EAU

MARCH 09, 2021

PROJECT ID: 7218-00-71

COUNTY: BUFFALO

ORDER OF SHEETS

TOTAL SHEETS = 44

22

DESIGN DESIGNATION

A.A.D.T.	2015	=	94
A.A.D.T.	2035	=	103
D.H.V.		=	N/A
D.D.		=	50/50
T.		=	50%
DESIGN SPEED		=	45 MPH
ESALS		=	52,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	XCTR	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

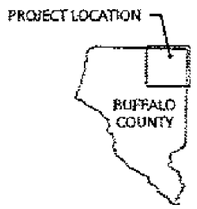
PLAN OF PROPOSED IMPROVEMENT

T NAPLES, ALLEMAN ROAD

BUFFALO RIVER BRIDGE B-06-0301

LOCAL STR
BUFFALO COUNTY

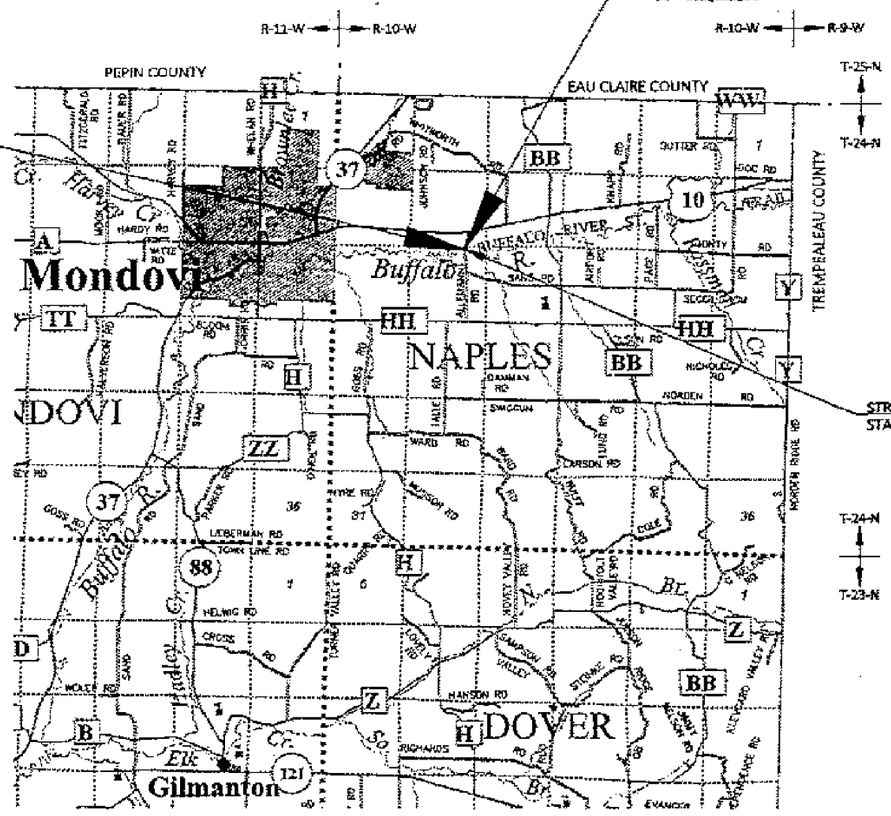
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7218-00-71	WISC 2021236	1



STATE PROJECT NUMBER
7218-00-71

BEGIN PROJECT
STA 9+00
Y = 395,908.31
X = 622,312.40

END PROJECT
STA 11+00
Y = 396,107.98
X = 622,322.95



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.038 MILES

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

ACCEPTED FOR
BUFFALO COUNTY
Date 10/26/20 [Signature and Title of Official] Buffalo City Commissioner Interim

ORIGINAL PLANS PREPARED BY
WISCONSIN
JACOB A. FRIBERG
E-43928
RICE LAKE
WI
PROFESSIONAL ENGINEER
DATE: 10/23/2020 [Professional Engineer Signature]

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	COOPER ENGINEERING
Designer	COOPER ENGINEERING
Project Manager	MATTHEW THORNSEN, PE
Regional Supervisor	ANDREW STENSLAND, PE
Regional Reviewer	TOU YANG, PE

APPROVED FOR THE DEPARTMENT
DATE: 10/26/2020 [Signature]

E

FILE NAME : G:\2019-PROJ\19258029\C3D\SHEETSPLAN\010101_TI.DWG PLOT DATE : 10/20/2020 1:27 PM PLOT BY : JACOB FRIBERG PLOT NAME :

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRES
AGG	AGGREGATE
AH	AHEAD
ADT	AVERAGE DAILY TRAFFIC
AVG.	AVERAGE
ASPH	ASPHALTIC
BK.	BACK
BM	BENCHMARK
△	CENTRAL ANGLE OR DELTA
℄ , C/L	CENTERLINE
C & G	CURB AND GUTTER
CABC	CRUSHED AGGREGATE BASE COURSE
CONC.	CONCRETE
COR	CORNER
CORR	CORRUGATED
CSCP	CORRUGATED STEEL CULVERT PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CTH	COUNTY TRUNK HIGHWAY
CP.	CULVERT PIPE
CY	CUBIC YARD
CWT.	HUNDREDWEIGHT
DIA	DIAMETER
D	DEGREE OF CURVE
DHV	DESIGN HOURLY VOLUME
DWY	DRIVEWAY
EBS	EXC. BELOW SUB GRADE
ELEV., EL	ELEVATION
ELEC.	ELECTRIC
EXC	EXCAVATION
EXIST	EXISTING
E	EAST
FE	FIELD ENTRANCE
FF.	FACE TO FACE
FL, F/L	FLOW LINE
FS	FULL SUPERELEVATION
G	GARAGE
GN	GRID NORTH
H	HOUSE
HYD	HYDRANT
I	INTERSECTION ANGLE
INTERS	INTERSECTION
INV.	INVERT
IP	IRON PIN OR PIPE
LC	LONG CHORD OF CURVE
LF	LINEAR FOOT
LHF	LEFT HAND FORWARD
L	LENGTH OF CURVE
LT.	LEFT
LS	LUMP SUM
MH	MANHOLE
N	NORTH
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PP	POWER POLE
PT	POINT OF TANGENCY
R	RANGE , RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
RD	ROAD
REBAR	REINFORCEMENT BAR
REQD	REQUIRED
RDWY	ROADWAY
RHF	RIGHT HAND FORWARD
RL, R/L	REFERENCE LINE
RR	RAILROAD
RT.	RIGHT
R/W	RIGHT-OF-WAY
S	SOUTH
SAN S	SANITARY SEWER
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF.	SQUARE FEET
SHLDR	SHOULDER
SPECS	SPECIFICATIONS
SQ.	SQUARE
SS.	STORM SEWER
SY.	SQUARE YARD
STH	STATE TRUNK HIGHWAY
ST.	STREET
STA.	STATION
SW	SIDEWALK
T	TANGENT
TC	TOP OF CURB
TL , T/L	TRANSIT LINE
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
USH	UNITED STATES HIGHWAY
UG	UNDERGROUND
V	DESIGN SPEED
VAR.	VARIABLE
VERT	VERTICAL
YD	YARD

UTILITY CONTACTS

ELECTRIC

XCEL ENERGY
CORISSA SEELY
P.O. BOX 8
EAU CLAIRE, WI 54702
PHONE: (800) 895-4999
EMAIL: corissa.e.seely@xcel.com

COMMUNICATIONS

NELSON TELEPHONE CO-OP
MATT HOYT
313 3RD AVENUE, P.O. BOX 228
DURAND, WI 54736
PHONE: (715) 672-4204
EMAIL: matt@ntec.net

ALL UTILITIES LISTED ARE MEMBERS OF DIGGERS HOTLINE

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

OTHER CONTACTS

DESIGN CONSULTANT

COOPER ENGINEERING
JACOB FRIBERG
2600 COLLEGE DRIVE
RICE LAKE, WI 54868
PHONE: (715) 234-7008
EMAIL: jfriberg@cooperengineering.net

BUFFALO COUNTY

HIGHWAY COMMISSIONER (INTERIM)
JOHN DEWITT
S1672 STATE ROAD 37
ALMA, WI 54610
PHONE: (608) 685-6226
EMAIL: John.Dewitt@co.buffalo.wi.us

WDNR REGIONAL CONTACT

WDNR/WISDOT LIAISON
AMY LESIK
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: (715) 836-6571
EMAIL: AmyL.Lesik@Wisconsin.gov

GENERAL NOTES:

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.

ACCESS TO ALL RESIDENCES & SIDE ROADS SHALL BE MAINTAINED DURING CONSTRUCTION.

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

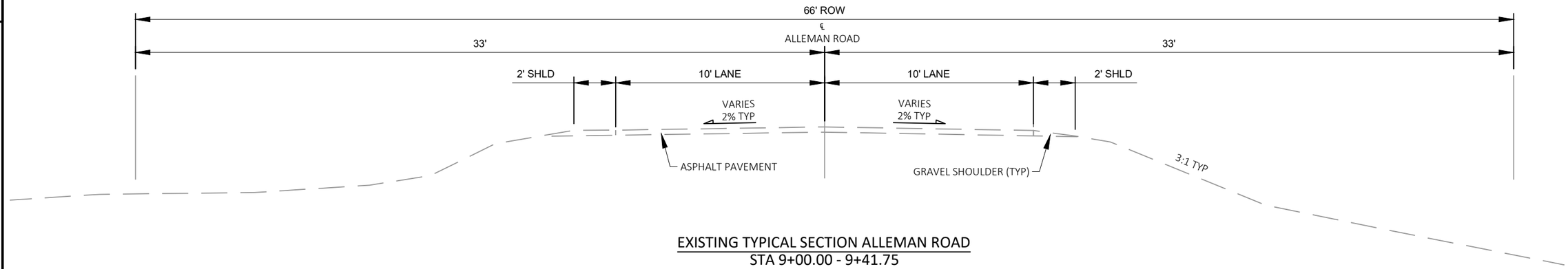
THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

ALLEMAN ROAD WILL BE CLOSED DURING CONSTRUCTION AND NO DETOUR ROUTE WILL BE MARKED.

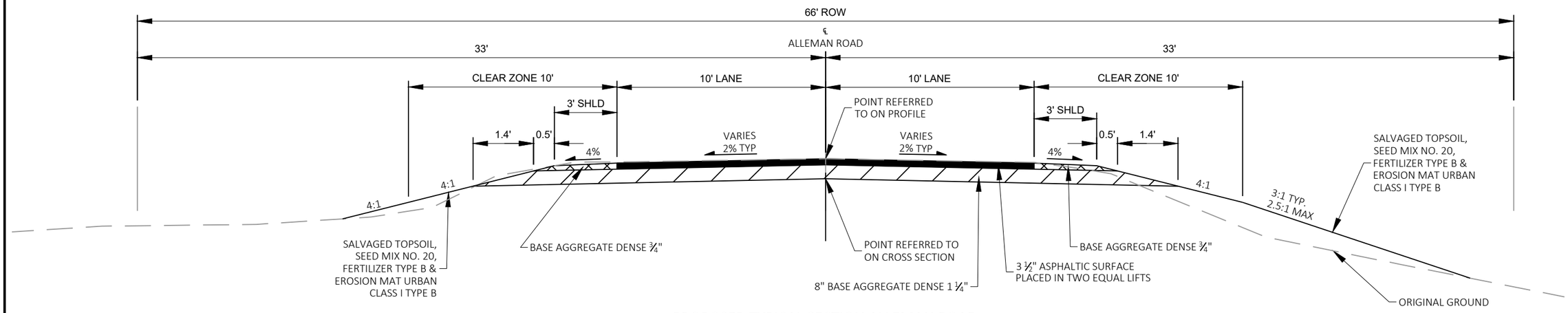
RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP								
	A			B			C		
	SLOPE RANGE (%)			SLOPE RANGE (%)			SLOPE RANGE (%)		
LAND USE:	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
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36
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 = 0.30 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.13 ACRES



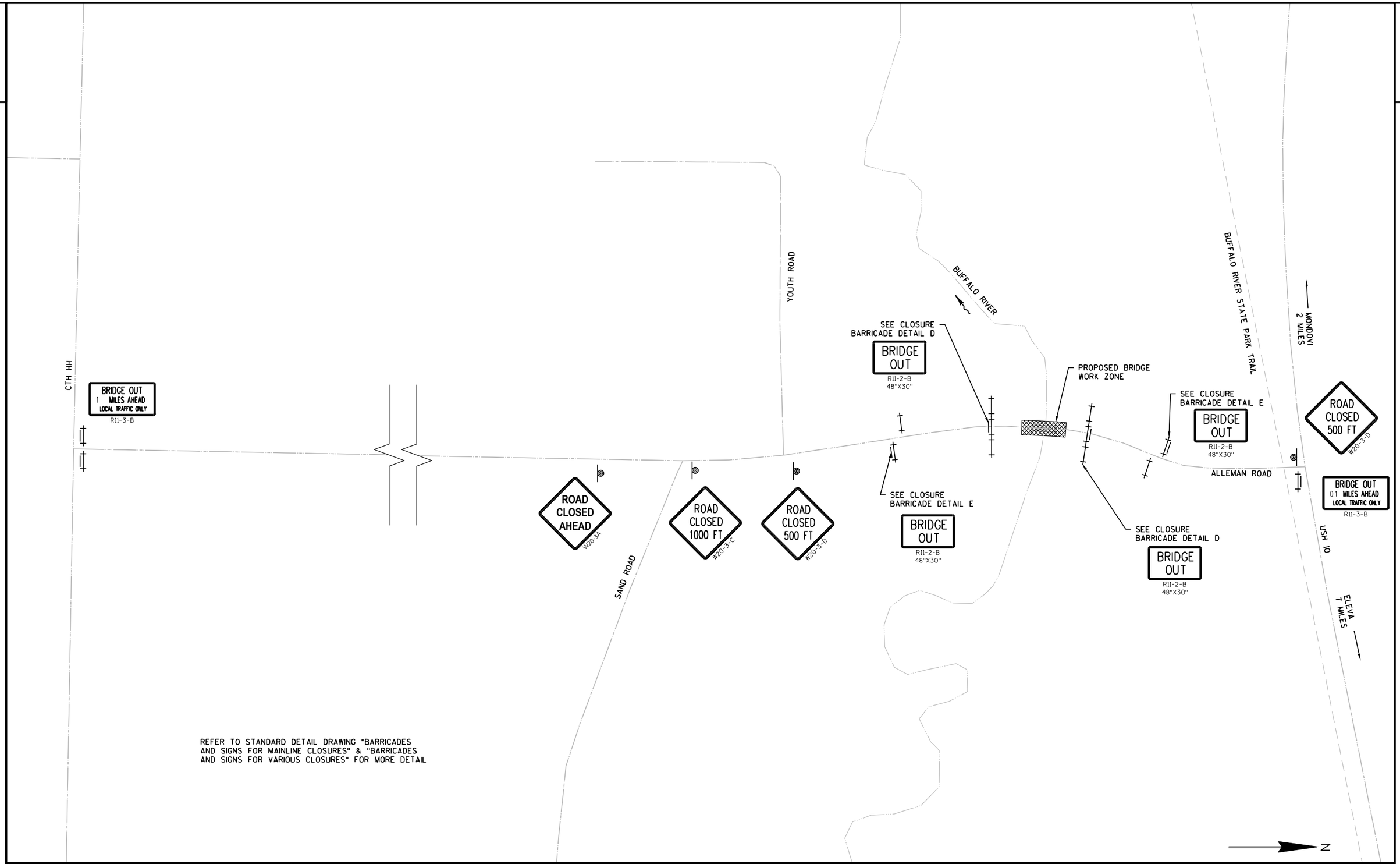
EXISTING TYPICAL SECTION ALLEMAN ROAD
STA 9+00.00 - 9+41.75
STA 10+58.25 - 11+00.00



PROPOSED TYPICAL SECTION ALLEMAN ROAD
STA 9+00.00 - 9+41.75
STA 10+58.25 - 11+00.00

PROJECT NO: 7218-00-71	HWY: ALLEMAN ROAD	COUNTY: BUFFALO	TYPICAL SECTION	SHEET 3	E

2



PROJECT NO: 7218-00-71	HWY: ALLEMAN ROAD	COUNTY: BUFFALO	TRAFFIC CONTROL OVERVIEW	SHEET 4	E

FILE NAME : G:\2019-PROJ\19258029\C3D\SHEETSPLAN\025001_TC.DWG
LAYOUT NAME - 025001_tc

PLOT DATE : 3/31/2020 1:47 PM PLOT BY : JACOB FRIBERG PLOT NAME : PLOT SCALE : 1 IN:400 FT

7218-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0004	205.0100	Excavation Common	CY	80.000	80.000
0006	206.1000	Excavation for Structures Bridges (structure) 01. B-6-301	LS	1.000	1.000
0008	206.5000	Cofferdams (structure) 01. B-6-301	LS	1.000	1.000
0010	208.0100	Borrow	CY	30.000	30.000
0012	210.1500	Backfill Structure Type A	TON	240.000	240.000
0014	213.0100	Finishing Roadway (project) 01. 7218-00-71	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	20.000	20.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	140.000	140.000
0020	455.0605	Tack Coat	GAL	20.000	20.000
0022	465.0105	Asphaltic Surface	TON	50.000	50.000
0024	502.0100	Concrete Masonry Bridges	CY	306.000	306.000
0026	502.3200	Protective Surface Treatment	SY	465.000	465.000
0028	502.9000.S	Underwater Substructure Inspection (Structure) 01. B-6-301	EACH	2.000	2.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	7,130.000	7,130.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	42,230.000	42,230.000
0034	513.4061	Railing Tubular Type M	LF	238.000	238.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0038	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	1,680.000	1,680.000
0040	606.0300	Riprap Heavy	CY	75.000	75.000
0042	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0044	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7218-00-71	EACH	1.000	1.000
0046	619.1000	Mobilization	EACH	1.000	1.000
0048	625.0500	Salvaged Topsoil	SY	285.000	285.000
0050	628.1504	Silt Fence	LF	350.000	350.000
0052	628.1520	Silt Fence Maintenance	LF	350.000	350.000
0054	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0056	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0058	628.2008	Erosion Mat Urban Class I Type B	SY	285.000	285.000
0060	628.6005	Turbidity Barriers	SY	180.000	180.000
0062	629.0210	Fertilizer Type B	CWT	0.200	0.200
0064	630.0120	Seeding Mixture No. 20	LB	10.000	10.000
0066	630.0500	Seed Water	MGAL	10.000	10.000
0068	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0070	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0072	638.2602	Removing Signs Type II	EACH	4.000	4.000
0074	638.3000	Removing Small Sign Supports	EACH	4.000	4.000

7218-00-71

Line	Item	Item Description	Unit	Total	Qty
0076	642.5001	Field Office Type B	EACH	1.000	1.000
0078	643.0420	Traffic Control Barricades Type III	DAY	1,235.000	1,235.000
0080	643.0705	Traffic Control Warning Lights Type A	DAY	2,090.000	2,090.000
0082	643.0900	Traffic Control Signs	DAY	1,045.000	1,045.000
0084	643.5000	Traffic Control	EACH	1.000	1.000
0086	645.0111	Geotextile Type DF Schedule A	SY	60.000	60.000
0088	645.0120	Geotextile Type HR	SY	110.000	110.000
0090	650.4500	Construction Staking Subgrade	LF	84.000	84.000
0092	650.5000	Construction Staking Base	LF	84.000	84.000
0094	650.6500	Construction Staking Structure Layout (structure) 01. B-6-301	LS	1.000	1.000
0096	650.9910	Construction Staking Supplemental Control (project) 01. 7218-00-71	LS	1.000	1.000
0098	650.9920	Construction Staking Slope Stakes	LF	84.000	84.000
0100	690.0150	Sawing Asphalt	LF	40.000	40.000
0102	715.0502	Incentive Strength Concrete Structures	DOL	3,060.000	3,060.000
0104	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0106	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0108	SPV.0090	Special 01. Flashing Stainless Steel	LF	223.000	223.000

CATEGORY	STATION	TO	STATION	SIDE	EXCAVATION COMMON 205.0100 CY	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL CY	AVAILABLE MATERIAL CY	UNEXPANDED FILL CY	EXPANDED FILL (FACTOR = 1.25) CY	MASS ORDINATE +/- CY	BORROW 208.0100
0010	9+00	-	9+42	LT/RT	45	10	35	30	40	-5	5
0010	10+58	-	11+00	LT/RT	35	10	25	40	50	-25	25
				TOTAL 0010	80	20	60	70	90	-30	30

CATEGORY	STATION	TO	STATION	SIDE	AVERAGE ASPHALT THICKNESS (IN)	LAYERS	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	TACK COAT 455.0605 GAL	ASPHALTIC SURFACE 465.0105 TON	SAWING ASPHALT 690.0150 LF
0010	9+00	-	9+42	LT/RT	3.5	2	10	70	10	25	20
0010	10+58	-	11+00	LT/RT	3.5	2	10	70	10	25	20
				TOTAL 0010			20	140	20	50	40

CATEGORY	LOCATION	SALVAGED TOPSOIL 625.0500 SY	EROSION MAT URBAN CLASS I TYPE B 628.2008 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIX NO. 20 630.0120 LB	SEED WATER 630.0500 MGAL
0010	B-6-301 SE	55	55	0.04	2	2
0010	B-6-301 SW	45	45	0.03	2	2
0010	B-6-301 NE	70	70	0.05	2	2
0010	B-6-301 NW	55	55	0.04	2	2
0010	UNDISTRIBUTED	60	60	0.04	2	2
	TOTAL 0010	285	285	0.2	10	10

CATEGORY	LOCATION	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF
0010	B-6-301 SE	50	50
0010	B-6-301 SW	90	90
0010	B-6-301 NE	70	70
0010	B-6-301 NW	70	70
0010	UNDISTRIBUTED	70	70
	TOTAL 0010	350	350

CATEGORY	LOCATION	TURBIDITY BARRIER 628.6005 SY	REMARKS
0010	B-6-301 SOUTH	90	90' LONG X 9' HIGH
0010	B-6-301 NORTH	90	90' LONG X 9' HIGH
	TOTAL 0010	180	

CATEGORY	STATION	SIDE	POSTS WOOD 4x6-INCH x 12 FT 634.0612 EA	SIGNS TYPE II REFLECTIVE F 637.2230 SF	REMOVING SIGNS TYPE II 638.2602 EA	REMOVING SMALL SIGN SUPPORTS 638.3000 EA	REMARKS
0010	9+40	LT	1	3	1	1	W5-52L
0010	9+40	RT	1	3	1	1	W5-52R
0010	10+60	LT	1	3	1	1	W5-52L
0010	10+60	RT	1	3	1	1	W5-52R
	TOTAL 0010		4	12	4	4	

CATEGORY	DAYS	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 #	DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 #	DAYS	TRAFFIC CONTROL SIGNS 643.0900 #	DAYS	REMARKS
0010	95	3	285	4	380	1	95	ROAD CLOSED DETAIL D SOUTH SIDE
0010	95	3	285	4	380	1	95	ROAD CLOSED DETAIL D NORTH SIDE
0010	95	4	380	8	760	6	570	ADVANCED ROAD CLOSED DETAIL C SOUTH SIDE
0010	95	3	285	6	570	3	285	ADVANCED ROAD CLOSED DETAIL C NORTH SIDE
	TOTAL 0010		1,235		2,090		1,045	

CATEGORY	STATION	TO	STATION	CONSTRUCTION STAKING SUBGRADE 650.4500 LF	CONSTRUCTION STAKING BASE 650.5000 LF	CONSTRUCTION STAKING SLOPE STAKES 650.9920 LF
0010	9+00	-	9+42	42	42	42
0010	10+58	-	11+00	42	42	42
			TOTAL 0010	84	84	84

PROJECT NO: 7218-00-71	HWY: ALLEMAN ROAD	COUNTY: BUFFALO	MISCELLANEOUS QUANTITIES	SHEET 7	E

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
1	10+09.29	802.57	9.1'' LT; MAG NAIL IN EXISTING BRIDGE DECK
2	11+67.04	800.30	22.9' LT; RAILROAD SPIKE IN 30" TREE

PI STA = 7+10.10
Y = 395717.817
X = 622307.491
DELTA = 11°09'40"
D = 5°27'24"
T = 102.59'
L = 204.54'
R = 1050.00'
PC STA = 6+07.50
PT STA = 8+12.04
S.E. = 6.4%

PT: 8+12.04
Y = 395,820.38
X = 622,310.14

PI: 9+47.94
Y = 395,956.23
X = 622,313.64

PI: 10+52.25
Y = 396,060.41
X = 622,318.87

PC: 11+47.81
Y = 396,155.62
X = 622,327.03

LYNNE BAUER

GEORGE & DEBRA ISAACSON

BUFFALO RIVER

SLOPE INTERCEPT (TYP)

W5-52L 12"X36"

W5-52R 12"X36"

PROPOSED STRUCTURE B-06-0301
STA 9+41.75 - 10+58.25

EXISTING STRUCTURE P-06-0121
STA 9+47.91 - 10+52.01

PROPOSED EDGE OF GRAVEL SHOULDER

EXISTING R/W

EXISTING EDGE OF ASPHALT

EXISTING DITCH

BM#1

BM#2

7+00 8+00 9+00 10+00 11+00 12+00 13+00

66' ROW

ALLEMAN ROAD

N1° 28' 38.24"E
135.898

N7° 52' 26.13"E
104.311

N4° 54' 04.48"E
95.555

8'

RIPRAP HEAVY
(SEE STRUCTURE PLANS)

TOP OF SLOPE (TYP)

TOE OF SLOPE (TYP)

PROPOSED EDGE OF ASPHALT

TOP OF BANK (TYP)

EDGE OF WATER (TYP)

WETLANDS

BEGIN PROJECT
STA 9+00
Y = 395,908.31
X = 622,312.40
MATCH EXISTING
SAW CUT REQ'D

END PROJECT
STA 11+00
Y = 396,107.98
X = 622,322.95
MATCH EXISTING
SAW CUT REQ'D

PI STA = 12+37.12
Y = 396244.603
X = 622334.665
DELTA = 14°08'33"
D = 7°57'28"
T = 89.31'
L = 177.72'
R = 720.00'
PC STA = 11+47.81
PT STA = 13+25.53
S.E. = 5.8%

EROSION CONTROL LEGEND

- SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- TURBIDITY BARRIER

PLACE EROSION MAT URBAN CLASS I TYPE B ON ALL SLOPES

EARTHWORK SUMMARY

STA 9+00.00 - 9+41.75

EXCAVATION COMMON (CUT)	= 45 CY
SALVAGED/UNUSEABLE PAVEMENT MATERIAL	= 10 CY
AVAILABLE MATERIAL	= 35 CY
FILL	= 30 CY
FILL AT 1.25 EXP	= 40 CY
BORROW	= 5 CY

STA 9+00.00
EL 802.27

VPC STA 10+00.00
VPC EL 802.77

VPI STA 10+75.00
VPI EL 803.15

VPT STA 11+50.00
VPT EL 801.74

HW100 EL. = 803.38

PROPOSED PROFILE

0.50%

-1.88%

PROPOSED STRUCTURE B-06-0301
STA 9+41.75 - 10+58.25

HW2 EL. = 799.72

EXISTING STRUCTURE P-06-0121
STA 9+47.91 - 10+52.01

ORIGINAL GROUND

OBSERVED WATER
EL. = 793.43 (8-1-19)

VCL = 150.00

K = 62.95

ORIGINAL GROUND ELEVATION

PROPOSED PROFILE ELEVATION

STA 10+00
REMOVE EXISTING STRUCTURE P-06-0121
FOUR SPAN TIMBER DECK BRIDGE
WITH ASPHALT OVERLAY
24.6' CLEAR ROADWAY WIDTH
104.1' TOTAL LENGTH (BACK TO BACK ABUTS.)

