NWL APRIL 2016

PROJECT ID: WITH: N/A 8422-00-70

COUNTY: RUSK

ORDER OF SHEETS

TOTAL SHEETS = 32

24

32

DESIGN DESIGNATION

AADT (2016)	=	50
AADT (2036)	=	70
DHV (2036)	=	9
D (%)	=	50/50
T (% OF ADT)	=	10%
DESIGN SPEED	=	55 MPH
ESALS	=	NA

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

ELECTRIC — E
OVERHEAD LINES — OH
FIBER OPTIC — FO
GAS — G
SANITARY SEWER — SAN
STORM SEWER — SS
TELEPHONE — T
WATER — W
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T BIG BEND, DZIEMELA ROAD

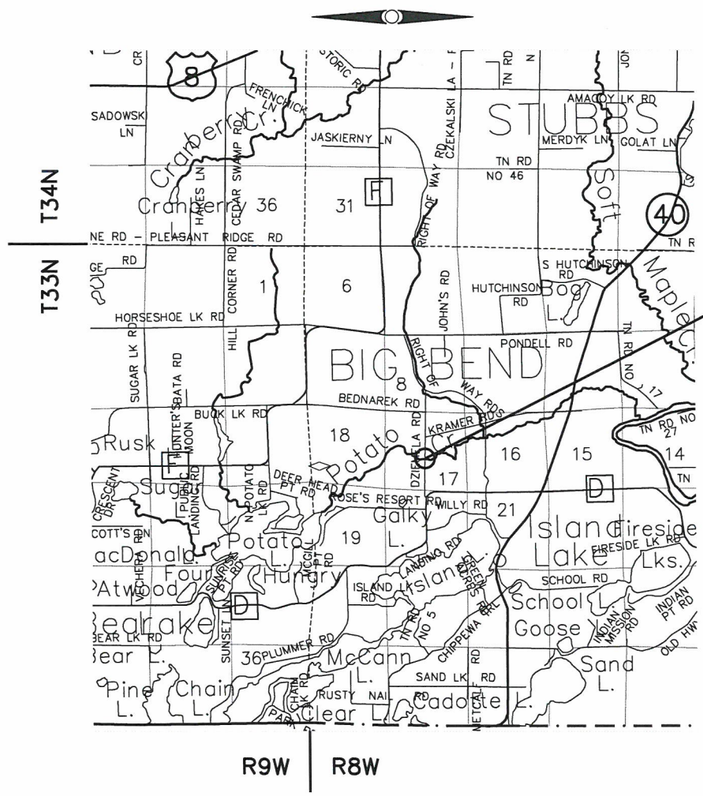
(POTATO CREEK BRIDGE B-54-0119)

LOCAL STREET

RUSK COUNTY

STATE PROJECT NUMBER
8422-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8422-00-70	WISC 2016108	1



LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.038 MI

END PROJECT
STA 11+00
Y = 518263.58
X = 739298.69

STRUCTURE B-54-0119

BEGIN PROJECT
STA 9+00
Y = 518063.60
X = 739295.28

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RUSK COUNTY

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (1991)

ACCEPTED FOR
TOWN OF BIG BEND
10/28/15 DATE
TOWN CHAIRMAN

ACCEPTED FOR
RUSK COUNTY
10-28-15 DATE
COUNTY COMMISSIONER

ORIGINAL PLANS PREPARED BY

Cedar corporation
MENOMONIE - MADISON - GREEN BAY
www.cedarcorp.com
800-472-7372

WISCONSIN
DENNIS W. MACK
E-35295
EAU CLAIRE
WI
PROFESSIONAL ENGINEER

10/2/15 DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor CEDAR CORPORATION
Designer CEDAR CORPORATION
Management Consultant KNIGHT E/A, INC.

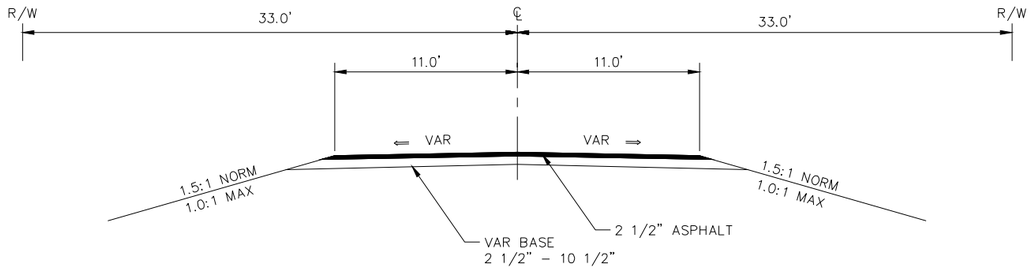
APPROVED FOR THE DEPARTMENT
10/2/15 DATE
(Management Consultant Signature)

E

FILE NAME : I:\CLIENTS\W3916 WDOT NW REGION - KNIGHT\003 8422-00-00 POTATO CREEK BRIDGE\100 CAD\DWG\010101_TI_POTATOCR.DWG PLOT DATE : 10/2/2015 11:11 AM PLOT BY : NICK THOMPSON

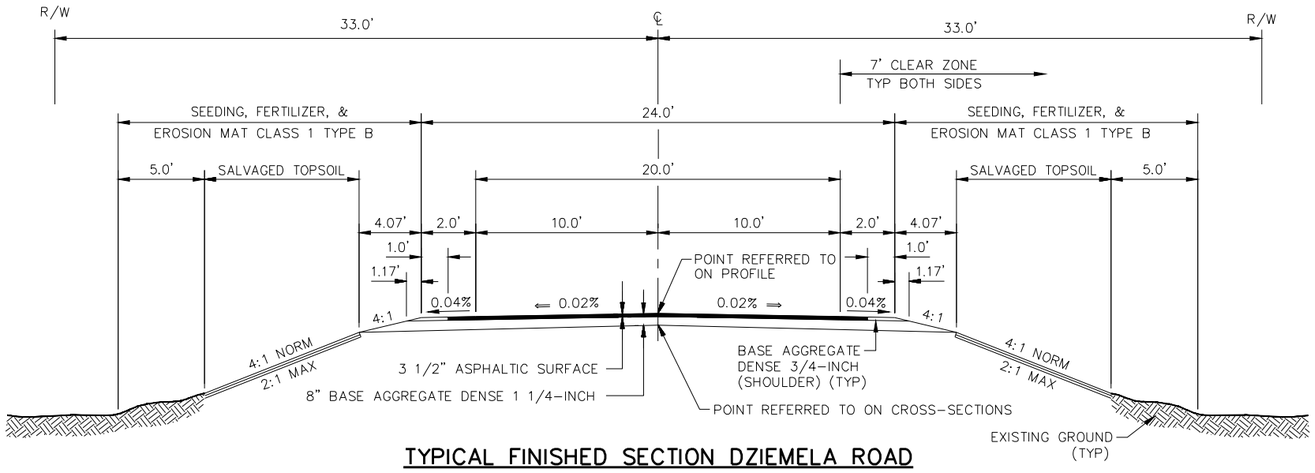
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0–2	2–6	6 & OVER	0–2	2–6	6 & OVER	0–2	2–6	6 & OVER	0–2	2–6	6 & OVER
MEDIAN STRIP–TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30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

TOTAL PROJECT AREA = 0.30 ACRE
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.19 ACRE



TYPICAL EXISTING SECTION DZIEMELA ROAD

STA 9+00 & STA 11+00



TYPICAL FINISHED SECTION DZIEMELA ROAD

STA 9+00 – STA 9+78.75
STA 10+21.25 – STA 11+00

DNR LIAISON

DNR NORTHERN REGION HQ
810 W. MAPLE STREET
SPOONER, WI 54801
(715) 635-4229
AMY CRONK
amy.cronk@wisconsin.gov

DESIGN CONSULTANT

CEDAR CORPORATION
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MENOMONIE, WI 54751
(715) 235-9081
TROY L. PETERSON, PE
troy.peterson@cedarcorp.com

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

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

GENERAL NOTES

THERE ARE NO KNOWN UTILITIES WITHIN THE PROJECT AREA. HOWEVER IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM THIS.

SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER. SILT FENCE TO BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO BRIDGE REMOVAL.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR A MONUMENT WHICH SHALL BE SET IN THE STRUCTURE AS DESIGNATED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS, BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION OF EBS WILL BE DETERMINED BY THE ENGINEER.

SHRINKAGE IS ESTIMATED AT 25%.

THE 3½" ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1¾" LOWER LAYER AND A 1¾" UPPER LAYER. USE 12.5 mm NOMINAL AGGREGATE FOR ASPHALT SURFACE.

BEARINGS REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RUSK COUNTY.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED AND SEEDED AS DIRECTED BY THE ENGINEER. USE SEED MIX NO. 10.

WHEN THE QUANTITY OF THE ITEM OF BASE LAYER OR SURFACE LAYER IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OF THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE BENCHMARK IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD88).

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AGG	AGGREGATE
ET AL	AND OTHERS
AADT	ANNUAL AVERAGE DAILY TRAFFIC
BF	BACK FACE
BM	BENCHMARK
C/L OR ℄	CENTERLINE
△	CENTRAL ANGLE OR DELTA
CLR	CLEAR
CONC	CONCRETE
CONST	CONSTRUCTION
COR	CORNER
CMP	CORRUGATED METAL PIPE
CTH	COUNTY TRUNK HIGHWAY
CR	CREEK
CFS	CUBIC FEET/SECOND
CULV	CULVERT
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
E	EAST
EL	ELEVATION
EST	ESTIMATED
FPS	FEET PER SECOND
FE	FIELD ENTRANCE
FT	FOOT (FEET)
FTG	FOOTING
FDN	FOUNDATION
FF	FRONT FACE
IP	IRON PIN
LT	LEFT
LHF	LEFT–HAND FORWARD
L	LENGTH OF CURVE
LF	LINEAR FOOT
MAX	MAXIMUM
MI	MILE
MIN	MINIMUM
NC	NORMAL CROWN
N	NORTH
NE	NORTHEAST
NW	NORTHWEST
NO	NUMBER
OFF	OFFSET
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
POL	POINT ON LINE
PE	PRIVATE ENTRANCE
PL	PROPERTY LINE
PSI	POUNDS/SQUARE INCH
PROP	PROPOSED
R	RADIUS
RR	RAILROAD
REBAR	REINFORCEMENT BAR
REQD	REQUIRED
RT	RIGHT
RHF	RIGHT–HAND FORWARD
R/W	RIGHT–OF–WAY
RD	ROAD
SEC	SECTION
S	SOUTH
SE	SOUTHEAST
SW	SOUTHWEST
STH	STATE TRUNK HIGHWAY
STA	STATION
SE	SUPER ELEVATION
T	TANGENT
TEL	TELEPHONE
TEMP	TEMPORARY
TI	TEMPORARY INTEREST
TLE	TEMPORARY LIMITED EASEMENT
TL OR T/L	TRANSIT LINE
T	TRUCKS
TYP	TYPICAL
U/G	UNDERGROUND
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
V	VELOCITY
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST
YD	YARD

2

2

LEGEND

SEEDING MIXTURE NO. 10, FERTILIZER, AND EROSION MAT CLASS I TYPE B

SILT FENCE

TURBIDITY BARRIER (10' MAX SPACING)

DRAINAGE FLOW

NOTE: 2 YEAR FREQUENCY
Q_2 TOTAL = 330 CFS
HIGH WATER$_2$ ELEVATION = 1075.46 FT

BEGIN PROJECT
STA 9+00
Y = 518063.60
X = 739295.28

END PROJECT
STA 11+00
Y = 518263.58
X = 739298.69

SLOPE INTERCEPT (TYP)
R/W
WETLAND IMPACTS (TYP)
RIPRAP HEAVY
R/W
SLOPE INTERCEPT (TYP)

7+00 N0° 57' 25.28"E 8+00 9+00 10+00 N1° 01' 06.44"E 11+00 12+00 DZIEMELA ROAD ASPHALT N0° 54' 59.30"E 13+00

SLOPE INTERCEPT (TYP)
R/W
POTATO CREEK
EXISTING STRUCTURE P-54-0121 TO BE REMOVED
PROPOSED STRUCTURE B-54-0119
R/W
SLOPE INTERCEPT (TYP)

PROJECT NO: 8422-00-70	HWY: DZIEMELA ROAD	COUNTY: RUSK	EROSION CONTROL	SHEET 3 E

DATE 16FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8422-00-70 QUANTITY
0010	201.0205	Grubbing	STA	2.000	2.000
0020	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0030	205.0100	Excavation Common	CY	147.000	147.000
0040	206.1000	Excavation for Structures Bridges (structure) 01. B-54-0119	LS	1.000	1.000
0050	210.0100	Backfill Structure	CY	100.000	100.000
0060	213.0100	Finishing Roadway (project) 01. 8422-00-70	EACH	1.000	1.000
0070	305.0110	Base Aggregate Dense 3/4-Inch	TON	10.000	10.000
0080	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	230.000	230.000
0090	465.0105	Asphaltic Surface	TON	72.000	72.000
0100	502.0100	Concrete Masonry Bridges	CY	171.000	171.000
0110	502.3200	Protective Surface Treatment	SY	150.000	150.000
0120	505.0400	Bar Steel Reinforcement HS Structures	LB	3,460.000	3,460.000
0130	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	18,220.000	18,220.000
0140	513.4061	Railing Tubular Type M (structure) 01. B-54-0119	LF	133.000	133.000
0150	516.0500	Rubberized Membrane Waterproofing	SY	10.000	10.000
0160	550.2106	Piling CIP Concrete 10 3/4 X 0.365-Inch	LF	400.000	400.000
0170	606.0300	Riprap Heavy	CY	150.000	150.000
0180	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0190	619.1000	Mobilization	EACH	1.000	1.000
0200	624.0100	Water	MGAL	3.370	3.370
0210	625.0500	Salvaged Topsoil	SY	385.000	385.000
0220	628.1504	Silt Fence	LF	320.000	320.000
0230	628.1520	Silt Fence Maintenance	LF	520.000	520.000
0240	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0250	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0260	628.2004	Erosion Mat Class I Type B	SY	380.000	380.000
0270	628.6005	Turbidity Barriers	SY	44.000	44.000
0280	629.0210	Fertilizer Type B	CWT	0.240	0.240
0290	630.0110	Seeding Mixture No. 10	LB	10.000	10.000
0300	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0310	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0320	638.2602	Removing Signs Type II	EACH	4.000	4.000
0330	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0340	642.5001	Field Office Type B	EACH	1.000	1.000
0350	643.0100	Traffic Control (project) 01. 8422-00-70	EACH	1.000	1.000
0360	643.0420	Traffic Control Barricades Type III	DAY	690.000	690.000
0370	643.0705	Traffic Control Warning Lights Type A	DAY	1,104.000	1,104.000
0380	643.0900	Traffic Control Signs	DAY	690.000	690.000
0390	645.0120	Geotextile Fabric Type HR	SY	275.000	275.000
0400	650.4500	Construction Staking Subgrade	LF	157.000	157.000
0410	650.5000	Construction Staking Base	LF	157.000	157.000
0420	650.6500	Construction Staking Structure Layout (structure) 01. B-54-0119	LS	1.000	1.000
0430	650.9910	Construction Staking Supplemental Control (project) 01. 8422-00-70	LS	1.000	1.000
0440	650.9920	Construction Staking Slope Stakes	LF	157.000	157.000
0450	690.0150	Sawing Asphalt	LF	44.000	44.000
0460	715.0502	Incentive Strength Concrete Structures	DOL	1,026.000	1,026.000
0470	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000

3

DATE 16FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8422-00-70 QUANTITY
0480	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

3

ALL ITEMS ARE CATEGORY 0010
UNLESS OTHERWISE NOTED.

3

3

GRUBBING

STATION - STATION	LOCATION	201.0205 GRUBBING STA.
9+00 - 11+00	DZIEMELA RD	2
TOTAL		2

FINISHING ROADWAY

STATION - STATION	LOCATION	213.0100 EACH
9+00 - 11+00	DZIEMELA RD	1
TOTAL		1

WATER

PROJECT	LOCATION	624.0100 MGAL
8422-00-70	DZIEMELA RD	3.37
TOTAL		3.37

DIVISION	STATIONING	LOCATION	205.0100 COMMON EXCAVATION (CY) **P** CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL (1)	AVAILABLE MATERIAL (CY) (2)	UNEXPANDED FILL	EXPANDED FILL FACTOR 1.25	MASS ORDINATE +/- (3)	208.0100 BORROW (CY)
1	9+00 - 9+79	SOUTH APPROACH	67	13	54	6	8	46	0
DIVISION 1 SUBTOTAL			67	13	54	6	8	46	0
2	10+21 - 11+50	NORTH APPROACH	80	13	67	1	1	66	0
DIVISION 2 SUBTOTAL			80	13	67	1	1	66	0
GRAND TOTAL			147	26	121	7	9	112	0
		TOTAL COMMON EXCAVATION =	147						0

1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
2) AVAILABLE MATERIAL = CUT MINUS THE SALVAGED/UNUSABLE PAVEMENT MATERIAL.
3) THE MASS ORDINATE = A + OR - QUANTITY CALCULATED FOR THE DIVISON. A POSITIVE QUANTITY INDICATES AN EXCESS OF MATERIAL.

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0120 1 1/4 - INCH TON	305.0110 3/4 - INCH TON
9+00 - 9+79	S APPROACH	115	5
10+22 - 11+00	N APPROACH	115	5
TOTAL		230	10

ASPHALTIC SURFACE

STATION - STATION	LOCATION	465.0105 TON
9+00 - 9+79	S APPROACH	36
10+22 - 11+00	N APPROACH	36
TOTAL		72

MOBILIZATION

LOCATION	619.1000 EACH
DZIEMELA ROAD	1
TOTAL	1

FIELD OFFICE TYPE B

PROJECT	LOCATION	642.5001 EACH
8422-00-70	DZIEMELA RD	1
TOTAL		1

ALL ITEMS ARE CATEGORY 0010
UNLESS OTHERWISE NOTED.

