GRE FEBRUARY 2018

PROJECT ID: 4503-00-71

WITH: 4503-03-71

COUNTY: BROWN

ORDER OF SHEETS

TOTAL SHEETS =

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4503-00-71	WISC 2018093	1

T NEW DENMARK, COOPERSTOWN RD

DEVILS RIVER BRIDGE & APPROACHES

LOCAL STREET

BROWN COUNTY

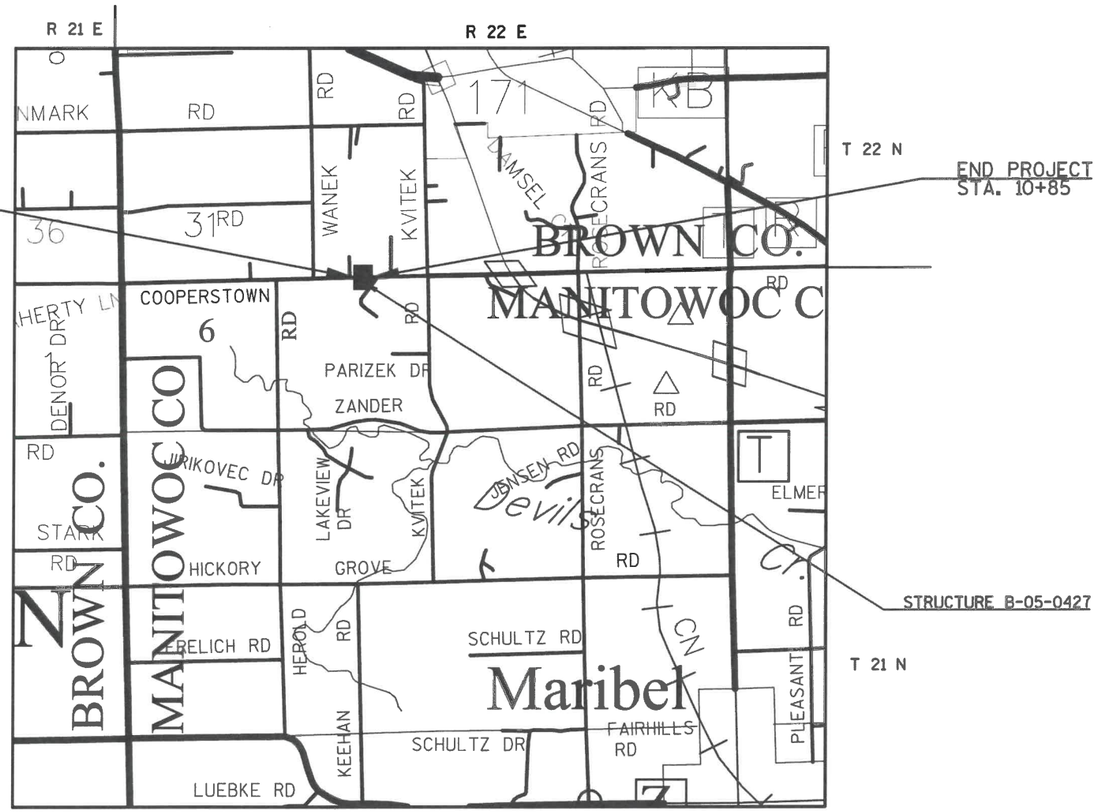
STATE PROJECT NUMBER
4503-00-71

PROJECT LOCATION

N

BEGIN PROJECT
STA. 9+15
Y=499047.984
X=141691.765

END PROJECT
STA. 10+85



LAYOUT
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.032 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DESIGN DESIGNATION

A.A.D.T.	2018	=	200
A.A.D.T.	2038	=	220
D.H.V.	2038	=	78
D.D.		=	60/40
T.		=	5.2%
DESIGN SPEED		=	55 MPH
ESALS		=	21,900

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	955.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300TEP	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	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

ACCEPTED FOR BROWN COUNTY

7/17/17 (DATE) (COUNTY HIGHWAY COMMISSIONER)

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES

WISCONSIN
ANDREW C. DANA
34172
OCONTO, WI
PROFESSIONAL ENGINEER

7-17-2017 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Management Consultant	SHORT ELLIOTT HENDRICKSON, INC.

APPROVED FOR THE DEPARTMENT

DATE: 7/21/17 (Management Consultant Signature)

E

FILE NAME : V:\TRANS-GB\450413 COOPERSTOWN ROAD\ROADWAY\C3D\SHEETSPLAN\010101 TI.DWG
LAYOUT NAME - 010101 TI

PLOT DATE : 7/17/2017 11:03 AM PLOT BY : SOUFAL, KEVIN PLOT NAME :

WISDOT/CADDS SHEET 10

GENERAL NOTES

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

FILL EXPANSION FACTOR IS 30%.

CONSTRUCT 4-INCH ASPHALTIC SURFACE WITH A 1 3/4" UPPER LAYER AND A 2 1/4" LOWER LAYER.

PROPERTY LINES AS SHOWN ARE APPROXIMATE.

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

BEARING SHOWN ON THIS PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

PLACE EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SUBGRADE SHOULDER POINTS ARE TO BE FERTILIZED, SEEDED, AND EROSION MAT AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THE ROADWAY CROSS SECTIONS ARE SUBGRADE ELEVATIONS AT THE CENTERLINE OF THE ROADWAY.

ALL ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF NAVD 88 (2012).

WISDOT WILL FURNISH A BENCHMARK MONUMENT TO BE SET BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD

SAW CUT LOCATIONS SHOWN ON THE PLAN ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD. THE LINE OF SUCH SAW CUTS WILL BE NEATLY DELINEATED THROUGH THE ASPHALT WITHOUT ANY DAMAGE TO THE REMAINING PORTION OF THE EXISTING PAVEMENT.

UTILITIES

* CENTURYLINK — TELEPHONE 715-856-9138

212 CHURCH AVENUE
CASCO, WISCONSIN 54205
ATTENTION: MATT GUNDERSON
E-MAIL: matt.gunderson@centurylink.com

* WISCONSIN PUBLIC SERVICE - ELECTRIC — TELEPHONE 920-617-5151

2850 S ASHLAND AVENUE
GREEN BAY, WISCONSIN 54307
ATTENTION: SCOTT GAUGER
E-MAIL: sjgauger@integrysgroup.com

*-MEMBER OF DIGGERS HOTLINE

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

DEPARTMENT OF NATURAL RESOURCES

WDNR — TELEPHONE 920-662-5119

P.O. BOX 10448
GREEN BAY, WISCONSIN 54307
ATTENTION: JIM DOPERALSKI
E-MAIL: JAMES.DOPERALSKI@WISCONSIN.GOV

RUNOFF COEFFICIENT TABLE

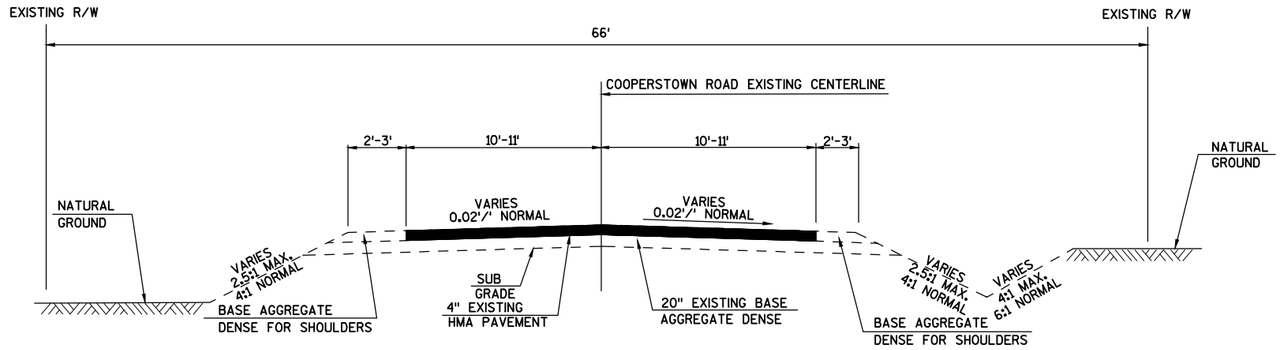
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33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

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.21 ACRES
SOIL GROUP C

STANDARD ABBREVIATIONS

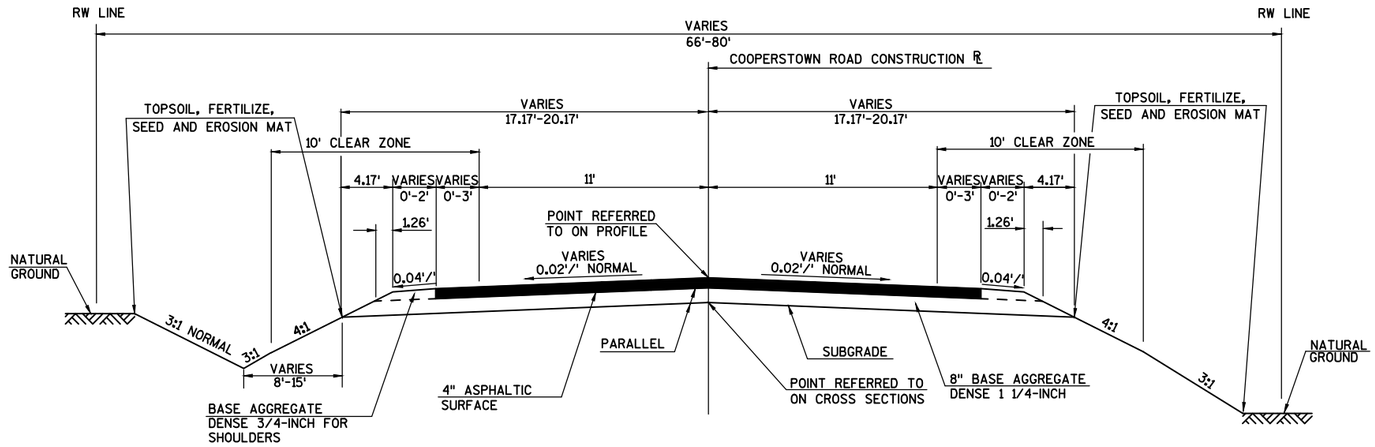
ADT	AVERAGE DAILY TRAFFIC
AC	ASPHALT CEMENT
AGG	AGGREGATE
ASPH	ASPHALT
BM	BENCH MARK
C/L	CENTERLINE
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
CR.	CREEK
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
ESALS	EQUIVALENT SINGLE AXIS LOADS
EXIST	EXISTING
FE	FIELD ENTRANCE
HYD	HYDRANT
IP	IRON PIPE OR PIN
L	LENGTH OF CURVE
LC	LONG CHORD OF CURVE
LR	LENGTH OF RUNOFF
MH	MANHOLE
NC	NORMAL CROWN
PT	POINT OF TANGENCY
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PE	PRIVATE ENTRANCE
R	RADIUS
REM	REMOVE
R/L OR RL	REFERENCE LINE
RCCP	REINFORCED CONCRETE CULVERT PIPE
RCPSS	REINFORCED CONCRETE PIPE STORM SEWER
R.O.	RUNOUT
R/W	RIGHT-OF-WAY
STA	STATION
SE	SUPER ELEVATION
SS	STORM SEWER
T	TANGENT
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
T	TRUCKS
VC	VERTICAL CURVE
W	WELL

2



TYPICAL EXISTING SECTION FOR COOPERSTOWN ROAD

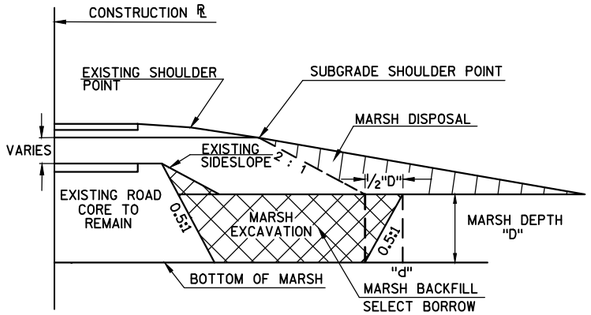
STA. 9+15 - STA. 10+85



TYPICAL FINISHED SECTION FOR COOPERSTOWN ROAD

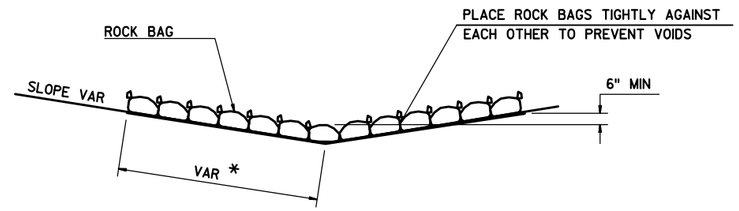
STA. 9+15 - STA. 10+85

PROJECT NO: 4503-00-71	HWY: COOPERSTOWN ROAD	COUNTY: BROWN	TYPICAL SECTIONS	SHEET 3	E

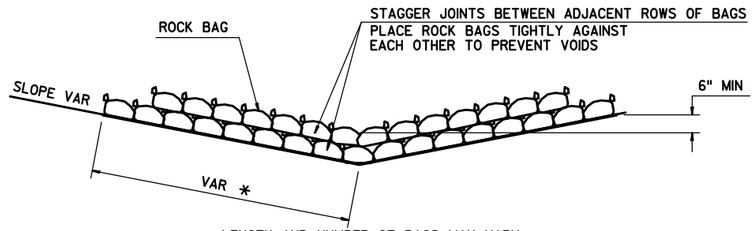


NOTE: BACKFILL QUANTITIES COMPUTED FROM POINT "d" TO COMPENSATE FOR PROBABLE DISPLACED MARSH AREA.

TYPICAL SECTION-MARSH EXCAVATION



SIDE VIEW (SINGLE LAYER)

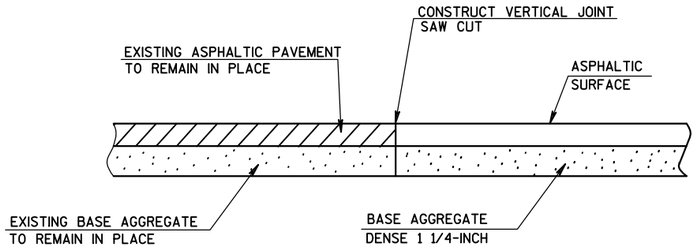


* LENGTH AND NUMBER OF BAGS MAY VARY DEPENDING ON DESIRED DEPTH OF WATER POOL

SIDE VIEW (MULTIPLE LAYER)

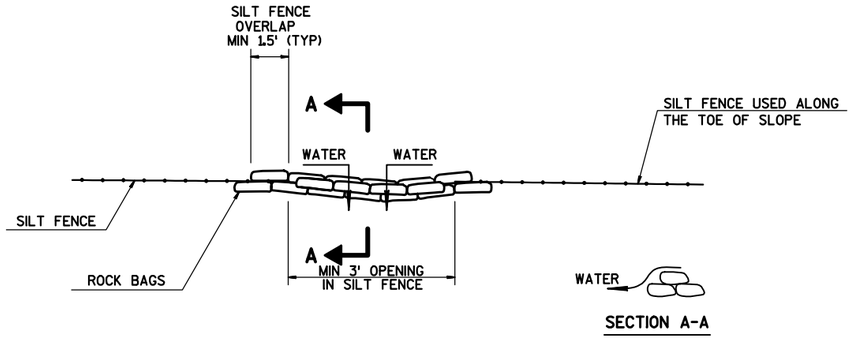
ROCK BAGS DITCH CHECK

PAID AS ROCK BAGS
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)



SAW CUT DETAIL

STA. 9+15
STA. 10+85



TOP VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

PAID AS ROCK BAGS
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

2

2

LEGEND

EROSION MAT URBAN CLASS I, TYPE B

EROSION MAT CLASS II, TYPE C

SILT FENCE

SLOPE INTERCEPT

TURBIDITY BARRIER

ROCK BAGS

SURFACE WATER FLOW

N

BP: 7+54.13
Y=499047.951
X=141530.895

EP: 12+85.12
Y=499048.060
X=142061.883

SLOPE INTERCEPT

LIMITS OF WETLANDS

DEVILS RIVER

LIMITS OF WETLANDS

SLOPE INTERCEPT

RW LINE

EXISTING R/W

WETLANDS

WETLANDS

EXISTING R/W

COOPERSTOWN ROAD

8

N89°59'17"E

9

10

11

12

WETLANDS

WETLANDS

24" CMCP

EXISTING R/W

EXISTING R/W

LIMITS OF WETLANDS

SLOPE INTERCEPT

LIMITS OF WETLANDS

SLOPE INTERCEPT

DEERFIELD RD.

BEGIN PROJECT
STA. 9+15
Y=499047.984
X=141691.765

END PROJECT
STA. 10+85
Y=499048.001
X=141861.765

PROJECT NO: 4519-09-71	HWY: COOPERSTOWN ROAD	COUNTY: BROWN	EROSION CONTROL PLAN	SHEET 5	E

FILE NAME : V:\TRANS-GB\450413 COOPERSTOWN ROAD\ROADWAY\C3D\SHEETSPLAN\022001 EC.DWG
LAYOUT NAME - 022001 EC

PLOT DATE : 12/6/2017 1:49 PM PLOT BY : SOUFAL, KEVIN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

4503-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 9+99	LS	1.000	1.000
0010	205.0100	Excavation Common **P**	CY	150.000	150.000
0012	205.0400	Excavation Marsh	CY	33.000	33.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-5-427	LS	1.000	1.000
0018	208.0100	Borrow **P**	CY	115.000	115.000
0020	208.1100	Select Borrow	CY	50.000	50.000
0022	210.1500	Backfill Structure Type A	TON	570.000	570.000
0024	213.0100	Finishing Roadway (project) 01. 4503-00-71	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	22.000	22.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	240.000	240.000
0032	455.0605	Tack Coat	GAL	22.000	22.000
0034	465.0105	Asphaltic Surface	TON	85.000	85.000
0036	502.0100	Concrete Masonry Bridges	CY	159.000	159.000
0038	502.3200	Protective Surface Treatment	SY	125.000	125.000
0040	505.0400	Bar Steel Reinforcement HS Structures	LB	5,250.000	5,250.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	13,390.000	13,390.000
0044	513.4061	Railing Tubular Type M (structure) 01. B-5-427	LF	68.000	68.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0054	550.0500	Pile Points	EACH	14.000	14.000
0056	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	575.000	575.000
0058	606.0300	Riprap Heavy	CY	110.000	110.000
0060	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	170.000	170.000
0062	618.0100	Maintenance And Repair of Haul Roads (project) 01. 4503-00-71	EACH	1.000	1.000
0066	619.1000	Mobilization	EACH	0.500	0.500
0068	624.0100	Water	MGAL	4.000	4.000
0070	625.0100	Topsoil	SY	370.000	370.000
0072	628.1504	Silt Fence	LF	280.000	280.000
0074	628.1520	Silt Fence Maintenance	LF	560.000	560.000
0076	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0078	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0080	628.2008	Erosion Mat Urban Class I Type B	SY	250.000	250.000
0082	628.2027	Erosion Mat Class II Type C	SY	140.000	140.000
0084	628.6005	Turbidity Barriers	SY	100.000	100.000
0088	628.7570	Rock Bags	EACH	75.000	75.000
0090	629.0210	Fertilizer Type B	CWT	0.500	0.500

4503-00-71

Line	Item	Item Description	Unit	Total	Qty
0092	630.0120	Seeding Mixture No. 20	LB	10.000	10.000
0094	630.0200	Seeding Temporary	LB	10.000	10.000
0096	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0098	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0100	638.2602	Removing Signs Type II	EACH	6.000	6.000
0102	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0104	642.5001	Field Office Type B	EACH	0.500	0.500
0106	643.0420	Traffic Control Barricades Type III	DAY	1,080.000	1,080.000
0108	643.0705	Traffic Control Warning Lights Type A	DAY	1,680.000	1,680.000
0110	643.0900	Traffic Control Signs	DAY	840.000	840.000
0112	643.5000	Traffic Control	EACH	0.500	0.500
0114	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0116	645.0120	Geotextile Type HR	SY	240.000	240.000
0118	650.4500	Construction Staking Subgrade	LF	138.000	138.000
0120	650.5000	Construction Staking Base	LF	138.000	138.000
0122	650.6500	Construction Staking Structure Layout (structure) 01. B-5-427	LS	1.000	1.000
0126	650.9910	Construction Staking Supplemental Control (project) 01. 4503-00-71	LS	1.000	1.000
0130	650.9920	Construction Staking Slope Stakes	LF	138.000	138.000
0132	690.0150	Sawing Asphalt	LF	40.000	40.000
0134	715.0502	Incentive Strength Concrete Structures	DOL	954.000	954.000
0136	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	150.000	150.000
0138	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0140	SPV.0105	Special 01. Superstructure 3/4" V-Drip Edge (structure) B-5-427	LS	1.000	1.000

CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00	-	11+00	COOPERSTOWN ROAD	2	2
TOTALS				2	2

BASE AGGREGATE DENSE AND WATER

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
9+15	-	9+80	COOPERSTOWN ROAD	10	112	2
10+12	-	10+85	COOPERSTOWN ROAD	12	128	2
TOTALS				22	240	4

HMA PAVEMENT

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
9+15	-	9+80	COOPERSTOWN ROAD	10.0	40
10+12	-	10+85	COOPERSTOWN ROAD	12.0	45
TOTALS				22.0	85

3

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (item #205.0100) Cut (2)	Unusable Pavement Material (4)	Available Material (5)	Excavation Marsh (6) (item #205.0400)	Expanded Marsh Backfill (10) Factor 1.50	Unexpanded Fill	Expanded Fill (13) Factor 1.30	Mass Ordinate +/- (14)	Borrow (item #208.0100)	Select Borrow (item #208.1100)	Comment:
1	9+15 - 10+85	COOPERSTOWN ROAD	150	37	113	33	50	176	228	-115	115	50	
Division 1 Total			150	37	113	33	50	176	228	-115	115	50	

2) Unsuable Pavement Material is included in Cut
4) Unusable Pavement Material = Existing Asphaltic Pavement & Concrete Pavement. Backfill any areas below subgrade with borrow.
5) Available Material = Cut - Unusable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material as shown in cross sections, then Borrow for the remaining Marsh Excavation.
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item Number 208.1100.
13) Expanded Fill. Factor = 1.3 Expanded Fill = Unexpanded Fill * Fill Factor
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT	5	2
	5	2

TOPSOIL, FERTILIZER AND SEED

STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB
9+15	-	9+80	COOPERSTOWN ROAD	152	0.1	4	4
10+12	-	10+85	COOPERSTOWN ROAD	184	0.2	5	5
UNDISTRIBUTED				34	0.2	1	1
TOTALS				370	0.5	10	10

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 MAINTENANCE LF
9+15	-	9+80	COOPERSTOWN ROAD	130	260
10+12	-	10+85	COOPERSTOWN ROAD	150	300
TOTALS				280	560

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

EROSION MAT

STATION	TO	STATION	LOCATION	628.2008 TYPE 1 URBAN CLASS B SY	628.2027 TYPE II CLASS C SY
9+15	-	9+80	COOPERSTOWN ROAD, LT & RT	100	67
10+12	-	10+85	COOPERSTOWN ROAD, LT & RT	127	60
UNDISTRIBUTED				23	13
TOTAL				250	140

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 SY
EAST ABUTMENT	COOPERSTOWN ROAD	50
WEST ABUTMENT	COOPERSTOWN ROAD	50
TOTAL		100

ROCK BAGS

STATION	LOCATION	628.7570 EACH
9+60	COOPERSTOWN ROAD, RT	15
9+75	COOPERSTOWN ROAD, LT	15
10+15	COOPERSTOWN ROAD, RT	15
10+30	COOPERSTOWN ROAD, LT	15
	UNDISTRIBUTED	15
TOTAL		75

SIGNS AND WOOD POSTS

STATION	LOCATION	634.0612 WOOD POSTS 4"x6"x12' EACH	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	S.F.	REMARKS
9+85	COOPERSTOWN ROAD, RT	1	-	3	W5-52R
10+17	COOPERSTOWN ROAD, LT	1	3	-	W5-52L
10+06	COOPERSTOWN ROAD, RT	1	3	-	W5-52L
10+30	COOPERSTOWN ROAD, LT	1	-	3	W5-52R
TOTALS		4	12		

REMOVING SIGNS AND SUPPORTS

STATION	LOCATION	638.2602 REMOVING SIGNS TYPE II EA	638.3000 REMOVING SMALL SIGN SUPPORTS EA	REMARKS
9+75	COOPERSTOWN ROAD, RT	1	1	WEIGHT LIMIT 10 TONS
9+85	COOPERSTOWN ROAD, RT	1	1	BRIDGE HASH
9+85	COOPERSTOWN ROAD, LT	1	1	BRIDGE HASH
10+15	COOPERSTOWN ROAD, RT	1	1	BRIDGE HASH
10+15	COOPERSTOWN ROAD, LT	1	1	BRIDGE HASH
10+25	COOPERSTOWN ROAD, LT	1	1	WEIGHT LIMIT 10 TONS
TOTALS		6	6	

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

3

3

TRAFFIC CONTROL SUMMARY

LOCATION	APPROXIMATE SERVICE DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO. IN SERVICE	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0705 TRAFFIC CONTROL WARNIG LIGHTS TYPE A NO. IN SERVICE	643.0705 TRAFFIC CONTROL WARNIG LIGHTS TYPE A DAYS	643.0900 TRAFFIC CONTROL SIGNS NO. IN SERVICE	643.0900 TRAFFIC CONTROL SIGNS DAYS	REMARKS
COOPERSTOWN ROAD / WANEK ROAD	60	2	120	4	240	5	300	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C
B.O.P	60	7	420	10	600	2	120	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C & D
E.O.P	60	7	420	10	600	2	120	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C & D
COOPERSTOWN ROAD / KVITEK ROAD	60	2	120	4	240	5	300	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C
TOTALS			1,080		1,680		840	

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF	GROUP CODE
9+15	-	9+80	COOPERSTOWN ROAD	65	65	-	1	65	0010
10+12	-	10+85	COOPERSTOWN ROAD	73	73	-	-	73	0010
SUBTOTALS				138	138	0	1	138	0010
10+00			COOPERSTOWN ROAD	-	-	1	-	-	0020
SUBTOTALS				0	0	1	0	0	0020
TOTALS				138	138	1	1	138	

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
9+15	COOPERSTOWN ROAD	20
10+85	COOPERSTOWN ROAD	20
TOTAL		40

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
STATE/COUNTY/TOWN LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING — TO BE REMOVED
BRIDGE

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) IP
OFF-PREMISE SIGN

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE	■	□
TELEPHONE POLE	●	○
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)	⊠	⊡

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)

PARCEL NUMBER (25) UTILITY NUMBER (40)
TLE POINT NUMBER 25
PARALLEL OFFSETS

R/W POINT COORDINATES

POINT	NORTHING	EASTING
101	499,044.255	141,691.766
102	499,047.984	141,691.765
103	499,077.254	141,691.759
104	499,082.991	141,726.758
105	499,083.017	141,851.758
106	499,076.708	141,876.759
107	499,048.022	141,876.765

R/W POINT COORDINATES

POINT	NORTHING	EASTING
108	499,043.708	141,876.766
109	499,010.708	141,876.773
110	499,010.855	141,826.771
111	499,003.006	141,801.774
112	499,002.991	141,726.774
113	499,011.255	141,691.773

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NO.	OWNERSHIP	INTEREST REQUIRED	R/W ACRES EXISTING	NEW	TOTAL
1	THOMAS L. & CHERYL A. GERRITS	FEE	0.05	0.01	0.06
2	HYDUKE LIVING TRUST	FEE	0.09	0.01	0.10
3	SEAN & RENAE MCNAMARA	FEE	0.14	0.02	0.16
50	CENTURYTEL - COMMUNICATIONS	RELEASE OF RIGHTS	----	----	----

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN

GN

0 30 60
SCALE, FEET

R/W COURSE TABLE

COURSE	BEARING	DISTANCE
101-102	N00°00'43"W	3.73'
102-103	N00°00'43"W	29.27'
103-104	N80°41'28"E	35.47'
104-105	N89°59'17"E	125.00'
105-106	S75°50'14"E	25.79'
106-107	S00°00'43"E	28.69'
107-108	S00°00'43"E	4.31'

R/W COURSE TABLE

COURSE	BEARING	DISTANCE
108-109	S00°00'43"E	33.00'
109-110	N89°49'50"W	50.00'
110-111	S72°34'04"W	26.20'
111-112	S89°59'17"W	75.00'
112-113	N76°42'57"W	35.96'
113-101	N00°00'43"W	33.00'

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
4503-00-00	4.01	1
FEDERAL PROJECT NUMBER ----------		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

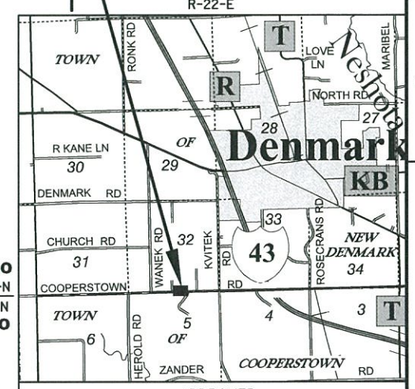
T NEW DENMARK, COOPERSTOWN ROAD
(DEVILS RIVER BRIDGE & APPROACHES)

LOC STR — BROWN COUNTY

CONSTRUCTION PROJECT NUMBER
4503-00-71

LAYOUT
SCALE 0 1 MI

PROJECT LOCATION
NET CENTERLINE LENGTH 0.035 MI



APPROVED
FOR
TOWN OF NEW DENMARK

4-20-17 — Wm J Krueger
DATE — TOWN CHAIRMAN

APPROVED
FOR
TOWN OF COOPERSTOWN

4-20-17 — [signature]
DATE — TOWN CHAIRMAN

THE SURVEY IS PREPARED AT THE REQUEST OF THE TOWN OF NEW DENMARK. THE TOPOGRAPHY AND UTILITY SURVEY WAS PERFORMED IN NOVEMBER 2015. THIS THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN
James R. Cappeart
S-3044
Green Bay
Wis.
LAND SURVEYOR

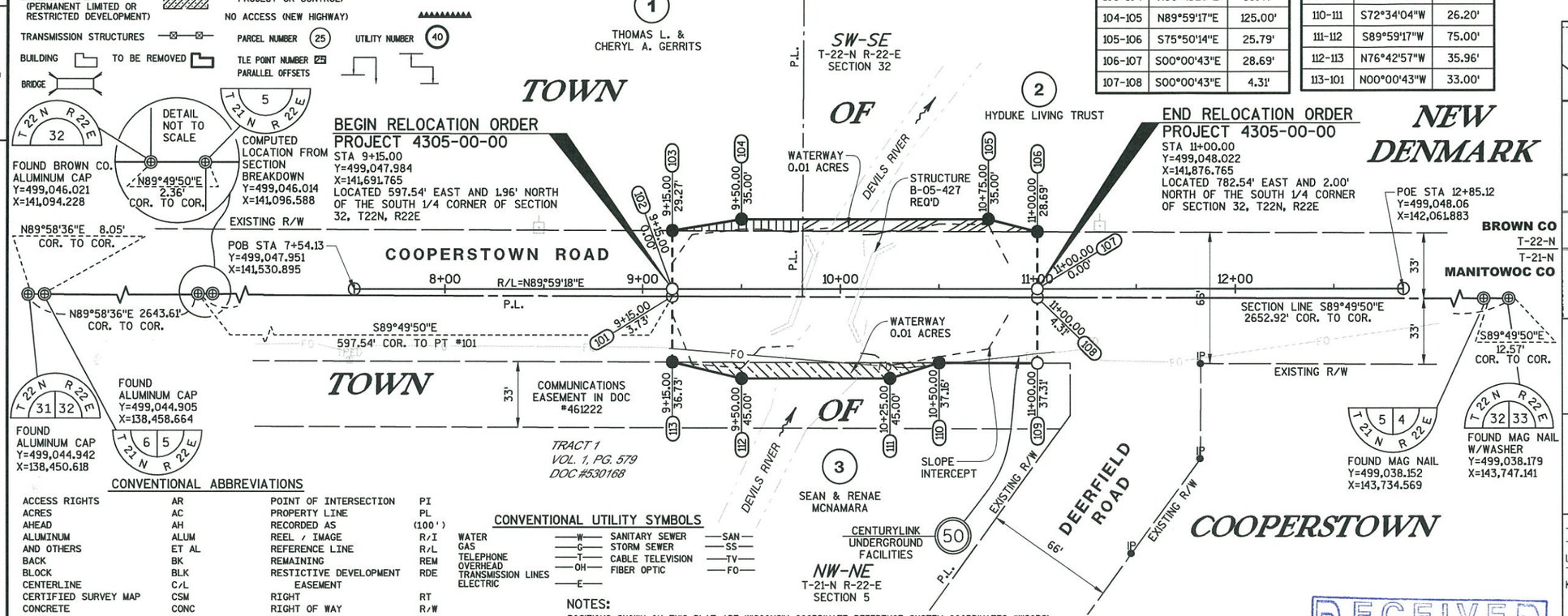
James Cappeart — 02/24/2017
JAMES CAPPEART — DATE
REGISTRATION NUMBER S-3044

PLAT PREPARED BY
AYRES ASSOCIATES

REVISION DATE

RECEIVED
APR 21 2017
COUNTY CLERK
MANITOWOC COUNTY, WI

RECEIVED
APR 2017
Sandra L. Juno
Brown County Clerk



CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTICTIVE DEVELOPMENT EASEMENT	RDE
CENTERLINE	C/L	RIGHT	RT
CERTIFIED SURVEY MAP	CSM	RIGHT OF WAY	R/W
CONCRETE	CONC	SECTION	SEC
COUNTY	CO	SEPTIC VENT	SEPV
COUNTY TRUNK HIGHWAY	CTH	SQUARE FEET	SF
DISTANCE	DIST	STATE TRUNK HIGHWAY	STH
CORNER	COR	STATION	STA
DOCUMENT NUMBER	DOC	TELEPHONE PEDESTAL	TP
EASEMENT	EASE	TEMPORARY LIMITED EASEMENT	TLE
EXISTING	EX	TRANSPORTATION PROJECT PLAT	TPP
GAS VALVE	GV	UNITED STATES HIGHWAY	USH
GRID NORTH	GN	VOLUME	V
HIGHWAY EASEMENT	HE		
IDENTIFICATION	ID		
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY NUMBER	NGS NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CONVENTIONAL UTILITY SYMBOLS

WATER	—W—	SANITARY SEWER	—SAN—
GAS	—G—	STORM SEWER	—SS—
TELEPHONE	—T—	CABLE TELEVISION	—TV—
OVERHEAD TRANSMISSION LINES	—OH—	FIBER OPTIC	—FO—
ELECTRIC	—E—		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BROWN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" CAPPED IRON BARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD."

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINT OF REFERENCE:

EXISTING HIGHWAY RIGHT-OF-WAY FOR COOPERSTOWN ROAD SHOWN HEREIN IS BASED ON AND PRESUMED 66' WIDTH CENTERED ON THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 32 PER STATE STATUTE 82.31 (2)

EXISTING HIGHWAY RIGHT-OF-WAY FOR DEERFIELD ROAD SHOWN HEREIN IS BASED ON VOL. 7, PAGE 579, DOC #530168

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
12	8+47	SPK IN PP-30' LT.	850.82
11	10+12.3	6" NAIL IN SE WINGWALL-14' RT.	852.92
10	11+26	SPK IN PP-30' RT.	851.99

1" IP W/ CAP
39.30' 32.30'
22.89'
PK NAIL PK NAIL
COOPERSTOWN RD.
PK NAIL

CP#2
STA. 8+04.30 13.29' LT.
Y=499061.250
X=141581.060

PK NAIL
COOPERSTOWN RD.
24.61'
PK NAIL 24.91' 32.12' PK NAIL
1" IP W/ CAP

CP#1
STA. 12+13.21 14.51' RT.
Y=499033.538
X=141989.976

BP: 7+54.13
Y=499047.951
X=141530.895

EP: 12+85.12
Y=499048.060
X=142061.883

THOMAS L. GERRITS

HYDUKE LIVING TRUST

DEVILS RIVER

WOODS

SLOPE INTERCEPT

LIMITS OF WETLANDS

RW LINE

WETLANDS

EXISTING R/W

COOPERSTOWN ROAD

N89°59'17"E

BM 12

CP 2

BM 11

BM 10

CP 1

24" CMCP

TREE

OH

FO

BURIED FIBER OPTIC
(APPROXIMATE LOCATION)

BEGIN PROJECT
STA. 9+15
Y=499047.984
X=141691.765

END PROJECT
STA. 10+85
Y=499048.001
X=141861.765

IP

BURIED FIBER OPTIC CABLE
(APPROXIMATE LOCATION)

STRUCTURE B-05-427 REQ'D.

SEAN AND RENAE MCNAMARA

DEERFIELD RD.

5

5

VCL = 165.00
K = 122.69

STA 9+15.00
EL 852.81

STA 10+84.97
EL 853.15

VPI STA 10+00.00
VPI EL 853.55

EXISTING PROFILE

0.87%

-0.47%

VPC STA 9+17.50
VPC EL 852.85

VPT STA 10+82.50
VPT EL 853.16

FINISHED GRADE

HIGH WATER 100 ELEV.=851.9

HIGH WATER 2 ELEV.=849.8

WATER ELEVATION=847.9 (02-25-2015)

STA. 10+00
REMOVE STRUCTURE P-05-932
SINGLE SPAN PRECAST CONCRETE CHANNEL GIRDER
24.4 FEET WIDE
26 FOOT OVERALL LENGTH

STA. 9+96
STRUCTURE B-05-427 REQUIRED
SINGLE SPAN CONCRETE FLAT SLAB
32.67 FOOT OVERALL LENGTH
28 FOOT CLEAR ROADWAY
SKEW 20° LHF

856 854 852 850 848 846 844 842

7 8 9 10 11 12 13

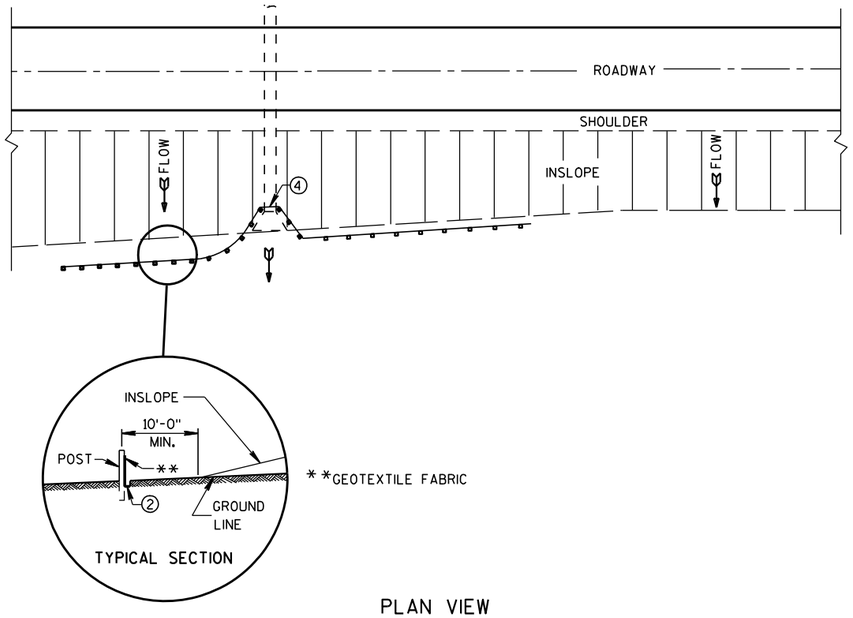
852.52 852.53 852.52 852.49 852.55 852.71 852.93 852.89 853.28 853.07 853.46 853.20 843.57 853.27 853.59 853.30 853.50 853.27 853.25 853.19 853.16 853.18 853.24 853.32 853.48 853.72 854.11 854.51

PROJECT NO: 4503-00-71	HWY: COOPERSTOWN ROAD	COUNTY: BROWN	PLAN AND PROFILE: COOPERSTOWN RD.	SHEET	E

FILE NAME : V:\TRANS-GB\450413 COOPERSTOWN ROAD\ROADWAY\C3D\SHEETSPLAN\050101 PP.DWG
LAYOUT NAME - 050101 PP
PLOT DATE : 5/12/2017 5:20 AM PLOT BY : SOUFAL, KEVIN PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

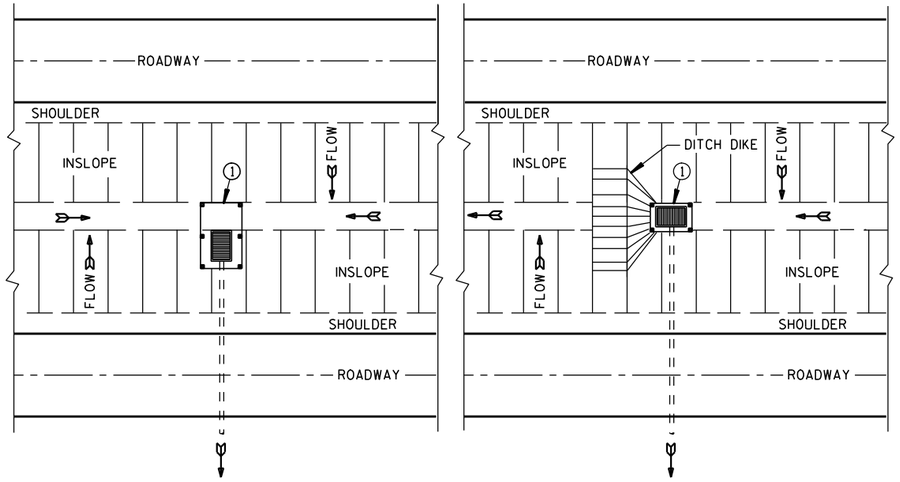
Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

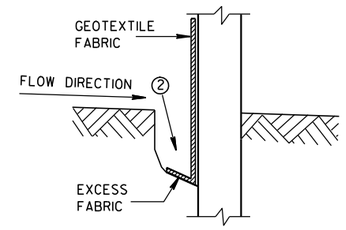
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

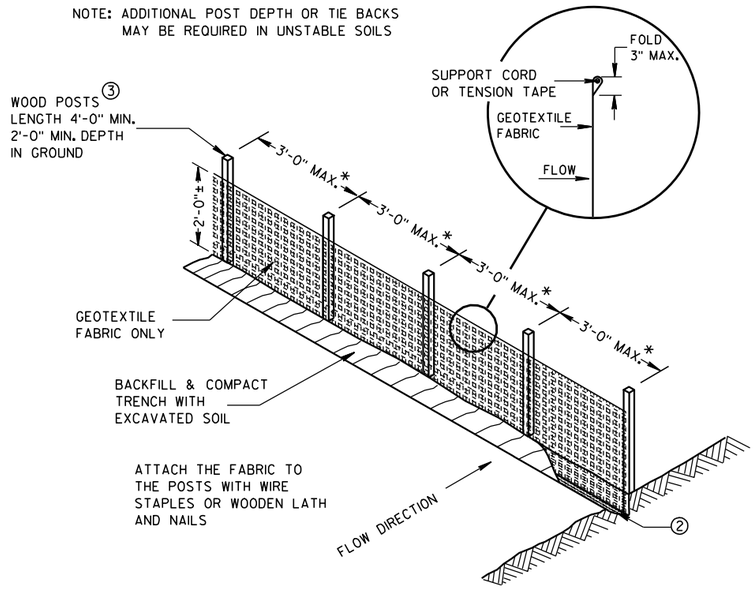
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

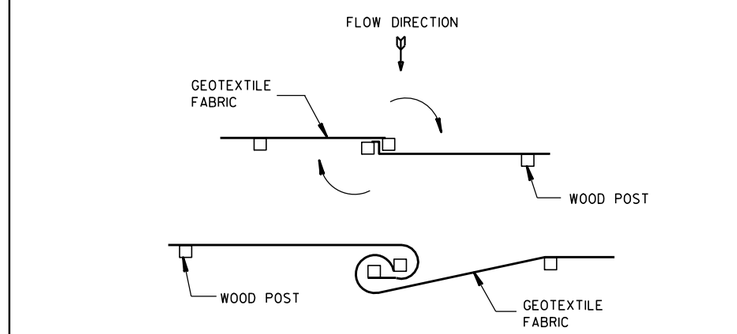
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



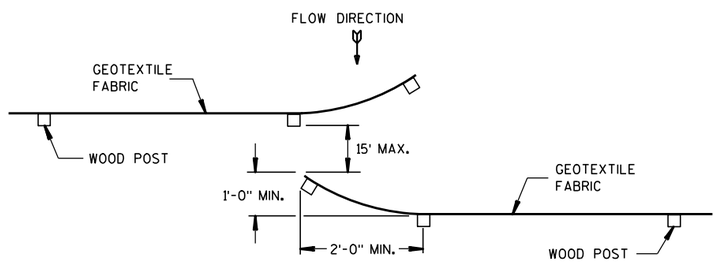
TRENCH DETAIL



SILT FENCE

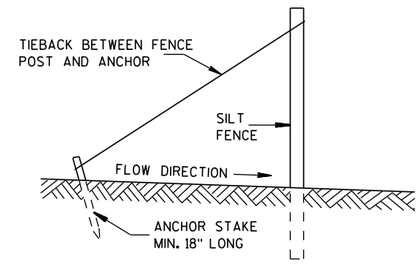


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

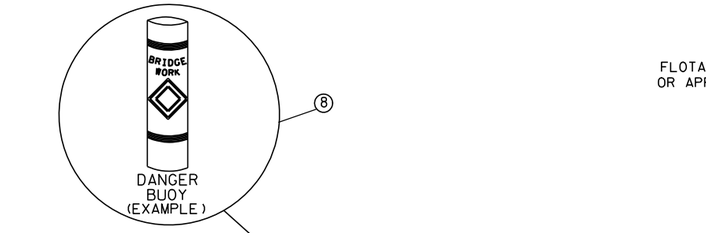
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

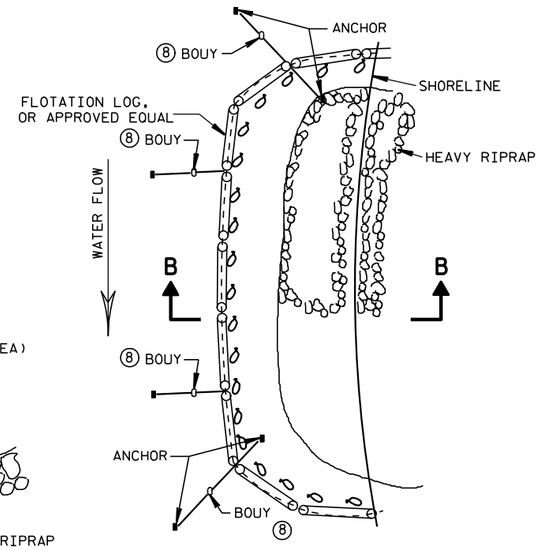
S.D.D. 8 E 9-6

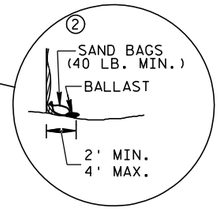
6

S.D.D. 8 E 9-6

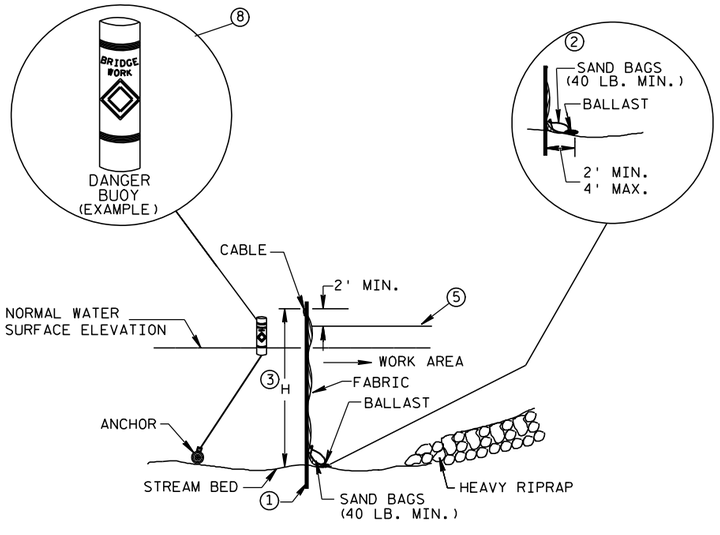


SECTION B-B

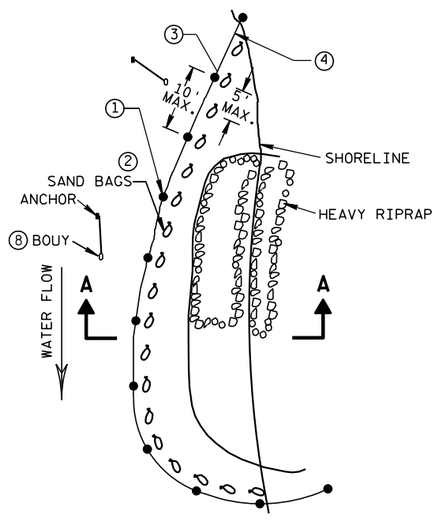




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

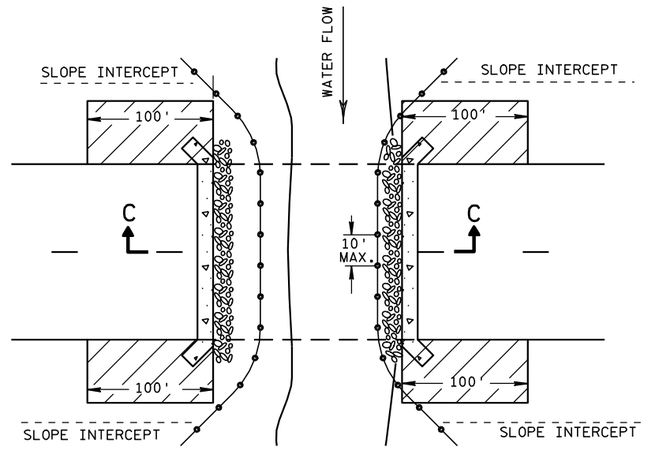
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

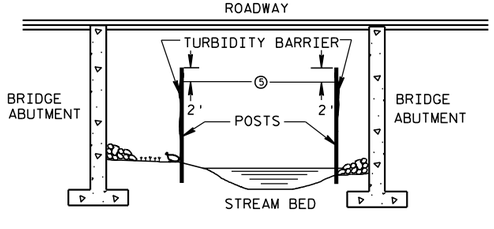
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

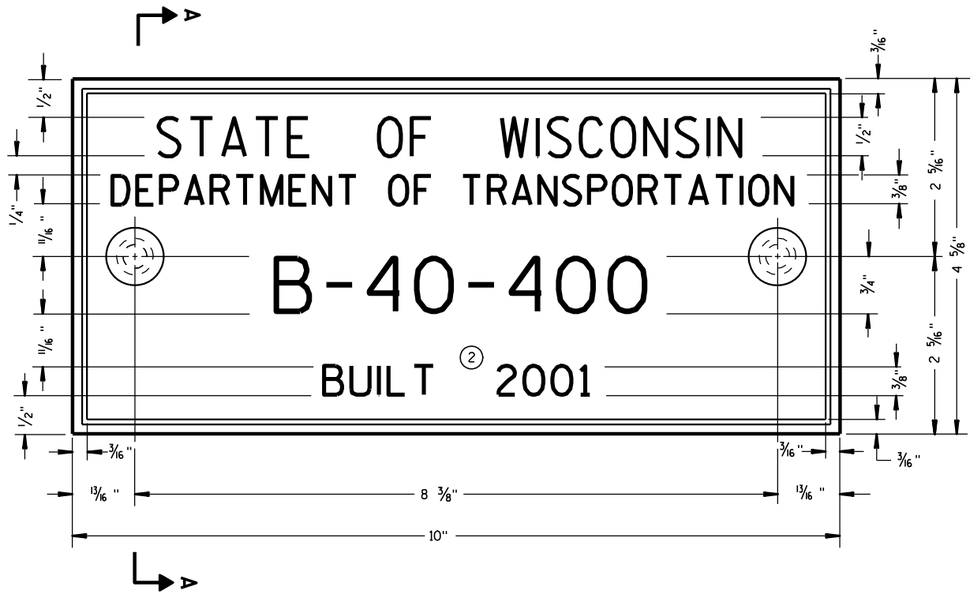
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

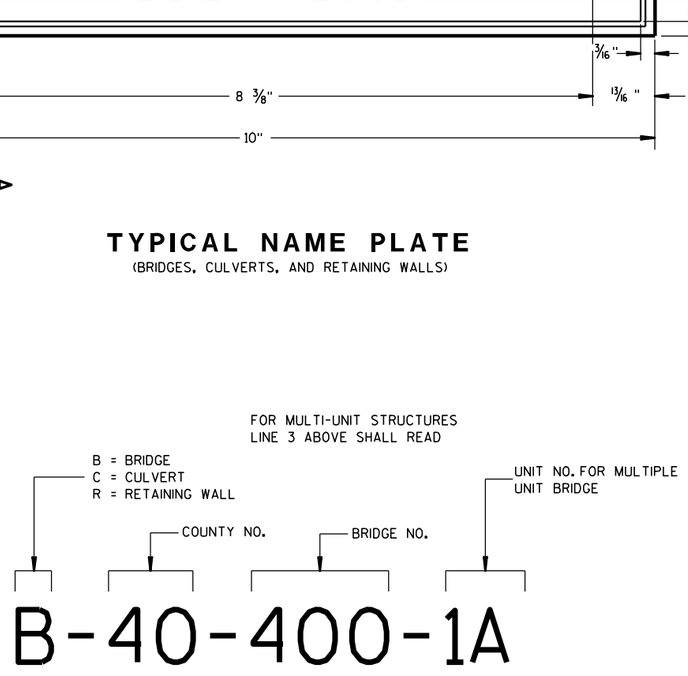
6

S.D.D. 8 E 11-2

S.D.D. 8 E 11-2



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

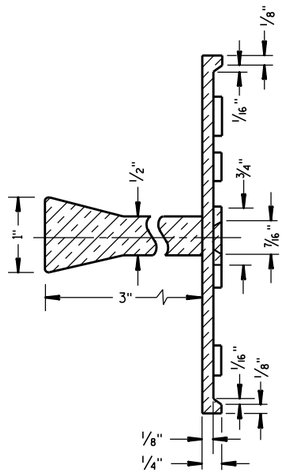
GENERAL NOTES

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.

