SUP

PROJECT ID: 8771-00-70

WITH: N/A

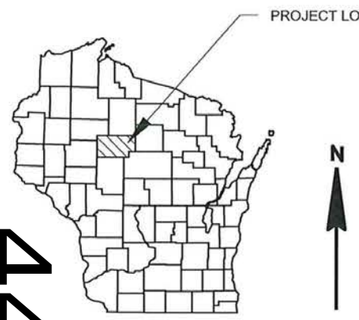
COUNTY: RUSK

DECEMBER 2021

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right-of-Way Plat~~
Section No.	5	Plan and Profile (Includes Erosion Control)
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
~~Section No.~~	~~9~~	~~Computer Earthwork Data~~
Section No.	9	Cross Sections

TOTAL SHEETS = 44



44

DESIGN DESIGNATION

A.A.D.T.	(2022)	=	340
A.A.D.T.	(2042)	=	380
D.H.V.		=	100
D.D.		=	60/40
T.		=	16.0%
DESIGN SPEED		=	30 MPH
ESALS		=	87,600

CONVENTIONAL SYMBOLS

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

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

UTILITIES
- ELECTRIC
- FIBER OPTIC
- GAS
- SANITARY SEWER
- STORM SEWER
- TELEPHONE
- WATER
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

HAWKINS - NCL

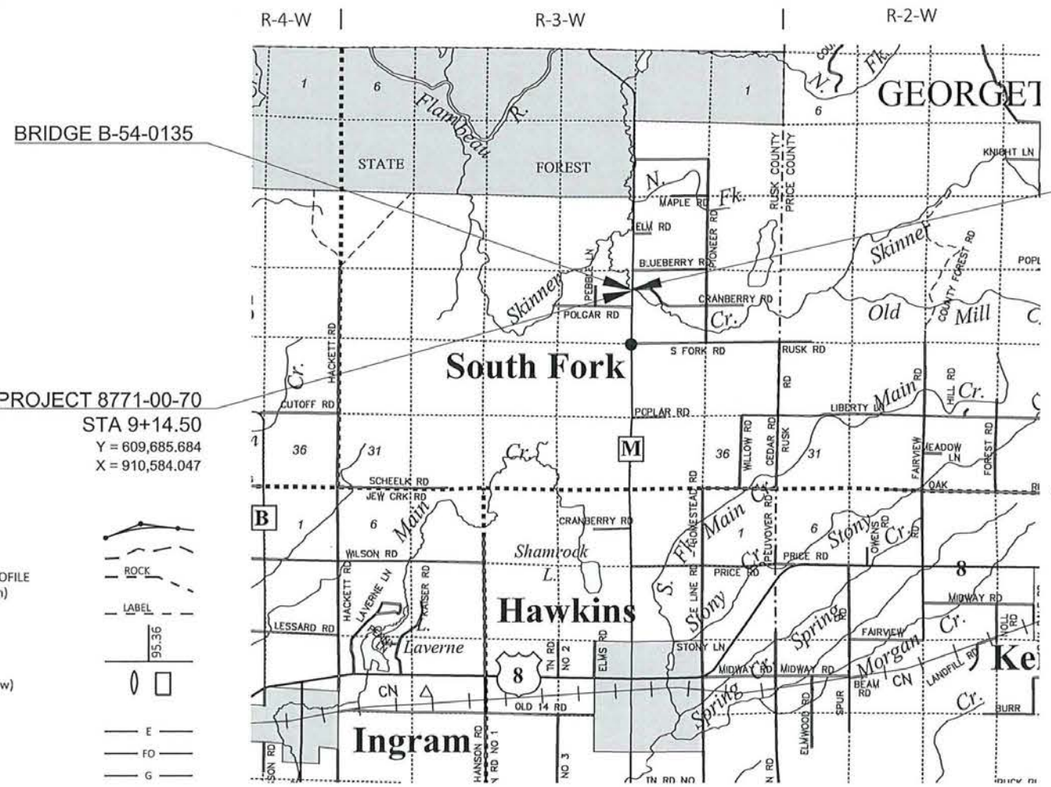
SKINNER CREEK BRIDGE B-54-0135

CTH M

RUSK COUNTY

STATE PROJECT NUMBER
8771-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8771-00-70	WISC 2022100	1



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.032 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE NAD83(2011) WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), RUSK COUNTY, U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. VERTICAL DATUM IS SITE SPECIFIC REFERENCED TO NAVD88(2012 ELLIPSOID HEIGHTS) GEOID 12B, CONTRACTOR TO USE VERTICAL CONTROL AS PROVIDED ON PLAN. FIELD WORK PERFORMED AUGUST 2019

ACCEPTED FOR

COUNTY of RUSK

7/19/21 (Date) HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

MSA

11 E Marshall Street, Rice Lake WI 54868
(715) 234-1009 www.msa-ps.com

WISCONSIN SEAN M. SPROMBERG E-37771-008 SCHOFIELD, WI PROFESSIONAL ENGINEER

7/16/2021

DATE: (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC
Designer	MSA PROFESSIONAL SERVICES, INC
Project Manager	MATTHEW VAN NATTA, PE
Regional Examiner	TOU YANG
Regional Supervisor	TYLER RONGSTAND, PE

APPROVED FOR THE DEPARTMENT

DATE: 7/21/2021 Digitally signed by Matthew Van Natta Location: NWR Superior (Signature)

E

FILE NAME : P:\6700S\6740S\6747\06747026\CADD\SHEETSPLAN\010101-TI.DWG PLOT DATE : 7/16/2021 10:26 AM PLOT BY : COURTNEY ROOYAKKERS PLOT NAME :

STANDARD ABBREVIATIONS

AC	ACRE
AGG	AGGREGATE
<	ANGLE
ASPH	ASPHALTIC
AC	ASPHALT CEMENT
ADT	AVERAGE DAILY TRAFFIC
B & B	BALLED AND BURLAPPED
BM	BENCH MARK
CB	CATCH BASIN
` OR C/L	CENTER LINE
C-C	CENTER TO CENTER
CONC	CONCRETE
CO	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CY	CUBIC YARD
CULV	CULVERT
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
C & G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA OR |	DIAMETER
DIST	DISTRICT
DWY	DRIVEWAY
E	EAST
X	EAST GRID COORDINATE
EB	EASTBOUND
ELEC	ELECTRIC
EL OR ELEV	ELEVATION
EMB	EMBANKMENT
EW	ENDWALL
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
EXP	EXPANSION
F-F	FACE TO FACE
FERT	FERTILIZER
FE	FIELD ENTRANCE
F/L	FLOW LINE
FT	FOOT
GN	GRID NORTH
HR	HANDICAP RAMP
HT	HEIGHT
CWT	HUNDREDWEIGHT
HYD	HYDRANT
IN DIA	INCH DIAMETER
INL	INLET
ID	INSIDE DIAMETER
I	INTERSECTION ANGLE
IE	INVERT ELEVATION
IP	IRON PIPE OR PIN
JCT	JUNCTION
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LCB	LONG CHORD BEARING
LS	LUMP SUM
MH	MANHOLE
N	NORTH
Y	NORTH GRID COORDINATE
OE	OUTLET ELEVATION
OL	OUT LOT
OD	OUTSIDE DIAMETER
OH	OVERHEAD LINES
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PCC	PORTLAND CEMENT CONCRETE
LB	POUND
PE	PRIVATE ENTRANCE
R OR RAD	RADIUS
RR	RAILROAD
R	RANGE
~ OR R/L	REFERENCE LINE
REQD	REQUIRED
RT	RIGHT
R / W	RIGHT-OF-WAY
RD	ROAD
SALV	SALVAGED
SAN	SANITARY SEWER
SECT	SECTION
SHLDR	SHOULDER
SW	SIDEWALK
S	SOUTH
SB	SOUTHBOUND
SPECS	SPECIFICATIONS
SQ	SQUARE
SF OR SQ FT	SQUARE FEET
SY	SQUARE YARD
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STD	STANDARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
T	TANGENT
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T	TON
TC	TOP OF CURB
TN	TOWN
TRANS	TRANSITION
T	TRUCKS (percent of)
TYP	TYPICAL
UNCL	UNCLASSIFIED
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
VERT	VERTICAL
VC	VERTICAL CURVE
VOL	VOLUME
WM	WATER MAIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
YD	YARD

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 0.26 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.09 ACRES

UTILITIES

BURIED COMMUNICATIONS

CENTURYLINK
425 ELLINGSON AVENUE
P.O. BOX 78
HAWKINS, WI 54530
ATTN: BEN BAKER
PHONE: (715) 532-0023
ben.baker@centurylink.com

OVERHEAD ELECTRIC

JUMP RIVER ELECTRIC COOPERATIVE
1102 WEST 9TH STREET NORTH
P.O. BOX 99
LADYSMITH, WI 54848
ATTN: SAM HOWARD
PHONE: (715) 532-5524
showard@jrec.com

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
146 NORTH CENTRAL AVE
MARSHFIELD, WI 54449
ATTN: SEAN SPROMBERG, PE
PHONE: (715) 304-0451
sspromberg@msa-ps.com

COUNTY CONTACT

RUSK COUNTY HIGHWAY DEPARTMENT
N4711 HIGHWAY 27
LADYSMITH, WI 54848
ATTN: SCOTT R. EMCH, COMMISSIONER
PHONE: (715) 532-2634
semch@ruskcountywi.us

DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
ATTN: LEAH NICOL
PHONE: (715) 934-9014
leah.nicol@wisconsin.gov

SECTION 2 ORDER

GENERAL NOTES
TYPICAL SECTIONS

GENERAL NOTES

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

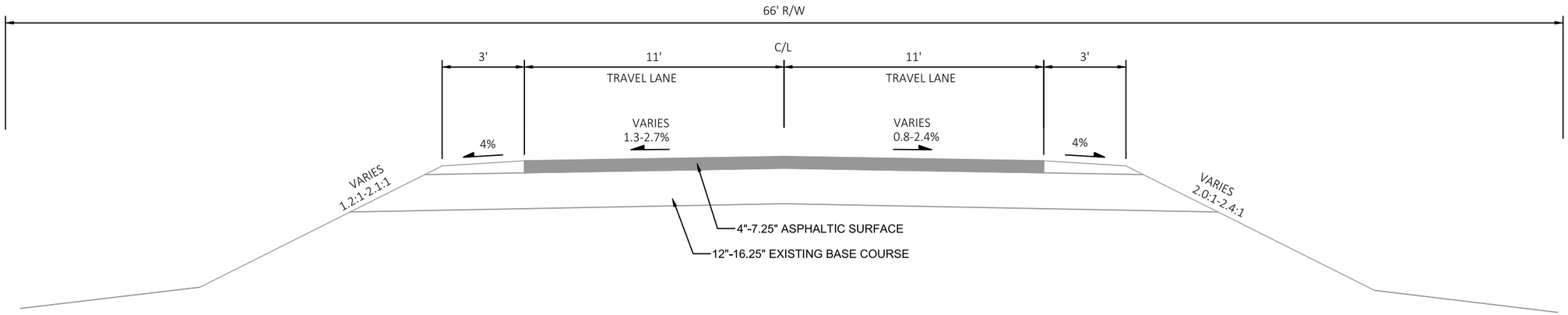
THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE 4" ASPHALTIC SURFACE SHALL CONSIST OF A $1\frac{3}{4}$" UPPER LAYER WITH NO. 4 (12.5 MM) NOMINAL SIZE AGGREGATE AND A $2\frac{1}{4}$" LOWER LAYER WITH NO. 3 (19.0 MM) NOMINAL SIZE AGGREGATE.

RIGHT OF WAY LOCATIONS ARE APPROXIMATE.

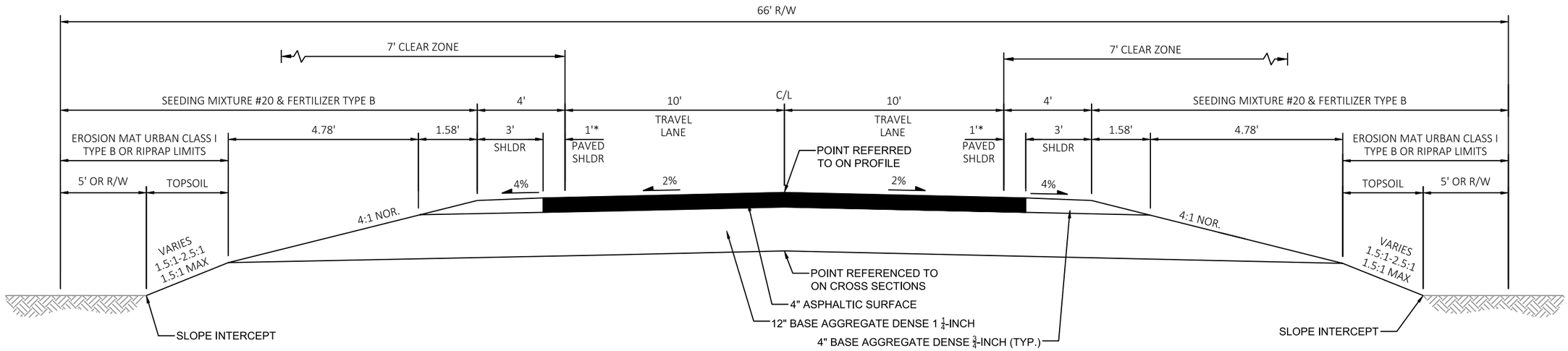
* - NOT A MEMBER OF DIGGERS HOTLINE

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



EXISTING TYPICAL SECTION

STA 9+14.5 - BRIDGE
BRIDGE - STA 10+85.5



PROPOSED TYPICAL SECTION

STA 9+14.5 - BRIDGE
BRIDGE - STA 10+85.5

* VARIES 1' TO 4'

PROJECT NO: 8771-00-70	HWY: CTH M	COUNTY: RUSK	TYPICAL SECTION	SHEET 3	E

FILE NAME : P:\6700S\6740S\6747\06747026\CADD\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020301-ts
PLOT DATE : 7/26/2021 4:31 PM PLOT BY : COURTNEY ROOYAKKERS PLOT NAME : PLOT SCALE : 1 IN:5 FT

Estimate Of Quantities

8771-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-54-0002	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	153.000	153.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-54-0135	LS	1.000	1.000
0012	210.1500	Backfill Structure Type A	TON	304.000	304.000
0014	213.0100	Finishing Roadway (project) 01. 8771-00-70	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	10.000	10.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	240.000	240.000
0020	455.0605	Tack Coat	GAL	18.000	18.000
0022	465.0105	Asphaltic Surface	TON	68.000	68.000
0024	502.0100	Concrete Masonry Bridges	CY	178.000	178.000
0026	502.3200	Protective Surface Treatment	SY	229.000	229.000
0028	502.3210	Pigmented Surface Sealer	SY	98.000	98.000
0030	503.0137	Prestressed Girder Type I 36W-Inch	LF	288.000	288.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	3,430.000	3,430.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	21,630.000	21,630.000
0036	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0038	506.4000	Steel Diaphragms (structure) 01. B-54-0135	EACH	3.000	3.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0042	550.0500	Pile Points	EACH	14.000	14.000
0044	550.2126	Piling CIP Concrete 12 3/4 X 0.375-Inch	LF	420.000	420.000
0046	606.0300	Riprap Heavy	CY	229.000	229.000
0048	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0050	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0052	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8771-00-70	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	6.000	6.000
0058	625.0100	Topsoil	SY	125.000	125.000
0060	628.1504	Silt Fence	LF	300.000	300.000
0062	628.1520	Silt Fence Maintenance	LF	300.000	300.000
0064	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0066	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0068	628.2008	Erosion Mat Urban Class I Type B	SY	125.000	125.000
0070	628.6005	Turbidity Barriers	SY	153.000	153.000
0072	628.7504	Temporary Ditch Checks	LF	30.000	30.000
0074	628.7570	Rock Bags	EACH	40.000	40.000
0076	629.0210	Fertilizer Type B	CWT	0.470	0.470
0078	630.0120	Seeding Mixture No. 20	LB	5.000	5.000
0080	630.0200	Seeding Temporary	LB	7.000	7.000
0082	630.0500	Seed Water	MGAL	6.000	6.000
0084	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0086	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0088	638.2602	Removing Signs Type II	EACH	4.000	4.000
0090	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0092	642.5001	Field Office Type B	EACH	1.000	1.000
0094	643.0420	Traffic Control Barricades Type III	DAY	2,025.000	2,025.000
0096	643.0705	Traffic Control Warning Lights Type A	DAY	3,000.000	3,000.000
0098	643.0900	Traffic Control Signs	DAY	1,500.000	1,500.000

Estimate Of Quantities

8771-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	643.5000	Traffic Control	EACH	1.000	1.000
0102	645.0111	Geotextile Type DF Schedule A	SY	62.000	62.000
0104	645.0120	Geotextile Type HR	SY	361.000	361.000
0106	650.4500	Construction Staking Subgrade	LF	100.000	100.000
0108	650.5000	Construction Staking Base	LF	100.000	100.000
0110	650.6500	Construction Staking Structure Layout (structure) 01. B-54-0135	LS	1.000	1.000
0112	650.9910	Construction Staking Supplemental Control (project) 01. 8771-00-70	LS	1.000	1.000
0114	650.9920	Construction Staking Slope Stakes	LF	100.000	100.000
0116	690.0150	Sawing Asphalt	LF	66.000	66.000
0118	715.0502	Incentive Strength Concrete Structures	DOL	1,070.000	1,070.000
0120	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0122	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

3

CLEARING AND GRUBBING

STATION	-	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+14.5	-	10+85.5	RT & LT	2	2
			TOTALS:	2	2

EARTHWORK SUMMARY

LOCATION	205.0100 EXC. COMMON CY (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL CY (2)	EXPANDED FILL CY (3)	MASS ORDINATE +/- CY (4)
STA 9+14.5 - STA. 9+63.25	80	16	41	39
STA 10+36.75 - STA 10+85	73	16	12	61
TOTALS:	153		53	100

(1) - IT IS ASSUMED CUT MATERIAL IS AVAILABLE FOR BACKFILL
(2) - EXISTING ASPHALT IS ASSUMED TO BE UNUSABLE MATERIAL.
(3) - FILL EXPANSION 30%
(4) - THE MASS ORDINATE + OR - QUANTITY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THAT DIVISION. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

BASE AGGREGATE

STATION	-	STATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
9+28	-	9+74	5	120	3
10+26	-	10+72	5	120	3
		TOTALS:	10	240	6

TACK COAT & ASPHALTIC SURFACE

STATION	-	STATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
9+14.50	-	9+64.50	9	33
10+35.50	-	10+85.50	9	35
		TOTALS:	18	68

RIPRAP & GEOTEXTILE

STATION	-	STATION	LOCATION	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE TYPE HR SY
10+50	-	10+84	LT	30	63
			TOTALS:	30	63

SILT FENCE

STATION	-	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
9+14.5	-	9+85	LT	72	72
9+14.5	-	9+78	RT	68	68
10+25	-	10+75	LT	55	55
10+25	-	10+75	RT	55	55
UNDISTRIBUTED			-	50	50
			TOTALS:	300	300

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
9+85	LT & RT	64
10+21	LT & RT	69
Undistributed	-	20
	TOTAL:	153

EROSION CONTROL

STATION	-	STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7570 ROCK BAGS EA	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0120 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
9+14.5	-	9+49.25	RT	55	55	10	10	0.05	1	2	2
9+14.5	-	9+49.25	LT	40	40	10	10	0.05	1	2	2
10+50.75	-	10+68	RT	20	20	10	10	0.02	1	1	1
10+50.75		10+85.50	LT	-	-	-	10	-	-	-	-
UNDISTRIBUTED				10	10	-	-	0.35	2	2	1
		TOTALS:		125	125	30	40	0.47	5	7	6

SIGNING

STATION	LOCATION	SIGN CODE	SIZE	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 WOOD POSTS EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
9+64.5	LT	W5-52L	12"x36"	3	1	-	-	OBJECT MARKER
9+70	RT	-	-	-	-	1	1	EXISTING OBJECT MARKER
9+64.5	RT	W5-52R	12"x36"	3	1	-	-	OBJECT MARKER
9+70	LT	-	-	-	-	1	1	EXISTING OBJECT MARKER
10+35.5	LT	W5-52R	12"x36"	3	1	-	-	OBJECT MARKER
10+30.5	RT	-	-	-	-	1	1	EXISTING OBJECT MARKER
10+35.5	RT	W5-52L	12"x36"	3	1	-	-	OBJECT MARKER
10+30.5	LT	-	-	-	-	1	1	EXISTING OBJECT MARKER
		TOTALS:		12	4	4	4	

SAWING ASPHALT

STATION	690.0150 SAWING ASPHALT LF
9+14.5	22
10+85.5	44
TOTAL:	66

TRAFFIC CONTROL ITEMS

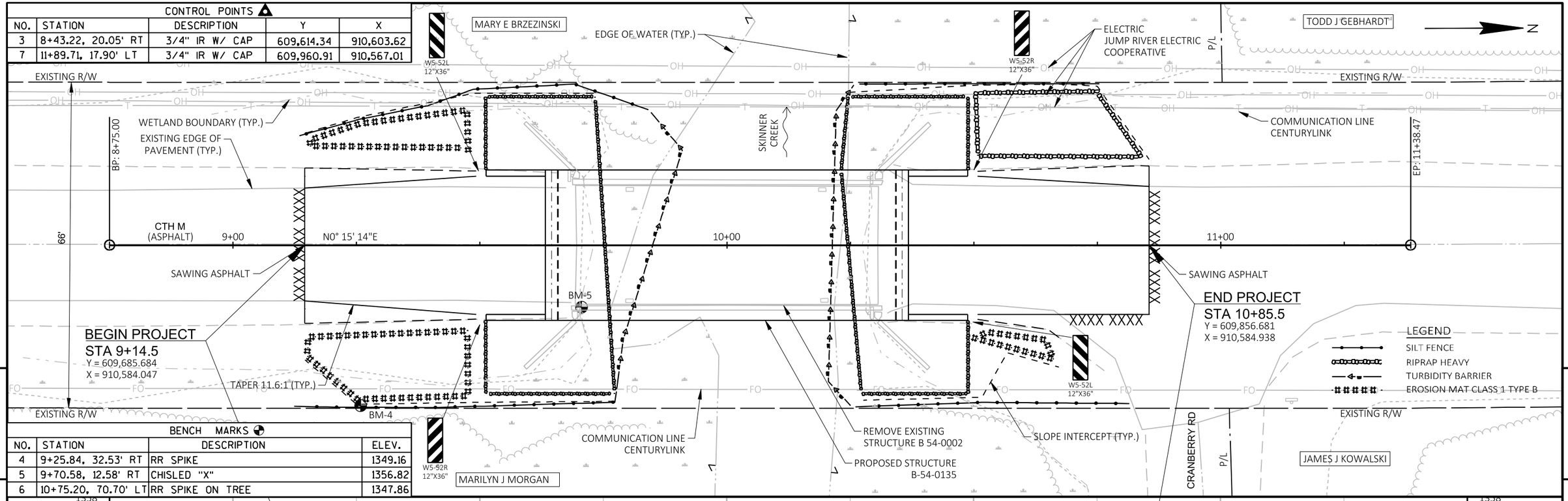
LOCATION	DAYS	TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAYS
POLGAR RD	75	2	150	4	300	5	375
BEGINNING OF PROJECT	75	7	525	10	750	2	150
END OF PROJECT	75	7	525	10	750	2	150
CRANBERRY RD	75	7	525	10	750	4	300
BLUEBERRY RD	75	2	150	4	300	5	375
UNDISTRUBUTED	75	2	150	2	150	2	150
TOTALS:			2,025		3,000		1,500

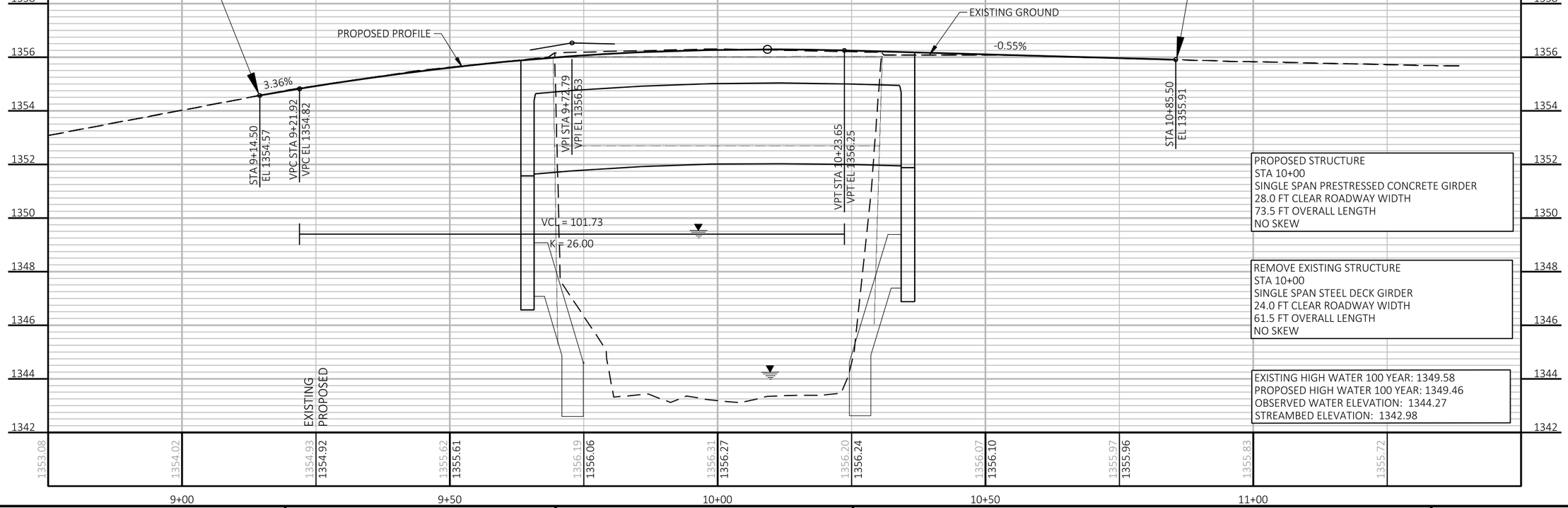
CONSTRUCTION STAKING

STATION	-	STATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9920 SLOPE STAKES LF
9+14.5	-	9+64.5	50	50	50
10+35.5	-	10+85.5	50	50	50
		TOTALS:	100	100	100

CONTROL POINTS				
NO.	STATION	DESCRIPTION	Y	X
3	8+43.22, 20.05' RT	3/4" IR W/ CAP	609,614.34	910,603.62
7	11+89.71, 17.90' LT	3/4" IR W/ CAP	609,960.91	910,567.01

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
4	9+25.84, 32.53' RT	RR SPIKE	1349.16
5	9+70.58, 12.58' RT	CHISLED "X"	1356.82
6	10+75.20, 70.70' LT	RR SPIKE ON TREE	1347.86



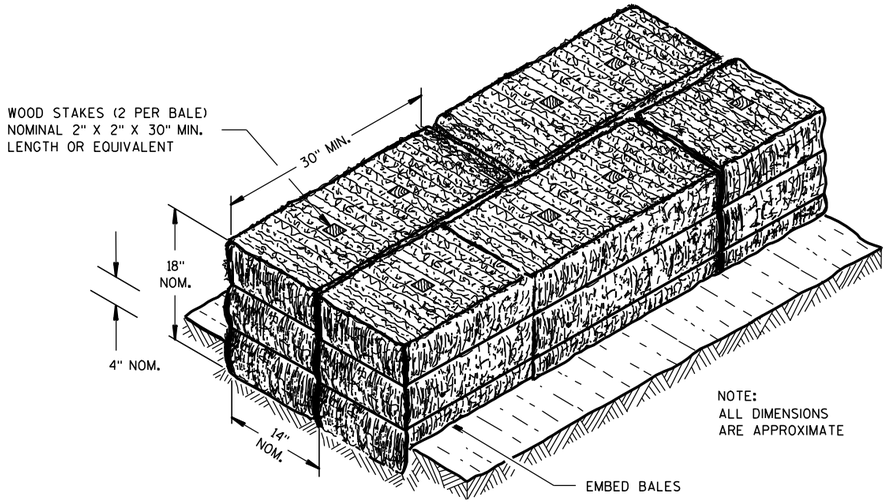


PROJECT NO: 8771-00-70	HWY: CTH M	COUNTY: RUSK	PLAN AND PROFILE: CTH M	SHEET 8	E

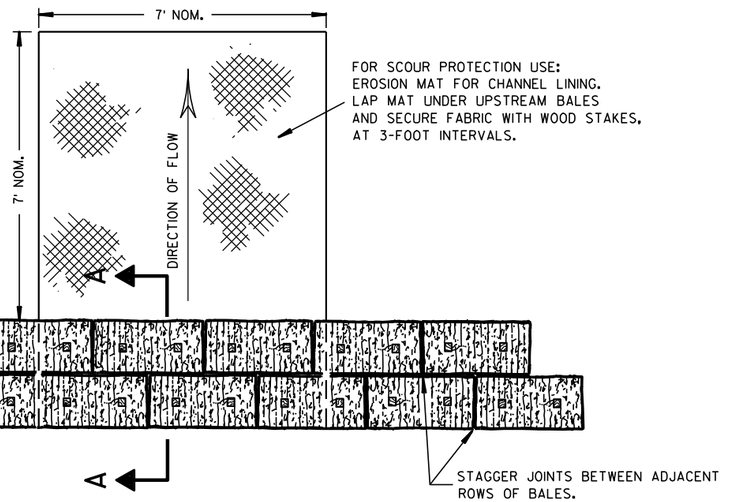
FILE NAME : P:\6700S\6740S\6747\06747026\CADD\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-pp
PLOT DATE : 7/26/2021 3:35 PM
PLOT BY : COURTNEY ROOYAKKERS
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

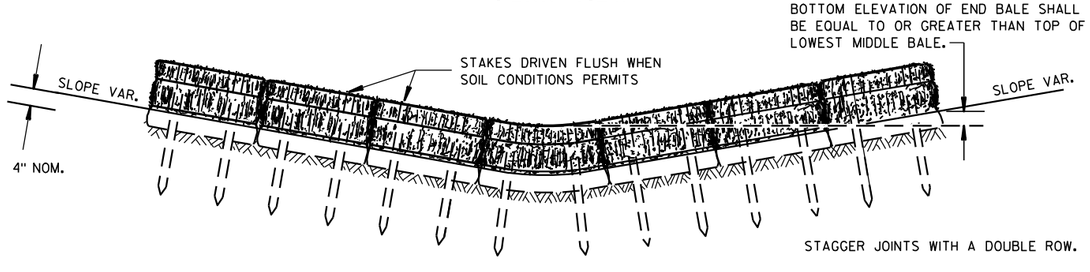
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



SECTION A-A



PLAN VIEW



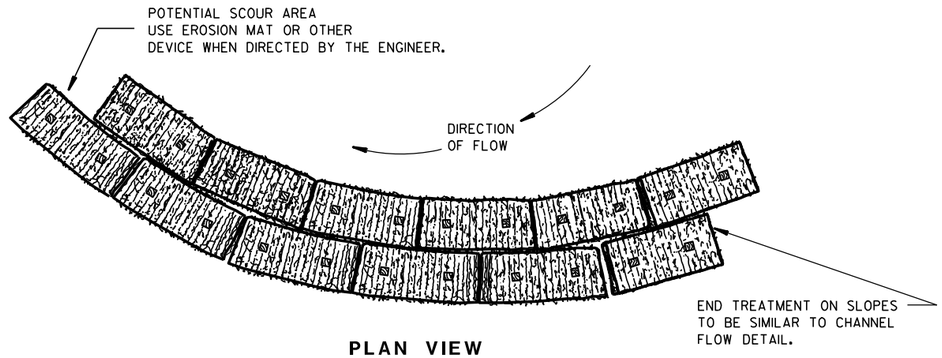
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

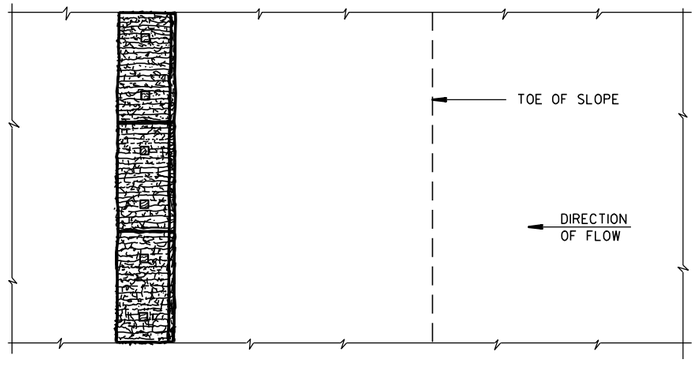
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

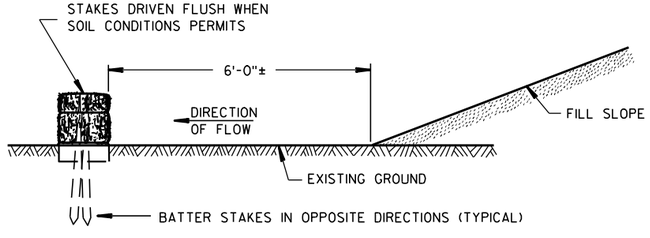


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

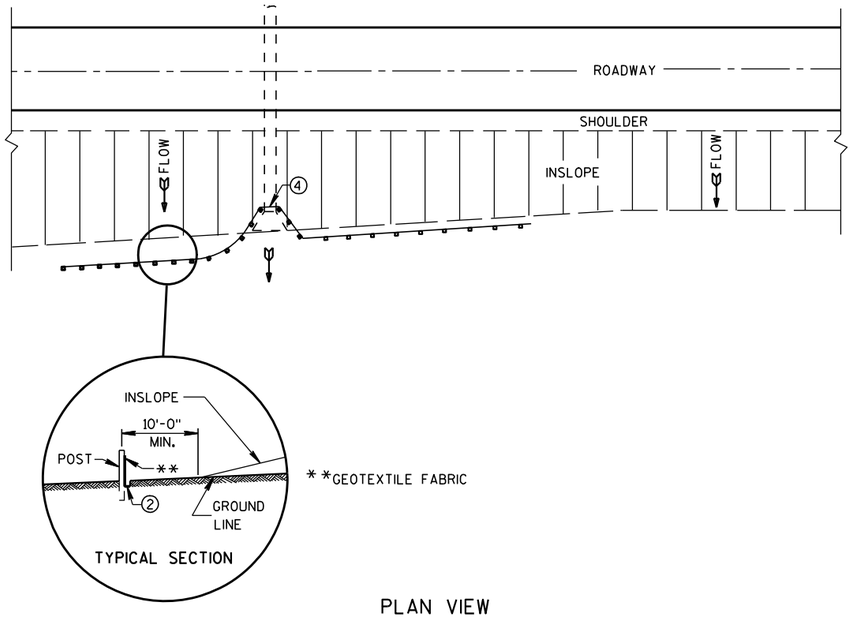
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

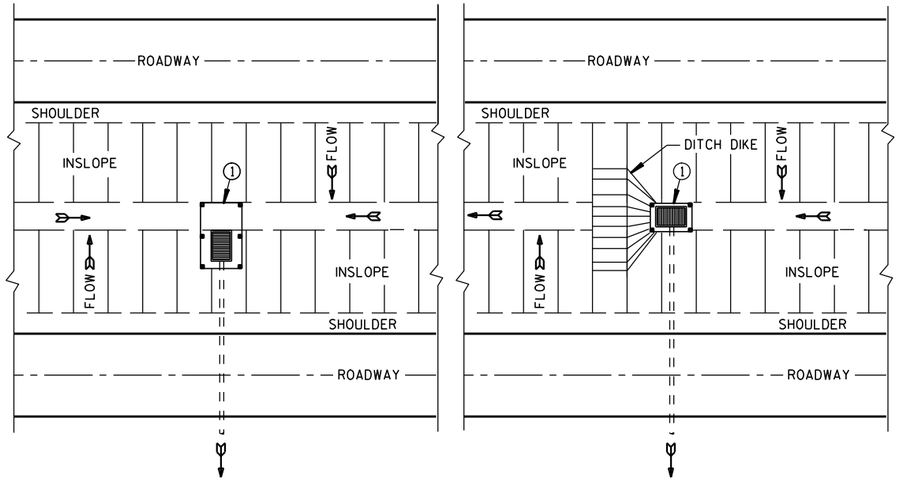
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



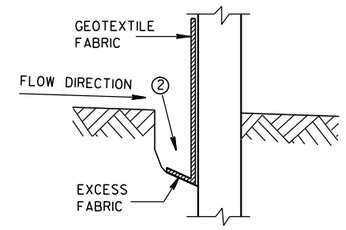
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

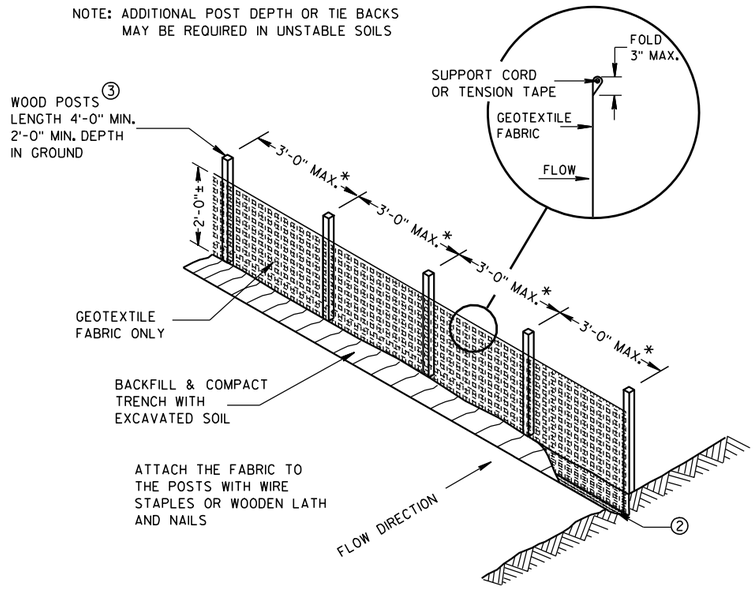
GENERAL NOTES

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

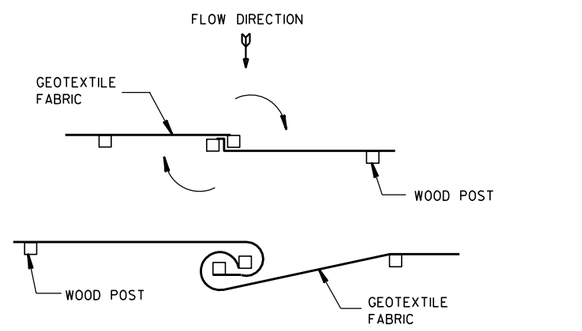
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



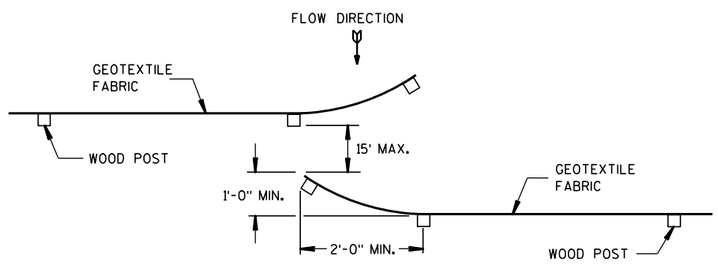
TRENCH DETAIL



SILT FENCE

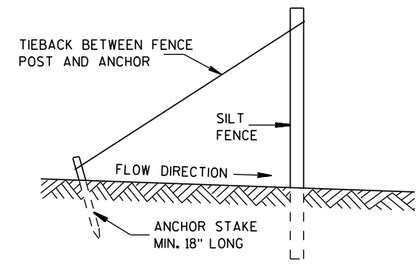


TWIST METHOD



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

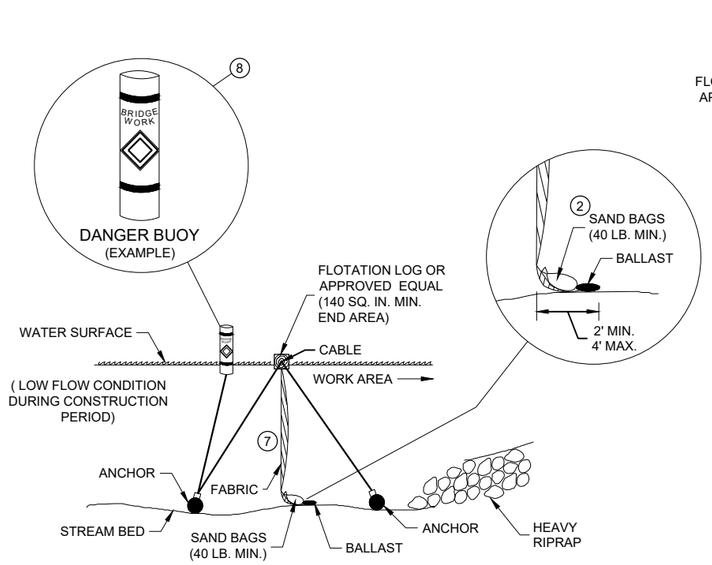
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

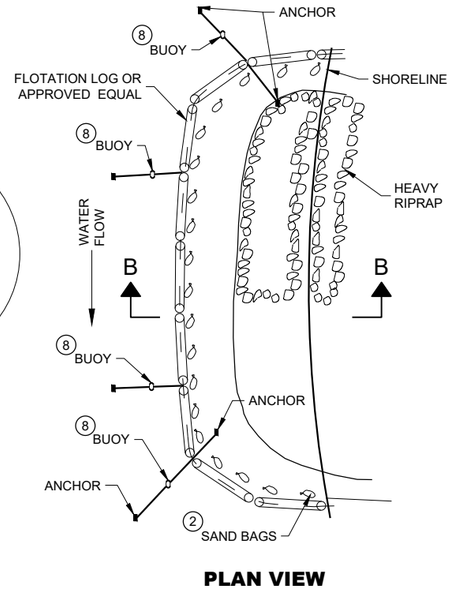
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

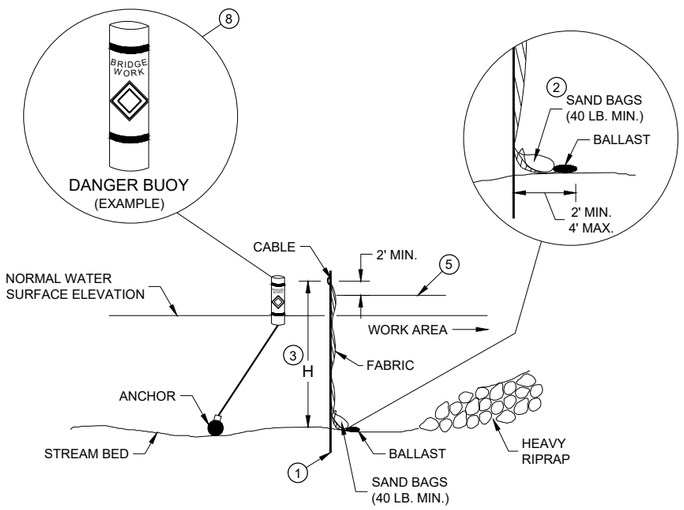


SECTION B - B

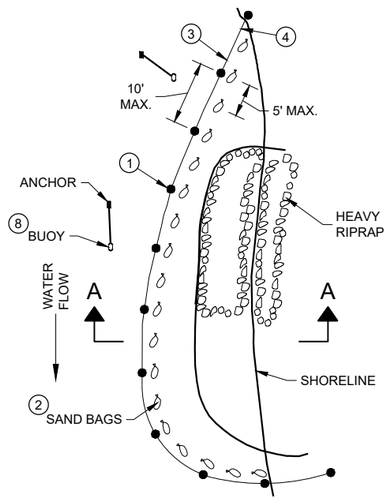


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

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.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

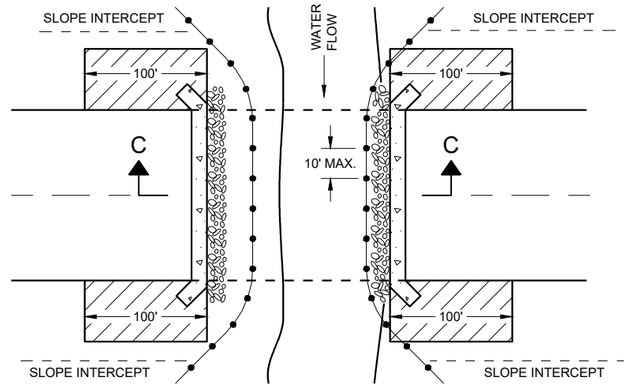
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

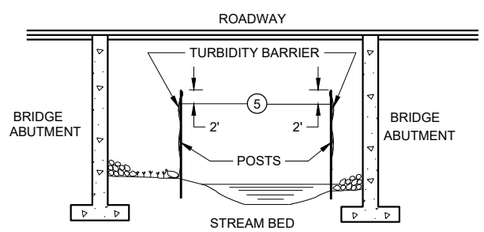
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

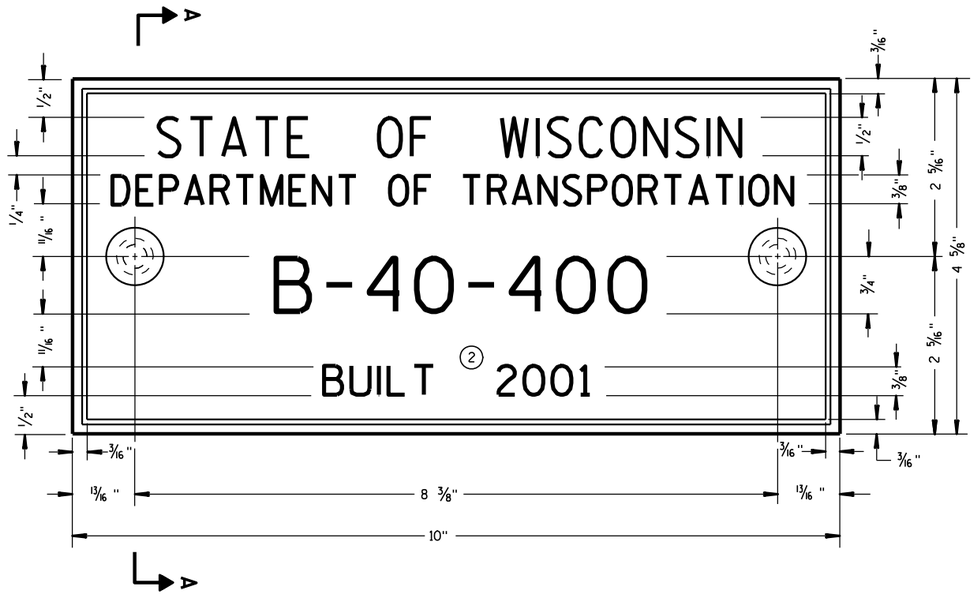
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOI
ENGINEER

FHWA

6
SDD 08E11 - 02



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

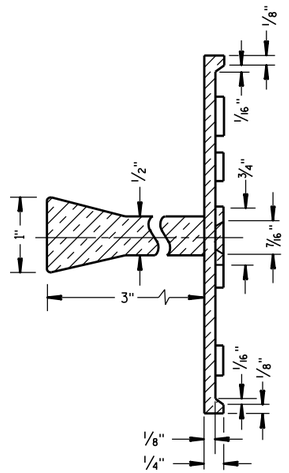
GENERAL NOTES

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.

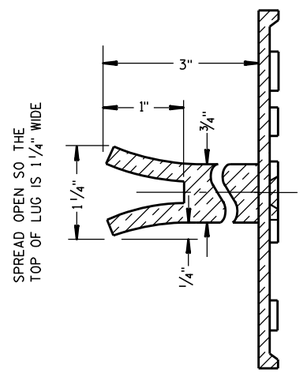
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

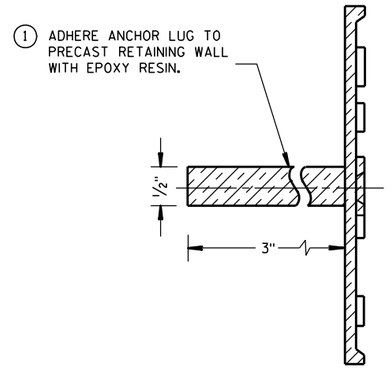
COUNTY NO.

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 DEVELOP ENGINEER

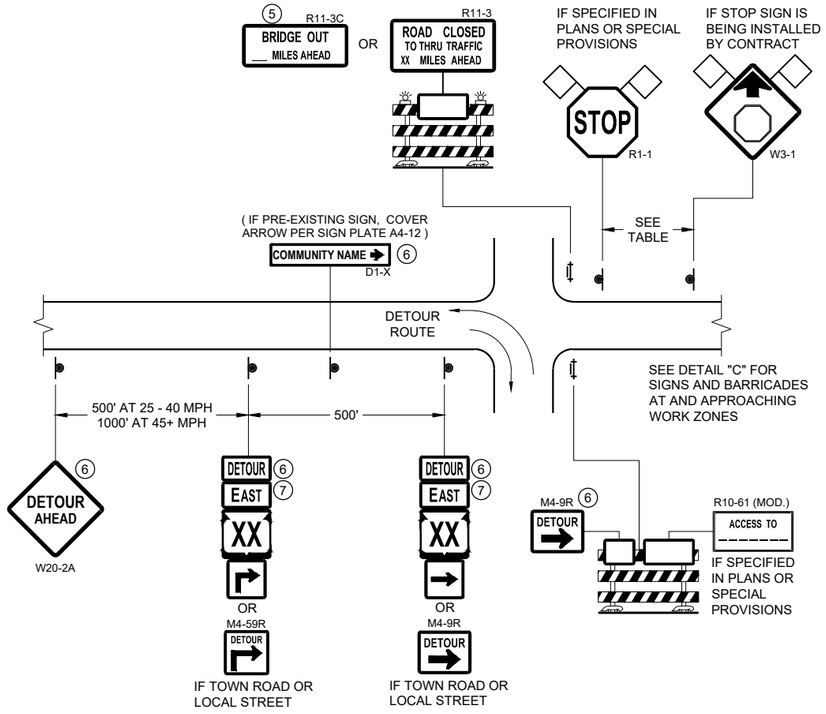
FHWA

6

S.D.D. 12 A 3-10

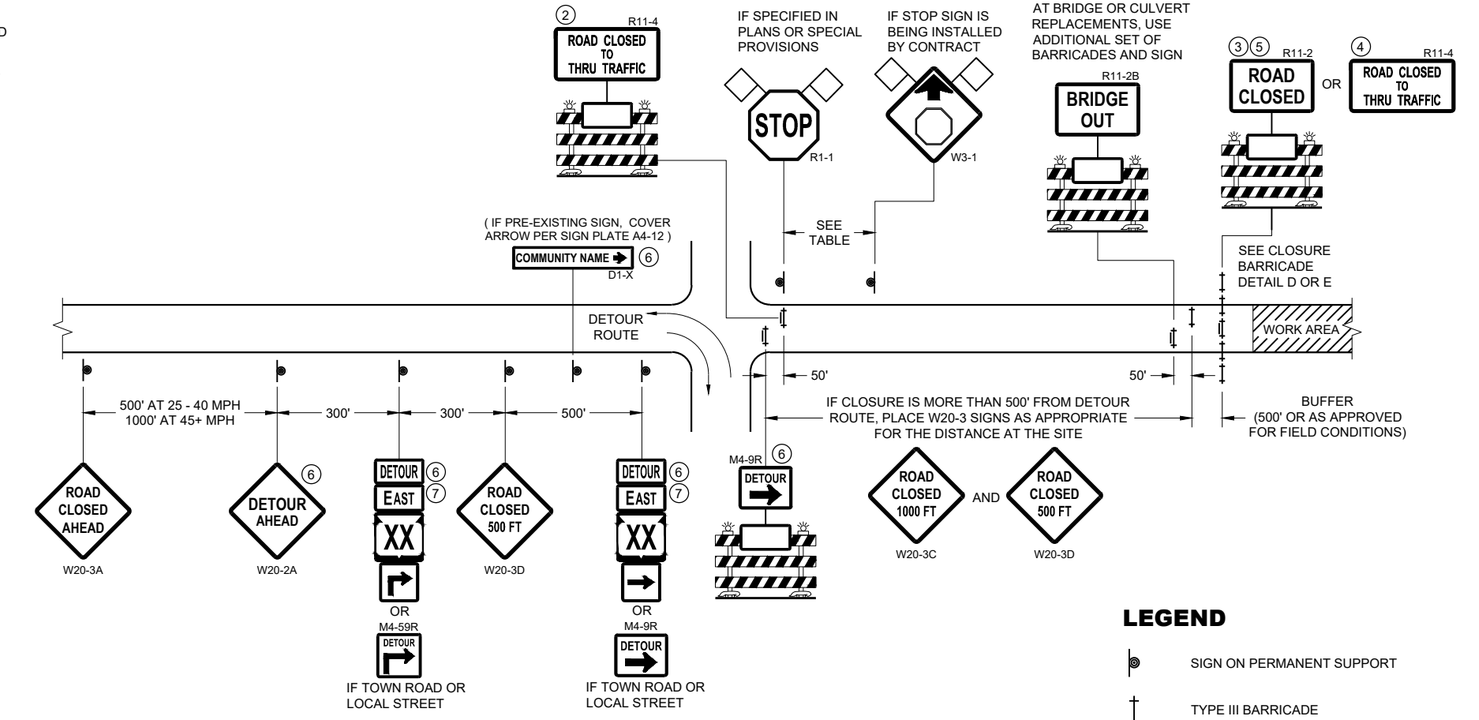
6

S.D.D. 12 A 3-10



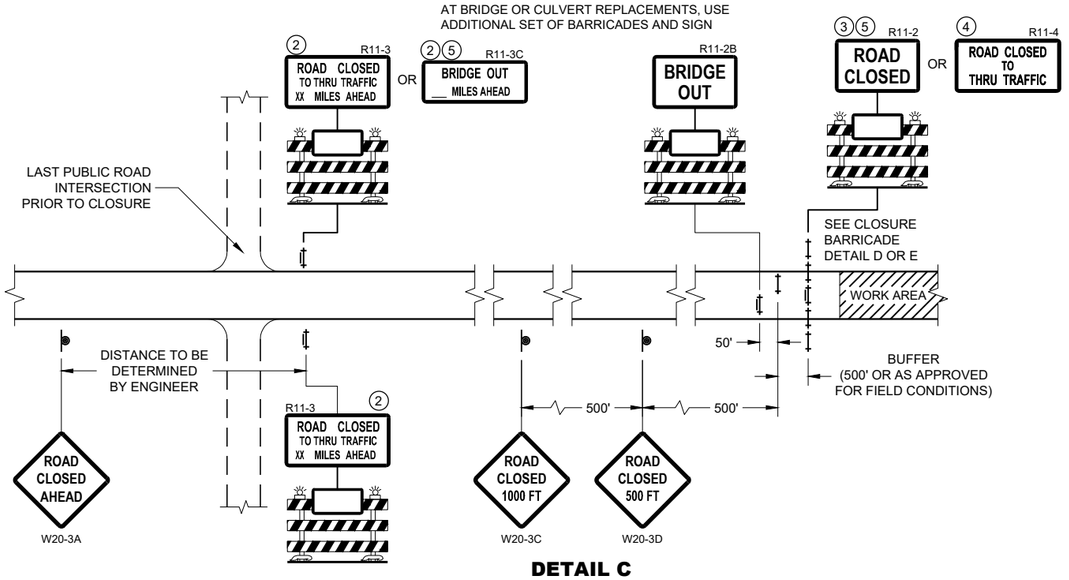
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

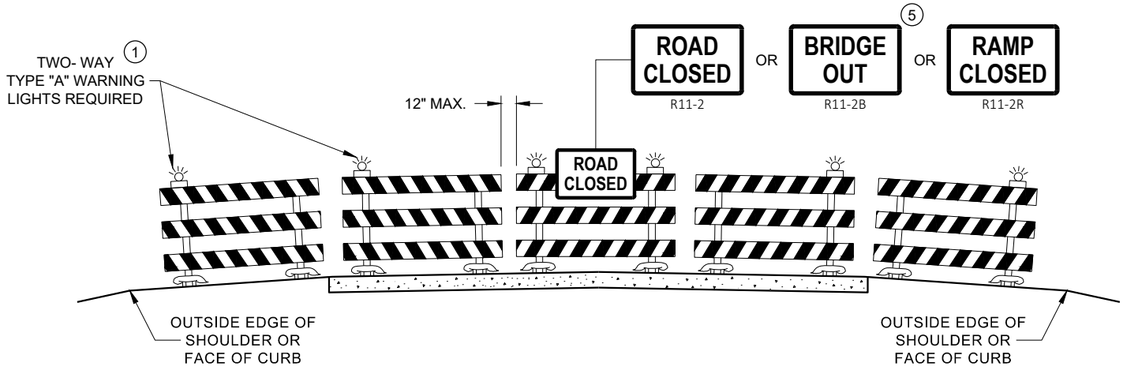
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

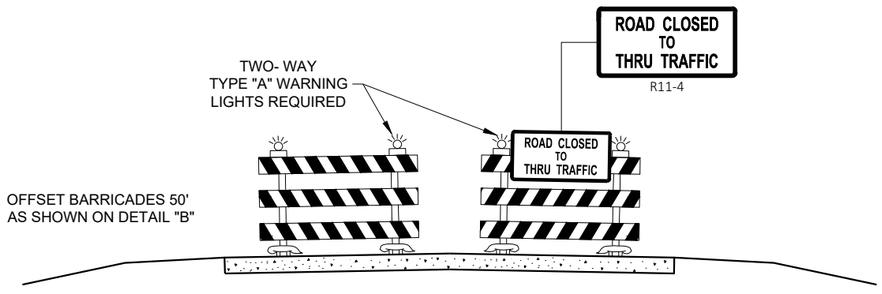
6

SDD 15C02 - 08a

SDD 15C02 - 08a



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.

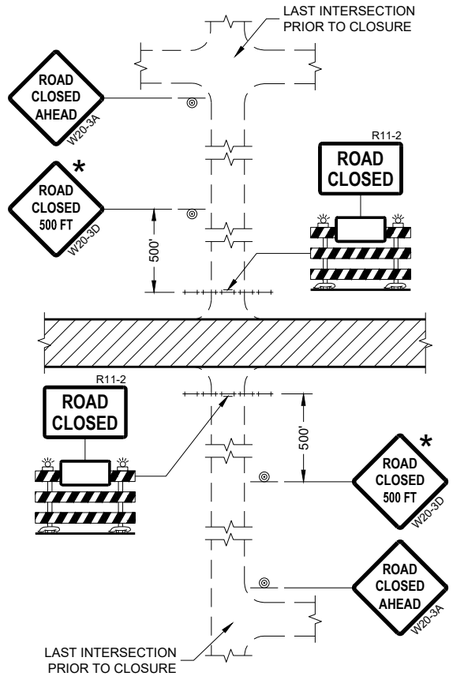
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

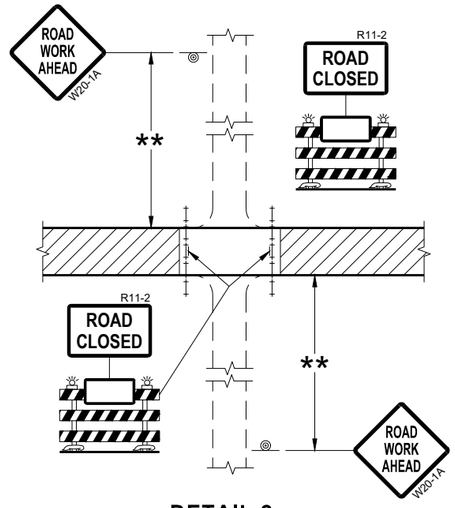
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

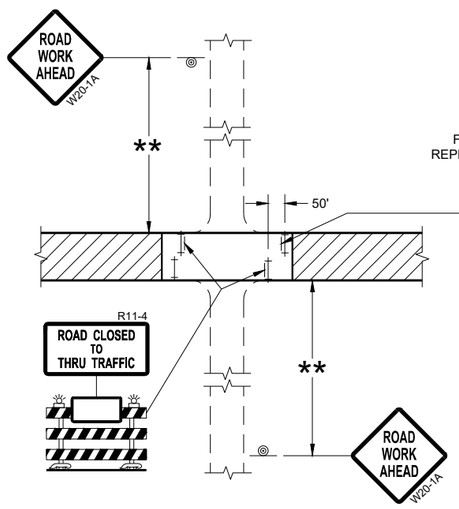
SDD 15C02 - 08b



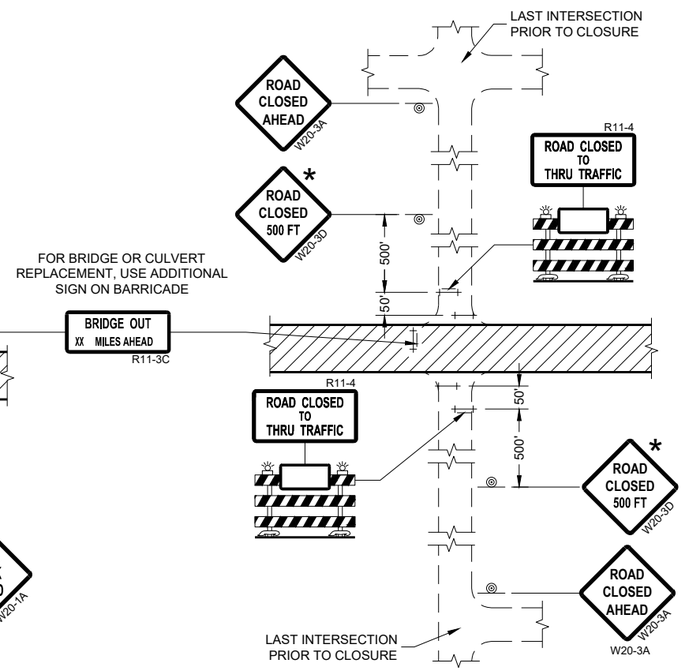
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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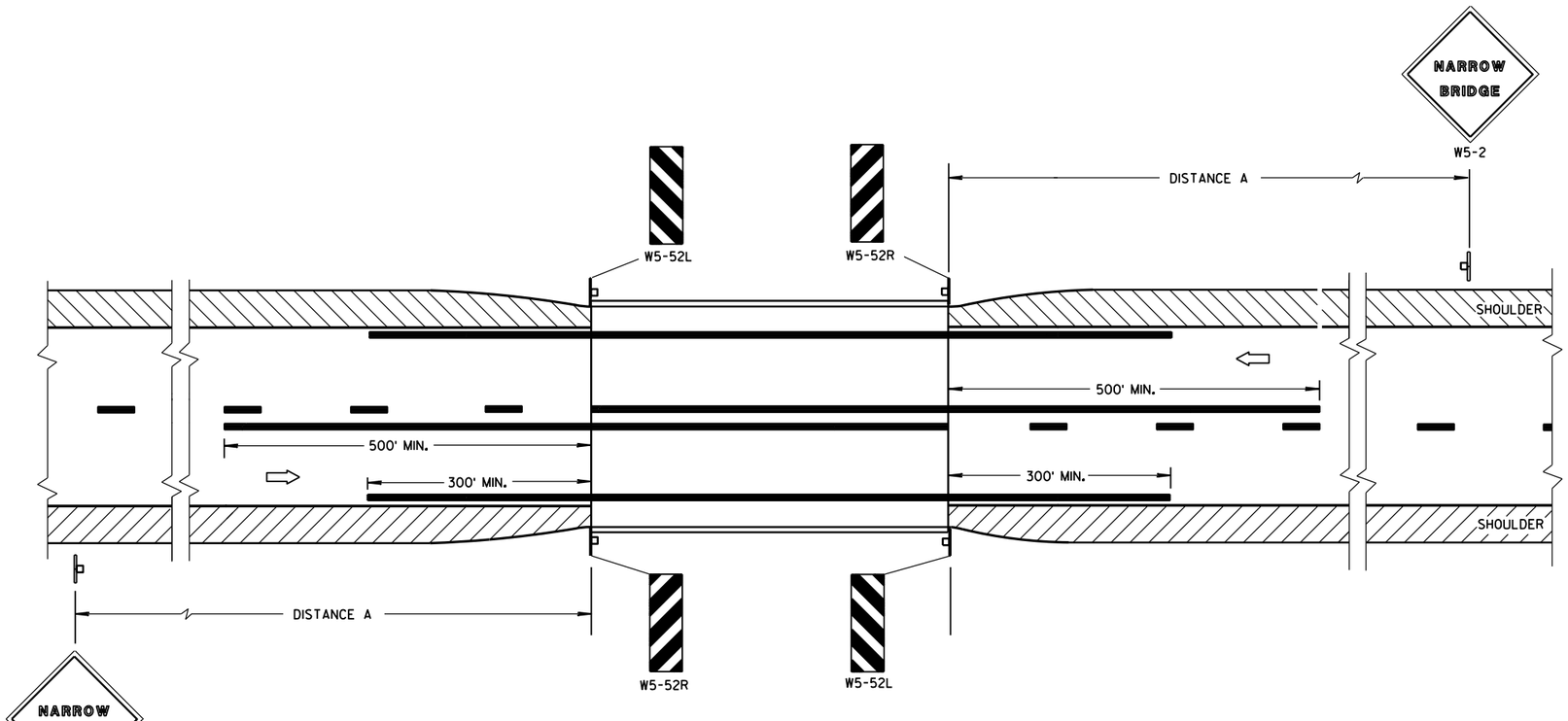
SDD 15C03 - 05



SITUATION 1

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

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

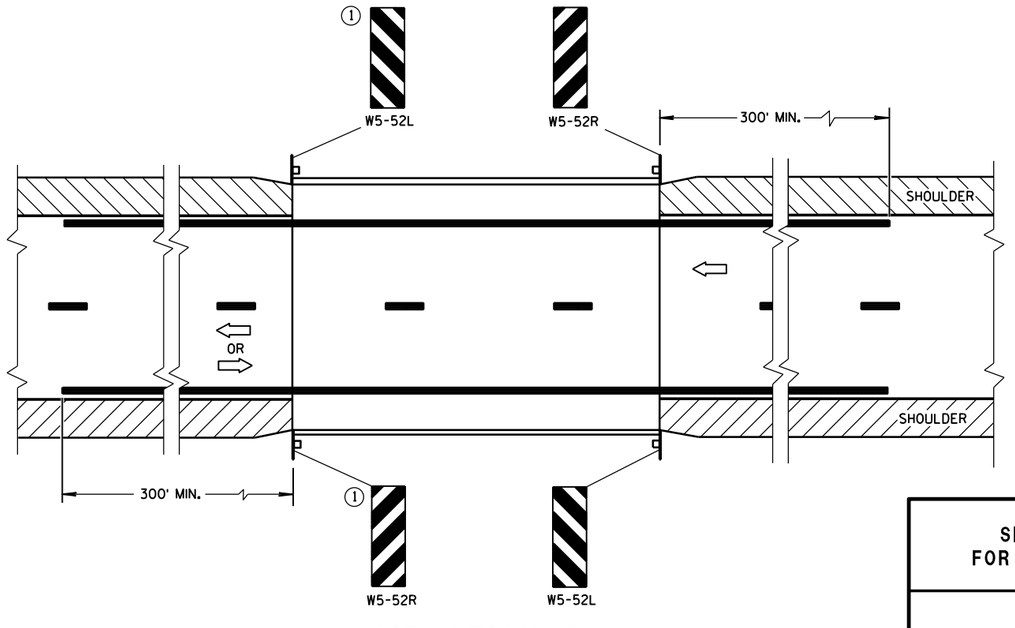
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]EER
FHWA

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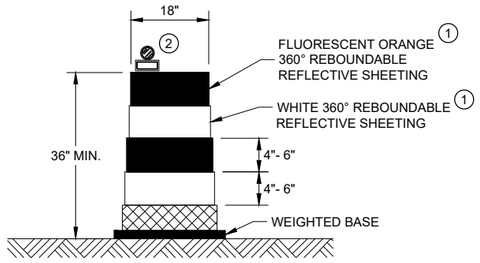
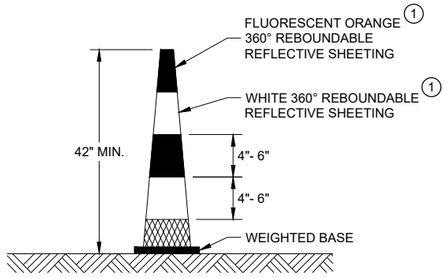
S.D.D. 15 C 6-9

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.

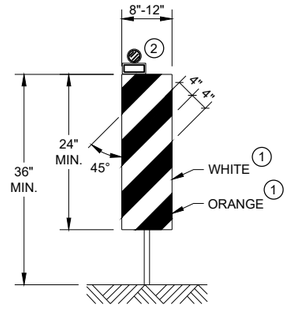


DRUM



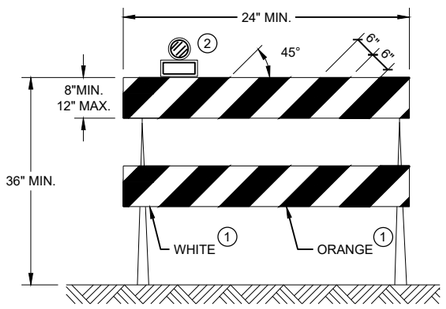
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



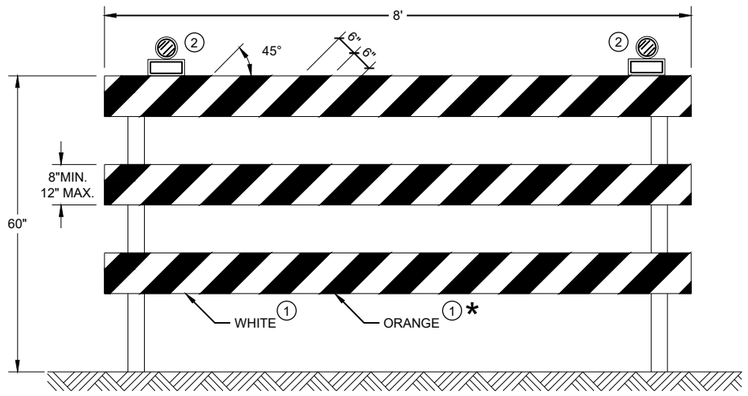
VERTICAL PANEL

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 ENGINEER
FHWA

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SDD15C11 - 09b

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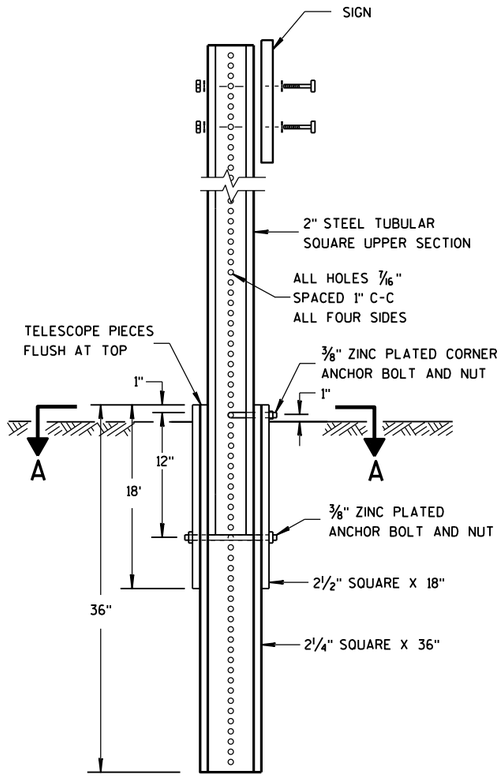
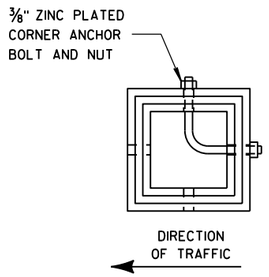
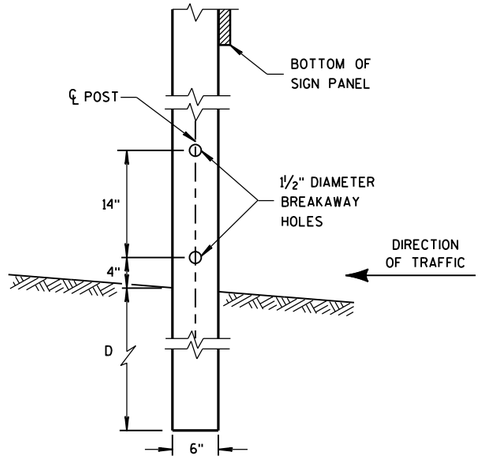
SDD15C11 - 09b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



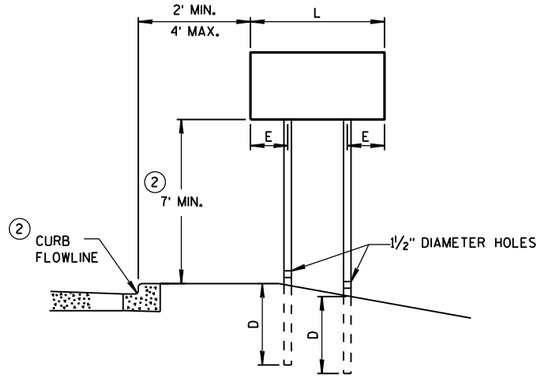
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

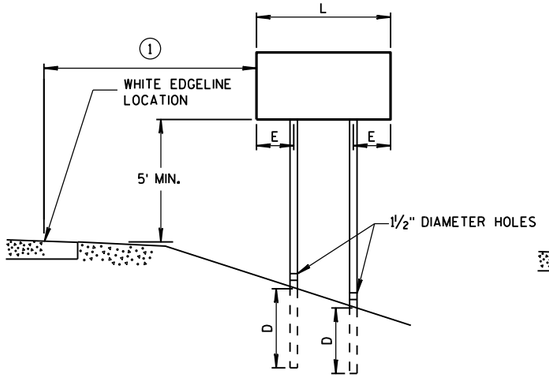
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

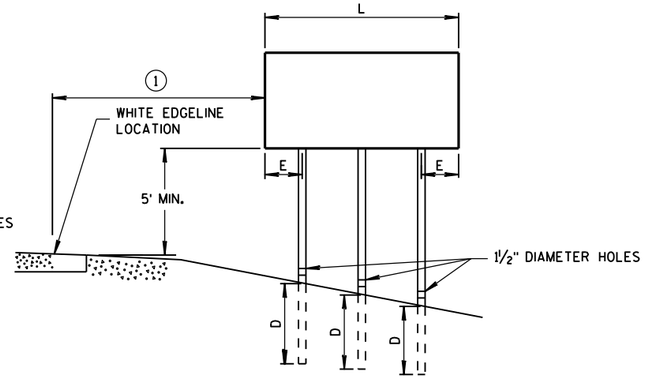
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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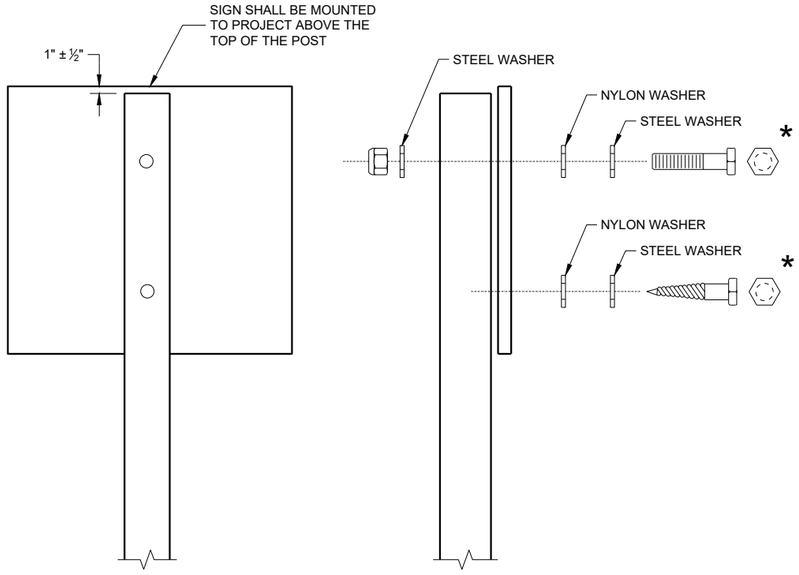
S.D.D. 15 D 38-2a



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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM
   DESIGNATION: A 153, CLASS D, OR SC 3
B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM
   DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

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

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SDD 15D38 - 02b

SDD15D38 - 02b

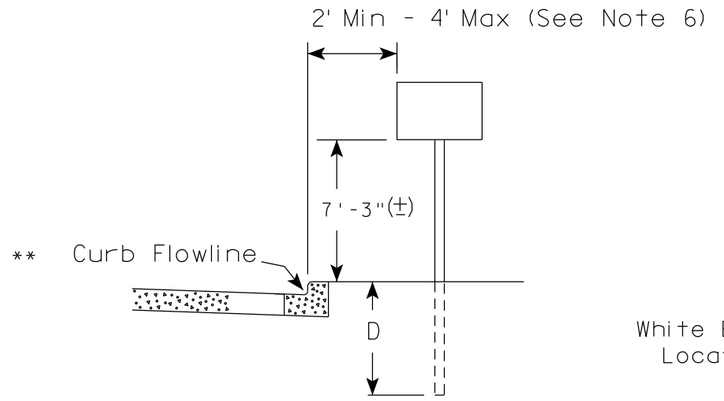
ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

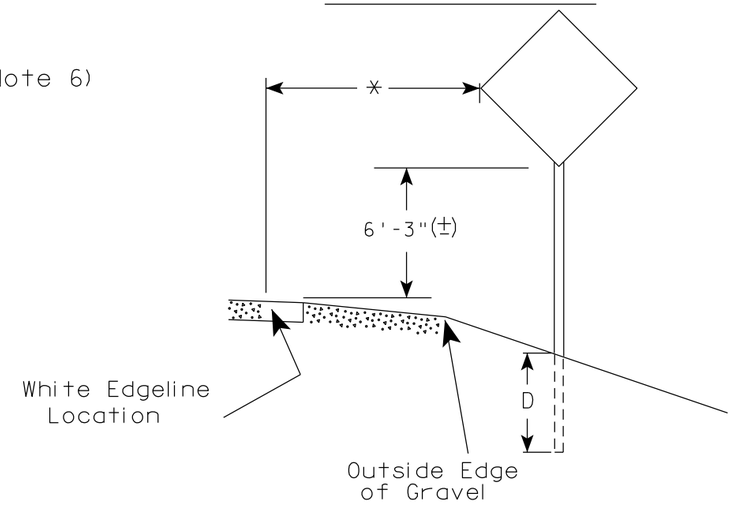
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

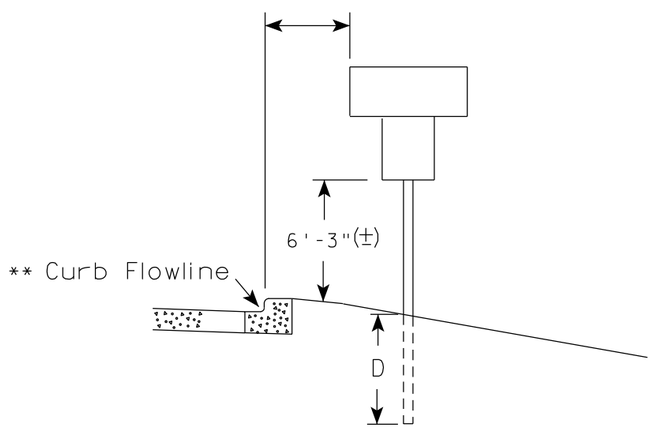
FHWA

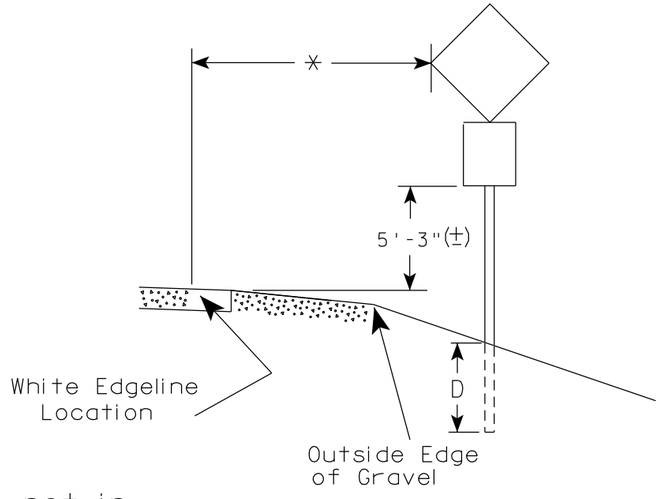
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

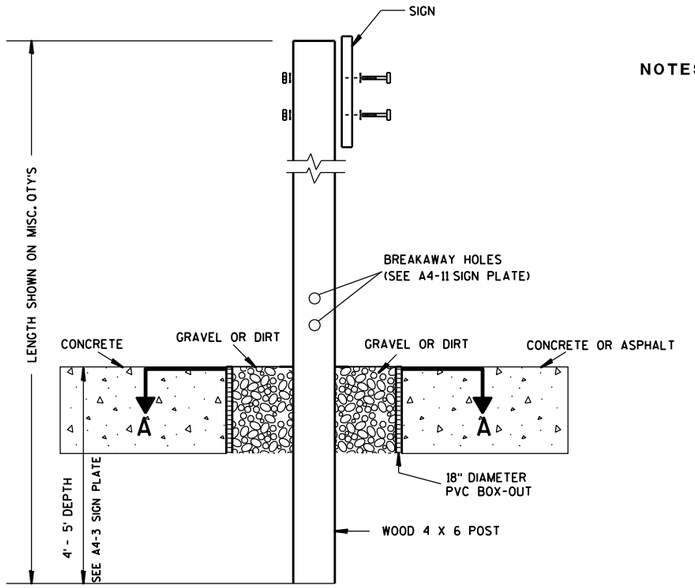
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

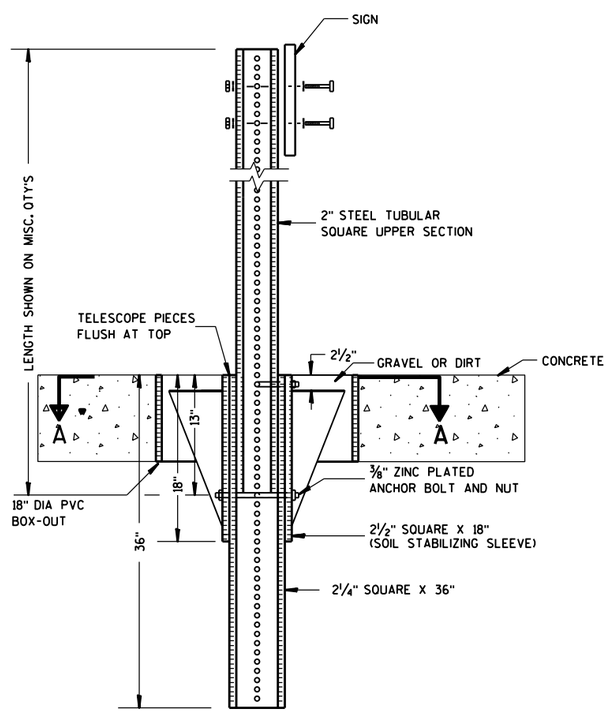
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 21	E



ELEVATION VIEW

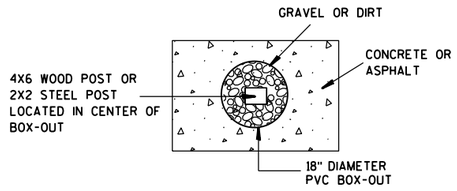
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

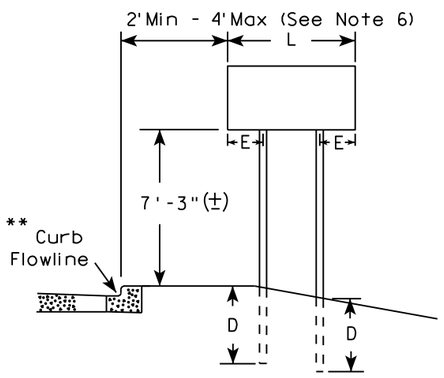
APPROVED Matthew R Rauch
for State Traffic Engineer

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

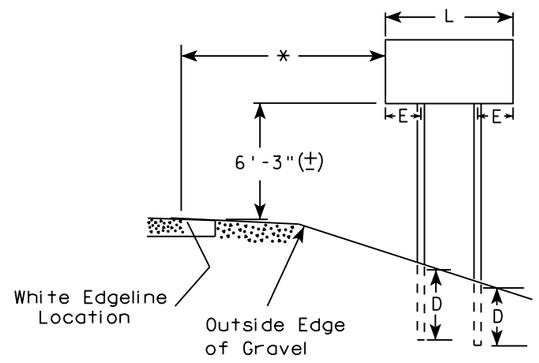
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

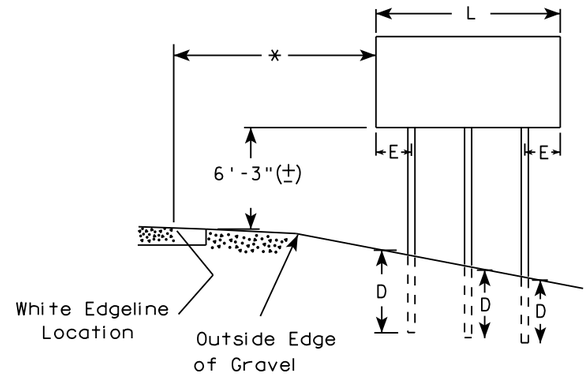
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

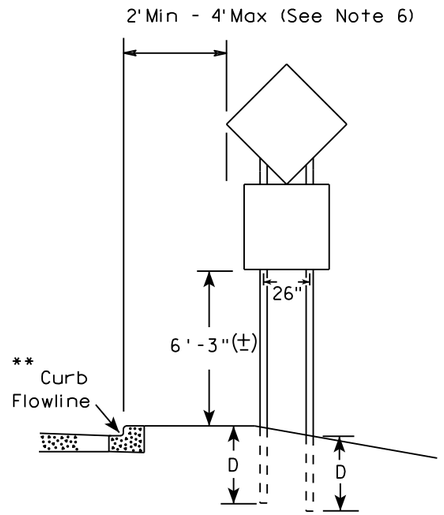
URBAN AREA



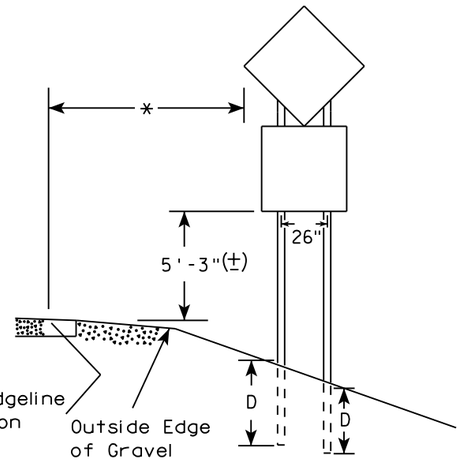
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

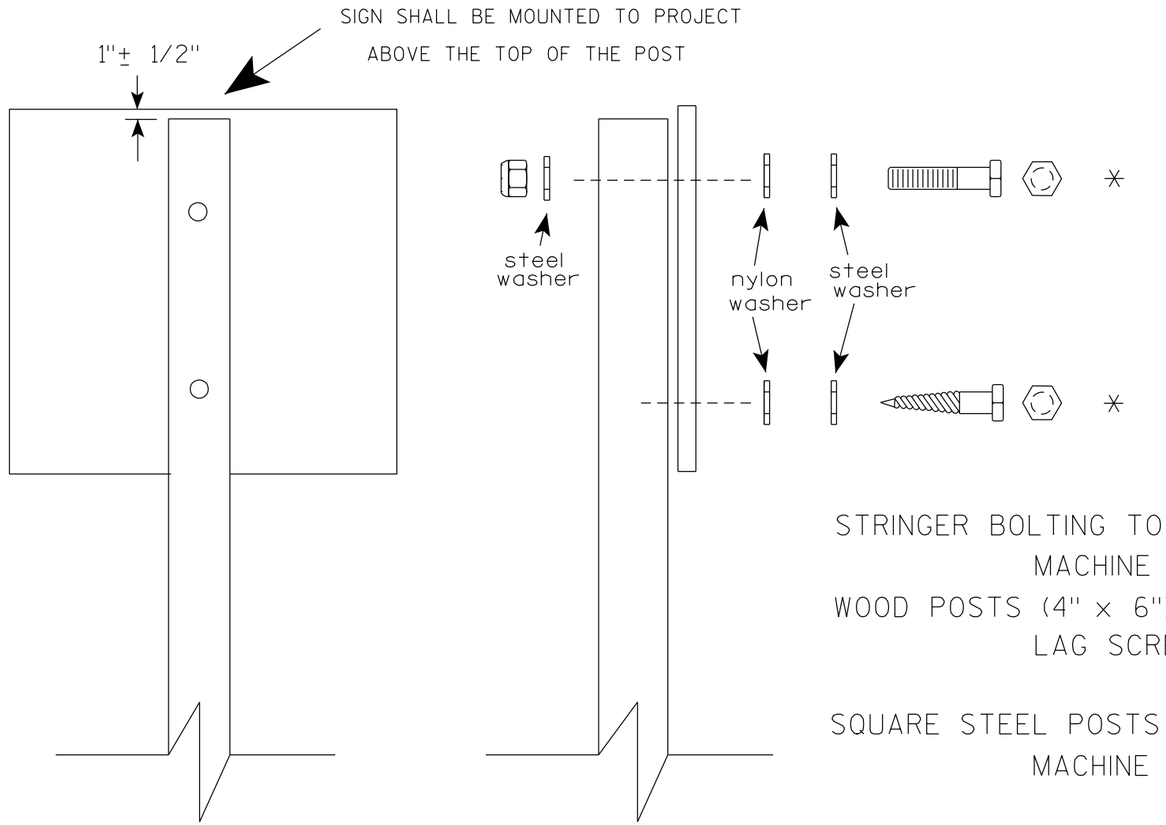
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 23	E



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

ATTACHMENT OF SIGNS TO POSTS

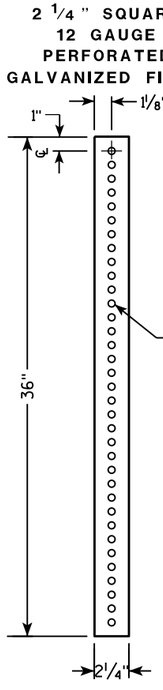
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

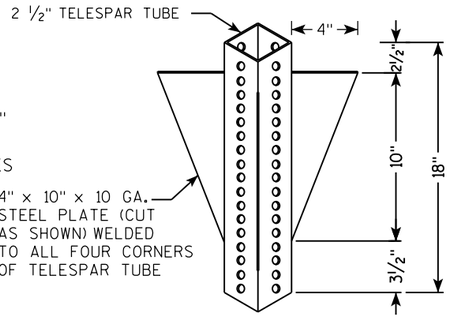
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

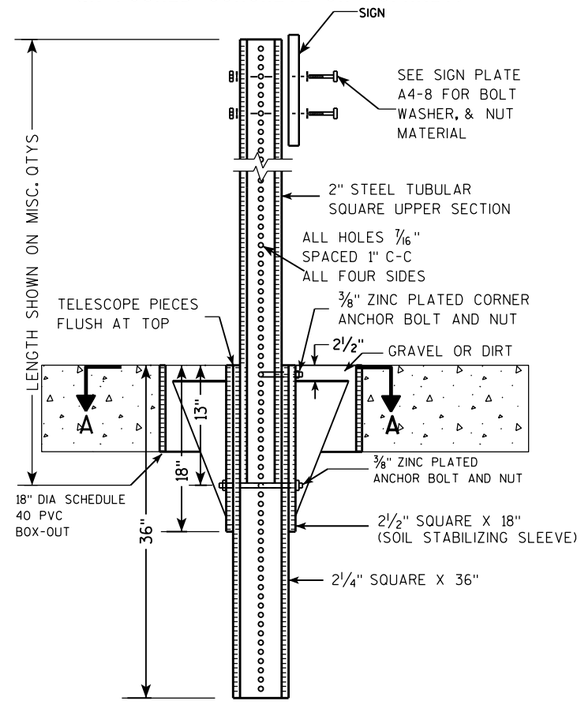
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



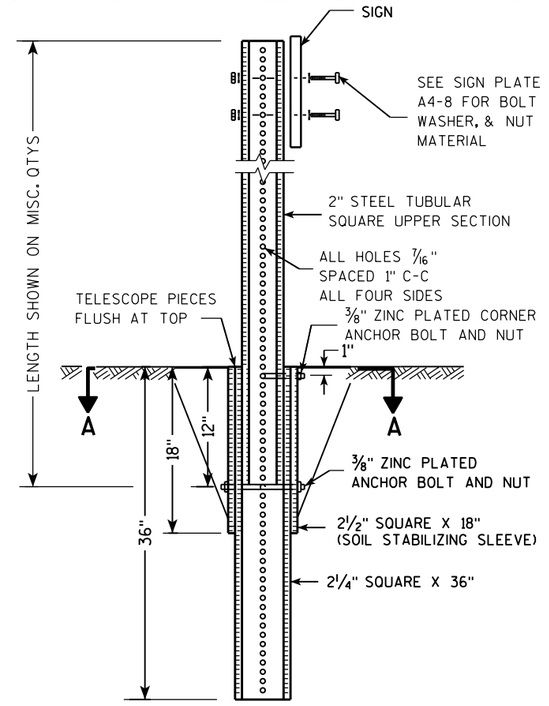
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

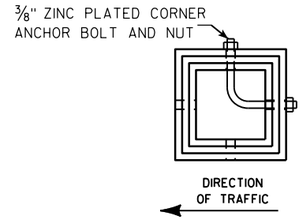


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

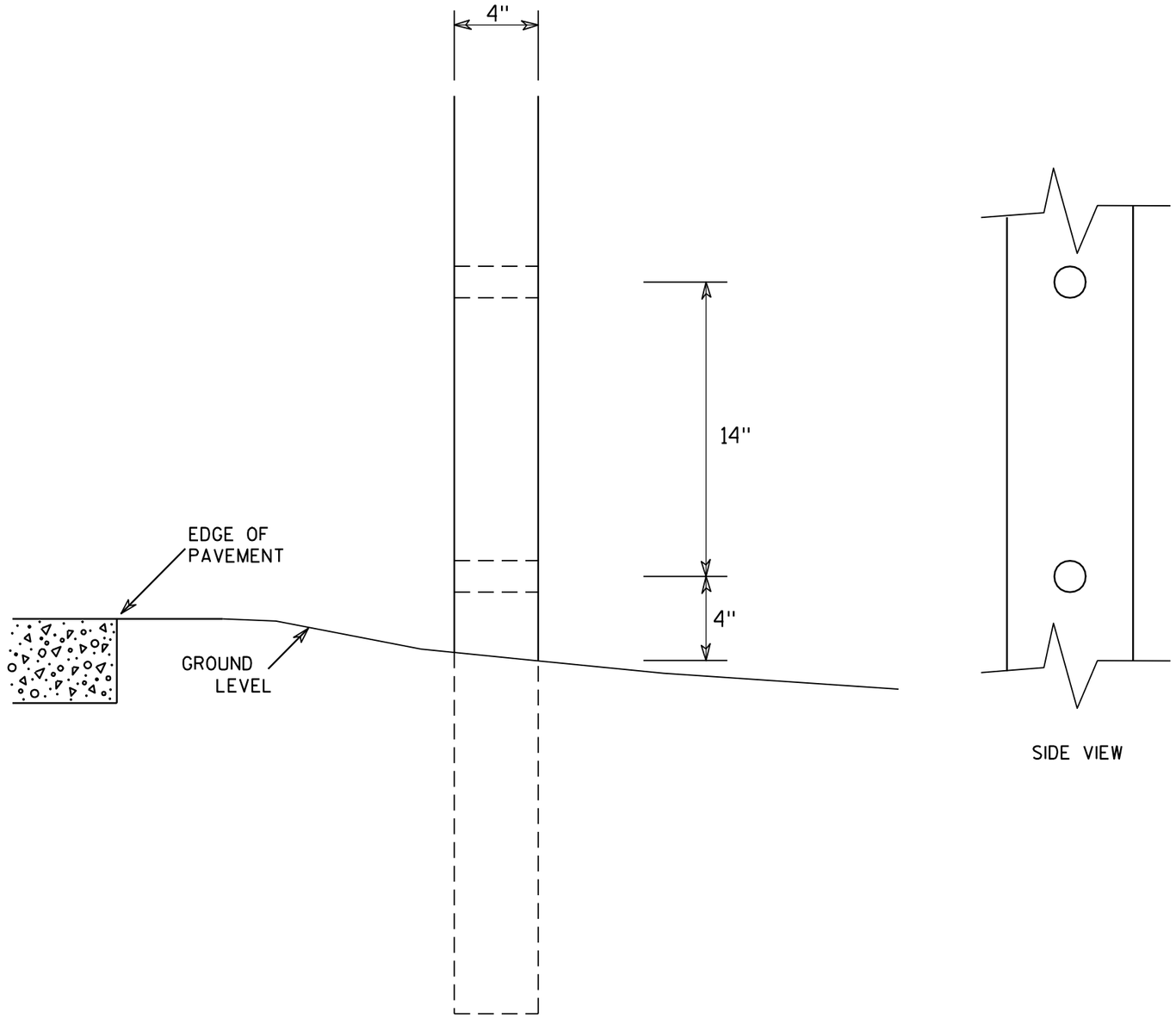
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 25 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

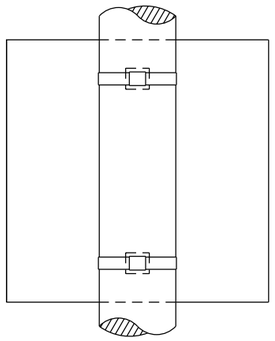
APPROVED Chester J Spang
for State Traffic Engineer

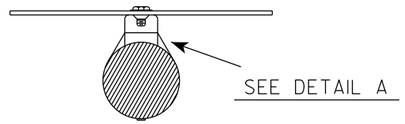
DATE 3/27/97 PLATE NO. A4-11.2

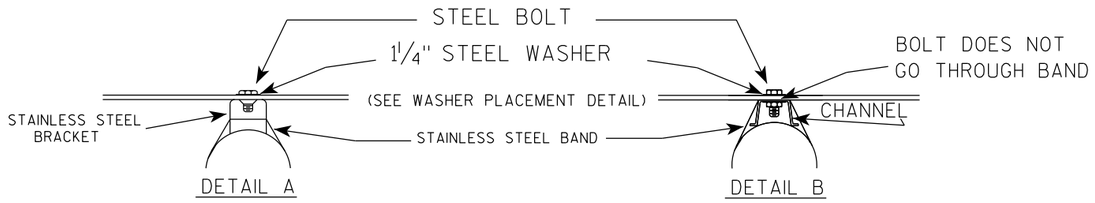
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 26	E

BANDING

SINGLE SIGN



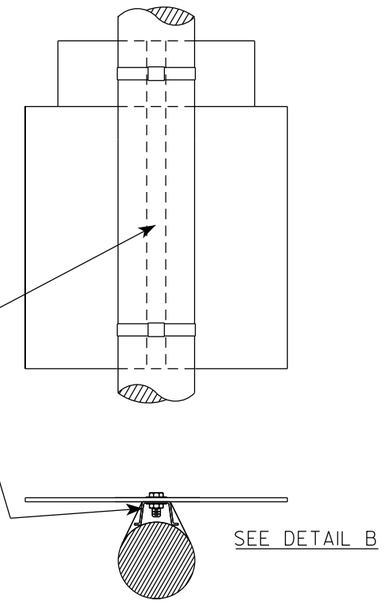




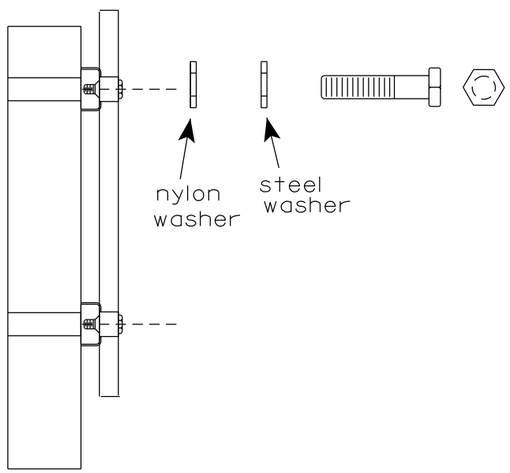
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

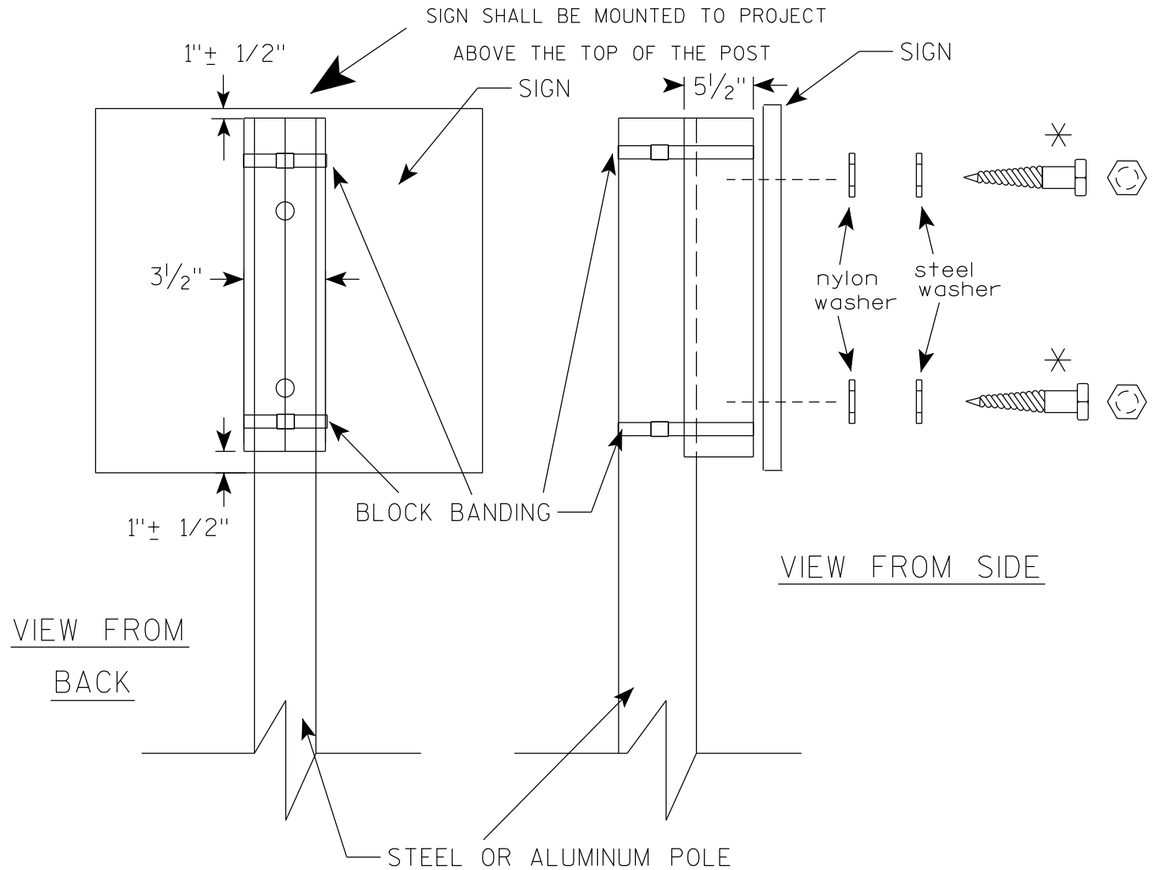
WISCONSIN DEPT OF TRANSPORTATION

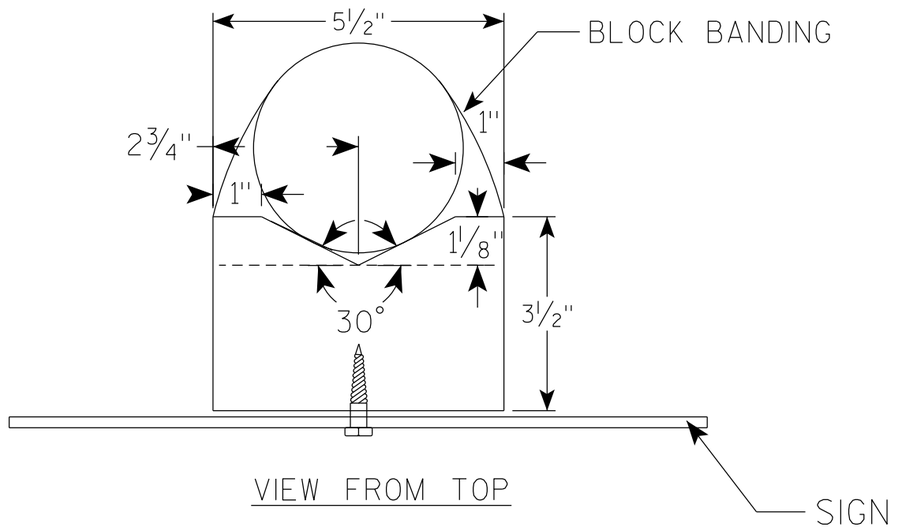
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 27	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

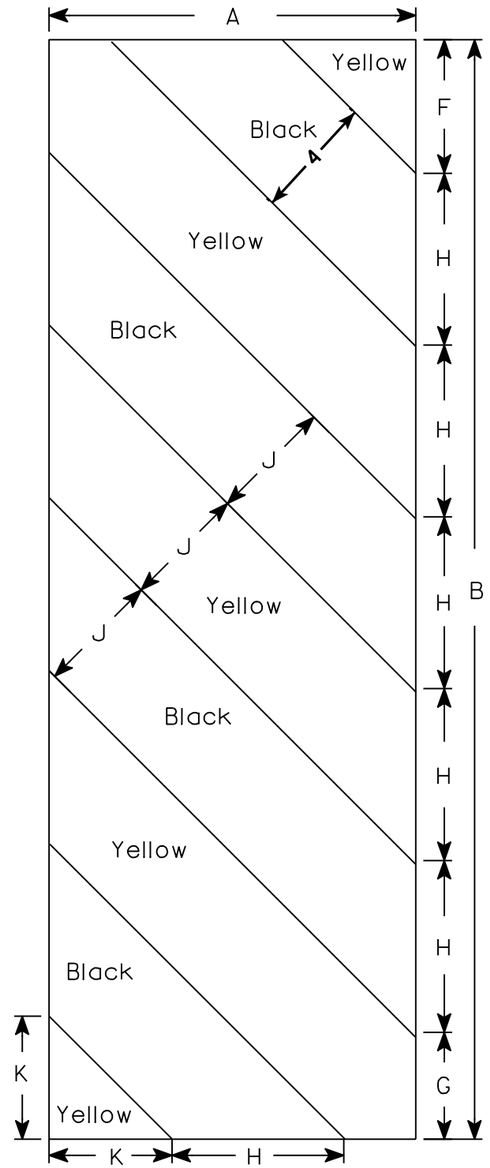
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

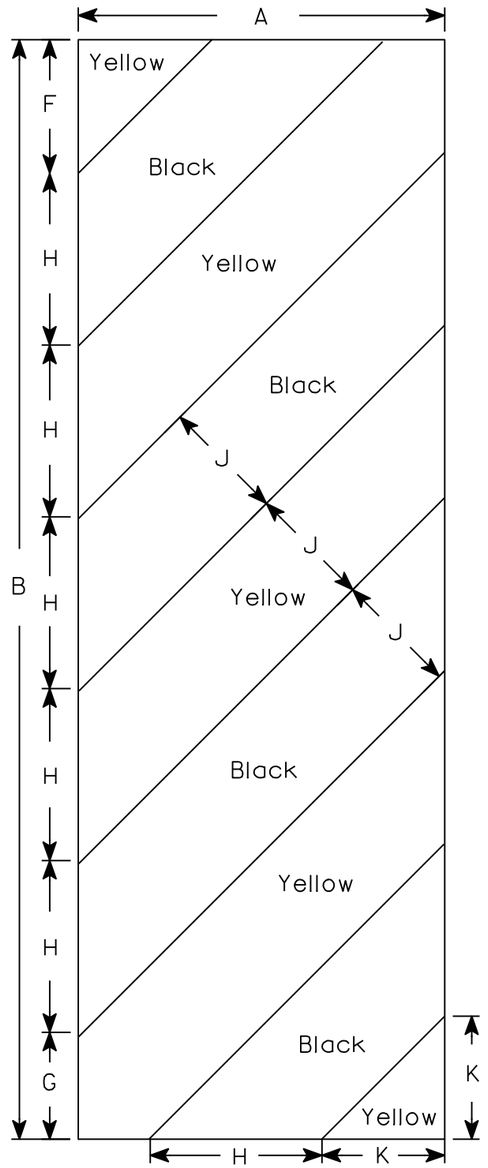
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO: | SHEET NO: 28 | E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 29	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

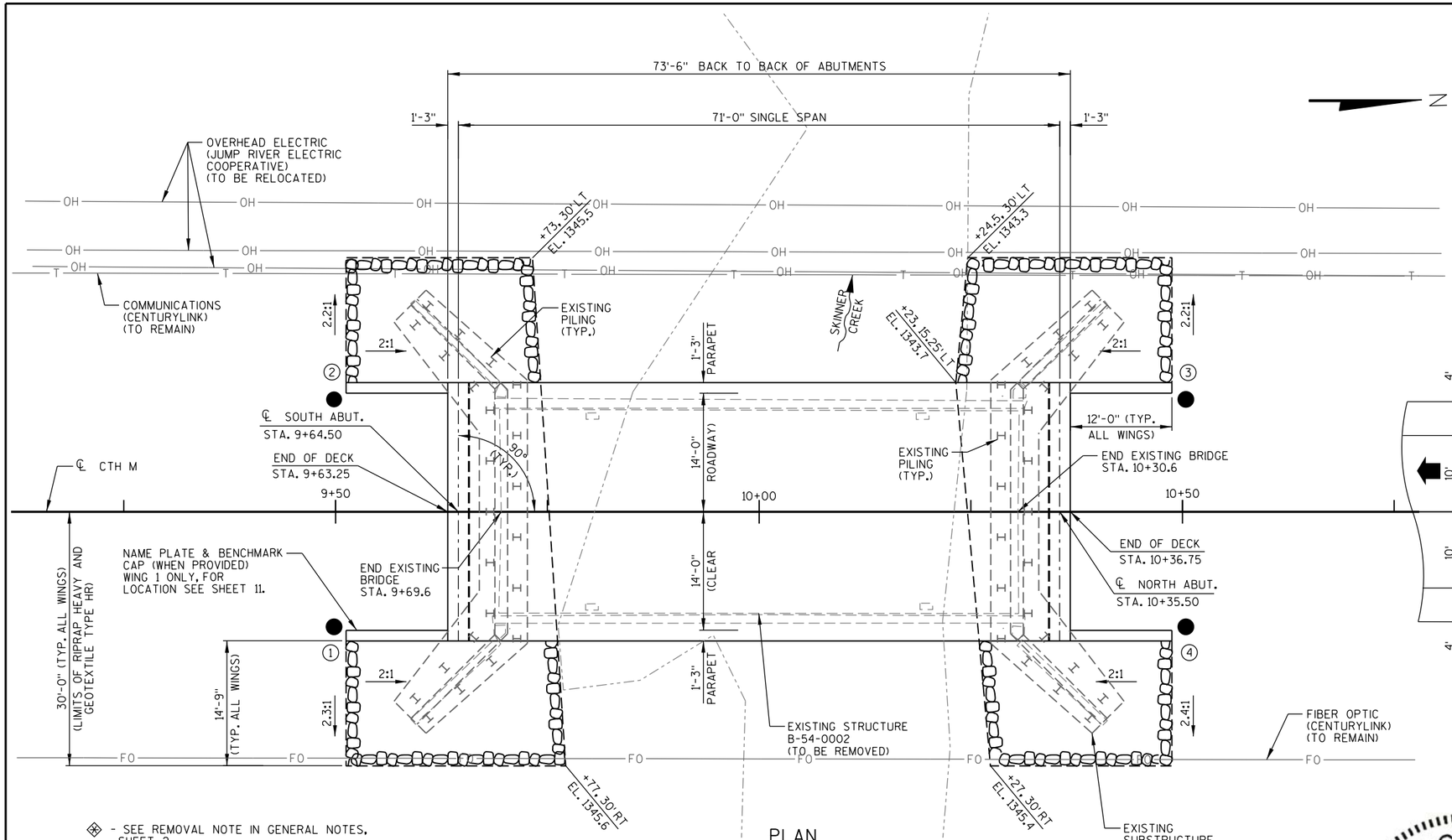
WISDOT/CADDS SHEET 42

7

7

STATE PROJECT NUMBER

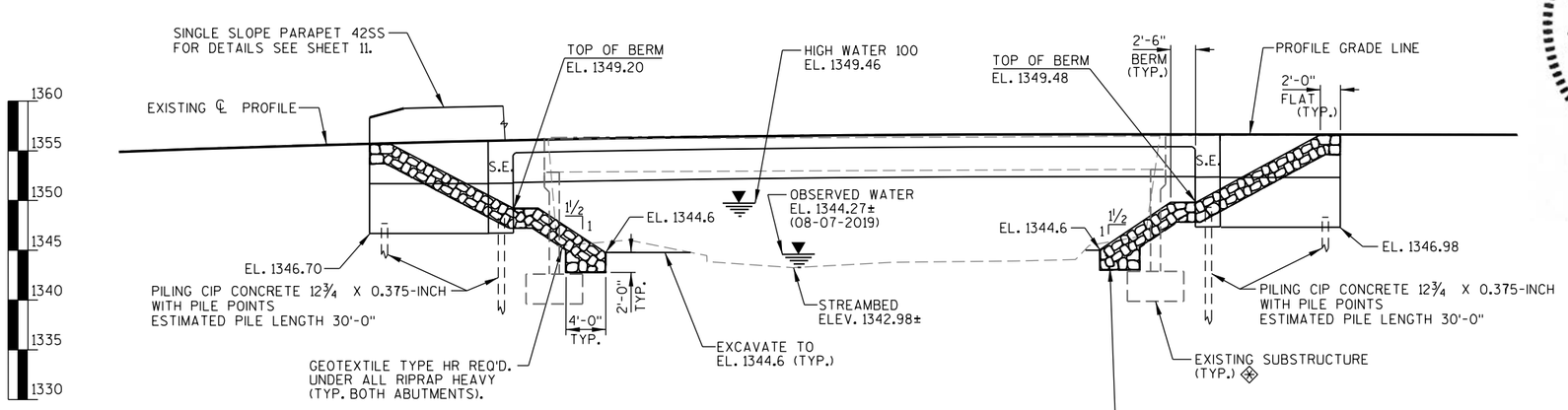
8771-00-70



- ⊛ - SEE REMOVAL NOTE IN GENERAL NOTES, SHEET 2.
- ● - INDICATES LOCATION OF PROVISION FOR THRIE BEAM GUARD ATTACHMENT.
- ○ - INDICATES WING NUMBER

PLAN

(SINGLE SPAN 36W" PRESTRESSED CONCRETE GIRDER BRIDGE)



ELEVATION

LOOKING WEST

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.23
OPERATIONAL RATING FACTOR: 1.93

TRAFFIC DATA:

A.A.D.T. (2022) = 340
A.A.D.T. (2042) = 380
R.D.S. = 30 MPH

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.

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

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE ——— $f'c$ = 4,000 P.S.I.
ALL OTHER ——— $f'c$ = 3,500 P.S.I.

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

36W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY ——— $f'c$ = 8,000 P.S.I.
STRANDS - 0.60" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF ——— fy = 270,000 P.S.I.

PILING CIP CONCRETE 12¾ × 0.375-INCH ——— fy = 45,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 12¾ X 0.375-INCH WITH PILE POINTS DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS ✳ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS FOR THE SOUTH ABUTMENT ARE 30'-0". ESTIMATED PILE LENGTHS FOR THE NORTH ABUTMENT ARE 30'-0".

✳ 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

DRAINAGE AREA ——— 29.7 SQ. MI.
Q_{100} - TOTAL ——— 2,000 C.F.S.
VELOCITY - THRU BRIDGE ——— 6.49 FT./SEC.
WATERWAY AREA - THRU BRIDGE ——— 308 SQ. FT.
SCOUR CRITICAL CODE ——— 5
HIGH WATER$_{100}$ ELEVATION ——— 1349.46
O_2 ELEVATION (650 CFS) ——— 1346.9 ±

LIST OF DRAWINGS

WISCONSIN
KYLE H. BUSCH
E-46187
MADISON
WI
PROFESSIONAL ENGINEER

5/27/2021

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1230 SOUTH BLVD., BARABOO WI 53913
(608) 356-2771 www.msa-ps.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 08/24/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-54-135

CTH M OVER SKINNER CREEK

COUNTY RUSK | TOWN ~~CITY/VILLAGE~~ SOUTH FORK

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFM	KHB	RLR	KHB

GENERAL PLAN

SHEET 1 OF 12
30

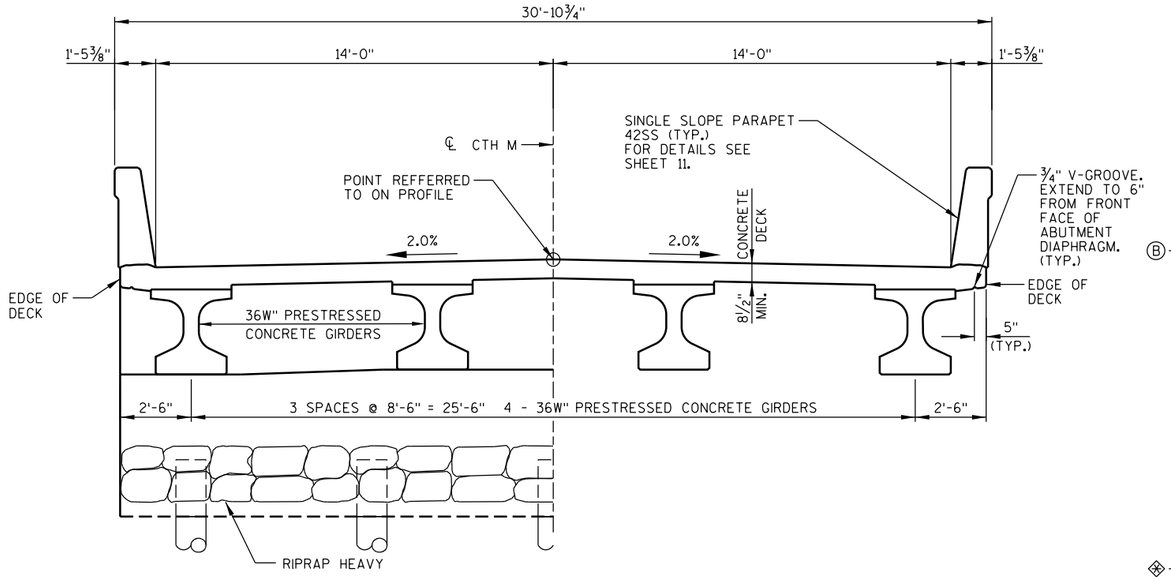
CONSULTANT DESIGN CONTACT:
KYLE BUSCH
(608) 216-2063

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

8

8

FILE= 6747026_01.DGN
DATE= 5.21.2021



AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS, OR AS DIRECTED BY THE ENGINEER.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS.

THIS STRUCTURE WILL REPLACE THE EXISTING STRUCTURE, B-54-0002, A 61.0 FT. LONG, SINGLE SPAN STEEL DECK GIRDER BRIDGE ON FULL RETAINING CONCRETE ABUTMENTS, WITH A 24.0 FT. CLEAR ROADWAY WIDTH TO RAILINGS.

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

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS FOR 3 FEET.

AT THE BACKFACE OF ABUTMENTS ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

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.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF DECK.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE FACES, THE TOP FACES, AND THE ENDS OF THE PARAPETS.

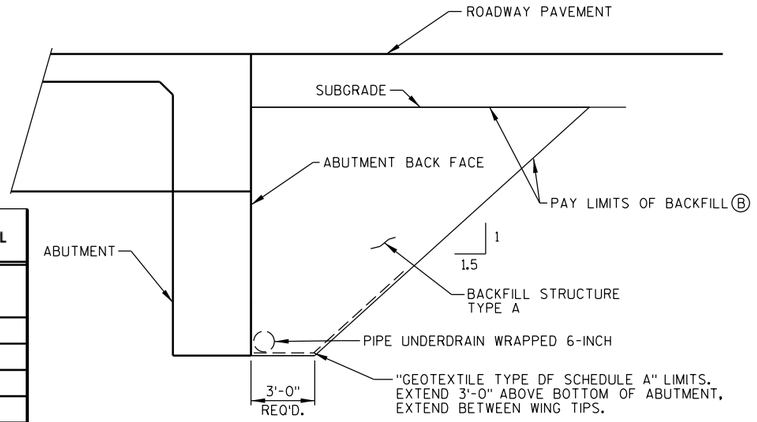
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.

THE HAUNCH CONCRETE QUANTITIY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE SUPERSTRUCTURE SHEET.

◈ - WHERE CONFLICTS BETWEEN EXISTING STRUCTURE AND PROPOSED STRUCTURE EXIST, STRUCTURE REMOVAL SHALL BE PERFORMED AS DIRECTED BY THE ENGINEER TO ELIMINATE CONFLICTS AND CONSTRUCT THE PROPOSED FOUNDATIONS AND ABUTMENTS AS SHOWN ON THE PLANS. EXISTING PILING ARE TO BE EXTRACTED WHERE CONFLICTS EXIST OR IF EXISTING AND PROPOSED PILING ARE WITHIN 3.0 PILE DIAMETERS, MEASURED CENTERLINE-TO-CENTERLINE. REMOVAL OF EXISTING SUBSTRUCTURE AND PILING ELEMENTS IS INCLUDED IN BID ITEM "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (B-54-0002)".

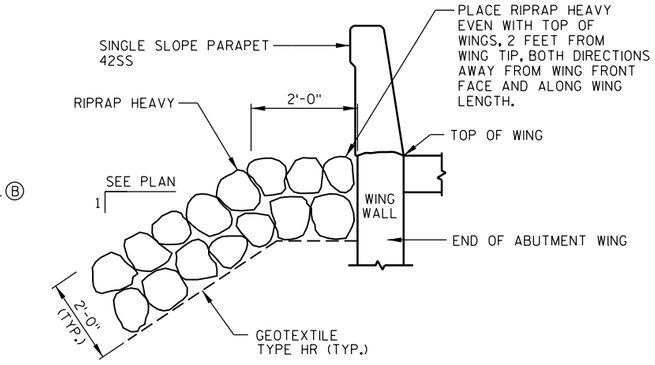
TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPER	TOTAL
◈ 203.0260.01	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (B-54-0002)	EACH	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-54-135	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	152	152	-	304
502.0100	CONCRETE MASONRY BRIDGES	CY	33	33	112	178
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	229	229
502.3210	PIGMENTED SURFACE SEALER	SY	-	-	98	98
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	-	-	288	288
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1715	1715	-	3430
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1770	1770	18090	21630
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	8	8
506.4000.01	STEEL DIAPHRAGMS B-54-135	EACH	-	-	3	3
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	-	20
550.0500	PILE POINTS	EACH	7	7	-	14
550.2126	PILING CIP CONCRETE 12 3/4 X 0.375-INCH	LF	210	210	-	420
606.0300	RIPRAP HEAVY	CY	100	99	-	199
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	100	100	-	200
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	-	4	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	31	31	-	62
645.0120	GEOTEXTILE TYPE HR	SY	150	148	-	298
	NON-BID ITEMS					
	CORK FILLER	SIZE				¾"
	PREFORMED FILLER	SIZE				½"

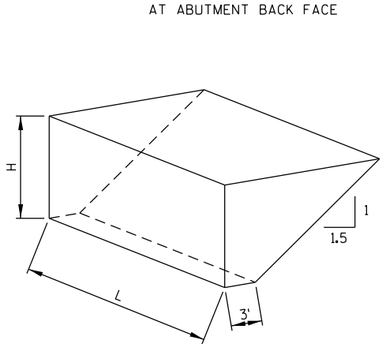


STRUCTURE BACKFILL DETAIL

AT ABUTMENT BACK FACE

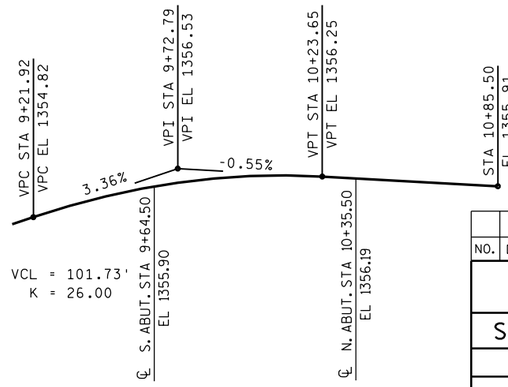


TYPICAL FILL SECTION AT WING TIPS



ABUTMENT BACKFILL DIAGRAM

L = OUT-TO-OUT OF ABUTMENT
H = AVERAGE ABUTMENT FILL HEIGHT
V_{CF} = (L)(3.0')(H)+(L)(0.5)(1.5H)(H)
V_{TON} = V_{CF} (2.0)/27



PROFILE GRADE LINE - CTH M

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

DRAWN BY RLR | PLANS CK'D. KHB

CROSS SECTION, QUANTITIES & NOTES

SHEET 7 OF 12
31

STATE PROJECT NUMBER
8771-00-70

8

8

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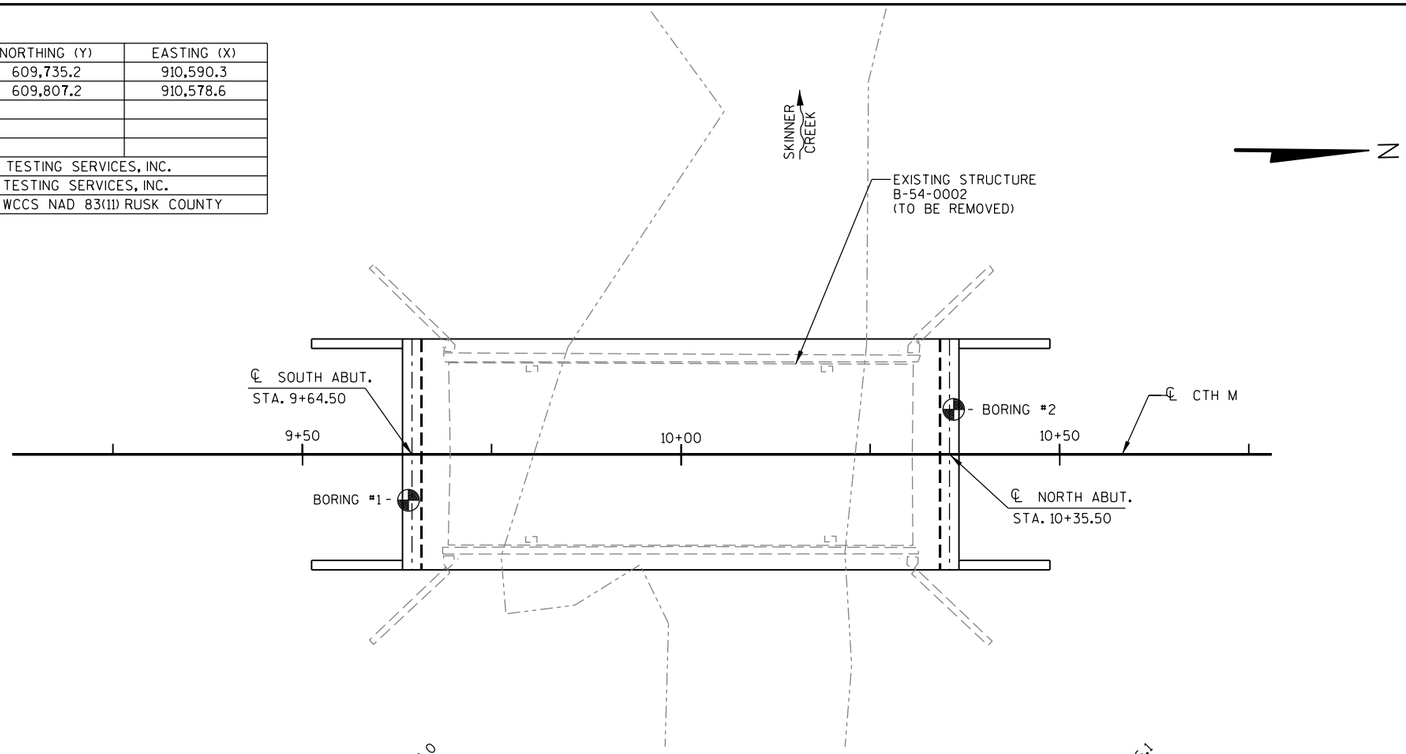
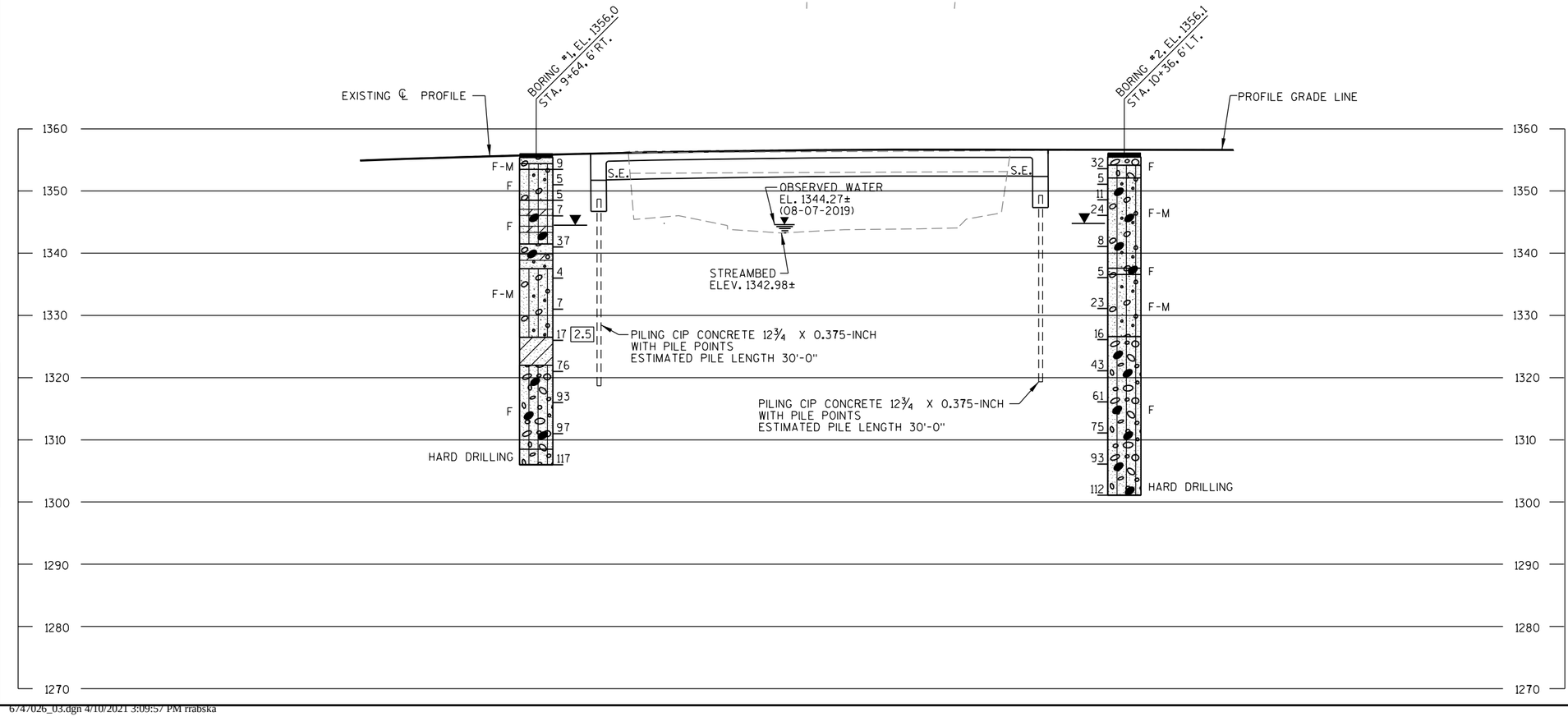
FILE= 6747026_02.DGN
DATE= 5/21/2021

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	11-26-2019	609,735.2	910,590.3
2	11-25-2019	609,807.2	910,578.6
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(11) RUSK COUNTY			





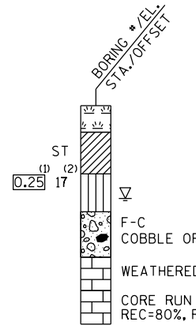
STATE PROJECT NUMBER

8771-00-70

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

STRUCTURE B-54-135

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SUBSURFACE EXPLORATION

SHEET 3 OF 12

32

8

8

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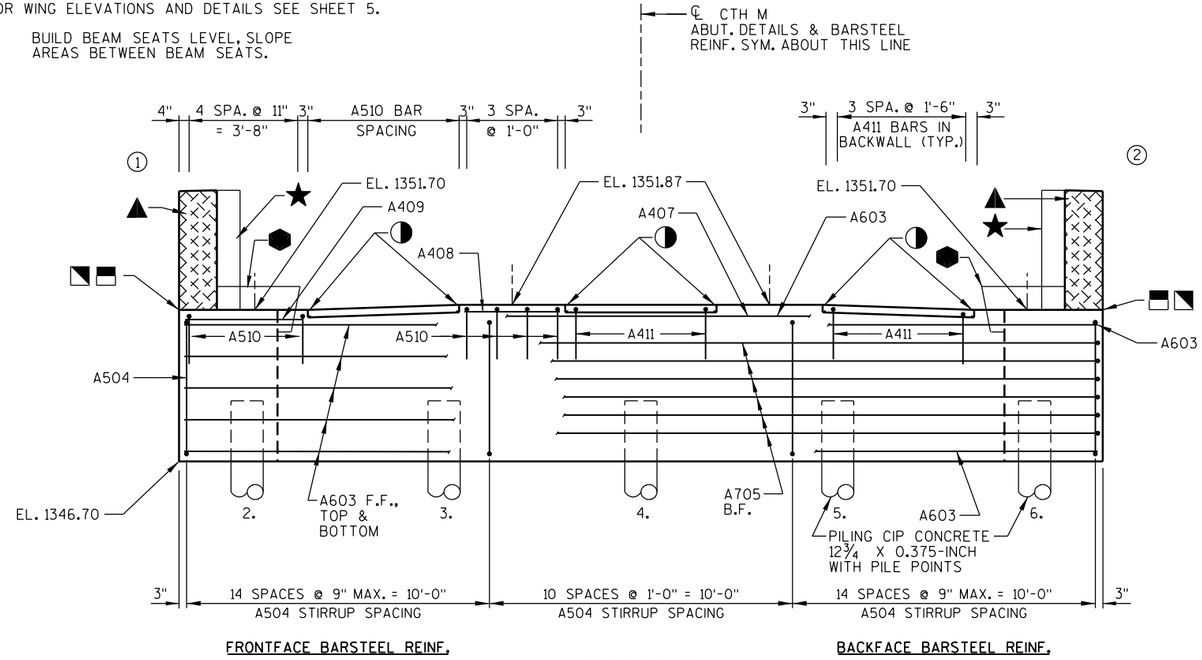
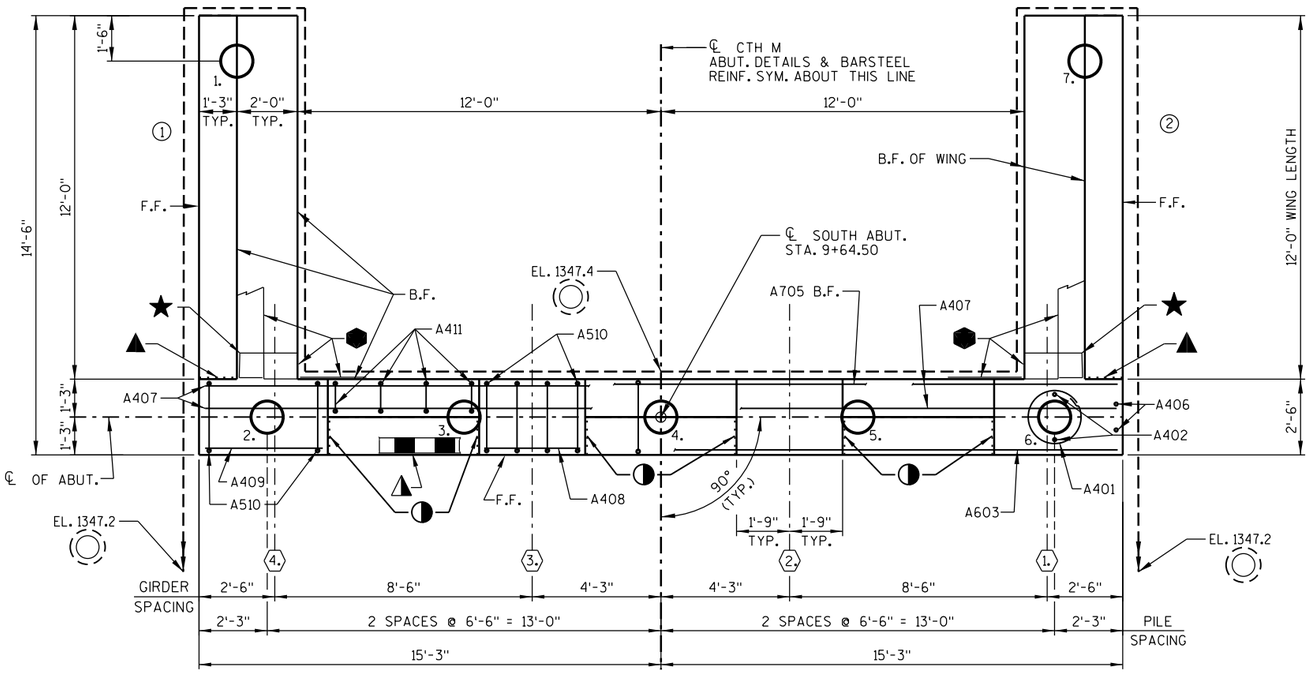
FOR WING ELEVATIONS AND DETAILS SEE SHEET 5.

BUILD BEAM SEATS LEVEL, SLOPE AREAS BETWEEN BEAM SEATS.

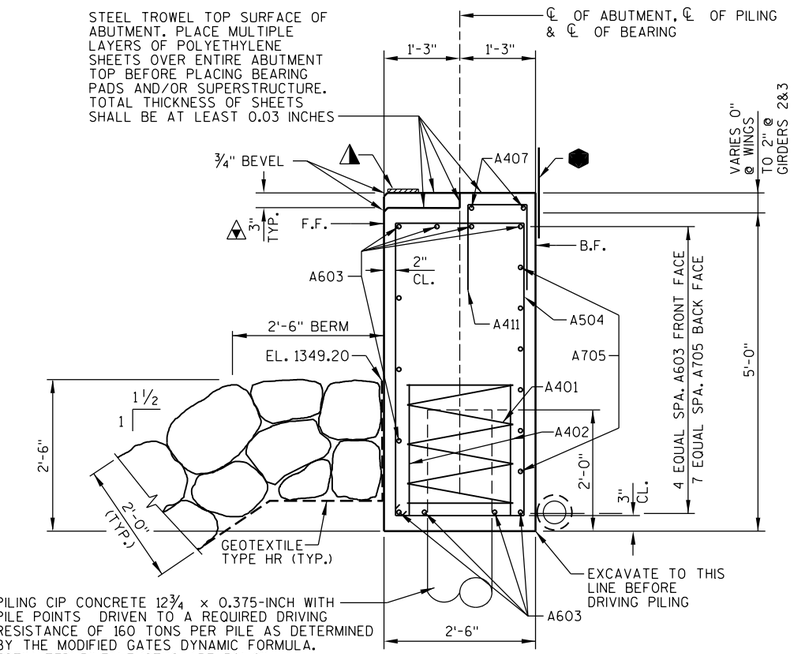


ELEVATION

(LOOKING SOUTH)



PLAN

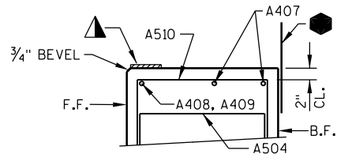


TYPICAL SECTION THRU ABUTMENT

LEGEND

- ◯ – INDICATES WING NUMBER.
- ⬡ – INDICATES GIRDER NUMBER.
- ▬ – CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2x6. PLACE ⬢ ON B.F. OF WING. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- ◥ – ¾" "V" GROOVE ON FRONT FACE OF WING WALL AT CONSTRUCTION JOINT
- ⧋ – SEMI-EXPANSION POCKET. CONSTRUCT 3" DEEPER THAN SURROUNDING BEAM SEATS AND BACKWALL.
- ◑ – ¾" CORK FILLER AT SIDES OF EXPANSION POCKETS (SIDE VERTICAL FACES ONLY).
- ▲ – ½" PREFORMED JOINT FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONC.). FILLER INCLUDED IN WING LENGTH.
- ◭ – 4"x ½" PREFORMED JOINT FILLER, EXTEND FULL LENGTH OF ABUTMENT.
- ★ – VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
- ⬢ – HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WING TOPS AND ALONG WING CONSTRUCTION JOINT.
- ◎ – PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU RIPRAP HEAVY AND GEOTEXTILE TYPE HR. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. SEE RODENT SHIELD DETAIL, SHEET 5.

F.F.– FRONT FACE B.F. – BACK FACE CL.– CLEAR



TOP OF ABUTMENT @ BEARING SEATS

SEE PLAN FOR REINF. SPACING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

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SOUTH ABUTMENT

SHEET 4 OF 12
33

STATE PROJECT NUMBER

8771-00-70

8

8

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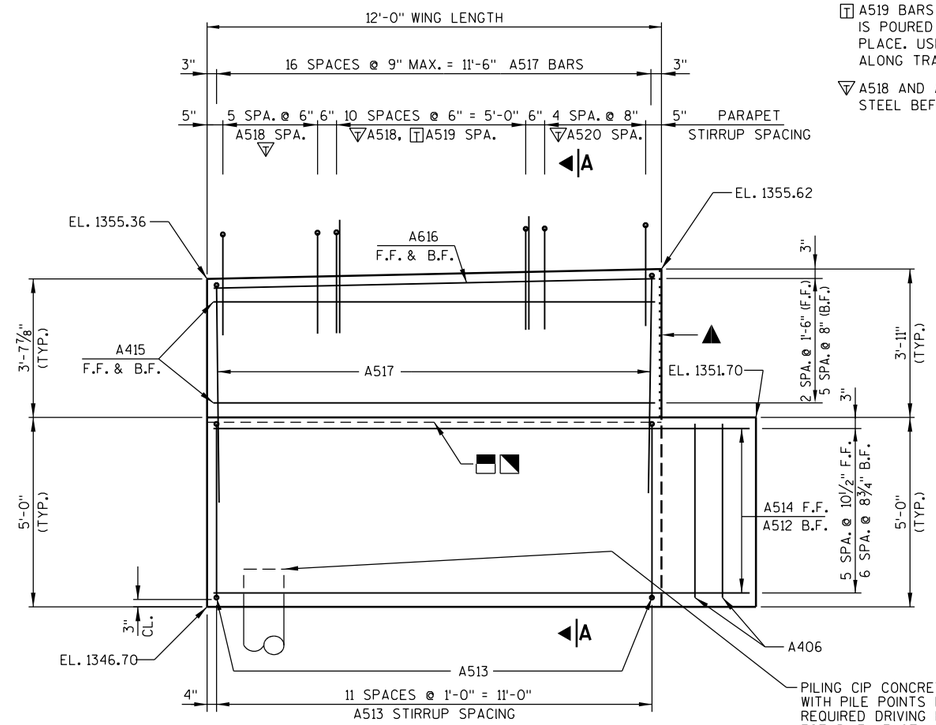
STATE PROJECT NUMBER
8771-00-70

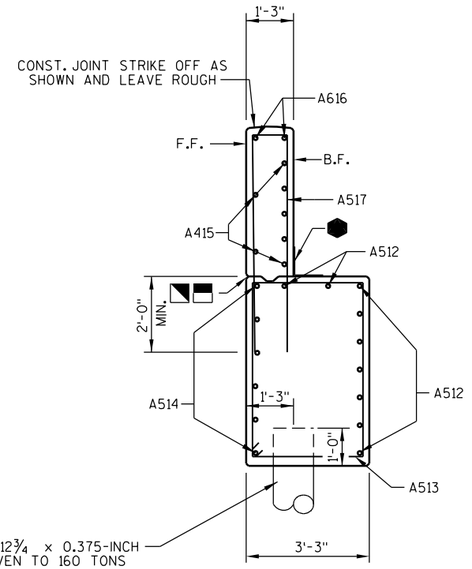


ELEVATION - WING 1

T A519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE A519 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ A518 AND A520 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

PILING CIP CONCRETE 12¾ x 0.375-INCH WITH PILE POINTS DRIVEN TO 160 TONS REQUIRED DRIVING RESISTANCE. EST. PILE LENGTH 30'-0"



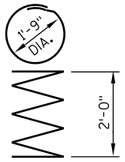
SECTION A-A THRU WING 1

BILL OF BARS (SOUTH ABUTMENT)

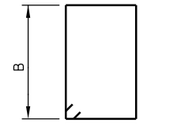
UNCOATED 1715 LBS.
COATED 1770 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
A401	-	5	28'-0"	X	AT BODY PILES - 1 PER PILE 5 SPIRAL WRAPS
A402	-	10	2'-3"		AT BODY PILES - 2 PER PILE - VERT.
A603	-	11	30'-2"		ABUT. BODY - F.F., TOP & BOTTOM - HORIZ.
A504	-	39	13'-8"	X	ABUT. BODY - STIRRUPS - VERT.
A705	-	6	30'-2"		ABUT. BODY - B.F. - HORIZ.
A406	-	4	4'-7"		ABUT. BODY - ENDS - VERT.
A407	-	2	30'-2"		ABUT. TOP - B.F. SEMI-EXP. POCKET - HORIZ.
A408	-	2	3'-2"		ABUT. TOP - F.F. - GIRDERS 2 & 3 - HORIZ.
A409	-	2	3'-10"		ABUT. TOP - F.F. - GIRDERS 1 & 4 - HORIZ.
A510	-	18	4'-11"	X	ABUT. TOP - GIRDER SEATS - VERT.
A411	-	12	3'-9"	X	ABUT. TOP - B.F. SEMI-EXP. POCKET - VERT.
A512	18	-	14'-1"		WINGS - BOTTOM - B.F. & TOP - HORIZ.
A513	24	-	15'-8"	X	WINGS - BOTTOM - STIRRUP - VERT.
A514	12	-	14'-1"		WINGS - BOTTOM - F.F. - HORIZ.
A415	14	-	11'-7"		WINGS - TOP - F.F. & B.F. - HORIZ.
A616	4	-	11'-7"		WINGS - TOP - F.F. & B.F. - HORIZ.
A517	34	-	12'-2"	X	WINGS - TOP - TIES - VERT.
A518	34	-	5'-7"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
A519	22	-	3'-0"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
A520	10	-	5'-10"	X	WINGS - TOP - PARAPET STIRRUP - VERT.

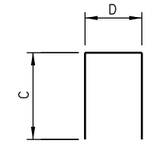
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



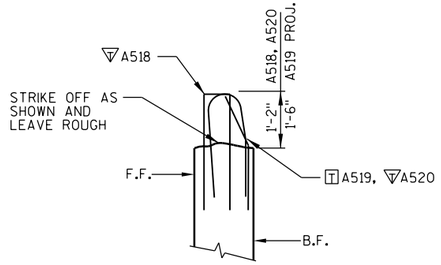
A401



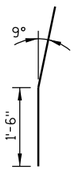
MARK	A	B
A504	2'-2"	4'-4"
A513	2'-11"	4'-7"



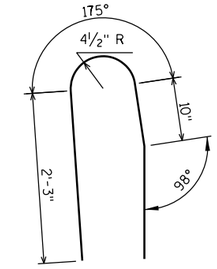
MARK	C	D
A510	1'-6"	2'-2"
A411	1'-6"	11"
A517	5'-9"	11"
A518	2'-8"	6"



PARAPET STIRRUP PROJECTION DETAIL



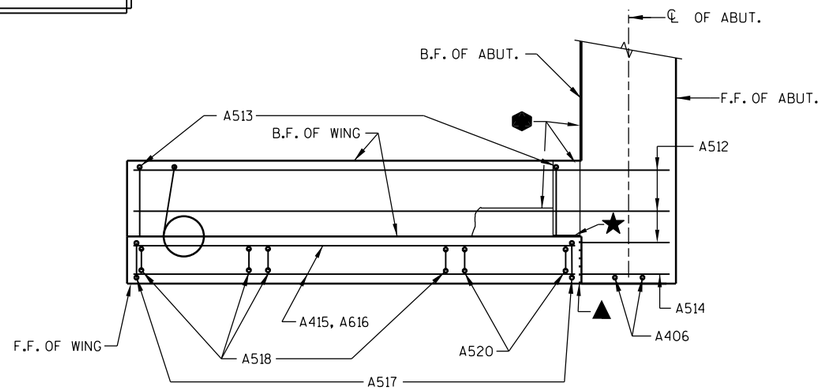
A519



A520

SEE SHEET 4 LEGEND FOR DESCRIPTION OF ◥ ▬ ▲ ⬢

NOTE:
WING 1 SHOWN
WING 2 SIMILAR

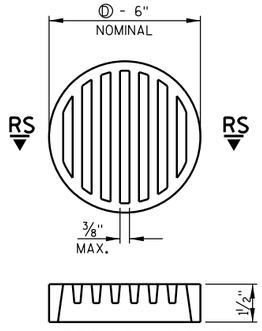


PLAN - WING 1

RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

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. THE RODENT SHIELD, PIPE COUPLING AND SCREWS, SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".



SECTION RS-RS

RODENT SHIELD

Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

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SOUTH ABUTMENT DETAILS

SHEET 5 OF 12
34

8

8

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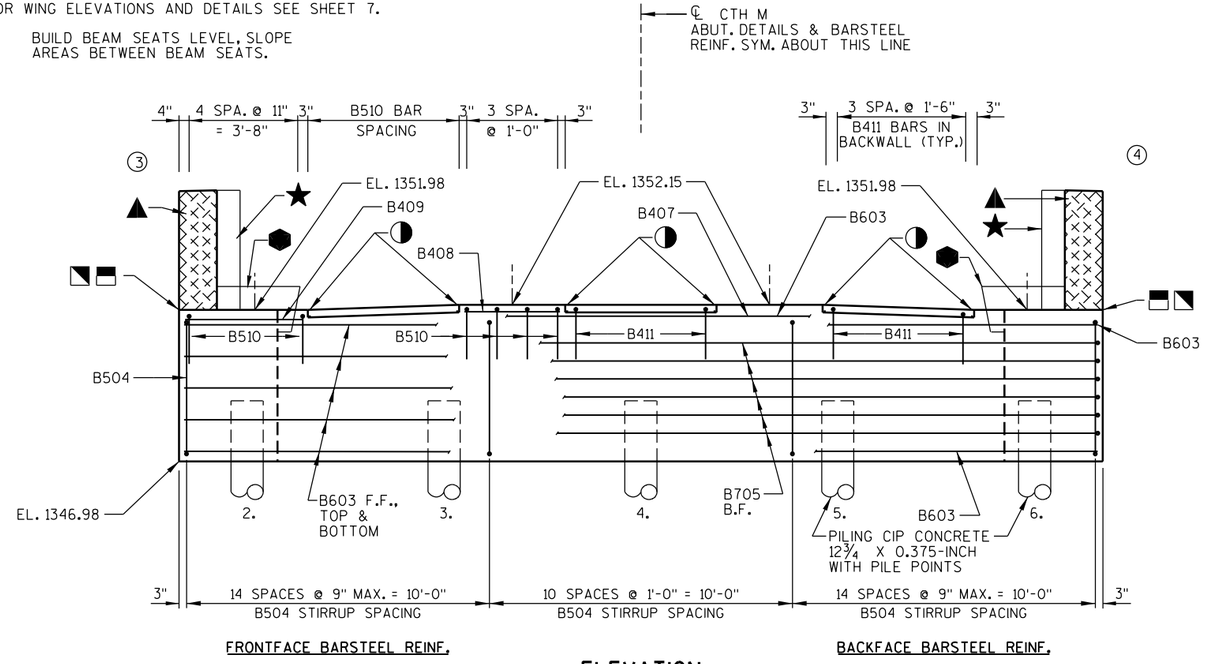
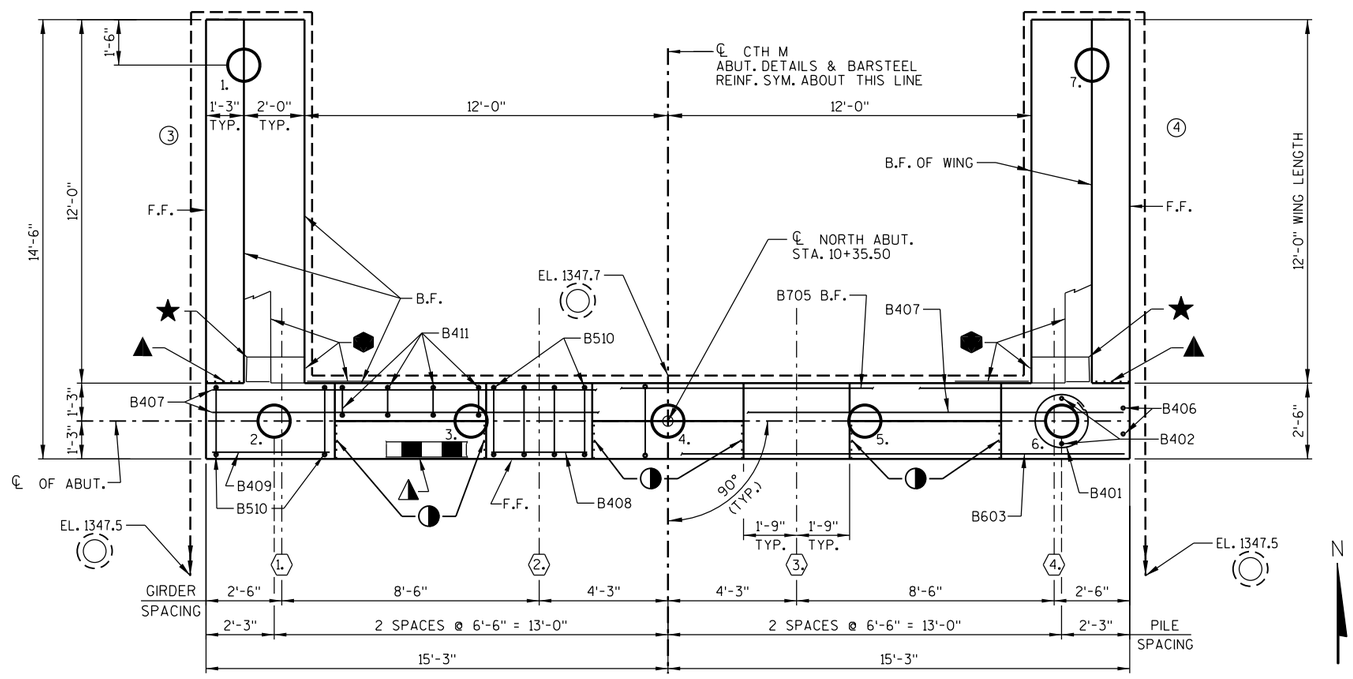
FOR WING ELEVATIONS AND DETAILS SEE SHEET 7.

BUILD BEAM SEATS LEVEL, SLOPE AREAS BETWEEN BEAM SEATS.



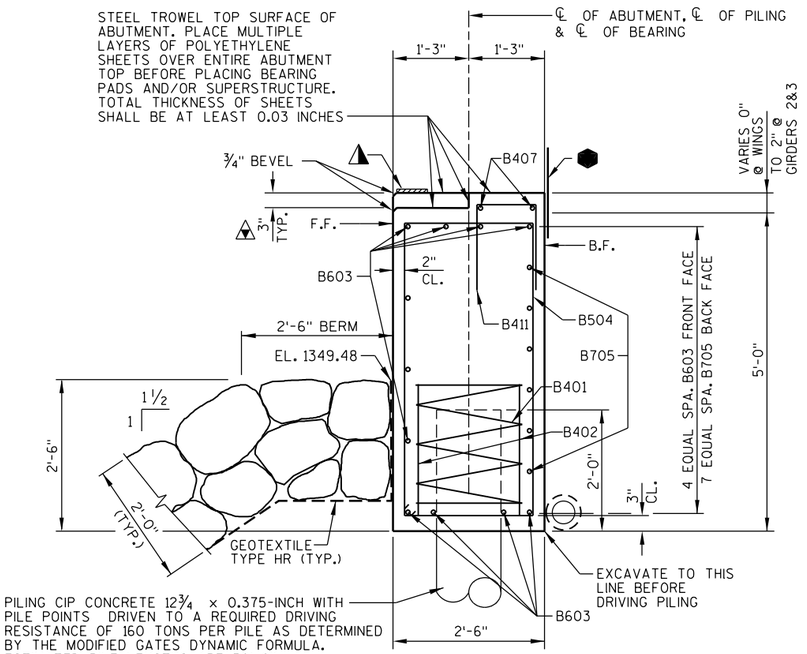
ELEVATION

(LOOKING NORTH)



PLAN

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03 INCHES



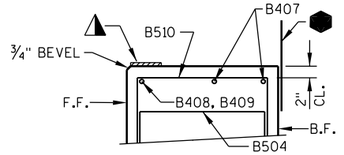
PILING CIP CONCRETE 12¾ x 0.375-INCH WITH PILE POINTS DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 30'-0". SEE SHEET 7 FOR PILE SPLICE DETAILS.

TYPICAL SECTION THRU ABUTMENT

LEGEND

- ◯ – INDICATES WING NUMBER.
- ⬡ – INDICATES GIRDER NUMBER.
- ▬ – CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2×6. PLACE ⬢ ON B.F. OF WING. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- ◥ – ¾" "V" GROOVE ON FRONT FACE OF WING WALL AT CONSTRUCTION JOINT
- ⧋ – SEMI-EXPANSION POCKET. CONSTRUCT 3" DEEPER THAN SURROUNDING BEAM SEATS AND BACKWALL.
- ◑ – ¾" CORK FILLER AT SIDES OF EXPANSION POCKETS (SIDE VERTICAL FACES ONLY).
- ▲ – ½" PREFORMED JOINT FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONC.). FILLER INCLUDED IN WING LENGTH.
- ◭ – 4"× ½" PREFORMED JOINT FILLER, EXTEND FULL LENGTH OF ABUTMENT.
- ★ – VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
- ⬢ – HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WING TOPS AND ALONG WING CONSTRUCTION JOINT.
- ◎ – PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU RIPRAP HEAVY AND GEOTEXTILE TYPE HR. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. SEE RODENT SHIELD DETAIL, SHEET 5.

F.F.– FRONT FACE B.F. – BACK FACE CL.– CLEAR



TOP OF ABUTMENT @ BEARING SEATS

SEE PLAN FOR REINF. SPACING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

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NORTH ABUTMENT

SHEET 6 OF 12
35

STATE PROJECT NUMBER

8771-00-70

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8

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DATE= 4/12/2021

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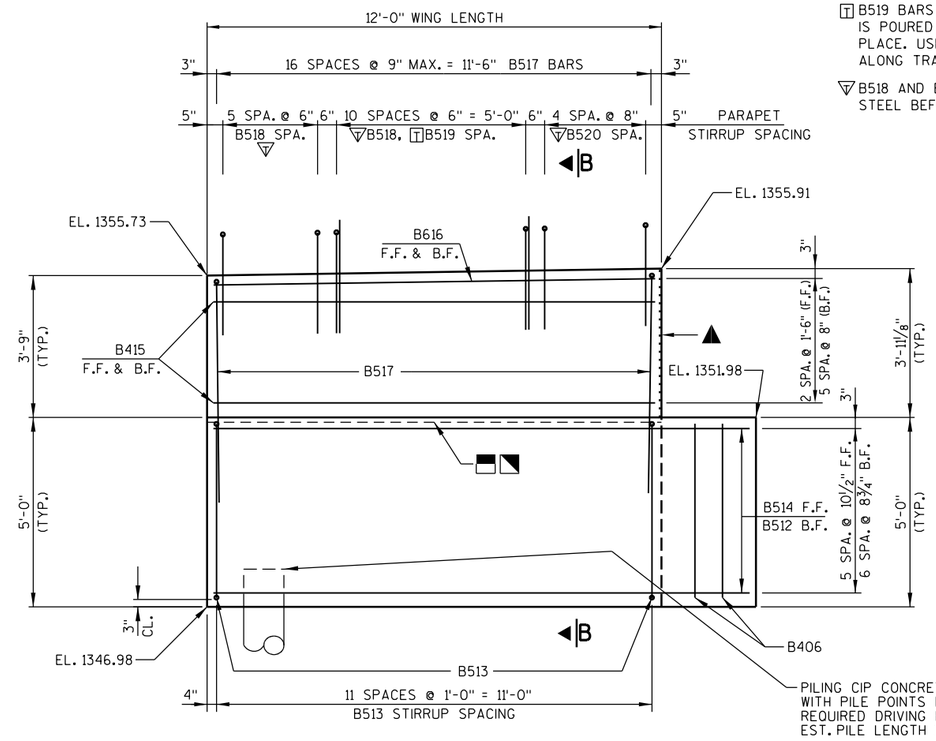
STATE PROJECT NUMBER

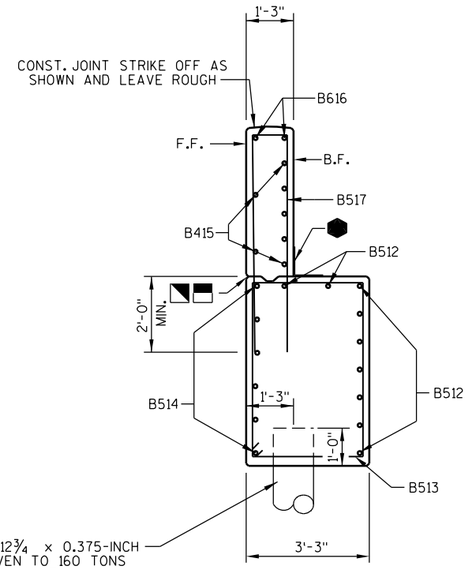
8771-00-70

T B519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE B519 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ B518 AND B520 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



ELEVATION - WING 3



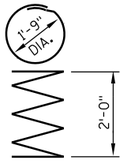
SECTION B-B THRU WING 3

BILL OF BARS (NORTH ABUTMENT)

UNCOATED 1715 LBS.
COATED 1770 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
B401	-	5	28'-0"	X	AT BODY PILES - 1 PER PILE 5 SPIRAL WRAPS
B402	-	10	2'-3"		AT BODY PILES - 2 PER PILE - VERT.
B603	-	11	30'-2"		ABUT. BODY - F.F., TOP & BOTTOM - HORIZ.
B504	-	39	13'-8"	X	ABUT. BODY - STIRRUPS - VERT.
B705	-	6	30'-2"		ABUT. BODY - B.F. - HORIZ.
B406	-	4	4'-7"		ABUT. BODY - ENDS - VERT.
B407	-	2	30'-2"		ABUT. TOP - B.F. SEMI-EXP. POCKET - HORIZ.
B408	-	2	3'-2"		ABUT. TOP - F.F. - GIRDERS 2 & 3 - HORIZ.
B409	-	2	3'-10"		ABUT. TOP - F.F. - GIRDERS 1 & 4 - HORIZ.
B510	-	18	4'-11"	X	ABUT. TOP - GIRDER SEATS - VERT.
B411	-	12	3'-9"	X	ABUT. TOP - B.F. SEMI-EXP. POCKET - VERT.
B512	18	-	14'-1"		WINGS - BOTTOM - B.F. & TOP - HORIZ.
B513	24	-	15'-8"	X	WINGS - BOTTOM - STIRRUP - VERT.
B514	12	-	14'-1"		WINGS - BOTTOM - F.F. - HORIZ.
B415	14	-	11'-7"		WINGS - TOP - F.F. & B.F. - HORIZ.
B616	4	-	11'-7"		WINGS - TOP - F.F. & B.F. - HORIZ.
B517	34	-	12'-2"	X	WINGS - TOP - TIES - VERT.
B518	34	-	5'-7"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
B519	22	-	3'-0"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
B520	10	-	5'-10"	X	WINGS - TOP - PARAPET STIRRUP - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



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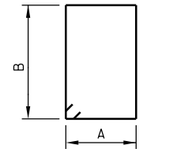
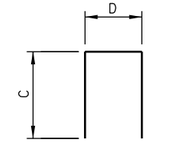


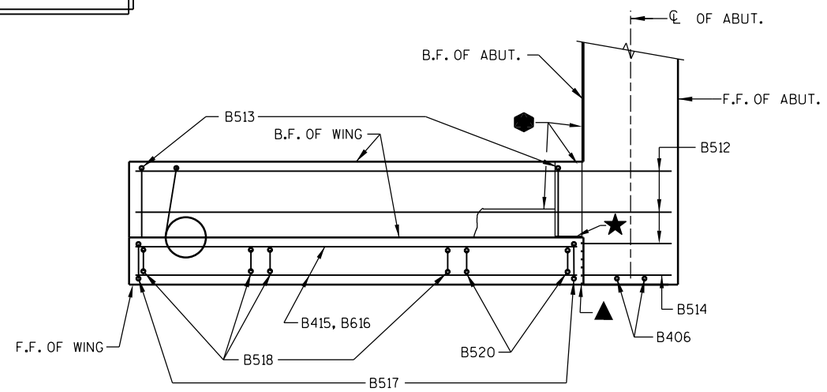
MARK	A	B
B504	2'-2"	4'-4"
B513	2'-11"	4'-7"



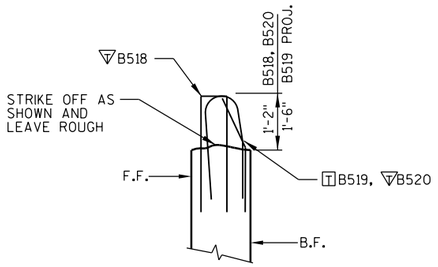
MARK	C	D
B510	1'-6"	2'-2"
B411	1'-6"	11"
B517	5'-9"	11"
B518	2'-8"	6"

SEE SHEET 6 LEGEND FOR DESCRIPTION OF

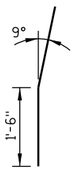
NOTE:
WING 3 SHOWN
WING 4 SIMILAR



PLAN - WING 3



PARAPET STIRRUP PROJECTION DETAIL



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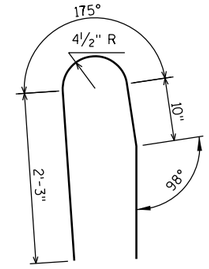

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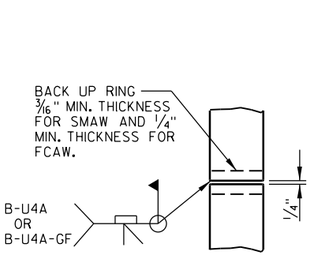

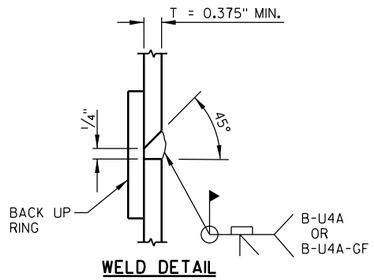

WELD DETAIL

PILE SPLICE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

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NORTH ABUTMENT DETAILS

SHEET 7 OF 12
36

8

8

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STATE PROJECT NUMBER

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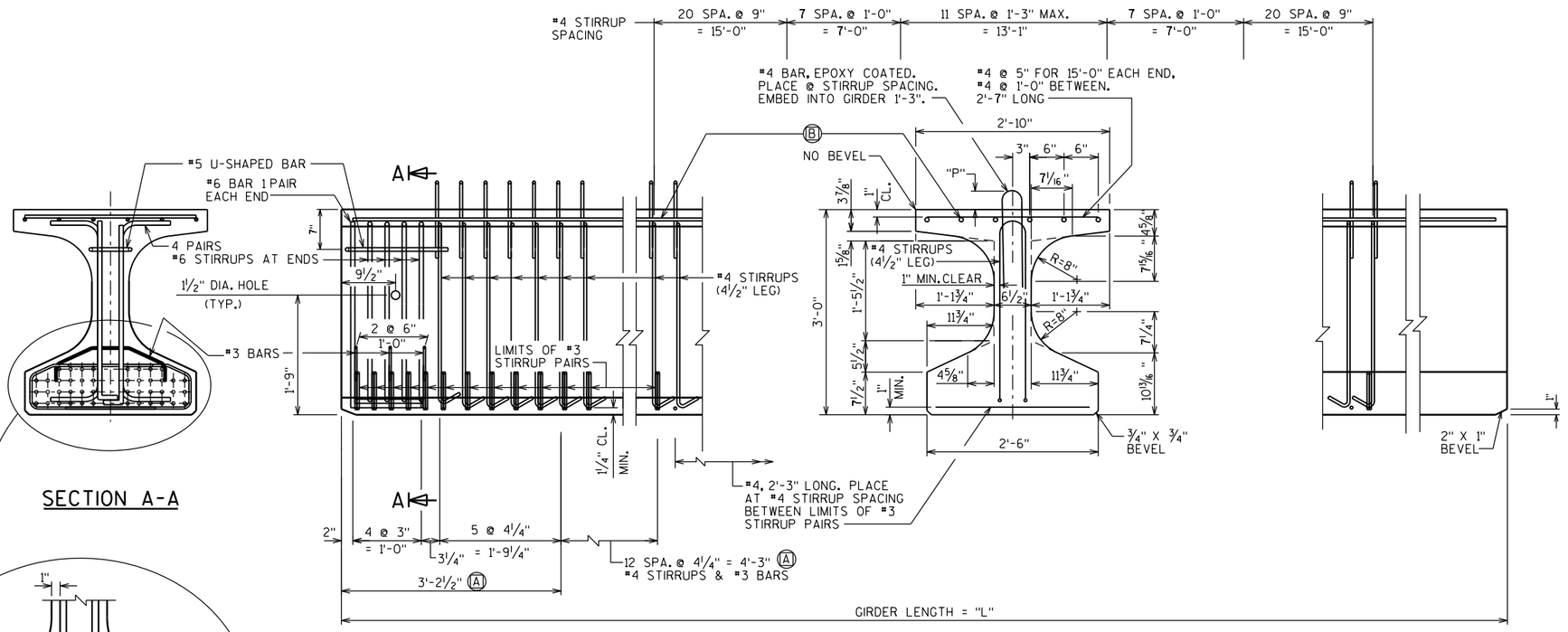


SECTION A-A

SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

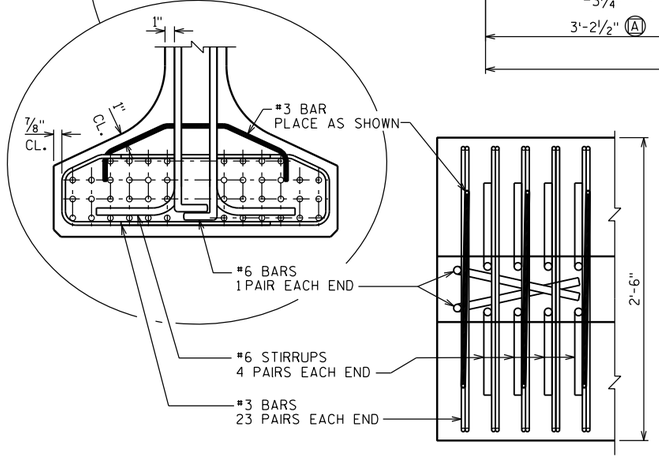
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON ACCEPTANCE OF THE STRUCTURES MAINTENANCE SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

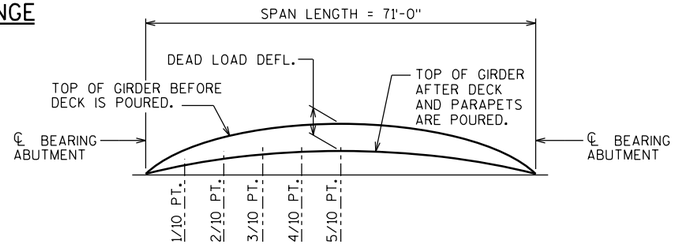


BOTTOM FLANGE

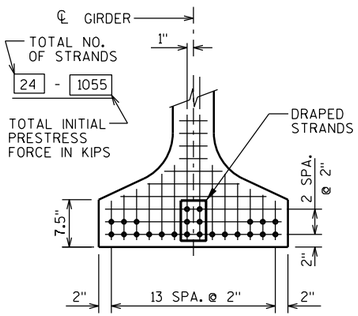
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN. VALUES INCLUDE A MAGNIFICATION FACTOR OF 1.4 TO ACCOUNT FOR CREEP BETWEEN RELEASE AND INSTALLATION.

SPAN	CAMBER (IN.)
1	2¼"

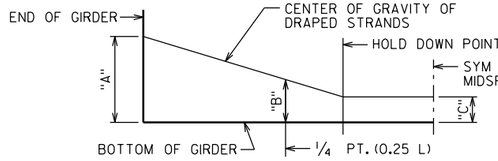
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



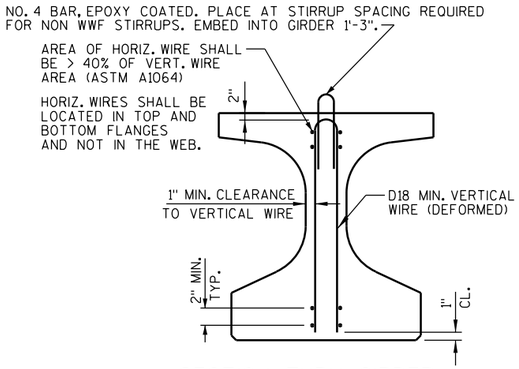
DEAD LOAD DEFLECTION DIAGRAM



TYP. STRAND PATTERN

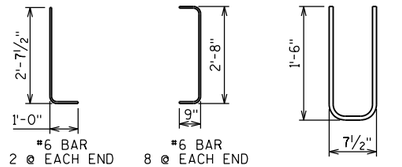


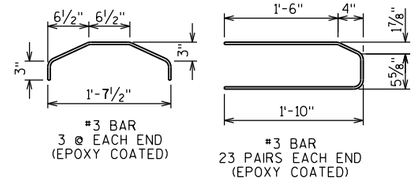
DRAPED STRAND PROFILE



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS ASTM A497 (Fy = 70 Ksi)





* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1&4	72'-0"	0.28	0.53	0.73	0.85	0.90	0.85	0.73	0.53	0.28	8000	7"	8.5"	7"	0.6	24	6800	26	9.5	11.5	4	-	-
1	2&3	72'-0"	0.32	0.61	0.84	0.98	1.03	0.98	0.84	0.61	0.32	8000	7"	8.5"	7"	0.6	24	6800	26	9.5	11.5	4	-	-

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STATE OF WISCONSIN
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STRUCTURE B-54-135

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36W" PRESTRESSED GIRDER DETAILS

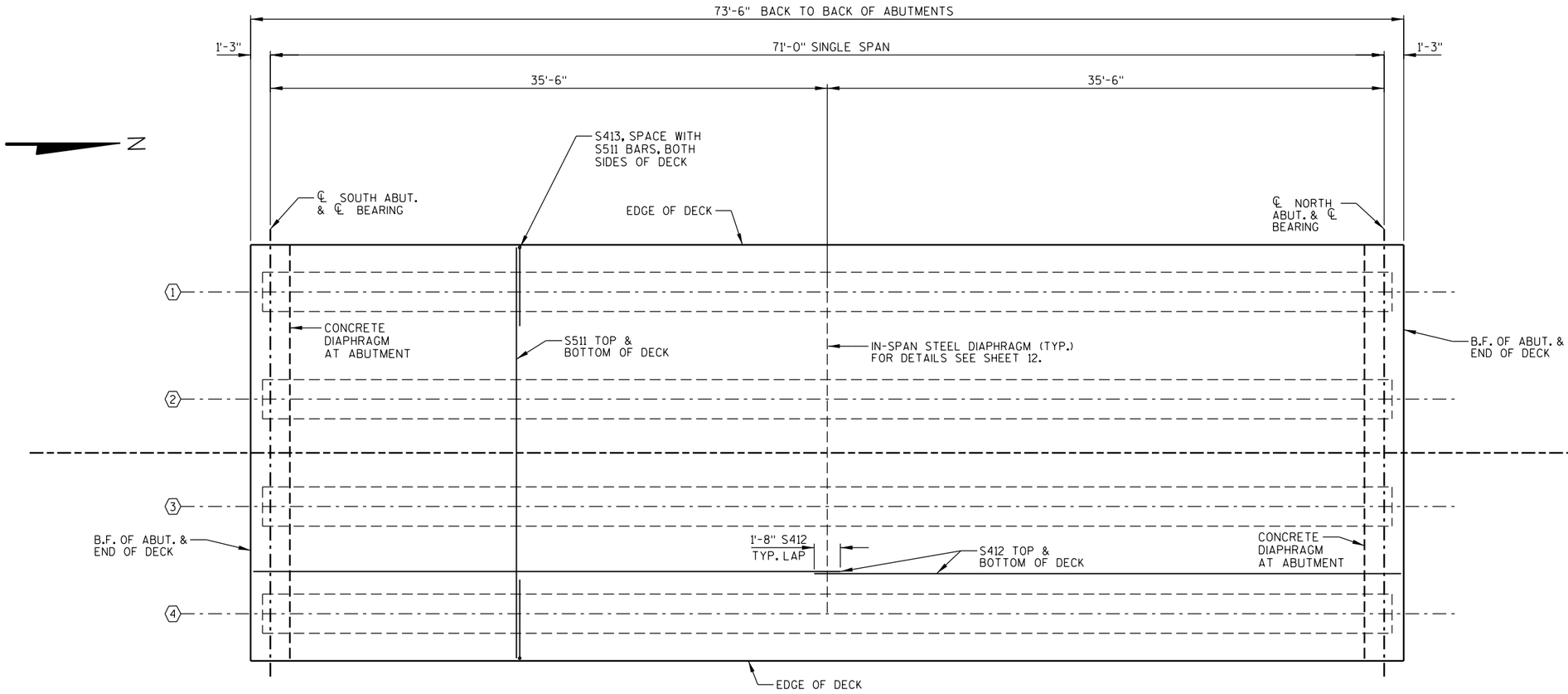
SHEET R OF 12
37

FILE= 6747026_08.DGN
DATE=4/12/2021

8

8

STATE PROJECT NUMBER
8771-00-70



PLAN

GENERAL NOTES

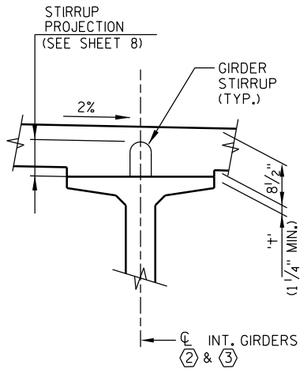
⬡ - INDICATES GIRDER NUMBER

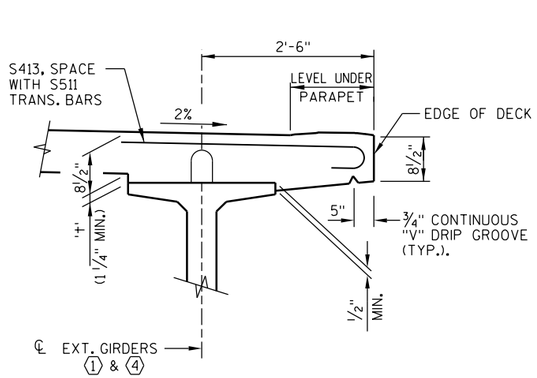
SEE SHEET 10 FOR TRANSVERSE AND LONGITUDINAL BAR SPACING.

SEE SHEET 12 FOR LOCATION OF DIAPHRAGM INSERTS ON GIRDERS.

TOP OF DECK ELEVATIONS

LOCATION	SPAN POINT	EAST DECK EDGE	C/L GIRDER 4	C/L GIRDER 3	C/L CTH M	C/L GIRDER 2	C/L GIRDER 1	WEST DECK EDGE
S. ABUT.	1	1355.62	1355.65	1355.82	1355.90	1355.82	1355.65	1355.62
	1.1	1355.74	1355.76	1355.93	1356.02	1355.93	1355.76	1355.74
	1.2	1355.83	1355.85	1356.02	1356.11	1356.02	1355.85	1355.83
	1.3	1355.90	1355.93	1356.10	1356.18	1356.10	1355.93	1355.90
	1.4	1355.96	1355.98	1356.15	1356.24	1356.15	1355.98	1355.96
	1.5	1355.99	1356.02	1356.19	1356.27	1356.19	1356.02	1355.99
	1.6	1356.01	1356.03	1356.20	1356.29	1356.20	1356.03	1356.01
	1.7	1356.01	1356.03	1356.20	1356.29	1356.20	1356.03	1356.01
	1.8	1355.98	1356.01	1356.18	1356.26	1356.18	1356.01	1355.98
	1.9	1355.94	1355.97	1356.14	1356.22	1356.14	1355.97	1355.94
N. ABUT.	2	1355.91	1355.93	1356.10	1356.19	1356.10	1355.93	1355.91





DECK HAUNCH DETAIL

TO DETERMINE '+', ELEV. OF TOP OF GIRDERS AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF THE SPAN SHALL BE TAKEN. TO DETERMINE THE TOP OF DECK ELEVATION FOR POINT REFERRED USE TABLE ON THIS SHEET AND ADJUST FOR CROSS SLOPE OVER GIRDER. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION (SEE SHEET 8)
- DECK THICKNESS

= HAUNCH HEIGHT '+'

IF 1¼" MINIMUM HAUNCH HEIGHT '+' AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

NOTE: AN AVERAGE HAUNCH ("+") OF 3¼" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES."

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

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SUPERSTRUCTURE

SHEET 9 OF 12
38

8

8

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DATE= 4/12/2021

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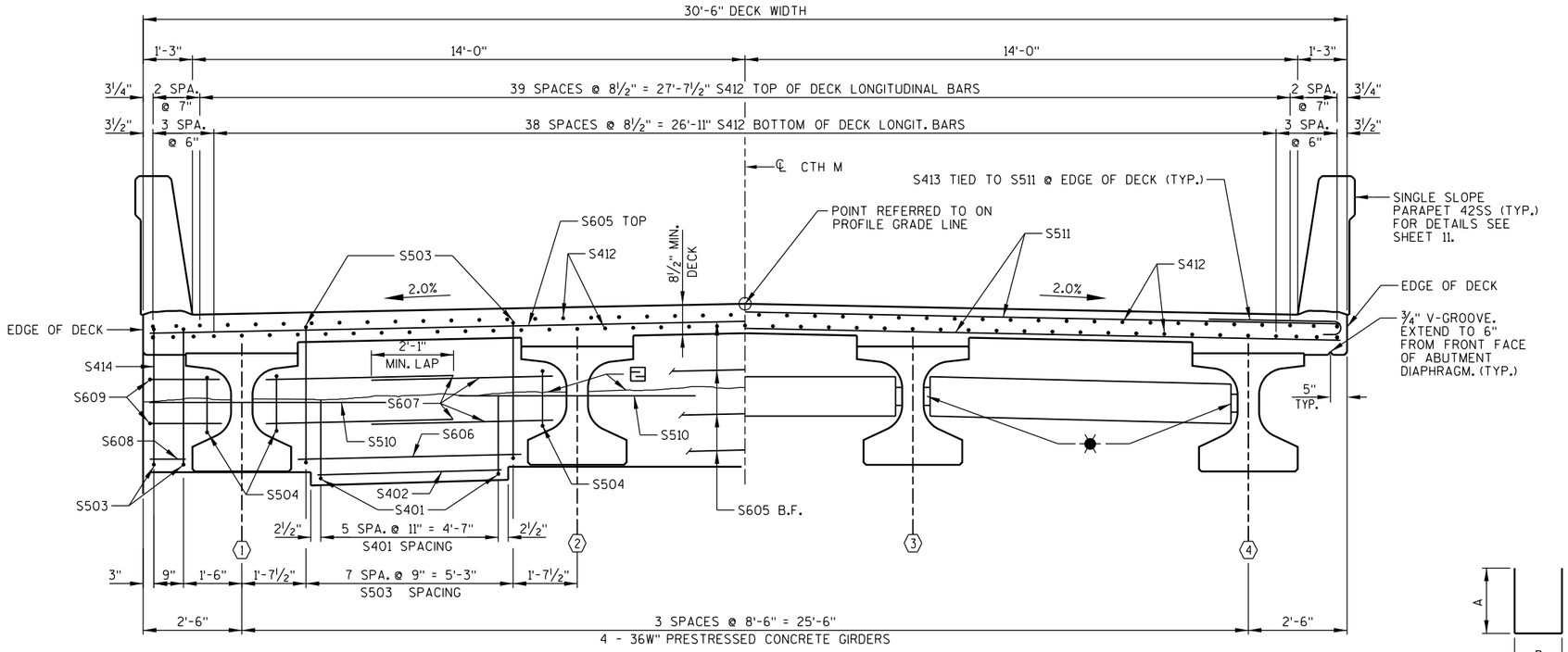


AT ABUTMENTS — IN SPAN

CROSS SECTION THRU BRIDGE

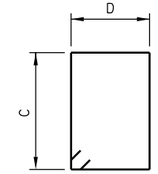
(LOOKING NORTH)

BILL OF BARS (COATED) 13,315 LBS.

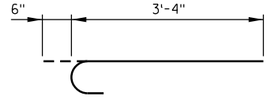
MARK	NUMBER REQ'D.	LENGTH	BENT	DESCRIPTION
S401	36	3'-9"	X	DIAPH. @ ABUT. - S.E. POCKET - STIRRUP - VERT.
S402	12	4'-8"		DIAPH. @ ABUT. - S.E. POCKET - HORIZ.
S503	56	12'-0"	X	DIAPH. @ ABUT. - STIRRUP - VERT.
S504	16	7'-8"	X	DIAPH. @ ABUT. - STIRRUP - VERT.
S605	10	30'-2"		DIAPH. @ ABUT. - B.F. & TOP - HORIZ.
S606	6	5'-8"		DIAPH. @ ABUT. - F.F. - INTERIOR BAYS - HORIZ.
S607	24	4'-9"		DIAPH. @ ABUT. - F.F. - INTERIOR BAYS - HORIZ.
S608	4	1'-0"		DIAPH. @ ABUT. - F.F. @ ENDS - HORIZ.
S609	8	5'-2"	X	DIAPH. @ ABUT. - F.F. @ ENDS - HORIZ.
S510	16	6'-0"		DIAPH. @ ABUT. - THRU GIRDER WEB - HORIZ.
S511	207	30'-2"		DECK - TOP & BOTTOM - TRANS.
S412	178	37'-5"		DECK - TOP & BOTTOM - LONGIT.
S413	208	3'-10"	X	DECK - TOP - EDGE - TRANS.
S414	8	3'-7"		DIAPH. @ ABUT. - ENDS - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR REINFORCEMENT.

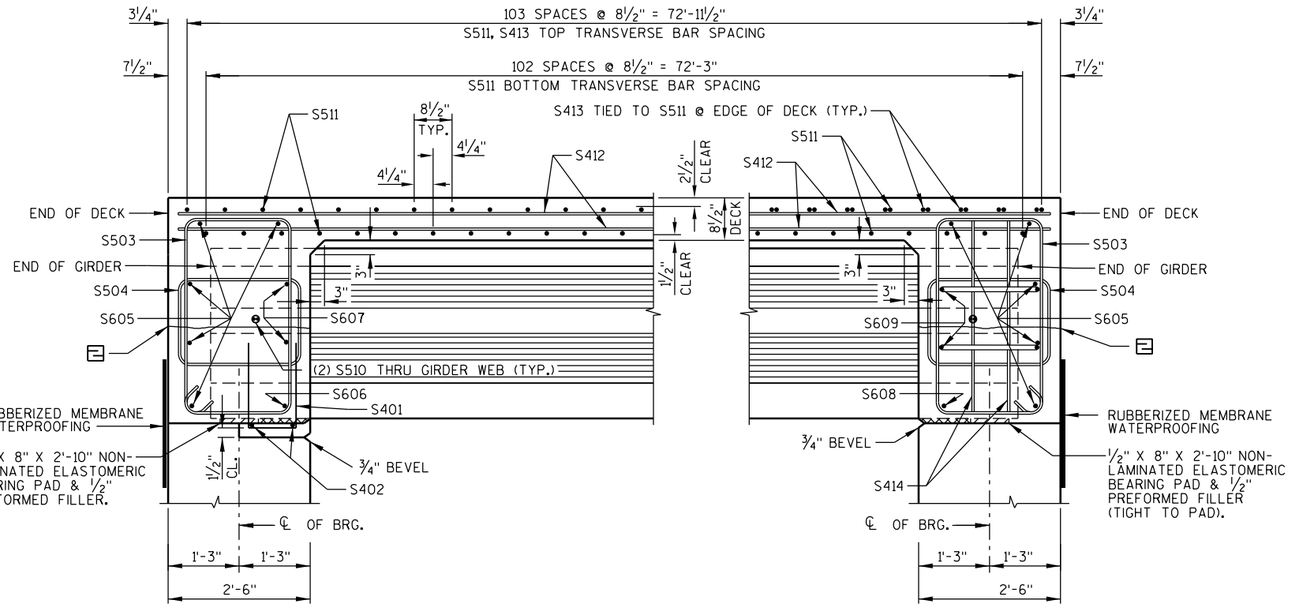
MARK	A	B
S401	1'-6"	11"
S609	1'-9"	2'-0"



MARK	C	D
S503	3'-6"	2'-2"
S504	1'-4"	2'-2"



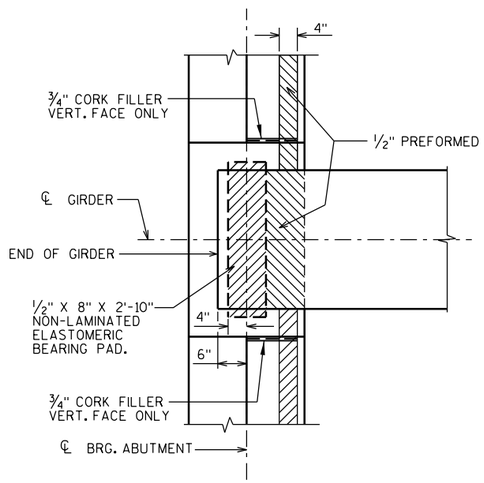
S413
STD. 180° HOOK



AT ABUTMENT INTERIOR BAYS

PART LONGITUDINAL SECTION

AT ABUTMENT ENDS



BEARING PAD DETAIL

LEGEND

⬡ - INDICATES GIRDER NUMBER

⊟ - OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDERS. IF USED DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR. HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING SHALL BE PLACED ALONG JOINT AT BACK FACE IF CONTRUCTION JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

✷ - FOR DETAILS OF STEEL DIAPHRAGMS AND DIAPHRAGM INSERTS, SEE SHEET 12. FOR LAYOUT OF STEEL DIAPHRAGMS, SEE PLAN SHEET 9.

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

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SUPERSTRUCTURE SECTIONS & DETAILS

SHEET 10 OF 12
39

8

8

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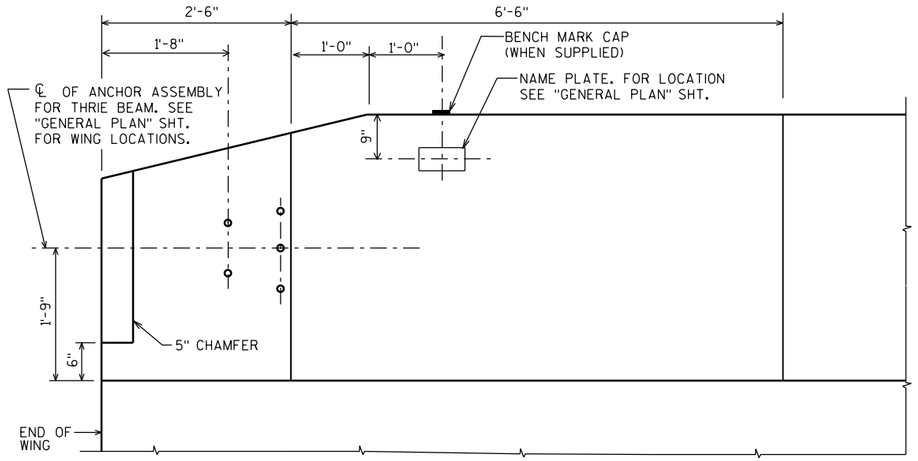
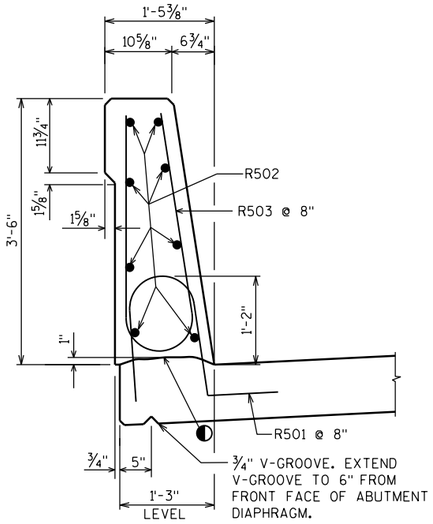
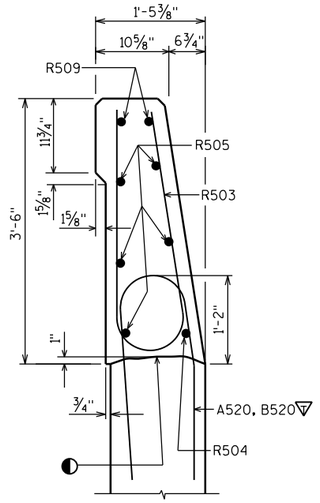


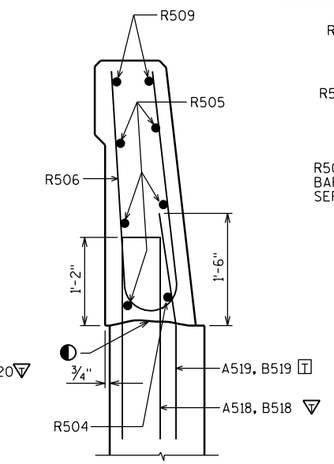
INSIDE ELEVATION



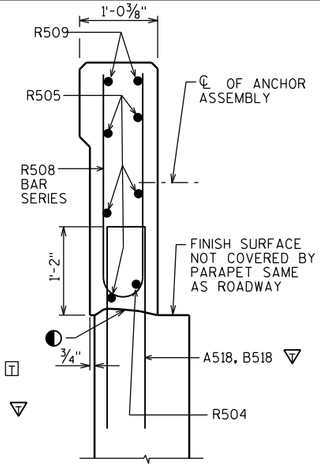
SECTION D-D
ON DECK



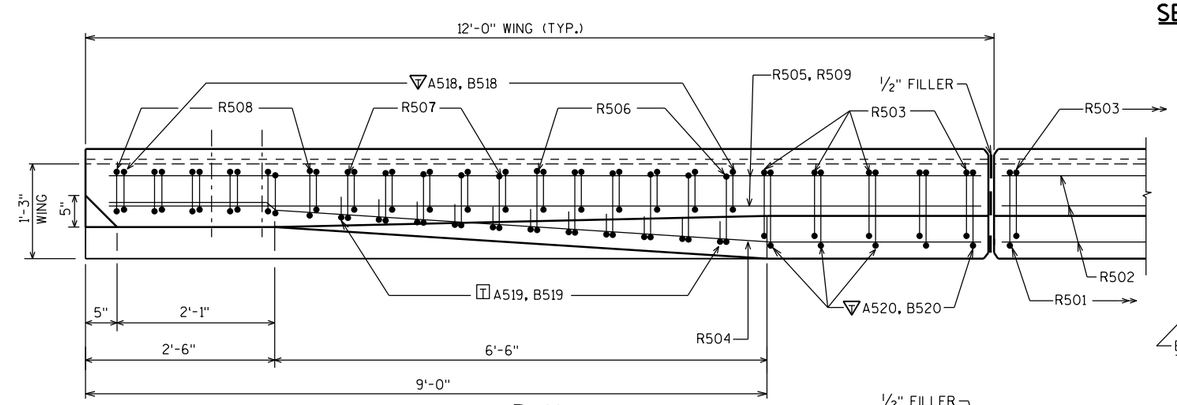
SECTION C-C
ON WING



SECTION B-B
ON WING



SECTION A-A
AT END OF WING



PLAN

DETAIL OF ANCHOR ASSEMBLY

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

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

LEGEND

◐ CONSTRUCTION JOINT STRIKE OFF AS SHOWN.

▽ A518, B518 AND A520, B520 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

T A519, B519 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE A519, B519 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

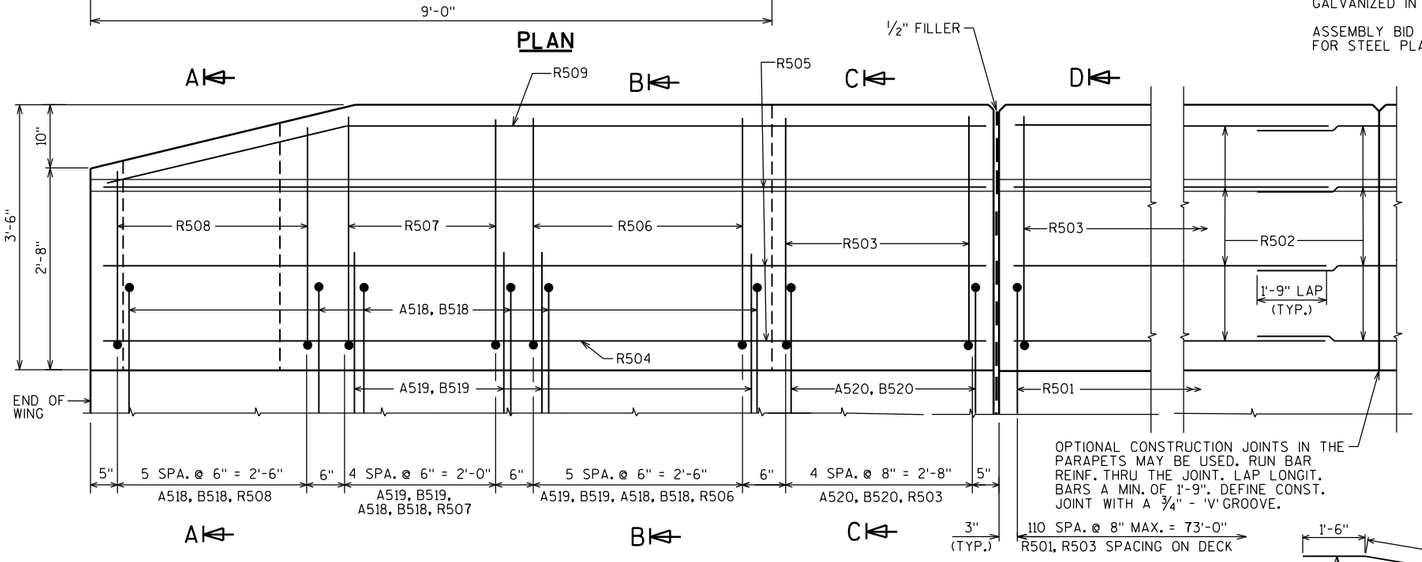
BILL OF BARS (COATED) 4,775 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	222	4'-5"	X		PARAPET ON DECK - STIRRUP - VERT.
R502	32	37'-6"			PARAPET ON DECK - LONGIT.
R503	242	6'-8"	X		PARAPET - STIRRUP - VERT.
R504	4	11'-7"	X		PARAPET ON WING - BOTTOM - LONGIT.
R505	20	11'-7"			PARAPET ON WING - LONGIT.
R506	24	6'-6"	X		PARAPET ON WING - STIRRUP - VERT.
R507	20	6'-5"	X		PARAPET ON WING - STIRRUP - VERT.
R508	24	5'-5"	X	Ⓢ	PARAPET ON WING - END - STIRRUP - VERT.
R509	8	11'-8"	X		PARAPET PARAPET ON WING - TOP - LONGIT.

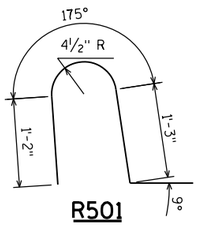
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.

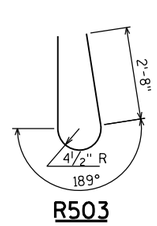
Ⓢ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BEND BAR AFTER CUTTING.



OUTSIDE ELEVATION



R501



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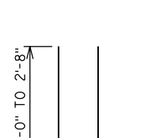
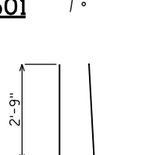


R508

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
R508	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



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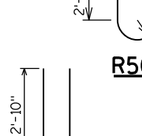

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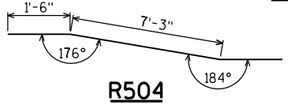

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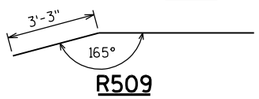

R509

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

DRAWN BY RLR | PLANS CK'D. KHB

SINGLE SLOPE PARAPET 42SS

SHEET 11 OF 12
40

FILE= 6747026_11.DGN
DATE= 4/13/2021

8

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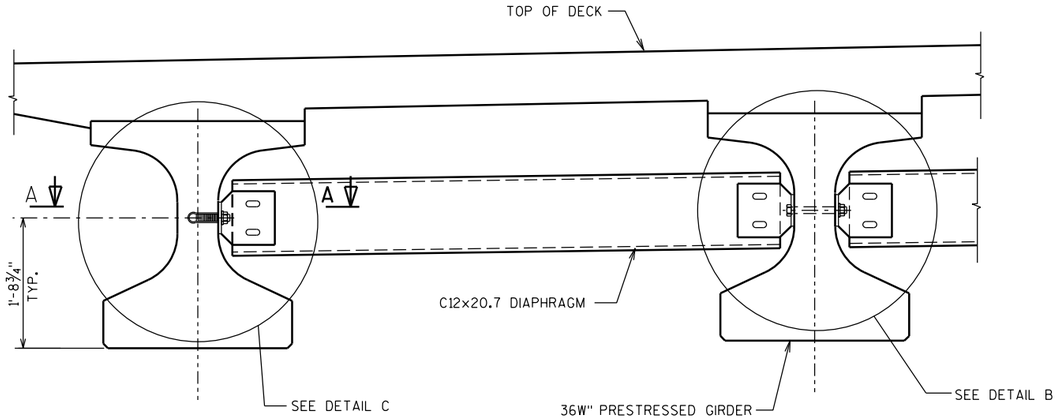
6747026_11.dgn 4/13/2021 9:59:53 AM rrabska

STATE PROJECT NUMBER

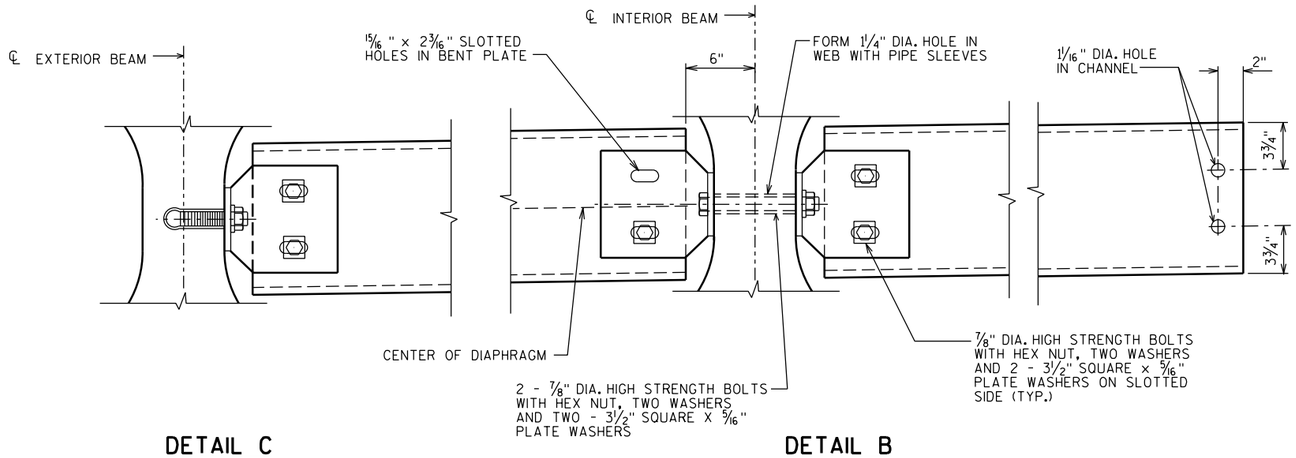
8771-00-70



EXTERIOR GIRDER

INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL C

DETAIL B

NOTES

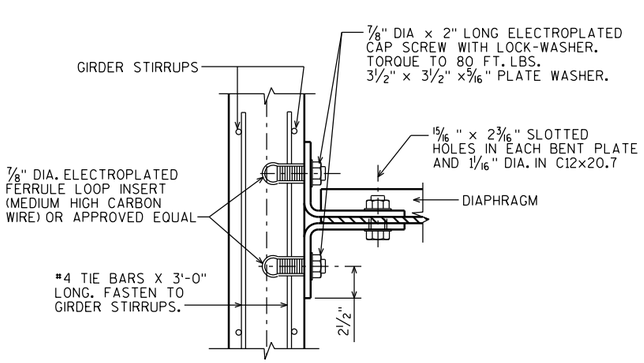
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-54-135", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

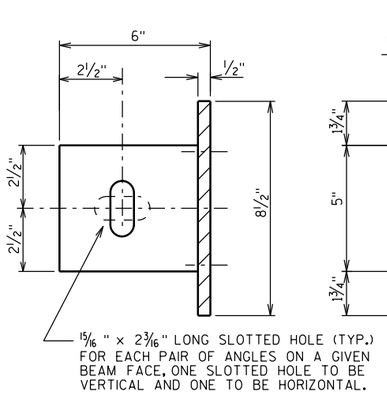
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

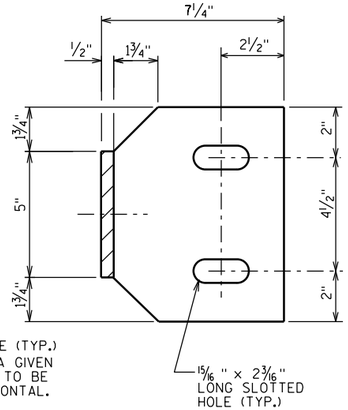


SECTION A-A

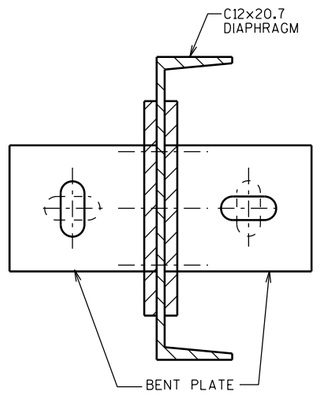
(FOR EXTERIOR ATTACHMENT)



BEAM FACE



DIAPHRAGM FACE



ATTACHMENT TO CHANNEL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-135

DRAWN BY RLR | PLANS CK'D. KHB

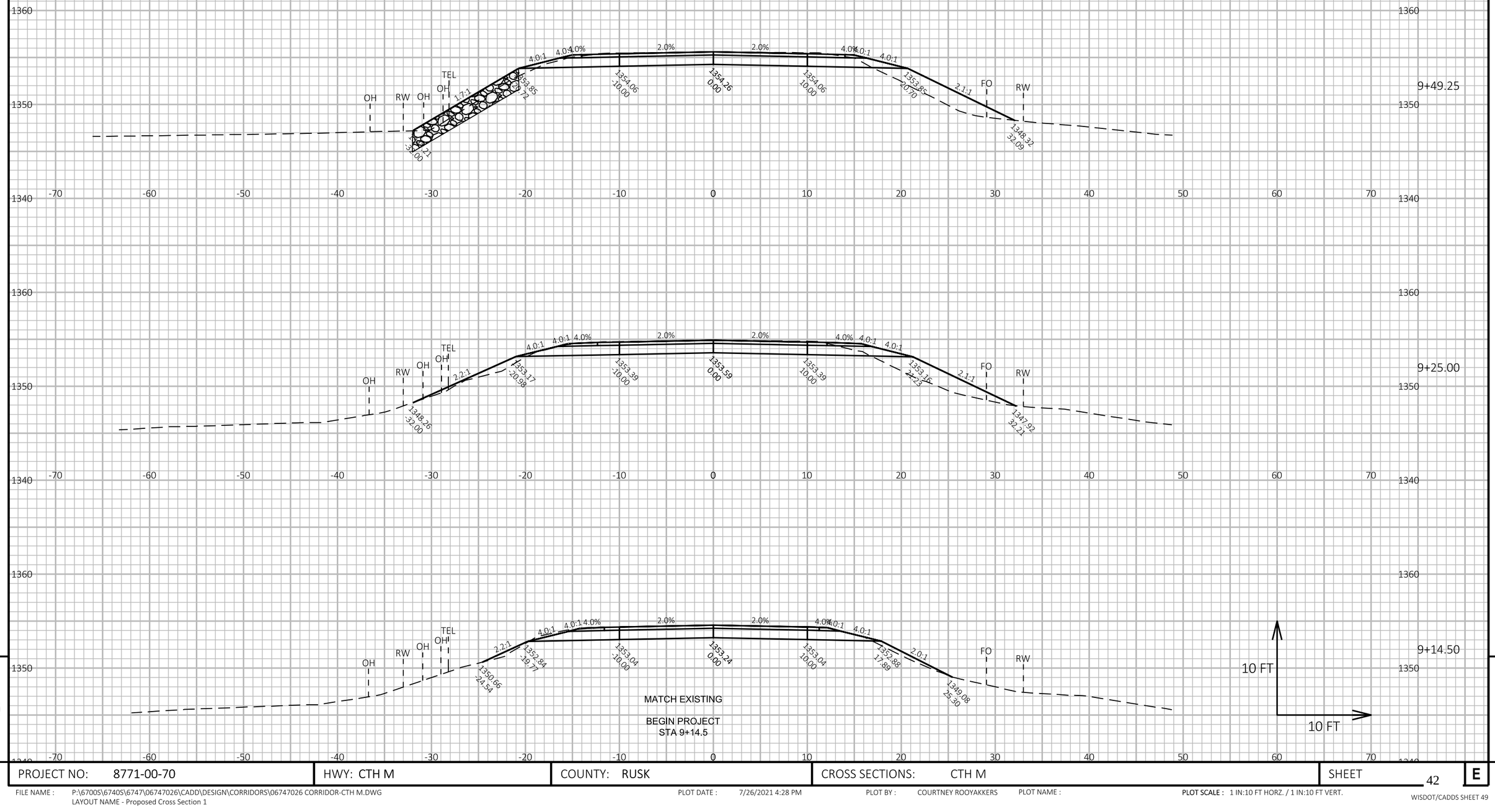
STEEL DIAPHRAGM

SHEET 12 OF 12
41

FILE= 6747026_12.DGN
DATE= 5/24/2021

6747026_12.dgn 5/24/2021 9:35:10 AM trabska

STRUCTURE B-54-0135



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LAYOUT NAME - Proposed Cross Section 1

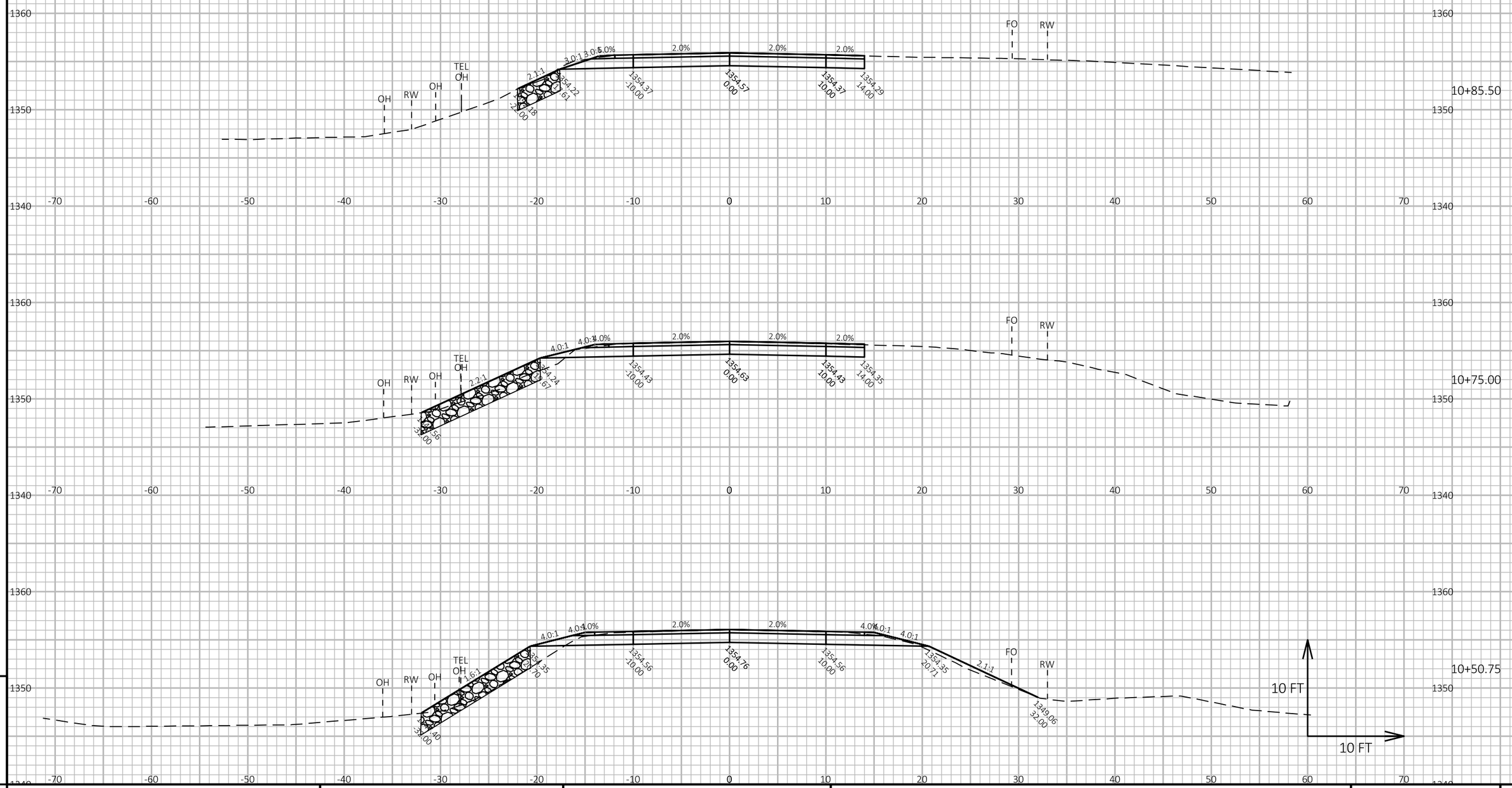
PLOT DATE : 7/26/2021 4:28 PM PLOT BY : COURTNEY ROOYAKKERS PLOT NAME :

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

WISDOT/CADDS SHEET 49

MATCH EXISTING

END PROJECT
STA 10+85.5



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9

PROJECT NO: 8771-00-70	HWY: CTH M	COUNTY: RUSK	CROSS SECTIONS: CTH M	SHEET 43	E

FILE NAME : P:\6700S\6740S\6747\06747026\CADD\DESIGN\CORRIDORS\06747026 CORRIDOR-CTH M.DWG
LAYOUT NAME - Proposed Cross Section 2

PLOT DATE : 7/26/2021 4:28 PM

PLOT BY : COURTNEY ROOYAKKERS

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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