SUP

PROJECT ID: 8130-00-71

WITH: N/A

COUNTY: WASHBURN

38

JANUARY 2023

ORDER OF SHEETS

TOTAL SHEETS = 86

N

DESIGN DESIGNATION

A.A.D.T.	(2019)	=	5970
A.A.D.T.	(2043)	=	6880
D.H.V.		=	620
D.D.		=	59/41
T.		=	12.9%
DESIGN SPEED		=	60 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SPOONER - STONE LAKE

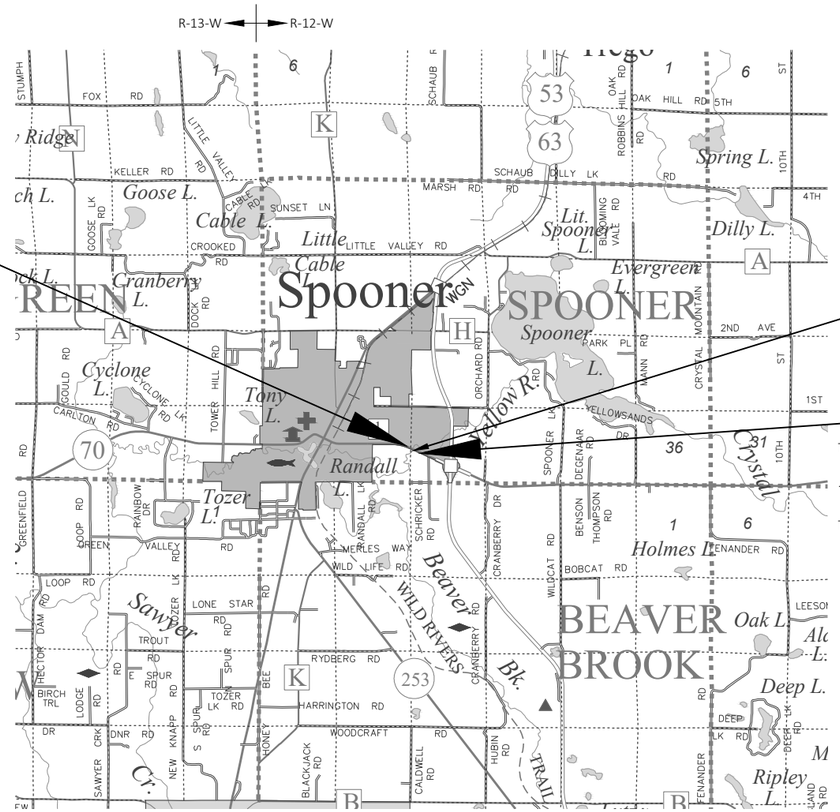
YELLOW RIVER BRIDGE B-65-0054

STH 70

WASHBURN COUNTY

STATE PROJECT NUMBER
8130-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8130-00-71	———	—



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.038 MI

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

PLANS PREPARED BY

AYRES

WISCONSIN JEFFREY A. ABRAMSON 32337 Eau Claire WI PROFESSIONAL ENGINEER

DATE: 10/13/2022 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
Project Manager	MATT DICKENSON
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	JEFF OLSON

APPROVED FOR THE DEPARTMENT

DATE: 10/13/2022 Matthew J Dickenson (Signature)

E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\SHEETSPLAN\010101-TI.DWG PLOT DATE : 10/11/2022 11:52 AM PLOT BY : RESHESKE, CARRIE PLOT NAME :

GENERAL NOTES

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

SHRINKAGE OF EARTHWORK IS ESTIMATED AT 30%.

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

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY OR FLOODPLAIN OF ANY WETLANDS.

SEED, FERTILIZER, AND INSTALL EROSION MAT ALL SALVAGED TOPSOILED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETED.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATER BODY OR WETLAND.

SEED MIXTURE NO.20 AND SEEDING TEMPORARY SHALL BE USED THROUGHOUT THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

EROSION CONTROL MEASURES WILL BE PLACED AS SHOWN ON THE EROSION CONTROL PLAN. THE EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER. ANY REMOVAL OF ITEMS ARE INCIDENTAL TO THE RESPECTIVE EROSION CONTROL BID ITEM COSTS. SILT FENCE TO BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO BRIDGE REMOVAL.

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

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL BY THE ENGINEER.

UTILITY CONTACTS

WE ENERGIES - GAS/PETROLEUM
104 WEST SOUTH STREET
RICE LAKE, WI 54868
ATTN: STEVEN CHAVERS
715-234-9605
steven.chavers@we-energies.com

BARRON ELECTRIC COOPERATIVE - ELECTRICITY
PO BOX 261
SPOONER, WI 54801
ATTN: SCOTT DEVOE
715-637-6131
sdevoe@barronelectric.com

SPECTRUM - COMMUNICATION LINE
2304 SOUTH MAIN STREET
RICE LAKE, WI 54868
ATTN: JAMEY OLDEEN
715-719-0561
jamey.oldeen@charter.com

CINC - COMMUNICATION LINE
105 GARFIELD AVENUE
EAU CLAIRE, WI 54701
ATTN: DAREN BAUER
715-836-5286
bauerdp@uwec.edu

LUMEN - COMMUNICATION LINE
135 NORTH 21ST STREET
SUPERIOR, WI 54880
ATTN: RUSSELL VANCE
715-919-8003
russell.vance@lumen.com

* DENOTES NOT A MEMBER OF DIGGERS HOTLINE

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

DNR CONTACT

DNR NORTHERN REGION HQ
810 WEST MAPLE STREET
SPOONER, WI 54801
ATTN: SHAWN HASELEU
715-635-4228
shawn.haseleu@wisconsin.gov

RAILROAD CONTACT

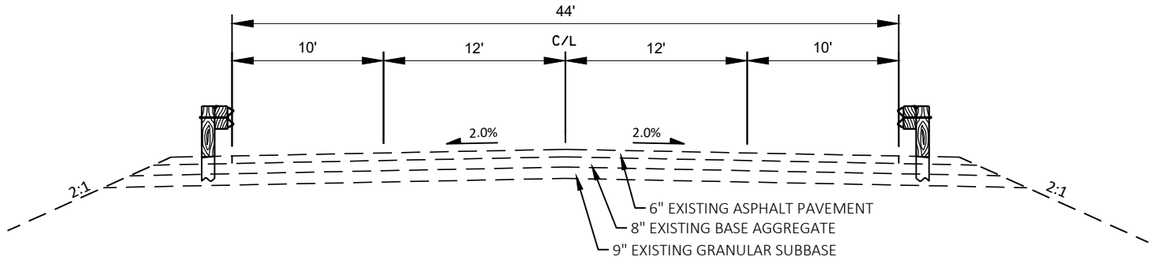
WISCONSIN GREAT NORTHERN RAILROAD
PO BOX 46
SPOONER, WI 54801
ATTN: GREG VREELAND
715-635-3200
greg@spoonertrainride.com

DESIGN CONTACTS

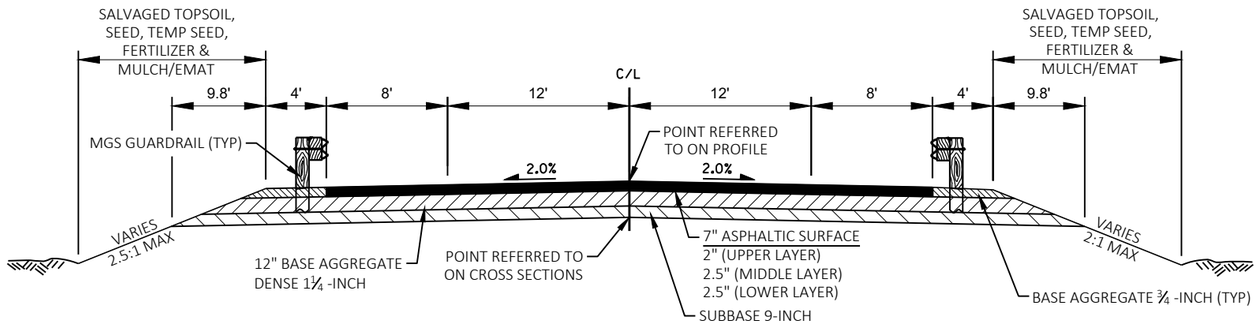
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: JEFF ABRAMSON, PE
715-834-3161
abramsonj@ayresassociates.com

2

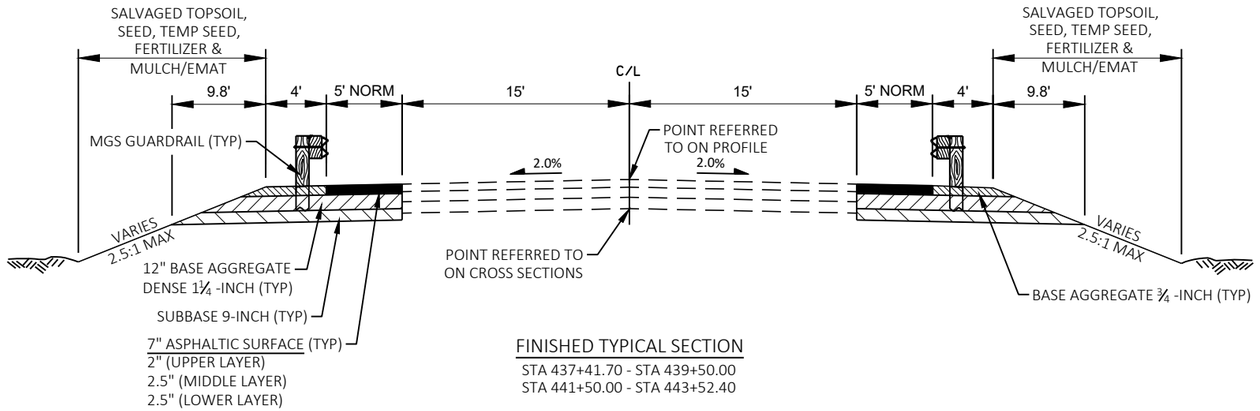
2



EXISTING TYPICAL SECTION



FINISHED TYPICAL SECTION
STA 439+50.00 - STA 441+50.00



FINISHED TYPICAL SECTION
STA 437+41.70 - STA 439+50.00
STA 441+50.00 - STA 443+52.40

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	TYPICAL SECTIONS	SHEET 3	E

2

HISTORICAL MARKER

N

GUY

GUY

ORCHARD LN

YELLOW RIVER

WETLAND

SILT SCEEN (TYP)

WETLAND

SLOPE INTERCEPT (TYP)

BP: 437+45.00

PI: 442+48.50

438+00

439+00

440+00

441+00

442+00

443+00

STH 70

WETLAND

STRUCTURE
B-65-0054

WETLAND

EROSION MAT CLASS I TYPE B (TYP)

SILT FENCE (TYP)

PRIVATE
ENTRANCE

LEGEND

EROSION MAT CLASS I TYPE B

SILT FENCE

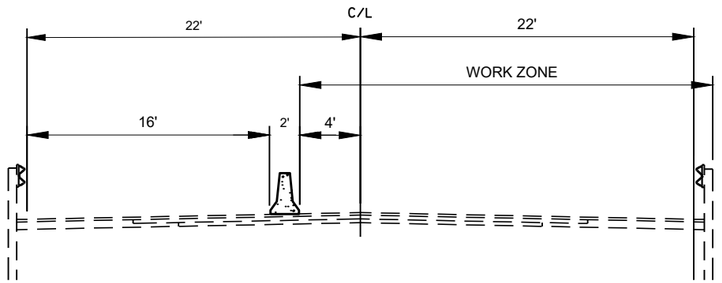
SILT SCREEN

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	EROSION CONTROL	SHEET 4	E

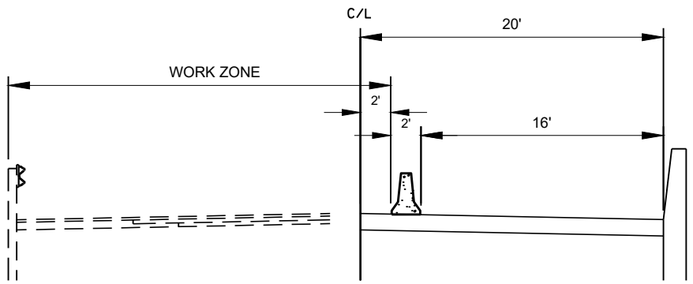
FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec

PLOT DATE : 1/27/2022 12:27 PM PLOT BY : WOOLEVER, NATHAN PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



TRAFFIC CONTROL TYPICAL SECTION - STAGE 1



TRAFFIC CONTROL TYPICAL SECTION - STAGE 2

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	TRAFFIC CONTROL TYPICAL SECTIONS	SHEET 5	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020302-ts
PLOT DATE : 2/1/2021 9:42 AM PLOT BY : RESHESKE, CARRIE PLOT NAME : PLOT SCALE : 1 IN:10 FT

700' TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

BARRON ELECTRIC COOPERATIVE

SPEED LIMIT 55 R2-1 24"X30"

W03-3

END ROAD WORK G20-2A 48"X24"

200'

BP: 437+45.00

ORCHARD LN

ROAD CLOSED R11-2 48"X30"

STA 439+00 - STA 442+50, LT MARKING REMOVAL LINE 4-INCH(WHITE EDGELINE)

STA 437+75 - STA 438+75
STA 442+25 - STA 443+25
MARKING REMOVAL LINE 4-INCH(YELLOW SKIPS)

YELLOW RIVER

N

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE EDGELINE)

438+00 439+00 440+00 441+00

500' 500' 500' 500' 300'

ROAD WORK AHEAD W20-1A

SPEED LIMIT 30 W03-5

SPEED LIMIT 30 R2-1 48"X60"

ONE LANE ROAD AHEAD W20-4A

W03-3

STOP HERE ON RED R10-6 24"X36"

TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH

10' SPACING - TYP

WO1-6 48"X24"

PROPOSED SIGNAL TIMINGS (SEC.)		
PHASE 1 EB USH 63	PHASE 2 WB USH 63	PROGRAM TYPE
10	10	MINIMUM GREEN TIME
4	4	PASSAGE TIME DURING GREEN PHASE
2	2	MINIMUM GAP
10	10	START OF REDUCTION OF PASSAGE FROM MAX. TO MIN. DURING GREEN PHASE
10	10	TIME TO REDUCE PASSAGE FROM MAX. TO MIN. DURING GREEN PHASE
40.5	40.5	MAXIMUM GREEN TIME
5.5	5.5	YELLOW
14	14	ALL-RED

SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR SIGN LAYOUT INFORMATION NOT SHOWN HERE AND "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" FOR TRAILER MOUNTED TEMPORARY SIGNALS.

FLAGGING FOR STAGE 1 CONCRETE BARRIER PLACEMENT SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS" FOR ADDITIONAL INFORMATION.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC" DURING SHOULDER CLOSURE.

CONTRACTOR SHALL REVIEW SIGNALS AFTER PROGRAMMING TO INSURE THERE ARE NOT CONFLICTING MOVEMENTS.
680' BETWEEN STOP BARS

IF THERE ARE QUESTIONS REGARDING THE TIMINGS PLEASE CONTACT TRAFFIC ENGINEER

LEGEND

- TYPE III BARRICADE WITH/WITHOUT SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- CONCRETE BARRIER TEMPORARY PRECAST
- TRAILER MOUNTED TRAFFIC SIGNAL
- WORK AREA

WO1-4R

PI: 442+48.50

442+00 443+00 444+00

HISTORICAL MARKER

ASPH PE

ROAD CLOSED R11-2 48"X30"

STOP HERE ON RED R10-6 24"X36"

TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH

W03-3

EP: 444+50.00

300' 500' 500' 500' 500'

ONE LANE ROAD AHEAD W20-4A

SPEED LIMIT 30 R2-1 48"X60"

SPEED LIMIT 30 W03-5

ROAD WORK AHEAD W20-1A

N

200'

END ROAD WORK G20-2A 48"X24"

SPEED LIMIT 55 R2-1 24"X30"

W03-3

10' SPACING - TYP

PRIVATE ENTRANCE

700' TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

BARRON ELECTRIC COOPERATIVE

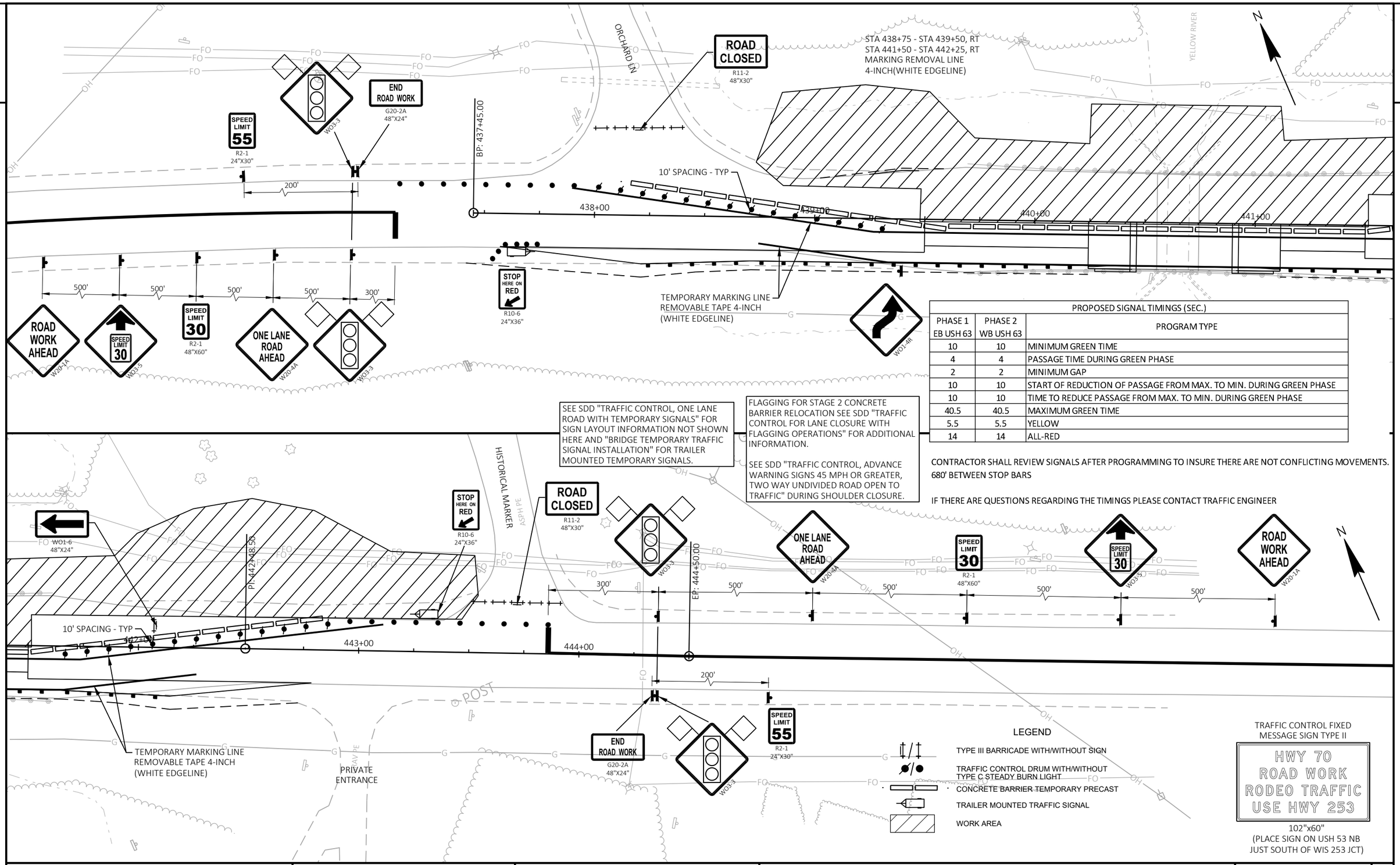
TRAFFIC CONTROL FIXED MESSAGE SIGN TYPE II

HWY 70
ROAD WORK
RODEO TRAFFIC
USE HWY 253

102"x60"
(PLACE SIGN ON USH 53 NB JUST SOUTH OF WIS 253 JCT)

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	TRAFFIC CONTROL - STAGE 1	SHEET 6	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\SHEETSPLAN\026001-S1.DWG
LAYOUT NAME - 026001-s1
PLOT DATE : 1/28/2022 9:41 AM
PLOT BY : WOOLEVER, NATHAN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44



PROPOSED SIGNAL TIMINGS (SEC.)		
PHASE 1 EB USH 63	PHASE 2 WB USH 63	PROGRAM TYPE
10	10	MINIMUM GREEN TIME
4	4	PASSAGE TIME DURING GREEN PHASE
2	2	MINIMUM GAP
10	10	START OF REDUCTION OF PASSAGE FROM MAX. TO MIN. DURING GREEN PHASE
10	10	TIME TO REDUCE PASSAGE FROM MAX. TO MIN. DURING GREEN PHASE
40.5	40.5	MAXIMUM GREEN TIME
5.5	5.5	YELLOW
14	14	ALL-RED

SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR SIGN LAYOUT INFORMATION NOT SHOWN HERE AND "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" FOR TRAILER MOUNTED TEMPORARY SIGNALS.

FLAGGING FOR STAGE 2 CONCRETE BARRIER RELOCATION SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS" FOR ADDITIONAL INFORMATION.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC" DURING SHOULDER CLOSURE.

CONTRACTOR SHALL REVIEW SIGNALS AFTER PROGRAMMING TO INSURE THERE ARE NOT CONFLICTING MOVEMENTS.
680' BETWEEN STOP BARS

IF THERE ARE QUESTIONS REGARDING THE TIMINGS PLEASE CONTACT TRAFFIC ENGINEER

LEGEND

- TYPE III BARRICADE WITH/WITHOUT SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- CONCRETE BARRIER TEMPORARY PRECAST
- TRAILER MOUNTED TRAFFIC SIGNAL
- WORK AREA

TRAFFIC CONTROL FIXED MESSAGE SIGN TYPE II

HWY 70
ROAD WORK
RODEO TRAFFIC
USE HWY 253

102"x60"
(PLACE SIGN ON USH 53 NB
JUST SOUTH OF WIS 253 JCT)

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	TRAFFIC CONTROL - STAGE 2	SHEET 7	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\SHEETSPLAN\026002-S2.DWG
LAYOUT NAME - 026002-s2
PLOT DATE : 1/28/2022 9:41 AM
PLOT BY : WOOLEVER, NATHAN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

8130-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	1.000	1.000
0004	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. C-65-0001	EACH	1.000	1.000
0006	204.0165	Removing Guardrail	LF	384.000	384.000
0008	205.0100	Excavation Common	CY	1,759.000	1,759.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-65-0054	EACH	1.000	1.000
0012	210.1500	Backfill Structure Type A	TON	330.000	330.000
0014	213.0100	Finishing Roadway (project) 01. 8130-00-71	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	238.000	238.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,183.000	1,183.000
0020	350.0130	Subbase 9-Inch	SY	1,742.000	1,742.000
0022	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0024	455.0605	Tack Coat	GAL	76.000	76.000
0026	465.0105	Asphaltic Surface	TON	322.000	322.000
0028	502.0100	Concrete Masonry Bridges	CY	421.000	421.000
0030	502.3200	Protective Surface Treatment	SY	410.000	410.000
0032	502.3210	Pigmented Surface Sealer	SY	85.000	85.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	6,410.000	6,410.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	64,200.000	64,200.000
0038	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	390.000	390.000
0040	505.0908	Bar Couplers No. 8	EACH	24.000	24.000
0042	511.1200	Temporary Shoring (structure) 01. B-65-0054	SF	1,782.000	1,782.000
0044	516.0500	Rubberized Membrane Waterproofing	SY	26.000	26.000
0046	550.0500	Pile Points	EACH	20.000	20.000
0048	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,550.000	1,550.000
0050	603.8000	Concrete Barrier Temporary Precast Delivered	LF	975.000	975.000
0052	603.8125	Concrete Barrier Temporary Precast Installed	LF	975.000	975.000
0054	606.0300	Riprap Heavy	CY	472.000	472.000
0056	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	170.000	170.000
0058	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0060	614.2300	MGS Guardrail 3	LF	250.000	250.000
0062	614.2500	MGS Thrie Beam Transition	LF	150.000	150.000
0064	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0066	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8130-00-71	EACH	1.000	1.000
0068	619.1000	Mobilization	EACH	1.000	1.000
0070	624.0100	Water	MGAL	21.000	21.000
0072	625.0500	Salvaged Topsoil	SY	2,413.000	2,413.000
0074	627.0200	Mulching	SY	2,307.000	2,307.000
0076	628.1504	Silt Fence	LF	878.000	878.000
0078	628.1520	Silt Fence Maintenance	LF	878.000	878.000
0080	628.1550	Silt Screen	LF	245.000	245.000
0082	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0086	628.2004	Erosion Mat Class I Type B	SY	105.000	105.000
0088	629.0210	Fertilizer Type B	CWT	154.000	154.000
0090	630.0120	Seeding Mixture No. 20	LB	68.000	68.000
0092	630.0200	Seeding Temporary	LB	68.000	68.000
0094	630.0500	Seed Water	MGAL	55.000	55.000
0096	642.5001	Field Office Type B	EACH	1.000	1.000
0098	643.0300	Traffic Control Drums	DAY	5,330.000	5,330.000

8130-00-71

Line	Item	Item Description	Unit	Total	Qty
0100	643.0420	Traffic Control Barricades Type III	DAY	1,125.000	1,125.000
0102	643.0705	Traffic Control Warning Lights Type A	DAY	1,242.000	1,242.000
0104	643.0715	Traffic Control Warning Lights Type C	DAY	2,795.000	2,795.000
0106	643.0900	Traffic Control Signs	DAY	2,534.000	2,534.000
0108	643.1000	Traffic Control Signs Fixed Message	SF	42.500	42.500
0110	643.3150	Temporary Marking Line Removable Tape 4-Inch	LF	4,670.000	4,670.000
0112	643.3850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	24.000	24.000
0114	645.0111	Geotextile Type DF Schedule A	SY	74.000	74.000
0116	645.0120	Geotextile Type HR	SY	694.000	694.000
0118	646.1020	Marking Line Epoxy 4-Inch	LF	175.000	175.000
0120	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	1,155.000	1,155.000
0122	646.9000	Marking Removal Line 4-Inch	LF	550.000	550.000
0124	650.4500	Construction Staking Subgrade	LF	526.000	526.000
0126	650.5000	Construction Staking Base	LF	526.000	526.000
0128	650.6501	Construction Staking Structure Layout (structure) 01. B-65-0054	EACH	1.000	1.000
0130	650.9911	Construction Staking Supplemental Control (project) 01. 8130-00-71	EACH	1.000	1.000
0132	650.9920	Construction Staking Slope Stakes	LF	526.000	526.000
0134	661.0101	Temporary Traffic Signals for Bridges (structure) 01. B-65-0054	EACH	1.000	1.000
0136	690.0150	Sawing Asphalt	LF	589.000	589.000
0138	715.0502	Incentive Strength Concrete Structures	DOL	2,526.000	2,526.000
0140	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 440+68	EACH	1.000	1.000

3

GRUBBING

STATION	TO	STATION	LOCATION	201.0205 GRUBBING STA
440+00	-	441+00	STH 70	1
			TOTAL 0010	**1**

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
439+69	-	441+61	RT	192
439+69	-	441+61	LT	192
			TOTAL 0010	**384**

FINISHING ROADWAY

PROJECT	213.0100.01 FINISHING ROADWAY (PROJECT) (01. 8130-00-71) EACH
8130-00-71	1
TOTAL 0010	**1**

CONCRETE PAVEMENT APPROACH SLAB

STATION	TO	STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
440+09	-	440+25	STH 70	40
441+11	-	441+26	STH 70	40
			TOTAL 0010	**80**

CONCRETE BARRIER TEMPORARY PRECAST

STATION	TO	STATION	LOCATION	STAGE	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
438+13	-	442+92	STH 70	1	487.5	487.5
438+12	-	442+89	STH 70	2	487.5	487.5
				TOTAL 0010	**975**	**975**

Division	From/To Station	205.0100 Common Excavation (1) (2)	Available Material (5)	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste
Division 1							
STH 70	437+57.3/443+45.2	1,759	1,759	232	289	1,470	1,470
Division 1 Subtotal		1,759	1,759	232	289	1,470	1,470
Grand Total		1,759	1,759	232	289	1,470	1,470
	Total Common Exc	**1,759**					

Notes:
(1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
(2) Salvaged/Unsuable Pavement Material is included in Cut.
(5) Available Material = Cut - Salvaged/Unusuable Pavement Material
(13) Expanded Fill Factor = 1.25
(14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	350.0130 SUBBASE 9-INCH SY
437+57	-	440+24	RT SHLDR	81	303	580
438+86	-	440+24	LT SHLDR	44	174	328
441+12	-	442+79	RT SHLDR	51	185	350
441+12	-	443+45	LT SHLDR	62	251	484
439+50	-	440+24	MAINLINE	---	122	199
441+12	-	441+50	MAINLINE	---	58	103
			TOTAL 0010	**238**	**913**	**1,742**

ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
437+57	-	440+24	STH 70	44	187
441+12	-	443+45	STH 70	32	135
			TOTAL 0010	**76**	**322**

MGS GUARDRAIL

STATION	TO	STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
438+21	-	440+24	LT	112.50	37.50	1.00
439+21	-	440+24	LT	12.50	37.50	1.00
441+11	-	442+15	RT	12.50	37.50	1.00
441+11	-	443+15	RT	112.50	37.50	1.00
			TOTAL 0010	**250**	**150**	**4**

MAINTENANCE AND REPAIR OF HAUL ROADS (8130-00-71)

PROJECT	618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 8130-00-71) EACH
8130-00-71	1
TOTAL 0010	**1**

MOBILIZATION

PROJECT	619.1000 MOBILIZATION EACH
8130-00-71	1
TOTAL 0010	**1**

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

WATER

LOCATION	624.0100 WATER MGAL
COMPACTION	21
TOTAL 0010	**21**

EROSION CONTROL ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1550 SILT SCREEN LF	628.2004 EROSION MAT CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
438+70	-	440+25	LT	446	422	220	220	---	24	29	13	13	10
437+45		440+25	RT	792	758	340	340	---	34	50	22	22	18
440+50	-	440+60	LT/RT	---	---	---	---	120	---	---	---	---	---
440+68	-	440+80	LT/RT	---	---	---	---	125	---	---	---	---	---
440+75	-	442+15	LT	782	756	143	143	---	26	50	22	22	18
440+75	-	442+50	RT	393	372	175	175	---	21	25	11	11	9
			TOTAL 0010	**2,413**	**2,307**	**878**	**878**	**245**	**105**	**154**	**68**	**68**	**55**

EROSION CONTROL MOBILIZATIONS ITEMS

PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
8130-00-71	4	5
TOTAL 0010	**4**	**5**

FIELD OFFICE TYPE B

PROJECT	642.5001 FIELD OFFICE TYPE B EACH
8130-00-71	1
TOTAL 0010	**1**

MARKING LINE 4-INCH

STATION	TO	STATION	LOCATION	TYPE/COLOR	646.1020 MARKING LINE EPOXY 4-INCH LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH LF
437+00	-	444+00	STH 70	CENTERLINE/YELLOW	175	---
438+90	-	443+45	STH 70 LT	EDGELINE/WHITE	---	455
437+00	-	444+00	STH 70 RT	EDGELINE/WHITE	---	700
				TOTAL 0010	**175**	**1,155**

TRAFFIC CONTROL ITEMS

STAGE	DAYS	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	643.0900 TRAFFIC CONTROL SIGNS DAY
STAGE 1	45	2,295	495	540	1,215	1,125
STAGE 2	45	2,340	495	540	1,215	1,125
UNDISTRIBUTED		695	135	162	365	284
TOTAL 0010		**5,330**	**1,125**	**1,242**	**2,795**	**2,534**

TRAFFIC CONTROL SIGNS FIXED MESSAGE

LOCATION	SIZE W x H	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	MESSAGE
PLACE SIGN ON USH 53 NB JUST SOUTH OF WIS 253 JCT	102x60	42.5	"HWY 70 ROAD WORK RODEO TRAFFIC USE HWY 253"
TOTAL 0010		**42.5**	

TEMPORARY MARKINGS

STATION	TO	STATION	LOCATION	STAGE	COLOR	646.9000 MARKING REMOVAL LINE 4-INCH LF	643.3850 TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH LF	643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF
437+75	-	438+75	STH 70 CL	1	YELLOW SKIPS	25	---	---
439+00	-	442+50	STH 70 LT	1	WHITE EDGELINE	350	---	---
442+25	-	443+25	STH 70 CL	1	YELLOW SKIPS	25	---	---
438+60	-	442+40	STH 70 LT	1	WHITE	---	---	400
437+75	-	443+20	STH 70 RT	1	WHITE	---	---	580
430+09	-	437+09	STH 70 CL	1	DOUBLE YELLOW	---	---	1400
443+86	-	450+86	STH 70 CL	1	DOUBLE YELLOW	---	---	1400
437+09	-	437+10	STH 70 RT	1	WHITE STOPBAR	---	12	---
443+85	-	443+86	STH 70 LT	1	WHITE STOPBAR	---	12	---
438+75	-	439+50	STH 70 RT	2	WHITE EDGELINE	75	---	---
441+50	-	442+25	STH 70 RT	2	WHITE EDGELINE	75	---	---
437+88	-	443+13	STH 70 LT	2	WHITE	---	---	530
437+75	-	442+25	STH 70 RT	2	WHITE	---	---	360
					TOTAL 0010	**550**	**24**	**4,670**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
437+41	-	440+25	STH 70	284	284	284
441+11	-	443+53	STH 70	242	242	242
			TOTAL 0010	**526**	**526**	**526**

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

STATION	999.2000.S INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM EACH
440+68	1
TOTAL 0010	**1**

CONSTRUCTION STAKING STRUCTURE LAYOUT (B-65-0054)

STRUCTURE	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-65-0054) EACH
B-65-0054	1
TOTAL 0010	**1**

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (8130-00-71)

PROJECT	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 8130-00-71) EACH
8130-00-71	1
TOTAL 0010	**1**

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (B-65-0054)

STRUCTURE	661.0101.01 TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) (01. B-65-0054) EACH
B-65-0054	1
TOTAL 0010	**1**

SAWING ASPHALT

STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF
438+83	-	439+50	STH 70 LT	67
439+50	-	439+50	STH 70 LT/RT	30
438+83	-	439+50	STH 70 RT	67
439+50	-	441+50	STH 70 CL	200
441+50	-	442+39	STH 70 LT	89
441+50	-	441+50	STH 70 LT/RT	30
441+50	-	442+06	STH 70 RT	106
			TOTAL 0010	**589**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
20	440+06	RR SPK IN PPOL, 209.8' LT	1075.61
		Y = 56694.03 X = 746818.55	
21	440+74	BRASS DISK IN SE PARAPET WALL, 21.1' RT	1079.95
		Y = 566755.38 X = 746786.45	

STA 438+01.3 BEGIN GUARDRAIL TAPER
STA 439+21.3 POST 1
STA 439+46.3 POST 5
STA 439+71.3 POST 9

CP#5
STA 440+80.49, 26.4' LT
Y = 566796.22
X = 746811.58

STA 442+64.7 POST 9
STA 442+89.7 POST 5
STA 443+14.7 POST 1
STA 444+34.7 BEGIN GUARDRAIL TAPER

CP#9
STA 437+80.97, 30.7' LT
Y = 566922.41
X = 746539.91

ORCHARD LANE

SLOPE INTERCEPT

WETLANDS

STRUCTURE
B-65-0054

YELLOW RIVER

WETLANDS

SPECTRUM

LUMEN

END CONSTRUCTION
STA 443+52.4
MATCH EXISTING

CINC

BP: 437+45.00

PI: 442+48.50

CP#9

CP#5

+86.3

+45.2

438+00

439+00

440+00

441+00

442+00

443+00

STH 70

S65° 56' 35"E

S65° 45' 09"E

+57.3

+78.8

BEGIN CONSTRUCTION
STA 437+41.7
MATCH EXISTING

CP#4

BM#21

CP#1&3

POST

WE ENERGIES

WETLANDS

SLOPE INTERCEPT

GRAV PE

STA 437+01.3 BEGIN GUARDRAIL TAPER
STA 438+21.3 POST 1
STA 438+46.3 POST 5
STA 438+71.3 POST 9

BEGIN PROJECT
STA 439+50.00
Y = 566827.01
X = 746682.27
MATCH EXISTING
SAWCUT REQ'D

CP#4
STA 440+49.16, 23.1' RT
Y = 566763.82
X = 746762.78

CONCRETE PAVEMENT
APPROACH SLAB (TYP)

WETLANDS

END PROJECT
STA 441+50.00
MATCH EXISTING
SAWCUT REQ'D

STA 441+64.7 POST 9
STA 441+89.7 POST 5
STA 442+14.7 POST 1
STA 443+34.7 BEGIN GUARDRAIL TAPER

EXISTING R/W

5

5

STA 439+50.00
EL 1079.43

STA 441+50.00
EL 1077.96

-0.73%

HW.100 EL.1071.36

REMOVING OLD STRUCTURE C-65-0001 OVER
WATERWAY WITH MINIMAL DEBRIS STA 440+66
SINGLE-SPAN CONCRETE FIXED FRAME BRIDGE
44'-0" CLEAR ROADWAY x 12'-0" O.A.L.
0° SKEW

STA 440+68
STRUCTURE B-65-0054 REQ'D
SINGLE SPAN CONCRETE FLAT SLAB BRIDGE
40'-0" CLEAR ROADWAY x 49'-2" O.A.L.
0° SKEW

1090
1080
1070
1060
1050

1080.83 | 1079.93 | 1079.43 / 1079.43 | 1078.81 / 1079.06 | 1078.37 / 1078.70 | 1078.15 / 1078.33 | 1077.96 / 1077.96 | 1077.71 | 1077.32 | 1076.88

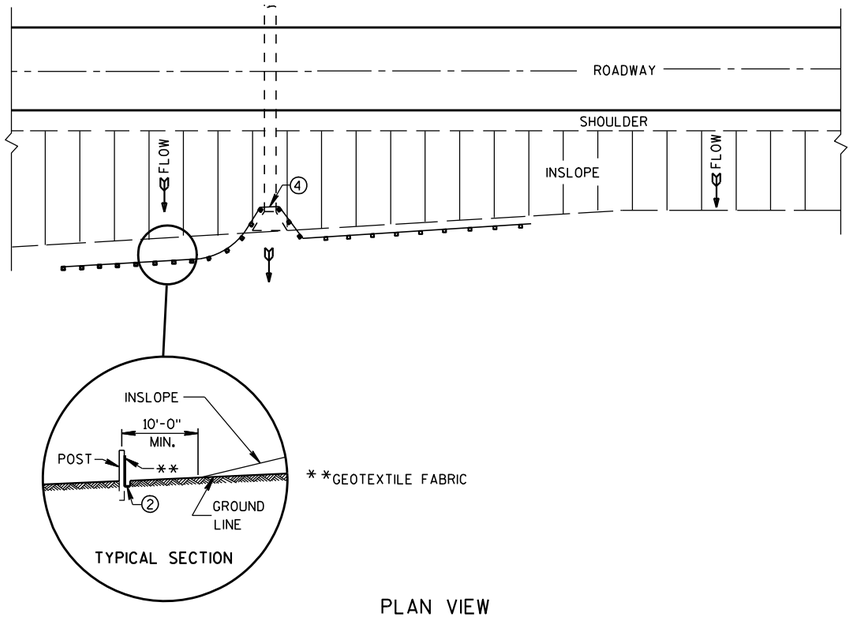
438+00 439+00 440+00 441+00 442+00 443+00

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	PLAN AND PROFILE:	SHEET 13	E

Standard Detail Drawing List

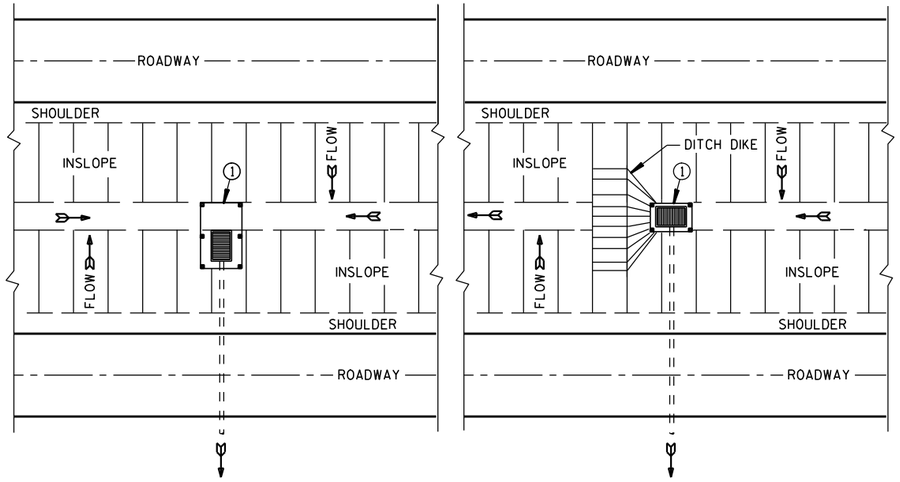
08E09-06	SILT FENCE
08E12-01	SILT SCREEN
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-10	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-21A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-07A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D33-07	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



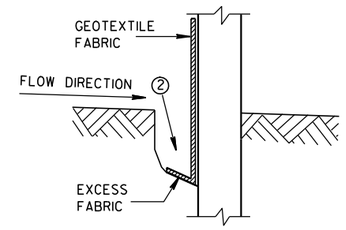
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

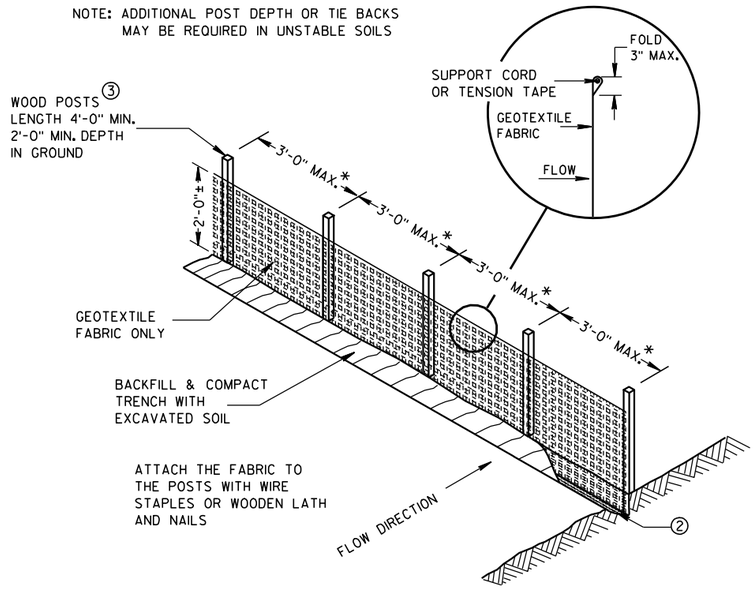
GENERAL NOTES

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

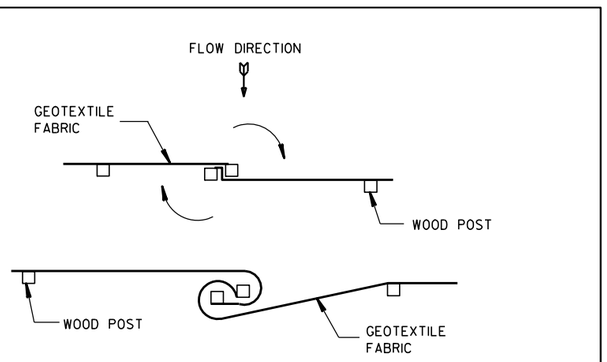
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



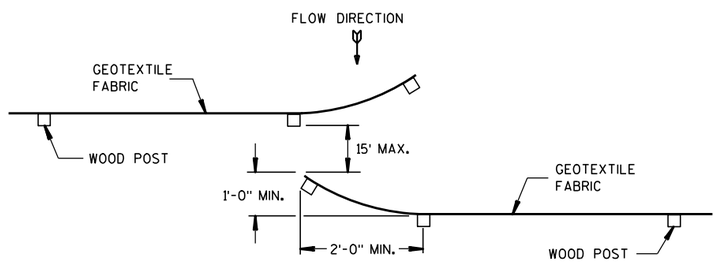
TRENCH DETAIL



SILT FENCE

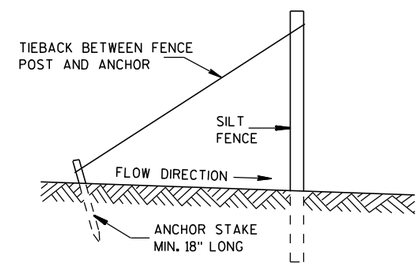


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

6

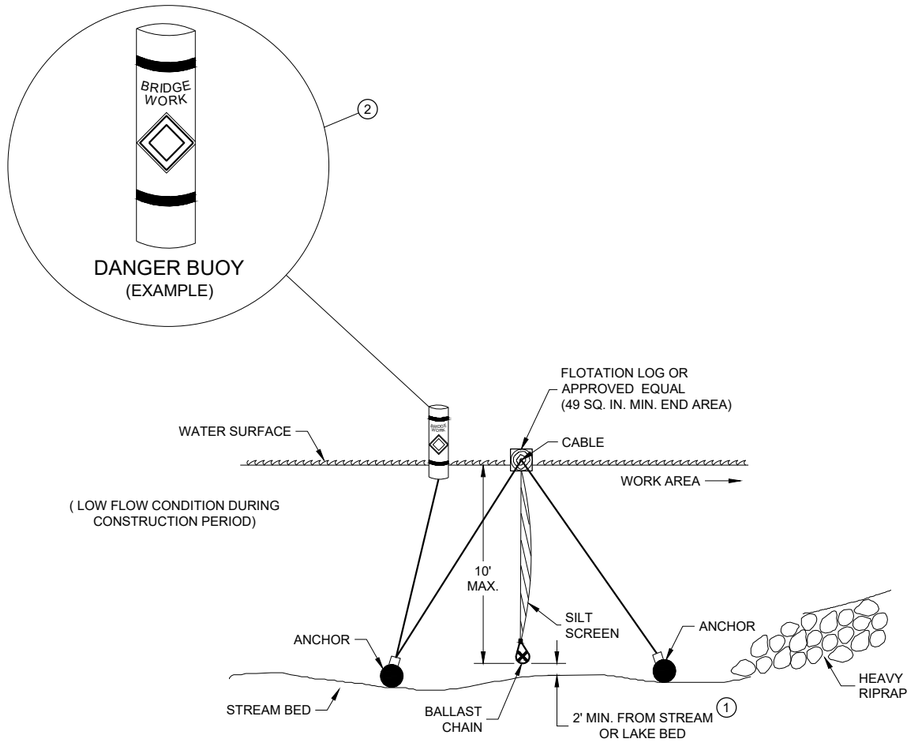
S.D.D. 8 E 9-6

GENERAL NOTES

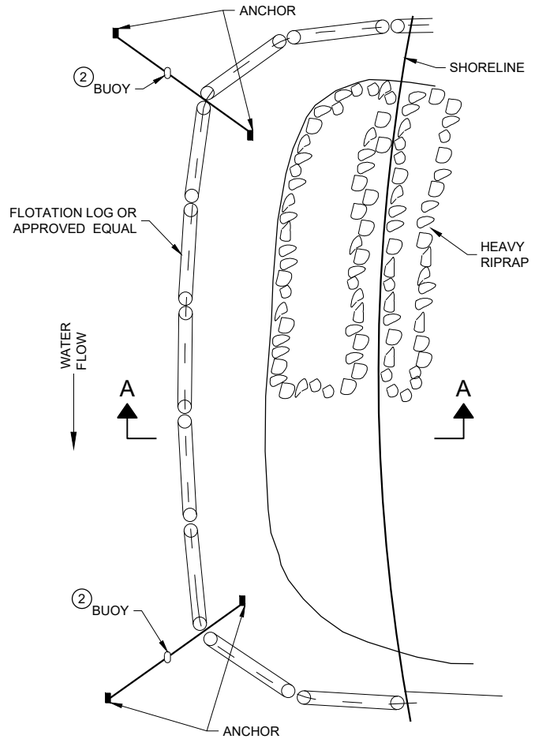
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) 2' MINIMUM SHALL BE MAINTAINED DURING CONSTRUCTION PERIOD.