3

3

RESTORATION ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0110 SEEDING MIXTURE NO. 10 LB
9+00 - 9+79	RT	80	0.05	2.1
9+00 - 9+79	LT	90	0.05	2.3
10+21 - 11+00	RT	125	0.08	3.3
10+21 - 11+00	LT	90	0.06	2.3
TOTAL		385	0.24	10.0

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.6005 TURBIDITY BARRIER SY	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS I TYPE B SY	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
9+00 - 9+79	SO APPROACH	155	22	--	170	--	--
10+21 - 11+00	NO APPROACH	165	22	--	210	--	--
9+00 - 11+00	RT/LF	--	--	520	--	3	3
TOTAL		320	44	520	380	3	3

SIGNING QUANTITIES

LOCATION	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	DESCRIPTION
NW BRIDGE CORNER	3.00	1	1	1	W5-52 L
SW BRIDGE CORNER	3.00	1	1	1	W5-52 L
NE BRIDGE CORNER	3.00	1	1	1	W5-52 R
SE BRIDGE CORNER	3.00	1	1	1	W5-52 R
TOTAL	12.00	4	4	4	

TRAFFIC CONTROL

LOCATION	CALENDAR DAYS IN SERVICE DAYS	643.0100 TRAFFIC CONTROL PROJECT 8422-00-70 EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY
DZIEMELA RD	69	1	690	1104	690
TOTAL	69	1	690	1104	690

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9920 SLOPE STAKES LF
9+00 - 11+00	DZIEMELA RD	157	157	157
TOTAL		157	157	157

SAWING ASPHALT

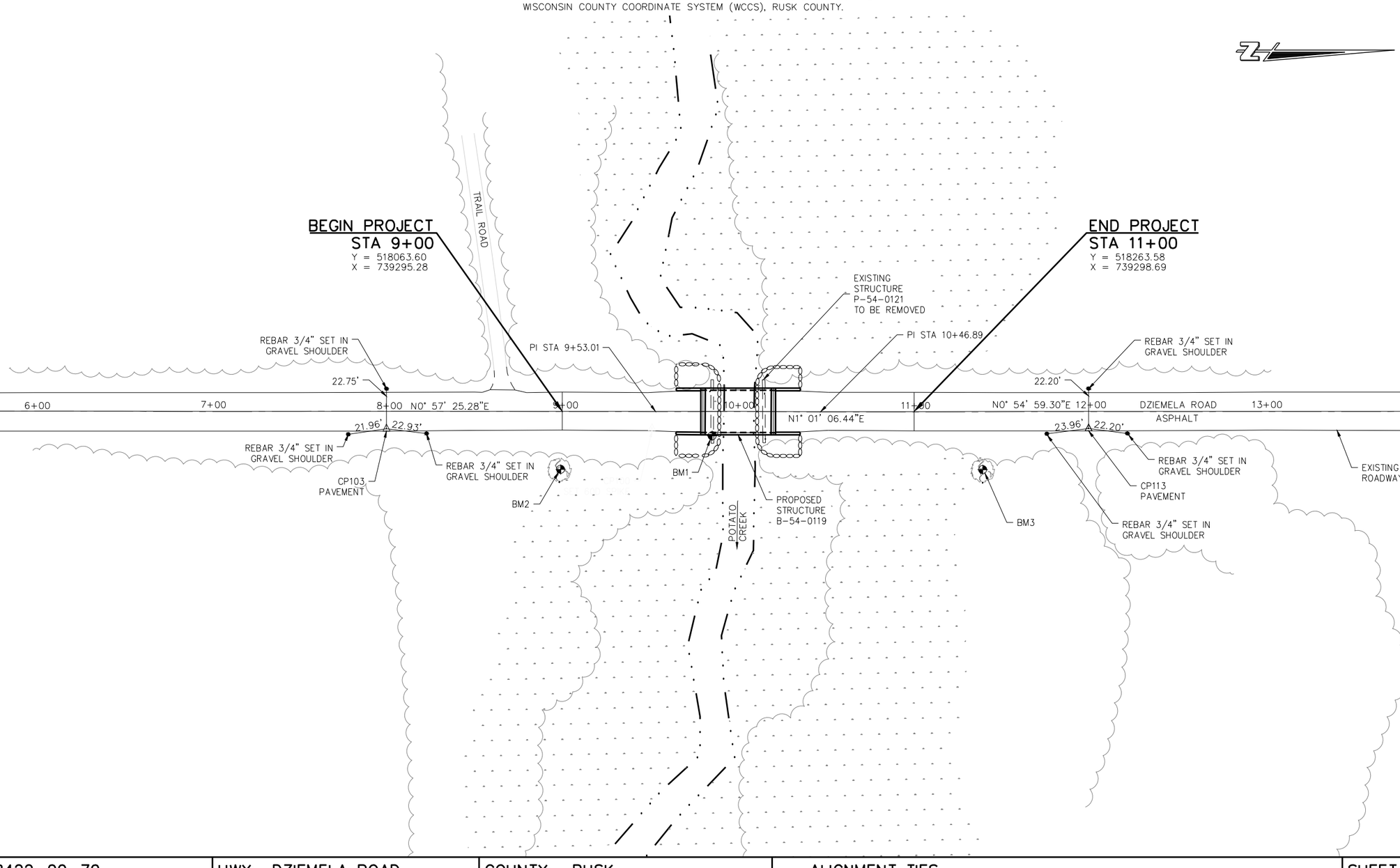
STATION	LOCATION	690.0150 LF
9+00	BEGIN PROJECT	22
11+00	END PROJECT	22
TOTAL		44

BENCHMARKS			
NO	STA	DESCRIPTION	ELEV
1	9+85±	13.9' RT SET PK NAIL SE BRIDGE CORNER	1082.11
2	9+00±	33.0' RT SET COTTON SPINDLE 11" ASH TREE	1077.29
3	11+40±	33.0' RT SET COTTON SPINDLE 14" POPPLE TREE	1077.40

COORDINATES

DESCRIPTION	STATION	LOCATION	NORTHING	EASTING
CP 103	8+00.12	9.97' RT OF C/L	517963.59	739303.58
BEGIN PROJECT	9+00.00	C/L	518063.60	739295.28
PI	9+53.01	C/L	518116.61	739296.17
PI	10+46.89	C/L	518210.48	739297.84
END PROJECT	11+00.00	C/L	518263.58	739298.69
CP 113	11+99.10	9.74' RT OF C/L	518362.51	739310.02

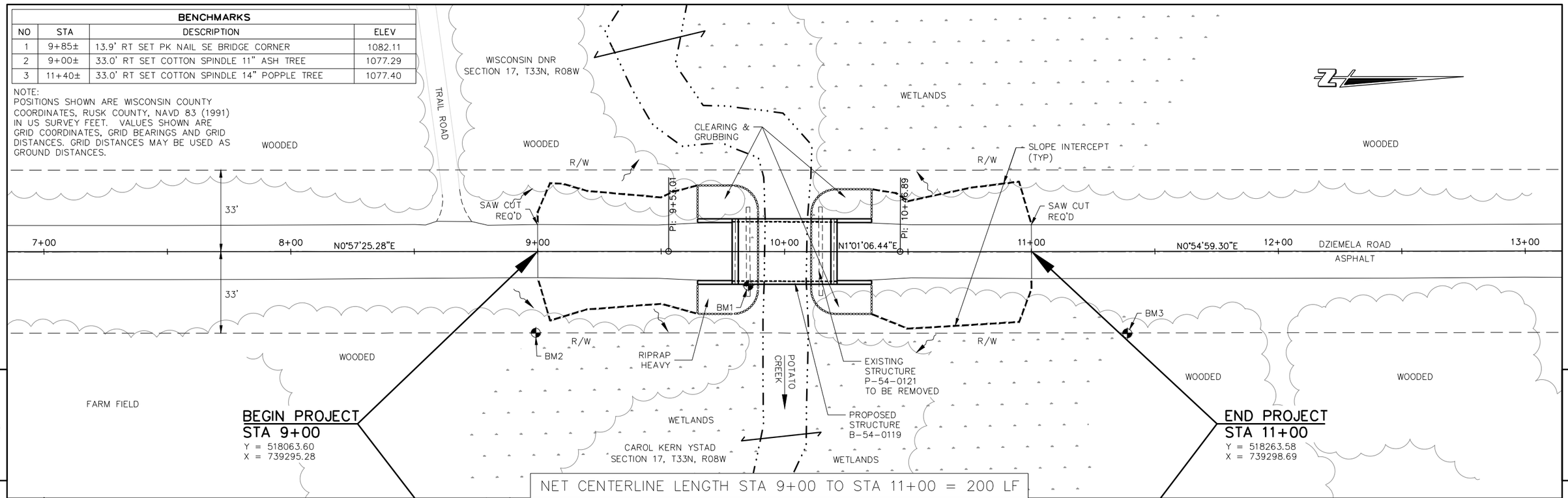
NOTE: COORDINATED AND BEARINGS ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RUSK COUNTY.

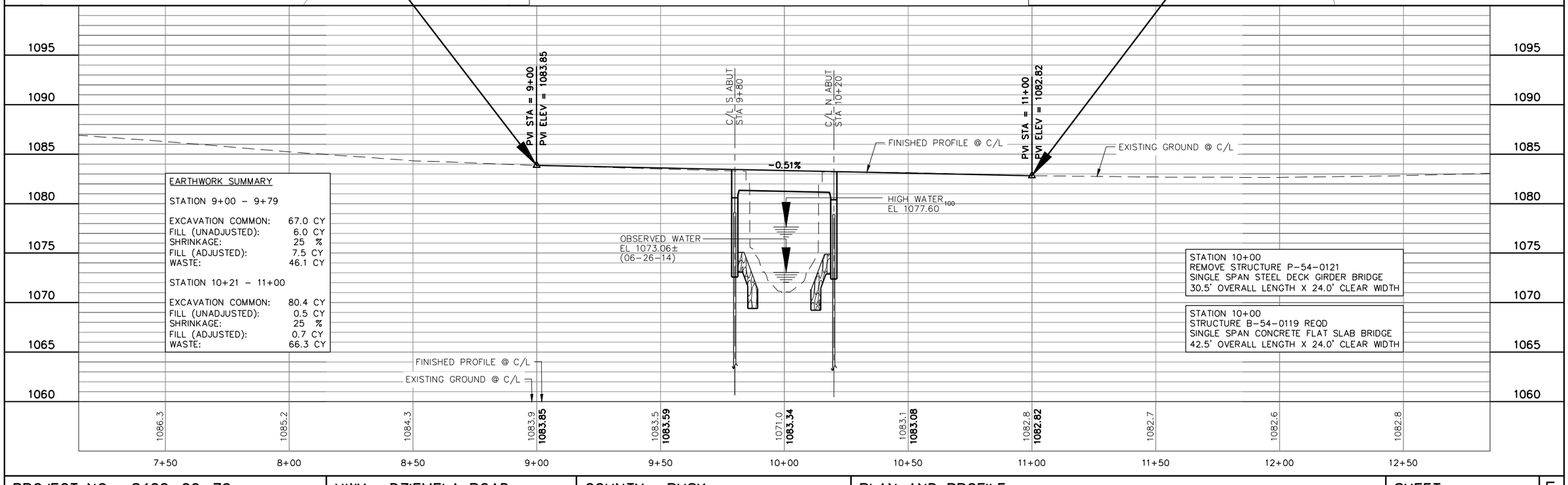


PROJECT NO: 8422-00-70	HWY: DZIEMELA ROAD	COUNTY: RUSK	ALIGNMENT TIES	SHEET	E

BENCHMARKS			
NO	STA	DESCRIPTION	ELEV
1	9+85±	13.9' RT SET PK NAIL SE BRIDGE CORNER	1082.11
2	9+00±	33.0' RT SET COTTON SPINDLE 11" ASH TREE	1077.29
3	11+40±	33.0' RT SET COTTON SPINDLE 14" POPPLE TREE	1077.40

NOTE:
POSITIONS SHOWN ARE WISCONSIN COUNTY COORDINATES, RUSK COUNTY, NAVD 83 (1991) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.





EARTHWORK SUMMARY

STATION 9+00 – 9+79

EXCAVATION COMMON:	67.0 CY
FILL (UNADJUSTED):	6.0 CY
SHRINKAGE:	25 %
FILL (ADJUSTED):	7.5 CY
WASTE:	46.1 CY

STATION 10+21 – 11+00

EXCAVATION COMMON:	80.4 CY
FILL (UNADJUSTED):	0.5 CY
SHRINKAGE:	25 %
FILL (ADJUSTED):	0.7 CY
WASTE:	66.3 CY

STATION 10+00
REMOVE STRUCTURE P-54-0121
SINGLE SPAN STEEL DECK GIRDER BRIDGE
30.5' OVERALL LENGTH X 24.0' CLEAR WIDTH

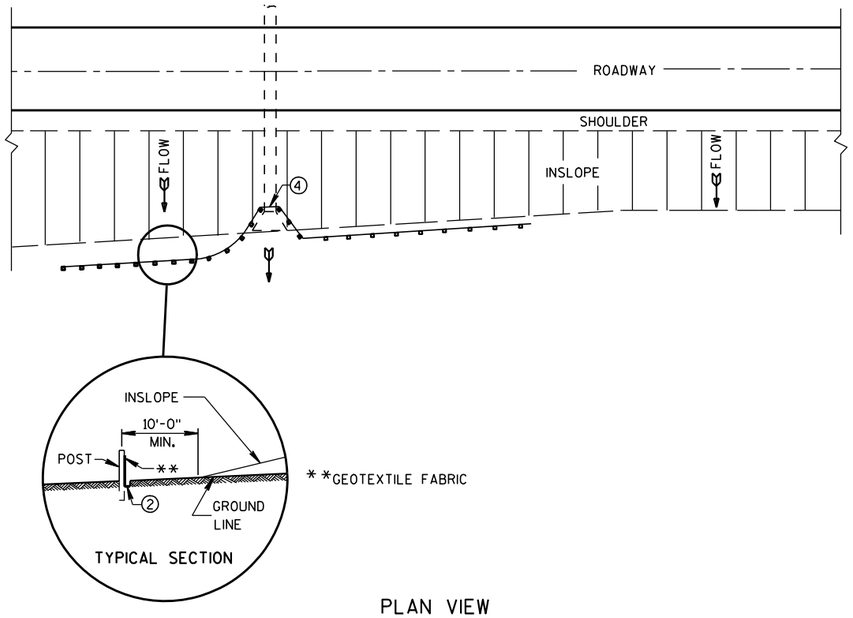
STATION 10+00
STRUCTURE B-54-0119 REQD
SINGLE SPAN CONCRETE FLAT SLAB BRIDGE
42.5' OVERALL LENGTH X 24.0' CLEAR WIDTH

PROJECT NO: 8422-00-70	HWY: DZIEMELA ROAD	COUNTY: RUSK	PLAN AND PROFILE	SHEET 9 E

Standard Detail Drawing List

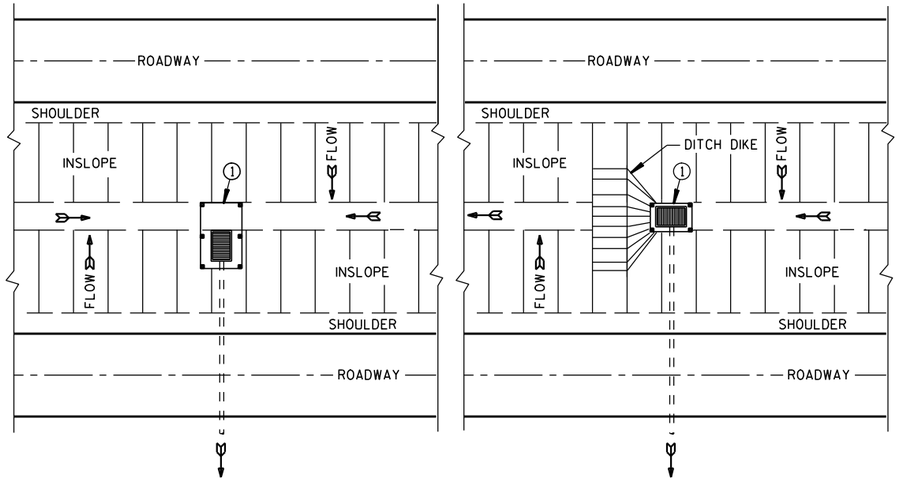
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES

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.