STA 10+00
PROPOSED STRUCTURE B-06-0301
THREE SPAN CONCRETE HAUNCHED SLAB BRIDGE
26' CLEAR ROADWAY WIDTH
116.5' OVERALL LENGTH (BACK TO BACK ABUTS.)

EARTHWORK SUMMARY

STA 10+58.25 - 11+00.00

EXCAVATION COMMON (CUT)	= 35 CY
SALVAGED/UNUSEABLE PAVEMENT MATERIAL	= 10 CY
AVAILABLE MATERIAL	= 25 CY
FILL	= 40 CY
FILL AT 1.25 EXP	= 50 CY
BORROW	= 25 CY

799.85	800.30	800.77	801.10	801.44	801.72	802.00	802.14	802.27	802.27	802.38	802.40	796.63	802.52	791.15	802.65	791.16	802.77	790.98	802.85	795.90	802.83	802.61	802.70	802.48	802.48	802.11	802.16	801.74	801.74	801.22	800.69	800.42	800.15	800.17	800.19
7+00		7+50		8+00		8+50		9+00		9+50		10+00		10+50		11+00		11+50		12+00		12+50		13+00	

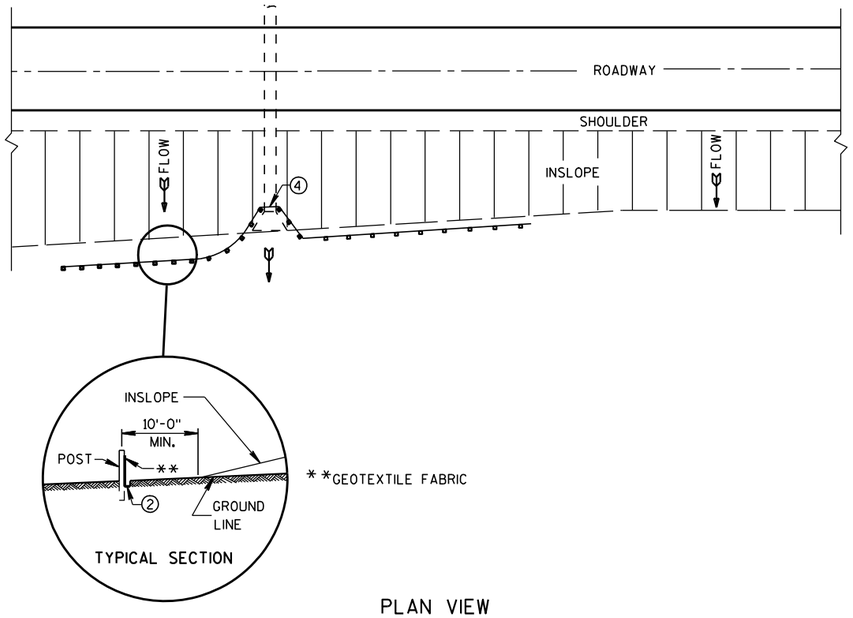
PROJECT NO: 7218-00-71	HWY: ALLEMAN ROAD	COUNTY: BUFFALO	PLAN AND PROFILE: ALLEMAN ROAD	SHEET 8 E

Standard Detail Drawing List

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
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

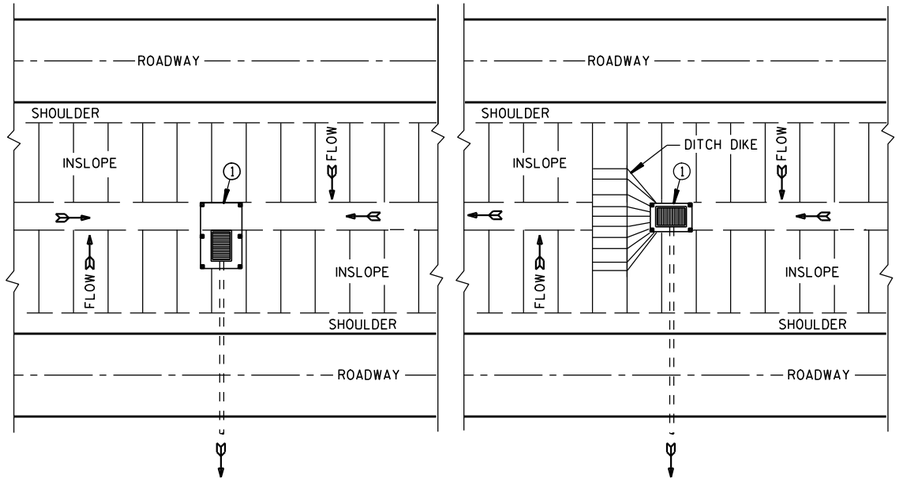
6

6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



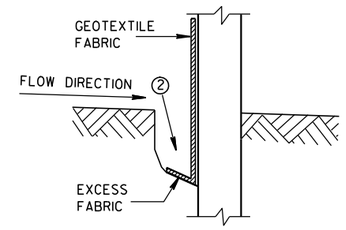
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

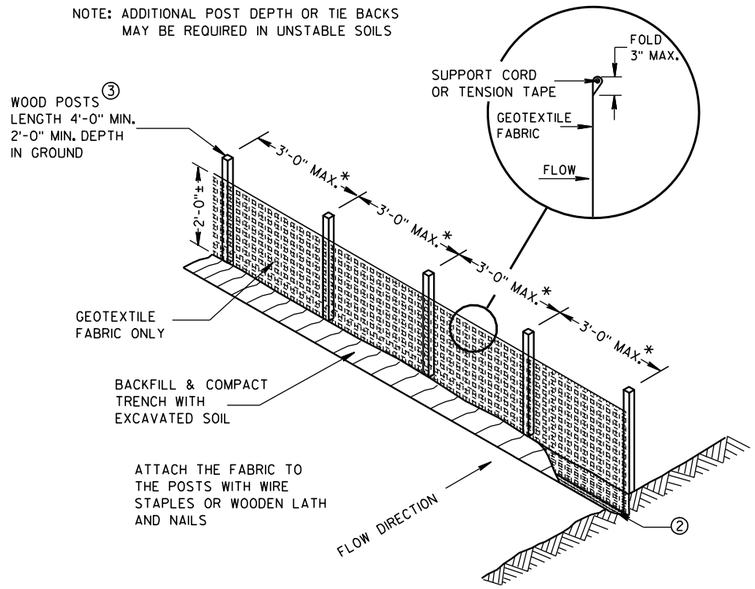
GENERAL NOTES

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

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

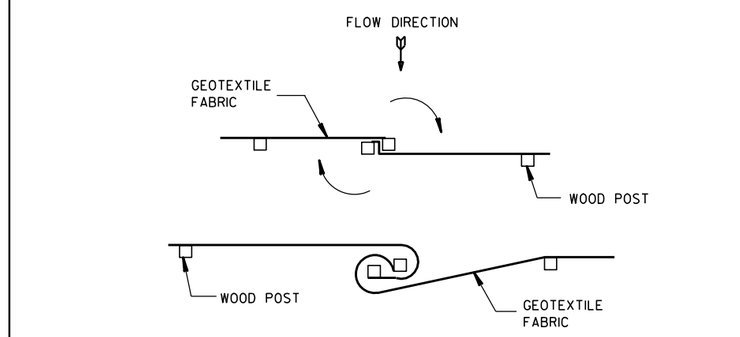


TRENCH DETAIL

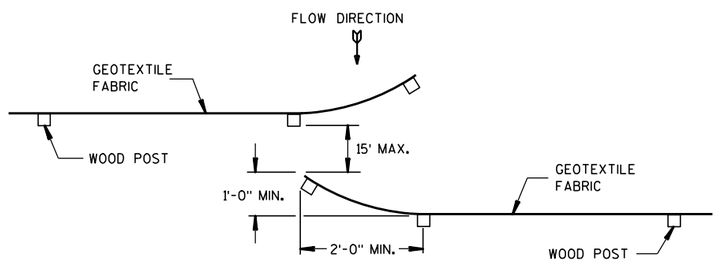


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

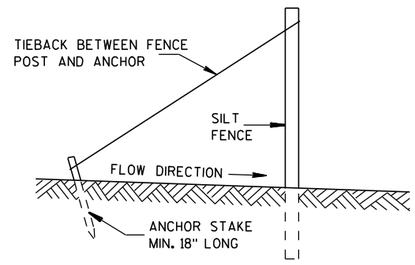


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

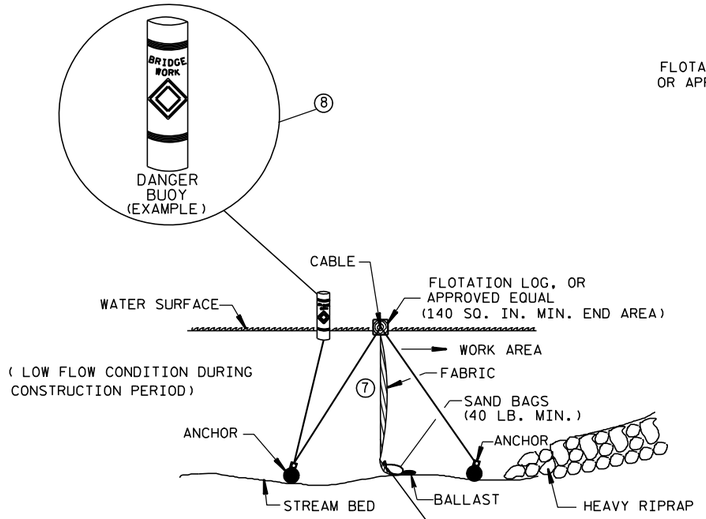
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

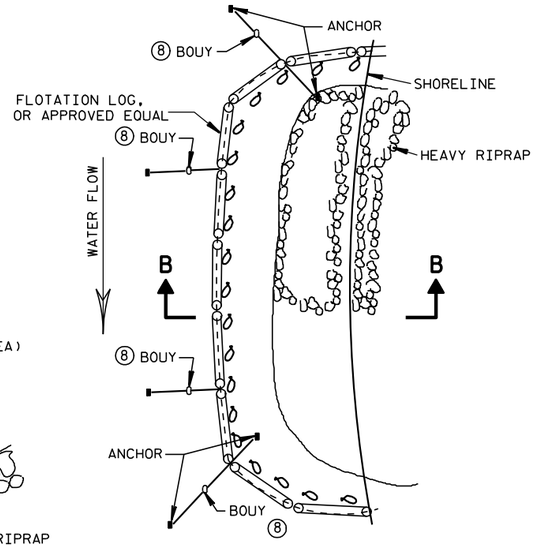
S.D.D. 8 E 9-6

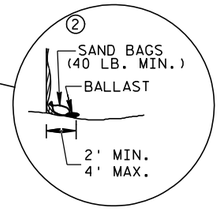
6

S.D.D. 8 E 9-6

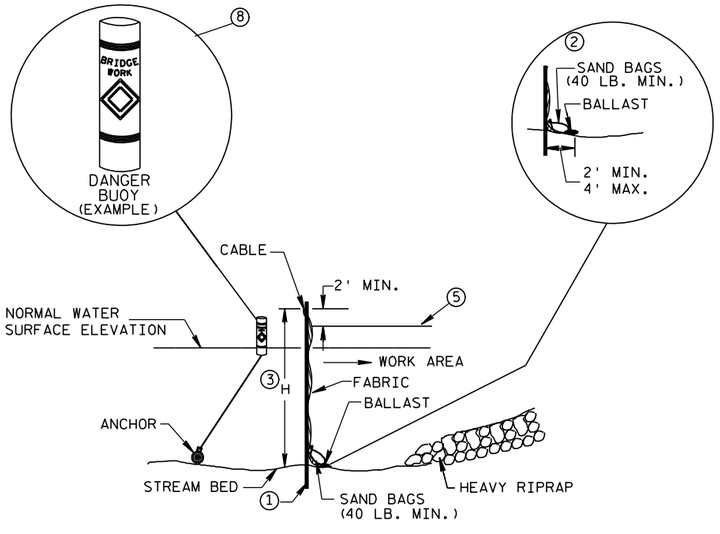


SECTION B-B

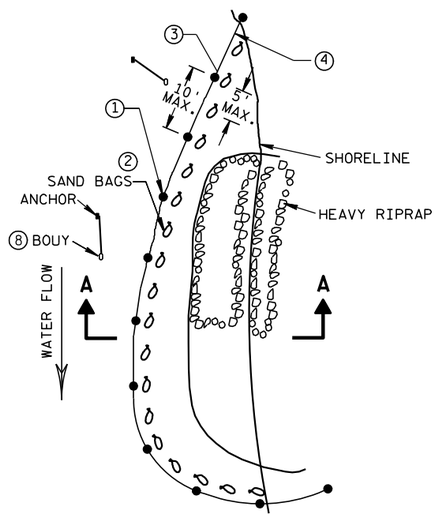




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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 SANDBAGS 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 FT., POST SPACING MAY NEED TO BE DECREASED.

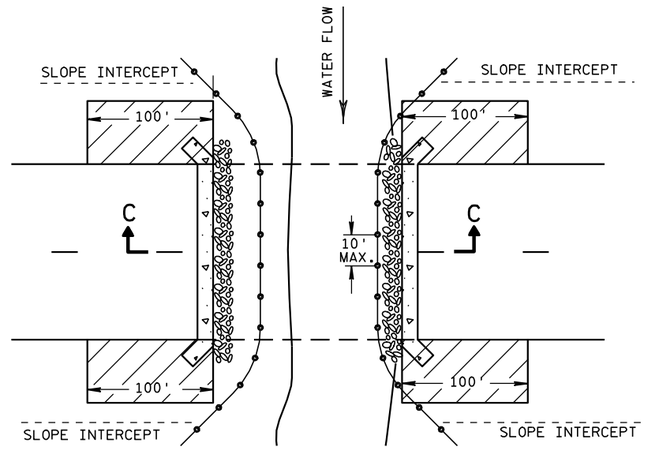
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

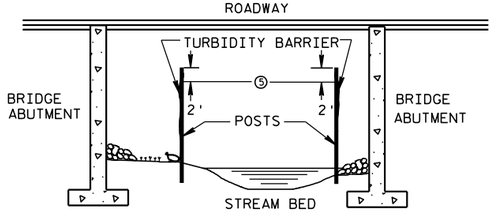
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

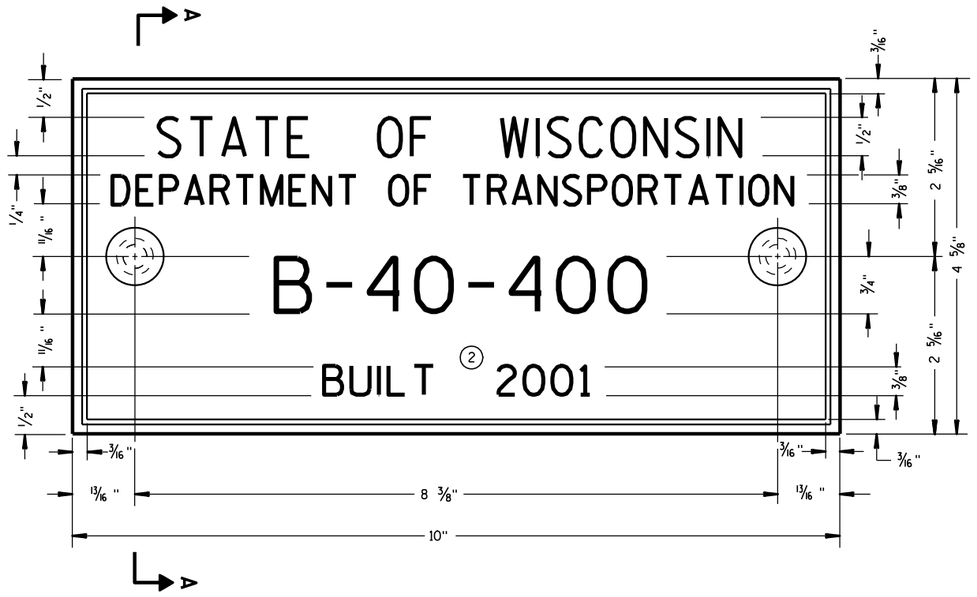
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 11-2



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

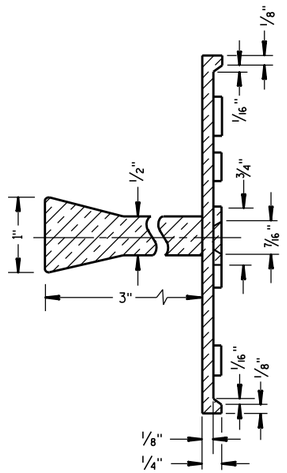
GENERAL NOTES

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

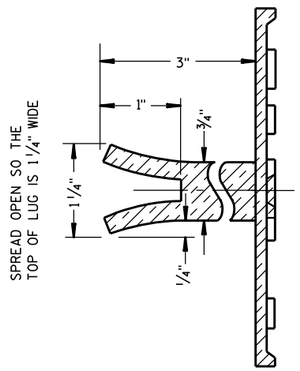
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

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



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

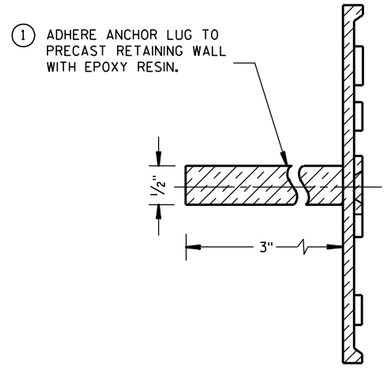
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

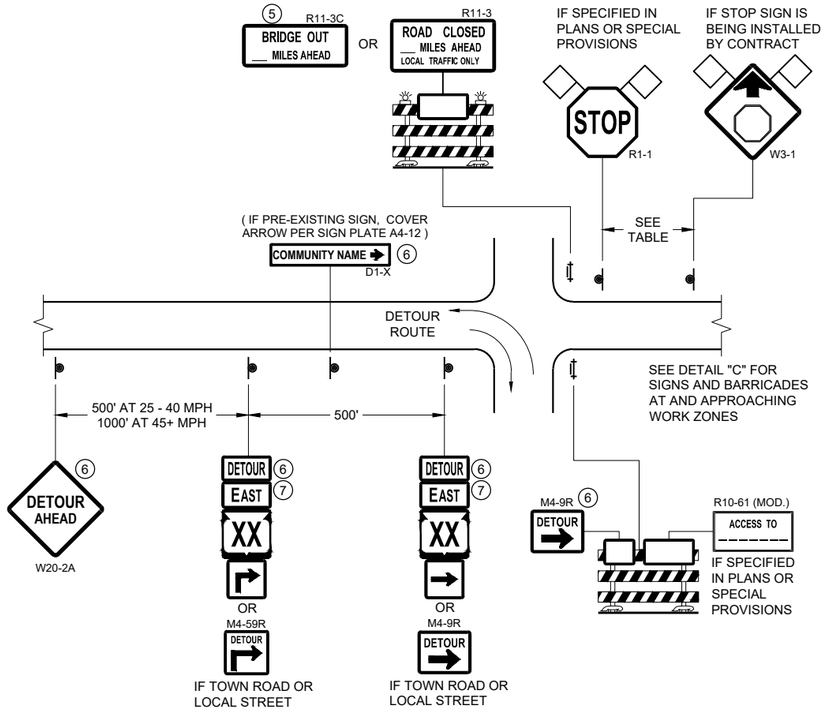
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

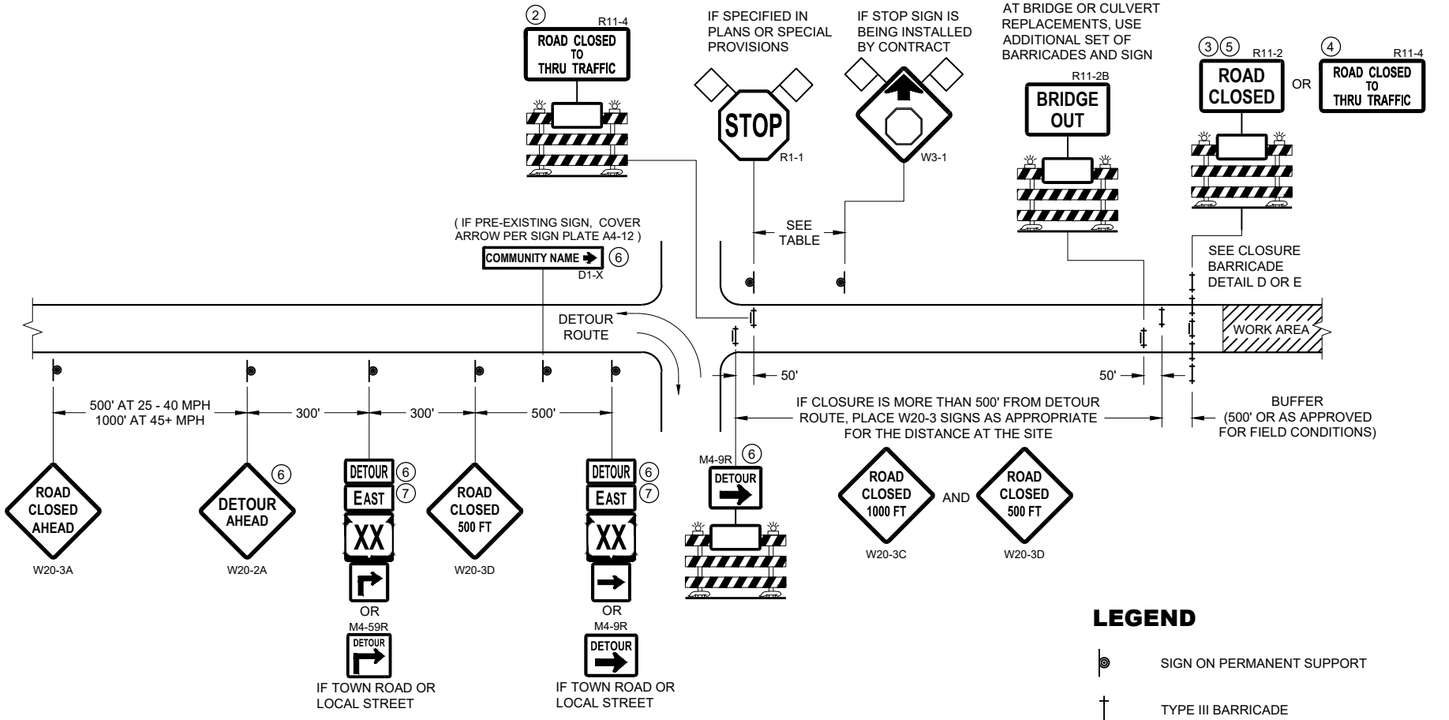
6

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)



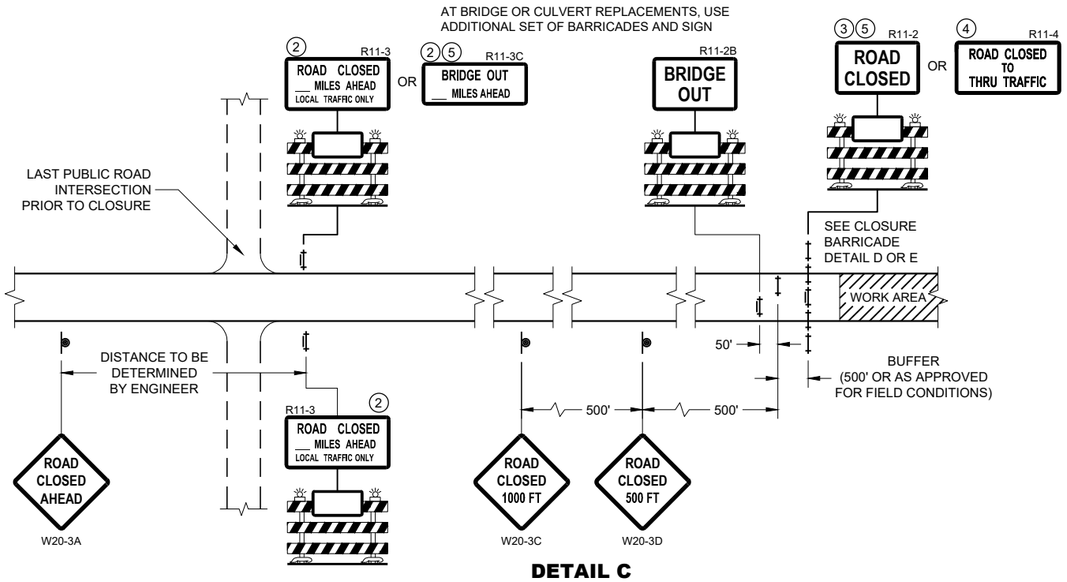
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