(2) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



SECTION A - A



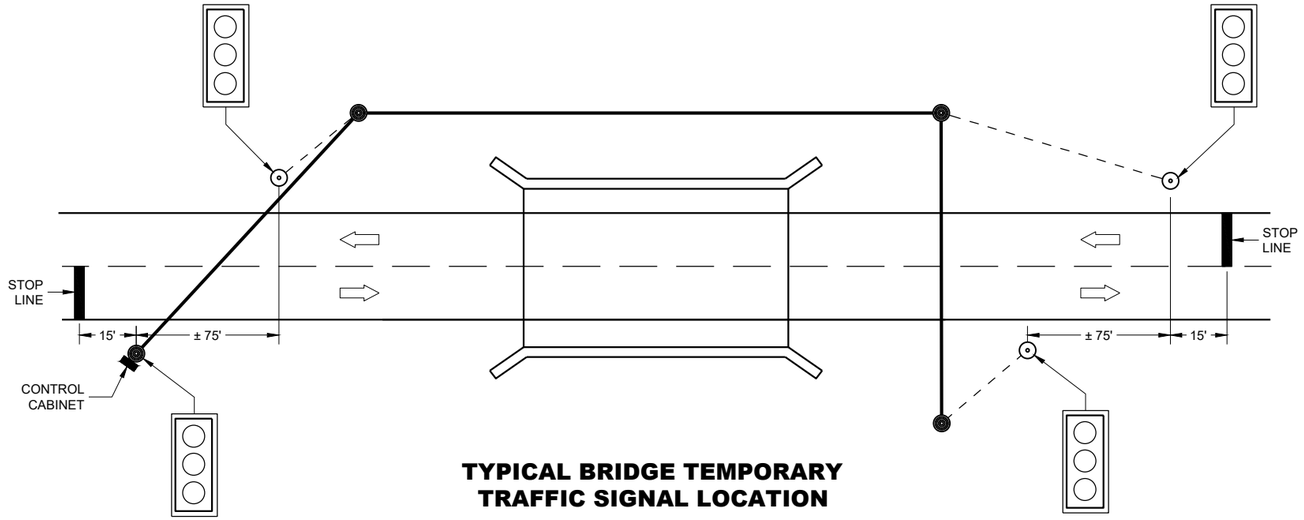
PLAN VIEW

SILT SCREEN PLACEMENT DETAIL

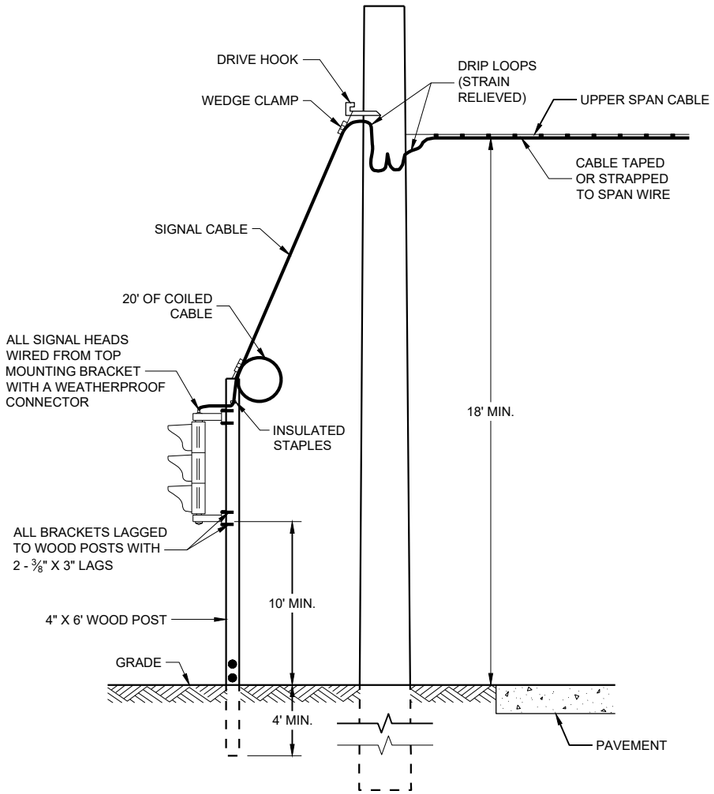
SILT SCREEN	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/04/02 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOI ENGINEER
FHWA	

6

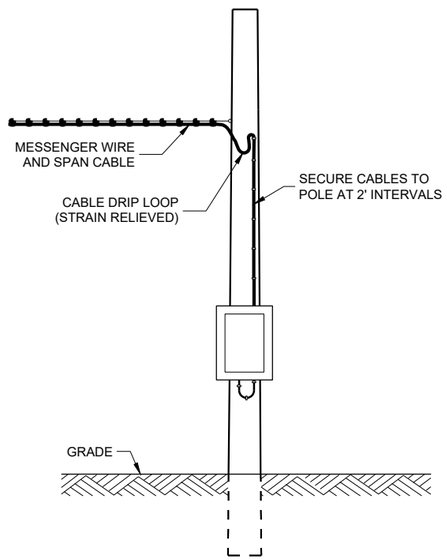
SDD 08E12 - 01



TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION

LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREADAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- DIRECTION OF TRAFFIC
- LED TRAFFIC SIGNAL WITH BACKPLATE (3-12")

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAY BE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NON-BREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

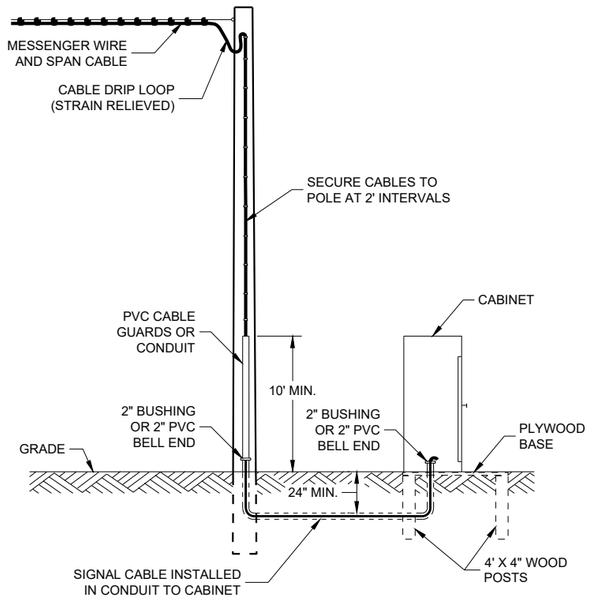
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL SHALL HAVE A BACKPLATE.

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



GROUND MOUNT CABINET INSTALLATION

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE*
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/CURBS	2 FT

* NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — ROADWAY STANDARDS DEVE ENGINEER

FHWA

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SDD09G02 - 05a
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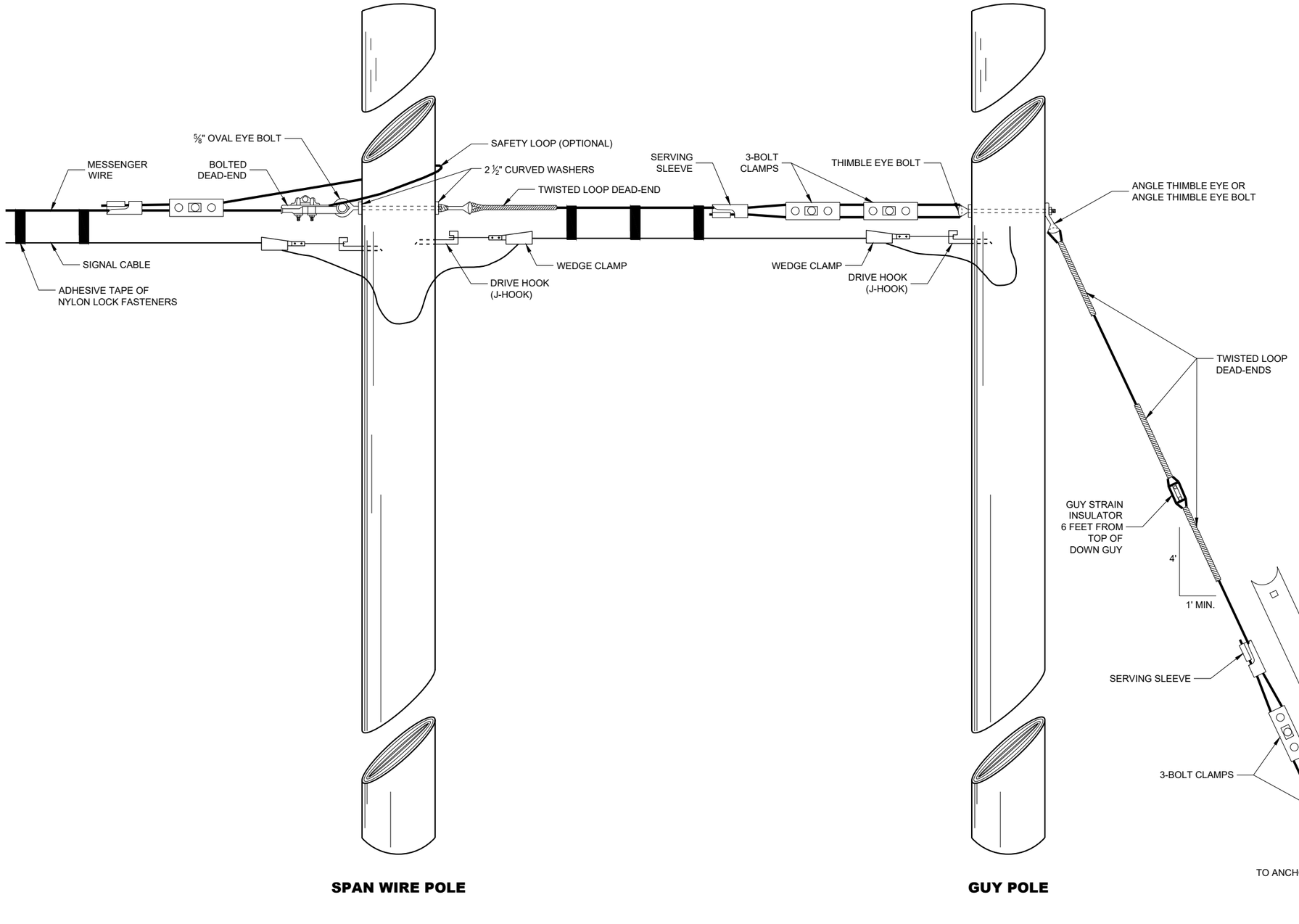
GENERAL NOTES

USE ¾" DRILL IN WOOD POLE TO PROVIDE FOR ⅝" BOLTS.



SPAN WIRE POLE

GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 — DATE
/S/ Ahmet Demerbilek — ROADWAY STANDARDS DEVE ENGINEER

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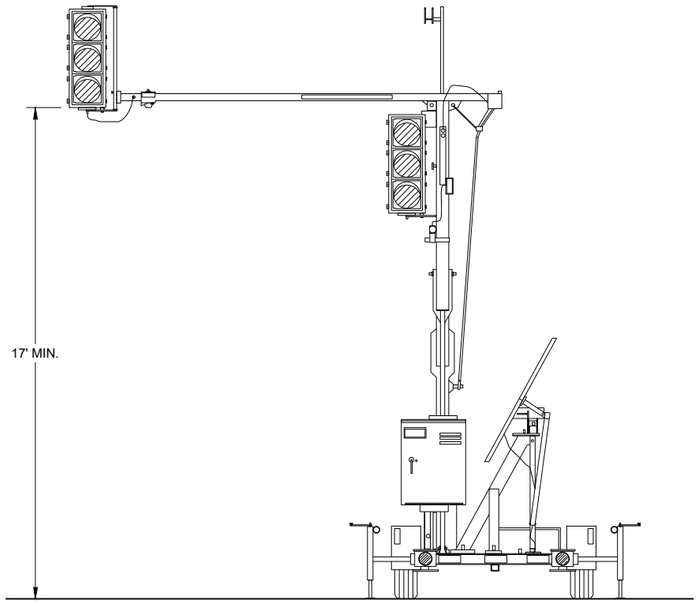
SDD09G02 - 05b

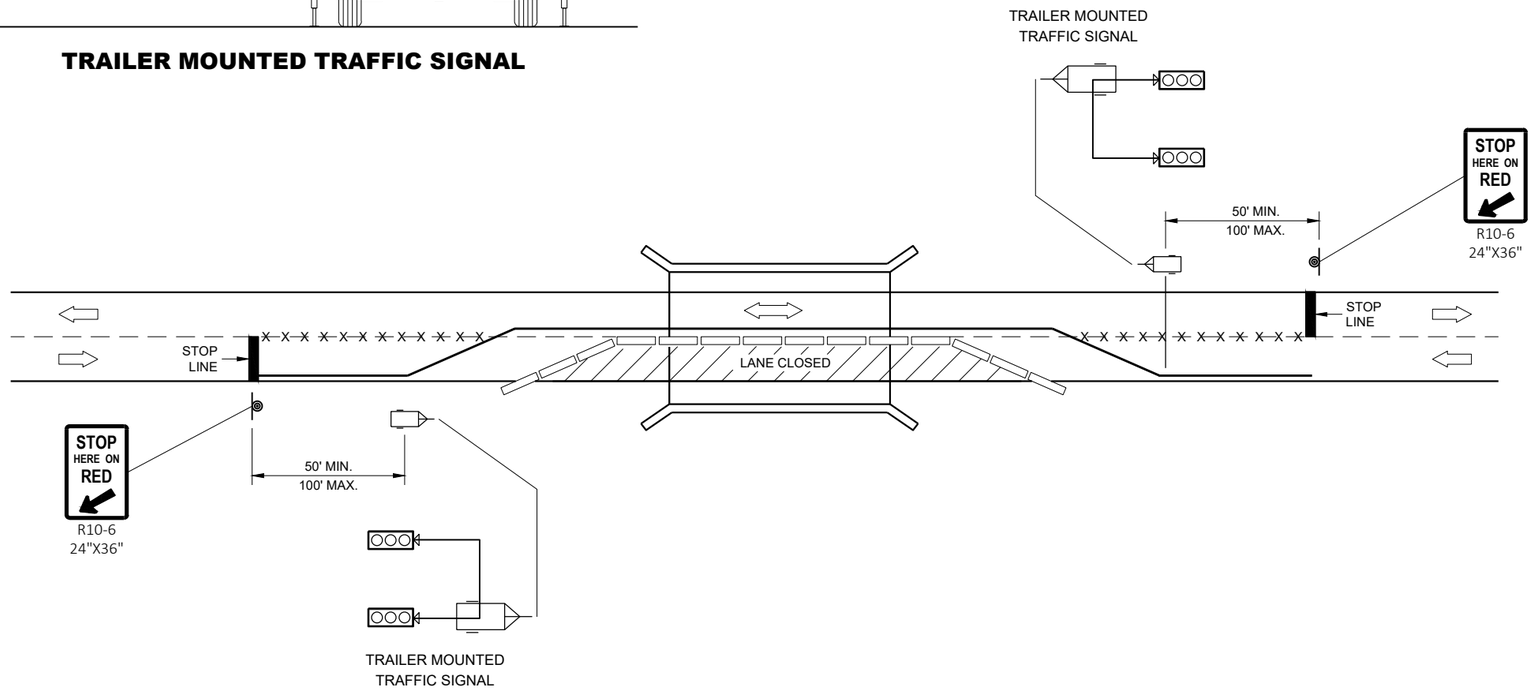


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

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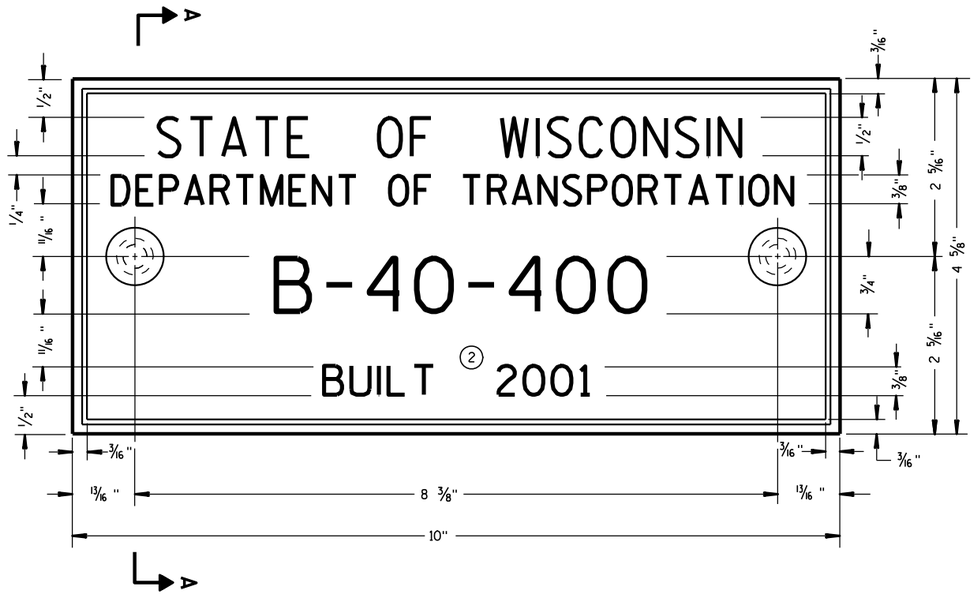
SDD09G02 - 05c



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

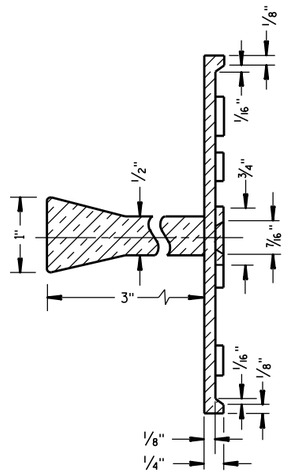
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

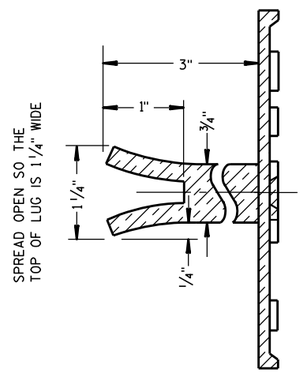
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

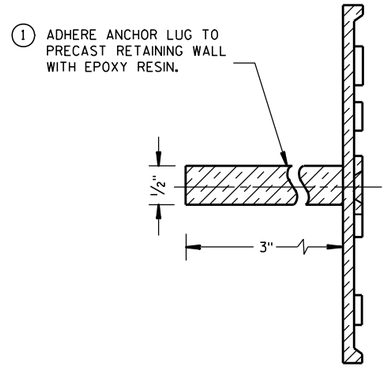
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

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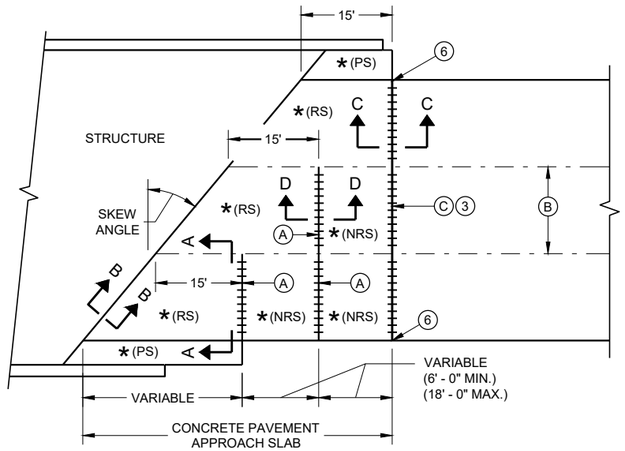
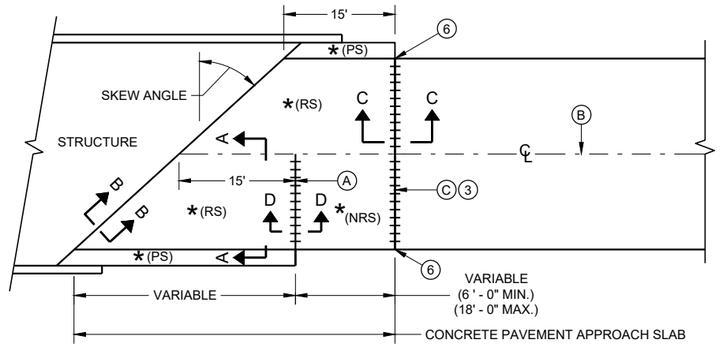
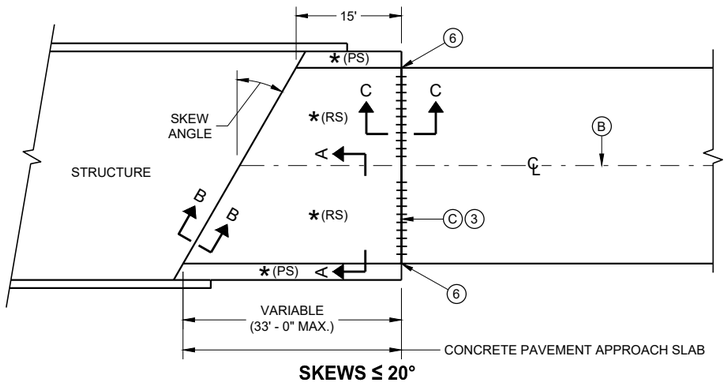
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

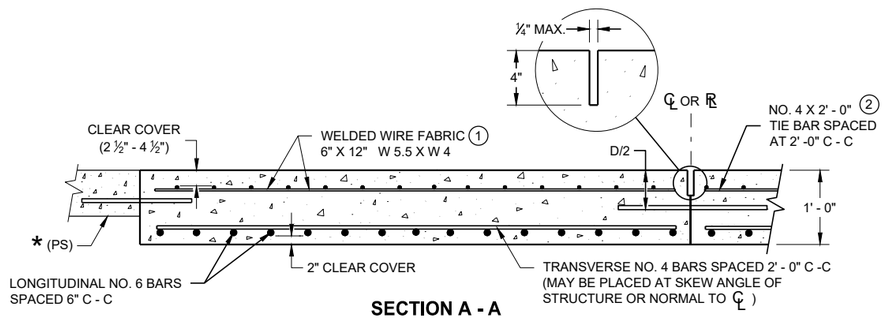
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

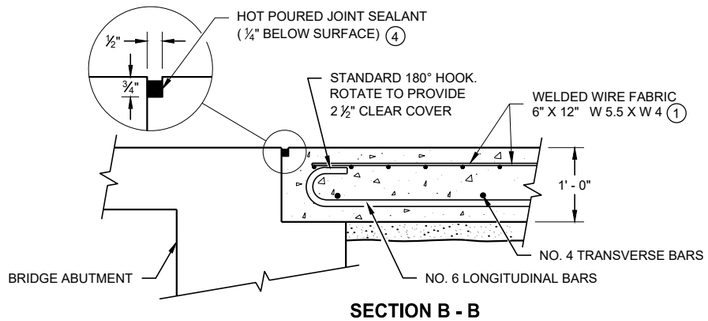
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

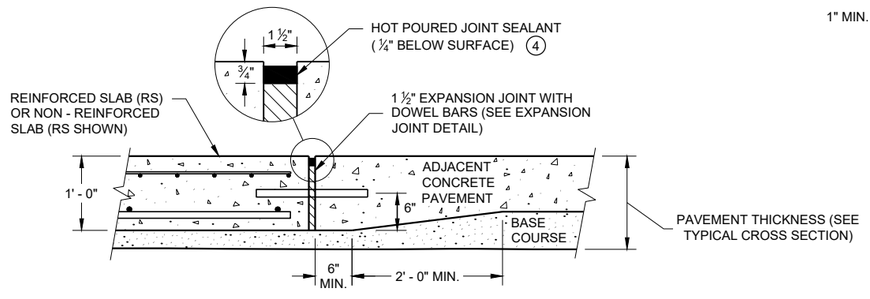
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

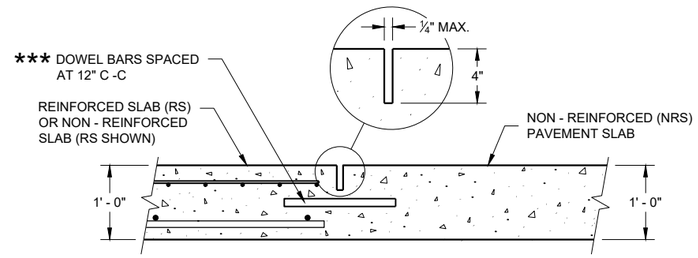
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

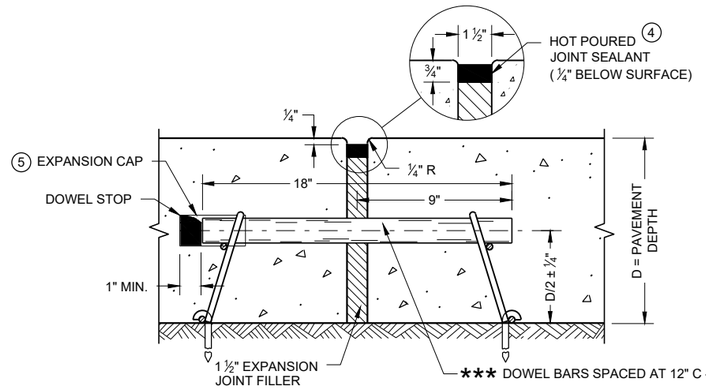
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISO

FHWA

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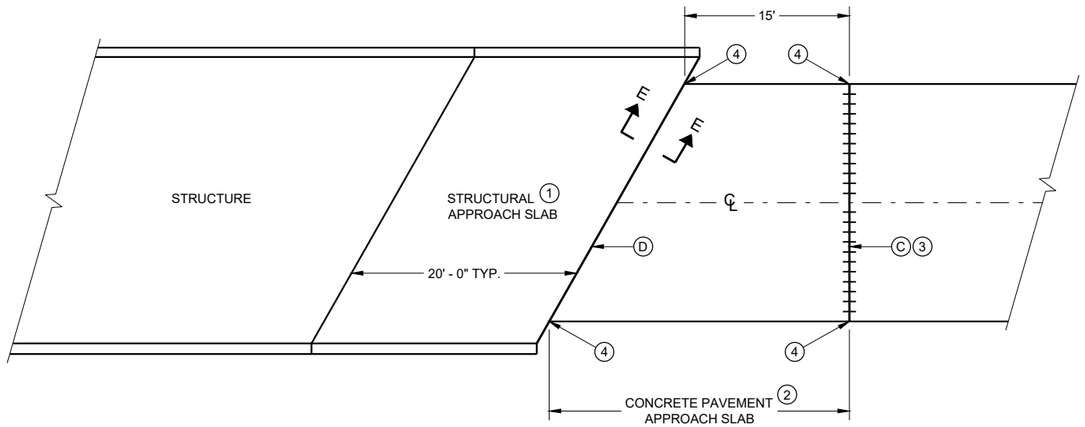


BRIDGE APPROACHES

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

(1) SEE BRIDGE PLAN.

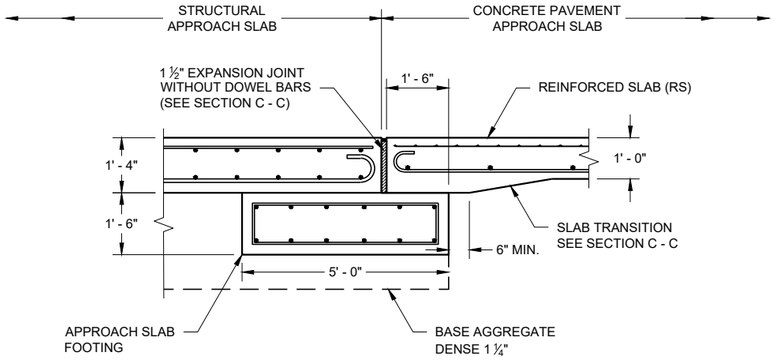
(2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS

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

(4) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞.

(D) 1 ½" EXPANSION JOINT (NO DOWELS)



SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

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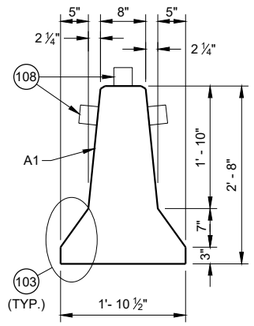
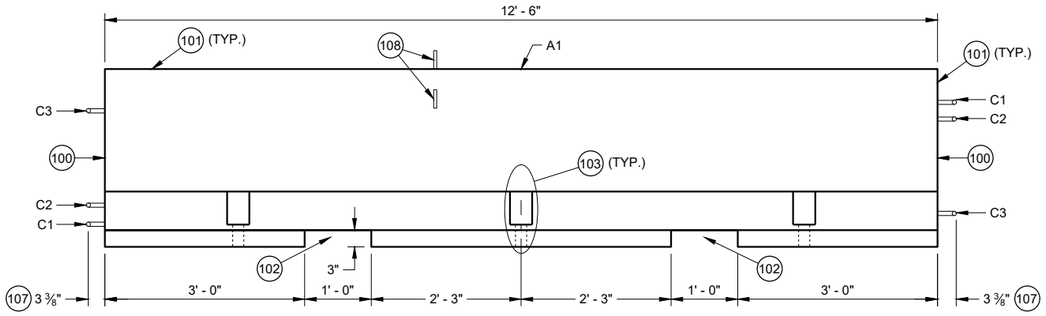
SDD 13B02 - 09b



CROSS SECTION



PROFILE VIEW

GENERAL NOTES

PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

(100) PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
- A. TYPE OF BARRIER: WI-CBTP
- B. MANUFACTURER
- C. DATE OF MANUFACTURE (MONTH AND YEAR)

(101) 1" OPTIONAL CHAMFER

(102) SEE LIFTING SLOT DETAIL

(103) SEE ANCHOR BLOCK DETAIL

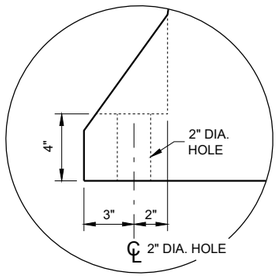
(104) 1 ¾" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

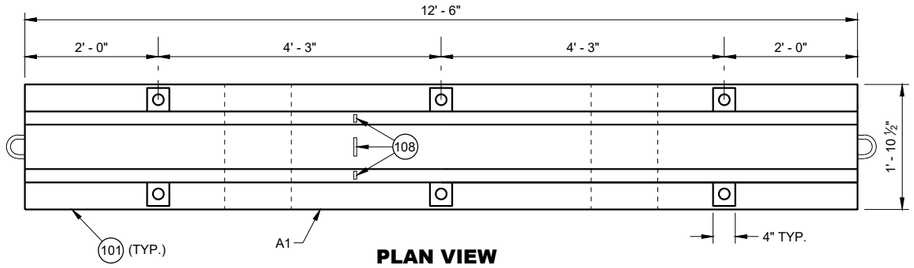
(106) 1" MIN. CLEAR COVER

(107) ± ⅛" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)

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

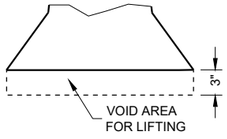


ANCHOR BLOCK DETAIL

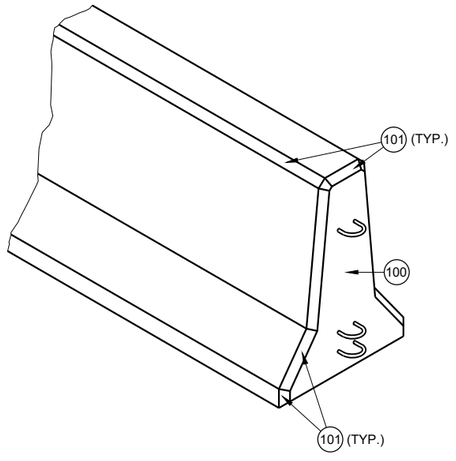


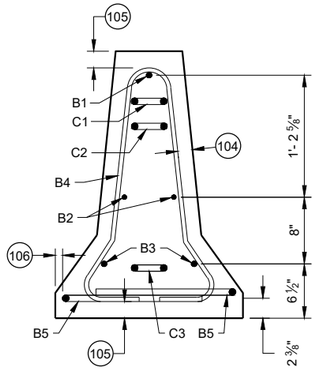
PLAN VIEW

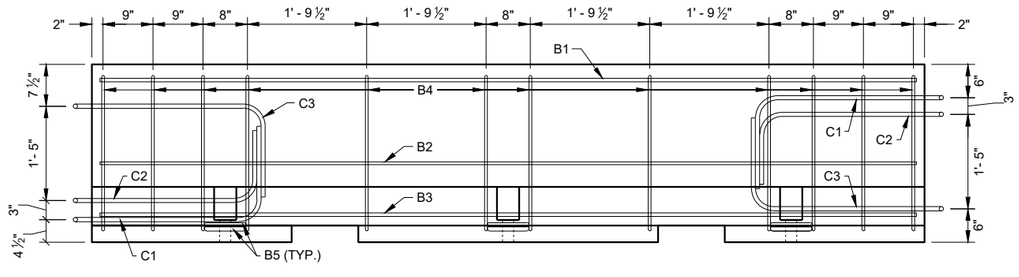
TEMPORARY BARRIER



LIFTING SLOT DETAIL (TYP.)







PROFILE VIEW

TEMPORARY BARRIER REINFORCEMENT

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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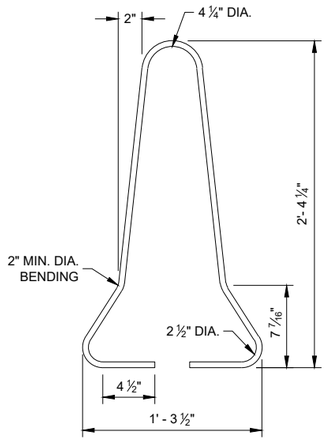
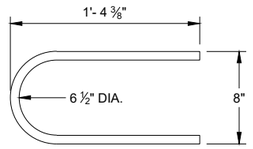
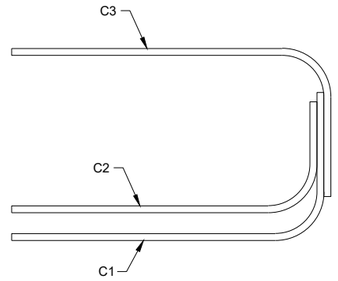
SDD14B07 - 16a



B4 BAR DETAIL

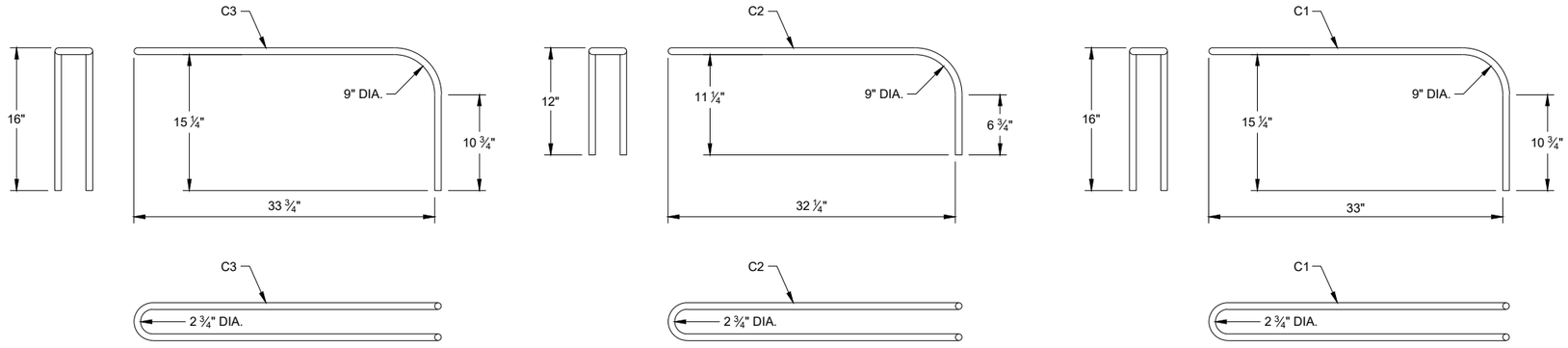


B5 BAR DETAIL



PROFILE VIEW

LOOP BAR ASSEMBLY



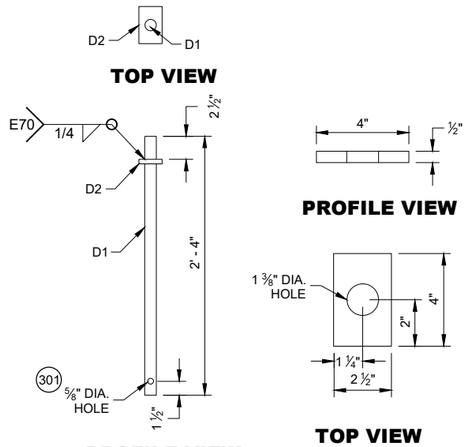
C BAR DETAILS

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

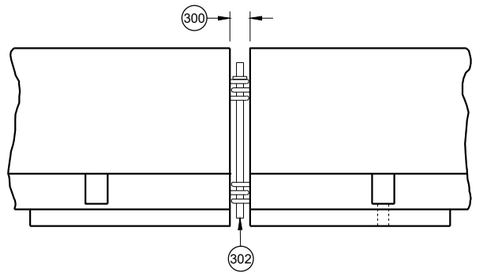
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07 - 16b



CONNECTOR PIN ASSEMBLY



CONNECTING TEMPORARY BARRIER SECTIONS

GENERAL NOTES

300 SET WITH 3 ⅝" WOOD BLOCK.

301 HOLE IS OPTIONAL.

302 CONNECTOR PIN ASSEMBLY.

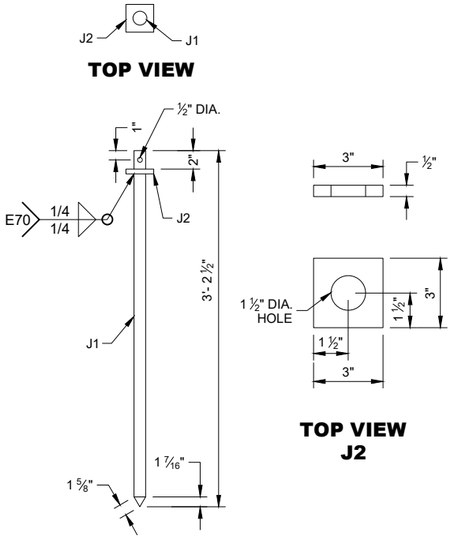
303 CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.

304 CONCRETE DECK.

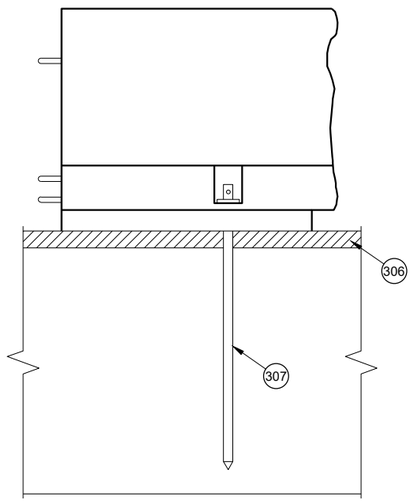
305 DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.

306 MINIMUM OF 2" OF ASPHALT.

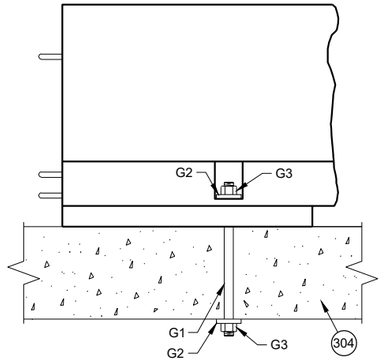
307 ASPHALT ANCHOR PIN ASSEMBLY



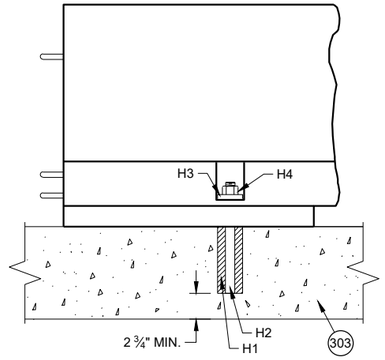
ASPHALT ANCHOR PIN ASSEMBLY



SIDE VIEW
ASPHALT ANCHOR INSTALLATION



SIDE VIEW
THROUGH BOLT ANCHOR INSTALLATION 305



SIDE VIEW
ADHESIVE ANCHOR INSTALLATION 305

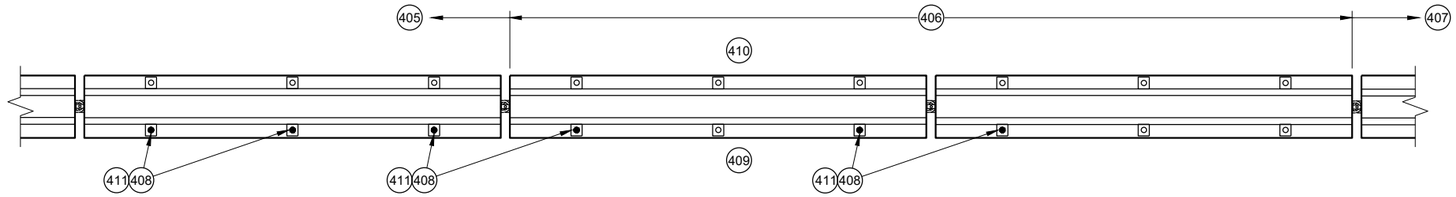
6

SDD 14B07 - 16c

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

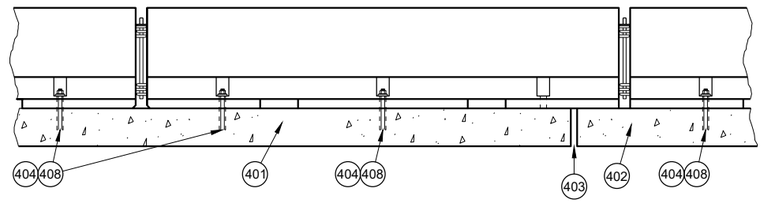
6

SDD 14B07 - 16c



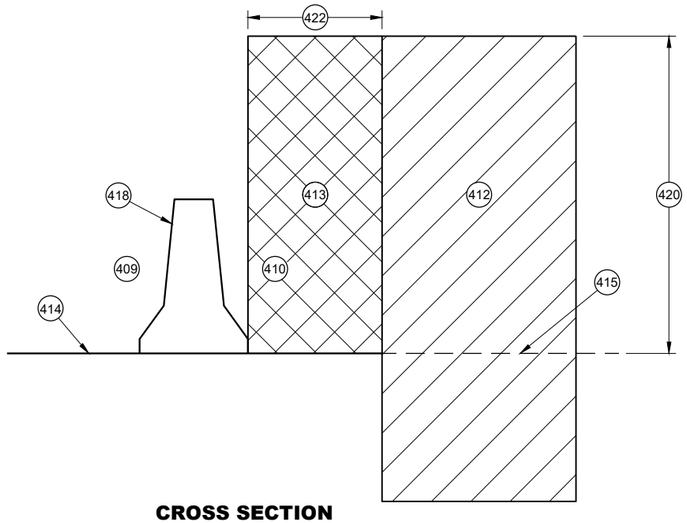
PLAN VIEW

TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



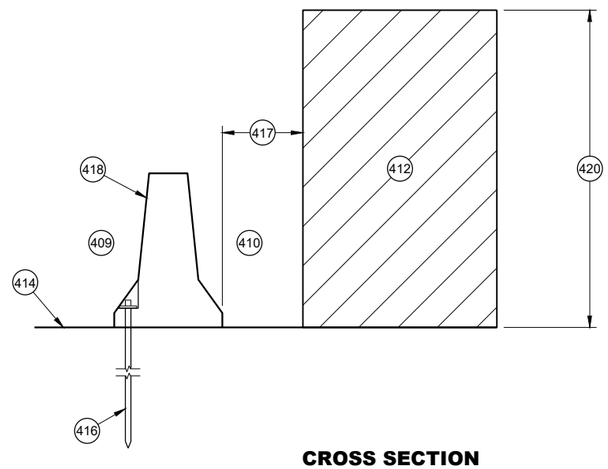
PROFILE VIEW

ANCHORED BARRIER NEAR EXPANSION JOINT (400)



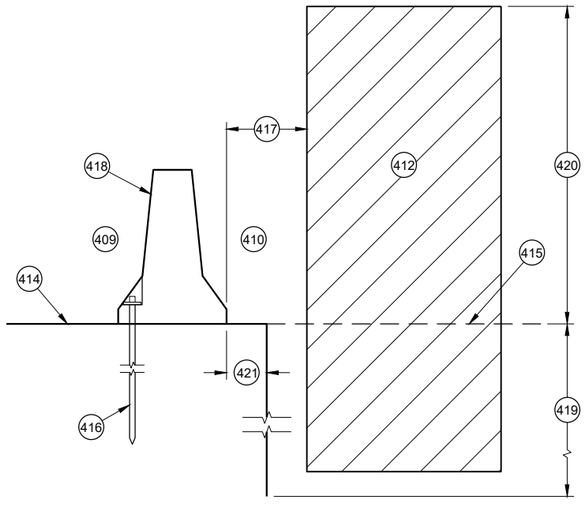
CROSS SECTION

FREE STANDING BARRIER



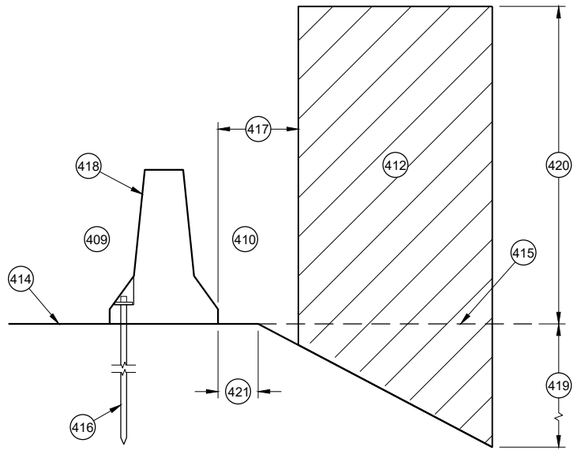
CROSS SECTION

ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER



CROSS SECTION

ANCHORED BARRIER NEAR VERTICAL DROP OFF



CROSS SECTION

ANCHORED BARRIER NEAR A SLOPE

GENERAL NOTES

(400) 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.

(401) CONCRETE DECK

(402) CONCRETE DECK OR APPROACH SLAB.

(403) EXPANSION JOINT

(404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.

(405) ANCHORED TEMPORARY BARRIER

(406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING

(407) FREE STANDING BARRIER

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

(409) TRAFFIC SIDE

(410) NON-TRAFFIC SIDE

(411) ANCHOR LOCATION. SEE ANCHORING DETAILS.

(412) WORK AREA

(413) AREA FREE OF OBJECTS AND WORKERS

(414) GRADE LINE

(415) EXTENDED GRADE LINE

(416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.

(417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.

(418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.

(419) DEPTHS OF 3 FEET OR MORE.

(420) Y = 6.5'

(421) OFFSET FROM BACK OF BARRIER EDGE:

CONCRETE PAVEMENT	0.5'
ASPHALT	0.5'

(422) POSTED SPEED (MPH):

45 OR GREATER	4.0'
40 OR LOWER	2.0'

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07 - 16d

GENERAL NOTES

(500) EXISTING RIGID BARRIERS (VARIES)

(501) TEMPORARY BARRIER

(502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).

(503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.

(504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

(505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.

(506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.

(507) VERTICAL BARRIER

(508) SAFETY SHAPE BARRIER

(509) SINGLE SLOPE BARRIER

(510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.

(511) BENT THRIE BEAM TO FIT.

(512) THRIE BEAM PIECES ARE OFFSET 15 ¼" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.