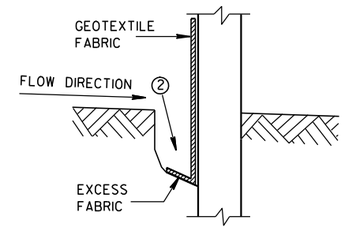
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

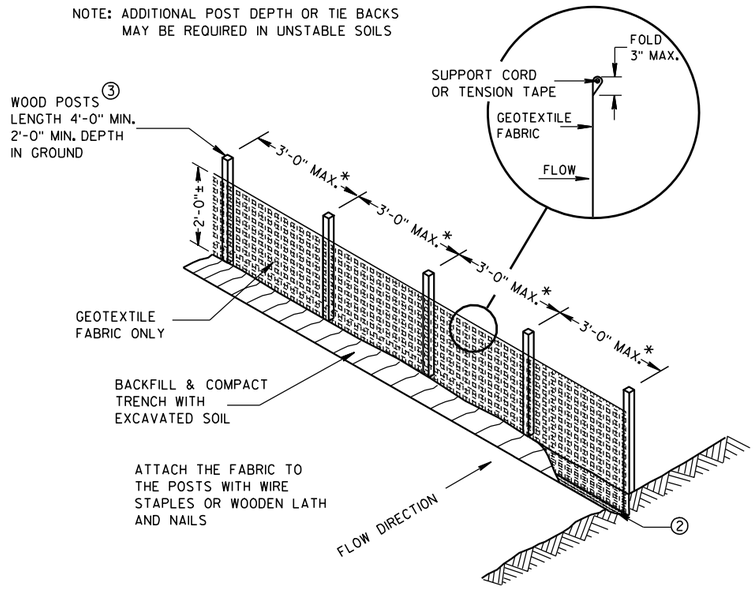
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

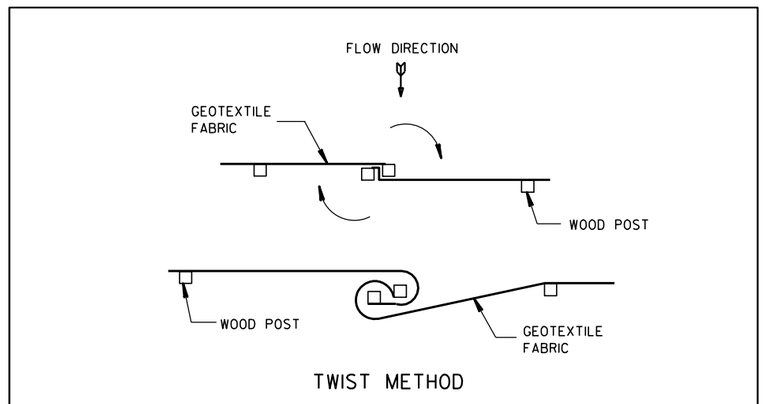
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



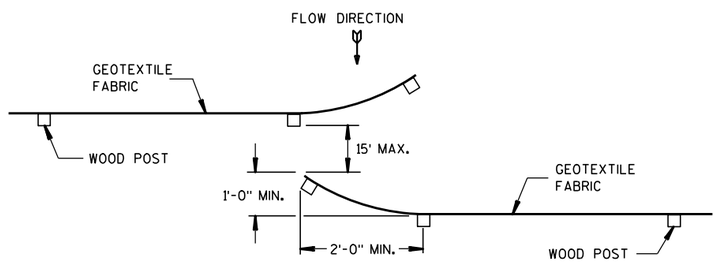
TRENCH DETAIL



SILT FENCE

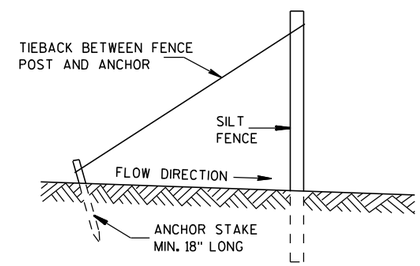


TWIST METHOD



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

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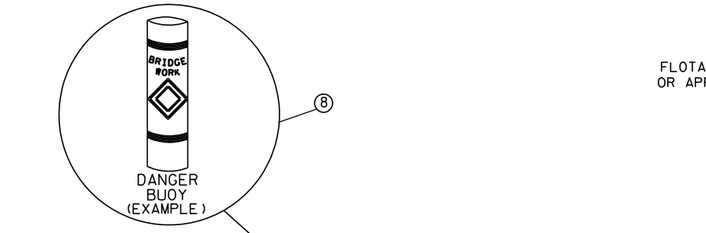
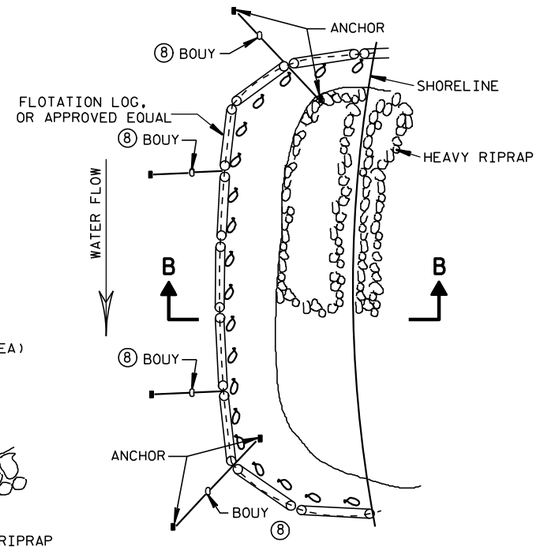
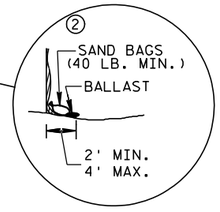
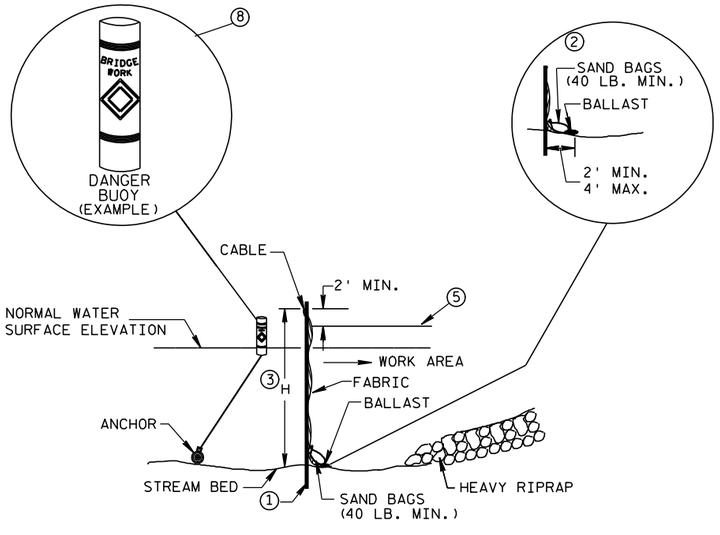


SECTION B-B

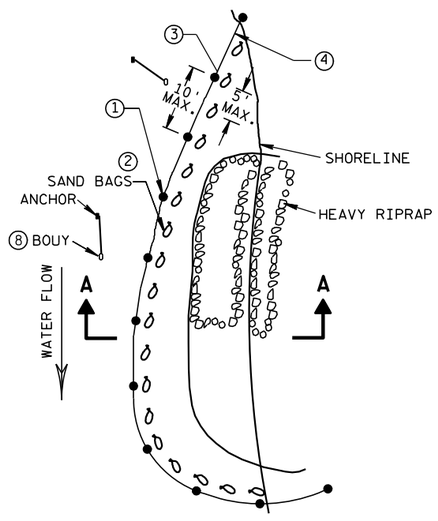




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

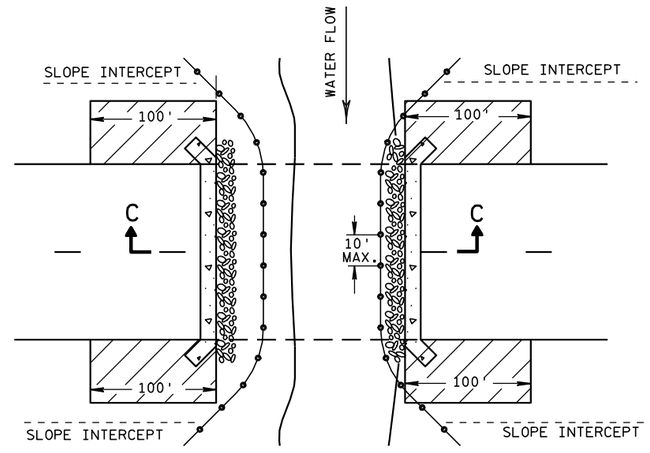
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

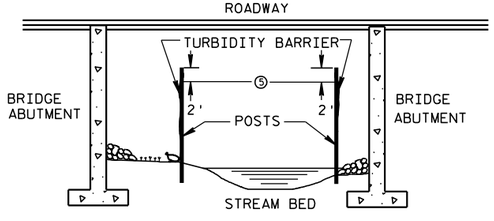
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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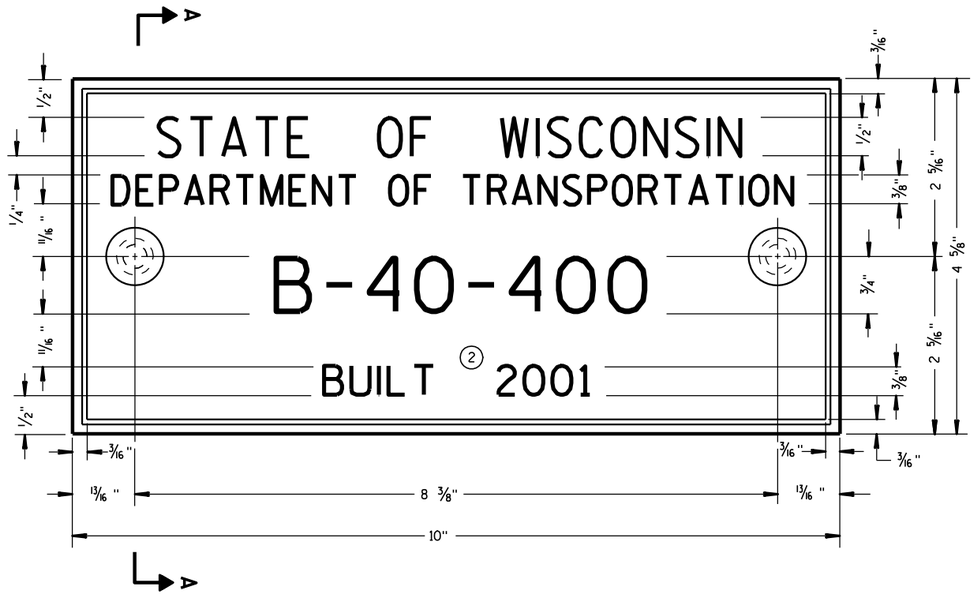
S.D.D. 8 E 11-2



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

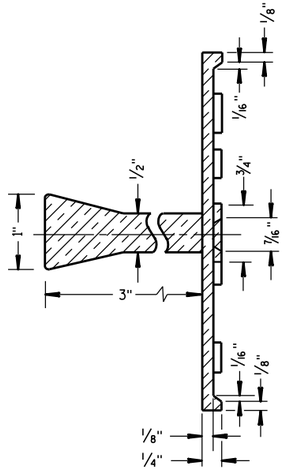
GENERAL NOTES

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.

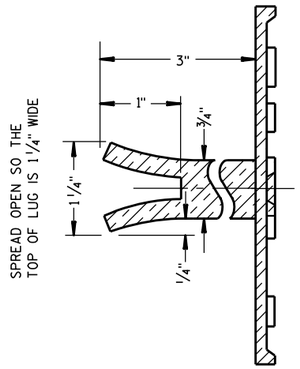
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

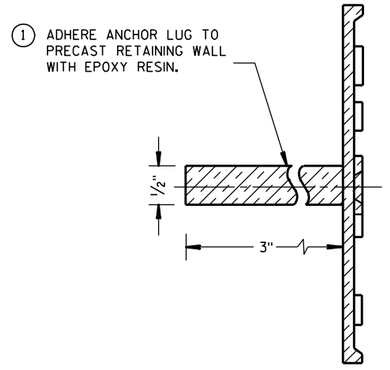
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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

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S.D.D. 12 A 3-10

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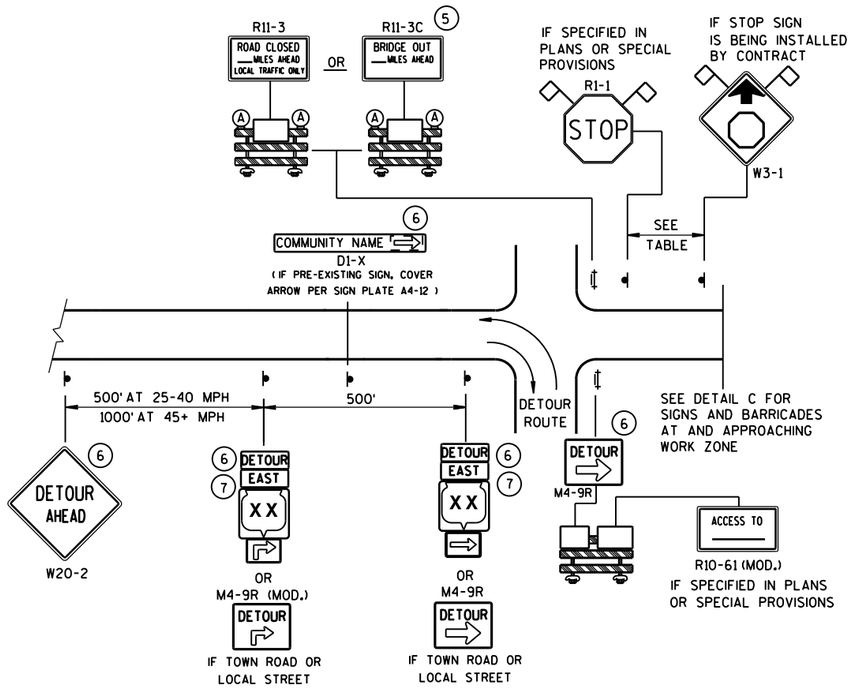
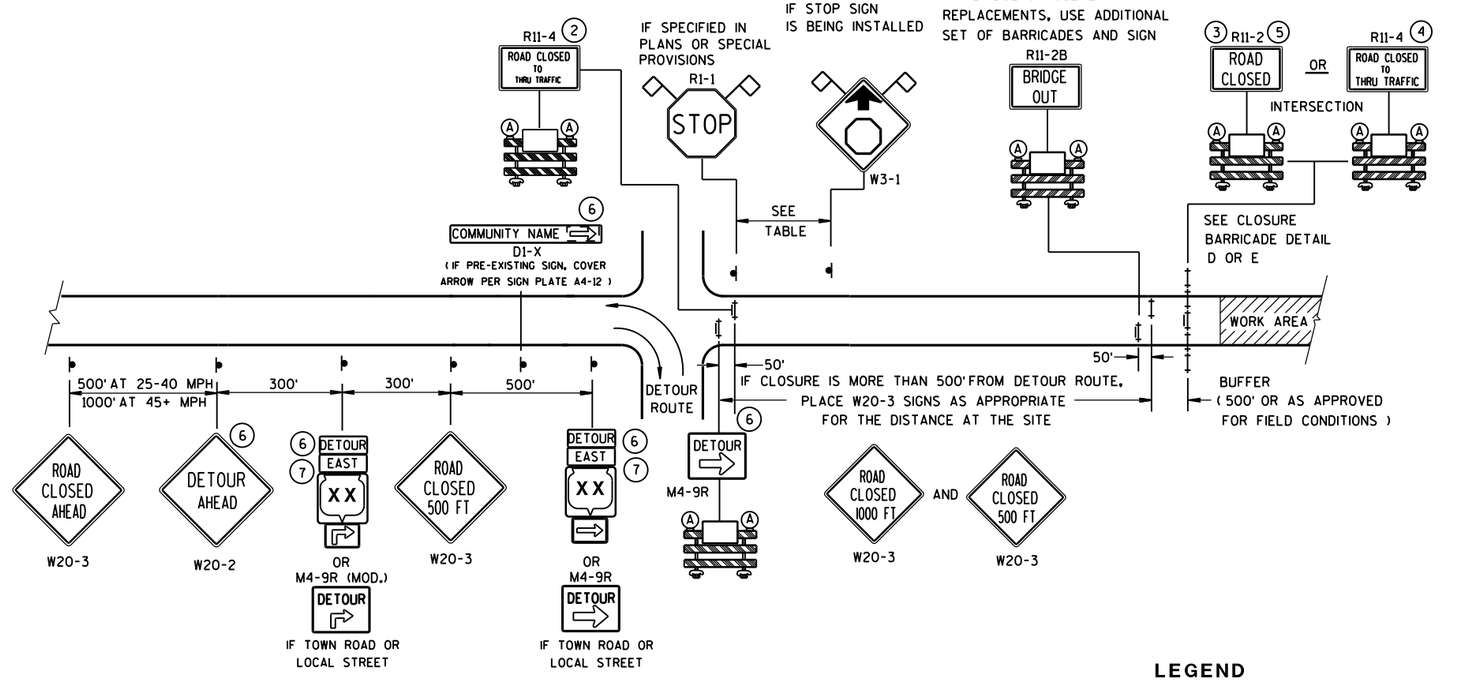
S.D.D. 12 A 3-10



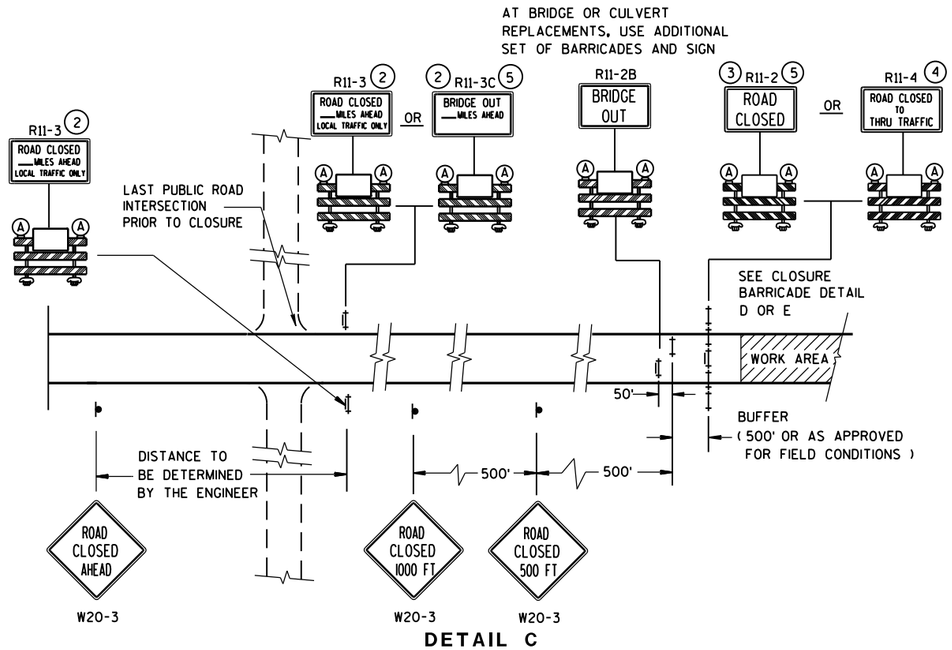
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

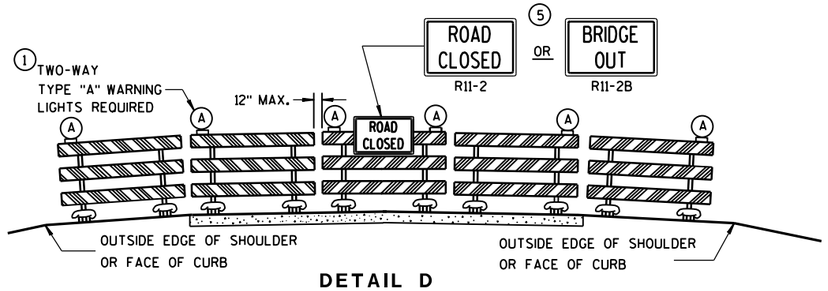
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

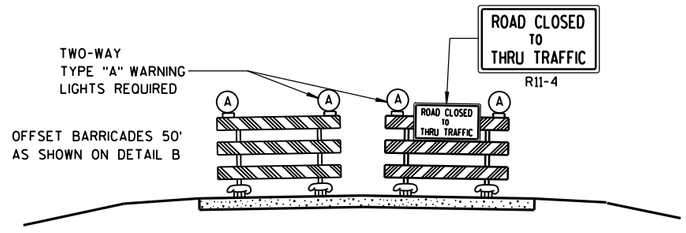
S.D.D. 15 C 2-5a



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.

