SWL

PROJECT ID: 5675-00-70

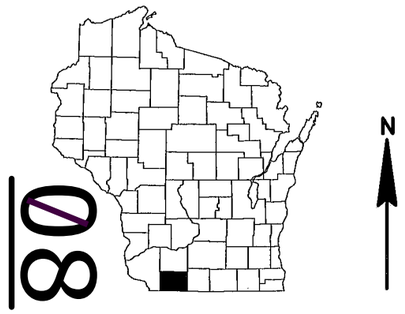
COUNTY: LAFAYETTE

APRIL 2015

ORDER OF SHEETS

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

TOTAL SHEETS = 40



N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH D - CTH M
(CHERRY CREEK BRIDGE B-33-0127)

CTH N
LAFAYETTE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5675-00-70		

STATE PROJECT NUMBER
5675-00-70

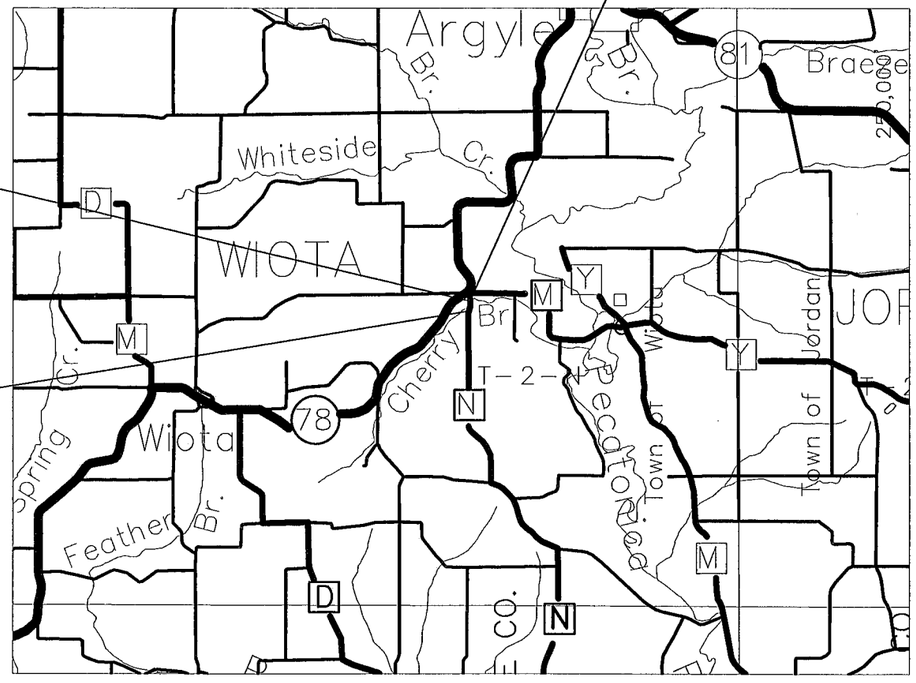
END PROJECT
STA. 11+60

STRUCTURE B-33-0127

BEGIN PROJECT
STA. 8+55
N = 155,710.84
E = 542,543.85

T-2-N

R-5-E



LAYOUT
SCALE 0 2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.058

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, LAFAYETTE COUNTY, NAD88 (2013), 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.	2015	=	210
A.A.D.T.	2035	=	250
D.H.V.		=	50
D.D.		=	60/40
T.		=	5.2%
DESIGN SPEED		=	30 MPH
ESALS		=	21,900

CONVENTIONAL SYMBOLS

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

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

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

ACCEPTED FOR
COUNTY of LAFAYETTE

10-10-14 (Date) Thomas R. Jean (HIGHWAY COMMISSIONER)

ORIGINAL PLANS PREPARED BY

WISCONSIN PROFESSIONAL ENGINEER
MICHAEL J. STATZ
E-31249
MADISON
WI

9-26-14 (Date) Michael J. Statz (Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Management Consultant	KJOHNSON ENGINEERS

APPROVED FOR THE DEPARTMENT

DATE: 10/03/14 (Management Consultant Signature)

E

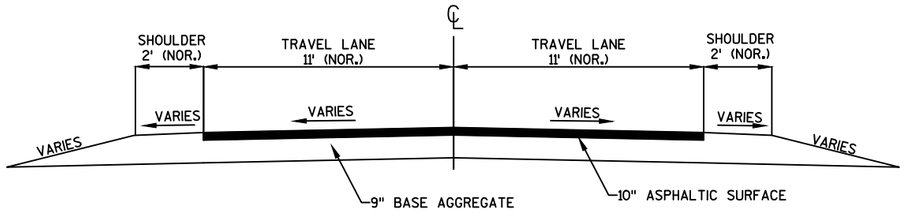
FILE NAME : P:\2300S\2390S\2398\02398005\CADD\SHEETSPLAN\TITLE SHEET & TYPCIAL SECTION\TITLE SHEET 2014.DWG
-

PLOT DATE : 9/26/2014 9:23 AM

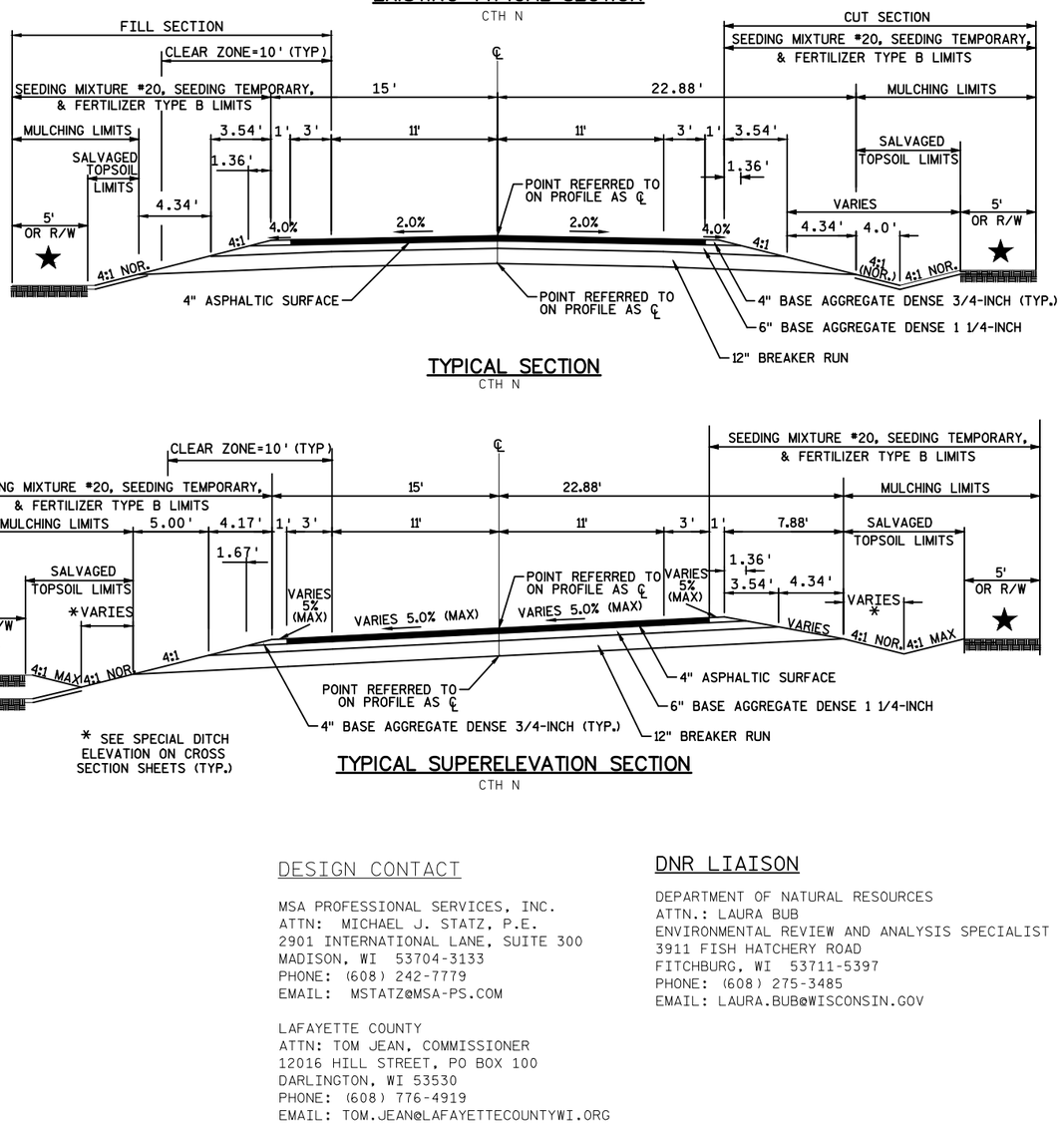
PLOT BY : SARAH GENGLER

PLOT NAME :

WISDOT/CADDS SHEET 10



EXISTING TYPICAL SECTION
CTH N



TYPICAL SECTION
CTH N

* SEE SPECIAL DITCH ELEVATION ON CROSS SECTION SHEETS (TYP.)

TYPICAL SUPERELEVATION SECTION
CTH N

GENERAL NOTES

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

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

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO WIOTA E GPS BENCHMARK WITH ELEVATION OF 1020.61 LOCATED 1.5 MILES SOUTHEAST OF THE EXISTING BRIDGE, THE STATION IS A BRONZE WISDOT GEODETIC SURVEY CONTROL STATION .

THE 4" ASPHALTIC SURFACE SHALL BE CONSTRUCTED USING A 2.25" LOWER LAYER AND A 1.75" UPPER LAYER.

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

TEMPORARY DITCH CHECKS, IF NEEDED, SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

THE ASPHALTIC SURFACE SHALL TAPER FROM 32.8 FEET AT THE END OF THE BRIDGE TO 28.0 FEET AT ± 30 FEET FROM THE BRIDGE ENDS.

★ WETLAND EXIST AT STA. 8+55 TO 10+59, LT AND STA. 10+00 TO 10+62 RT. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE SLOPE INTERCEPT IN THESE AREAS.

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 0.70 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.59 ACRES

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
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2901 INTERNATIONAL LANE, SUITE 300
MADISON, WI 53704-3133
PHONE: (608) 242-7779
EMAIL: MSTATZ@MSA-PS.COM

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DARLINGTON, WI 53530
PHONE: (608) 776-4919
EMAIL: TOM.JEAN@LAFAYETTECOUNTYWI.ORG

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
ATTN.: LAURA BUB
ENVIRONMENTAL REVIEW AND ANALYSIS SPECIALIST
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711-5397
PHONE: (608) 275-3485
EMAIL: LAURA.BUB@WISCONSIN.GOV

UTILITIES

TELEPHONE:
TDS TELECOMMUNICATIONS
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MADISON, WI 53713
PHONE: (608) 664-4332
EMAIL: MARK.LARSONL@TDSTELECOM.COM

ELECTRIC:
DAIRYLAND POWER COOPERATIVE
ATTN: JANE EGGEN
3200 EAST AVENUE SOUTH
LACROSSE, WI 54602
PHONE: (608) 787-1248
EMAIL: JME@DAIRYNET.COM

SCENIC RIVERS ENERGY COOPERATIVE
ATTN: JIM WOLF
300 BARTH DRIVE
DARLINGTON, WI 53530-0127
PHONE: (608) 776-4415
EMAIL: JWOLF@SREC.NET

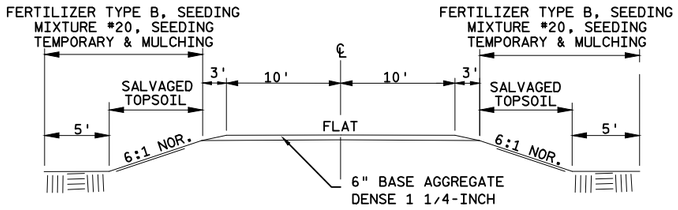
**-DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

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

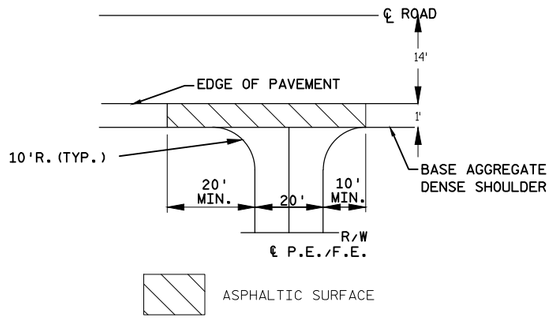
PROJECT NO:5675-00-70	HWY: CTH N	COUNTY:LAFAYETTE	TYPICAL SECTION & GENERAL NOTES	SHEET 2	E

2

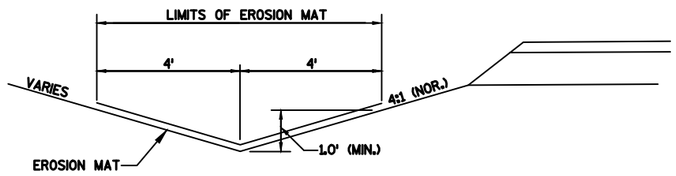
FIELD ENTRANCE DETAILS



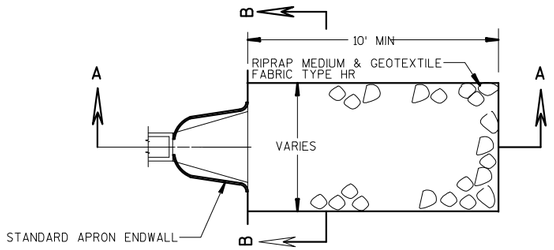
PRIVATE/FIELD ENTRANCE - TYPICAL SECTION



PRIVATE/FIELD ENTRANCE PLAN



EROSION MAT DITCH DETAIL



RIPRAP MEDIUM AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

ESTIMATED BAG SIZE = 24" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
18"	2
24"	3
30"	5
48"	10
54"	10
60"	13
72"	16

CULVERT PIPE CHECKS
INSTALL ON INLET PIPE

DATE 11FEB15 — 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	5675-00-70 QUANTITY
0010	201.0105	Clearing	STA	2.000	2.000
0020	201.0205	Grubbing	STA	2.000	2.000
0030	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0040	203.0200	Removing Old Structure (station) 01. 9+35	LS	1.000	1.000
0050	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0060	205.0100	Excavation Common	CY	622.000	622.000
0070	206.1000	Excavation for Structures Bridges (structure) 01. B-33-0127	LS	1.000	1.000
0080	210.0100	Backfill Structure	CY	270.000	270.000
0090	213.0100	Finishing Roadway (project) 01. 5675-00-70	EACH	1.000	1.000
0100	305.0110	Base Aggregate Dense 3/4-Inch	TON	25.000	25.000
0110	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	390.000	390.000
0120	311.0110	Breaker Run	TON	930.000	930.000
0130	455.0605	Tack Coat	GAL	40.000	40.000
0140	465.0105	Asphaltic Surface	TON	200.000	200.000
0150	502.0100	Concrete Masonry Bridges	CY	174.000	174.000
0160	502.3200	Protective Surface Treatment	SY	220.000	220.000
0170	505.0405	Bar Steel Reinforcement HS Bridges	LB	4,820.000	4,820.000
0180	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	20,210.000	20,210.000
0190	513.4060	Railing Tubular Type M (structure) 01. B-33-0127	LS	1.000	1.000
0200	516.0500	Rubberized Membrane Waterproofing	SY	13.000	13.000
0210	520.0118	Culvert Pipe Class III 18-Inch	LF	32.000	32.000
0220	520.0124	Culvert Pipe Class III 24-Inch	LF	35.000	35.000
0230	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0240	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	2.000	2.000
0250	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	630.000	630.000
0260	606.0200	Riprap Medium	CY	32.000	32.000
0270	606.0300	Riprap Heavy	CY	230.000	230.000
0280	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0290	612.0410	Pipe Underdrain Wrapped 10-Inch	LF	10.000	10.000
0300	619.1000	Mobilization	EACH	1.000	1.000
0310	625.0500	Salvaged Topsoil	SY	670.000	670.000
0320	627.0200	Mulching	SY	720.000	720.000
0330	628.1504	Silt Fence	LF	350.000	350.000
0340	628.1520	Silt Fence Maintenance	LF	700.000	700.000
0350	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0360	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0370	628.2004	Erosion Mat Class I Type B	SY	250.000	250.000
0380	628.2006	Erosion Mat Urban Class I Type A	SY	50.000	50.000
0390	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0400	628.7555	Culvert Pipe Checks	EACH	5.000	5.000
0410	628.7560	Tracking Pads	EACH	2.000	2.000
0420	629.0210	Fertilizer Type B	CWT	1.100	1.100
0430	630.0120	Seeding Mixture No. 20	LB	60.000	60.000
0440	630.0200	Seeding Temporary	LB	30.000	30.000
0450	631.1100	Sod Erosion Control	SY	50.000	50.000
0460	633.5100	Markers Row	EACH	9.000	9.000
0470	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000

DATE 11FEB15 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	5675-00-70 QUANTITY
0480	637.2210	Signs Type II Reflective H	SF	12.000	12.000
0490	642.5001	Field Office Type B	EACH	1.000	1.000
0500	643.0100	Traffic Control (project) 01. 5675-00-70	EACH	1.000	1.000
0510	645.0120	Geotextile Fabric Type HR	SY	552.000	552.000
0520	646.0103	Pavement Marking Paint 4-Inch	LF	1,220.000	1,220.000
0530	650.4500	Construction Staking Subgrade	LF	263.000	263.000
0540	650.5000	Construction Staking Base	LF	263.000	263.000
0550	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0560	650.6500	Construction Staking Structure Layout (structure) 01. B-33-0127	LS	1.000	1.000
0570	650.9910	Construction Staking Supplemental Control (project) 01. 5675-00-70	LS	1.000	1.000
0580	650.9920	Construction Staking Slope Stakes	LF	263.000	263.000
0590	690.0150	Sawing Asphalt	LF	44.000	44.000
0600	715.0502	Incentive Strength Concrete Structures	DOL	1,044.000	1,044.000

3

CLEARING & GRUBBING

CATEGORY	STATION	TO STATION	LOCATION	(201.0105) CLEARING STA	(201.0205) GRUBBING STA
0010	9+00	11+00	LT/RT	2	2
	PROJECT TOTALS			**2**	**2**

ASPHALTIC SURFACE

CATEGORY	STATION	TO STATION	(455.0605) TACK COAT GAL	(465.0105) TON
0010	8+55	9+79	20	100
	10+21	11+60	20	100
	PROJECT TOTAL		**40**	**200**

PIPE UNDERDRAIN WRAPPED

CATEGORY	STATION	LOCATION	(612.0410) 10-INCH LF
010	10+03	41' LT	10
	PROJECT TOTAL		**10**

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	TYPE	DIAMETER	LENGTH	(203.0100) EACH
0010	9+25	RT	CMP	18"	24'	1
	10+03	LT	DRAIN TILE	10"	10'	1
	10+33	LT	CMP	24"	22'	1
	PROJECT TOTAL					**3**

CULVERT PIPE

CATEGORY	STATION	LOCATION	(520.0118) CLASS III 18-INCH LF	(520.0124) CLASS III 24-INCH LF	THICKNESS STEEL IN	THICKNESS ALUM IN	(521.1018) APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH EACH	(521.1024) APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH EACH	(650.6000) CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	9+35	RT	32	-	0.064	0.060	2	-	1
	11+00	LT	-	35	0.064	0.075	-	2	1
	PROJECT TOTAL		**32**	**35**			**2**	**2**	**2**

REMOVING OLD STRUCTURE (9+35)

CATEGORY	STATION	LOCATION	(203.0200) LS
0010	9+35	RT	1
	PROJECT TOTAL		**1**

RIPRAP AND GEOTEXTILE FABRIC

CATEGORY	STATION	TO STATION	LOCATION	(606.0200) RIPRAP MEDIUM CY	* (645.0120) GEOTEXTILE FABRIC TYPE HR SY
0010	9+10	9+20	RT	8	18
	9+54	9+64	RT	8	18
	10+80	10+90	RT	8	18
	11+20	11+30	LT	8	18
	PROJECT TOTAL			**32**	**72**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

BASE AGGREGATE DENSE

CATEGORY	STATION	TO STATION	LOCATION	(305.0110) 3/4-INCH TON	(305.0120) 1 1/4-INCH TON	(311.0110) BREAKER TON
0010	8+55	9+79	LT & RT	10	170	350
	10+21	11+60	LT & RT	15	190	400
	ENTRANCES			-	30	-
	UNDISTRIBUTED			-	-	180
PROJECT TOTAL				**25**	**390**	**930**

EARTHWORK PROJECT I.D. 5675-00-70

Division	From/To Station	Location	Common Excavation (1) (item # 205.0100) Cut (2)	Common Excavation (1) (item # 205.0100) EBS Excavation (3)	Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste	Comment:
1	8+55.00- 9+78.75	South CTH N	209	0	0	209	43	54	155	155	
2	10+21.25 - 11+60	North CTH N	309	0	0	309	30	37	272	272	
	STRUCTURE B-33-0127		0	0	0	0	0	0	0	0	
	UNDISTRIBUTED EBS		0	104	0	0	0	0	0	0	
Grand Total			518	104	0	518	73	91	427	427	
			622								

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unusable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Breaker Run material.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
13) Expanded Fill. Factor = 1.25
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

3

FINISHING ITEMS

CATEGORY	STATION	TO STATION	LOCATION	(625.0500) * SALVAGED TOPSOIL SY	(627.0200) * MULCHING SY	(629.0210) FERTILIZER TYPE B CWT	(630.0120) * SEEDING MIXTURE NO. 20 LB	(630.0200) * SEEDING TEMPORARY LB	(631.1100) SOD EROSION CONTROL SY
0010	8+55	9+79	RT	170	180	0.3	17	8.5	-
	8+55	9+79	LT	80	140	0.2	10	5	-
	10+21	11+60	RT	230	200	0.3	16	8	-
	10+21	11+60	LT	190	200	0.3	17	8.5	
	UNDISTRIBUTED			-	-	-	-	-	50
PROJECT TOTAL				**670**	**720**	**1.1**	**60**	**30**	**50**

* PAY PLAN QUANTITY WITHOUT MEASURE

PERMANENT SIGNING

CATEGORY	CODE	STATION	LOCATION	(637.2210) SIGNS REFLECTIVE TYPE H SF	(634.0612) POSTS WOOD 4 X 6-INCH 12-FT EACH
0010	W5-52R	9+78	RT	3.0	1
	W5-52L	9+78	LT	3.0	1
	W5-52R	10+21	LT	3.0	1
	W5-52L	10+21	RT	3.0	1
PROJECT TOTAL				**12.00**	**4**

MOBILIZATION EROSION CONTROL

CATEGORY	STATION	TO STATION	(628.1905) EACH	(628.1910) EMERGENCY EACH
0010	8+55	11+60	1	1
PROJECT TOTAL			**1**	**1**

TRACKING PAD

CATEGORY	STATION	(628.7560) EACH
0010	8+55	1
	11+60	1
PROJECT TOTAL		**2**

MARKERS ROW

CATEGORY	R/W PT	STATION	LOCATION	(633.5100) EACH
0010	1	8+55	33' LT	1
	2	9+00	33' LT	1
	3	9+70	75' LT	1
	4	10+50	50' LT	1
	5	11+60	33' LT	1
	6	11+60	33' RT	1
	7	10+50	50' RT	1
	8	9+00	50' RT	1
	9	8+55	33' RT	1
PROJECT TOTAL				**9**

EROSION MAT

CATEGORY	STATION	TO STATION	LOCATION	(628.2004) EROSION MAT CLASS I TYPE B SY	(628.2006) EROSION MAT URBAN CLASS I TYPE A SY
0010	8+55	9+09	RT	50	-
	10+34	11+60	RT	110	-
	10+35	10+68	LT	30	-
	11+30	11+60	LT	25	-
	UNDISTRIBUTED			35	50
PROJECT TOTAL				**250**	**50**

SAWING ASPHALT

CATEGORY	STATION	LOCATION	(690.0150) LF
0010	8+55	LT & RT	22
	11+60	LT & RT	22
PROJECT TOTAL			**44**

DITCH CHECKS

CATEGORY	STATION	LOCATION	(628.7555) CULVERT PIPE EACH	(628.7504) TEMPORARY LF
0010	9+20	RT	2	-
	11+21	LT	3	-
UNDISTRIBUTED			-	50
PROJECT TOTAL			**5**	**50**

SILT FENCE

CATEGORY	STATION	TO STATION	LOCATION	(628.1504) LF	(628.1520) MAINTENANCE LF
0010	8+55	9+52	LT	100	200
	S. ABUTMENT			100	200
	N. ABUTMENT			80	160
	UNDISTRIBUTED			70	140
PROJECT TOTAL				**350**	**700**

PAVEMENT MARKING PAINT 4-INCH

CATEGORY	STATION	STATION	LOCATION	(646.0103) YELLOW LF	(646.0103) WHITE LF	NOTES
010	8+55	11+60	LT & RT	-	610	SOLID WHITE EDGE LINE
	8+55	11+60	CENTERLINE	610	-	DOUBLE YELLOW CENTERLINE
PROJECT SUBTOTAL				**610**	**610**	
PROJECT TOTAL				**1,220**		

CONSTRUCTION STAKING

CATEGORY	STATION	TO STATION	LOCATION	(650.4500) SUBGRADE LF	(650.5000) BASE LF	(650.9910) SUPPLEMENTAL CONTROL LS	(650.9920) SLOPE STAKING LF
010	8+55	9+79	LT & RT	124	124	-	124
	10+21	11+60	LT & RT	139	139	-	139
	UNDISTRIBUTED		LT & RT	-	-	1	-
PROJECT TOTAL				**263**	**263**	**1**	**263**

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
5675-00-01	4.01	2
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

CTH D - CTH M

(CHERRY CREEK BRIDGE B-33-0127)

CTH N — LAFAYETTE CO.