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



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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

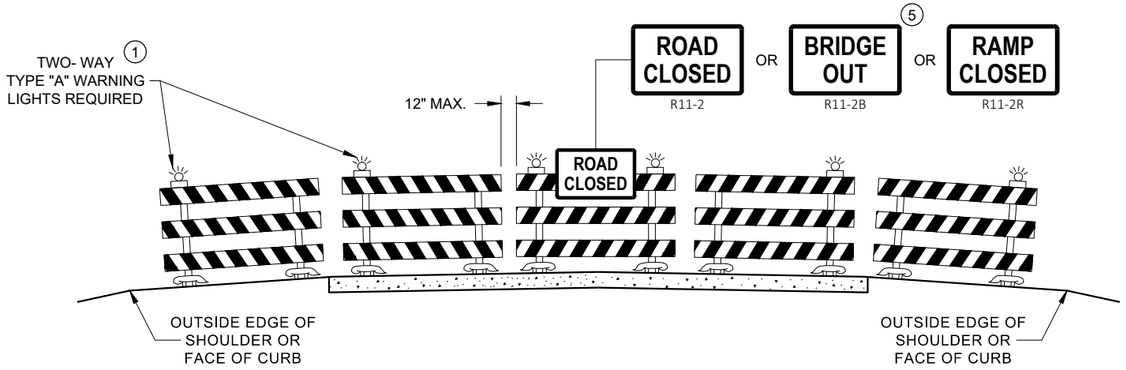
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

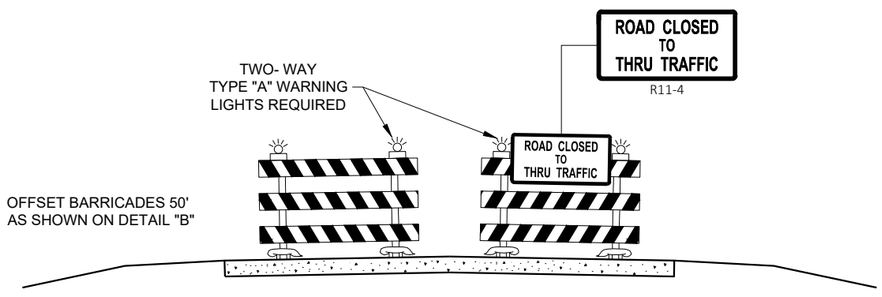
FHWA

6

SDD 15C02 - 08a



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

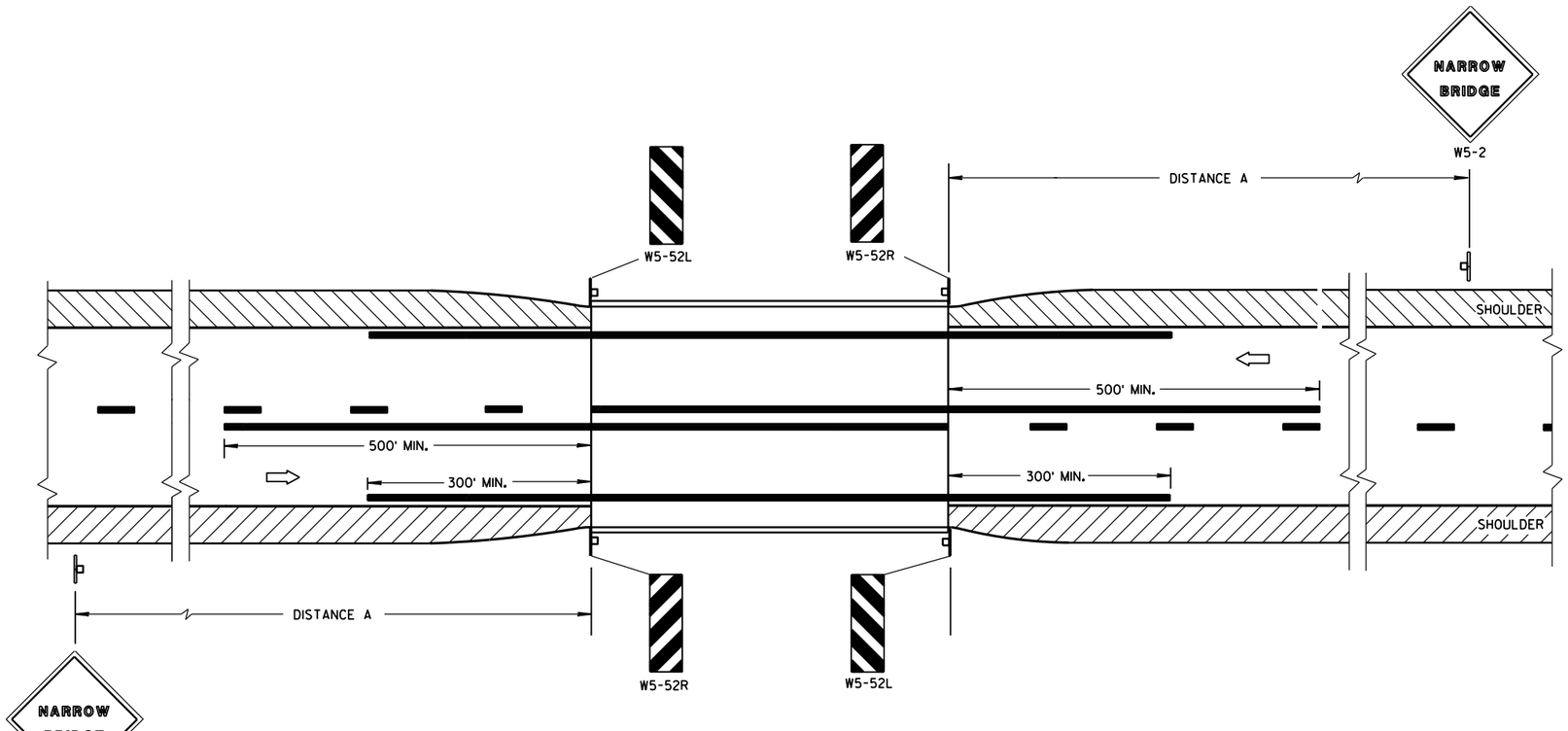
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b



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

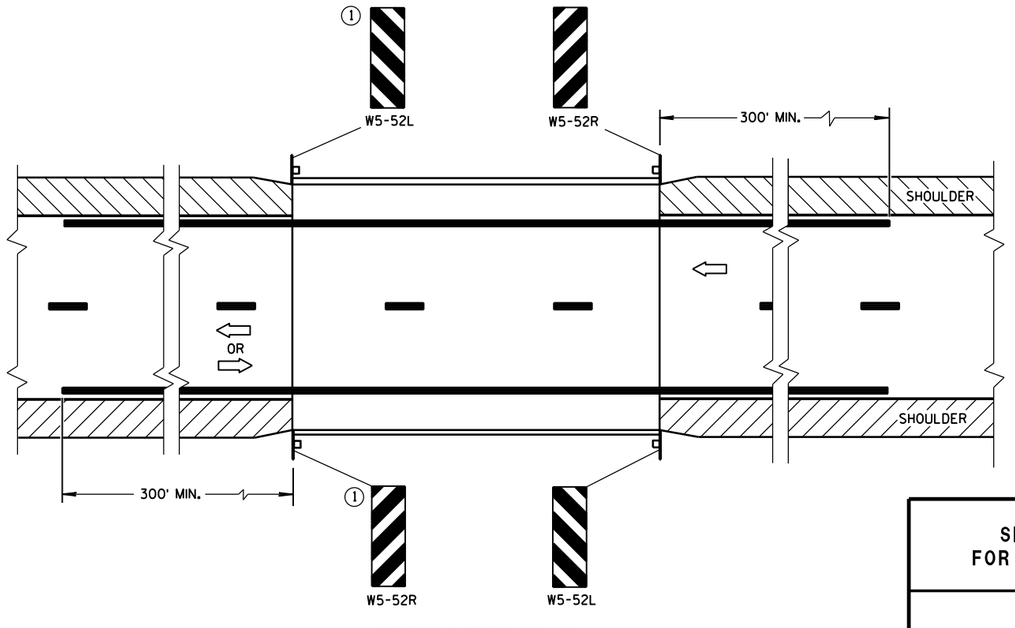
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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 MARKING ENGINEER
FHWA

6

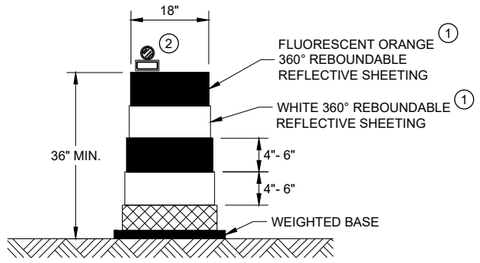
S.D.D. 15 C 6-9

6

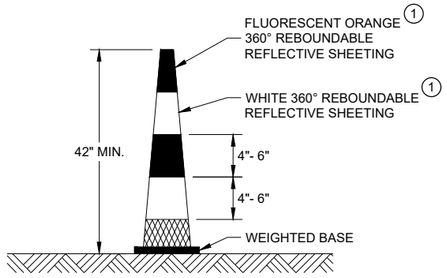
S.D.D. 15 C 6-9

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.

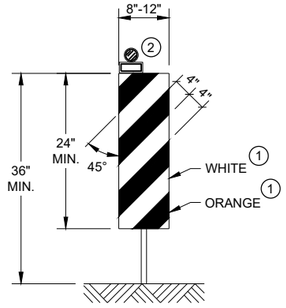


DRUM



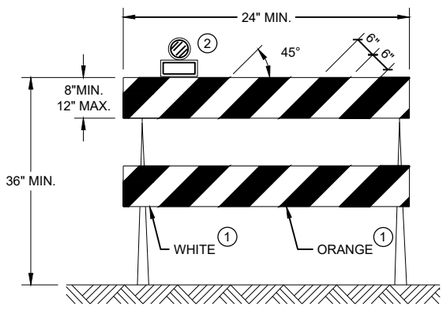
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



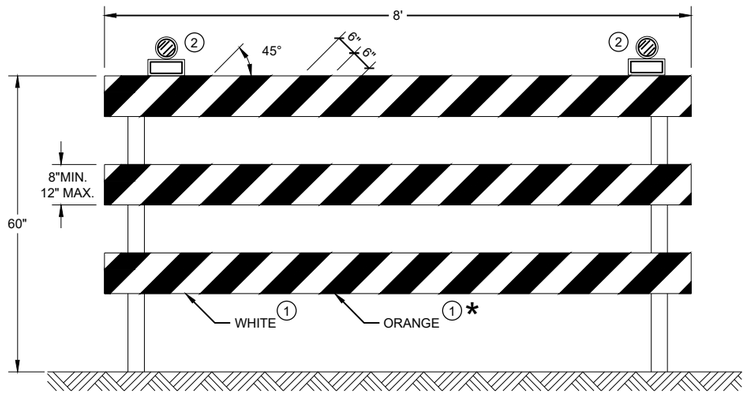
VERTICAL PANEL

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

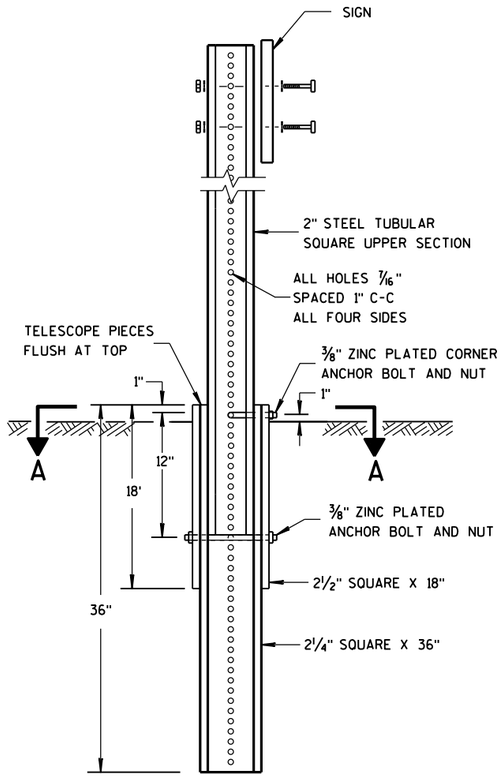
APPROVED
June 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

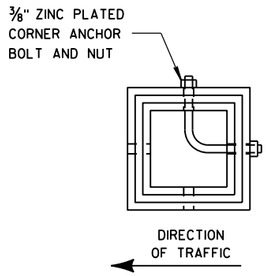
SDD 15C11 - 07b

6

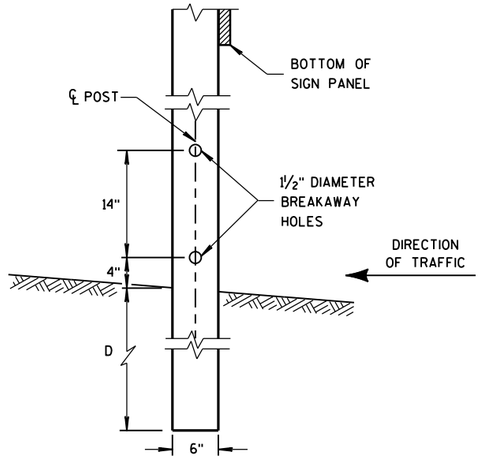
SDD 15C11 - 07b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



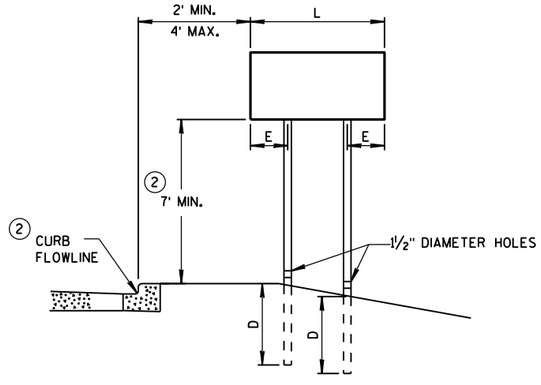
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

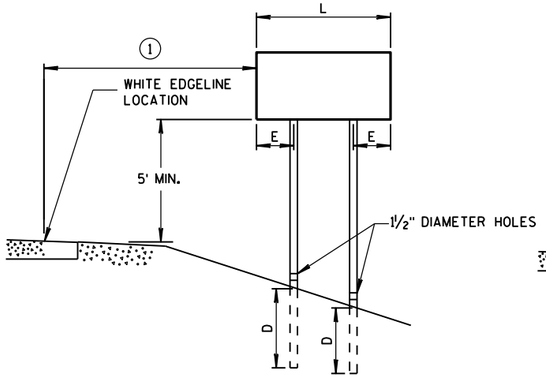
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

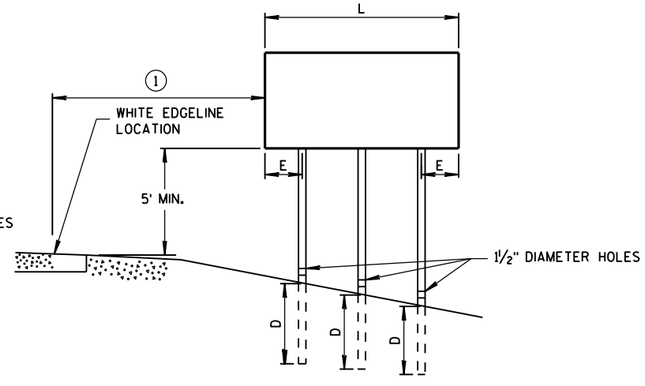
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

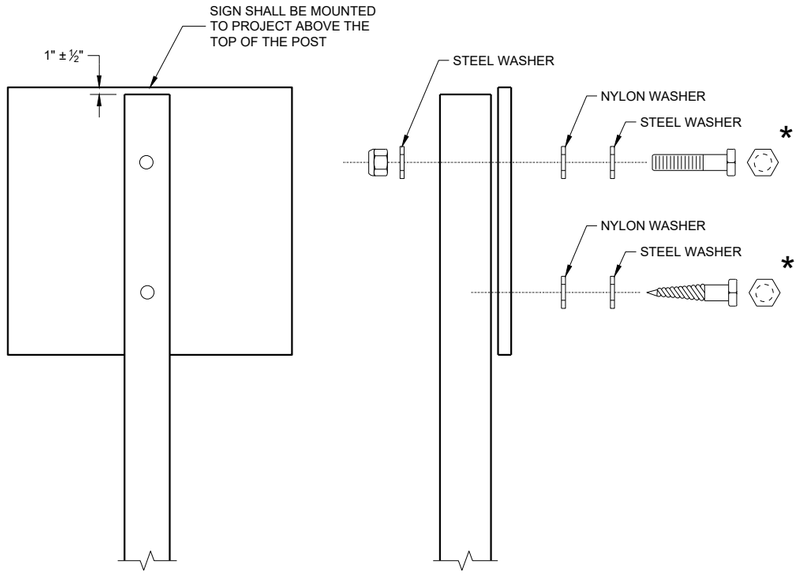
POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
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.

6

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SDD 15D38 - 02b

SDD15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

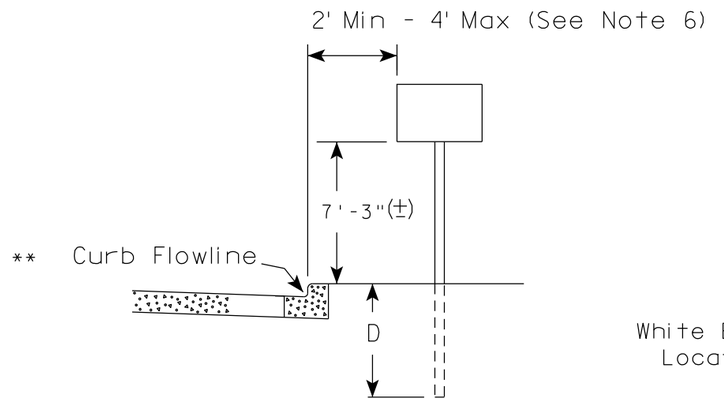
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

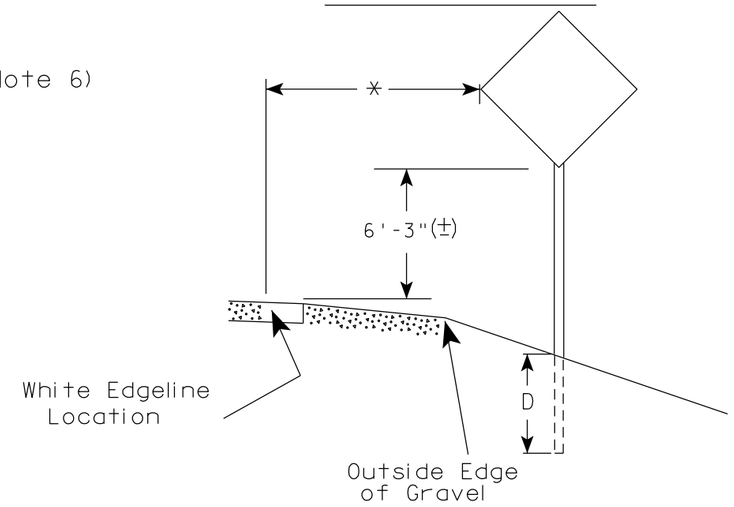
/S/ Andrew Heidtke
WORK ZONE ENGINEE

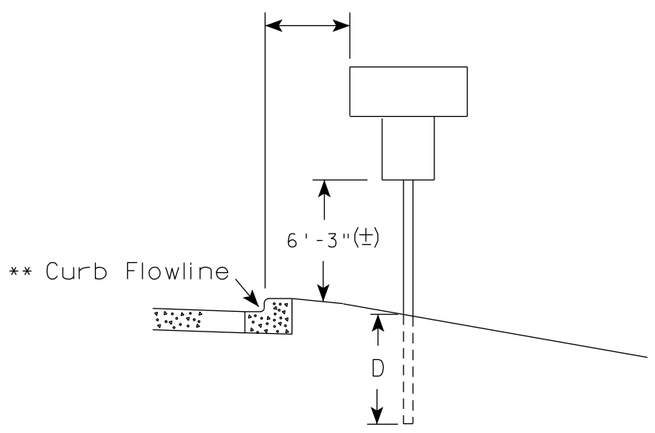
FHWA

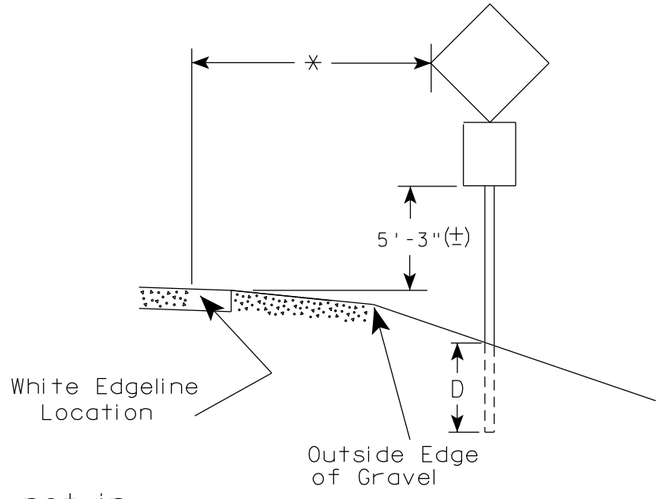
URBAN AREA



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.

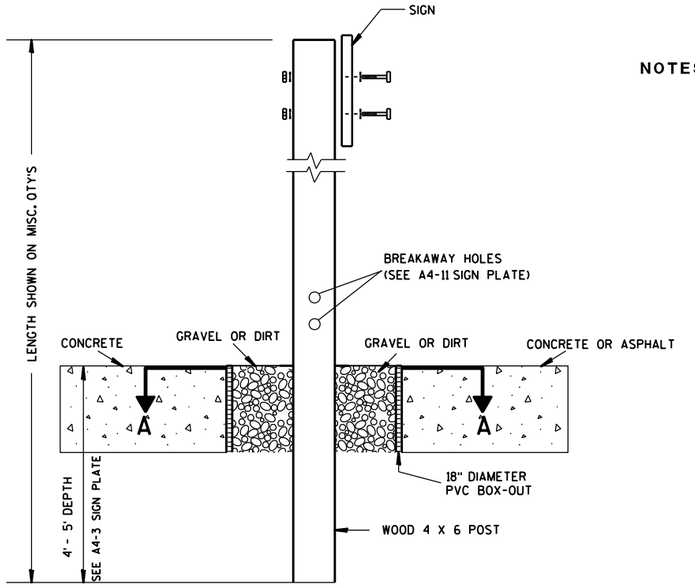
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

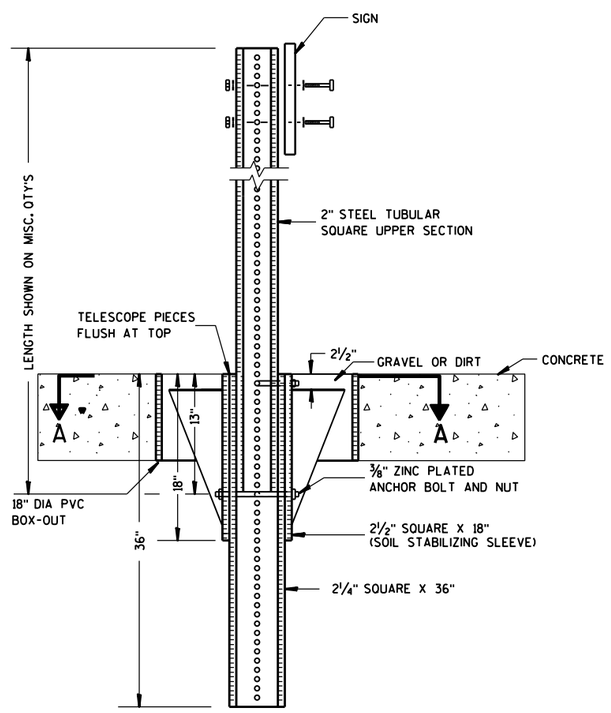
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 19	E



ELEVATION VIEW

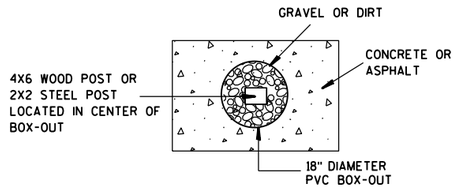
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

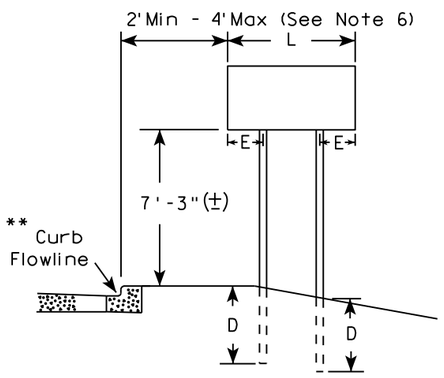
APPROVED Matthew R Rauch
for State Traffic Engineer

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

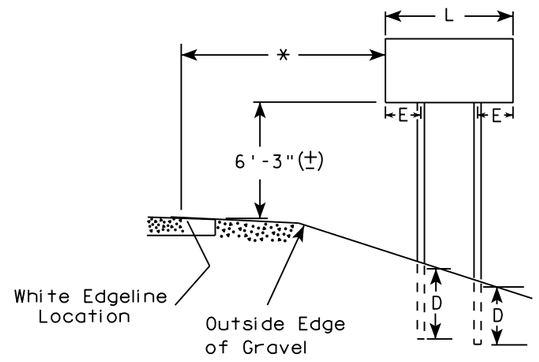
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

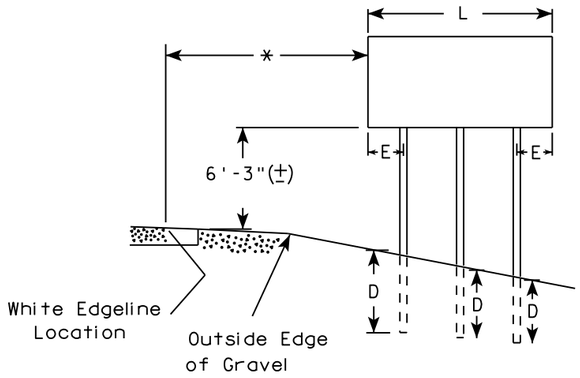
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

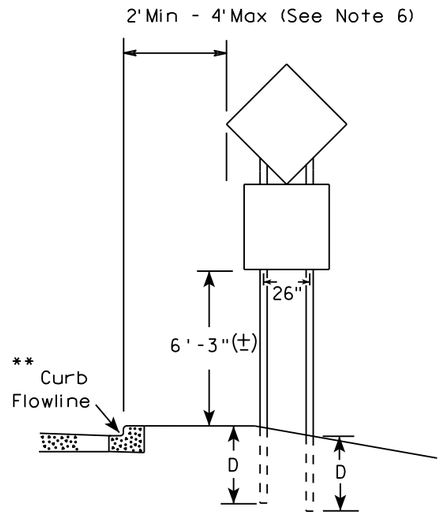
URBAN AREA



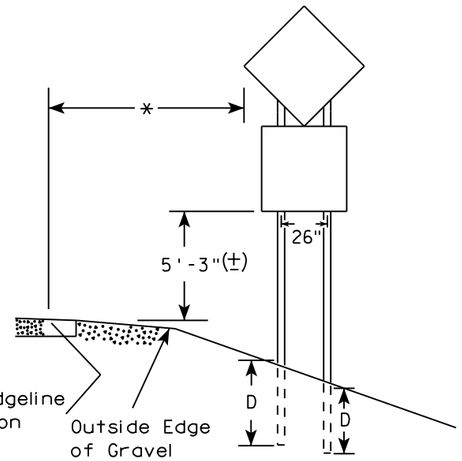
RURAL AREA (See Note 3)







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'

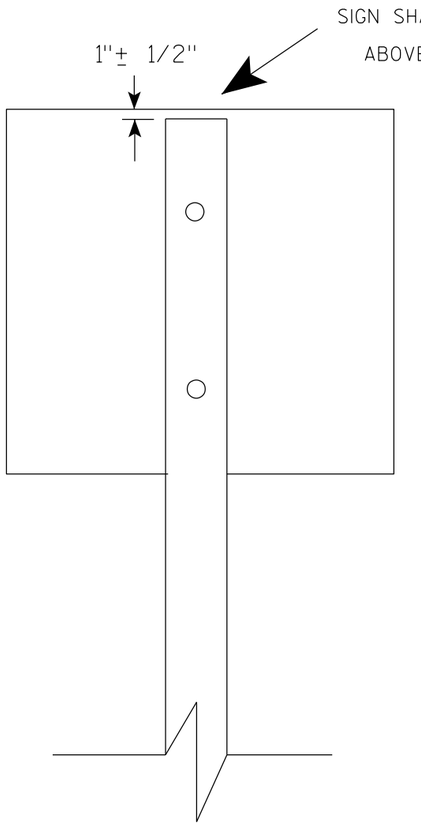
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

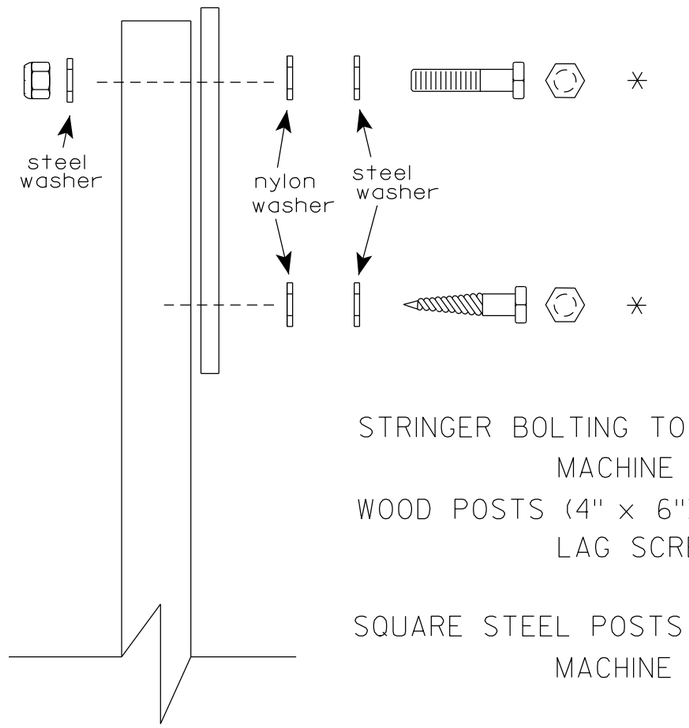
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 21	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

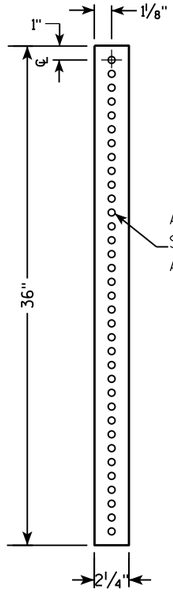
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

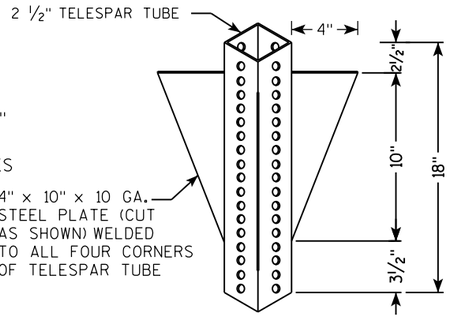
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

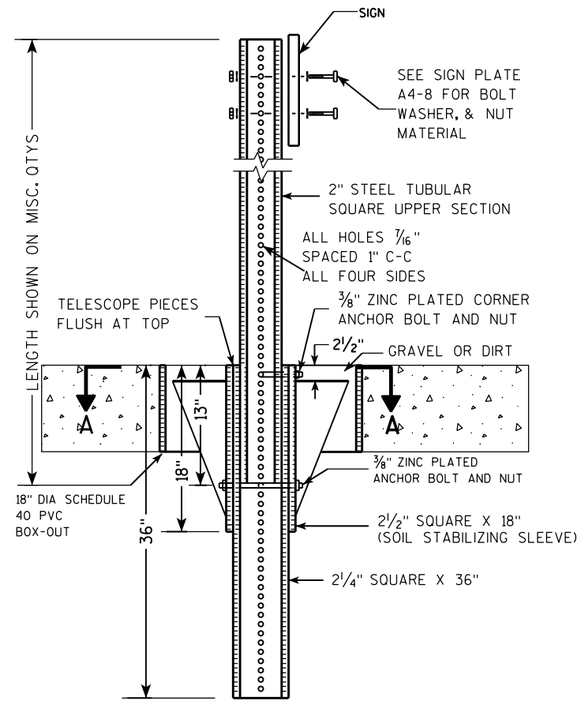
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



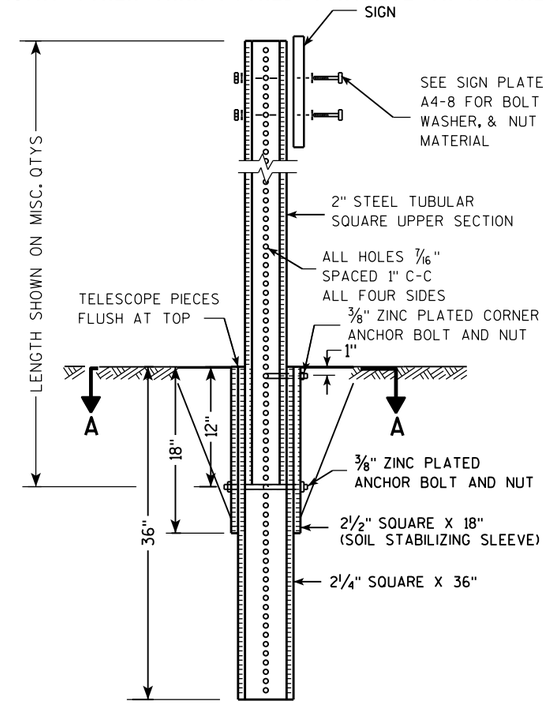
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

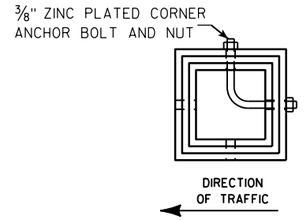


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

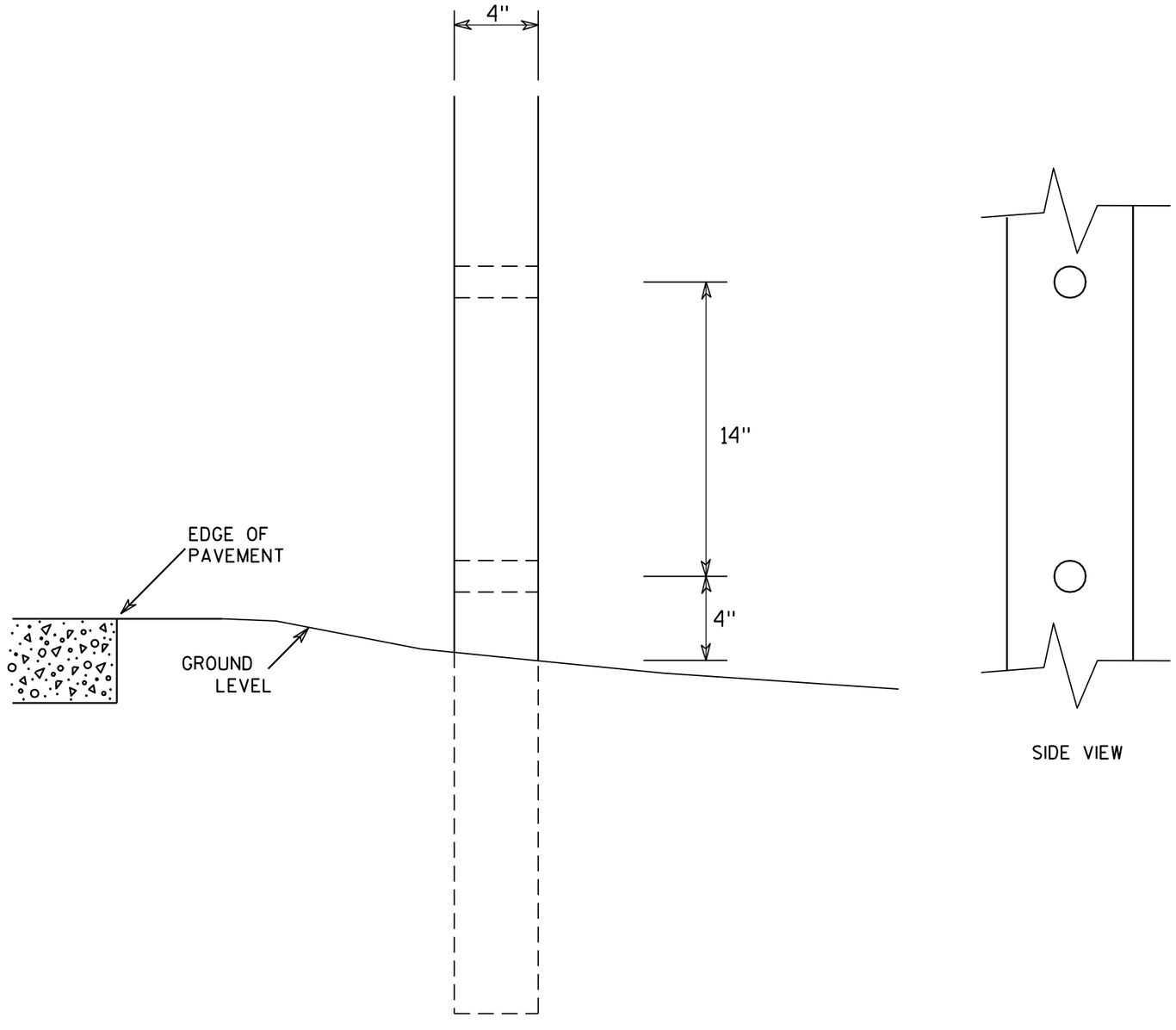
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



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

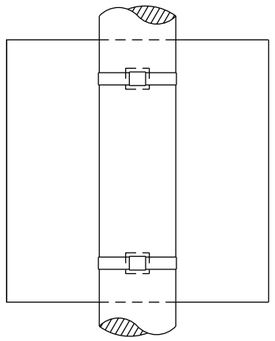
APPROVED Chester J Spang
for State Traffic Engineer

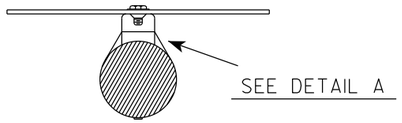
DATE 3/27/97 PLATE NO. A4-11.2

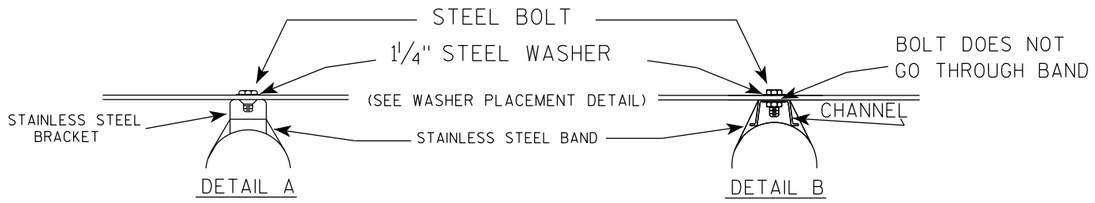
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 24	E

BANDING

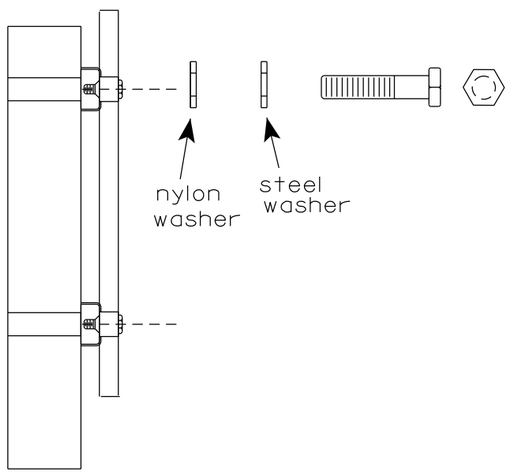
SINGLE SIGN







WASHER PLACEMENT

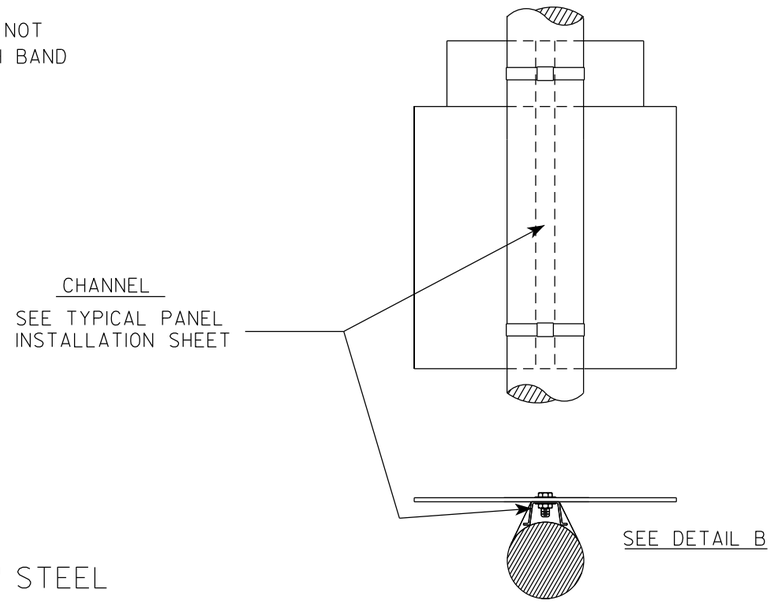


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

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



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

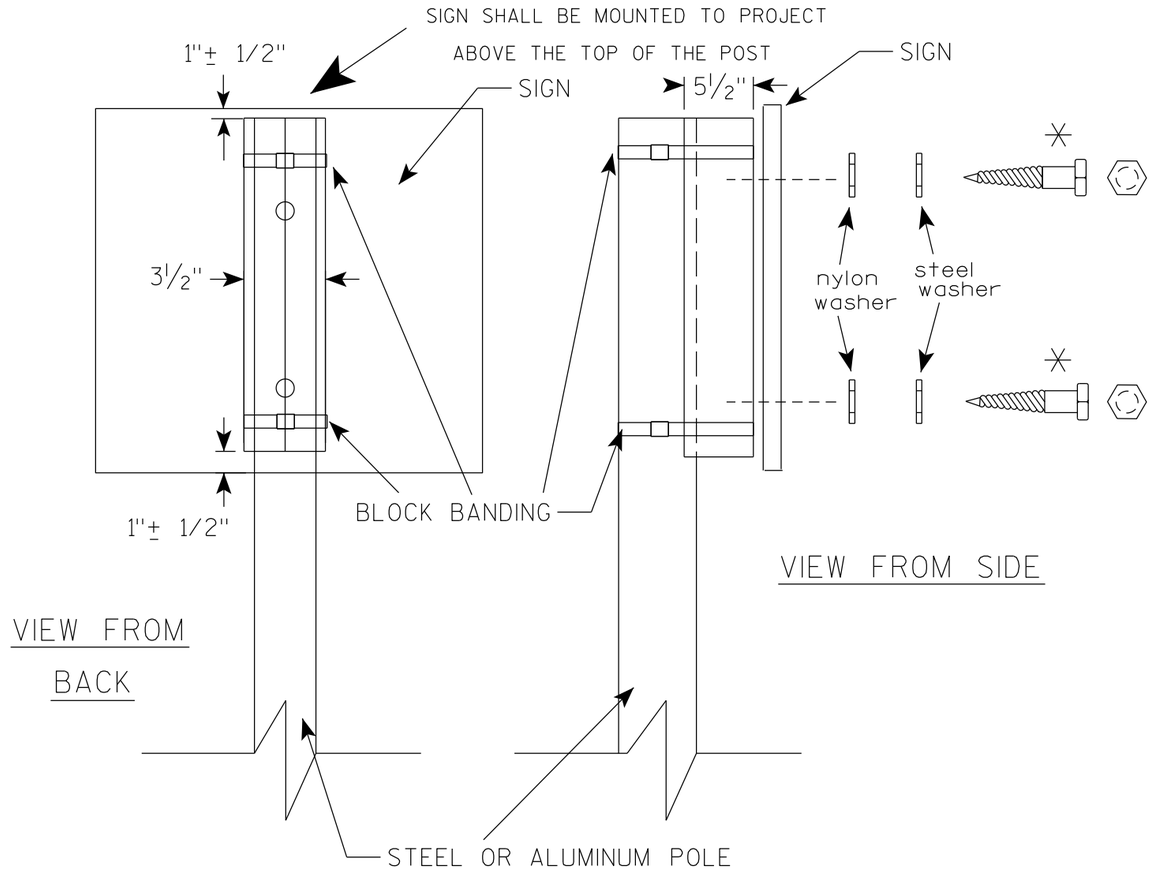
DATE 6/10/19 PLATE NO. A5-9.4

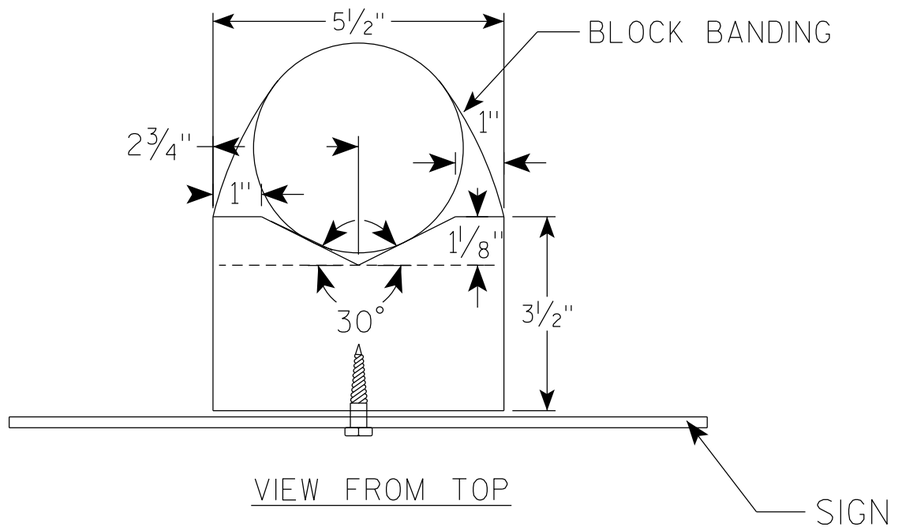
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 25	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





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"

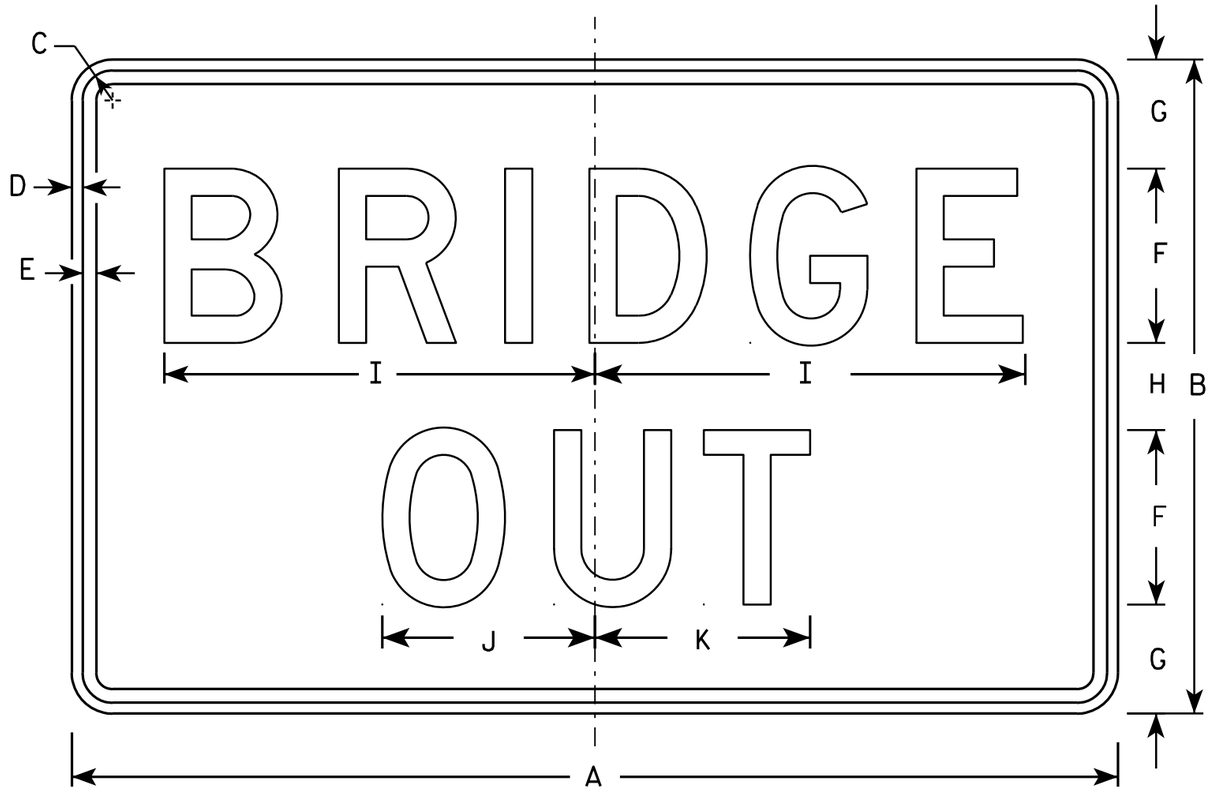
BLOCK BANDING DETAIL (V-BLOCK OPTION)

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: 26 | E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

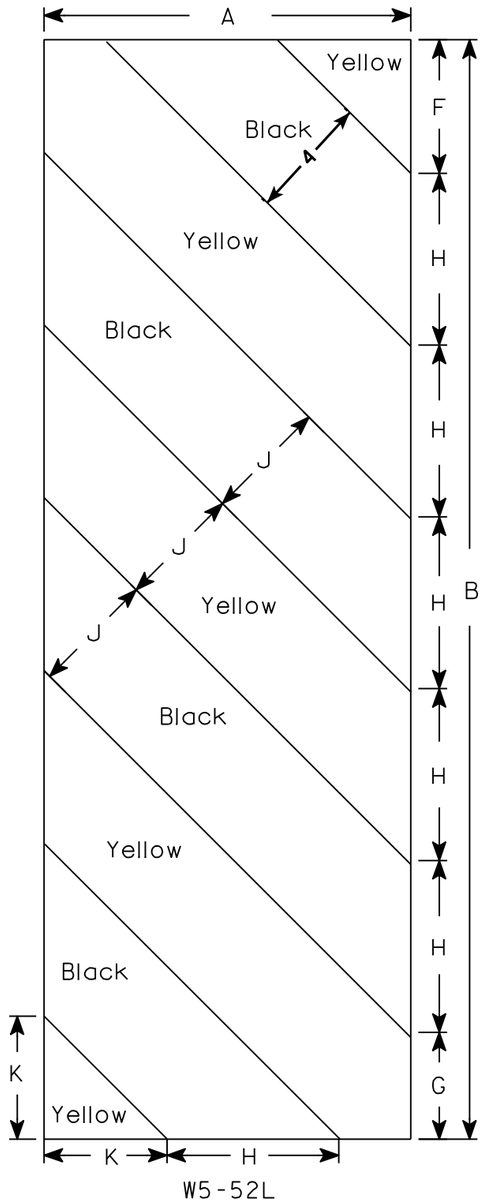
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

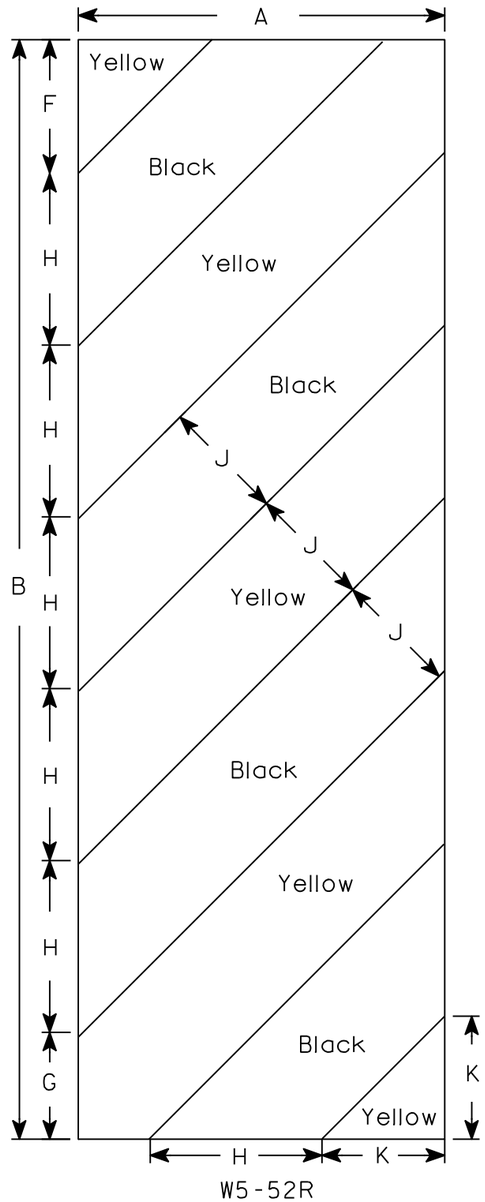
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 27 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

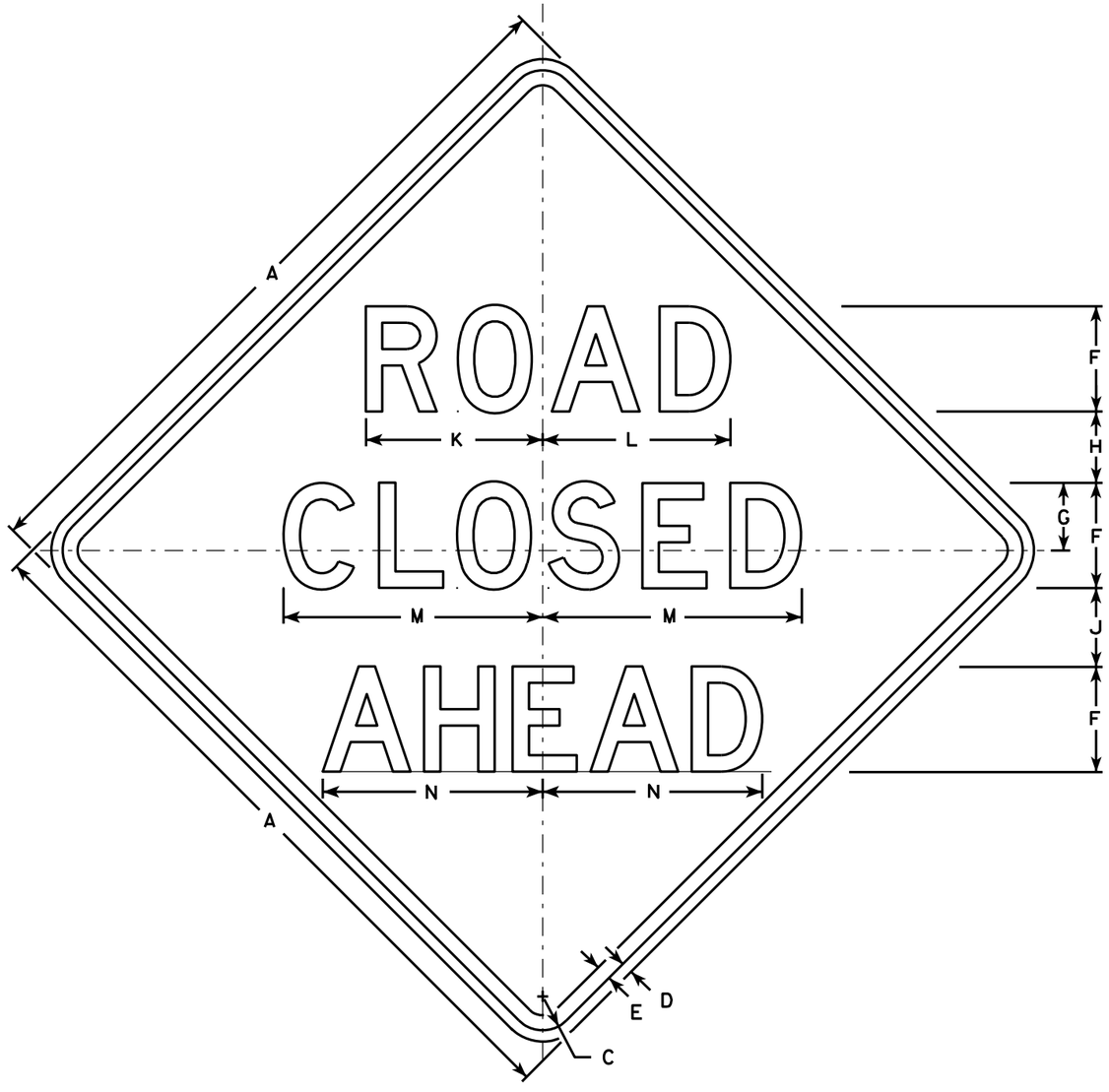
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

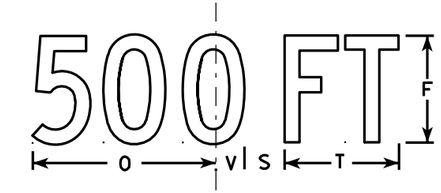
APPROVED Matthew R Rauch
for State Traffic Engineer

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

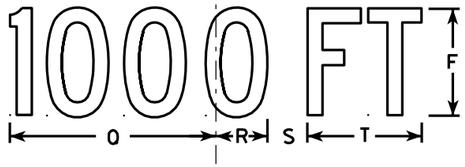
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 28	E



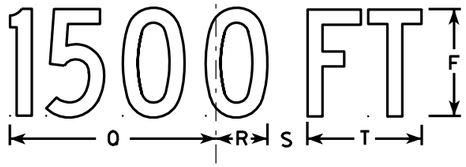
W20-3A



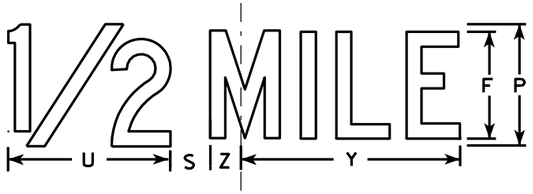
W20-3D



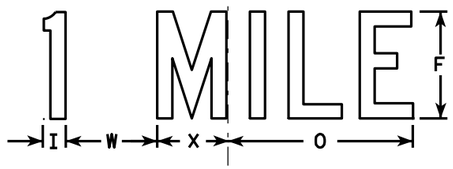
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

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

STATE PROJECT NUMBER

7218-00-71

116'-6" BACK TO BACK OF ABUTMENTS

34'-0" SPAN 1 | 46'-0" SPAN 2 | 34'-0" SPAN 3

BUFFALO RIVER

N

INDICATES WING NUMBER

COFFERDAM REQUIRED FOR PIER CONSTRUCTION.

END EXISTING STRUCTURE STA 9+47.91

END OF DECK STA 9+41.75

BACK OF ABUT STA 9+41.75

CL SOUTH ABUT STA 9+43.00

PI: 9+47.91
Y = 395,956.28
X = 622,313.64

CL SOUTH PIER STA 9+77.00

90°

26'-0" CLEAR ROADWAY WIDTH

28'-6" OUT TO OUT STRUCTURE

26'-5" EXISTING

CL ALLEMAN ROAD

10+00

CL NORTH PIER STA 10+23.00

PI: 10+52.75
Y = 396,060.41
X = 622,318.87

END EXISTING STRUCTURE STA 10+52.01

END OF DECK STA 10+58.25

BACK OF ABUT STA 10+58.25

CL NORTH ABUT STA 10+57.00

7'-0" | 1'-3" | 11'-0" TYP. | 4:1 | 12'-0" | 2.5:1 | 10'-0" | 3'-0" SHLD | 10'-0" LANE | 10'-0" LANE | 3'-0" SHLD | 45° (TYP) | 3:1 | 7'-0"

NAME PLATE LOCATION

HEAVY RIPRAP WITH GEOTEXTILE TYPE HR

REMOVE EXISTING TIMBER SLAB STRUCTURE (P-6-121)

LIST OF DRAWINGS

PLAN

THREE SPAN CONCRETE HAUNCH SLAB

WISCONSIN PROFESSIONAL ENGINEER
JACOB A. FRIBERG
E-43328
RICE LAKE
WI
10/2/2020

CONTACTS

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

CONSULTANT:
CONTACT: COOPER ENGINEERING
PHONE: (715) 234-7008

810 | 805 | 800 | 795 | 790 | 785

LIMITS OF BACKFILL

STRUCTURE BACKFILL, TYPE A

HW100 EL. = 803.38

TYPE M RAILING

EXISTING GROUND

PROPOSED GRADE

BERM EL. = 797.57

EL.=800.02

HW2 EL. = 799.72

REMOVE EXISTING STRUCTURE (P-6-121)

OBSERVED WATER EL. = 793.43 (8-1-19)

EL.=800.21

BERM EL.=797.88

1:1 | 1.5 | 3'-0" REQ'D | 2'-0" | EL. = 795.07 | 1.5:1 MAX | 2'-6" | 4'-0" | 2'-0" | EL. = 795.38

HEAVY RIPRAP WITH GEOTEXTILE TYPE HR

EL.=788.02

EL.=788.21

TYPE A5 ABUTMENT

GEOTEXTILE TYPE DF SCHEDULE A LIMITS. EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT

PILING CIP CONCRETE 10 3/4 x 0.250-INCH ESTIMATED LENGTH = 65'

PILING CIP CONCRETE 10 3/4 x 0.250-INCH ESTIMATED LENGTH = 55'

STREAMBED EL. = 791.0

PILING CIP CONCRETE 10 3/4 x 0.250-INCH ESTIMATED LENGTH = 55'

ELEVATION

NORMAL TO BUFFALO RIVER

NO.	DATE	REVISION	BY

COOPER ENGINEERING
2600 COLLEGE DRIVE, P.O. BOX 230
RICE LAKE, WISCONSIN 54868-0230
TELEPHONE (715) 234-7008
FAX (715) 234-1025

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 11/05/20
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-6-301

ALLEMAN ROAD OVER BUFFALO RIVER

COUNTY: BUFFALO | TOWN/~~CITY/VILLAGE~~: NAPLES

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JF	SP	JF	SP

GENERAL PLAN

SHEET 1 OF 12

30

DESIGN DATA

LIVE LOADS:
DESIGN LOADING = HL-93
INVENTORY RATING FACTOR = 1.20
OPERATING RATING FACTOR = 1.56
MAX. STD. PERMIT VEHICLE LOAD = 215 KIPS

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

MATERIAL PROPERTIES:
CONCRETE MASONRY SLAB ---------- F'C = 4,000 PSI
BAR STEEL REINFORCEMENT (GRADE 60) ---------- FY = 60,000 PSI
CONCRETE MASONRY OTHER ---------- F'C = 3,500 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10 3/4 X 0.250-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 90 TONS* (MIN) PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

PIERS TO BE SUPPORTED ON PILING CIP CONCRETE 10 3/4 X 0.250-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS* (MIN) PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

ESTIMATED 65'-0" LONG FOR THE SOUTH ABUTMENT AND SOUTH PIER.
ESTIMATED 55'-0" LONG FOR THE NORTH ABUTMENT AND NORTH PIER.

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

TRAFFIC DATA

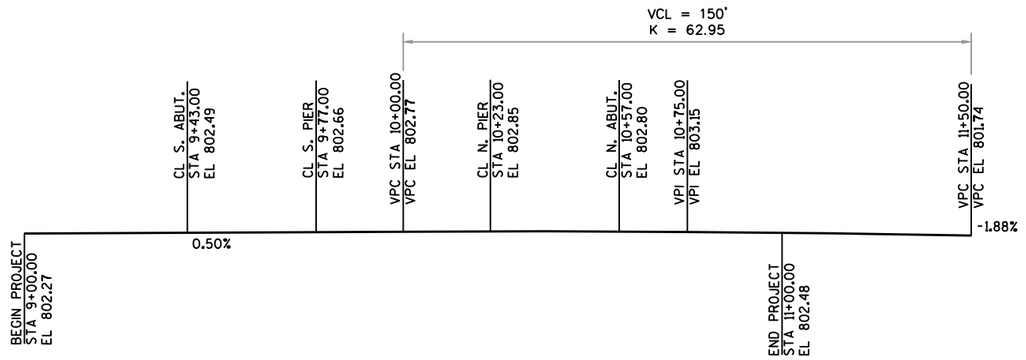
A.D.T. (2015) = 94
A.D.T. (2035) = 103
R.D.S. = 45 MPH

HYDRAULIC DATA

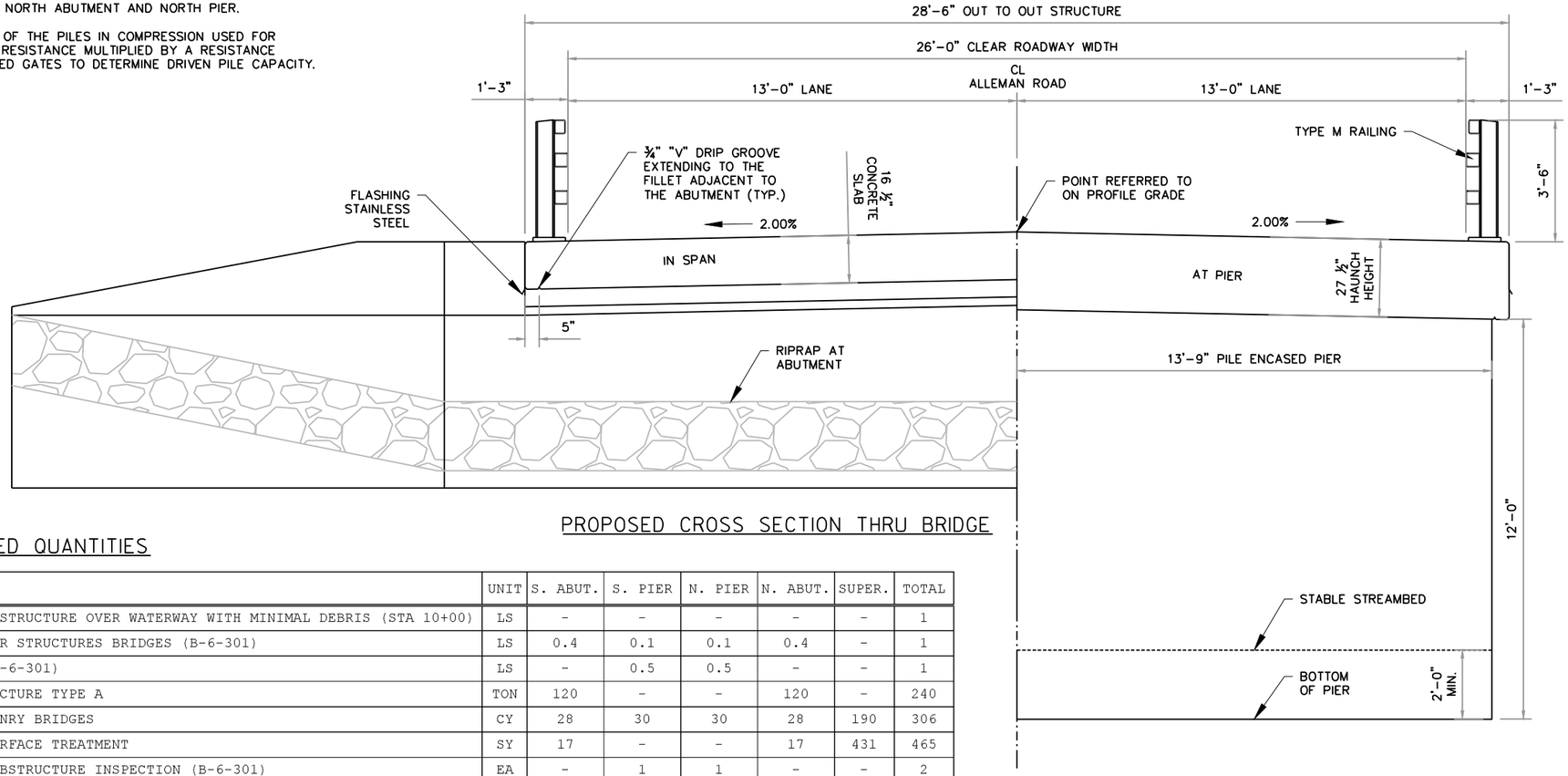
100 YEAR FREQUENCY
Q100 = 9100 CFS
Q100 (BRIDGE) = 690 CFS
Q100 (ROADWAY) = 8410 CFS
VEL. = 0.8 FPS
HW100 ELEV. = 803.38
WATERWAY AREA = 894 SF
DRAINAGE AREA = 204 SQ.MI.
SCOUR CODE = 5

2 YEAR FREQUENCY
Q2 = 2300 CFS
VEL. = 2.0 FPS
HW2 ELEV. = 799.72

ROAD OVERTOPPING FREQUENCY
FREQUENCY = 5 YEARS
Q5 = 4800 CFS
HW5 ELEV. = 801.65



PROFILE GRADE LINE



PROPOSED CROSS SECTION THRU BRIDGE

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S. ABUT.	S. PIER	N. PIER	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STA 10+00)	LS	-	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES (B-6-301)	LS	0.4	0.1	0.1	0.4	-	1
206.5000	COFFERDAMS (B-6-301)	LS	-	0.5	0.5	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	120	-	-	120	-	240
502.0100	CONCRETE MASONRY BRIDGES	CY	28	30	30	28	190	306
502.3200	PROTECTIVE SURFACE TREATMENT	SY	17	-	-	17	431	465
502.9000.S	UNDERWATER SUBSTRUCTURE INSPECTION (B-6-301)	EA	-	1	1	-	-	2
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,100	1,465	1,465	2,100	-	7,130
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,610	55	55	1,610	38,900	42,230
513.4061	RAILING TUBULAR TYPE M	LF	-	-	-	-	238	238
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	-	-	11	-	22
550.2104	PILING CIP CONCRETE 10 3/4" X 0.25-INCH	LF	455	455	385	385	-	1680
606.0300	RIPRAP HEAVY	CY	40	-	-	35	-	75
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	-	-	75	-	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	30	-	-	30	-	60
645.0120	GEOTEXTILE TYPE HR	SY	60	-	-	50	-	110
SPV.0090.01	FLASHING STAINLESS STEEL	LF	-	-	-	-	223	223
NON-BID ITEM	4" X 3/4" PERFORMED JOINT FILLER	LF	28.5	57.5	57.5	28.5	-	172

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
1	10+09.29	802.57	9.1' LT; MAG NAIL IN EXISTING BRIDGE DECK
2	11+67.04	800.30	22.9' LT; RAILROAD SPIKE IN 30" TREE

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GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-6-301" SHALL BE THE EXISTING GROUNDLINE.

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

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

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.

AT PIERS, COFFERDAM REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC 502.3.5.3 CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP SURFACE OF THE SLAB, THE EXTERIOR EDGE OF THE SLAB, AND THE FIRST 1'-0" OF THE UNDERSIDE OF THE SLAB.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF THE WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW NEW BRIDGE AND CURRENT CONSTRUCTION YEAR.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

ELEVATIONS SHOWN ON THE PLANS ARE REFERENCES TO THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).

THE COORDINATE SYSTEM FOR THIS PROJECT IS WISCONSIN COUNTY COORDINATE SYSTEM (WCCS) - BUFFALO COUNTY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY JF | PLANS CK'D. SP

CROSS SECTION & QUANTITIES

SHEET 2 OF 12
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8

8

BORING#	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	OCTOBER 1, 2019	395951.8189	622301.8996
2	OCTOBER 2, 2019	395986.1310	622313.9873
3	OCTOBER 1, 2019	396030.9418	622317.3386
4	OCTOBER 2, 2019	396064.5402	622330.0537

BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) BUFFALO CO.

STATE PROJECT NUMBER

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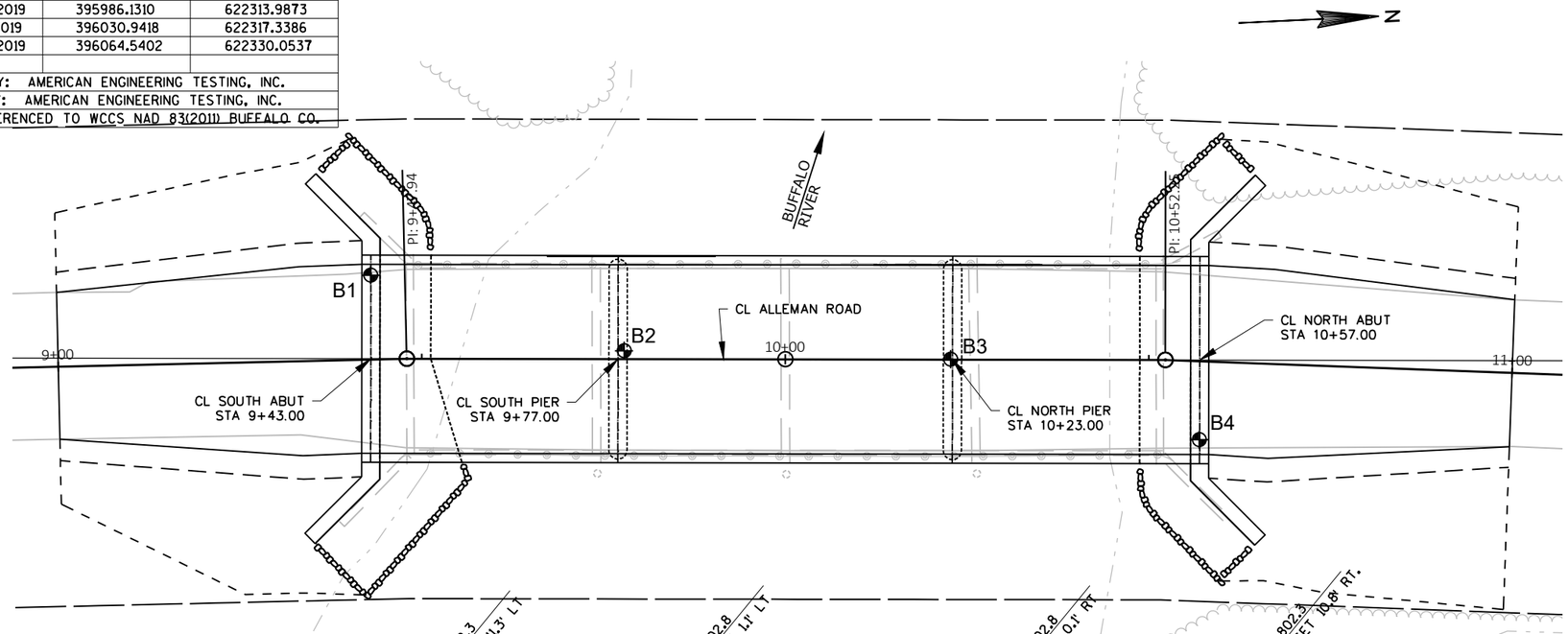
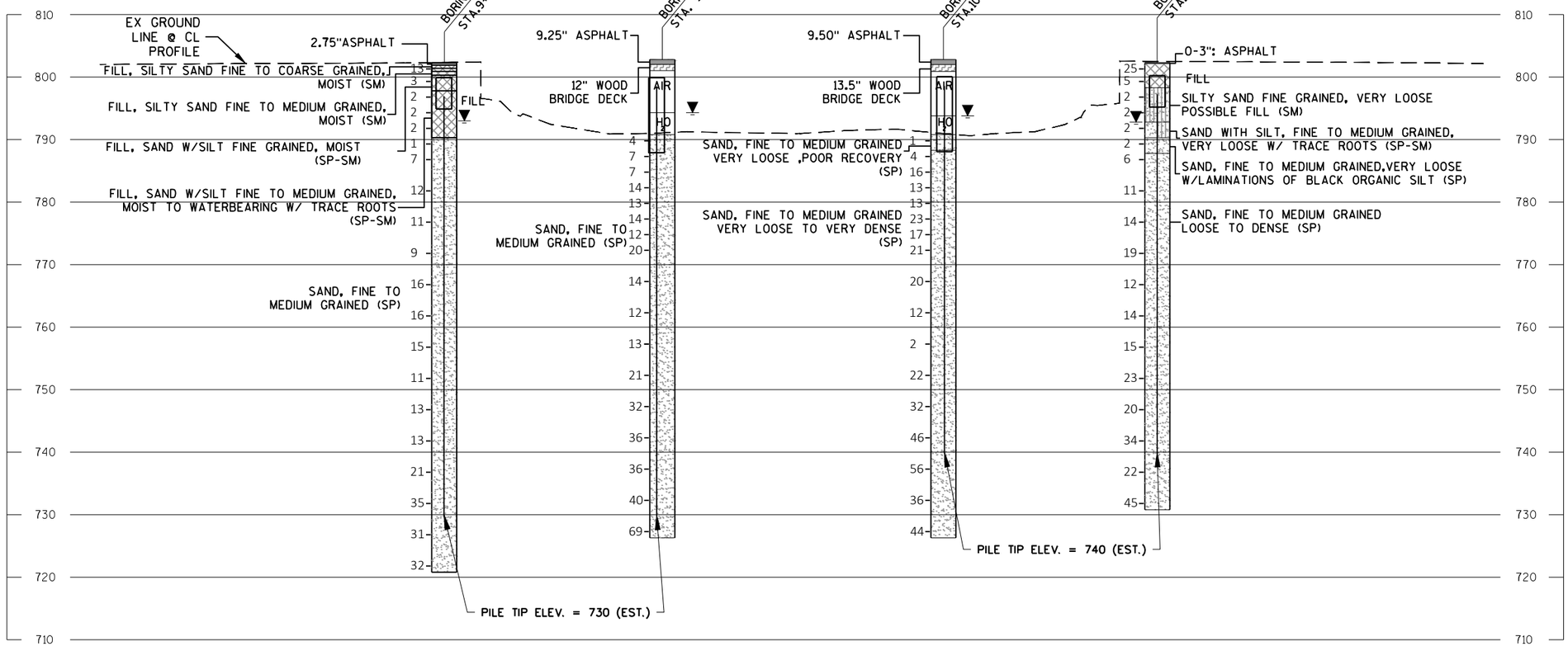
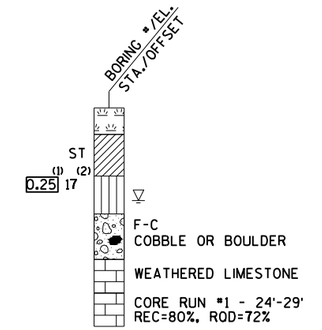




MATERIAL SYMBOLS

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, WE DO 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-6-301

DRAWN BY JMM | PLANS CK'D. JF

SUBSURFACE EXPLORATION

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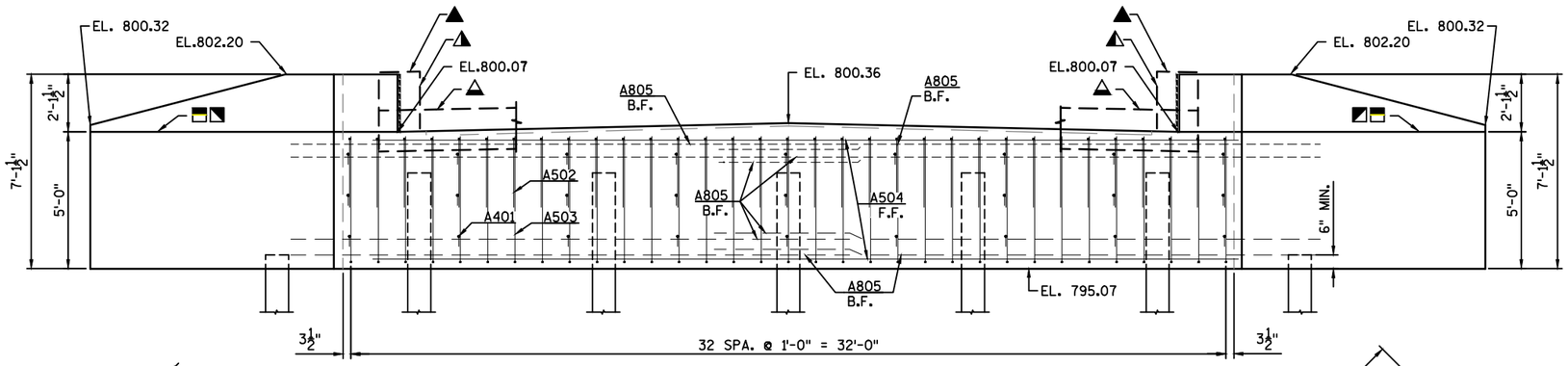
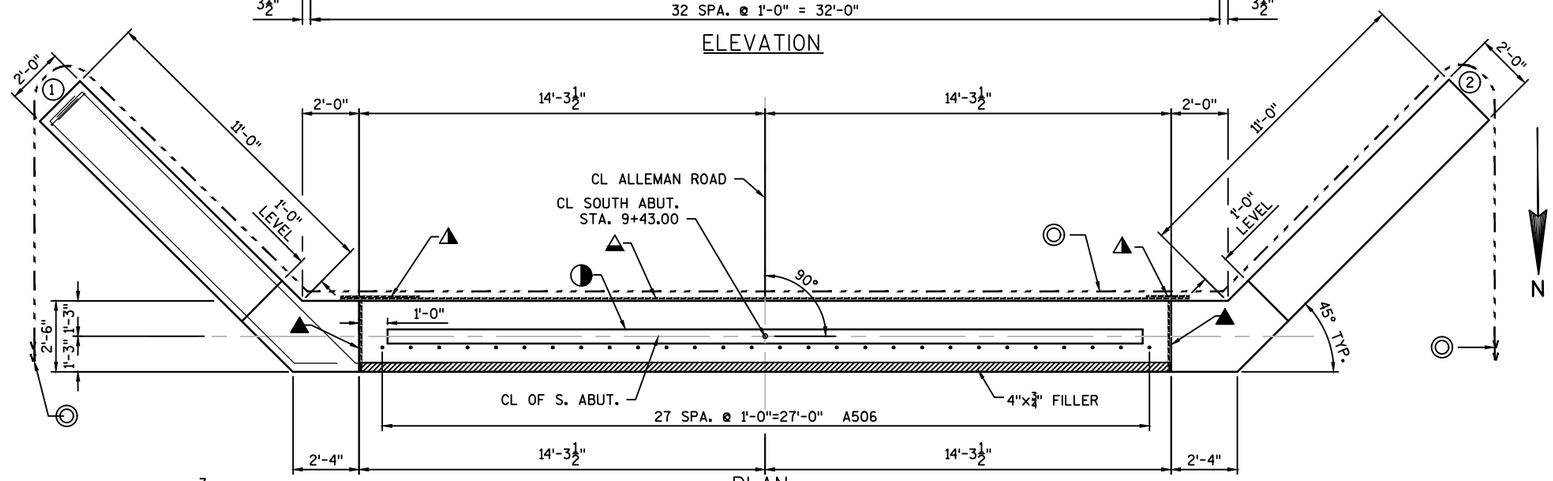
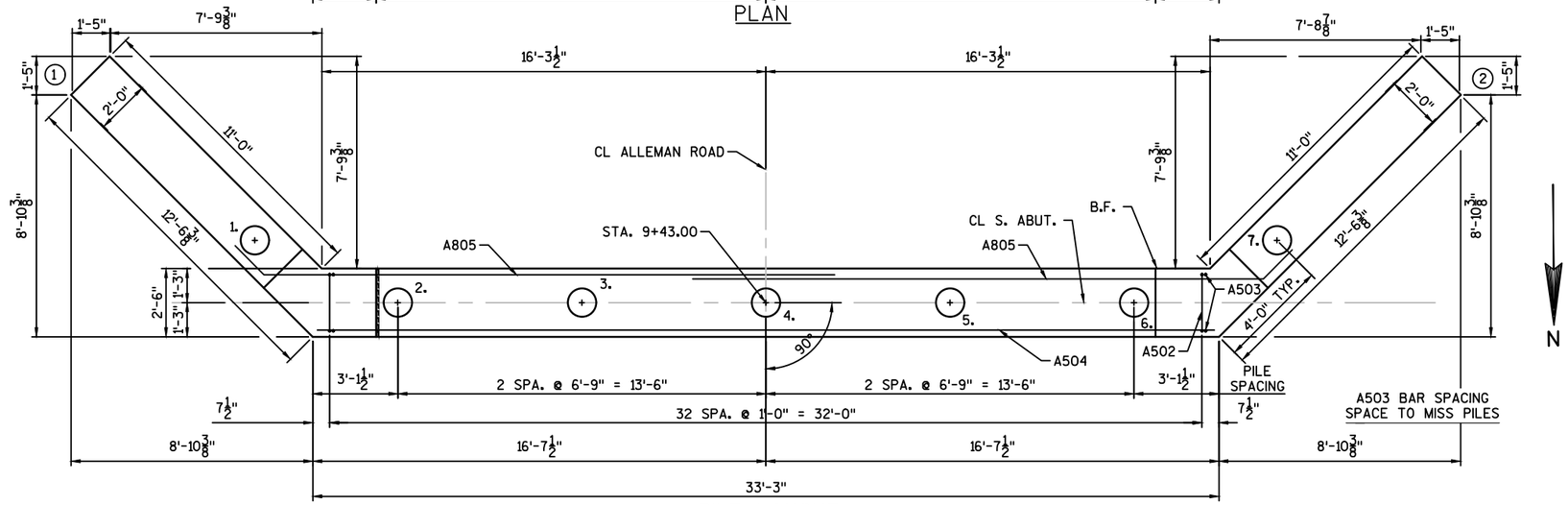
*(3) A401 TIE BARS AT 4'-0" HORIZ. SPA. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.



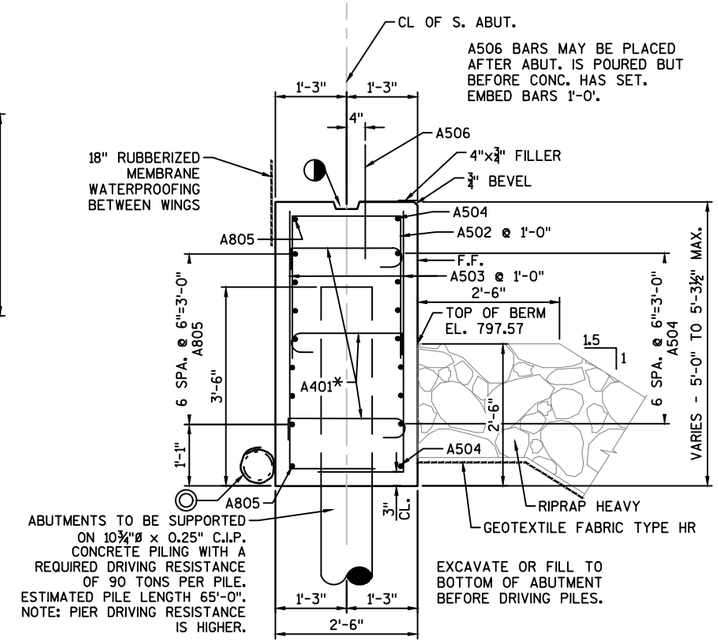
ELEVATION



PLAN



PILE LAYOUT



TYP. SECTION THRU ABUTMENT BODY

LEGEND

(1) INDICATES WING NUMBER

◎ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE.

▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.

◭ VERT. 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW), EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.

△ HORIZ. 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW), EXTEND BETWEEN WINGS.

▬ OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2x6. IF JOINT IS USED, POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE 18" RMW ON BACK FACE OF WING. COST OF RMW INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".

◥ 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.

◑ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY DAN | PLANS CK'D. JAF

SOUTH ABUTMENT

SHEET 4 OF 12
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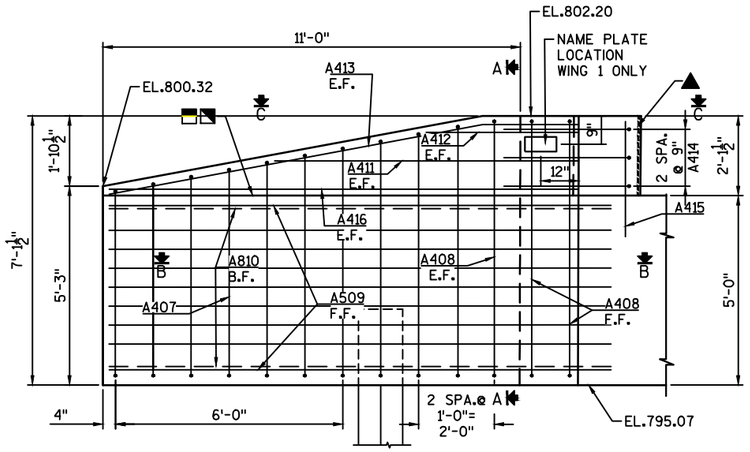
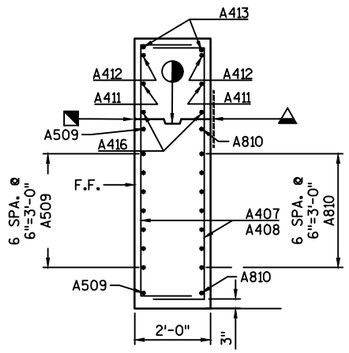
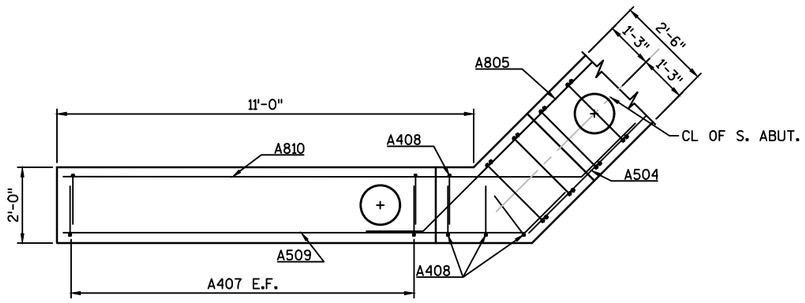


ELEVATION WING 1

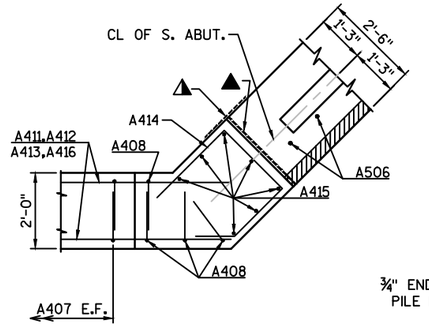
WING 2 SIMILAR



SECTION A



SECTION B



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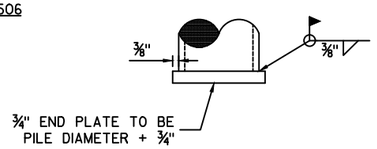


END PLATE DETAIL FOR CIP PILING

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A401		27	3'-0"	X		ABUT. BODY TIE BARS
A502		33	6'-11"	X		ABUT. BODY HORIZ. TOP
A503		66	6'-1"	X		ABUT. BODY VERT.
A504		9	32'-0"			ABUT. BODY HORIZ. F.F.
A805		18	22'-8"	X		ABUT. BODY HORIZ. B.F.
A506	X	28	2'-0"			ABUT. BODY - TOP DOWEL VERT.
A407	X	40	8'-2"	X	X	WINGS 1 & 2 VERT. E.F. ◧
A408	X	8	9'-2"	X		WINGS 1 & 2 VERT. E.F.
A509	X	18	13'-8"	X		WINGS 1 & 2 HORIZ. F.F.
A810	X	18	15'-2"	X		WINGS 1 & 2 HORIZ. B.F.
A411	X	4	8'-0"			WINGS 1 & 2 HORIZ. E.F.
A412	X	4	4'-0"			WINGS 1 & 2 HORIZ. E.F.
A413	X	4	12'-5"	X		WINGS 1 & 2 DIAGONAL E.F.
A414	X	6	8'-5"	X		WINGS 1 & 2 HORIZ.
A415	X	14	3'-0"			WINGS 1 & 2 VERT.
A416	X	4	12'-4"			WINGS 1 & 2 HORIZ. E.F.

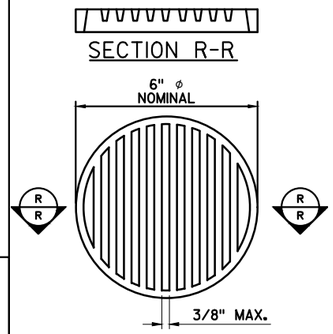
NOTES:
1. BAR TABLE APPLIES TO SOUTH ABUTMENT ONLY.
2. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.

◧ LENGTH SHOWN IS AN AVERAGE LENGTH TO BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

LEGEND

- (1) INDICATES WING NUMBER
- ◑ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2X6.
- ◎ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.
- ◭ VERT. 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW), EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- △ HORIZ. 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW), EXTEND BETWEEN WINGS.
- ◫ OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2x6. IF JOINT IS USED, POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE 18" RMW ON BACK FACE OF WING. COST OF RMW INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ◪ 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.

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



RODENT SHIELD

DIMENSIONS ARE APPROX.. THE GRATE IS SIZED TO FIT INTO PIPE COUPLING.

RODENT SHIELD NOTES:

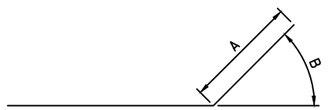
ORIENT SHIELD SO SLOTS ARE VERTICAL.

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 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 SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

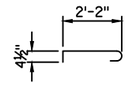
BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
A407	4 SERIES OF 10	7'-4" TO 9'-0"

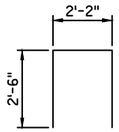
BUNDLE AND TAG EACH SERIES SEPARATELY



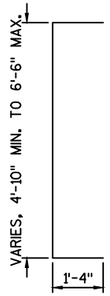
MARK	A	B
A805	1'-6"	45°
A509	12'-2"	45°
A810	13'-8"	45°
A413	10'-0"	11°



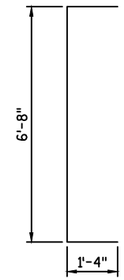
A401



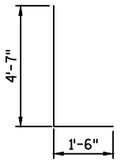
A502



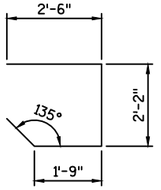
A407



A408



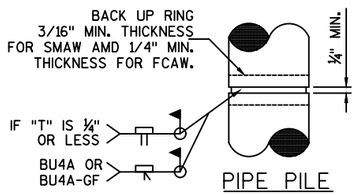
A503



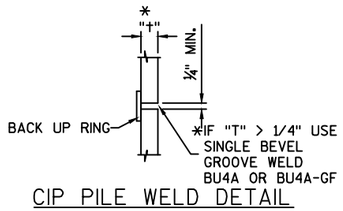
A414

CIP PILE SPLICE DETAIL

CAST IN PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. GRINDING MAY BE USED IN LIEU OF BACK GOUGING



PIPE PILE



CIP PILE WELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY DAN PLANS CK'D. JAF

SOUTH ABUTMENT WING DETAILS

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34

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STATE PROJECT NUMBER
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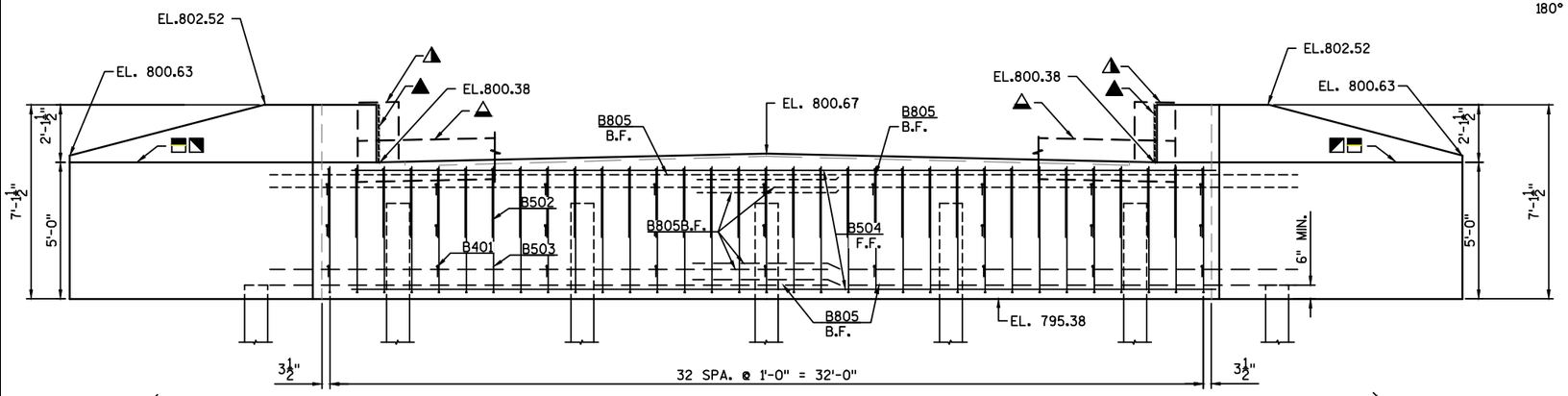
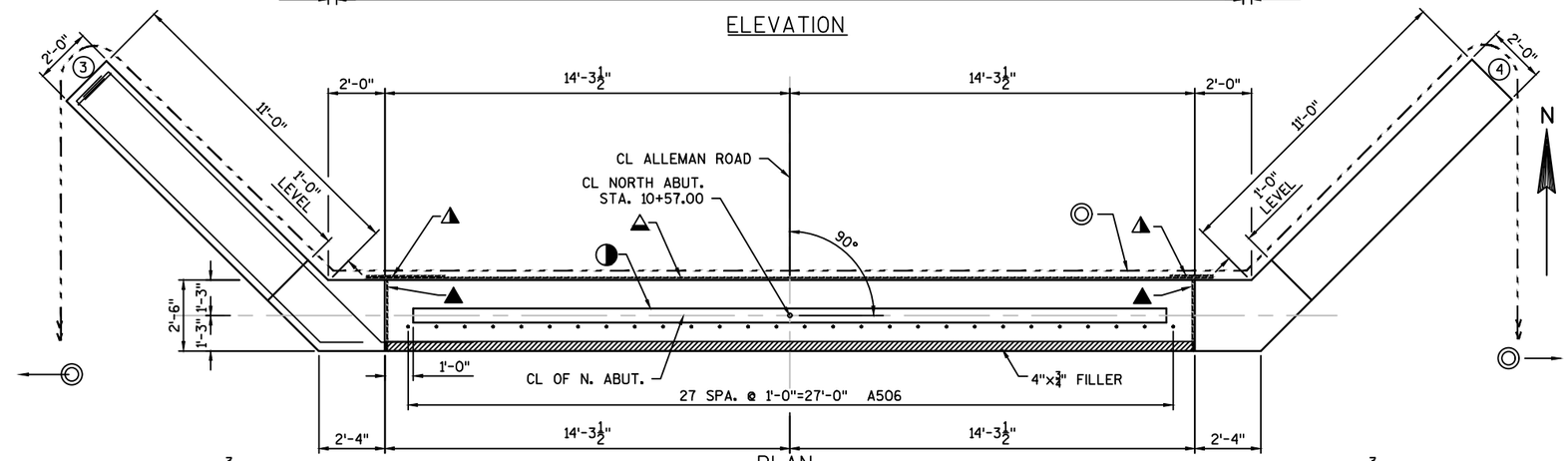
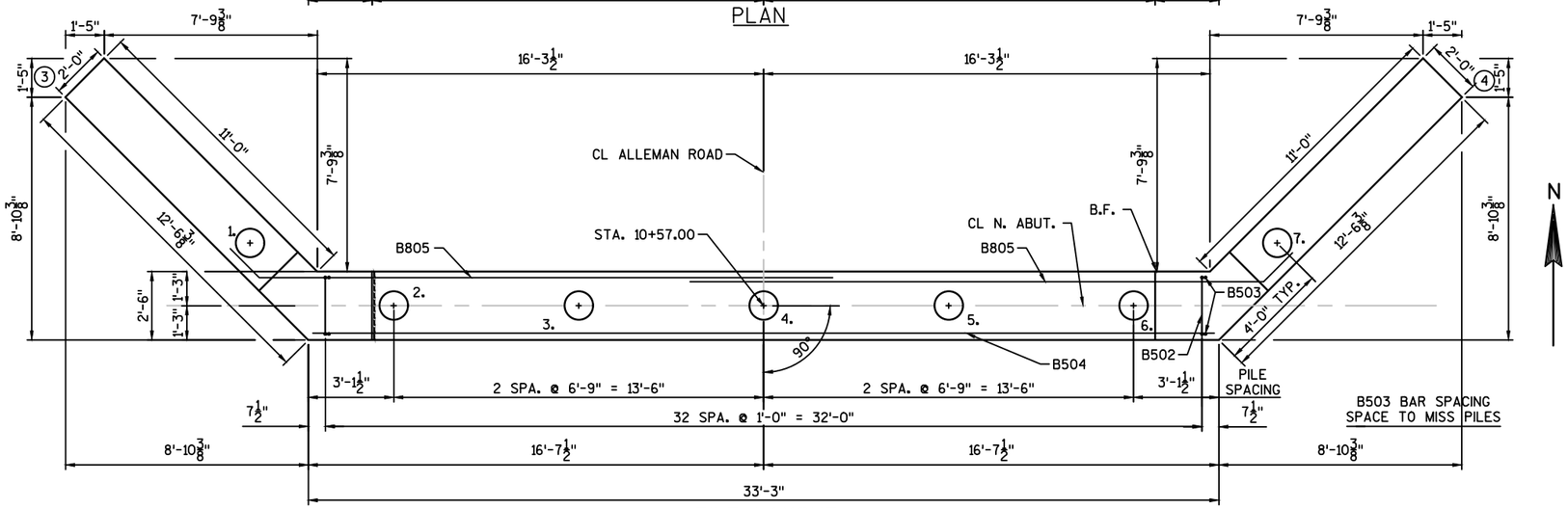


ELEVATION

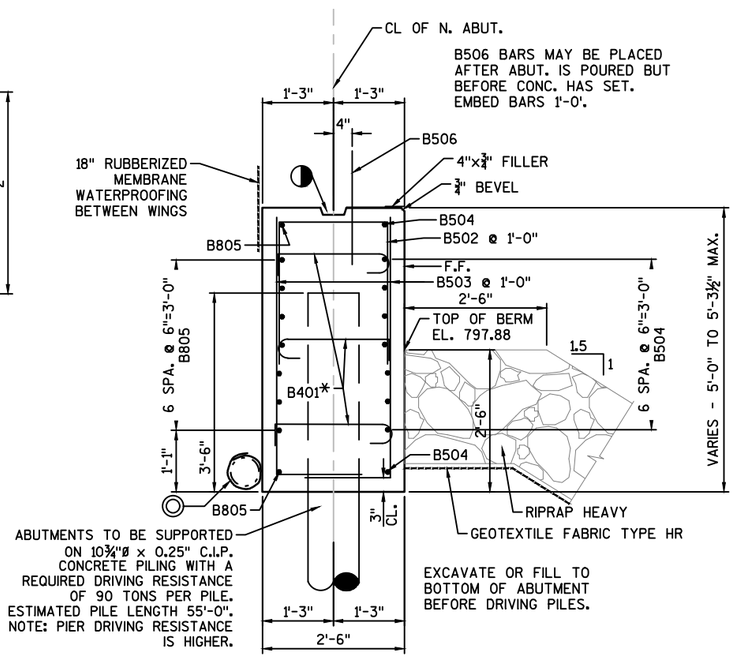


PLAN



PILE LAYOUT

*(3) B401 TIE BARS AT 4'-0" HORIZ. SPA. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.



TYP. SECTION THRU ABUTMENT BODY

LEGEND

- (1) INDICATES WING NUMBER
- ◎ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.
- ◭ VERT. 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW), EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ◬ HORIZ. 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW), EXTEND BETWEEN WINGS.
- ▬ OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2x6. IF JOINT IS USED, POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE 18" RMW ON BACK FACE OF WING. COST OF RMW INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ◥ 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- ◑ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY DAN | PLANS CK'D. JAF

NORTH ABUTMENT

SHEET 6 OF 12
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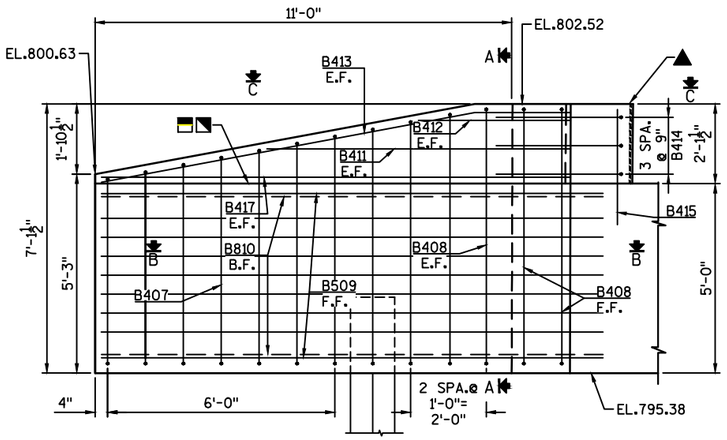
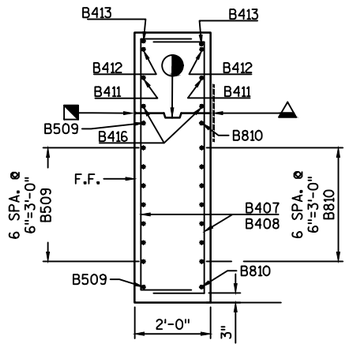
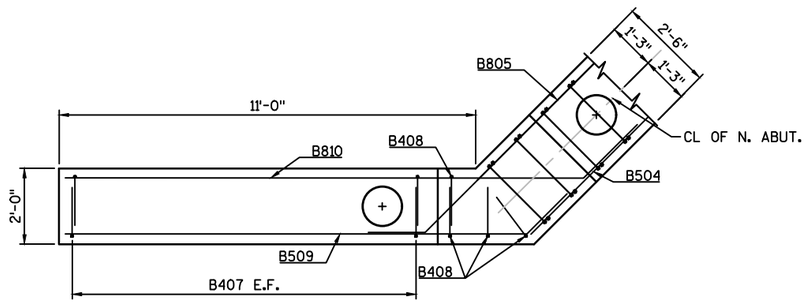


ELEVATION WING 3

WING 4 SIMILAR



SECTION A



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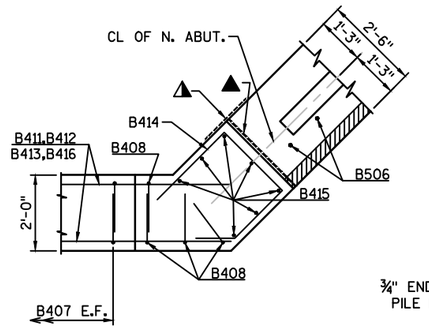

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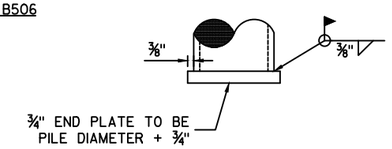


END PLATE DETAIL FOR CIP PILING

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B401		27	3'-0"	X		ABUT. BODY TIE BARS
B502		33	6'-11"	X		ABUT. BODY HORIZ. TOP
B503		66	6'-1"	X		ABUT. BODY VERT.
B504		9	32'-0"			ABUT. BODY HORIZ. F.F.
B805		18	22'-8"	X		ABUT. BODY HORIZ. B.F.
B506	X	28	2'-0"			ABUT. BODY - TOP DOWEL VERT.
B407	X	40	8'-2"	X	X	WINGS 3 & 4 VERT. E.F. ◧
B408	X	8	9'-2"	X		WINGS 3 & 4 VERT. E.F.
B509	X	18	13'-8"	X		WINGS 3 & 4 HORIZ. F.F.
B810	X	18	15'-2"	X		WINGS 3 & 4 HORIZ. B.F.
B411	X	4	8'-0"			WINGS 3 & 4 HORIZ. E.F.
B412	X	4	4'-0"			WINGS 3 & 4 HORIZ. E.F.
B413	X	4	12'-5"	X		WINGS 3 & 4 DIAGONAL E.F.
B414	X	6	8'-5"	X		WINGS 3 & 4 HORIZ.
B415	X	14	3'-0"			WINGS 3 & 4 VERT.
B416	X	4	12'-4"			WINGS 3 & 4 HORIZ. E.F.

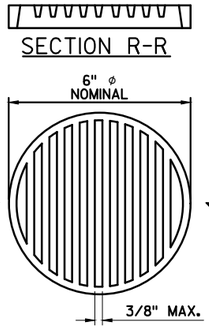
NOTES:
1. BAR TABLE APPLIES TO NORTH ABUTMENT ONLY.
2. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.

◧ LENGTH SHOWN IS AN AVERAGE LENGTH TO BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

LEGEND

- (1) INDICATES WING NUMBER
- ◑ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2X6.
- ◎ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.
- ◭ VERT. 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW), EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- △ HORIZ. 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING (RMW), EXTEND BETWEEN WINGS.
- ▬ OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2x6. IF JOINT IS USED, POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE 18" RMW ON BACK FACE OF WING. COST OF RMW INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ◥ 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.

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



SECTION R-R

RODENT SHIELD

DIMENSIONS ARE APPROX.. THE GRATE IS SIZED TO FIT INTO PIPE COUPLING.

RODENT SHIELD NOTES:

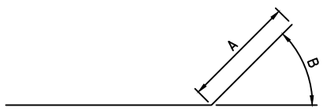
ORIENT SHIELD SO SLOTS ARE VERTICAL.

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 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 SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

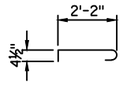
BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
B407	4 SERIES OF 10	7'-4" TO 9'-0"

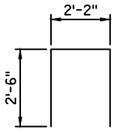
BUNDLE AND TAG EACH SERIES SEPARATELY



MARK	A	B
B805	1'-6"	45°
B509	12'-2"	45°
B810	13'-8"	45°
B413	10'-0"	11°



B401



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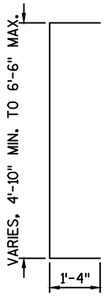
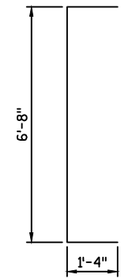


B407



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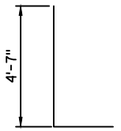

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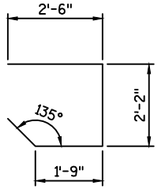
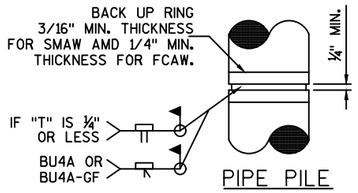
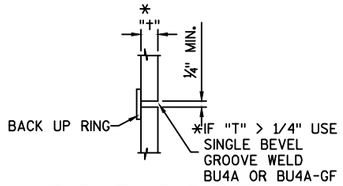


B414

BACK UP RING
3/16" MIN. THICKNESS FOR SMAW AMD 1/4" MIN. THICKNESS FOR FCAW.



PIPE PILE



CIP PILE WELD DETAIL

CIP PILE SPLICE DETAIL

CAST IN PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. GRINDING MAY BE USED IN LIEU OF BACK GOUGING

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY DAN PLANS CK'D. JAF

NORTH ABUTMENT WING DETAILS

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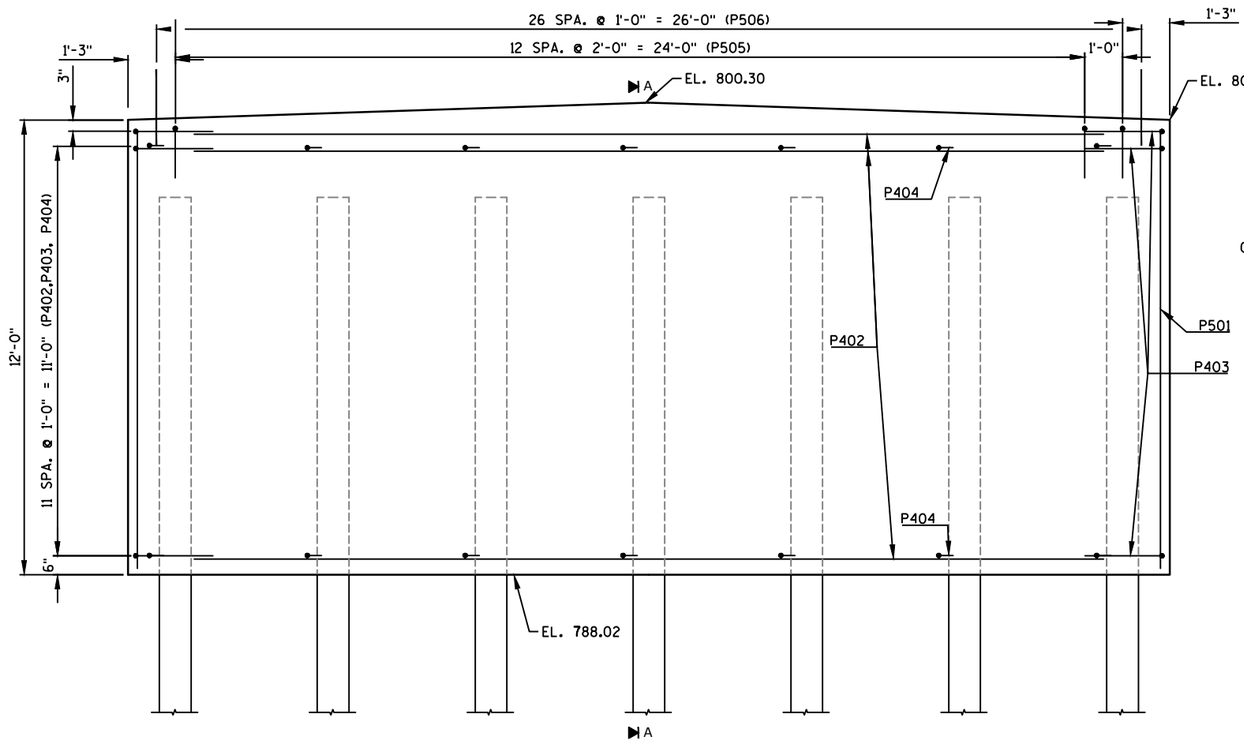
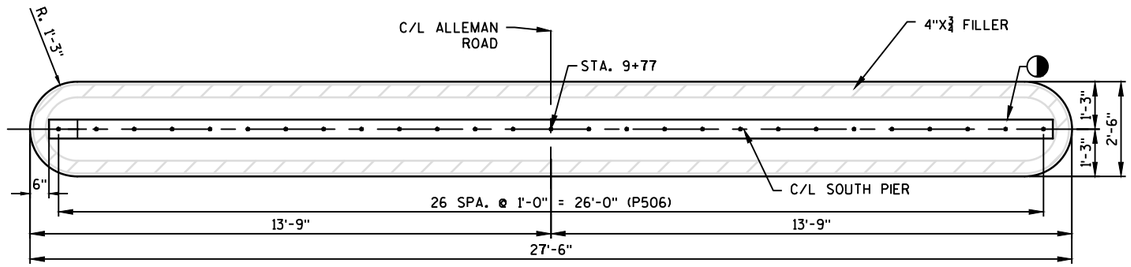
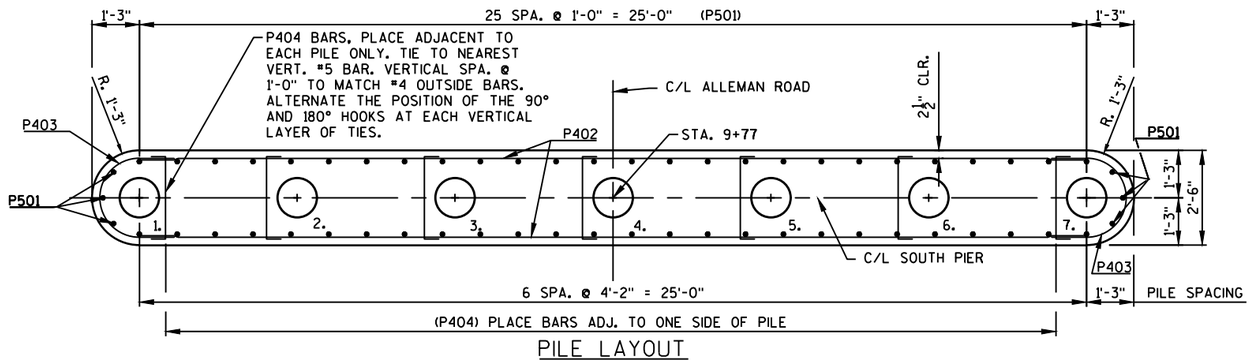


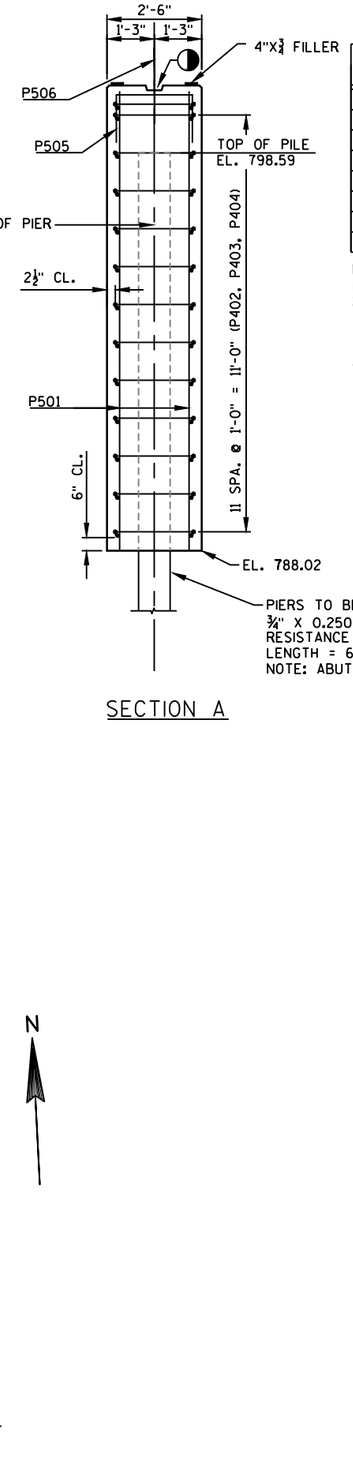
ELEVATION



PLAN



PILE LAYOUT



SECTION A

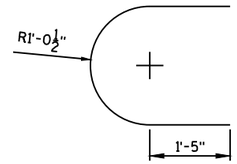
BILL OF BARS

BAR MARK	COAT	NO. REQ'D SOUTH PIER	LENGTH	BENT	BAR SERIES	LOCATION
P501		58	11'-3"			COLUMN VERT.
P402		26	25'-0"			COLUMN HORIZ.
P403		26	6'-1"	X		COLUMN HORIZ.
P404		91	2'-11"	X		COLUMN TIES
P505		14	4'-8"	X		COLUMN TOP
P506	X	27	2'-0"			COLUMN DOWELS

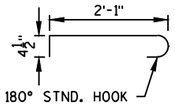
NOTES:
1. BAR TABLE APPLIES TO SOUTH PIER ONLY.
2. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.
3. P506 BARS MAY BE PLACED AFTER PIER IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0'.
4. F.F. = FRONT FACE, B.F. = BACK FACE, CL. = CLEAR

LEGEND

◑ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2X6.



P403



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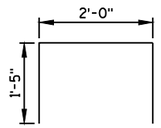

P505

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY DAN | PLANS CK'D. JAF

SOUTH PIER

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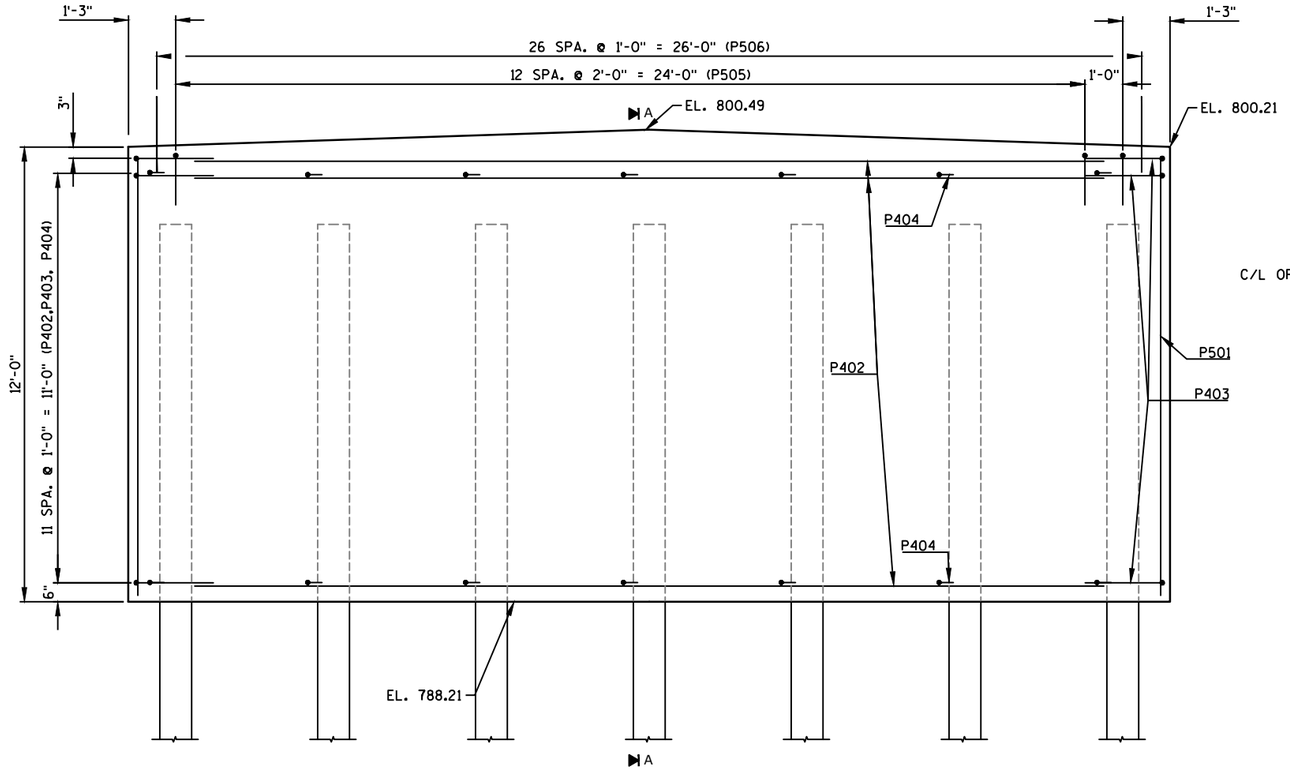
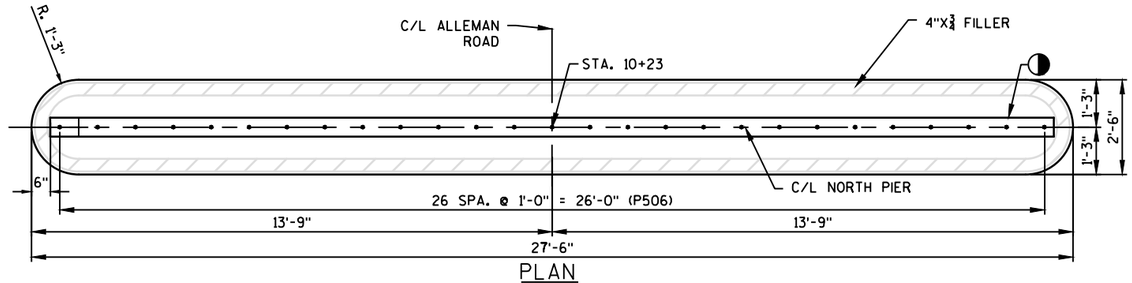


ELEVATION



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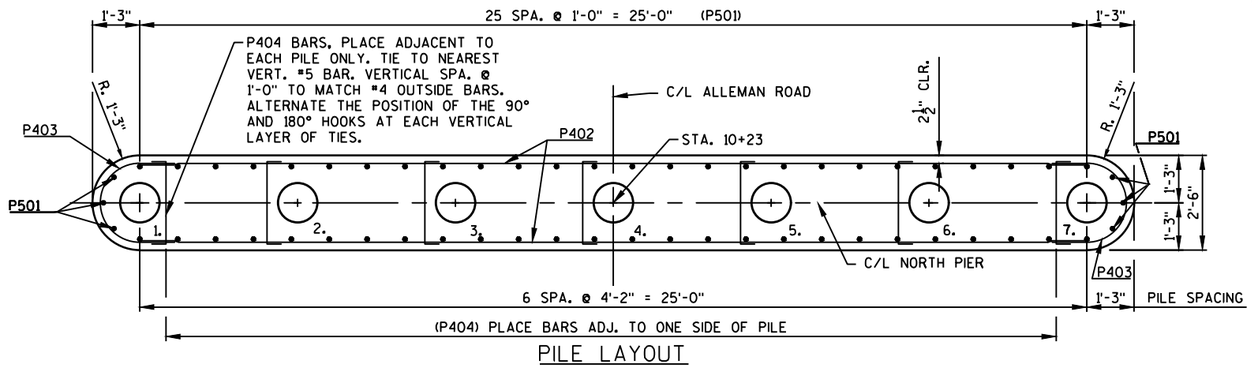

PILE LAYOUT

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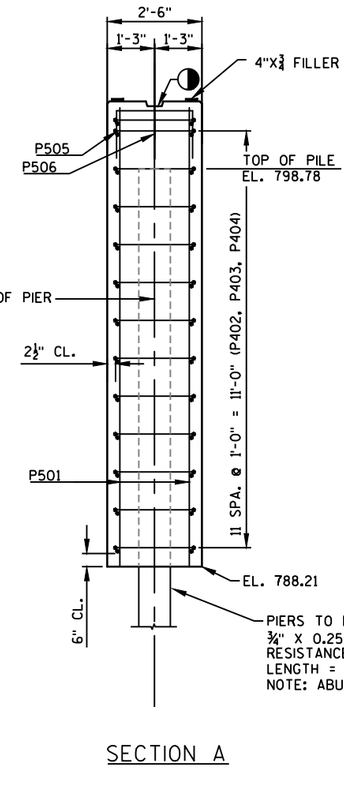


SECTION A

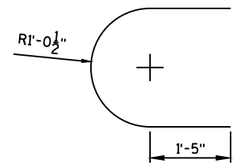
BILL OF BARS

BAR MARK	COAT	NO. REQ'D NORTH PIER	LENGTH	BENT	BAR SERIES	LOCATION
P501		58	11'-3"			COLUMN VERT.
P402		26	25'-0"			COLUMN HORIZ.
P403		26	6'-1"	X		COLUMN HORIZ.
P404		91	2'-11"	X		COLUMN TIES
P505		14	4'-8"	X		COLUMN TOP
P506	X	27	2'-0"			COLUMN DOWELS

NOTES:
1. BAR TABLE APPLIES TO NORTH PIER ONLY.
2. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS ARE OUT TO OUT OF BAR.
3. P506 BARS MAY BE PLACED AFTER PIER IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0'.
4. F.F. = FRONT FACE, B.F. = BACK FACE, CL. = CLEAR

LEGEND

◑ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2X6.



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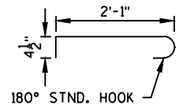

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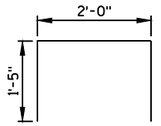

P505

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STRUCTURE B-6-301

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NORTH PIER

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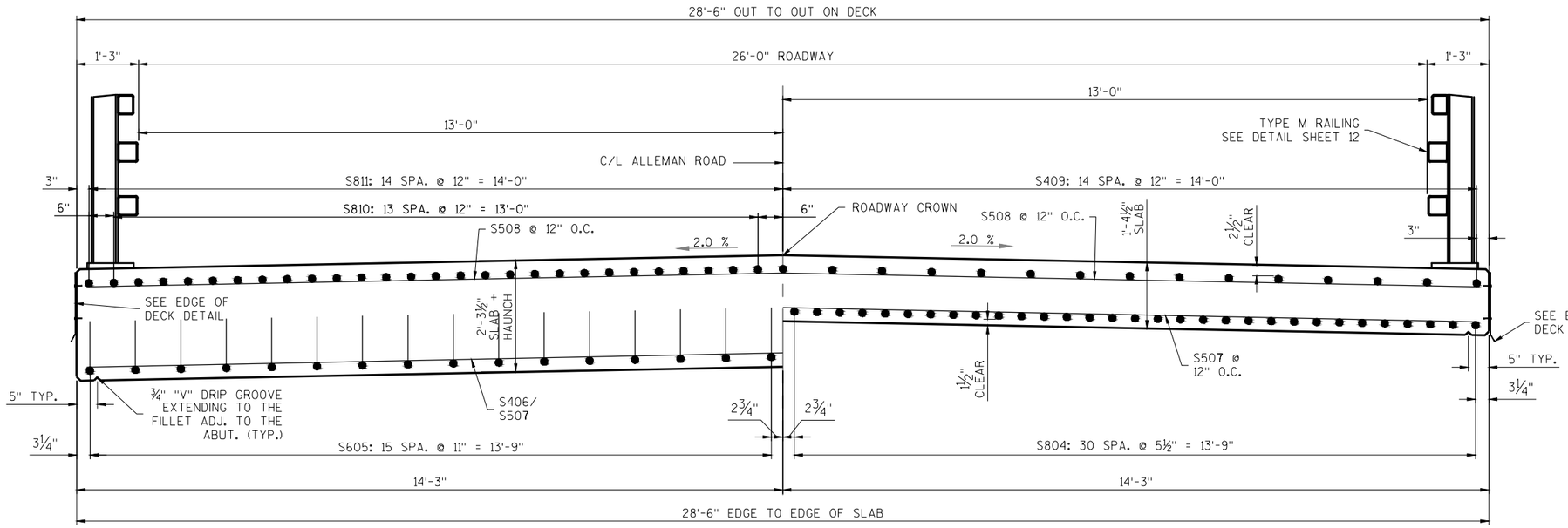
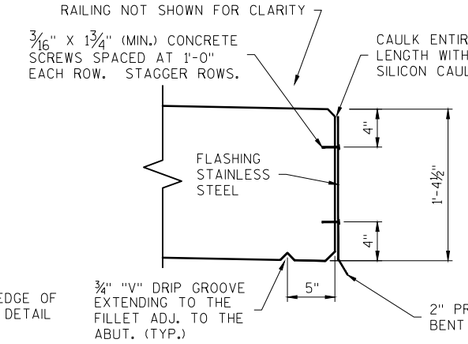


AT PIER

CROSS SECTION THRU BRIDGE

LOOKING NORTH



EDGE OF DECK DETAIL

NOTES

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK, AND 3/16" CONCRETE SCREWS.

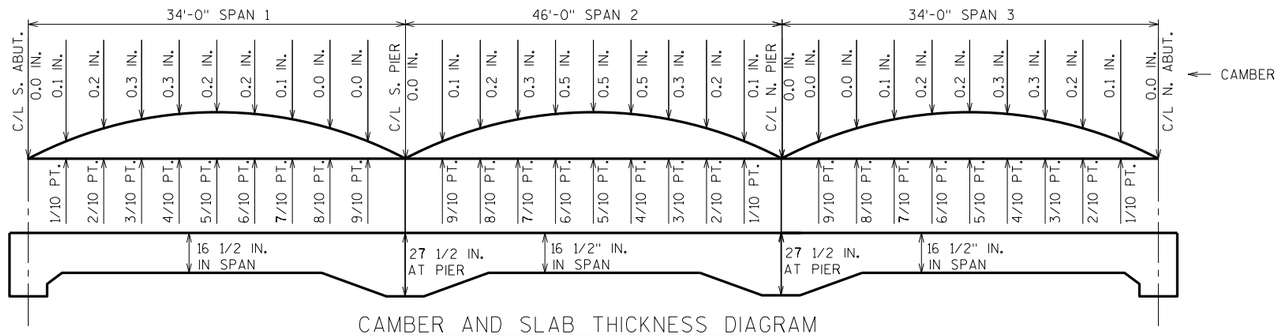
FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO F.F. ABUTMENT.

TOP OF FLASHING TO BEGIN APPROX. 1-INCH BELOW TOP OF DECK/SLAB SURFACE.

THE FLASHING IS TO BE CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS, SIDEWALKS AND MEDIANS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

IN SPAN

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
S501	X	58	6-8	X	DIAPHRAGM @ ABUTS. - LONGIT.
S502	X	4	28-2		DIAPHRAGM @ ABUTS. - TRANS.
S803	X	124	28-7		SLAB, BOTTOM, LONGIT. IN SPANS 1 & 3
S804	X	62	35-9		SLAB, BOTTOM, LONGIT. IN SPAN 2
S605	X	64	16-2	X	SLAB, BOTTOM, LONGIT. @ PIER
S406	X	12	28-2		SLAB, BOTTOM, TRANSVERSE
S507	X	99	28-2		SLAB, BOTTOM, TRANSVERSE
S508	X	117	28-2		SLAB, TOP, TRANSVERSE
S409	X	58	16-5		SLAB, TOP, LONGIT. @ ABUTMENT
S810	X	56	33-8		SLAB, TOP, LONGIT. IN SPAN
S811	X	58	41-5	X	SLAB, TOP, LONGIT. IN SPAN
S612	X	84	12-0	X	SLAB, TRANS., 2 PER RAIL POST
S613	X	168	6-0		SLAB, LONG., 4 PER RAIL POST

NOTES:
-THE FIRST OR FIRST TWO DIGITS THE OF A BAR MARK SIGNIFIES BAR SIZE.
-DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
-EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.

GENERAL NOTES

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

TRANSVERSE BARS SHALL BE PLACED PARALLEL TO THE % OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

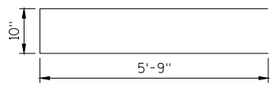
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND C/L.

TOP OF DECK ELEVATIONS

	SPAN 1											SPAN 2										SPAN 3										
	C/L BRG. S. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	C/L BRG. S. PIER	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	C/L BRG. N. PIER	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	C/L BRG. N. ABUT.	
W. EDGE OF DECK	802.20	802.22	802.24	802.25	802.27	802.29	802.30	802.32	802.34	802.36	802.37	802.40	802.42	802.44	802.47	802.49	802.51	802.53	802.54	802.55	802.56	802.57	802.57	802.57	802.57	802.56	802.56	802.55	802.54	802.53	802.52	W. EDGE OF DECK
CROWN OR C/L	802.49	802.50	802.52	802.54	802.56	802.57	802.59	802.61	802.62	802.64	802.66	802.68	802.70	802.73	802.75	802.77	802.80	802.81	802.83	802.84	802.85	802.85	802.85	802.85	802.85	802.85	802.84	802.84	802.83	802.82	802.80	CROWN OR C/L
E. EDGE OF DECK	802.20	802.22	802.24	802.25	802.27	802.29	802.30	802.32	802.34	802.36	802.37	802.40	802.42	802.44	802.47	802.49	802.51	802.53	802.54	802.55	802.56	802.57	802.57	802.57	802.57	802.56	802.56	802.55	802.54	802.53	802.52	E. EDGE OF DECK

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

	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONC. (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION.



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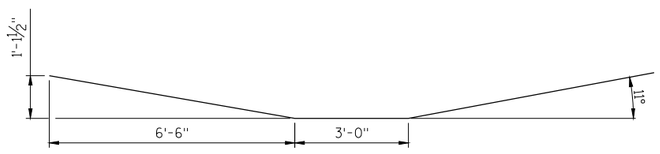

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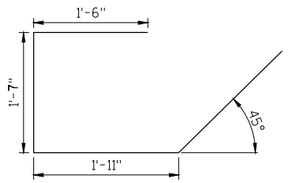

S501

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY DAN | PLANS CK'D. JAF

SUPERSTRUCTURE

SHEET 10 OF 12
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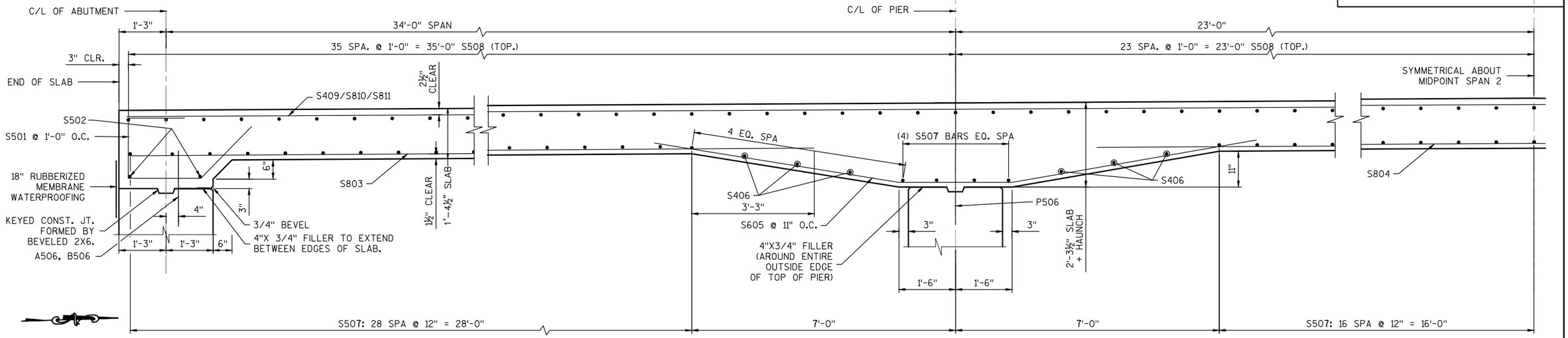
8

8

STATE PROJECT NUMBER

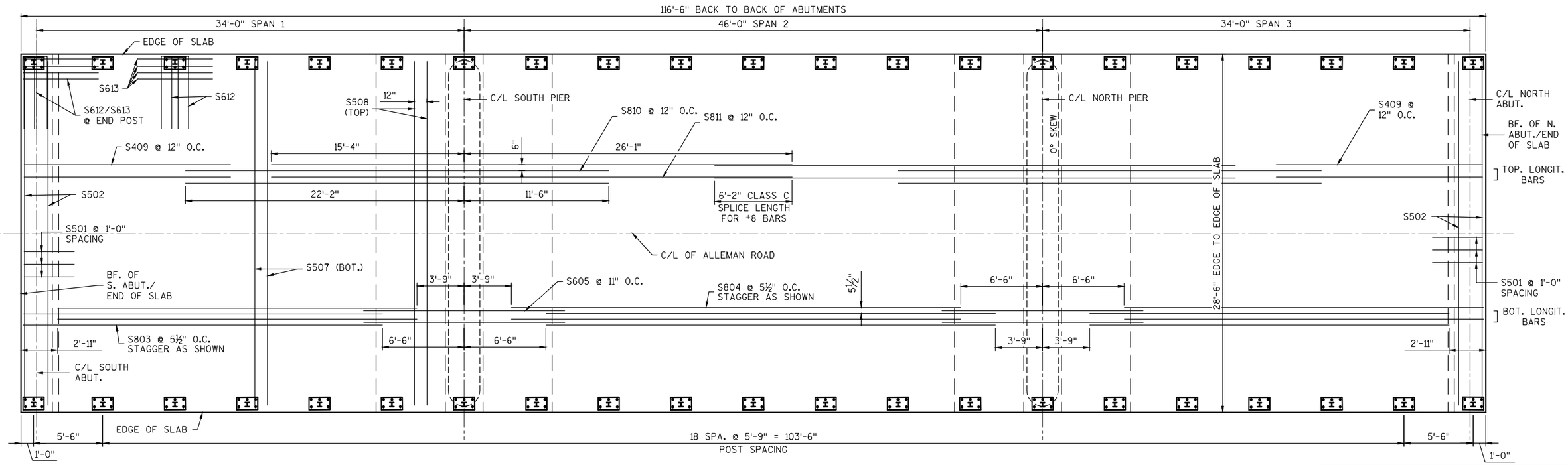
7218-00-71



AT ABUTMENT

PART LONGITUDINAL SECTION

AT PIER



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY DAN | PLANS CK'D. JAF

SUPERSTRUCTURE DETAILS

SHEET 11 OF 12

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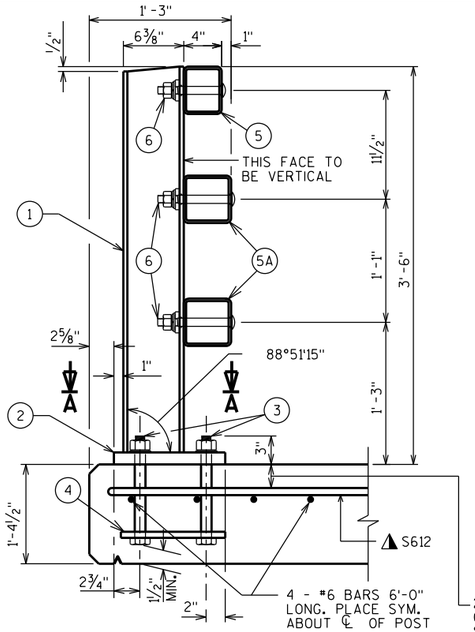
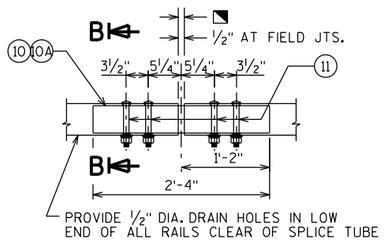
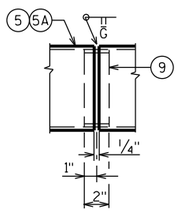


SECTION THRU RAILING ON DECK

2 1/2" FOR SLABS ON GIRDERS; FOR OTHER STRUCTURES, PLACE BELOW TOP MAT SLAB REINFORCEMENT.

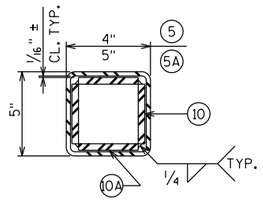


FIELD ERECTION JOINT DETAIL

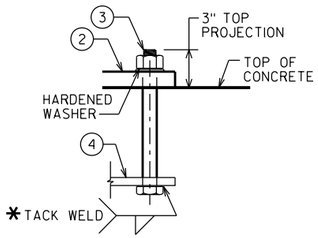


SHOP RAIL SPLICE DETAIL

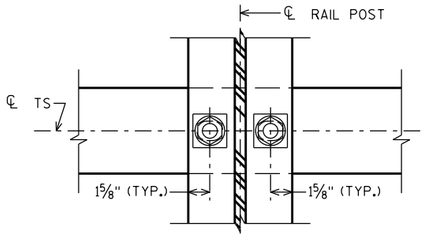
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



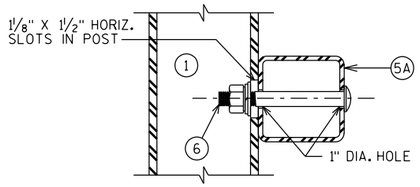
SECTION B-B



ANCHOR BOLTS



SECTION THRU POST WEB



SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

LEGEND

(1) W6 x 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 5/16" X 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)

(4) 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3

(5) TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(5A) TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(6) 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/16" X 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

(7) NOT USED SINCE NO THRIE BEAM RAIL ATTACHMENT AT THIS STRUCTURE

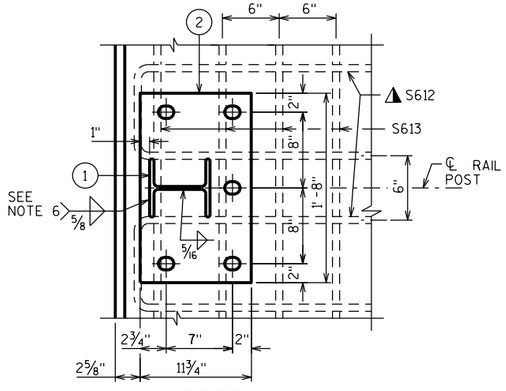
(8) NOT USED SINCE NO THRIE BEAM RAIL ATTACHMEN AT THIS STRUCTURE

(9) SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".

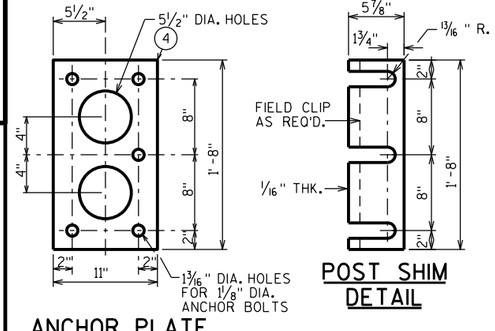
(10) 3/8" X 3 5/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5. 3/8" X 3 5/8" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

(11) 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16 " X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 15/16 " X 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.



SECTION A-A



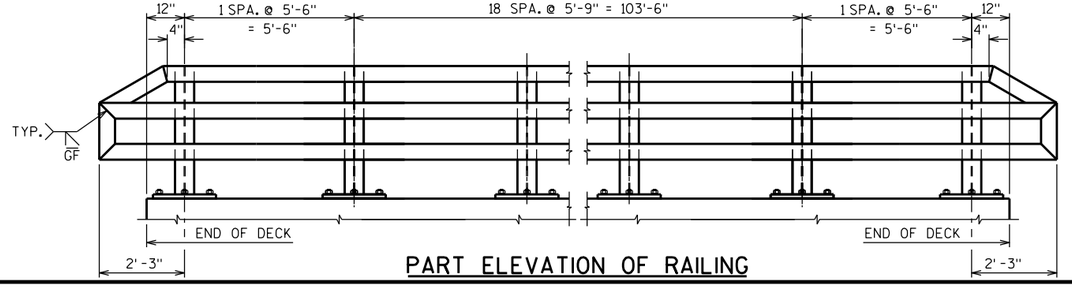
ANCHOR PLATE

AT RAIL TO DECK CONNECTION

POST SHIM DETAIL

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.



PART ELEVATION OF RAILING

▲ TIE TO TOP MAT OF STEEL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-301

DRAWN BY JAF | PLANS CK'D. SKP

TUBULAR STEEL RAILING TYPE 'M'

SHEET 12 OF 12

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STATE PROJECT NUMBER

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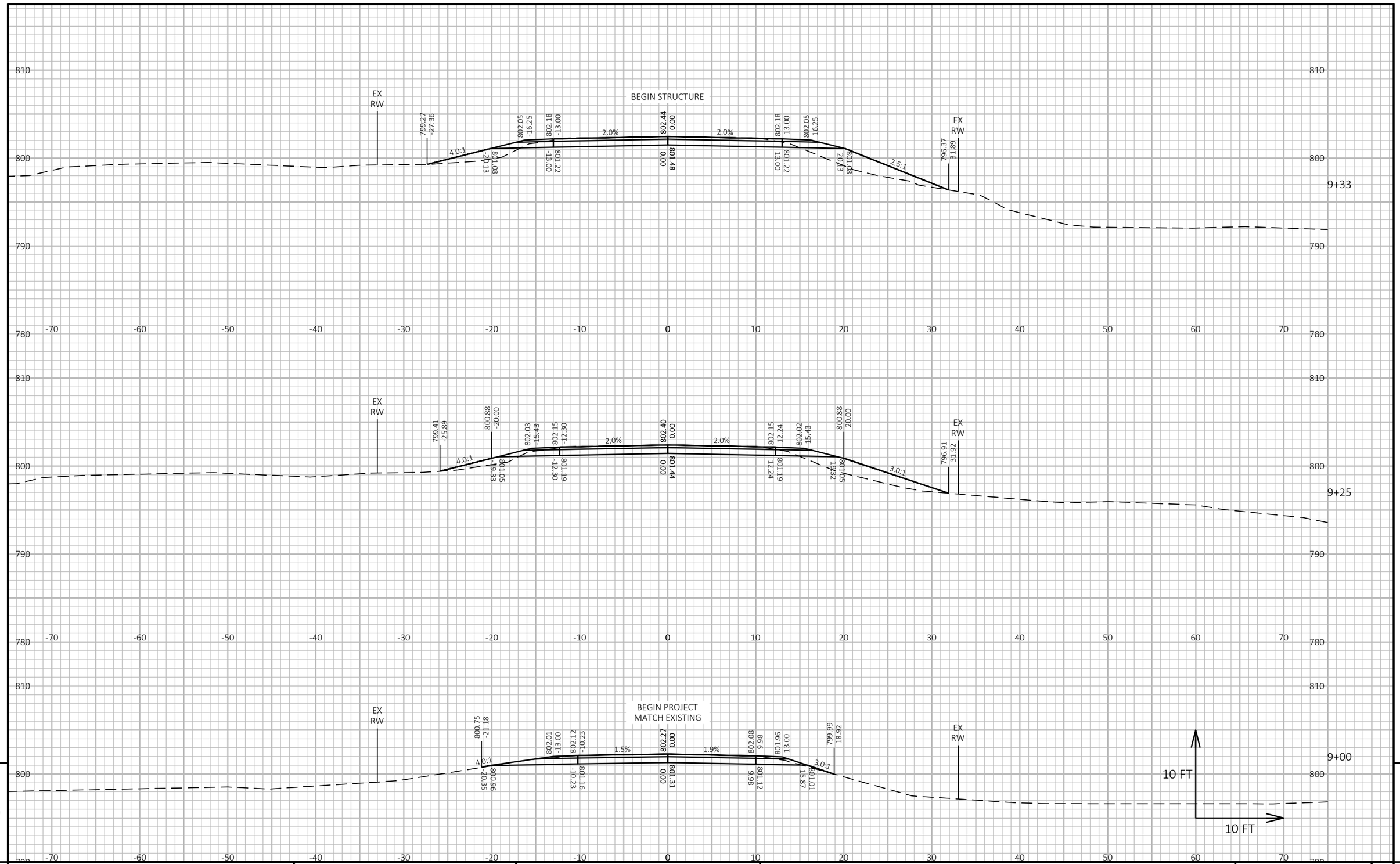
SCALE =



PROJECT NO: 7218-00-71	HWY: ALLEMAN ROAD	COUNTY: BUFFALO	CROSS SECTIONS: ALLEMAN ROAD	SHEET 42	E

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LAYOUT NAME - 1

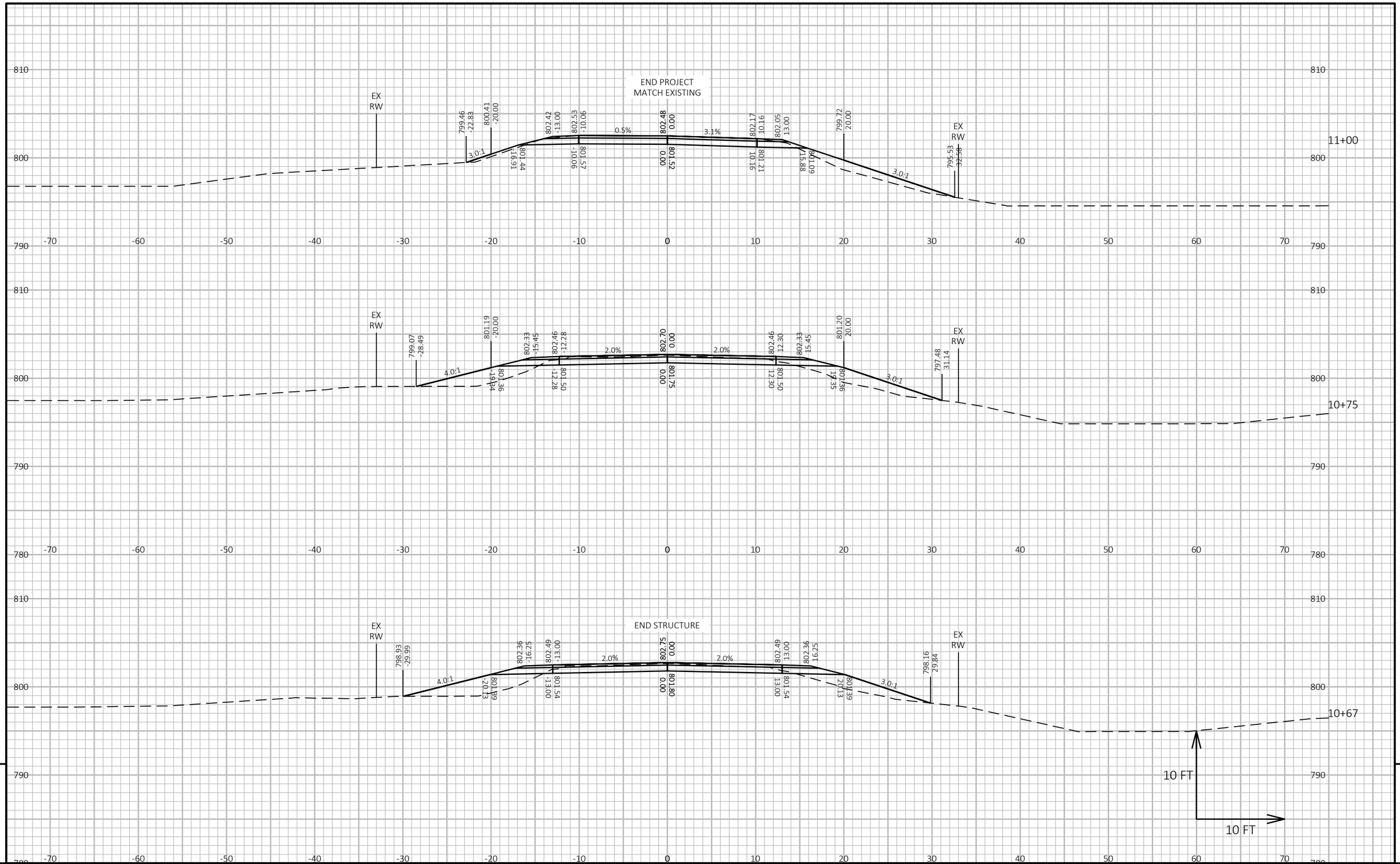
PLOT DATE : 9/11/2020 8:39 AM

PLOT BY : JACOB FRIBERG

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 7218-00-71	HWY: ALLEMAN ROAD	COUNTY: BUFFALO	CROSS SECTIONS: ALLEMAN ROAD	SHEET 43	E

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LAYOUT NAME - 2

PLOT DATE : 9/11/2020 8:39 AM PLOT BY : JACOB FRIBERG PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Wisconsin Department of Transportation

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