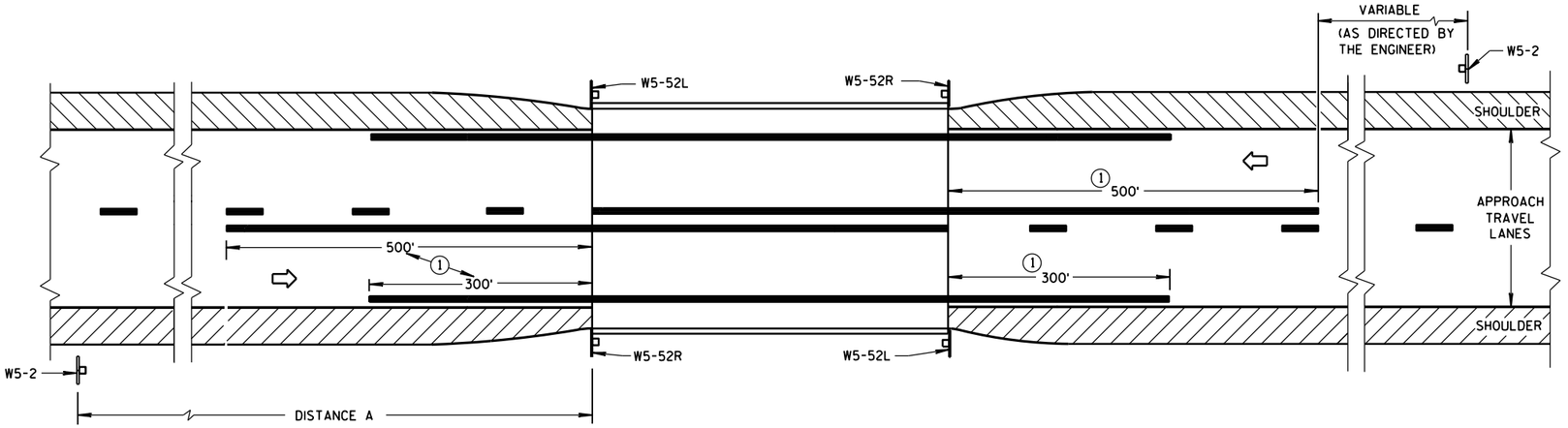
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 2-5b



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.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

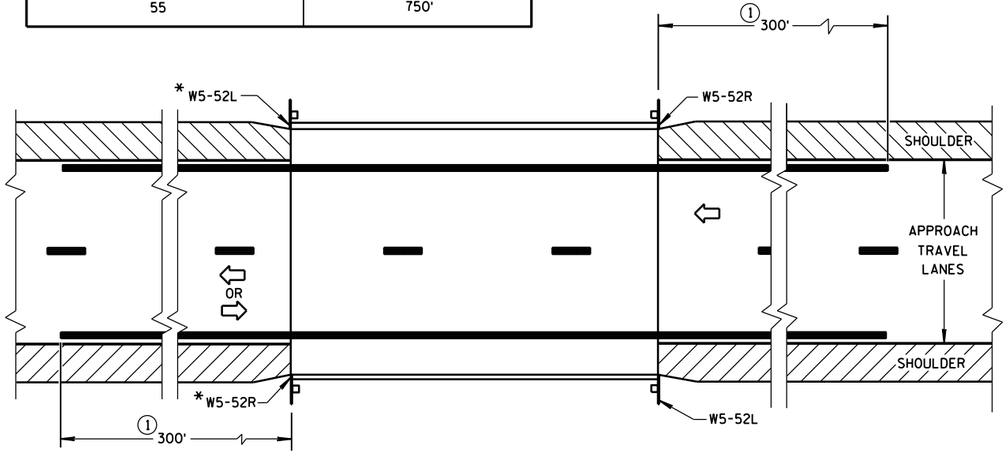
DISTANCE TABLE

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

SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

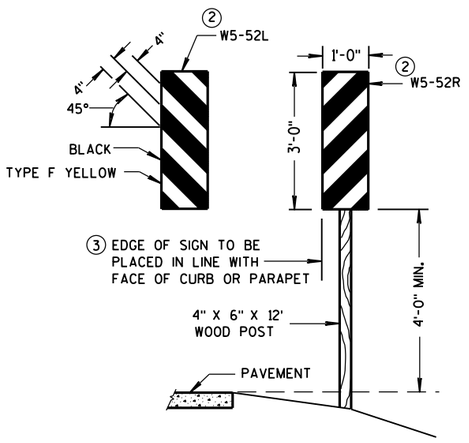


*OMIT ON ONE-WAY TRAVELLED WAYS

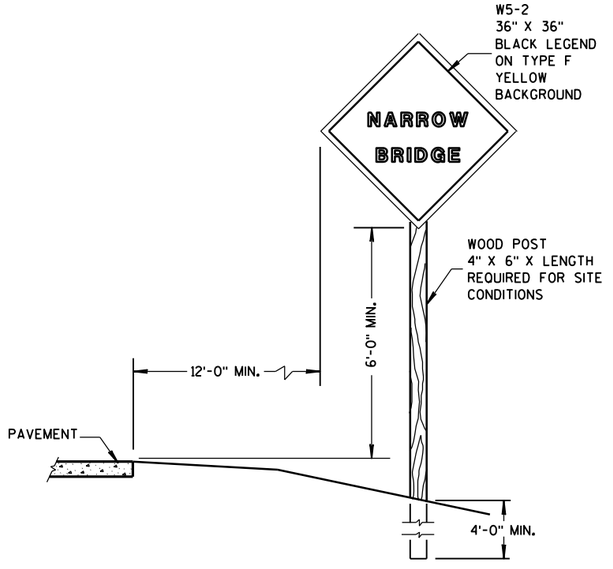
SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-2014 DATE

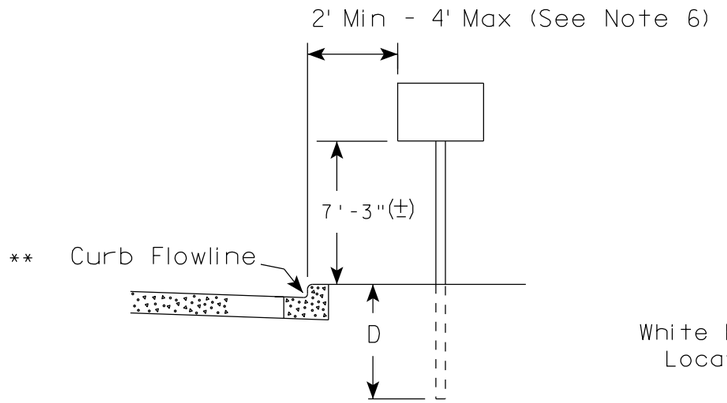
/S/ Travis Feltes STATE TRAFFIC ENGINEER

FHWA

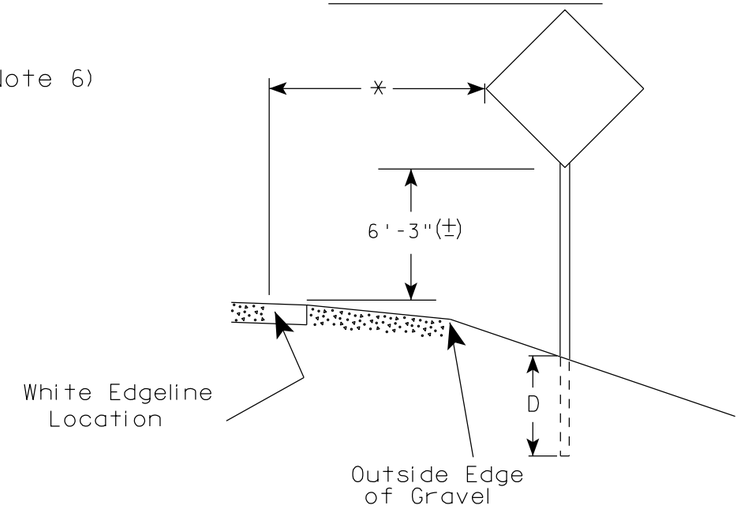
6

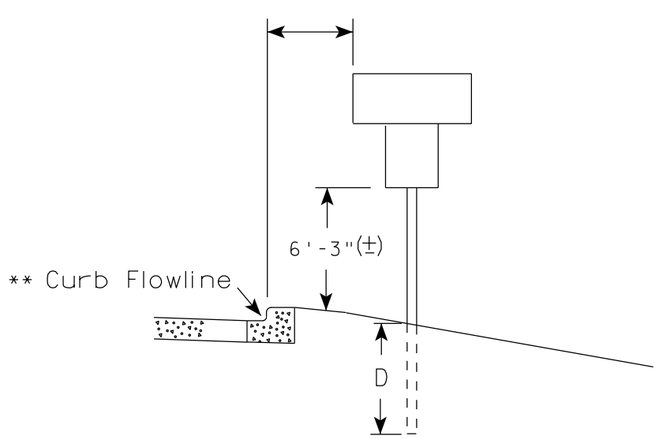
S.D.D. 15 C 6-7

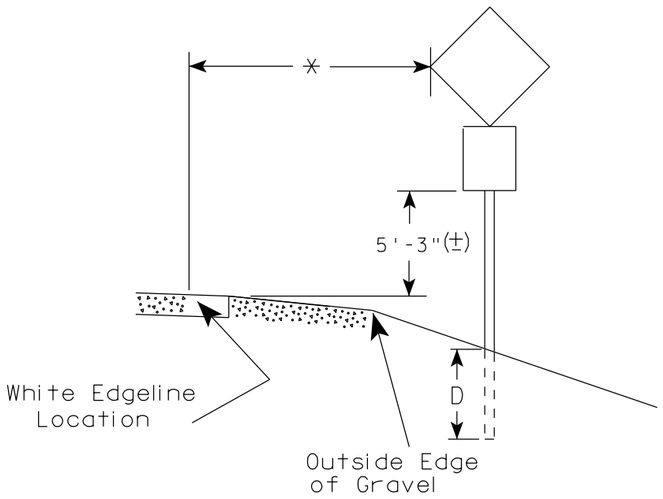
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

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

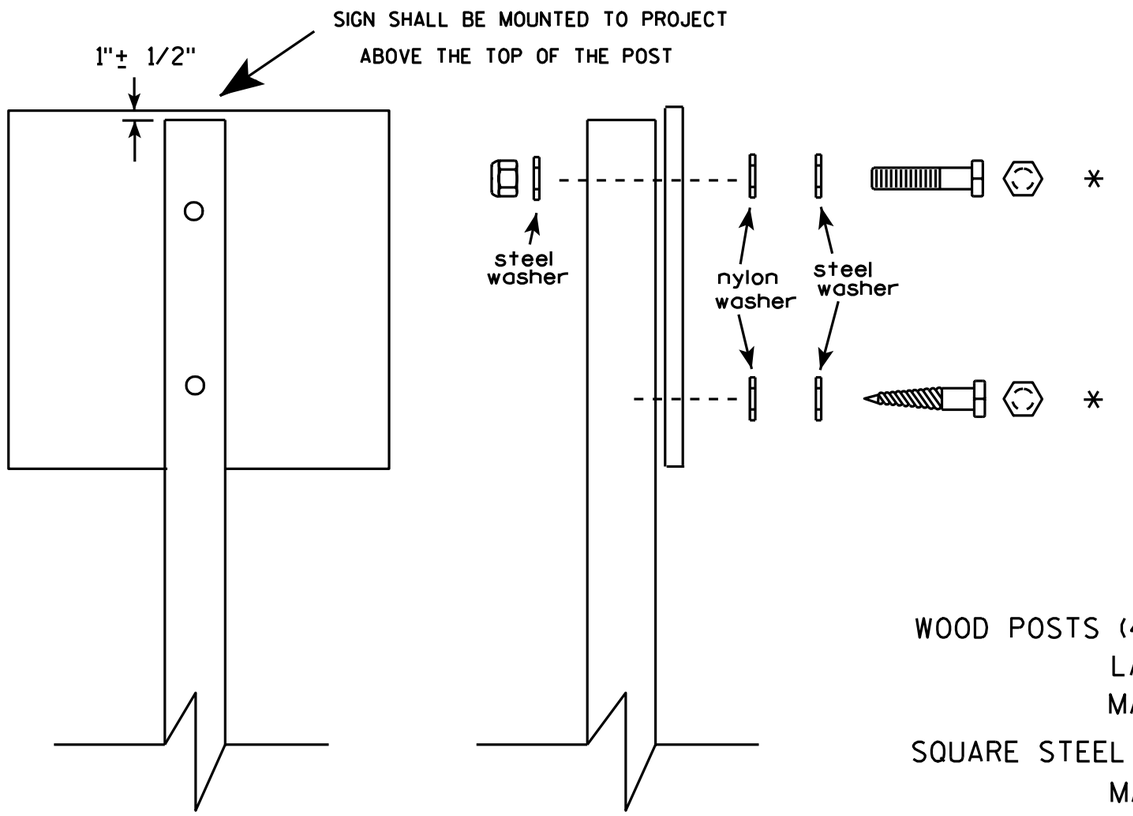
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

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

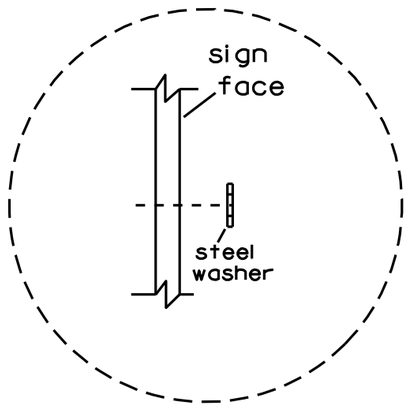
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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.