CONSTRUCTION PROJECT NUMBER

5675-00-70

ACCEPTED FOR

COUNTY of LAFAYETTE

10-10-14 (Date) Thomas R. Lee (COUNTY HIGHWAY COMMISSIONER)

ORIGINAL PLAT PREPARED BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL • REMEDIATION
DEVELOPMENT • ENVIRONMENTAL

2901 International Lane, Suite 300 Madison, WI 53704-3133
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
BRADLEY L. TISDALE
S-2824
WAUNAKEE
WI
LAND SURVEYOR

9-26-2014 (Date) Brad Tisdale (Professional Land Surveyor)

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RELEASE OF RIGHTS	ROR
ACCESS RIGHTS	AR	REMAINING	REM.
ACRES	AC.	RIGHT-OF-WAY	R/W
AND OTHERS	ET.AL.	SECTION	SEC.
CENTERLINE	C/L	STATION	STA.
CERTIFIED SURVEY MAP	CSM	TEMPORARY LIMITED EASEMENT	TLE
CORNER	COR.	VOLUME	V.
DOCUMENT	DOC.	**CURVE DATA**	
EASEMENT	EASE.	LONG CHORD	LCH
HIGHWAY EASEMENT	H.E.	LONG CHORD BEARING	LCB
LAND CONTRACT	LC	RADIUS	R
MONUMENT	MON.	DEGREE OF CURVE	D
PAGE	P.	CENTRAL ANGLE OR DELTA	DELTA
PERMANENT LIMITED EASEMENT	PLE	LENGTH OF CURVE	L
PROPERTY LINE	PL	TANGENT	TAN
RECORDED AS	(100')		
REFERENCE LINE	R/L		

CONVENTIONAL SYMBOLS

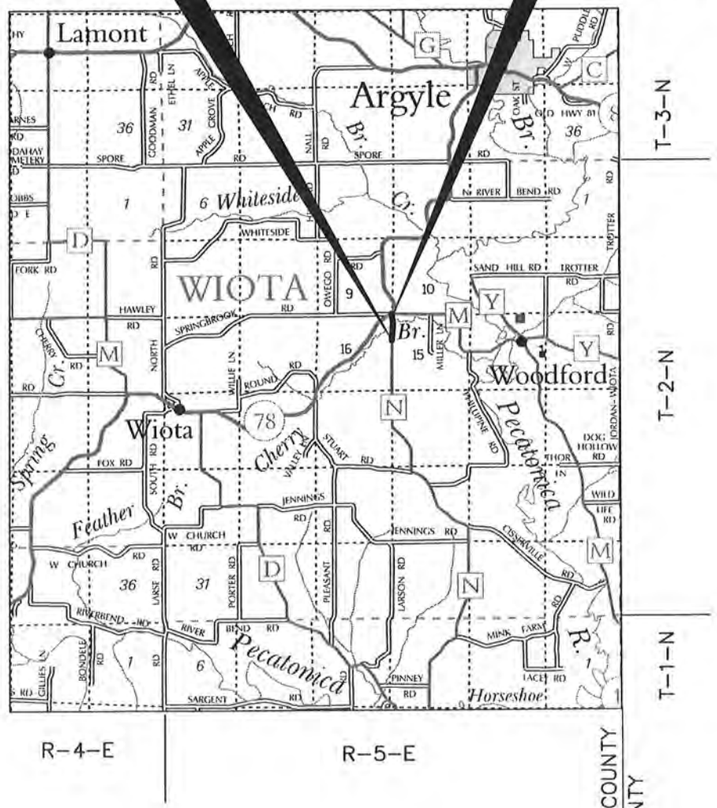
FOUND IRON PIPE/PIN	(1" UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	●(SET)	PROPERTY LINE	
R/W STANDARD	▲(SET)	LOT & TIE LINES	
SIGN	SIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT	●	CORPORATE LIMITS	
SECTION CORNER SYMBOL		ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)	
FEE (HATCH VARIES)		ACCESS RESTRICTED (BY ACQUISITION)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
PERMANENT LIMITED EASEMENT		SECTION LINE	
R/W BOUNDARY POINT	RWB2D	QUARTER LINE	
PARCEL NUMBER	102	SIXTEENTH LINE	
UTILITY INTEREST	40	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	21	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	—W—	
GAS	—G—	
TELEPHONE	—T—	
OVERHEAD TRANSMISSION LINES ELECTRIC	—OH—	
ELECTRIC	—E—	
CABLE TELEVISION	—TV—	
FIBER OPTIC	—FO—	
SANITARY SEWER	—SAN—	
STORM SEWER	—SS—	
POWER POLE	☆	★
TELEPHONE POLE	△	▲
TELEPHONE PEDESTAL	⌘	✕
ELECTRIC TOWER	⊠	

BEGIN RELOCATION ORDER STA.8+55.00
Y = 155,710.840
X = 542,543.852
APPROXIMATELY 691 FEET SOUTH OF AND 33 FEET EAST OF THE NORTHWEST CORNER OF SECTION 15, T-2-N, R-5-E, TOWN OF WIOTA, LAFAYETTE COUNTY, WI.

END RELOCATION ORDER STA.11+60.00
Y = 156,014.308
X = 542,518.932
APPROXIMATELY 387 FEET SOUTH OF AND 9 FEET EAST OF THE NORTHWEST CORNER OF SECTION 15, T-2-N, R-5-E, TOWN OF WIOTA, LAFAYETTE COUNTY, WI.



N

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.058 MI.

NOTES:

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, LAFAYETTE COUNTY ZONE, NAD 83 (2011) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" x 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

EXISTING RIGHT-OF-WAY IS BASED ON THE EXISTING CENTERLINE OF CTH N AND STATE STATUTE 82.31.

ALL STATION/OFFSET DATA IS REFERENCED TO THE MAINLINE ALIGNMENT (CTH N).

REVISION DATE			

DATE 7/18/2014

GRID FACTOR NA

ALIGNMENT INFORMATION

PI = STA 7+00.39
Y = 155,557.060
X = 542,528.190

DA = N06°41'26"E

PI = STA 9+06.14
Y = 155,761.408
X = 542,552.162
DELTA = 14°10'34"
T = 118.13'
L = 235.05'
R = 950.00'
LCH = 234.45'
LCB = N 00°23'51" W
PC = STA 7+88.01
PT = STA 10+23.06

DA = N07°29'07"W

PI = STA 11+60.00
Y = 156,014.308
X = 542,518.932

DA = N06°13'05"W

PI = STA 12+51.70
Y = 156,105.468
X = 542,509.000

UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
80	TDS TELECOM	CONVEYANCE OF RIGHTS
81	DAIRYLAND POWER COOPERATIVE	CONVEYANCE OF RIGHTS
82	SCENIC RIVERS ENERGY COOPERATIVE	CONVEYANCE OF RIGHTS

NE-NE

TOWN

SCENIC RIVERS ENERGY COOPERATIVE (82)
CONVEYANCE OF RIGHTS

LAFAYETTE ELECTRIC COOPERATIVE
BLANKET ELECTRIC EASEMENT
NE 1/4 16-2-5
V.15 P.410 DOC#154051

TDS TELECOM (80)
CONVEYANCE OF RIGHTS

UNITED TELEPHONE COMPANY
BLANKET TELEPHONE EASEMENT
V.48 P.398 DOC#209235

DAIRYLAND POWER COOPERATIVE
ELECTRIC EASEMENT
V.70 P.827 DOC#264375

FOUND 7/8" REBAR
Y = 153,757.974
X = 542,468.045

FOUND ALUMINUM MONUMENT
Y = 156,401.769
X = 542,510.368

DAIRY LAND POWER COOPERATIVE (81)
CONVEYANCE OF RIGHTS

R. JEROME PFISTER AND BRUCE J. PFISTER

(1) TLE - FIELD ENTRANCE
0.02 ACRES

DAIRYLAND POWER &
SCENIC RIVERS ENERGY

BEGIN RELOCATION
ORDER STA.8+55.00
Y = 155,710.840
X = 542,543.852

CHERRY CREEK

EXISTING R/W

N11°41'44"E 80.24'
N34°37'42"W 78.21'
N13°11'46"W 50.25'
N12°39'00"E 63.91'
N01°17'59"E 111.31'
100

F.E.

SECTION LINE
N00°55'02"E 2644.13'
N00°55'02"E 296.29'
S89°04'58"E 3.38'

BP: 7+00.39
N06°41'26"E
CTH N
PC: 7+88.01
8+00
9+00
10+00
11+00
12+00
PI: 10+23.06
PI: 11+60.00
N06°13'05"W
CTH N
S06°13'05"E 91.70'

N87°20'59"W 33.00'
N82°31'03"E 33.00'

SLOPE INTERCEPT (TYP)

P.E. (GRAVEL)

EXISTING R/W

TDS TELEPHONE

WIOTA

S21°11'18"W 49.94'
S04°24'49"E 156.34'
N04°24'49"W 78.68'
S32°24'19"W 46.37'
S38°10'37"E 50.00'
S16°16'15"E 111.31'
S04°24'49"E 25.04'

END RELOCATION
ORDER STA.11+60.00
Y = 156,014.308
X = 542,518.932

TDS TELEPHONE (80)

UNITED TELEPHONE COMPANY
EASEMENT ITEM (1)
V.34 P.98 DOC#185280

TDS TELECOM (80)
CONVEYANCE OF RIGHTS

MARY C. LOCKWOOD (2)

UNITED TELEPHONE COMPANY
-UNPLATTABLE EASEMENT
V.34 P.98 DOC#185280 ITEM (2)

TLE - SLOPES (2)
0.03 ACRES

SCENIC RIVERS ENERGY COOPERATIVE (82)
CONVEYANCE OF RIGHTS

LAFAYETTE ELECTRIC COOPERATIVE
UNPLATTABLE ELECTRIC AND
TELEPHONE EASEMENT
V.15 P.408 DOC#154056

LAFAYETTE ELECTRIC COOPERATIVE
BLANKET ELECTRIC EASEMENT
W 1/2 NW 1/4 15-2-5
V.51 P.237 DOC#212270

NW-NW

R/W POINT	STATION	OFFSET	Y	X
1	8+55.00	33.00 L	155,712.366	542,510.888
2	9+00.00	33.00 L	155,755.791	542,511.868
3	9+70.00	75.00 L	155,820.150	542,467.423
4	10+50.00	50.00 L	155,898.728	542,483.689
5	11+60.00	33.00 L	156,010.008	542,486.214
6	11+60.00	33.00 R	156,018.603	542,551.652
7	10+50.00	50.00 R	155,911.755	542,582.837
8	9+00.00	50.00 R	155,755.880	542,594.868
9	8+55.00	33.00 R	155,709.314	542,576.817

CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD DISTANCE
1-2	917.00'	43.44'	N01°17'36"E	43.44'

TLE POINT	STATION	OFFSET	Y	X
100	11+00.00	55.00 L	155,947.651	542,472.218
101	10+25	48.66 R	155,886.794	542,584.763
102	9+85	75.00 R	155,847.491	542,615.666
103	9+50	47.39 R	155,808.345	542,590.818

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED			TLE ACRES
			NEW	EXISTING	TOTAL	
1	R. JEROME PFISTER AND BRUCE J. PFISTER	FEE/TLE	0.09	0.03	0.12	0.02
2	MARY C. LOCKWOOD	FEE/TLE	0.08	0.44	0.52	0.03

REVISION DATE			

DATE 7/18/2014
GRID FACTOR NA

SCALE, FEET 0 20 40

HWY: CTH N
COUNTY: LAFAYETTE

STATE R/W PROJECT NUMBER 5675-00-01
CONSTRUCTION PROJECT NUMBER 5675-00-70

PLAT SHEET 4.02
PS&E SHEET --9

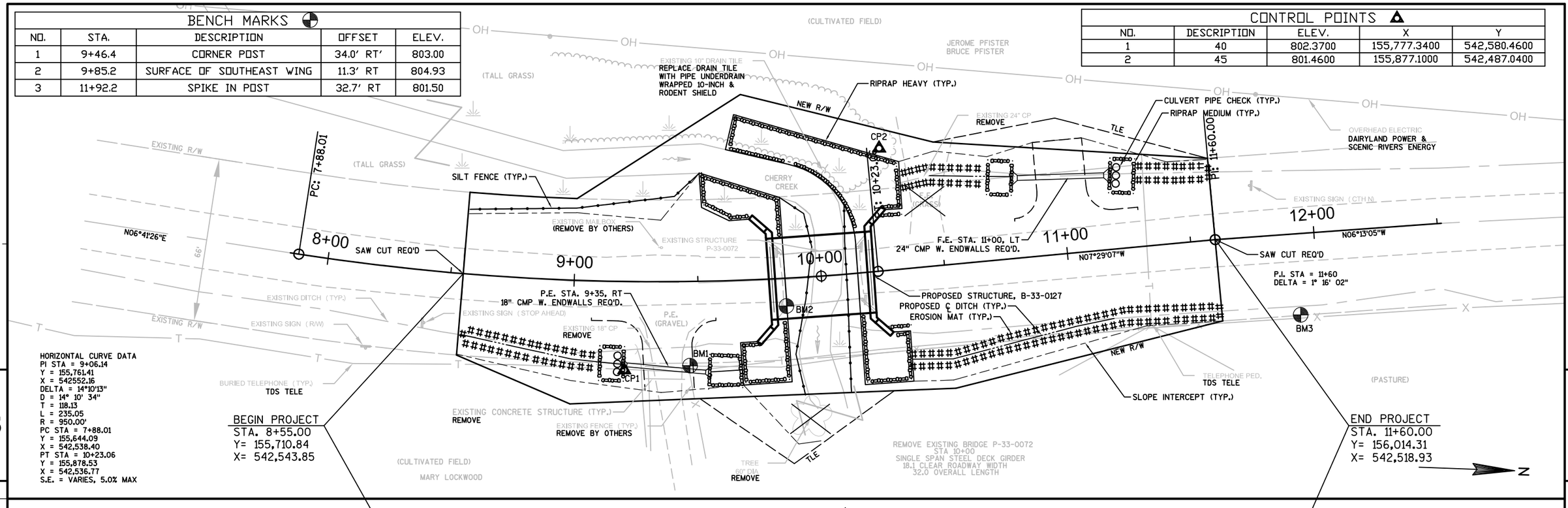
E

FILE NAME : P:\2300S\2390S\2398\02398005\CADD\RW\2398005 PLINE.DWG
PLOT DATE : 8/6/2014 10:06 AM
PLOT BY : BRAD TISDALE
PLOT NAME :
PLOT SCALE : 1"= 40'_XREF

WISDOT/CADDS SHEET 75

BENCH MARKS				
NO.	STA.	DESCRIPTION	OFFSET	ELEV.
1	9+46.4	CORNER POST	34.0' RT'	803.00
2	9+85.2	SURFACE OF SOUTHEAST WING	11.3' RT	804.93
3	11+92.2	SPIKE IN POST	32.7' RT	801.50

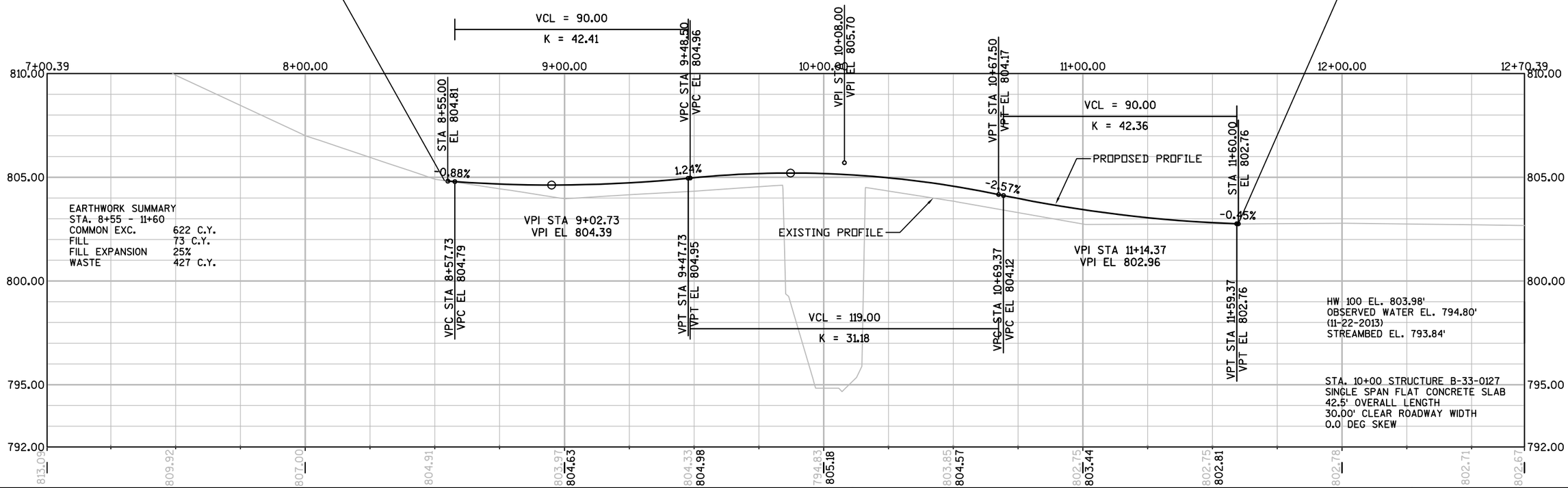
CONTROL POINTS				
NO.	DESCRIPTION	ELEV.	X	Y
1	40	802.3700	155,777.3400	542,580.4600
2	45	801.4600	155,877.1000	542,487.0400



HORIZONTAL CURVE DATA
PI STA = 9+06.14
Y = 155,761.41
X = 542552.16
DELTA = 14°10'13"
D = 14° 10' 34"
T = 118.13
L = 235.05
R = 950.00'
PC STA = 7+88.01
Y = 155,644.09
X = 542,538.40
PT STA = 10+23.06
Y = 155,878.53
X = 542,536.77
S.E. = VARIES, 5.0% MAX

BEGIN PROJECT
STA. 8+55.00
Y= 155,710.84
X= 542,543.85

END PROJECT
STA. 11+60.00
Y= 156,014.31
X= 542,518.93



EARTHWORK SUMMARY
STA. 8+55 - 11+60

COMMON EXC.	622 C.Y.
FILL	73 C.Y.
FILL EXPANSION	25%
WASTE	427 C.Y.

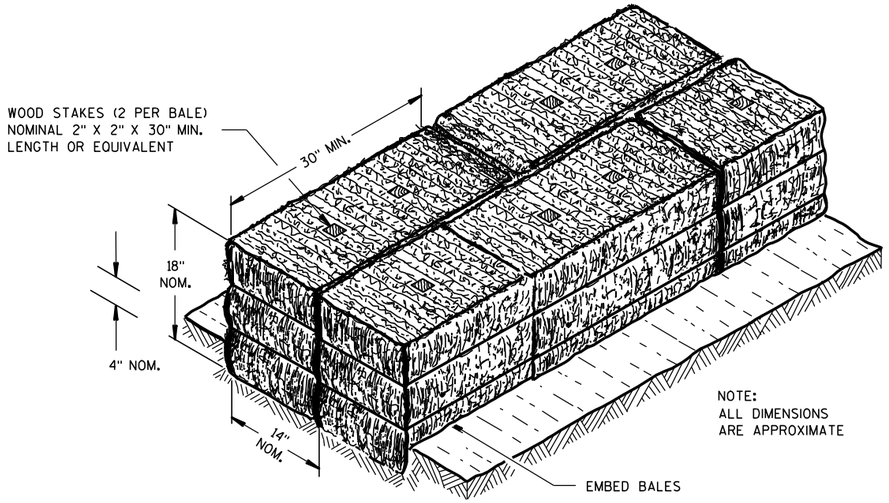
HW 100 EL. 803.98'
OBSERVED WATER EL. 794.80'
(11-22-2013)
STREAMBED EL. 793.84'

STA. 10+00 STRUCTURE B-33-0127
SINGLE SPAN FLAT CONCRETE SLAB
42.5' OVERALL LENGTH
30.00' CLEAR ROADWAY WIDTH
0.0 DEG SKEW

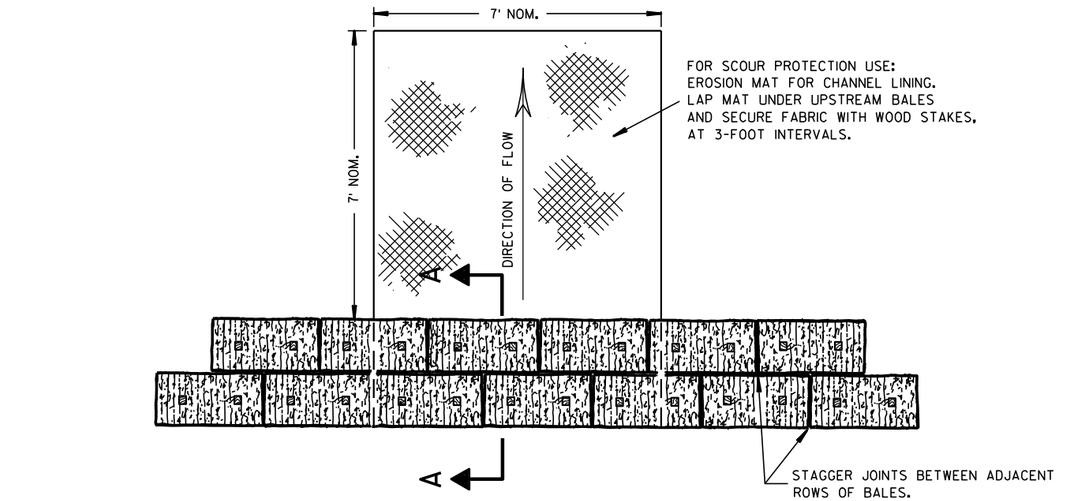
PROJECT NO: 5675-00-70	HWY: CTH N	COUNTY: LAFAYETTE	PLAN AND PROFILE:	SHEET E

Standard Detail Drawing List

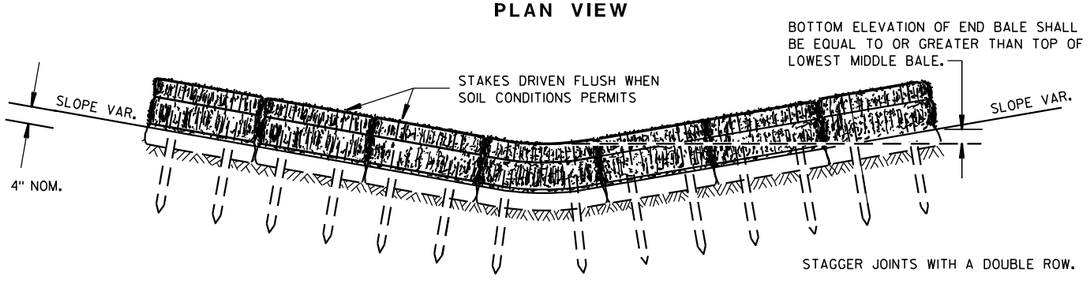
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
15A01-11	MARKER POST FOR RIGHT-OF-WAY
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS



SECTION A-A



PLAN VIEW



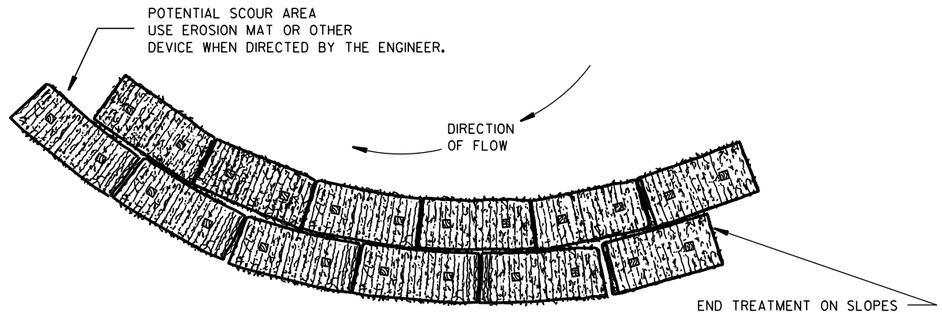
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

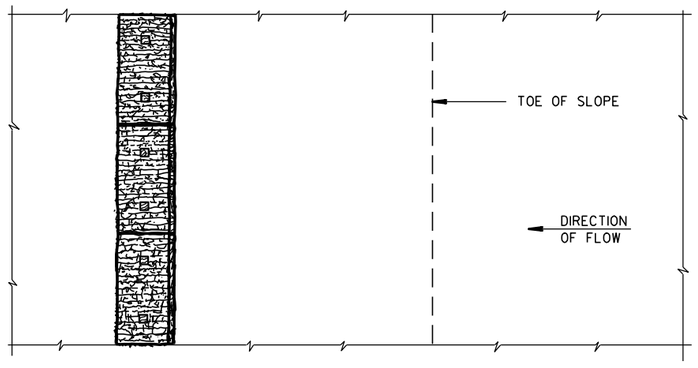
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

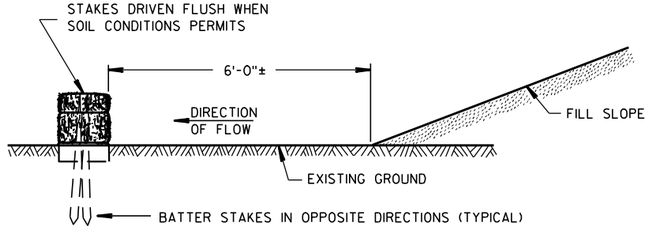


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

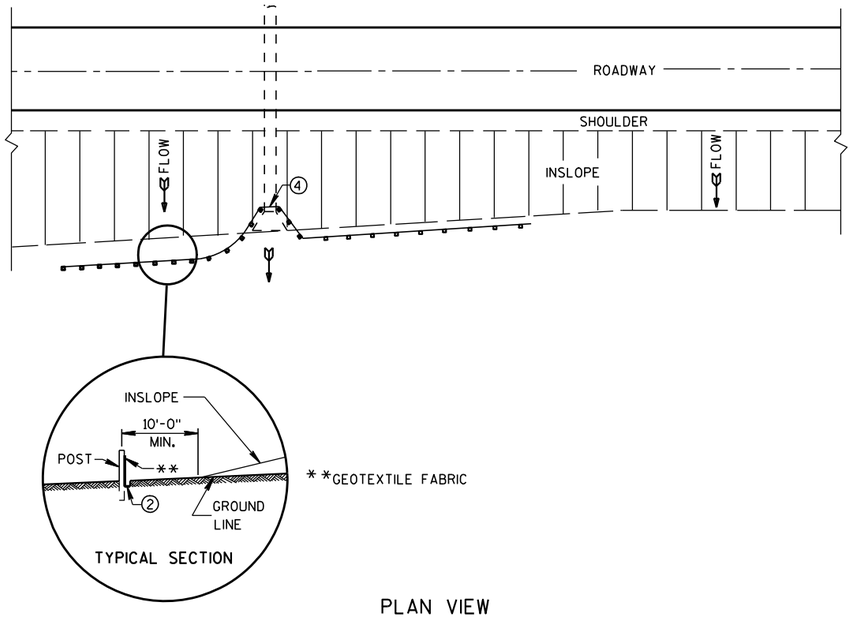
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