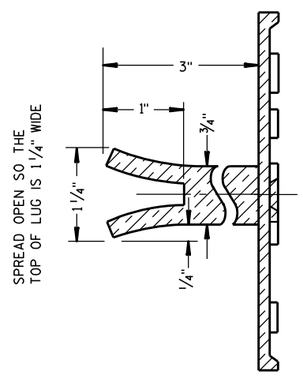
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

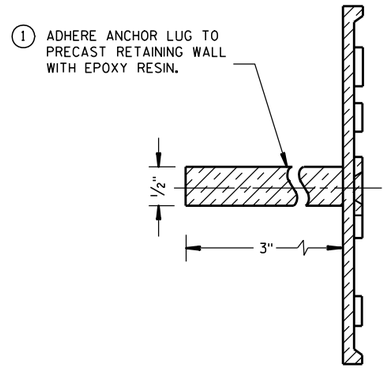
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

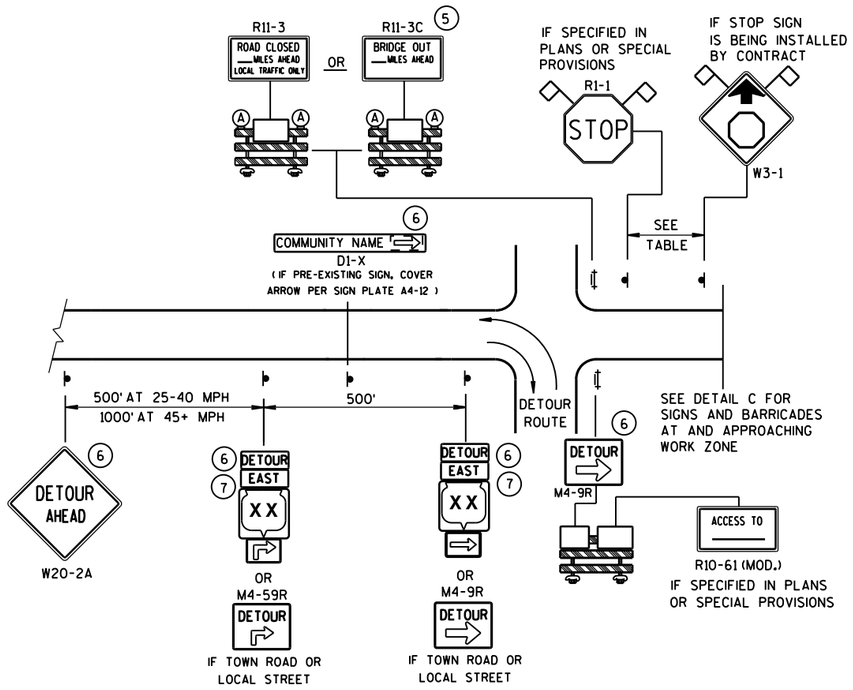
FHWA

6

S.D.D. 12 A 3-10

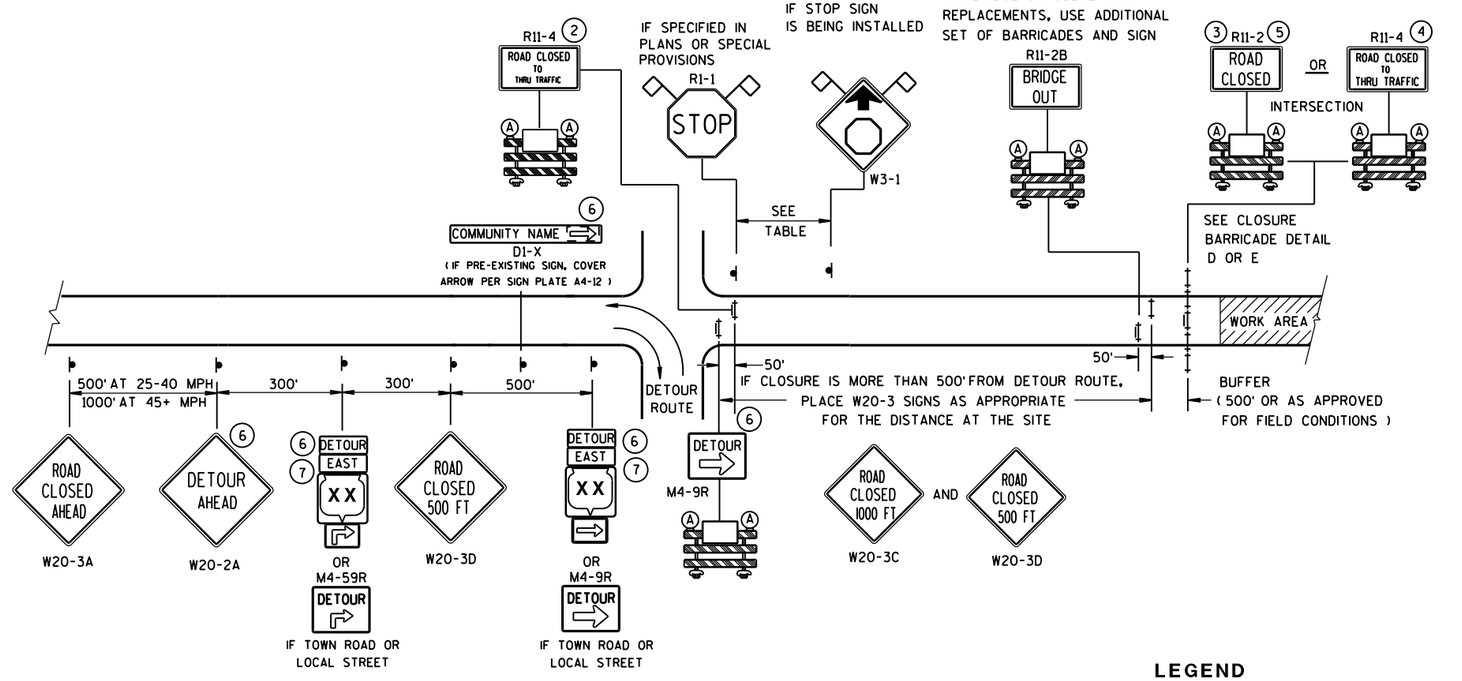
6

S.D.D. 12 A 3-10



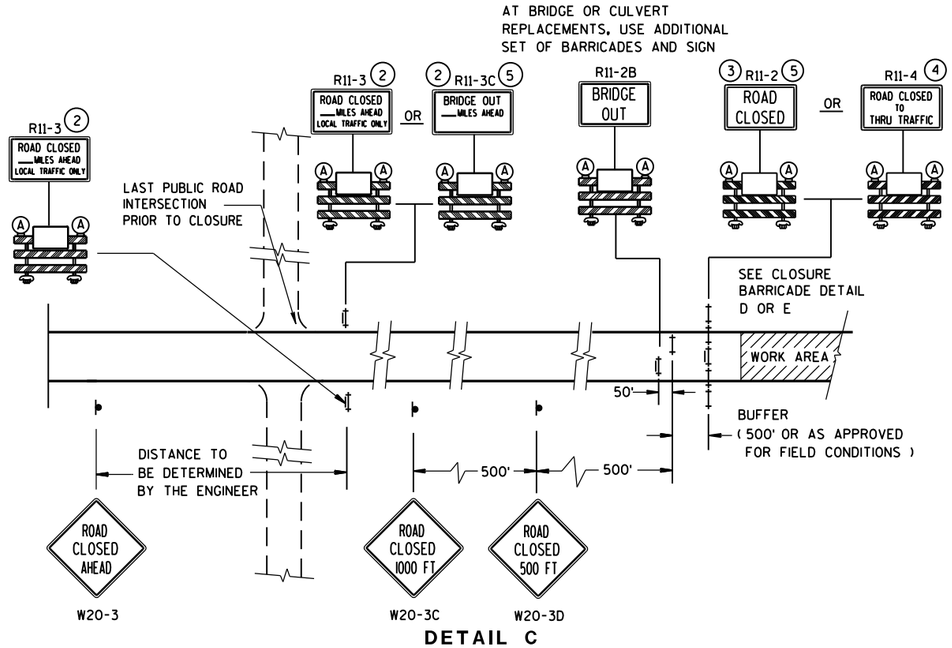
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

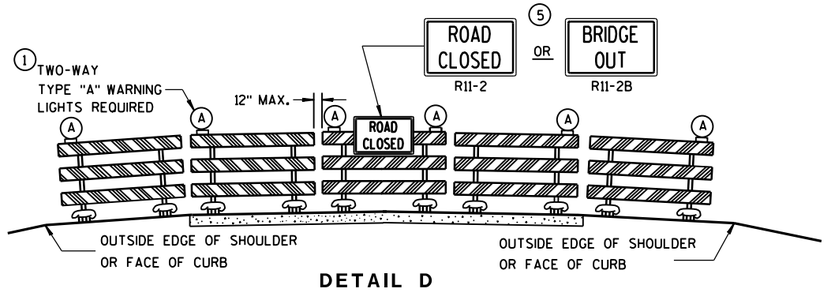
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

S.D.D. 15 C 2-6a

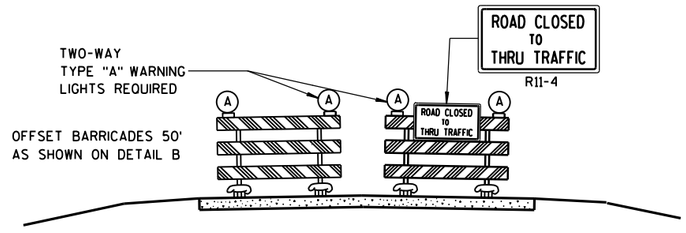
S.D.D. 15 C 2-6a



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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE 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, 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". (30" X 15" 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.)
- M05-1 AND M06-1 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 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 LANE 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.

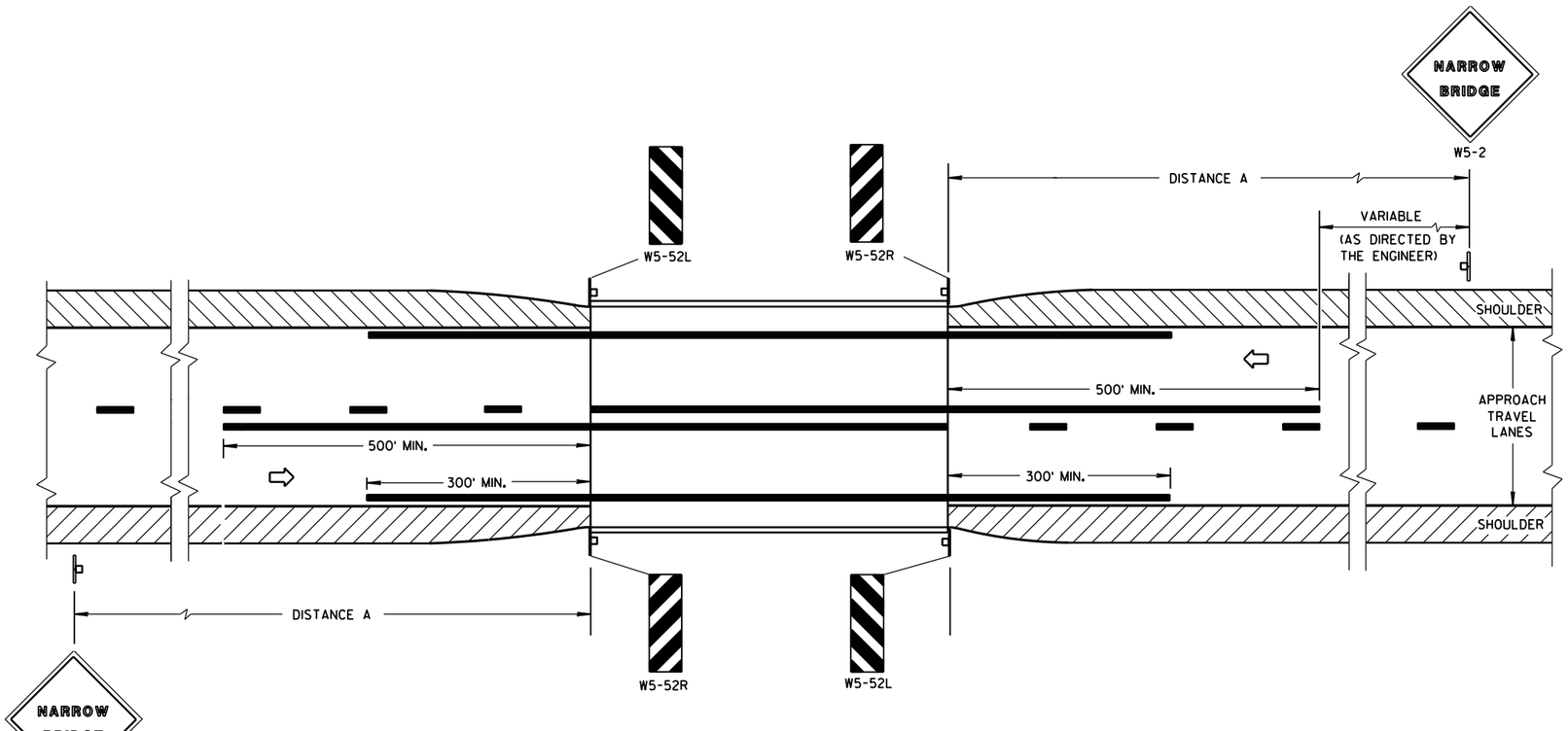
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 2-6b

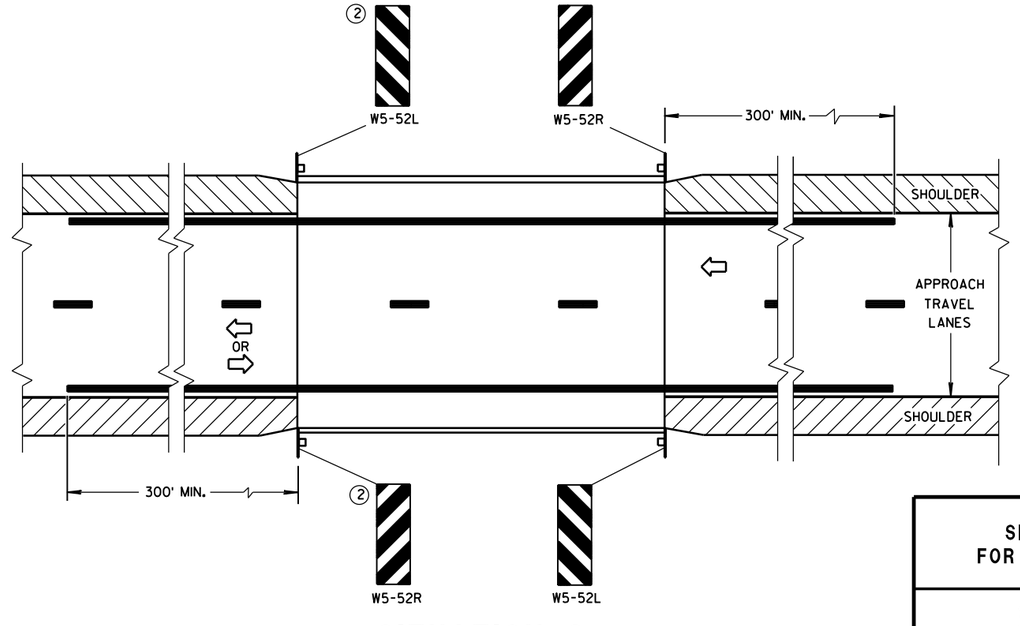


SITUATION 1

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'



SITUATION 2

WARRANTING CRITERIA:

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

GENERAL NOTES

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

① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

② OMIT ON ONE-WAY TRAVELLED WAYS.

③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

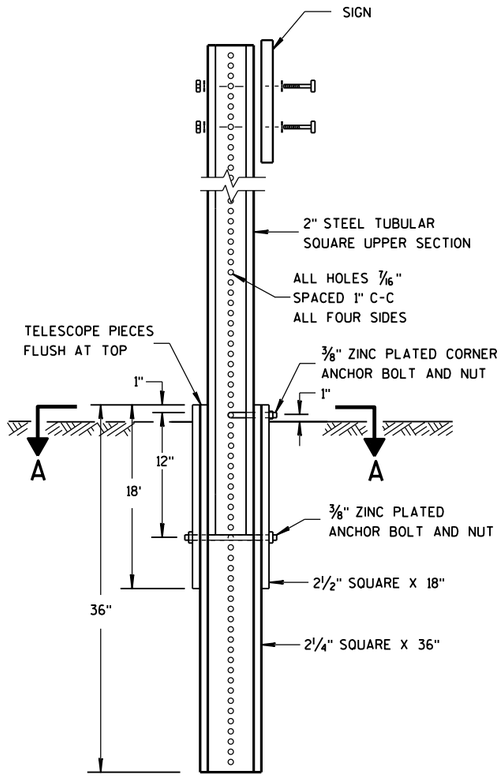
APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR ... ENGINEER
FHWA

6

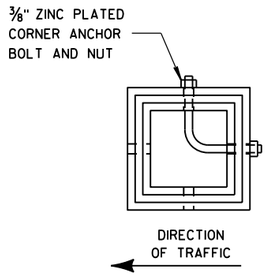
S.D.D. 15 C 6-8

6

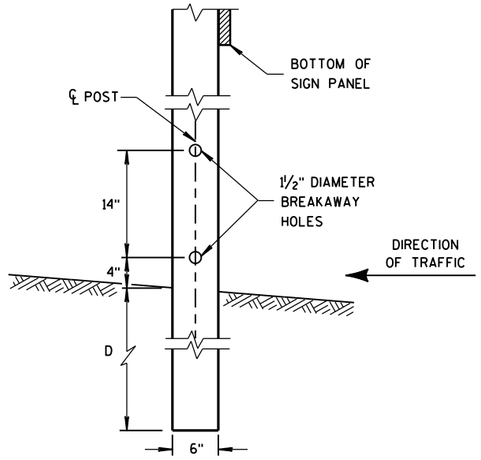
S.D.D. 15 C 6-8



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



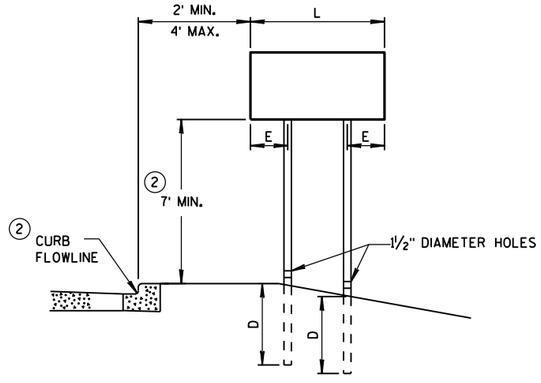
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

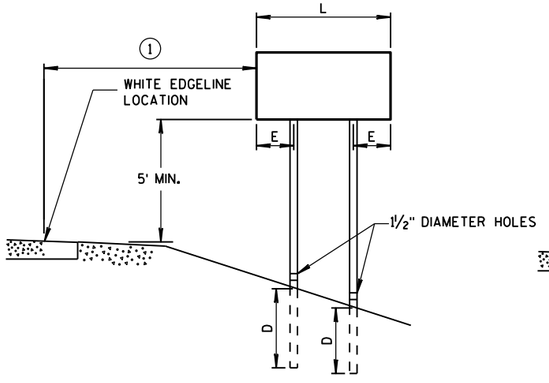
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

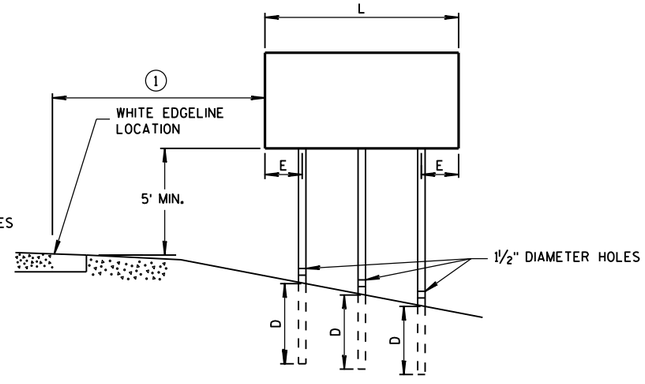
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

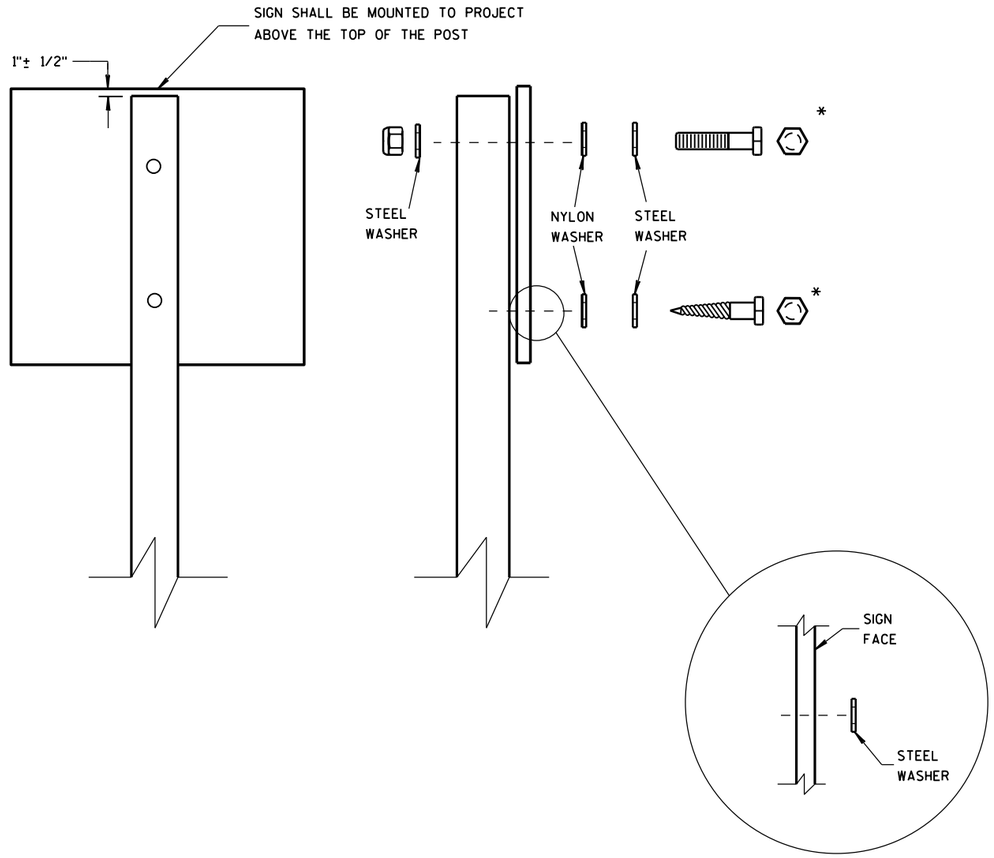
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



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

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

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

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

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

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

LAG SCREWS - 3/8" X 3"

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

6

6

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

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

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

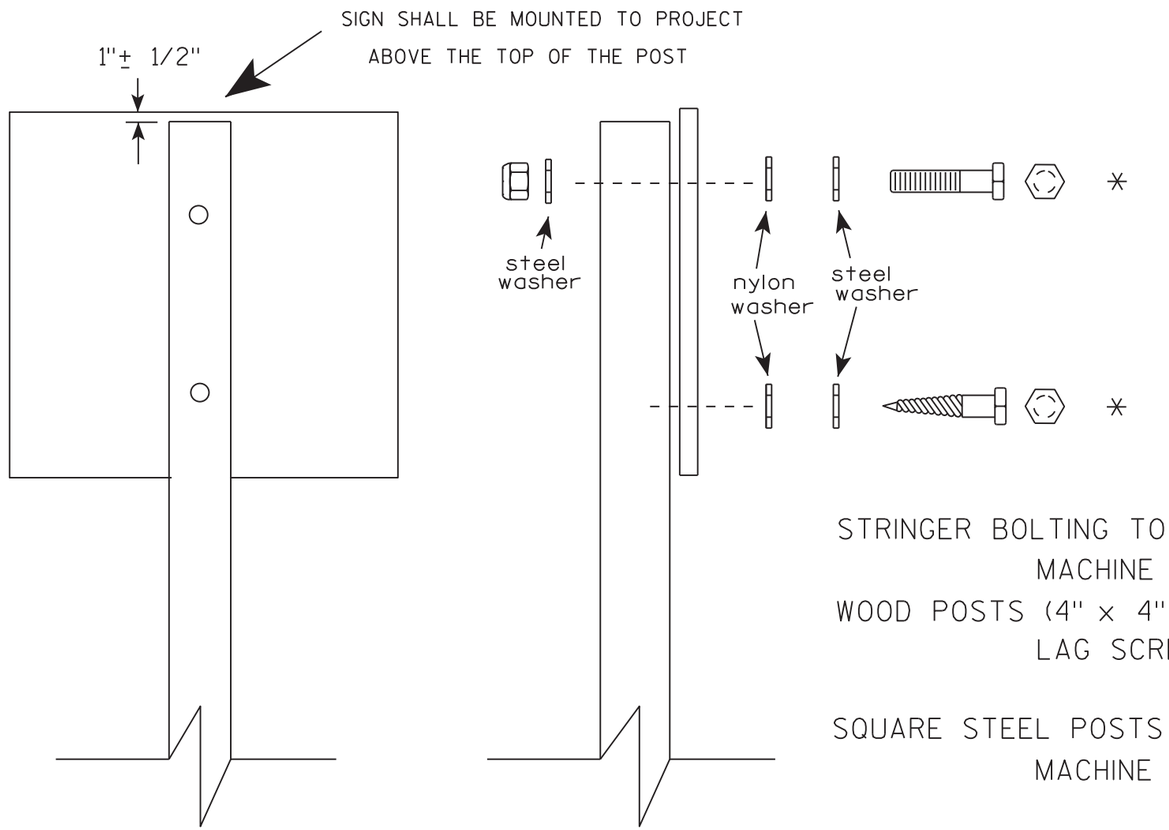
APPROVED

Feb. 2015 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

SIGN



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

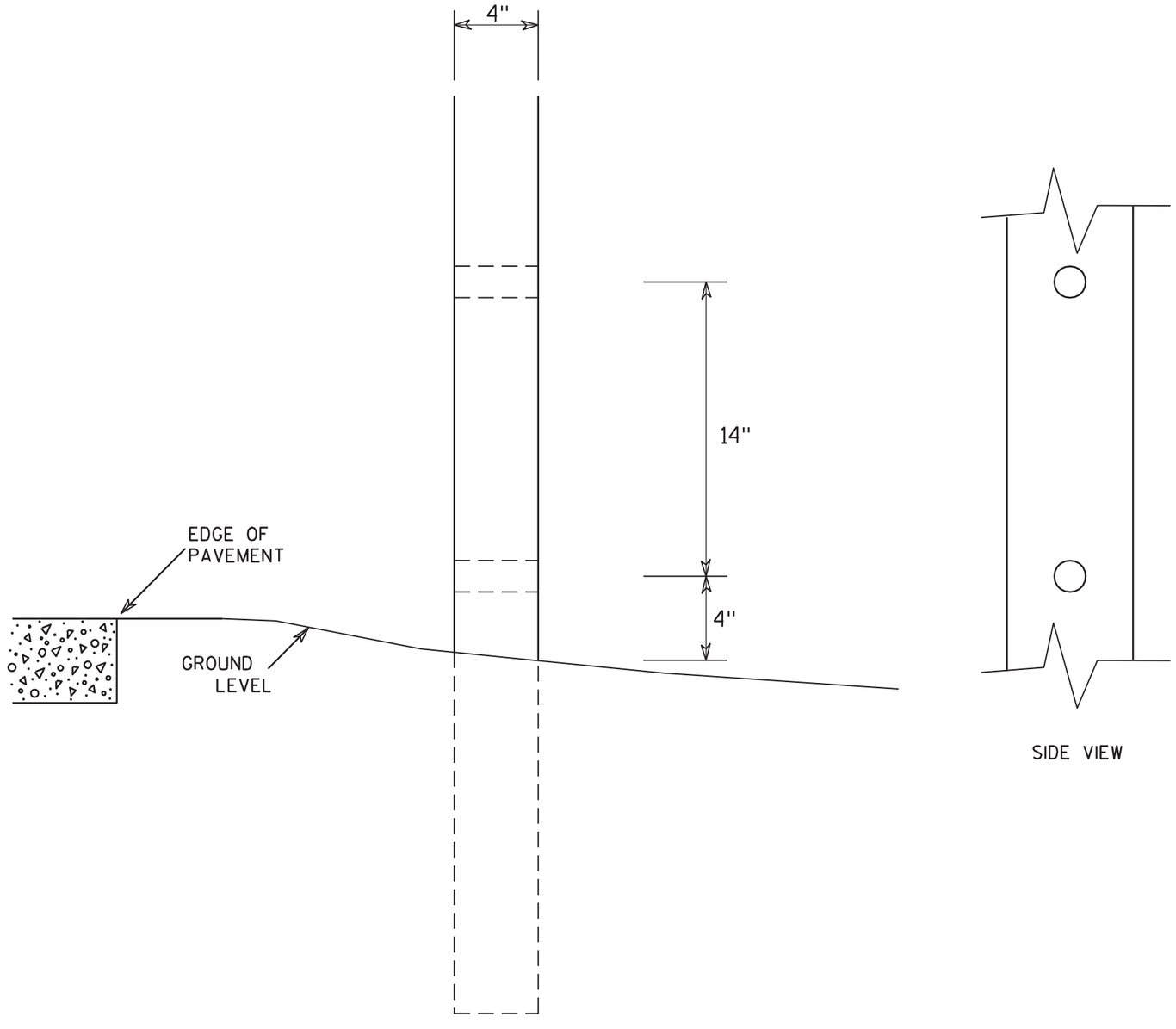
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: SHEET NO: E



SIDE VIEW

GENERAL NOTES

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

7

7

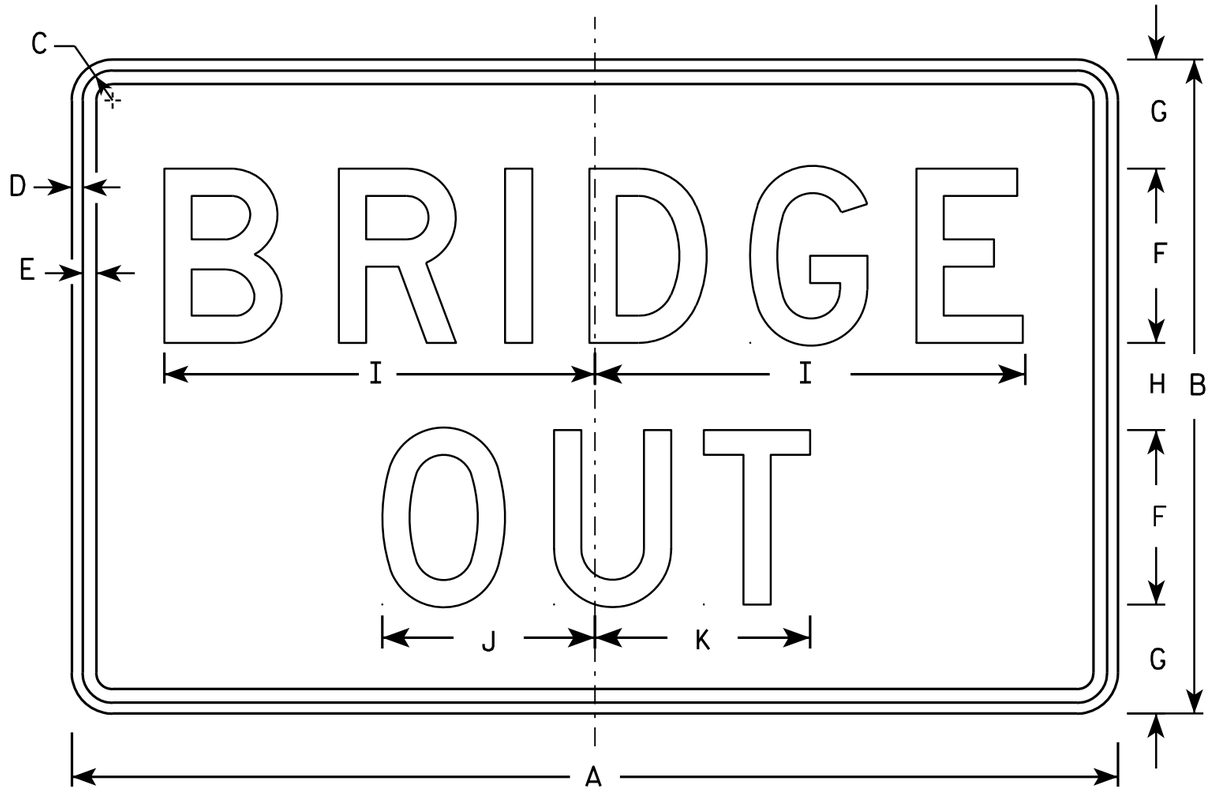
4 X 6 WOOD POST MODIFICATIONS

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: 23	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

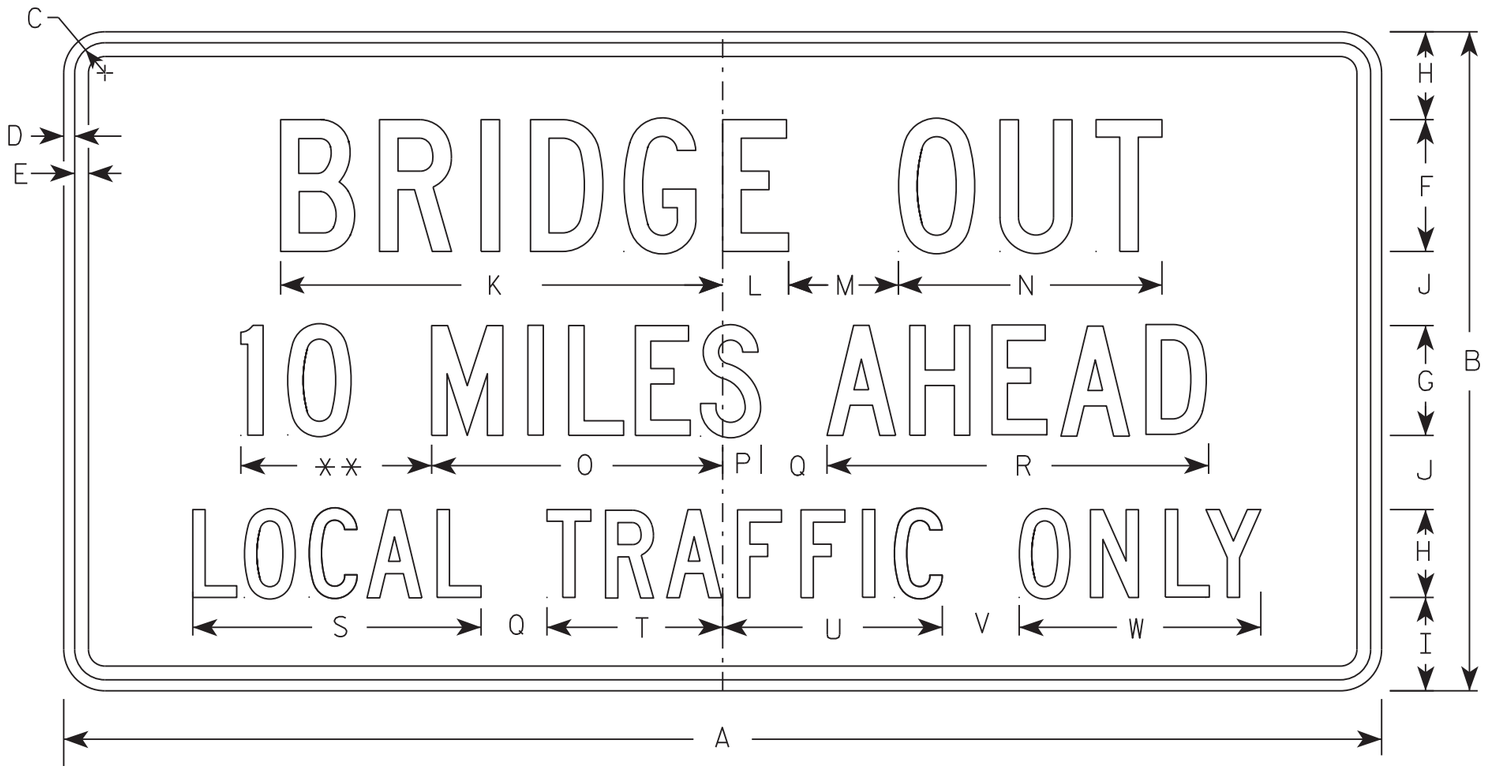
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 24 E

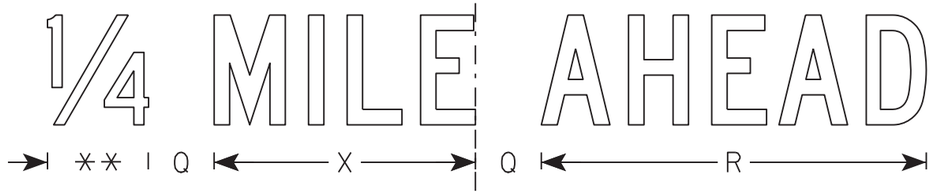
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112B.DGN PLOT DATE : 01-APR-2011 14:23 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42



R11-3B

** See Note 5



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

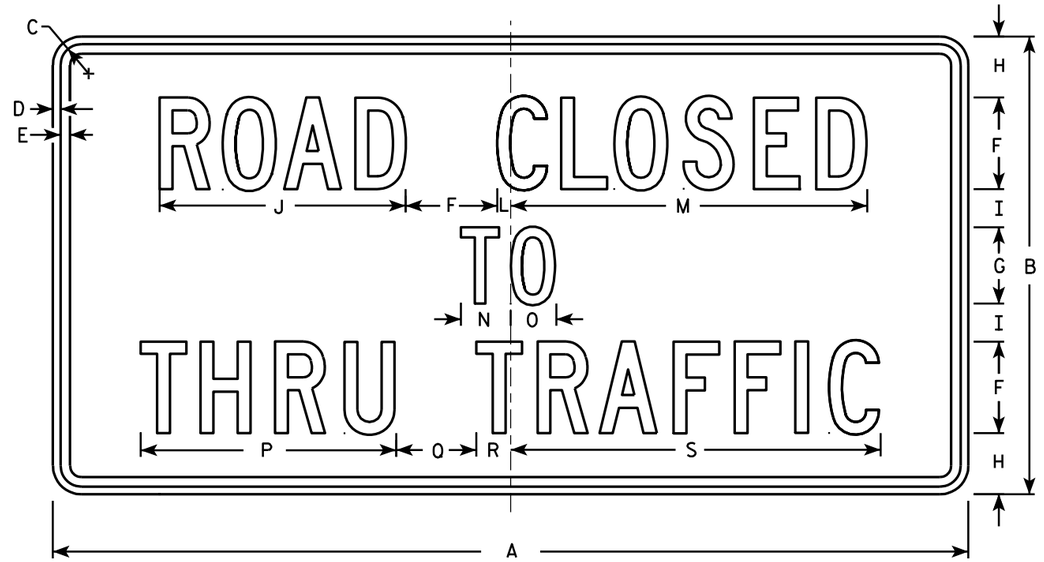
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

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



R11-4

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 - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

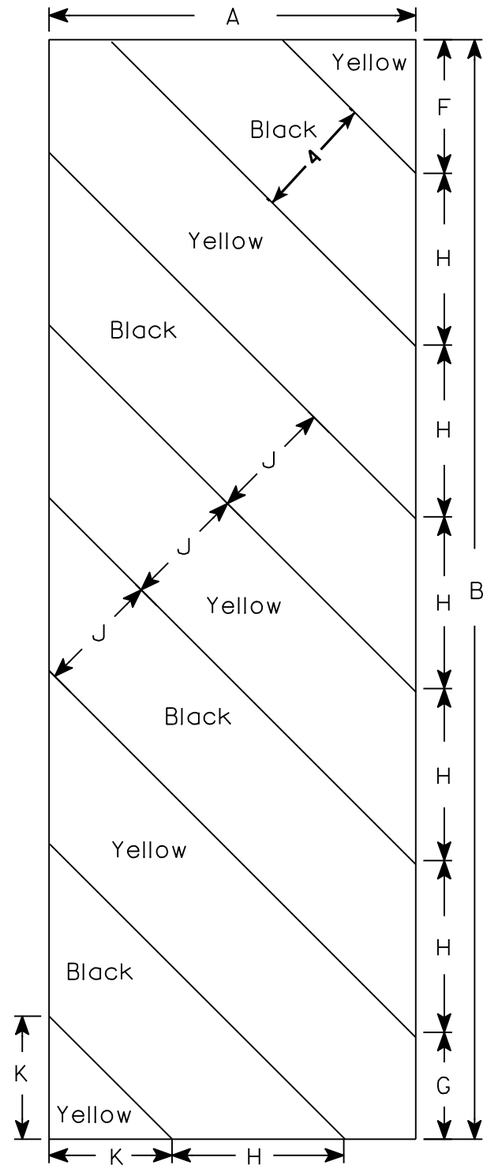
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

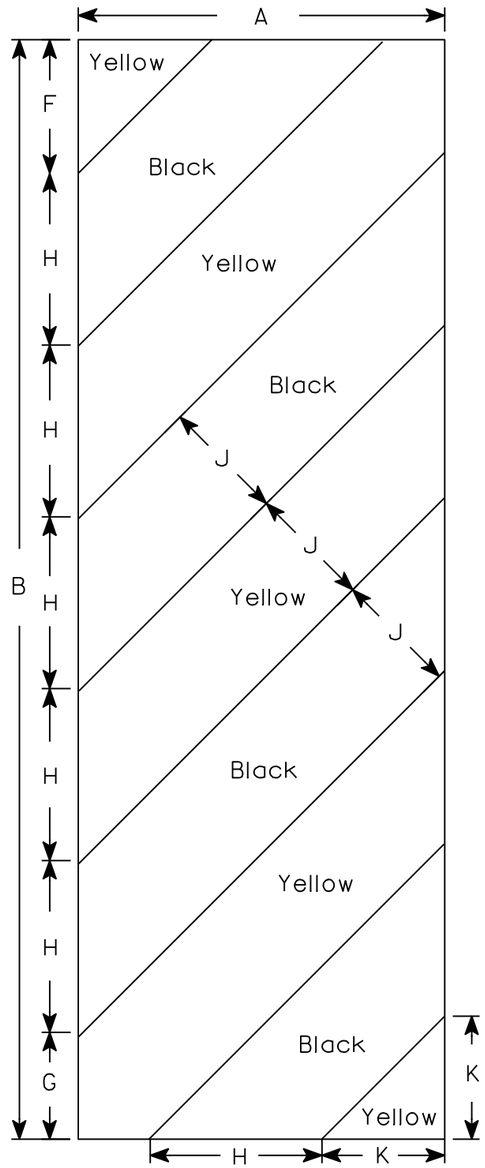
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 26 | 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