Washer Placement when Sign Has Other Than Type H or Type F Face

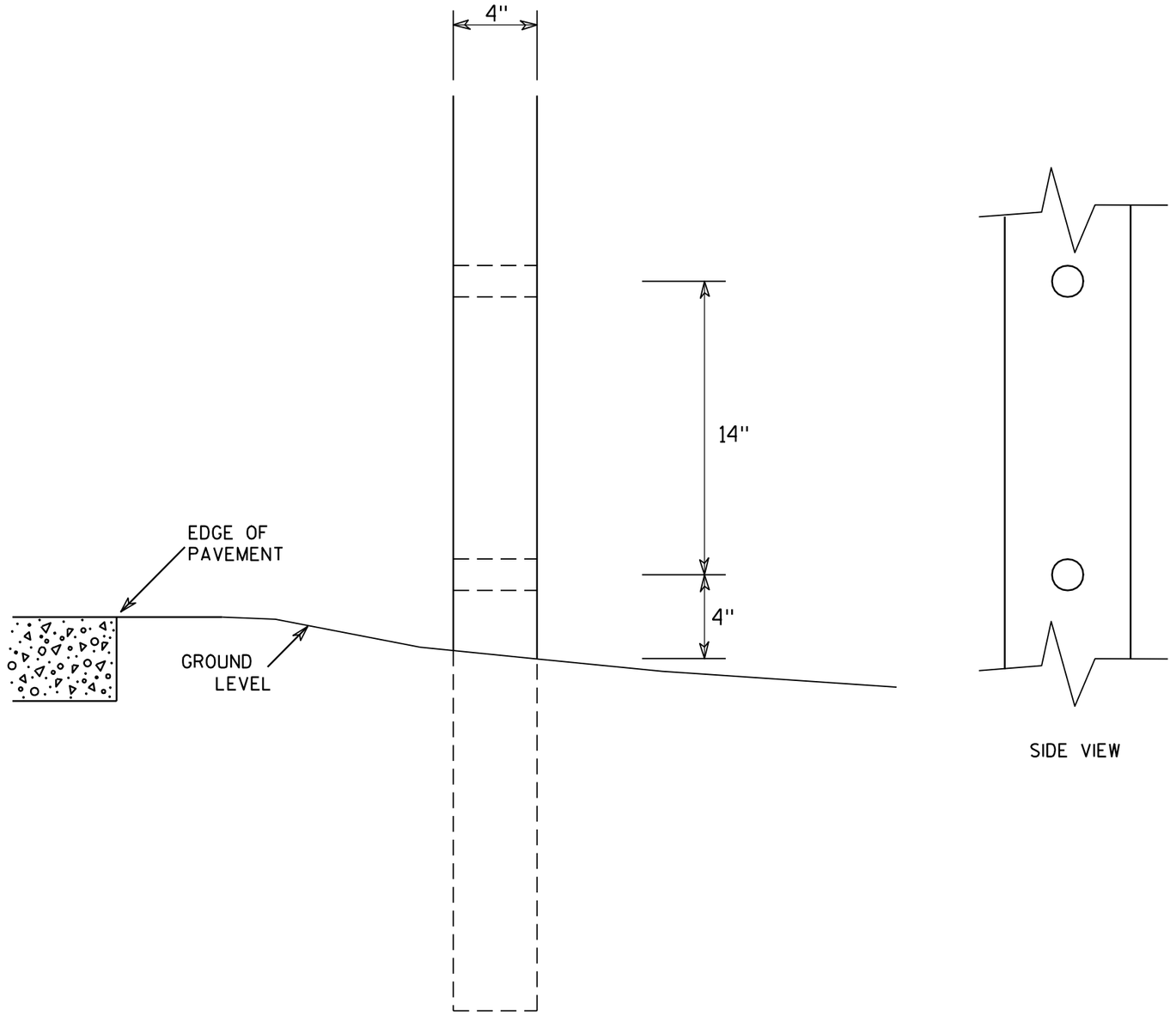
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7



SIDE VIEW

GENERAL NOTES

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

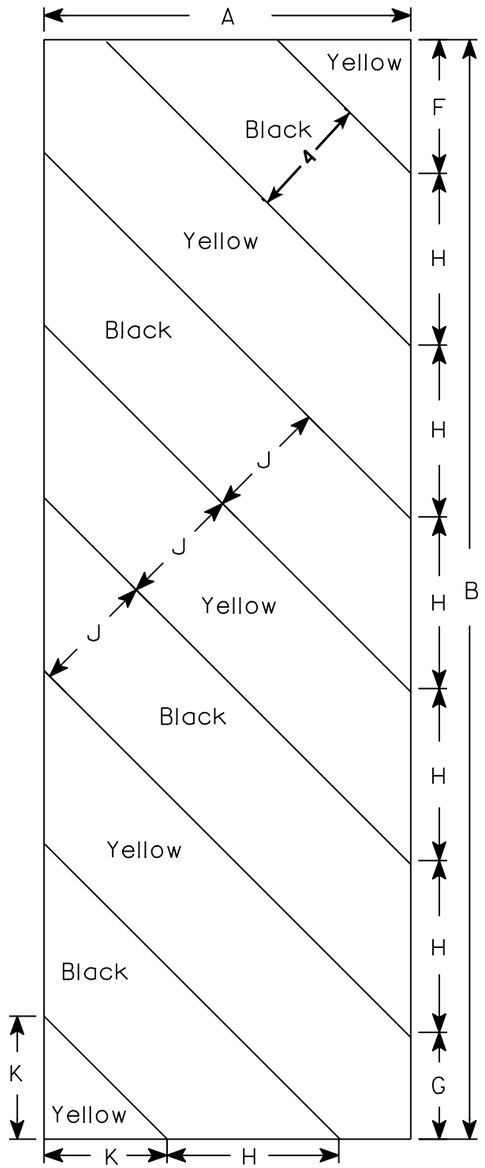
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

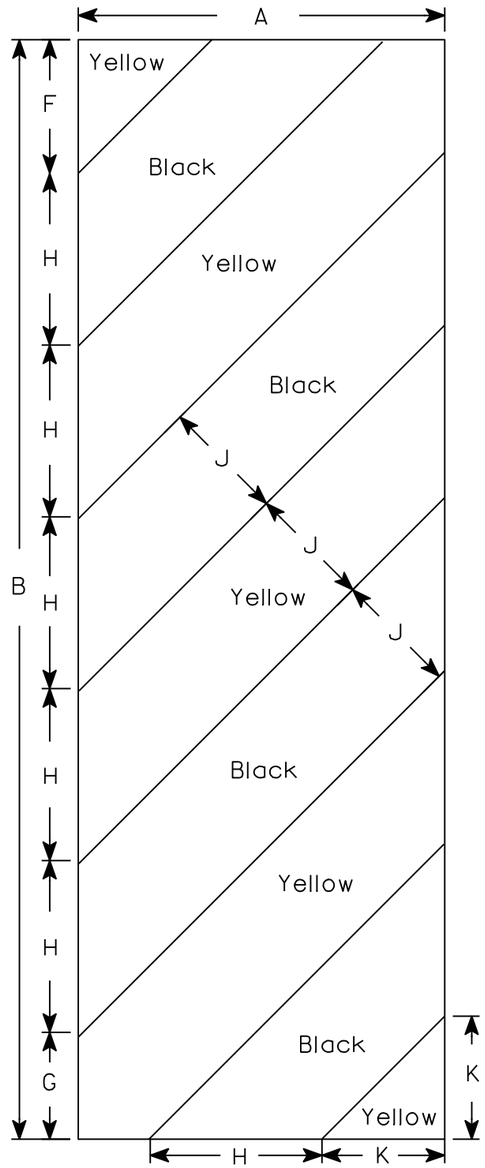
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 19	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

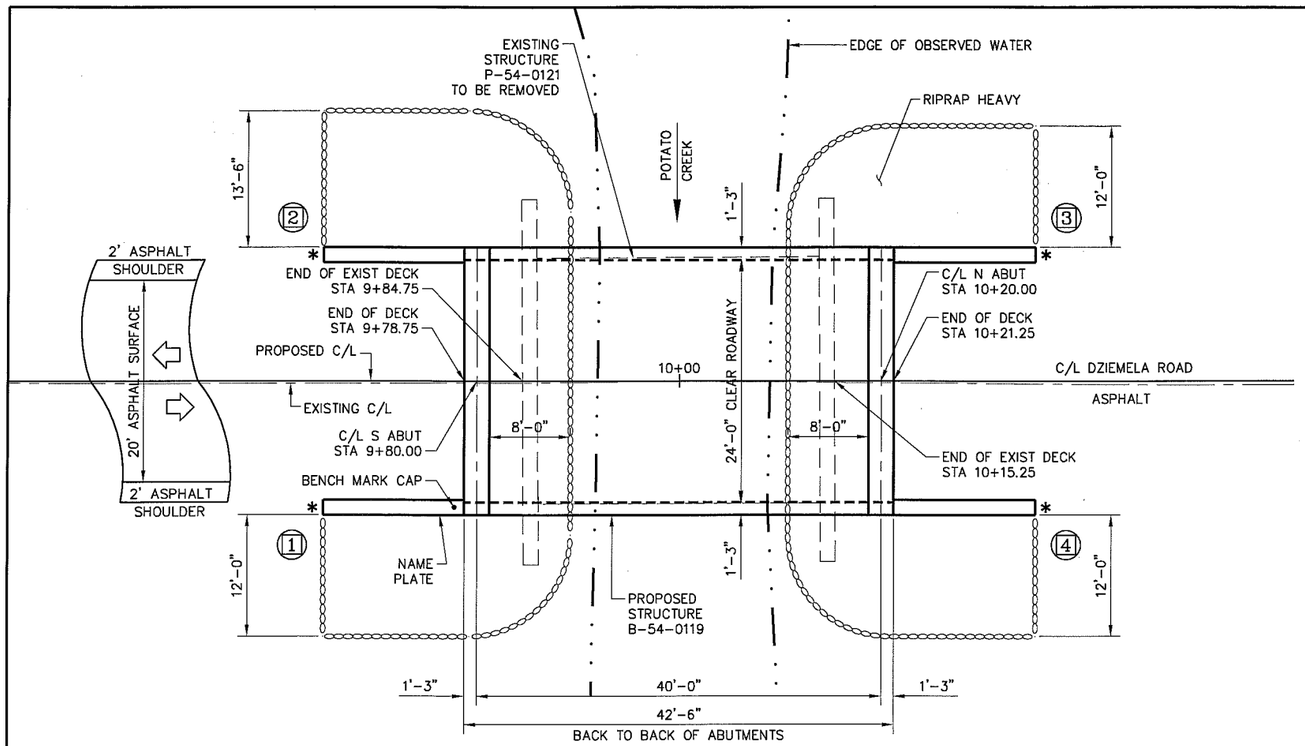
W5-52L & W5-52R

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: 20 | E

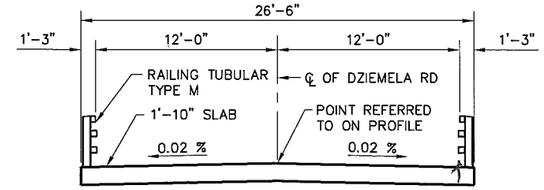


PLAN

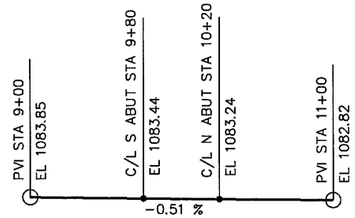
SINGLE SPAN CONCRETE FLAT SLAB BRIDGE

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT

(2) INDICATES WING NUMBER



CROSS-SECTION THRU ROADWAY



PROPOSED GRADE LINE

DESIGN DATA

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

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.18
OPERATING RATING FACTOR	RF = 1.53
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV)	250 KIPS

ULTIMATE DESIGN STRESSES:

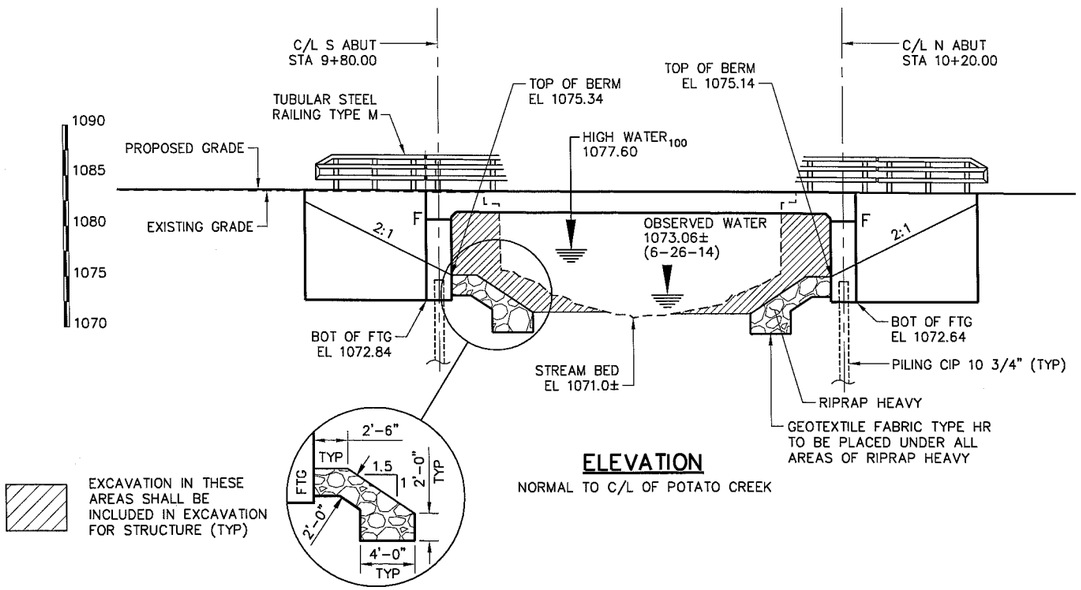
CONCRETE MASONRY	
SLAB	f'c = 4,000 PSI
ALL OTHER	f'c = 3,500 PSI
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 PSI

HYDRAULIC DATA

100 YEAR FREQUENCY	
DRAINAGE AREA	19.3 SQ MILES
Q_{100} TOTAL	880 CFS
THRU STRUCTURE	880 CFS
OVERFLOW	NA
VELOCITY - THRU STRUCTURE	6.70 FPS
WATERWAY AREA THRU STRUCTURE	131.0 SQ FT
HIGH WATER $_{100}$ ELEVATION	1077.60 FT
SCOUR CRITICAL CODE = 5	
2 YEAR FREQUENCY	
Q_2 TOTAL	330 CFS
HIGH WATER $_2$ ELEVATION	1075.49 FT

TRAFFIC DATA

AADT (2016)	50
AADT (2036)	70
DESIGN SPEED	55 MPH



ELEVATION

NORMAL TO C/L OF POTATO CREEK

WISCONSIN
TROY L. PETERSON
E-31102
MENOMONIE
WI
PROFESSIONAL ENGINEER
11-3-15

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10 3/4" x 0.365", WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.
ESTIMATED LENGTH 40' SOUTH ABUTMENT
ESTIMATED LENGTH 40' NORTH ABUTMENT

‡ 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.

BENCHMARK

PK NAIL
SE BRIDGE CORNER
EL 1082.11

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. NORTH ABUTMENT
6. ABUTMENT DETAILS
7. SUPERSTRUCTURE
8. TUBULAR STEEL RAILING TYPE 'M'

DESIGN CONTACT:
TROY PETERSON
(715) 235-9081

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

STATE PROJECT NUMBER
8422-00-70

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
Cedar corporation
MENOMONIE - MADISON - GREEN BAY
www.cedarcorp.com 800-472-7372

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 11/19/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-54-0119

DZIEMELA ROAD OVER POTATO CREEK

COUNTY	TOWN
RUSK	BIG BEND

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ATA	TLP	NJT	TLP

GENERAL PLAN

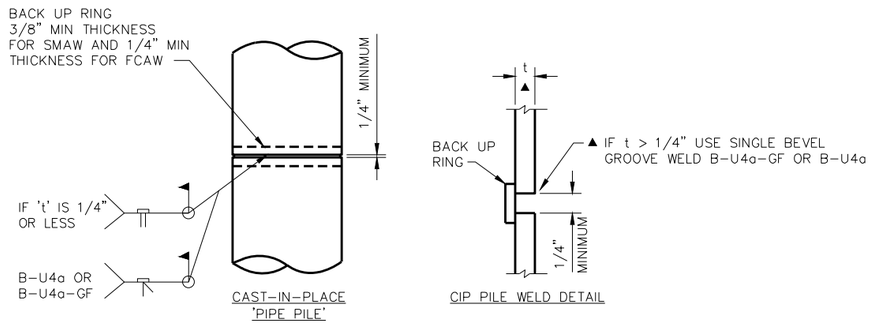
SHEET 1 OF 8

I:\Clients\W3916 WDOT NW Region - Knight\003 8422-00-00 Potato Creek Bridge\100 Cad\dwg\080101_gp_PotatoCr.dwg 11/03/15 9:34:16 AM

STATE PROJECT NUMBER
8422-00-70

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	S ABUT	N ABUT	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA 10+00	LS	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-54-0119	LS	———	———	———	1
210.0100	BACKFILL STRUCTURE	CY	50	50	———	100
502.0100	CONCRETE MASONRY BRIDGES	CY	45.2	45.2	80.6	171
502.3200	PROTECTIVE SURFACE TREATMENT	SY	———	———	150	150
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1730	1730	———	3460
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1880	1880	14460	18220
550.2106	PILING CIP CONCRETE 10 3/4 x 0.365-INCH	LF	200	200	———	400
513.4061	RAILING TUBULAR TYPE M STRUCTURE B-54-0119	LF	———	———	133	133
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5	5	———	10
606.0300	RIPRAP HEAVY	CY	75	75	———	150
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	80	———	160
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	140	135	———	275
	NON-BID ITEMS					
	FILLER	SIZE	———	———	———	1/2 & 3/4



PILE SPLICE DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

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

ALL REINFORCING BARS ARE ENGLISH. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK 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 FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION.

THE EXISTING STRUCTURE (P-54-0121) IS A 30.5' LONG BY 24.0' CLEAR WIDTH SINGLE SPAN STEEL DECK GIRDER BRIDGE.

THE PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF THE SLAB AND TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF THE SLAB.