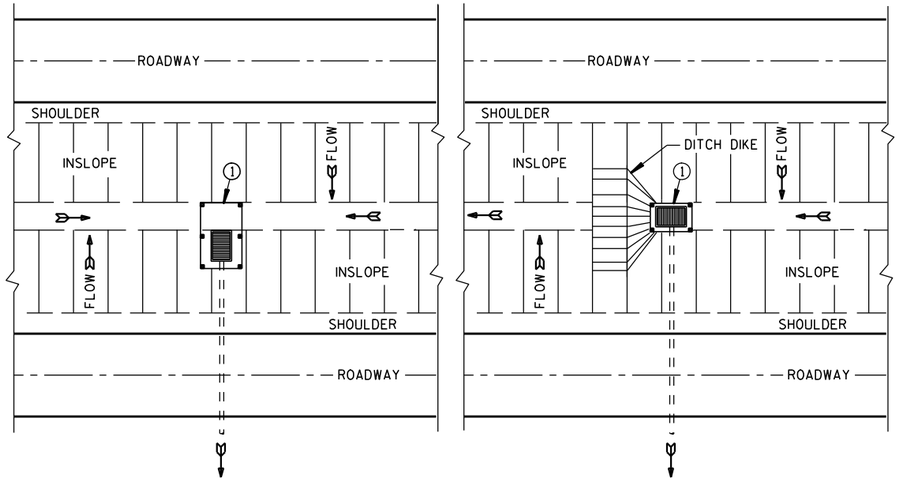
6

S.D.D. 8 E 8-3



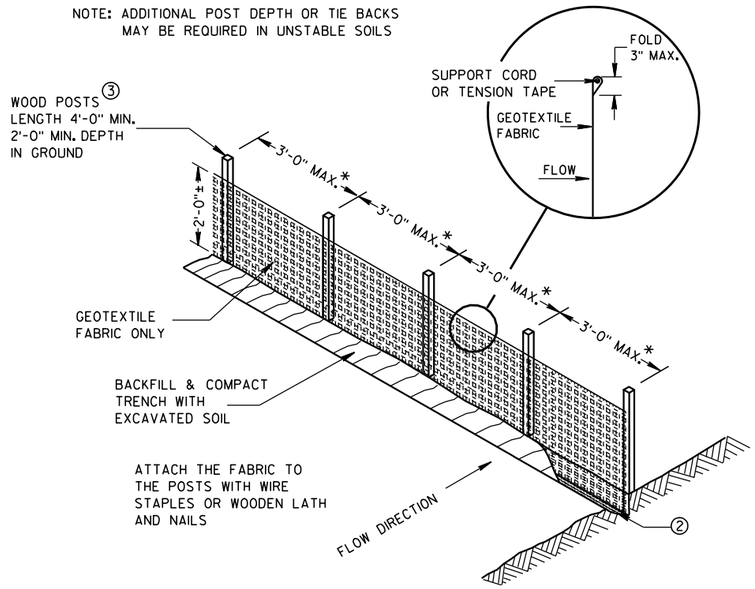
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE

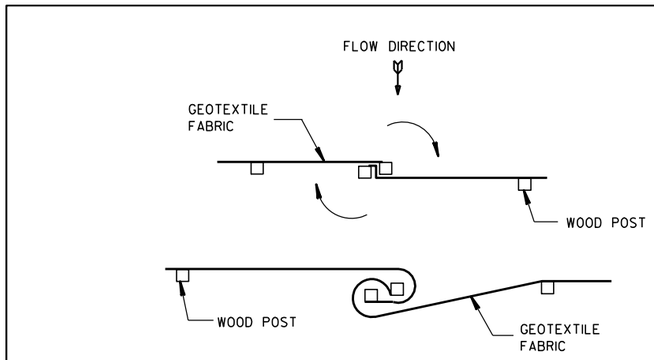


PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

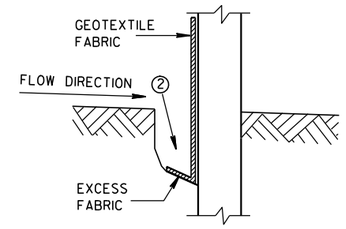


JOINING TWO LENGTHS OF SILT FENCE 5

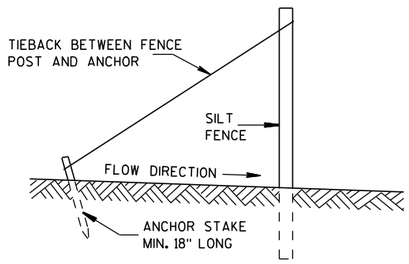
GENERAL NOTES

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 TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

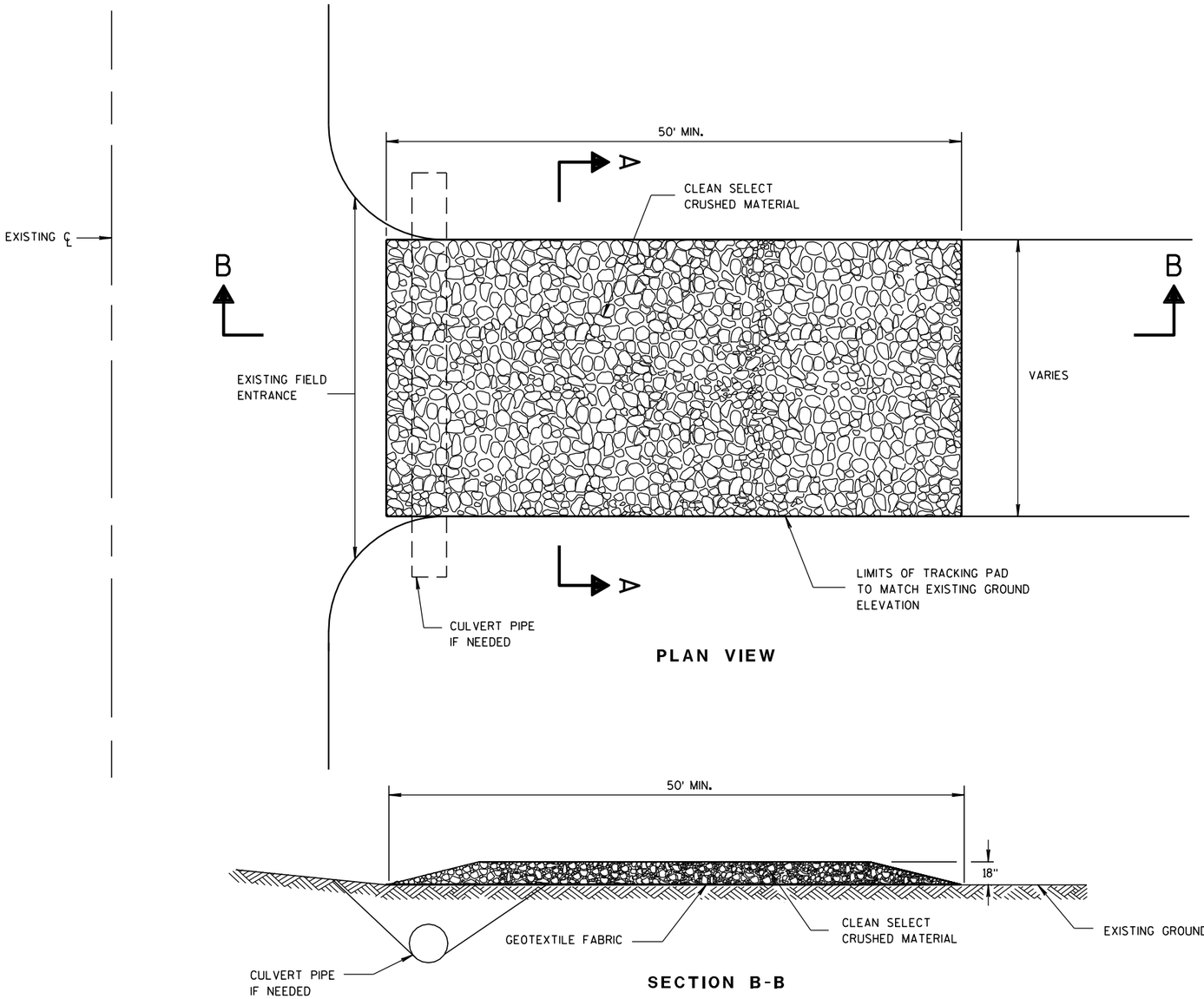
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

S.D.D. 8 E 9-6

S.D.D. 8 E 9-6



PLAN VIEW

SECTION B-B

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

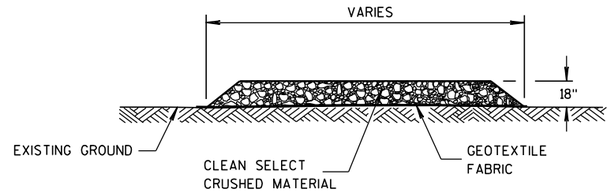
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011	/S/ Jerry H. Zoda	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

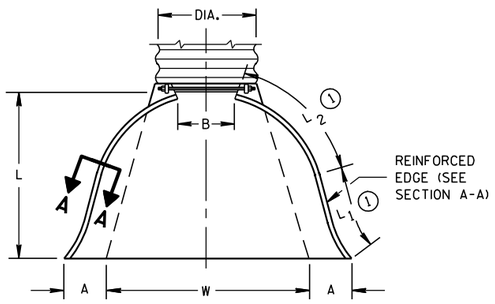
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 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

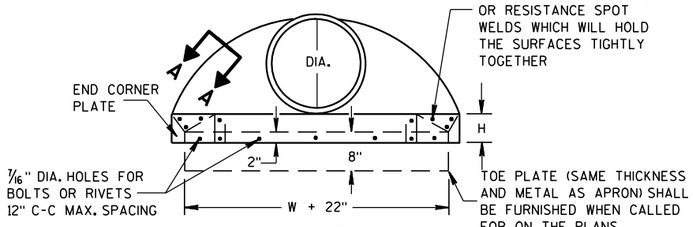
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
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

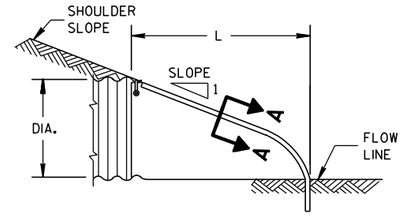
*MINIMUM
**MAXIMUM



PLAN VIEW

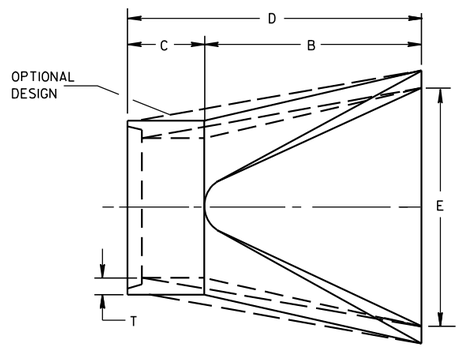


END VIEW

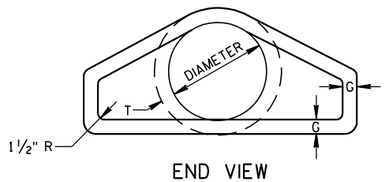


SIDE ELEVATION

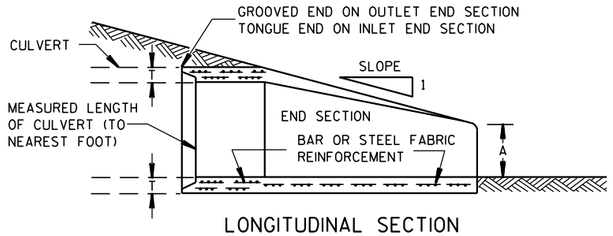
METAL ENDWALLS



PLAN

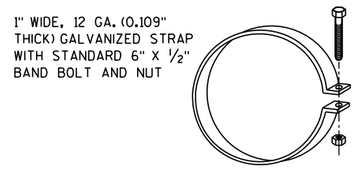


END VIEW



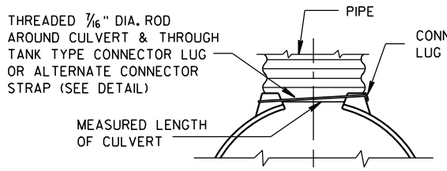
LONGITUDINAL SECTION

CONCRETE ENDWALLS

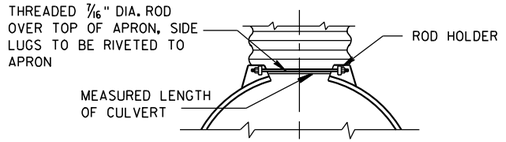


ALTERNATE FOR TYPE 1 CONNECTION

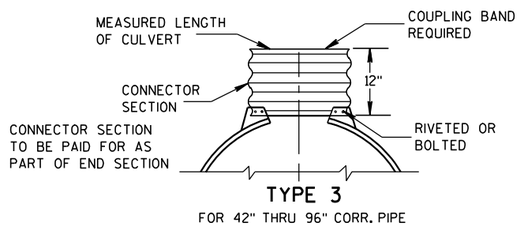
END SECTION CONNECTOR STRAP



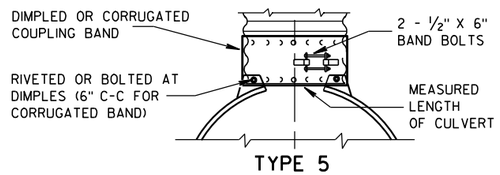
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

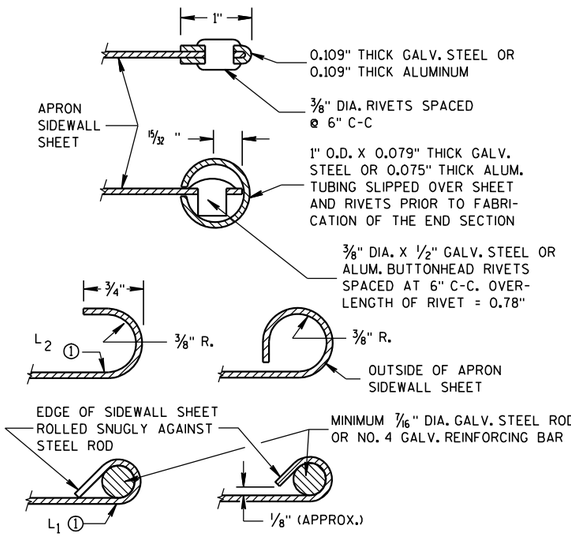
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

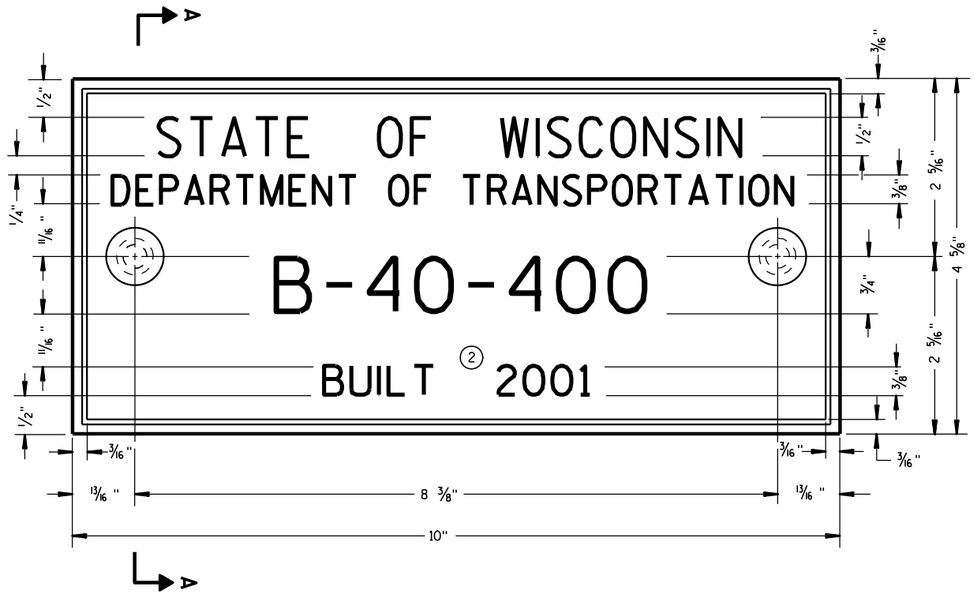
APRON ENDWALLS FOR CULVERT PIPE

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)

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

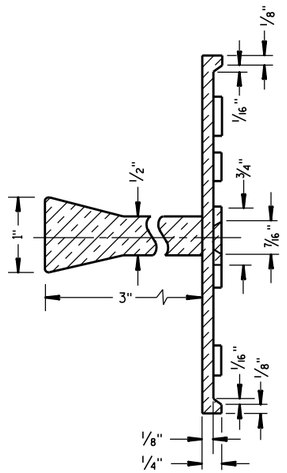
GENERAL NOTES

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.

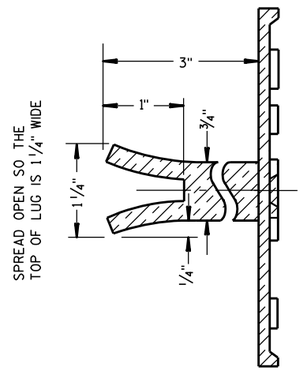
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

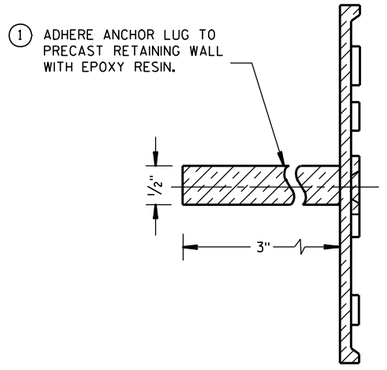
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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

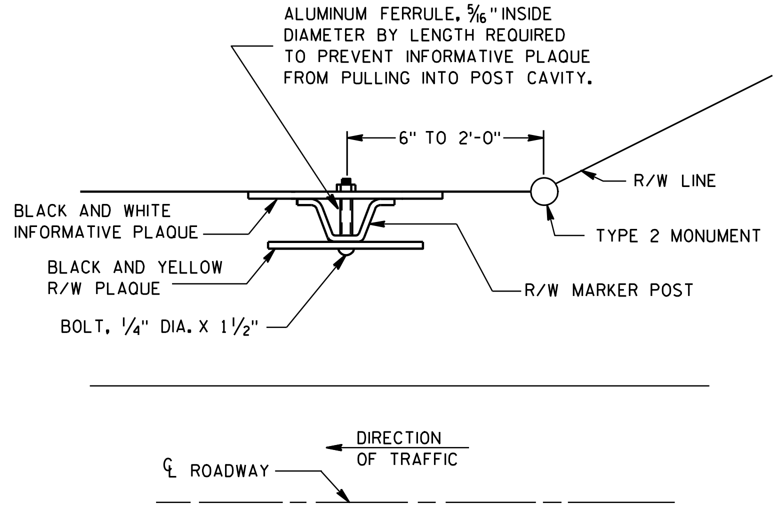
FHWA

6

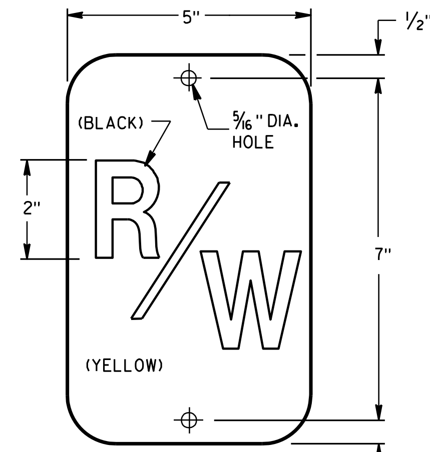
S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10

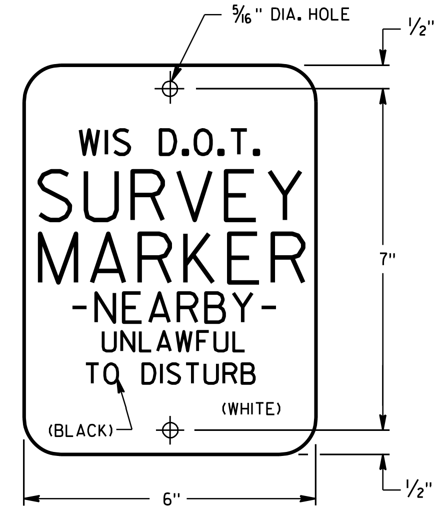


PLAN VIEW



R/W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

GENERAL NOTES

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

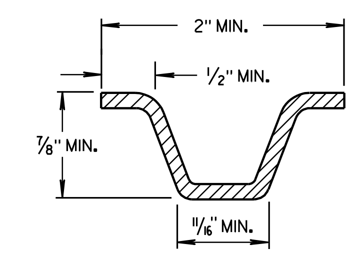
A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

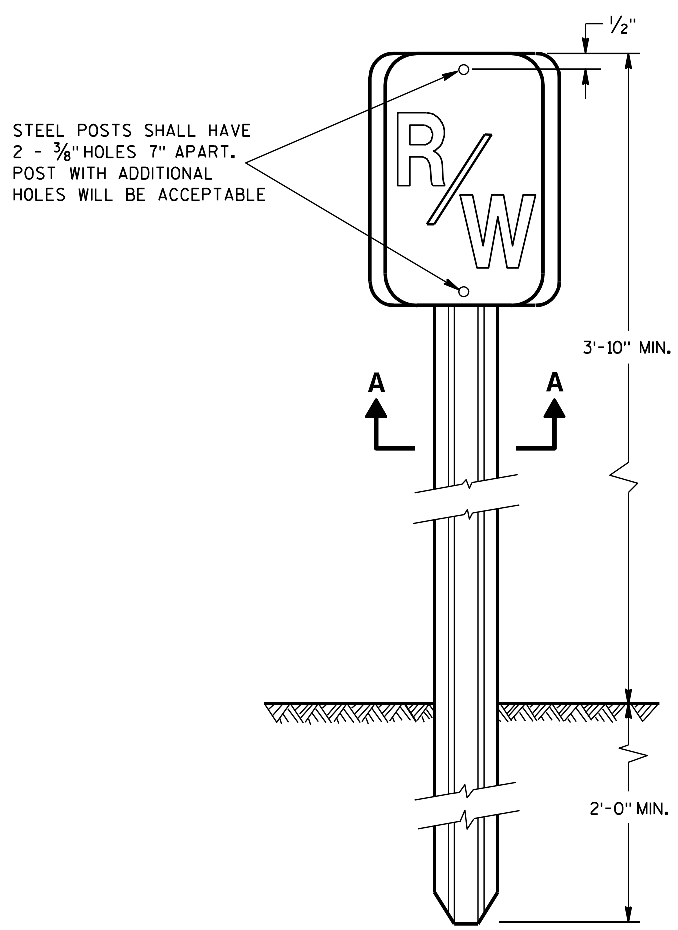
(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3'10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT. DEPENDING ON THE STABILITY OF THE ROCK.

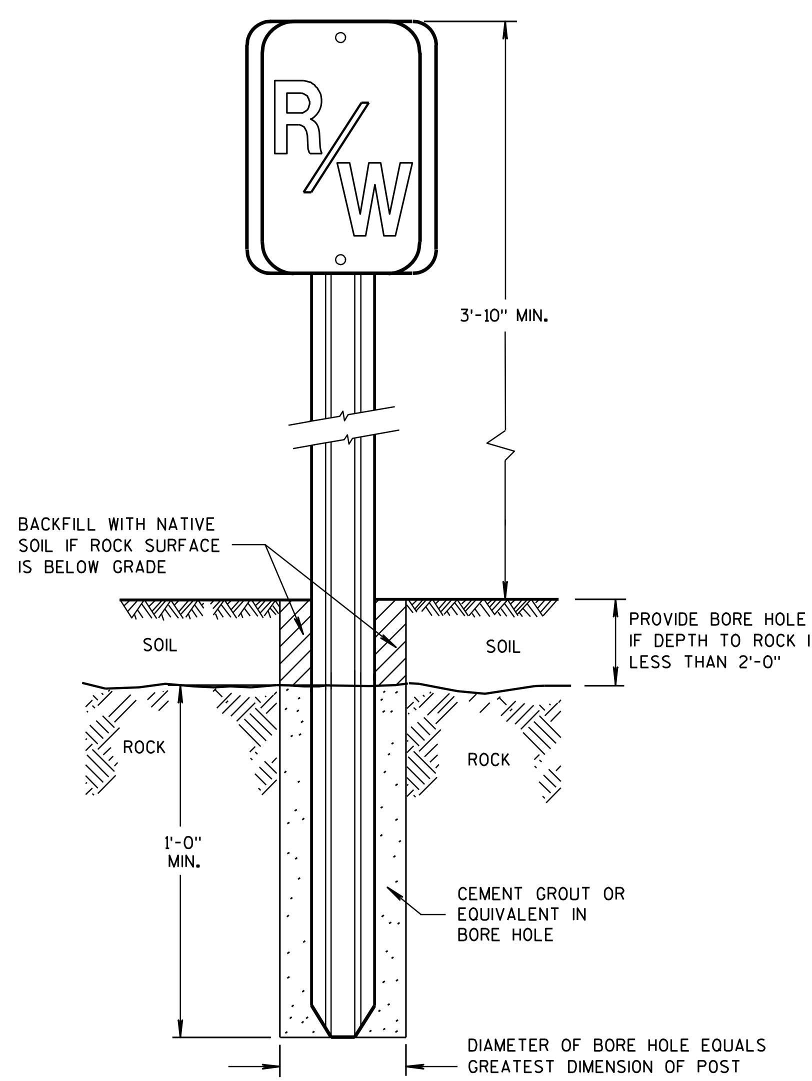


MIN. WEIGHT 1.12 LB./FT.

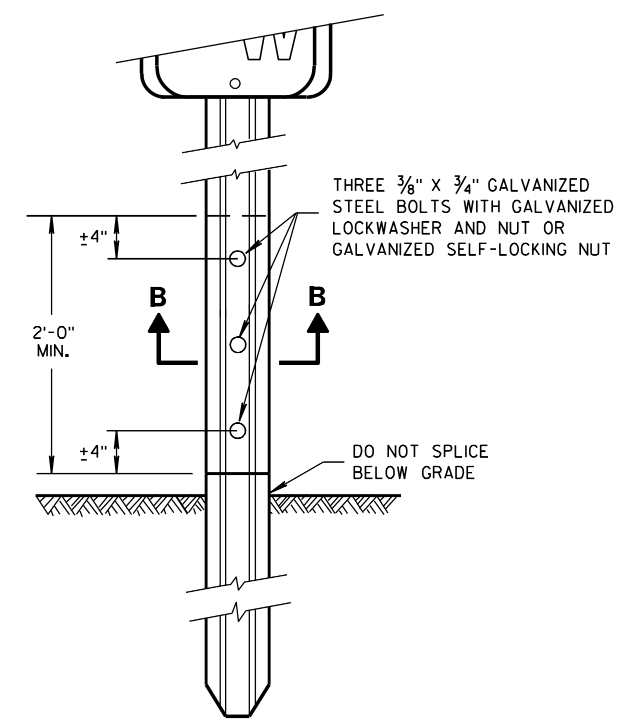
SECTION A-A



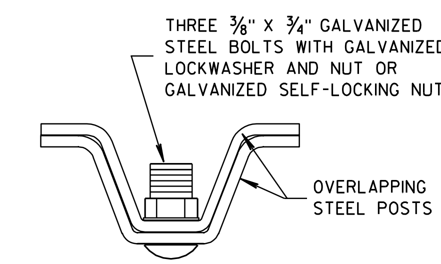
FRONT VIEW
STEEL MARKER POST



FRONT VIEW
ROCK INSTALLATION (1)



FRONT VIEW
SPLICE DETAIL



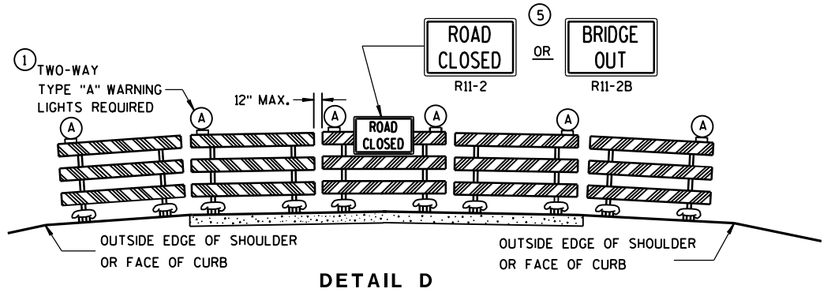
SECTION B-B

MARKER POST FOR RIGHT-OF-WAY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 4/27/09 DATE — /S/ Ray Kumapayi CHIEF SURVEYING AND MAPPING ENGINEER — FHWA

6

6

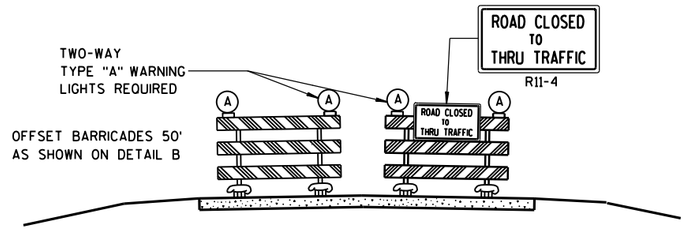
S.D.D. 15 A 1-11



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.

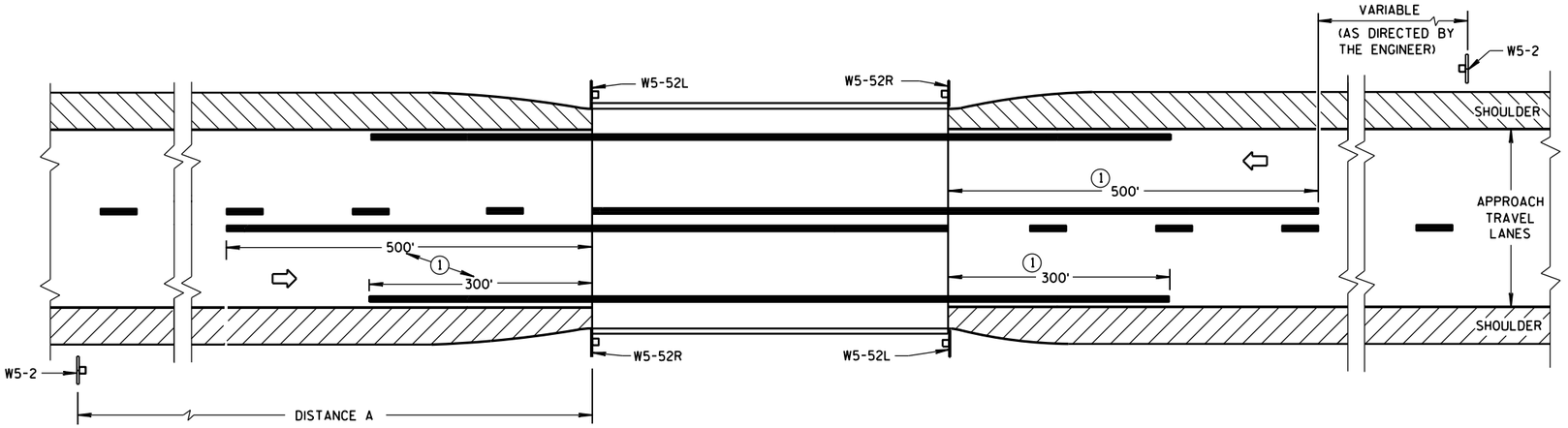
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
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.

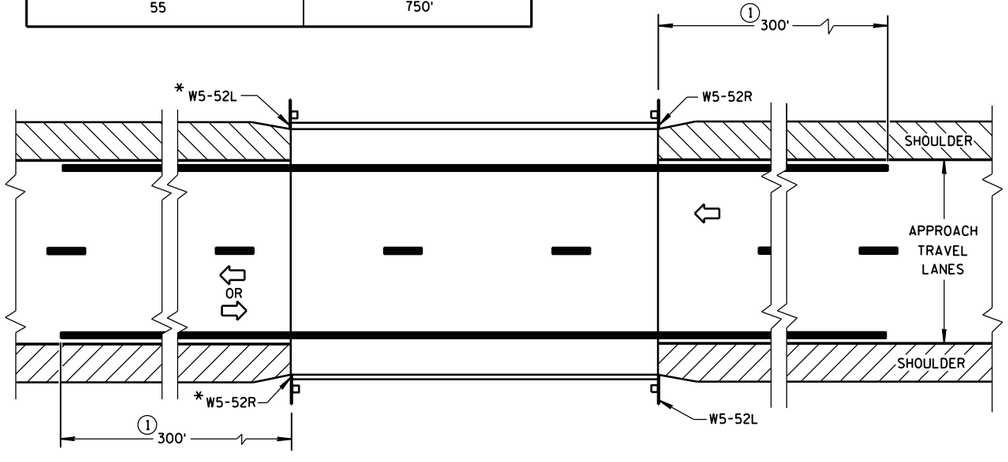
DISTANCE TABLE

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



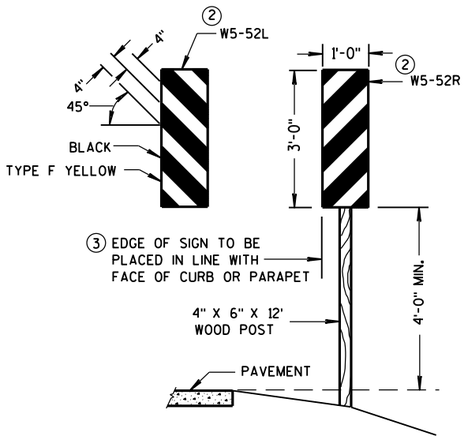
*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

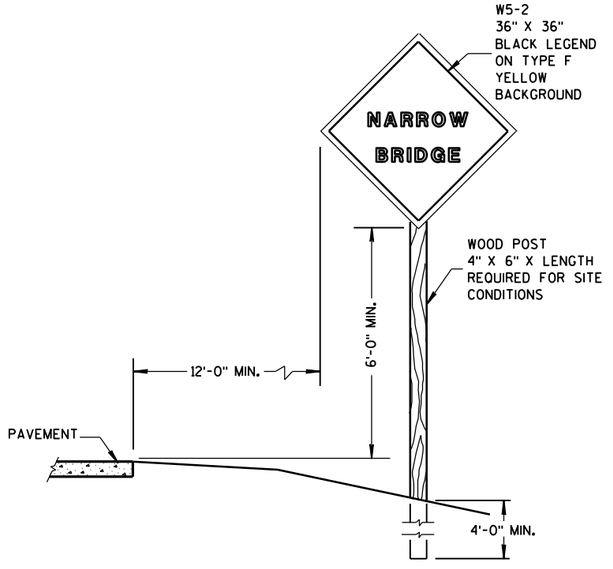
WARRANTING CRITERIA:

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

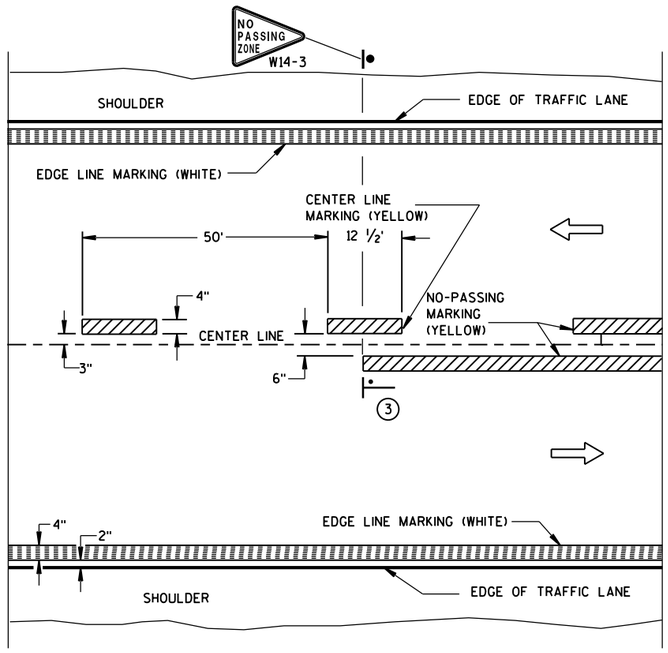
3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

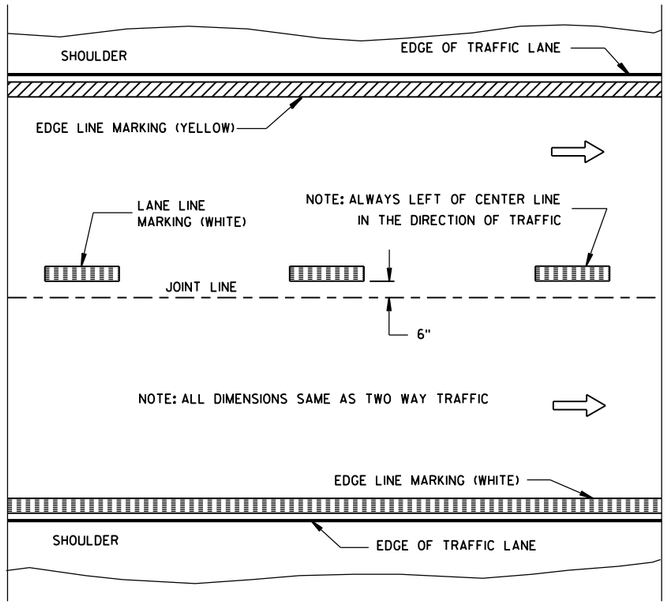
FHWA

6

S.D.D. 15 C 6-7

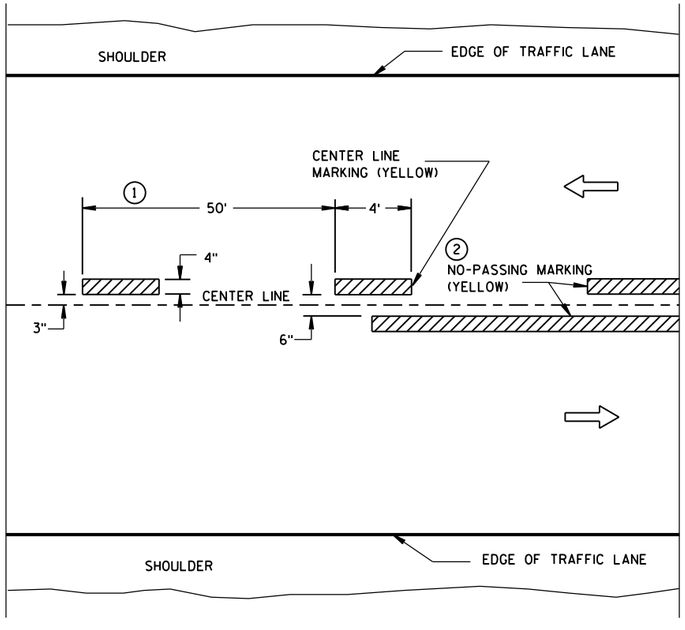


TWO WAY TRAFFIC

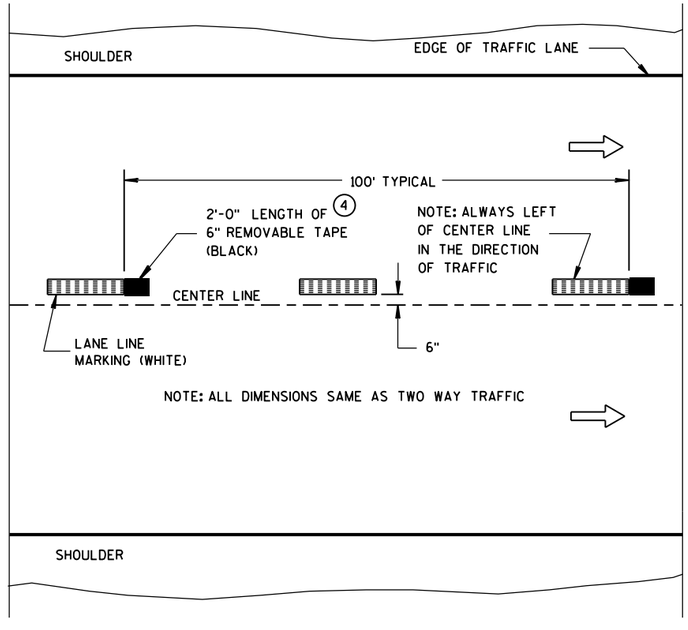


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

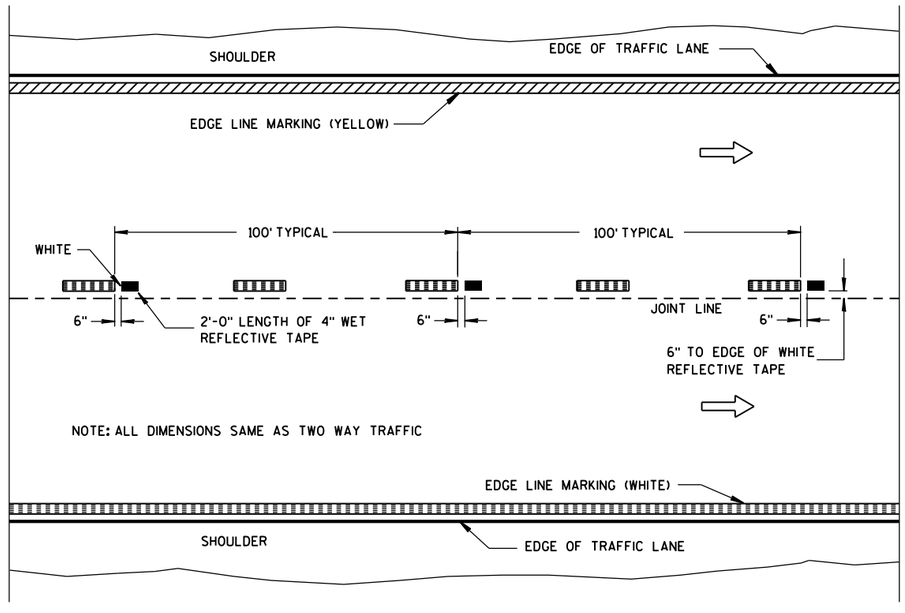
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

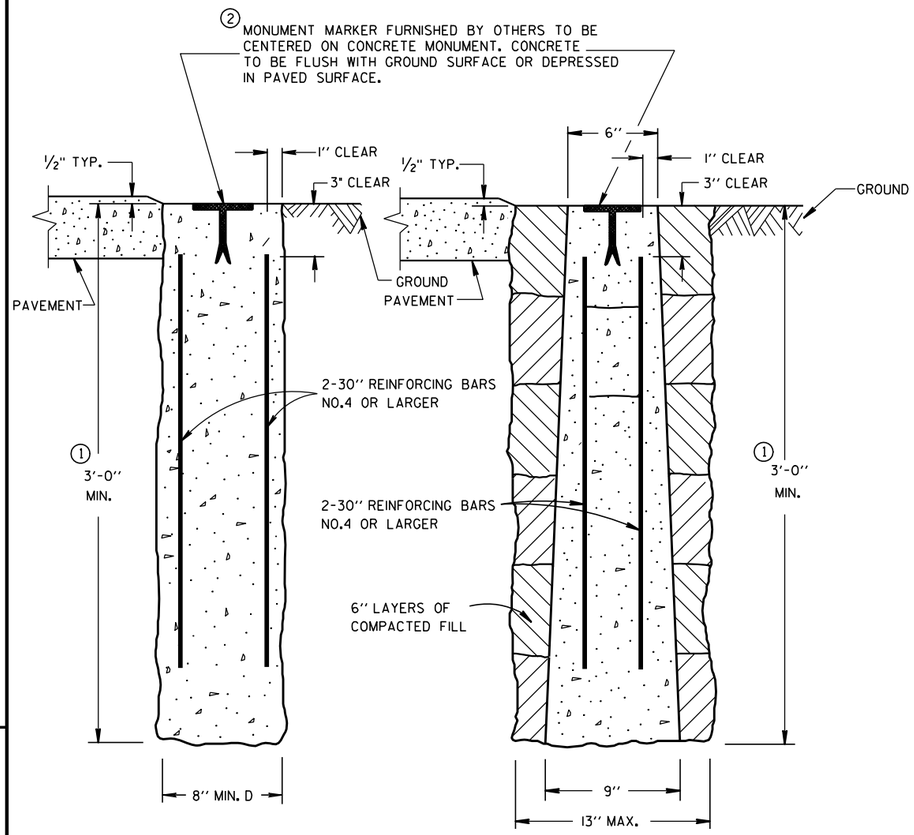
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

S.D.D. 15 C 8-16a

6

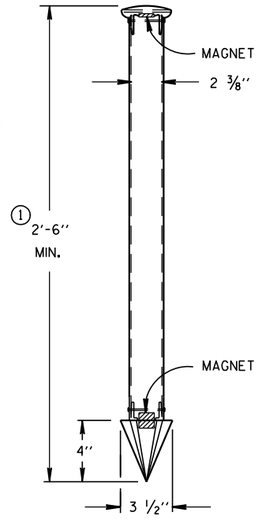
S.D.D. 15 C 8-16a



CAST-IN-PLACE PRECAST

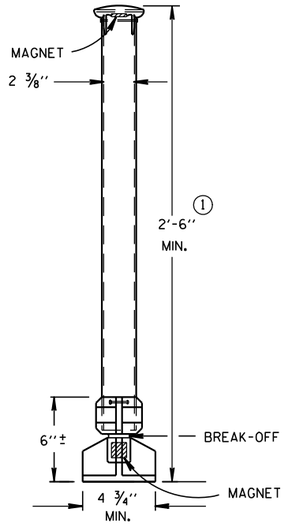
CONCRETE MONUMENTS

TYPE A



TYPE C

DRIVE-IN MONUMENT



TYPE D

BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

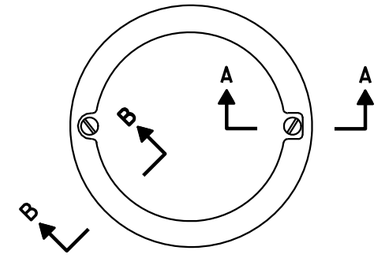
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

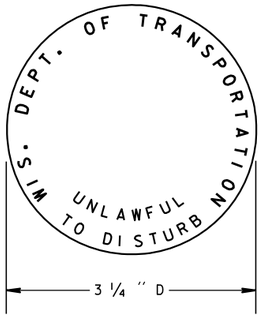
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.

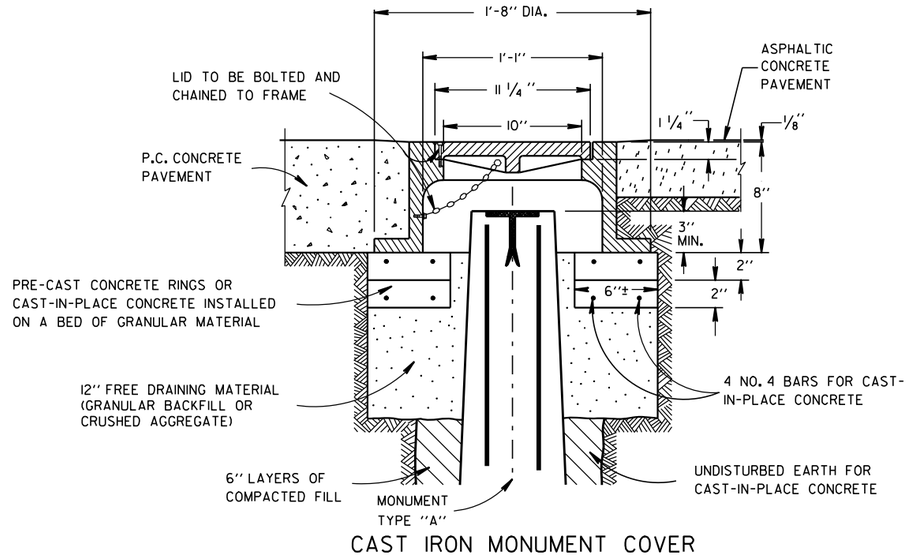


TOP VIEW



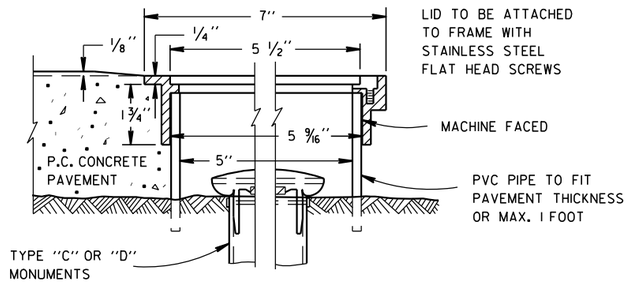
② WIS DOT MONUMENT MARKER LOGO

FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/22/1999 DATE

/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

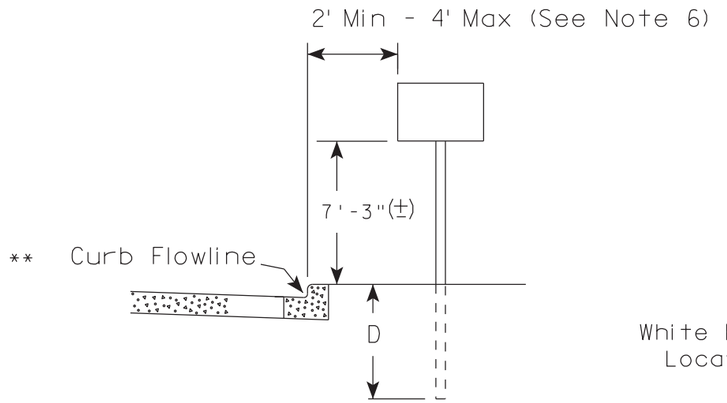
6

S.D.D. 16 A 1-6

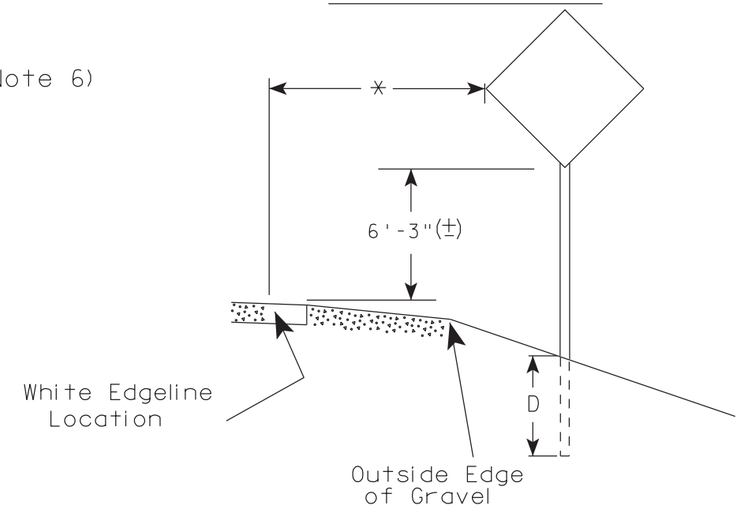
6

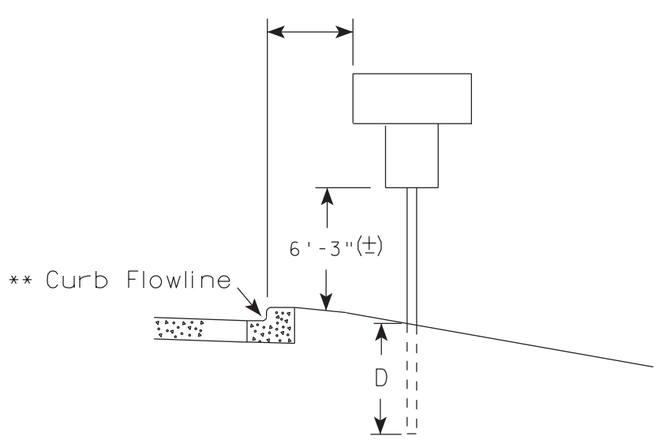
S.D.D. 16 A 1-6

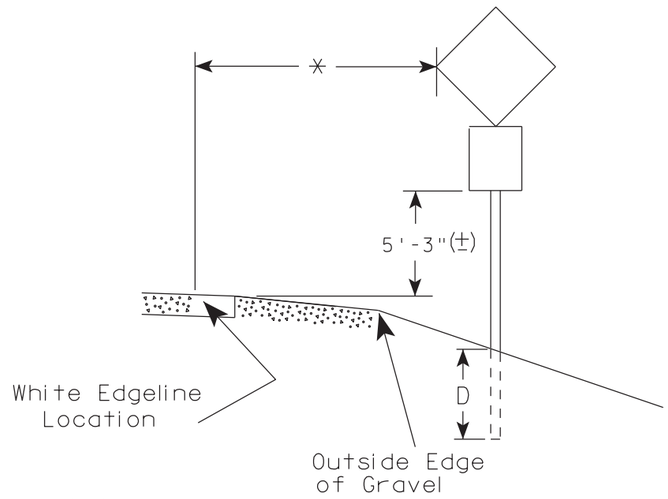
URBAN AREA



RURAL AREA (See Note 2)







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

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

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 (A4-5) 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 stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed 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) & End of Rod Markers (W5-56 & W5-56A) 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'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

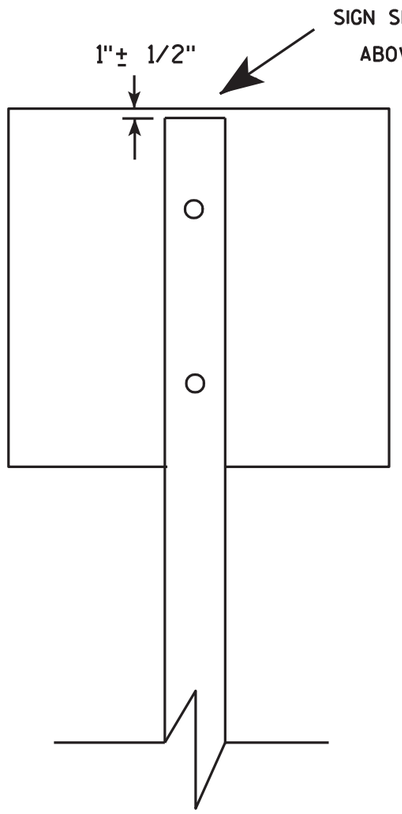
WISCONSIN DEPT OF TRANSPORTATION

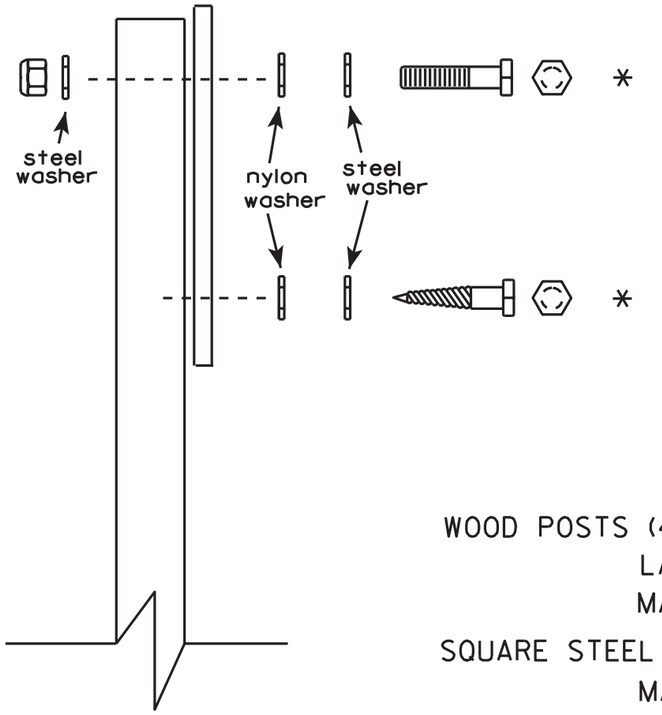
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 30-SEP-2013 13:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 99.237937:1.000000 WISDOT/CADDS SHEET 42





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

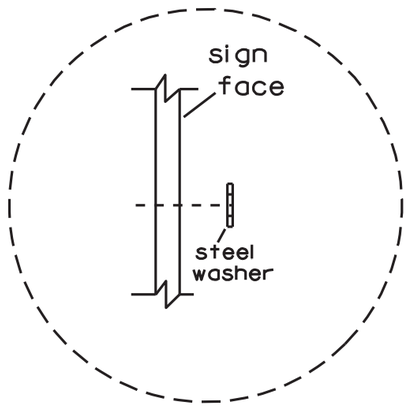
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

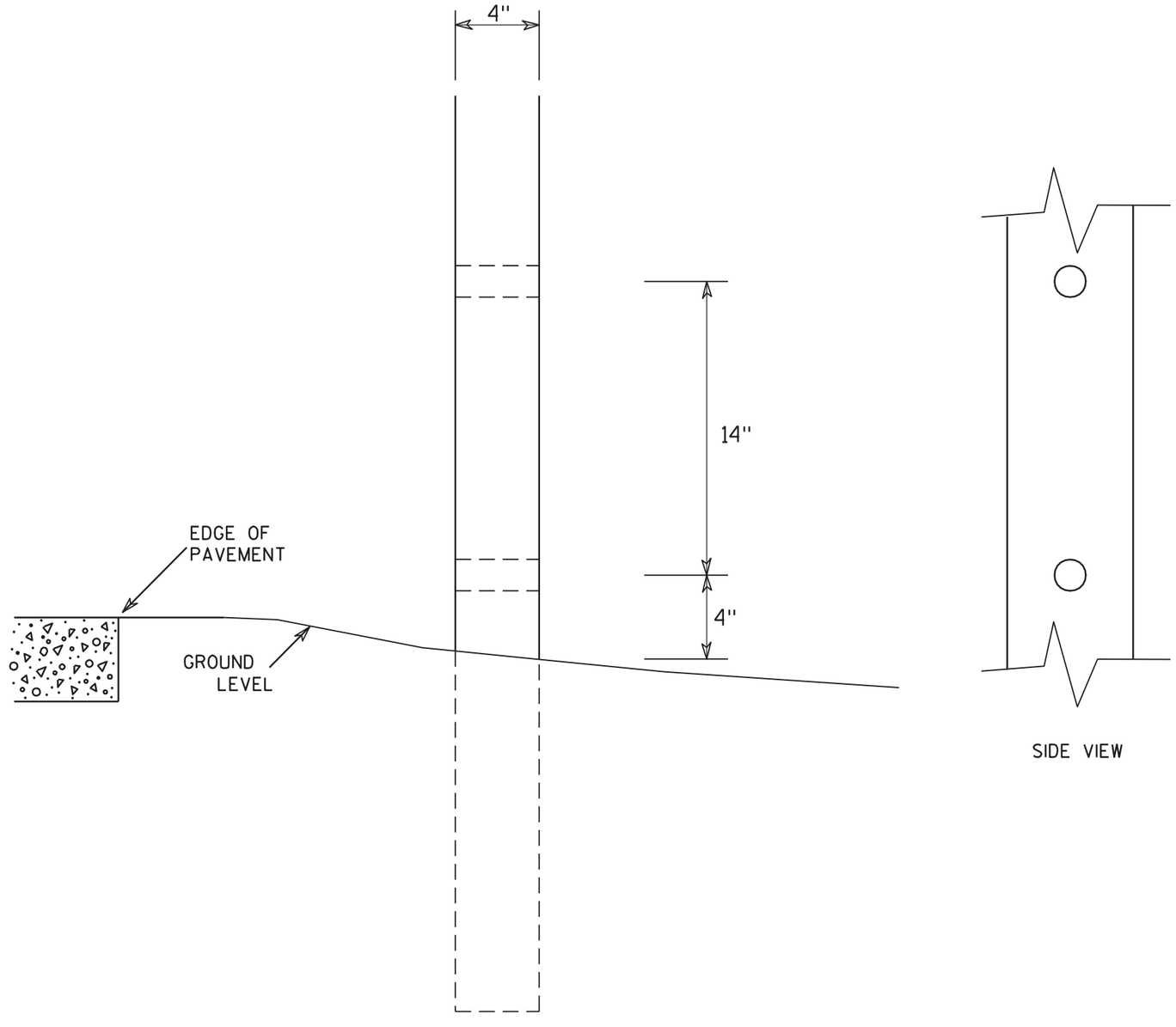
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:				SHEET NO: 23	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\A48.DGN PLOT DATE : 23-MAR-2010 10:15 PLOT BY : ditjph
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

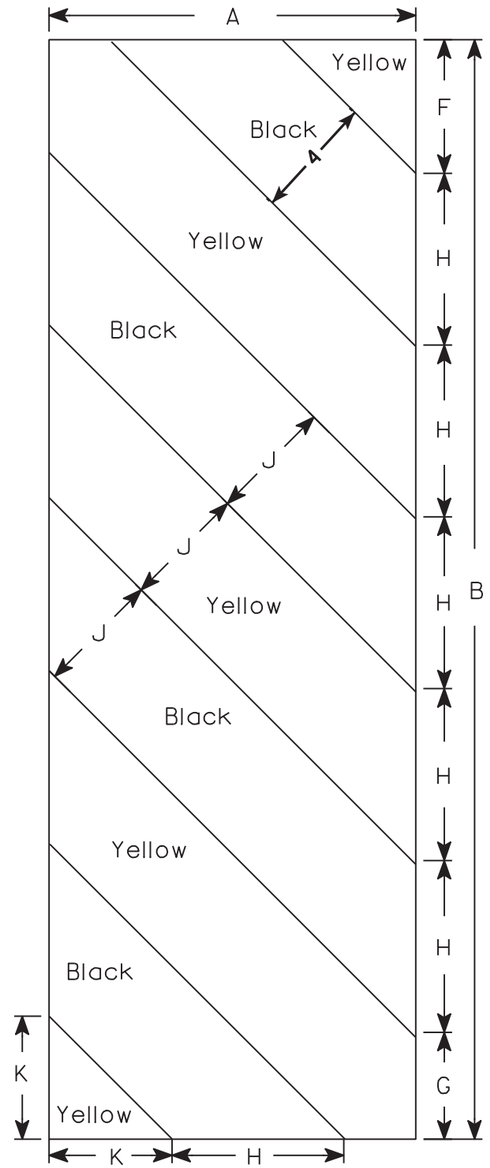
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

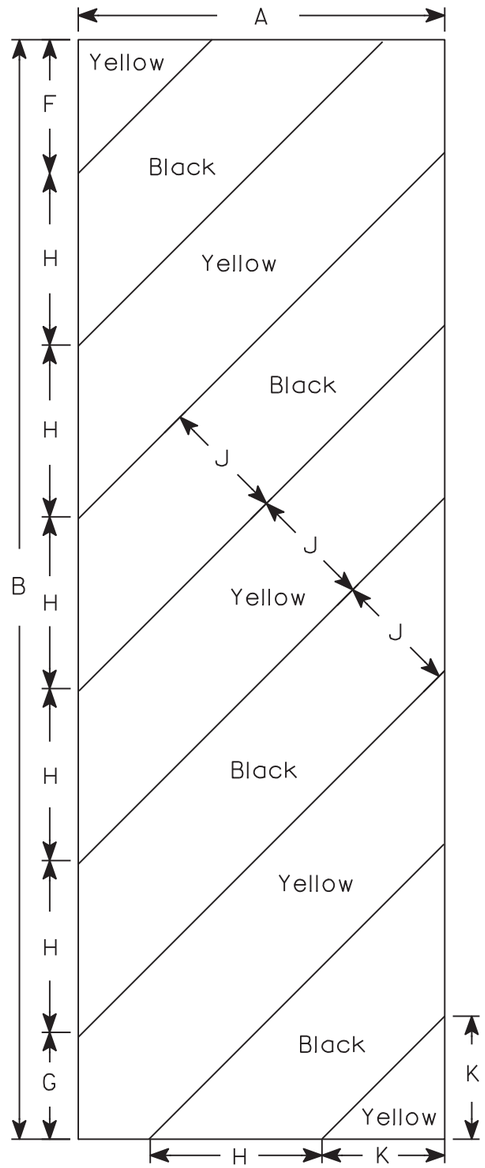
APPROVED Chester J Spang
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 24	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

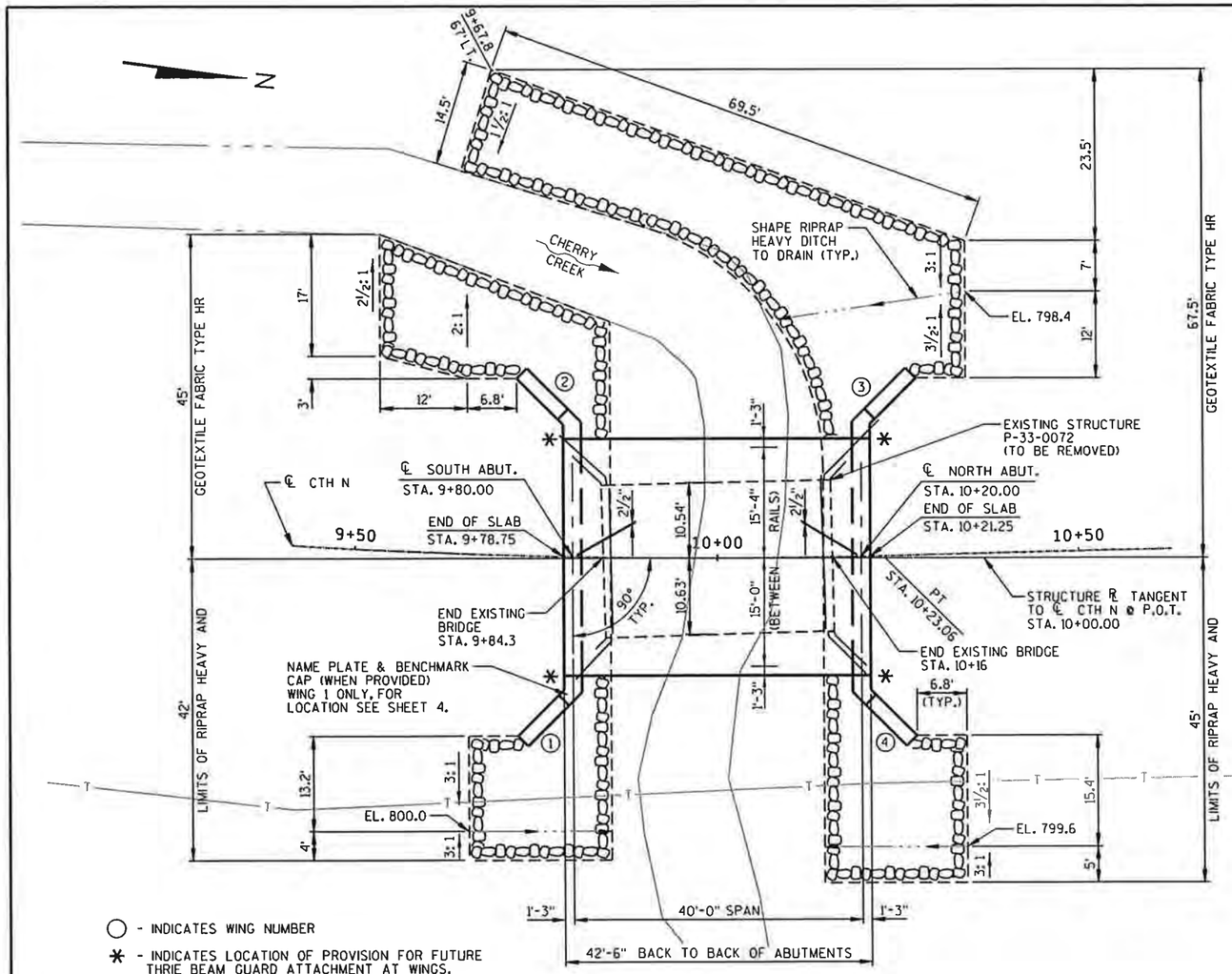
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

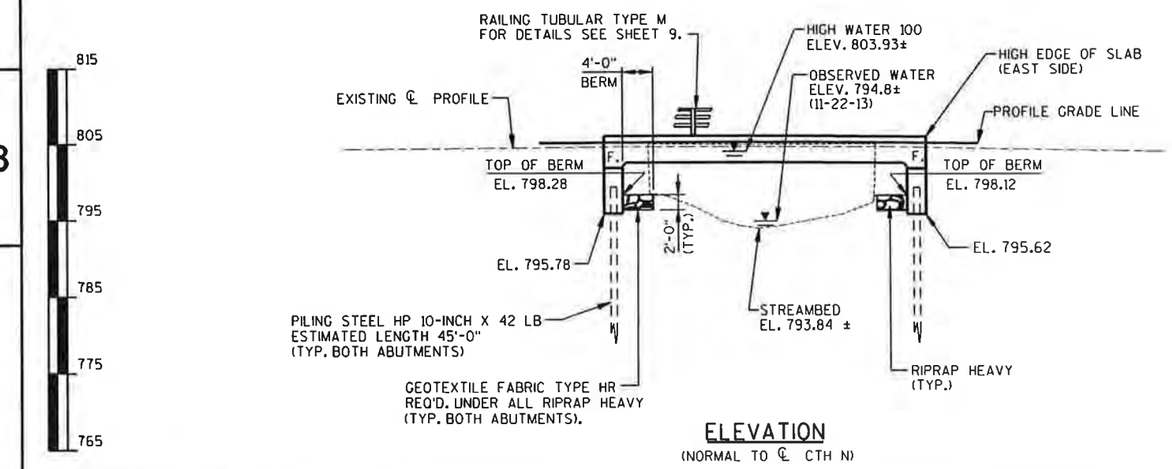
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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

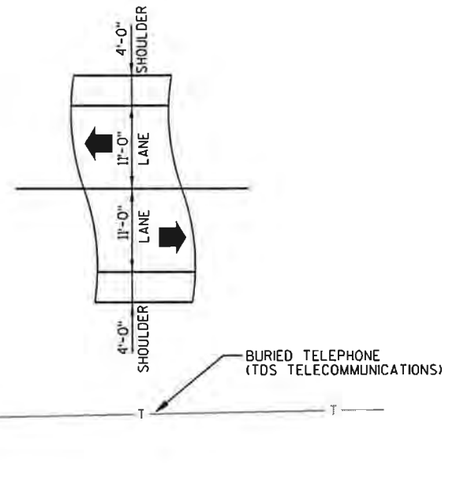


PLAN
(SINGLE SPAN FLAT CONCRETE SLAB)



ELEVATION
(NORMAL TO ℄ CTH N)

℄ CURVE DATA
PI STA. 9+06.14
Y = 155761.41
X = 542552.16
△ = 14°10'33"
D = 6°01'51"
T = 118.13'
L = 235.05'
R = 950.00'
PC STA. 7+88.01
PT STA. 10+23.06
SE = 5%



LIST OF DRAWINGS
1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. RAILING TUBULAR TYPE M

STATE PROJECT NUMBER
5675-00-70

BENCHMARKS

NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	9+46.4, 34.0' RT.	CORNER POST	803.00
2	9+85.2, 11.3' RT.	SURFACE OF SOUTHEAST WING	804.93
3	11+92.2, 32.7' RT.	SPIKE IN POST	801.50

DESIGN DATA

LIVE LOAD:
DESIGN LOADING : HL-93
INVENTORY RATING FACTOR : 1.16
OPERATIONAL RATING FACTOR : 1.50

TRAFFIC DATA:
A.A.D.T. (2015) = 210
A.A.D.T. (2035) = 250
R.D.S. = 30 MPH

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

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

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY, SLAB — $f'c$ = 4,000 P.S.I.
ALL OTHER — $f'c$ = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.
PILING STEEL HP — fy = 50,000 P.S.I.

FOUNDATION DATA:
ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. PILES TO BE DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 45'-0".

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

HYDRAULIC DATA:
100 YEAR FREQUENCY
DRAINAGE AREA — 7.6 SQ. MI.
Q_{100} - TOTAL — 2,500 C.F.S.
- THRU BRIDGE — 1,749 C.F.S.
- OVERTOPPING ROADWAY — 751 C.F.S.
VELOCITY - THRU BRIDGE — 7.85 FT./SEC.
WATERWAY AREA - THRU BRIDGE — 221 SQ. FT.
SCOUR CRITICAL CODE — 8
HIGH WATER$_{100}$ ELEVATION — 803.93 ±
Q_2 ELEVATION (470 CFS) — 799.74 ±

ROADWAY OVERFLOW DESIGN
OVERTOPPING FREQUENCY — 17 YEARS
Q_{17} — 1,455 C.F.S.
HIGH WATER$_{17}$ ELEVATION — 802.59 ±

CONSULTANT DESIGN CONTACT:
DANIEL WAGNER
(608) 355-8952

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

WISCONSIN
DANIEL H. WAGNER
E-19220
BARABOO, WI
PROFESSIONAL ENGINEER
Daniel H. Wagner
8-18-2014

NO.	DATE	REVISION	BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 12/03/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-33-0127
CTH N OVER CHERRY CREEK
COUNTY LAFAYETTE — TOWN ~~CITY/VILLAGE~~ WIOTA
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPEC.

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DHW	JRS	RLR	DHW

GENERAL PLAN
SHEET 1 OF 9
26

FILE= 2398005_01.DGN
DATE= 8/18/2014

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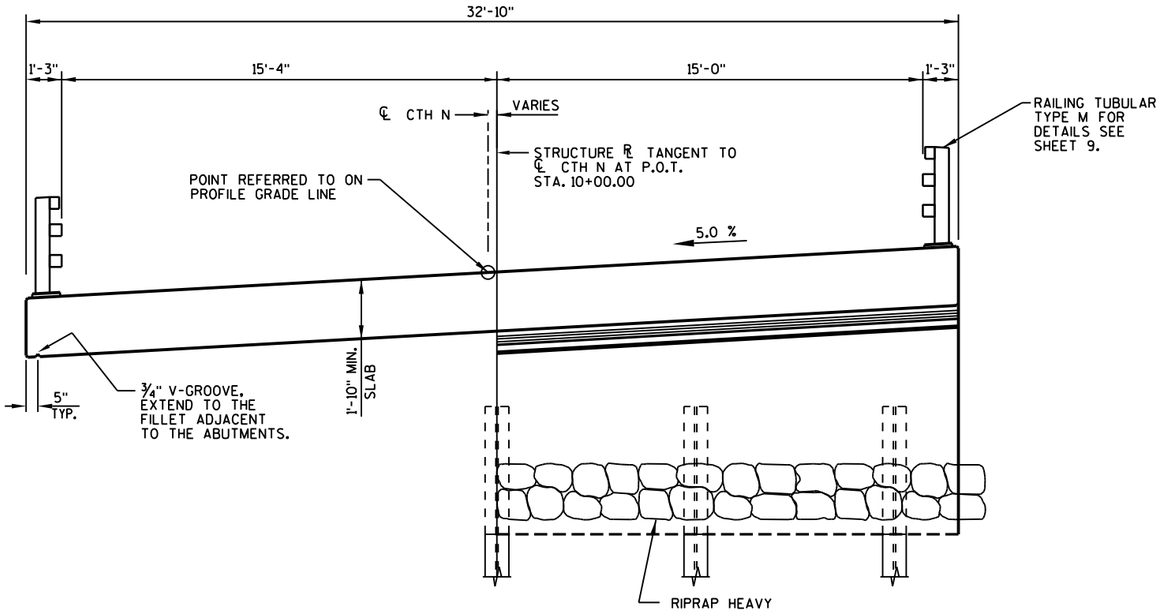
STATE PROJECT NUMBER

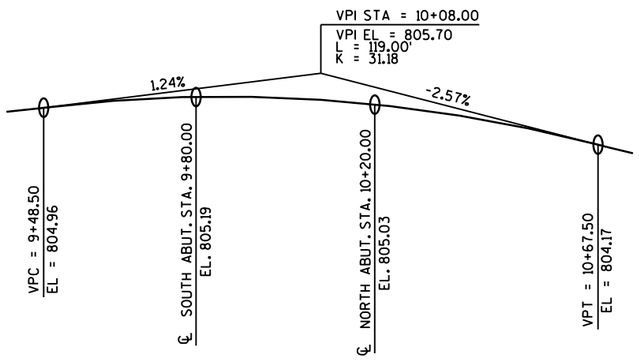
5675-00-70



IN SPAN AT ABUTMENTS

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



PROFILE GRADE LINE - CTH N

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPER.	TOTAL
203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURE BRIDGES (B-33-0127)	LS	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	135	135	-	270
502.0100	CONCRETE MASONRY BRIDGES	CY	37	37	100	174
502.3200	PROTECTIVE SURFACE TREATMENT	SY	20	20	180	220
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2410	2410	-	4820
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1530	1530	17150	20210
513.4060.01	RAILING TUBULAR TYPE M (B-33-0127)	LS	-	-	-	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6.5	6.5	-	13
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	315	315	-	630
606.0300	RIPRAP HEAVY	CY	80	150	-	230
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	80	-	160
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	175	305	-	480
	NON-BID ITEMS					
	PREFORMED FILLER	SIZE				½", ¾"

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 MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

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

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS. GRADING WEST OF WING 3 AS SHOWN ON SHEET 1 IS INCLUDED WITH THE BID ITEM "EXCAVATION FOR STRUCTURES".

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

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, P-33-0072, A 32.0 FT. LONG SINGLE SPAN STEEL DECK GIRDER BRIDGE WITH CONCRETE ABUTMENTS.

AT THE ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE BACKFILL STRUCTURE ESTIMATED QUANTITIES ASSUMED A 1½:1 EXCAVATION SLOPE AT THE ABUTMENTS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO WIOTA E GPS BENCHMARK NAVD88 ELEV. 1020.61.

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE.

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

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-0127

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CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 9

27

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DATE= 8/18/2014

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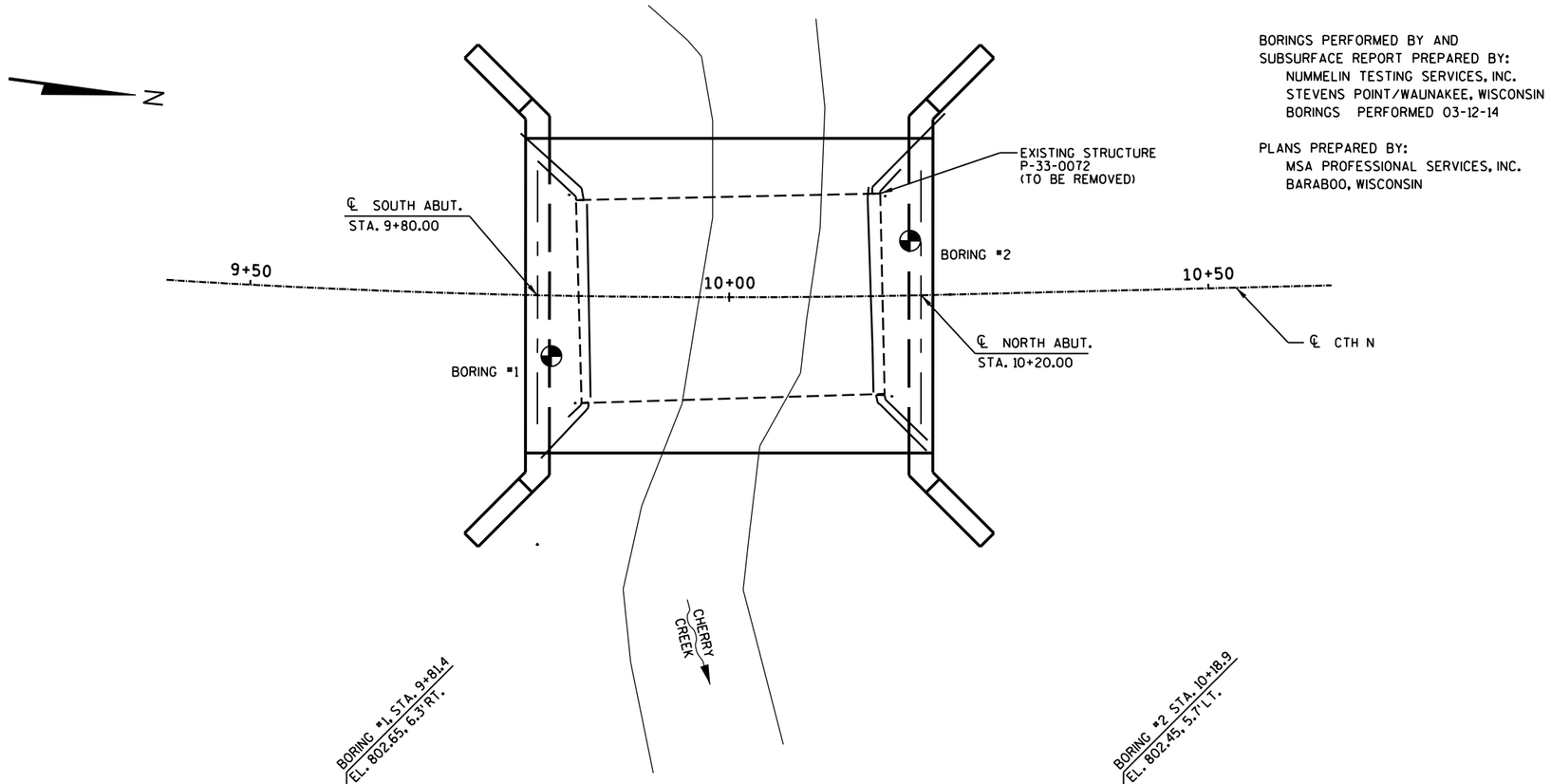
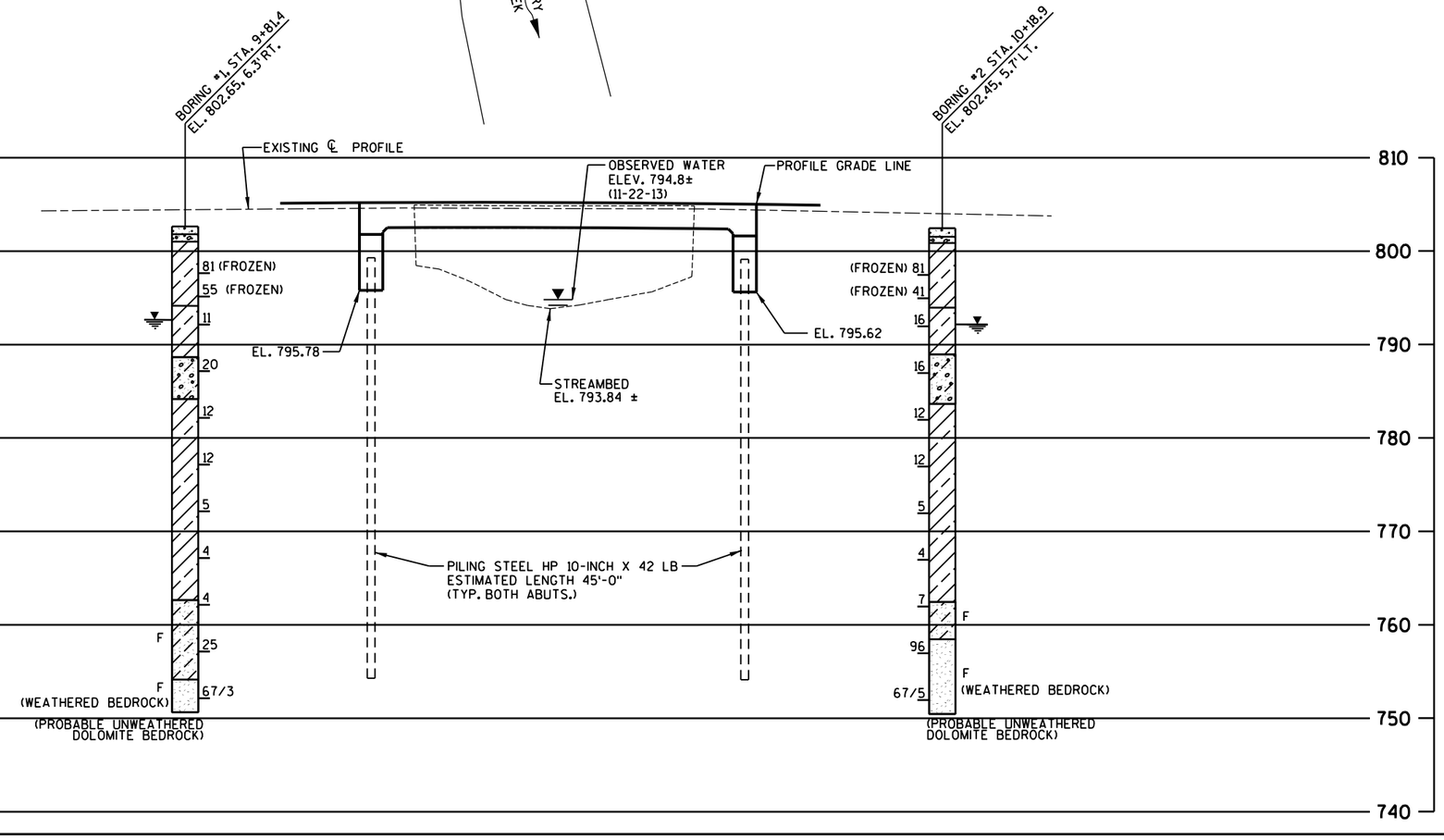


BORINGS PERFORMED BY AND
SUBSURFACE REPORT PREPARED BY:
NUMMELIN TESTING SERVICES, INC.
STEVENS POINT/WAUNAKEE, WISCONSIN
BORINGS PERFORMED 03-12-14

PLANS PREPARED BY:
MSA PROFESSIONAL SERVICES, INC.
BARABOO, WISCONSIN



STATE PROJECT NUMBER

5675-00-70

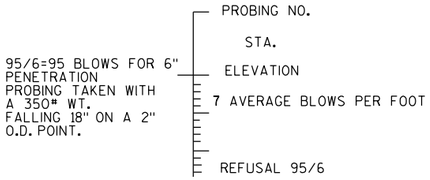
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

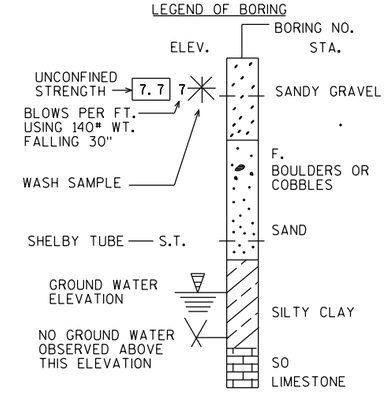
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



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 APPROXIMATELY 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-0127

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SUBSURFACE EXPLORATION

SHEET 3 OF 9
28

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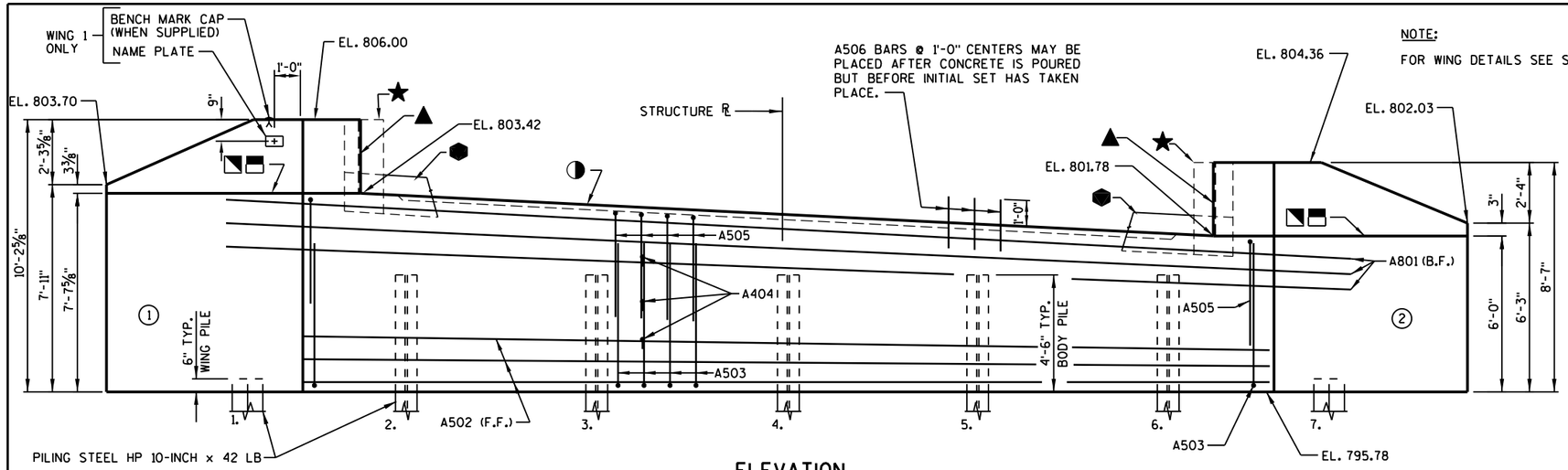
DATE=8/11/2014

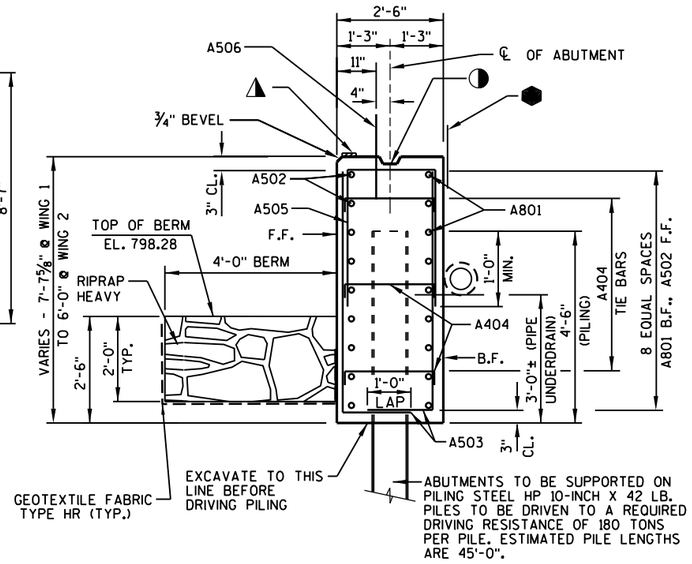
STATE PROJECT NUMBER

5675-00-70

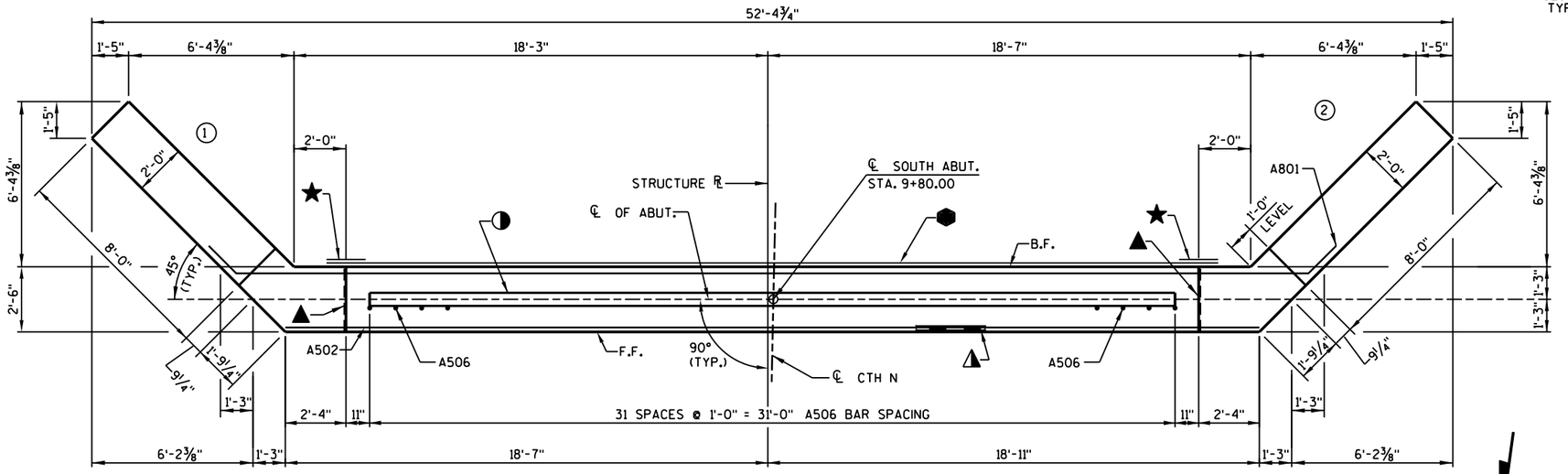


ELEVATION
(LOOKING SOUTH)

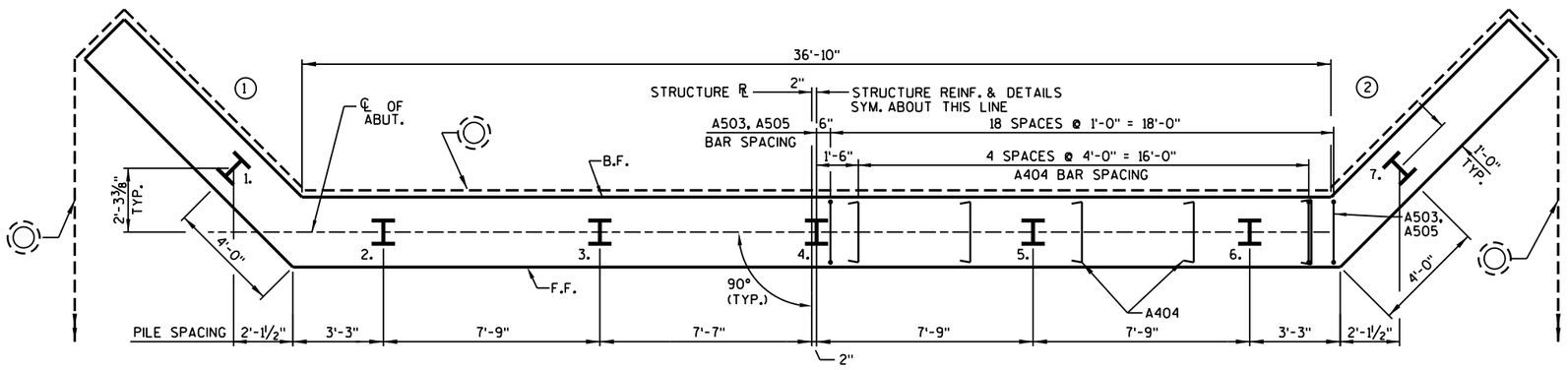
NOTE:
FOR WING DETAILS SEE SHEET 5.



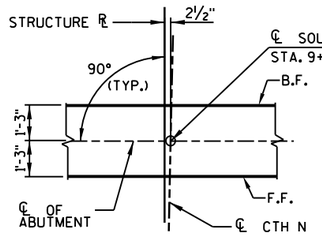
TYPICAL SECTION THRU ABUTMENT



PLAN



PILE PLAN



LAYOUT DETAIL

LEGEND

- ◯ — INDICATES WING NUMBER
- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◭ — 4"x ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ▬ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE ⬢ ON B.F. OF WING. COST OF ⬢ INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ◹ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- ◯ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE.

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

N

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-0127

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SOUTH ABUTMENT

SHEET 4 OF 9
29

FILE= 2398005_04.DGN
DATE= 8/18/2014

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STATE PROJECT NUMBER

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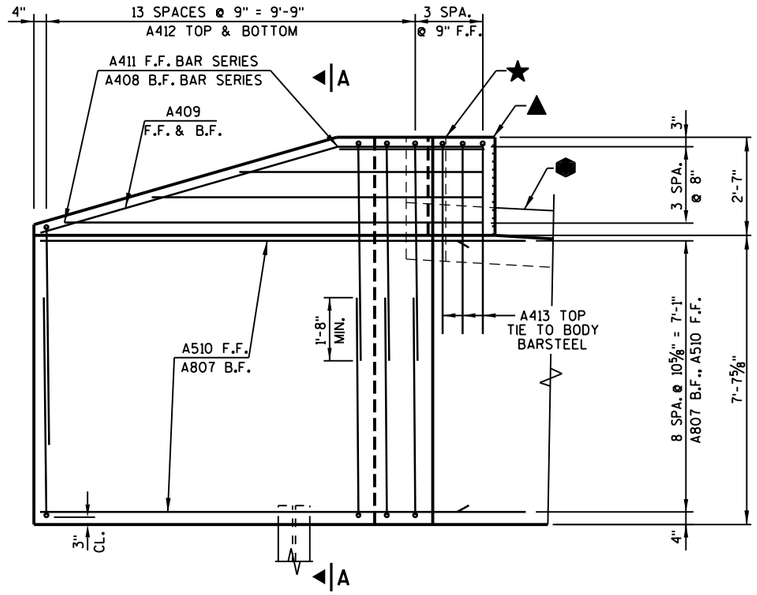
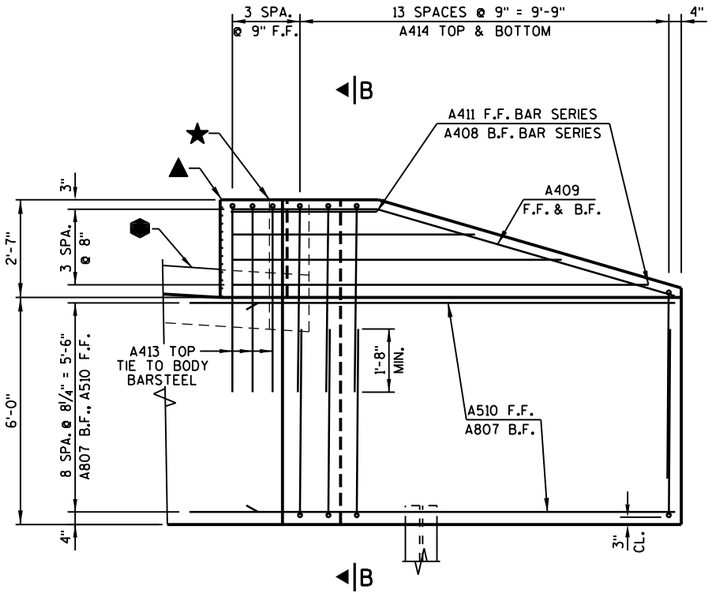


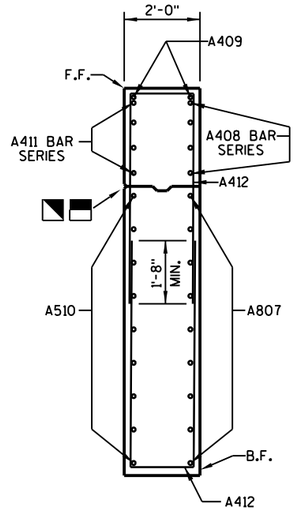
ELEVATION - WING 1

(LOOKING AT F.F. OF WING)

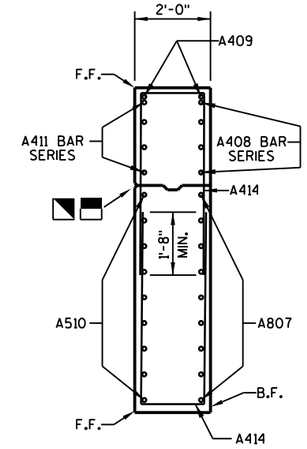


ELEVATION - WING 2

(LOOKING AT F.F. OF WING)

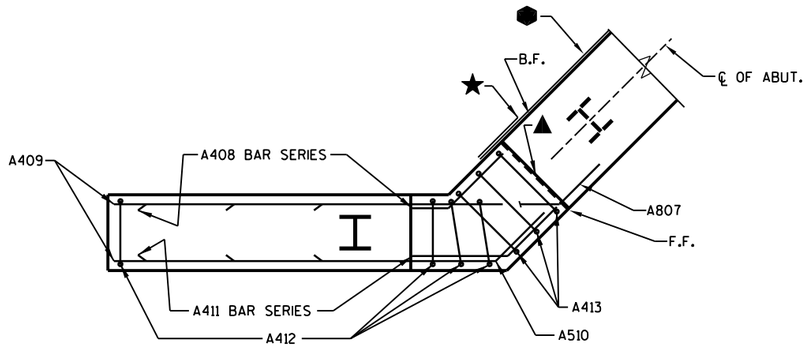


SECTION A-A
THRU WING 1

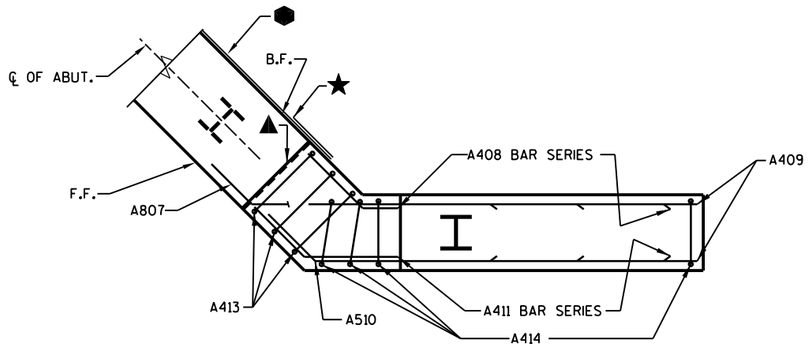


SECTION B-B
THRU WING 2

UNCOATED 2410 LBS.
COATED 1530 LBS.



PLAN - WING 1



PLAN - WING 2

BILL OF BARS

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
A801	-	9	44'-0"	X		ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	37'-5"			ABUTMENT BODY - F.F. - HORIZ.
A503	-	76	7'-0"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	30	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
A505	-	38	10'-0"	X		ABUTMENT BODY - TOP - VERT.
A506	32	-	2'-0"			ABUTMENT BODY - TOP DOWEL - VERT.
A807	18	-	13'-2"	X		WINGS - B.F. - HORIZ.
A408	8	-	6'-6"	X	Ⓢ	WINGS - B.F. - HORIZ.
A409	4	-	10-7"	X		WINGS - F.F. & B.F. - TOP - HORIZ.
A510	18	-	11'-8"	X		WINGS - F.F. - HORIZ.
A411	8	-	8'-0"	X	Ⓢ	WINGS - F.F. - HORIZ.
A412	28	-	13'-0"	X		WING 1 - VERT.
A413	6	-	11'-10"	X		WINGS ℄ ABUT. CORNER - VERT.
A414	28	-	11'-4"	X		WING 2 - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

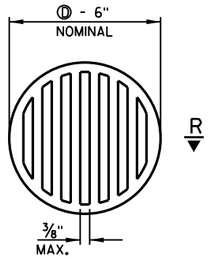
Ⓢ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

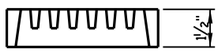
BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER.
A PIPE COUPLING IS REQUIRED FOR THE ATTACHEMENT OF THIS SHIELD TO THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".





SECTION R-R

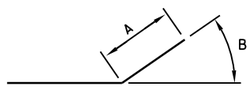
RODENT SHIELD

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

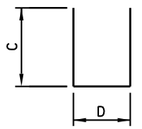
BAR MARK	NO. REQ'D.	LENGTH
A408	2 SERIES OF 4	2'-10" TO 10'-2"
A411	2 SERIES OF 4	4'-5" TO 11'-7"

BAR SERIES TABLE

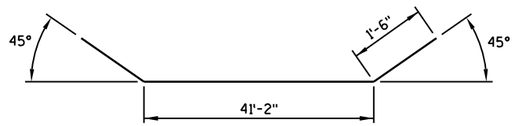
SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF ★ ⬢ ◥ ▭ ▲



MARK	A	B
A807 A510	1'-6"	45°
A408	1'-10"	45°
A409	2'-5"	17°
A411	2'-0"	45°



MARK	C	D
A404	4½"	2'-2"
A505	4'-0"	2'-2"
A412	5'-9"	1'-8"
A413	4'-11"	2'-2"
A414	4'-11"	1'-8"



A801

A503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-0127

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SOUTH ABUTMENT DETAILS

SHEET 5 OF 9
30

FILE= 2398005_05.DGN
DATE= 8/7/2014

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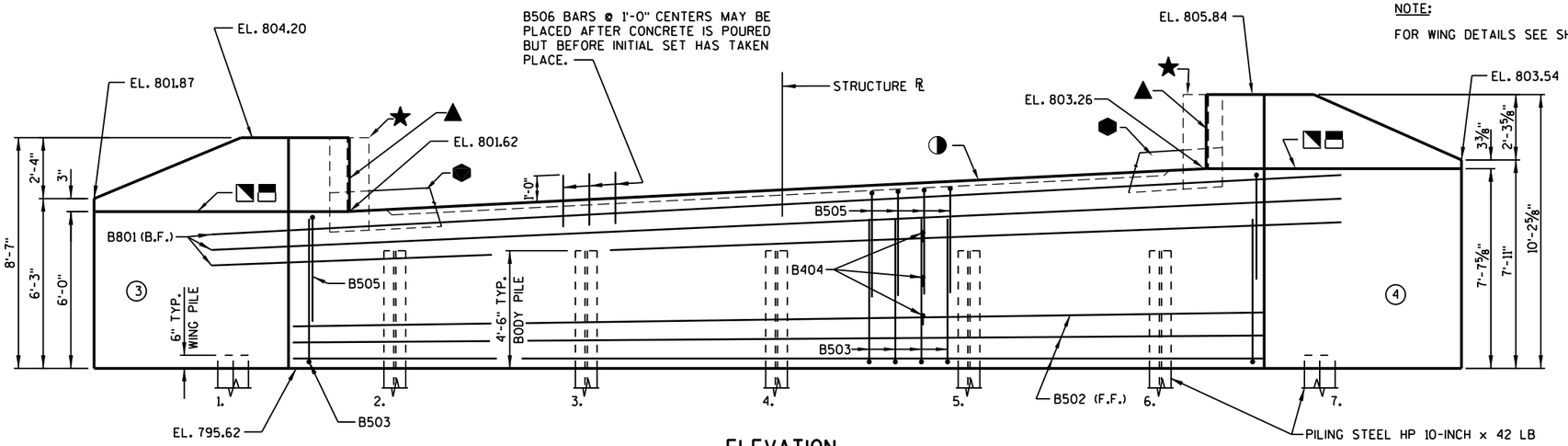
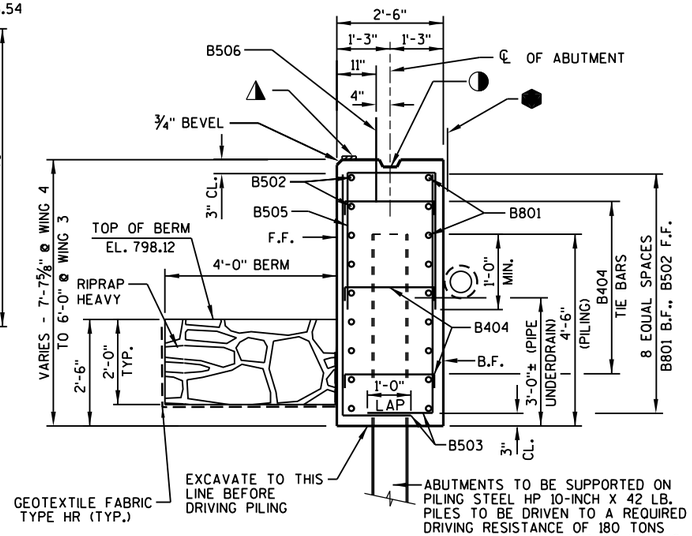
STATE PROJECT NUMBER

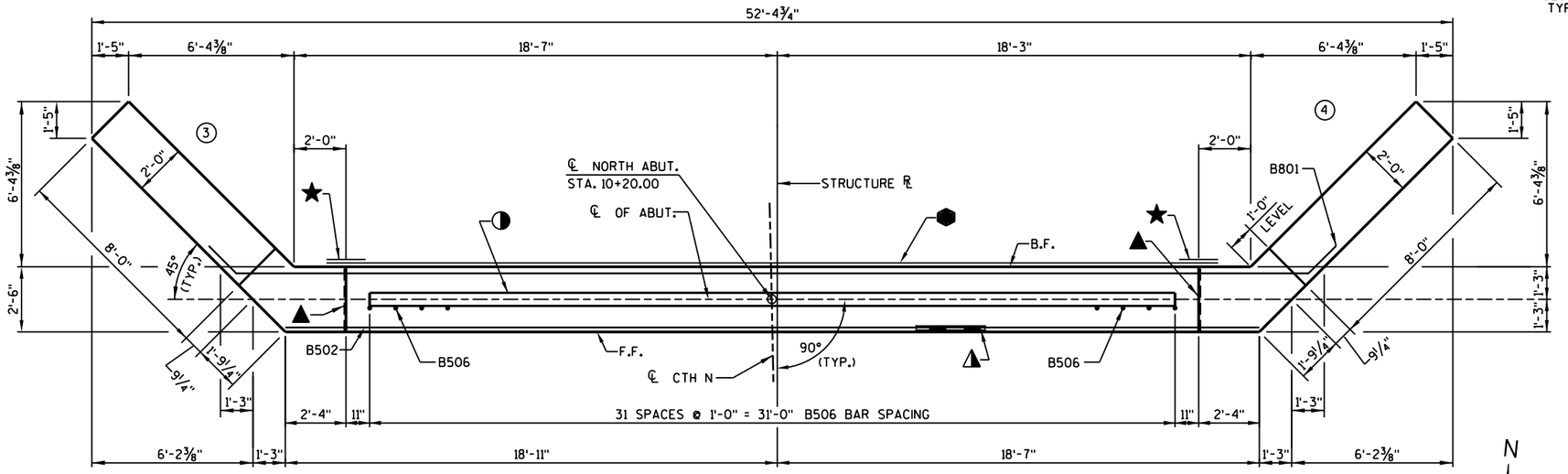
5675-00-70



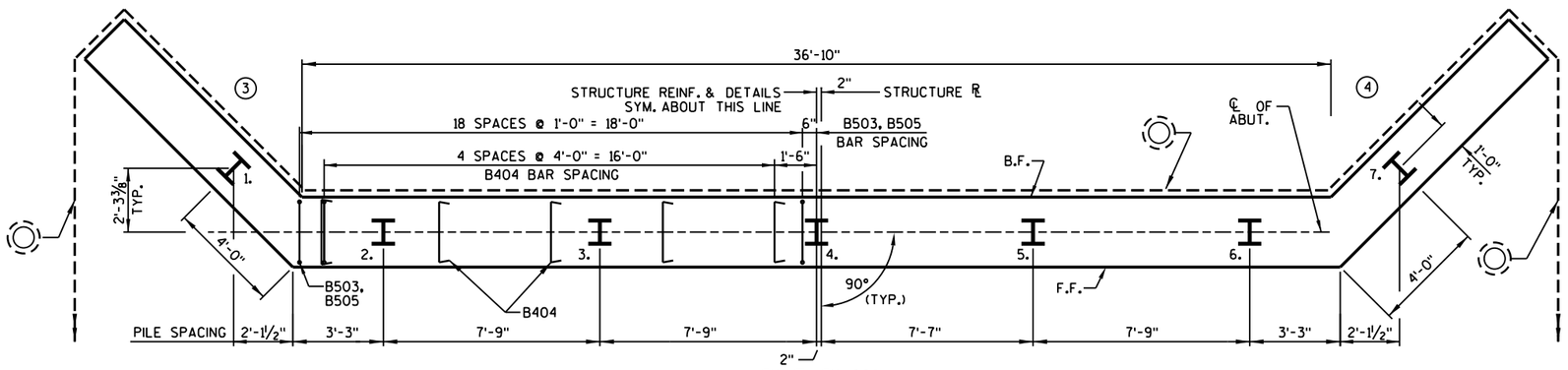
ELEVATION
(LOOKING NORTH)



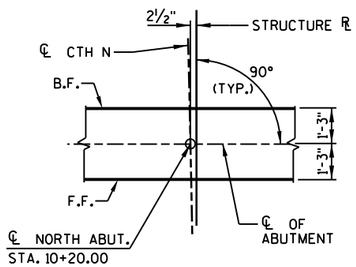
TYPICAL SECTION THRU ABUTMENT



PLAN



PILE PLAN



LAYOUT DETAIL

LEGEND

- ◯ — INDICATES WING NUMBER
- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◭ — 4"x ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ◧ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE ⬢ ON B.F. OF WING. COST OF ⬢ INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ◥ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- ◎ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE.

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

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-0127

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NORTH ABUTMENT

SHEET 6 OF 9
31

FILE= 2398005_06.DGN
DATE= 8/18/2014

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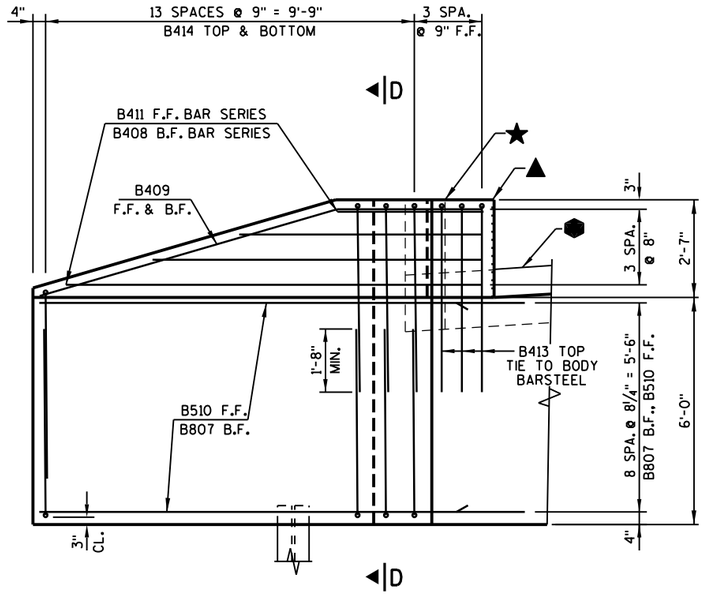
8

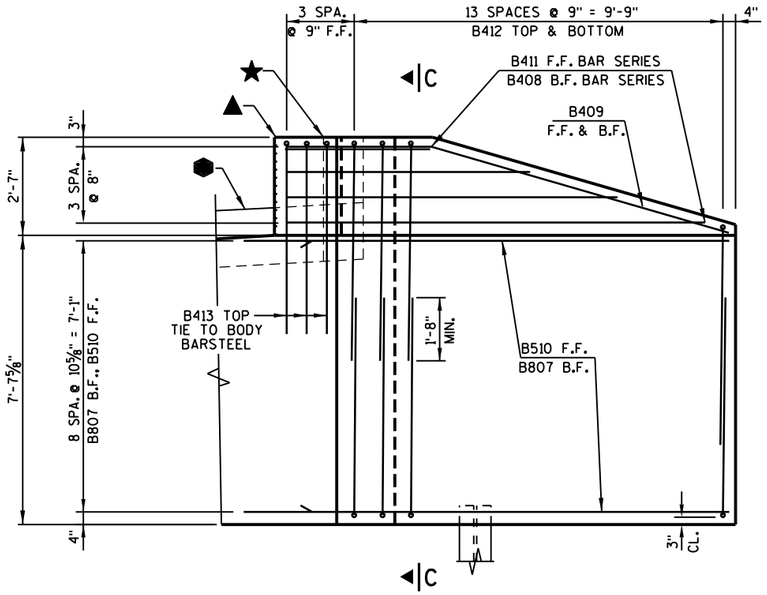
STATE PROJECT NUMBER

5675-00-70



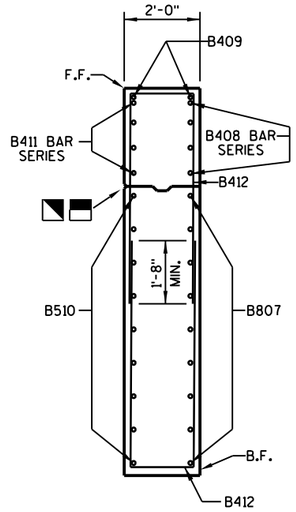
ELEVATION - WING 3

(LOOKING AT F.F. OF WING)

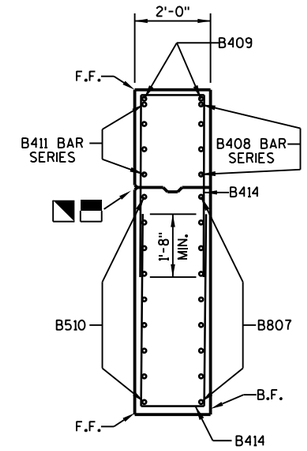


ELEVATION - WING 4

(LOOKING AT F.F. OF WING)

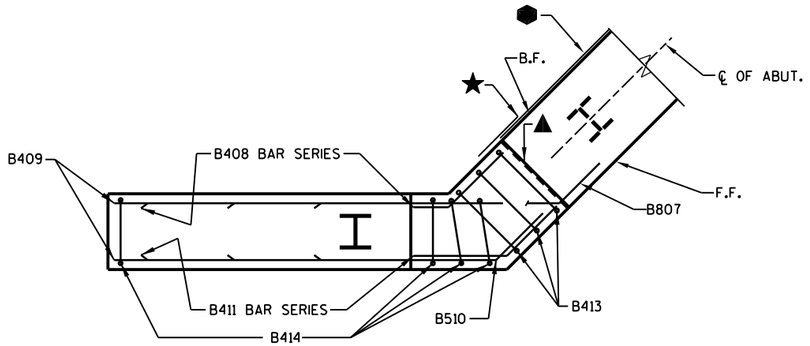


SECTION C-C
THRU WING 4

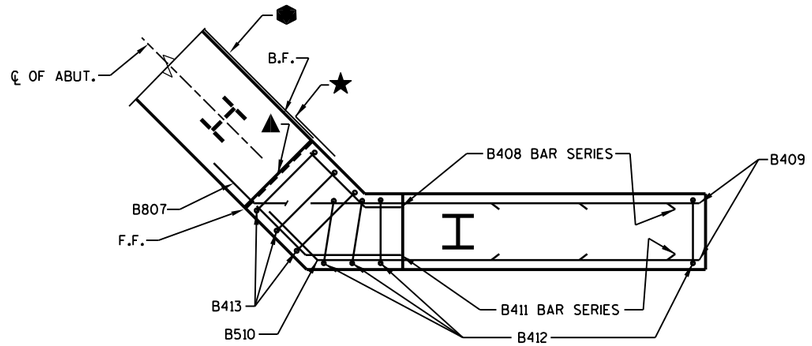


SECTION D-D
THRU WING 3

UNCOATED 2410 LBS.
COATED 1530 LBS.



PLAN - WING 3



PLAN - WING 4

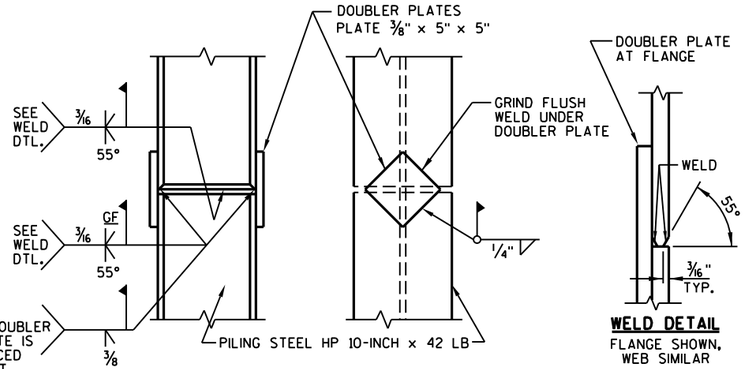
BILL OF BARS

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
B801	-	9	44'-0"	X		ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	37'-5"			ABUTMENT BODY - F.F. - HORIZ.
B503	-	76	7'-0"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	30	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
B505	-	38	10'-0"	X		ABUTMENT BODY - TOP - VERT.
B506	32	-	2'-0"			ABUTMENT BODY - TOP DOWEL - VERT.
B807	18	-	13'-2"	X		WINGS - B.F. - HORIZ.
B408	8	-	6'-6"	X	Ⓢ	WINGS - B.F. - HORIZ.
B409	4	-	10-7"	X		WINGS - F.F. & B.F. - TOP - HORIZ.
B510	18	-	11'-8"	X		WINGS - F.F. - HORIZ.
B411	8	-	8'-0"	X	Ⓢ	WINGS - F.F. - HORIZ.
B412	28	-	13'-0"	X		WING 4 - VERT.
B413	6	-	11'-10"	X		WINGS @ ABUT. CORNER - VERT.
B414	28	-	11'-4"	X		WING 3 - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.



PILE SPLICE DETAILS

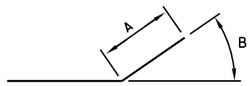
WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

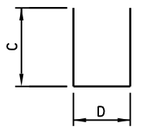
BAR MARK	NO. REQ'D.	LENGTH
B408	2 SERIES OF 4	2'-10" TO 10'-2"
B411	2 SERIES OF 4	4'-5" TO 11'-7"

BAR SERIES TABLE

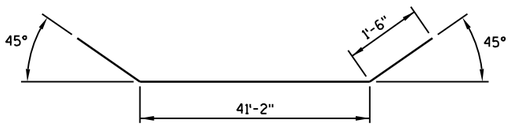
SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF ★ ⬢ ◥ ▬ ▲



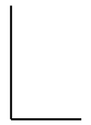
MARK	A	B
B807 B510	1'-6"	45°
B408	1'-10"	45°
B409	2'-5"	17°
B411	2'-0"	45°



MARK	C	D
B404	4½"	2'-2"
B505	4'-0"	2'-2"
B412	5'-9"	1'-8"
B413	4'-11"	2'-2"
B414	4'-11"	1'-8"



B801



B503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-0127

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NORTH ABUTMENT DETAILS

SHEET 7 OF 9
32

8

8

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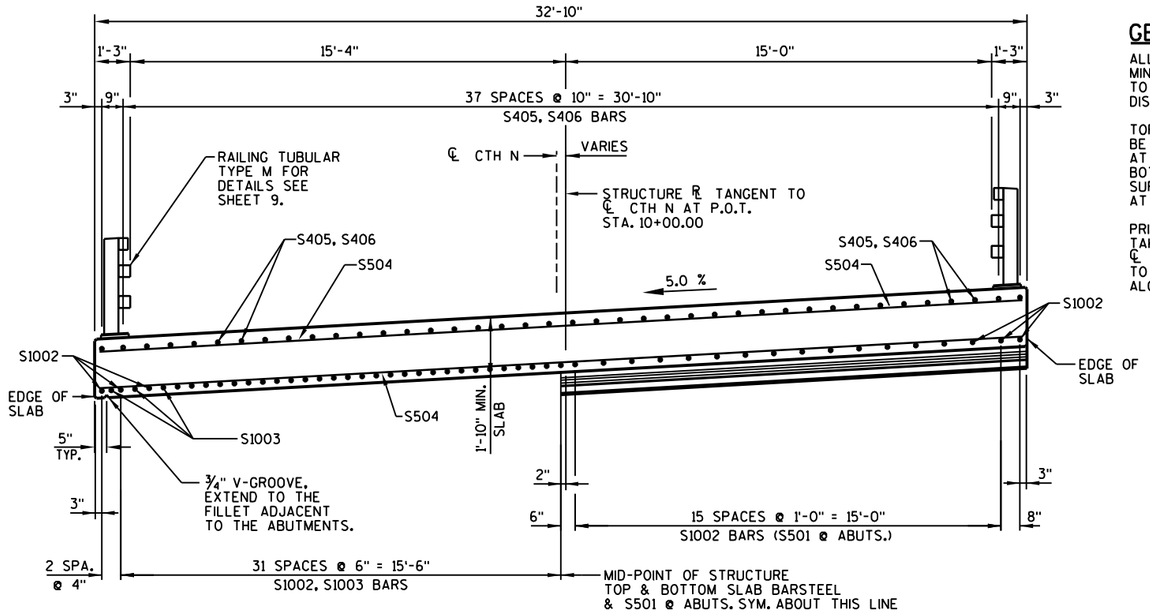
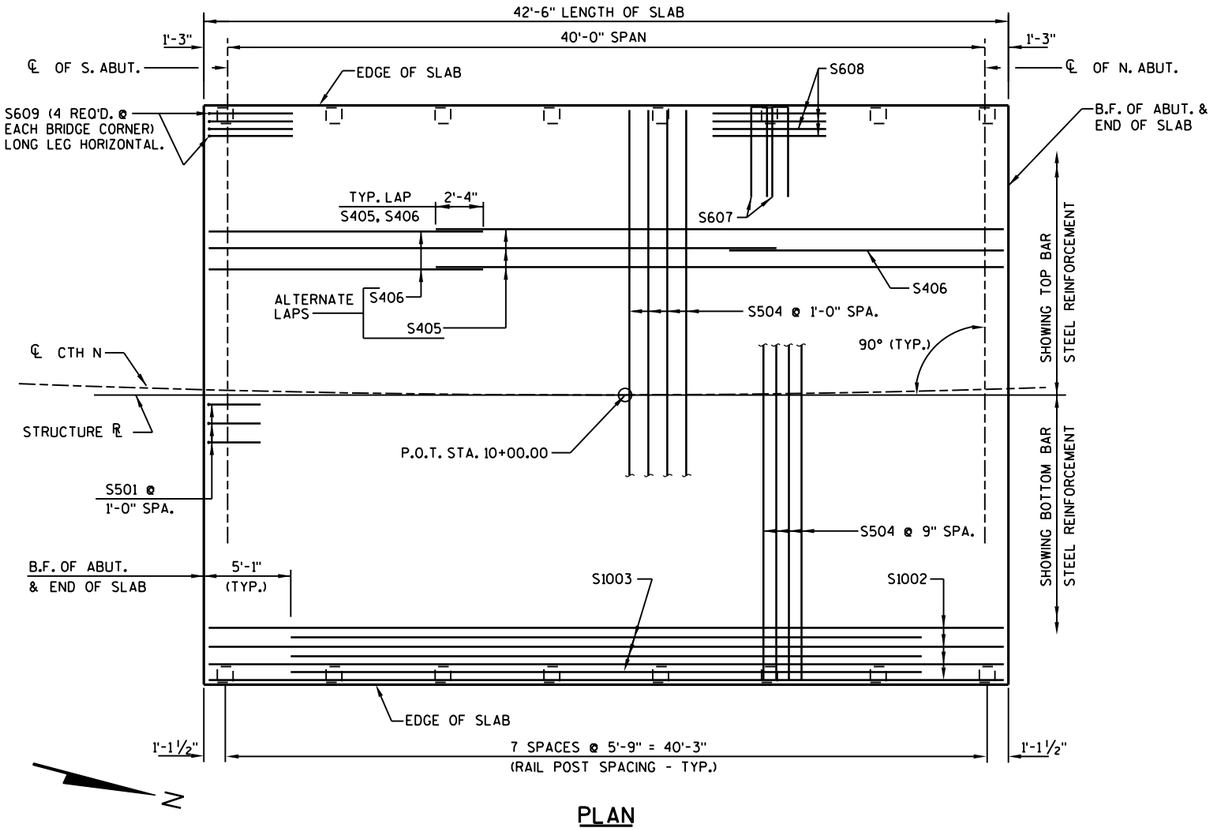
STATE PROJECT NUMBER
5675-00-70



IN SPAN AT ABUTMENTS

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



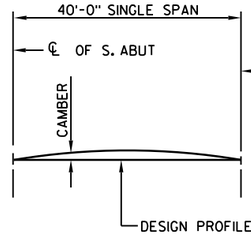
PLAN

GENERAL NOTES

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

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.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT THE 5/10 POINT TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGES OF SLAB AND STRUCTURE ℞.



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN ABOVE AND IN THE TABLE OF VALUES TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION APPROXIMATES 1/3 OF CAMBER VALUES SHOWN.

BILL OF BARS (COATED) 17,150 LBS.

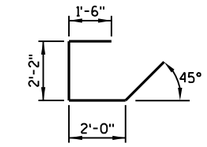
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	68	7'-4"	X	DIAPHRAGM @ ABUTS. - LONGIT.
S1002	34	42'-2"		SLAB BOTTOM - LONGIT.
S1003	33	32'-4"		SLAB BOTTOM - LONGIT.
S504	104	32'-6"		SLAB TOP & BOTTOM - TRANS.
S405	40	30'-0"		SLAB TOP - LONGIT.
S406	40	14'-6"		SLAB TOP - LONGIT.
S607	32	12'-0"	X	SLAB TOP @ RAIL POST, 2 PER POST
S608	48	6'-0"		SLAB TOP @ RAIL POST, 4 PER POST
S609	16	6'-0"	X	SLAB TOP @ RAIL END POST AS NOTED

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

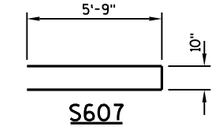
TOP OF SLAB ELEVATIONS AND CAMBER VALUES

LOCATION	SPAN POINT	EAST SLAB EDGE	C/L CTH N	WEST SLAB EDGE	CAMBER VALUE (INCHES)
SOUTH ABUT.	1.0	806.01	805.19	804.36	0.00
	1.1	806.01	805.20	804.37	0.40
	1.2	806.01	805.20	804.37	0.76
	1.3	806.01	805.20	804.37	1.04
	1.4	806.00	805.19	804.36	1.22
	1.5	805.99	805.18	804.35	1.28
	1.6	805.97	805.16	804.33	1.22
	1.7	805.94	805.13	804.30	1.04
	1.8	805.92	805.10	804.27	0.76
	1.9	805.88	805.07	804.24	0.40
NORTH ABUT.	2.0	805.84	805.03	804.20	0.00

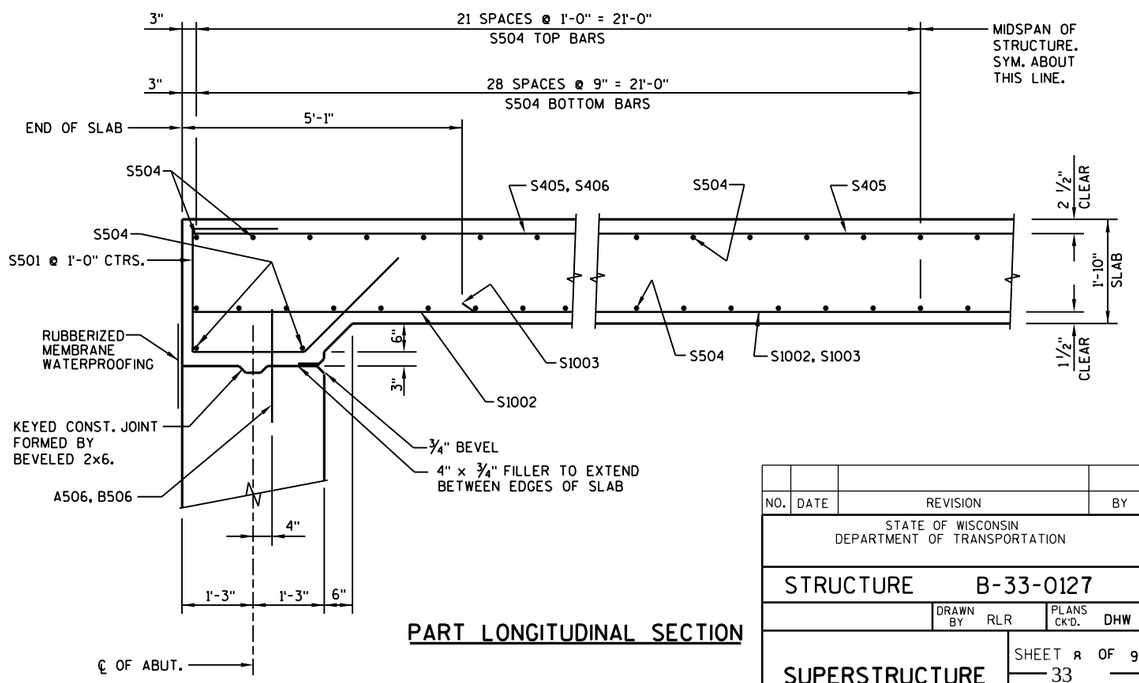
S609



S501



S607



PART LONGITUDINAL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-33-0127

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SUPERSTRUCTURE

SHEET 8 OF 9
33

8

8

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DATE= 8/7/2014

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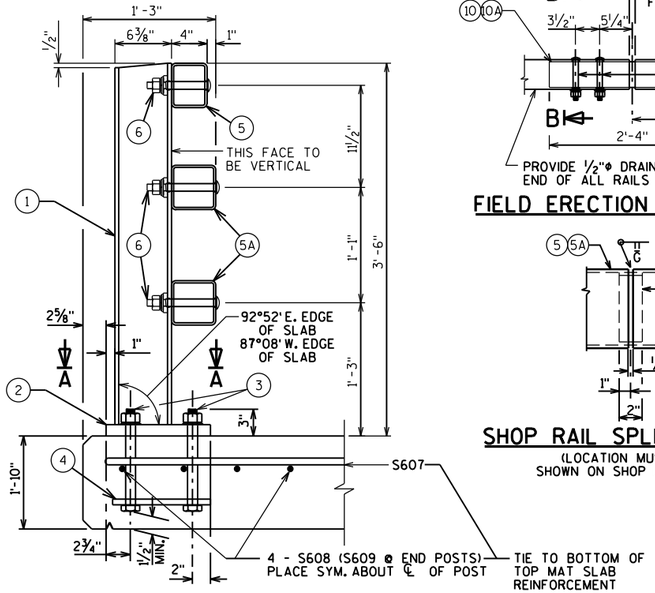
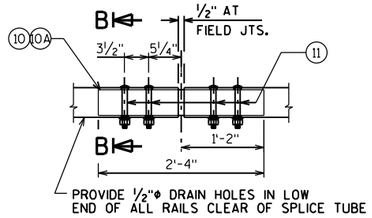
STATE PROJECT NUMBER

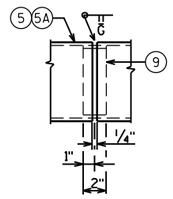
5675-00-70



SECTION THRU RAILING ON DECK

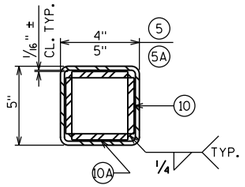


FIELD ERECTION JOINT DETAIL

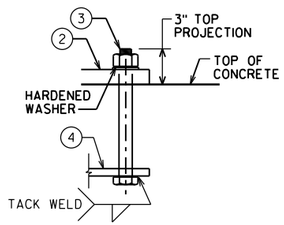


SHOP RAIL SPLICE DETAIL

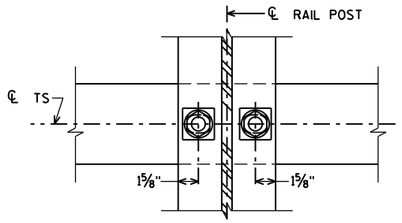
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



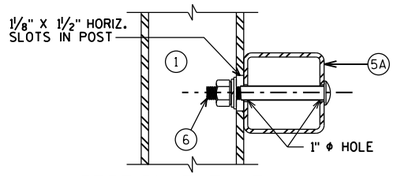
SECTION B-B



ANCHOR BOLTS



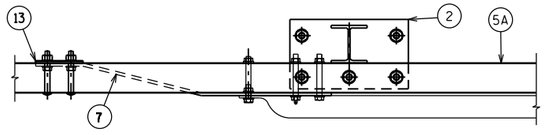
SECTION THRU POST WEB



SECTION THRU RAIL

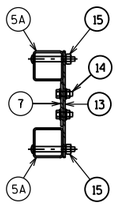
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

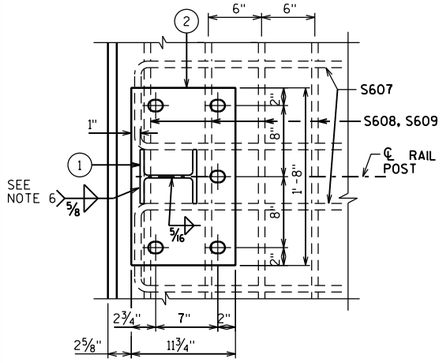


TOP VIEW AT END POST

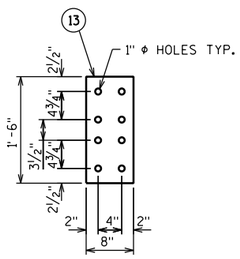
(THRIE BEAM RAIL ATTACHMENT)



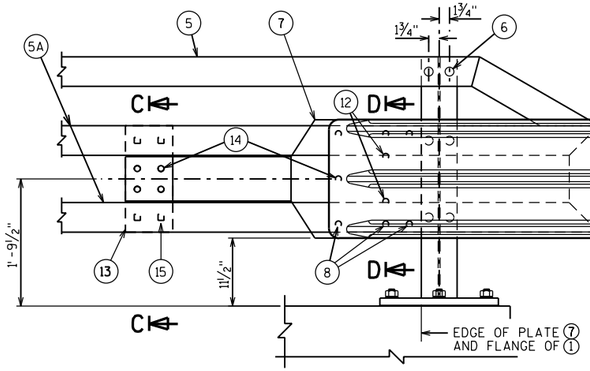
SECTION C-C



SECTION A-A

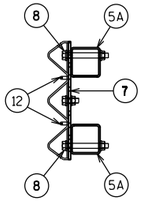


ANCHOR PLATE AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)



SECTION D-D

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'-3" LONG.

④ ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1³⁄₁₆" DIA. HOLES FOR ANCHOR BOLTS NO. 3

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

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

⑥ 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" ø A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1⁵⁄₁₆ " X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.

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

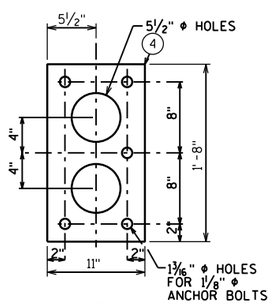
⑬ ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

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

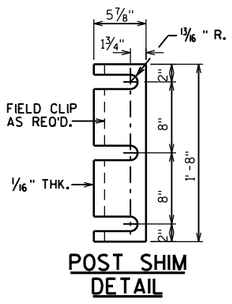
⑮ 1" ø HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

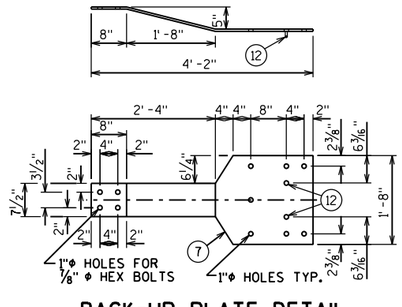
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-33-0127" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR 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.
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. PAINTING IS NOT REQUIRED.
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.
13. DO NOT INSTALL BACK-UP PLATES ⑦ OR ANCHOR PLATES ⑬ FOR BEAM GUARD ATTACHMENT. FURNISH PLATES AND ATTACHMENT HARDWARE TO LAFAYETTE COUNTY FOR FUTURE INSTALLATION. CONTACT TOM JEAN AT 608-776-4919.



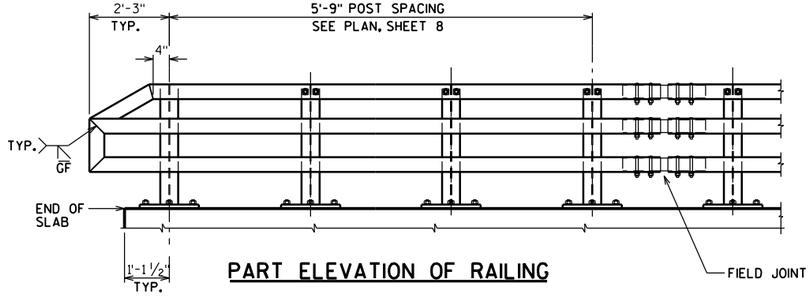
ANCHOR PLATE



POST SHIM DETAIL



BACK-UP PLATE DETAIL



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-33-0127

DRAWN BY RLR | PLANS CK'D. DHW

RAILING TUBULAR TYPE M

SHEET 9 OF 9
34

FILE= 2398005_09.DGN
DATE= 8/7/2014

8

8

EARTHWORK PROJECT I.D. 5675-00-70

STATION	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
8+55		54	0	0	0	0	0	0	0	0
9+00	45	50	0	2	87	0	2	87	3	84
9+50	50	38	0	20	82	0	20	168	28	141
9+78.75	28.75	38	0	20	40	0	21	208	54	155
B-33-0127										
					209	0	43			

1) CUT - CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL - THIS DOES NOT SHOW UP IN CROSS SECTIONS
3) FILL - DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8) MASS ORDINATE - IF MARSH OR EBS TO BE BACKFILLEDWITH GRANULAR: (CUT + EBS + MARSH EXC) - (FILL - (REDUCED MARSH IN FILL) - (REDUCED EBS IN FILL) - (EXPANDED ROCK)) * FILL FACTOR

EARTHWORK PROJECT I.D. 5675-00-70

STATION	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Mass Ordinate Note 8
B-33-0127										
10+21.25		83	0	14	0	0	0	0	0	0
10+50	28.75	83	0	14	88	0	15	88	19	70
11+00	50	43	0	1	117	0	14	205	36	169
11+60	60	50	0	0	104	0	1	308	37	271
					309	0	30			

1) CUT - CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL - THIS DOES NOT SHOW UP IN CROSS SECTIONS
3) FILL - DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8) MASS ORDINATE - IF MARSH OR EBS TO BE BACKFILLEDWITH GRANULAR: (CUT + EBS + MARSH EXC) - (FILL - (REDUCED MARSH IN FILL) - (REDUCED EBS IN FILL) - (EXPANDED ROCK)) * FILL FACTOR

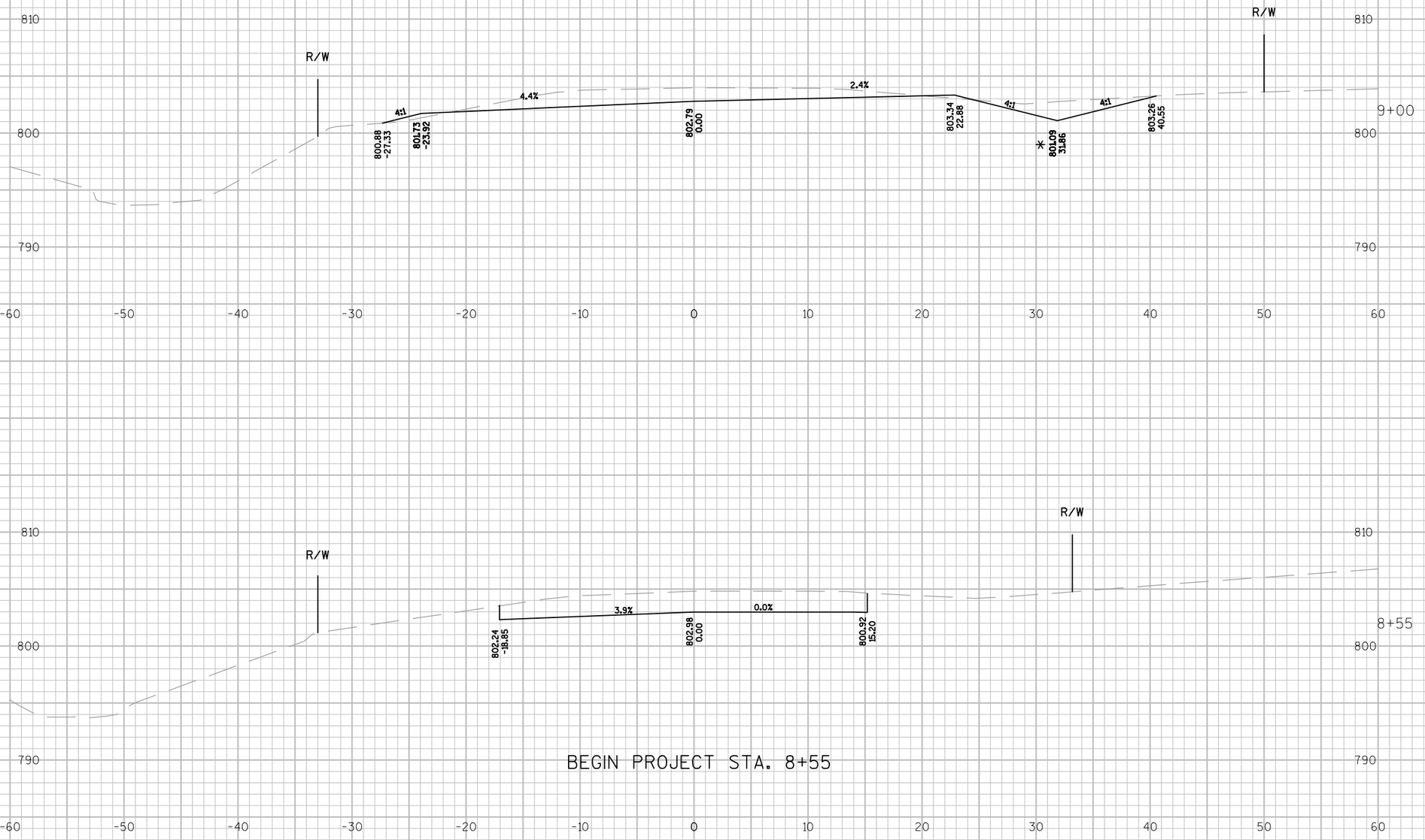
9

9

PROJECT NO: 5675-00-70	HWY: CTH N	COUNTY: LAFAYETTE	EARTHWORK	SHEET	E

FILE NAME : C:\Users\sgengler\Desktop\MQ Blank.dgn PLOT DATE : 8/14/2014 PLOT BY : sgengler PLOT NAME : PLOT SCALE : 1:200 WISDOT/CADDS SHEET 49

* - SPECIAL DITCH ELEVATION



BEGIN PROJECT STA. 8+55

10 FT

10 FT

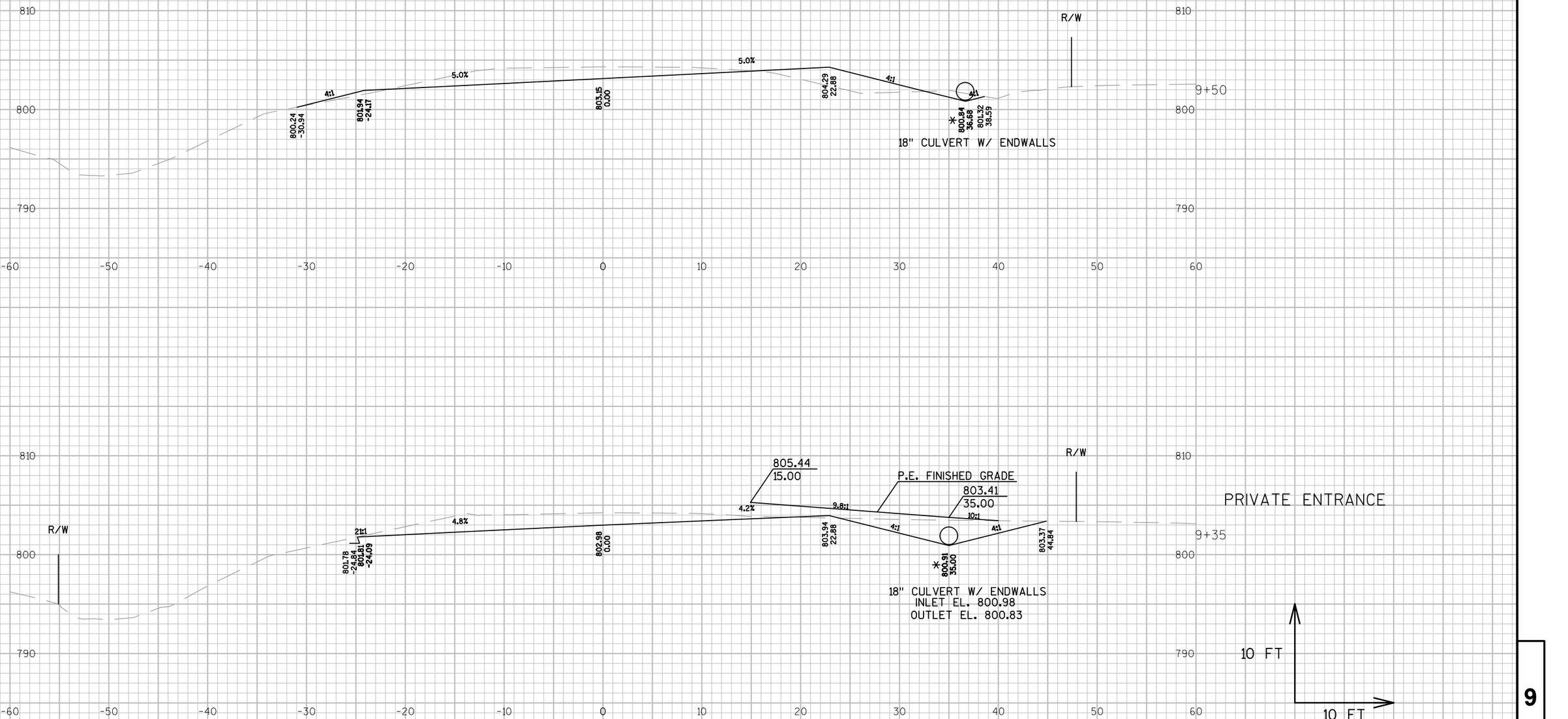
9

9

PROJECT NO:5675-00-70	HWY: CTH N	COUNTY:LAFAYETTE	CROSS SECTIONS:	SHEET 36	E

* - SPECIAL DITCH ELEVATION

STRUCTURE B-33-0127



PROJECT NO: 5675-00-70	HWY: CTH N	COUNTY: LAFAYETTE	CROSS SECTIONS:	SHEET 37	E

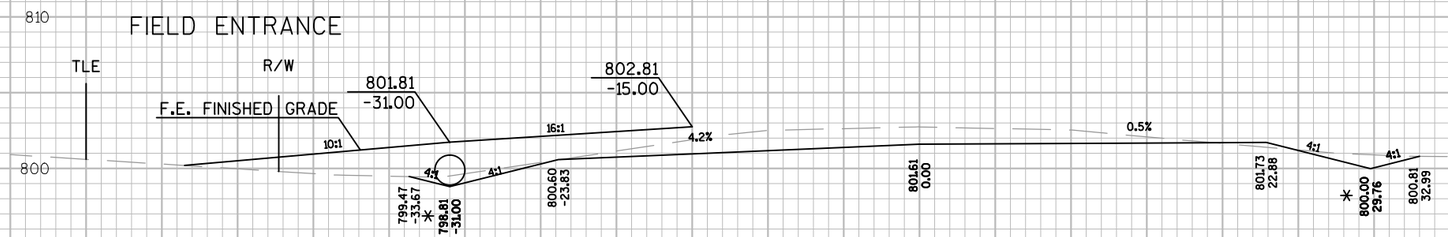
FILE NAME : P:\2300S\2390S\2398\02398005\CADD\SHEETSPLAN\2398005 XSECTION 4-7-14.DWG
2398005 CTH N PLANS - SECTION SHEET - (40)

PLOT DATE : 8/14/2014 1:57 PM PLOT BY : SARAH GENGLER PLOT NAME : PLOT SCALE : 1 IN:10 FT

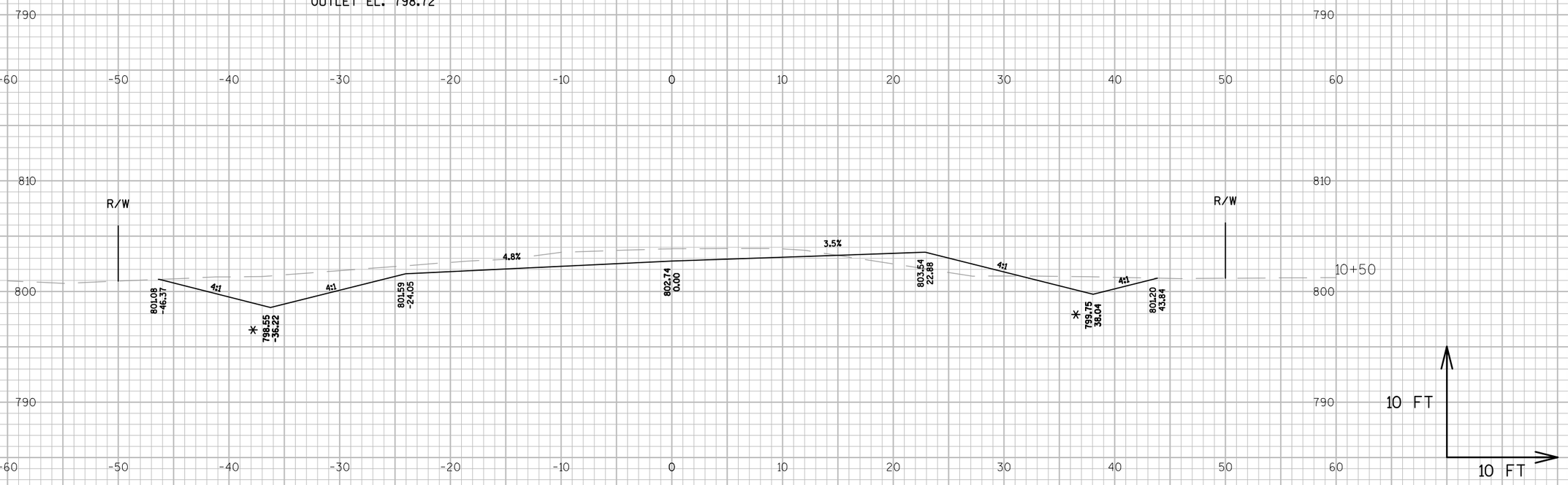
WISDOT/CADDS SHEET 49

* - SPECIAL DITCH ELEVATION

FIELD ENTRANCE

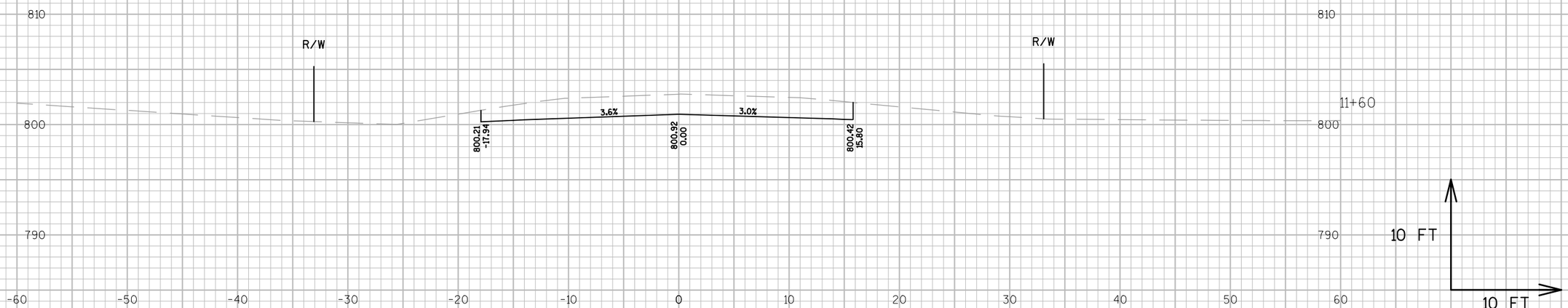


24" CULVERT W/ ENDWALLS
INLET EL. 798.90
OUTLET EL. 798.72



PROJECT NO:5675-00-70	HWY: CTH N	COUNTY: LAFAYETTE	CROSS SECTIONS:	SHEET 38	E

END PROJECT STA. 11+60



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9

PROJECT NO:5675-00-70	HWY: CTH N	COUNTY: LAFAYETTE	CROSS SECTIONS:	SHEET 39	E

Wisconsin Department of Transportation

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