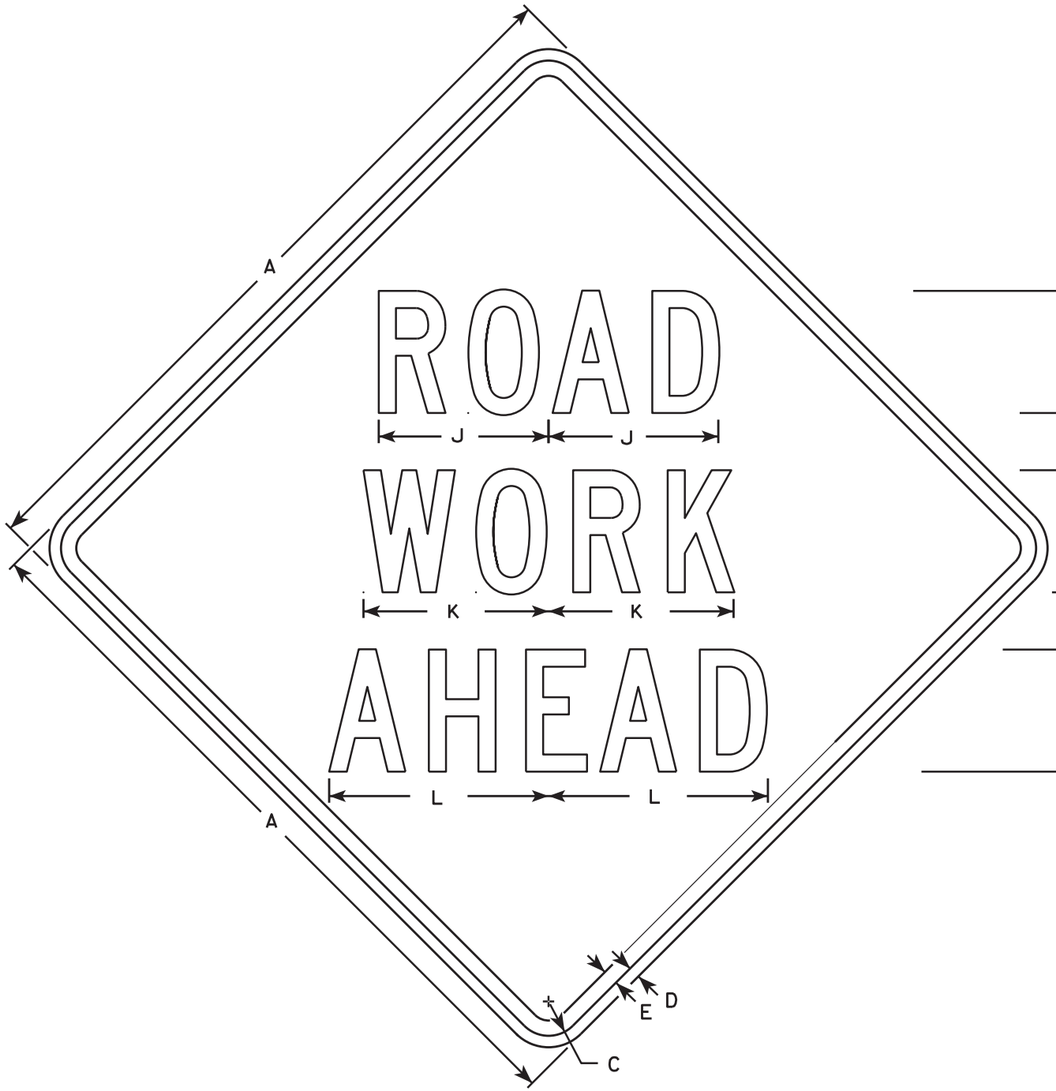
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

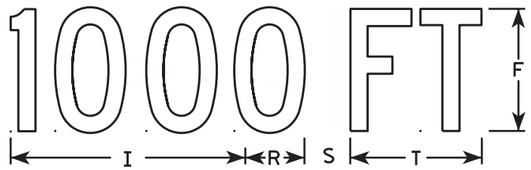
DATE 5/29/12 PLATE NO. W5-52.9

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

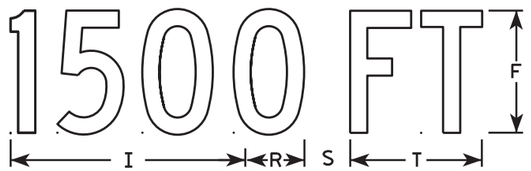


W20-1A

W20-1D



W20-1C



W20-1B

W20-1G

W20-1F

W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

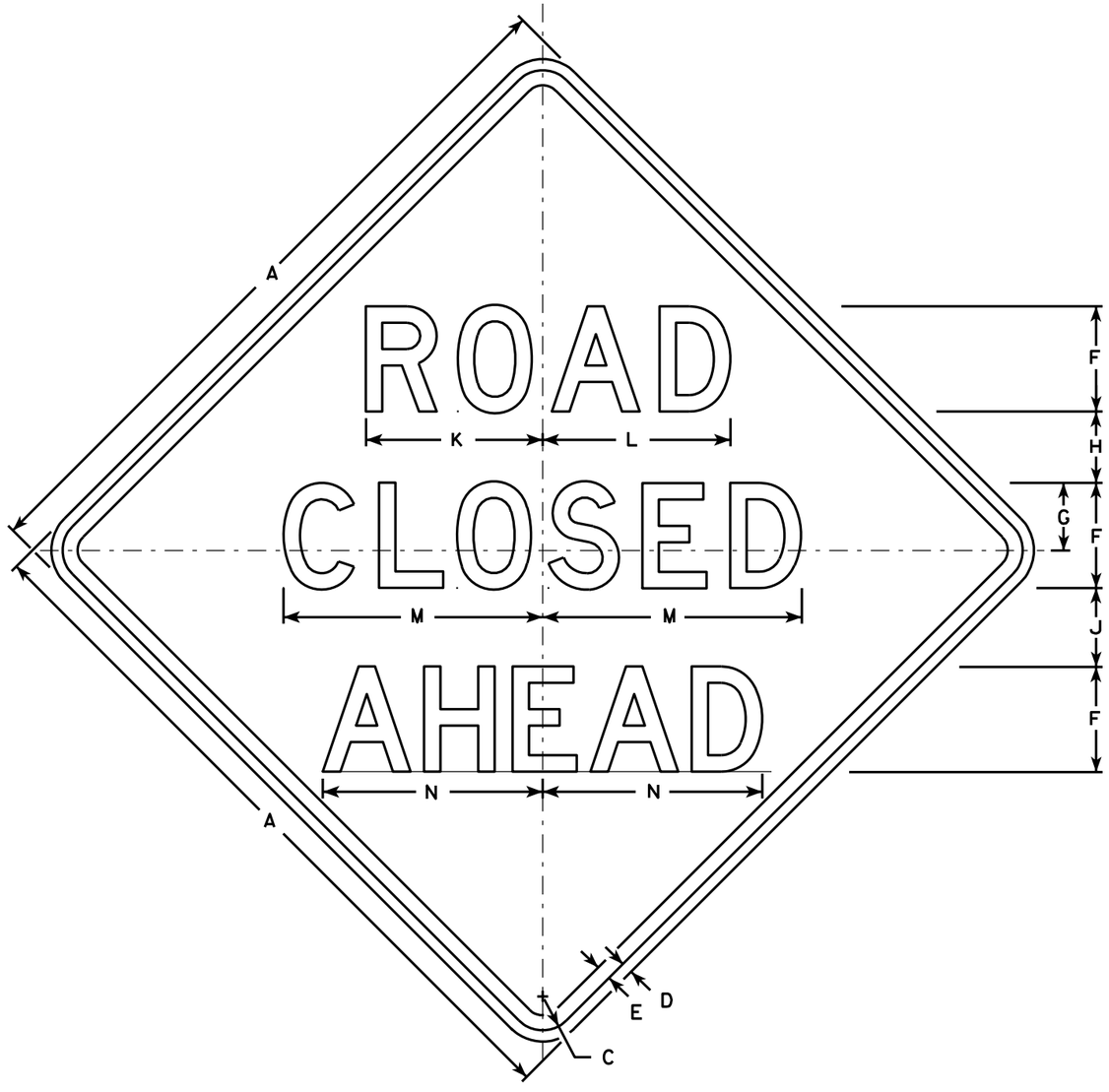
APPROVED

State Traffic Engineer

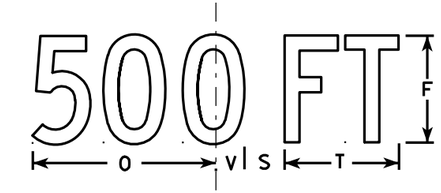
DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

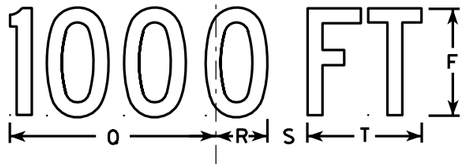
SHEET NO: 28 E



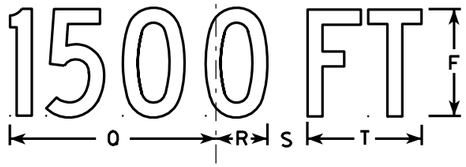
W20-3A



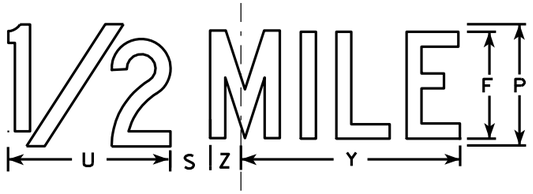
W20-3D



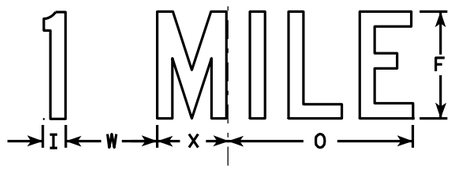
W20-3C



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

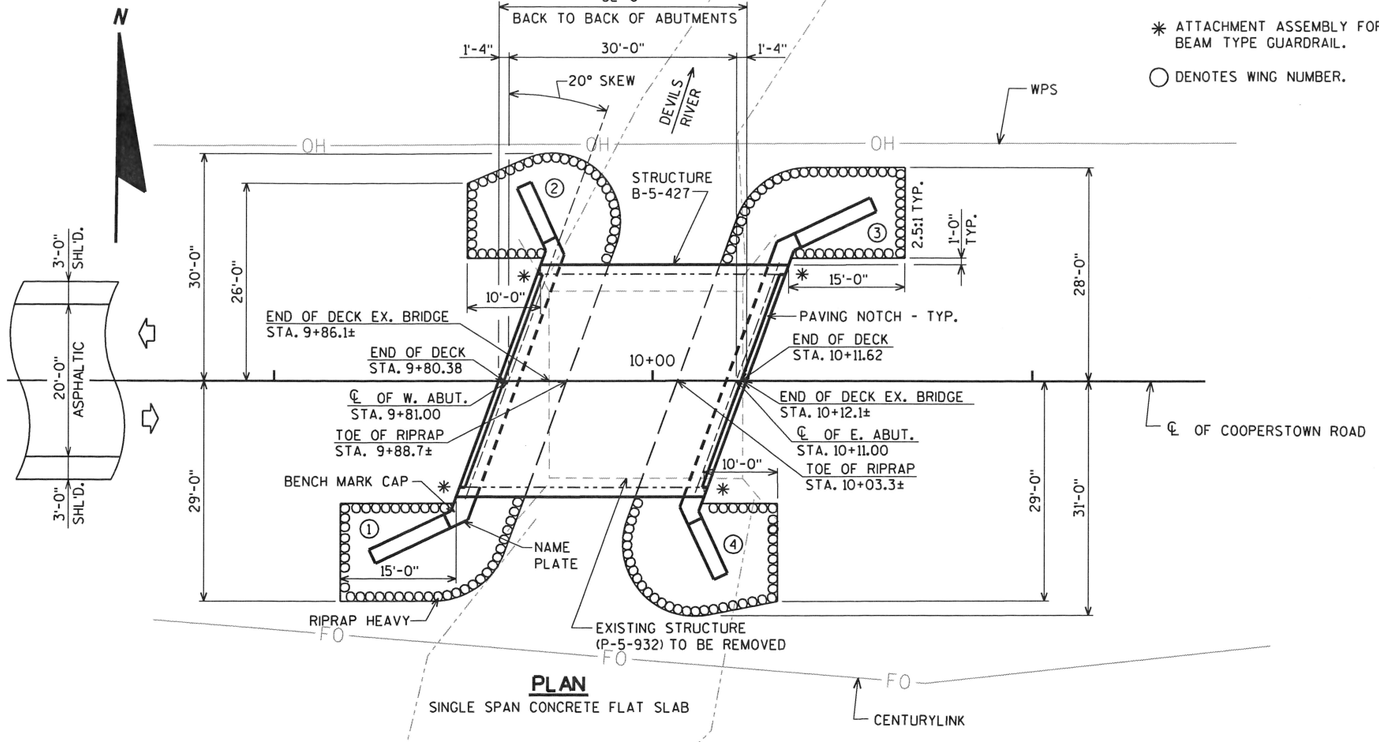
WISCONSIN DEPT OF TRANSPORTATION

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

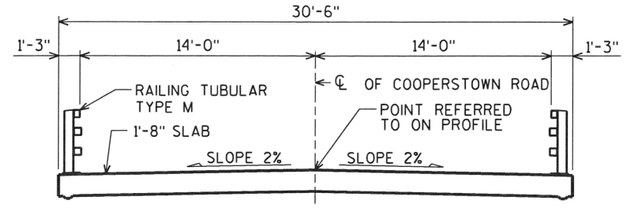
4503-00-71



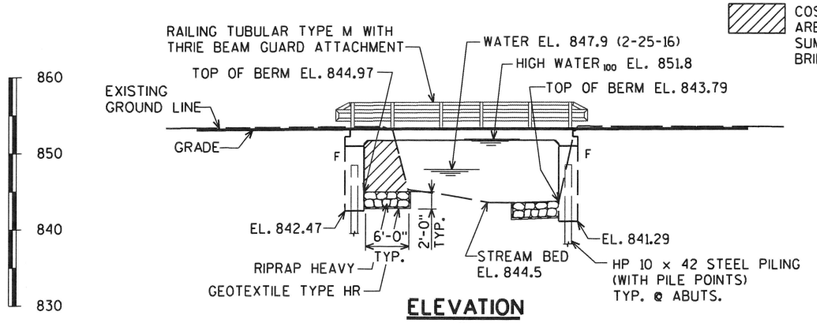
PLAN
SINGLE SPAN CONCRETE FLAT SLAB

✳ ATTACHMENT ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.

◯ DENOTES WING NUMBER.

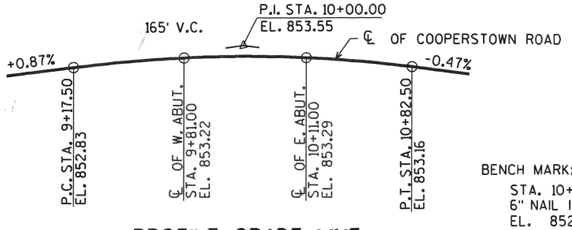


TYPICAL SECTION THRU BRIDGE



ELEVATION
(NORMAL TO ℄ OF RIVER)

▨ COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-5-427".



PROFILE GRADE LINE
(COOPERSTOWN ROAD)

BENCH MARK:
STA. 10+12, 14' RT.
6" NAIL IN SE WINGWALL
EL. 852.92

LIST OF DRAWINGS

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.07
OPERATING RATING FACTOR: 1.39
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE ——— f'_c = 4,000 p.s.i.
ALL OTHER ——— f'_c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ——— f_y = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY	2 YEAR FREQUENCY
Q_{100} = 830 c.f.s.	Q_2 = 220 c.f.s.
VEL.= 8.5 f.p.s.	VEL.= 2.9 f.p.s.
HW_{100} = EL. 851.8	HW_2 = EL. 849.8

WATERWAY AREA = 97 sq. ft.
DRAINAGE AREA = 8.53 sq. mi.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8
DATUM = NAVD 88 (2012)

FOUNDATION DATA:

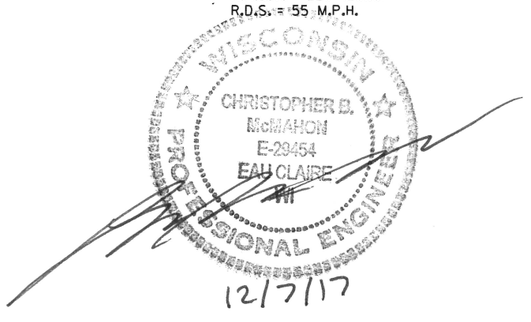
WEST ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 45'-0".

EAST ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 40'-0".

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

TRAFFIC DATA:

A.A.D.T. = 200 (2018)
A.A.D.T. = 220 (2038)
R.D.S. = 55 M.P.H.



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 12/08/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-5-427

COOPERSTOWN ROAD OVER THE DEVILS RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
BROWN	NEW DENMARK

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	AEB	CJM/CLS	CBM

GENERAL PLAN

SHEET 30 13

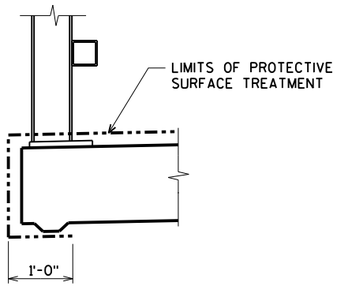
8

8

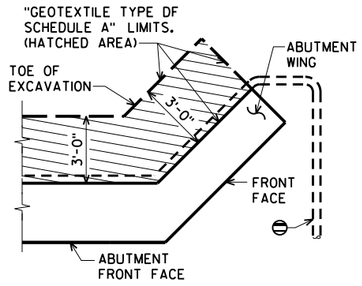
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 9+99	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-5-427	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	255	315	-----	570
502.0100	CONCRETE MASONRY BRIDGES	CY	44	50	65	159
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	125	125
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,580	2,670	-----	5,250
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,570	1,610	10,210	13,390
513.4061	RAILING TUBULAR TYPE M B-5-427	LF	-----	-----	68	68
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	11	-----	22
550.0500	PILE POINTS	EACH	7	7	-----	14
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	305	270	-----	575
606.0300	RIPRAP HEAVY	CY	55	55	-----	110
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	85	85	-----	170
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	50	-----	100
645.0120	GEOTEXTILE TYPE HR	SY	120	120	-----	240
◑ SPV.0105.01	SUPERSTRUCTURE ¾" V-DRIP EDGE B-5-427	LS	-----	-----	-----	1
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	½" & ¾"

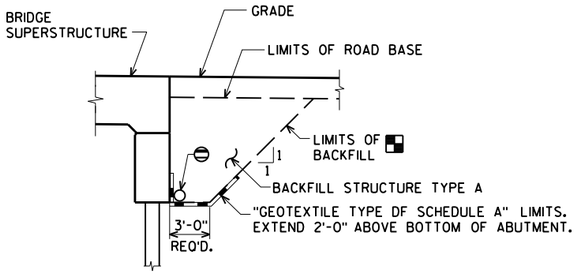
◑ SEE SPECIAL PROVISIONS



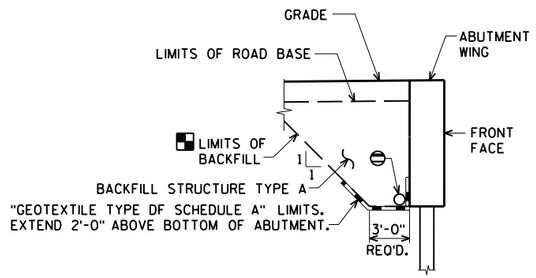
PROTECTIVE SURFACE TREATMENT DETAIL



BACKFILL STRUCTURE LIMITS ABUTMENT PLAN WITH WING



BACKFILL STRUCTURE LIMITS THRU ABUTMENT



BACKFILL STRUCTURE LIMITS THRU WING

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

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

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

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

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

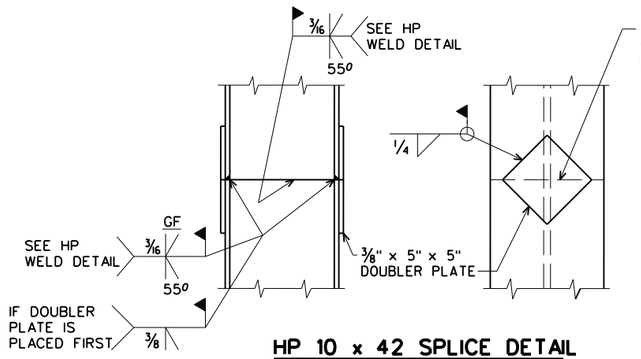
THE EXISTING STRUCTURE, P-5-932, TO BE REMOVED, IS A SINGLE-SPAN PRECAST CONCRETE CHANNEL GIRDER BRIDGE, 26 FT. LONG WITH A 24.4 FT. CLEAR ROADWAY WIDTH.

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

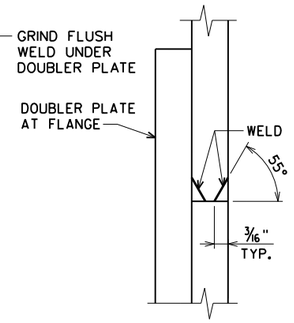
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

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.



HP 10 x 42 SPLICE DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

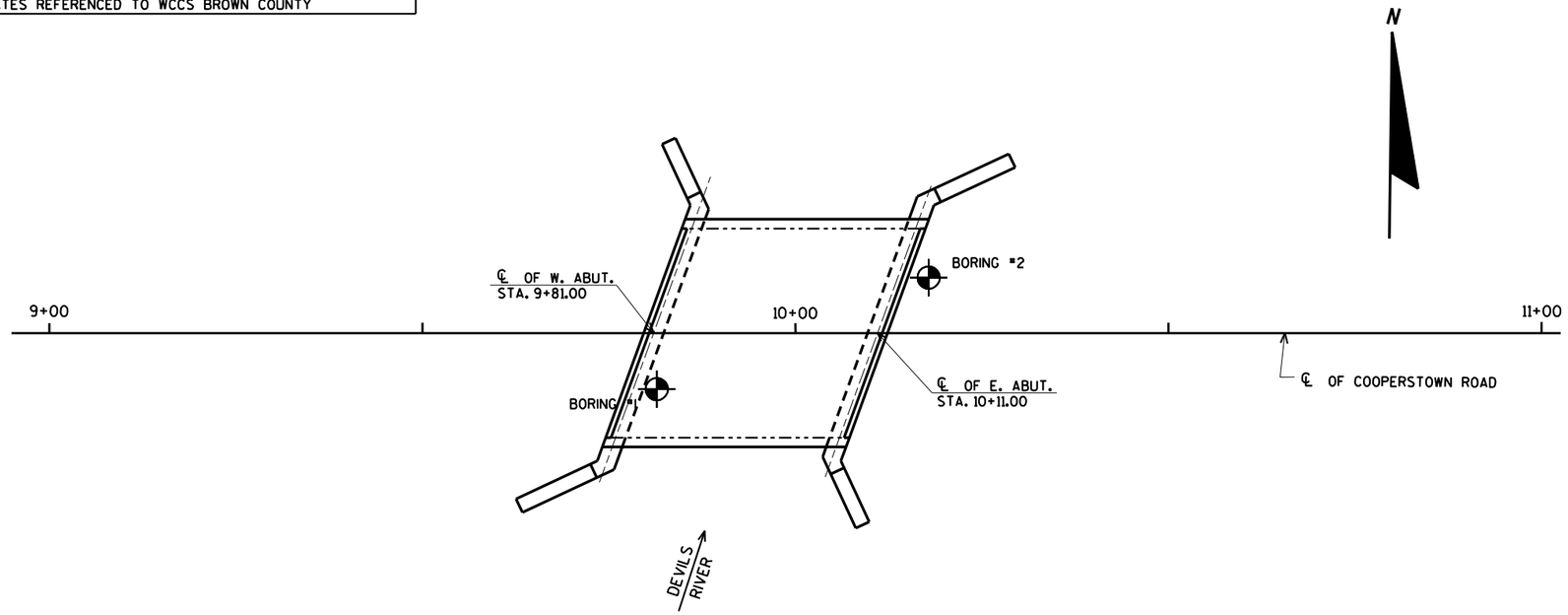
DRAWN BY CLS | PLANS CK'D. CBM

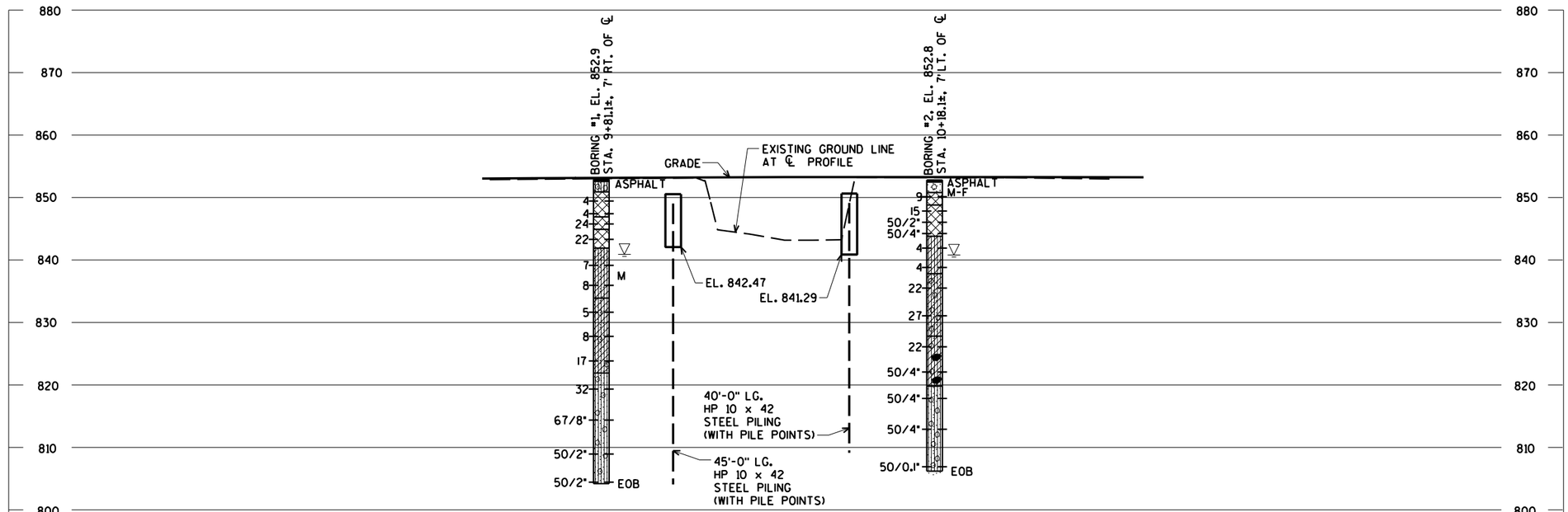
QUANTITIES AND NOTES

SHEET 2 OF 13
31

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	MAY 18, 2016	499040.9974	141757.8699
2	MAY 18, 2016	499055.0050	141794.9578
BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, LLC			
REPORT COMPLETED BY: RIVER VALLEY TESTING CORP.			
ALL COORDINATES REFERENCED TO WCCS BROWN COUNTY			





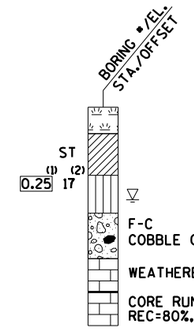
STATE PROJECT NUMBER

4503-00-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

DRAWN BY CJM | PLANS CK'D. CBM

SUBSURFACE EXPLORATION

SHEET 3 OF 13
32

8

8

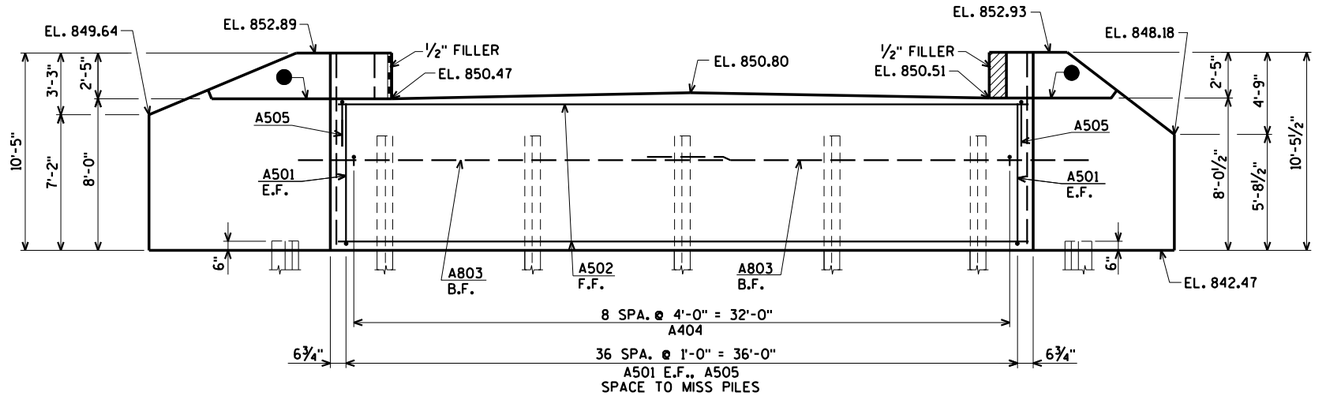
5/8/2017

PENTABLE:BReau_shd_util.tbl

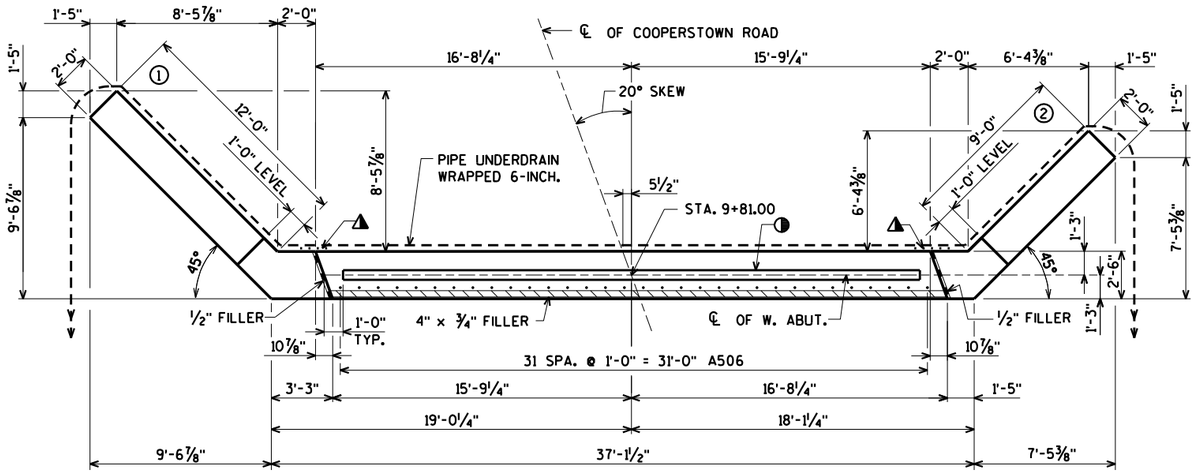
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

STATE PROJECT NUMBER

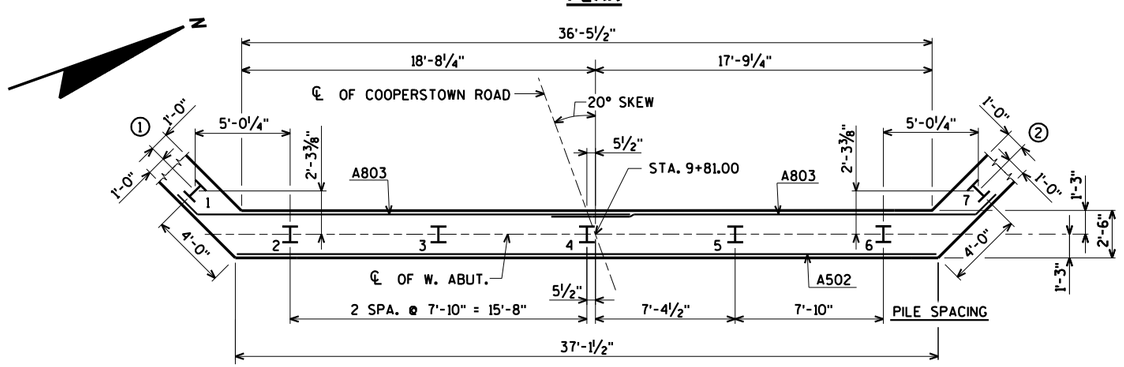
4503-00-71



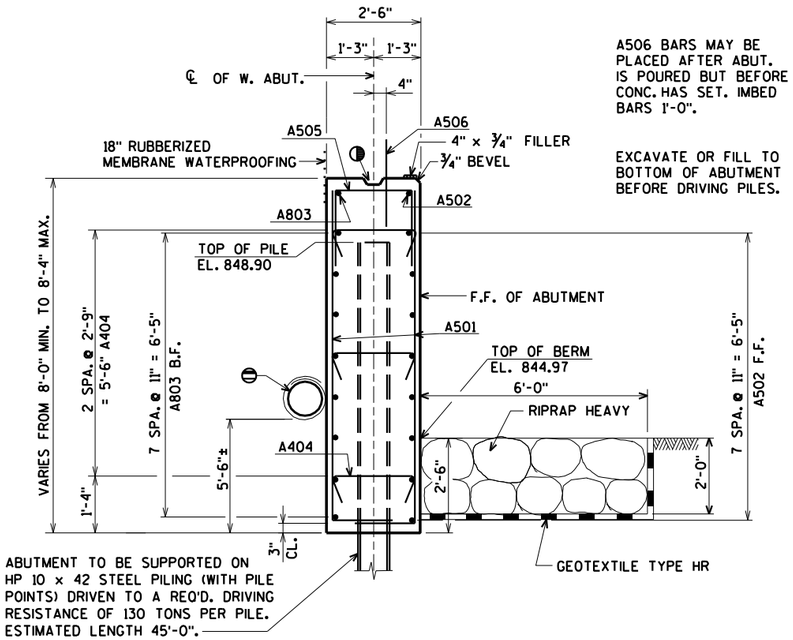
ELEVATION
(LOOKING WEST)



PLAN



PILE LAYOUT



A506 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

TYPICAL SECTION THRU BODY

NOTES: DO NOT PLACE FILL ABOVE THREE FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAIL SEE SHEET 5.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

DRAWN BY CLS | PLANS CK'D. CBM

WEST ABUTMENT

SHEET 4 OF 13
33

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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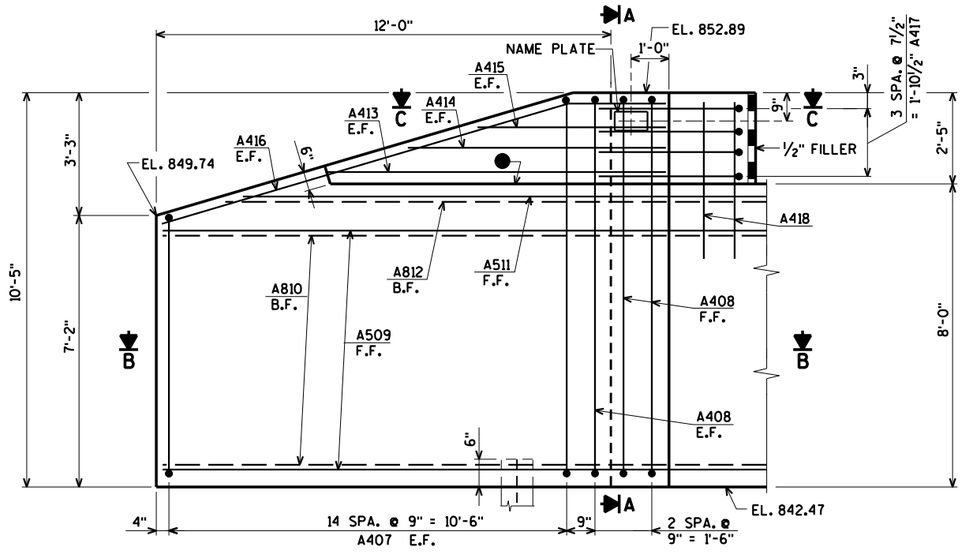
5/8/2017

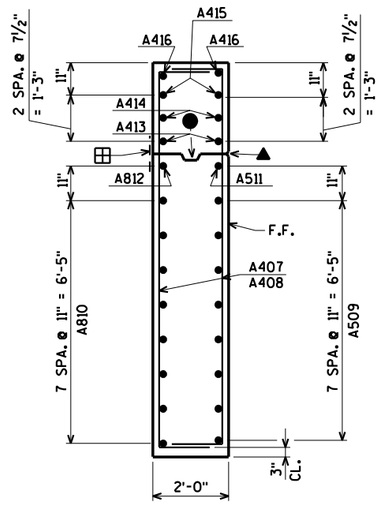
PENTABLE:BReau_shd_util.tbl

STATE PROJECT NUMBER

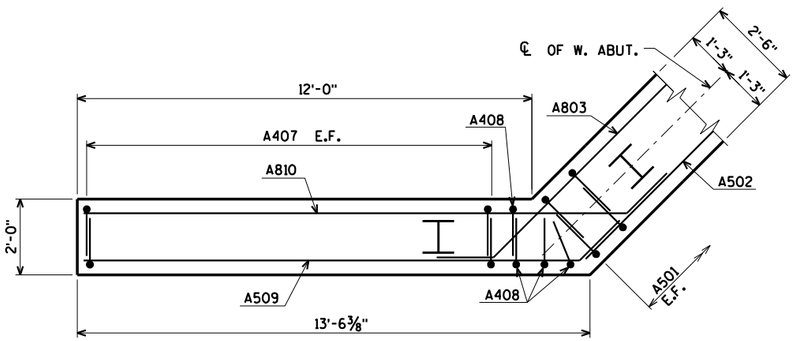
4503-00-71



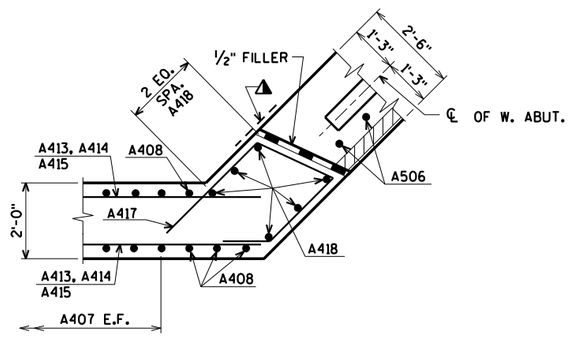
ELEVATION - WING 1



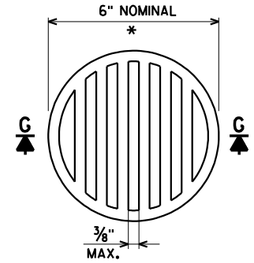
SECTION A

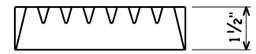


SECTION B



SECTION C





SECTION G-G

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

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

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

RODENT SHIELD DETAIL

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

DRAWN BY CLS | PLANS CK'D. CBM

WEST ABUTMENT WING 1 DETAILS

SHEET 5 OF 13
34

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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$PRFNAME$
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5/8/2017

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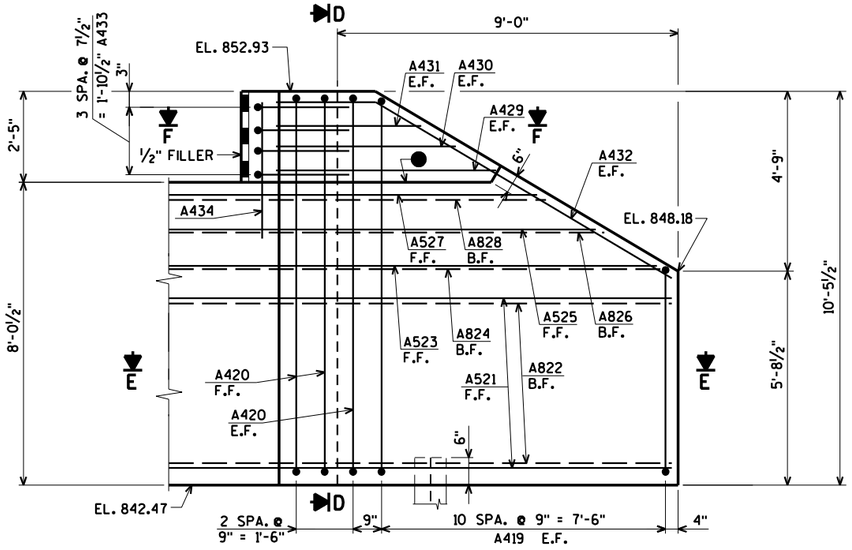
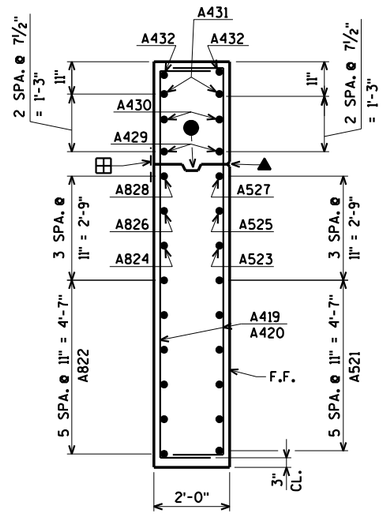
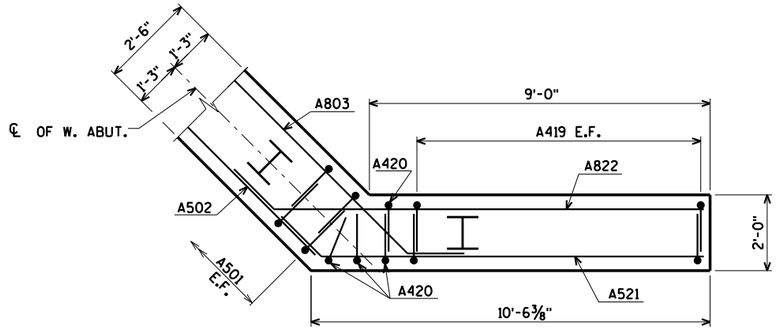


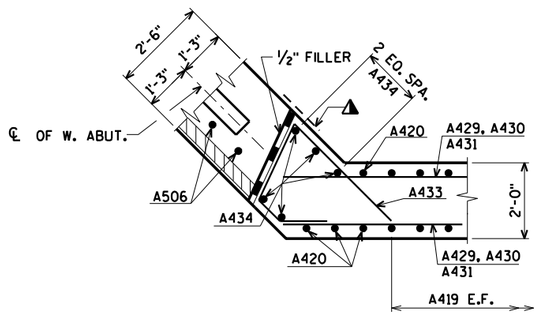
ELEVATION - WING 2



SECTION D



SECTION E



SECTION F

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◭ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

ORIGINAL PLANS PREPARED BY
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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

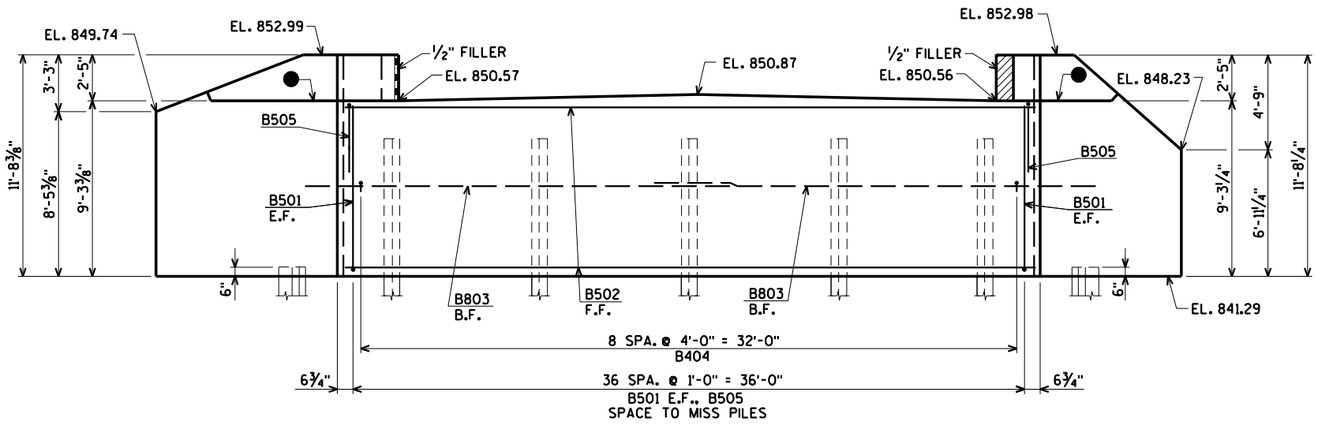
STRUCTURE B-5-427

DRAWN BY CLS | PLANS CK'D. CBM

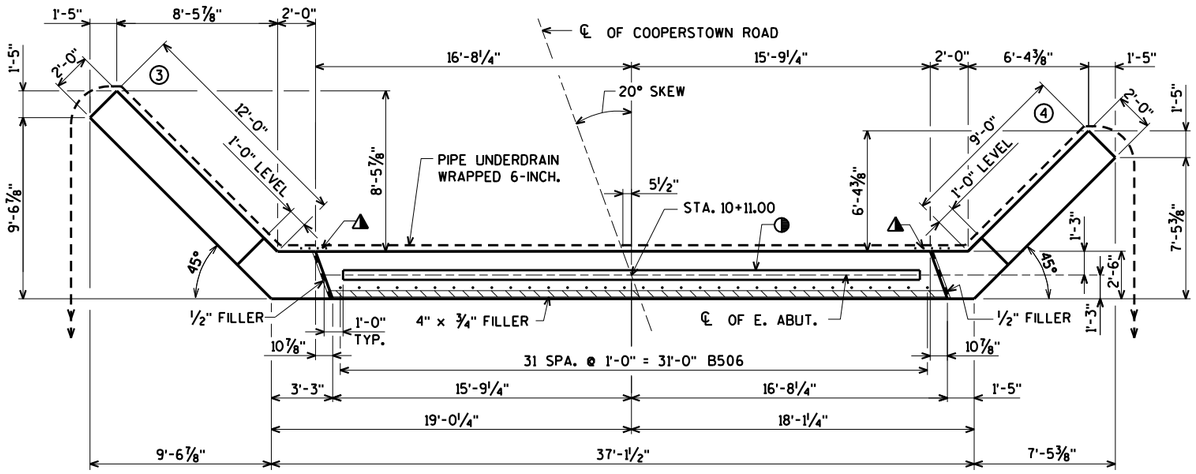
WEST ABUTMENT
WING 2
DETAILS

SHEET 6 OF 13
35

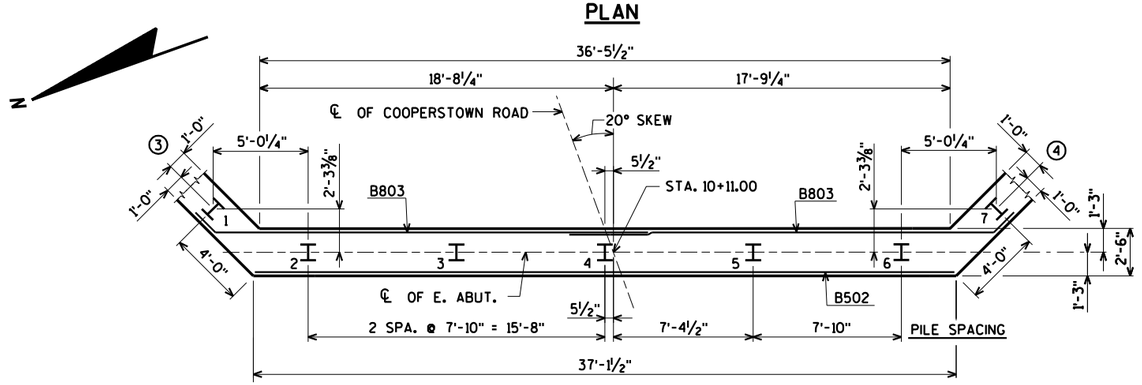
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



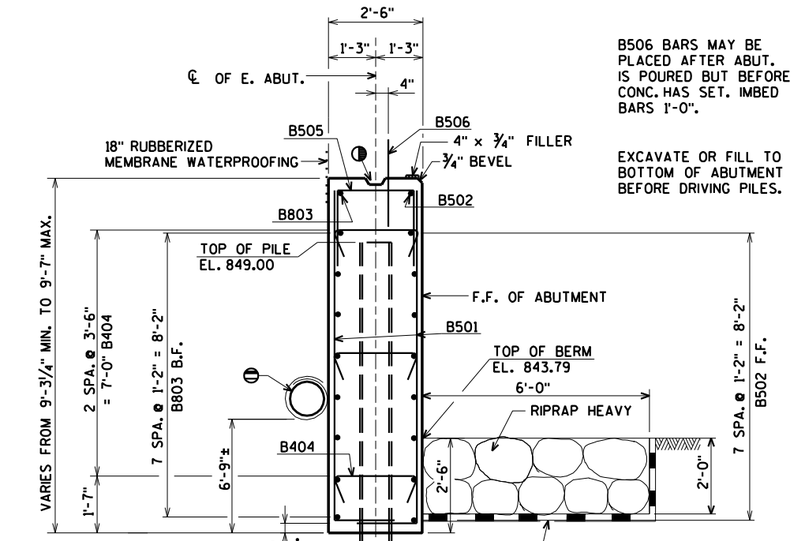
ELEVATION
(LOOKING EAST)