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

THE GRADATION OF THE BACKFILL STRUCTURE SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

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

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

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

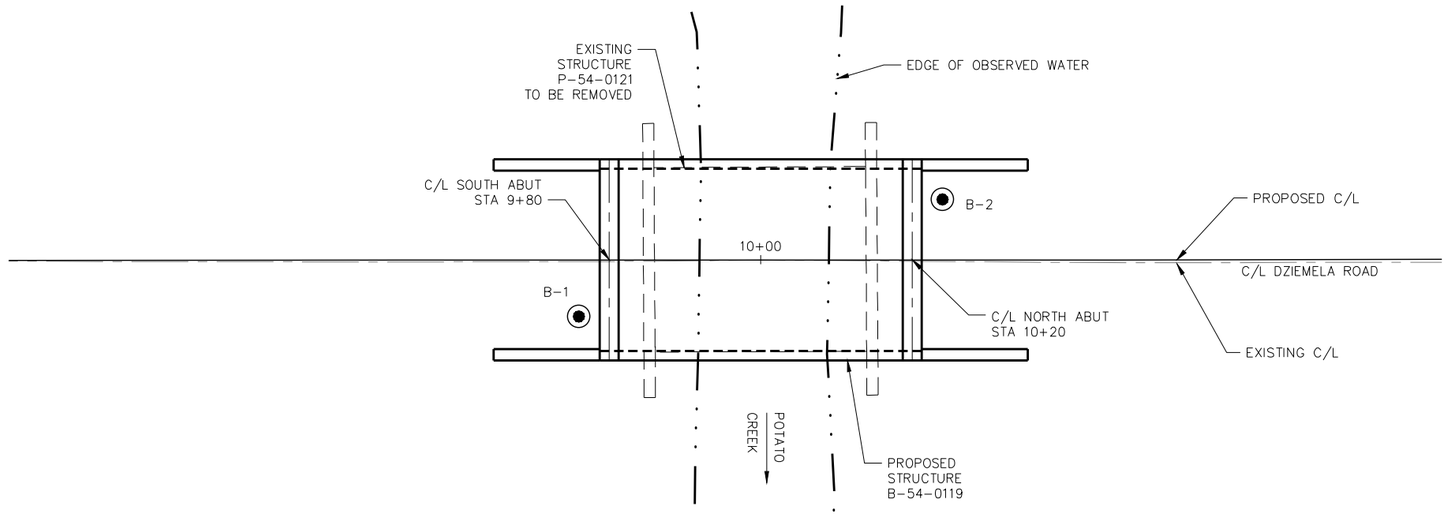
STRUCTURE B-54-0119

DRAWN BY NJT | PLANS CK'D TLP

QUANTITIES & NOTES

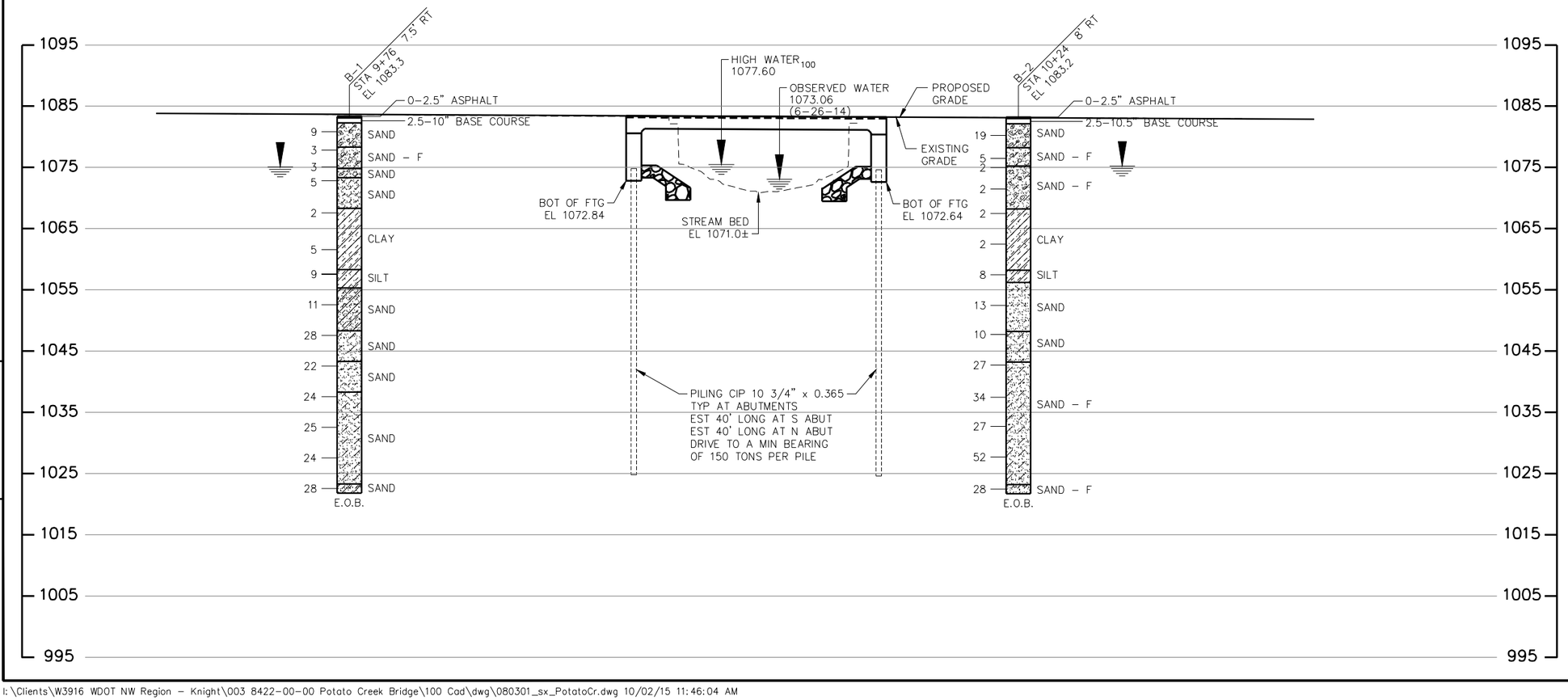
SHEET 2 OF 8

I:\Clients\W3916 WDOT NW Region - Knight\003 8422-00-00 Potato Creek Bridge\100 Cad\dwg\080201_bq_PotatoCr.dwg 11/03/15 10:13:53 AM



BORINGS TAKEN BY:

MIDWEST ENGINEERING SERVICES, INC.
12839 30TH AVENUE, SUITE A
CHIPPEWA FALLS, WI 54729
(715) 738-2770
9/25/2014



STATE PROJECT NO.

8422-00-70

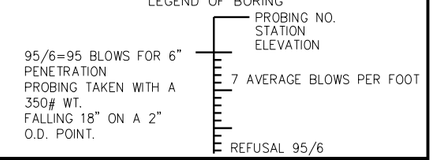
ABBREVIATIONS

F---FINE	VF---VERY FINE	M---MEDIUM
C---COARSE	WS---WEATHERED	SO---SOUND

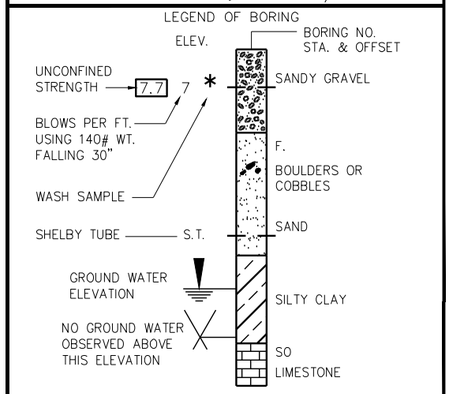
MATERIAL SYMBOLS

TOPSOIL	SILT	SANDSTONE
SAND	PEAT	LIMESTONE
GRAVEL	CLAY	IGNEOUS ROCK

LEGEND OF BORING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROX. AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

Cedar corporation

MENOMONIE - MADISON - GREEN BAY
www.cedarcorp.com 800-472-7372

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-54-0119

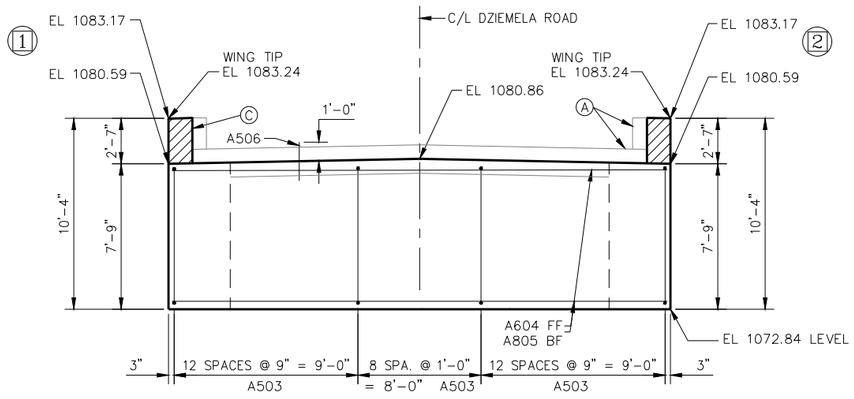
DRAWN BY NJT | PLANS CHECKED TLP

SUBSURFACE EXPLORATION

SHEET 3 OF 8

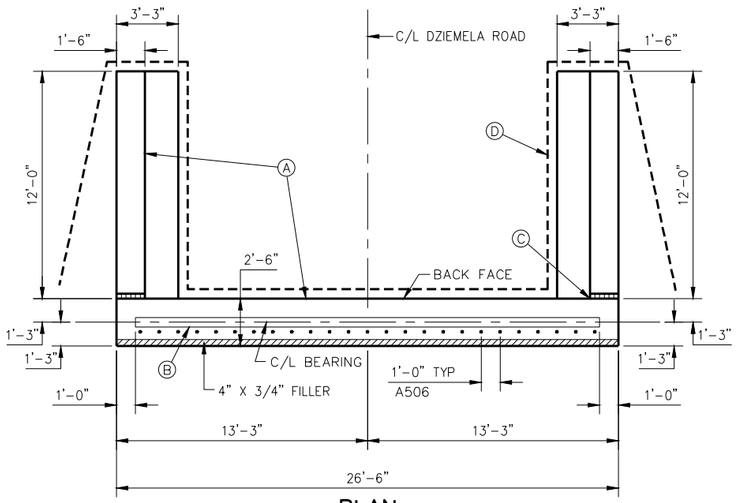
I:\Clients\W3916 WDOT NW Region - Knight\003 8422-00-00 Potato Creek Bridge\100 Cad\dwg\080301_sx_PotatoCr.dwg 10/02/15 11:46:04 AM

STATE PROJECT NUMBER
8422-00-70

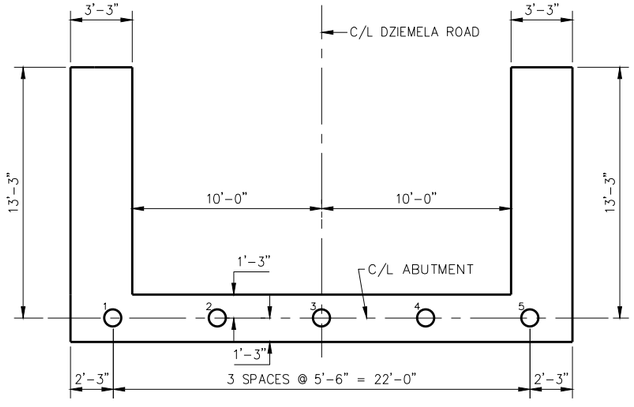


NOTE: DISPLACE A503 BARS INTERFERING WITH PILING

ELEVATION
(LOOKING SOUTH)



PLAN



PILE PLAN

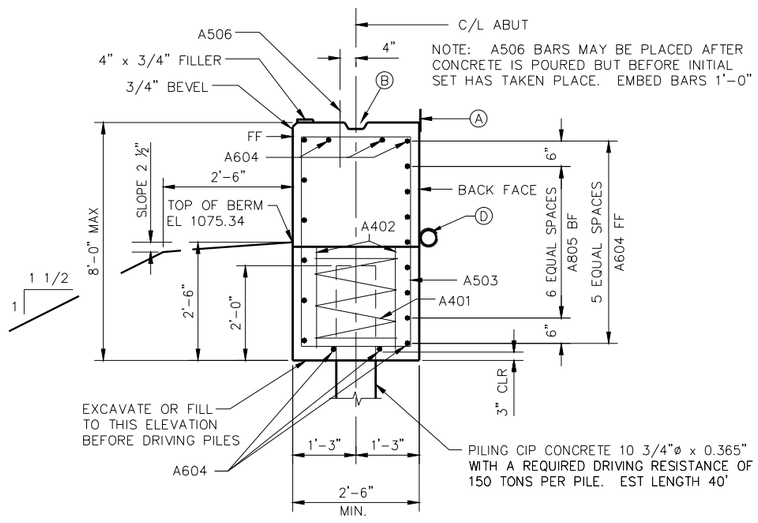
- (1) INDICATES WING NUMBER
- (A) 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW) SEAL ALL HORIZ & VERT JOINTS ON BACKFACE
- (B) KEYED CONST JOINT FORMED BY BEVELED 2" x 6"
- (C) 1/2 " FILLER (INCLUDED IN WING LENGTH): SEAL EXPOSED HORIZ & VERT SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)
- (D) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE TO 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT BOTH ENDS OF PIPE UNDERDRAIN (SEE DETAIL). RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

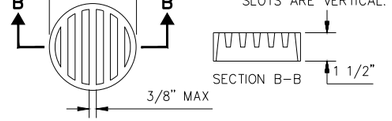
1730 # UNCOATED 1880# COATED

BAR MARK	COAT	NO REQUIRED	LENGTH	BENT	LOCATION
A401		5	28-0	X	BODY - ONE PER PILE
A402		10	2-3		BODY - TWO PER PILE
A503		33	19-3	X	BODY - STIRRUPS
A604		12	26-0		BODY - HORIZ FF
A805		7	26-0		BODY - HORIZ BF
A506	X	25	2-0		BODY - VERT DOWELS
A607	X	4	11-8		WING 1 & 2 - HORIZ TOP
A408	X	12	11-8		WING 1 & 2 - HORIZ TOP
A609	X	34	9-8	X	WING 1 & 2 - VERT TOP
A510	X	26	21-0	X	WING 1 & 2 - VERT BASE
A511	X	16	13-7		WING 1 & 2 BASE HORIZ FF
A612	X	18	13-11		WING 1 & 2 BASE HORIZ BF



NOTE: A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED BARS 1'-0"

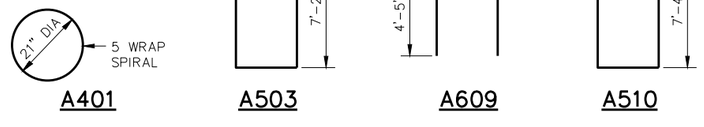
SECTION THRU BODY



* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

RODENT SHIELD

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 OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



A401 A503 A609 A510

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-54-0119

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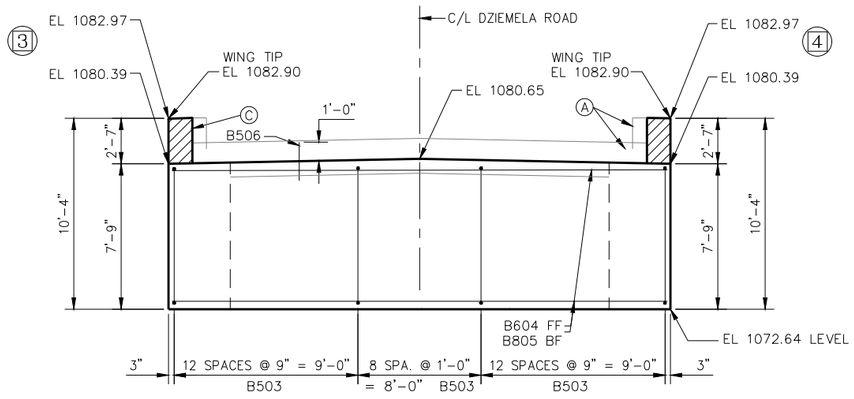
SOUTH ABUTMENT

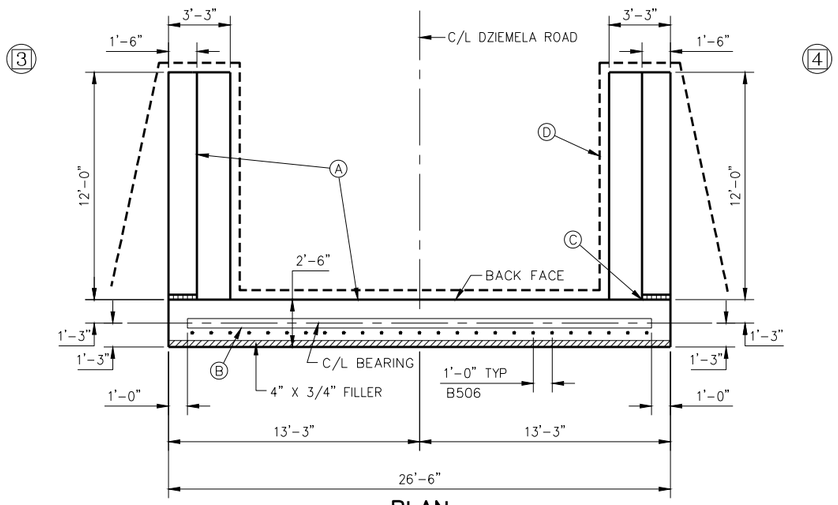
SHEET 4 OF 8

STATE PROJECT NUMBER
8422-00-70

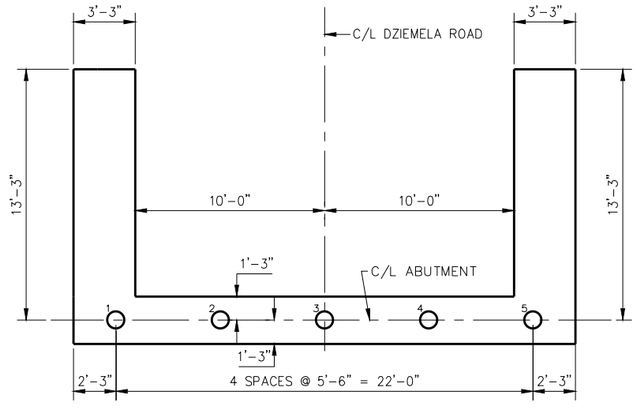


NOTE: DISPLACE B503 BARS INTERFERING WITH PILING

ELEVATION
(LOOKING NORTH)