(513) TWO (2) P1, P2 AND P3 ARE REQUIRED

(514) FIVE (5) N1, N2 AND N3 ARE REQUIRED

(515) TWO (2) R1, R2 AND R3 ARE REQUIRED

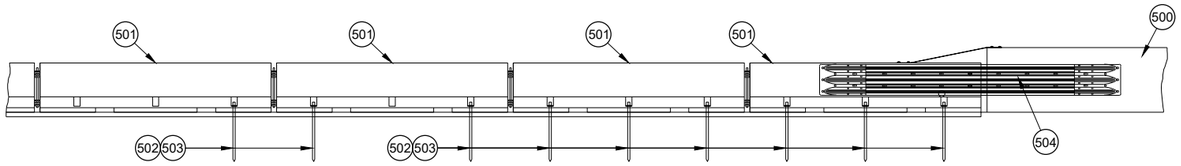
(516) CUT WOOD BLOCK TO FIT.

(517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

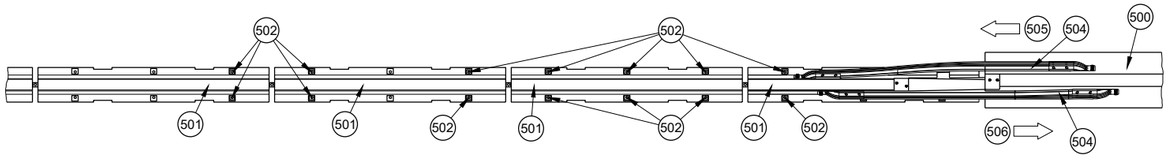
(518) CAP ASSEMBLY

(519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.

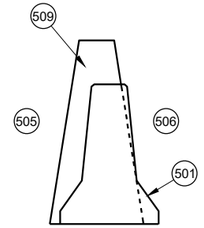
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



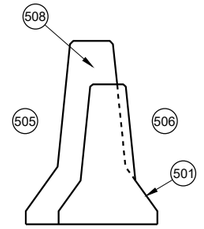
PROFILE VIEW



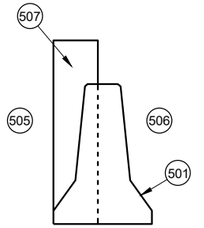
PLAN VIEW
TRANSITION TO RIGID BARRIER



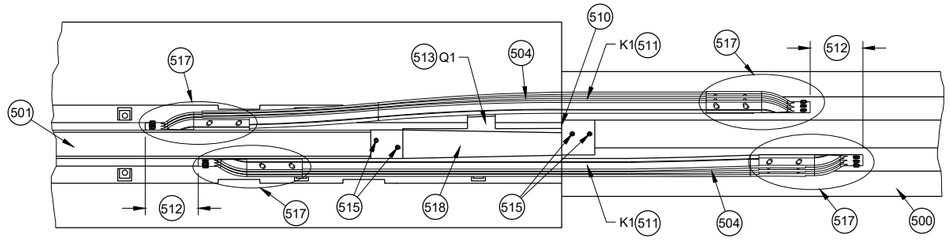
CROSS SECTION TEMPORARY BARRIER PLACEMENT SINGLE SLOPE



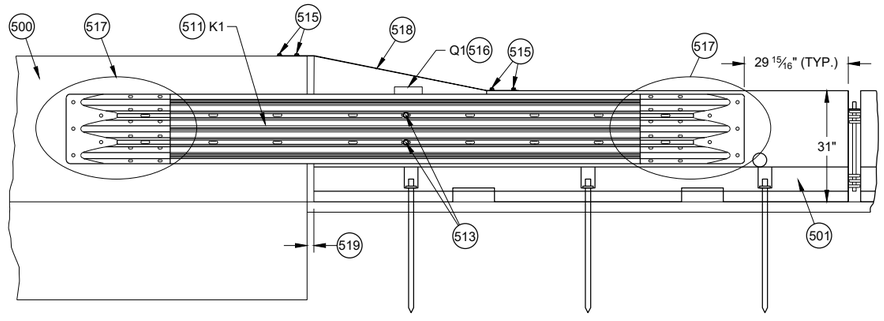
CROSS SECTION TEMPORARY BARRIER PLACEMENT SAFETY SHAPE



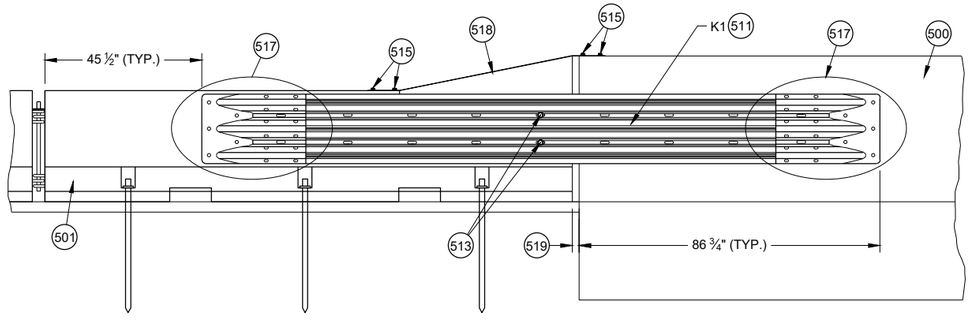
CROSS SECTION TEMPORARY BARRIER PLACEMENT VERTICAL



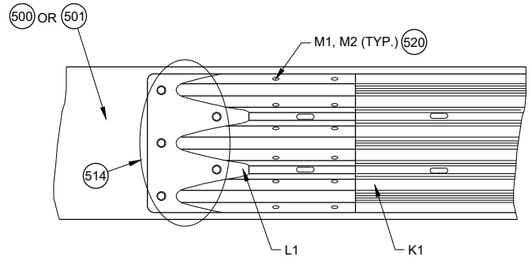
PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER



BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER



FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER

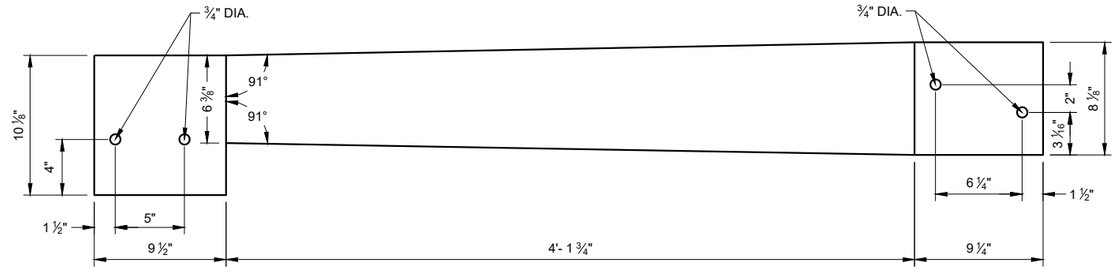


(517) **DETAIL PLAN VIEW**
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

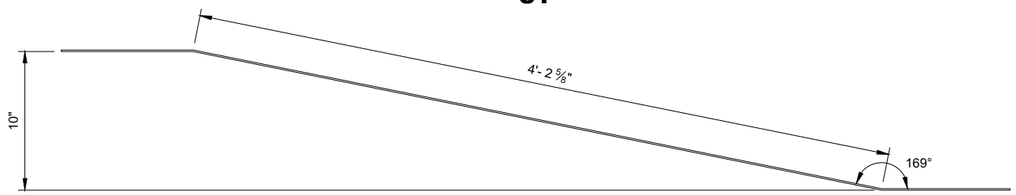
6

SDD 14B07 - 16e



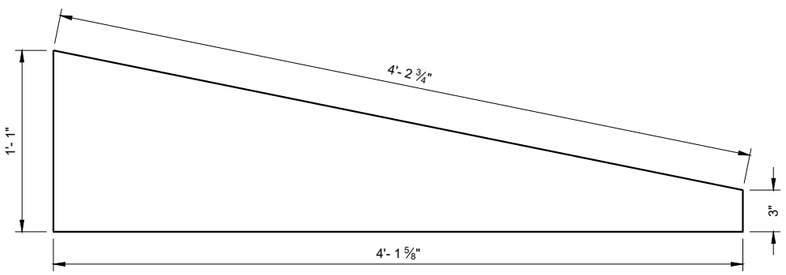
TOP VIEW

S1



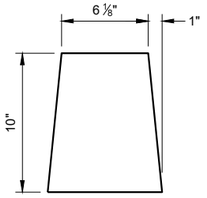
ELEVATION VIEW

S1

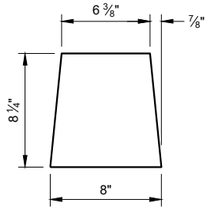


SIDE VIEW

S3



S2



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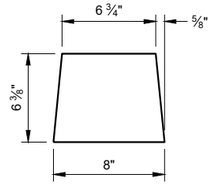
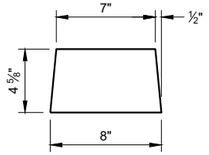
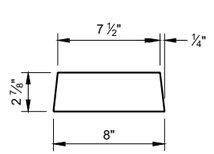


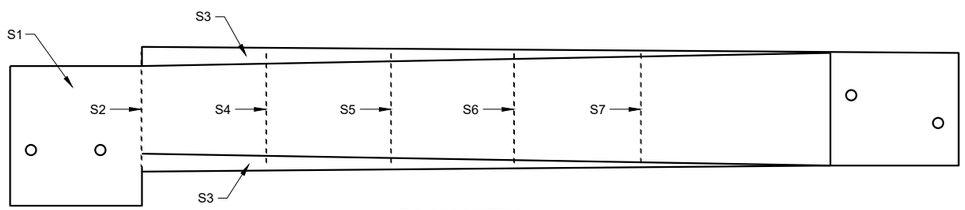
S5



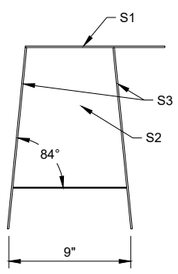
S6



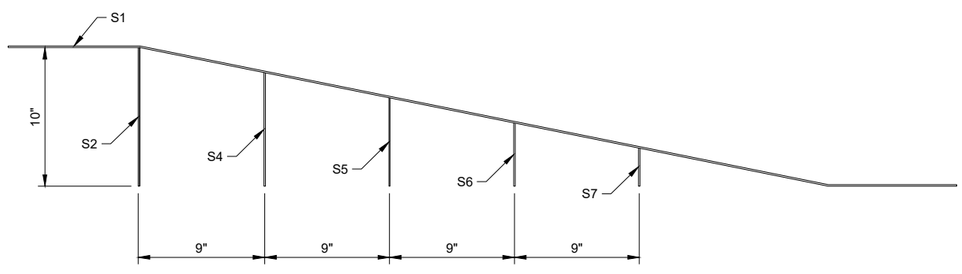
S7



PLAN VIEW



BACK VIEW



SIDE VIEW (600)

42" TOP CAP ASSEMBLY

GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

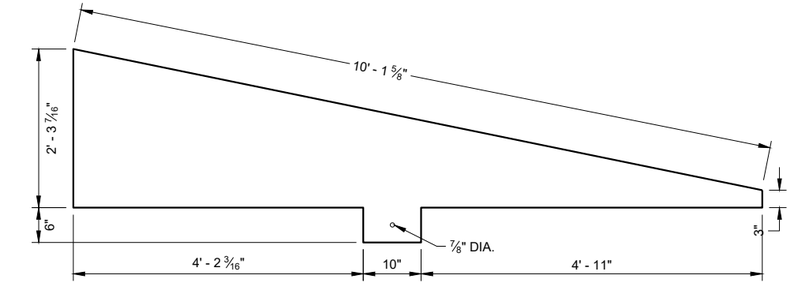
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT 28

6

SDD 14B07 - 16f

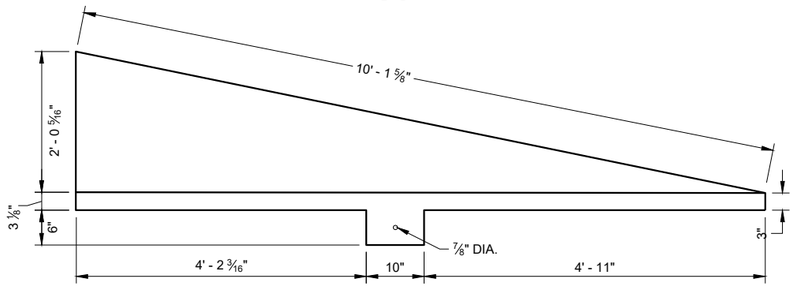
6

SDD 14B07 - 16f



SIDE VIEW
T4

END VIEW



SIDE VIEW
T3

END VIEW

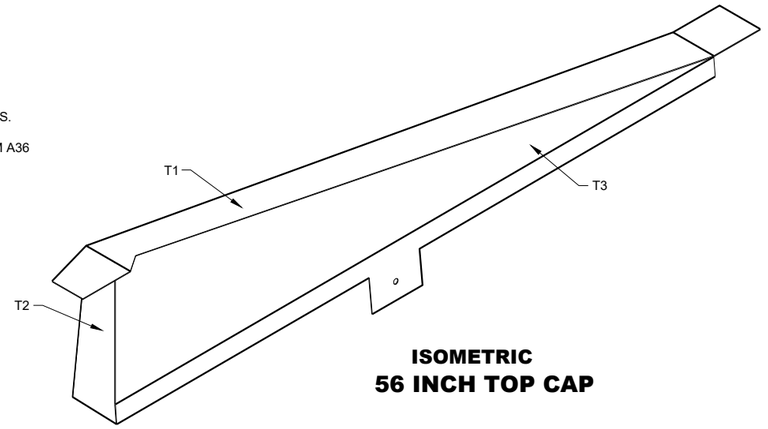
GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

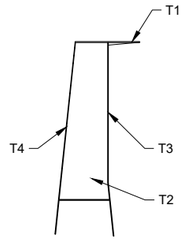
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

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

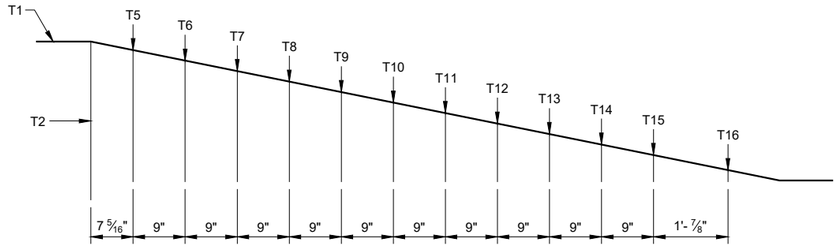
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



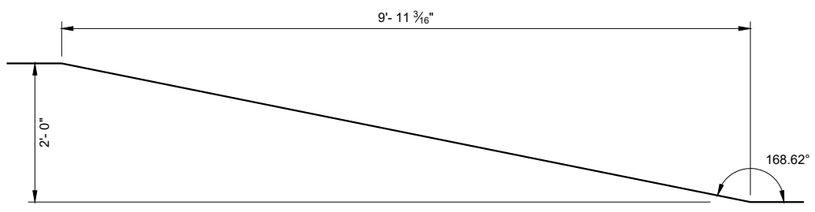
ISOMETRIC
56 INCH TOP CAP



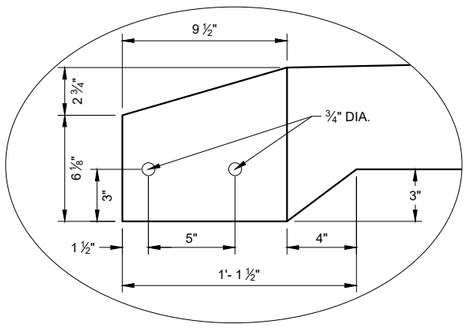
END VIEW
56 INCH TOP CAP



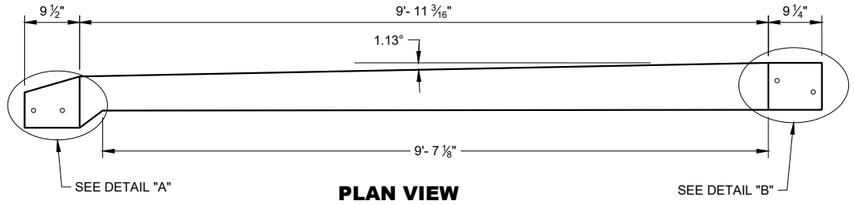
SIDE VIEW (700)
56 INCH TOP CAP



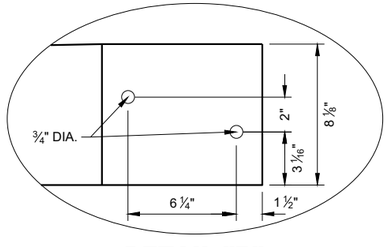
SIDE VIEW
TOP PLATE T1



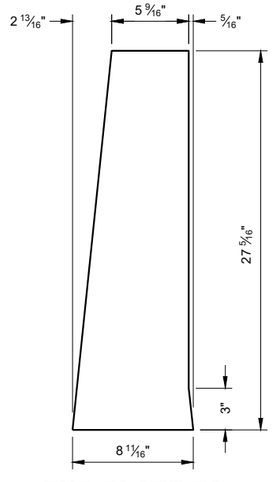
DETAIL "A"



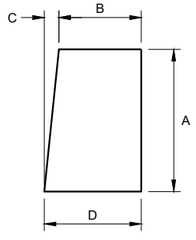
PLAN VIEW
TOP PLATE T1



DETAIL "B"



END PLATE T2



GUSSET PLATES
T5 - T16

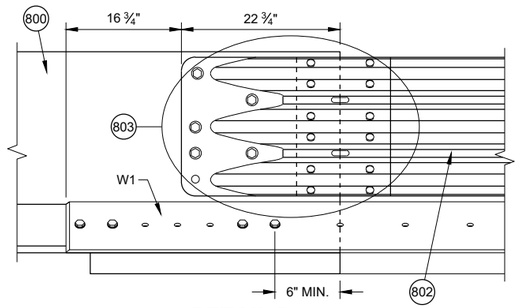
GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/16"	1 15/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 5/16"	6 7/16"	1 9/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 11/16"	7 9/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

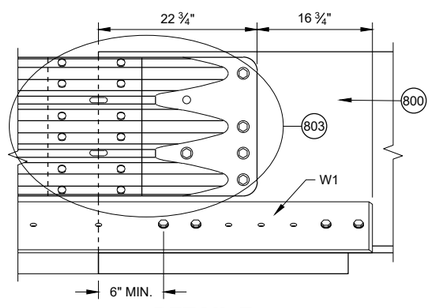
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

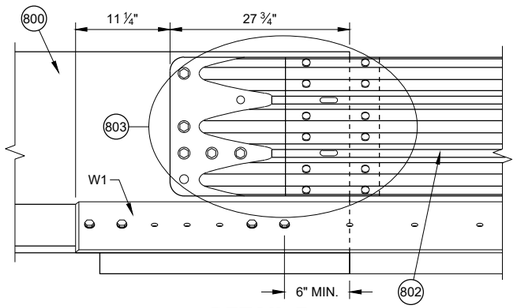
SDD 14B07 - 16g



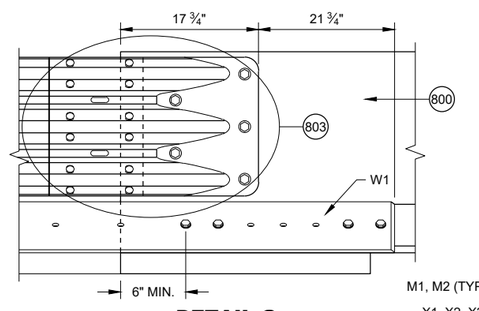
DETAIL D



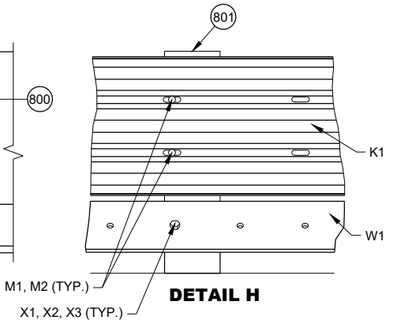
DETAIL E



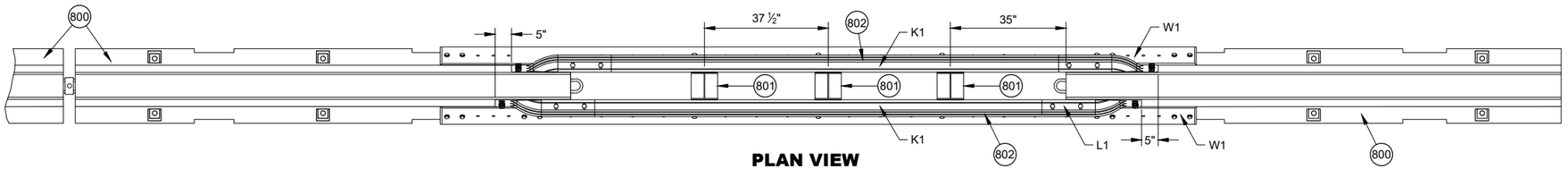
DETAIL F



DETAIL G



DETAIL H



PLAN VIEW

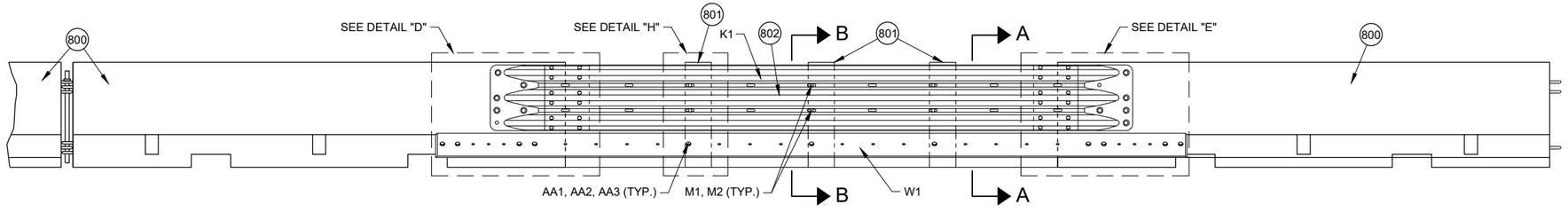
GENERAL NOTES

(800) FREE STANDING TEMPORARY BARRIER

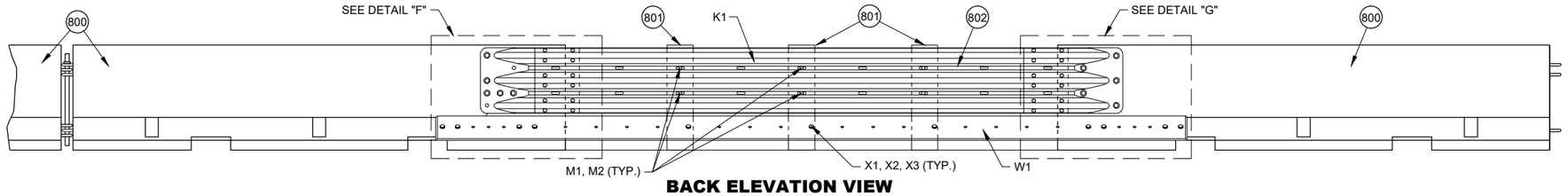
(801) GAP STIFFENER ASSEMBLY

(802) THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.

(803) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL



FRONT ELEVATION VIEW



BACK ELEVATION VIEW

PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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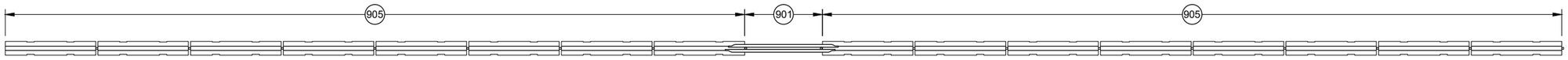
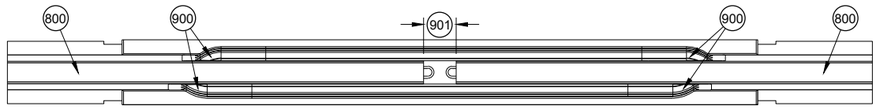
SDD 14B07 - 16h



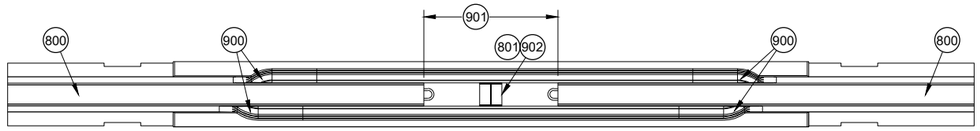
PLAN VIEW
GAP WITHIN SPACING



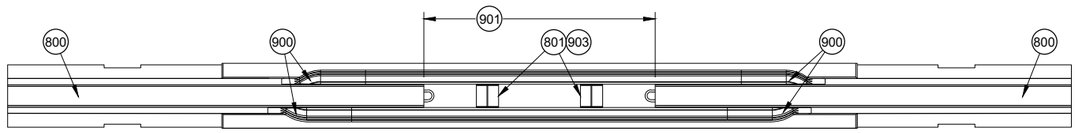
PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. (904)

GENERAL NOTES

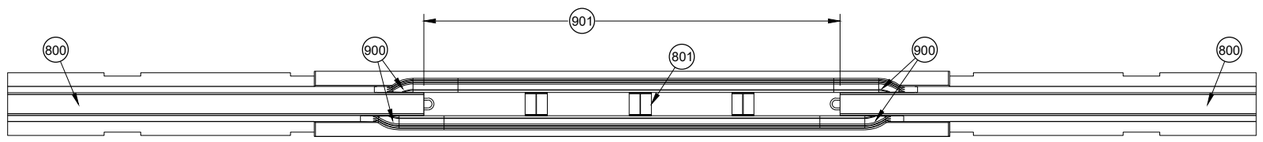
(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS



PLAN VIEW
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. (904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. (904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. (904)

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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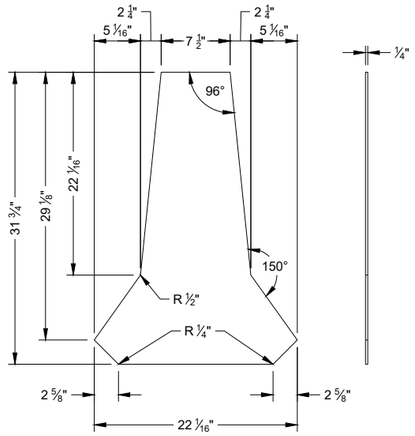
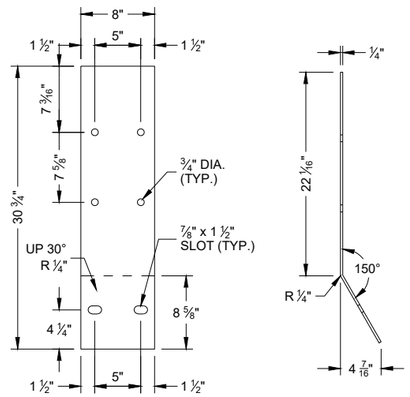


PROFILE VIEW SIDE VIEW

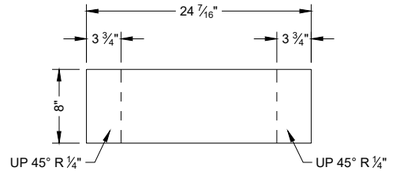
STIFFENER ASSEMBLY CENTER PANEL U1



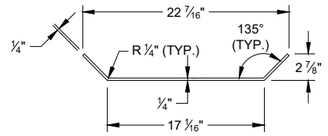
FLAT PATTERN

SIDE VIEW

STIFFENER ASSEMBLY SIDE PANEL U2

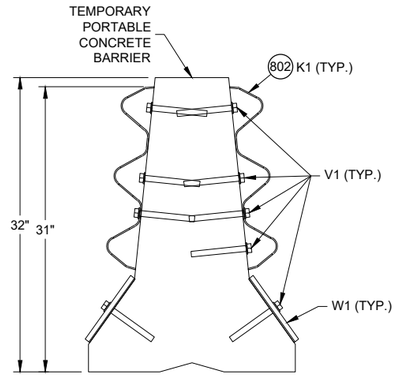


FLAT PATTERN

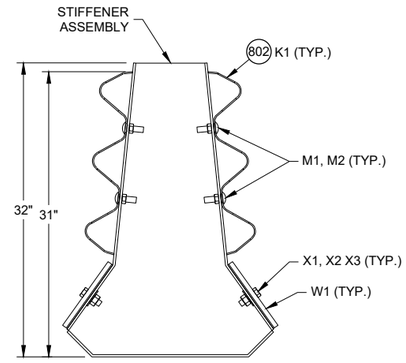


PROFILE VIEW

STIFFENER ASSEMBLY BOTTOM PANEL U3

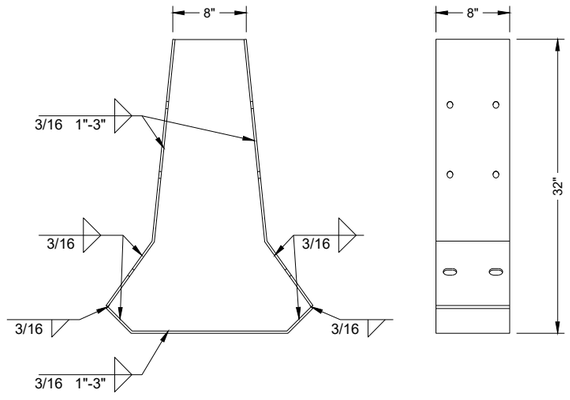


SECTION A - A



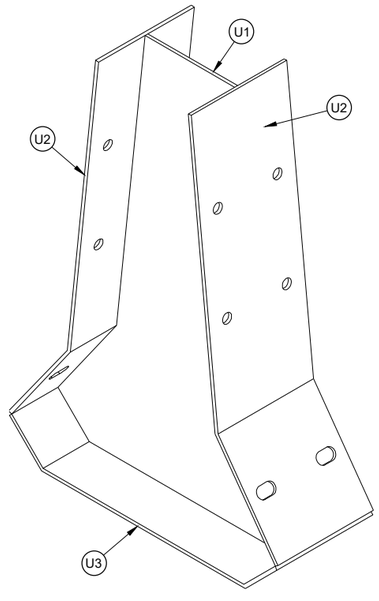
SECTION B - B

PLAN VIEW



PROFILE VIEW

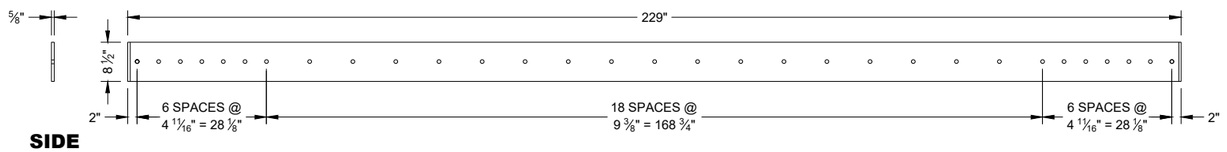
SIDE VIEW



ISOMETRIC

GAP STIFFENER ASSEMBLY

PLAN VIEW



SIDE VIEW

ELEVATION VIEW

W1 TOE PLATE

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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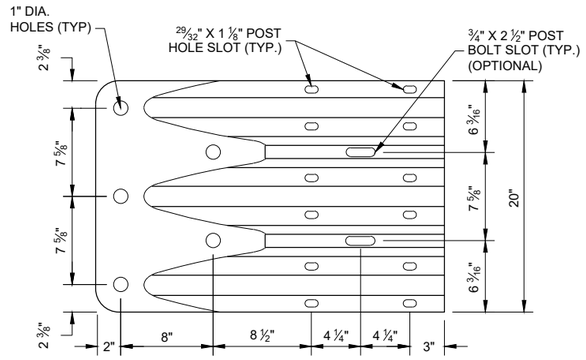
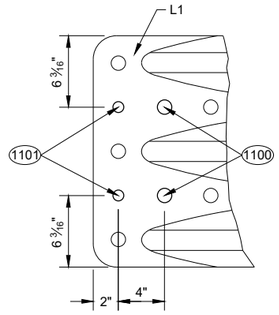


ELEVATION VIEW

THRIE BEAM TERMINAL CONNECTOR



ELEVATION VIEW

ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL

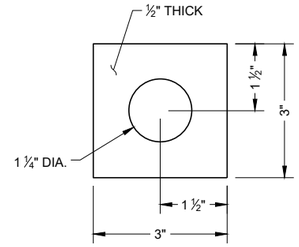


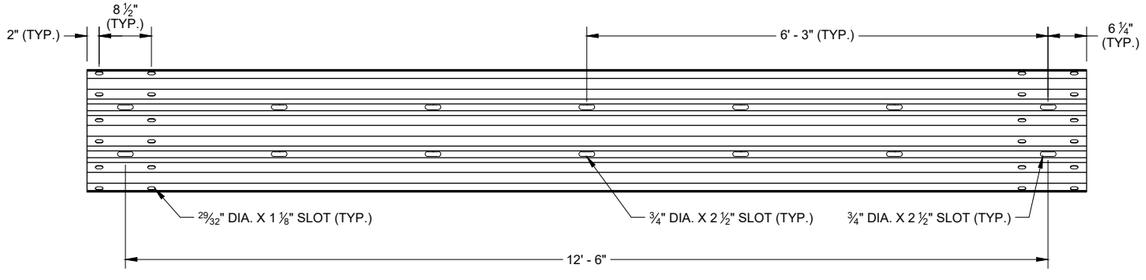
PLATE WASHER DETAIL G2, H3

GENERAL NOTES

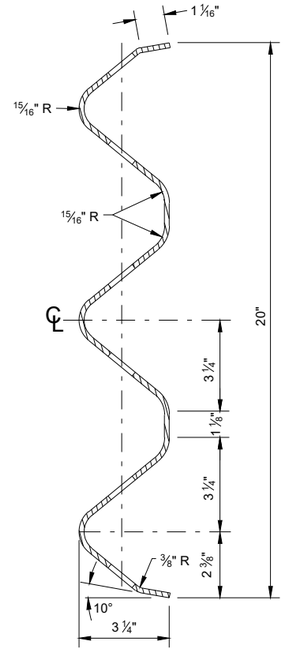
(1100) 1" DIA. HOLE

(1101) 3/4" DIA. HOLE

(1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



SLOTTED THRIE BEAM RAIL K1



SECTION THROUGH BEAM K1

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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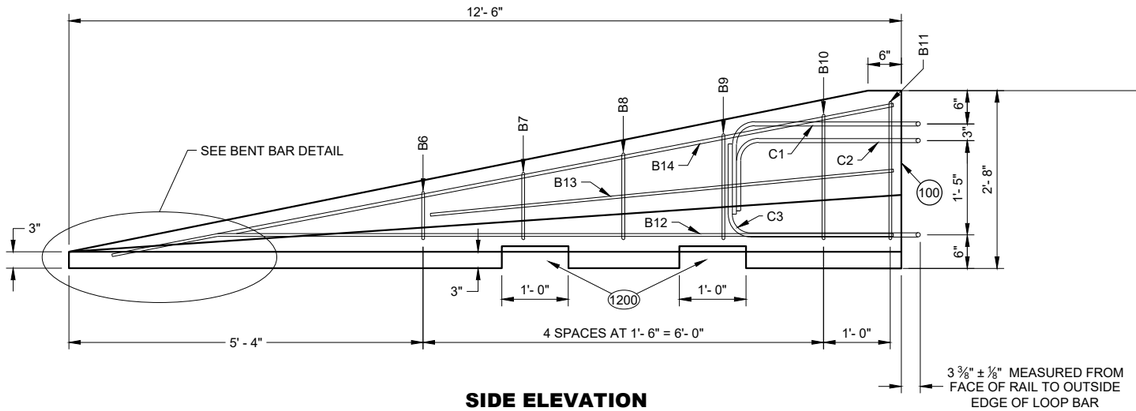
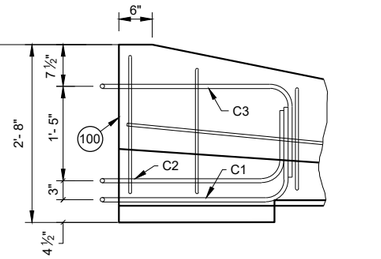


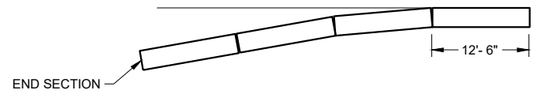
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



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

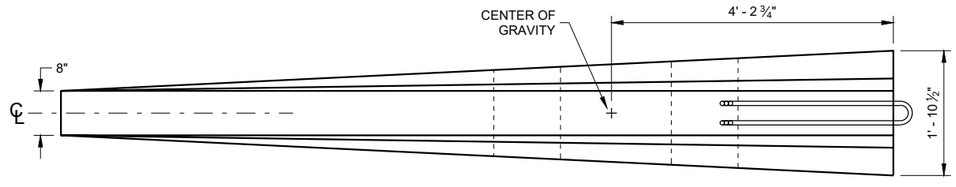
GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

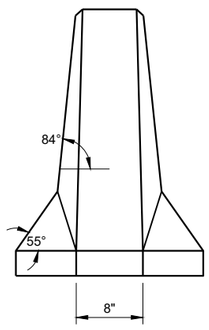


FLARE AT BARRIER END

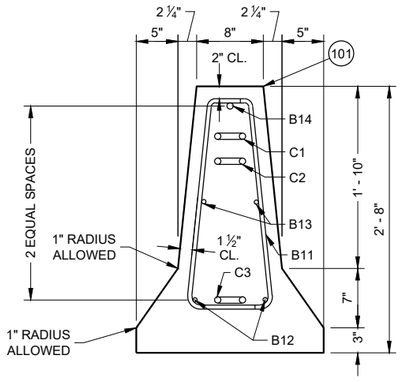
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



PLAN VIEW

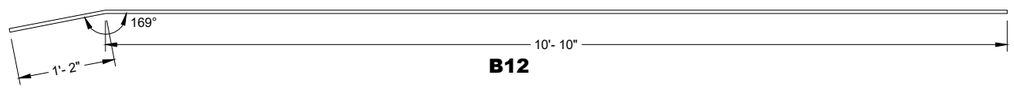


FRONT ELEVATION

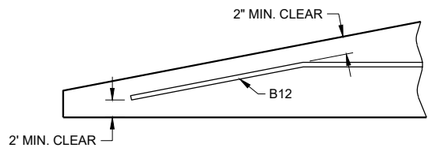


END SECTION

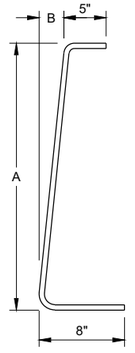
DETAILS OF BARRIER TAPER SECTION



B12



BENT BAR DETAIL



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 ¼"
B8	1'- 5"	1 ⅝"
B9	1'- 8"	1 ⅞"
B10	2'- 0 ½"	2 ⅜"
B11	2'- 3"	2 ¾"

B BARS

2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f'c 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ¼" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ⅛" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. STRENGTH OF 1,800 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ⅛" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	⅝" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	⅝" DIA.
R2	CAP- BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

6

SDD14B07 - 16m

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
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SDD14B07 - 16m

(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.

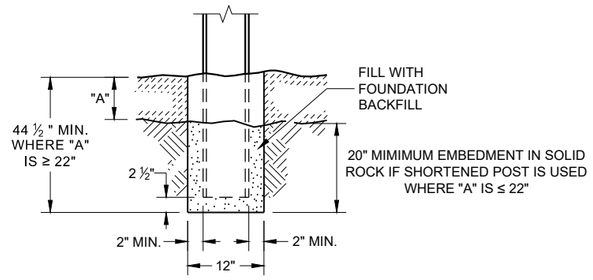
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

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

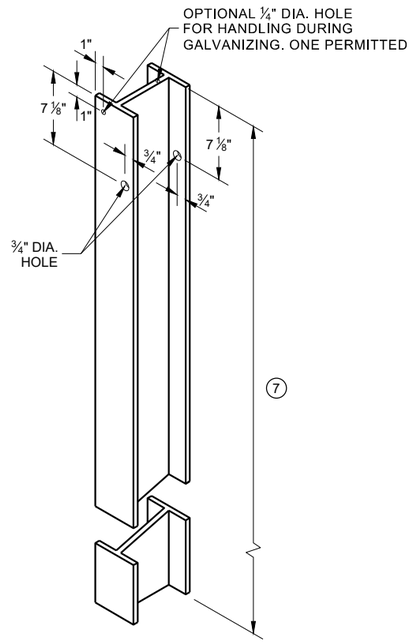
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

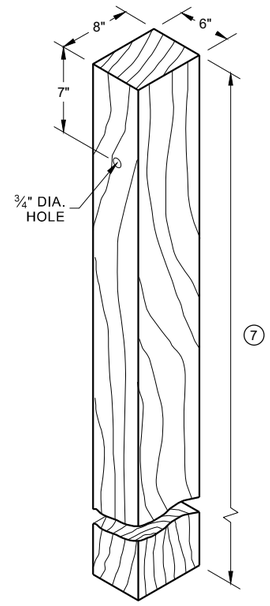
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



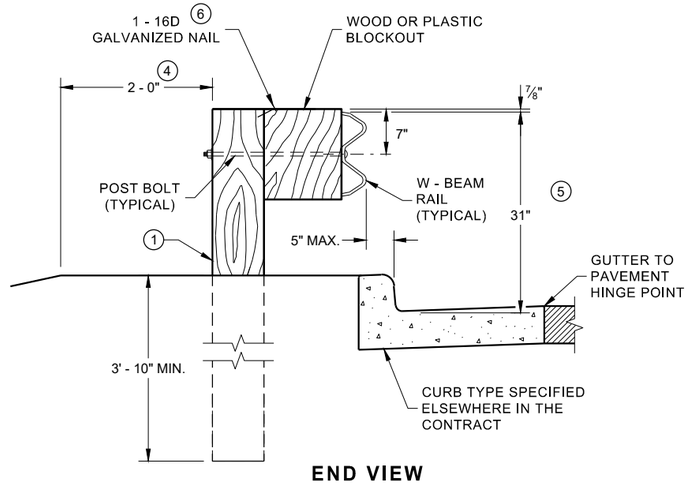
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



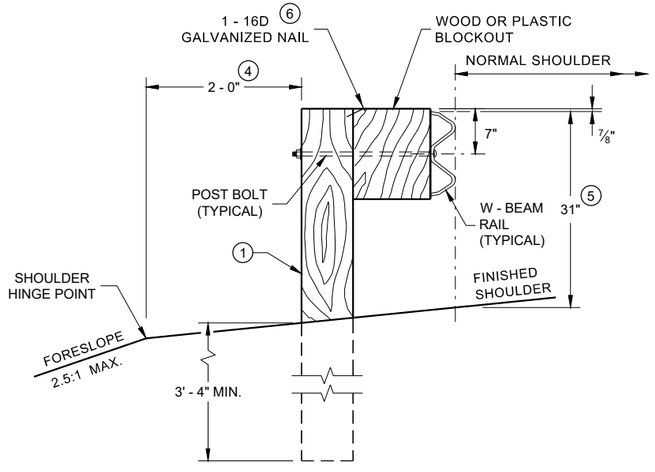
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



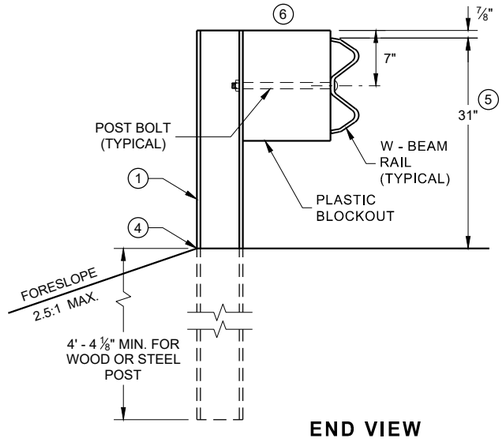
WOOD POST (6" X 8") NOMINAL (1)



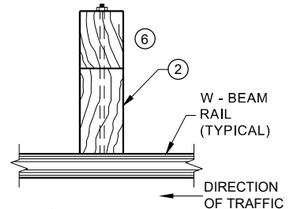
END VIEW
LOCATED ALONG A CURBED ROADWAY



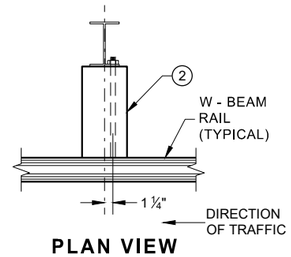
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



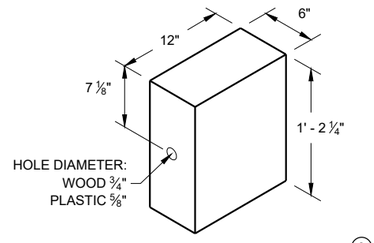
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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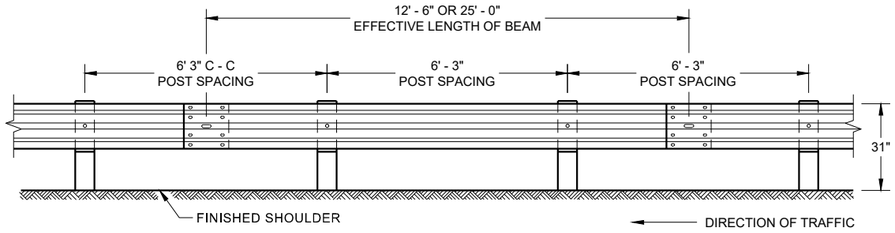
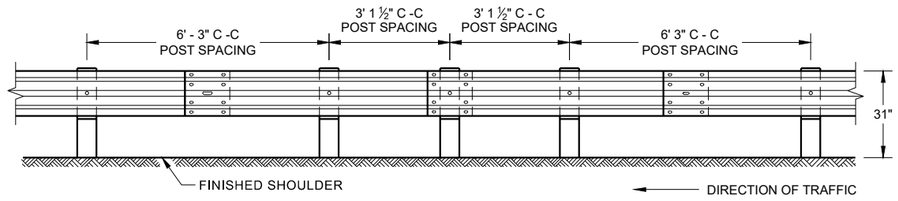
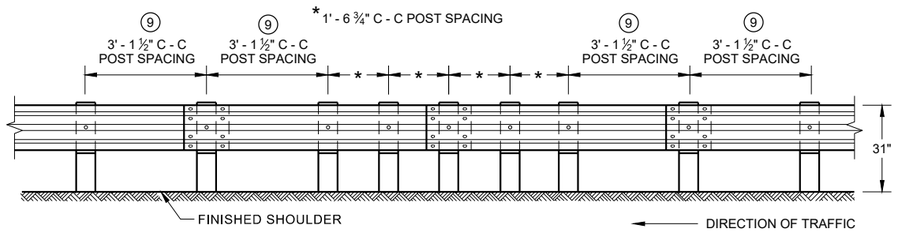
SDD 14B42 - 07a



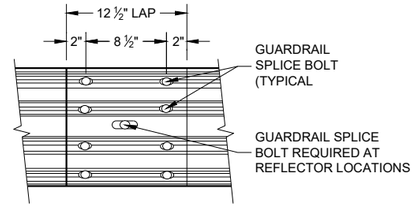
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

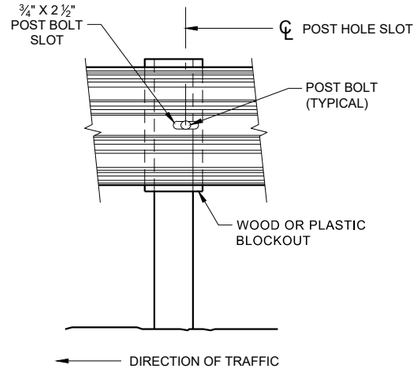
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

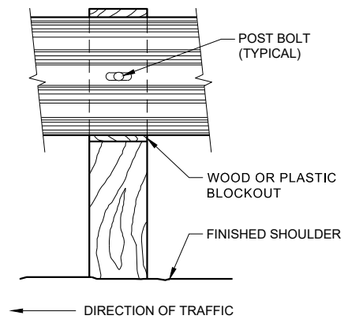
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

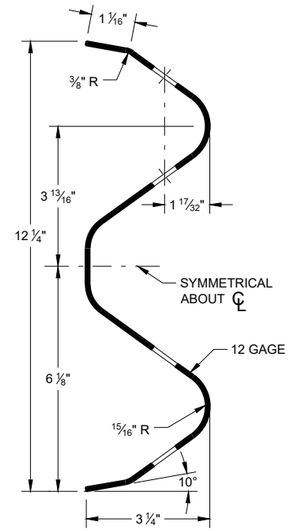
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



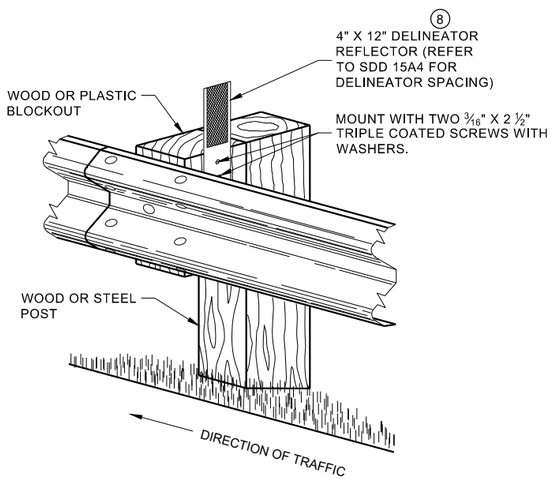
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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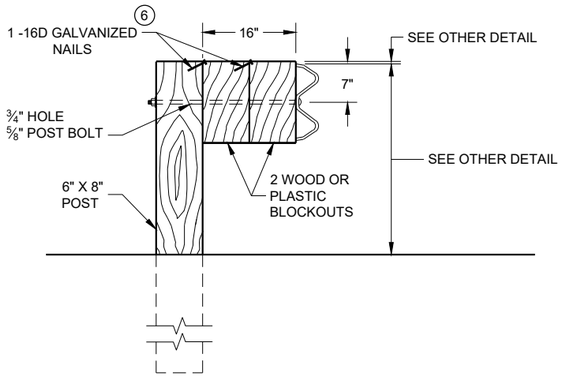
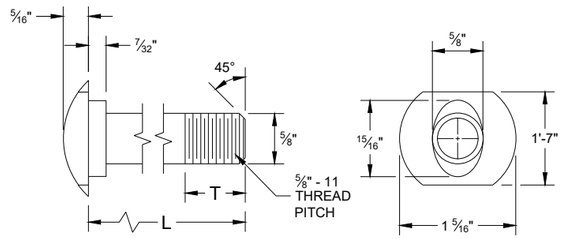


DETAIL FOR 16" BLOCKOUT DEPTH

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.

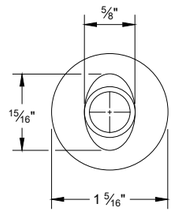
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

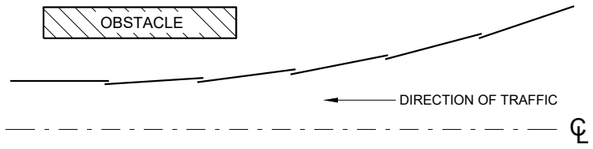


POST BOLT TABLE

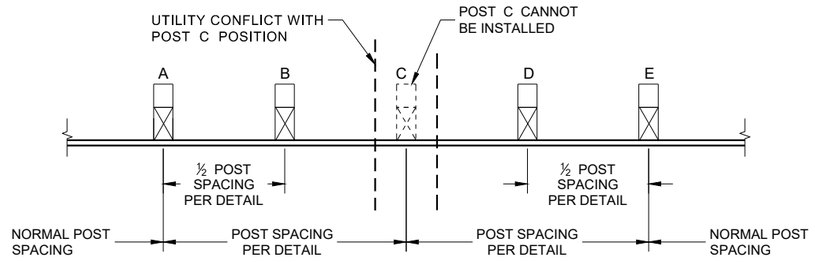
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



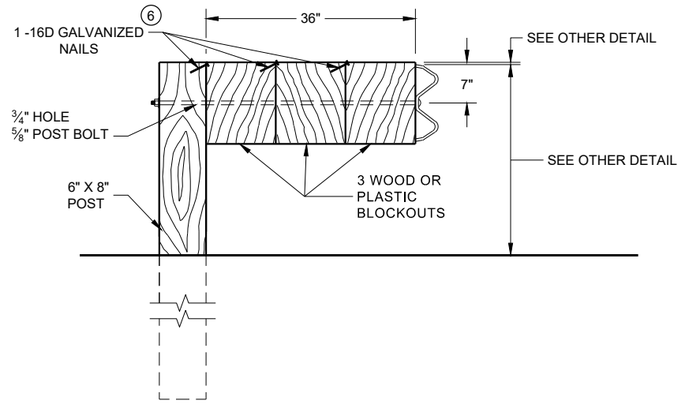
ALTERNATE BOLT HEAD



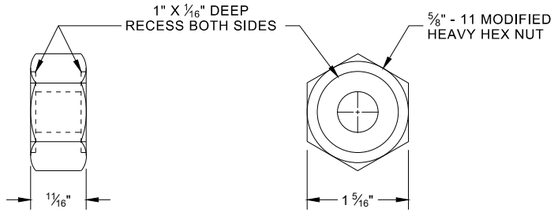
PLAN VIEW
BEAM LAPPING DETAIL



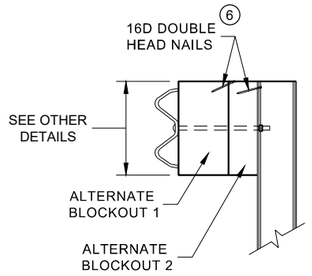
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



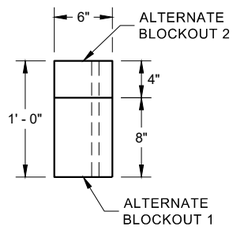
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

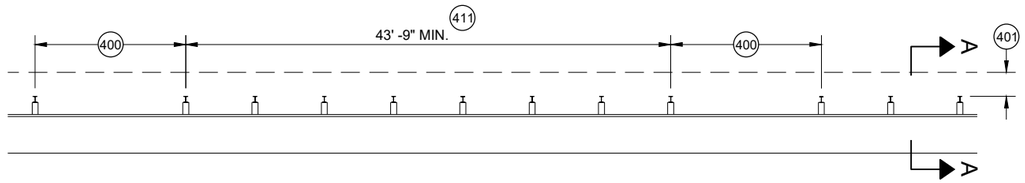
ALTERNATE WOOD BLOCKOUT DETAIL

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.

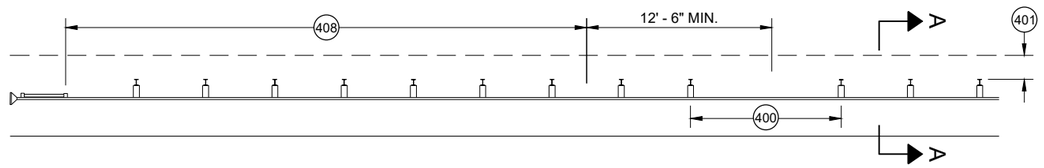
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

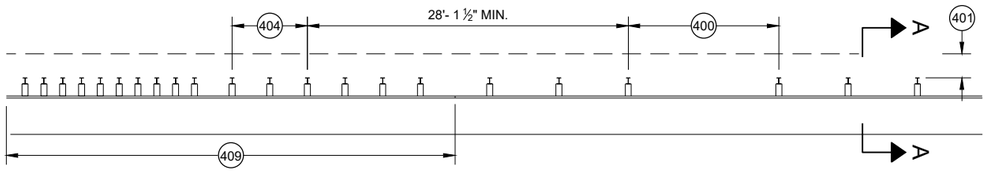
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



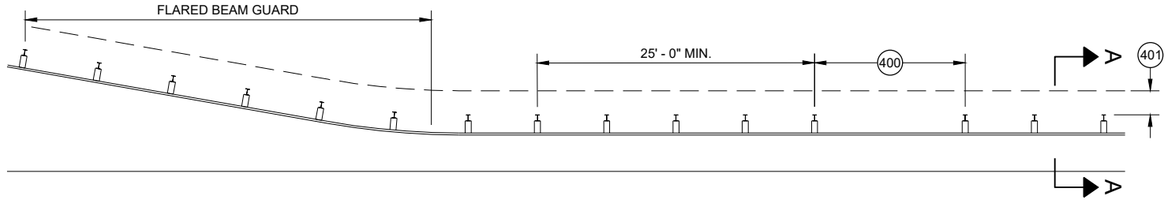
MISSING POST IN MGS GUARDRAIL



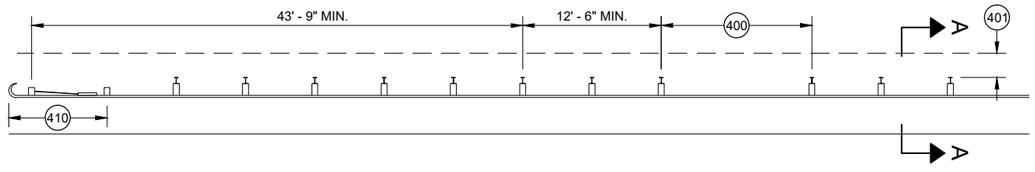
MISSING POST IN MGS GUARDRAIL NEAR EAT



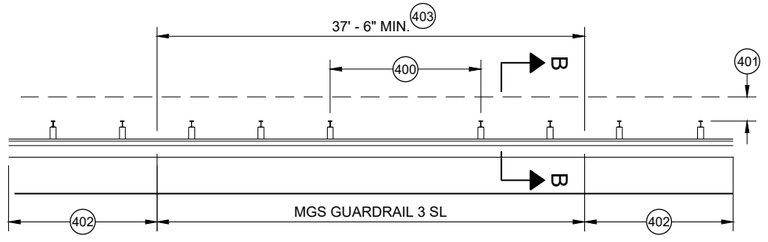
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

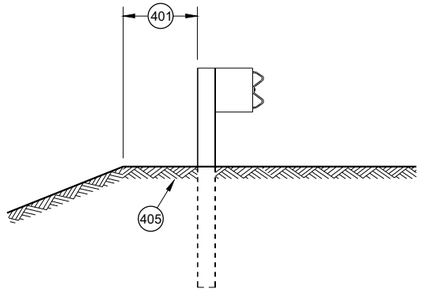


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

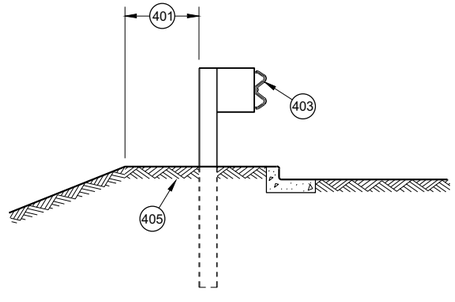


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

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SDD 14B42 - 07d

GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

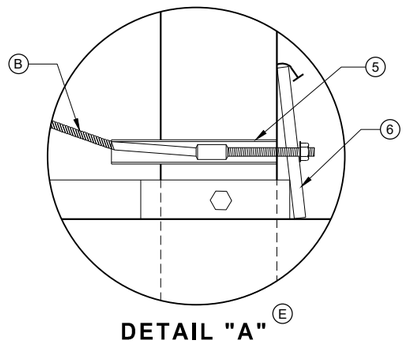
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

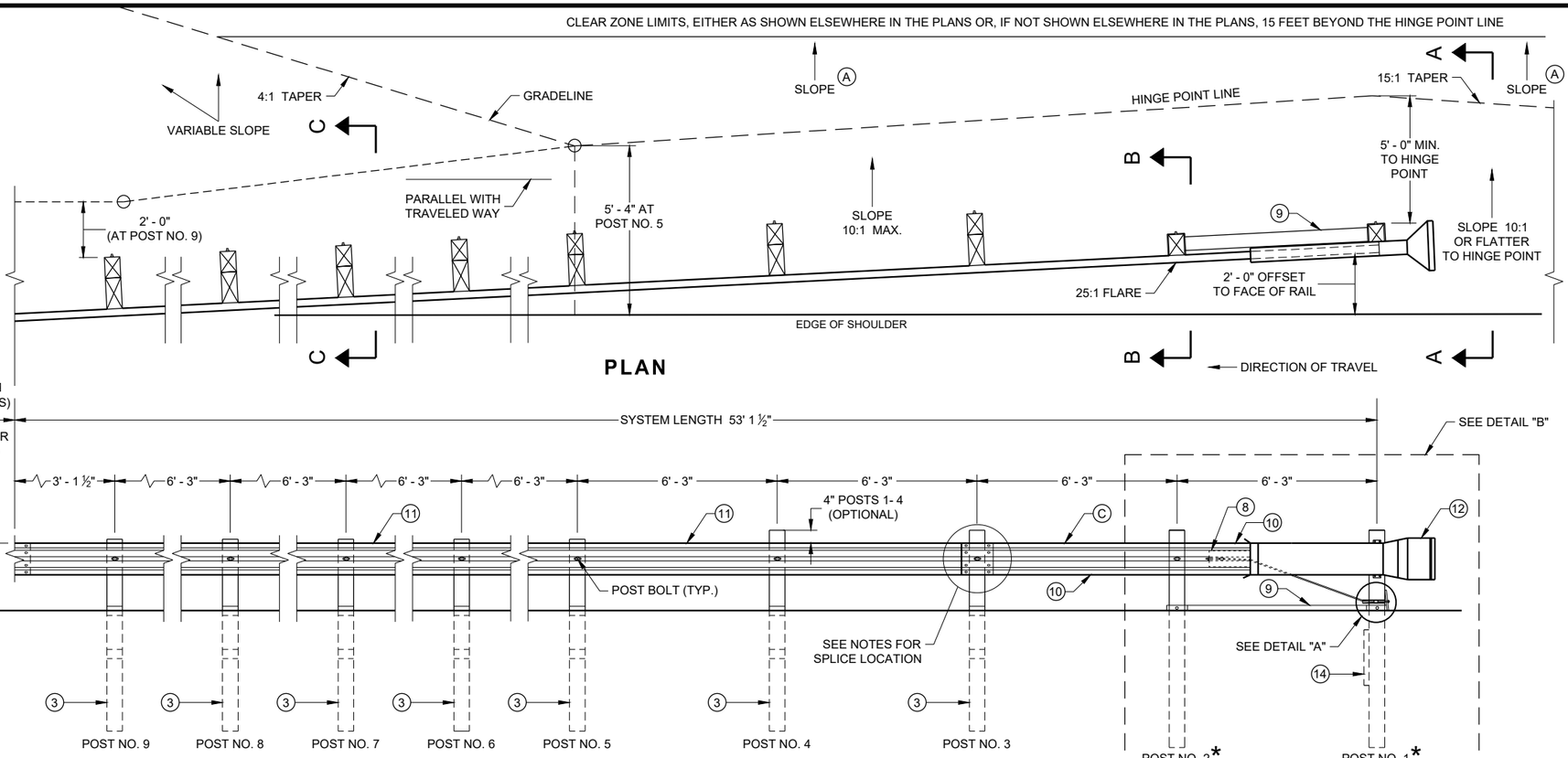
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

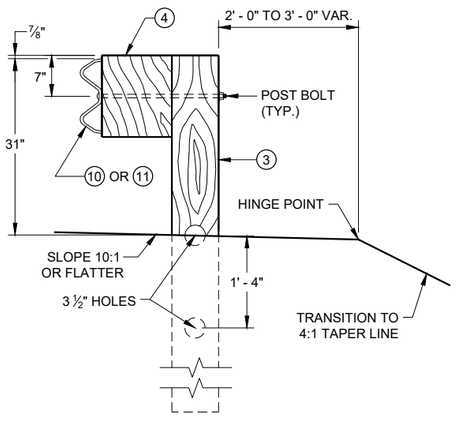
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

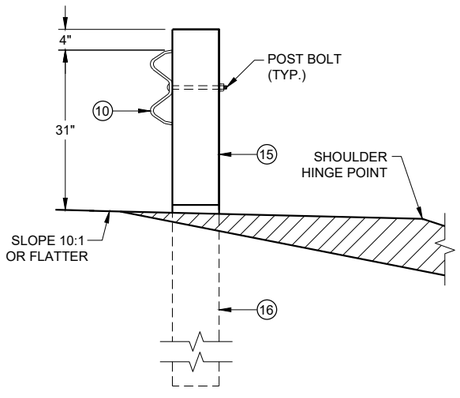


DETAIL "A" (E)

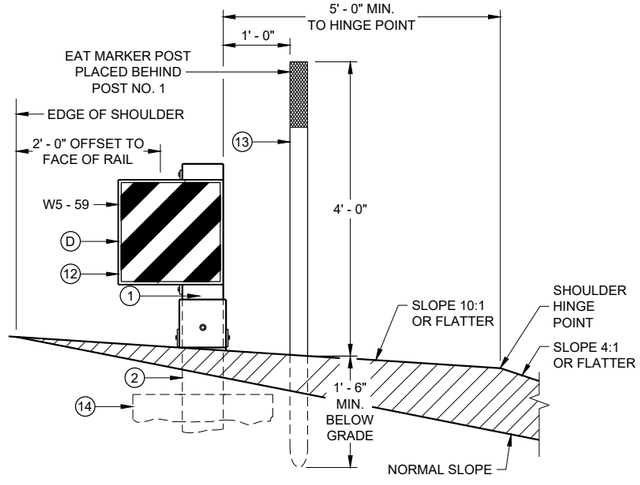




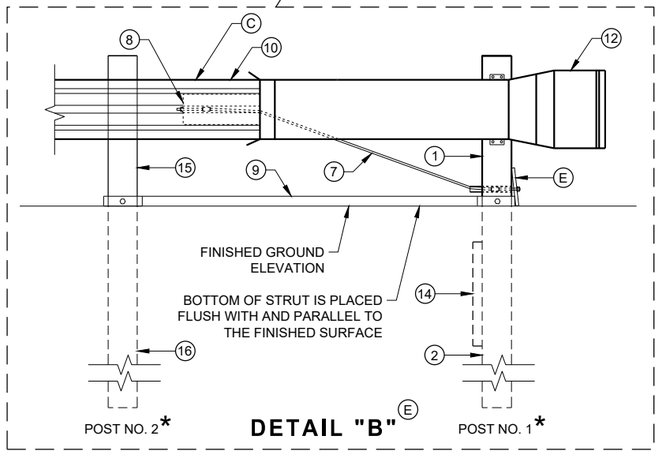
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



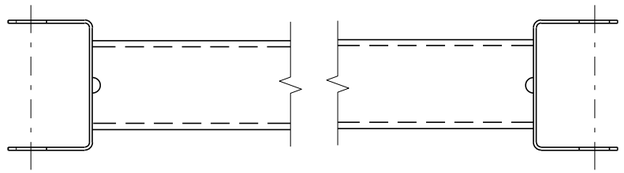
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

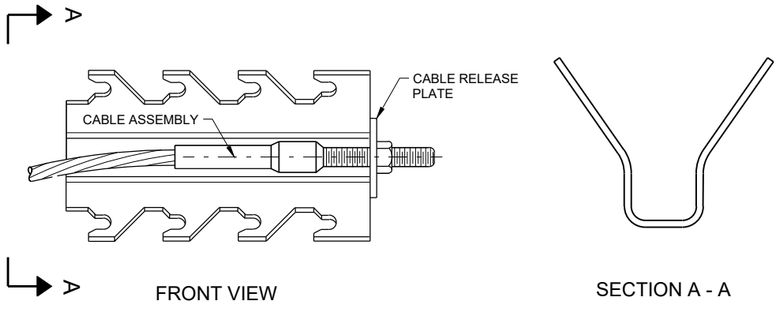
SDD 14B44 - 04a



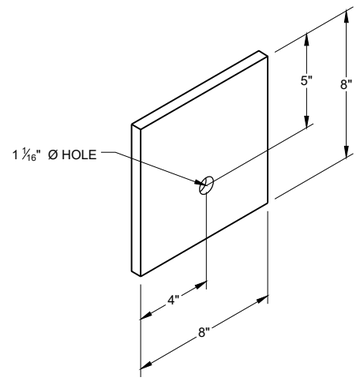
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

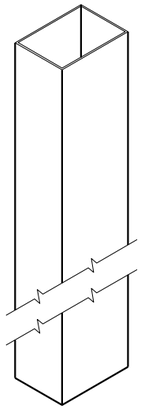
6

SDD 14B44 - 04b

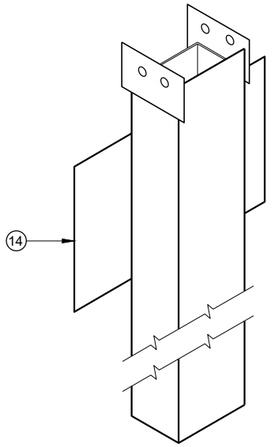
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

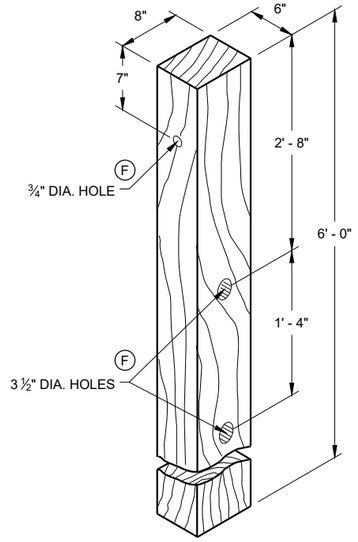
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



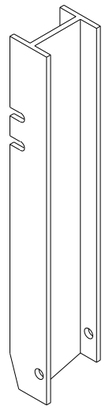
UPPER POST NO. 1 (1) (E)



LOWER POST NO. 1 (2) (E)



WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



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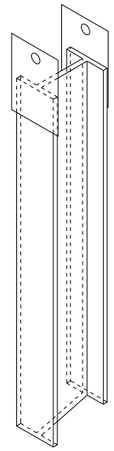
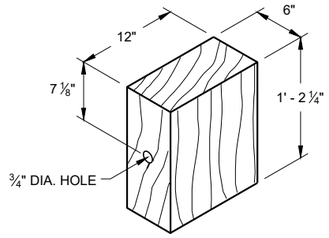
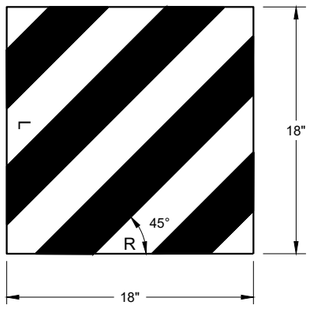


LOWER POST NO. 2 (16) (E)

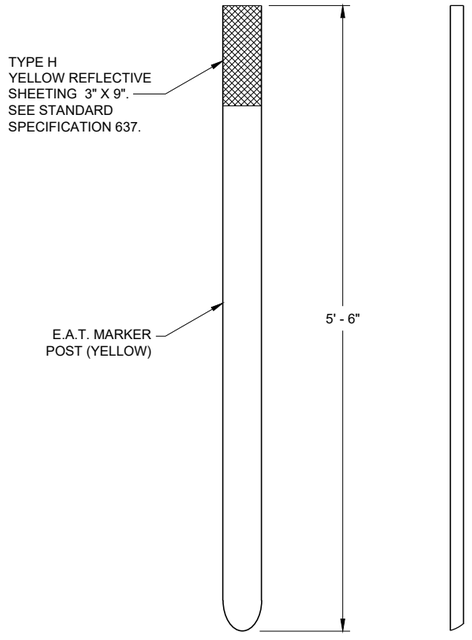


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



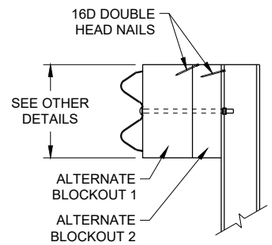
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

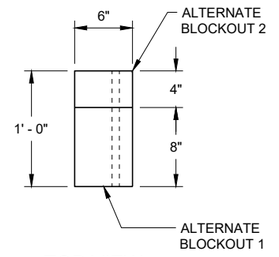


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

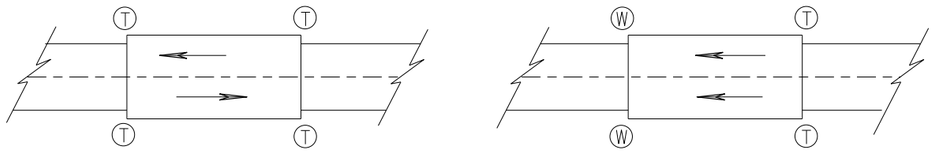
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

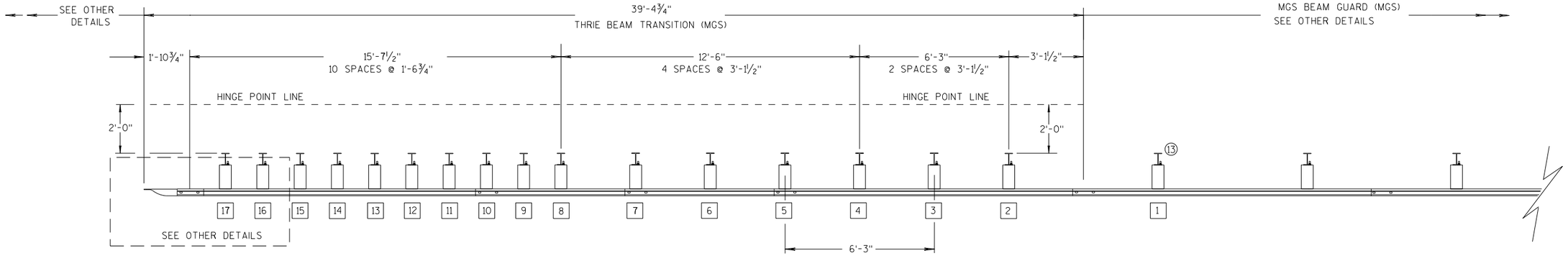
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

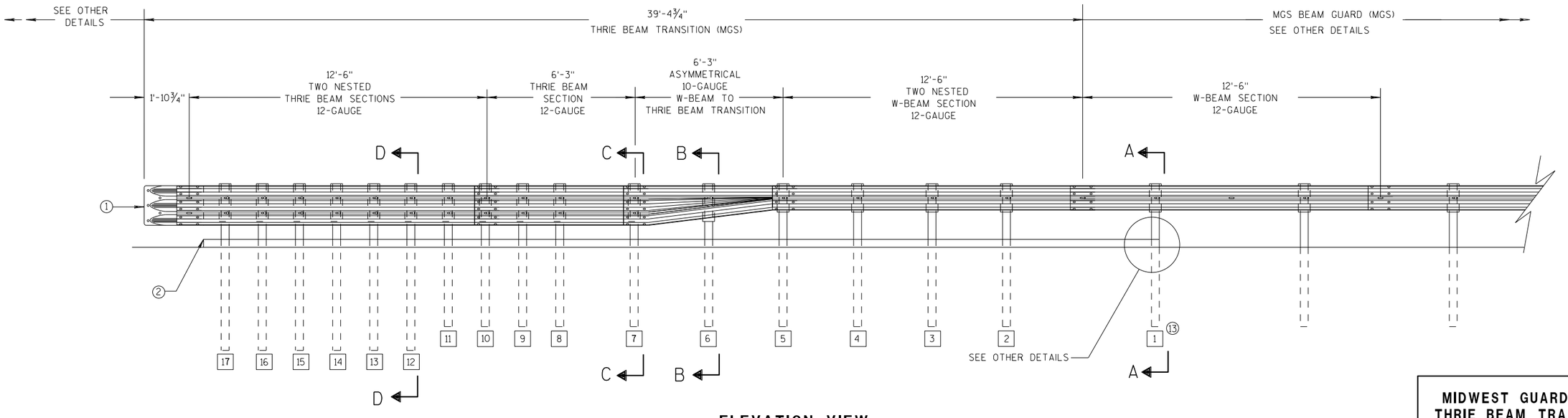
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

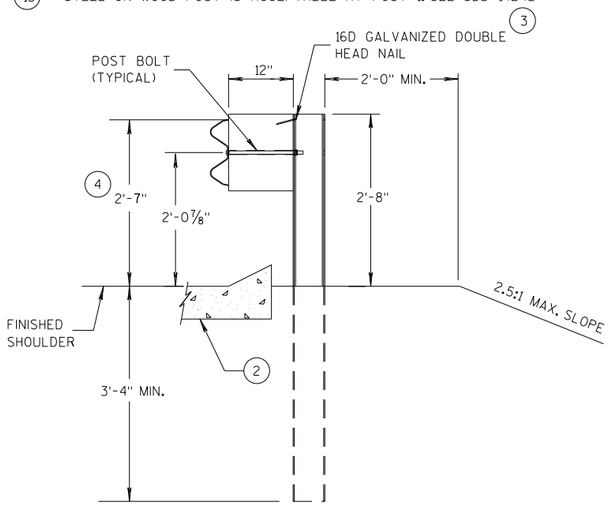
GENERAL NOTES

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

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

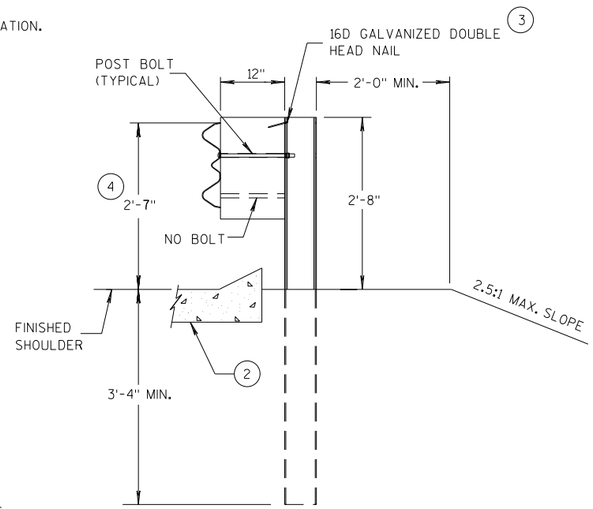
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



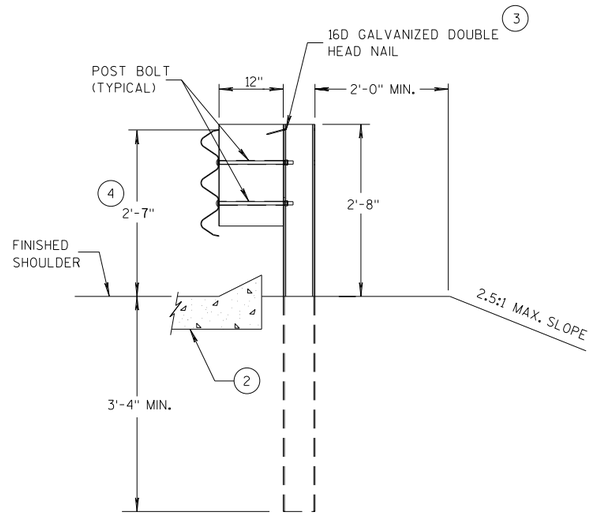
SECTION A-A (13)

POSTS 1-5



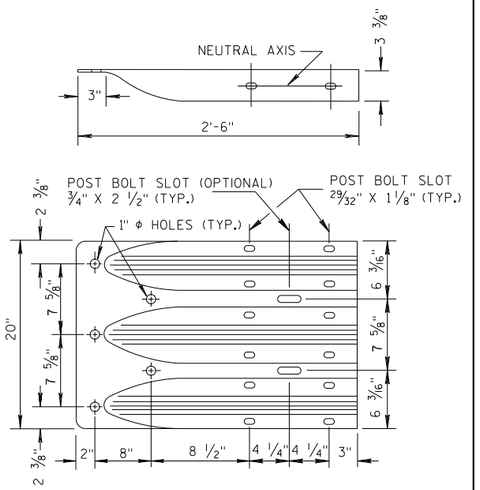
SECTION B-B

POST 6

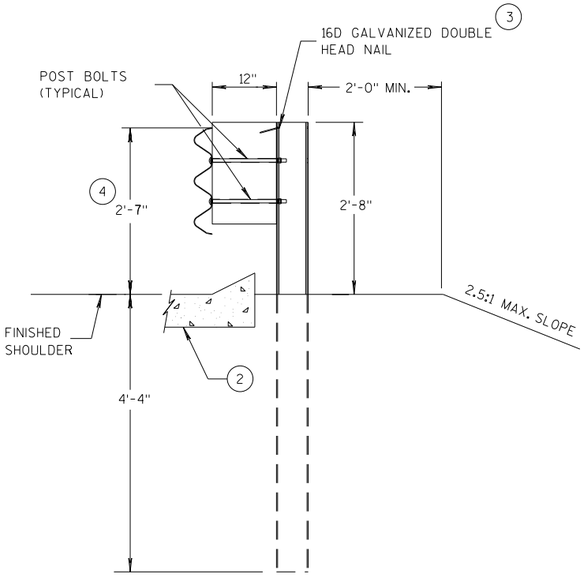


SECTION C-C

POSTS 7-11

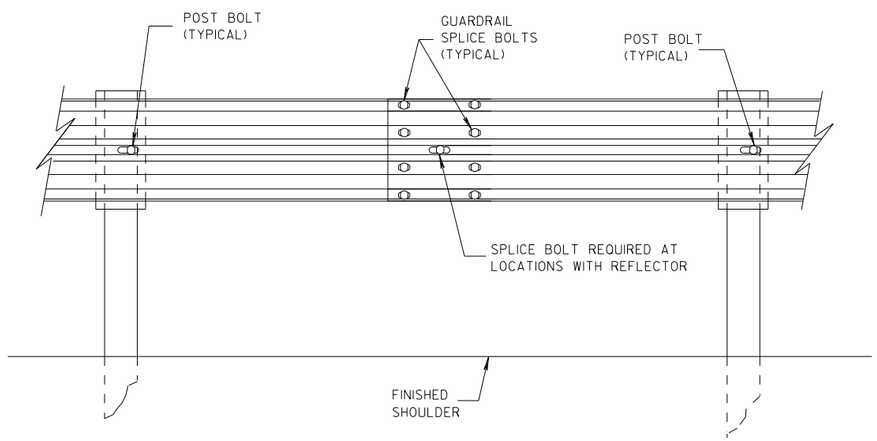


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

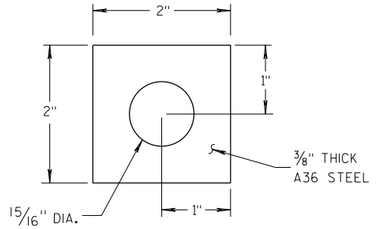
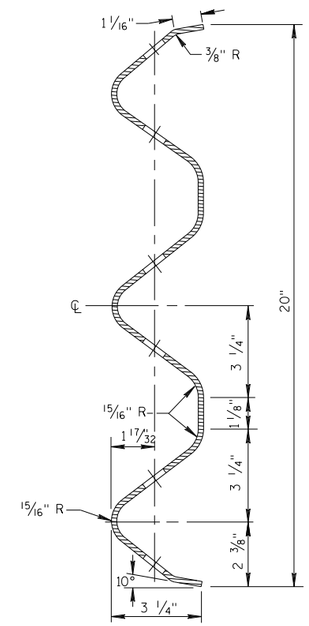


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

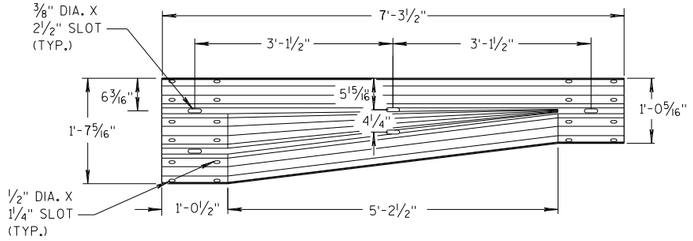
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 44

6

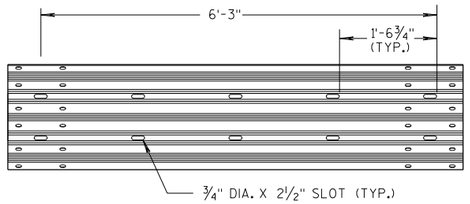
S.D.D. 14 B 45-5b

6

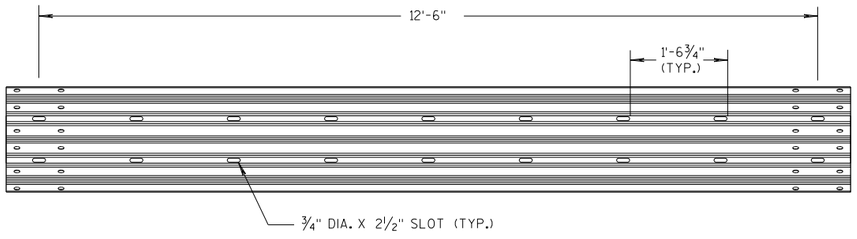
S.D.D. 14 B 45-5b



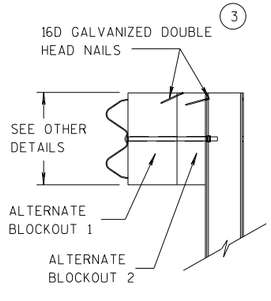
W-BEAM TO THRIE BEAM TRANSITION SECTION



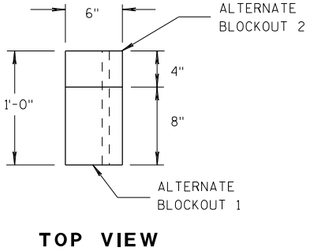
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

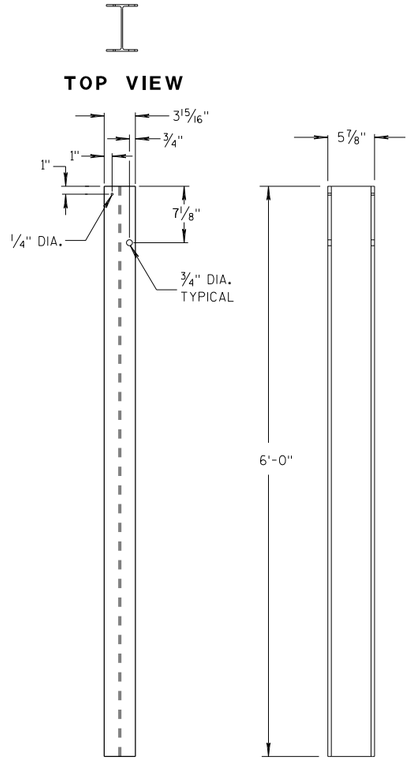


SIDE VIEW



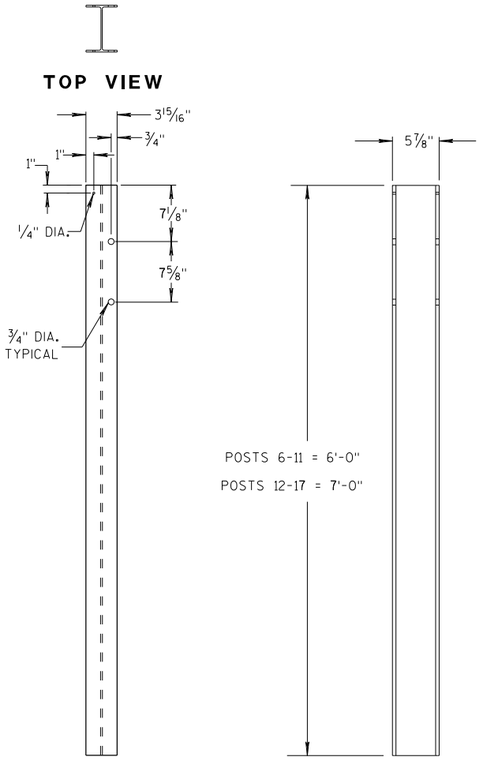
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



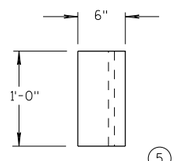
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

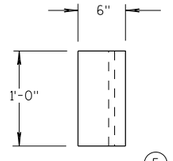


FRONT VIEW SIDE VIEW

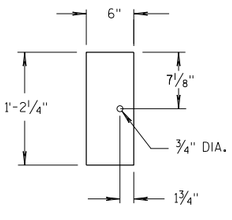
STEEL POSTS 6-17



TOP VIEW (5)

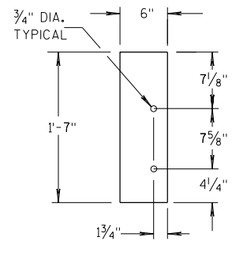


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

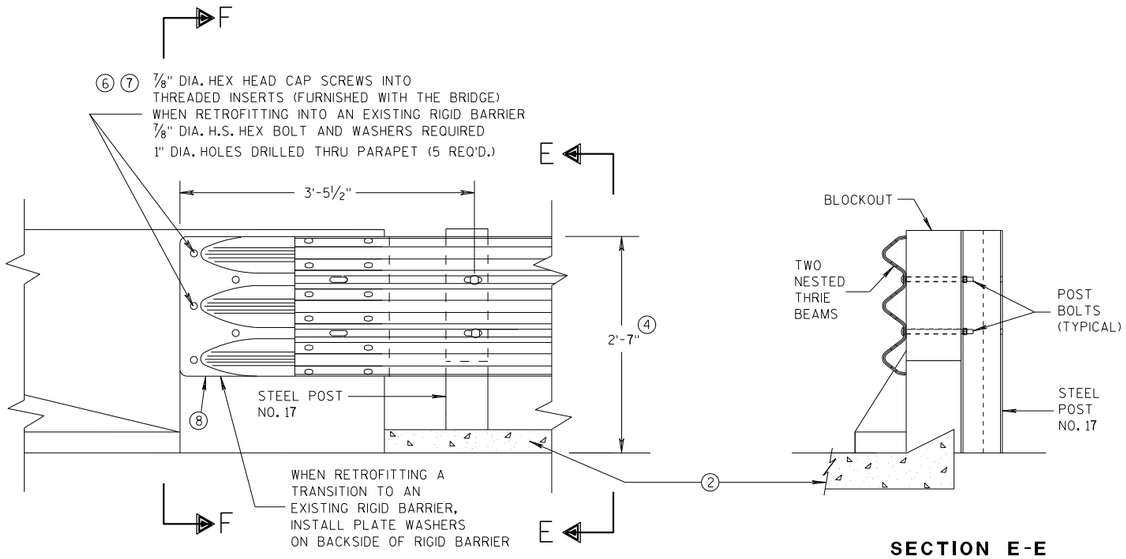
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

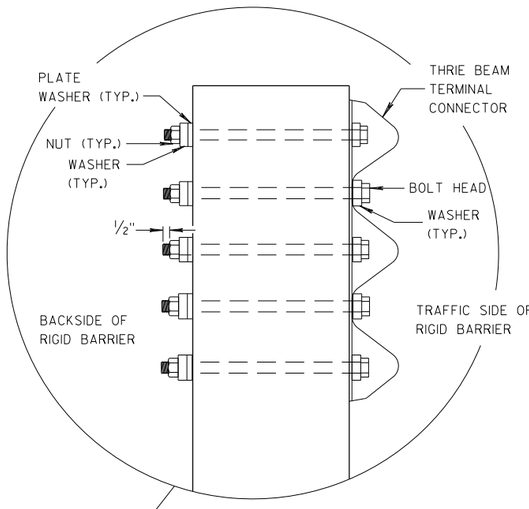
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

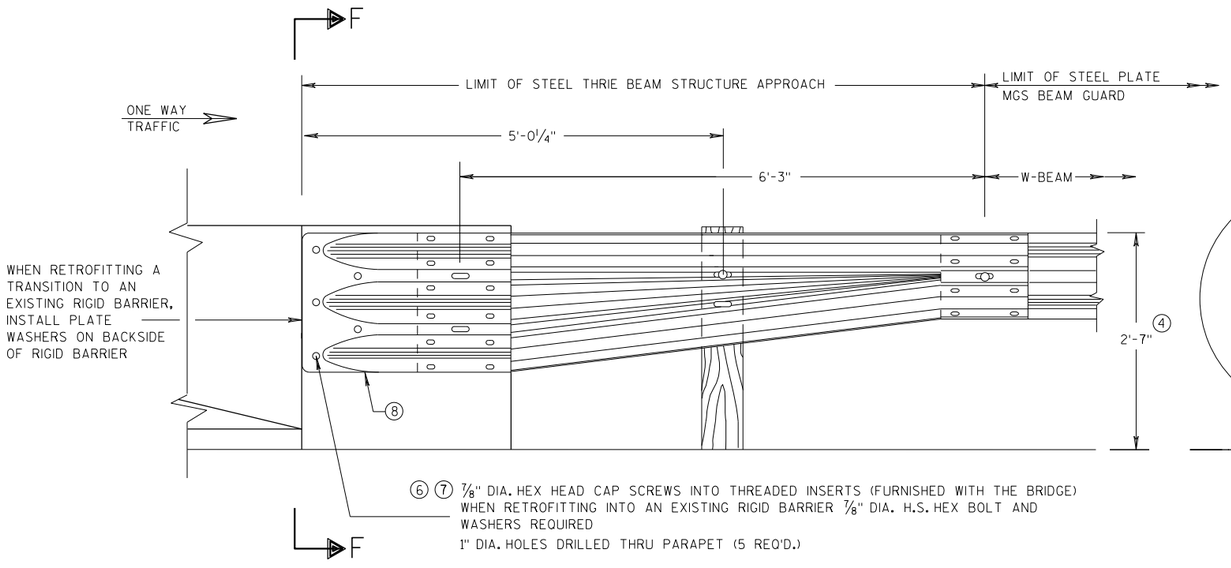
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

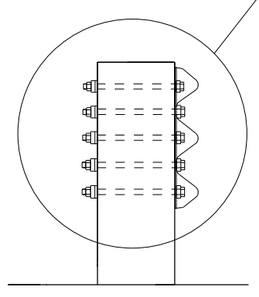
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

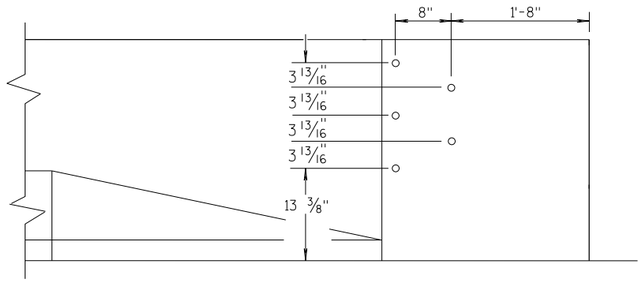




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVI
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GENERAL NOTES

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

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

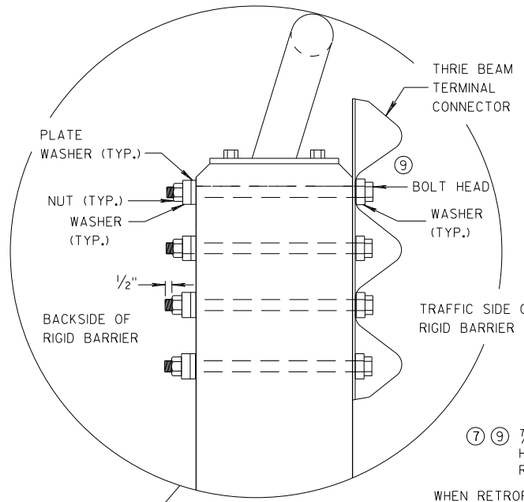
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

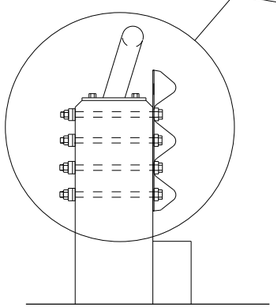
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

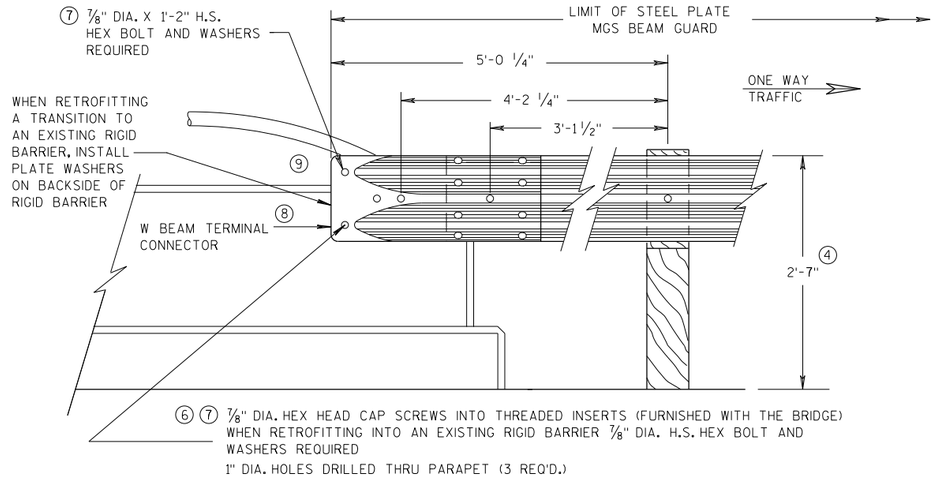
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

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





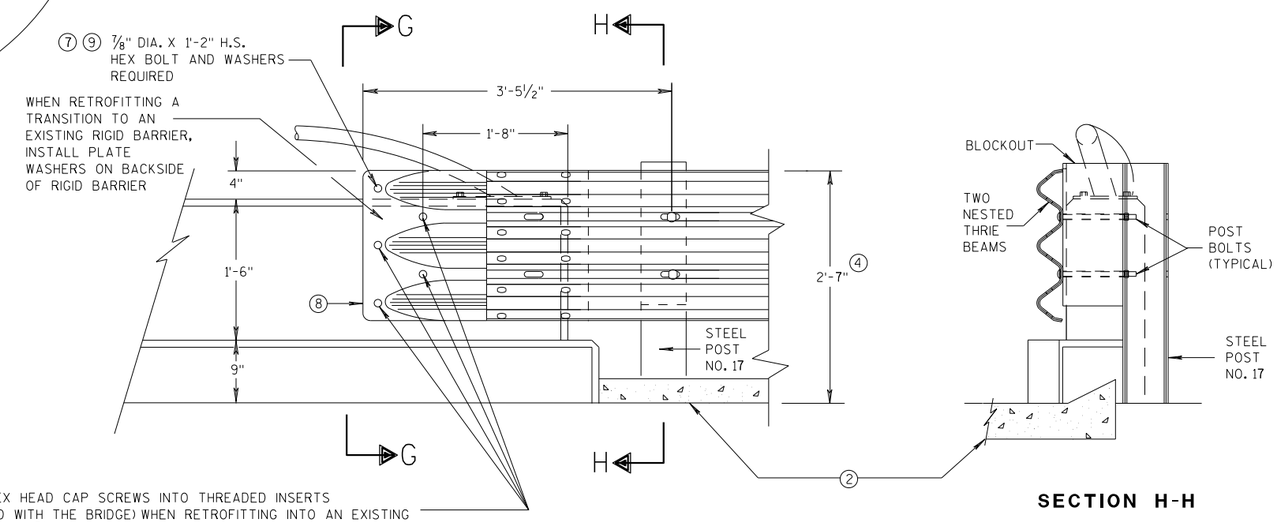
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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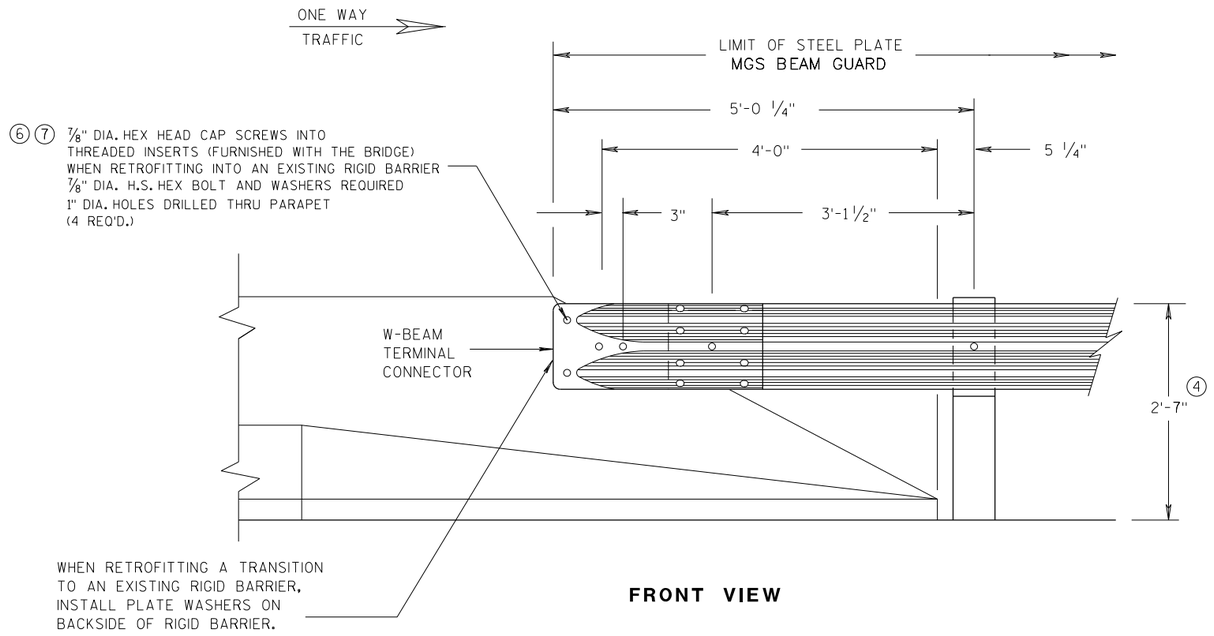


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

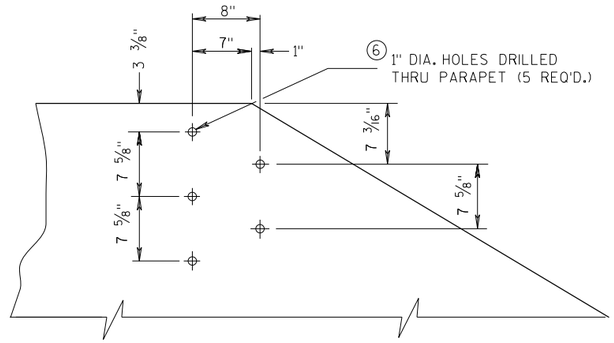
GENERAL NOTES

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

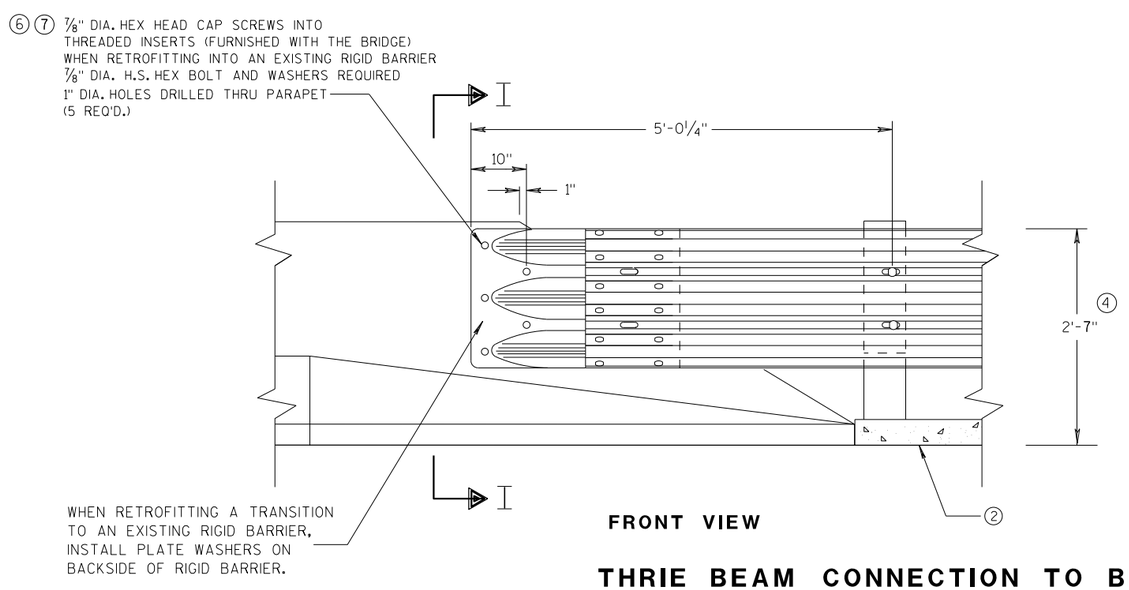
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

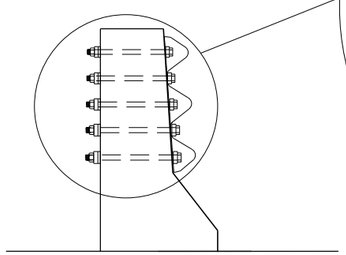
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



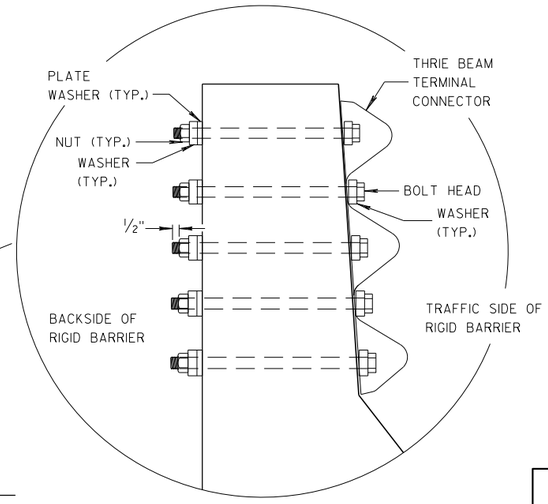
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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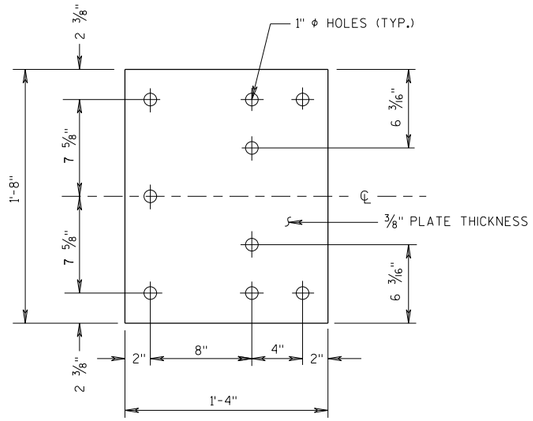
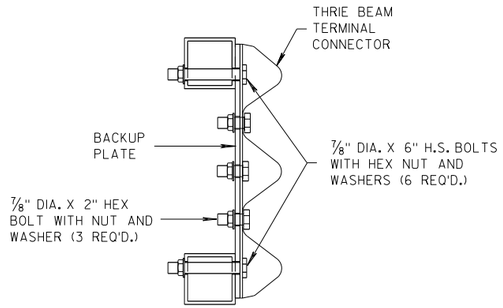
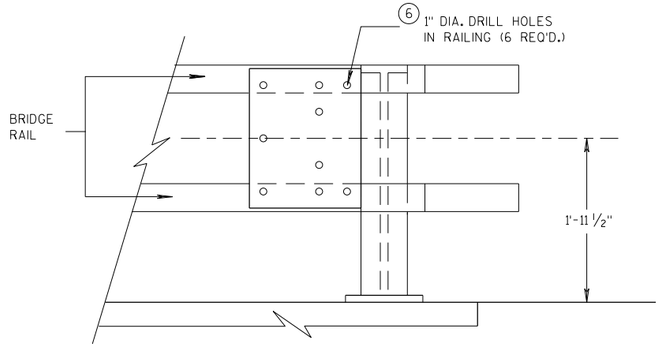


BACK-UP PLATE DETAIL



SECTION J-J

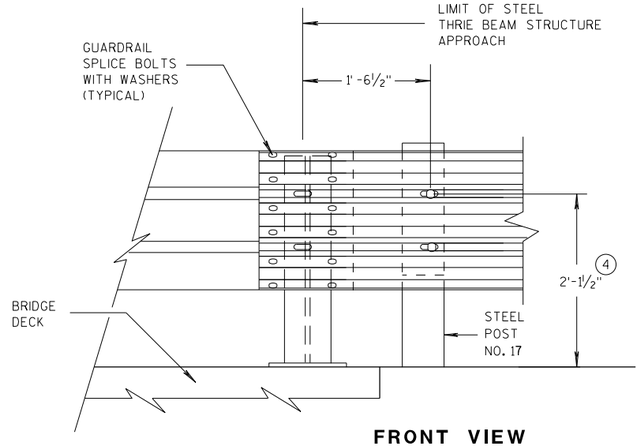


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

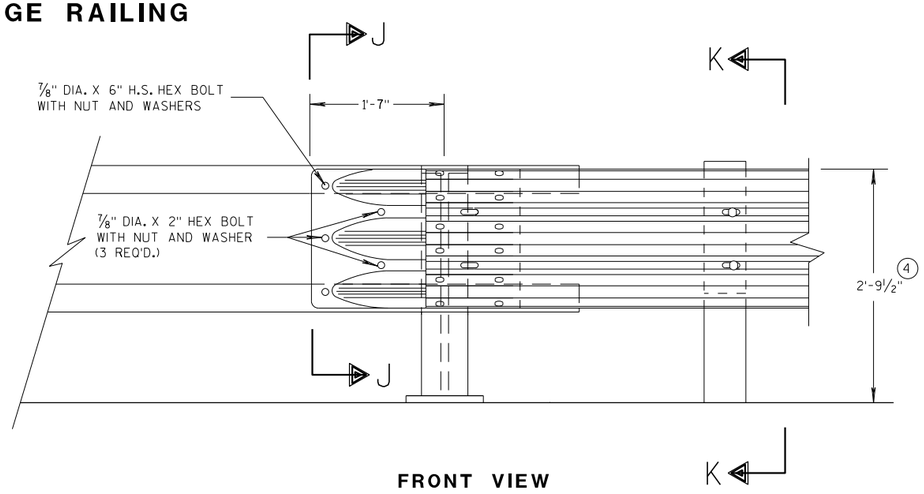
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

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

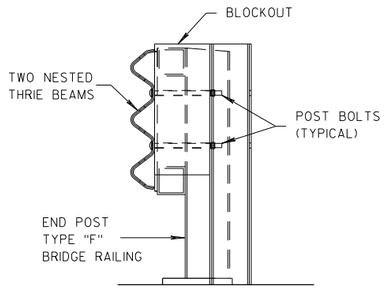


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
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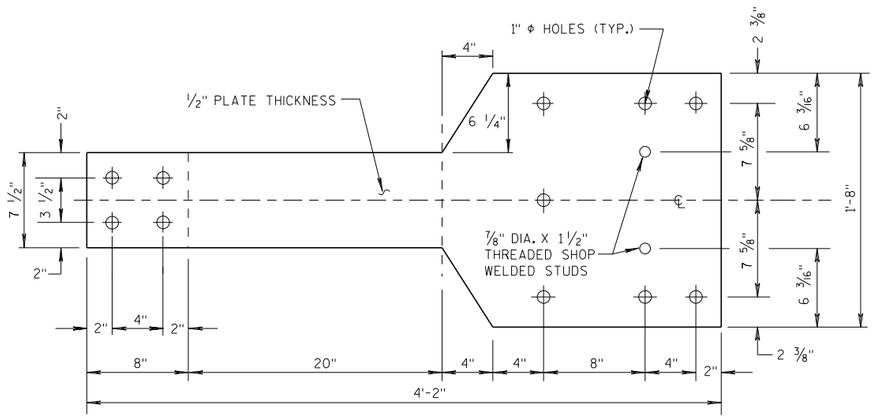
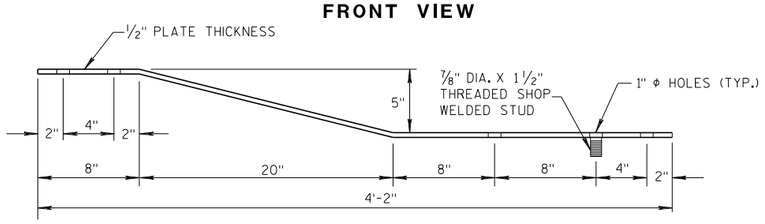
GENERAL NOTES

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

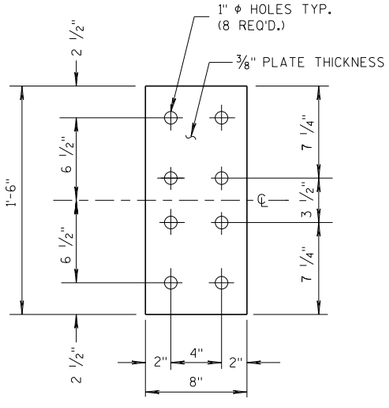


FRONT VIEW



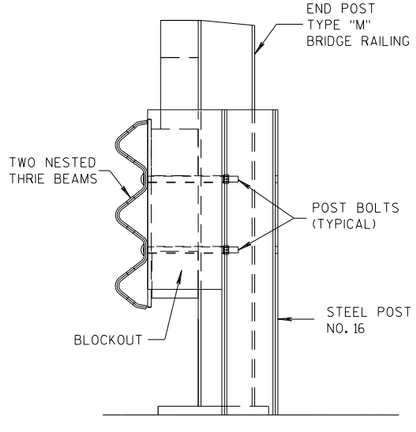
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

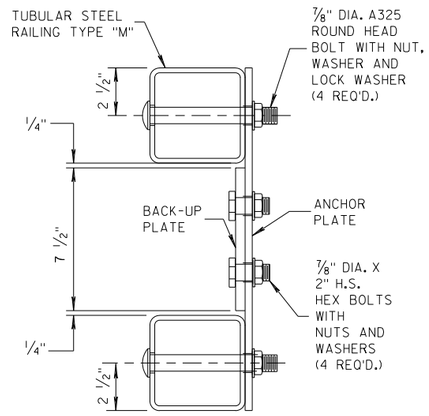


FRONT VIEW

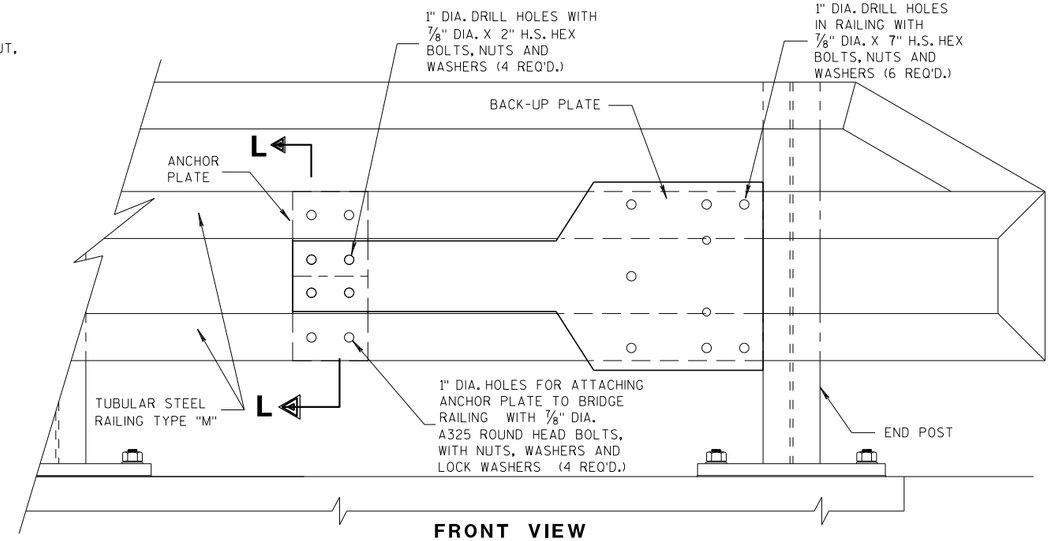
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

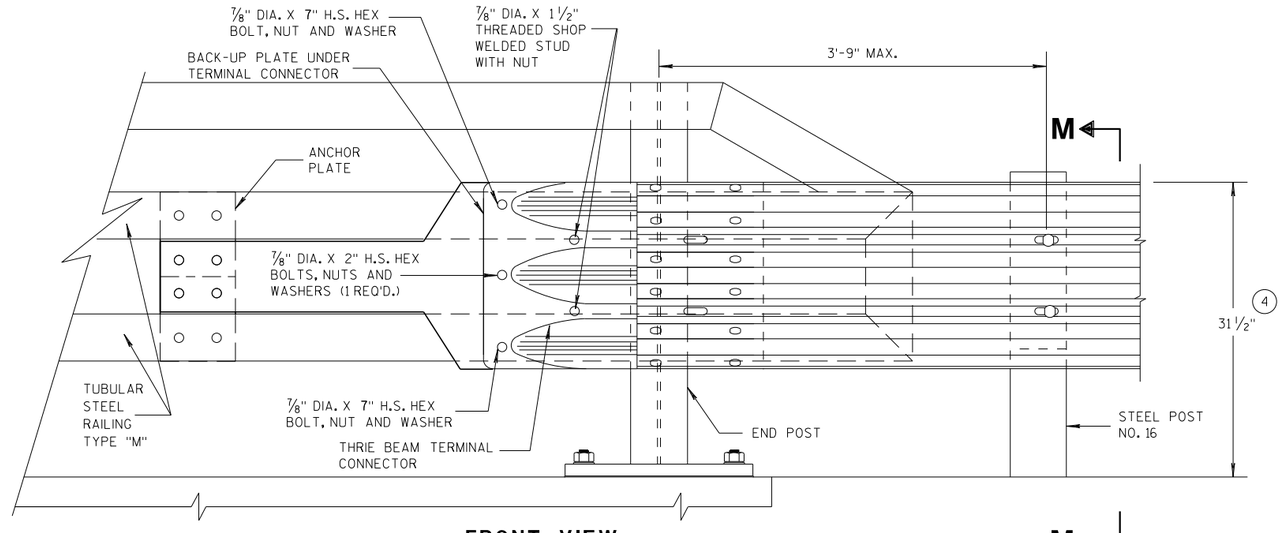


SECTION L-L

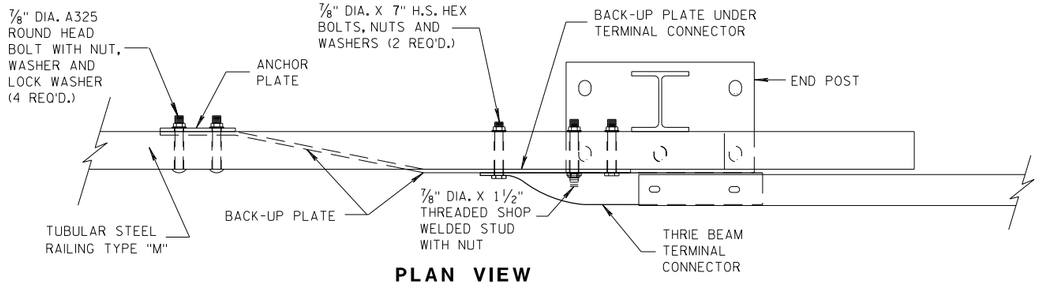


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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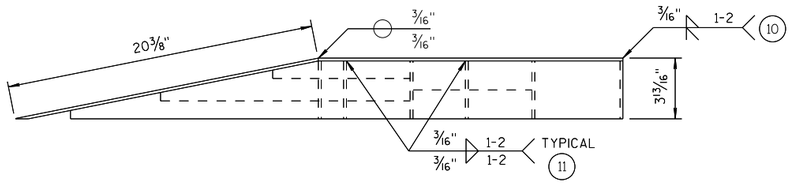

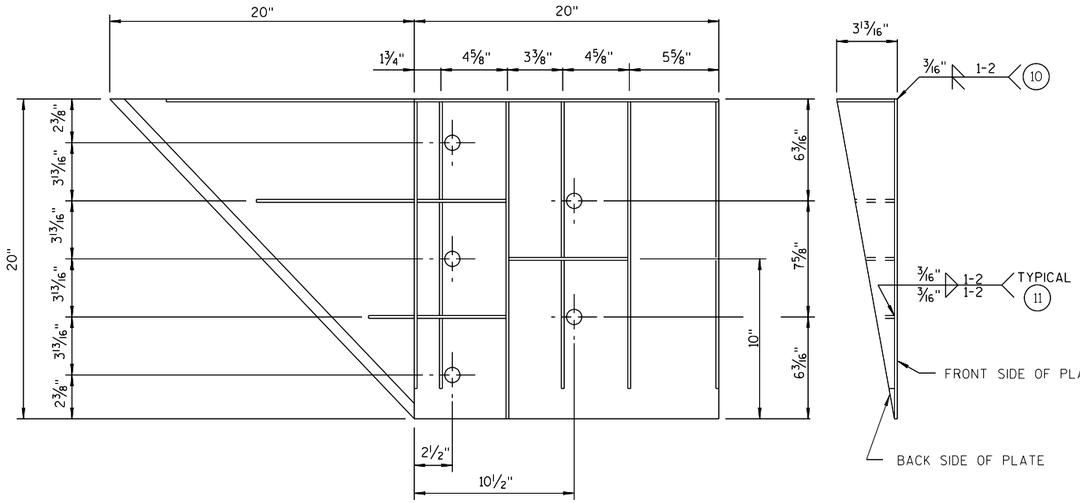

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

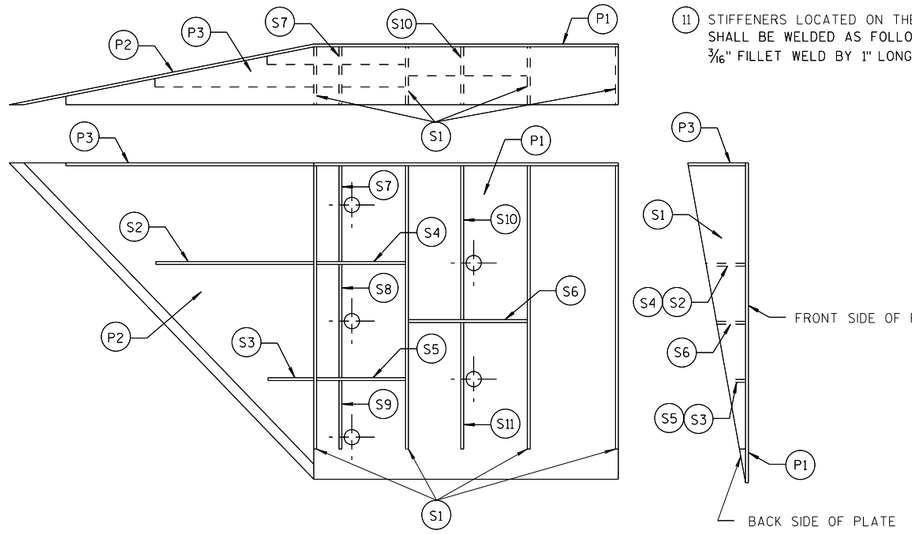

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
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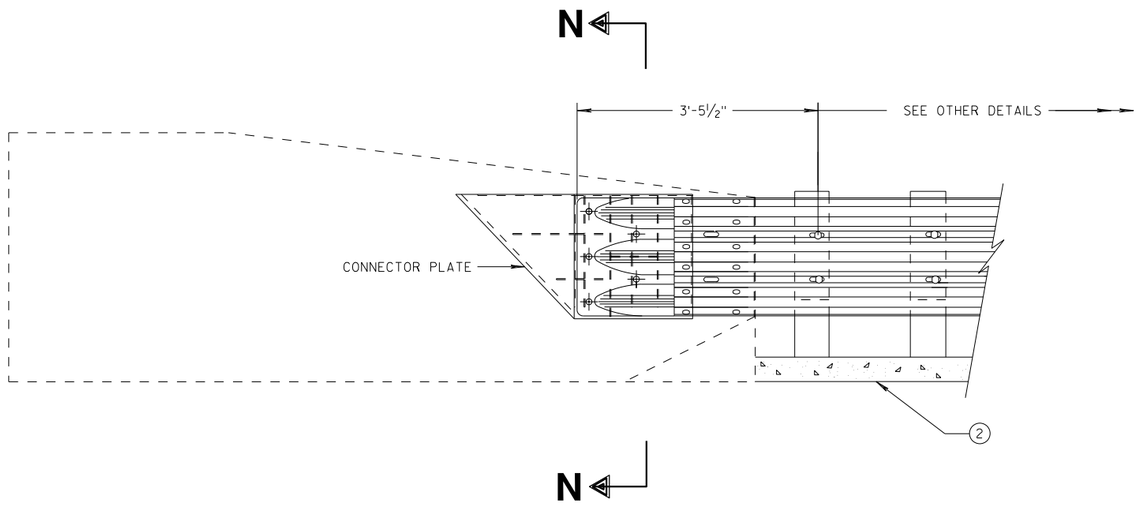
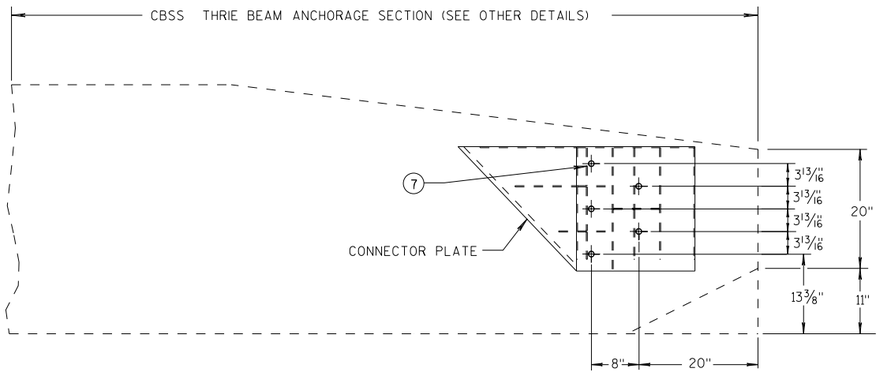


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

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

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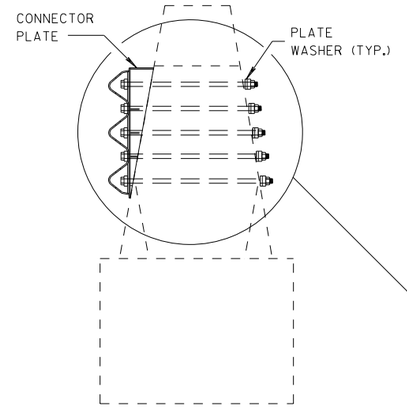
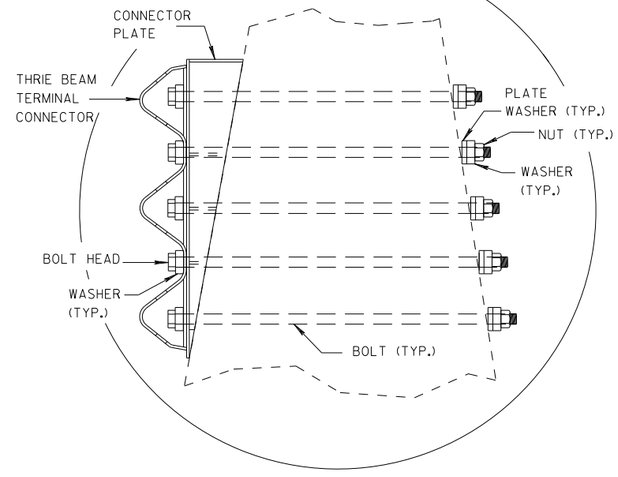


SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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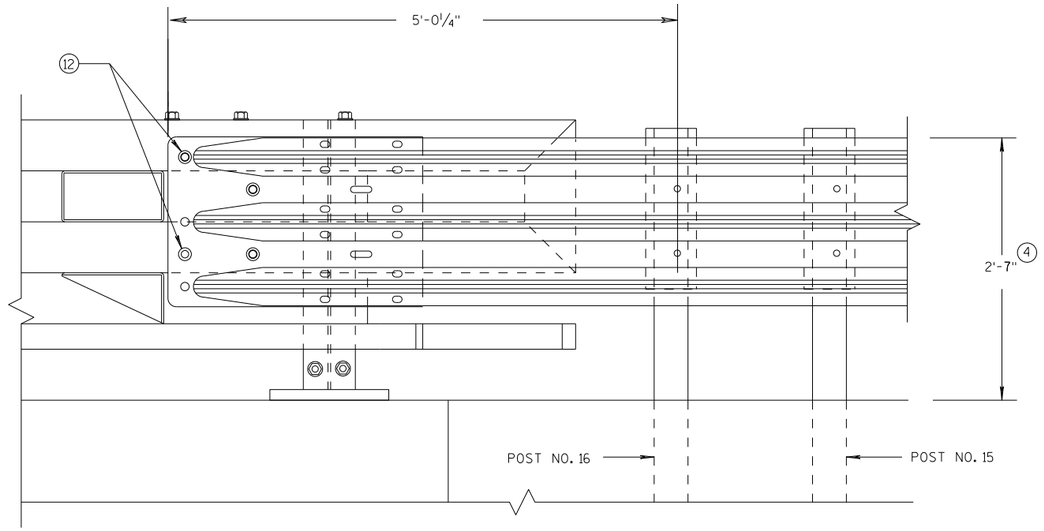
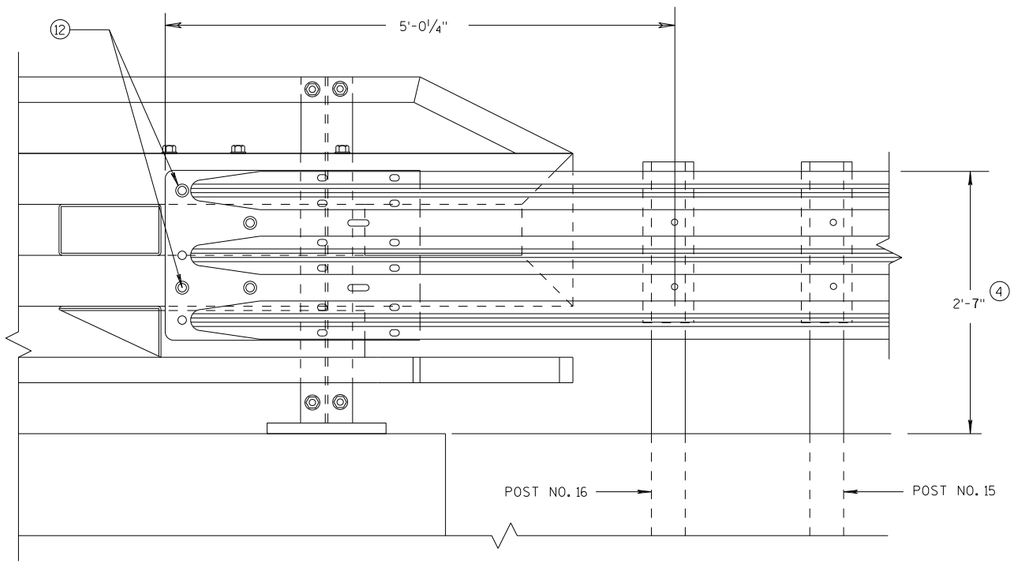


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
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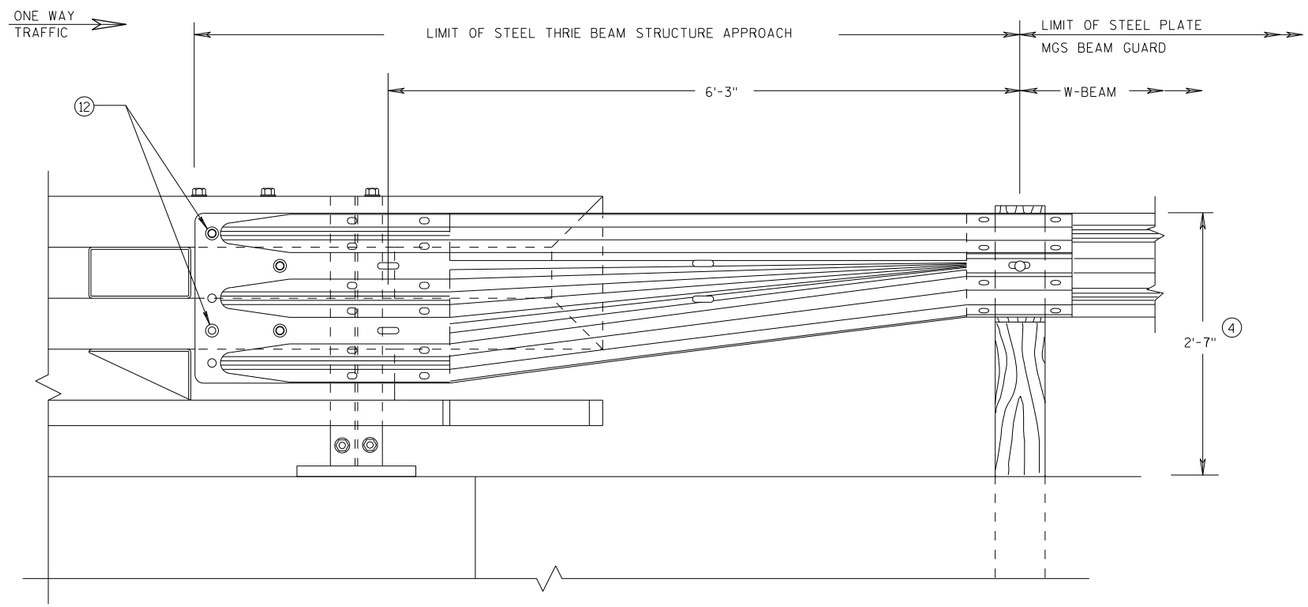

FRONT VIEW

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

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

GENERAL NOTES

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

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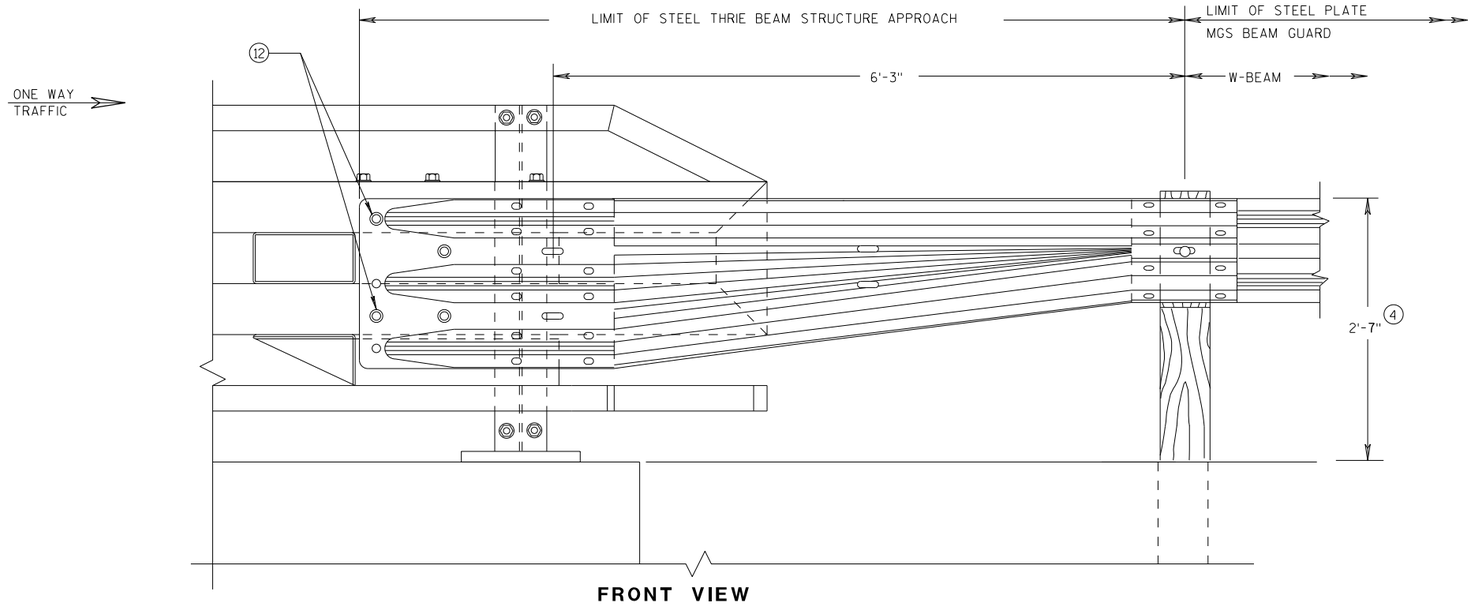

FRONT VIEW

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS
NT
FHWA

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S.D.D. 14 B 45-5L

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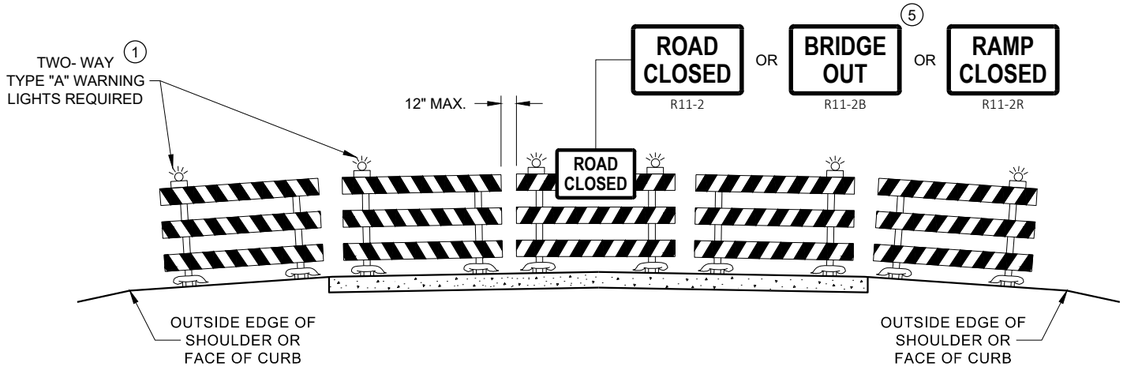
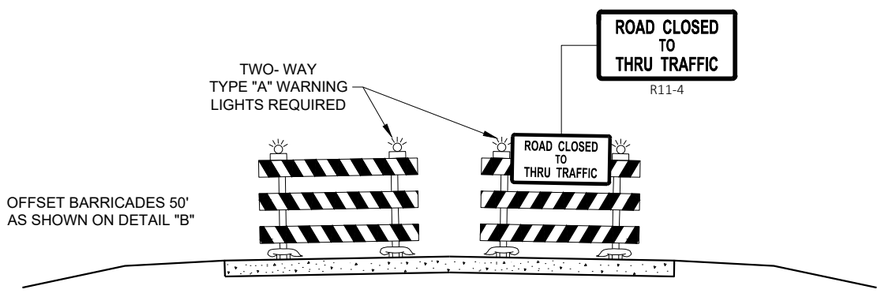
S.D.D. 14 B 45-5L



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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SDD 15C02 - 08b

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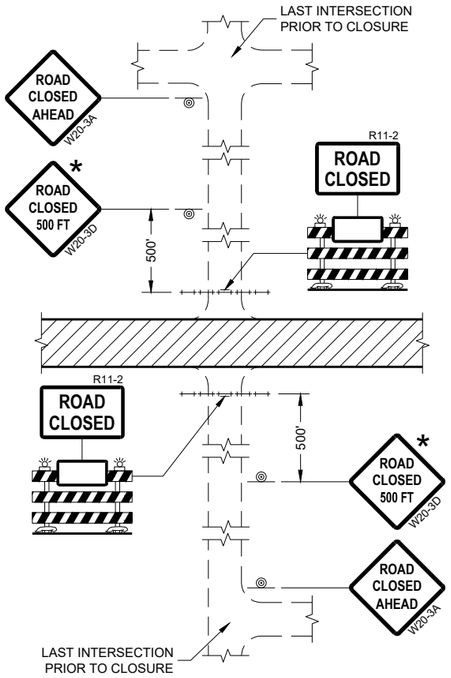
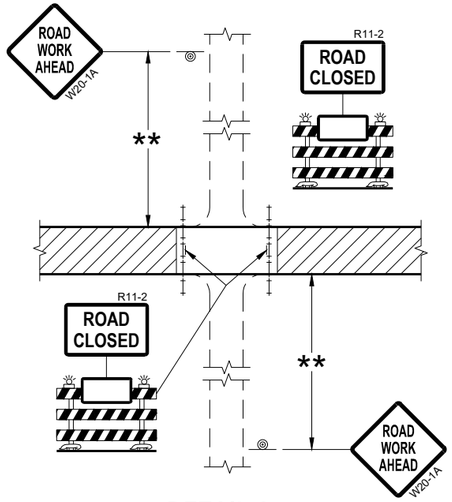
SDD 15C02 - 08b



DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

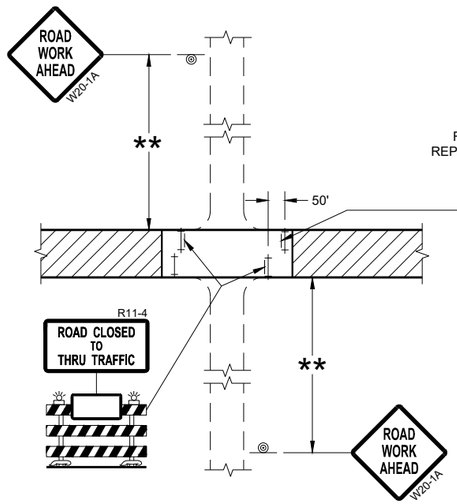
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

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

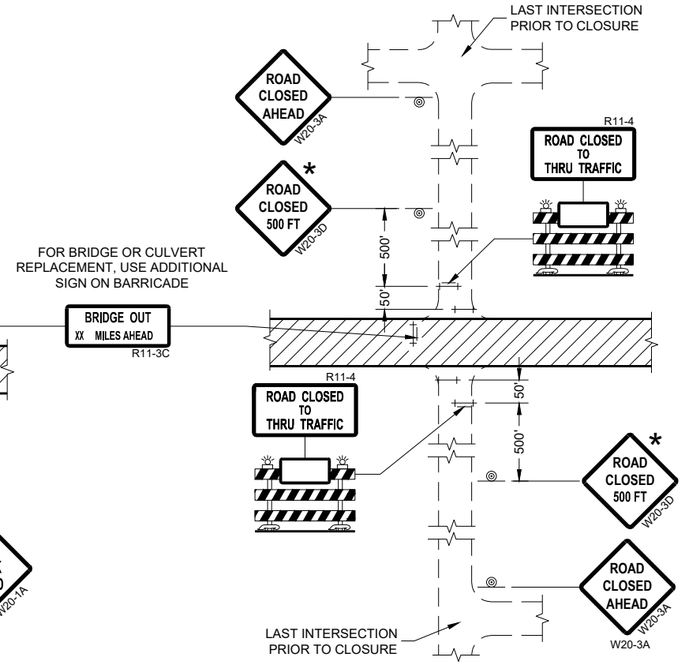
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

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

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



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



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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C03 - 05

GENERAL NOTES

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

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

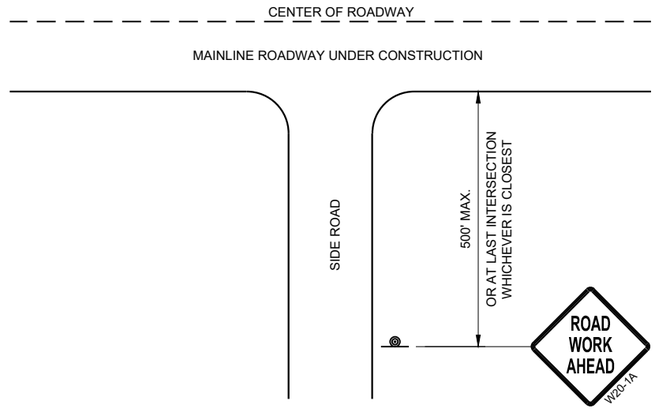
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

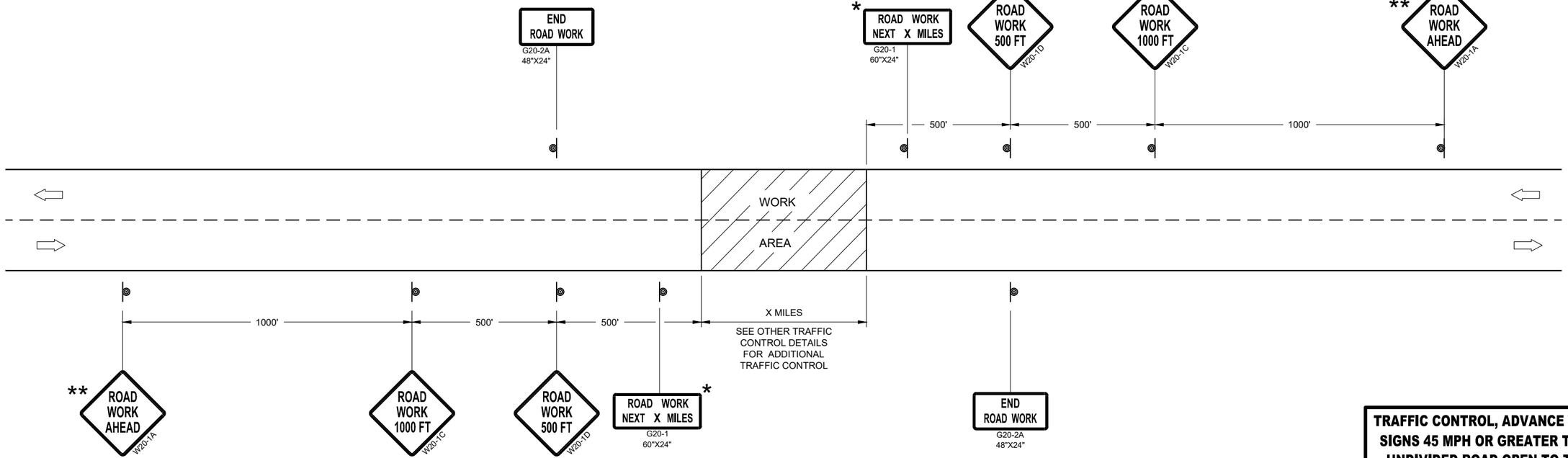
** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

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



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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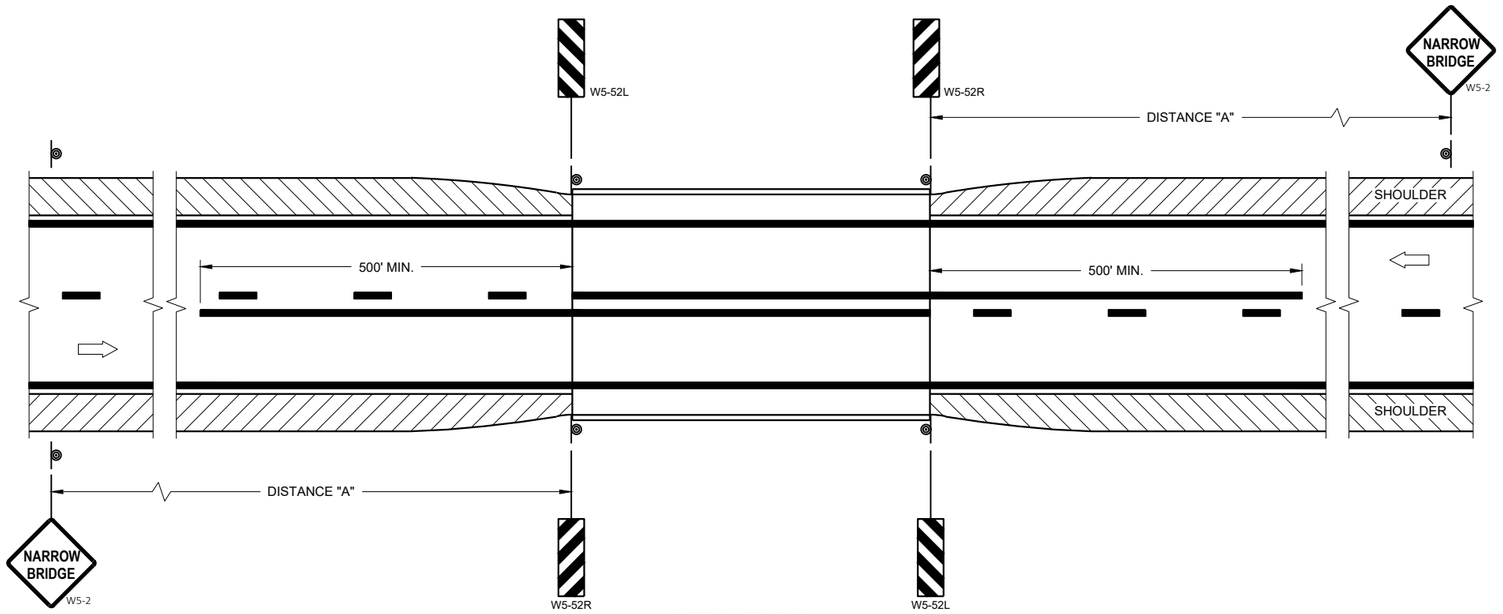
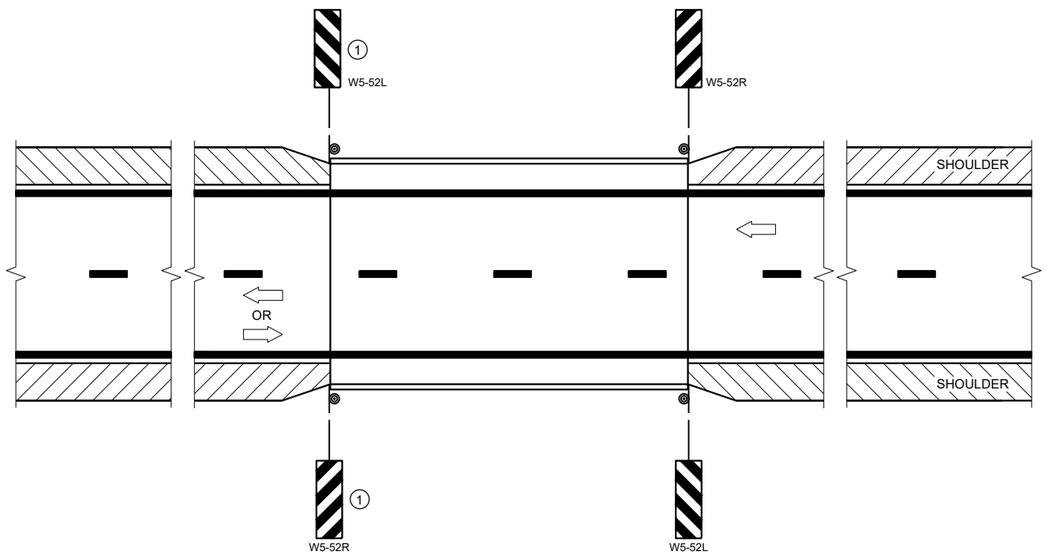
SDD 15C04 - 05



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

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

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

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SDD 15C06 - 10

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Jeannie Silver
STATE SIGNING AND MAF ENGINEER

FHWA

GENERAL NOTES

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

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

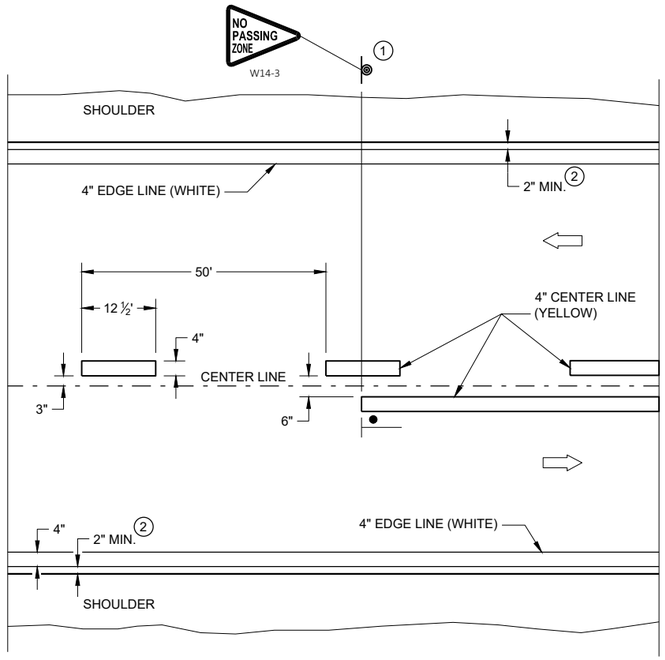
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

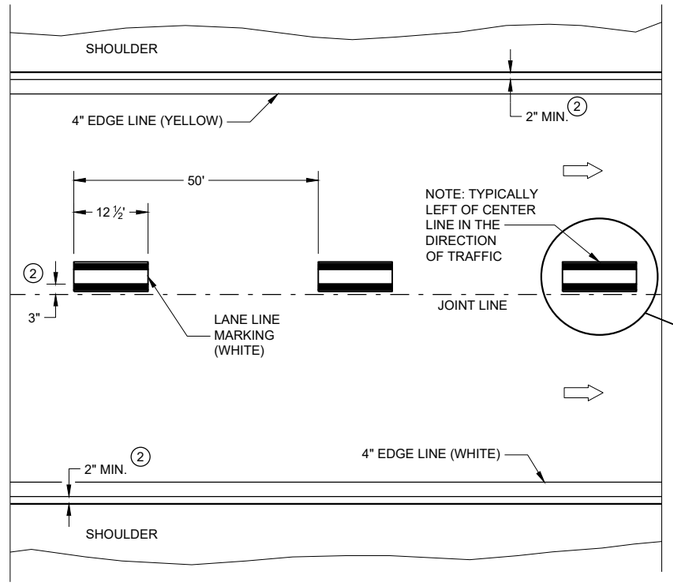
"T" MARKING

SIGN ON PERMANENT SUPPORT

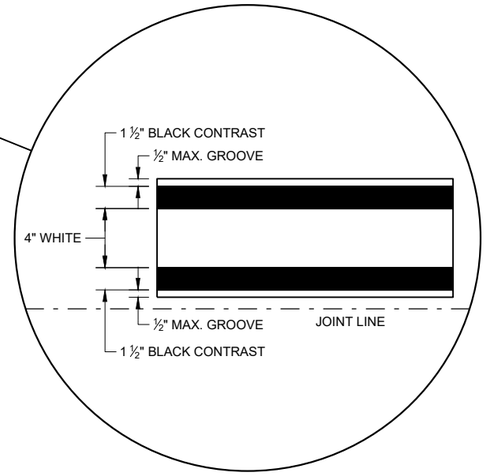
DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

6

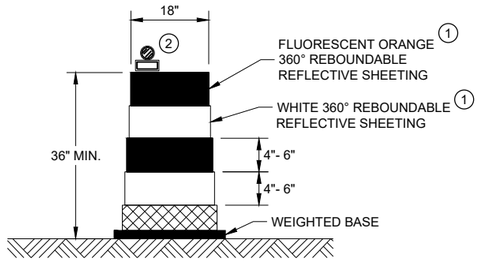
SDD 15C08 - 21a

6

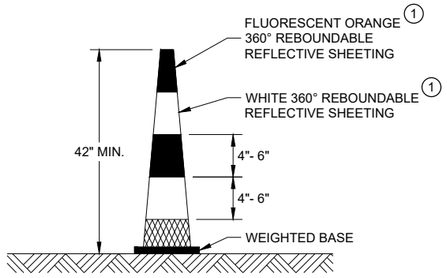
SDD 15C08 - 21a

GENERAL NOTES

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

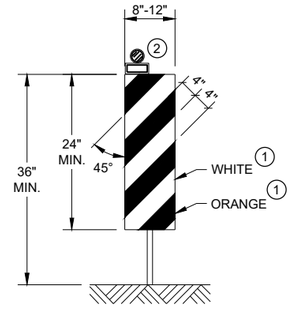


DRUM



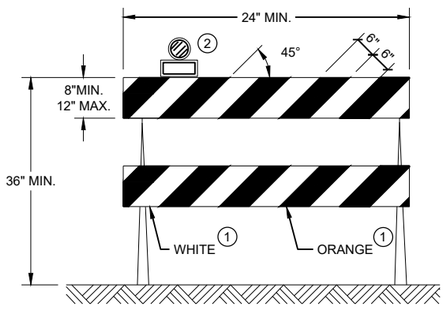
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



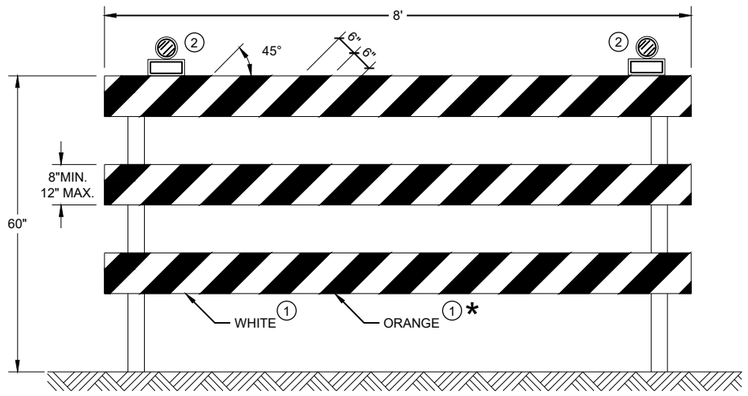
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 09b

6

SDD 15C11 - 09b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

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

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

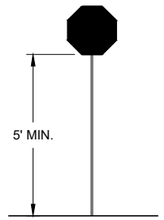
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



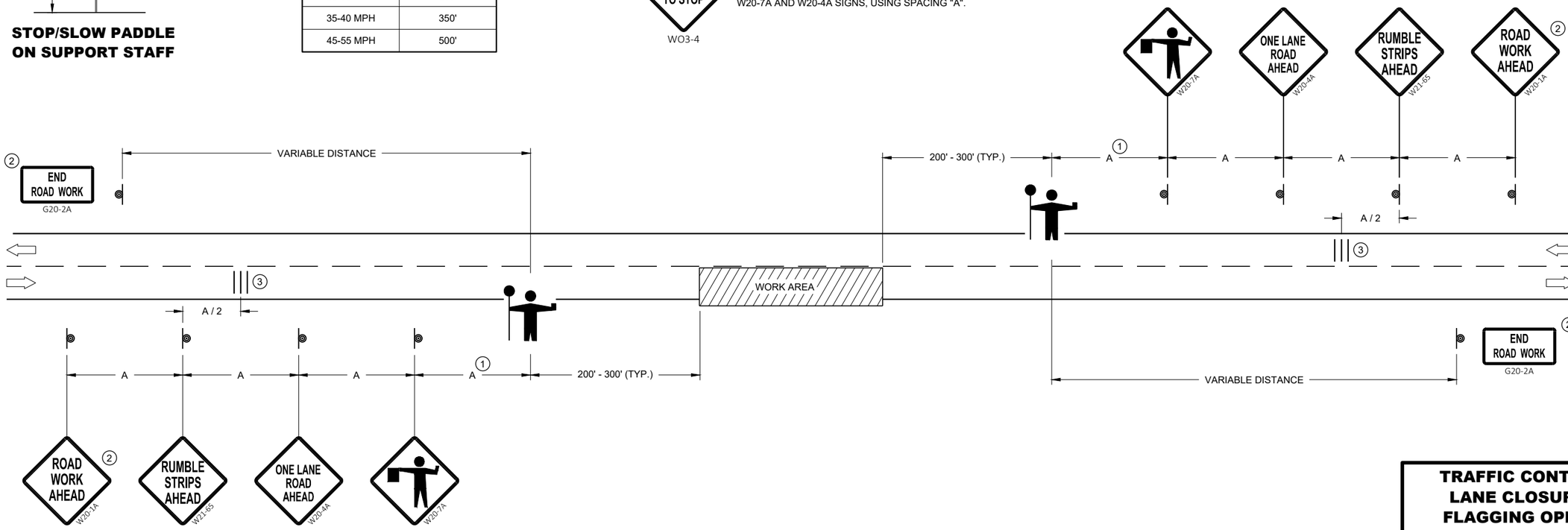
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

WO3-4

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



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15C12 - 09a

SDD 15C12 - 09a

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

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

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

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

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

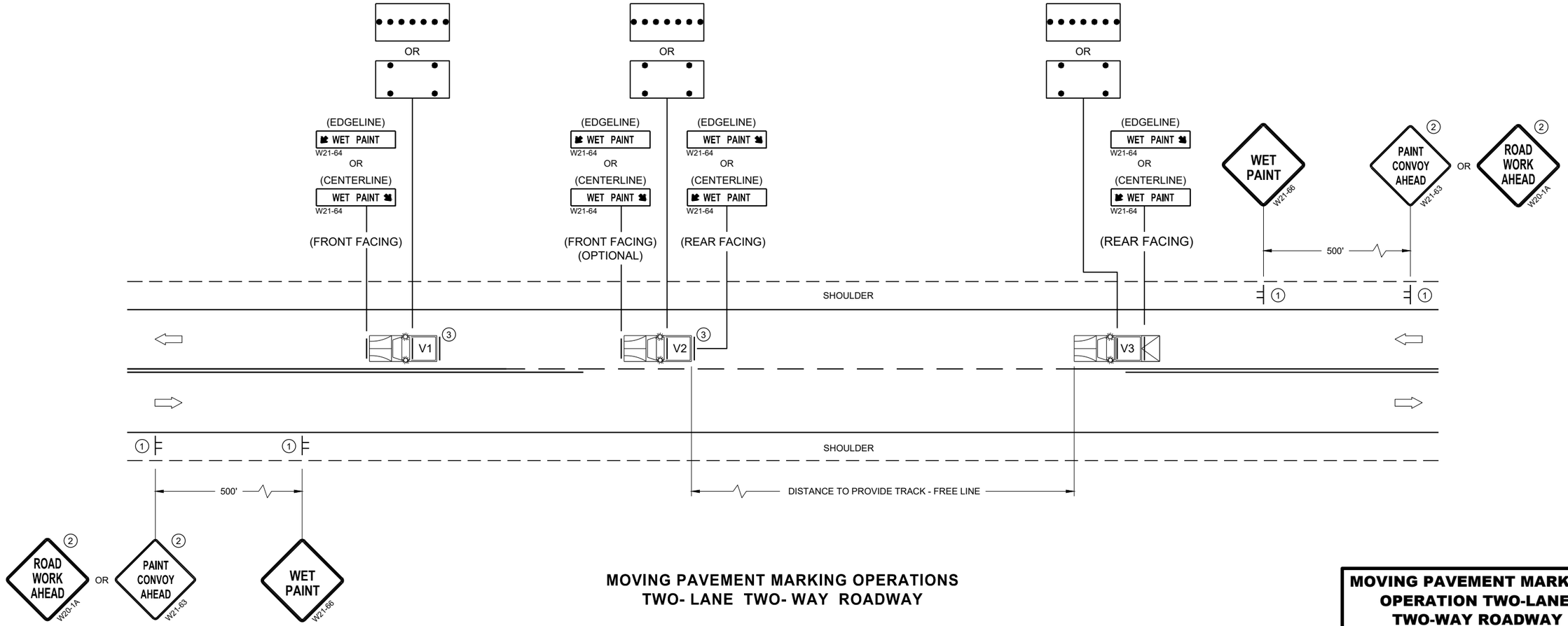
THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

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

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

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

1. SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
2. IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.
3. V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

SDD 15C19 - 07a

SDD 15C19 - 07a

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TRAFFIC CONTROL DRUM

FLAGS, 16" X 16" MIN. (ORANGE)

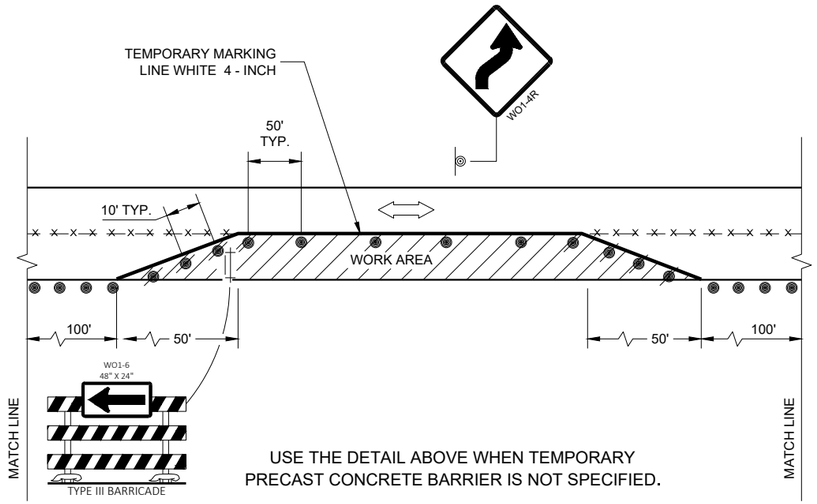
REMOVING PAVEMENT MARKING

DIRECTION OF TRAFFIC

ASPHALTIC PAVEMENT WIDENING

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT



USE THE DETAIL ABOVE WHEN TEMPORARY PRECAST CONCRETE BARRIER IS NOT SPECIFIED.

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

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

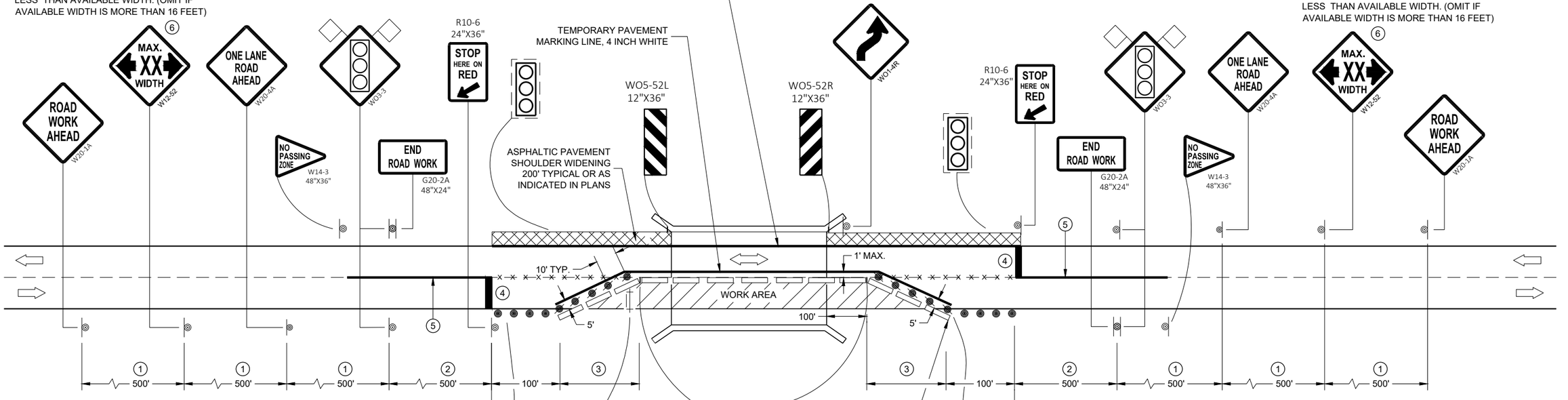
ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

REMOVE PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT MARKING LINES IF THE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

1. 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.
2. USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.
3. DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.
4. TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.
5. 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 4 INCH DOUBLE YELLOW . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
6. SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

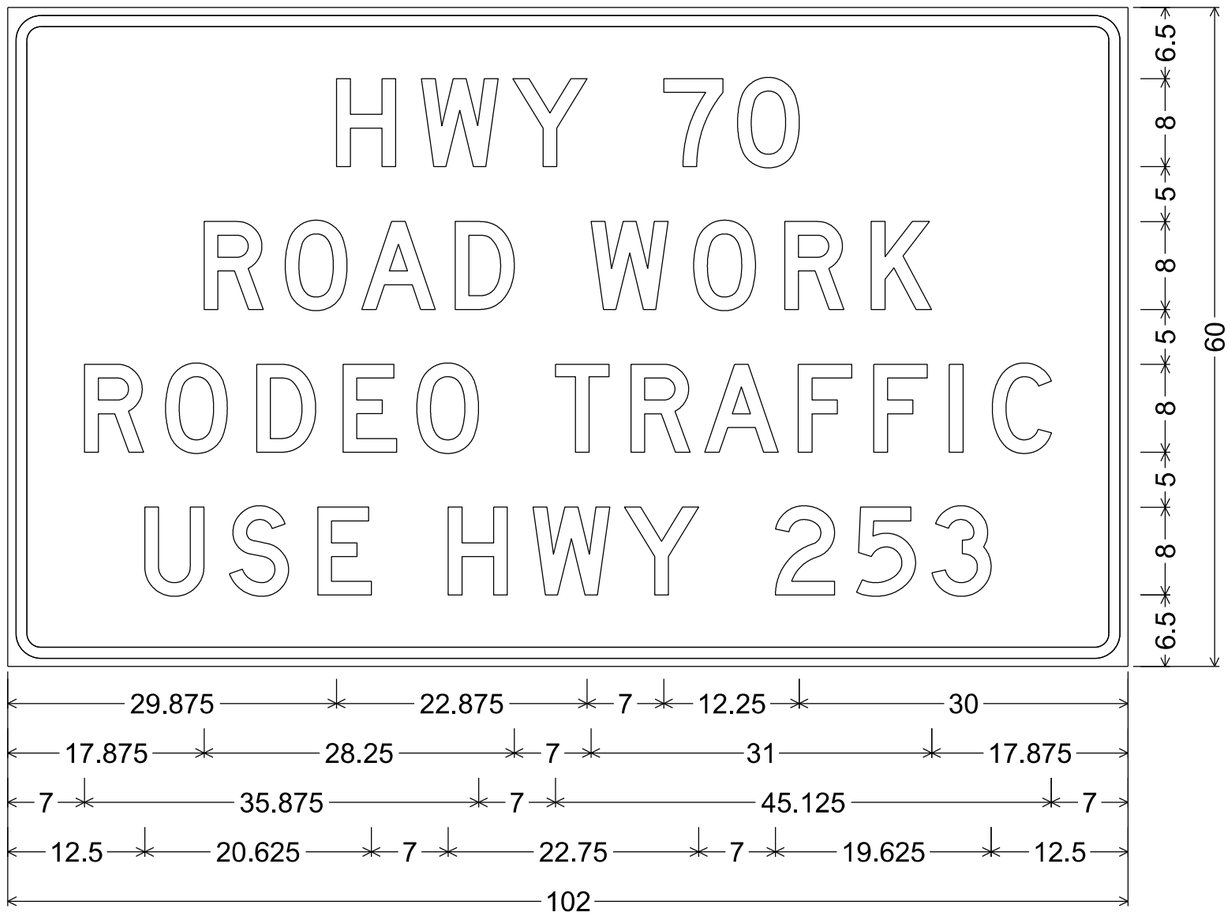
FHWA

SDD 15D33 - 07

SDD 15D33 - 07

NOTES

1. Fixed Message Sign - Type II Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



3.000" Radius, 1.000" Border, 0.750" Indent

STATE PROJECT NUMBER

8130-00-71

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.48
OPERATING RATING FACTOR: RF = 1.91
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 190 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE & STRUCTURAL APPROACH SLAB — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 — fy = 60,000 P.S.I.
STAINLESS, GRADE 60 — fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 80'-0" LONG AT THE WEST ABUTMENT AND 75'-0" LONG AT THE EAST ABUTMENT. PILE POINTS REQUIRED.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} = 1,100 C.F.S.
$VEL._{100}$ = 5.2 F.P.S.
$HW._{100}$ = EL. 1072.42
WATERWAY AREA = 210 SQ. FT.
DRAINAGE AREA = 33.9 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5.0

2 YEAR FREQUENCY

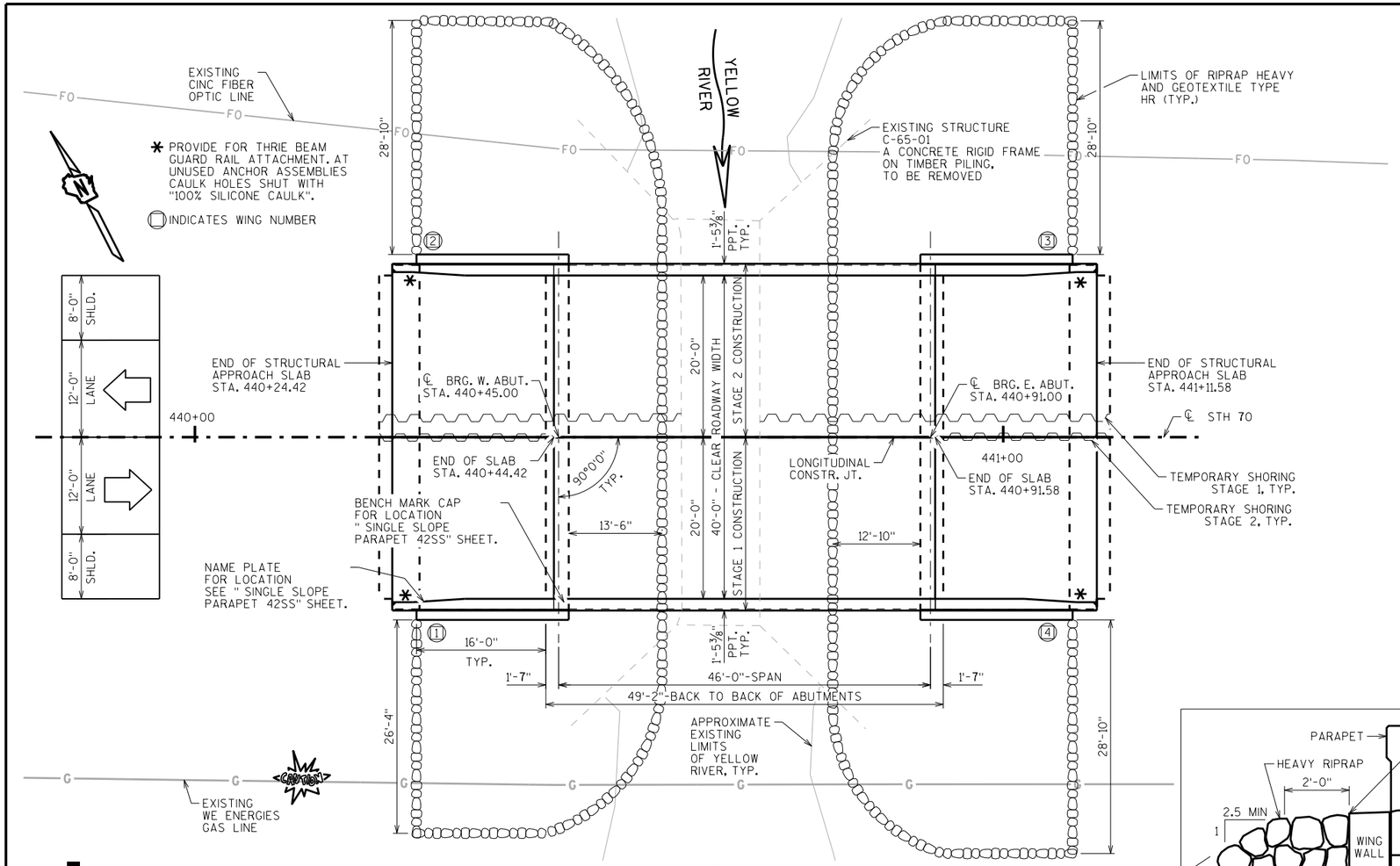
Q_2 = 300 C.F.S.
$VEL._2$ = 2.3 F.P.S.
$HW._2$ = EL. 1070.3

TRAFFIC VOLUME

STH 70

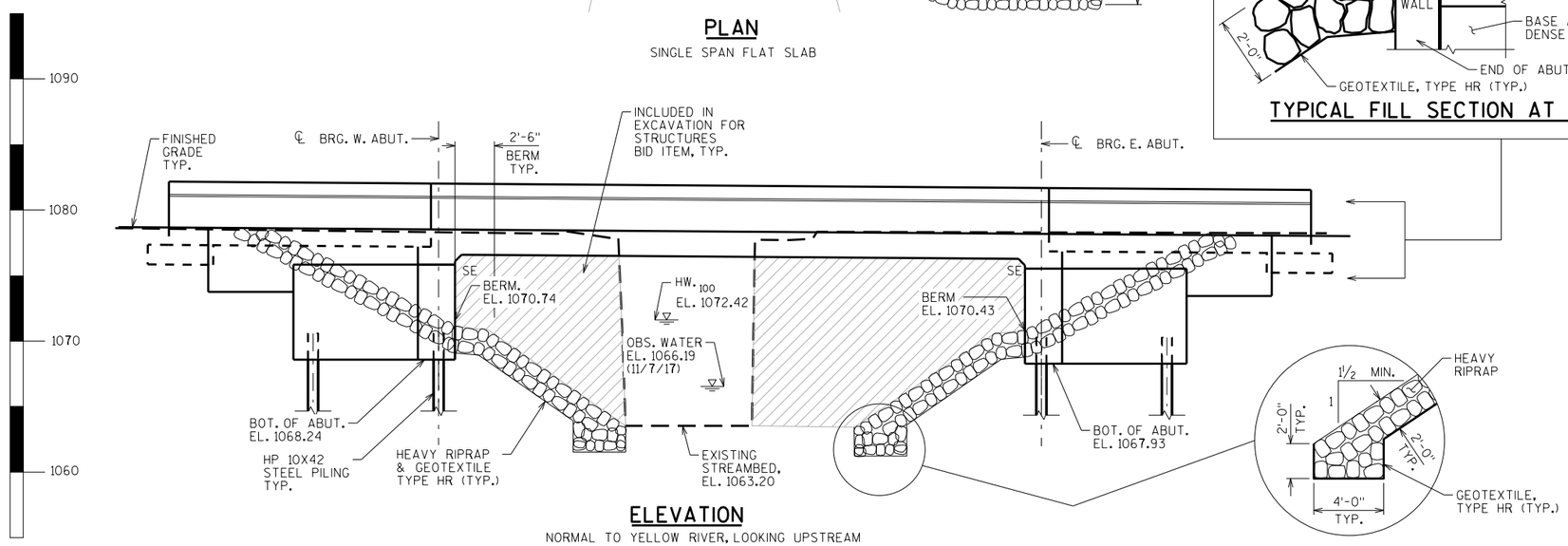
ADT = 6,800 (2034)
R.D.S. = 60 M.P.H.

LIST OF DRAWINGS



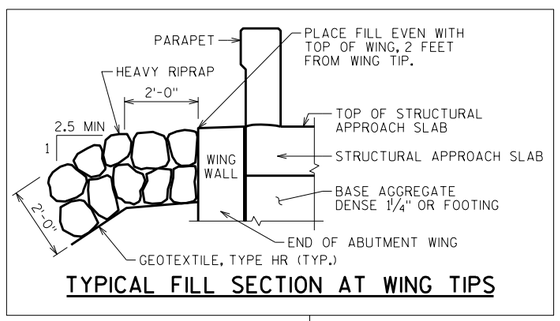
PLAN

SINGLE SPAN FLAT SLAB



ELEVATION

NORMAL TO YELLOW RIVER, LOOKING UPSTREAM



TYPICAL FILL SECTION AT WING TIPS

STRUCTURE DESIGN CONTACTS:

ANN THIELMANN (608) 261-0375
DOMINIQUE BECHLE (608) 261-8205

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION — BUREAU OF STRUCTURES

ACCEPTED DMB 08/18/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-65-54

STH 70 OVER YELLOW RIVER

COUNTY	CITY
WASHBURN	SPOONER

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	SM	DESIGNED CK'D.	ACT	DRAWN BY	SM	PLANS CK'D.	ACT

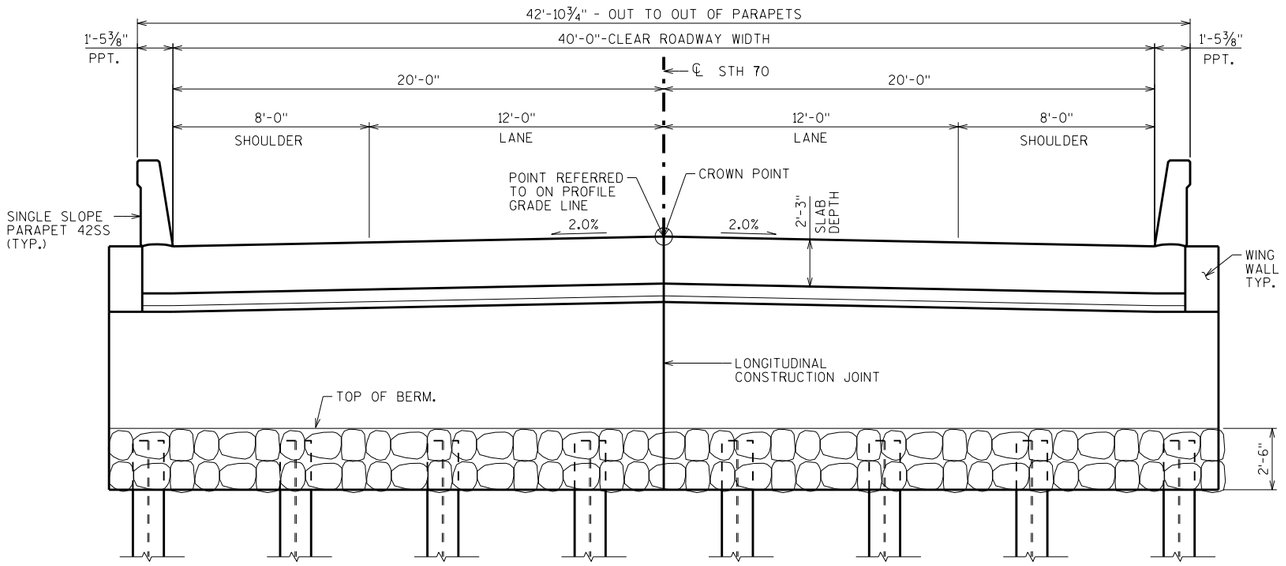
GENERAL PLAN

SHEET 1 OF 12

65

I.D. 8130-00-01A DATE: AUG. 2022

SCALE = 8.00



CROSS SECTION THRU ROADWAY

LOOKING EAST

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-65-54" SHALL BE THE EXISTING GROUNDLINE AND EXISTING STREAMBED.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

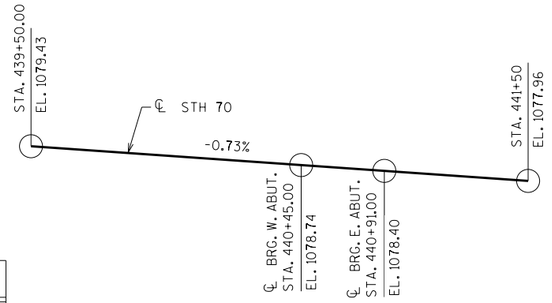
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

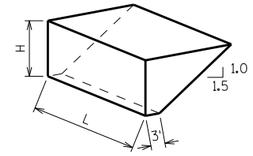
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	W. STRUCT. APP. SLAB	WEST ABUT.	EAST ABUT.	E. STRUCT. APP. SLAB	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (C-65-01)	EACH	———	———	———	———	———	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-65-54	EACH	———	———	———	———	———	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	———	———	165	165	———	330
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	———	135	———	135	———	270
502.0100	CONCRETE MASONRY BRIDGES	CY	190.1	59.2	56.2	55.8	59.2	421
502.3200	PROTECTIVE SURFACE TREATMENT	SY	232	89	———	———	89	410
502.3210	PIGMENTED SURFACE SEALER	SY	47	19	———	———	19	85
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	———	———	3205	3205	———	6410
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	39910	10255	1895	1885	10255	64200
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	390	———	———	———	———	390
505.0908	BAR COUPLERS NO. 8	EACH	———	12	———	———	12	24
511.1200	TEMPORARY SHORING (B-65-54)	SF	———	———	849	933	———	1782
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	———	13	13	———	26
550.0500	PILE POINTS	EACH	———	———	10	10	———	20
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	———	———	800	750	———	1550
606.0300	RIPRAP HEAVY	CY	———	———	233	239	———	472
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	———	———	85	85	———	170
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	———	2	———	———	2	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	———	———	37	37	———	74
645.0120	GEOTEXTILE TYPE HR	SY	———	———	336	358	———	694
	NON-BID ITEMS							
	FILLER	SIZE	———	———	———	———	———	½", ¾", 1½"

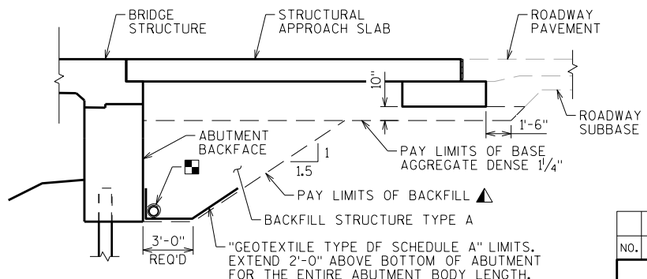


PROFILE GRADE LINE



ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF} (EF)/27
V_{TON} = V_{CY} (2.0)



TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

▪ PIPE UNDERDRAIN WRAPPED (6 INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

STATE PROJECT NUMBER

8130-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

CROSS SECTION & QUANTITIES

SHEET 2

66

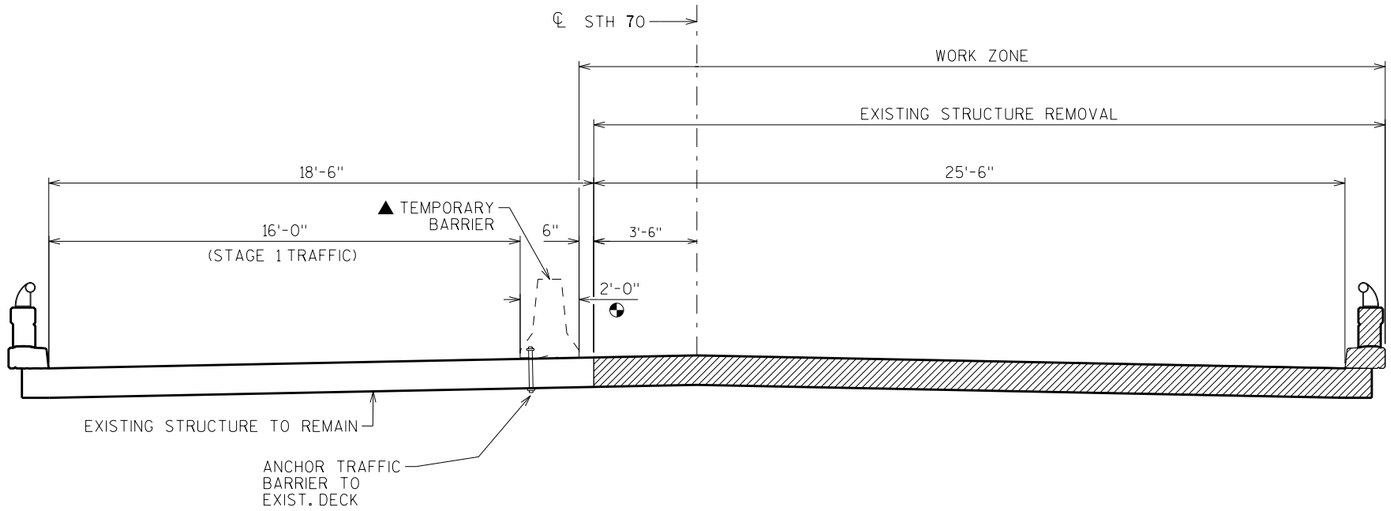
8

8

SCALE = 3.00

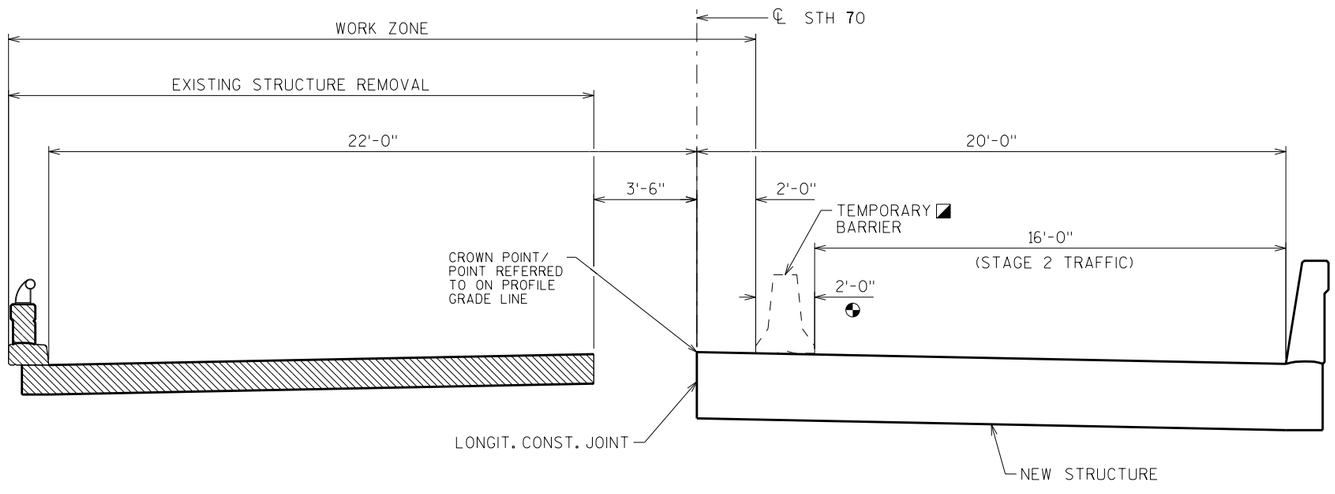
STATE PROJECT NUMBER

8130-00-71



REMOVAL TYPICAL SECTION - STAGE 1

(LOOKING EAST)



REMOVAL TYPICAL SECTION - STAGE 2

(LOOKING EAST)

NOTES:

▨ INDICATES EXISTING STRUCTURE REMOVAL

◓ TEMPORARY TRAFFIC BARRIER PAID FOR UNDER ROADWAY BID ITEM. SEE ROADWAY PLANS FOR MORE INFORMATION.

▲ TEMPORARY TRAFFIC BARRIER SHOULD BE PINNED TO THE EXISTING CONCRETE DECK WITH THE ASPHALT OVERLAY REMOVED UNDER THE BARRIER FOOTPRINT.

◪ DO NOT PIN TEMPORARY BARRIER TO THE NEW SLAB. POSTED SPEED SHALL BE 40MPH OR LESS. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

ALL SLAB-SUPPORTING FALSEWORK SHALL REMAIN IN PLACE UNTIL THE ENTIRE WIDTH OF THE SUPERSTRUCTURE CONSTRUCTION IS COMPLETE. DO NOT RELEASE AN SLAB-SUPPORTING FALSEWORK UNTIL ALL PORTIONS OF THE SLAB SUPERSTRUCTURE HAVE PROPERLY CURED AND REACHED THE 28-DAY COMPRESSIVE STRENGTH, F'C, SPECIFIED ON THE PLANS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

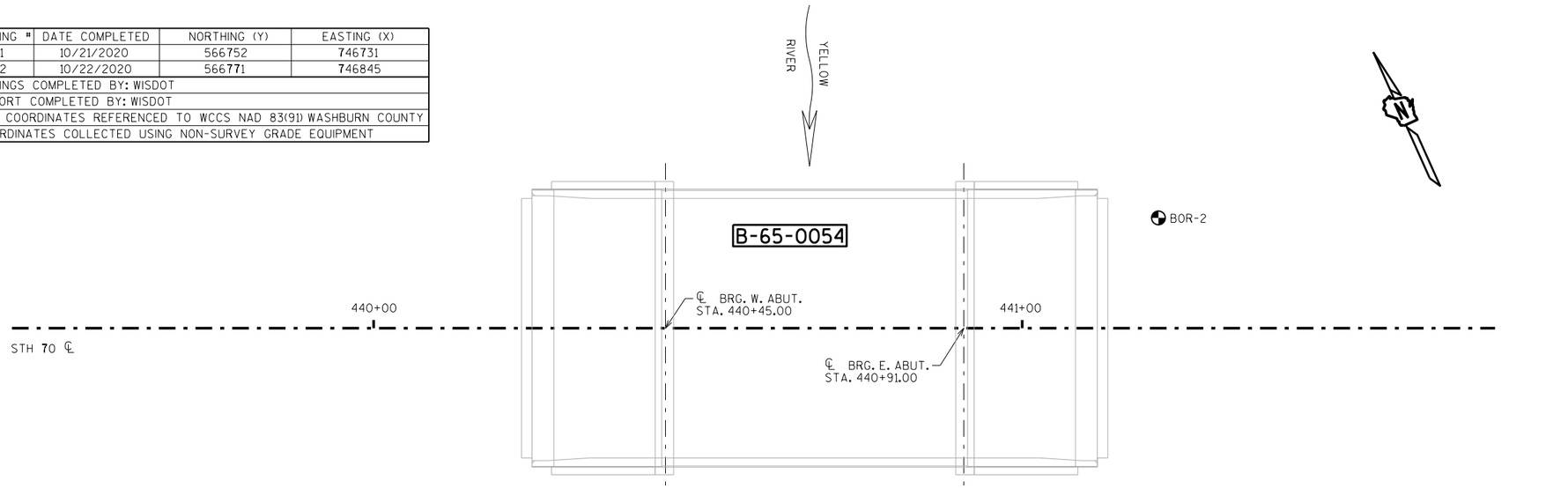
CONSTRUCTION STAGING

SHEET 3

67

SCALE = 2.50

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	10/21/2020	566752	746731
2	10/22/2020	566771	746845
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) WASHBURN COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



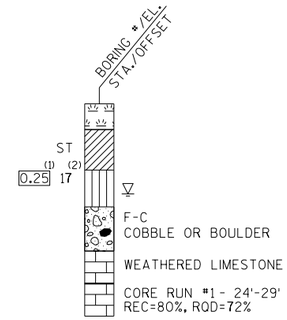
STATE PROJECT NUMBER

8130-00-71

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY TLP/ACT | PLANS CK'D. ACT

SUBSURFACE EXPLORATION

SHEET 4

68

SCALE = 10.0

8

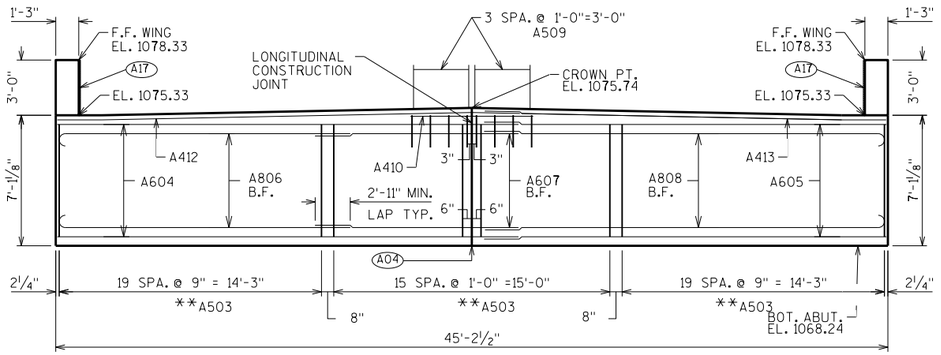
8

STATE PROJECT NUMBER

8130-00-71

WING 1

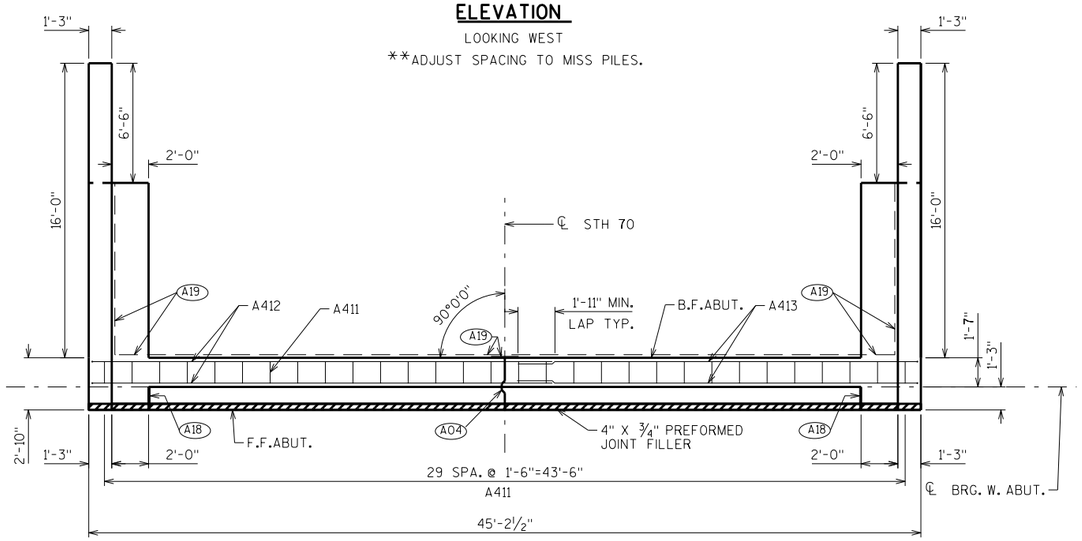
WING 2



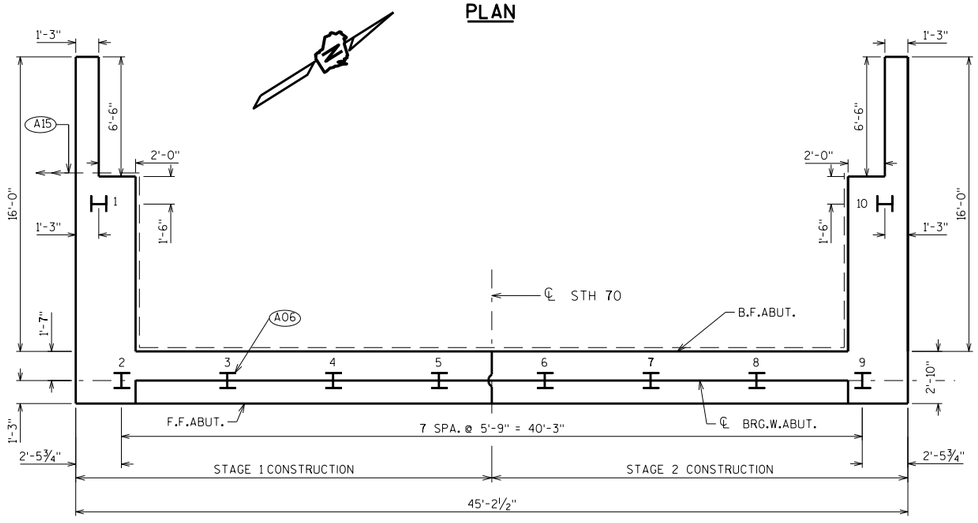
ELEVATION

LOOKING WEST

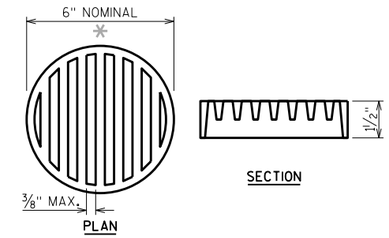
**ADJUST SPACING TO MISS PILES.



PLAN



PILE PLAN

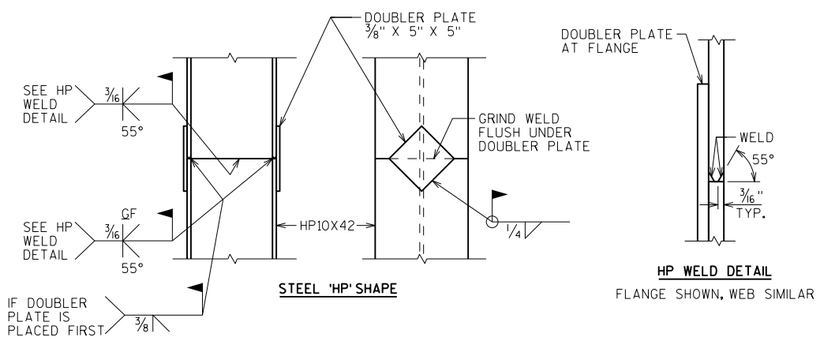


RODENT SHIELD DETAIL

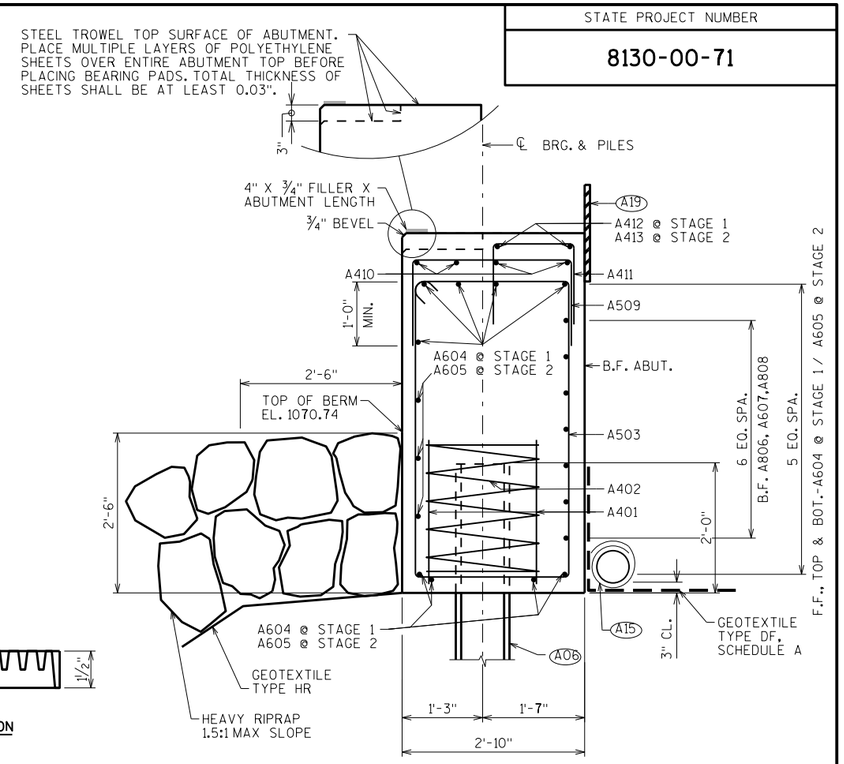
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PILE DETAILS



SECTION THRU BODY

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE.

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. PILE POINTS REQUIRED.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABL DRAINAGE. RODENT SHIELD REQ'D.

(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) ¾" CORK FILLER ON VERTICAL SEAT FACES THAT RUN PARALLEL WITH ROADWAY.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

WEST ABUTMENT

SHEET 5

69

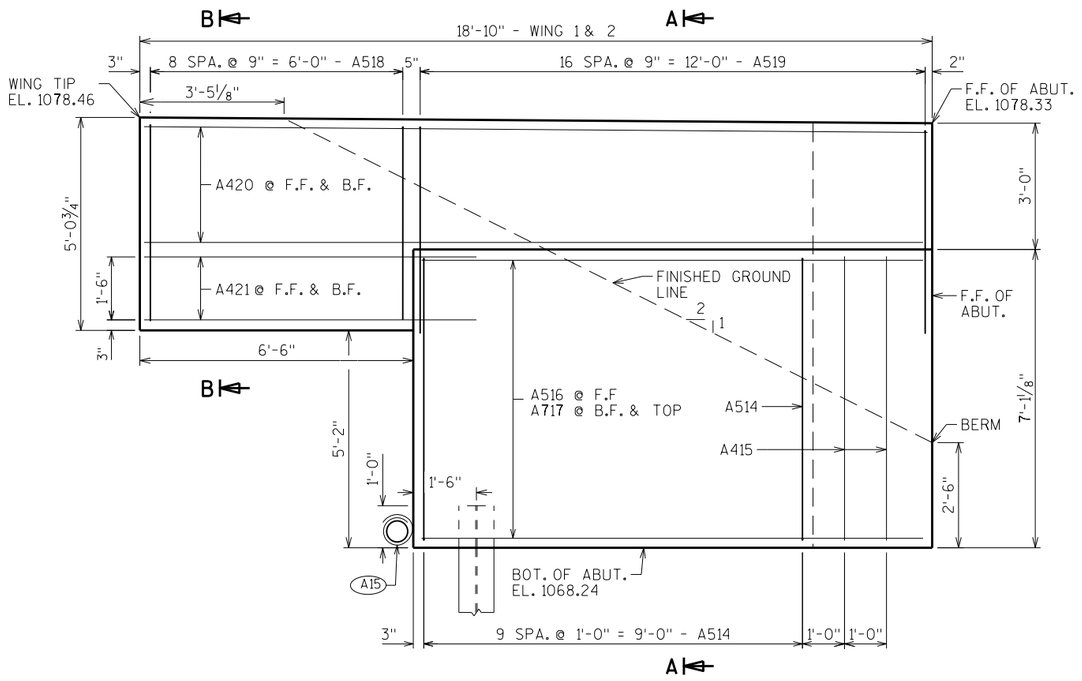
SCALE = 4.00

8

8

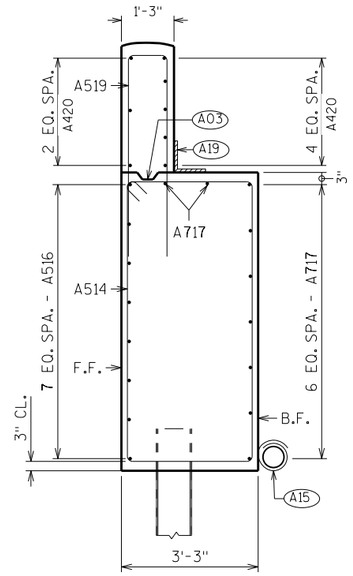
STATE PROJECT NUMBER

8130-00-71



WING 1 & 2

(WING 1 LOOKING @ F.F., WING 2 IS SIMILAR)

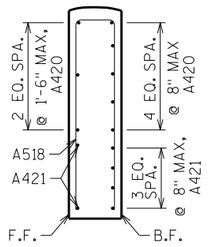


SECTION A-A

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		16	2'-3"			BODY-BOT.-2 PER BODY PILE-VERT.-STAGE 1 & 2
A402		8	28'-0"	X		BODY-BOT.-SPIRAL-1 PER PILE-VERT.-STAGE 1 & 2
A503		56	18'-6"	X		BODY-STIRRUPS-VERT. - STAGE 1 & 2
A604		12	25'-7"			BODY-HORIZONTAL-STAGE 1
A605		12	22'-3"			BODY-HORIZONTAL-STAGE 2
A806		7	17'-2"	X		BODY-HORIZONTAL-B.F. - STAGE 1
A607		7	12'-6"			BODY-HORIZONTAL-B.F. - STAGE 1
A808		7	23'-4"	X		BODY-HORIZONTAL-B.F. - STAGE 2
A509		8	5'-3"	X		BODY-TOP-VERT.-STAGE 1 & 2
A410		4	6'-8"			BODY-TOP-HORIZ.-STAGE 1
A411		30	3'-7"	X		BODY-TOP-VERT.-STAGE 1 & 2
A412		2	24'-7"			BODY-TOP-HORIZ.-STAGE 1
A413		2	22'-3"			BODY-TOP-HORIZ.-STAGE 2
A514	X	20	19'-8"	X		WINGS 1 & 2 -BOT.-STIRRUP-VERT.
A415	X	4	6'-7"			WINGS 1 & 2 -VERT.-F.F.-AT WING END
A516	X	16	11'-10"			WINGS 1 & 2 -HORIZONTAL-F.F.
A717	X	18	11'-10"			WINGS 1 & 2 -HORIZONTAL-B.F. & CENTER
A518	X	18	10'-0"	X		WINGS 1 & 2 -TOP-VERTICAL
A519	X	34	10'-10"	X		WINGS 1 & 2 -TOP-VERTICAL
A420	X	16	18'-6"			WINGS 1 & 2 -TOP-HORIZONTAL-B.F. & F.F
A421	X	12	7'-10"			WINGS 1 & 2-HORIZONTAL-B.F. & F.F

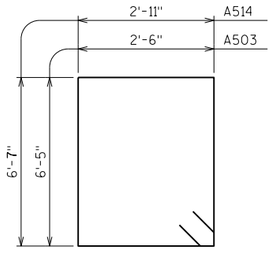


SECTION B-B

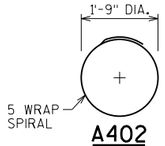
A03 OPTIONAL. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2" X 6". (18" RMW @ B.F. & 3#4" "V" GROOVE @ F.F. IF JOINT IS USED).

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABL DRAINAGE. RODENT SHIELD REQ'D.

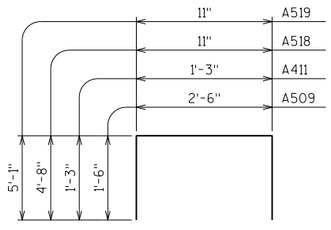
A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ & VERT. JOINTS AT BACKFACE.



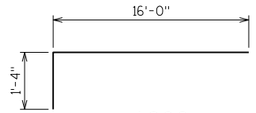
A503, A514,



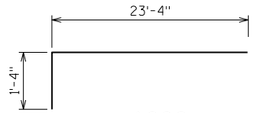
A402



A509, A411, A518, A519



A806



A808

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

WEST ABUTMENT DETAILS

SHEET 6

70

SCALE = 1.75

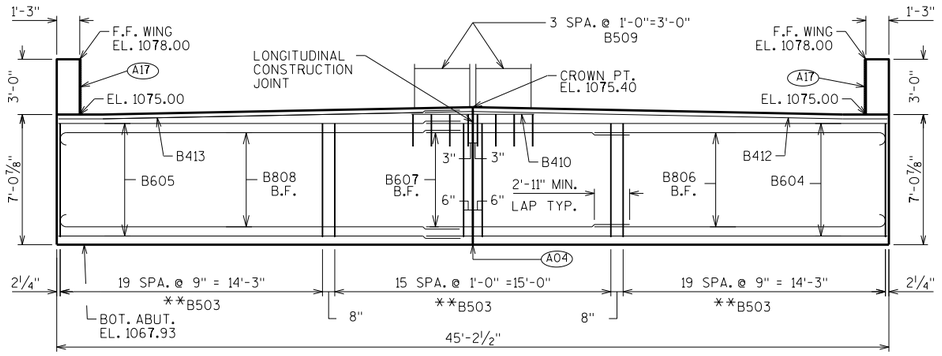
8

8

STATE PROJECT NUMBER
8130-00-71

WING 3

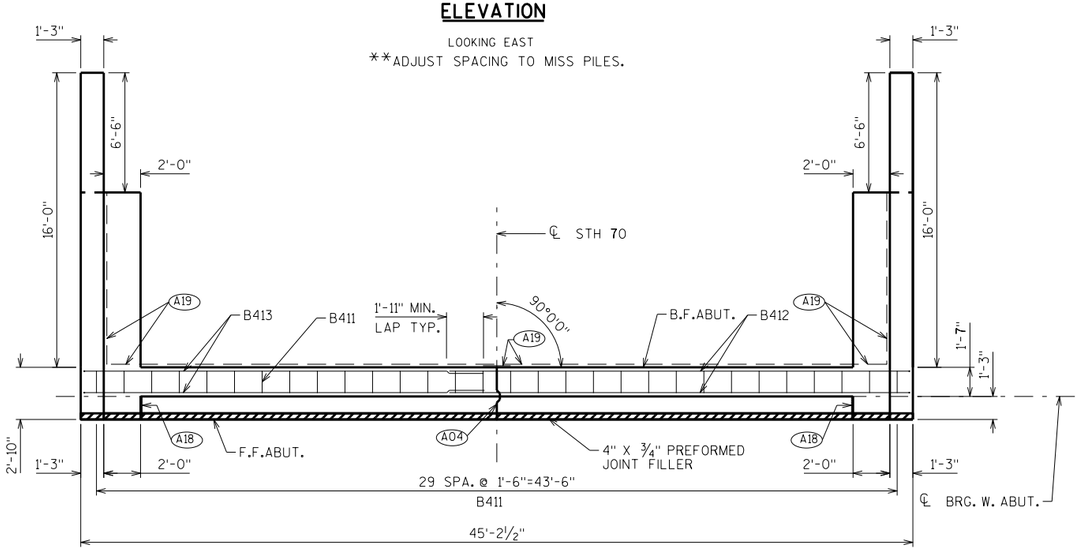
WING 4



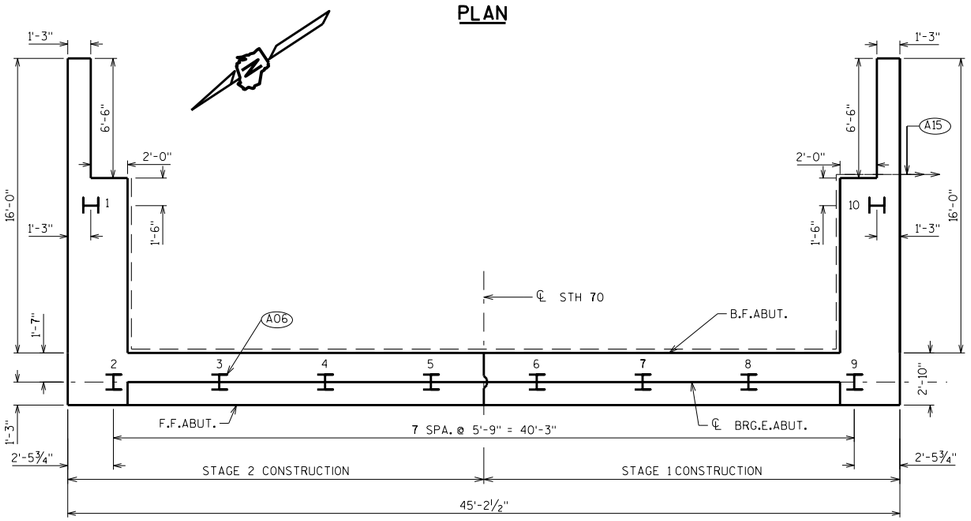
ELEVATION

LOOKING EAST

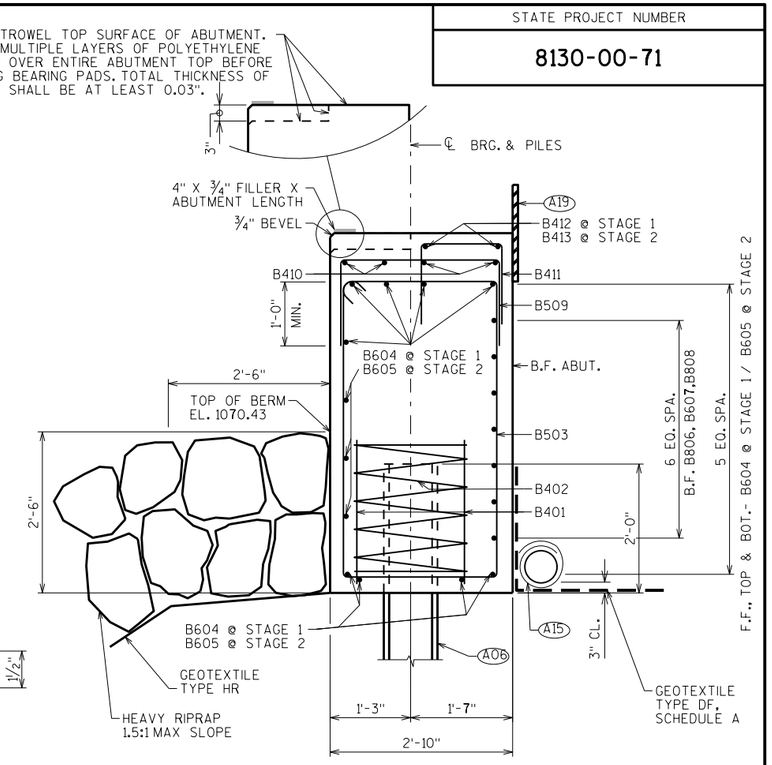
**ADJUST SPACING TO MISS PILES.



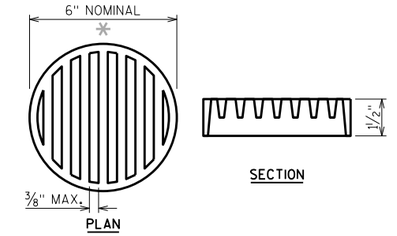
PLAN



PILE PLAN



SECTION THRU BODY

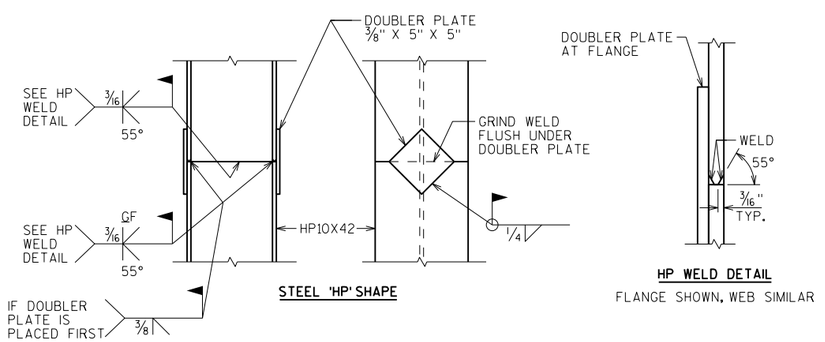


RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PILE DETAILS

A04 VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE.

A06 SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 75'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. PILE POINTS REQUIRED.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN.TO SUITABL DRAINAGE. RODENT SHIELD REQ'D.

A17 ½" FILLER (INCLUDED IN WING LENGTH):SEAL ALL EXPOSED HORIZ. & VERT.SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A18 ¾" CORK FILLER ON VERTICAL SEAT FACES THAT RUN PARALLEL WITH ROADWAY.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY	SM	PLANS CK'D.	ACT

EAST ABUTMENT

SHEET 7

71

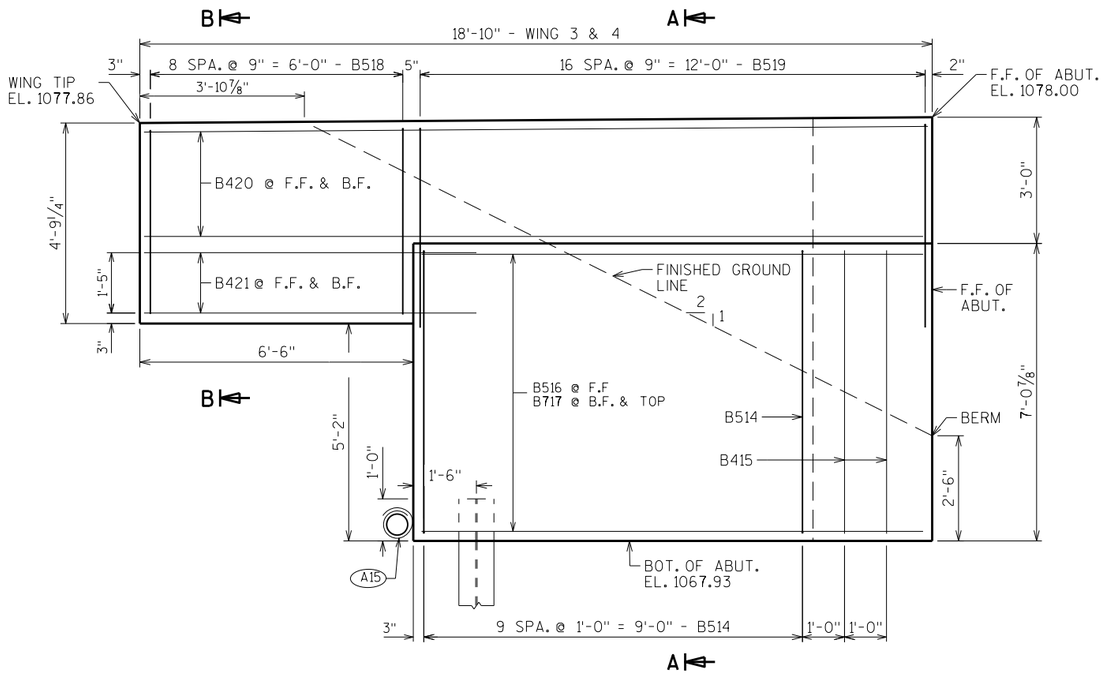
8

8

SCALE = 4.00

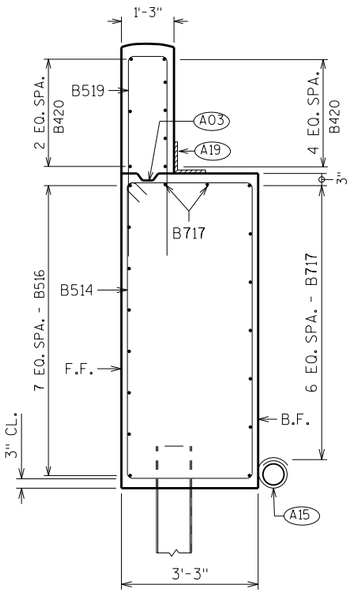
STATE PROJECT NUMBER

8130-00-71



WING 3 & 4

(WING 3 LOOKING @ F.F., WING 4 IS SIMILAR)

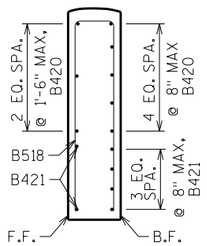


SECTION A-A

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		16	2'-3"			BODY-BOT.-2 PER BODY PILE-VERT.-STAGE 1& 2
B402		8	28'-0"	X		BODY-BOT.-SPIRAL-1 PER PILE-VERT.-STAGE1&2
B503		56	18'-6"	X		BODY-STIRRUPS-VERT. - STAGE 1& 2
B604		12	25'-7"			BODY-HORIZONTAL-STAGE 1
B605		12	22'-3"			BODY-HORIZONTAL-STAGE 2
B806		7	17'-2"	X		BODY-HORIZONTAL-B.F. - STAGE 1
B607		7	12'-6"			BODY-HORIZONTAL-B.F. - STAGE 1
B808		7	23'-4"	X		BODY-HORIZONTAL-B.F. - STAGE 2
B509		8	5'-3"	X		BODY-TOP-VERT.-STAGE 1& 2
B410		4	6'-8"			BODY-TOP-HORIZ.-STAGE 1
B411		30	3'-7"	X		BODY-TOP-VERT.-STAGE 1& 2
B412		2	24'-7"			BODY-TOP-HORIZ.-STAGE 1
B413		2	22'-3"			BODY-TOP-HORIZ.-STAGE 2
B514	X	20	19'-8"	X		WINGS 3 & 4 -BOT.-STIRRUP-VERT.
B415	X	4	6'-7"			WINGS 3 & 4 -VERT.-F.F.-AT WING END
B516	X	16	11'-10"			WINGS 3 & 4 -HORIZONTAL-F.F.
B717	X	18	11'-10"			WINGS 3 & 4 -HORIZONTAL-B.F. & CENTER
B518	X	18	9'-6"	X		WINGS 3 & 4 -TOP-VERTICAL
B519	X	34	10'-10"	X		WINGS 3 & 4 -TOP-VERTICAL
B420	X	16	18'-6"			WINGS 3 & 4 -TOP-HORIZONTAL-B.F. & F.F
B421	X	12	7'-10"			WINGS 3 & 4 -HORIZONTAL-B.F. & F.F

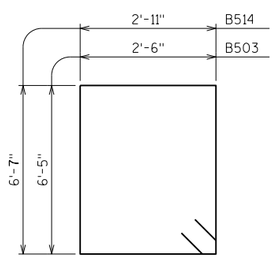


SECTION B-B

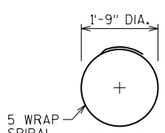
A03 OPTIONAL. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2" X 6". (18" RMW @ B.F. & 3#4" "V" GROOVE @ F.F. IF JOINT IS USED).

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABL DRAINAGE. RODENT SHIELD REQ'D.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ & VERT. JOINTS AT BACKFACE.



B503, B514,



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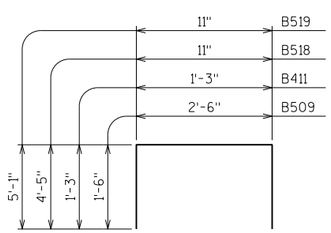
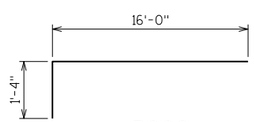


B509, B411, B518, B519



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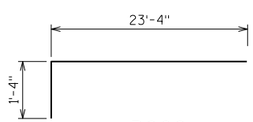


B808

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

EAST ABUTMENT DETAILS

SHEET 8

72

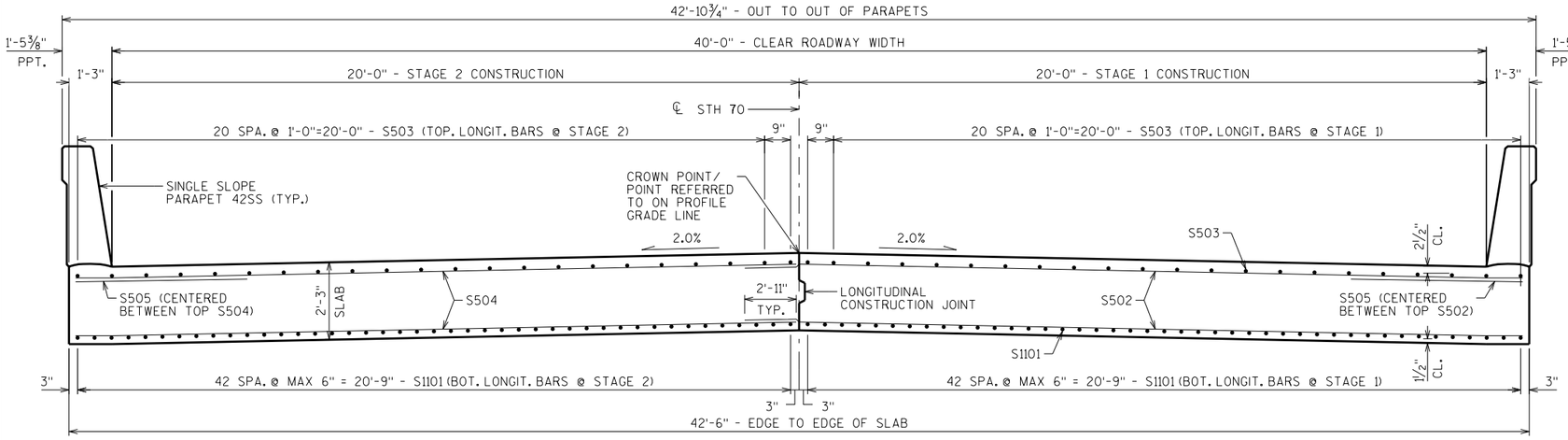
SCALE = 1.75

8

8

STATE PROJECT NUMBER

8130-00-71



CROSS SECTION THRU ROADWAY

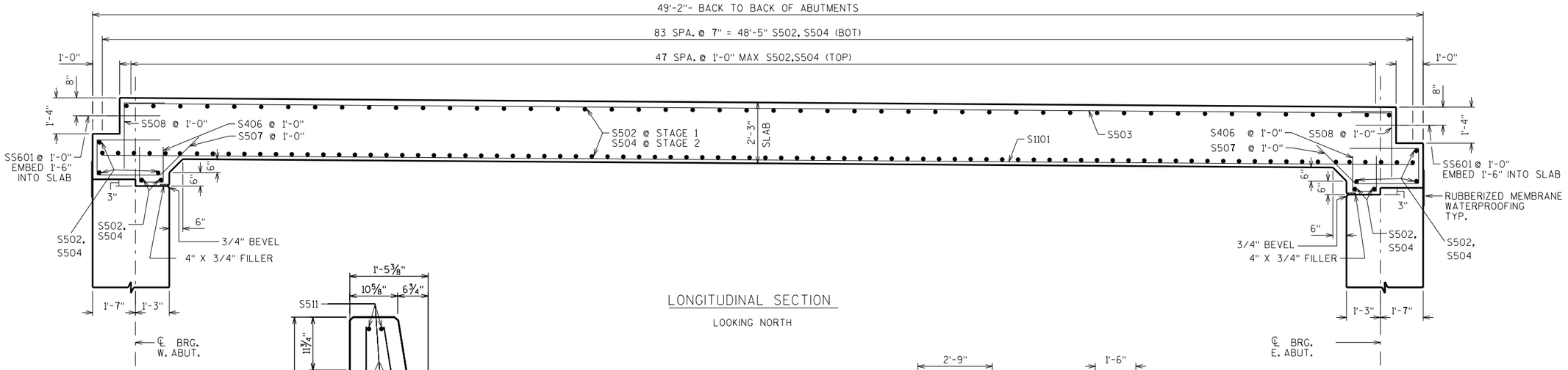
LOOKING EAST

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

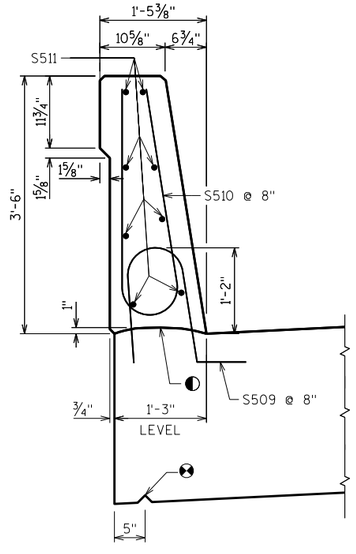
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1101	X	86	48'-8"			SLAB-LONG.-BOT.- STAGE 1 & 2
S502	X	142	24'-2"			SLAB & ABUT. -TRANS-BOT. &TOP-STAGE1
S503	X	44	46'-10"			SLAB-LONG.-TOP- STAGE 1 &2
S504	X	142	21'-0"			SLAB & ABUT. -TRANS-BOT. &TOP-STAGE2
S505	X	94	5'-0"			SLAB-TRANS.-TOP-STAGE 1&2
S406	X	88	3'-3"	X		ABUT.HAUN.-F.F BOT.-VERT- STAGE 1 & 2
S507	X	88	8'-3"	X		ABUT. END OF SLAB- STAGE 1&2
S508	X	88	4'-1"	X		ABUT. END OF SLAB- HORIZ. - STAGE 1&2
S509	X	144	4'-5"	X		PARAPET- VERT.
S510	X	144	6'-8"	X		PARAPET- VERT.
S511	X	16	46'-10"	X		PARAPET- LONG.
SS601	X	86	3'-0"	X		STRUCTURAL SLAB TO APPROACH SLAB

'SS' = STAINLESS STEEL



LONGITUDINAL SECTION

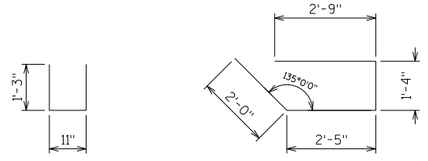
LOOKING NORTH



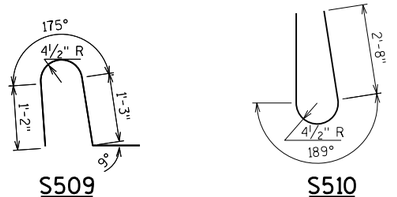
◐ CONST. JOINT - STRIKE OFF AS SHOWN

◓ ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. TYP. ALONG BOTH EDGES OF SLAB.

SECTION THRU PARAPET ON SLAB



S406 S507 S508



S509 S510

NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAS CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

SUPERSTRUCTURE CROSS SECTION

SHEET 9

73

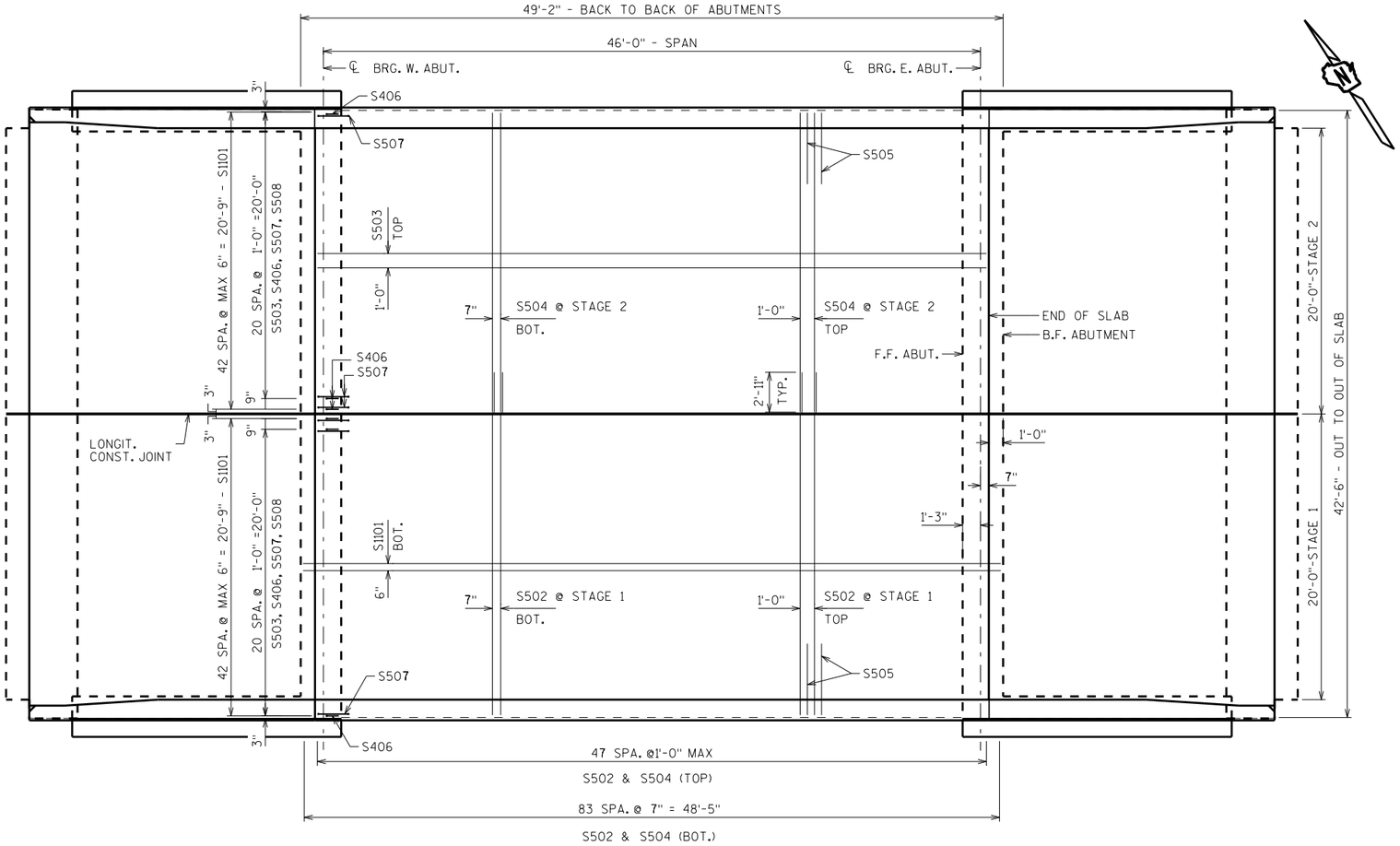
SCALE = 2.00

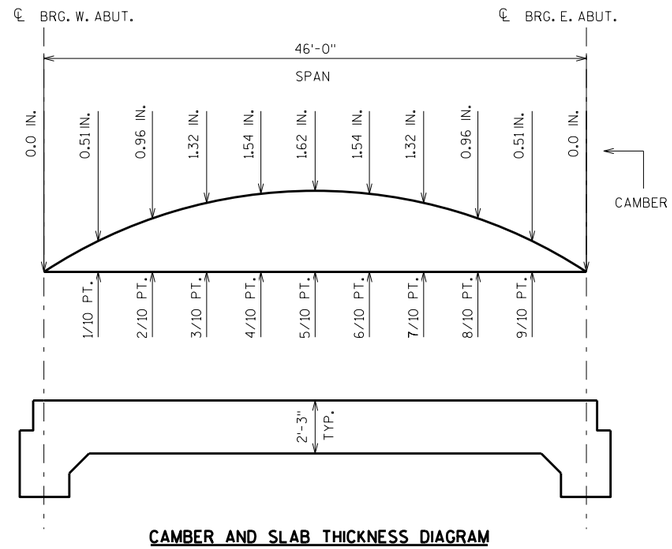
8

8

STATE PROJECT NUMBER

8130-00-71





CAMBER AND SLAB THICKNESS DIAGRAM

SUPERSTRUCTURE PLAN

SURVEY TOP OF SLAB ELEVATIONS

	W. ABUTMENT	5/10 PT.	E. ABUTMENT
N. GUTTER			
℄ OF SLAB			
S. GUTTER			

TOP OF SLAB ELEVATIONS

TOD ELEVATIONS	℄ BRG. WEST ABUTMENT	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT	9/10 PT.	℄ BRG. EAST ABUTMENT
N. EOS*	1078.34	1078.30	1078.27	1078.24	1078.20	1078.17	1078.14	1078.10	1078.07	1078.03	1078.00
℄ STH 70	1078.74	1078.70	1078.67	1078.64	1078.60	1078.57	1078.54	1078.50	1078.47	1078.43	1078.40
S.EOS	1078.34	1078.30	1078.27	1078.24	1078.20	1078.17	1078.14	1078.10	1078.07	1078.03	1078.00

* EOS: EDGE OF SLAB

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN, OR CENTERLINE FOLLOW THIS PROCEDURE:

TOP OF SLAB ELEVATION AT FINAL GRADE
LESS (-) SLAB THICKNESS
PLUS (+) CAMBER
PLUS (+) FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)

EQUALS = TOP OF SLAB FALSEWORK ELEVATION.

NOTES

CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETELMENT.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATION ALONG GUTTER LINES AND ℄ OF SLAB. FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON "AS BUILT PLANS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

SUPERSTRUCTURE PLAN

SHEET 10

74

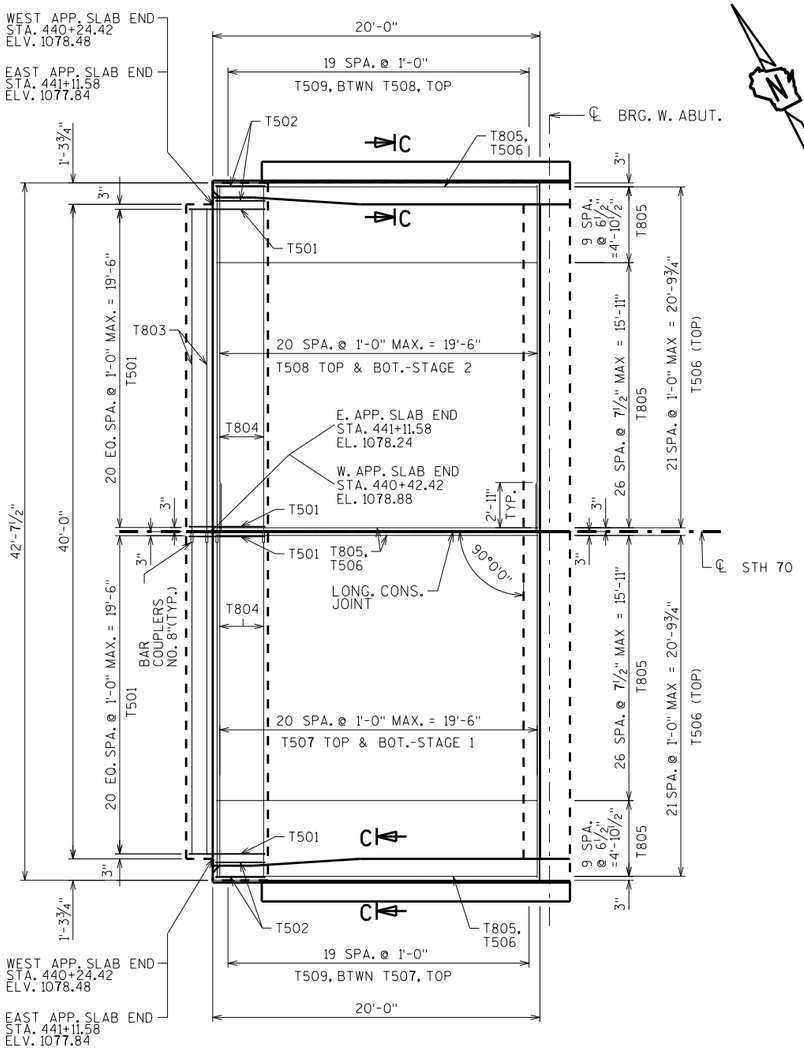
SCALE = 4.75

8

8

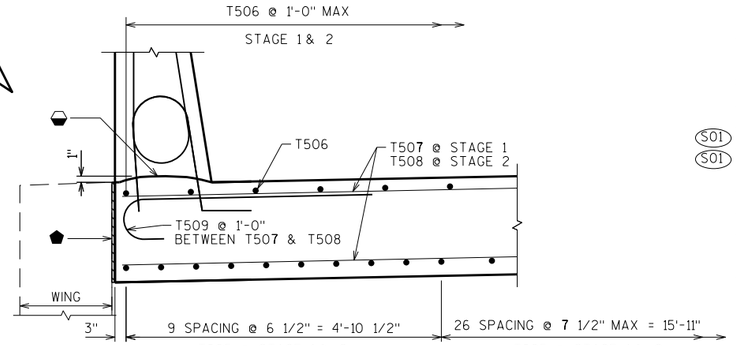
STATE PROJECT NUMBER

8130-00-71

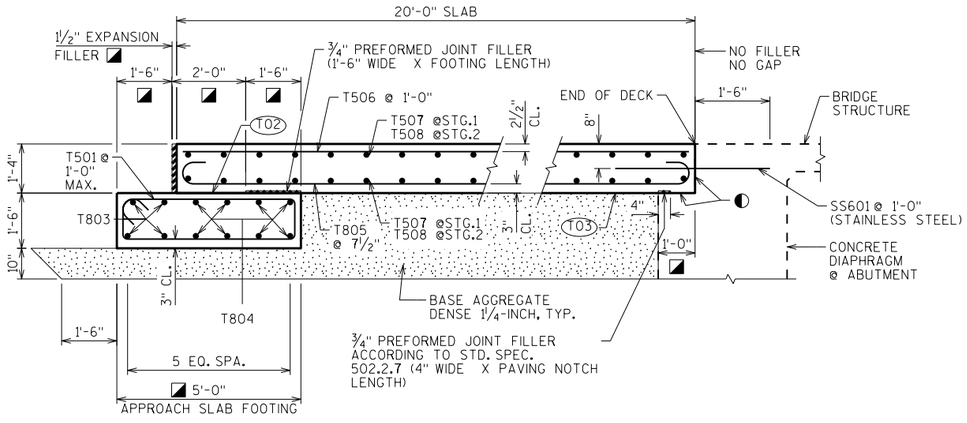


PLAN

WEST APPROACH SLAB SHOWN/ EAST APPROACH SLAB SIMILAR



SECTION C-C



SECTION THRU APPROACH SLAB

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D. WEST	NO. REQ'D. EAST	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	42	42	12'-2"	X		APPROACH SLAB FTG. STIRRUP-STAGE 1&2
T502	X	4	4	8'-10"	X		APPROACH SLAB FTG. STIRRUP-STAGE 1&2
(S01) T803	X	8	8	19'-9"			APPROACH SLAB FTG. - TRANS.-STAGE 1&2
(S01) T804	X	16	16	21'-1"			APPROACH SLAB FTG. - TRANS.-STAGE 1&2
T805	X	72	72	21'-6"	X		APPROACH SLAB LONGIT. -BOT.-STAGE 1&2
T506	X	44	44	19'-8"			APPROACH SLAB LONGIT. -TOP-STAGE 1&2
T507	X	42	42	24'-3"			APPROACH SLAB TRANS. -TOP&BOT-STAGE1
T508	X	42	42	20'-9"			APPROACH SLAB TRANS. -TOP&BOT-STAGE2
T509	X	40	40	4'-1"	X		APPROACH SLAB TRANS. -TOP EDGE OF SLAB

⬟ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NONSTAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

⬬ CONST. JOINT - STRIKE OFF AS SHOWN

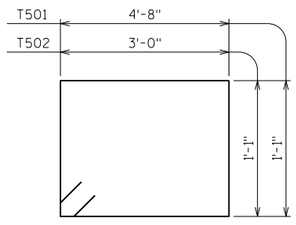
◐ APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.

◪ MEASURED NORMAL TO ABUTMENT

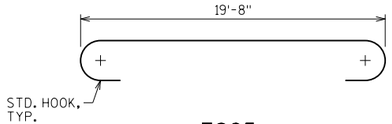
(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

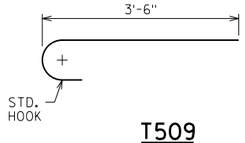
(S01) BAR COUPLERS REQ'D. BAR LENGTH COMPUTED TO STAGED LONGITUDINAL CONSTRUCTION JOINT AND SHALL BE MODIFIED IF REQUIRED TO THE BAR COUPLER MANUFACTURER'S RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.



T501, T502



T805



T509

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

STRUCTURAL APPROACH SLAB

SHEET 11

75

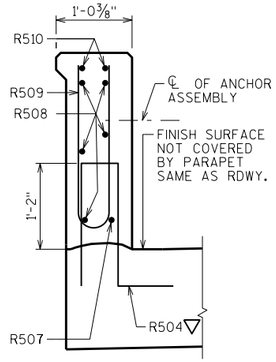
SCALE = 4.50

8

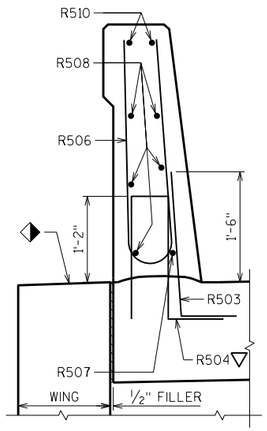
8

STATE PROJECT NUMBER

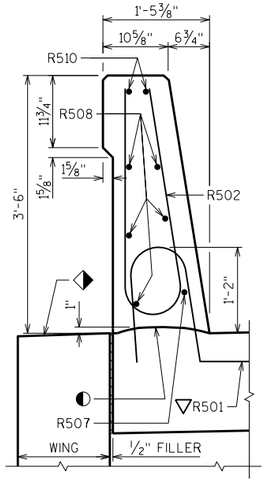
8130-00-71



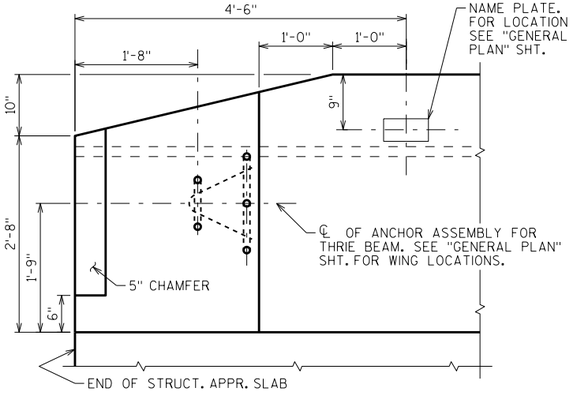
SECTION A-A



SECTION B-B



SECTION C-C



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

BILL OF BARS

FOR ABUTMENT PARAPETS

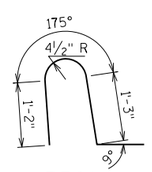
BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	36	36	4'-5"	X		PARAPET VERT.
R502	X	36	36	6'-8"	X		PARAPET VERT.
R503	X	24	24	2'-9"	X		PARAPET VERT.
R504	X	34	34	4'-4"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	19'-7"	X		PARAPET HORIZ.
R508	X	10	10	19'-7"			PARAPET HORIZ.
R509	X	12	12	5'-5"	X	⚠	PARAPET VERT.
R510	X	4	4	19'-7"	X		PARAPET HORIZ.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

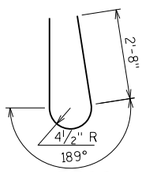
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

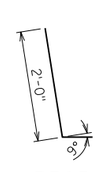
BUNDLE AND TAG EACH SERIES SEPARATELY.



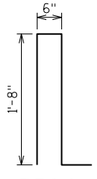
R501



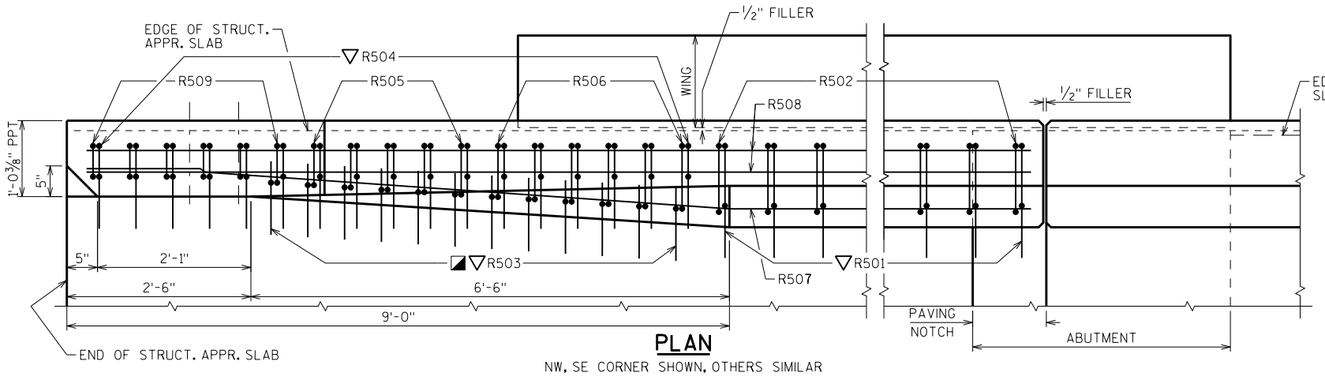
R502



R503

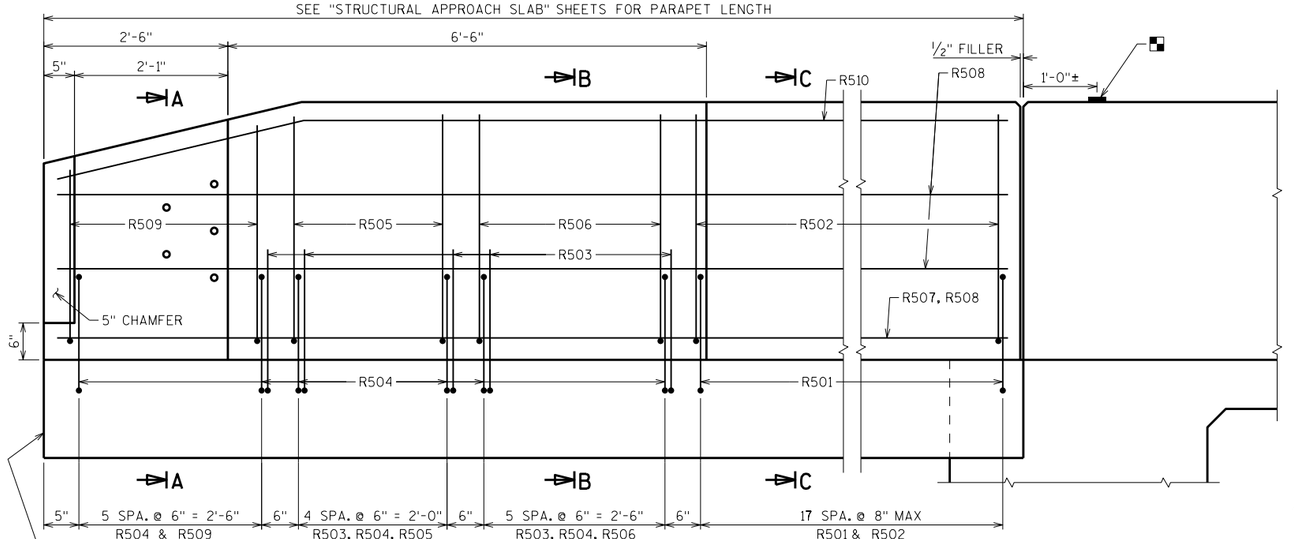


R504



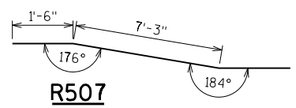
PLAN

NW, SE CORNER SHOWN, OTHERS SIMILAR

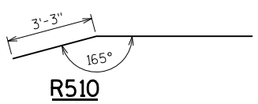


INSIDE ELEVATION

NW, SE CORNER SHOWN, OTHERS SIMILAR
WING & STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY

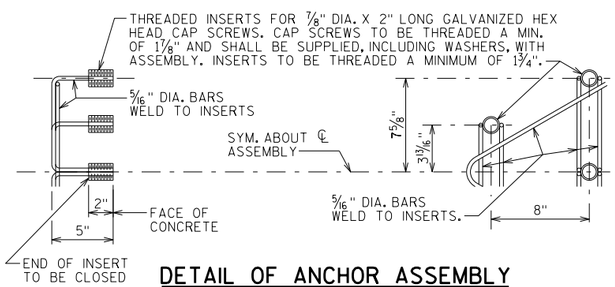


R507



R510

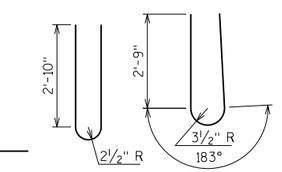
BENCH MARK CAP



DETAIL OF ANCHOR ASSEMBLY

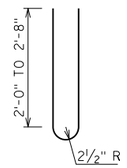
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



R505

R506



R509

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN
- ◆ SLOPE FOR DRAINAGE
- ◪ USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-65-54

DRAWN BY SM | PLANS CK'D. ACT

SINGLE SLOPE PARAPET 42SS

SHEET 12

76

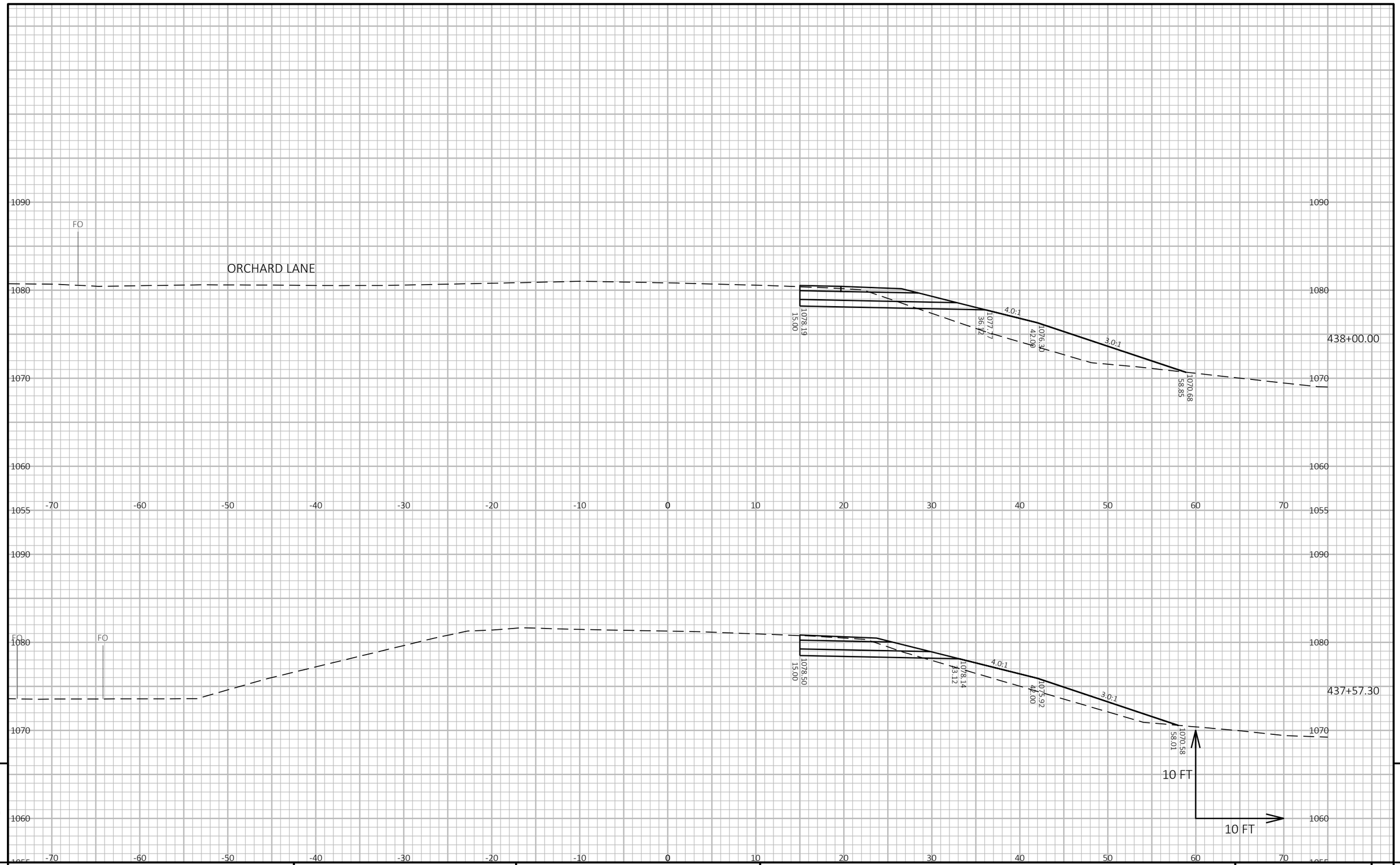
8

8

SCALE = 1.00

Division 1 - STH 70

STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted		Cumulative Vol (CY)		
	Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					1.00	1.25	
437+57.3	22.39	24.43	0.00	0.00	0.00	0.00	0.00
438+00	21.24	50.26	34.50	59.06	34.50	73.83	-39.32
438+21.3	21.76	56.68	16.96	42.18	51.46	126.55	-75.09
438+46.3	22.66	39.78	20.56	44.66	72.02	182.37	-110.35
438+71.3	23.24	3.56	21.25	20.07	93.27	207.46	-114.19
439+00	130.49	13.89	81.70	9.28	174.98	219.05	-44.08
439+21.3	132.33	21.81	103.67	14.08	278.65	236.66	41.99
439+46.3	133.78	16.45	123.20	17.72	401.85	258.80	143.04
439+71.3	129.35	0.01	121.82	7.62	523.66	268.33	255.33
440+00	116.61	0.76	130.72	0.41	654.39	268.84	385.54
440+24.42	109.75	0.86	102.35	0.73	756.74	269.76	486.98
STRUCTURE							
441+11.58	121.24	0.58	0.00	0.00	756.74	269.76	486.98
441+31	132.72	0.00	91.32	0.21	848.06	270.02	578.03
441+50	135.09	0.88	94.23	0.31	942.29	270.41	671.88
441+64.7	140.84	0.14	75.11	0.28	1017.40	270.76	746.64
441+89.7	137.41	6.46	128.82	3.06	1146.22	274.58	871.64
442+14.7	154.44	5.97	135.12	5.76	1281.33	281.78	999.55
442+50	179.35	1.79	218.20	5.08	1499.53	288.12	1211.41
442+64.7	162.81	0.71	93.14	0.68	1592.67	288.97	1303.70
442+89.7	35.49	0.08	91.81	0.36	1684.48	289.43	1395.05
443+14.7	34.27	0.00	32.29	0.04	1716.77	289.47	1427.30
443+45.2	41.23	0.00	42.64	0.00	1759.42	289.47	1469.94



9

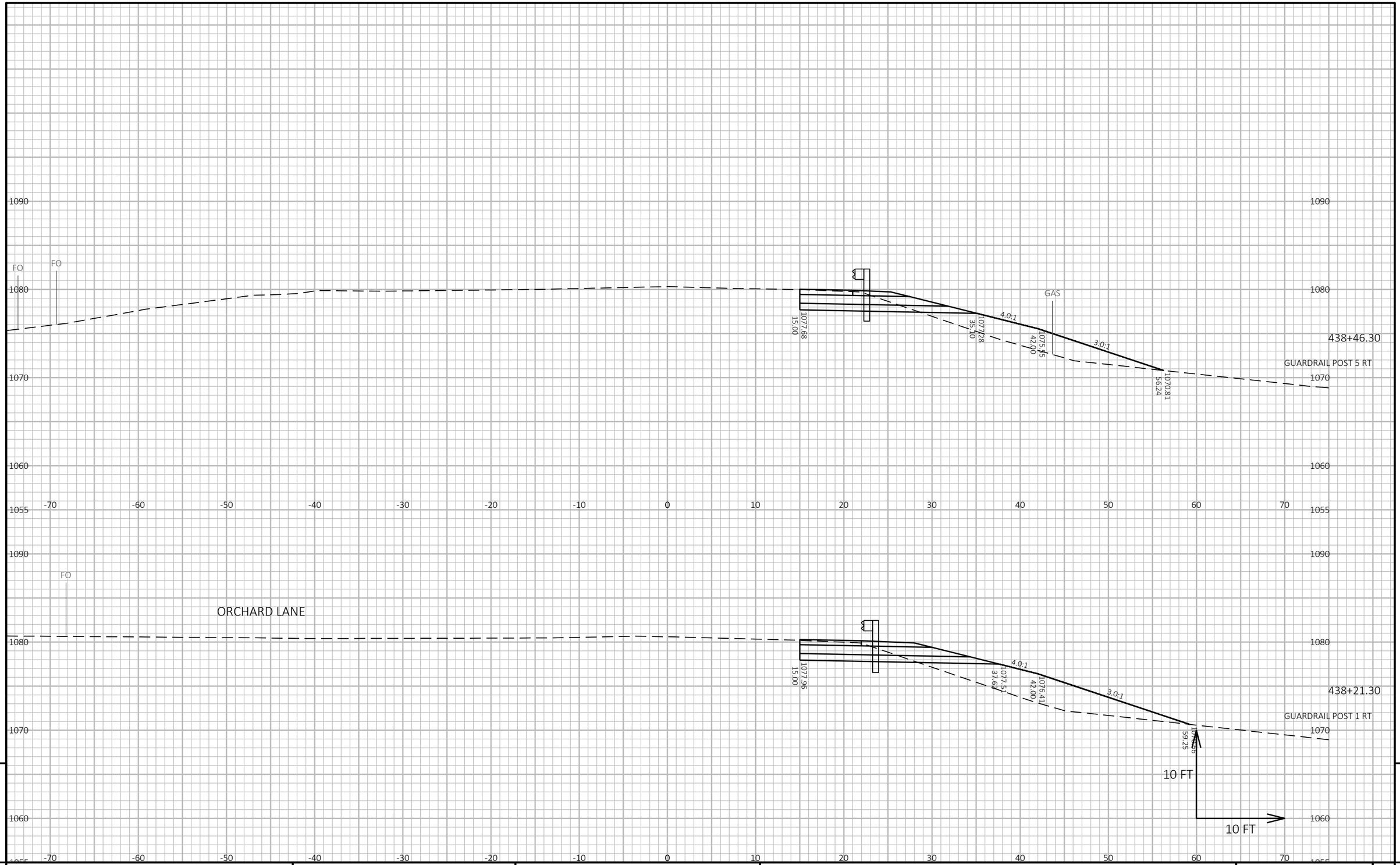
9

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	CROSS SECTIONS: CROSS SECTIONS	SHEET 78	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\DESIGN\CORRIDORS\0811_CORRIDOR_STH 70.DWG
LAYOUT NAME - 0900-1

PLOT DATE : 3/30/2021 4:03 PM PLOT BY : HEDRINGTON, MARK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



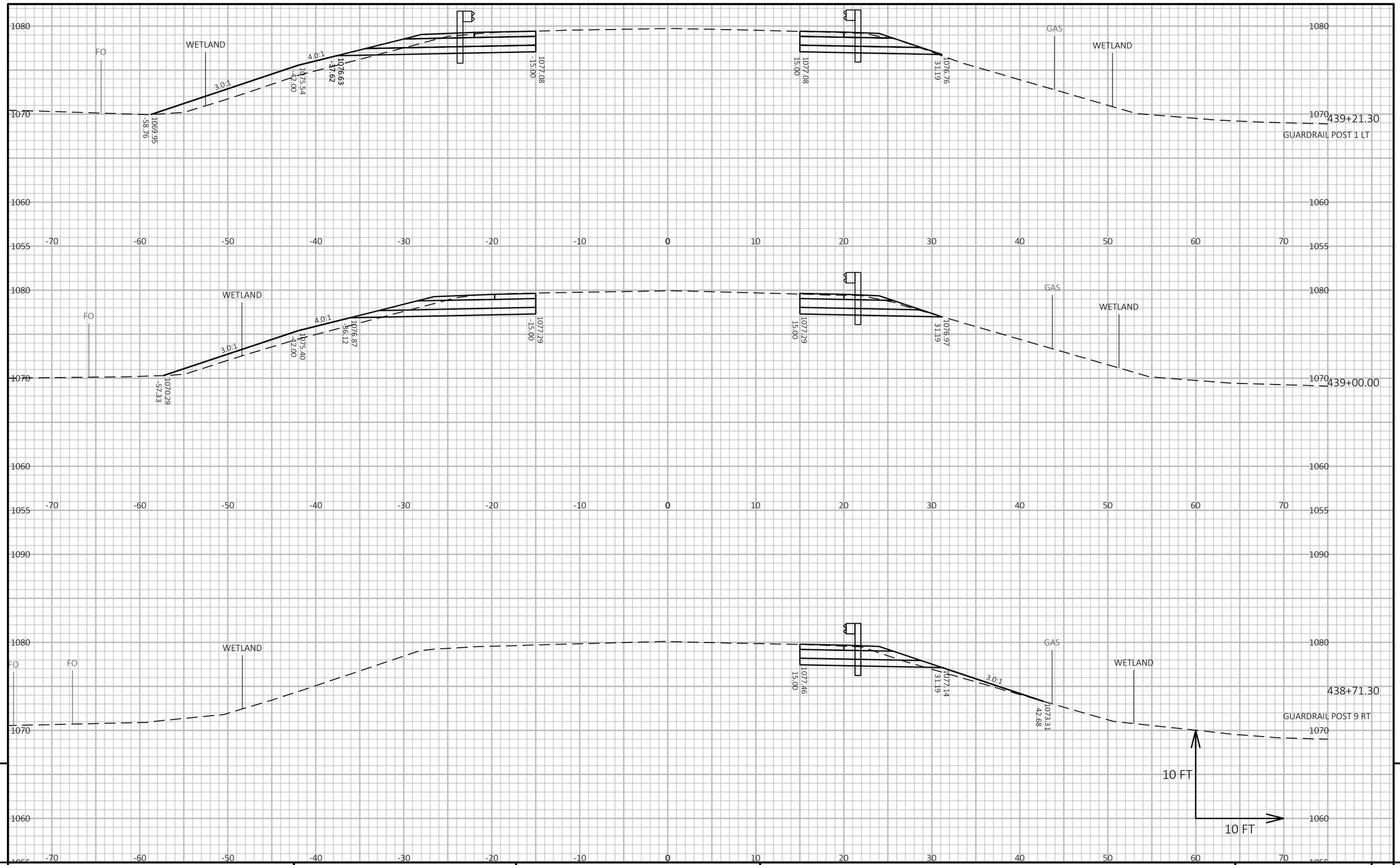
9 9

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	CROSS SECTIONS: CROSS SECTIONS	SHEET 79	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\DESIGN\CORRIDORS\0811_CORRIDOR_STH 70.DWG
LAYOUT NAME - 0900-2

PLOT DATE : 3/30/2021 4:03 PM PLOT BY : HEDRINGTON, MARK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

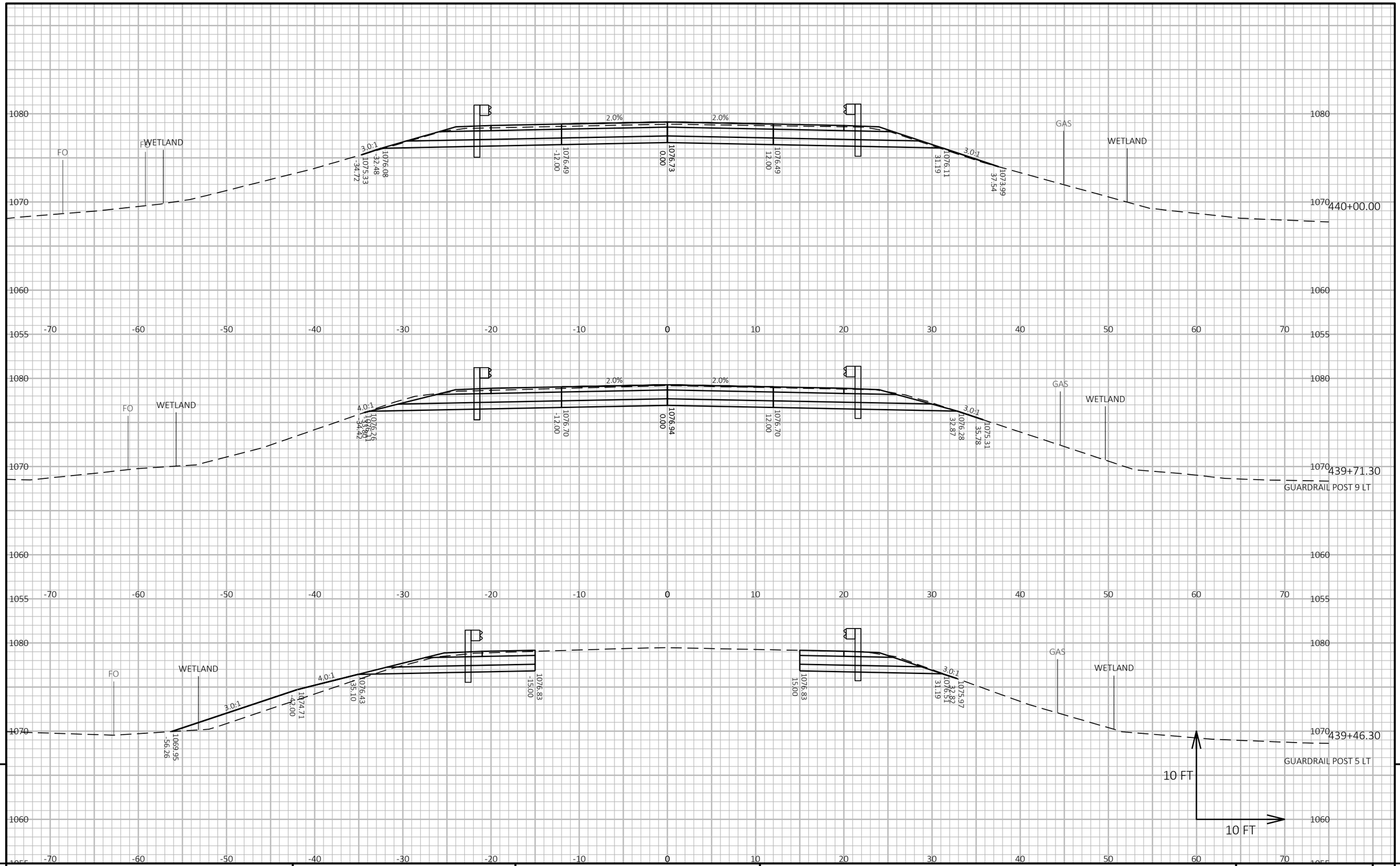
9

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	CROSS SECTIONS: CROSS SECTIONS	SHEET 80	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\DESIGN\CORRIDORS\0811_CORRIDOR_STH 70.DWG
LAYOUT NAME - 0900-3

PLOT DATE : 3/30/2021 4:03 PM PLOT BY : HEDRINGTON, MARK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



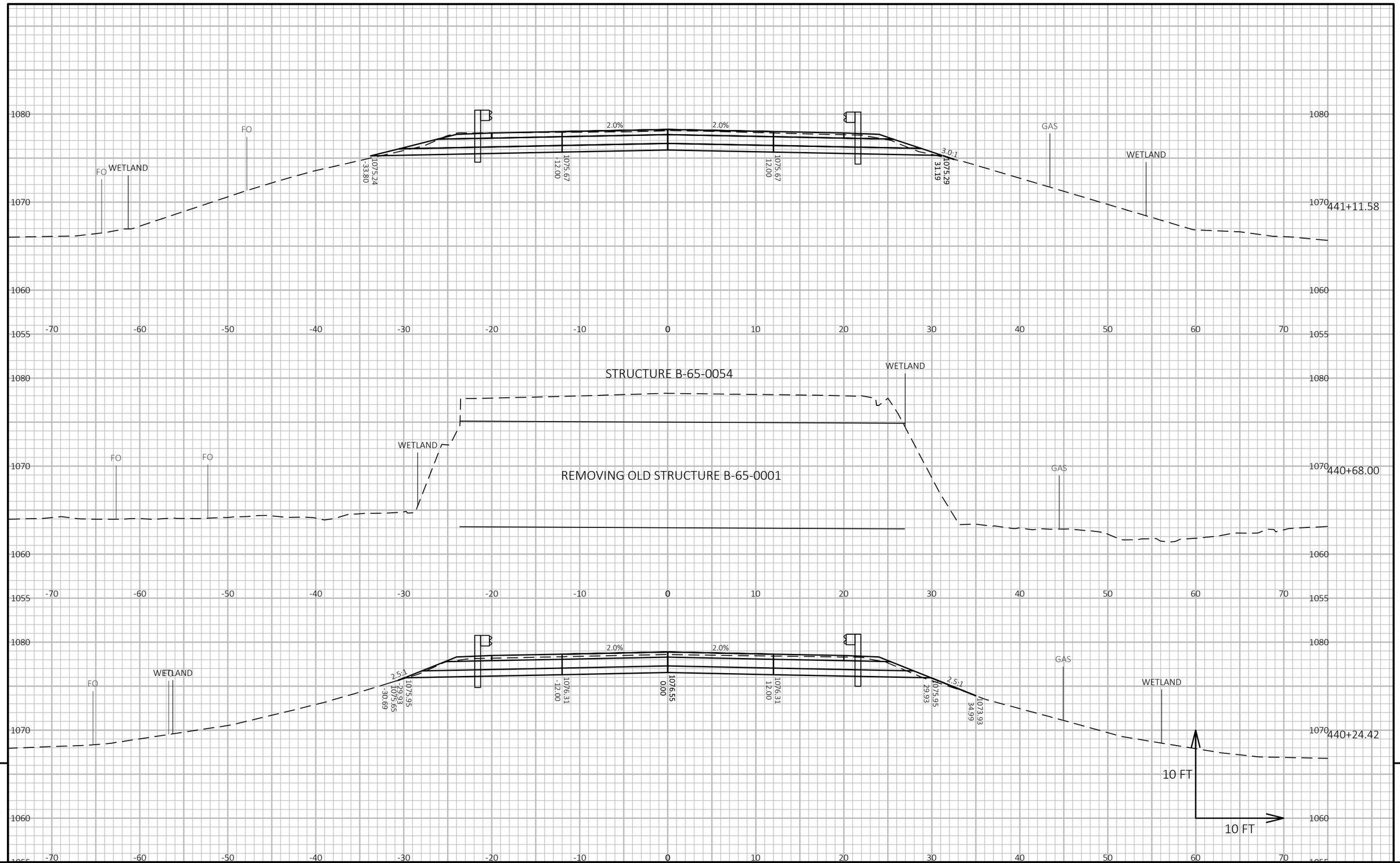
PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	CROSS SECTIONS: CROSS SECTIONS	SHEET 81	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\DESIGN\CORRIDORS\0811_CORRIDOR_STH 70.DWG
LAYOUT NAME - 0900-4

PLOT DATE : 3/30/2021 4:03 PM PLOT BY : HEDRINGTON, MARK PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

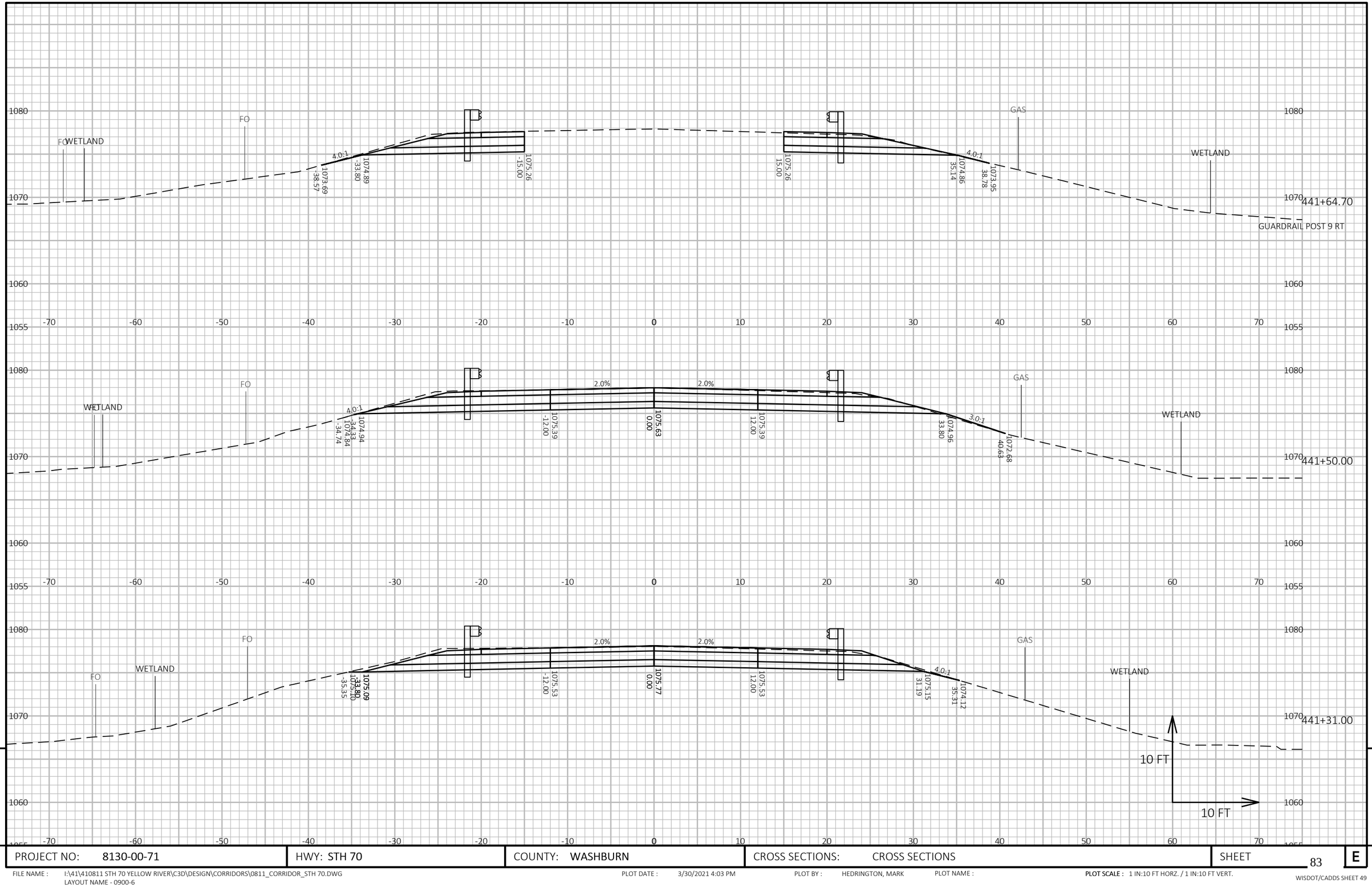


PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	CROSS SECTIONS: CROSS SECTIONS	SHEET 82	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\DESIGN\CORRIDORS\0811_CORRIDOR_STH 70.DWG
LAYOUT NAME - 0900-5

PLOT DATE : 3/30/2021 4:03 PM PLOT BY : HEDRINGTON, MARK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

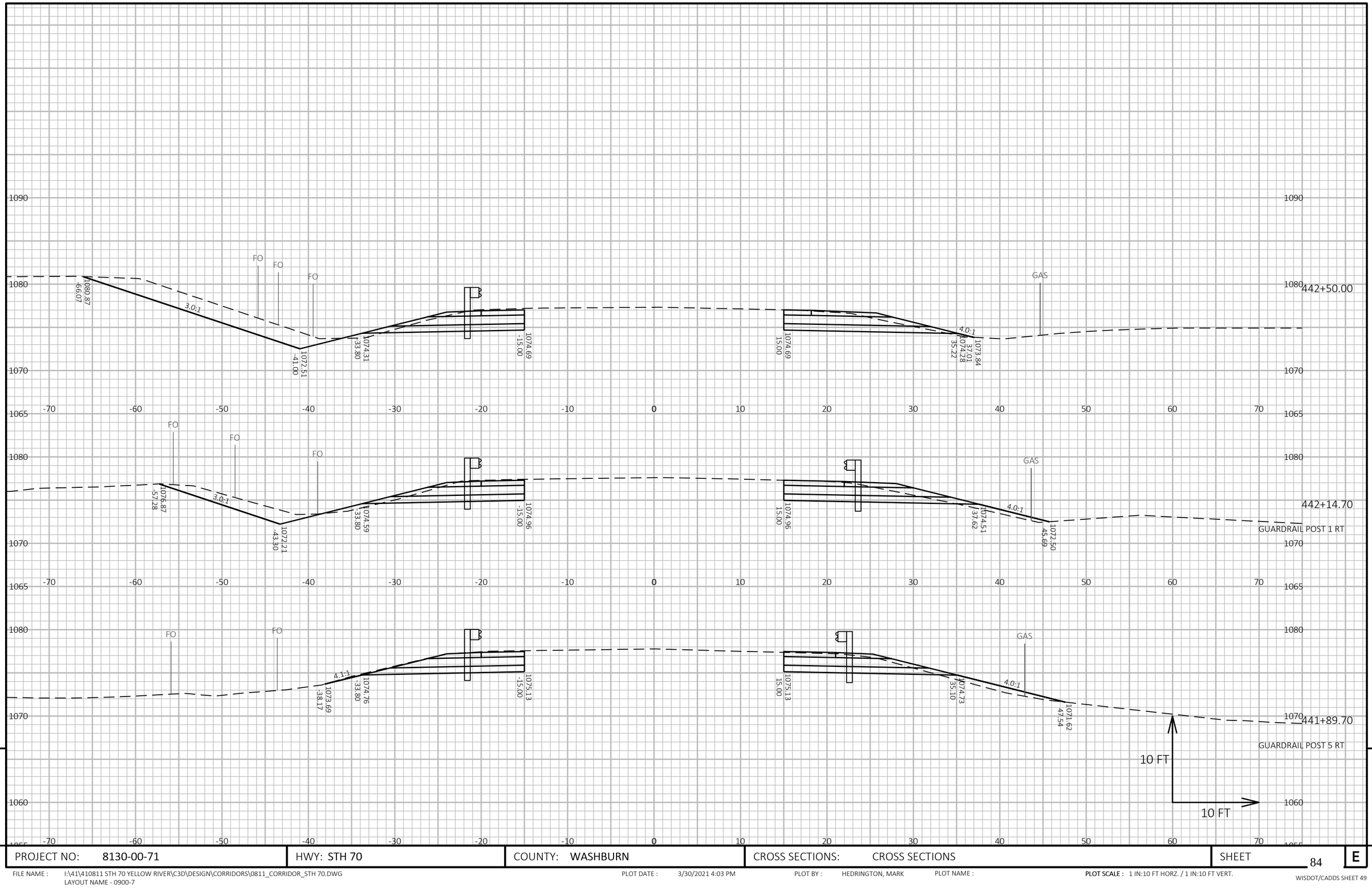
9

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	CROSS SECTIONS: CROSS SECTIONS	SHEET 83	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\DESIGN\CORRIDORS\0811_CORRIDOR_STH 70.DWG
LAYOUT NAME - 0900-6

PLOT DATE : 3/30/2021 4:03 PM PLOT BY : HEDRINGTON, MARK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

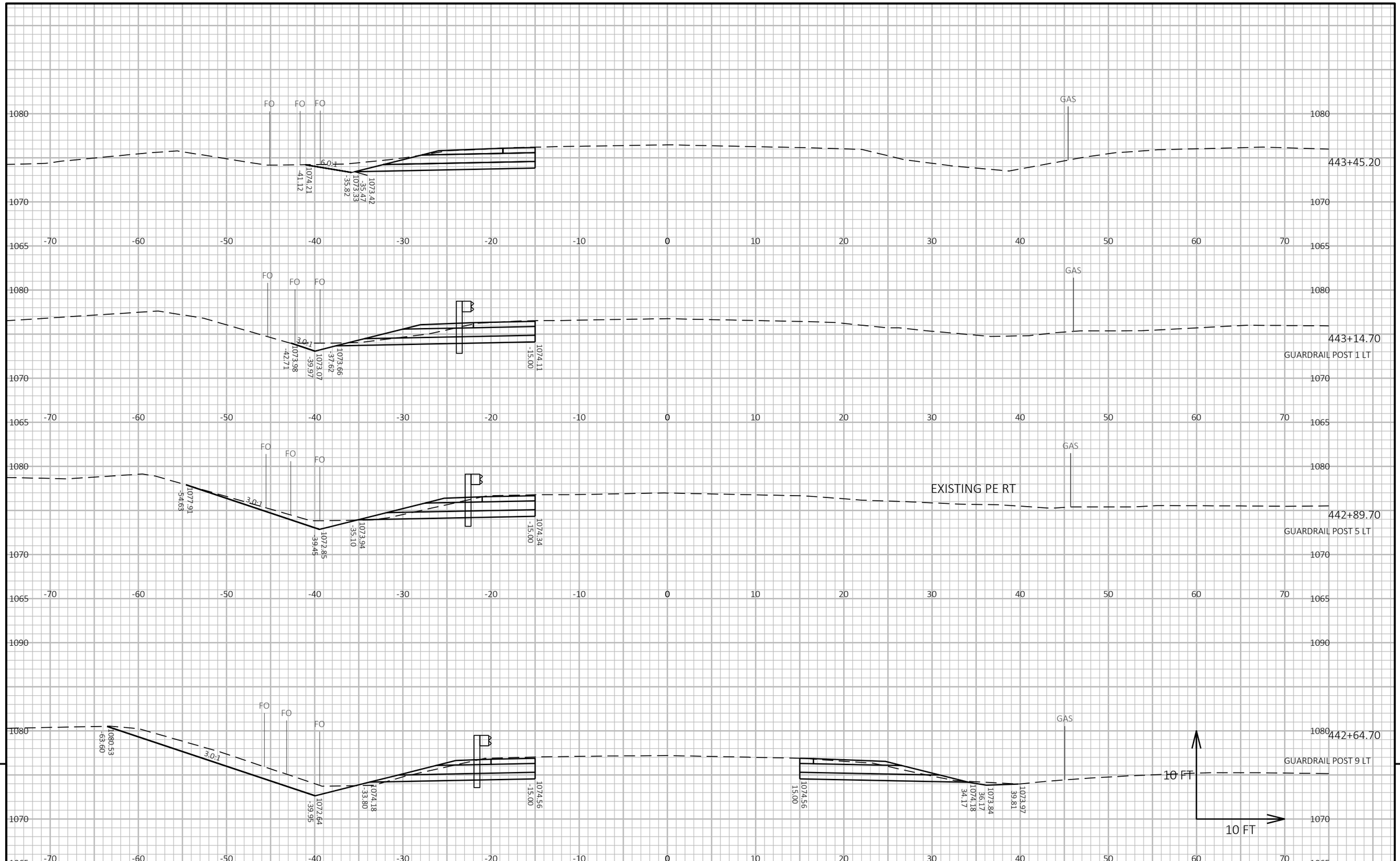
PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	CROSS SECTIONS: CROSS SECTIONS	SHEET 84	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\DESIGN\CORRIDORS\0811_CORRIDOR_STH 70.DWG
LAYOUT NAME - 0900-7

PLOT DATE : 3/30/2021 4:03 PM PLOT BY : HEDRINGTON, MARK PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8130-00-71	HWY: STH 70	COUNTY: WASHBURN	CROSS SECTIONS: CROSS SECTIONS	SHEET 85	E

FILE NAME : I:\41\410811 STH 70 YELLOW RIVER\C3D\DESIGN\CORRIDORS\0811_CORRIDOR_STH 70.DWG
LAYOUT NAME - 0900-8

PLOT DATE : 3/30/2021 4:03 PM PLOT BY : HEDRINGTON, MARK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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