PLAN



PILE LAYOUT



B506 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

TYPICAL SECTION THRU BODY

NOTES: DO NOT PLACE FILL ABOVE THREE FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAIL SEE SHEET 5.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

DRAWN BY CLS | PLANS CK'D. CBM

EAST ABUTMENT

SHEET 7 OF 13
36

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Eau Claire, WI 54701
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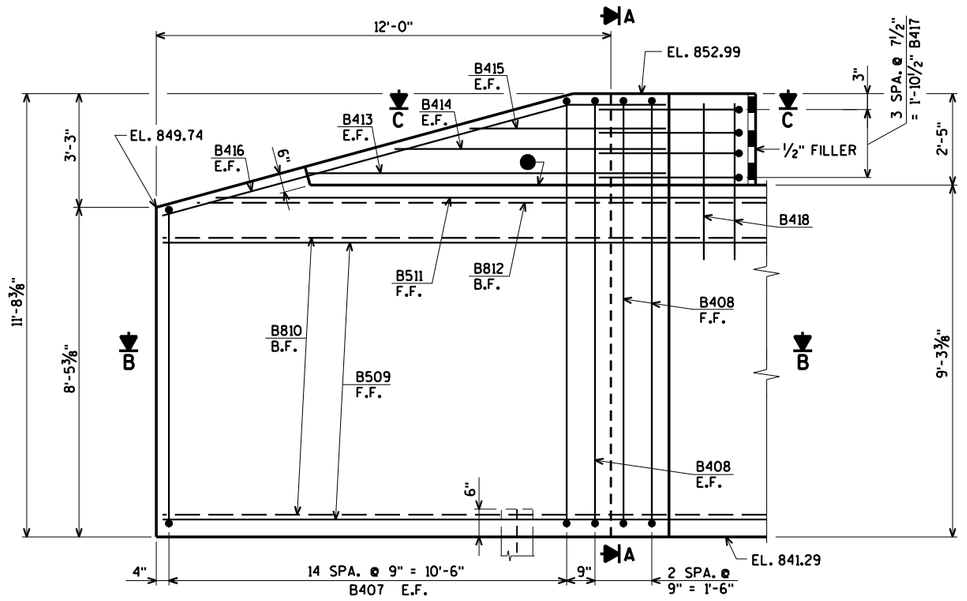
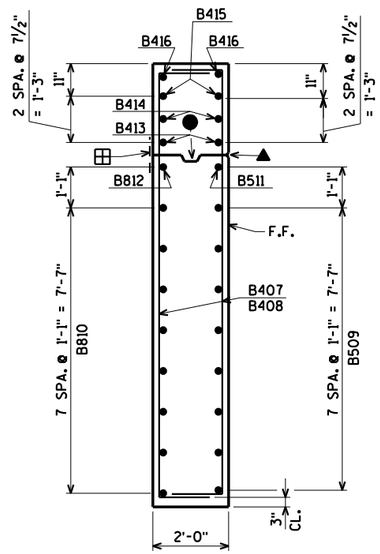
STATE PROJECT NUMBER

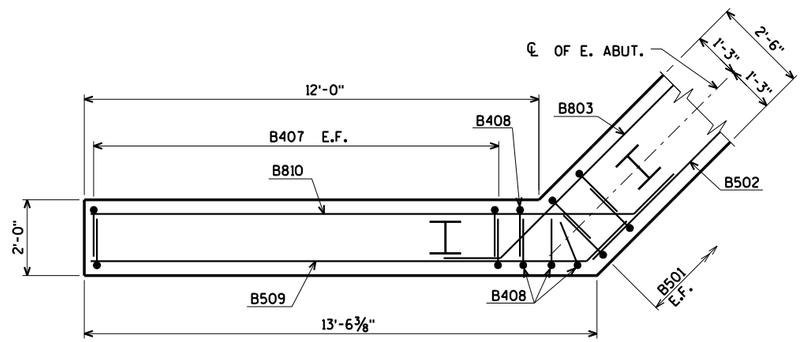
4503-00-71



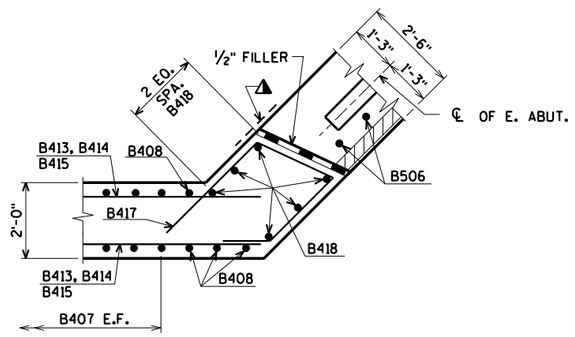
ELEVATION - WING 3



SECTION A



SECTION B



SECTION C

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

DRAWN BY CLS | PLANS CK'D. CBM

EAST ABUTMENT
WING 3
DETAILS

SHEET 8 OF 13
37

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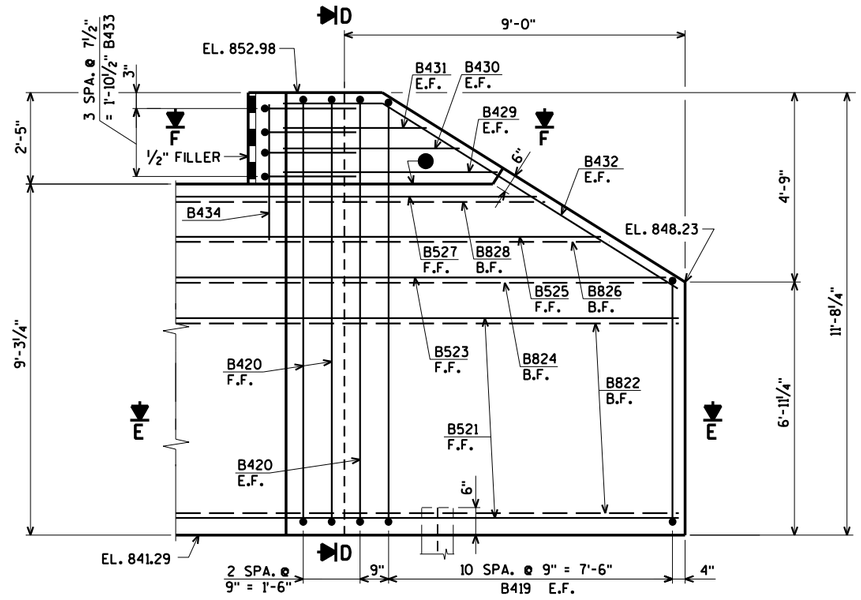
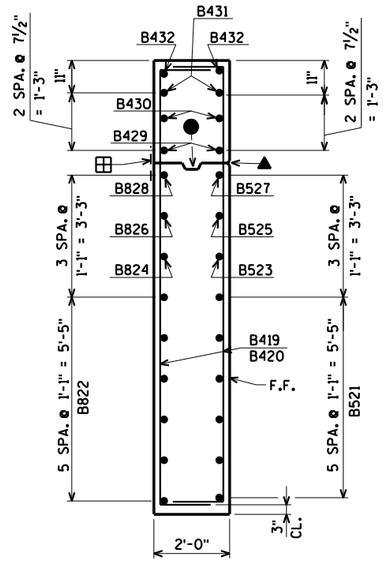
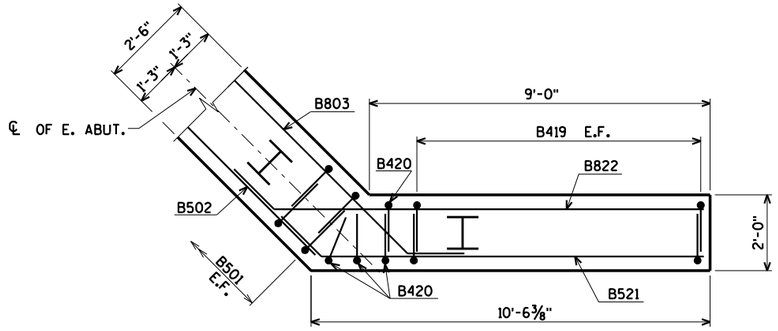


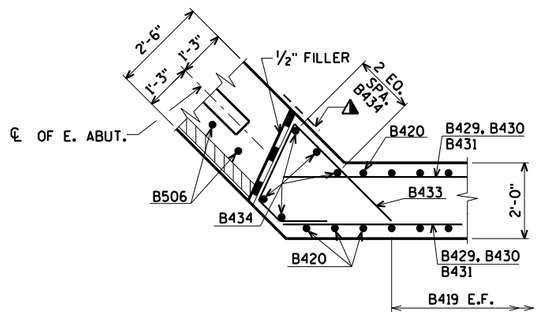
ELEVATION - WING 4



SECTION D



SECTION E



SECTION F

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

▲ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

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EAST ABUTMENT
WING 4
DETAILS

SHEET 9 OF 13
38

BILL OF BARS - WEST ABUTMENT

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2,580# UNCOATED 1,570# COATED LOCATION
A501		74	9-1	X			BODY VERT. E.F.
A502		9	36-11				BODY HORIZ. F.F.
A803		18	24-10	X			BODY HORIZ. B.F.
A404		27	2-9	X			BODY TIES
A505		37	7-5	X			BODY VERT. TOP
A506	X	32	2-0				BODY DOWELS
A407	X	30	10-9	X		⊗	WING 1 VERT. E.F.
A408	X	4	12-6	X			WING 1 VERT. E.F.
A509	X	8	14-9	X			WING 1 HORIZ. F.F.
A810	X	8	16-1	X			WING 1 HORIZ. B.F.
A511	X	1	12-8	X			WING 1 HORIZ. F.F.
A812	X	1	14-0	X			WING 1 HORIZ. B.F.
A413	X	2	9-0				WING 1 HORIZ. E.F.
A414	X	2	6-11				WING 1 HORIZ. E.F.
A415	X	2	4-10				WING 1 HORIZ. E.F.
A416	X	2	13-7	X			WING 1 DIAG. E.F.
A417	X	4	9-4	X			WING 1 HORIZ.
A418	X	6	3-9				WING 1 VERT.
A419	X	22	10-0	X		⊗	WING 2 VERT. E.F.
A420	X	4	12-6	X			WING 2 VERT. E.F.
A521	X	6	11-9	X			WING 2 HORIZ. F.F.
A822	X	6	13-1	X			WING 2 HORIZ. B.F.
A523	X	1	11-4	X			WING 2 HORIZ. F.F.
A824	X	1	12-8	X			WING 2 HORIZ. B.F.
A525	X	1	9-9	X			WING 2 HORIZ. F.F.
A826	X	1	11-1	X			WING 2 HORIZ. B.F.
A527	X	1	8-2	X			WING 2 HORIZ. F.F.
A828	X	1	9-6	X			WING 2 HORIZ. B.F.
A429	X	2	5-8				WING 2 HORIZ. E.F.
A430	X	2	4-7				WING 2 HORIZ. E.F.
A431	X	2	3-6				WING 2 HORIZ. E.F.
A432	X	2	11-5	X			WING 2 DIAG. E.F.
A433	X	4	7-6	X			WING 2 HORIZ.
A434	X	5	3-9				WING 2 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

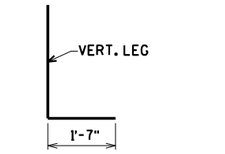
B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

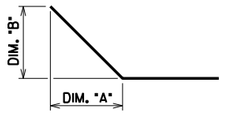
E.F. DENOTES EACH FACE.

BILL OF BARS - EAST ABUTMENT

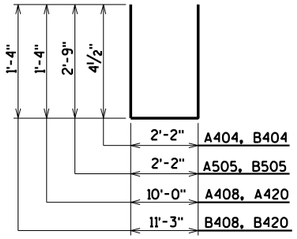
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2,670# UNCOATED 1,610# COATED LOCATION
B501		74	10-4	X			BODY VERT. E.F.
B502		9	36-11				BODY HORIZ. F.F.
B803		18	24-10	X			BODY HORIZ. B.F.
B404		27	2-9	X			BODY TIES
B505		37	7-5	X			BODY VERT. TOP
B506	X	32	2-0				BODY DOWELS
B407	X	30	12-0	X		⊗	WING 3 VERT. E.F.
B408	X	4	13-9	X			WING 3 VERT. E.F.
B509	X	8	14-9	X			WING 3 HORIZ. F.F.
B810	X	8	16-1	X			WING 3 HORIZ. B.F.
B511	X	1	12-3	X			WING 3 HORIZ. F.F.
B812	X	1	13-7	X			WING 3 HORIZ. B.F.
B413	X	2	9-0				WING 3 HORIZ. E.F.
B414	X	2	6-11				WING 3 HORIZ. E.F.
B415	X	2	4-10				WING 3 HORIZ. E.F.
B416	X	2	13-7	X			WING 3 DIAG. E.F.
B417	X	4	9-4	X			WING 3 HORIZ.
B418	X	6	3-9				WING 3 VERT.
B419	X	22	11-3	X		⊗	WING 4 VERT. E.F.
B420	X	4	13-9	X			WING 4 VERT. E.F.
B521	X	6	11-9	X			WING 4 HORIZ. F.F.
B822	X	6	13-1	X			WING 4 HORIZ. B.F.
B523	X	1	11-4	X			WING 4 HORIZ. F.F.
B824	X	1	12-9	X			WING 4 HORIZ. B.F.
B525	X	1	9-6	X			WING 4 HORIZ. F.F.
B826	X	1	10-11	X			WING 4 HORIZ. B.F.
B527	X	1	7-8	X			WING 4 HORIZ. F.F.
B828	X	1	9-1	X			WING 4 HORIZ. B.F.
B429	X	2	4-9				WING 4 HORIZ. E.F.
B430	X	2	3-8				WING 4 HORIZ. E.F.
B431	X	2	2-7				WING 4 HORIZ. E.F.
B432	X	2	11-5	X			WING 4 DIAG. E.F.
B433	X	4	7-6	X			WING 4 HORIZ.
B434	X	5	3-9				WING 4 VERT.

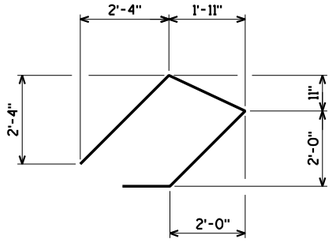


A501, B501

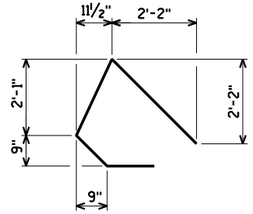


BAR NO.	DIM. "A"	DIM. "B"
A803	1'-0¾"	1'-0¾"
A509	1'-0¾"	1'-0¾"
A810	1'-0¾"	1'-0¾"
A511	1'-0¾"	1'-0¾"
A812	1'-0¾"	1'-0¾"
A416	11'-0"	3'-3"
A521	1'-0¾"	1'-0¾"
A822	1'-0¾"	1'-0¾"
A523	1'-0¾"	1'-0¾"
A824	1'-0¾"	1'-0¾"
A525	1'-0¾"	1'-0¾"
A826	1'-0¾"	1'-0¾"
A527	1'-0¾"	1'-0¾"
A828	1'-0¾"	1'-0¾"
A432	8'-0"	4'-9"
B803	1'-0¾"	1'-0¾"
B509	1'-0¾"	1'-0¾"
B810	1'-0¾"	1'-0¾"
B511	1'-0¾"	1'-0¾"
B812	1'-0¾"	1'-0¾"
B416	11'-0"	3'-3"
B521	1'-0¾"	1'-0¾"
B822	1'-0¾"	1'-0¾"
B523	1'-0¾"	1'-0¾"
B824	1'-0¾"	1'-0¾"
B525	1'-0¾"	1'-0¾"
B826	1'-0¾"	1'-0¾"
B527	1'-0¾"	1'-0¾"
B828	1'-0¾"	1'-0¾"
B432	8'-0"	4'-9"





A417, B417

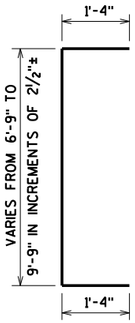


A433, B433

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A407	2 SERIES OF 15	9'-3" TO 12'-3"
A419	2 SERIES OF 11	7'-9" TO 12'-3"
B407	2 SERIES OF 15	10'-6" TO 13'-6"
B419	2 SERIES OF 11	9'-0" TO 13'-6"

BUNDLE AND TAG EACH SERIES SEPARATELY.



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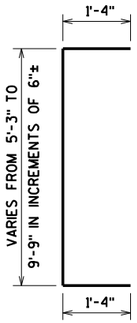

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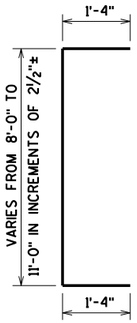

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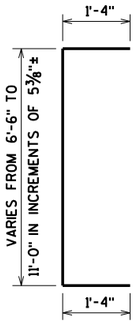

B419

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

DRAWN BY CLS | PLANS CK'D. CBM

ABUTMENT
BILL OF BARS

SHEET 10 OF 13
39

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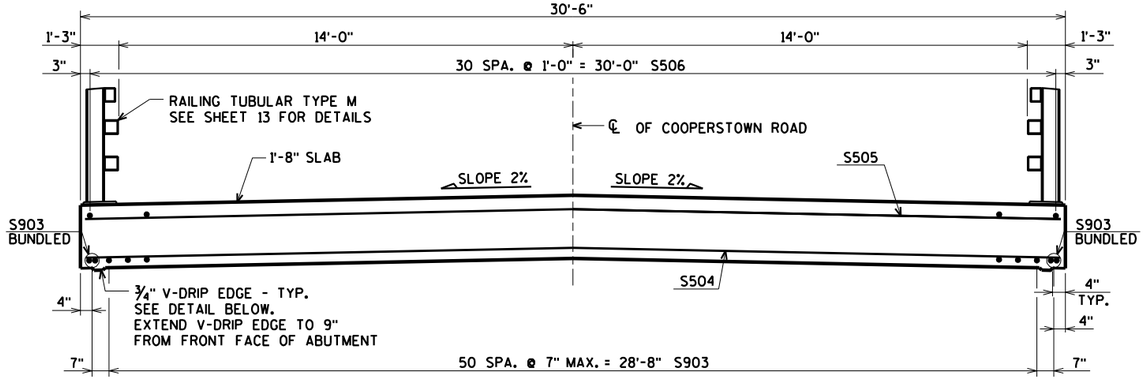
www.AyresAssociates.com

8

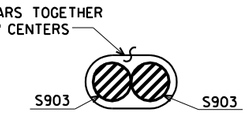
8



CROSS SECTION THRU BRIDGE

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

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

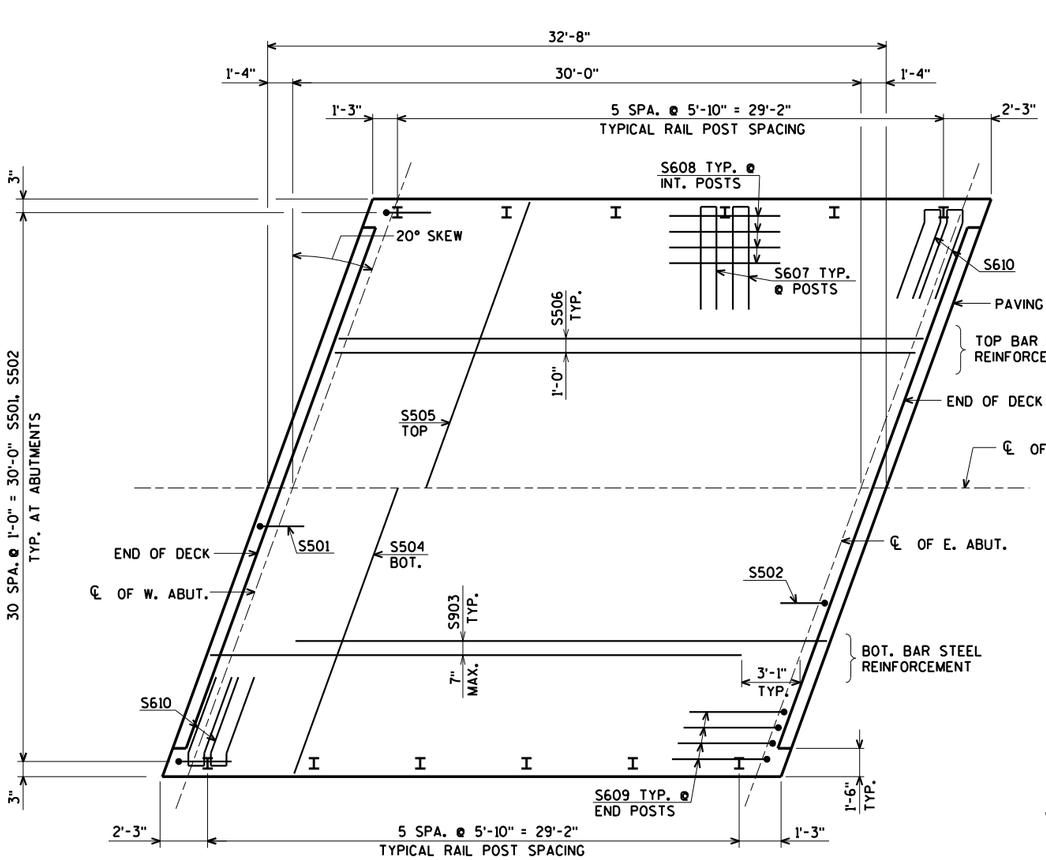


BUNDLING DETAIL

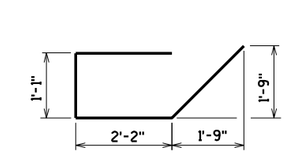
BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	10,210# COATED LOCATION
S501	X	62	6-11	X		SLAB @ ABUT.
S502	X	62	3-5	X		SLAB @ ABUT.
S903	X	55	28-0		X	SLAB LONG. BOT.
S504	X	40	32-1			SLAB TRANS. BOT.
S505	X	33	32-1			SLAB TRANS. TOP
S506	X	31	30-10			SLAB LONG. TOP
S607	X	20	12-0	X		SLAB @ RAIL POSTS
S608	X	32	6-0			SLAB @ INT. RAIL POSTS
S609	X	16	6-0	X		SLAB @ END RAIL POSTS
S610	X	4	12-0	X		SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PLAN



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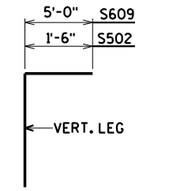
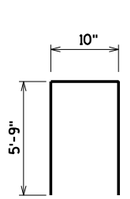
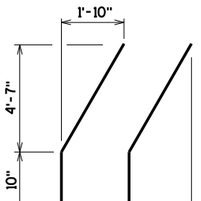
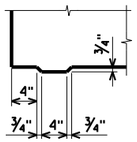




S607



S610



¾" V-DRIP EDGE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

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SUPERSTRUCTURE

SHEET 11 OF 13
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ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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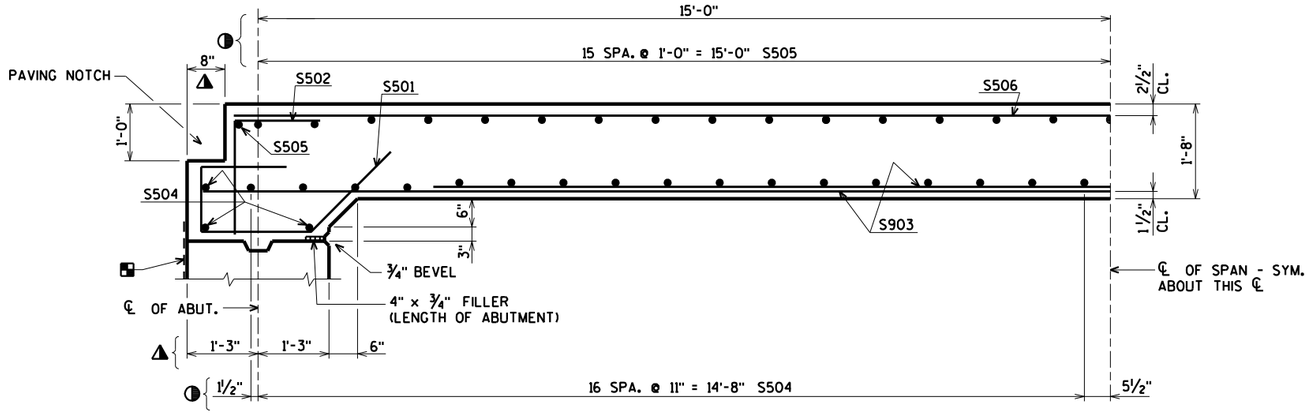
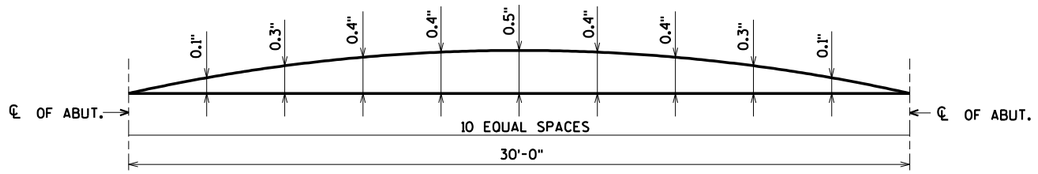
STATE PROJECT NUMBER

4503-00-71



PART LONGITUDINAL SECTION

- ■ 18" RUBBERIZED MEMBRANE WATERPROOFING
- ◑ DIMENSIONS MEASURED ALONG ℄ OF COOPERSTOWN ROAD.
- ◭ DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE.



CAMBER DIAGRAM

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄.

TOP OF DECK ELEVATIONS

LOCATION	℄ OF W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF E. ABUT.
N. EDGE OF SLAB	852.93	852.94	852.95	852.96	852.96	852.97	852.98	852.98	852.98	852.99	852.99
℄ OF STRUCTURE	853.22	853.23	853.24	853.25	853.26	853.26	853.27	853.28	853.28	853.29	853.29
S. EDGE OF SLAB	852.89	852.91	852.92	852.93	852.94	852.94	852.95	852.96	852.97	852.97	852.98

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

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8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

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SUPERSTRUCTURE DETAILS

SHEET 12 OF 13
41

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
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Eau Claire, WI 54701
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$PRFNAME$
U:\45-0413.00 - Brown Co., Cooperstown Road\BRIDGE\450413 sup.dgn

5/8/2017

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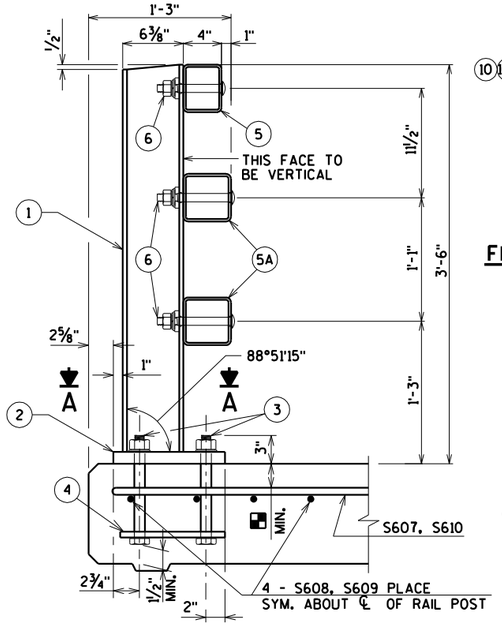
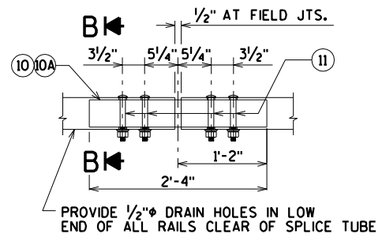
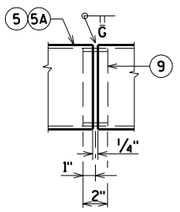


SECTION THRU RAILING ON DECK

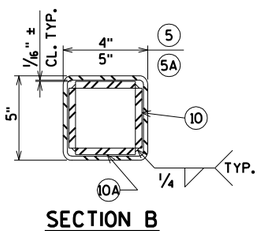


FIELD ERECTION JOINT DETAIL

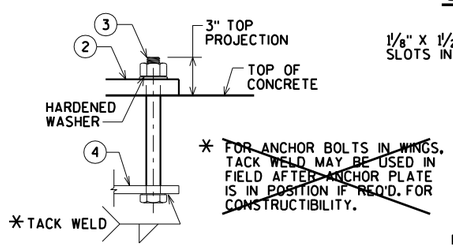


SHOP RAIL SPLICE DETAIL

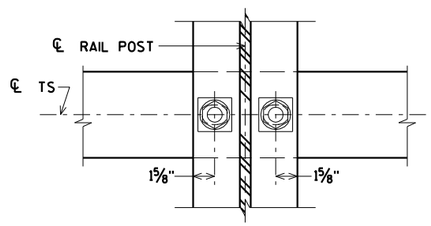
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



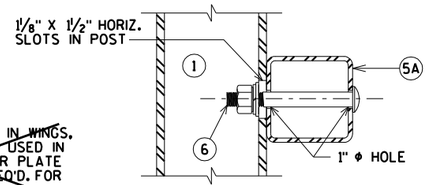
SECTION B



ANCHOR BOLTS



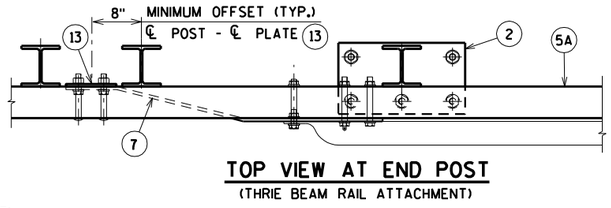
SECTION THRU POST WEB



SECTION THRU RAIL

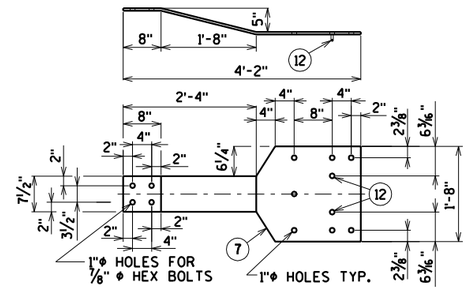
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



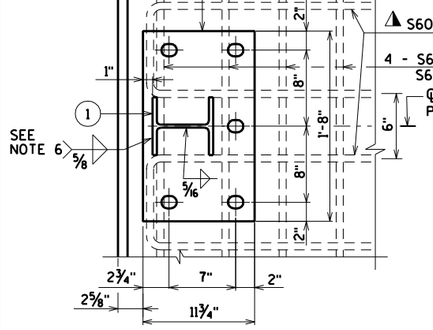
TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

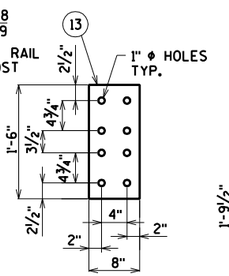


BACK-UP PLATE DETAIL

(AT BEAM GUARD ATTACHMENT)

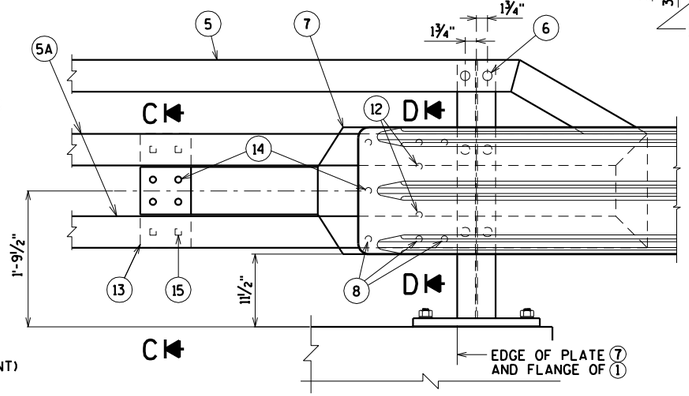


SECTION A



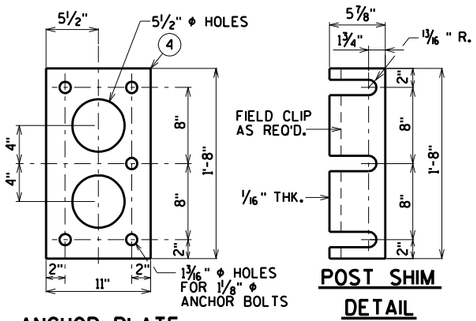
ANCHOR PLATE

(AT BEAM GUARD ATTACHMENT)



DETAIL AT END POST

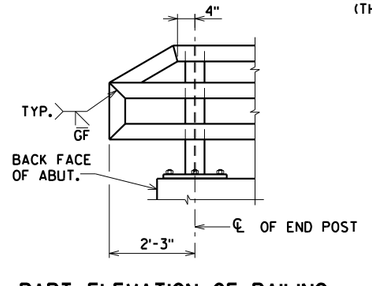
(THRIE BEAM RAIL ATTACHMENT)



ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)

POST SHIM DETAIL



PART ELEVATION OF RAILING

LEGEND

① W6 x 25 WITH 1⅛" X 1½" 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 1¼" x 11¾" x 1'-8" WITH 1⅝" X 1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

③ ASTM A449 - 1⅛" 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 10¾" 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 ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1¾" 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 ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1⅝" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

⑦ ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

⑨ SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

⑩ ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

⑩A ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

⑪ ⅞" φ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16 " X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 15/16 " X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS~~ IN PLATE NO. 10A.

⑫ ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

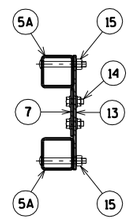
⑬ ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

⑭ ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

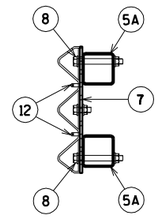
⑮ 1" φ HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-5-427" 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 ⅛ 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 S.S.P.C. SPECIFICATIONS.
10. ~~WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.~~
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



SECTION C



SECTION D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-427

DRAWN BY CLS | PLANS CK'D. CBM

RAILING TUBULAR TYPE M

SHEET 13 OF 13
42

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

$PRFNAME$
U:\45-0413.00 - Brown Co. Cooperstown Road\BRIDGE\450413 Mrail.dgn

7/31/2017

PENTABLE:BReau_shd_util.tbl

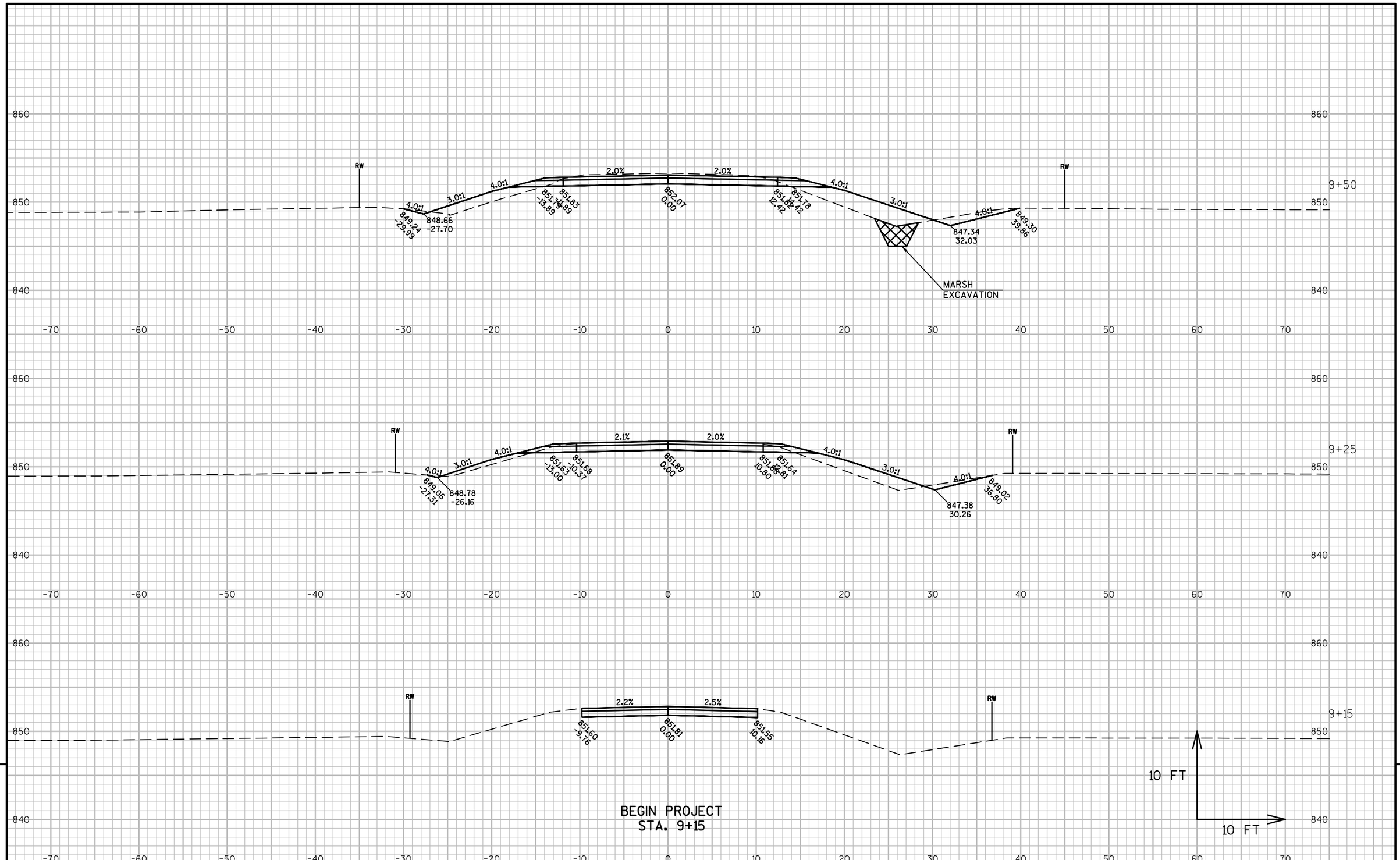
EARTHWORK - COOPERSTOWN ROAD

STATION	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)			
	Cut	Unusable Pavement Material	Fill	Marsh Exc	Cut	Unusable Pavement Material	Fill	Marsh Exc	Cut 1.00	Expanded Fill 1.30	Expanded Marsh Backfill 1.50	Mass Ordinate
					Note 1	Note 2	Note 3		Note 1		Note 4	Note 8
9+15.00	20.0	7.3	0.0	0	0	0	0	0	0	0	0	0
9+25.00	25.2	7.3	19.1	0	8	3	4	0	8	5	0	1
9+50.00	33.3	7.3	34.0	9	27	7	25	4	35	37	6	-11
9+80.00	32.0	7.3	44.6	9	36	8	44	10	72	93	21	-39
B-05-0427												
10+12.00	34.0	7.3	81.8	10	0	0	0	0	72	93	21	-39
10+50.00	29.5	7.3	29.7	10	45	10	78	14	116	195	42	-107
10+75.00	25.3	7.3	17.8	0	25	7	22	5	142	224	49	-117
10+85.00	20.0	7.3	0.0	0	8	3	3	0	150	228	49	-115
					150	37	176	33				

Notes:	
1 - Cut	Cut includes existing asphalt and base material
2 - Unusable Pavement Material	Does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Material Volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
8 - Mass Ordinate	Cut - (Fill * Fill Factor)
8 - Mass Ordinate	Mass Ordinate does not include Marsh Excavation

9

9



9

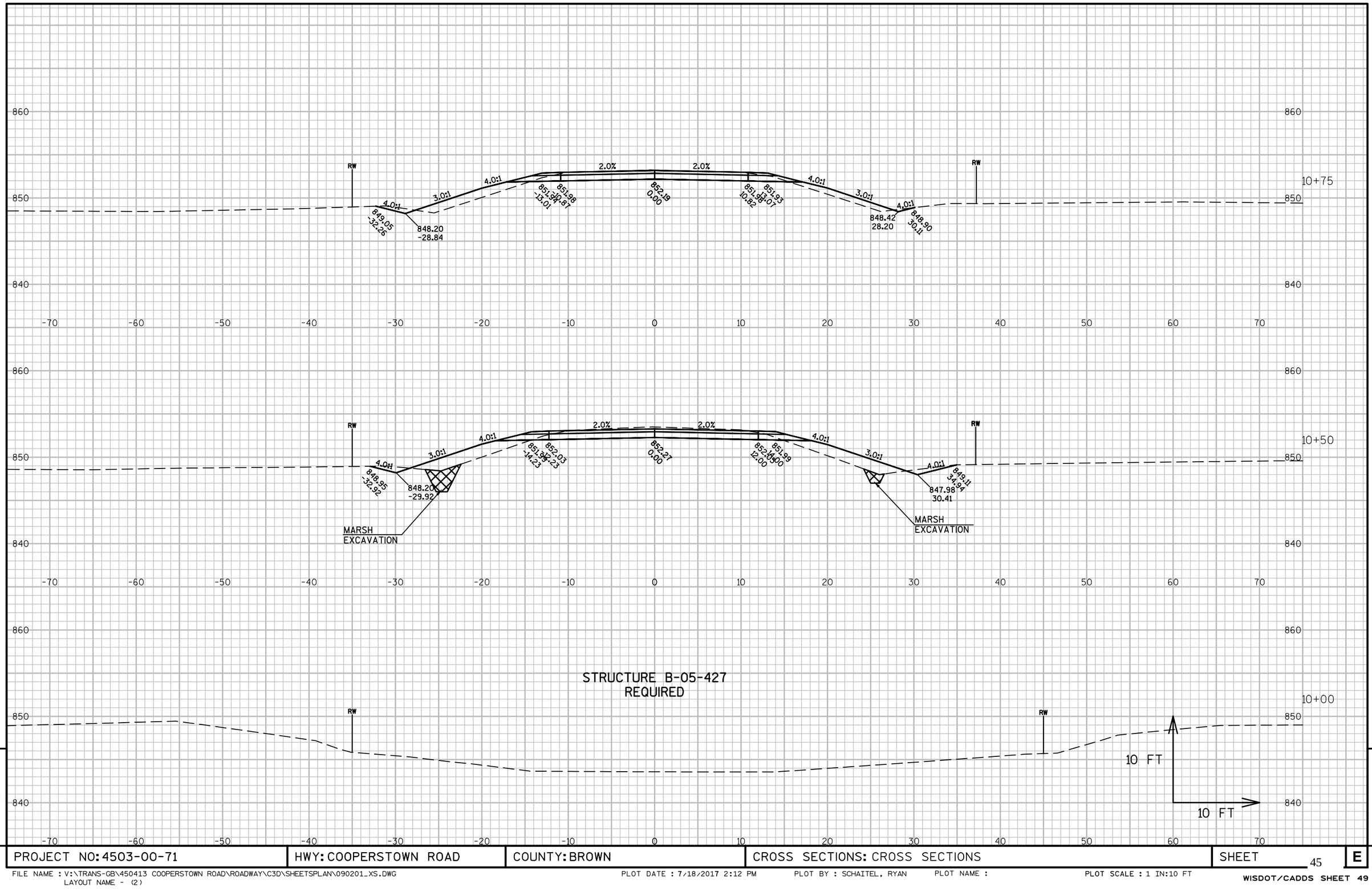
PROJECT NO: 4503-00-71	HWY: COOPERSTOWN ROAD	COUNTY: BROWN	CROSS SECTIONS: CROSS SECTIONS	SHEET 44	E

9

FILE NAME : V:\TRANS-GB\450413 COOPERSTOWN ROAD\ROADWAY\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - (1)

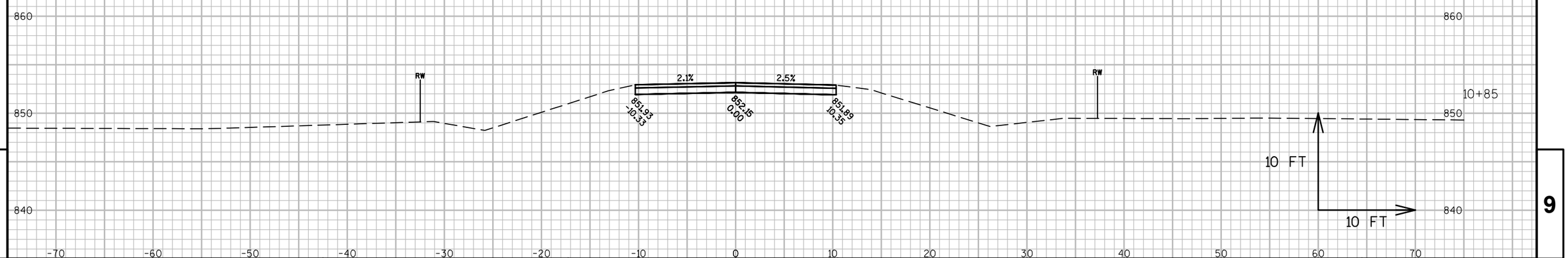
PLOT DATE : 7/18/2017 2:12 PM PLOT BY : SCHAITEL, RYAN PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 4503-00-71	HWY: COOPERSTOWN ROAD	COUNTY: BROWN	CROSS SECTIONS: CROSS SECTIONS	SHEET 45 E

END PROJECT
STA. 10+85



9

9

PROJECT NO: 4503-00-71	HWY: COOPERSTOWN ROAD	COUNTY: BROWN	CROSS SECTIONS: CROSS SECTIONS	SHEET 46	E

FILE NAME : V:\TRANS-GB\450413 COOPERSTOWN ROAD\ROADWAY\C3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - (3)
PLOT DATE : 7/18/2017 2:12 PM PLOT BY : SCHAITEL, RYAN PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

GRE

FEBRUARY 2018

PROJECT ID: 4503-03-71

WITH: 4503-00-71

COUNTY: BROWN

ORDER OF SHEETS

TOTAL SHEETS = 50

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4503-03-71	WISC 2018094	1

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T NEW DENMARK, WANEK RD

BR DEVILS CREEK BRIDGE & APPROACHES

LOCAL STREET

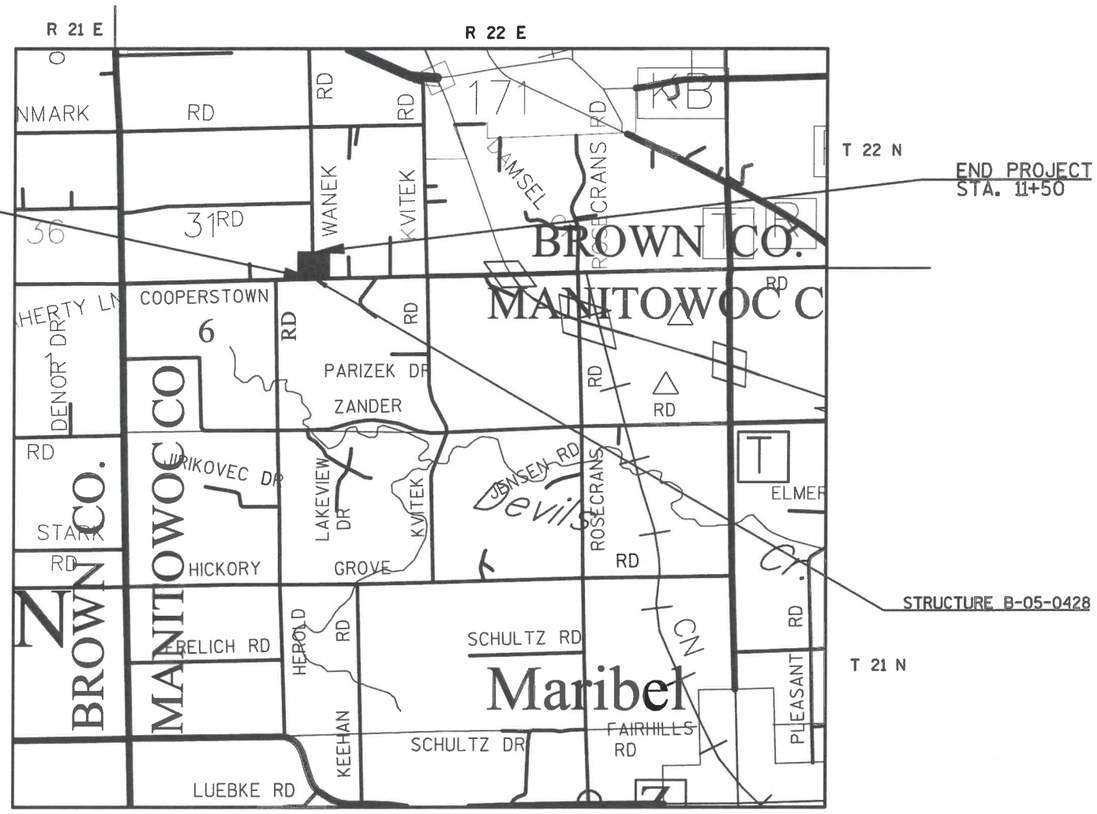
BROWN COUNTY

STATE PROJECT NUMBER
4503-03-71

PROJECT LOCATION

N

BEGIN PROJECT
STA. 9+00
Y=499182.207
X=139769.272



LAYOUT

SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.047 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DESIGN DESIGNATION

A.A.D.T.	2018	= 70
A.A.D.T.	2038	= 80
D.H.V.	2038	= 129
D.D.		= 60/40
T.		= 7.3%
DESIGN SPEED		= 55 MPH
ESALS		= 14,600

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	300TEP	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
WOODED OR SHRUB AREA		UTILITY PEDESTAL	
		POWER POLE	
		TELEPHONE POLE	

ACCEPTED FOR BROWN COUNTY

7/17/17 (DATE) Paul (COUNTY HIGHWAY COMMISSIONER)

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES

WISCONSIN ANDREW C. DANA 34172 OCONTO, WI PROFESSIONAL ENGINEER

7-17-2017 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Management Consultant	SHORT ELLIOTT HENDRICKSON, INC.

APPROVED FOR THE DEPARTMENT

DATE: 7/17/17 (Management Consultant Signature)

E

GENERAL NOTES

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

FILL EXPANSION FACTOR IS 30%.

CONSTRUCT 4-INCH ASPHALTIC SURFACE WITH A 1 3/4" UPPER LAYER AND A 2 1/4" LOWER LAYER.

PROPERTY LINES AS SHOWN ARE APPROXIMATE.

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

BEARING SHOWN ON THIS PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

PLACE EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SUBGRADE SHOULDER POINTS ARE TO BE FERTILIZED, SEEDED, AND EROSION MAT AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THE ROADWAY CROSS SECTIONS ARE SUBGRADE ELEVATIONS AT THE CENTERLINE OF THE ROADWAY.

ALL ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF NAVD 88 (2012).

WISDOT WILL FURNISH A BENCHMARK MONUMENT TO BE SET BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD

SAW CUT LOCATIONS SHOWN ON THE PLAN ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD. THE LINE OF SUCH SAW CUTS WILL BE NEATLY DELINEATED THROUGH THE ASPHALT WITHOUT ANY DAMAGE TO THE REMAINING PORTION OF THE EXISTING PAVEMENT.

UTILITIES

*CENTURYLINK — TELEPHONE 920-837-2344

212 CHURCH AVE
CASCO, WISCONSIN 54205
ATTENTION: MATT GUNDERSON
E-MAIL: matt.gunderson@centurylink.com

*-MEMBER OF DIGGERS HOTLINE

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

DEPARTMENT OF NATURAL RESOURCES

WDNR — TELEPHONE 920-662-5119

P.O. BOX 10448
GREEN BAY, WISCONSIN 54307
ATTENTION: JIM DOPERALSKI
E-MAIL: JAMES.DOPERALSKI@WISCONSIN.GOV

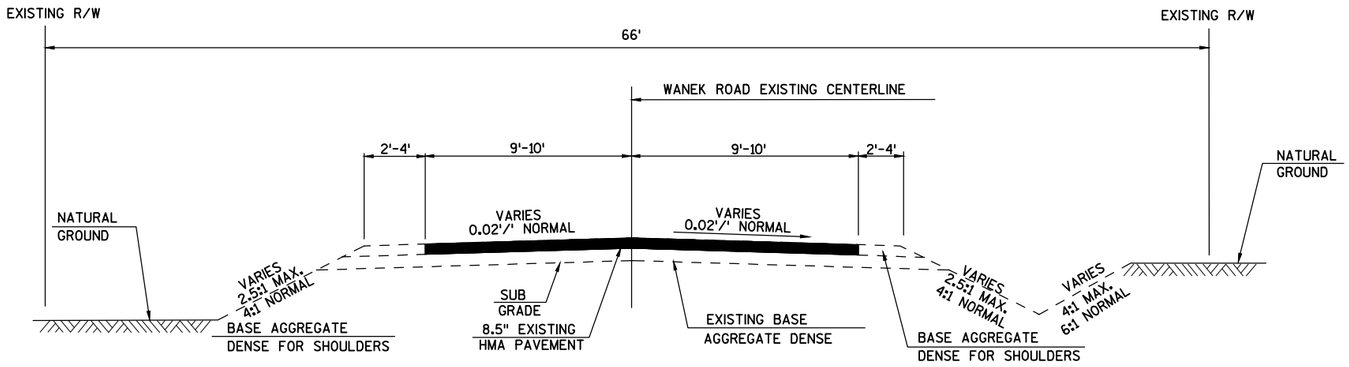
RUNOFF COEFFICIENT TABLE

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

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.32 ACRES
SOIL GROUP C

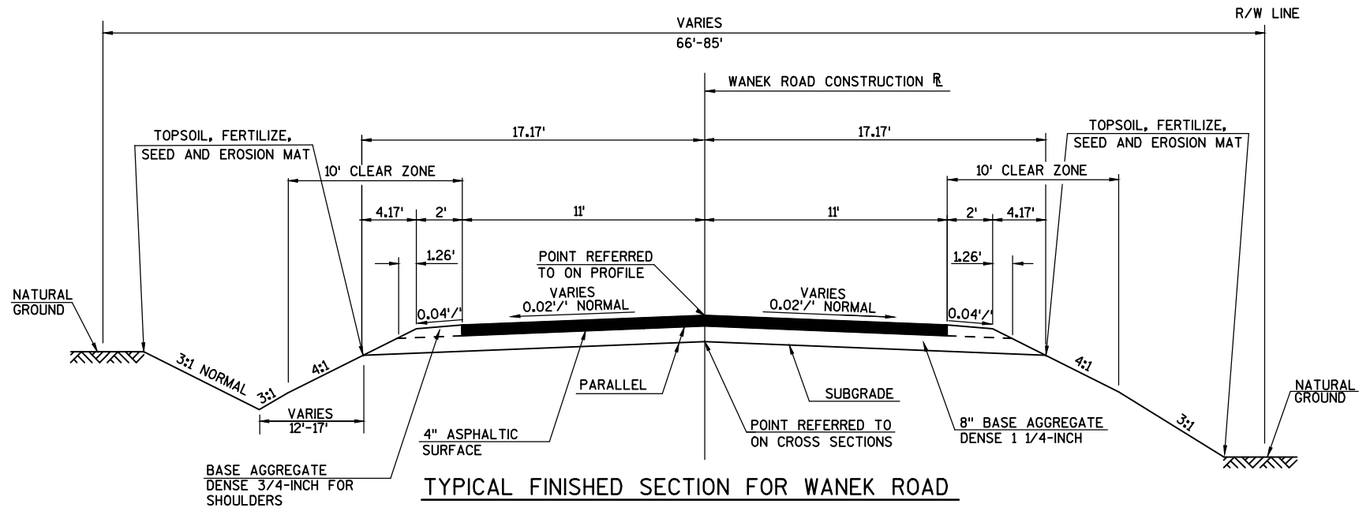
STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC
AC	ASPHALT CEMENT
AGG	AGGREGATE
ASPH	ASPHALT
BM	BENCH MARK
C/L	CENTERLINE
CONC	CONCRETE
CMP	CORRUGATED METAL PIPE
CR.	CREEK
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
ESALS	EQUIVALENT SINGLE AXIS LOADS
EXIST	EXISTING
FE	FIELD ENTRANCE
HYD	HYDRANT
IP	IRON PIPE OR PIN
L	LENGTH OF CURVE
LC	LONG CHORD OF CURVE
LR	LENGTH OF RUNOFF
MH	MANHOLE
NC	NORMAL CROWN
PT	POINT OF TANGENCY
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PE	PRIVATE ENTRANCE
R	RADIUS
REM	REMOVE
R/L OR RL	REFERENCE LINE
RCCP	REINFORCED CONCRETE CULVERT PIPE
RCPSS	REINFORCED CONCRETE PIPE STORM SEWER
R.O.	RUNOUT
R/W	RIGHT-OF-WAY
STA	STATION
SE	SUPER ELEVATION
SS	STORM SEWER
T	TANGENT
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
T	TRUCKS
VC	VERTICAL CURVE
W	WELL



TYPICAL EXISTING SECTION FOR WANEK ROAD

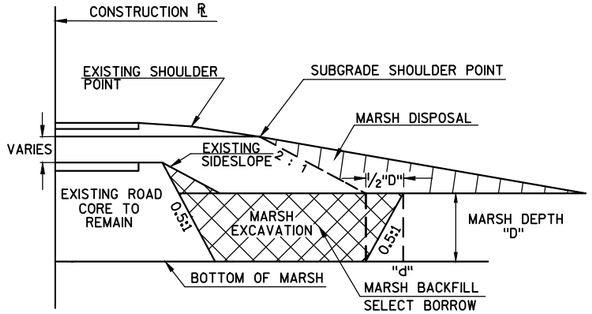
STA. 9+00 - STA. 11+50



TYPICAL FINISHED SECTION FOR WANEK ROAD

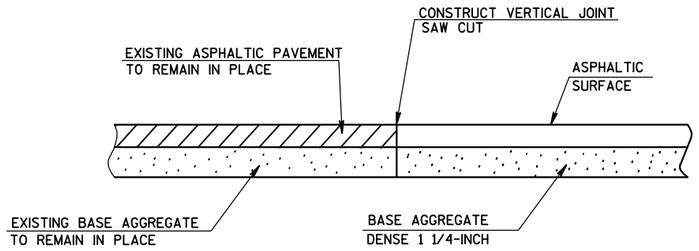
STA. 9+00 - STA. 11+50

PROJECT NO: 4503-03-71	HWY: WANEK ROAD	COUNTY: BROWN	TYPICAL SECTIONS	SHEET 3	E



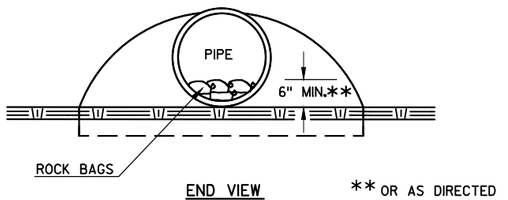
NOTE: BACKFILL QUANTITIES COMPUTED FROM POINT "d" TO COMPENSATE FOR PROBABLE DISPLACED MARSH AREA.

TYPICAL SECTION-MARSH EXCAVATION



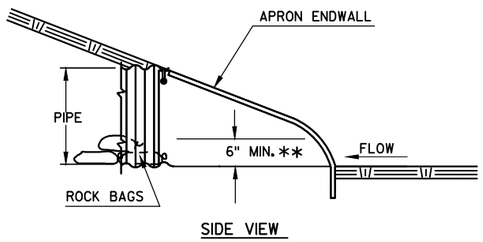
SAW CUT DETAIL

STA. 9+00
STA. 11+50



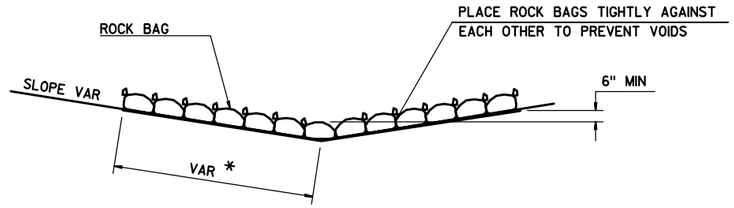
END VIEW

** OR AS DIRECTED BY THE ENGINEER

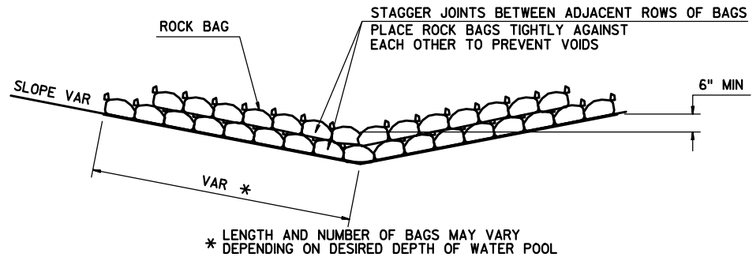


SIDE VIEW

DETAIL FOR CULVERT PIPE CHECK



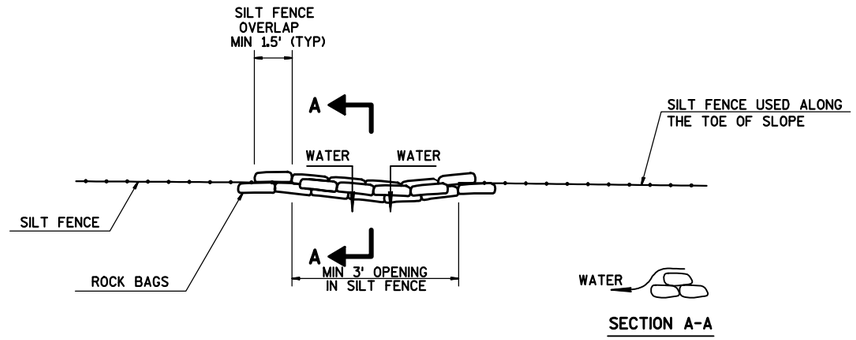
SIDE VIEW (SINGLE LAYER)



SIDE VIEW (MULTIPLE LAYER)

ROCK BAGS DITCH CHECK

PAID AS ROCK BAGS
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)



TOP VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

PAID AS ROCK BAGS
(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

2

LEGEND

- EROSION MAT URBAN CLASS I, TYPE B
- EROSION MAT CLASS II, TYPE C
- SILT FENCE
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- ROCK BAGS
- SURFACE WATER FLOW
- CULVERT PIPE CHECK

N

BP: 6+99.98

COOPERSTOWN ROAD

EXISTING R/W

EXISTING R/W

DEVILS RIVER

SLOPE INTERCEPT

WETLANDS

WETLANDS

WETLANDS

LIMITS OF WETLANDS

SLOPE INTERCEPT

RW LINE

EXISTING R/W

EXISTING R/W

7 8 WANEK ROAD N00°09'28"E 9 10 11 12 13

BM 12

CP 2

CP 4

LIMITS OF WETLANDS

EXISTING R/W

WETLANDS

WETLANDS

EXISTING R/W

RW LINE

BEGIN PROJECT
STA. 9+00
Y=499182.207
X=139769.272

SLOPE INTERCEPT

SLOPE INTERCEPT

CABC PE

END PROJECT
STA. 11+50

BM 11

ETRAN

PROJECT NO: 4503-03-71	HWY: WANEK ROAD	COUNTY: BROWN	EROSION CONTROL	SHEET 5	E

FILE NAME : V:\TRANS-GB\450414 WANEK ROAD\ROADWAY\C3D\SHEETSPLAN\022001 EC.DWG
LAYOUT NAME - 022001 EC

PLOT DATE : 12/6/2017 1:53 PM PLOT BY : SOUFAL, KEVIN PLOT NAME : PLOT SCALE : 1 IN:40 FT

4503-03-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 02. 10+00	LS	1.000	1.000
0010	205.0100	Excavation Common **P**	CY	205.000	205.000
0012	205.0400	Excavation Marsh	CY	66.000	66.000
0016	206.1000	Excavation for Structures Bridges (structure) 02. B-5-428	LS	1.000	1.000
0018	208.0100	Borrow **P**	CY	140.000	140.000
0020	208.1100	Select Borrow	CY	100.000	100.000
0022	210.1500	Backfill Structure Type A	TON	465.000	465.000
0026	213.0100	Finishing Roadway (project) 02. 4503-03-71	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	33.000	33.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	385.000	385.000
0032	455.0605	Tack Coat	GAL	33.000	33.000
0034	465.0105	Asphaltic Surface	TON	126.000	126.000
0036	502.0100	Concrete Masonry Bridges	CY	130.000	130.000
0038	502.3200	Protective Surface Treatment	SY	100.000	100.000
0040	505.0400	Bar Steel Reinforcement HS Structures	LB	5,180.000	5,180.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	12,180.000	12,180.000
0046	513.4061	Railing Tubular Type M (structure) 02. B-5-428	LF	59.000	59.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0050	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	2.000	2.000
0052	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	34.000	34.000
0054	550.0500	Pile Points	EACH	14.000	14.000
0056	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	720.000	720.000
0058	606.0300	Riprap Heavy	CY	95.000	95.000
0060	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	170.000	170.000
0064	618.0100	Maintenance And Repair of Haul Roads (project) 02. 4503-03-71	EACH	1.000	1.000
0066	619.1000	Mobilization	EACH	0.500	0.500
0068	624.0100	Water	MGAL	5.000	5.000
0070	625.0100	Topsoil	SY	600.000	600.000
0072	628.1504	Silt Fence	LF	460.000	460.000
0074	628.1520	Silt Fence Maintenance	LF	920.000	920.000
0076	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0078	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0080	628.2008	Erosion Mat Urban Class I Type B	SY	500.000	500.000
0082	628.2027	Erosion Mat Class II Type C	SY	100.000	100.000
0084	628.6005	Turbidity Barriers	SY	100.000	100.000

4503-03-71

Line	Item	Item Description	Unit	Total	Qty
0086	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
0088	628.7570	Rock Bags	EACH	45.000	45.000
0090	629.0210	Fertilizer Type B	CWT	0.500	0.500
0092	630.0120	Seeding Mixture No. 20	LB	20.000	20.000
0094	630.0200	Seeding Temporary	LB	20.000	20.000
0096	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0098	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0100	638.2602	Removing Signs Type II	EACH	6.000	6.000
0102	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0104	642.5001	Field Office Type B	EACH	0.500	0.500
0106	643.0420	Traffic Control Barricades Type III	DAY	960.000	960.000
0108	643.0705	Traffic Control Warning Lights Type A	DAY	1,560.000	1,560.000
0110	643.0900	Traffic Control Signs	DAY	720.000	720.000
0112	643.5000	Traffic Control	EACH	0.500	0.500
0114	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0116	645.0120	Geotextile Type HR	SY	205.000	205.000
0118	650.4500	Construction Staking Subgrade	LF	223.000	223.000
0120	650.5000	Construction Staking Base	LF	223.000	223.000
0124	650.6500	Construction Staking Structure Layout (structure) 02. B-5-428	LS	1.000	1.000
0128	650.9910	Construction Staking Supplemental Control (project) 02. 4503-03-71	LS	1.000	1.000
0130	650.9920	Construction Staking Slope Stakes	LF	223.000	223.000
0132	690.0150	Sawing Asphalt	LF	40.000	40.000
0134	715.0502	Incentive Strength Concrete Structures	DOL	780.000	780.000
0136	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	150.000	150.000
0138	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0142	SPV.0105	Special 02. Superstructure 3/4" V-Drip Edge (structure) B-5-428	LS	1.000	1.000

3

3

CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00	-	11+00	WANEK ROAD	2	2
TOTALS				2	2

BASE AGGREGATE DENSE AND WATER

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
9+00	-	9+86	WANEK ROAD	13	142	2
10+13	-	11+50	WANEK ROAD	20	219	2
	10+83		WANEK ROAD, RT	-	24	1
TOTALS				33	385	5

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (item #205.0100) Cut (2)	Unusable Pavement Material (4)	Available Material (5)	Excavation Marsh (6) (item #205.0400)	Expanded Marsh Backfill (10) Factor 1.50	Unexpanded Fill	Expanded Fill (13) Factor 1.30	Mass Ordinate +/- (14)	Borrow (item #208.0100)	Select Borrow (item #208.1100)	Comment:
1	9+00 - 11+50	WANEK ROAD	205	117	88	66	100	176	228	-140	140	100	
Division 1 Total			205	117	88	66	100	176	228	-140	140	100	

2) Unsuable Pavement Material is included in Cut
4) Unusable Pavement Material = Existing Asphaltic Pavement & Concrete Pavement. Backfill any areas below subgrade with borrow.
5) Available Material = Cut - Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material as shown in cross sections, then Borrow for the remaining Marsh Excavation.
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item Number 208.1100.
13) Expanded Fill. Factor = 1.3 Expanded Fill = Unexpanded Fill * Fill Factor
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

HMA PAVEMENT

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
9+00	-	9+86	WANEK ROAD	12.8	49
10+13	-	11+50	WANEK ROAD	20.2	77
TOTALS				33.0	126

CULVERT PIPE AND APRON ENDWALLS

STATION	TO	STATION	LOCATION	521.3124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF	521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH EACH	THICKNESS STEEL INCH
10+52	-	11+08	WANEK ROAD, RT	34	2	0.064
TOTALS				34	2	

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

3

3

TOPSOIL, FERTILIZER AND SEED

STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB
9+00	-	9+86	WANEK ROAD, LT & RT	142	0.1	4	4
10+13	-	11+50	WANEK ROAD, LT & RT	402	0.3	11	11
UNDISTRIBUTED				56	0.1	5	5
TOTALS				600	0.5	20	20

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 MAINTENANCE LF
9+00	-	9+86	WANEK ROAD, RT & LT	180	360
10+13	-	11+50	WANEK ROAD, RT & LT	280	560
TOTALS				460	920

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT	5	2
	5	2

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 EACH
11+00	WANEK ROAD, RT	15
TOTAL		15

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 SY
SOUTH ABUTMENT	WANEK ROAD	50
NORTH ABUTMENT	WANEK ROAD	50
TOTAL		100

ROCK BAGS

STATION	LOCATION	628.7570 EACH
9+95	WANEK ROAD, RT	15
10+40	WANEK ROAD, LT	15
	UNDISTRIBUTED	15
TOTAL		45

EROSION MAT

STATION	TO	STATION	LOCATION	628.2008 URBAN CLASS I TYPE B SY	628.2027 CLASS II TYPE C SY
9+00	-	9+86	WANEK ROAD, LT & RT	142	-
10+13	-	11+50	WANEK ROAD, LT & RT	312	90
UNDISTRIBUTED				46	10
TOTAL				500	100

SIGNS AND WOOD POSTS

STATION	LOCATION	634.0612 WOOD POSTS 4"x6"x12' EACH	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	S.F.
9+78	WANEK ROAD, RT	1	-	3
9+93	WANEK ROAD, LT	1	3	-
10+06	WANEK ROAD, RT	1	3	-
10+22	WANEK ROAD, LT	1	-	3
TOTALS		4	12	

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

3

REMOVING SIGNS AND SUPPORTS

STATION	LOCATION	638.2602 REMOVING SIGNS TYPE II EA	638.3000 REMOVING SMALL SIGN SUPPORTS EA	REMARKS
9+50	WANEK ROAD, RT	1	1	WEIGHT LIMIT 10 TONS
9+78	WANEK ROAD, RT	1	1	BRIDGE HASH
9+93	WANEK ROAD, LT	1	1	BRIDGE HASH
10+06	WANEK ROAD, RT	1	1	BRIDGE HASH
10+22	WANEK ROAD, LT	1	1	BRIDGE HASH
10+60	WANEK ROAD, LT	1	1	WEIGHT LIMIT 10 TONS
TOTALS		6	6	

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF	GROUP CODE
9+00	-	9+86	WANEK ROAD	86	86	-	1	86	0010
10+13	-	11+50	WANEK ROAD	137	137	-	-	137	0010
SUBTOTALS				223	223	0	1	223	0010
10+00			WANEK ROAD	-	-	1	-	-	0020
SUBTOTALS				0	0	1	0	0	0020
TOTALS				223	223	1	1	223	

TRAFFIC CONTROL SUMMARY

LOCATION	APPROXIMATE SERVICE DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO. IN SERVICE	643.0420 DAYS	643.0705 TRAFFIC CONTROL WARNIG LIGHTS TYPE A NO. IN SERVICE	643.0705 DAYS	643.0900 TRAFFIC CONTROL SIGNS NO. IN SERVICE	643.0900 DAYS	REMARKS
WANEK ROAD / COOPERSTOWN ROAD	60	2	120	4	240	4	240	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C
B.O.P	60	5	300	8	480	1	60	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C & D
E.O.P	60	7	420	10	600	2	120	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C & D
WANEK ROAD / CHURCH ROAD	60	2	120	4	240	5	300	SEE BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C
TOTALS			960		1,560		720	

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
9+00	WANEK ROAD	20
11+25	WANEK ROAD	20
TOTAL		40

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE STATED

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
STATE/COUNTY/TOWN LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
TO BE REMOVED
BRIDGE

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
OFF-PREMISE SIGN
R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED)

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE		
TELEPHONE POLE		
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)		

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
PARCEL NUMBER 25
UTILITY NUMBER 40
TLE POINT NUMBER 25
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

WATER	—W—	SANITARY SEWER	—SAN—
GAS	—G—	STORM SEWER	—SS—
TELEPHONE	—T—	CABLE TELEVISION	—TV—
OVERHEAD TRANSMISSION LINES	—OH—	FIBER OPTIC	—FO—
ELECTRIC	—E—		

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF CURVATURE	PC
ACRES	AC	POINT OF COMPOUND CURVE	PCC
AHEAD	AH	POINT OF INTERSECTION	PI
ALUMINUM	ALUM	PROPERTY LINE	PL
AND OTHERS	ET AL	RECORDED AS	(100')
BACK	BK	REFERENCE LINE	R/L
BLDG	BLDG	REMAINING	REM
BLOCK	BLK	RIGHT	RT
CENTERLINE	C/L	RIGHT OF WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC
CONCRETE	CONC	SEPTIC VENT	SEPV
COUNTY	CO	SQUARE FEET	SF
COUNTY TRUNK HIGHWAY	CTH	STATE TRUNK HIGHWAY	STH
DISTANCE	DIST	STATION	STA
CORNER	COR	SUBDIVISION	SUBD
DOCUMENT NUMBER	DOC	TANGENT	TAN
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED EASEMENT	TLE
GAS VALVE	GV		
GRID NORTH	GN	TRANSPORTATION PROJECT PLAT	TPP
HIGHWAY EASEMENT	HE		
HOUSE	HSE	UNITED STATES HIGHWAY	USH
IDENTIFICATION	ID	VOLUME	V
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		

CURVE DATA

LONG CHORD	LC
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	Δ
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BROWN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS WITH PLASTIC CAPS), UNLESS OTHERWISE NOTED, WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

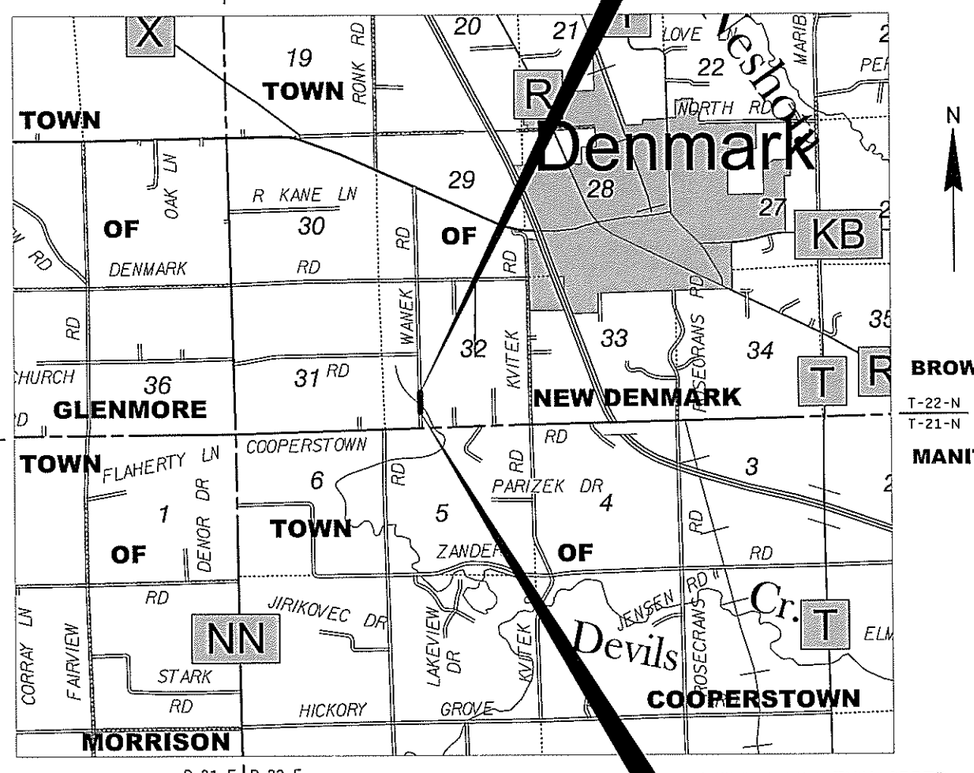
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:

EXISTING HIGHWAY RIGHT-OF-WAY FOR WANEK ROAD ESTABLISHED FROM A PRESUMED 66' WIDTH CENTERED ON THE WEST SIXTEENTH LINE OF SECTION 32 PER STATE STATUTE 82.31 (2) AND SUPPORTED BY CSM #4947 AND CSM #6490.

END RELOCATION ORDER
PROJECT 4503-03-00
STA. 11+25.00
Y = 499,407.207
X = 139,769.892
LOCATED 362.27 NORTH AND 1319.24' EAST OF THE SOUTHWEST CORNER OF SECTION 32, T 22 N, R 22 E.



BEGIN RELOCATION ORDER
PROJECT 4503-03-00
STA. 10+00.00
Y = 499,282.207
X = 139,769.548
LOCATED 1318.90' EAST AND 237.27' NORTH OF THE SOUTHWEST CORNER OF SECTION 32, T 22 N, R 22 E.

LAYOUT
SCALE 0 — 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.024 MI.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
4503-03-00	4.01	2
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR
T NEW DENMARK WANEK ROAD
(DEVILS RIVER BRIDGE & APPROACHES)

LOC STR — BROWN COUNTY

CONSTRUCTION PROJECT NUMBER
4503-03-71

ACCEPTED FOR
TOWN OF NEW DENMARK

4-20-17 (Date) Wm J Krueger Town Chairman

ORIGINAL PLAT PREPARED BY
AYRES ASSOCIATES

THIS SURVEY IS PREPARED AT THE REQUEST OF THE TOWN OF NEW DENMARK.

THE FIELD SURVEY WAS PERFORMED IN OCTOBER/NOVEMBER 2015.

THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN
James R. Cappeart
S-3044
Green Bay
Wis.
LAND SURVEYOR

(SIGNATURE) James Cappeart
DATE: 02/24/2017
(PRINTED NAME) JAMES R. CAPPEART
(REGISTRATION NUMBER) S-3044

REVISION DATE

E

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), BROWN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:

EXISTING HIGHWAY RIGHT-OF-WAY FOR WANEK ROAD ESTABLISHED FROM A PRESUMED 66' WIDTH CENTERED ON THE WEST SIXTEENTH LINE OF SECTION 32 PER STATE STATUTE 82.31 (2) AND SUPPORTED BY CSM *4947 AND CSM *6490.

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NO.	OWNER(S)	INTEREST REQUIRED	R/W (ACRES) NEW	EXISTING	TOTAL
1	JOSEPH A. & ELIZABETH MAZNA	FEE	0.01	0.09	0.10
2	DARREN A. & SARAH L. HEBEL	FEE	0.03	0.09	0.12
50	CENTURYLINK - TELEPHONE	RELEASE OF RIGHTS	------	------	------

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN.

R/W COURSE TABLE		
COURSE	BEARING	DISTANCE
100-101	N89°50'32"W	29.50'
101-102	N00°10'06"E	40.00'
102-103	N28°42'20"W	11.42'
103-104	N06°27'41"E	50.30'
104-105	N00°10'06"E	25.00'
105-106	S89°50'32"E	29.47'
106-107	S89°50'32"E	36.53'
107-108	S28°09'43"E	28.40'
108-109	S00°09'28"W	75.00'
109-110	S28°31'07"W	28.41'
110-100	N89°50'32"W	36.50'

R/W POINT COORDINATES		
POINT	NORTHING	EASTING
100	499,282.207	139,769.548
101	499,282.288	139,740.053
102	499,322.288	139,740.170
103	499,332.303	139,734.686
104	499,382.288	139,740.347
105	499,407.287	139,740.420
107	499,407.106	139,806.420
108	499,382.069	139,819.823
109	499,307.069	139,819.617
110	499,282.106	139,806.052

FOUND HARRISON MONUMENT
Y=499,044.941
X=138,450.649

T 22 N R 22 E 31 32

50 CENTURYLINK
VOL. 872, PG. 542 DOC *702729
- PARCEL *1

TOWN

SCALE, FEET 0 30 60

JOSEPH A. & ELIZABETH MAZNA
1

CENTURYLINK TELEPHONE EASEMENT
VOL. 888, PG. 297 DOC *709262

SW-SW SECTION 32

66'

COOPERSTOWN ROAD

EXISTING R/W

P.L.

N89°58'37"E 1318.40' COR. TO R/L

STA 7+63.27

33'

50 CENTURYLINK
UNDERGROUND FACILITIES

STRUCTURE B-05-428 REQUIRED

DEVILS RIVER

101 10+00.00 29.50'

102 10+40.00 29.50'

103 10+50.00 35.00'

104 11+00.00 29.48'

105 11+25.00 29.47'

SLOPE INTERCEPT

EXISTING R/W

N00°09'28"E 236.73'
SECTION LINE TO PT *100

100 10+00.00 0.00'

106 11+25.00 0.00'

WANEK ROAD

7+00 8+00 9+00 10+00 R/L=N00°09'28"E 11+00 12+00 13+00

SIXTEENTH LINE

P.L.

END RELOCATION ORDER
PROJECT 4503-03-00
STA. 11+25.00
Y = 499,407.207
X = 139,769.892
LOCATED 362.27 NORTH AND
1319.24' EAST OF THE SOUTHWEST
CORNER OF SECTION 32, T 22 N, R 22 E.

CENTURYLINK TELEPHONE EASEMENT
VOL. 872, PG. 542 DOC *702729

POE PI STA 13+79.01
Y=499,661.212
X=139,770.592

66'

33'

POB PI STA 6+99.98
Y=498,982.190
X=139,768.721

SECTION LINE

S89°58'36"W 2643.73' COR. TO COR.

P.L.

EXISTING R/W

DEVILS RIVER

10+00.00 36.50' 110

10+25.00 50.00' 109

11+00.00 50.00' 108

11+25.00 36.53' 107

EXISTING R/W

SLOPE INTERCEPT

OF

BEGIN RELOCATION ORDER
PROJECT 4503-03-00
STA. 10+00.00
Y = 499,282.207
X = 139,769.548
LOCATED 1318.90' EAST AND 237.27'
NORTH OF THE SOUTHWEST CORNER
OF SECTION 32, T 22 N, R 22 E.

FOUND ALUMINUM CAP
Y=499,046.011
X=141,094.222

T 22 N R 22 E 32

33'

2
DARREN A. & SARAH L. HEBEL

FOUND MAG NAIL WITH WASHER
Y=504,280.704
X=143,776.680

T 22 N R 22 E 29 28 32 33

FOUND MAG NAIL WITH WASHER
Y=499,038.192
X=143,747.157

T 22 N R 22 E 32 33

S89°49'47"E 2652.91' COR. TO COR.

SE-SW SECTION 32

FOUND MAG NAIL WITH WASHER
Y=501,651.542
X=143,759.998

T 22 N R 22 E 32 33

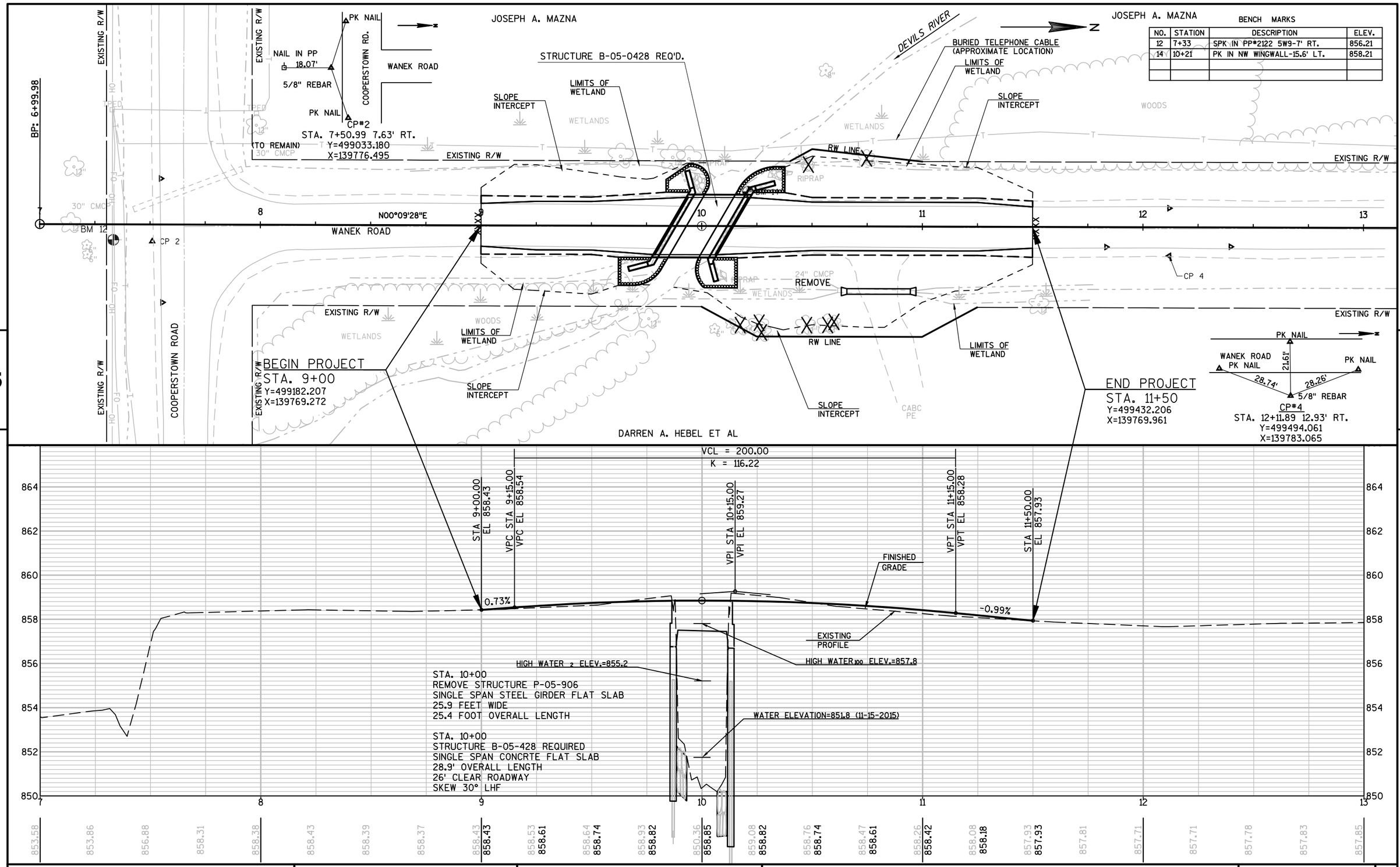
NEW DENMARK

S00°17'00"W 2613.38' COR. TO COR.

S00°21'59"W 2629.17' COR. TO COR.

REVISION DATE	DATE: 2/24/2017	SCALE. FEET 0 30 60	HWY: WANEK ROAD	STATE R/W PROJECT NUMBER 4503-03-00	PLAT SHEET 4.02	
	GRID FACTOR N/A		COUNTY: BROWN	CONSTRUCTION PROJECT NUMBER 4503-03-71	PS&E SHEET	E

FILE NAME : V:\TRANS-GB\450414 WANEK ROAD\ROADWAY\C3D\RW\45030300_RWPL.DWG PLOT DATE : FEBRUARY 2017 PLOT BY : AYRES ASSOCIATES PLOT NAME : PLOT SCALE : 1:60 WISDOT/CADDS



PROJECT NO: 4503-03-71	HWY: WANEK ROAD	COUNTY: BROWN	PLAN AND PROFILE: WANEK ROAD	SHEET	E

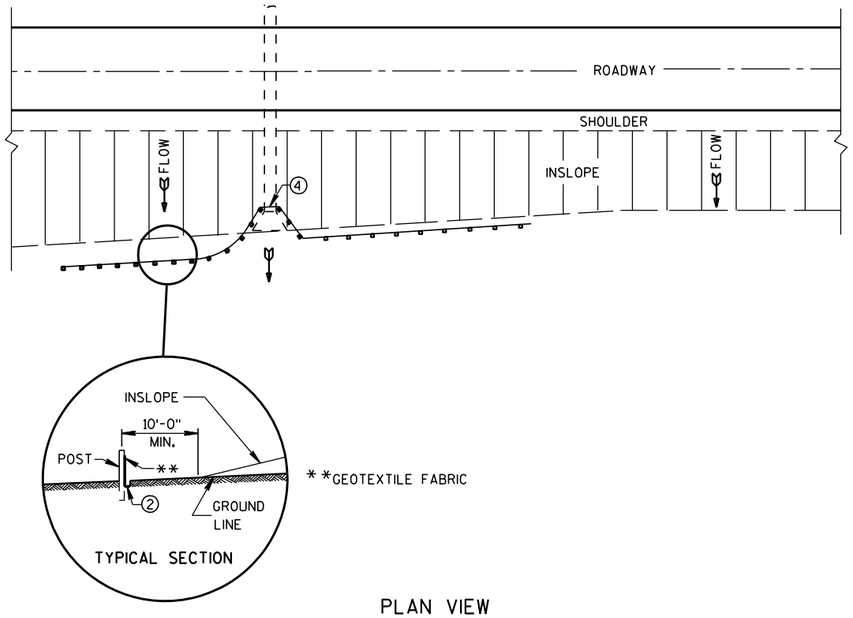
FILE NAME : V:\TRANS-GB\450414 WANEK ROAD\ROADWAY\C3D\SHEETSPLAN\050101 PP.DWG
LAYOUT NAME - 050101 PP

PLOT DATE : 5/12/2017 5:33 AM PLOT BY : AYRES ASSOC. PLOT NAME : PLOT SCALE : 1 IN:40 FT

Standard Detail Drawing List

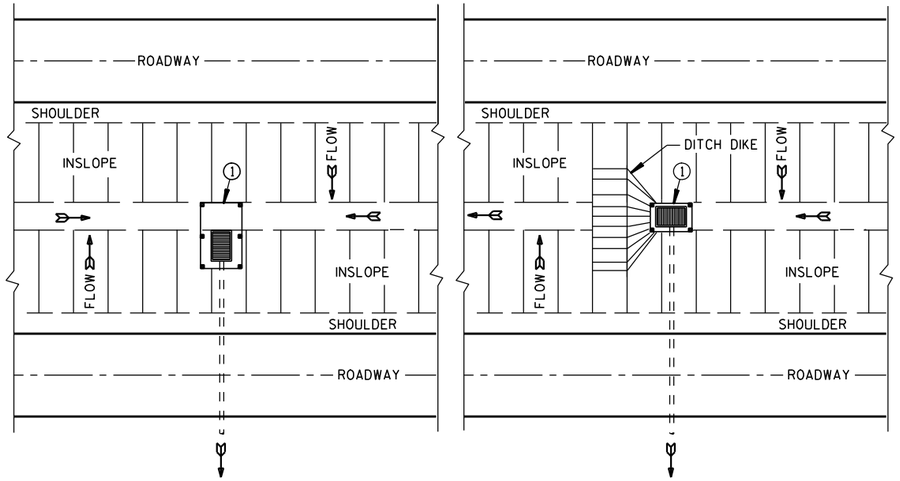
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

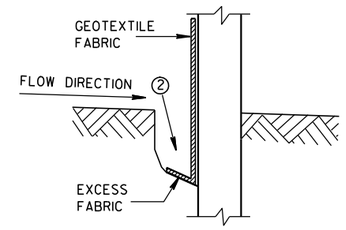
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

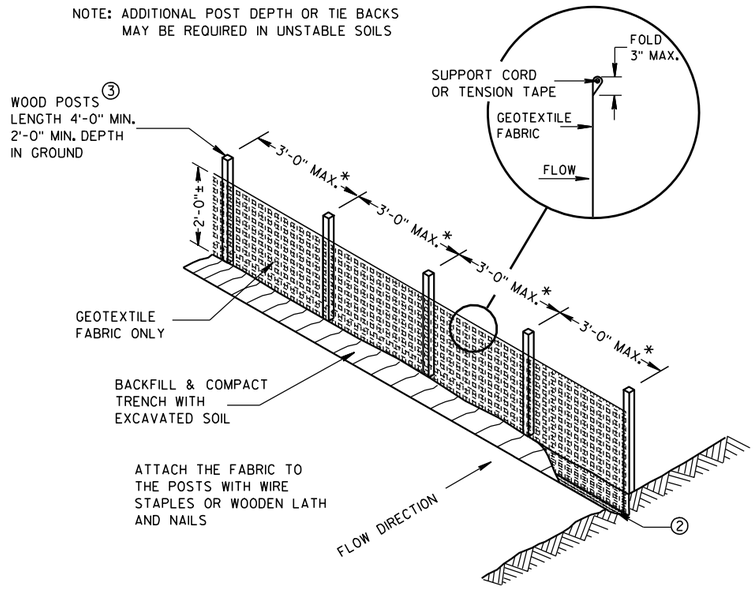
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

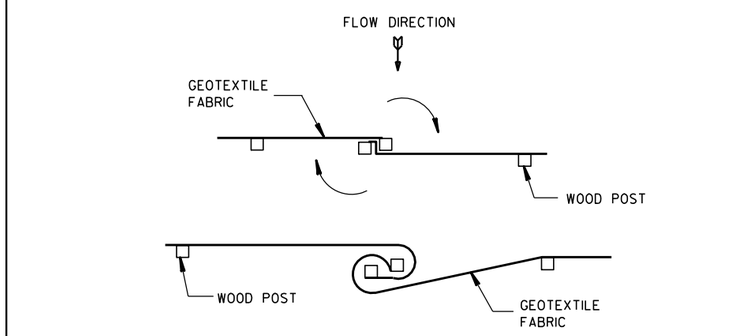
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



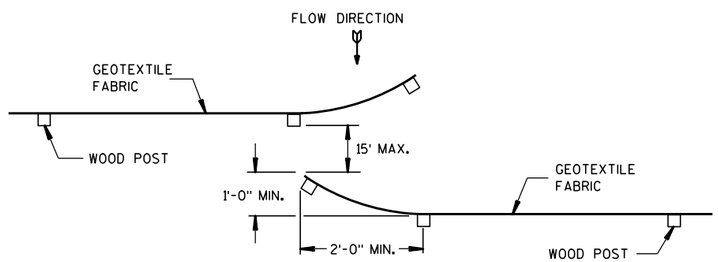
TRENCH DETAIL



SILT FENCE

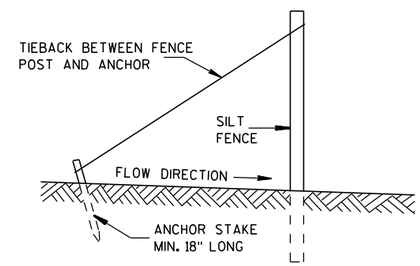


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

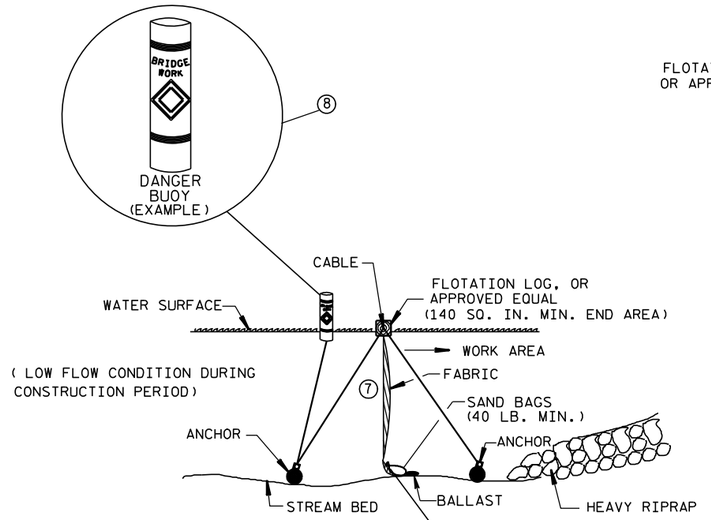
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

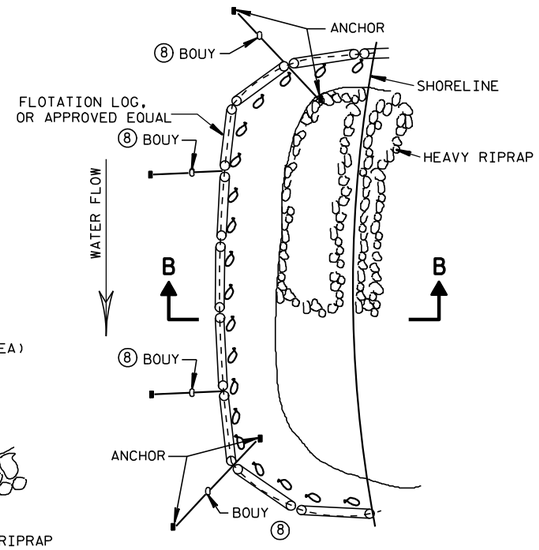
S.D.D. 8 E 9-6

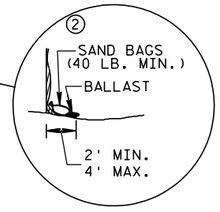
6

S.D.D. 8 E 9-6

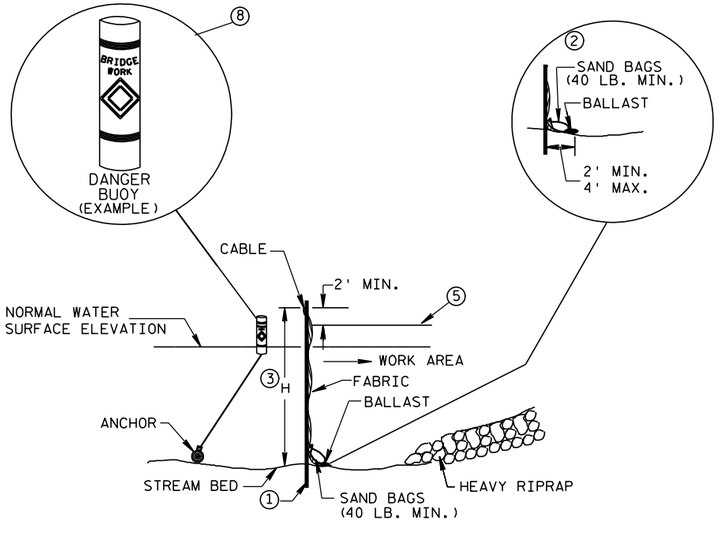


SECTION B-B

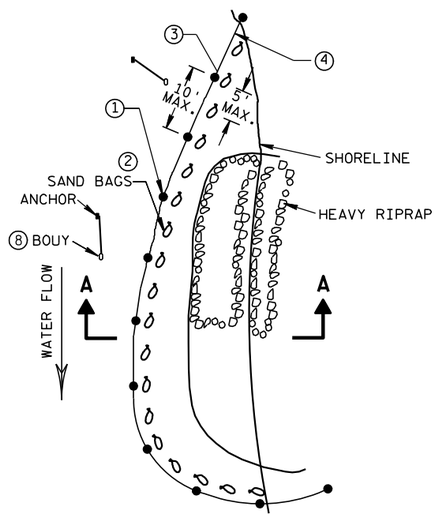




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

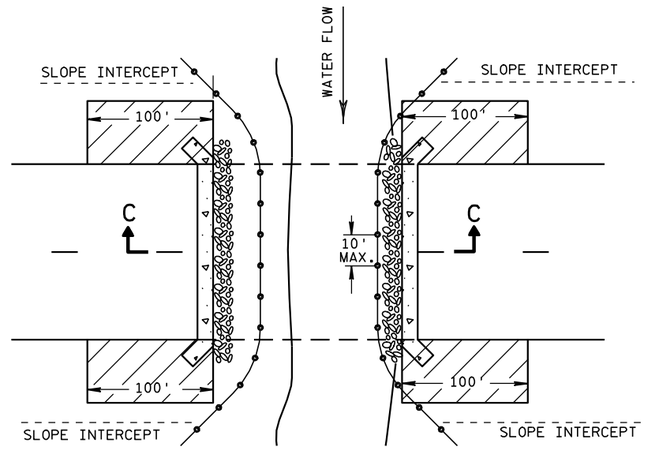
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

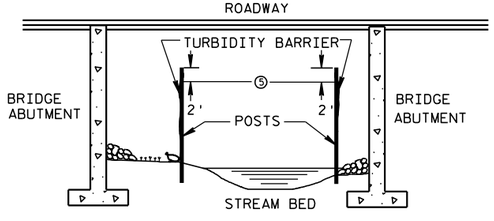
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

6

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

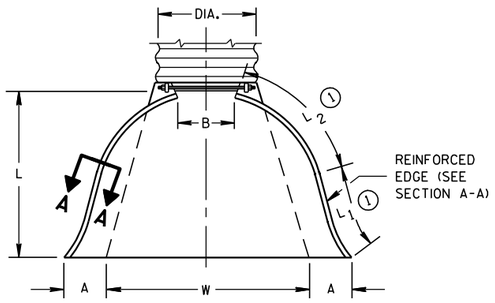
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

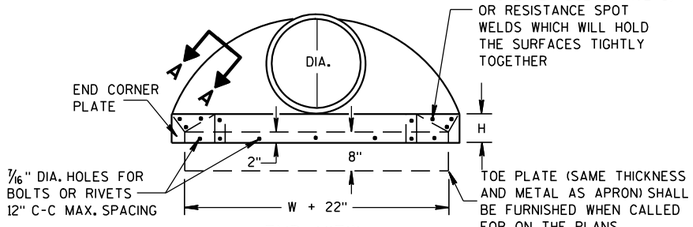
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

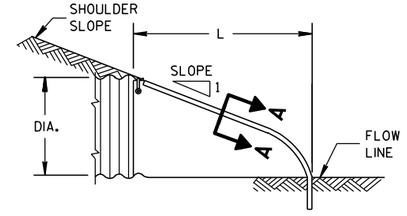
*MINIMUM
**MAXIMUM



PLAN VIEW

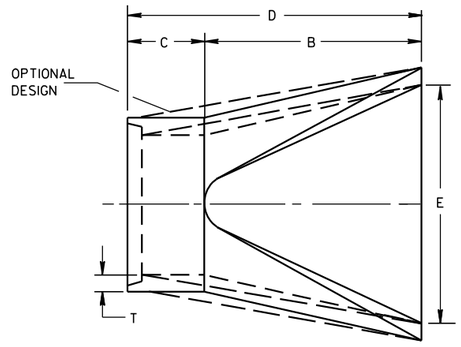


END VIEW

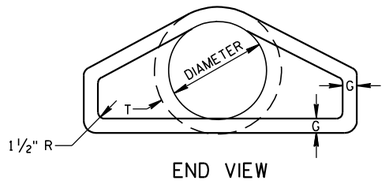


SIDE ELEVATION

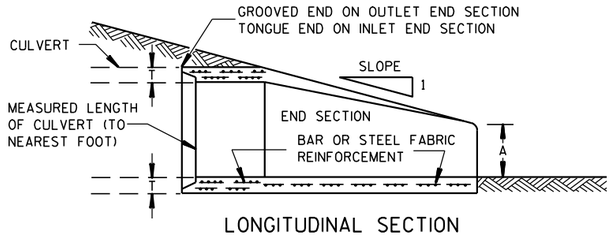
METAL ENDWALLS



PLAN

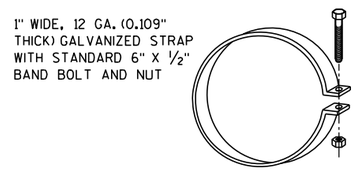


END VIEW



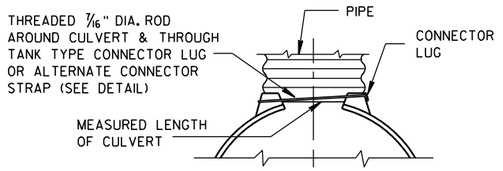
LONGITUDINAL SECTION

CONCRETE ENDWALLS

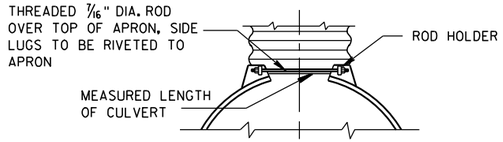


ALTERNATE FOR TYPE 1 CONNECTION

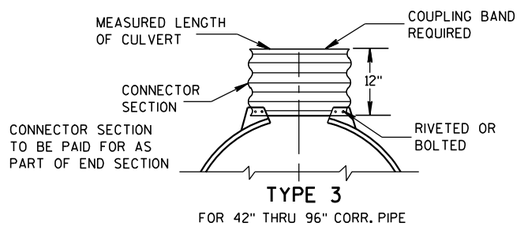
END SECTION CONNECTOR STRAP



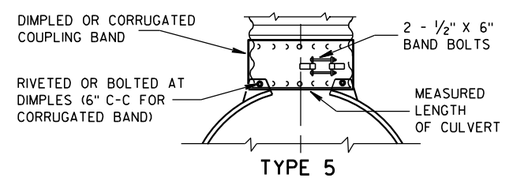
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

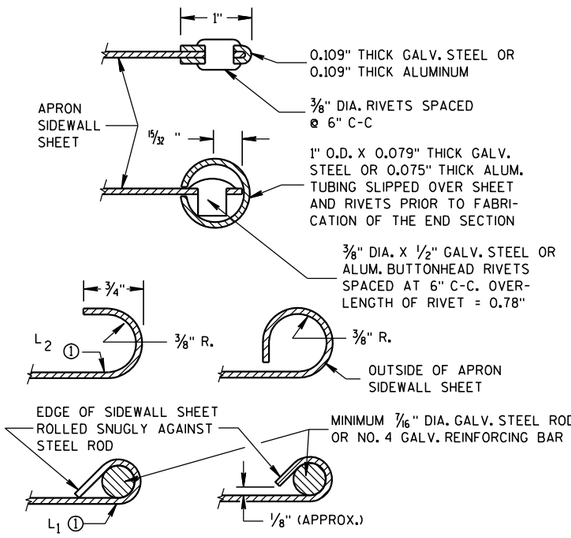
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

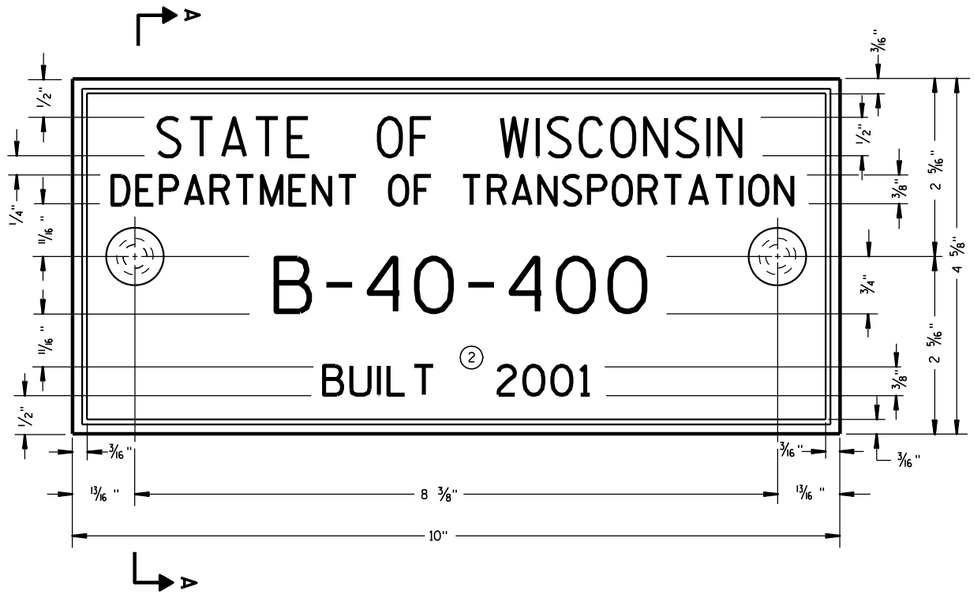
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

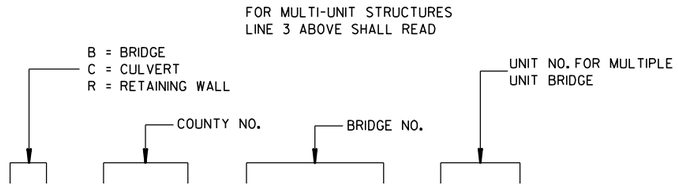
6

S.D.D. 8 F 1-11



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

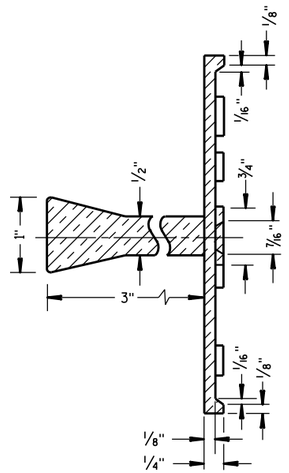
GENERAL NOTES

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.

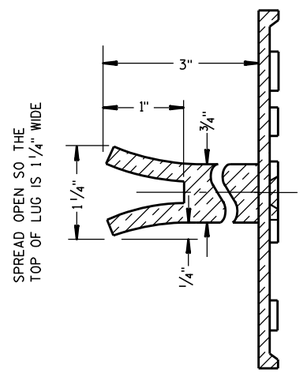
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

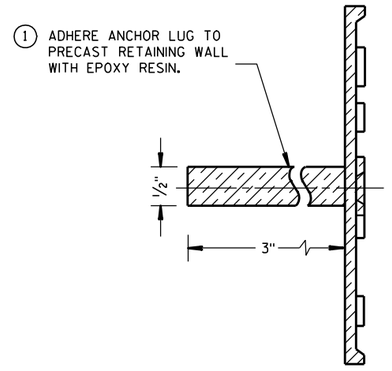
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

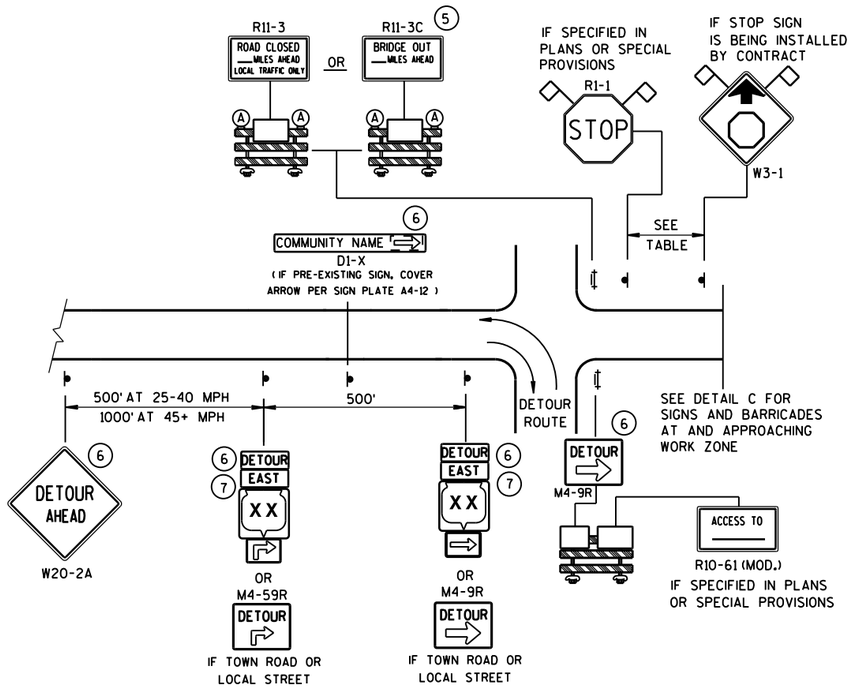
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

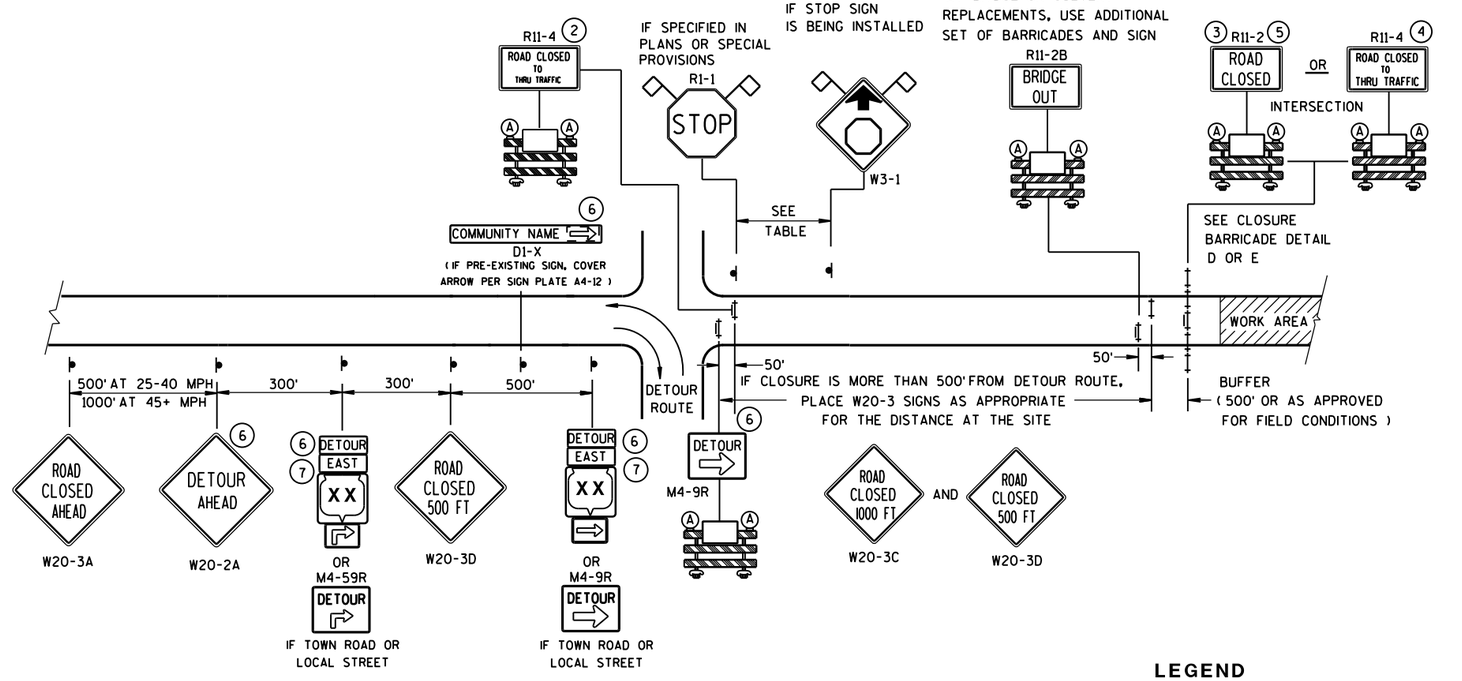
6

S.D.D. 12 A 3-10



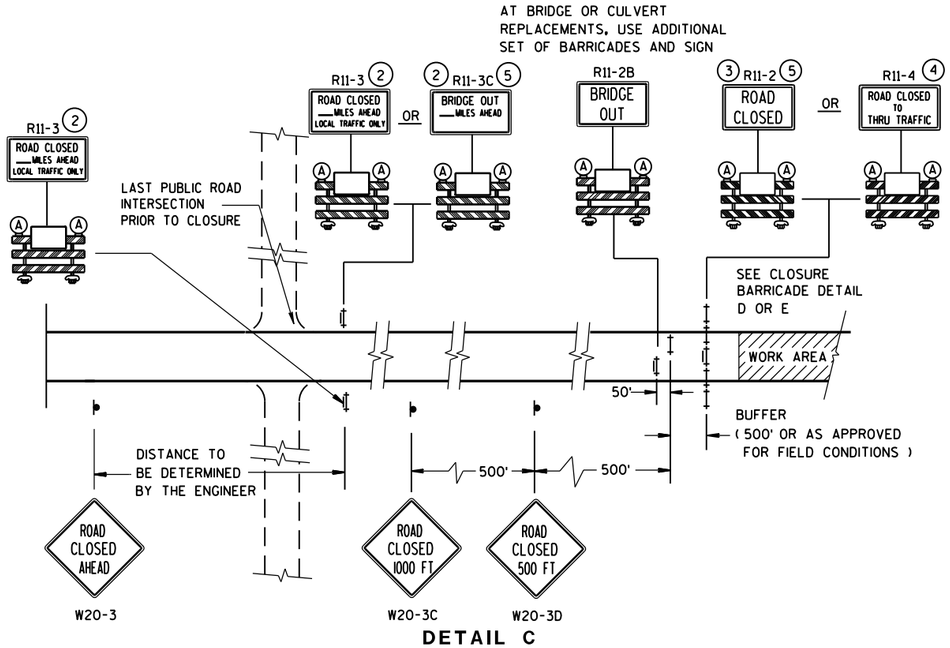
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

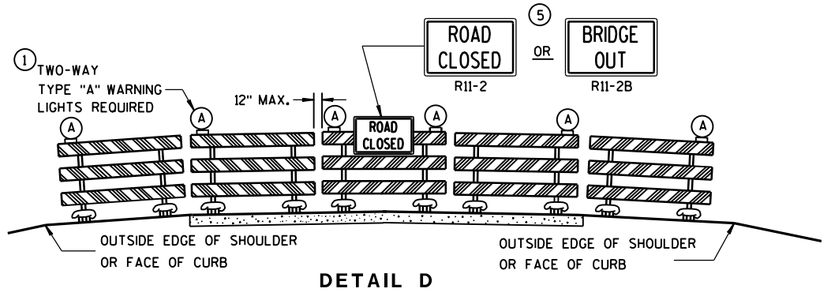
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

S.D.D. 15 C 2-6a

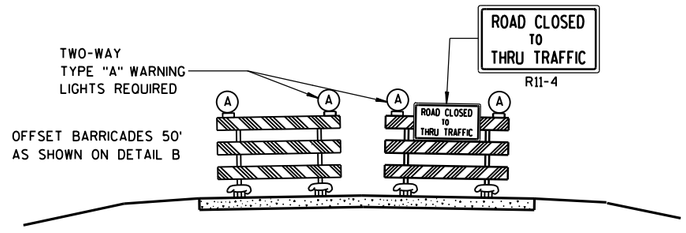
S.D.D. 15 C 2-6a



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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE 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, 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". (30" X 15" 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.)
- M05-1 AND M06-1 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 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 LANE 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 MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI

FHWA

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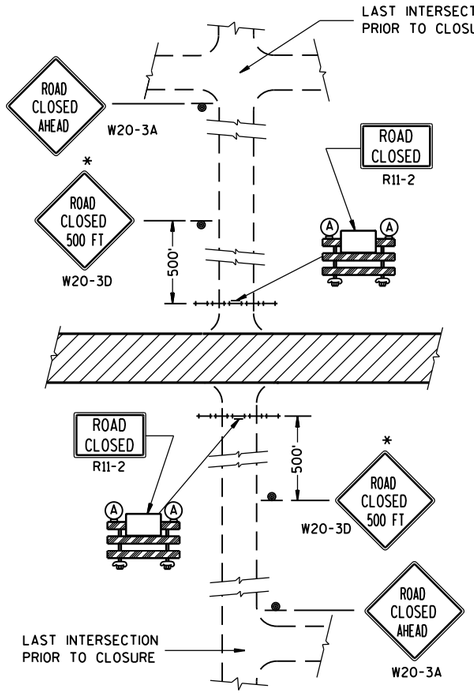
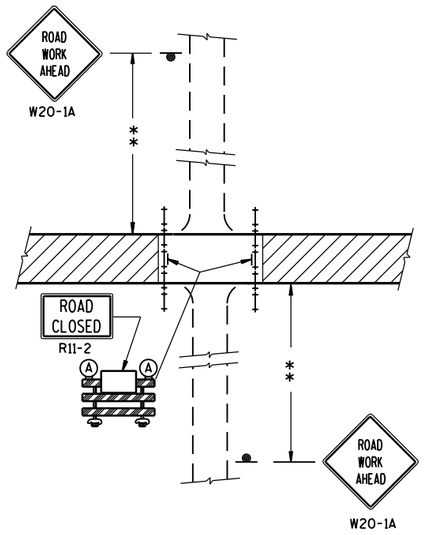
S.D.D. 15 C 2-6b



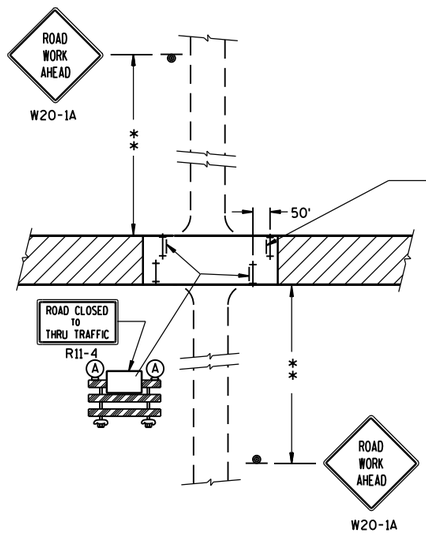
DETAIL 1

(NO ACCESS TO PROJECT)



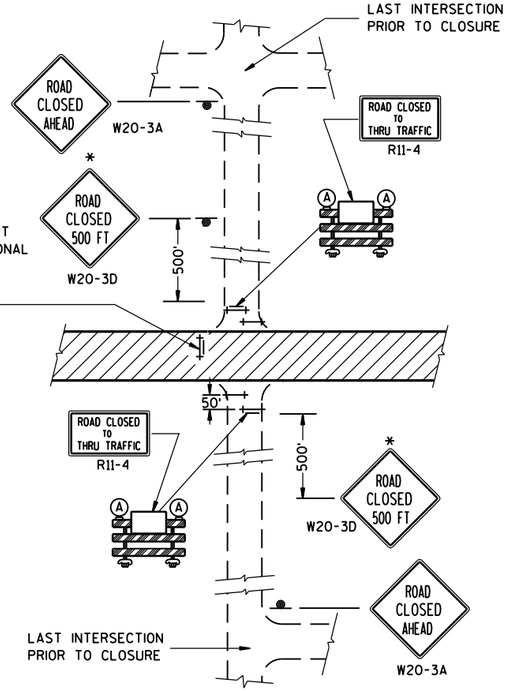
DETAIL 2

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



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 15 C 3-3

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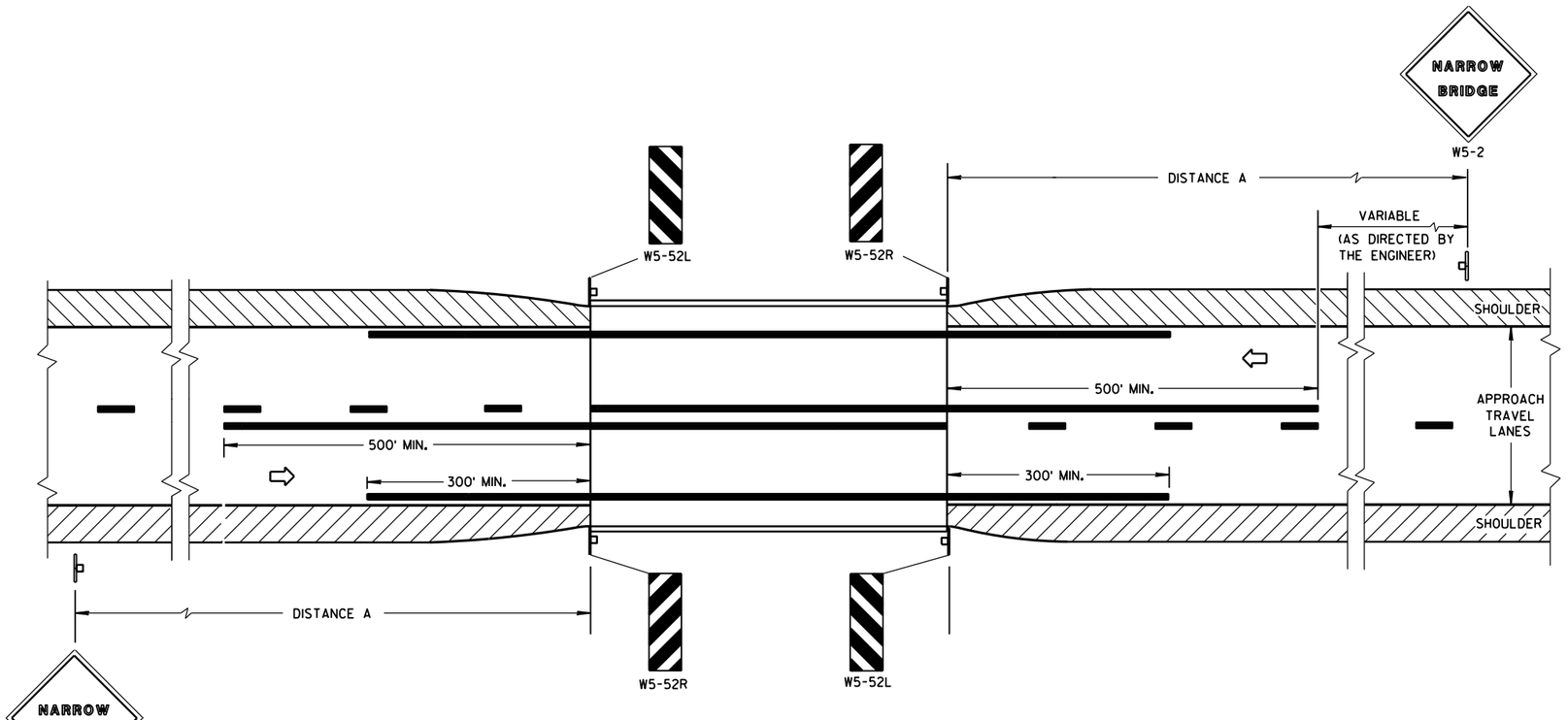
S.D.D. 15 C 3-3

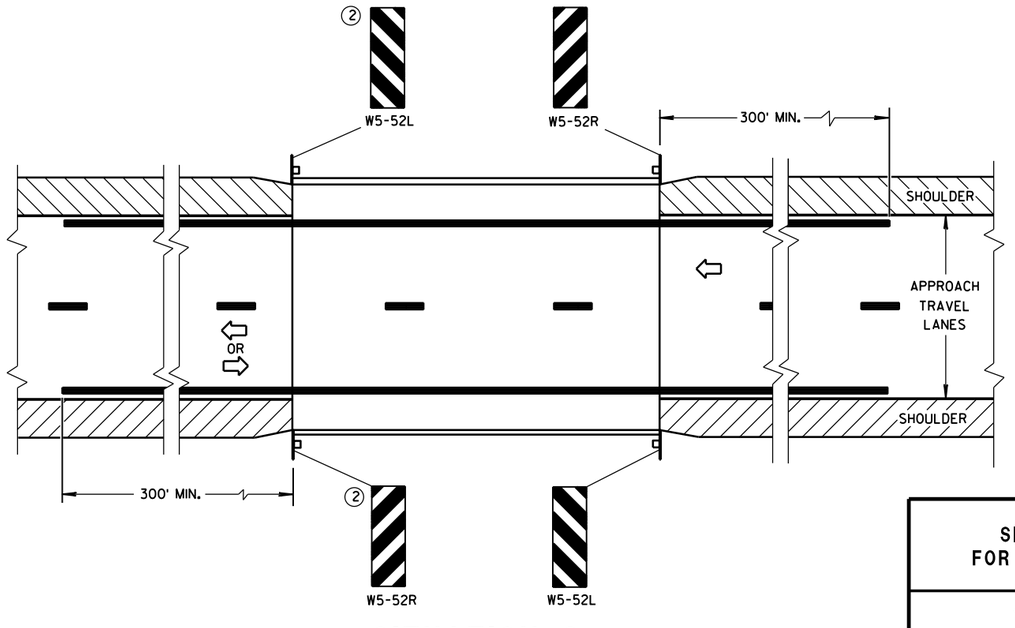


SITUATION 1

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'



SITUATION 2

WARRANTING CRITERIA:

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

GENERAL NOTES

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

① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

② OMIT ON ONE-WAY TRAVELLED WAYS.

③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

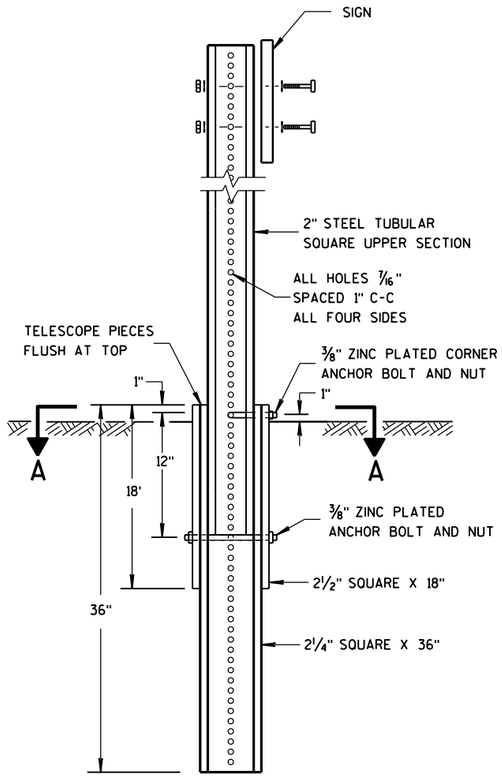
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

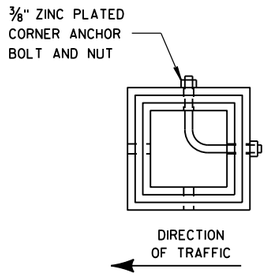
APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

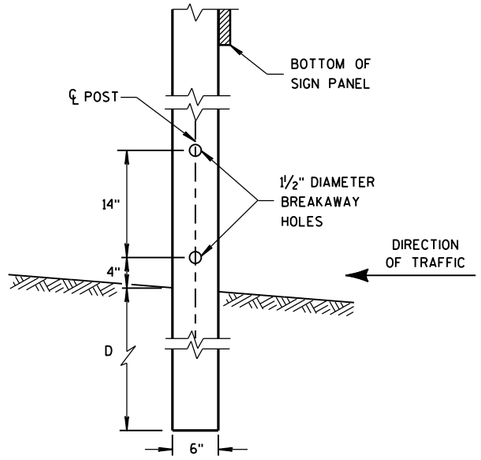
S.D.D. 15 C 6-8



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



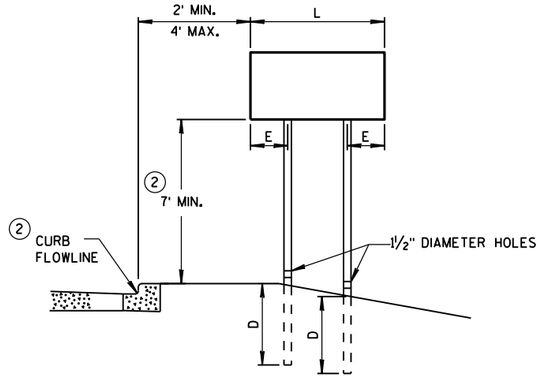
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

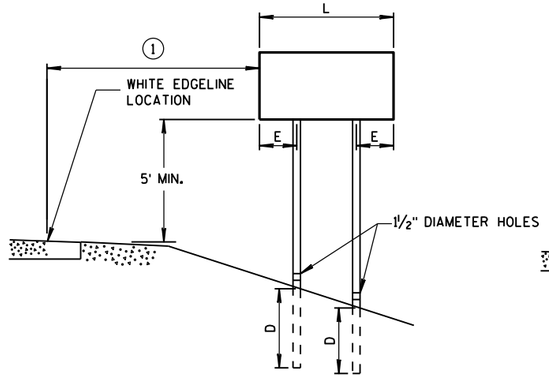
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

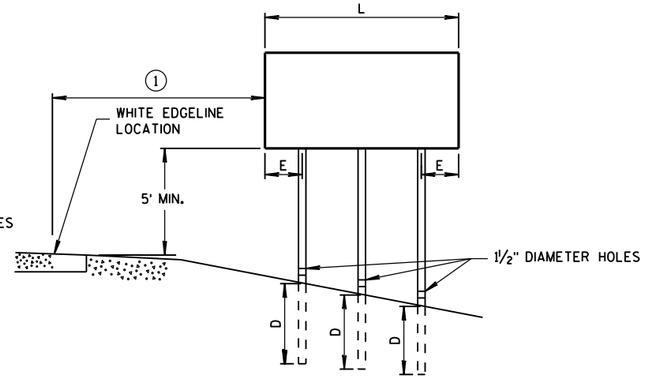
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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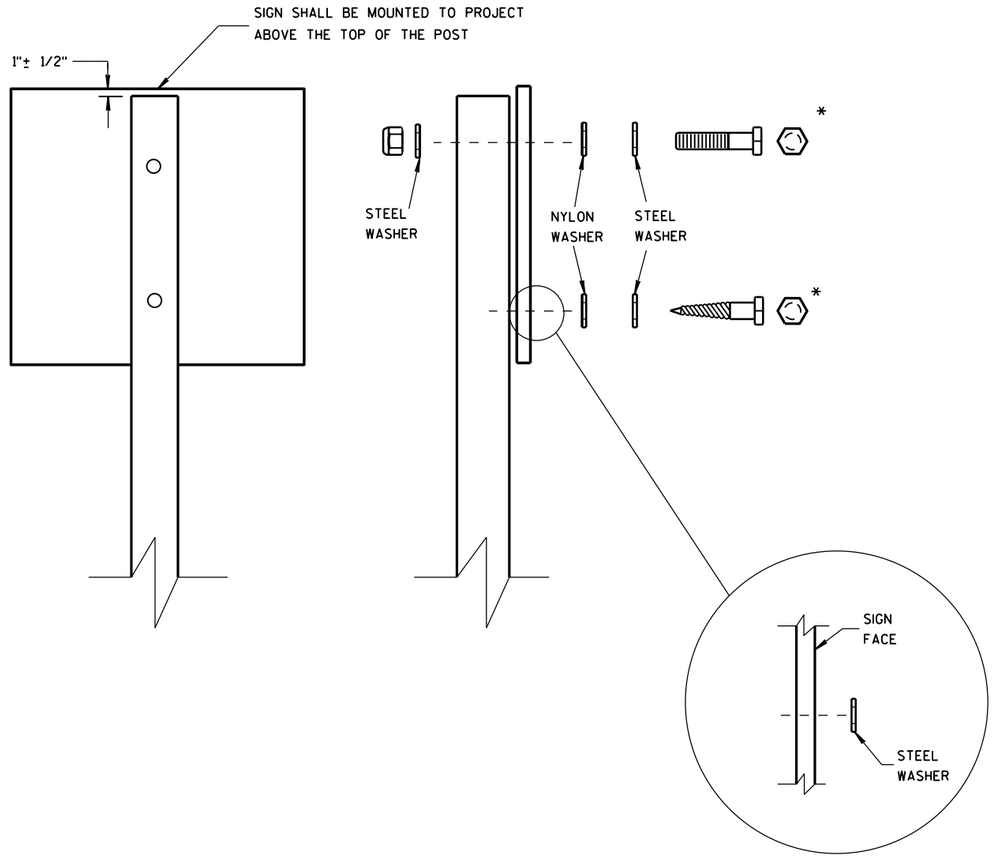
S.D.D. 15 D 38-1a



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

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

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

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

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

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

LAG SCREWS - 3/8" X 3"

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

6

6

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

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

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

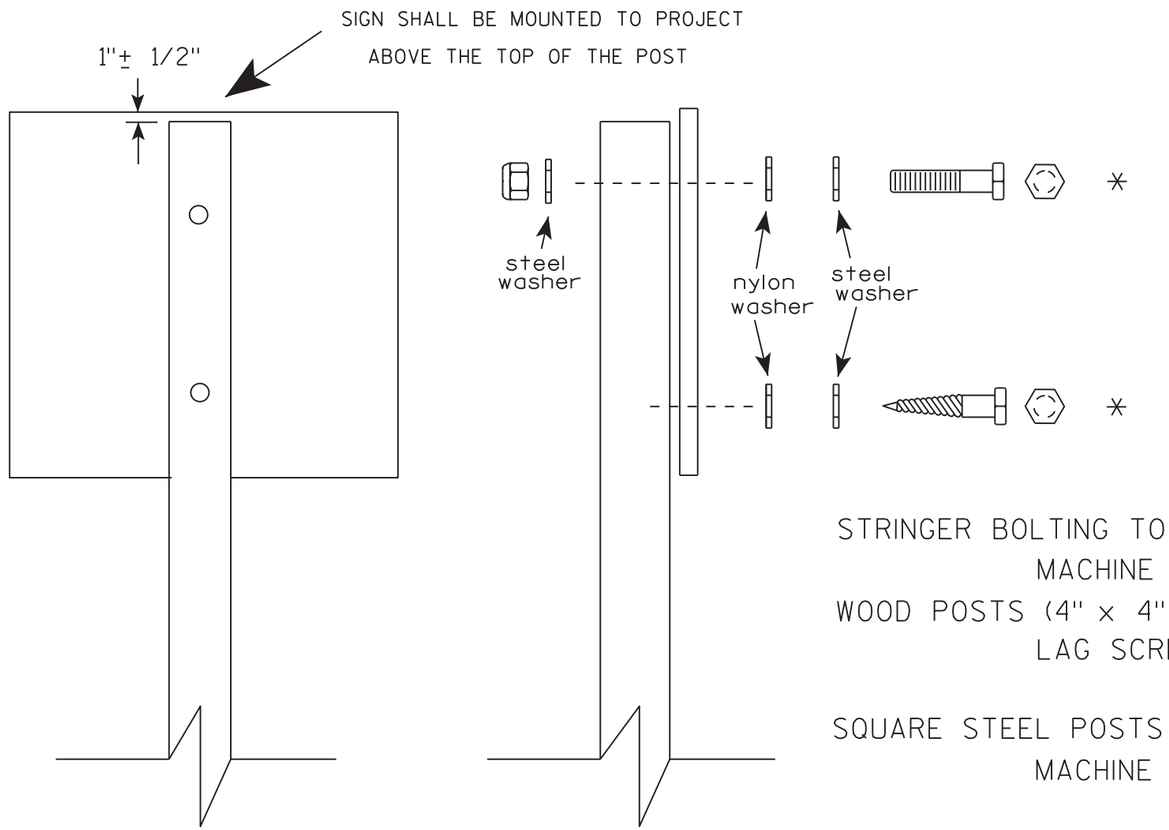
APPROVED

Feb. 2015 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

SIGN



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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

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

SQUARE STEEL POSTS (2" x 2")

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

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

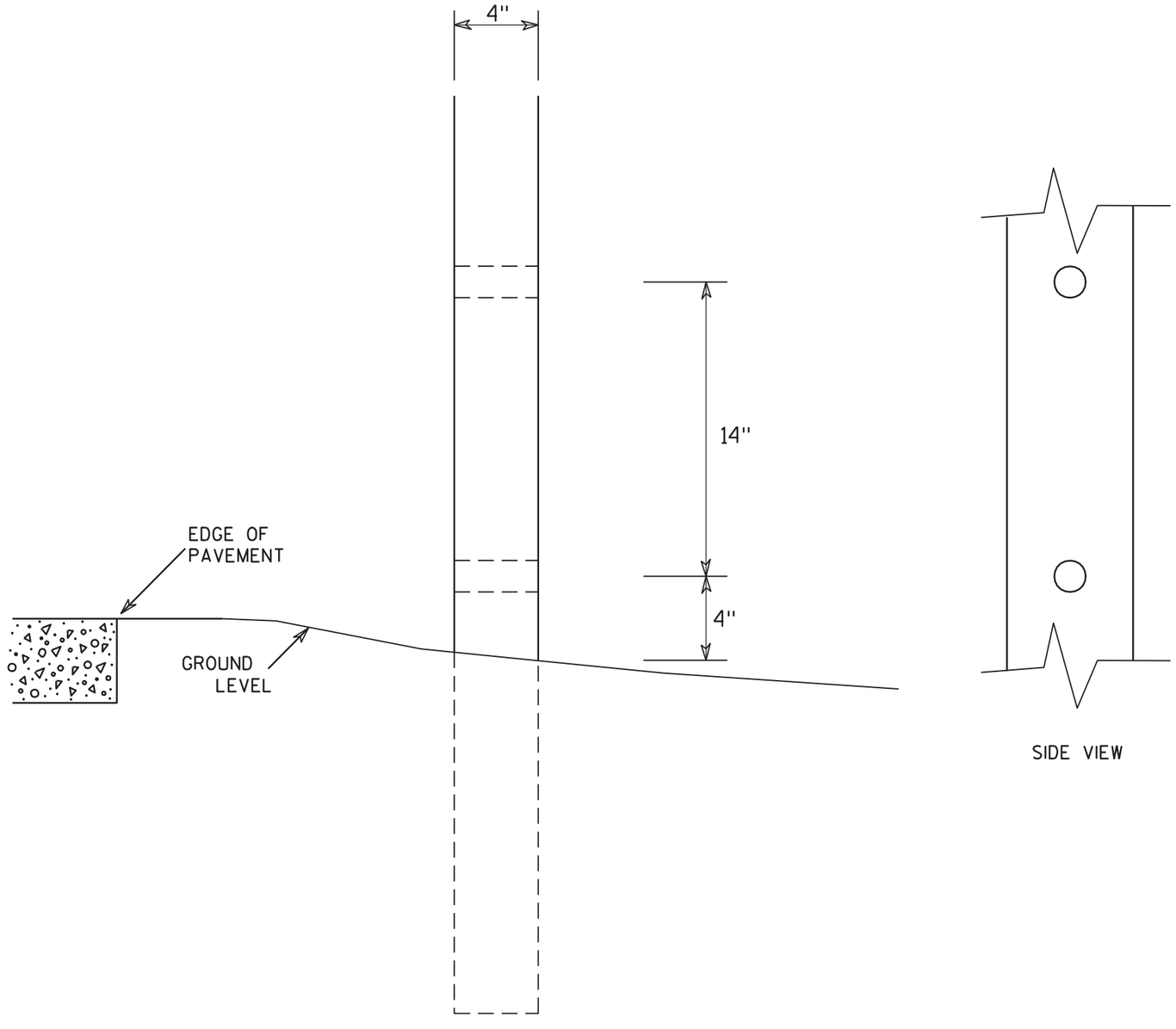
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: E

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



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.

7

7

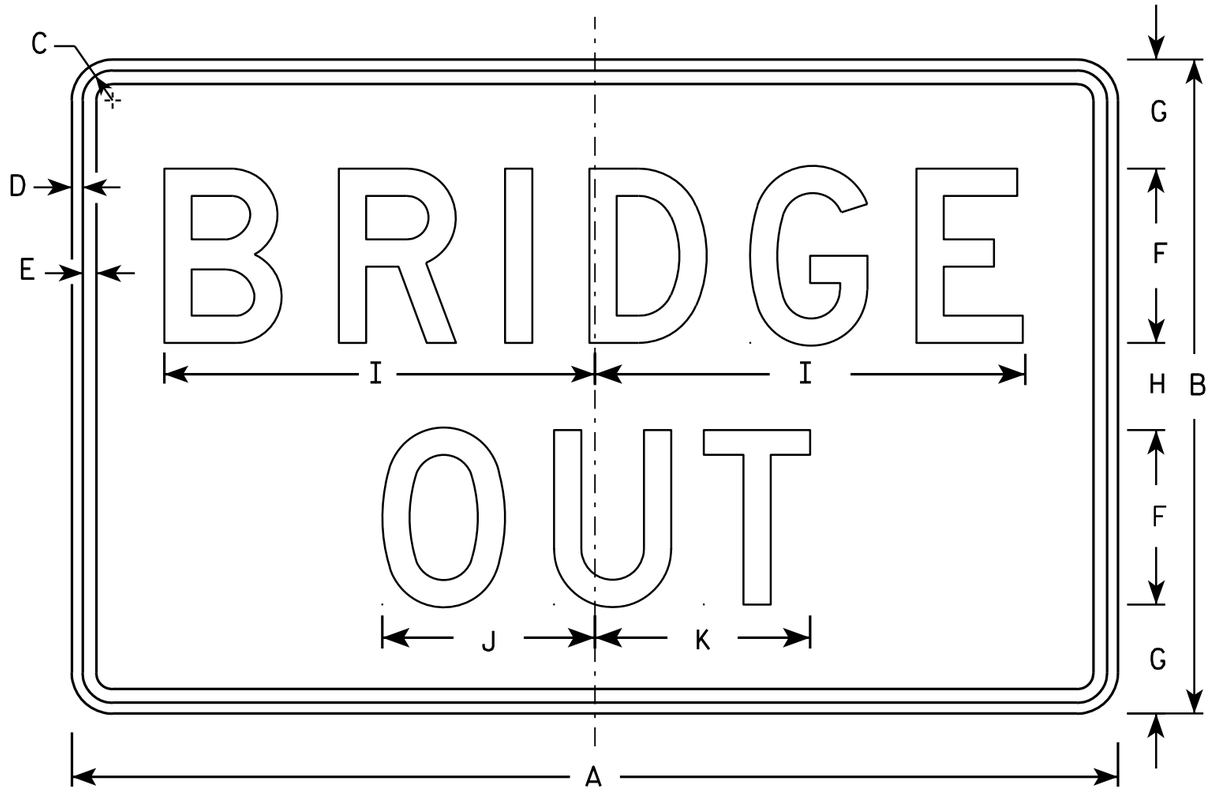
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

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

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



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

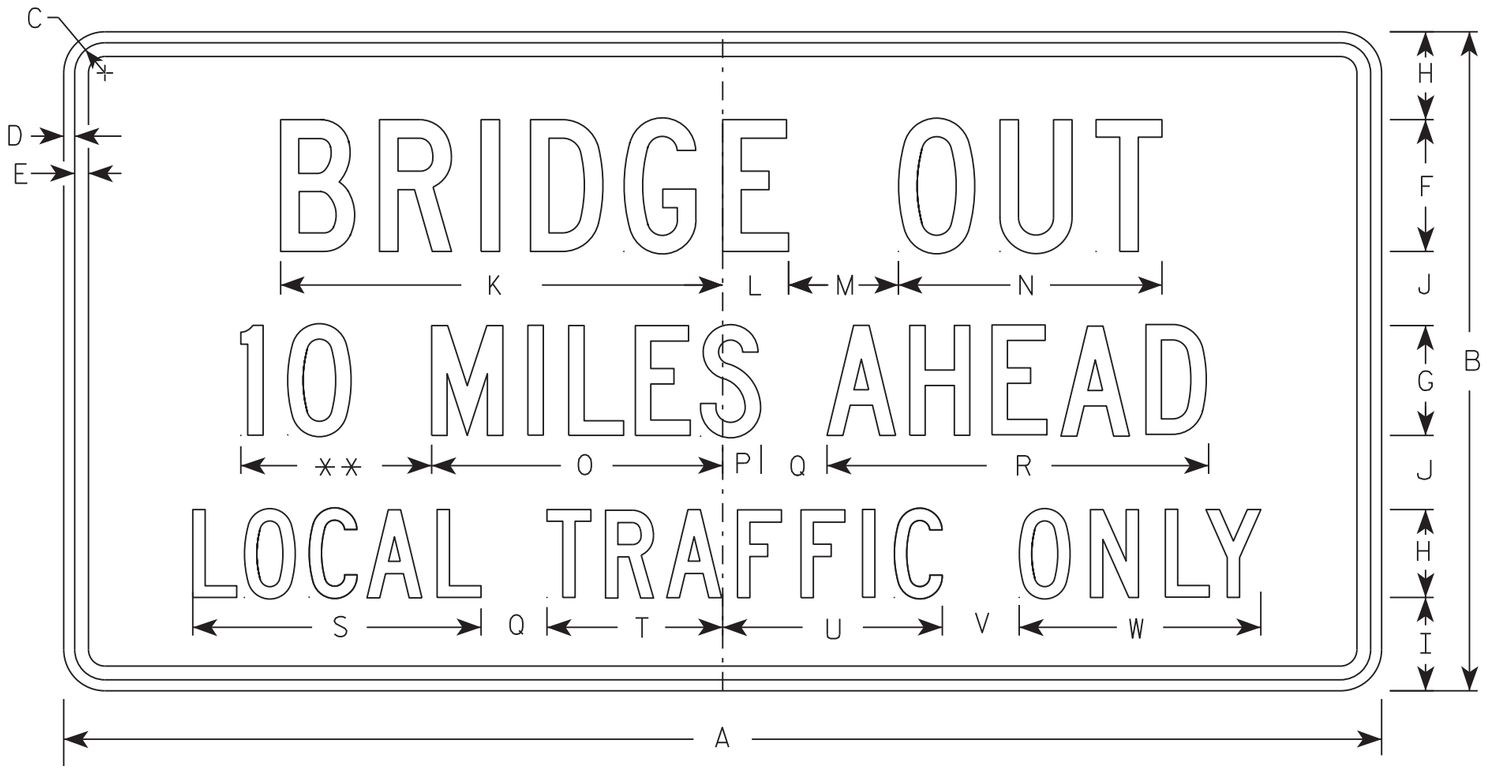
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

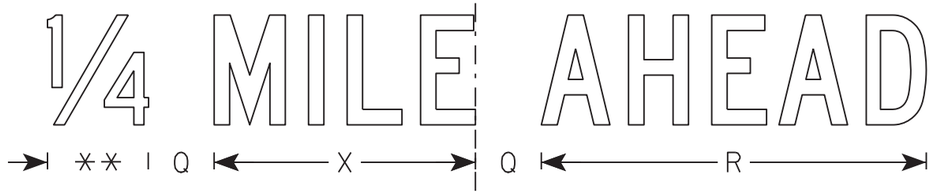
PROJECT NO:

SHEET NO: 27 E



R11-3B

** See Note 5



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

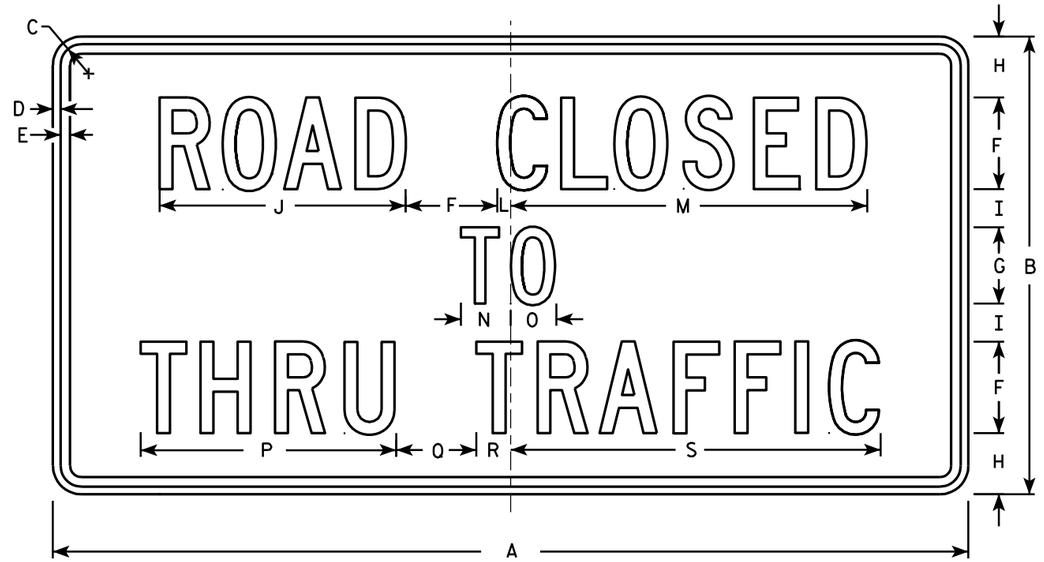
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

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



R11-4

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 - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

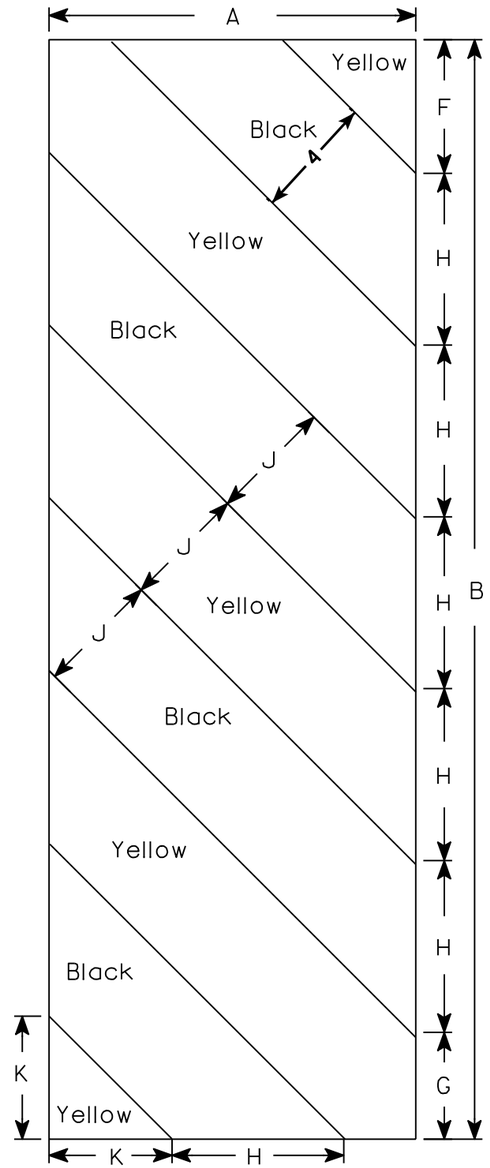
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

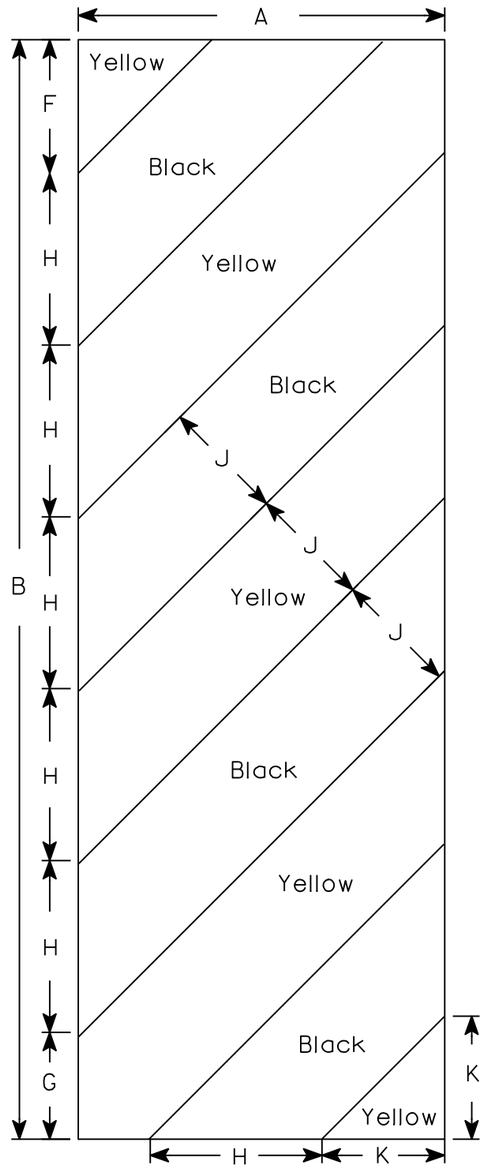
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

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

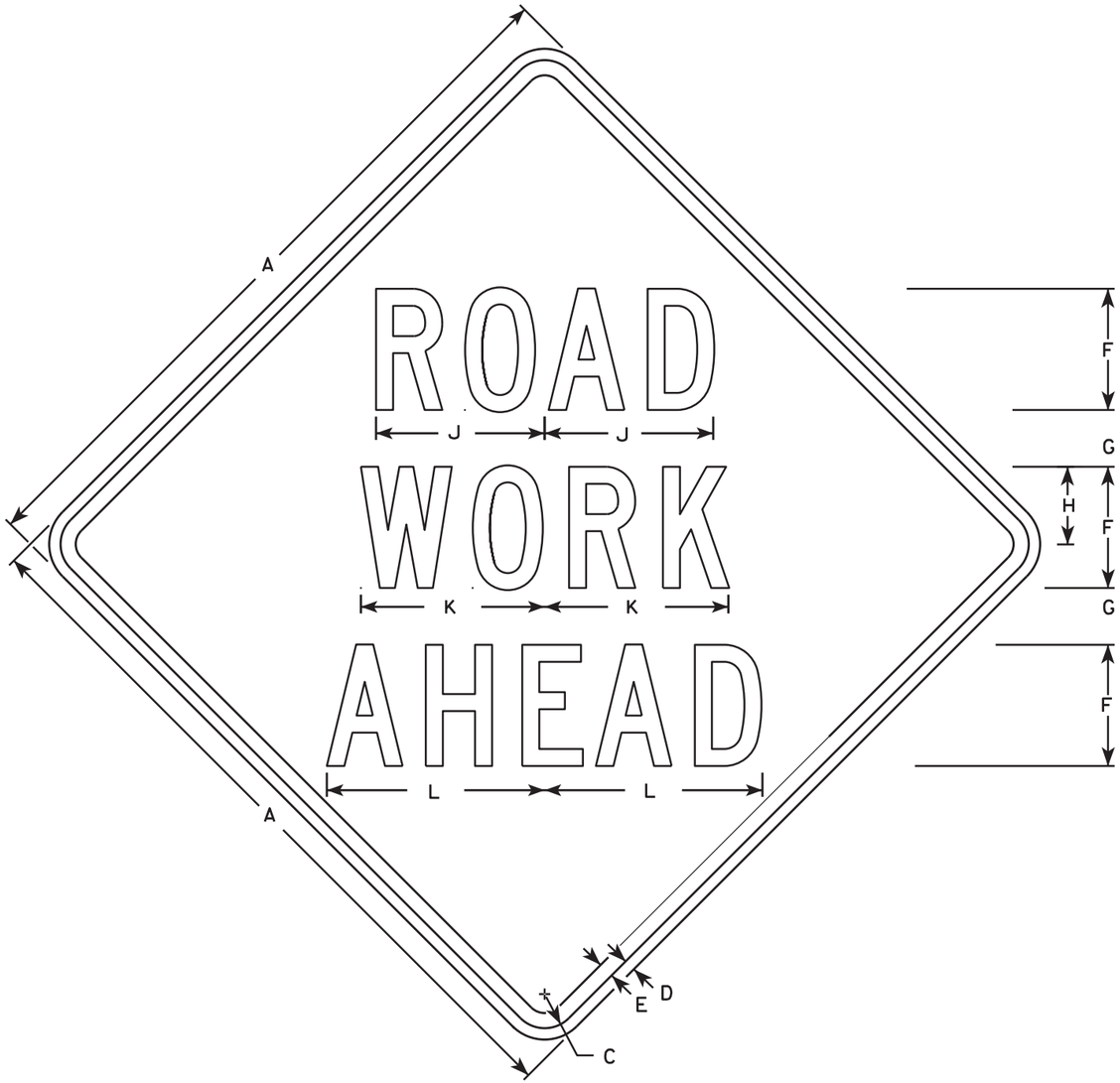
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

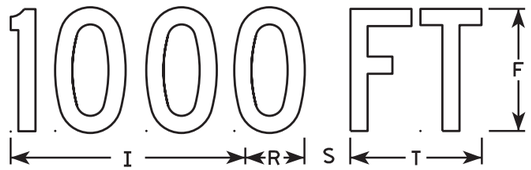
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 30	E

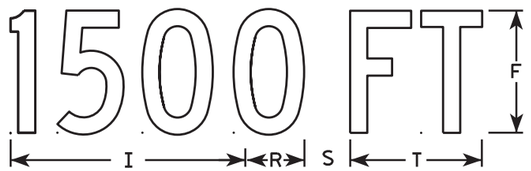


W20-1A

W20-1D



W20-1C



W20-1B

W20-1G

W20-1F

W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

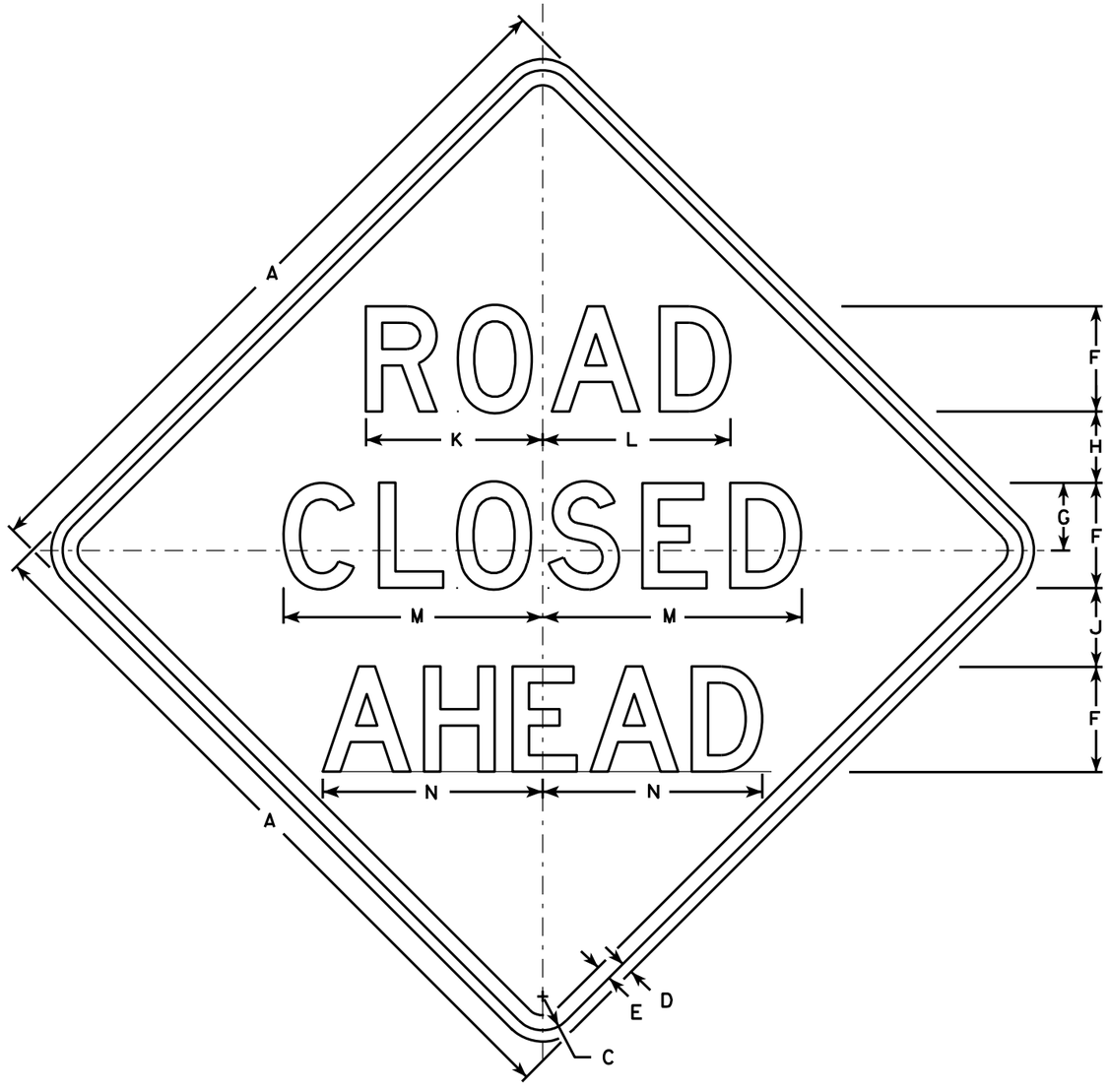
APPROVED

State Traffic Engineer

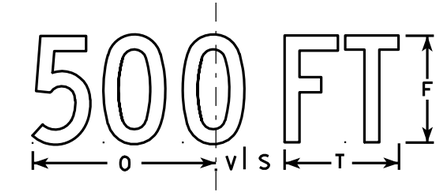
DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

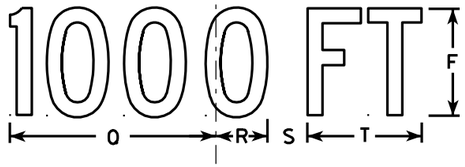
SHEET NO: 31 E



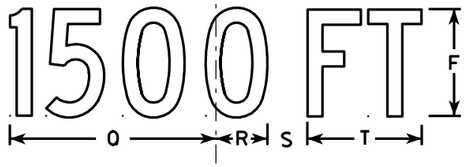
W20-3A



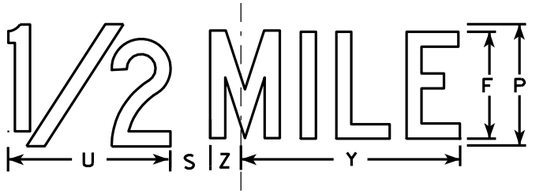
W20-3D



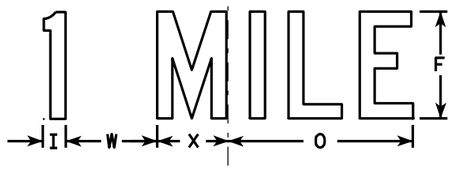
W20-3C



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: 32 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

WISDOT/CADDS SHEET 42

7

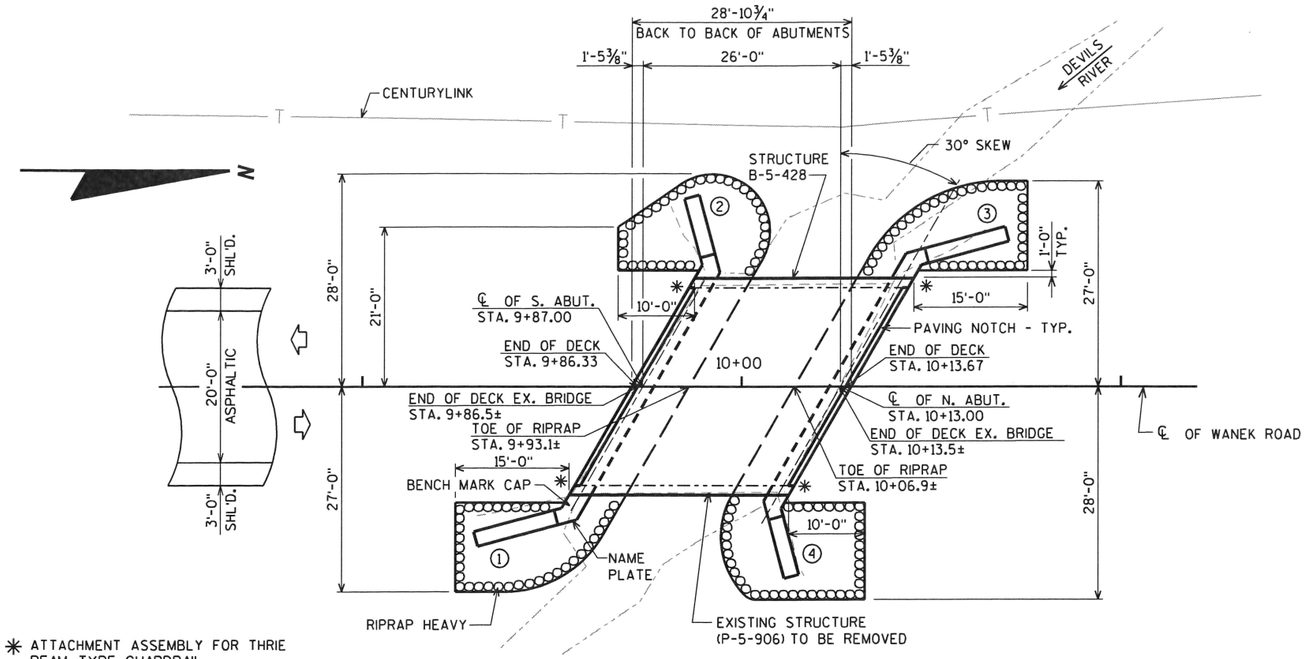
7

$PRFNAME$
U:\45-0414.00 - Brown Co., Wanek Road\BRIDGE\450414 gp.dgn

DATE:
DRAWN BY:
CHECKED BY:

STATE PROJECT NUMBER

4503-03-71



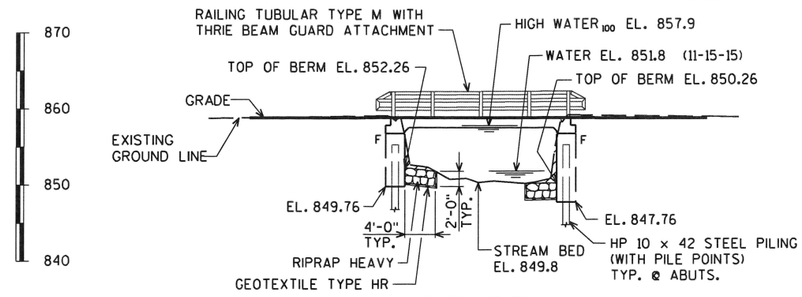
✳ ATTACHMENT ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.

◯ DENOTES WING NUMBER.

PLAN

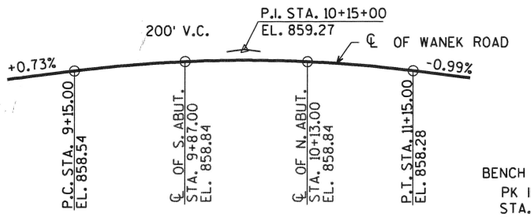
SINGLE SPAN CONCRETE FLAT SLAB

COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-5-428".



ELEVATION

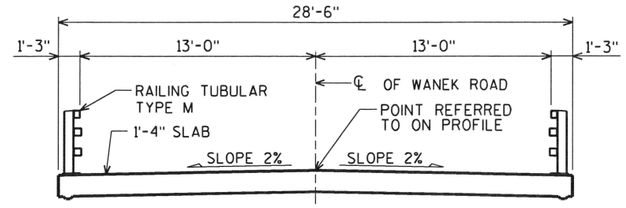
(NORMAL TO ℄ OF RIVER)



PROFILE GRADE LINE

(WANEK ROAD)

BENCH MARK:
PK IN NW WINGWALL
STA. 10+21, 15.6' LT.
EL. 858.21



TYPICAL SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.13
OPERATING RATING FACTOR: 1.47
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE ____ f'c = 4,000 p.s.i.
ALL OTHER ____ f'c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ____ f_y = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100} = 630 c.f.s. { BRIDGE = 622 c.f.s. / OVERFLOW = 8 c.f.s.
VEL. = 6.5 f.p.s.
HW_{100} = EL. 857.9
WATERWAY AREA = 95 sq. ft.
DRAINAGE AREA = 5.8 sq. mi.
SCOUR CRITICAL CODE = 8
DATUM = NAVD 88 (2012)

2 YEAR FREQUENCY

Q_2 = 160 c.f.s.
VEL. = 3.3 f.p.s.
HW_2 = EL. 855.2

ROAD OVERTOPPING FREQUENCY

Q_{100} = 626 c.f.s.
WATER SURFACE EL. 857.7
FREQUENCY = 100 YEARS

FOUNDATION DATA:

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 110 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 50'-0".

NORTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 110 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 55'-0".

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

TRAFFIC DATA:

A.A.D.T. = 70 (2018)
A.A.D.T. = 80 (2038)
R.D.S. = 55 M.P.H.

LIST OF DRAWINGS

WISCONSIN
CHRISTOPHER D. McMAHON
E-29454
EAU CLAIRE, WI
PROFESSIONAL ENGINEER
12/7/17

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 12/08/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-5-428

WANEK ROAD OVER THE DEVILS RIVER

COUNTY: BROWN
TOWN/~~CITY/VILLAGE~~: NEW DENMARK

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	AEB	CJM/CLS	CBM

GENERAL PLAN

SHEET 33 13

8

8

12/7/2017 — PENTABLE:BBegu_shd_util.tbl — I.D. — DATE:

STATE PROJECT NUMBER

4503-03-71

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-5-428	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	190	275	-----	465
502.0100	CONCRETE MASONRY BRIDGES	CY	38	48	44	130
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	100	100
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,510	2,670	-----	5,180
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,520	1,600	9.060	12,180
513.4061	RAILING TUBULAR TYPE M B-5-428	LF	-----	-----	59	59
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	11	-----	22
550.0500	PILE POINTS	EACH	7	7	-----	14
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	345	375	-----	720
606.0300	RIPRAP HEAVY	CY	45	50	-----	95
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	85	85	-----	170
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	55	55	-----	110
645.0120	GEOTEXTILE TYPE HR	SY	100	105	-----	205
◐ SPV.0105.02	SUPERSTRUCTURE ¾" V-DRIP EDGE B-5-428	LS	-----	-----	-----	1
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	½" & ¾"

◐ SEE SPECIAL PROVISIONS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

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

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

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

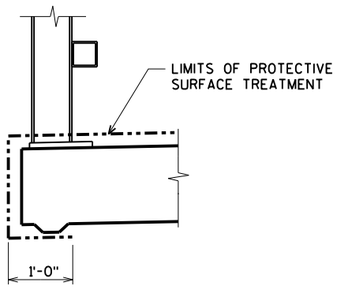
THE EXISTING STRUCTURE, P-5-906, TO BE REMOVED, IS A SINGLE-SPAN STEEL DECK GIRDER BRIDGE, 27 FT. LONG WITH A 24 FT. CLEAR ROADWAY WIDTH.

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

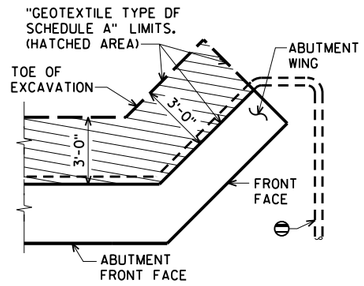
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

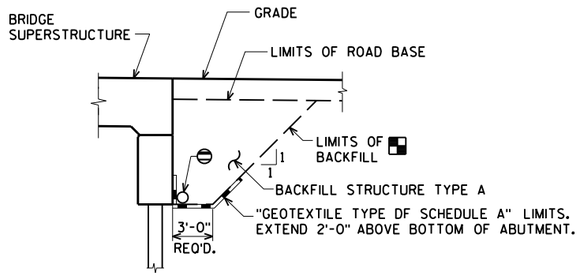
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.



PROTECTIVE SURFACE TREATMENT DETAIL



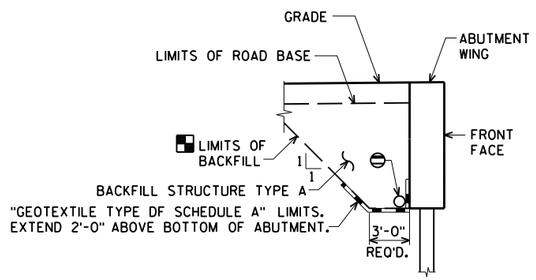
BACKFILL STRUCTURE LIMITS ABUTMENT PLAN WITH WING



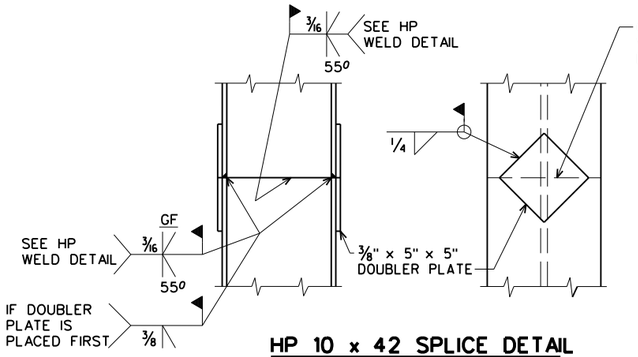
BACKFILL STRUCTURE LIMITS THRU ABUTMENT

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

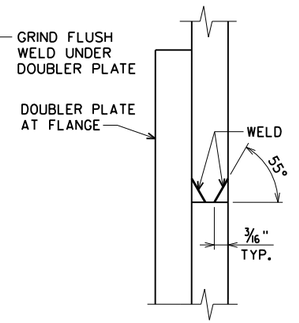
⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.



BACKFILL STRUCTURE LIMITS THRU WING



HP 10 x 42 SPLICE DETAIL



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

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QUANTITIES AND NOTES

SHEET 2 OF 13
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ORIGINAL PLANS PREPARED BY
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12/7/2017

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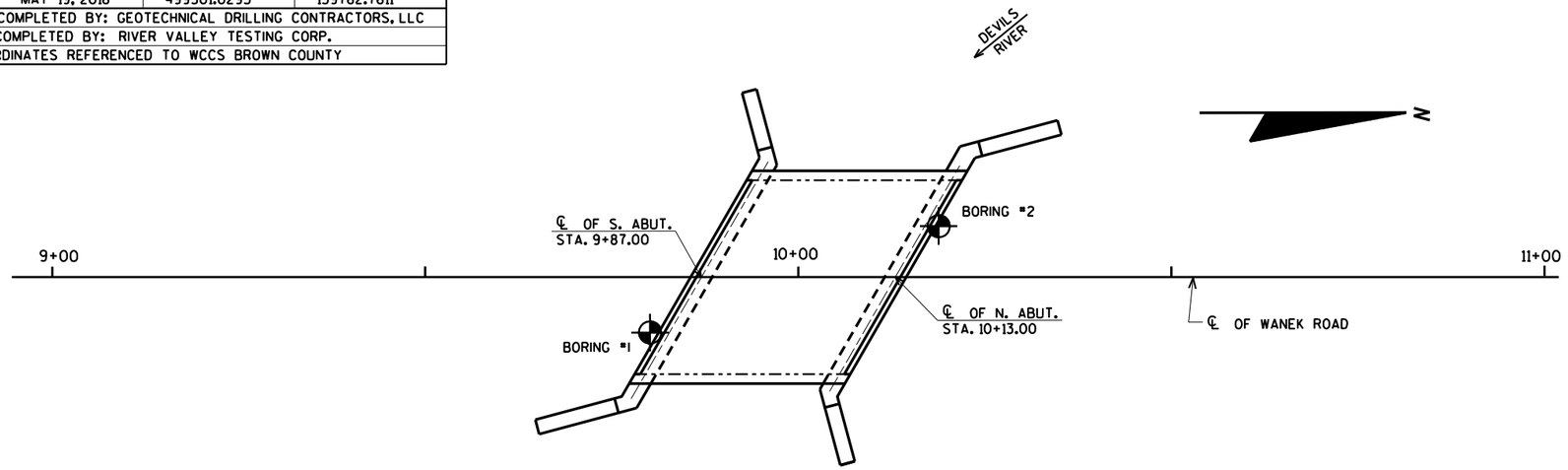
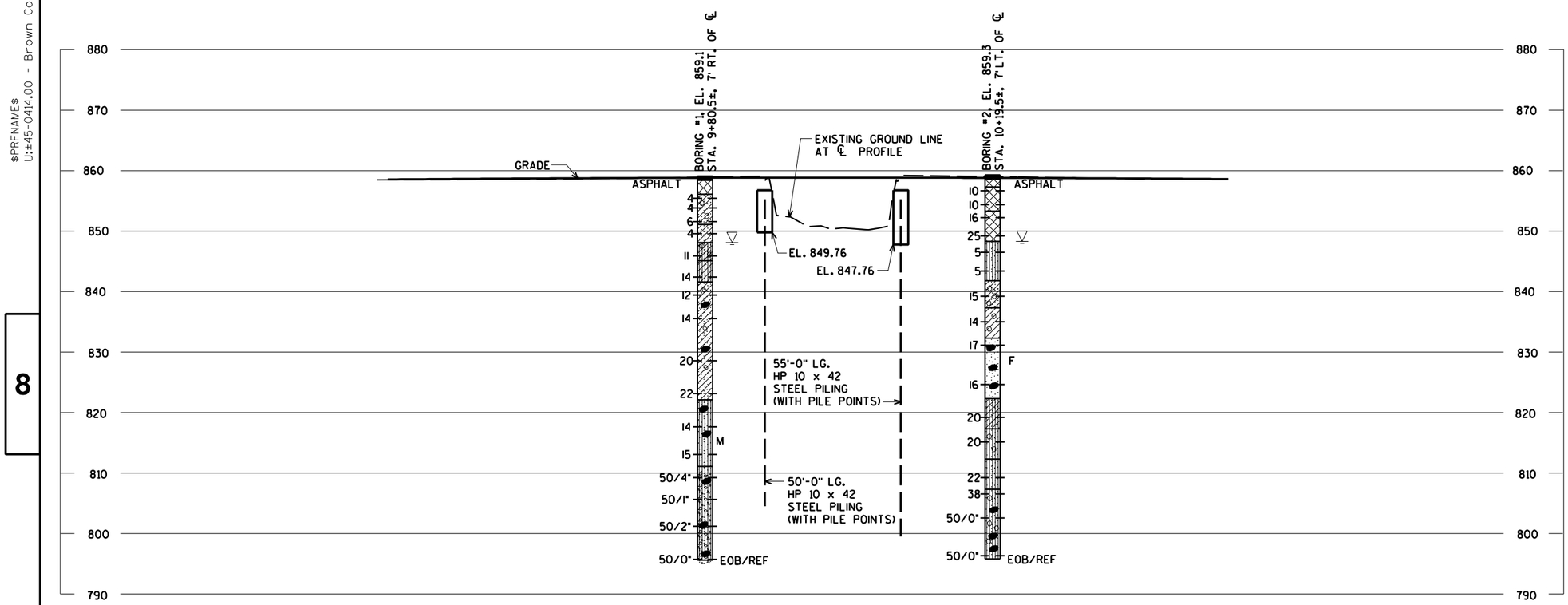
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	MAY 19, 2016	499262.3139	139776.9003
2	MAY 19, 2016	499301.0293	139762.7611
BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, LLC			
REPORT COMPLETED BY: RIVER VALLEY TESTING CORP.			
ALL COORDINATES REFERENCED TO WCCS BROWN COUNTY			





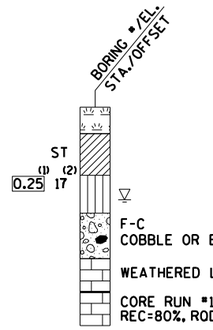
STATE PROJECT NUMBER

4503-03-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

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SUBSURFACE EXPLORATION

SHEET 3 OF 13
35

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5/23/2017

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STATE PROJECT NUMBER
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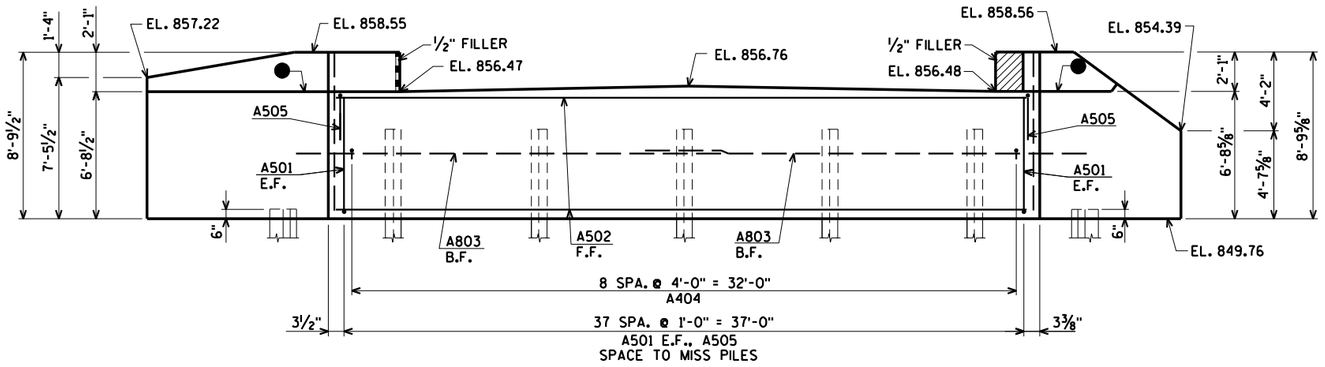
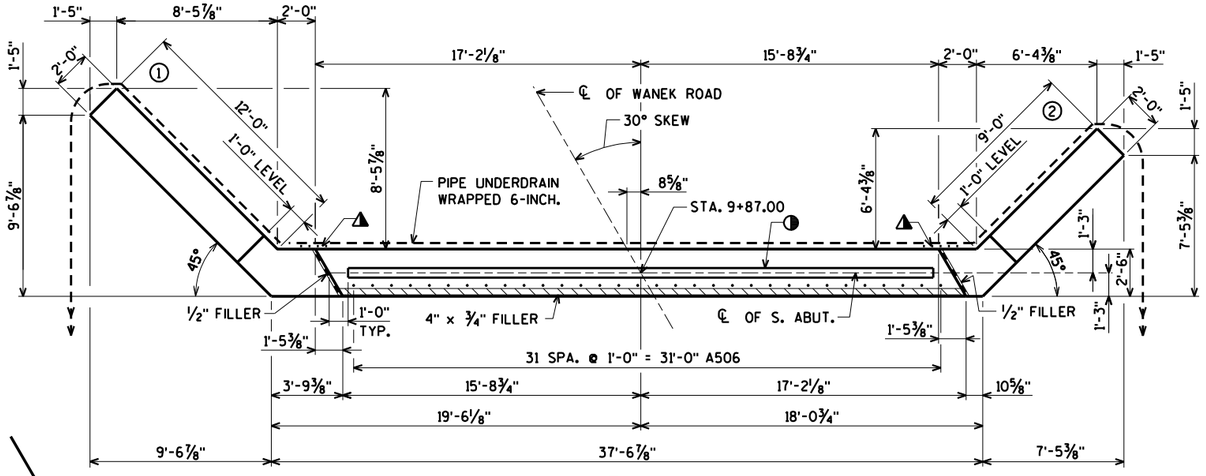
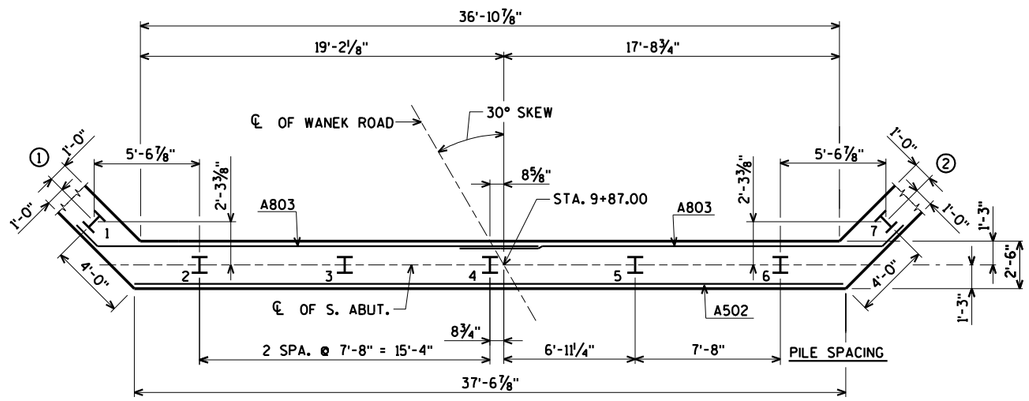
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



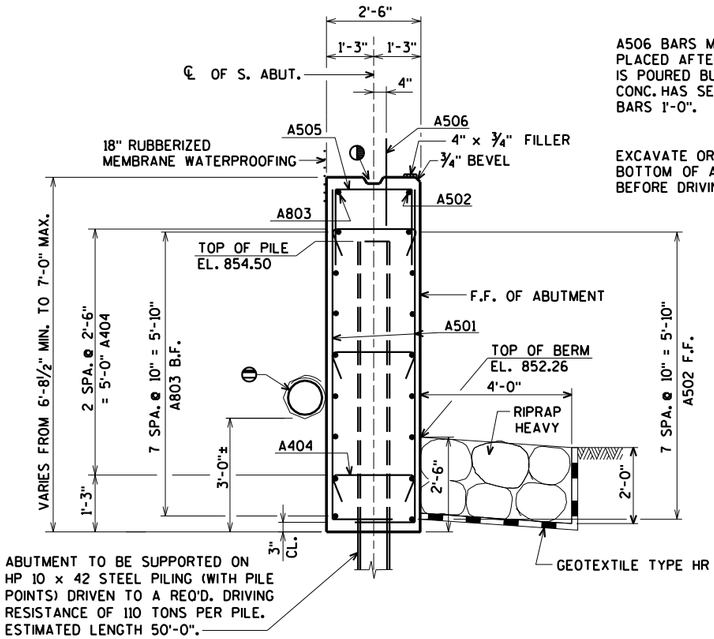
ELEVATION
(LOOKING SOUTH)



PLAN



PILE LAYOUT



A506 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

TYPICAL SECTION THRU BODY

NOTES: DO NOT PLACE FILL ABOVE THREE FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAIL SEE SHEET 5.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

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SOUTH ABUTMENT

SHEET 4 OF 13
36

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STATE PROJECT NUMBER

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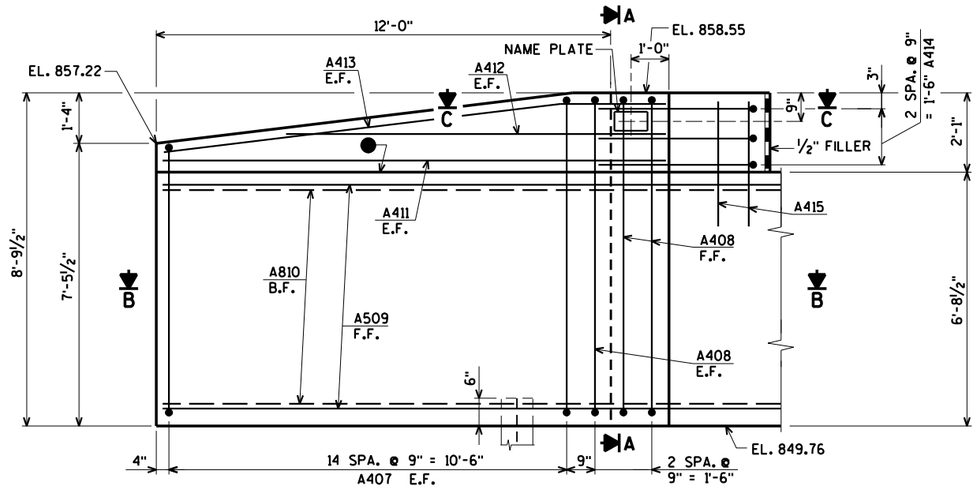
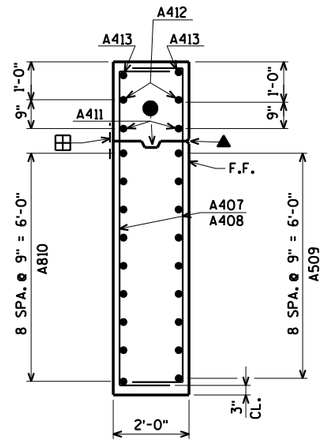
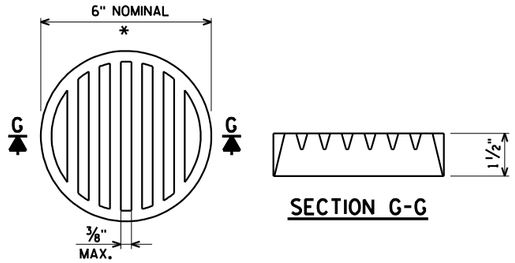


ELEVATION - WING 1



SECTION A



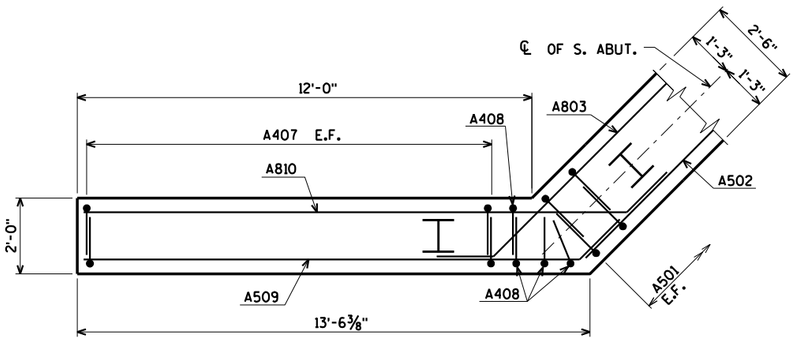
SECTION G-G

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

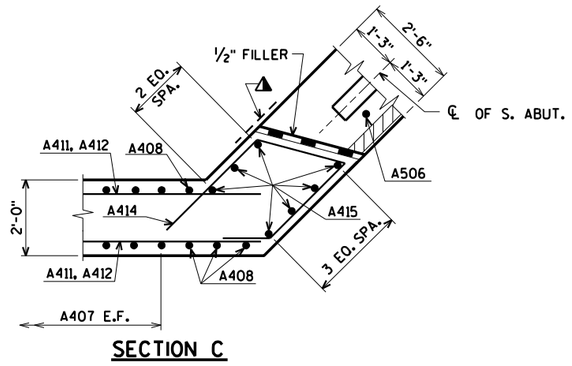
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

RODENT SHIELD DETAIL



SECTION B



SECTION C

▲ 3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

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SOUTH ABUTMENT WING 1 DETAILS

SHEET 5 OF 13
37

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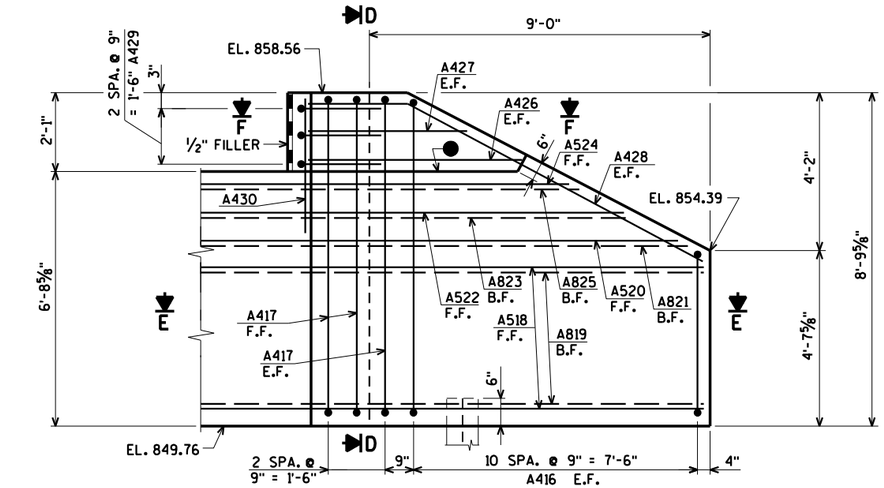
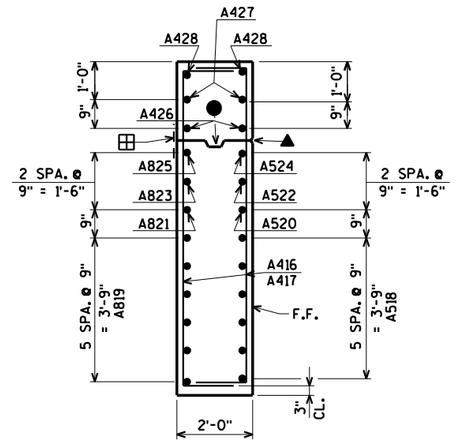
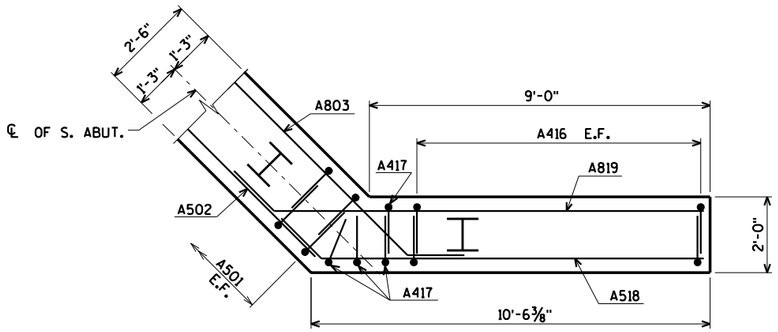


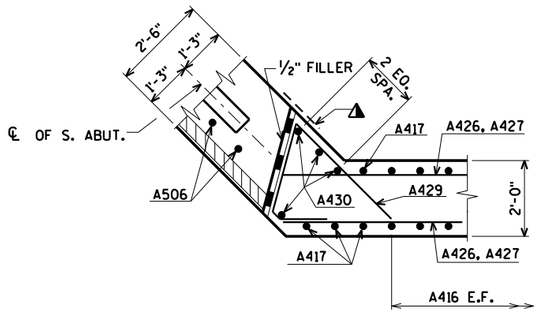
ELEVATION - WING 2



SECTION D



SECTION E



SECTION F

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◭ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

DRAWN BY	CLS	PLANS CK'D.	CBM

SOUTH ABUTMENT WING 2 DETAILS

SHEET 6 OF 13
38

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5/23/2017

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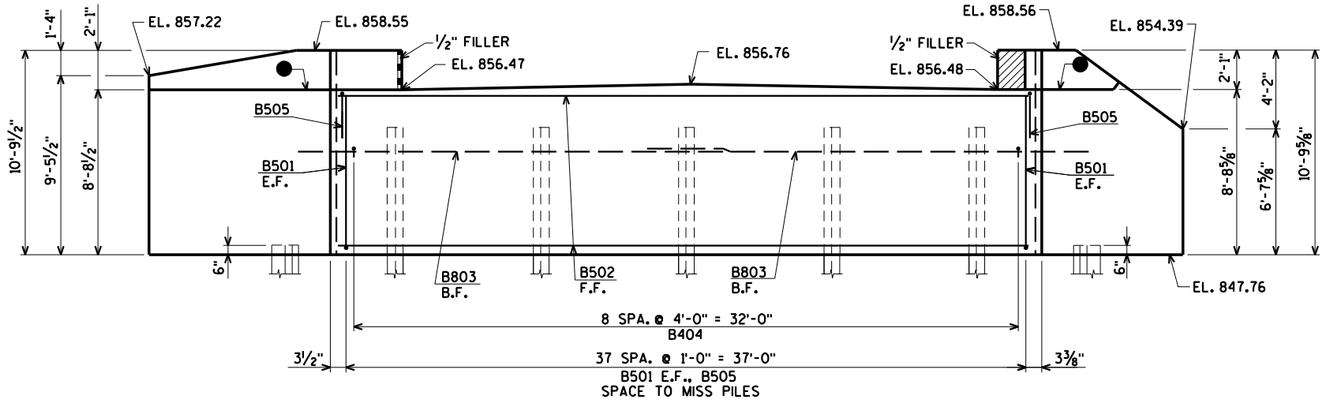
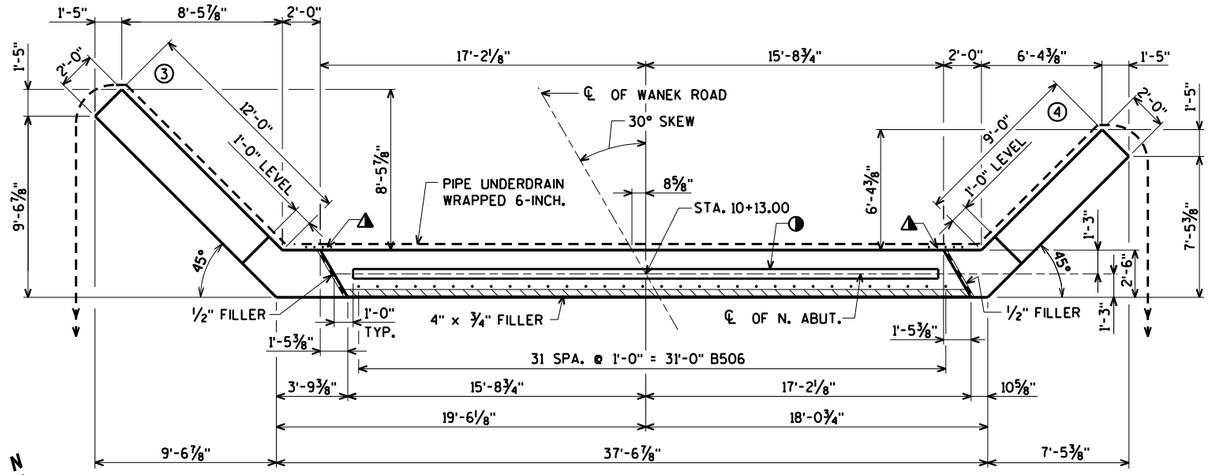
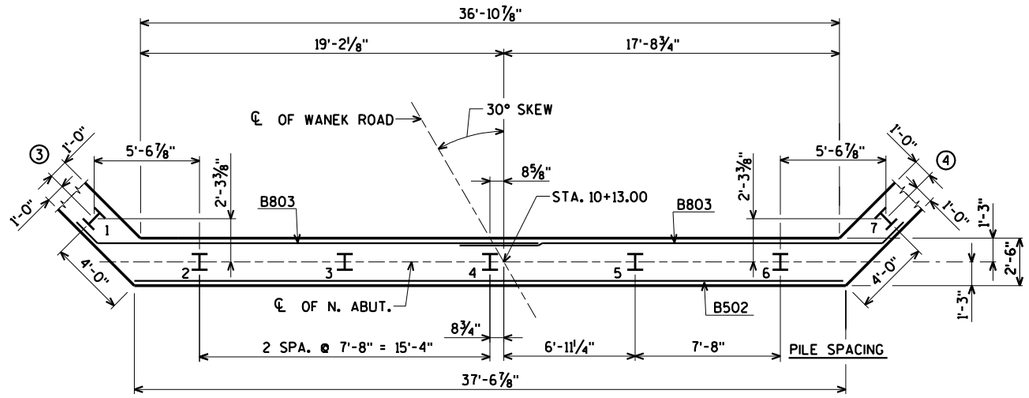
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



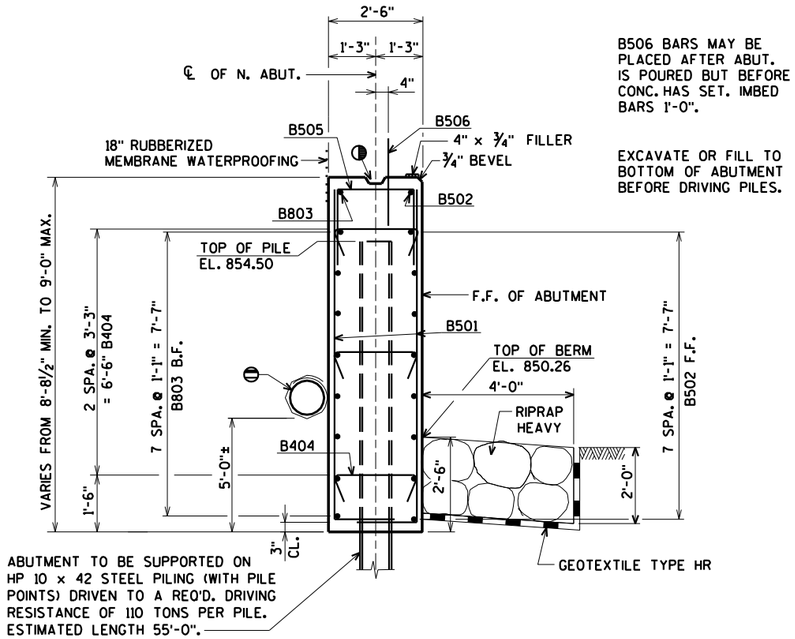
ELEVATION
(LOOKING NORTH)



PLAN



PILE LAYOUT



B506 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

TYPICAL SECTION THRU BODY

NOTES: DO NOT PLACE FILL ABOVE THREE FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAIL SEE SHEET 5.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

DRAWN BY CLS | PLANS CK'D. CBM

NORTH ABUTMENT

SHEET 7 OF 13
39

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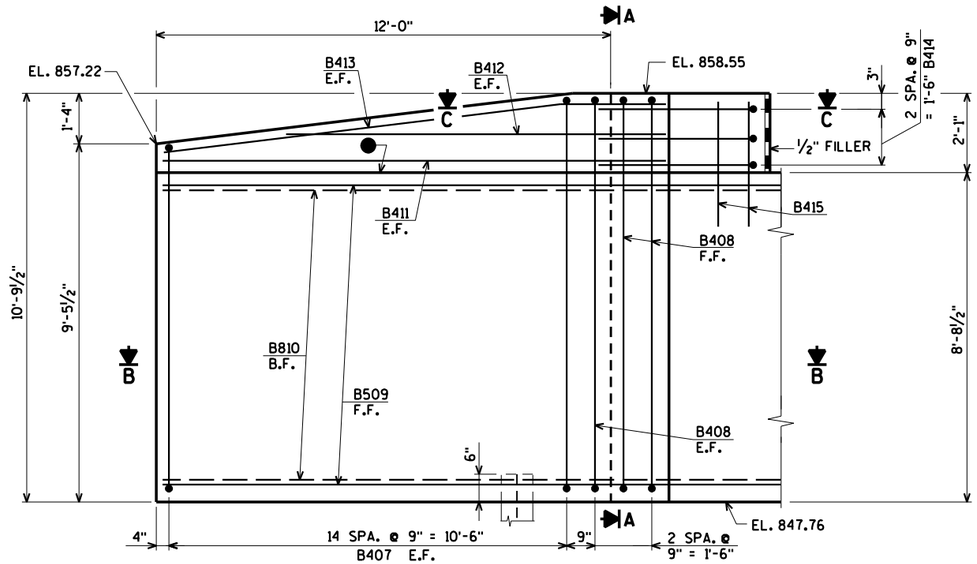
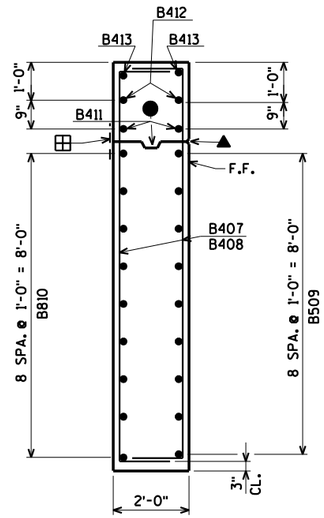
STATE PROJECT NUMBER

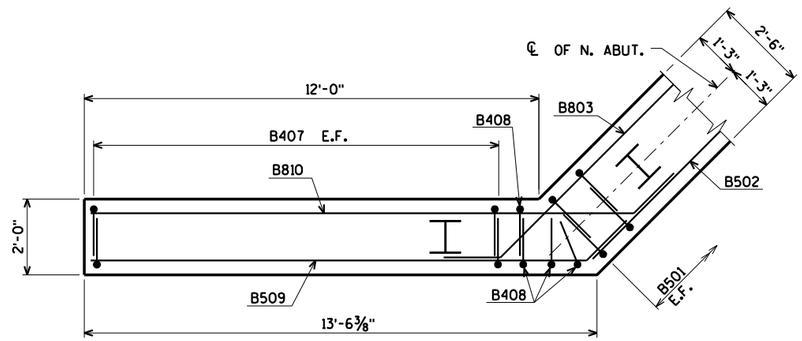
4503-03-71



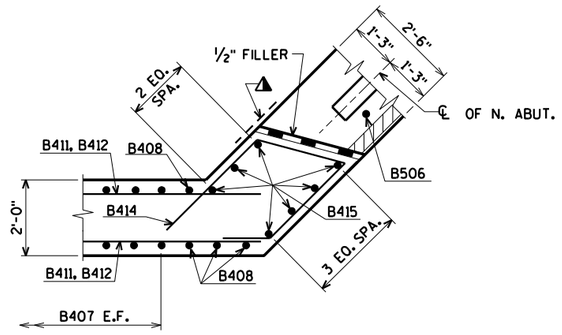
ELEVATION - WING 3



SECTION A



SECTION B



SECTION C

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

△ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

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NORTH ABUTMENT
WING 3 DETAILS

SHEET 8 OF 13
40

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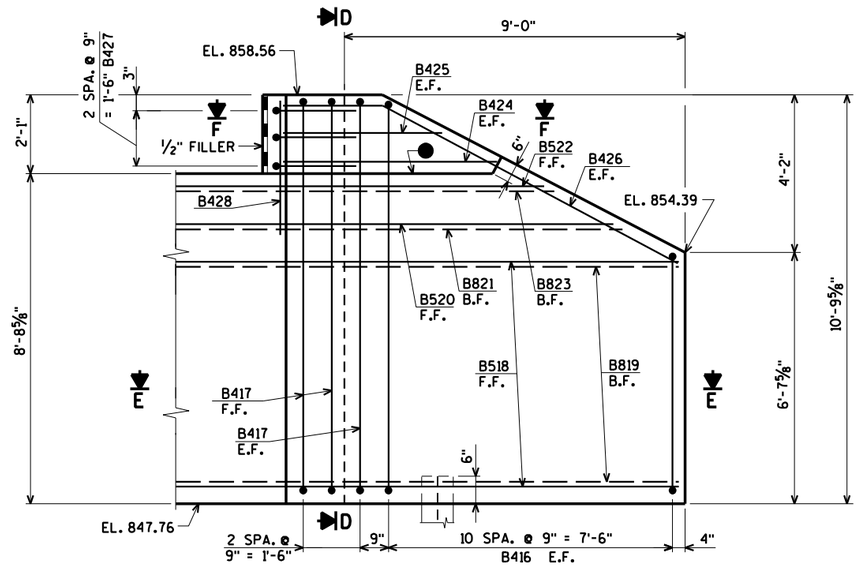
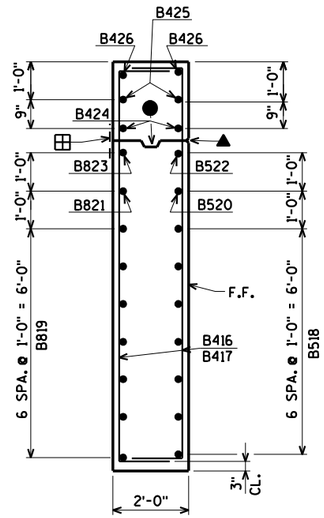


ELEVATION - WING 4



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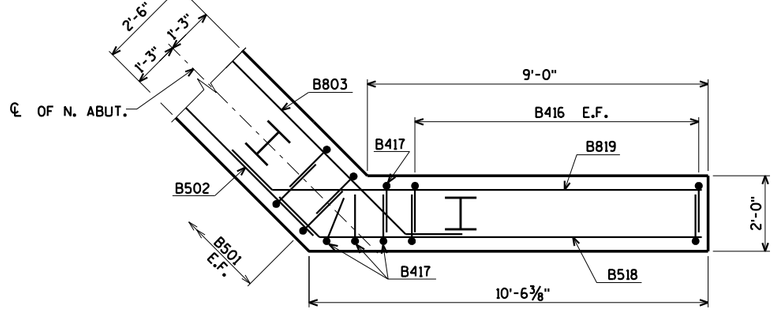

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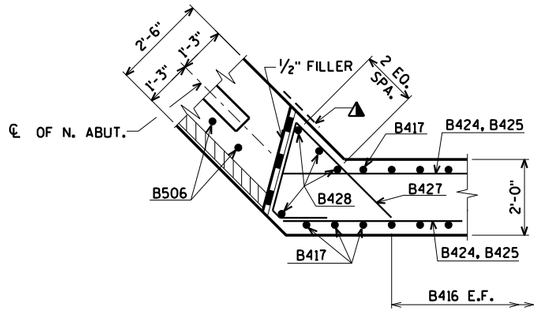

SECTION F

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

▲ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

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NORTH ABUTMENT
WING 4 DETAILS

SHEET 9 OF 13
41

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8

BILL OF BARS - SOUTH ABUTMENT

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2,510# UNCOATED 1,520# COATED LOCATION
A501		76	7-9	X			BODY VERT. E.F.
A502		9	37-4				BODY HORIZ. F.F.
A803		18	25-1	X			BODY HORIZ. B.F.
A404		27	2-9	X			BODY TIES
A505		38	7-5	X			BODY VERT. TOP
A506	X	32	2-0				BODY DOWELS
A407	X	30	10-2	X		⊗	WING 1 VERT. E.F.
A408	X	4	10-10	X			WING 1 VERT. E.F.
A509	X	9	14-9	X			WING 1 HORIZ. F.F.
A810	X	9	16-1	X			WING 1 HORIZ. B.F.
A411	X	2	13-2				WING 1 HORIZ. E.F.
A412	X	2	9-2				WING 1 HORIZ. E.F.
A413	X	2	13-2	X			WING 1 DIAG. E.F.
A414	X	3	10-0	X			WING 1 HORIZ.
A415	X	7	3-5				WING 1 VERT.
A416	X	22	8-9	X		⊗	WING 2 VERT. E.F.
A417	X	4	10-10	X			WING 2 VERT. E.F.
A518	X	6	11-9	X			WING 2 HORIZ. F.F.
A819	X	6	13-1	X			WING 2 HORIZ. B.F.
A520	X	1	11-3	X			WING 2 HORIZ. F.F.
A821	X	1	12-7	X			WING 2 HORIZ. B.F.
A522	X	1	9-10	X			WING 2 HORIZ. F.F.
A823	X	1	11-2	X			WING 2 HORIZ. B.F.
A524	X	1	8-5	X			WING 2 HORIZ. F.F.
A825	X	1	9-9	X			WING 2 HORIZ. B.F.
A426	X	2	5-5				WING 2 HORIZ. E.F.
A427	X	2	4-0				WING 2 HORIZ. E.F.
A428	X	2	11-2	X			WING 2 DIAG. E.F.
A429	X	3	7-1	X			WING 2 HORIZ.
A430	X	4	3-5				WING 2 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

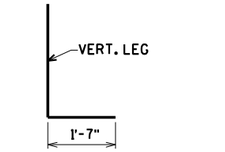
BILL OF BARS - NORTH ABUTMENT

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2,670# UNCOATED 1,600# COATED LOCATION
B501		76	9-9	X			BODY VERT. E.F.
B502		9	37-4				BODY HORIZ. F.F.
B803		18	25-1	X			BODY HORIZ. B.F.
B404		27	2-9	X			BODY TIES
B505		38	7-5	X			BODY VERT. TOP
B506	X	32	2-0				BODY DOWELS
B407	X	30	12-2	X		⊗	WING 3 VERT. E.F.
B408	X	4	12-10	X			WING 3 VERT. E.F.
B509	X	9	14-9	X			WING 3 HORIZ. F.F.
B810	X	9	16-1	X			WING 3 HORIZ. B.F.
B411	X	2	13-2				WING 3 HORIZ. E.F.
B412	X	2	9-2				WING 3 HORIZ. E.F.
B413	X	2	13-2	X			WING 3 DIAG. E.F.
B414	X	3	10-0	X			WING 3 HORIZ.
B415	X	7	3-5				WING 3 VERT.
B416	X	22	10-9	X		⊗	WING 4 VERT. E.F.
B417	X	4	12-10	X			WING 4 VERT. E.F.
B518	X	7	11-9	X			WING 4 HORIZ. F.F.
B819	X	7	13-1	X			WING 4 HORIZ. B.F.
B520	X	1	10-3	X			WING 4 HORIZ. F.F.
B821	X	1	11-6	X			WING 4 HORIZ. B.F.
B522	X	1	8-4	X			WING 4 HORIZ. F.F.
B823	X	1	9-7	X			WING 4 HORIZ. B.F.
B424	X	2	5-5				WING 4 HORIZ. E.F.
B425	X	2	4-0				WING 4 HORIZ. E.F.
B426	X	2	11-2	X			WING 4 DIAG. E.F.
B427	X	3	7-1	X			WING 4 HORIZ.
B428	X	4	3-5				WING 4 VERT.

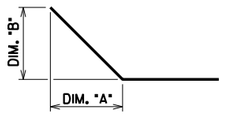
BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A407	2 SERIES OF 15	9'-7" TO 10'-9"
A416	2 SERIES OF 11	6'-10" TO 10'-8"
B407	2 SERIES OF 15	11'-7" TO 12'-9"
B416	2 SERIES OF 11	8'-10" TO 12'-8"

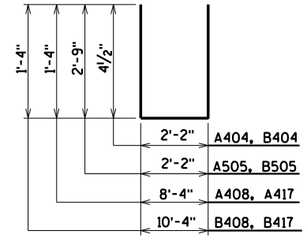
BUNDLE AND TAG EACH SERIES SEPARATELY.

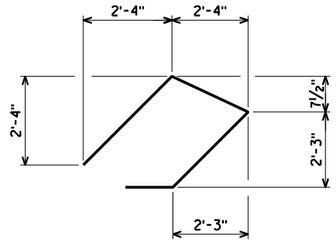


A501, B501

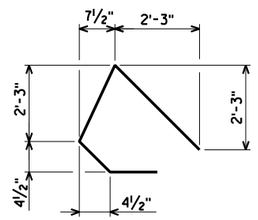


BAR NO.	DIM. "A"	DIM. "B"
A803	1'-0¾"	1'-0¾"
A509	1'-0¾"	1'-0¾"
A810	1'-0¾"	1'-0¾"
A413	10'-10"	1'-4"
A518	1'-0¾"	1'-0¾"
A819	1'-0¾"	1'-0¾"
A520	1'-0¾"	1'-0¾"
A821	1'-0¾"	1'-0¾"
A522	1'-0¾"	1'-0¾"
A823	1'-0¾"	1'-0¾"
A524	1'-0¾"	1'-0¾"
A825	1'-0¾"	1'-0¾"
A428	7'-10"	4'-2"
B803	1'-0¾"	1'-0¾"
B509	1'-0¾"	1'-0¾"
B810	1'-0¾"	1'-0¾"
B413	10'-10"	1'-4"
B518	1'-0¾"	1'-0¾"
B819	1'-0¾"	1'-0¾"
B520	1'-0¾"	1'-0¾"
B821	1'-0¾"	1'-0¾"
B522	1'-0¾"	1'-0¾"
B823	1'-0¾"	1'-0¾"
B426	7'-10"	4'-2"

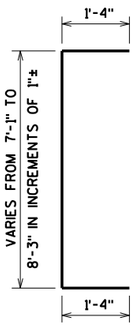




A414, B414



A429, B427



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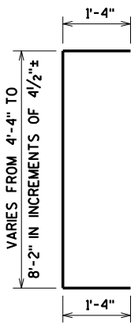

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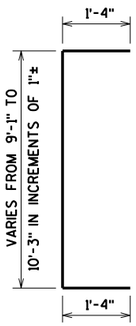

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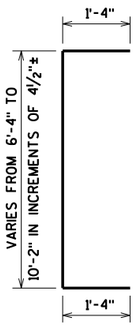

B416

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

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ABUTMENT
BILL OF BARS

SHEET 10 OF 13
42

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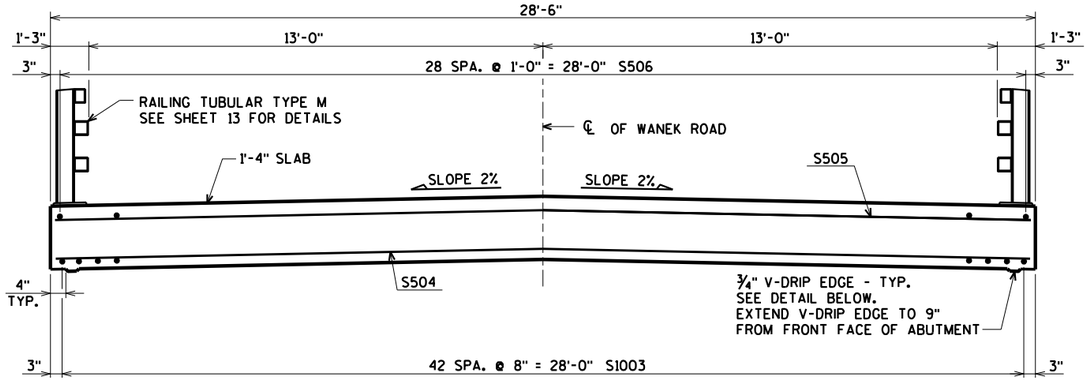


CROSS SECTION THRU BRIDGE

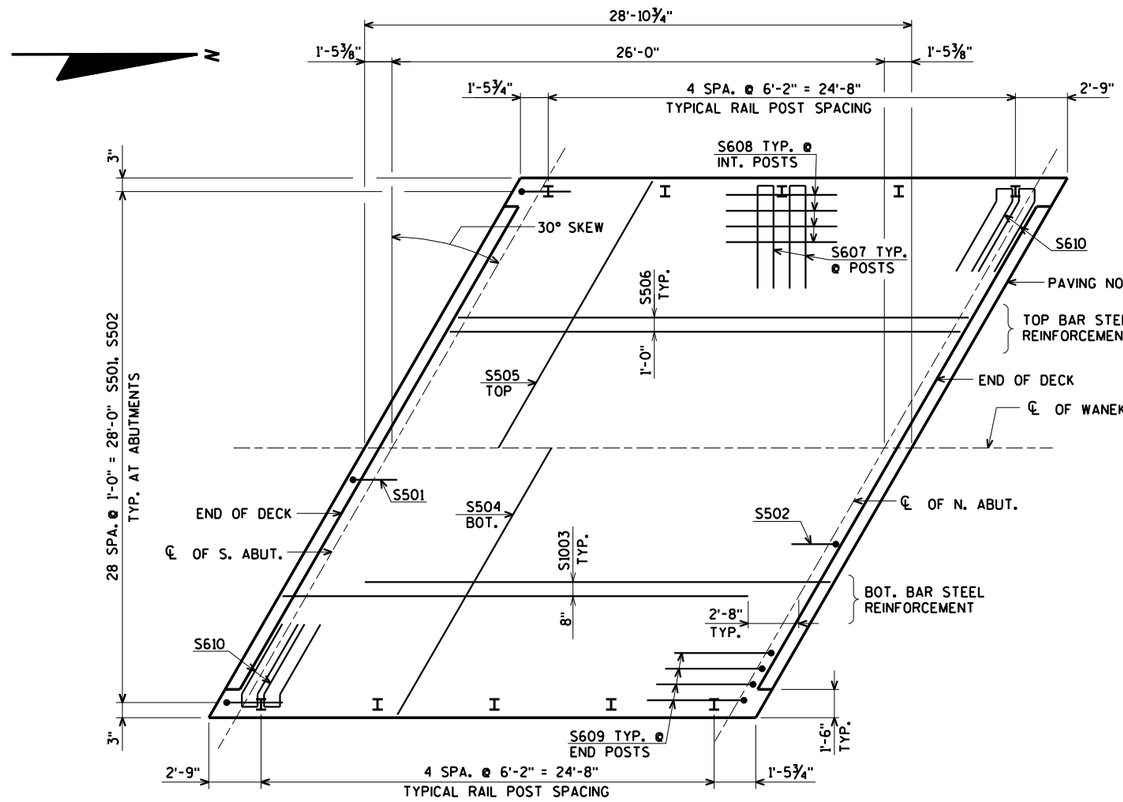
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

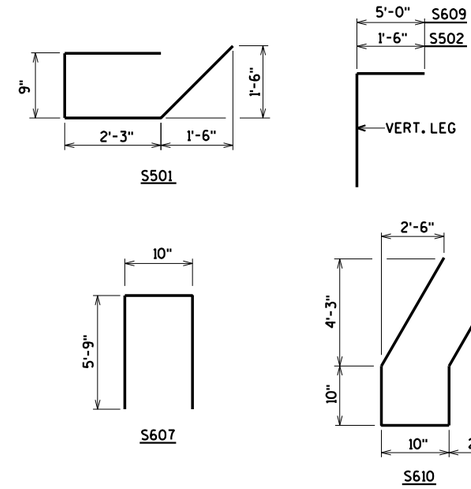
BILL OF BARS

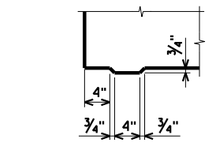
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	9,060# COATED LOCATION
S501	X	58	6-3	X		SLAB @ ABUT.
S502	X	58	3-1	X		SLAB @ ABUT.
S1003	X	43	24-7			SLAB LONG. BOT.
S504	X	42	32-6			SLAB TRANS. BOT.
S505	X	29	32-6			SLAB TRANS. TOP
S506	X	29	26-11			SLAB LONG. TOP
S607	X	16	12-0	X		SLAB @ RAIL POSTS
S608	X	24	6-0			SLAB @ INT. RAIL POSTS
S609	X	16	6-0	X		SLAB @ END RAIL POSTS
S610	X	4	12-0	X		SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PLAN





¾" V-DRIP EDGE DETAIL

NO.	DATE	REVISION	BY

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STRUCTURE B-5-428

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SUPERSTRUCTURE

SHEET 11 OF 13
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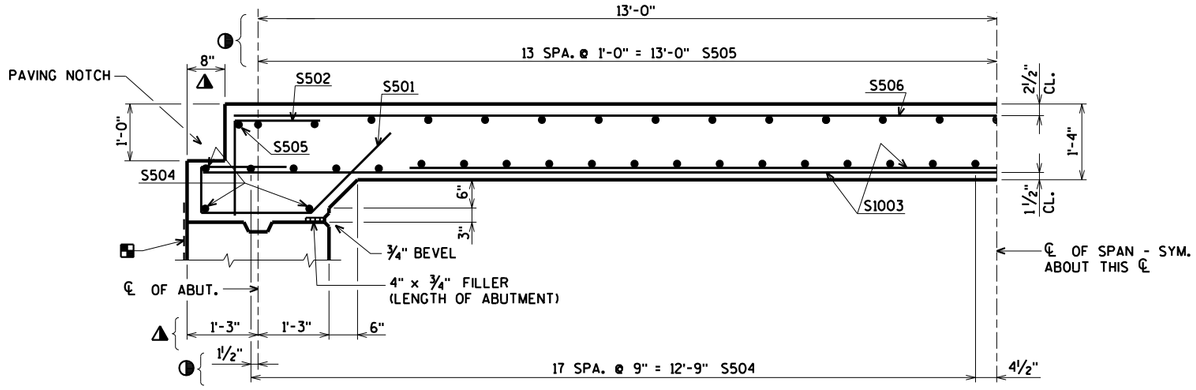
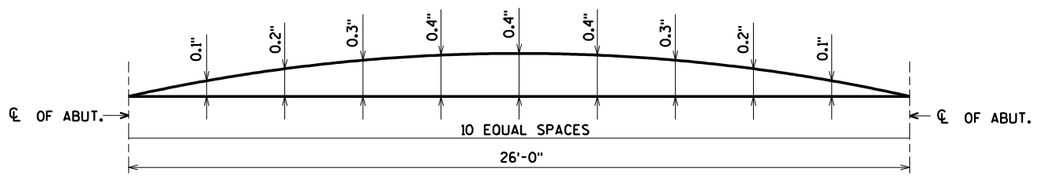


PART LONGITUDINAL SECTION

■ 18" RUBBERIZED MEMBRANE WATERPROOFING

◑ DIMENSIONS MEASURED ALONG ℄ OF WANEK ROAD.

◭ DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE.



CAMBER DIAGRAM

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄.

TOP OF DECK ELEVATIONS

LOCATION	℄ OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF N. ABUT.
W. EDGE OF SLAB	858.56	858.56	858.56	858.56	858.56	858.56	858.56	858.56	858.55	858.55	858.55
℄ OF STRUCTURE	858.84	858.85	858.85	858.85	858.85	858.85	858.85	858.85	858.85	858.85	858.84
E. EDGE OF SLAB	858.55	858.55	858.55	858.56	858.56	858.56	858.56	858.56	858.56	858.56	858.56

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

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SUPERSTRUCTURE DETAILS

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44

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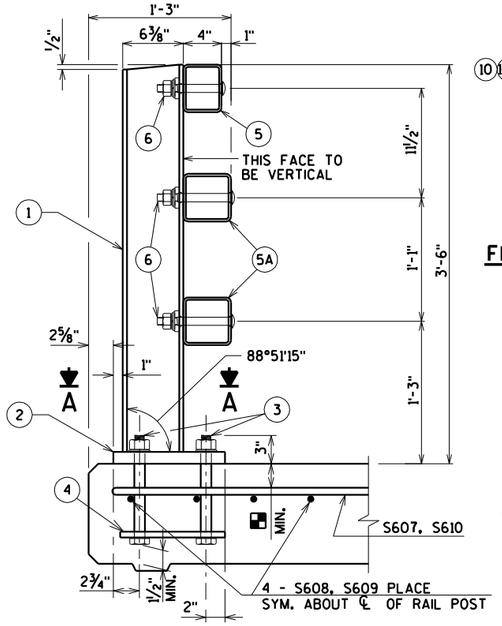
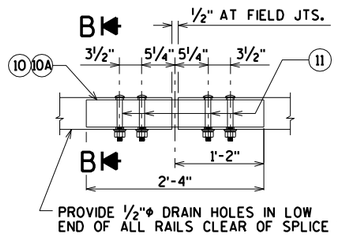
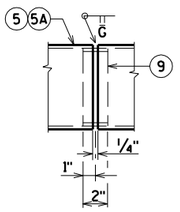


SECTION THRU RAILING ON DECK

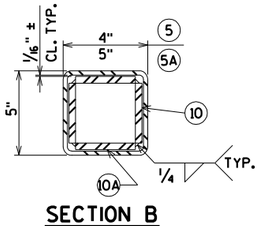


FIELD ERECTION JOINT DETAIL

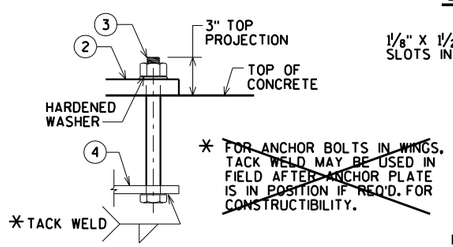


SHOP RAIL SPLICE DETAIL

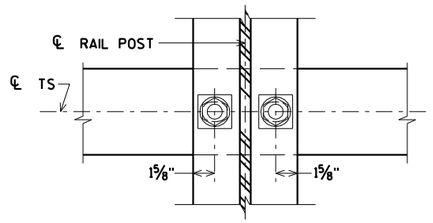
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



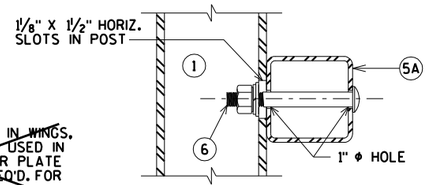
SECTION B



ANCHOR BOLTS



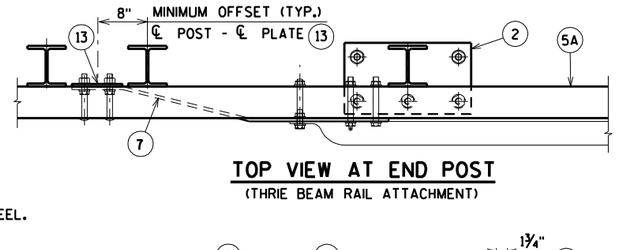
SECTION THRU POST WEB



SECTION THRU RAIL

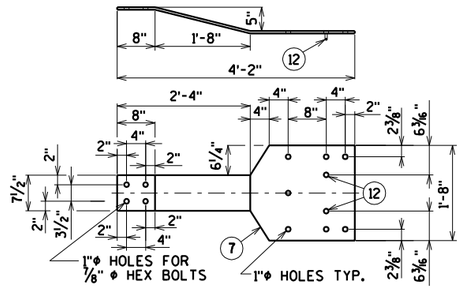
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

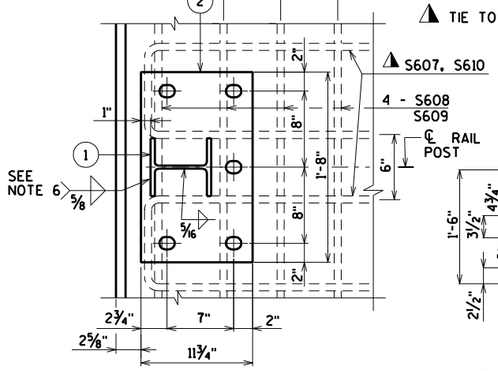


BACK-UP PLATE DETAIL

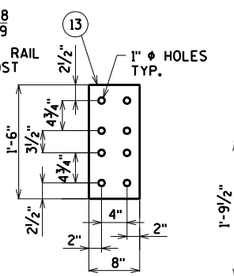
(AT BEAM GUARD ATTACHMENT)

PLACE BELOW TOP MAT SLAB REINFORCEMENT.

TIE TO TOP MAT OF STEEL.

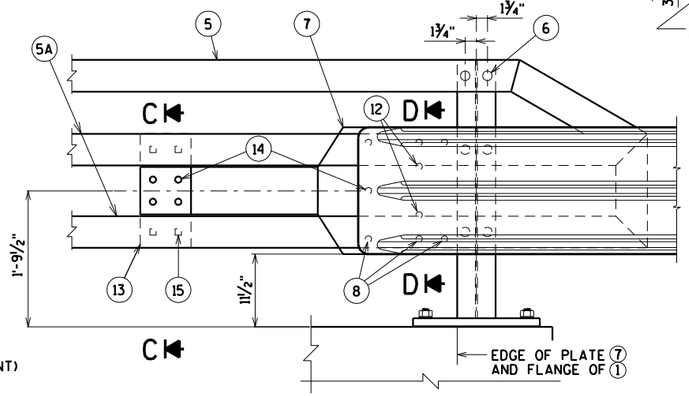


SECTION A



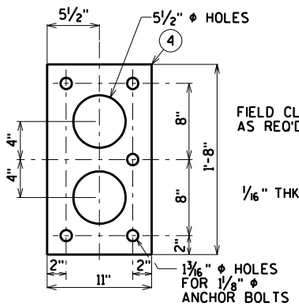
ANCHOR PLATE

(AT BEAM GUARD ATTACHMENT)



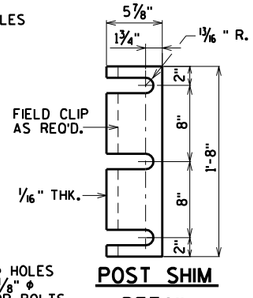
DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)

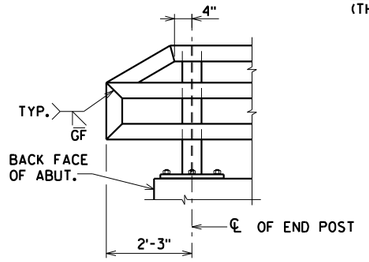


ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)



POST SHIM DETAIL



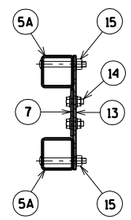
PART ELEVATION OF RAILING

LEGEND

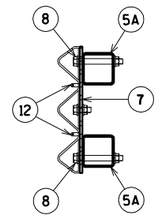
1. W6 x 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" x 11¾" x 1'-8" WITH 1⅝" X 1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
3. ASTM A449 - 1⅛" 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 10¾" 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. ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1¾" 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. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, ⅜" X 1⅝" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" φ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16 " X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 15⁄16 " X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS~~ IN PLATE NO. 10A.
12. ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
14. ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" φ HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-5-428" 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 ⅛ 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 S.S.P.C. SPECIFICATIONS.
10. ~~WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.~~
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



SECTION C



SECTION D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-428

DRAWN BY CLS | PLANS CK'D. CBM

RAILING TUBULAR TYPE M

SHEET 13 OF 13
45

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

7/31/2017

PENTABLE:BReau_shd_util.tbl

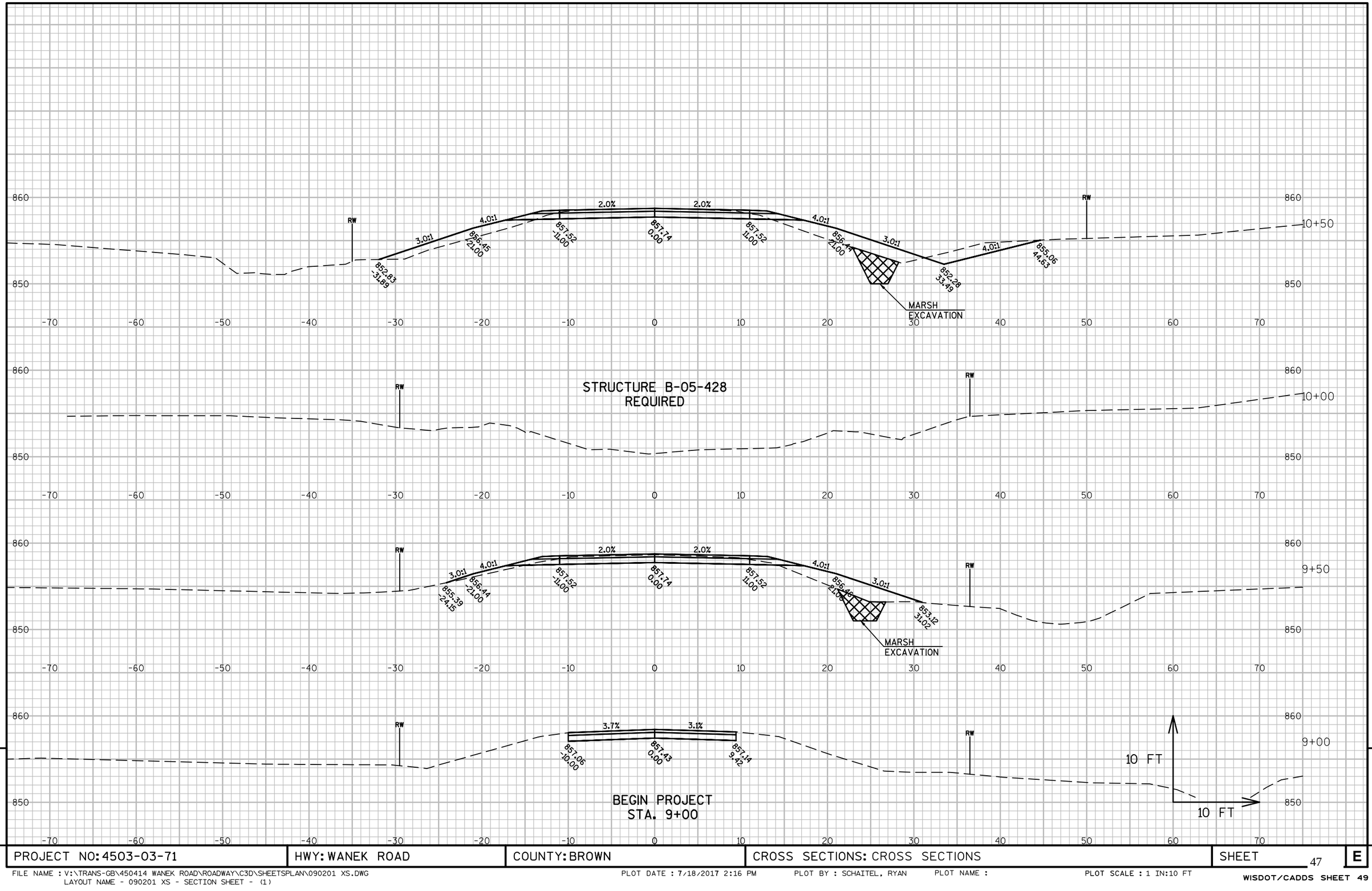
8

8

EARTHWORK - WANEK ROAD

STATION	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)			Mass Ordinate
	Cut	Unusable Pavement Material	Fill	Marsh Exc	Cut	Unusable Pavement Material	Fill	Marsh Exc	Cut 1.00	Expanded Fill 1.30	Expanded Marsh Backfill 1.50	
					Note 1	Note 2	Note 3		Note 1		Note 4	Note 7
9+00.00	19.5	14.2	0.0	0	0	0	0	0	0	0	0	0
9+50.00	21.1	14.2	23.0	10	38	26	21	9	38	28	14	-16
9+86.00	29.0	14.2	31.0	20	33	19	36	27	71	74	54	-49
B-05-0428												
10+13.00	42.0	14.2	44.0	15	0	0	0	0	71	74	54	-49
10+50.00	34.5	14.2	37.0	13	52	19	56	19	123	147	83	-88
10+82.94	20.0	14.2	10.0	0	33	17	29	11	157	184	100	-109
11+00.00	20.1	14.2	25.0	0	13	9	11	0	169	198	100	-120
11+50.00	18.8	14.2	0.0	0	36	26	23	0	205	228	100	-140
					205	117	176	66				

Notes:	
1 - Cut	Cut includes existing asphalt and base material
2 - Unusable Pavement Material	Does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Material Volume
4 - Expanded Marsh Backfill	Will be backfilled with Select Borrow
7 - Mass Ordinate	Cut - (Fill * Fill Factor)
8 - Mass Ordinate	Mass Ordinate does not include Marsh Excavation



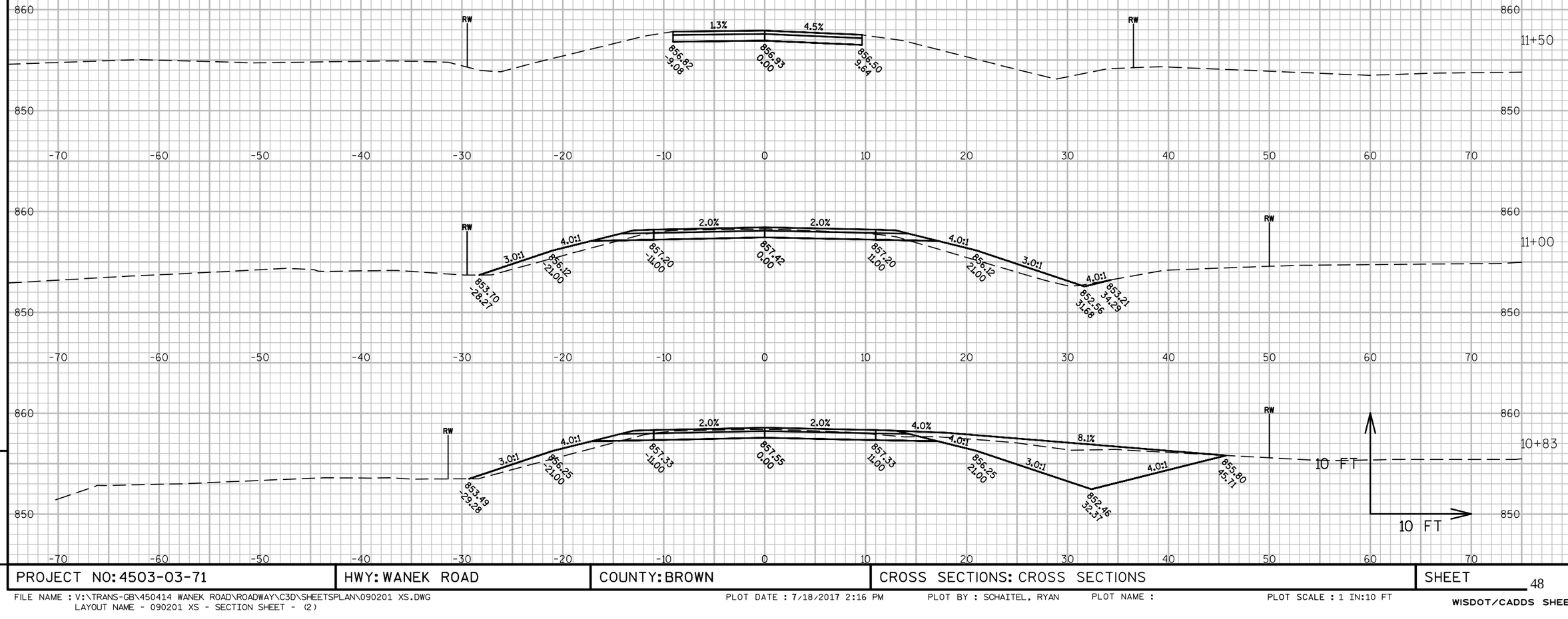
STRUCTURE B-05-428 REQUIRED

9 9

PROJECT NO: 4503-03-71	HWY: WANEK ROAD	COUNTY: BROWN	CROSS SECTIONS: CROSS SECTIONS	SHEET 47	E

FILE NAME : V:\TRANS-GB\450414 WANEK ROAD\ROADWAY\C3D\SHEETSPLAN\090201 XS.DWG
LAYOUT NAME - 090201 XS - SECTION SHEET - (1)
PLOT DATE : 7/18/2017 2:16 PM PLOT BY : SCHAITEL, RYAN PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49

END PROJECT
STA. 11+50



PROJECT NO: 4503-03-71	HWY: WANEK ROAD	COUNTY: BROWN	CROSS SECTIONS: CROSS SECTIONS	SHEET 48	E

Notes

Wisconsin Department of Transportation

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