PLAN



PILE PLAN

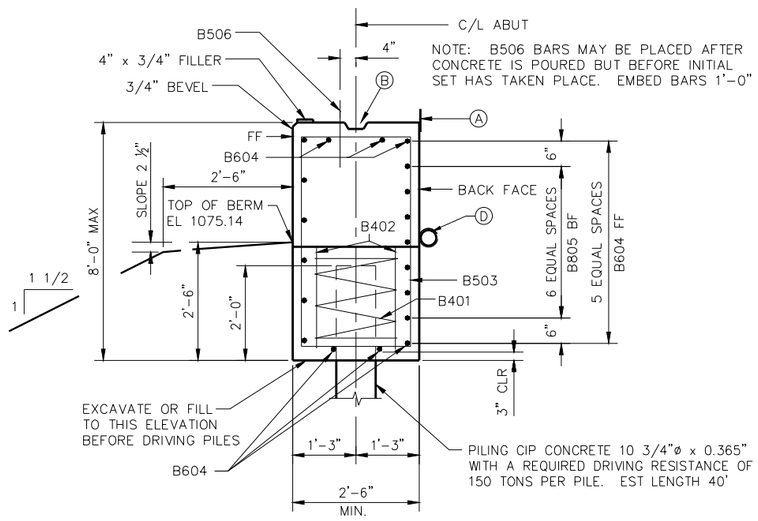
- (3) INDICATES WING NUMBER
- (A) 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW) SEAL ALL HORIZ & VERT JOINTS ON BACKFACE
- (B) KEYED CONST JOINT FORMED BY BEVELED 2" x 6"
- (C) 1/2 " FILLER (INCLUDED IN WING LENGTH): SEAL EXPOSED HORIZ & VERT SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)
- (D) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE TO 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT BOTH ENDS OF PIPE UNDERDRAIN (SEE DETAIL). RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

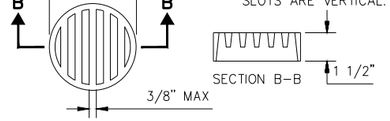
BILL OF BARS

1730 # UNCOATED 1880 # COATED

BAR MARK	COAT	NO REQUIRED	LENGTH	BENT	LOCATION
B401		5	28-0	X	BODY - ONE PER PILE
B402		10	2-3		BODY - TWO PER PILE
B503		33	19-3	X	BODY - STIRRUPS
B604		12	26-0		BODY - HORIZ FF
B805		7	26-0		BODY - HORIZ BF
B506	X	25	2-0		BODY - VERT DOWELS
B607	X	4	11-8		WING 3 & 4 - HORIZ TOP
B408	X	12	11-8		WING 3 & 4 - HORIZ TOP
B609	X	34	9-8	X	WING 3 & 4 - VERT TOP
B510	X	26	21-0	X	WING 3 & 4 - VERT BASE
B511	X	16	13-7		WING 3 & 4 BASE HORIZ FF
B612	X	18	13-11		WING 3 & 4 BASE HORIZ BF



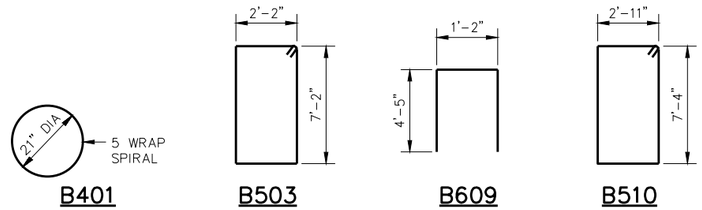
SECTION THRU BODY



* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

RODENT SHIELD

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 OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



B401 B503 B609 B510

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-54-0119

DRAWN BY NJT | PLANS CK'D TLP

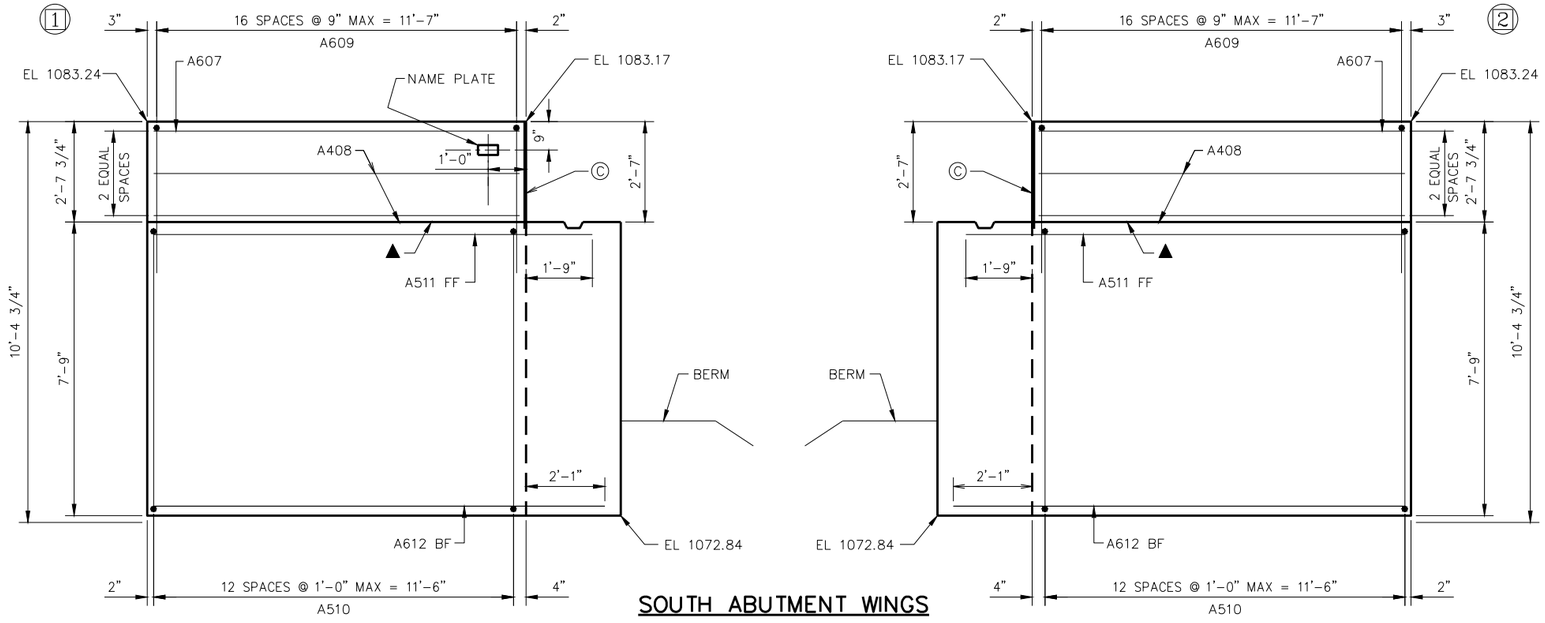
NORTH ABUTMENT

SHEET 5 OF 8

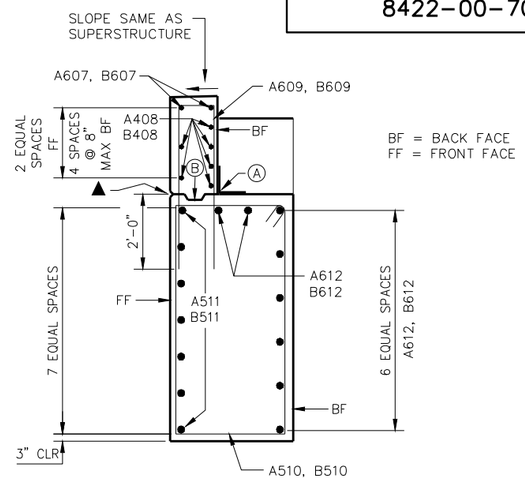
FILE NAME : I:\CLIENTS\W3916 WDOT NW REGION - KNIGHT\003 8422-00-00 POTATO CREEK BRIDGE\100 CAD\DWG\080402_NA_POTATOCR.DWG PLOT DATE : 10/2/2015 11:50 AM

STATE PROJECT NUMBER

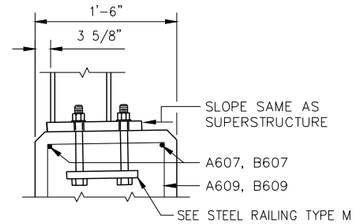
8422-00-70



SOUTH ABUTMENT WINGS

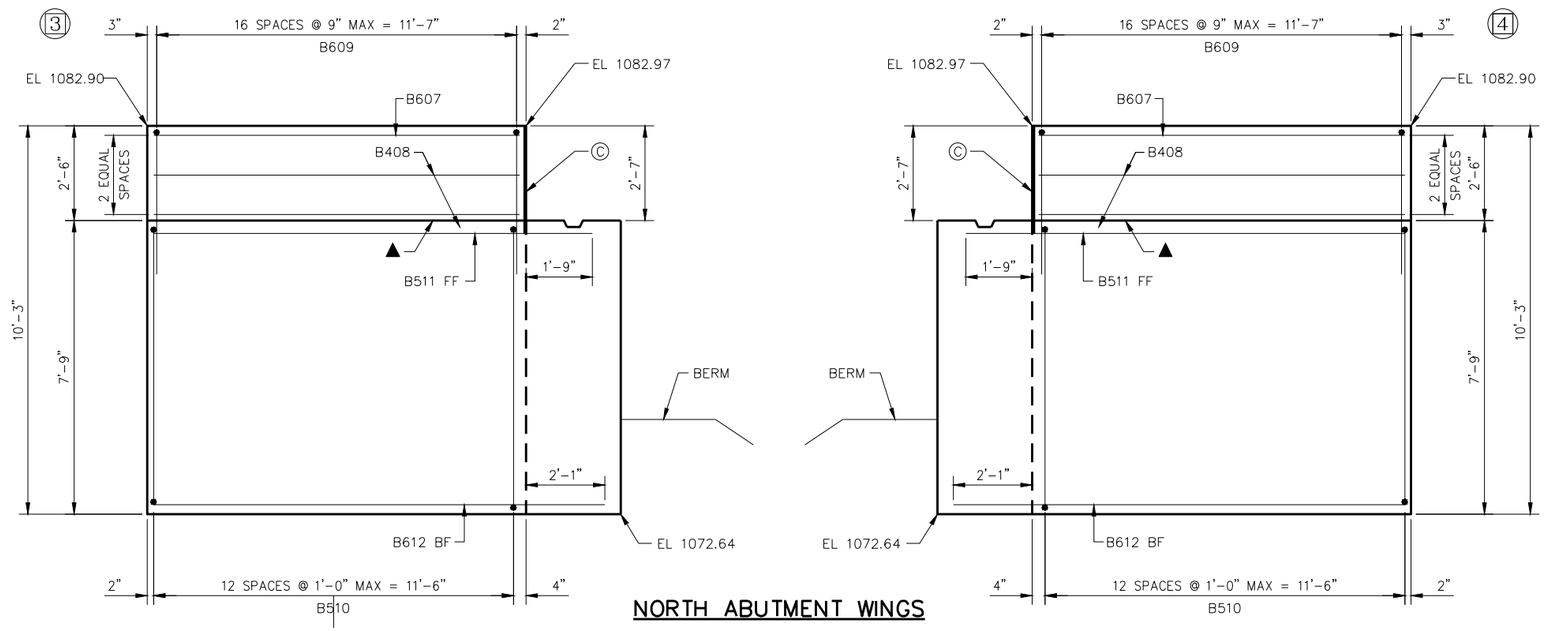


TYPICAL SECTION THRU WING



SPACE A607 & B607 BARS TO MISS ANCHORS FOR RAIL POSTS

SECTION AT TOP OF WING



NORTH ABUTMENT WINGS

- (1) INDICATES WING NUMBER
- (A) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL & VERTICAL JOINTS ON BACKFACE.
- (B) OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- (C) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL EXPOSED HORIZ & VERT SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)
- ▲ 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-54-0119

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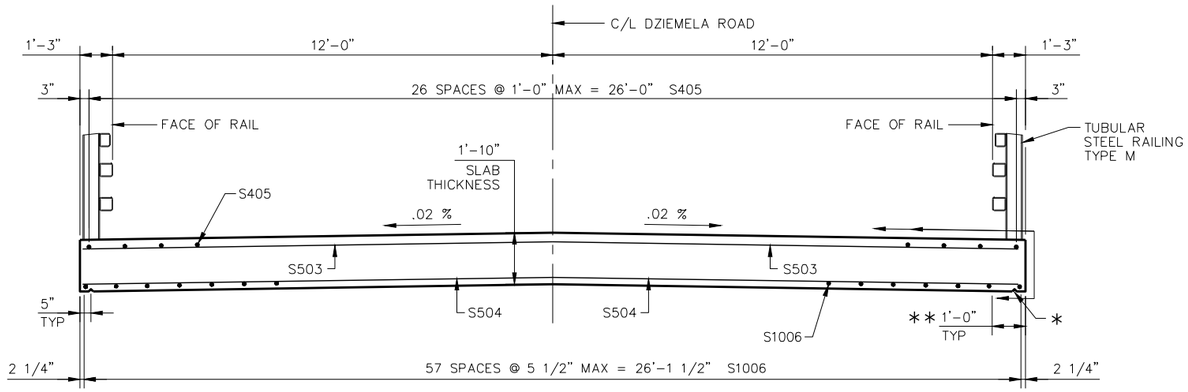
ABUTMENT DETAILS

SHEET 6 OF 8

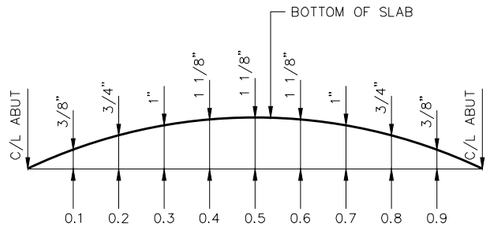
PROJECT NUMBER
8422-00-70



CROSS SECTION THRU RDWY

** APPLY PROTECTIVE SURFACE TREATMENT

* 3/4" V-GROOVE, EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.



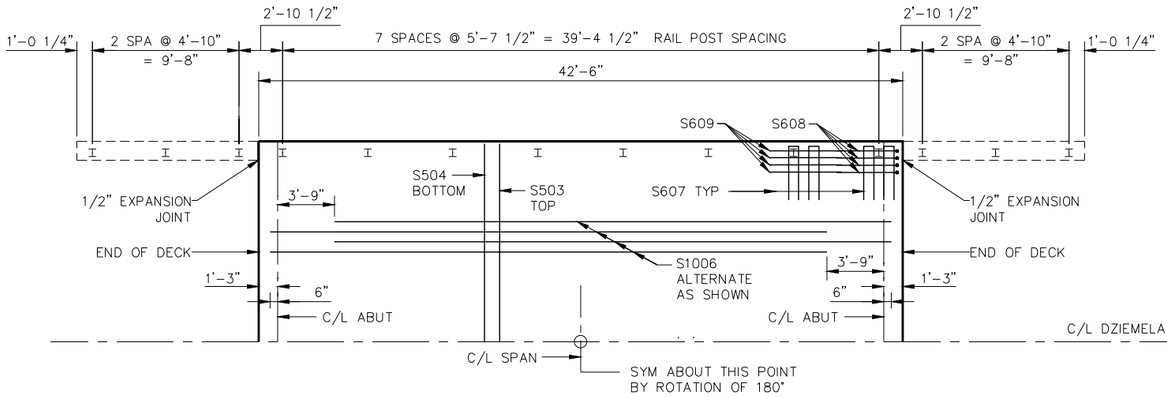
CAMBER DIAGRAM

NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

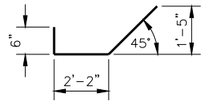
BILL OF BARS

14460 # COATED

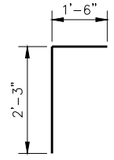
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BUN-DLE	LOCATION
S501	X	54	4-6	X		AT END OF DECK
S502	X	54	3-7	X		AT END OF DECK
S503	X	47	26-2			SLAB, TOP, TRANSVERSE
S504	X	61	26-2			SLAB, BOTTOM, TRANSVERSE
S405	X	27	42-0			SLAB, TOP, LONGIT
S1006	X	58	36-9			SLAB, BOTTOM, LONGIT
S607	X	32	12-0	X		AT RAIL POSTS
S608	X	16	5-0	X		AT END RAIL POSTS
S609	X	48	6-0			AT INTERIOR RAIL POSTS



PLAN

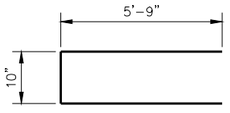


S501



S502

S608



S607

NOTES:

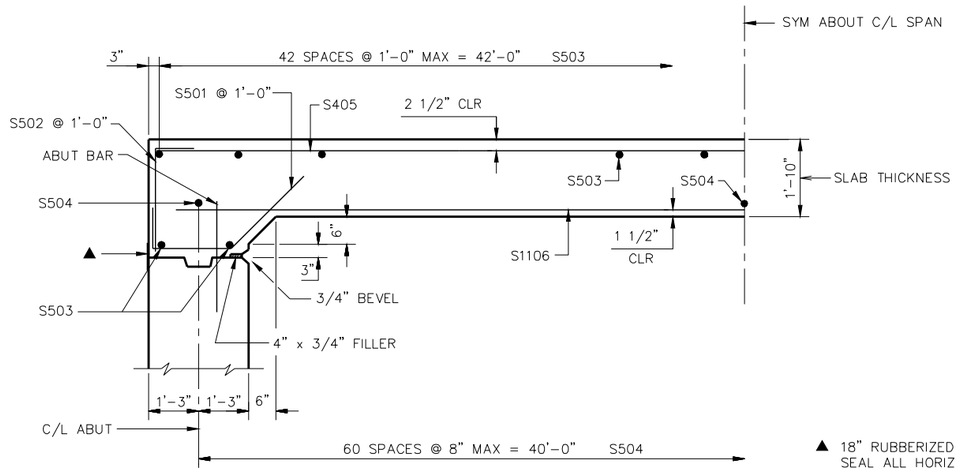
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS TO BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

TRANSVERSE BARS SHALL BE PLACED PARALLEL TO THE C/L OF SUBSTRUCTURE UNITS.

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

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

PRIOR TO RELEASING SLAB FALSE-WORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, THE ℄ OF PIERS, AND AT 5/10 POINTS. TO VERIFY CAMBER, TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR ℄.



