEW

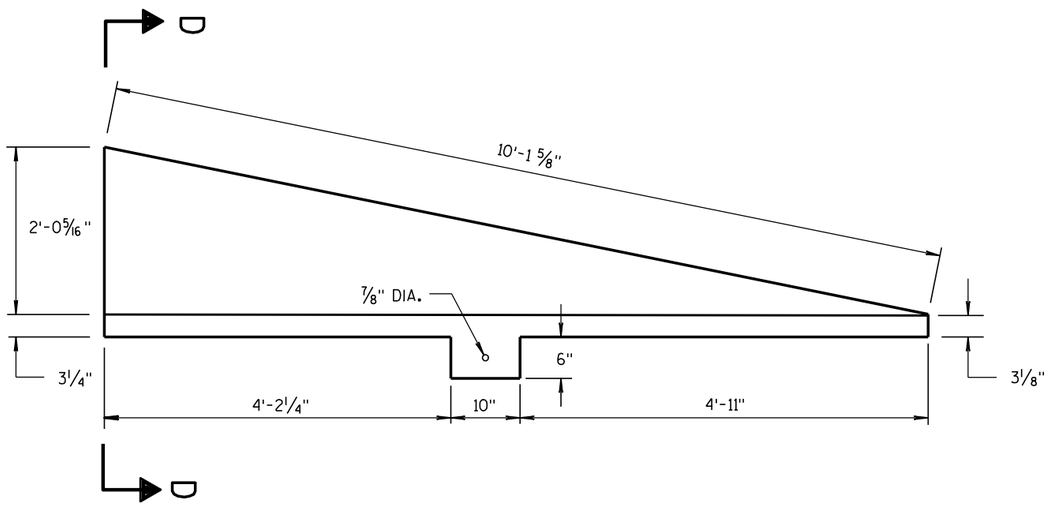
TOP PLATE



SECTION D-D



END VIEW



SIDE PLATE 1

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 8/31/2012 DATE /S/ Jerry H. ROADWAY STANDARDS ENGINEER 27 ENT FHWA

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S.D.D. 14 B 7-13h

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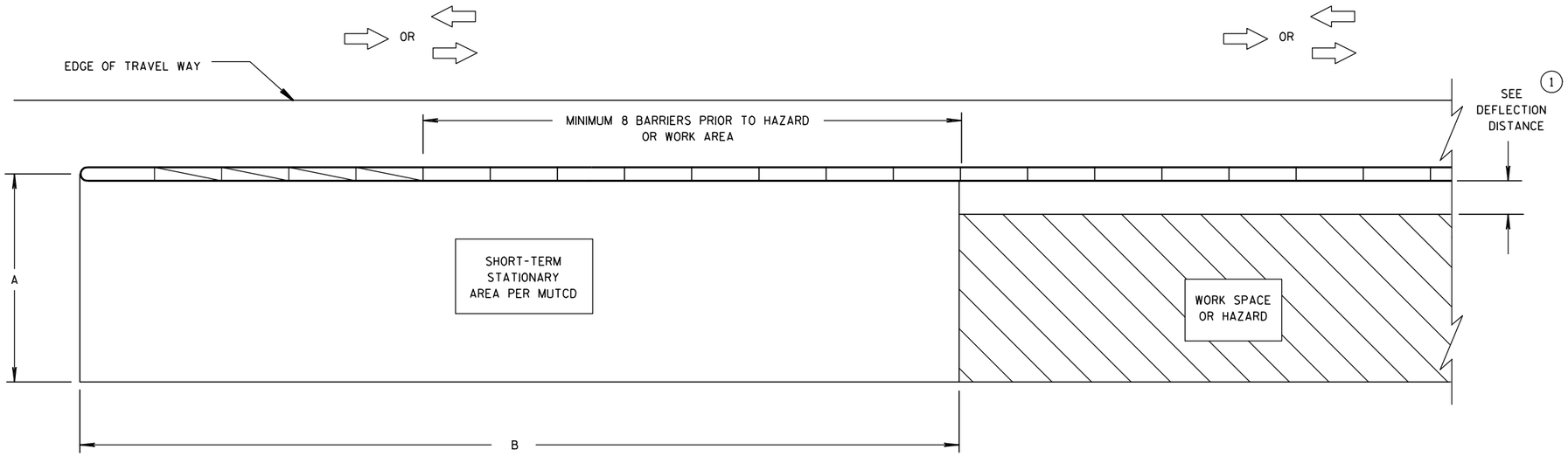
S.D.D. 14 B 7-13h



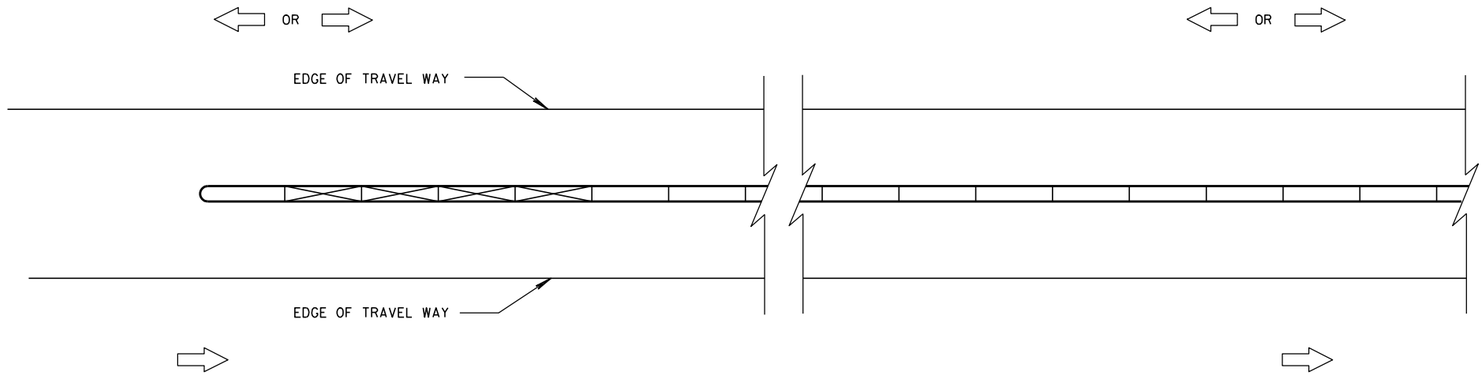
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

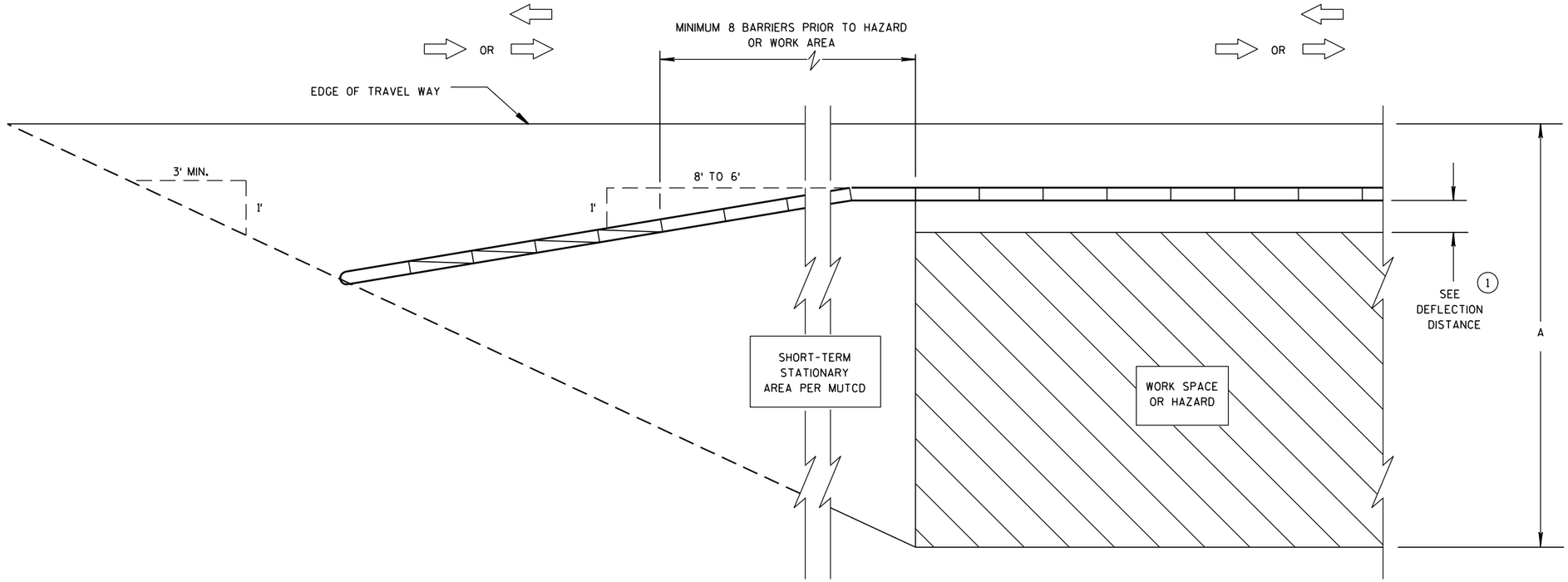
(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

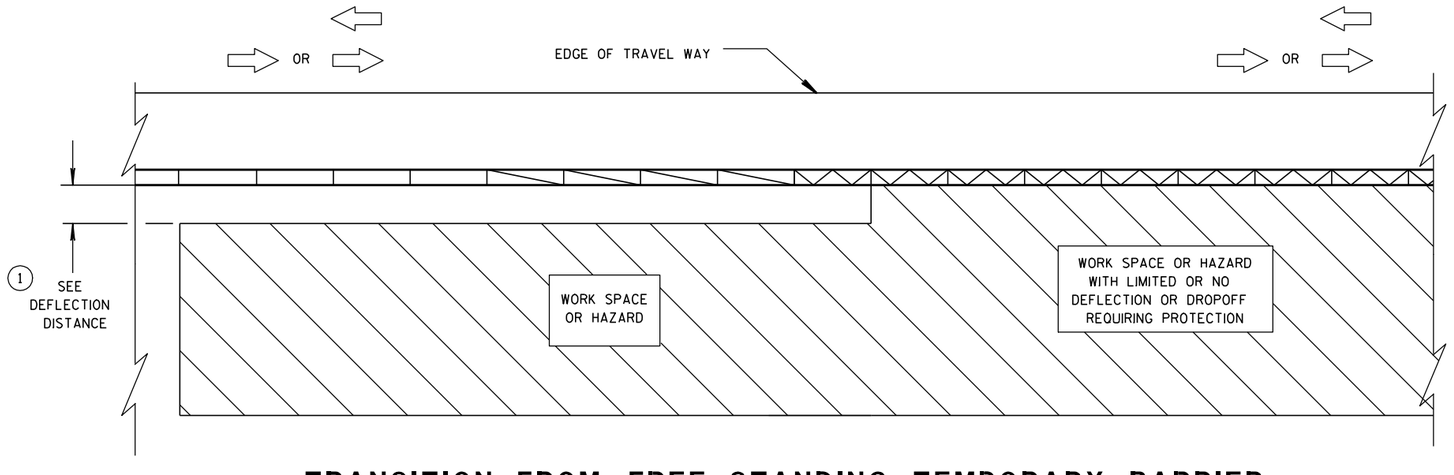
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 8-1a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

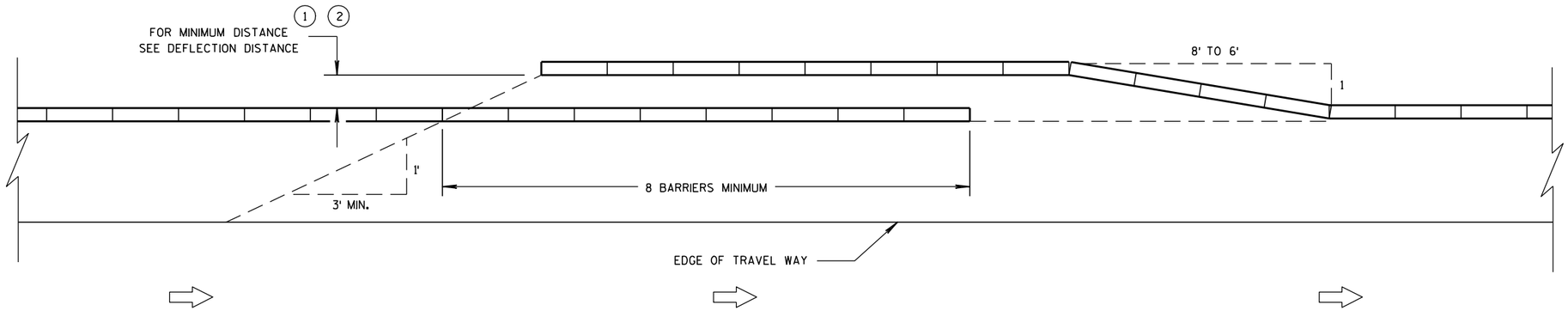
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

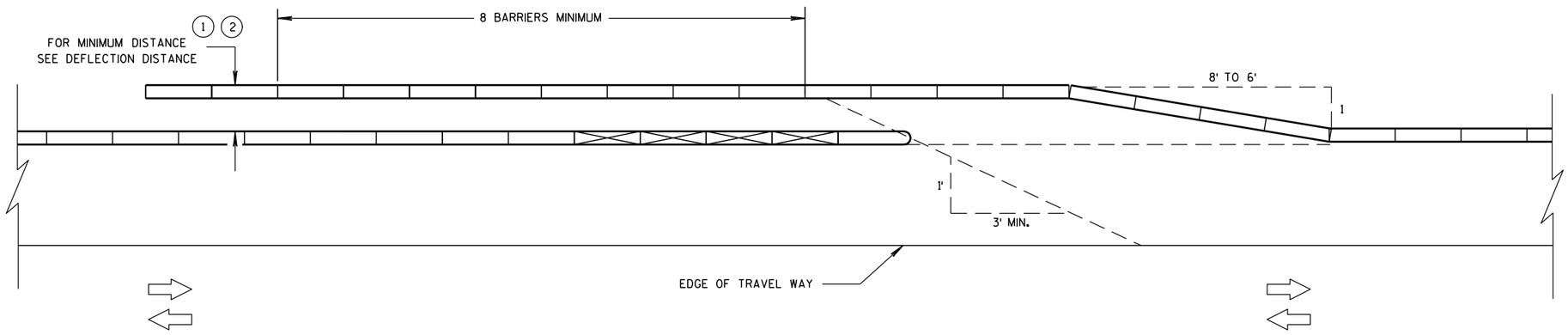
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

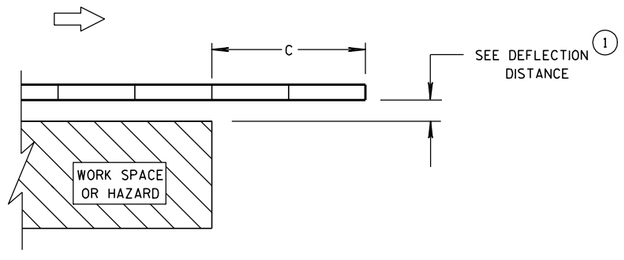
S.D.D. 14 B 8-1b



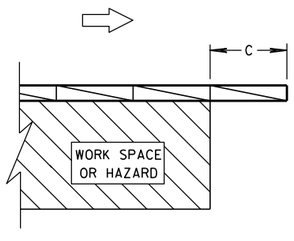
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

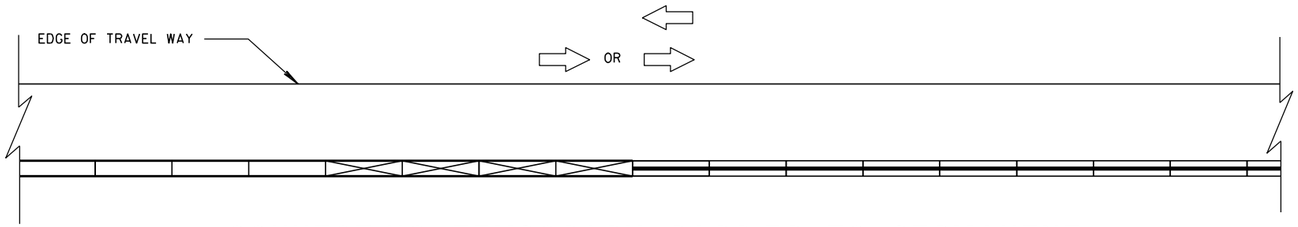
LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

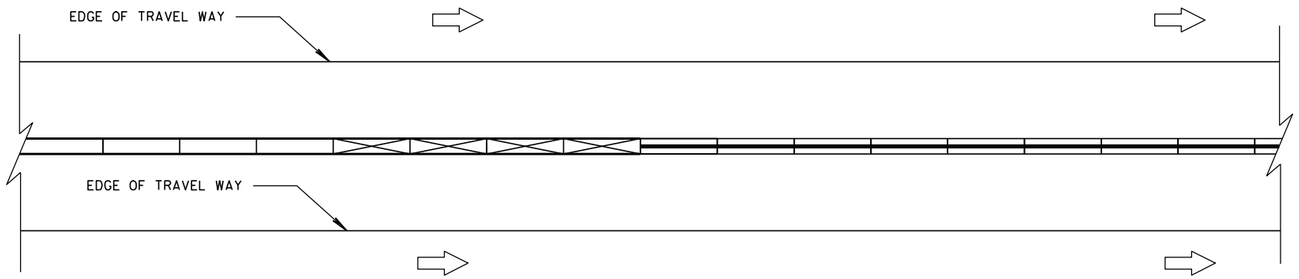
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 8-1c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

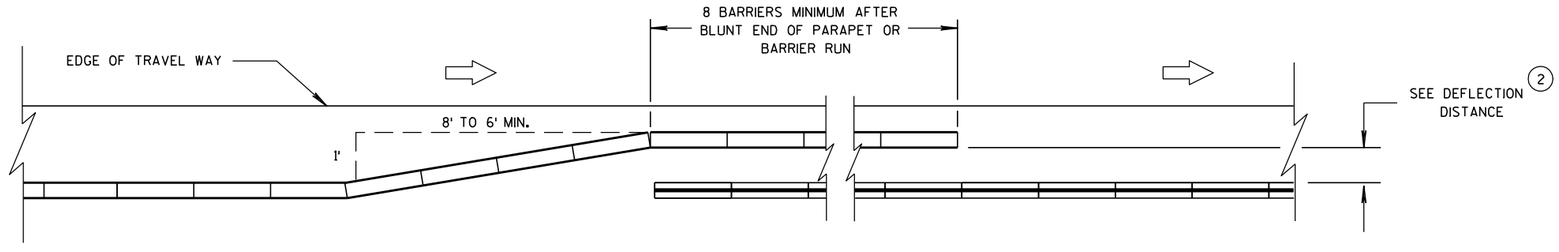
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

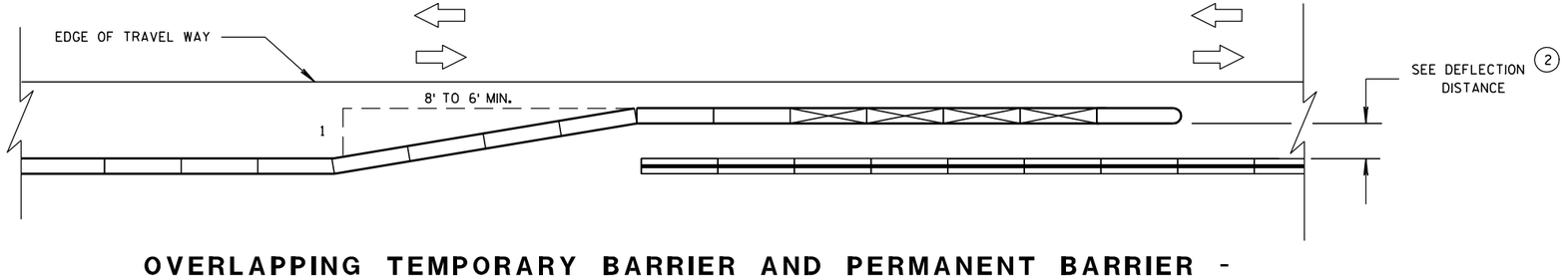
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 14 B 8-1d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

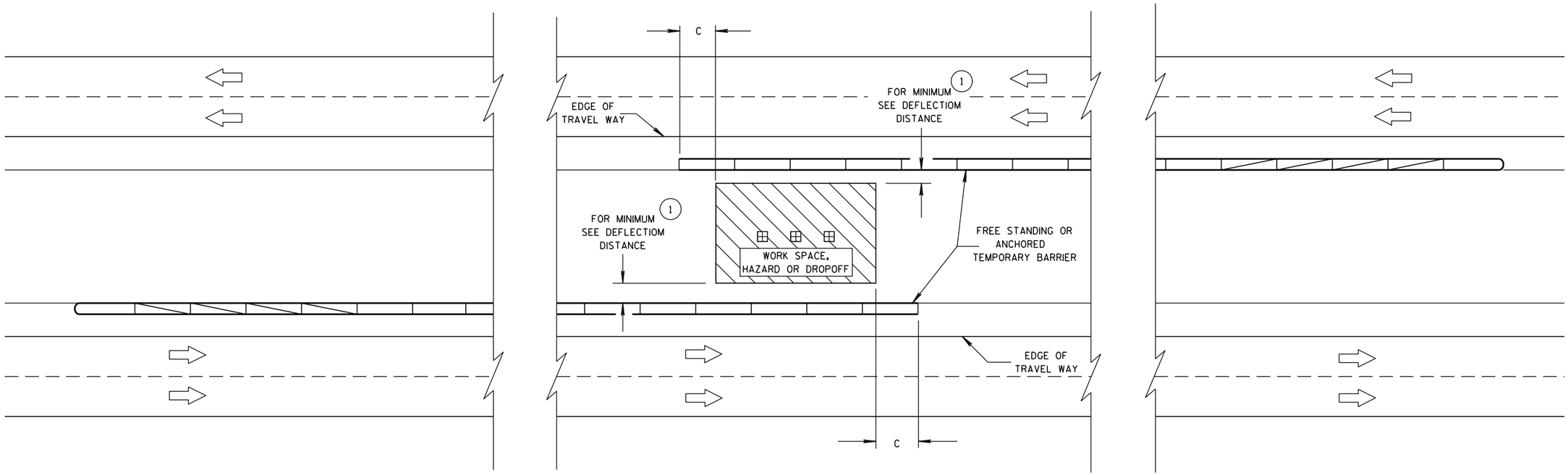
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

FHWA

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S.D.D. 14 B 8-1e

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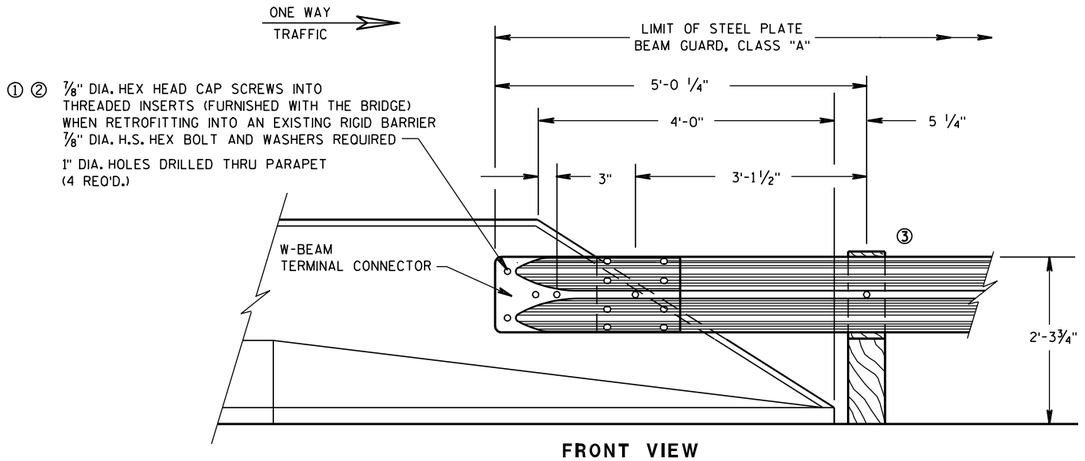


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

GENERAL NOTES

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

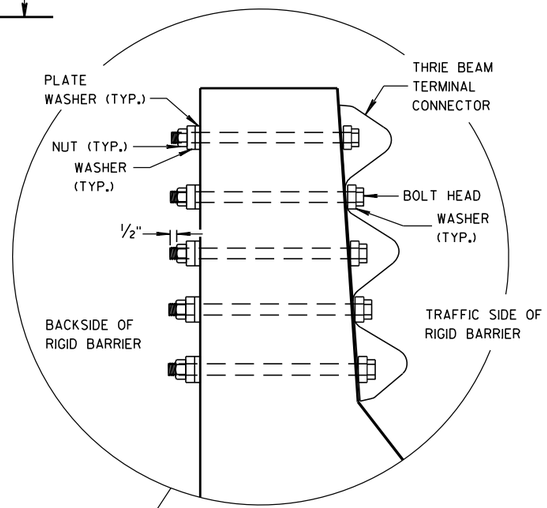
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

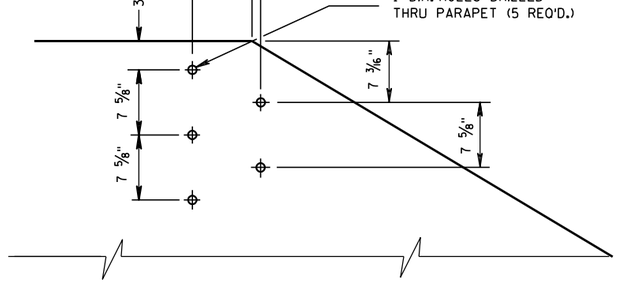
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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 TERMINAL CONNECTOR. 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.

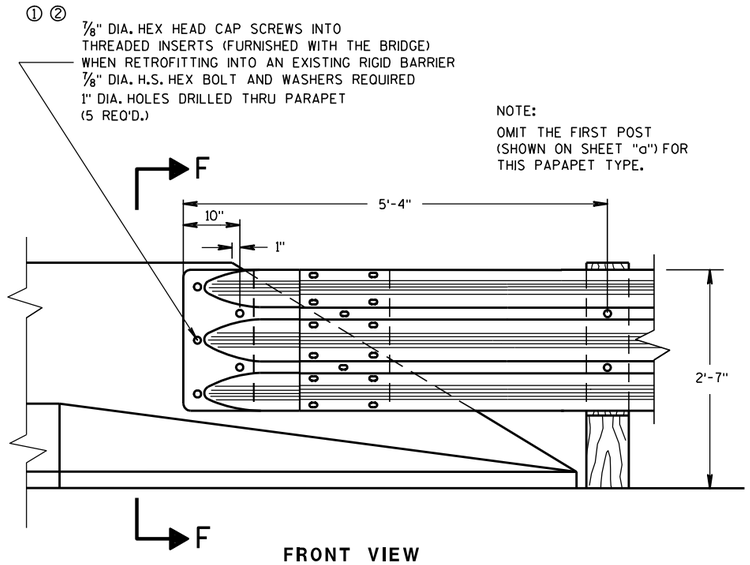
③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

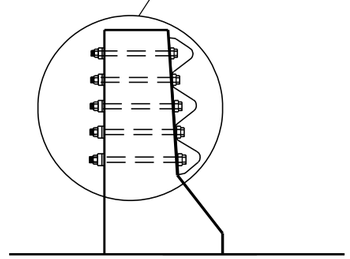




DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE FHWA	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER

6
S.D.D. 14 B 20-11d

GENERAL NOTES

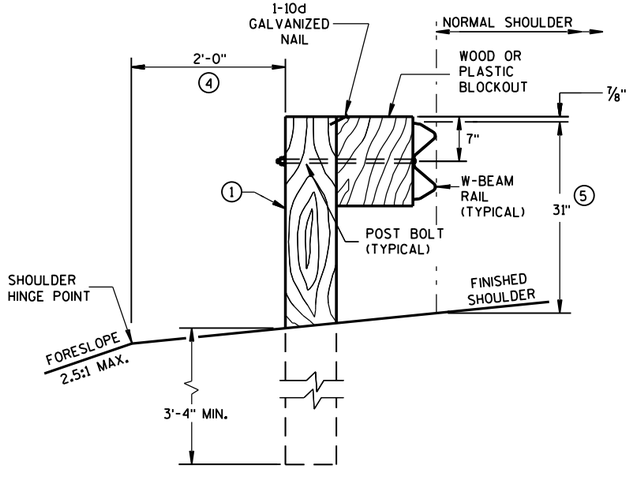
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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

3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES 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.

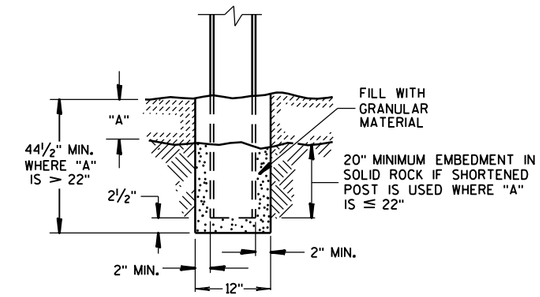
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

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".



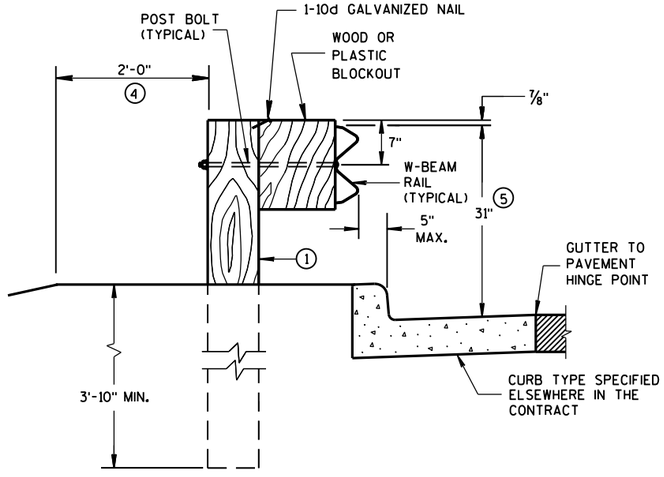
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



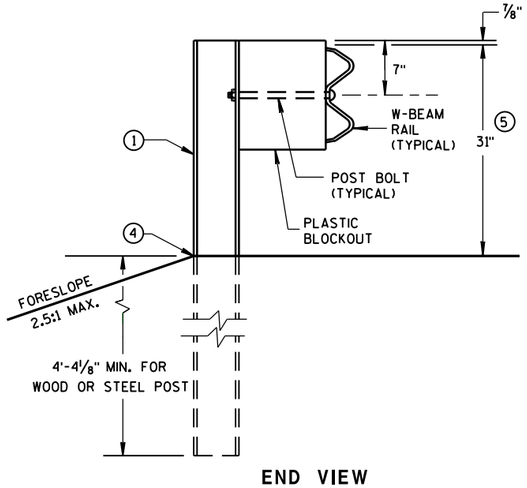
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



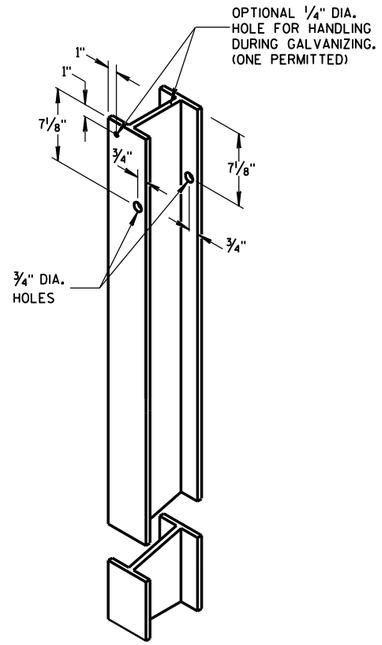
END VIEW

LOCATED ALONG A CURBED ROADWAY

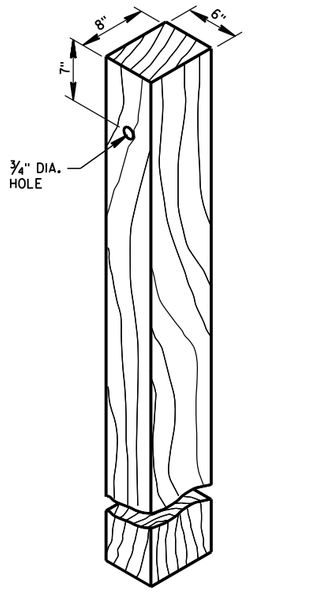


END VIEW

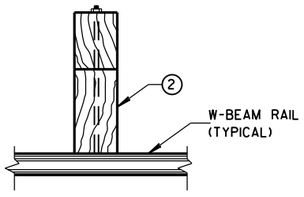
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



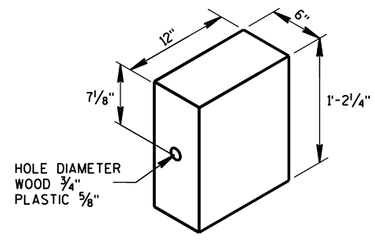
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



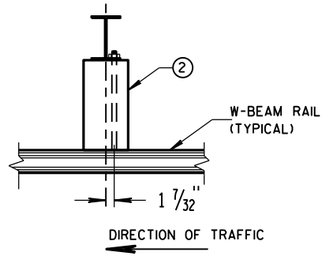
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

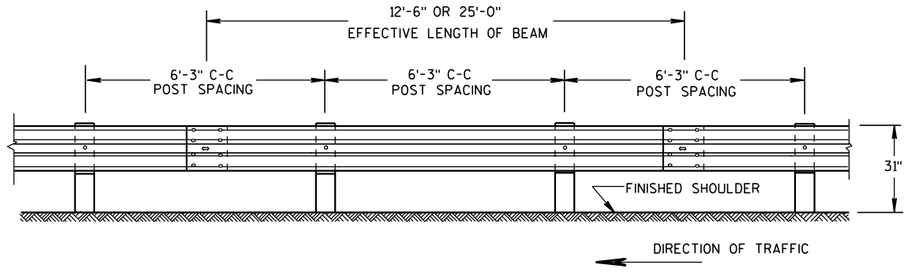


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

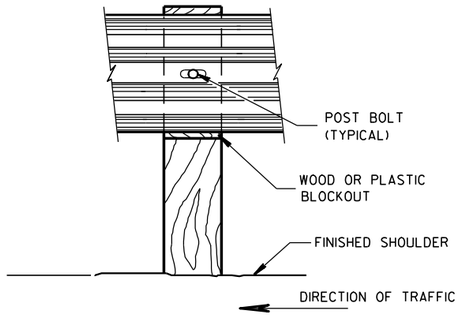
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



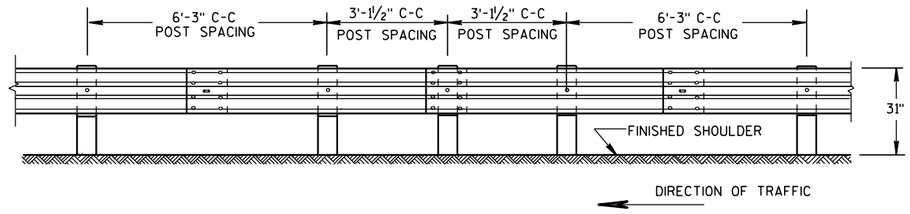
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. 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.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

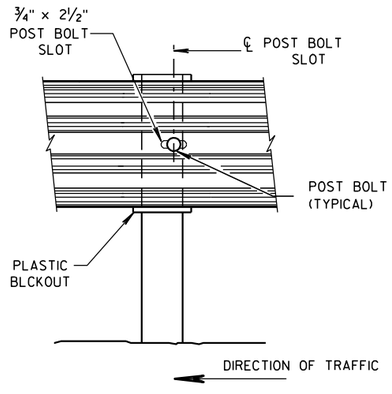
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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.

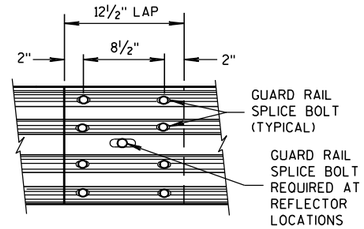


FRONT VIEW

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

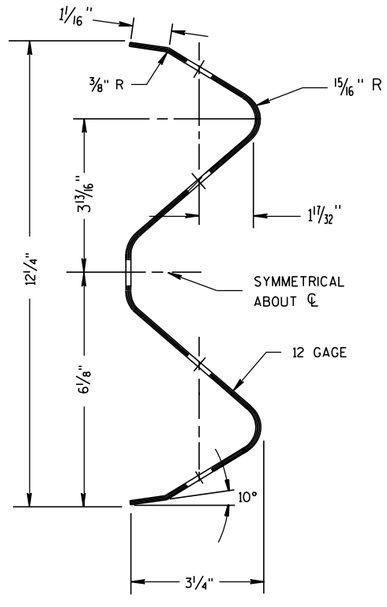


FRONT VIEW AT STEEL POST

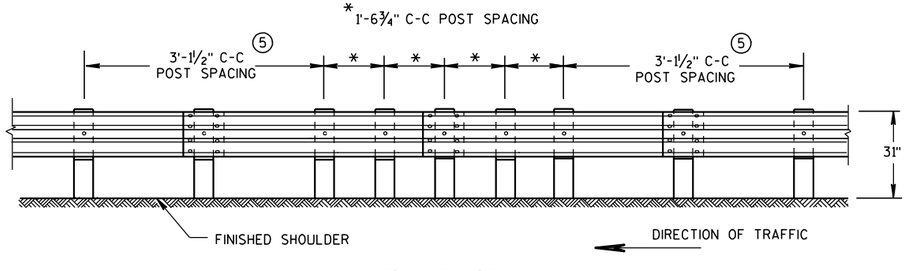


FRONT VIEW

MID-SPAN BEAM SPLICE

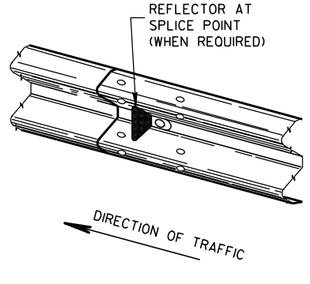


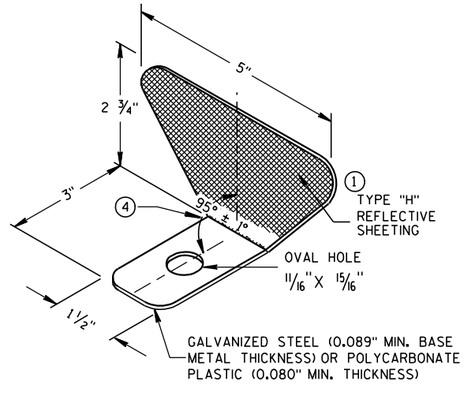
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

REFLECTOR SPACING ②

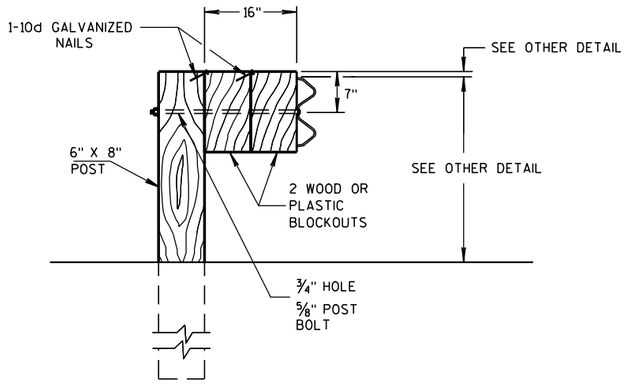
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ④	3
	> 200'	100' C-C	2	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

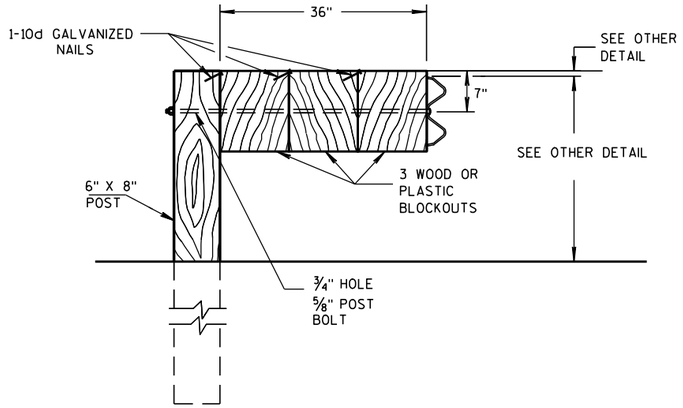
S.D.D. 14 B 42-2b

S.D.D. 14 B 42-2b



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.

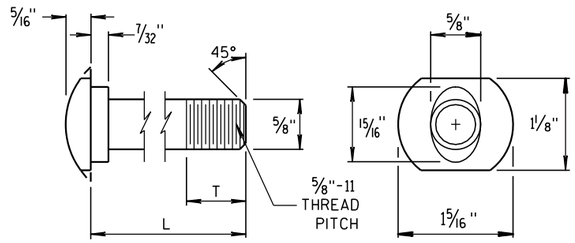


DETAIL FOR 36" BLOCKOUT DEPTH

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.

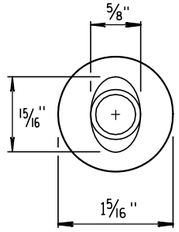
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

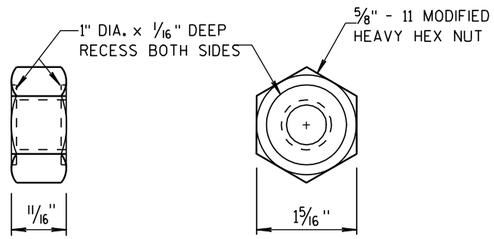


POST BOLT TABLE

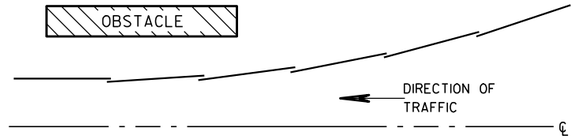
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

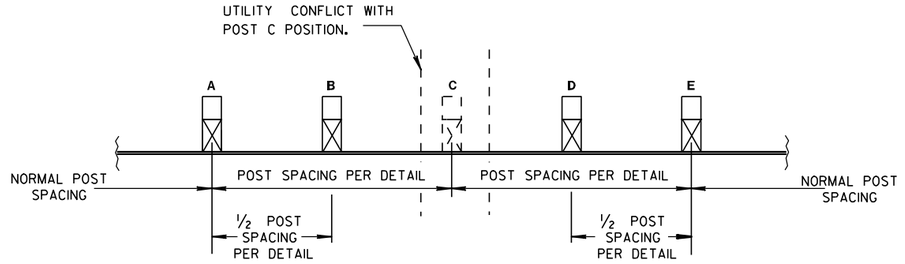


POST BOLT AND RECESS NUT

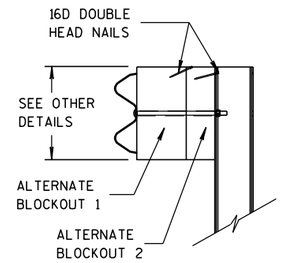


PLAN VIEW

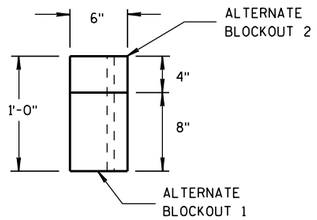
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

6
S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), 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) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(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.

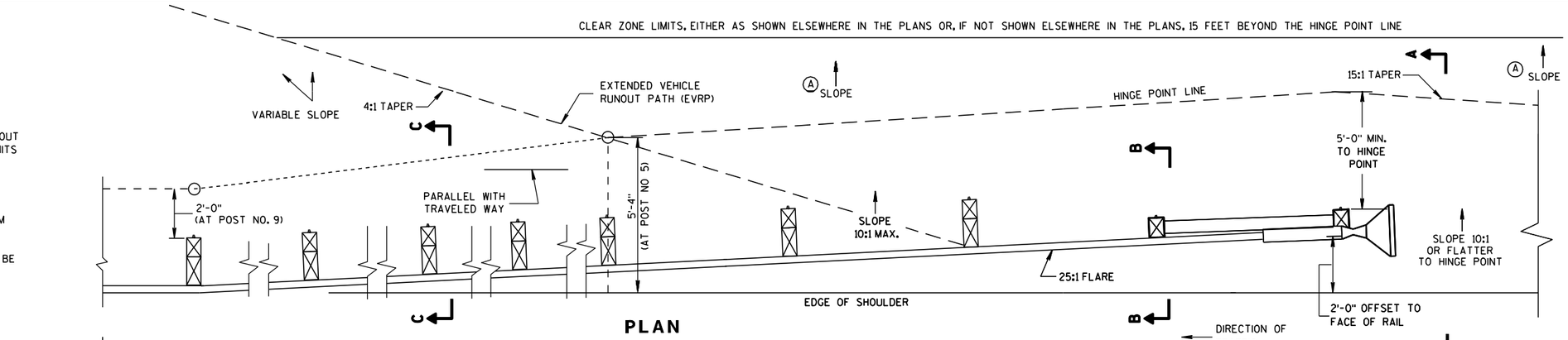
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

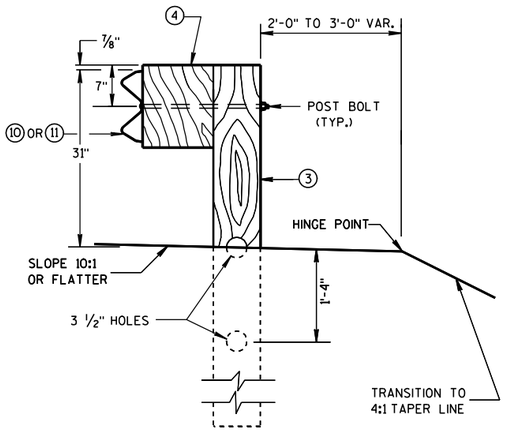
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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.

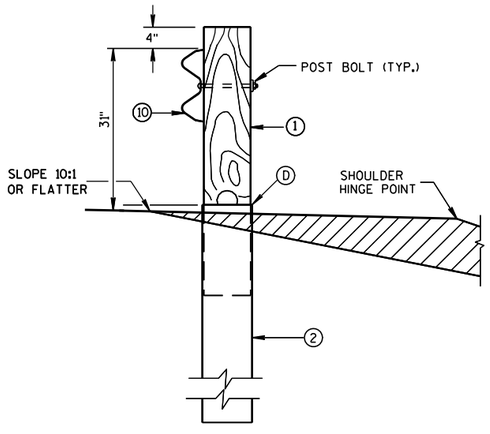
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

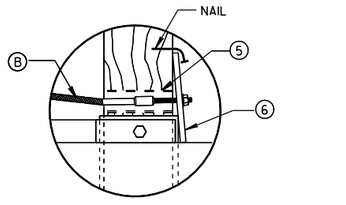


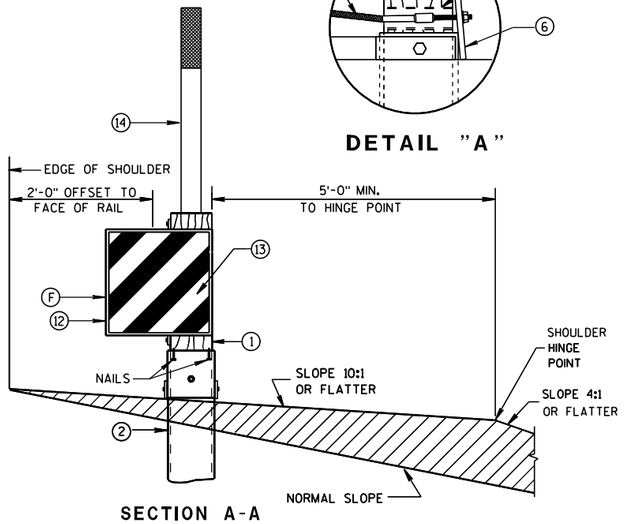


SECTION C-C
TYPICAL AT POST NOS. 3-9

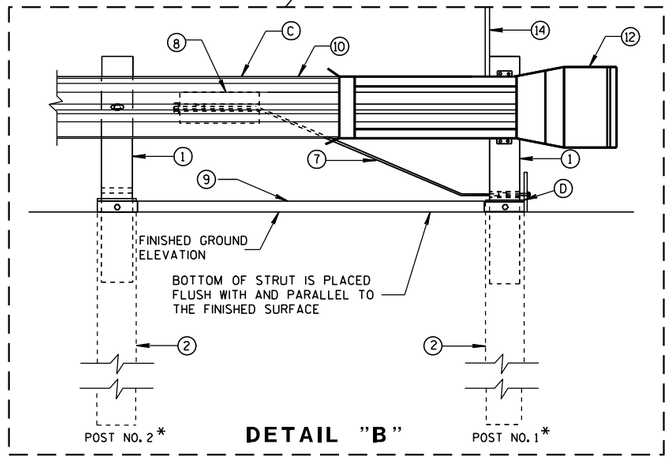


SECTION B-B
TYPICAL AT POST NO. 2*





SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

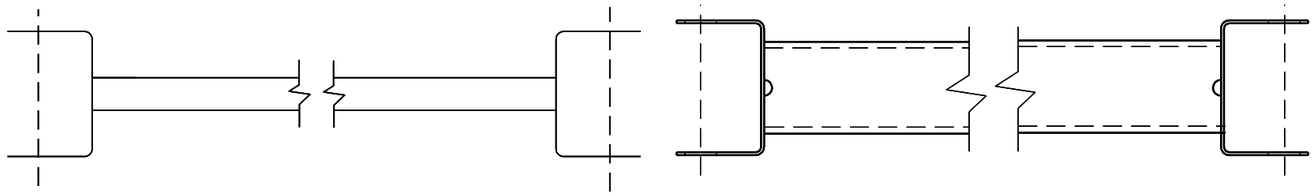
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1a

6

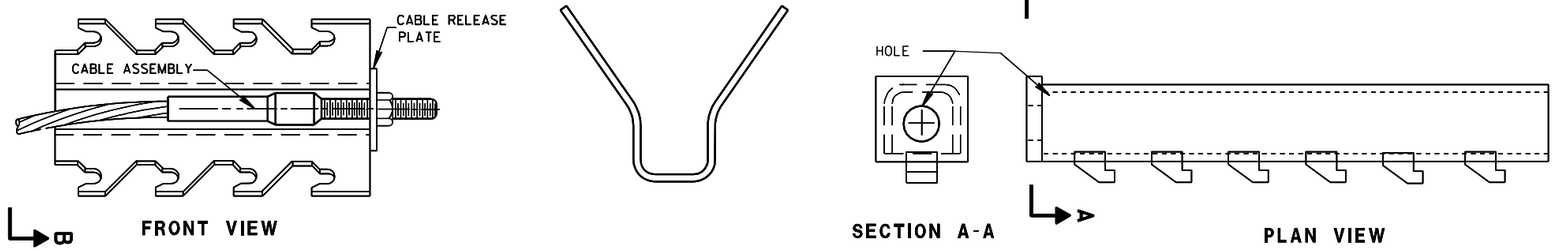
S.D.D. 14 B 44-1a



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 H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



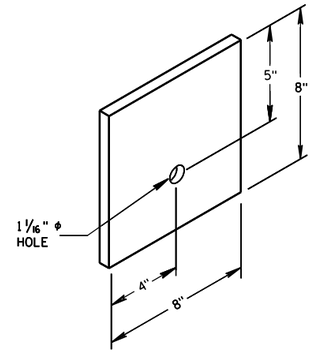
FRONT VIEW

SECTION B-B

SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



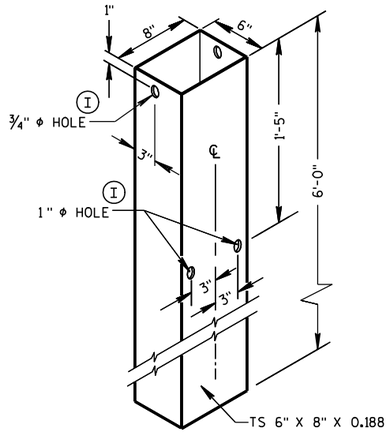
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

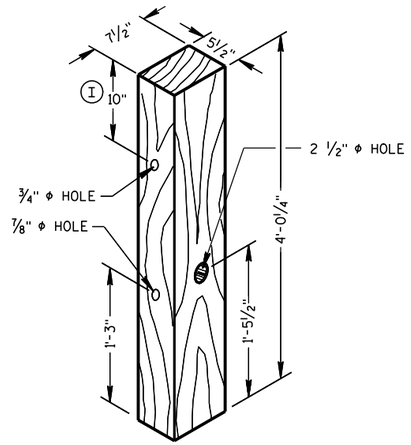
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

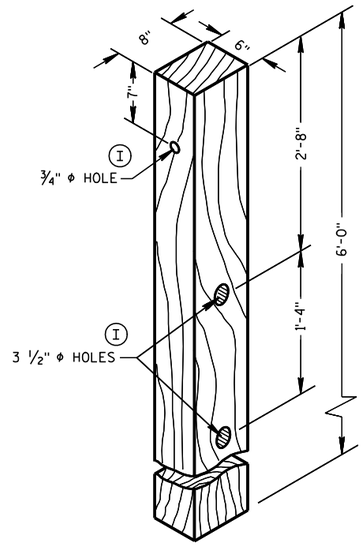


FOUNDATION TUBE (2)



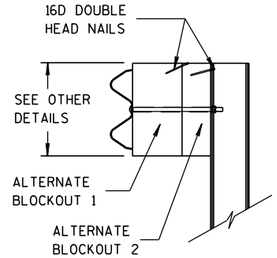
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

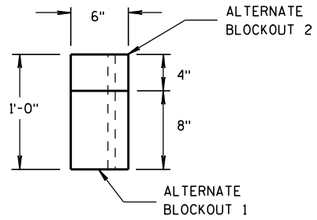


POSTS NUMBER 3-9

WOOD CRT POST (3)

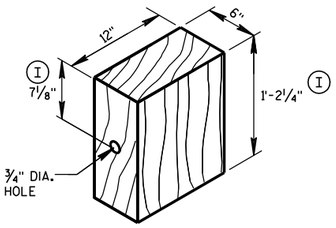


SIDE VIEW



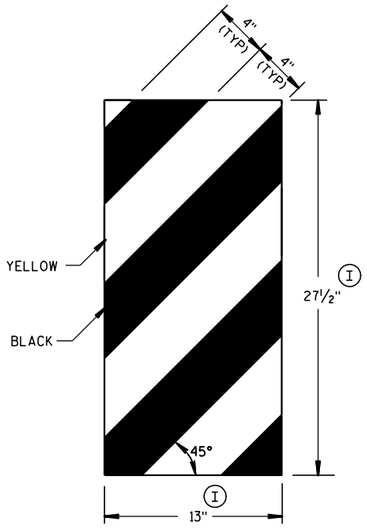
TOP VIEW

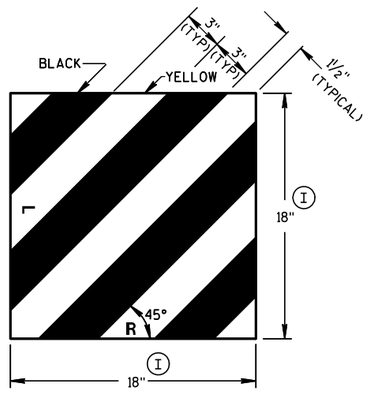
ALTERNATE WOOD BLOCKOUT DETAIL



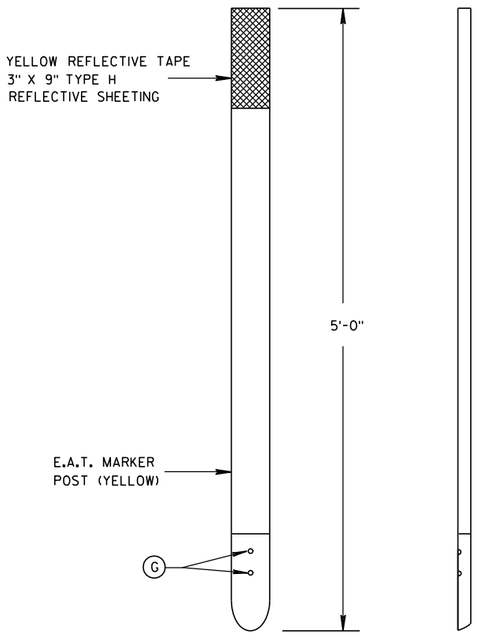
WOOD BLOCKOUT (4)

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





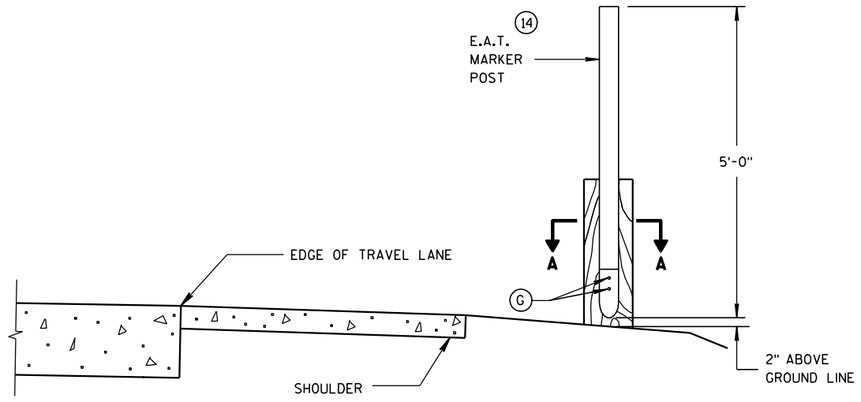
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

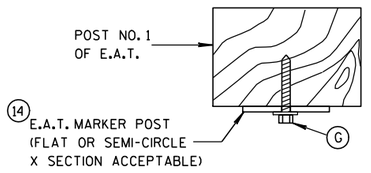
SIDE VIEW

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

5/23/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

39

FHWA

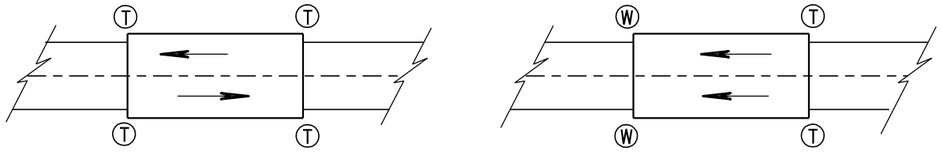
[illegible]ENT

6

S.D.D. 14 B 44-1c

6

S.D.D. 14 B 44-1c



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

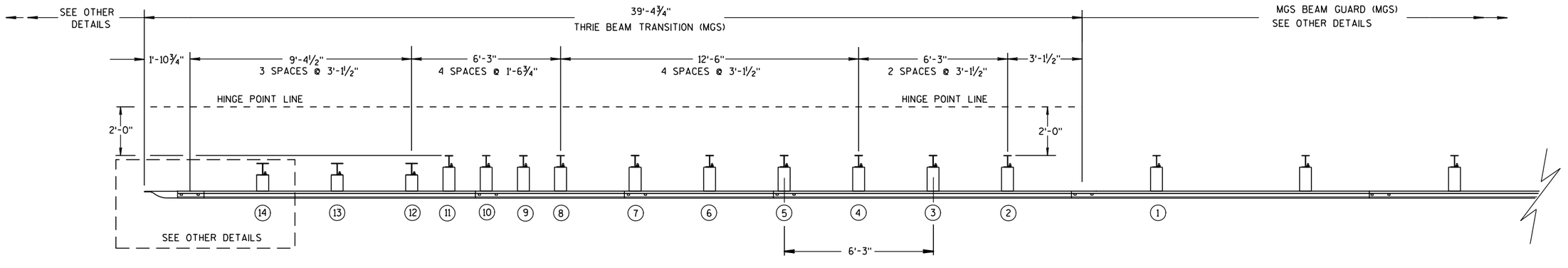
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

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

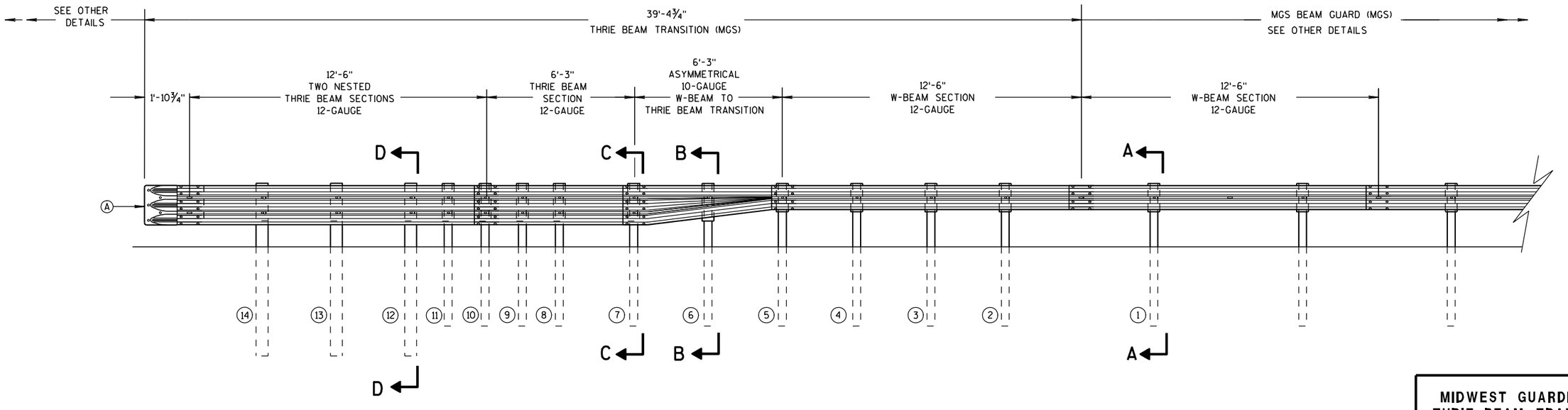
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

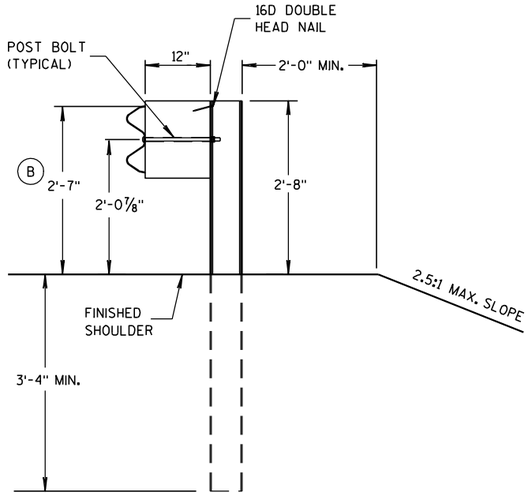
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3a

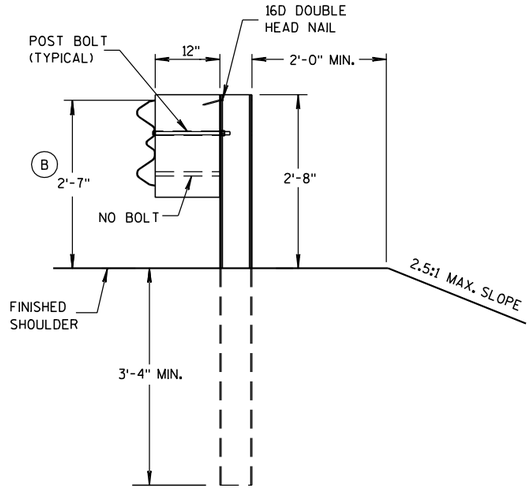
GENERAL NOTES

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



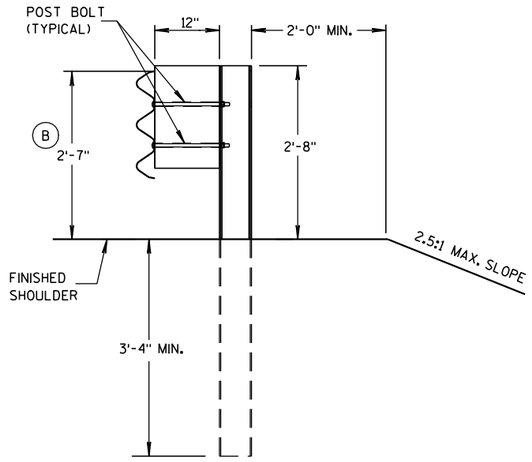
SECTION A-A

POSTS 1-5



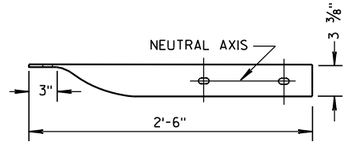
SECTION B-B

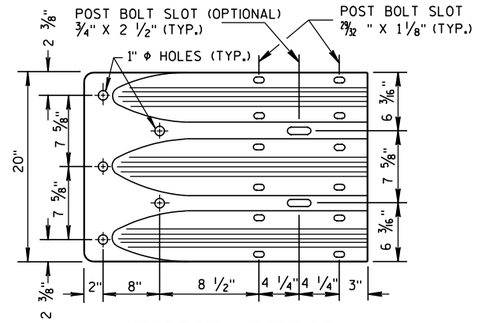
POST 6



SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR

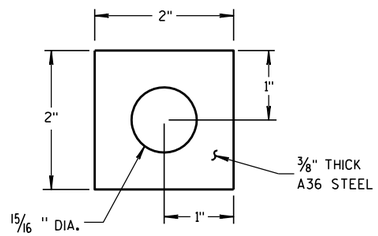
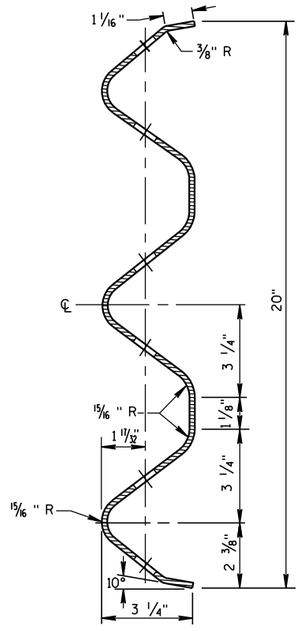
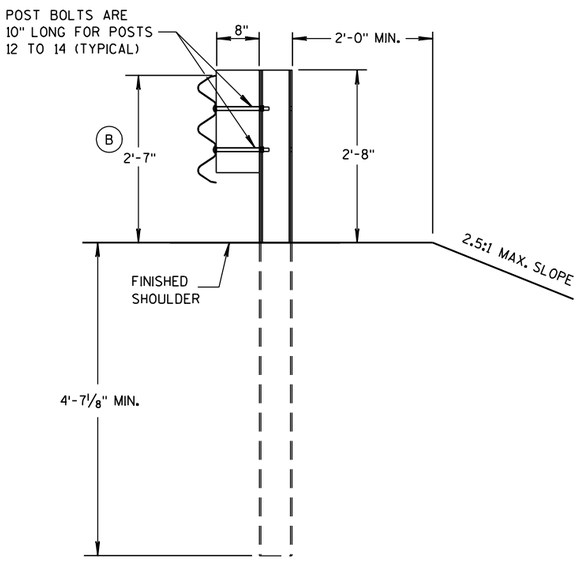


PLATE WASHER DETAIL

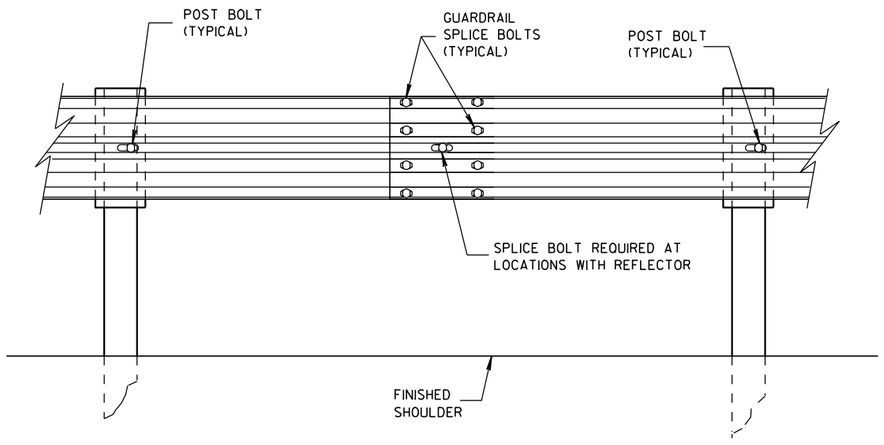


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-14



SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

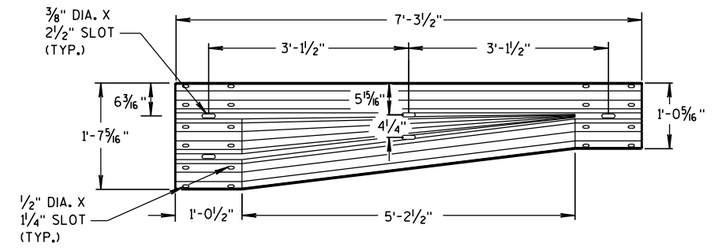
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

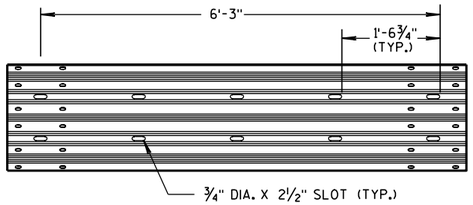
S.D.D. 14 B 45-3b

6

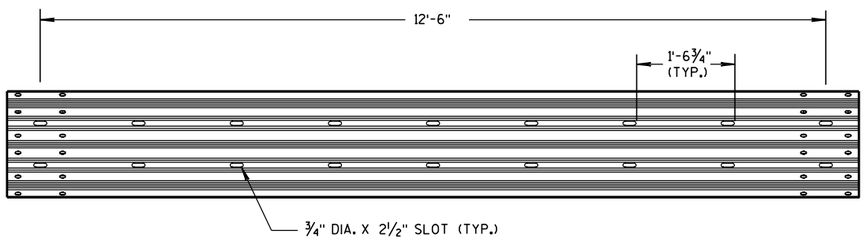
S.D.D. 14 B 45-3b



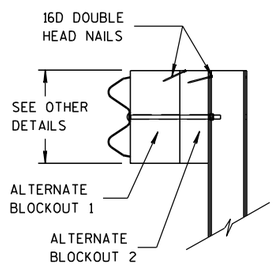
W-BEAM TO THRIE BEAM TRANSITION SECTION



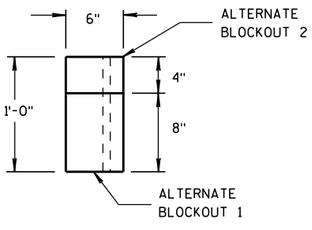
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

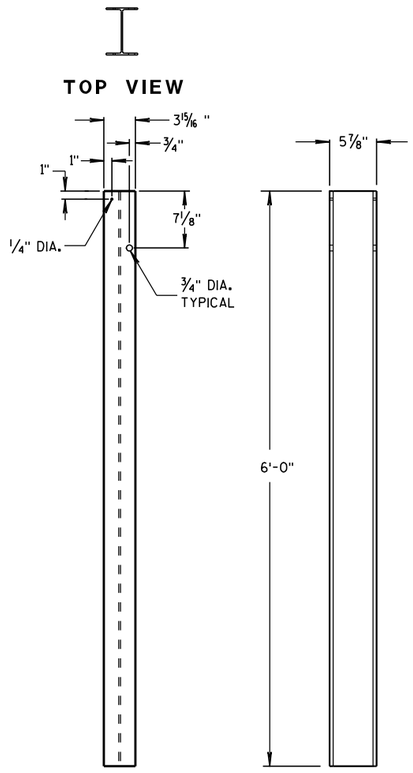


SIDE VIEW



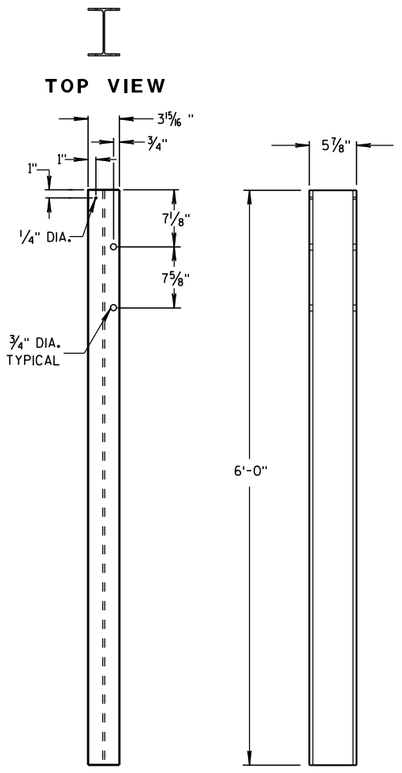
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



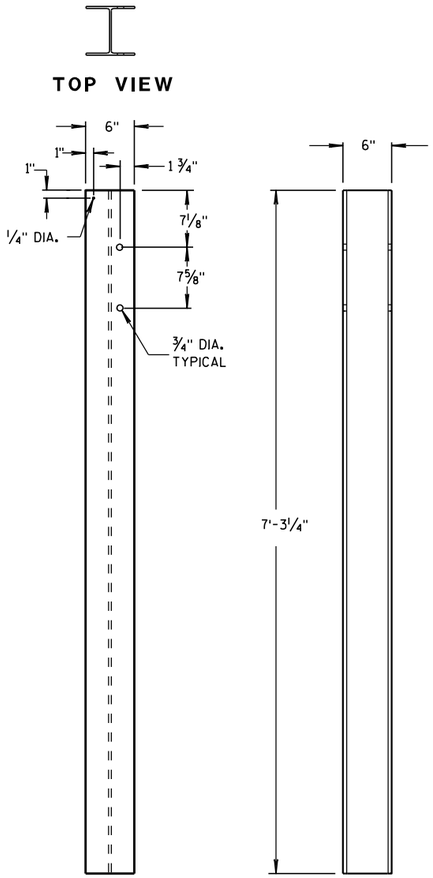
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5



FRONT VIEW SIDE VIEW

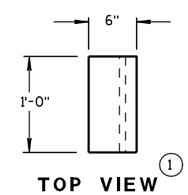
STEEL POSTS 6-11



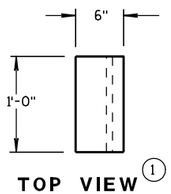
FRONT VIEW SIDE VIEW

STEEL POSTS 12-14

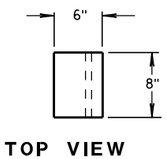
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



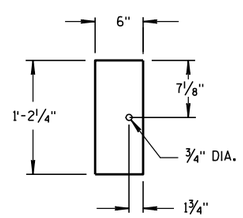
TOP VIEW (1)



TOP VIEW (1)

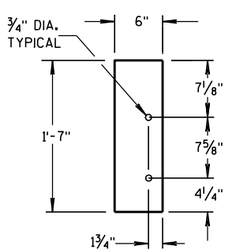


TOP VIEW



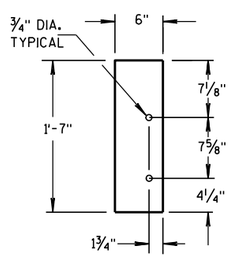
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

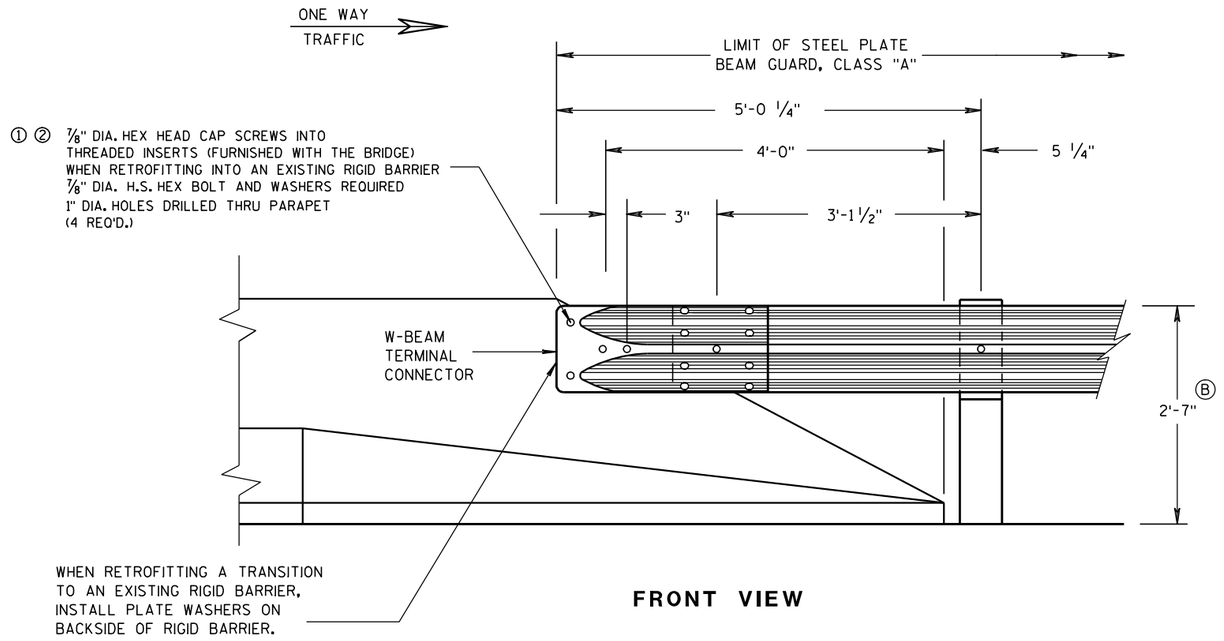
BLOCKOUT POSTS 12-14

STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

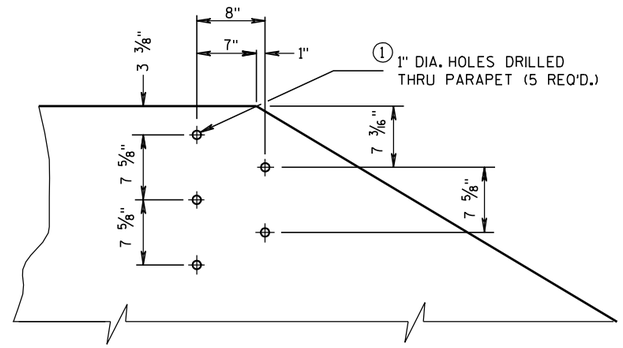
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

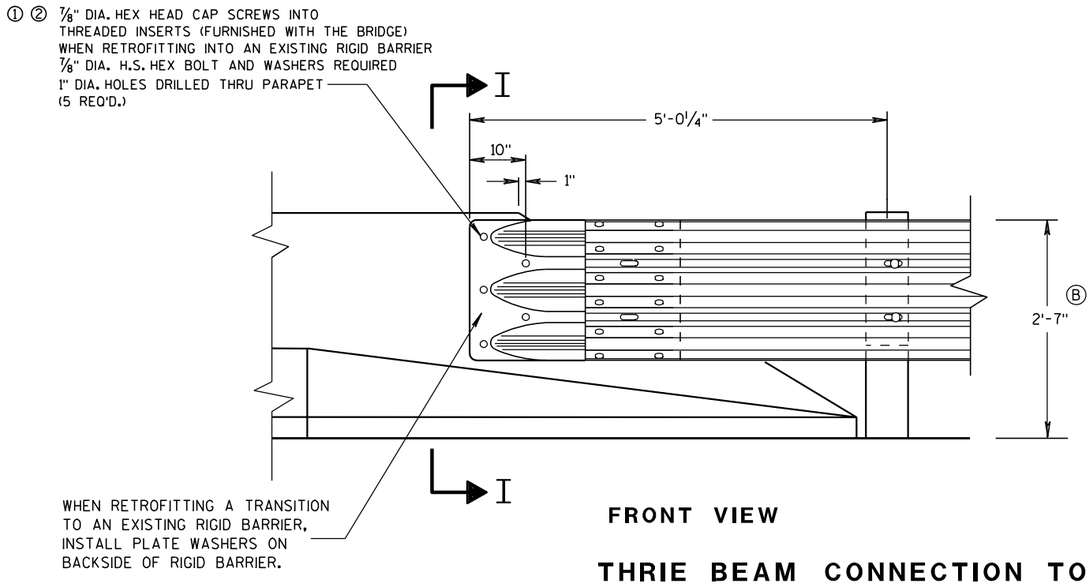
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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.

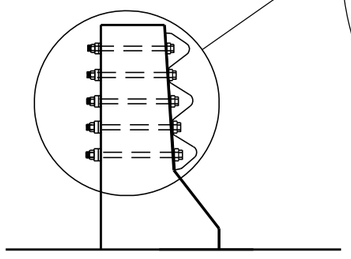
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



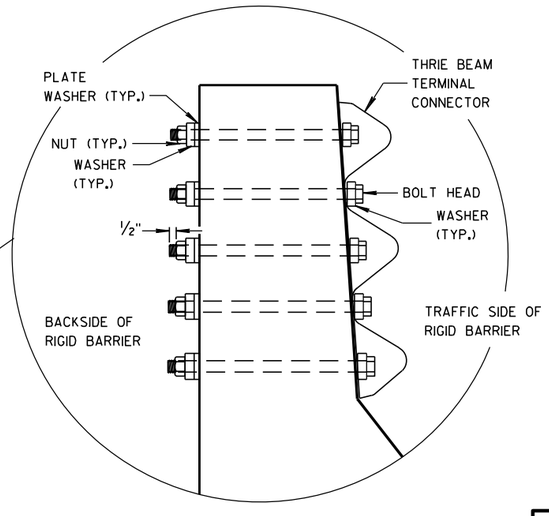
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

43

ENT

FHWA

6

S.D.D. 14 B 45-3f

6

S.D.D. 14 B 45-3f

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 8' TYPE III BARRICADE
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

GENERAL NOTES :

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

(1) 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.

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

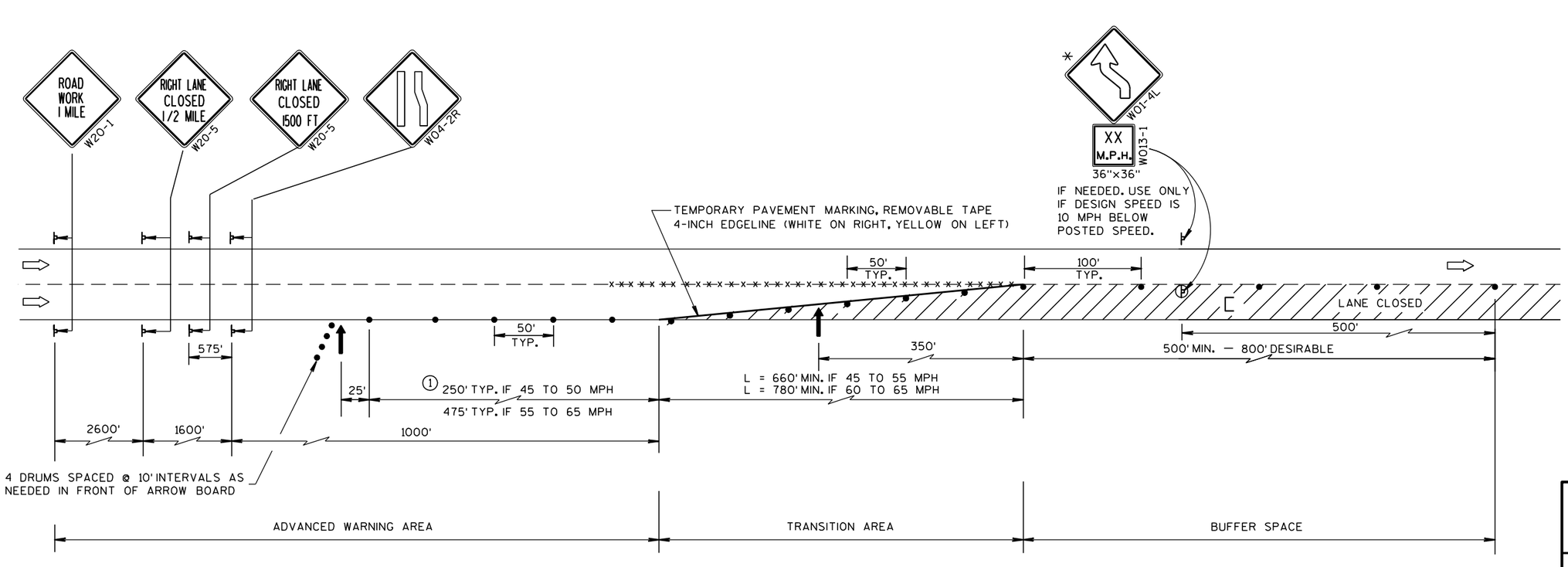
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

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

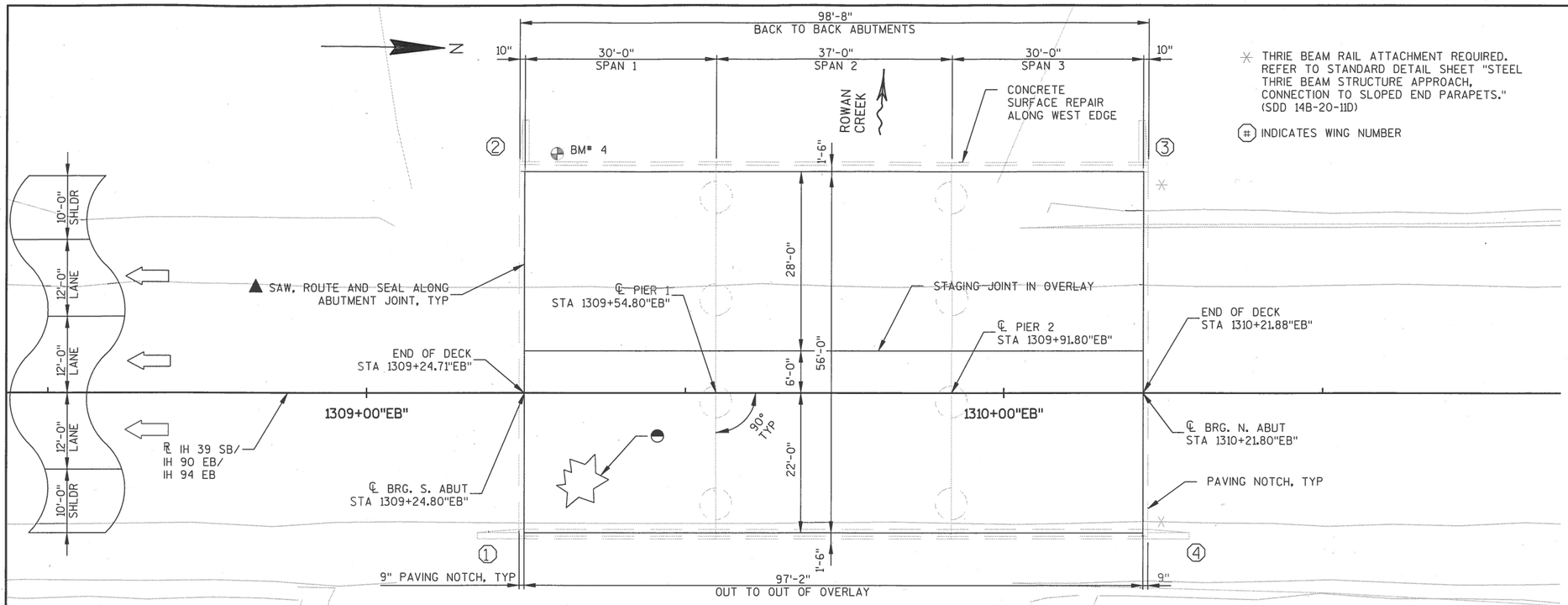
* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-95 DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE O 44 C
FHWA

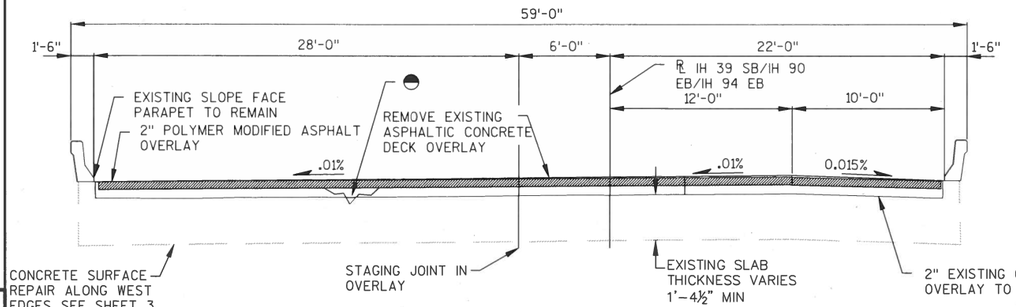


PLAN B-11-40

(DECK OVERLAY OF AN EXISTING THREE SPAN R.C. HAUNCHED SLAB BRIDGE)

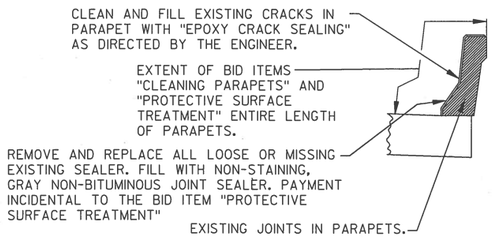
▲ BID ITEM INCLUDED IN ROADWAY QUANTITIES

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
BM 1	1307'WB'+83.18	91.25 RT	PK NAIL IN 6" ELM	789.06
BM 2	1310'WB'+53.66	34.10 RT	PAINTED BOLT	800.93
BM 3	1311'EB'+43.47	38.87 LT	PK NAIL IN 3RD POST BEAM GUARD	799.54
BM 4	1309'EB'+28.03	35.07 LT	"+" ON PARAPET WALL	800.63



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



SECTION THRU EXIST. PARAPETS

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S ABUT	PIER 1	PIER 2	N ABUT	SUPER	TOTALS
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-11-40	LS	—	—	—	—	—	1
502.0717.S	CRACK SEALING EPOXY	LF	—	—	—	—	545	545
502.3200	PROTECTIVE SURFACE TREATMENT	SY	4	—	—	4	79	87
509.0301	PREPARATION DECKS TYPE 1	SY	—	—	—	—	62	62
509.0302	PREPARATION DECKS TYPE 2	SY	—	—	—	—	25	25
509.1500	CONCRETE SURFACE REPAIR	SF	4	—	—	10	120	134
509.9010.S.01	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-11-40	SY	—	—	—	—	605	605
509.9020.S	EPOXY CRACK SEALING	LF	—	—	—	—	13	13
509.9050.S	CLEANING PARAPETS	LF	9	—	—	9	200	218
SPV.0035.01	CONCRETE MASONRY OVERLAY DECK PATCHING	CY	—	—	—	—	19	19
SPV.0180.01	REMOVING CONCRETE MASONRY OVERLAY DELAMINATIONS	SY	—	—	—	—	250	250
SPV.0195.01	POLYMER MODIFIED ASPHALT OVERLAY	TON	—	—	—	—	87	87

STATE PROJECT NUMBER

1011-03-78

LIVE LOAD:

DESIGN LOADING — HS 20
INVENTORY RATING — HS 16
OPERATING RATING — HS 27
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 200 KIPS

TRAFFIC DATA:

ADT (2014) = 55,000
ADT (2034) = 71,300

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

TOP OF EXISITNG DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS AND POINT OF MINIMUM THICKNESS.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS SHALL BE PAID FOR UNDER THE BID ITEM, "POLYMER MODIFIED ASPHALT OVERLAY".

ALL CONCRETE REMOVAL NOT COVERED WITH THE ASPHALT OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

CLEAN AND FILL EXISTING LONGITUDINAL AND TRANSVERSE CRACKS IN THE DECK WITH "CRACK SEALING EPOXY" AS DIRECTED BY THE FIELD ENGINEER.

VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURE DESIGN SECTION FOR REVIEW.

AN AVERAGE THICKNESS OF 2½" FOR THE POLYMER MODIFIED ASPHALT OVERLAY WAS USED FOR THE QUANTITY CALCULATIONS.

◓ PREPARATION DECKS AND CONCRETE MASONRY OVERLAY DECK PATCHING. AREAS TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SEE SHEET 3 FOR ESTIMATED LIMITS.

LIST OF DRAWINGS:

NO.	DRAWING
1	GENERAL PLAN
2	STAGING PLAN
3	REPAIR DETAILS

WISCONSIN
GARY A. RUCHTI
E-30936
MADISON
WI
PROFESSIONAL ENGINEER
8-30-13

BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489
CONSULTANT CONTACT
GARY RUCHTI, P.E.
TELEPHONE: (608) 273-6380

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
6501 Watts Road
Madison, WI 53719
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED William C. Dreher KAR 11/26/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-11-40

IH 39 SB/IH 90 EB/IH 94 EB OVER ROWAN CREEK

COUNTY: COLUMBIA — TOWN/~~CITY/VILLAGE~~: DEKORRA
DESIGN SPEC.: REHABILITATION N/A
DESIGNED BY: RCP — DESIGN CK'D.: GAR — DRAWN BY: TAV — PLANS CK'D.: GAR

GENERAL PLAN

SHEET 45 OF 3

8

8

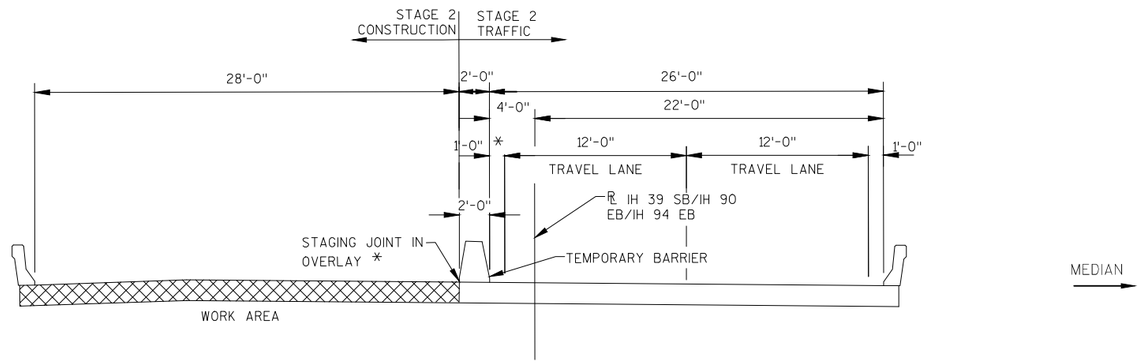
STATE PROJECT NUMBER
1011-03-78

NOTES

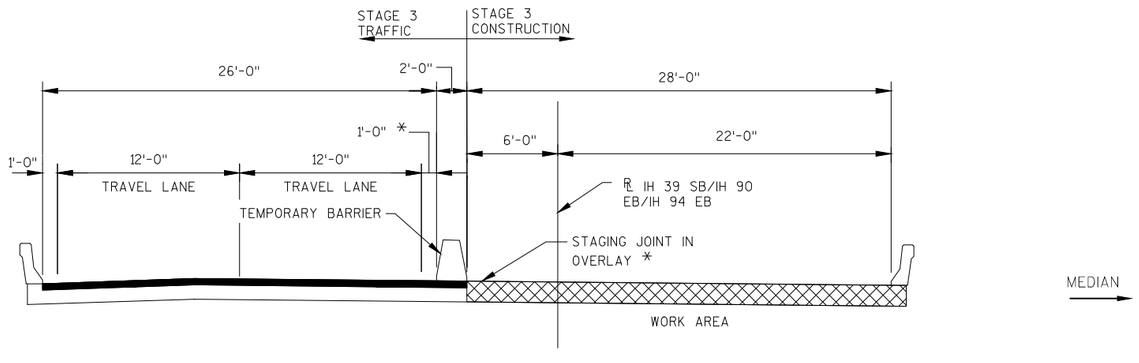
SEE SHEET 1 FOR FINAL CROSS SECTION

SEE "TRAFFIC CONTROL CONSTRUCTION STAGING DETAILS" IN ROAD PLANS.

* SHOULDER WIDTH MAY BE TEMPORARY REDUCED FOR THE OPERATION OF MILLING AND PAVING, AS DIRECTED BY THE ENGINEER



STAGE 2
(LOOKING NORTH)



STAGE 3
(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-40

DRAWN BY TAV | PLANS CK'D. GAR

STAGING PLAN

SHEET 2 OF 3
46

STATE PROJECT NUMBER

1011-03-78

NOTES

LOCATIONS AND QUANTITIES GIVEN ON THIS SHEET ARE APPROXIMATE AND GIVEN FOR INFORMATION ONLY.

EXACT LIMITS OF CONCRETE SURFACE REPAIR, EPOXY CRACK SEALING, PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, REMOVING CONCRETE MASONRY OVERLAY DELAMINATIONS, AND CRACK SEALING EPOXY TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

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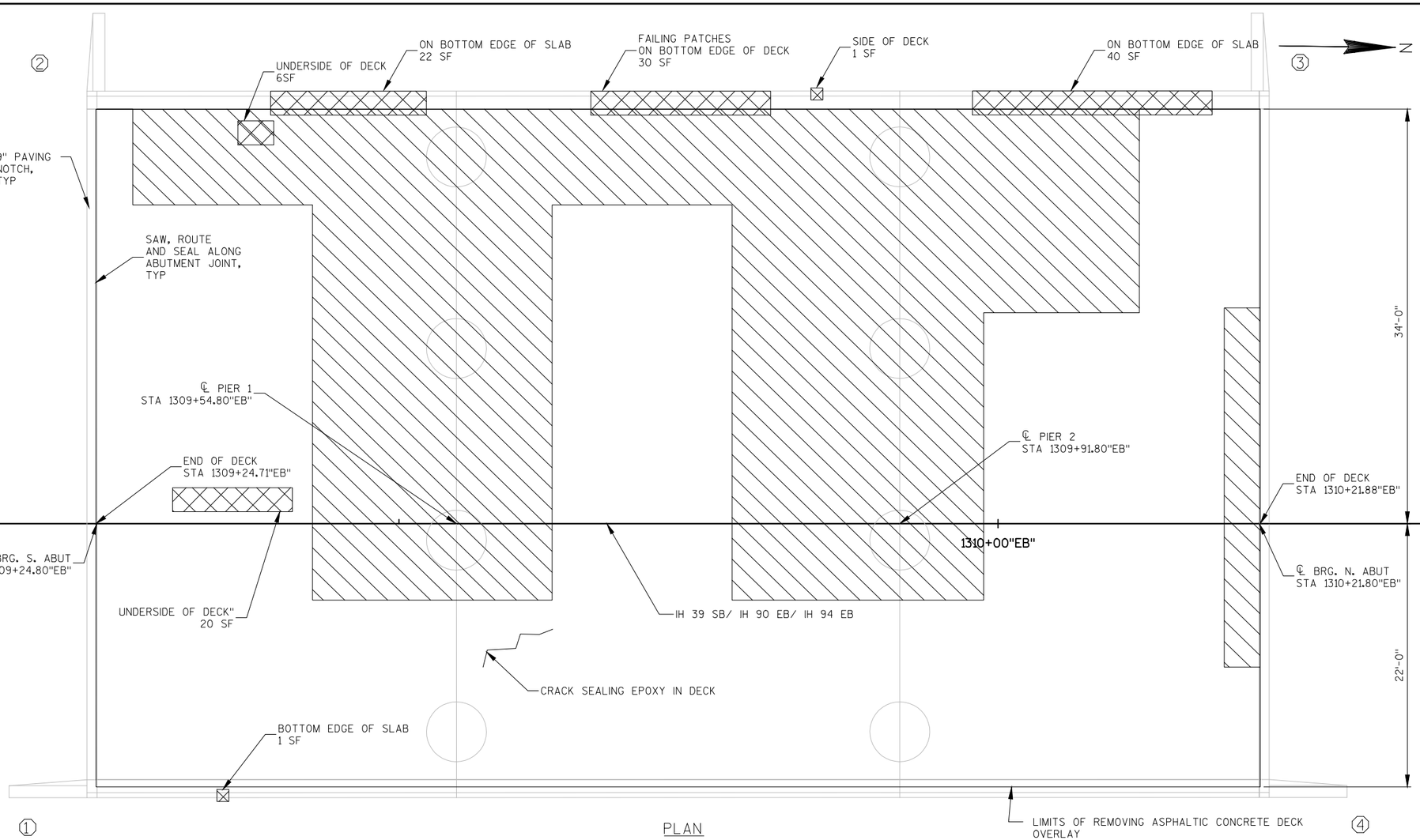
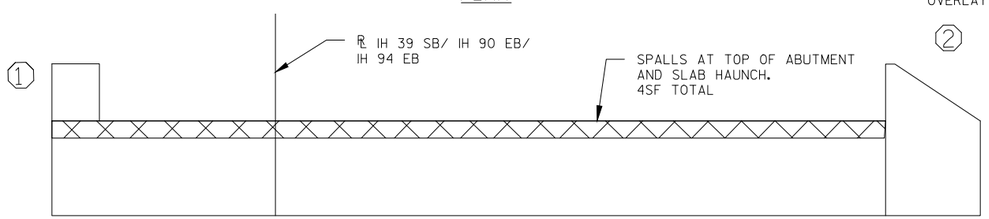
LIMITS OF ESTIMATED DECK REPAIRS NEED INCLUDING PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, REMOVING CONCRETE MASONRY OVERLAY DELAMINATIONS AND CONCRETE MASONRY OVERLAY DECK PATCHING.

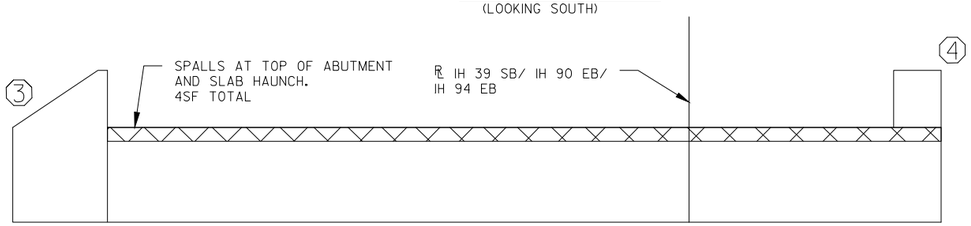
LIMITS OF ESTIMATED CONCRETE SURFACE REPAIR.



PLAN



ELEVATION S. ABUT
(LOOKING SOUTH)



ELEVATION N. ABUT
(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-40

DRAWN BY TAV | PLANS CK'D. GAR

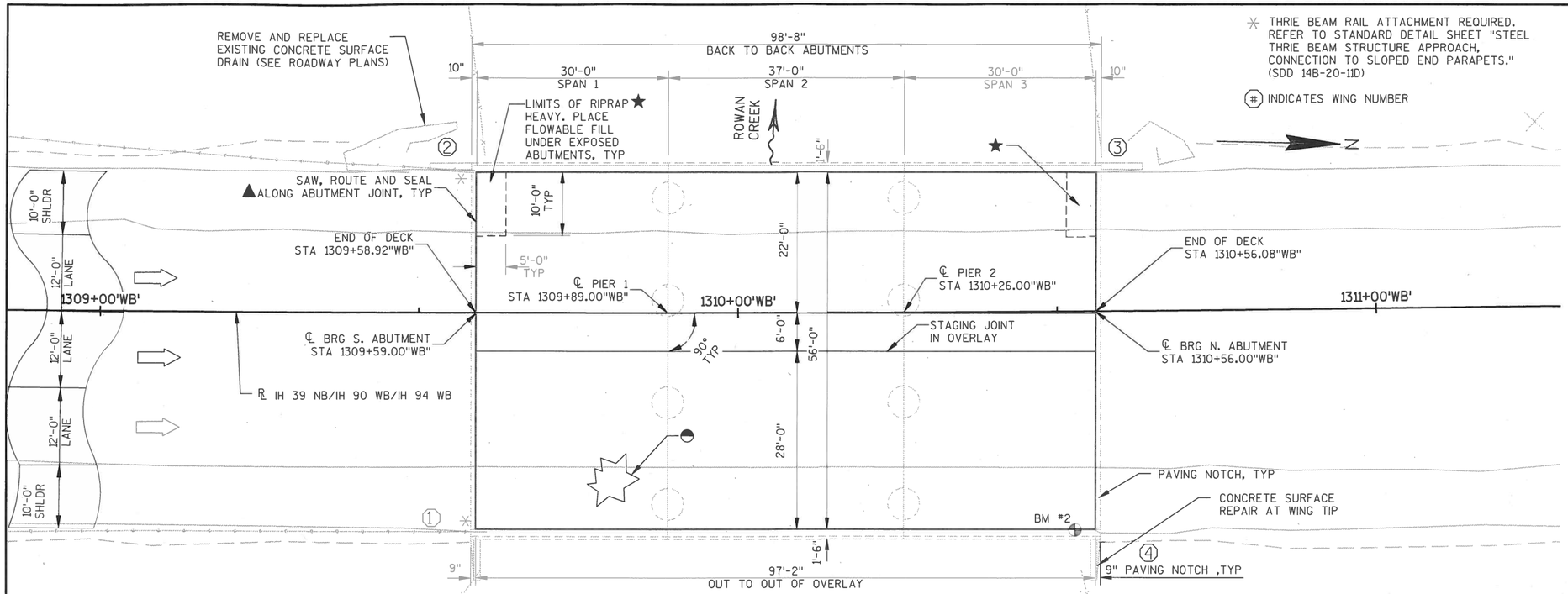
REPAIR DETAILS

SHEET 3 OF 3
47

8

8

FILE NAME : X:±3230900±120214.01±TECH±10110308±DESIGN±STRUCTURE±080103_RD.DWG PLOT DATE : 8/30/2013 PLOT BY : ---- PLOT SCALE :**********

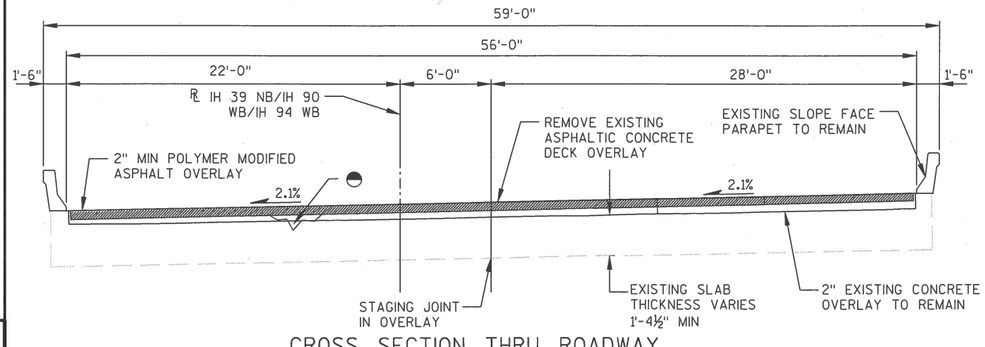


PLAN B-11-41

(DECK OVERLAY OF AN EXISTING THREE SPAN R.C. HAUNCHED SLAB BRIDGE)

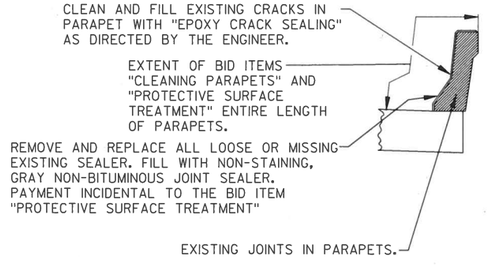
▲ BID ITEM INCLUDED IN ROADWAY QUANTITIES

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
BM 1	1307'WB'+83.18	91.25 RT	PK NAIL IN 6" ELM	789.06
BM 2	1310'WB'+53.66	34.10 RT	PAINTED BOLT	800.93
BM 3	1311'EB'+43.47	38.87 LT	PK NAIL IN 3RD POST BEAM GUARD	799.54
BM 4	1309'EB'+28.03	35.07 LT	"+" ON PARAPET WALL	800.63



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



SECTION THRU EXIST. PARAPETS

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S ABUT	PIER 1	PIER 2	N ABUT	SUPER	TOTALS
209.0200.S	BACKFILL CONTROLLED LOW STRENGTH	CY	1	---	---	1	---	2
502.0717.S	CRACK SEALING EPOXY	LF	---	---	---	---	545	545
502.3200	PROTECTIVE SURFACE TREATMENT	SY	4	---	---	4	79	87
509.0301	PREPARATION DECKS TYPE 1	SY	---	---	---	---	84	84
509.0302	PREPARATION DECKS TYPE 2	SY	---	---	---	---	34	34
509.1500	CONCRETE SURFACE REPAIR	SF	---	---	---	5	---	5
509.9010.S.02	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-11-41	SY	---	---	---	---	605	605
509.9020.S	EPOXY CRACK SEALING	LF	6	---	---	6	22	34
509.9050.S	CLEANING PARAPETS	LF	9	---	---	9	200	218
606.0300	RIPRAP HEAVY	CY	5	---	---	5	---	10
SPV.0035.01	CONCRETE MASONRY OVERLAY DECK PATCHING	CY	---	---	---	---	26	26
SPV.0180.01	REMOVING CONCRETE MASONRY OVERLAY DELAMINATIONS	SY	---	---	---	---	335	335
SPV.0195.01	POLYMER MODIFIED ASPHALT OVERLAY	TON	---	---	---	---	87	87

STATE PROJECT NUMBER

1011-03-78

LIVE LOAD:

DESIGN LOADING — HS 20
INVENTORY RATING — HS 16
OPERATING RATING — HS 27
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 200 KIPS

TRAFFIC DATA:

ADT (2014) = 55,000
ADT (2034) = 71,300

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

TOP OF EXISITNG DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS AND POINT OF MINIMUM THICKNESS.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS SHALL BE PAID FOR UNDER THE BID ITEM, "POLYMER MODIFIED ASPHALT OVERLAY".

ALL CONCRETE REMOVAL NOT COVERED WITH THE ASPHALT OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

CLEAN AND FILL EXISTING LONGITUDINAL AND TRANSVERSE CRACKS IN THE DECK WITH "CRACK SEALING EPOXY" AS DIRECTED BY THE FIELD ENGINEER.

VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURE DESIGN SECTION FOR REVIEW.

AN AVERAGE THICKNESS OF 2½" FOR THE POLYMER MODIFIED ASPHALT OVERLAY WAS USED FOR THE QUANTITY CALCULATIONS.

● PREPARATION DECKS AND CONCRETE MASONRY OVERLAY DECK PATCHING. AREAS TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SEE SHEET 3 FOR ESTIMATED LIMITS.

LIST OF DRAWINGS

BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489
CONSULTANT CONTACT
GARY RUCHTI, P.E.
TELEPHONE: (608) 273-6380

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
6501 Watts Road
Madison, WI 53719
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED William C. Dreher KAR 11/26/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-11-41

IH39 NB/IH 90 WB/IH 94 WB OVER ROWAN CREEK

COUNTY: COLUMBIA — TOWN/~~CITY/VILLAGE~~: DEKORRA

DESIGN SPEC.: REHABILITATION N/A

DESIGNED BY	RCP	DESIGN CK'D.	GAR	DRAWN BY	TAV	PLANS CK'D.	GAR

GENERAL PLAN

SHEET 48 OF 3

8

FILE NAME: X:\3230900\320214.01\TECH\10110308\DESIGN\STRUCTURE\080201_GP.DWG PLOT DATE: 8/30/2013 PLOT BY: ---- PLOT SCALE: 1 IN=10 FT

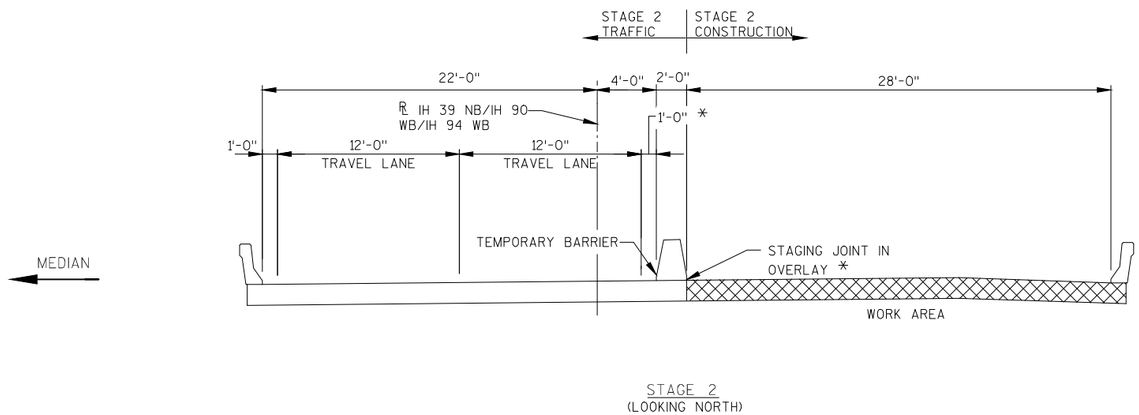
STATE PROJECT NUMBER
1011-03-78

NOTES

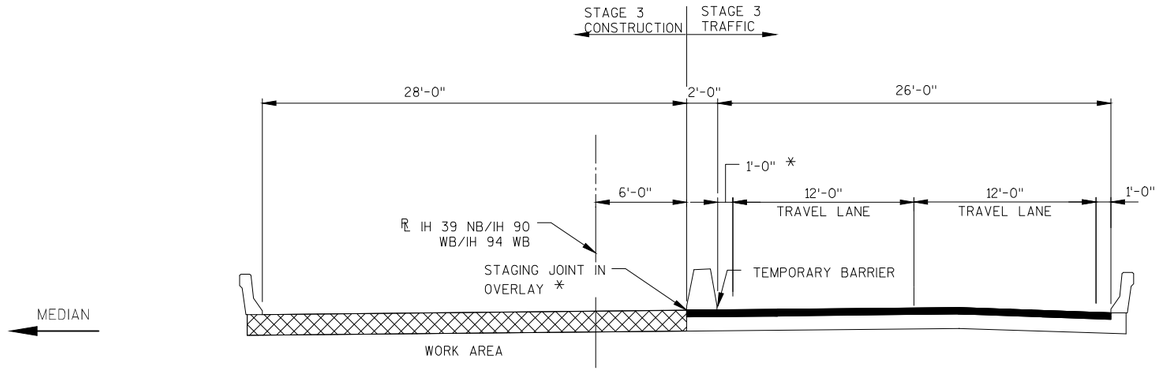
SEE SHEET 1 FOR FINAL CROSS SECTION.

SEE "TRAFFIC CONTROL CONSTRUCTION STAGING DETAILS" IN ROAD PLANS.

* SHOULDER WIDTH MAY BE TEMPORARY REDUCED FOR THE OPERATION OF MILLING AND PAVING, AS DIRECTED BY THE ENGINEER



STAGE 2
(LOOKING NORTH)



STAGE 3
(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

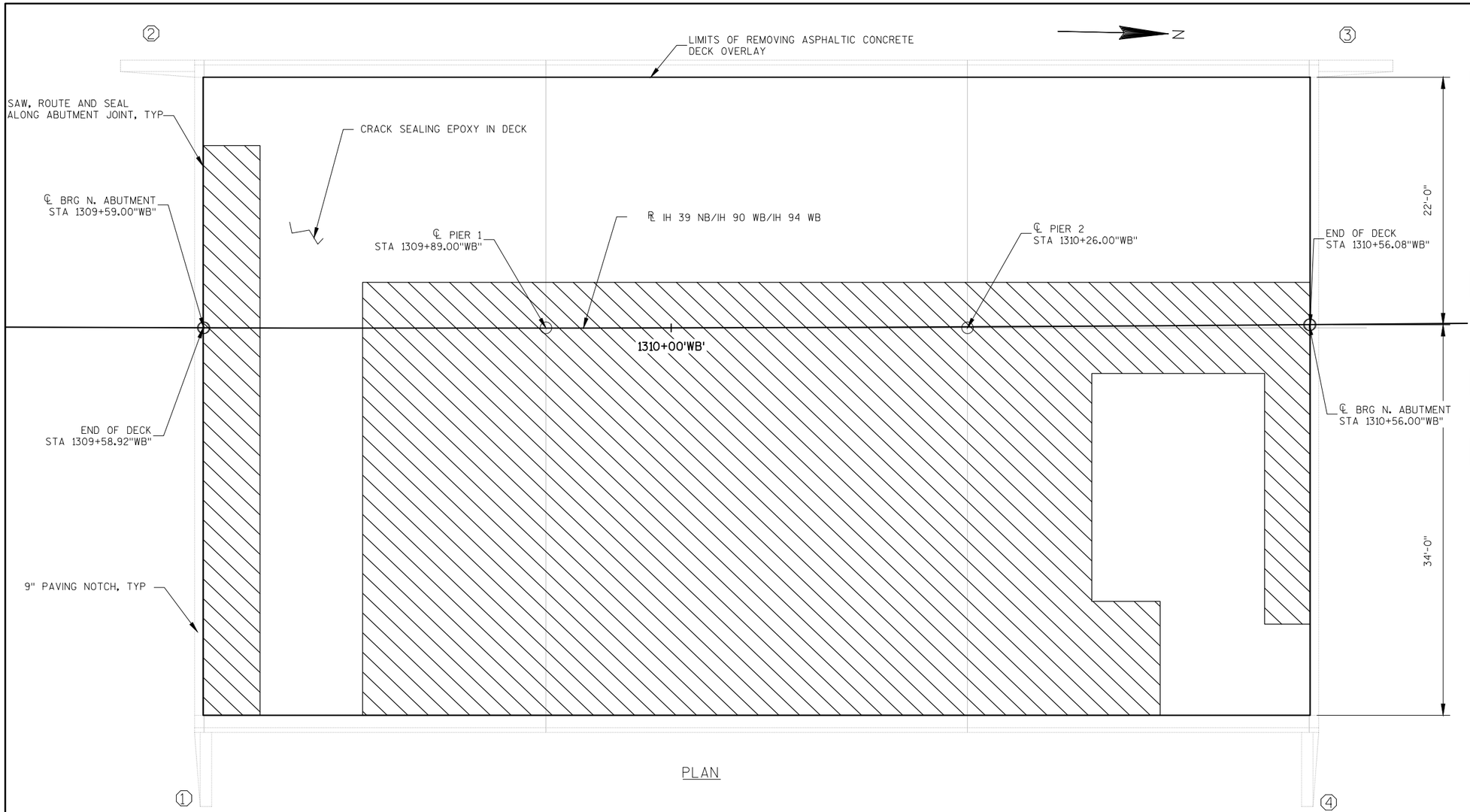
STRUCTURE B-11-41

DRAWN BY TAV | PLANS CK'D. GAR

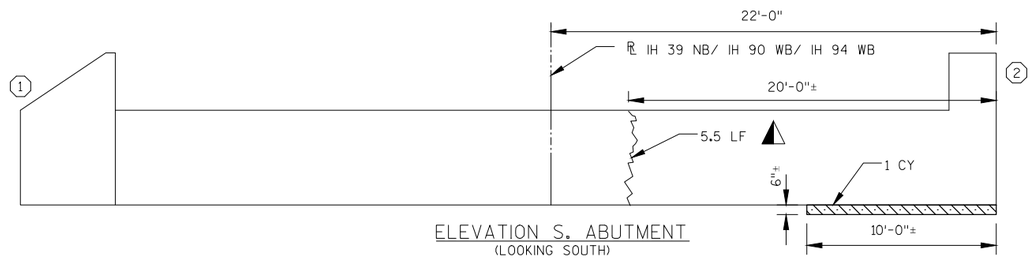
STAGING PLAN

SHEET 2 OF 3
49

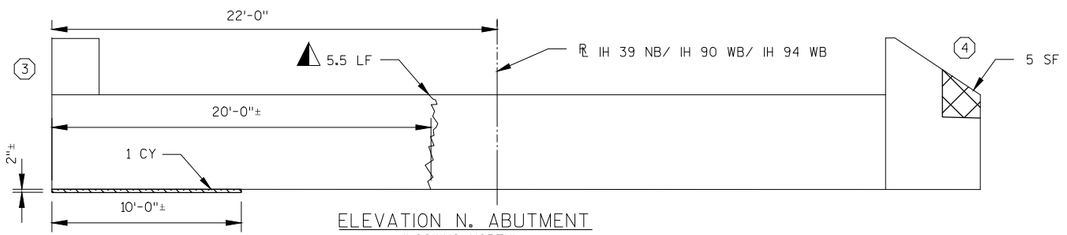
STATE PROJECT NUMBER
1011-03-78



PLAN



ELEVATION S. ABUTMENT
(LOOKING SOUTH)



ELEVATION N. ABUTMENT
(LOOKING NORTH)

NOTES

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EXACT LIMITS OF CONCRETE SURFACE REPAIR, EPOXY CRACK SEALING, PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, REMOVING CONCRETE MASONRY OVERLAY DELAMINATIONS, AND CRACK SEALING EPOXY TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

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LIMITS OF ESTIMATED CONCRETE SURFACE REPAIR.

EPOXY CRACK SEALING.

LIMITS OF FLOWABLE FILL UNDER ABUTMENT. SEE ABUTMENT ELEVATION VIEWS THIS SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-41

DRAWN BY TAV | PLANS CK'D. GAR

REPAIR DETAILS

SHEET 3 OF 3
50

8

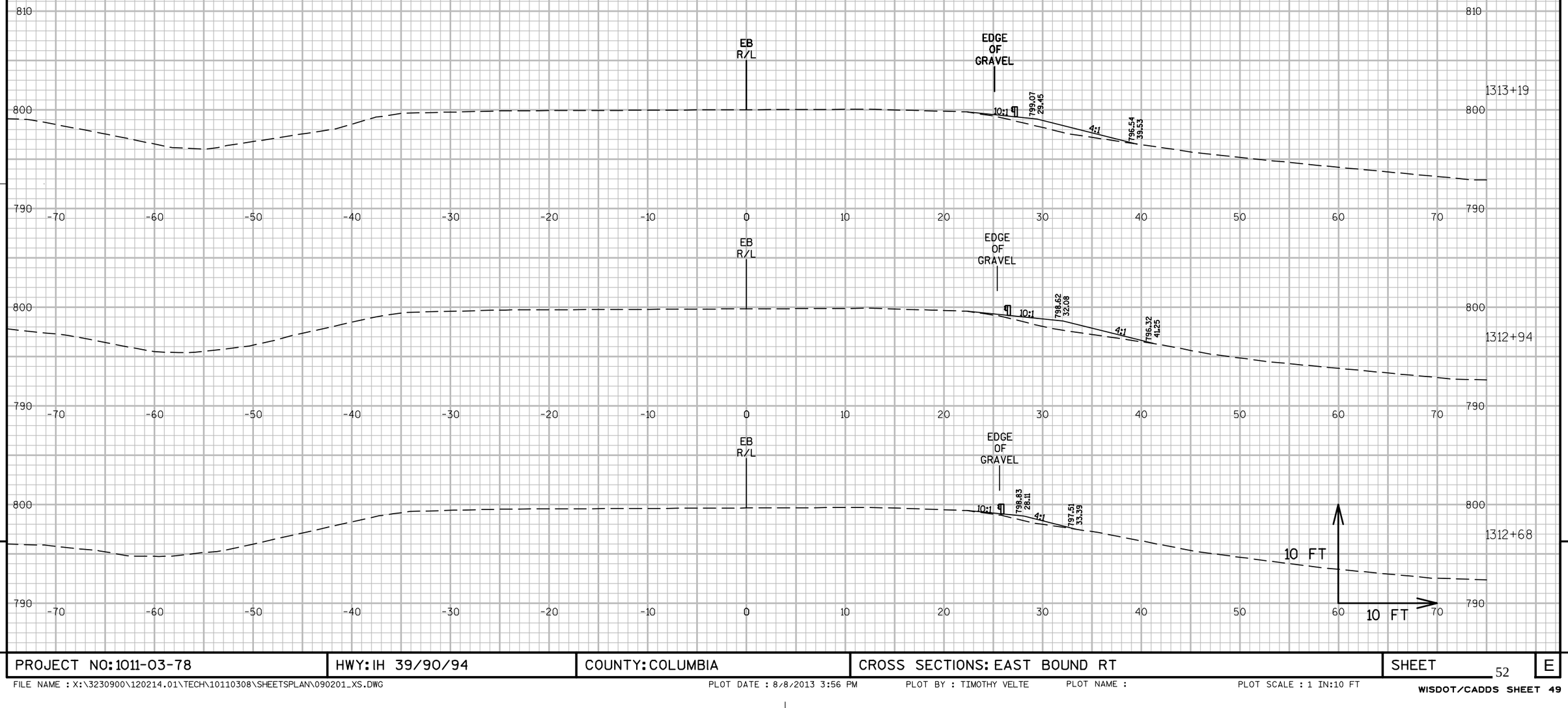
8

BORROW COMPUTATION (FOR INFORMATIONAL PURPOSES ONLY)

STATION	BEGIN OR END	END AREA	AVE. END AREA	LENGTH	CUBIC YARDS	SUBTOTAL	REMARKS
1307 + 36	BEGIN	0.0					
			3.0	25.0	2.7	2.7	WB LT
1307 + 11		5.9					
			11.7	25.0	10.8	13.5	WB LT
1306 + 86		17.4					
			15.2	26.0	14.6	28.2	WB LT
1306 + 60		13.0					
			6.5	75.0	18.0	46.2	WB LT
1305 + 85	END	0.0					
1307 + 44	BEGIN	0.0					
			6.8	25.0	6.3	52.5	WB RT
1307 + 19		13.6					
			21.7	25.0	20.1	72.6	WB RT
1306 + 94		29.9					
			32.7	25.0	30.3	102.9	WB RT
1306 + 69		35.6					
			17.8	75.0	49.4	152.3	WB RT
1305 + 94	END	0.0					
1312 + 43	BEGIN	0.0					
			1.2	25.0	1.1	153.4	EB RT
1312 + 68		2.3					
			5.4	26.0	5.2	158.6	EB RT
1312 + 94		8.4					
			7.5	25.0	6.9	165.5	EB RT
1313 + 19		6.6					
			3.3	75.0	9.1	174.6	EB RT
1313 + 94	END	0.0					
1312 + 37	BEGIN	0.0					
			1.3	25.0	1.2	175.9	EB LT
1312 + 62		2.7					
			7.5	25.0	6.9	182.8	EB LT
1312 + 87		12.3					
			10.4	25.0	9.6	192.4	EB LT
1313 + 12		8.4					
			4.2	100.0	15.6	208.0	EB LT
1314 + 12	END	0.0					
					TOTAL:	**207.96**	

NOTE: BORROW IS NOT PAID FOR SEPARATELY BUT IS INCLUDED UNDER THE ITEM OF BARRIER SYSTEM GRADING SHAPING FINISHING.

NOTE: SEE SHEET "CROSS SECTIONS: EAST BOUND LT" FOR ADDITIONAL INFORMATION.

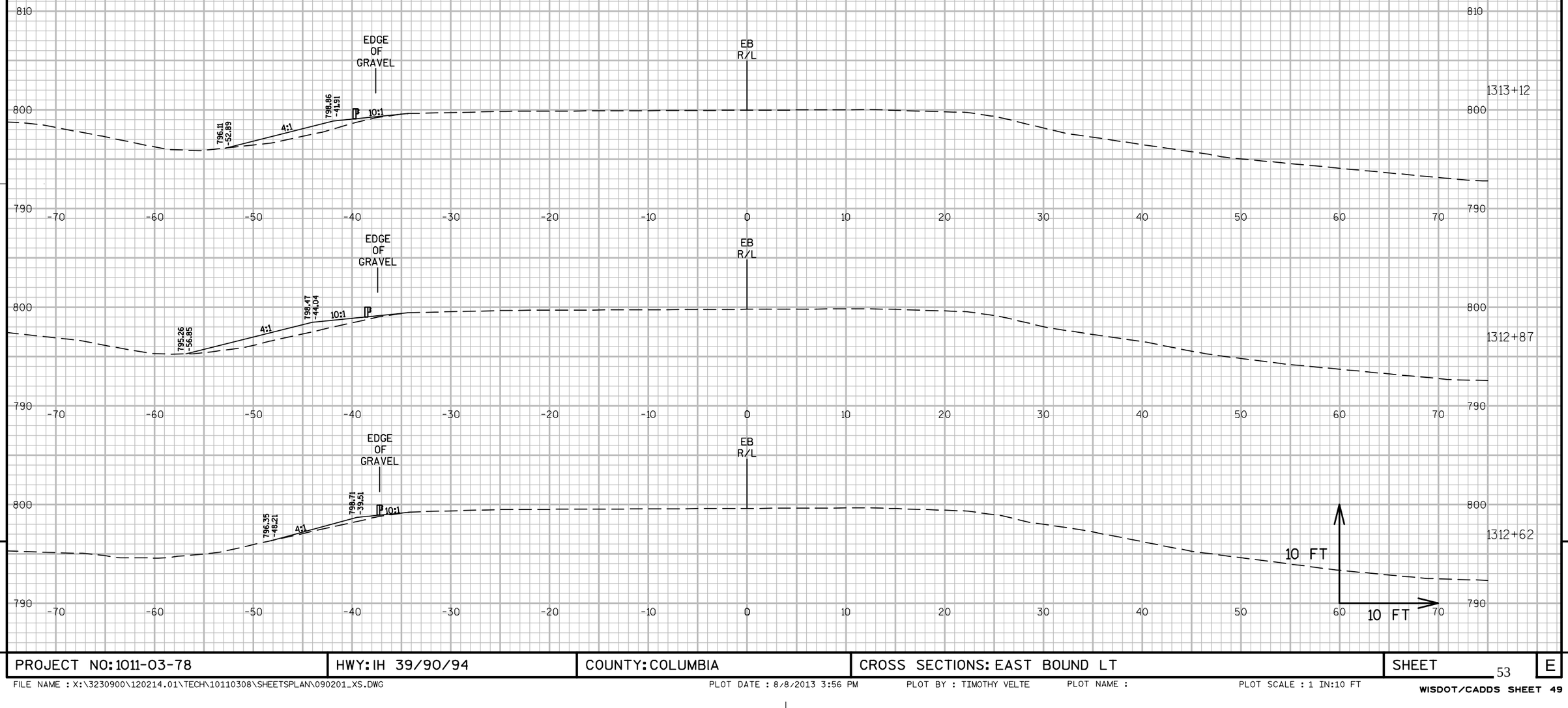


PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	CROSS SECTIONS: EAST BOUND RT	SHEET 52	E

FILE NAME : X:\3230900\120214.01\TECH\10110308\SHEETSPLAN\090201_XS.DWG PLOT DATE : 8/8/2013 3:56 PM PLOT BY : TIMOTHY VELTE PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

NOTE: SEE SHEET "CROSS SECTIONS: EAST BOUND RT" FOR ADDITIONAL INFORMATION.

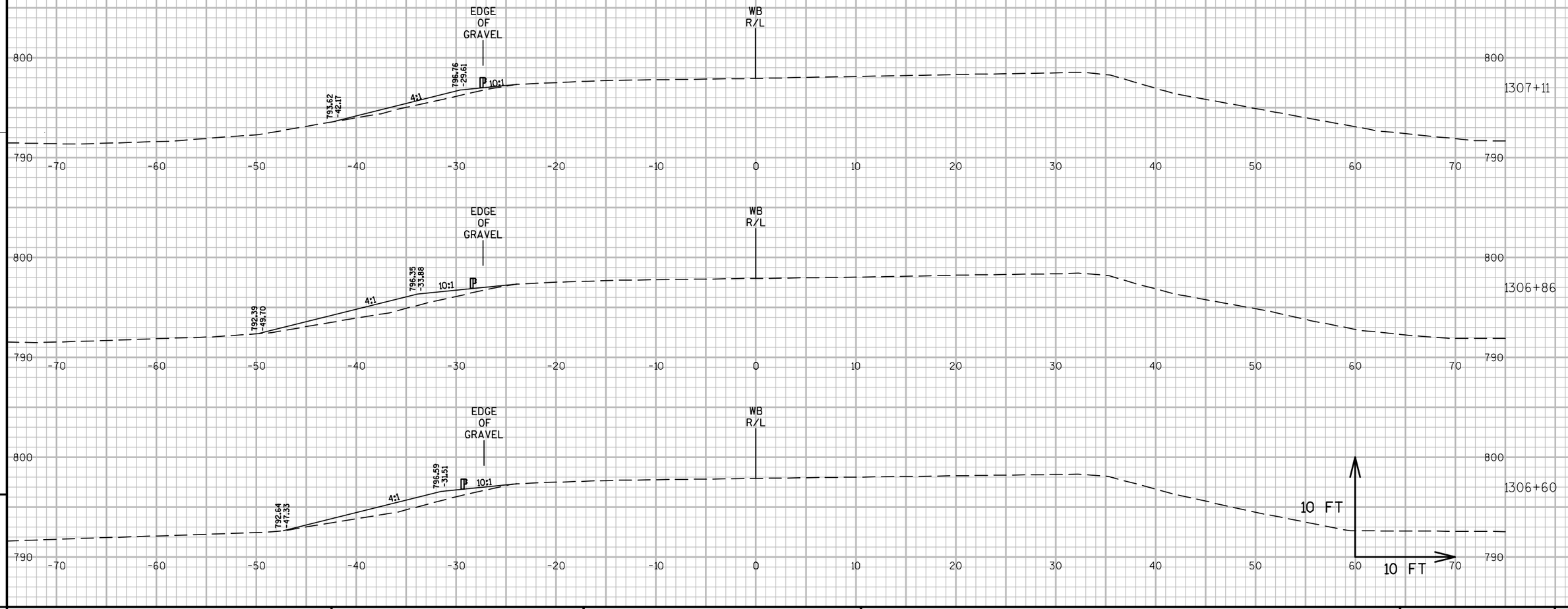


PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	CROSS SECTIONS: EAST BOUND LT	SHEET 53	E

FILE NAME : X:\3230900\120214.01\TECH\10110308\SHEETSPLAN\090201_XS.DWG PLOT DATE : 8/8/2013 3:56 PM PLOT BY : TIMOTHY VELTE PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

NOTE: SEE SHEET "CROSS SECTIONS: WEST BOUND RT" FOR ADDITIONAL INFORMATION.



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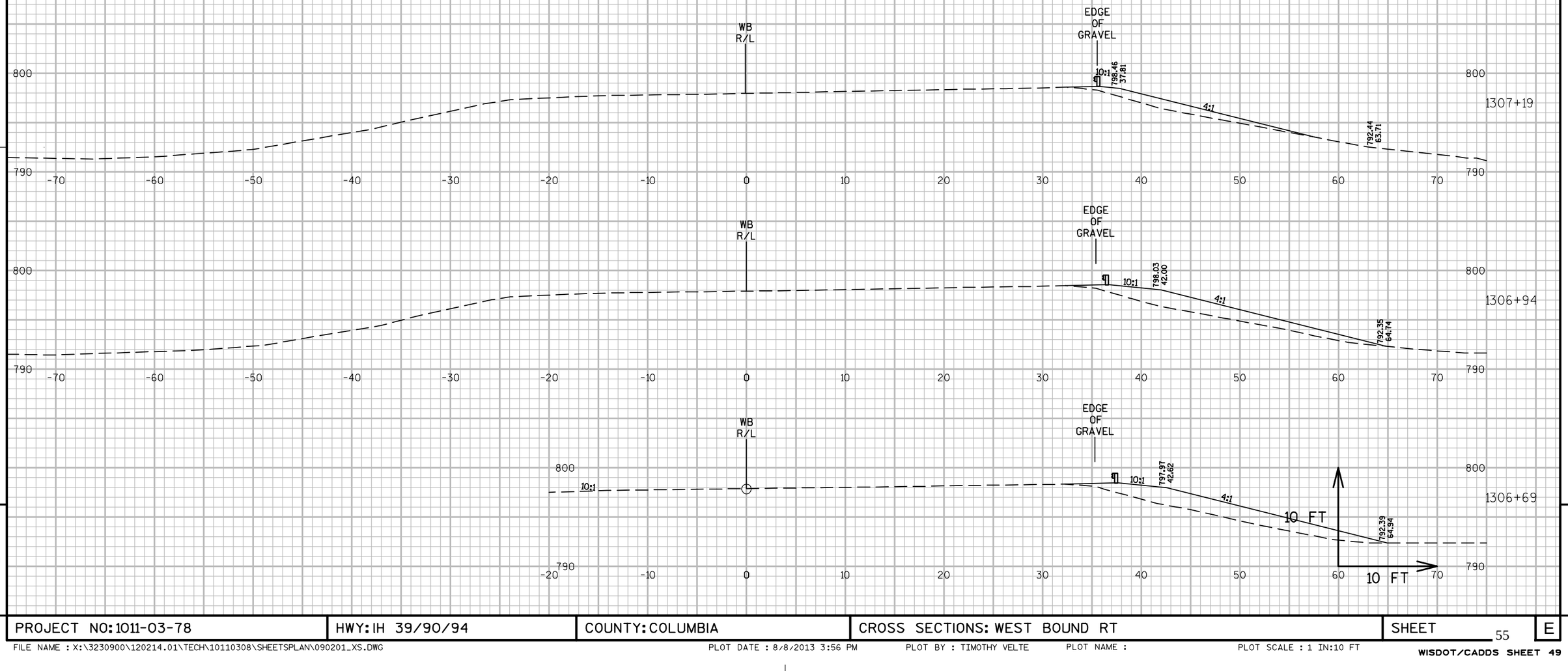
PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	CROSS SECTIONS: WEST BOUND LT	SHEET 54	E

FILE NAME : X:\3230900\120214.01\TECH\10110308\SHEETSPLAN\090201_XS.DWG PLOT DATE : 8/8/2013 3:56 PM PLOT BY : TIMOTHY VELTE PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

NOTE: SEE SHEET "CROSS SECTIONS: WEST BOUND LT" FOR ADDITIONAL INFORMATION.



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PROJECT NO: 1011-03-78	HWY: IH 39/90/94	COUNTY: COLUMBIA	CROSS SECTIONS: WEST BOUND RT	SHEET 55	E

FILE NAME : X:\3230900\120214.01\TECH\10110308\SHEETSPLAN\090201_XS.DWG PLOT DATE : 8/8/2013 3:56 PM PLOT BY : TIMOTHY VELTE PLOT NAME : PLOT SCALE : 1 IN:10 FT

Wisconsin Department of Transportation

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