LONGITUDINAL SECTION THRU RDWY

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ & VERT JOINTS ON BACKFACE

TOP OF DECK ELEVATIONS

	C/L BRG SOUTH ABUT	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	C/L BRG NORTH ABUT
WEST EDGE DECK	1083.17	1083.15	1083.13	1083.11	1083.09	1083.07	1083.05	1083.03	1083.01	1082.99	1082.97
C/L BRIDGE	1083.44	1083.42	1083.40	1083.38	1083.36	1083.34	1083.32	1083.30	1083.28	1083.26	1083.24
EAST EDGE DECK	1083.17	1083.15	1083.13	1083.11	1083.09	1083.07	1083.05	1083.03	1083.01	1082.99	1082.97

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-54-0119

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SUPERSTRUCTURE

SHEET 7 OF 8

STATE PROJECT NUMBER

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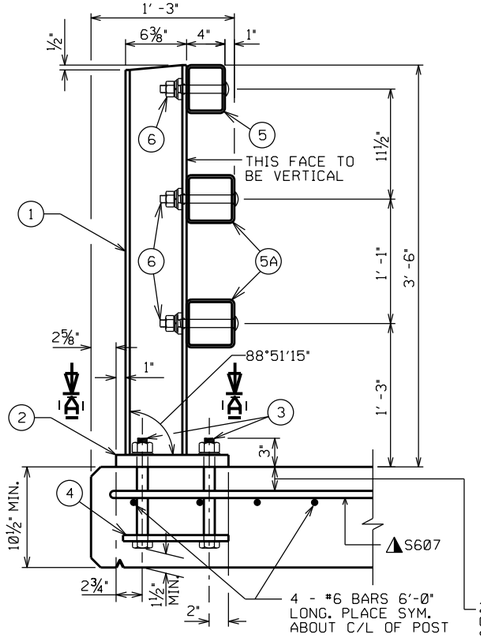
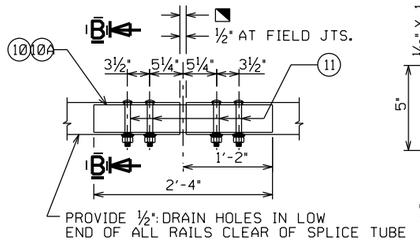
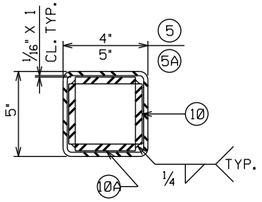


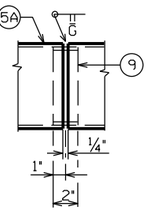
SECTION THRU RAILING ON DECK



FIELD ERECTION JOINT DETAIL

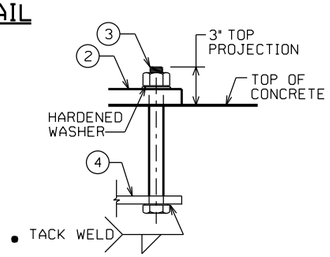


SECTION B-B

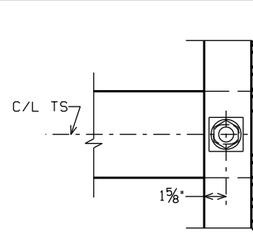


SHOP RAIL SPLICE DETAIL

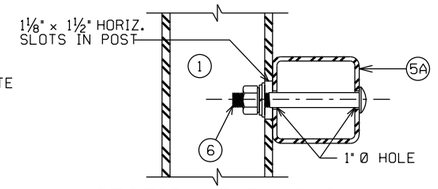
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



ANCHOR BOLTS



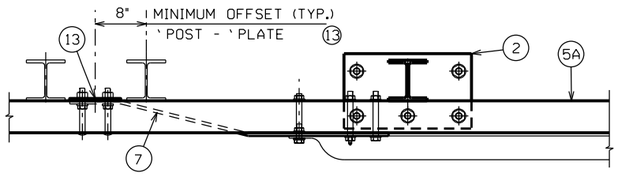
SECTION THRU POST WEB



SECTION THRU RAIL

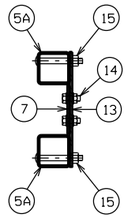
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

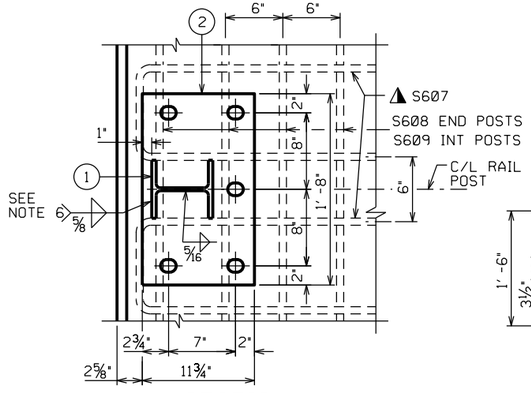


TOP VIEW AT END POST

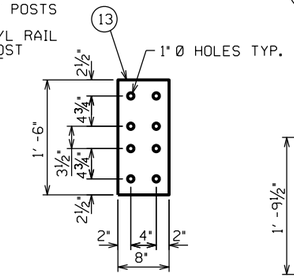
THRIE BEAM RAIL ATTACHMENT



SECTION C-C

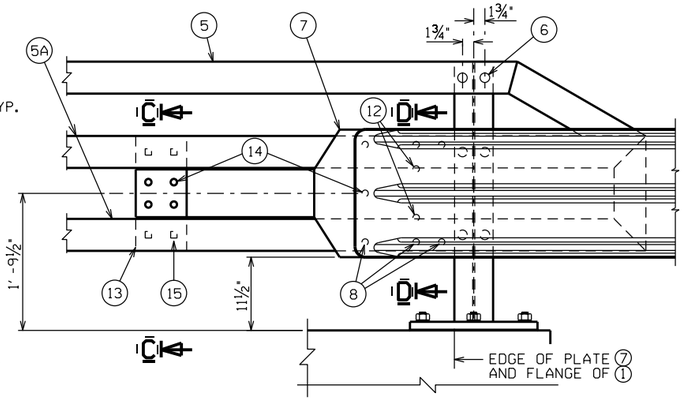


SECTION A-A



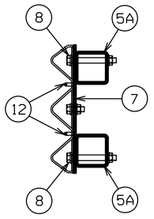
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION D-D

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-54-0119 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 SSPC 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).
12. PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.

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 1¾16" 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.

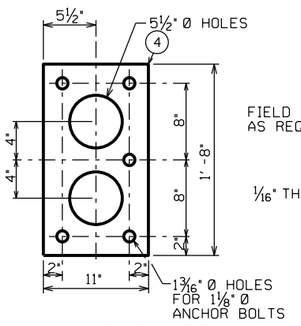
⑪ ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 15/16" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

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.

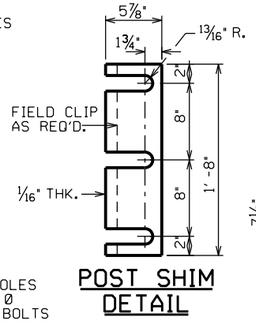
⑭ ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

⑮ 1" DIA. 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.

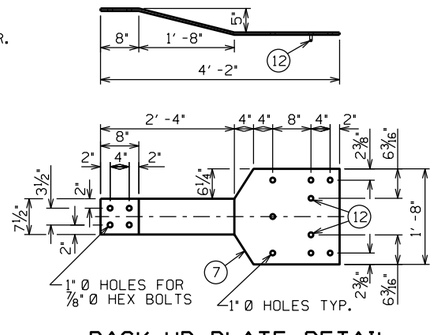


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

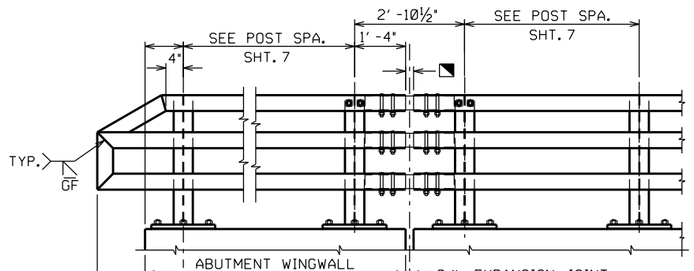


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

▲ TIE TO TOP MAT OF STEEL.

• FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.

◥ RDWY. OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT & ½" OPENING FOR A1 ABUTMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-54-0119

DRAWN BY NJT | PLANS CK'D. TLP

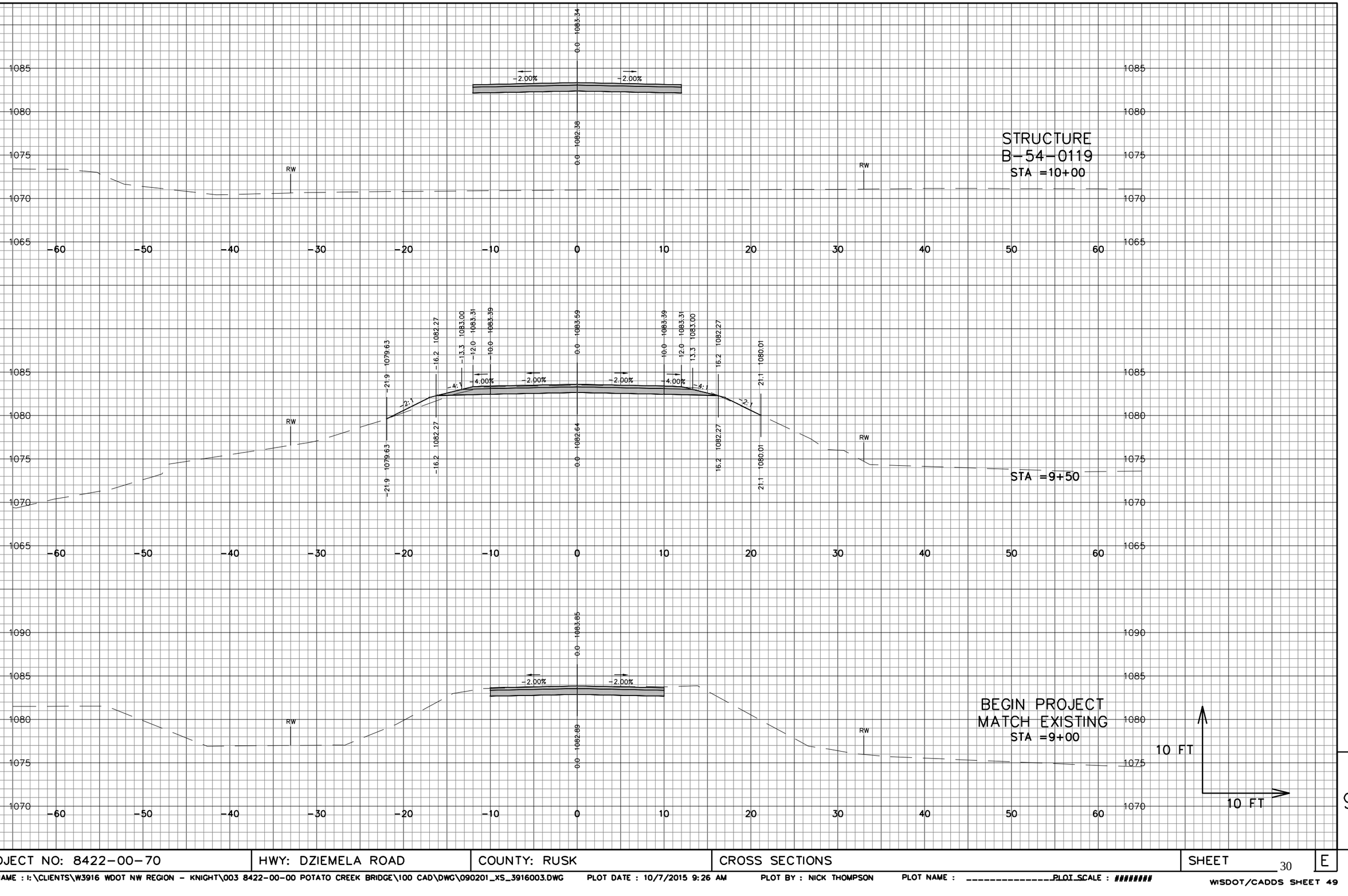
TUBULAR STEEL RAILING TYPE M

SHEET 8 OF 8
28

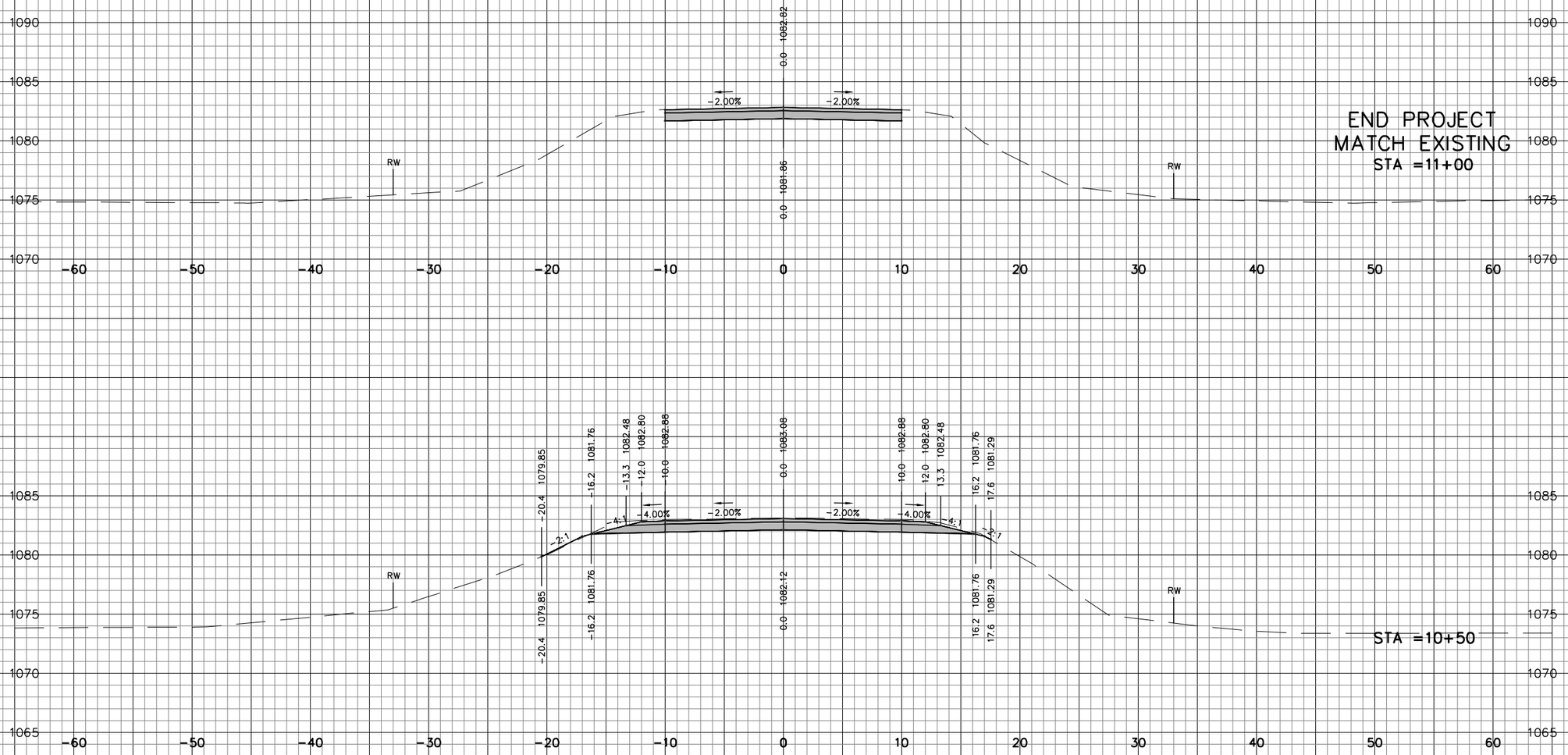
STATION	REAL STATION	DISTANCE (FT)	AREA (SF)			INCREMENTAL VOL (CY) - (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
			CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	
9+00	900	0	19.3	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9+50	950	50	24.6	4.6	3.0	40.6	8.5	2.8	32.1	3.5	28.6
9+79	979	29	24.6	4.6	3.0	26.4	4.9	3.2	53.6	7.5	46.1
						67.0	13.4	6.0			

STATION	REAL STATION	DISTANCE (FT)	AREA (SF)			INCREMENTAL VOL (CY) - (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
			CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	
10+21	1021	0	31.3	4.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
10+50	1050	29	31.3	4.6	0.3	33.6	4.9	0.3	28.7	0.4	28.3
11+00	1100	50	19.3	4.6	0.0	46.8	8.5	0.2	67.0	0.7	66.3
						80.4	13.4	0.5			

1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
2) AVAILABLE MATERIAL = CUT MINUS THE SALVAGED/UNUSABLE PAVEMENT MATERIAL.
3) THE MASS ORDINATE = A + OR - QUANTITY CALCULATED FOR THE DIVISON. A POSITIVE QUANTITY INDICATES AN EXCESS OF MATERIAL.



PROJECT NO: 8422-00-70	HWY: DZIEMELA ROAD	COUNTY: RUSK	CROSS SECTIONS	SHEET 30	E



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PROJECT NO: 8422-00-70	HWY: DZIEMELA ROAD	COUNTY: RUSK	CROSS SECTIONS	SHEET	E

FILE NAME : I:\CLIENTS\W3916 WDOT NW REGION - KNIGHT\003 8422-00-00 POTATO CREEK BRIDGE\100 CAD\DWG\090201_XS_3916003.DWG PLOT DATE : 10/7/2015 9:27 AM PLOT BY : NICK THOMPSON PLOT NAME : _____ PLOT SCALE : ######## WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov