SWL

APRIL 2014

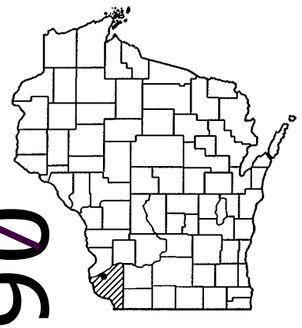
PROJECT ID: 5801-00-76

WITH: N/A

COUNTY: GRANT

ORDER OF SHEETS

TOTAL SHEETS = 42



10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH T - STH 133

(BIG GREEN RIVER BRIDGE B-22-0282)

CTH K

GRANT COUNTY

STATE PROJECT NUMBER

5801-00-76

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5801-00-76	WISC 2014099	1

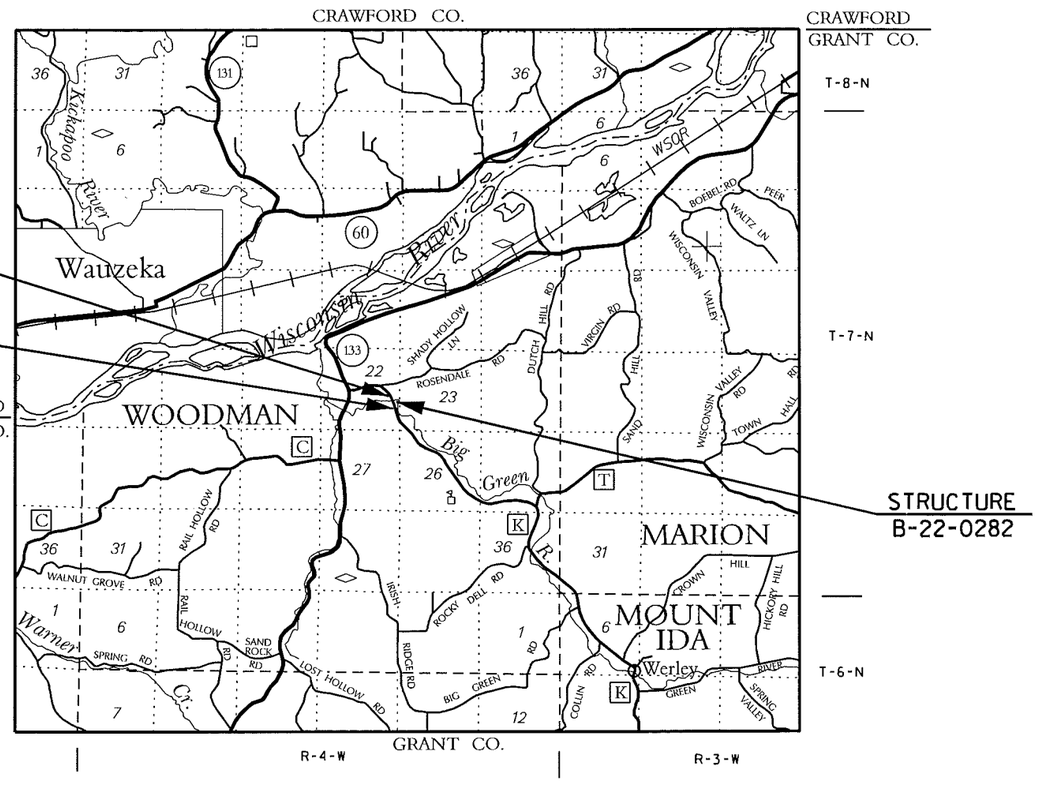
ACCEPTED FOR GRANT COUNTY

10/24/13 DATE — David L. Rambut HIGHWAY COMMISSIONER

END PROJECT
STA. 13+50

BEGIN PROJECT
STA. 8+00
Y = 603,134.91
X = 788,105.81

STRUCTURE
B-22-0282



LAYOUT

Scale 0 1 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.104 MI.

Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), GRANT County.

DESIGN DESIGNATION

A.A.D.T. 2014	=	170
A.A.D.T. 2034	=	210
D.H.V. 2034	=	N/A
D.	=	60/40
T.	=	3.6%
DESIGN SPEED	=	55 mph
ESALS	=	N/A

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
- EDGE OF STREAM
- RAILROAD
- FENCE —X— X—

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) — ROCK
- SPECIAL DITCH — LABEL
- GRADE ELEVATION 95.35
- 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

ORIGINAL PLANS PREPARED BY:

MSA PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL

1239 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-1535 Fax: 608-356-2770
© MSA PROFESSIONAL SERVICES

WISCONSIN PROFESSIONAL ENGINEER
DANIEL H. WAGNER
E-19220
BARABOO, WI

10-23-13 Date — Daniel H. Wagner Signature

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA Professional Services, Inc.
Designer	MSA Professional Services, Inc.
Management Consultant	K Johnson Engineers, Inc.
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 10/31/2013 Kimberly A. Johnson (Management Consultant Signature)

E

STANDARD ABBREVIATIONS

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

RUNOFF COEFFICIENT TABLE				
	HYDROLOGIC SOIL TABLE			
	A	B	C	D
	SLOPE RANGE %	SLOPE RANGE %	SLOPE RANGE %	SLOPE RANGE %
LAND USE:	6 & OVER	6 & OVER	6 & OVER	6 & OVER
SIDE SLOPE-TURF	.25 .32	.27 .34	.28 .36	.30 .38
PAVEMENT:				
ASPHALT	.70 - .95			
CONCRETE	.80 - .95			
GRAVEL ROADS, SHOULDERS	.40 - .60			

THE RUNOFF COEFFICIENTS OF SURFACE DRAINAGE AT THE PROJECT SITES WILL NOT BE CHANGED FROM BEFORE TO AFTER CONSTRUCTION. THE TOTAL AREA OF THE PROJECT IS 1.44 ACRES. THE TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES IS 1.02 ACRES.

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN.: DANIEL H. WAGNER P.E.
1230 SOUTH BOULEVARD
BARABOO, WI 53913
PHONE: 608-355-8952
dwagner@msa-ps.com

COUNTY CONTACT

GRANT COUNTY HIGHWAY DEPARTMENT
ATTN: DAVE LAMBERT, COMMISSIONER
1011 NORTH ADAMS STREET
P.O. BOX 150
LANCASTER, WI 53813
PHONE: 608-723-2595
dlambert@co.grant.wi.gov

UTILITIES

OVERHEAD TELEPHONE:
FRONTIER COMMUNICATIONS
ATTN: DAVID DAY
684 NORTH BROAD STREET
P.O. BOX 12
LANARK, IL 61046
PHONE (OFFICE): 815-493-1101
PHONE (MOBILE): 815-499-8715

OVERHEAD ELECTRIC:
WISCONSIN POWER & LIGHT CO.
ATTN: JASON HOGAN
4902 N. BILTMORE LANE SUITE 1000
MADISON, WI 53718
PHONE (OFFICE): 608-458-4871
PHONE (MOBILE): 608-395-7395
jasonhogan@alliantenergy.com

* - NOT A MEMBER OF DIGGERS HOTLINE.

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
CATHY BLESER
ENVIRONMENTAL IMPACT SPECIALIST
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: 608-275-3308
catherine.bleser@wisconsin.gov

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

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. OVERSOW PERMANENT SEEDING AREAS WITH TEMPORARY SEED AT 1.5 LBS. PER 1000 SQUARE FEET.

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.

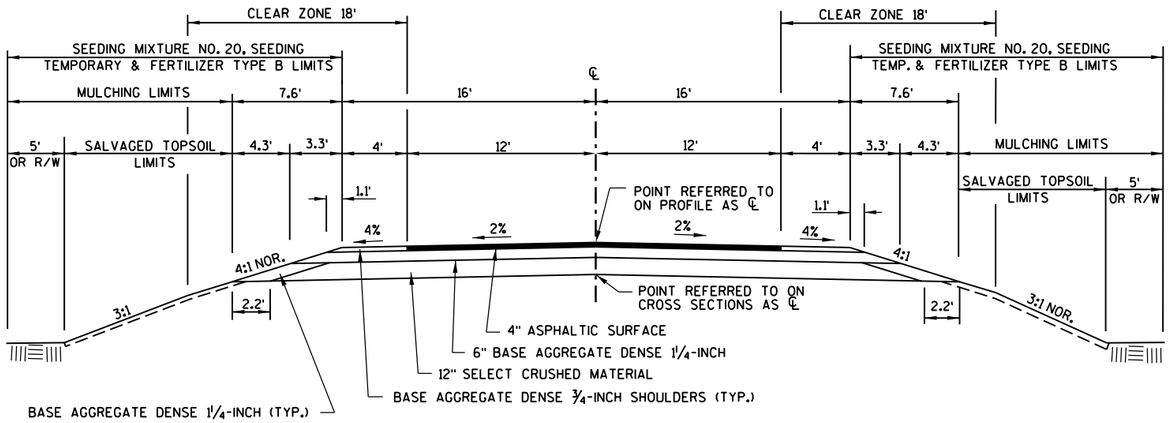
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 SYSTEM, UTILIZING BENCHMARK REFERENCES AT THE PROJECT SITE SET BY THE CONSULTANT USING GPS METHODS.

THE 4" ASPHALTIC SURFACE SHALL CONSIST OF A 1¾" UPPER LAYER AND A 2¼" LOWER LAYER.

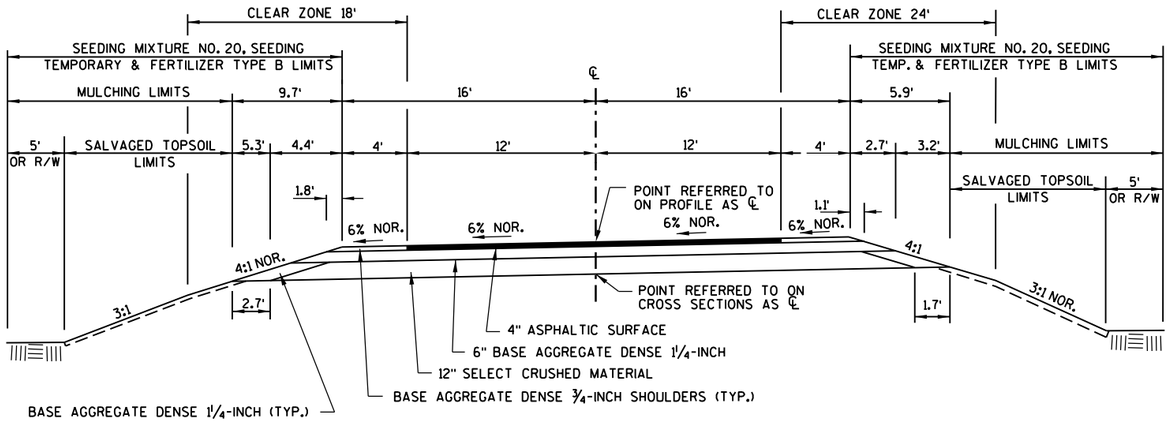
SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION OR BRIDGE REMOVAL.

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

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



TYPICAL SECTION (NORMAL CROWN)



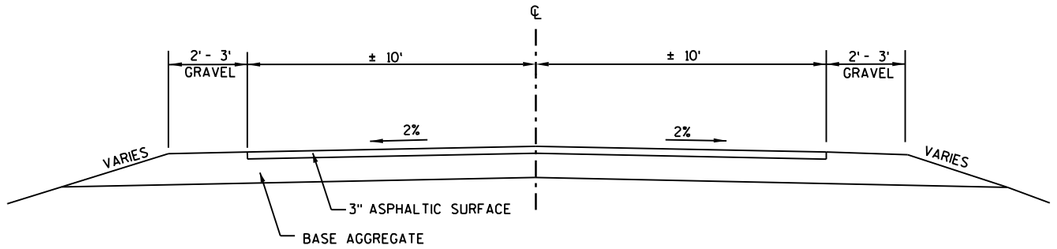
TYPICAL SECTION (SUPERELEVATED)

PROJECT NO: 5801-00-76	HWY: CTH K	COUNTY: GRANT	TYPICAL SECTIONS	SHEET 3	E

FILE NAME : P:\3400s\3400s\3405\03405001\caddWDOT\Plansht s\03405001XC.dgn PLOT DATE : 9/20/2013 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:10

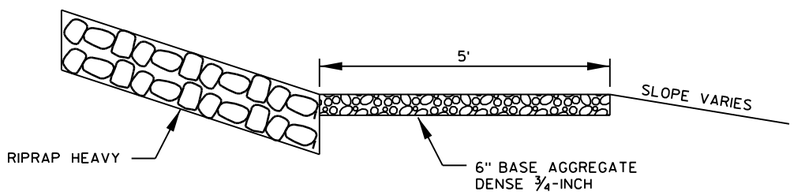
WISDOT/CADDS SHEET 42

03405001XC.dgn 9/20/2013 7:27:21 AM bhalley



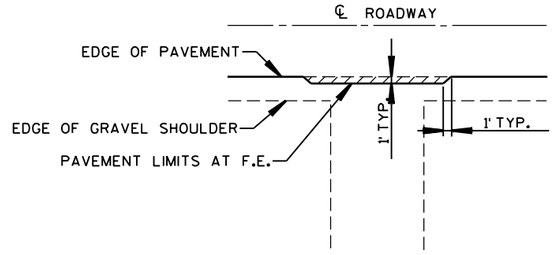
TYPICAL EXISTING SECTION

ROADWAY THICKNESS BASED ON
BORINGS AT ENDS OF EXISTING BRIDGE.



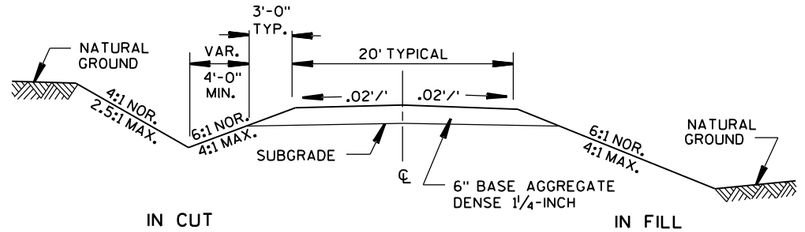
CATTLE WALKWAY DETAIL

SEE BRIDGE PLANS FOR LAYOUT

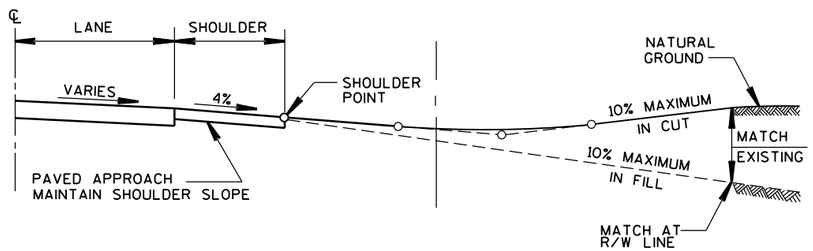


PLAN VIEW

FIELD ENTRANCE INTERSECTION DETAIL



TYPICAL CROSS SECTION FOR FIELD ENTRANCE

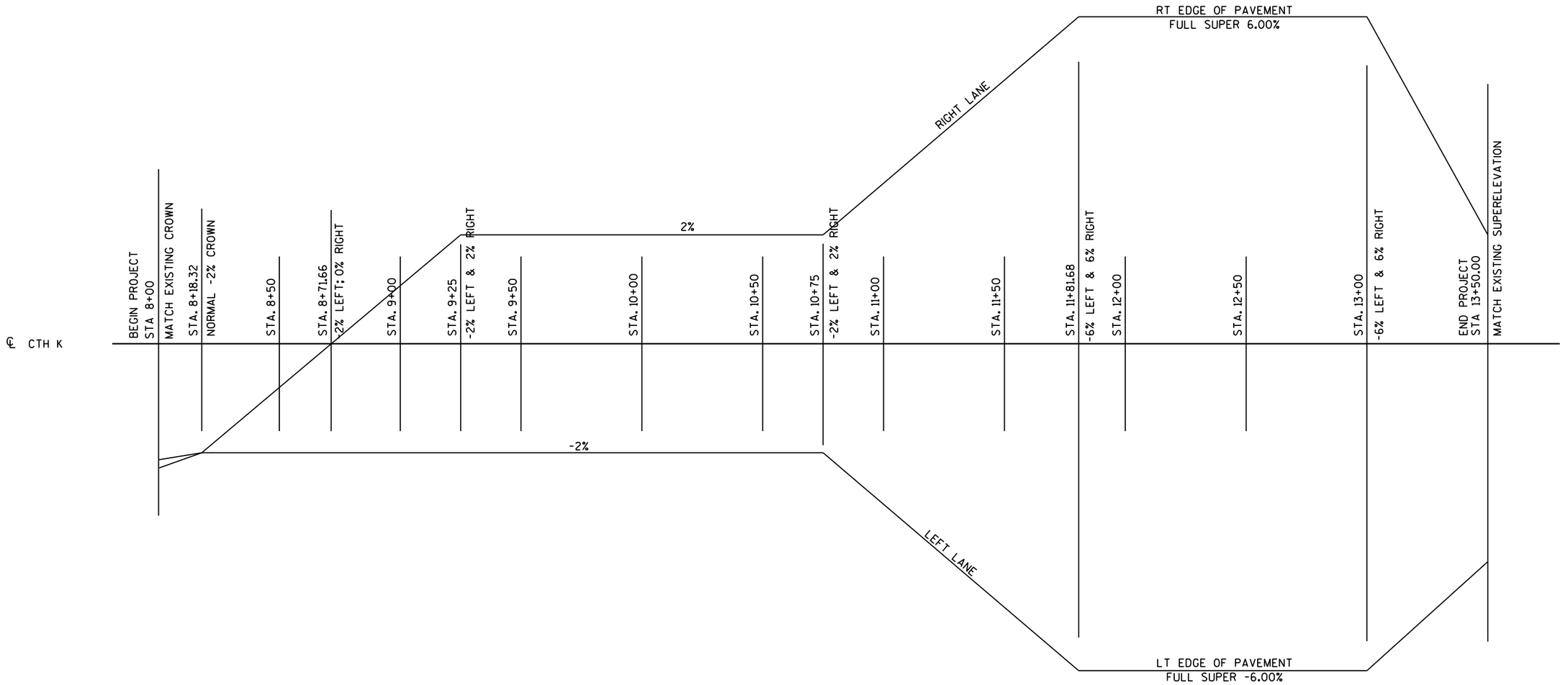


TYPICAL FIELD ENTRANCE PROFILES

FIELD ENTRANCE
STA. 10+98, LEFT

PROJECT NO: 5801-00-76	HWY: CTH K	COUNTY: GRANT	TYPICAL EXISTING SECTION & CONSTRUCTION DETAILS	SHEET 4	E

2



PROJECT NO: 5801-00-76	HWY: CTH K	COUNTY: GRANT	SUPERELEVATION DIAGRAM	SHEET 5	E

DATE 30JAN14 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	5801-00-76 QUANTITY
0010	201.0105	CLEARING	STA	1.000	1.000
0020	201.0205	GRUBBING	STA	1.000	1.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. STA. 10+00	LS	1.000	1.000
0040	205.0100	EXCAVATION COMMON	CY	1,073.000	1,073.000
0050	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-22-0282	LS	1.000	1.000
0060	208.0100	BORROW	CY	1,015.000	1,015.000
0070	210.0100	BACKFILL STRUCTURE	CY	400.000	400.000
0080	213.0100	FINISHING ROADWAY (PROJECT) 01. 5801-00-76	EACH	1.000	1.000
0090	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	135.000	135.000
0100	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	770.000	770.000
0110	312.0110	SELECT CRUSHED MATERIAL	TON	1,235.000	1,235.000
0120	455.0605	TACK COAT	GAL	30.000	30.000
0130	465.0105	ASPHALTIC SURFACE	TON	273.000	273.000
0140	502.0100	CONCRETE MASONRY BRIDGES	CY	230.000	230.000
0150	502.3200	PROTECTIVE SURFACE TREATMENT	SY	500.000	500.000
0160	503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF	468.000	468.000
0170	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	4,600.000	4,600.000
0180	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	28,710.000	28,710.000
0190	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	8.000	8.000
0200	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-22-0282	EACH	6.000	6.000
0210	513.4060	RAILING TUBULAR TYPE M (STRUCTURE) 01. B-22-0282	LS	1.000	1.000
0220	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	24.000	24.000
0230	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	765.000	765.000
0240	606.0300	RIPRAP HEAVY	CY	240.000	240.000
0250	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	150.000	150.000
0260	614.0920	SALVAGED RAIL	LF	100.000	100.000
0270	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	8.000	8.000
0280	619.1000	MOBILIZATION	EACH	1.000	1.000
0290	625.0500	SALVAGED TOPSOIL	SY	2,750.000	2,750.000
0300	627.0200	MULCHING	SY	4,700.000	4,700.000
0310	628.1504	SILT FENCE	LF	1,150.000	1,150.000
0320	628.1520	SILT FENCE MAINTENANCE	LF	1,150.000	1,150.000
0330	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0340	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0350	628.2004	EROSION MAT CLASS I TYPE B	SY	275.000	275.000
0360	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	50.000	50.000
0370	628.7504	TEMPORARY DITCH CHECKS	LF	40.000	40.000
0380	629.0210	FERTILIZER TYPE B	CWT	3.600	3.600
0390	630.0120	SEEDING MIXTURE NO. 20	LB	120.000	120.000
0400	630.0200	SEEDING TEMPORARY	LB	80.000	80.000
0410	630.0300	SEEDING BORROW PIT	LB	15.000	15.000
0420	633.5100	MARKERS ROW	EACH	9.000	9.000
0430	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	4.000	4.000
0440	637.2230	SIGNS TYPE II REFLECTIVE F	SF	12.000	12.000
0450	638.2602	REMOVING SIGNS TYPE II	EACH	6.000	6.000
0460	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	6.000	6.000
0470	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0480	643.0100	TRAFFIC CONTROL (PROJECT) 01. 5801-00-76	EACH	1.000	1.000

3

DATE 30JAN14 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	5801-00-76 QUANTITY
0490	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	440.000	440.000
0500	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	2,200.000	2,200.000
0510	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	432.000	432.000
0520	650.5000	CONSTRUCTION STAKING BASE	LF	432.000	432.000
0530	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-22-0282	LS	1.000	1.000
0540	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5801-00-76	LS	1.000	1.000
0550	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	432.000	432.000
0560	690.0150	SAWING ASPHALT	LF	41.000	41.000
0570	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	1,380.000	1,380.000
0580	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	HRS	1,200.000	1,200.000
0590	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	600.000	600.000

3

3

201.0105 CLEARING
201.0205 GRUBBING

STATION	-	STATION	LOCATION	CLEARING STA	GRUBBING STA
9+00	-	10+00	LEFT	1	1
		TOTALS:		1	1

205.0100 EXCAVATION COMMON
208.0100 BORROW

STATION	-	STATION	COMMON EX. CY	FILL CY (1)	EXPANDED FILL CY (1-2)	BORROW CY
8+00	-	9+45	241	481	625	384
10+63	-	13+50	832	1126	1463	631
		TOTALS:	1073	1607	2088	1015

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%

305.0110 BASE AGGREGATE DENSE 3/4-INCH
305.0120 BASE AGGREGATE DENSE 1 1/4-INCH
312.0110 SELECT CRUSHED MATERIAL

STATION	-	STATION	BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	SELECT CRUSHED MATERIAL TON
8+00	-	9+44.75	30	250	415
10+63.25	-	13+50	65	495	820
10+98, LT	-	F.E.	-	25	-
9+58	-	CATTLE WALKWAY	20	-	-
10+50	-	CATTLE WALKWAY	20	-	-
		TOTALS:	135	770	1235

455.0605 TACK COAT
465.0105 ASPHALTIC SURFACE

STATION	-	STATION	LOCATION	TACK COAT GAL	ASPHALTIC SURFACE TON
8+00	-	9+44.75	MAINLINE	10	89
8+94.75	-	13+50	TAPERS, LT & RT	0.5	4
10+63.25	-	13+50	MAINLINE	19	176
10+63.25	-	11+13.25	TAPERS, LT & RT	0.5	4
		TOTALS:		30	273

TAPER ASPHALTIC SURFACE FROM 30 FEET WIDE AT THE BRIDGE ENDS TO 24 FEET WIDE AT 50 FEET FROM THE BRIDGE ENDS.

614.0920 SALVAGED RAIL
614.0925 SALVAGED GUARDRAIL END TREATMENTS

STATION	-	STATION	LOCATION	SALVAGED RAIL LF	END TREATMENTS EACH
9+10	-	9+35	LT	25	2
9+10	-	9+35	RT	25	2
10+65	-	10+90	LT	25	2
10+65	-	10+90	RT	25	2
			TOTALS:	100	8

625.0500 SALVAGED TOPSOIL
627.0200 MULCHING
629.0210 FERTILIZER TYPE B
630.0120 SEEDING MIXTURE NO. 20
630.0200 SEEDING TEMPORARY
630.0300 SEEDING BORROW PIT

STATION	-	STATION	SALVAGED TOPSOIL SY	MULCHING SY	FERTILIZER CWT	SEEDING #20 LB	SEEDING TEMPORARY LB	SEEDING BORROW LB
8+00	-	9+55	510	680	0.6	25	13	--
9+55	-	10+55	180	310	0.2	8	4	--
10+55	-	13+50	1700	2000	1.6	68	34	--
BORROW PIT				1100	0.7	-	15	15
UNDISTRIBUTED			360	610	0.5	19	14	--
		TOTALS:	2750	4700	3.6	120	80	15

628.1504 SILT FENCE
628.1520 SILT FENCE MAINTENANCE

STATION	-	STATION	LOCATION	FENCE LF	MAINT. LF
8+00	-	9+90	RT	230	230
8+00	-	9+90	LT	230	230
10+45	-	13+50	LT	340	340
10+45	-	10+80	RT	60	60
UNDISTRIBUTED				290	290
			TOTALS:	1150	1150

628.2004 EROSION MAT CLASS I TYPE B
628.2006 EROSION MAT URBAN CLASS I TYPE A

STATION	-	STATION	LOCATION	CLASS I TYPE B SY	URBAN TYPE A SY
10+25	-	13+00	RT - DITCH	225	-
UNDISTRIBUTED				50	50
			TOTALS:	275	50

3

628.7504 TEMPORARY DITCH CHECKS

STATION	LOCATION	TEMPORARY DITCH CHECKS LF
10+75	RT	20
UNDISTRIBUTED		20
	TOTAL:	40

633.5100 MARKERS ROW

STATION	OFFSET	LOCATION	EACH
8+00.00	50.00	LT	1
8+00.00	50.00	RT	1
10+50.00	50.00	RT	1
10+50.00	60.00	RT	1
11+03.79	50.00	LT	1
11+03.79	75.00	RT	1
13+00.00	70.00	RT	1
13+50.00	50.00	LT	1
13+50.00	50.00	RT	1
		TOTAL:	9

650.4500 CONSTRUCTION STAKING SUBGRADE
650.5000 CONSTRUCTION STAKING BASE
650.9920 CONSTRUCTION STAKING SLOPE STAKES

STATION	-	STATION	SUBGRADE LF	BASE LF	SLOPE STAKES LF
8+00	-	9+45	145	145	145
10+63	-	13+50	287	287	287
		TOTALS:	432	432	432

690.0150 SAWING ASPHALT

STATION	LF
8+00	20
13+50	21
TOTAL:	41

3

634.0612 POSTS WOOD 4x6-INCH x 12-FT
637.2230 SIGNS TYPE II REFLECTIVE F
638.2602 REMOVING SIGNS TYPE II
638.3000 REMOVING SMALL SIGN SUPPORTS

STATION	LOCATION	SIGN CODE	SIGNS REFECTIVE SF	WOOD POSTS EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
5+00	RT	-	-	-	1	1	NARROW BRIDGE
9+44	RT	W5-52R	3	1			OBJECT MARKER
9+44	LT	W5-52L	3	1			OBJECT MARKER
9+35	LT & RT	-	-	-	2	2	OBJECT MARKERS AT EXISTING BRIDGE
10+65	LT & RT	-	-	-	2	2	OBJECT MARKERS AT EXISTING BRIDGE
10+65	RT	W5-52L	3	1			OBJECT MARKER
10+65	LT	W5-52R	3	1			OBJECT MARKER
15+00	LT	-	-	-	1	1	NARROW BRIDGE
		TOTALS:	12	4	6	6	

646.0106 PAVEMENT MARKING EPOXY 4-INCH

STATION	-	STATION	YELLOW CENTERLINE SOLID LF	YELLOW CENTERLINE INTERMITTENT LF	WHITE EDGELINE LF
8+00	-	13+50	1100	0	1100

EARTHWORK SUMMARY

STA	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	BORROW CY
8+00.00					
	93	0	98	127	34
8+50.00					
	79	0	174	226	147
9+00.00					
	38	0	104	135	97
9+25.00					
	31	0	105	137	106
9+45.00					
ABUT 1 & SOUTH SLOPE		0			0
STRUCTURE B-22-0282					
ABUT 2 & NORTH SLOPE		0			0
10+63.00					
	30	0	45	59	29
10+75.00					
	71	0	91	118	47
11+00.00					
	162	0	204	265	103
11+50.00					
	163	0	233	303	140
12+00.00					
	155	0	228	296	141
12+50.00					
	133	0	218	283	150
13+00.00					
	118	0	107	139	21
13+50.00					
TOTALS	1073	0	1607	2088	1015
	COMMON	ROCK	FILL (1)	FILL (2)	BORROW
SUBTOTALS					
SOUTH APPROACH	241	0	481	625	384
NORTH APPROACH	832	0	1126	1463	631

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
5801-00-06		
FEDERAL PROJECT NUMBER	4.01	2

PLAT OF RIGHT-OF-WAY REQUIRED FOR

CTH T - STH 133

(BIG GREEN RIVER BRIDGE B-22-0282)

CTH K — GRANT COUNTY

CONSTRUCTION PROJECT NUMBER

5801-00-76

CONVENTIONAL ABBREVIATIONS

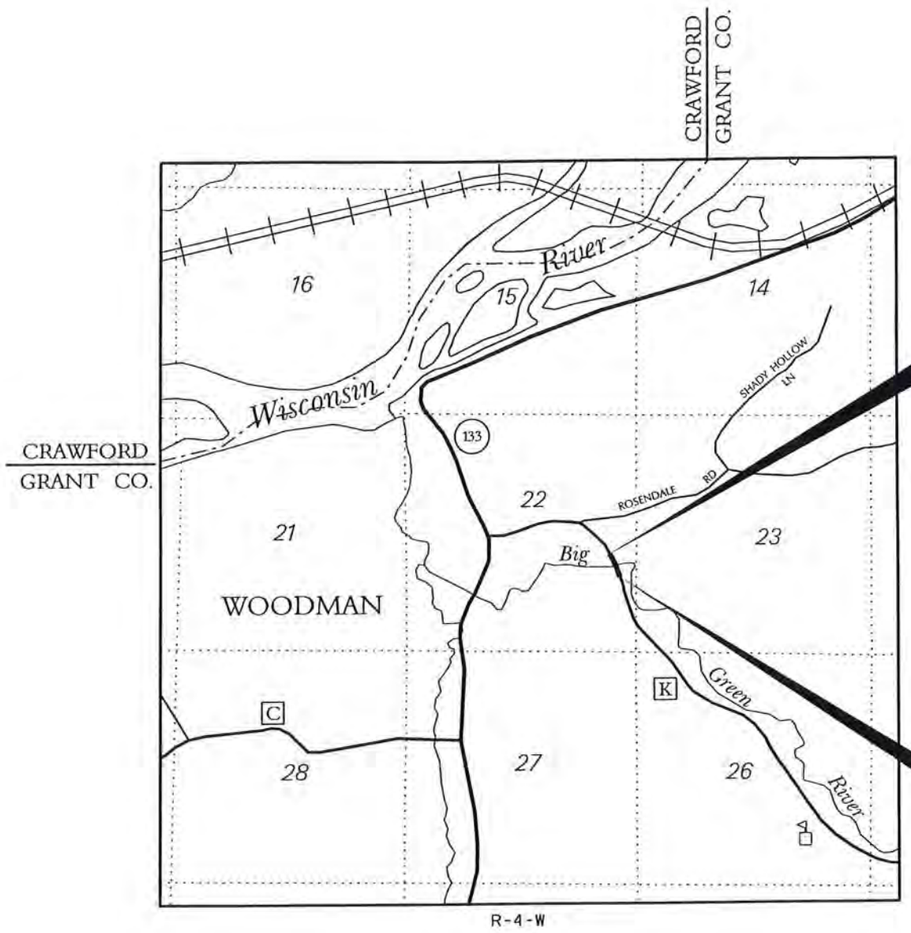
ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.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

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	● (IF UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	■ =(SET)	PROPERTY LINE	
R/W STANDARD	▲ =(SET)	LOT & TIE LINES	
SIGN	ISIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT	●	CORPORATE LIMITS	
SECTION CORNER SYMBOL	(SEC 22)	NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
FEE (HATCH VARIES)		NO ACCESS (BY ACQUISITION)	
TEMPORARY LIMITED EASEMENT	TLE	NO ACCESS (BY STATUTORY AUTHORITY)	
PERMANENT LIMITED EASEMENT	PLE	SECTION LINE	
R/W BOUNDARY POINT	HWB20	QUARTER LINE	
PARCEL NUMBER	02	SIXTEENTH LINE	
UTILITY PARCEL NUMBER	92	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	21	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

WATER	—W—	
GAS	—G—	
TELEPHONE	—T—	
OVERHEAD TRANSMISSION LINES	—OH—	
ELECTRIC	—E—	
CABLE TELEVISION	—TV—	
FIBER OPTIC	—FO—	
SANITARY SEWER	—SAN—	
STORM SEWER	—SS—	
	NON COMPENSABLE	COMPENSABLE
POWER POLE	○	●
TELEPHONE POLE	⌀	⌀
TELEPHONE PEDESTAL	⌧	⌧
ELECTRIC TOWER	⊠	



END RELOCATION ORDER

STA. 13+50.00

634.42' WEST OF AND 430.73' SOUTH OF THE EAST QUARTER CORNER OF SECTION 22, T-7-N, R-4-W.

BEGIN RELOCATION ORDER

STA. 8+00.00

425.89' WEST OF AND 938.79' SOUTH OF THE EAST QUARTER CORNER OF SECTION 22, T-7-N, R-4-W.

ORIGINAL PLAT PREPARED BY:

MSA PROFESSIONAL SERVICES — TRANSPORTATION · MUNICIPAL DEVELOPMENT · ENVIRONMENTAL

1230 South Boulevard Baraboo, WI 53913 (608-356-2771)

WISCONSIN

GREGORY P. RHINEHART S-1478 FRIENDSHIP, WI

SURVEYOR

10/23/2013 Date — Signature

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES. GRANT COUNTY NAD 83 (2012) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPCIALLY 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 OR OTHER "SURVEYS OF PUBLIC RECORD".

N

LAYOUT

SCALE 0 1/2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.104 MI.

REVISION DATE	APPROVED FOR GRANT COUNTY
	DATE: 11/14/13 David S. Faulstich (Signature)
	E

FILE NAME : P:\3400s\3400s\3405\03405001\caddWDOT\Planshts\RowTS.dgn

PLOT DATE : 10/16/2013 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 50

RowTS.dgn 10/16/2013 3:30:01 PM bhalley

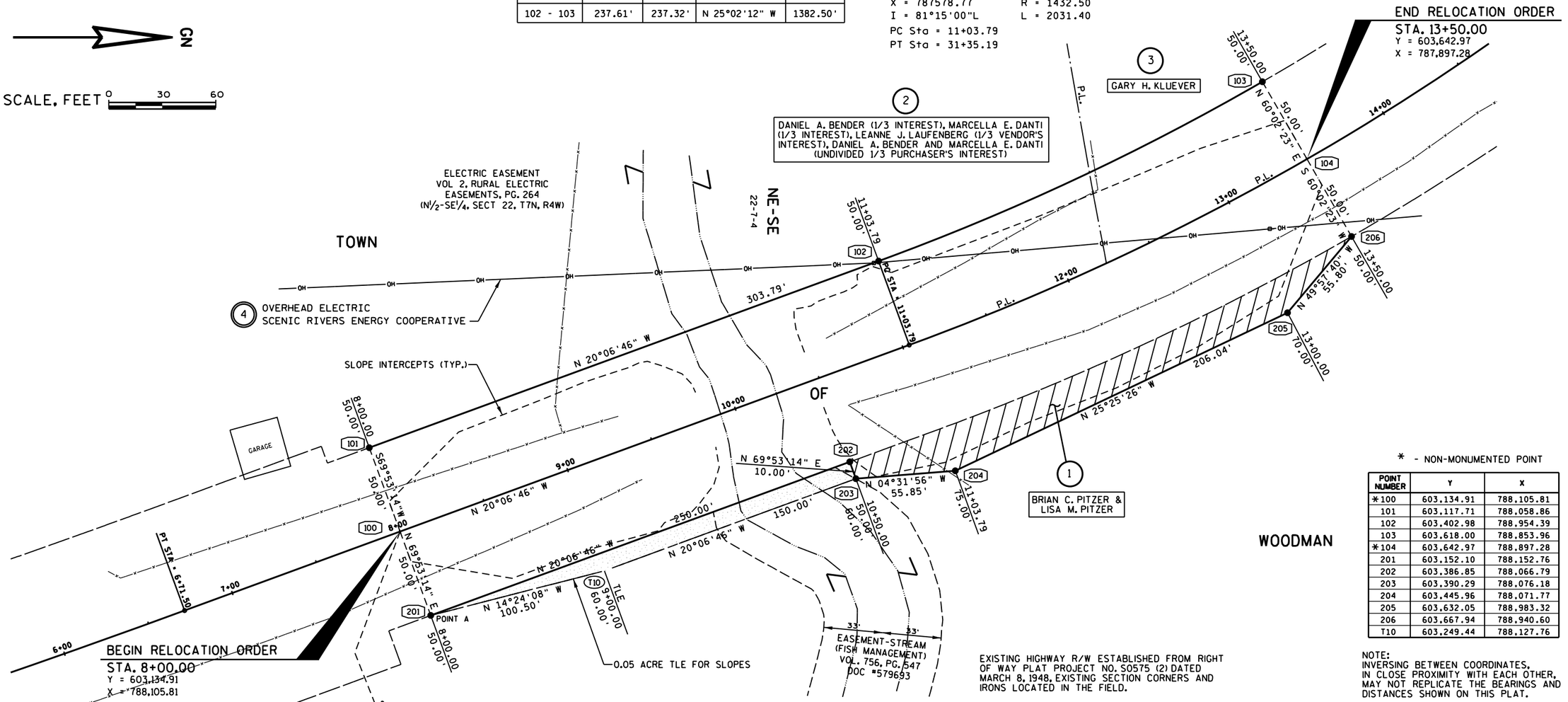
R/W CURVE TABLE				
FROM - TO	CURVE LENGTH	CHORD LENGTH	CHORD BEARING	RADIUS
102 - 103	237.61'	237.32'	N 25°02'12" W	1382.50'

ALIGNMENT CURVE DATA

PI Sta = 23+32.69 D = 81°15'00"
Y = 604574.12 T = 1228.89
X = 787578.77 R = 1432.50
I = 81°15'00"L L = 2031.40
PC Sta = 11+03.79
PT Sta = 31+35.19

GN

SCALE, FEET 0 30 60



* - NON-MONUMENTED POINT

POINT NUMBER	Y	X
*100	603,134.91	788,105.81
101	603,117.71	788,058.86
102	603,402.98	788,954.39
103	603,618.00	788,853.96
*104	603,642.97	788,897.28
201	603,152.10	788,152.76
202	603,386.85	788,066.79
203	603,390.29	788,076.18
204	603,445.96	788,071.77
205	603,632.05	788,983.32
206	603,667.94	788,940.60
T10	603,249.44	788,127.76

EXISTING HIGHWAY R/W ESTABLISHED FROM RIGHT OF WAY PLAT PROJECT NO. 50575 (2) DATED MARCH 8, 1948, EXISTING SECTION CORNERS AND IRONS LOCATED IN THE FIELD.

NOTE:
INVERSING BETWEEN COORDINATES, IN CLOSE PROXIMITY WITH EACH OTHER, MAY NOT REPLICATE THE BEARINGS AND DISTANCES SHOWN ON THIS PLAT.

SOUTHEAST CORNER
SECTION 22
Y = 601,417.7 (RECORDED) Y = 601,417.807 (OBSERVED)
X = 788,547.1 X = 788,547.099

S 00°19'56" E 2656.04' (FROM RECORDED DATA)

SECTION LINE

EAST 1/4 CORNER
SECTION 22
Y = 604,073.7 (RECORDED) Y = 604,073.66 (OBSERVED)
X = 788,531.7 X = 788,531.541

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	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING *	TOTAL	TLE ACRES
1	BRIAN C. PITZER & LISA M. PITZER	FEE & TLE	0.13	0.63	0.76	0.05
2	DANIEL A. BENDER (1/3 INTEREST), MARCELLA E. DANTI (1/3 INTEREST), LEANNE J. LAUFENBERG (1/3 VENDOR'S INTEREST), DANIEL A. BENDER AND MARCELLA E. DANTI (UNDIVIDED 1/3 PURCHASER'S INTEREST)	FEE	---	0.50	0.50	---
3	GARY H. KLUEVER	FEE	---	0.14	0.14	---
4	SCENIC RIVERS ENERGY COOPERATIVE	R O R				

* - EXISTING R/W IS A HIGHWAY CONVENANCE FROM 1948.

REVISION DATE	DATE	SCALE, FEET 0 30 60	HWY: CTH K	STATE R/W PROJECT NUMBER 5801-00-06	PLAT SHEET 4.02	
			COUNTY: GRANT	CONSTRUCTION PROJECT NUMBER 5801-00-76	PS&E SHEET	E

FILE NAME : P:\3400s\3400s\3405\03405001\caddWDOT\Plansht\Row01.dgn PLOT DATE : 10/16/2013 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:60

WISDOT/CADDS SHEET 75

Row01.dgn 10/16/2013 3:32:29 PM bhalley

BENCHMARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+37, 13.2' RT.	CHISELED CROSS TOP OF WING	661.31
2	12+44, 44.4' LT.	TWO SPIKES IN 16" BOX ELDER TREE	655.25
3	9+13, 36.3' LT.	TWO SPIKES IN 42" MAPLE TREE	655.44

EARTHWORK SUMMARY
STA. 8+00 - STA. 13+50

EXC. COMMON	1073 C.Y.
FILL	1607 C.Y.
EXPANDED FILL	2088 C.Y.
FILL EXPANSION	30%
BORROW	1015 C.Y.

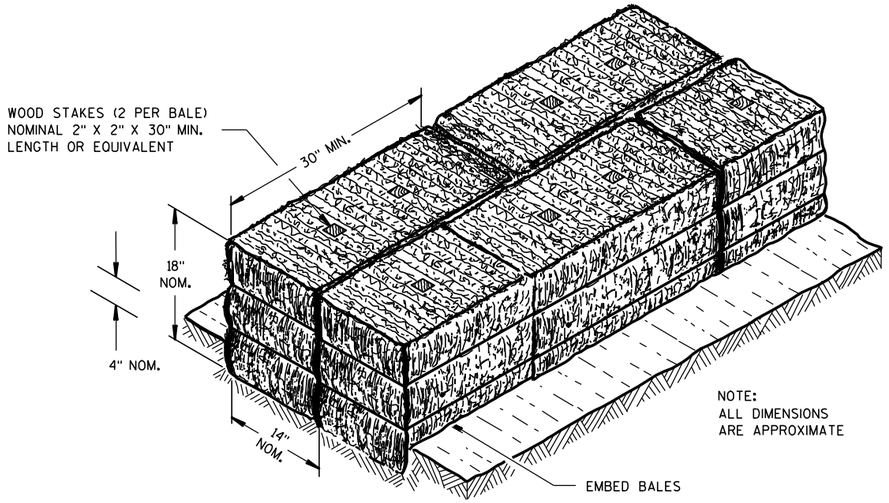
PROJECT NO:5801-00-76	HWY:CTH K	COUNTY:GRANT	PLAN & PROFILE - BIG GREEN RIVER BRIDGE	SHEET	E

FILE NAME : P:\3400s\3400s\3405\03405001\caddWDOT\Planshts\panp01.dgn PLOT DATE : 9/20/2013 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:40

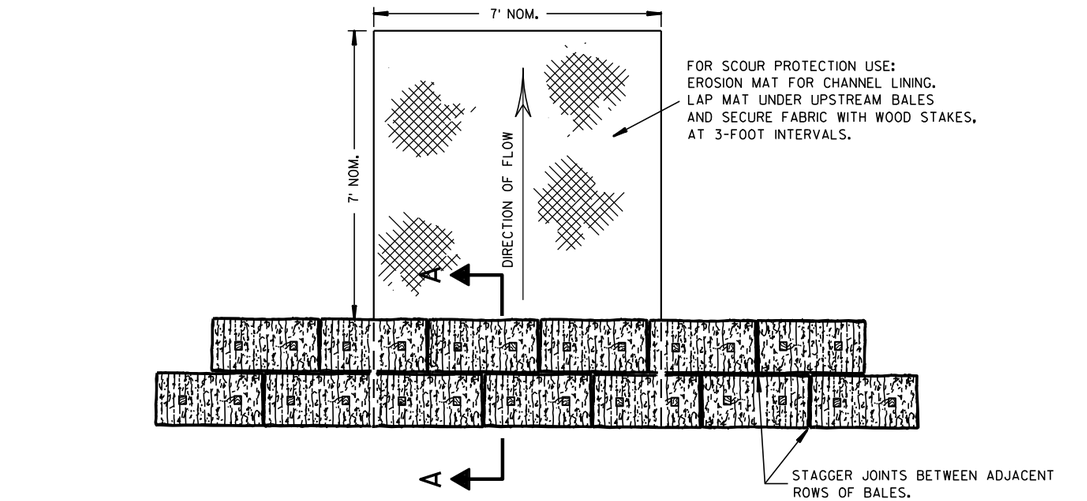
WISDOT/CADDS SHEET 30

Standard Detail Drawing List

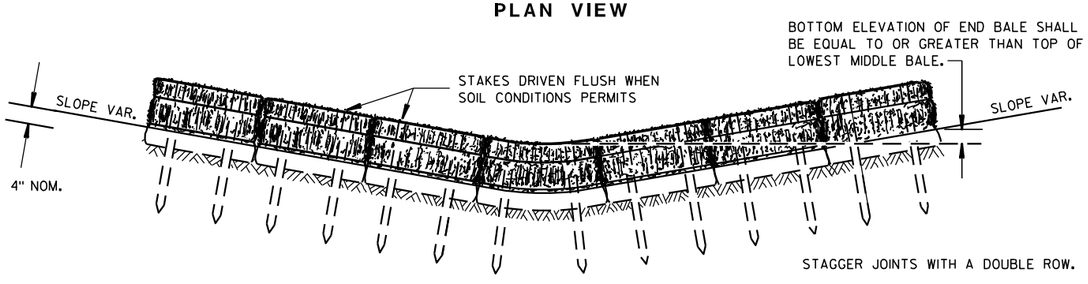
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
15A01-11	MARKER POST FOR RIGHT-OF-WAY
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-06	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)



SECTION A-A



PLAN VIEW



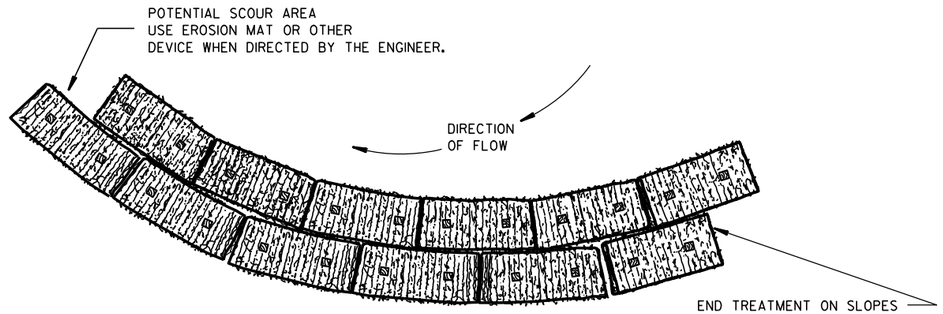
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

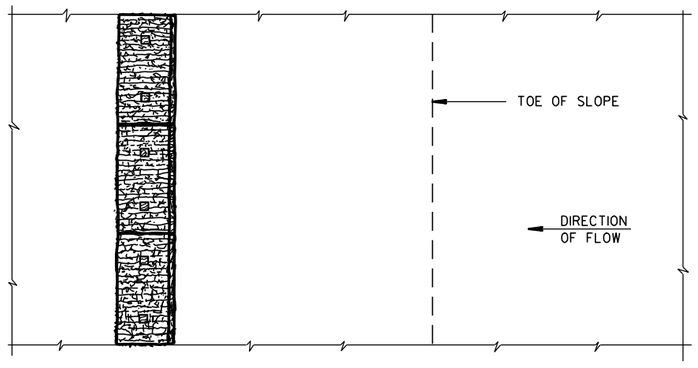
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

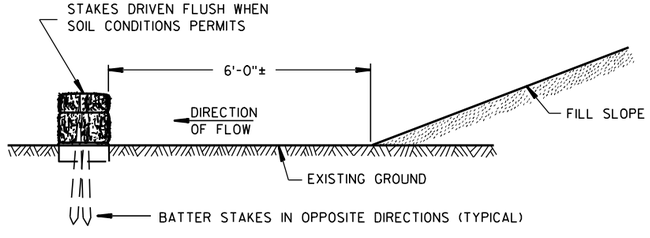


PLAN VIEW

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

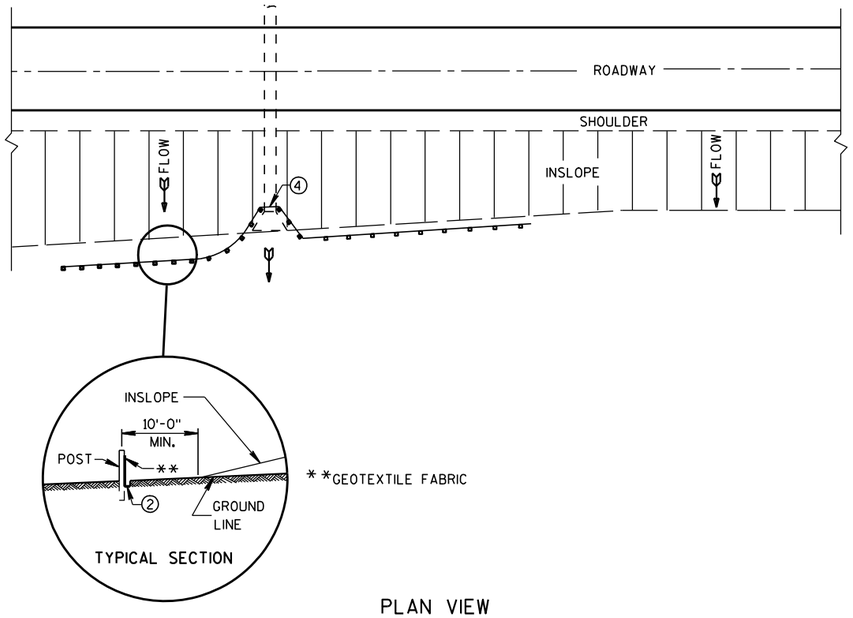
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

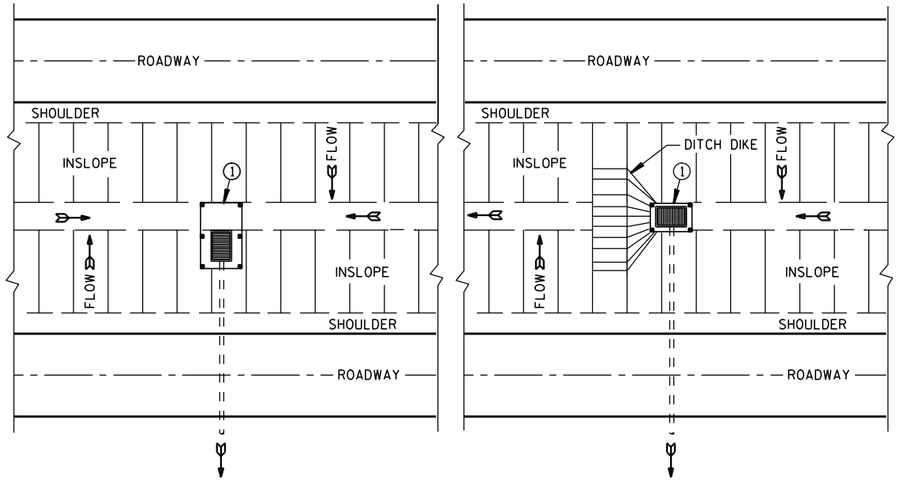
6

S.D.D. 8 E 8-3



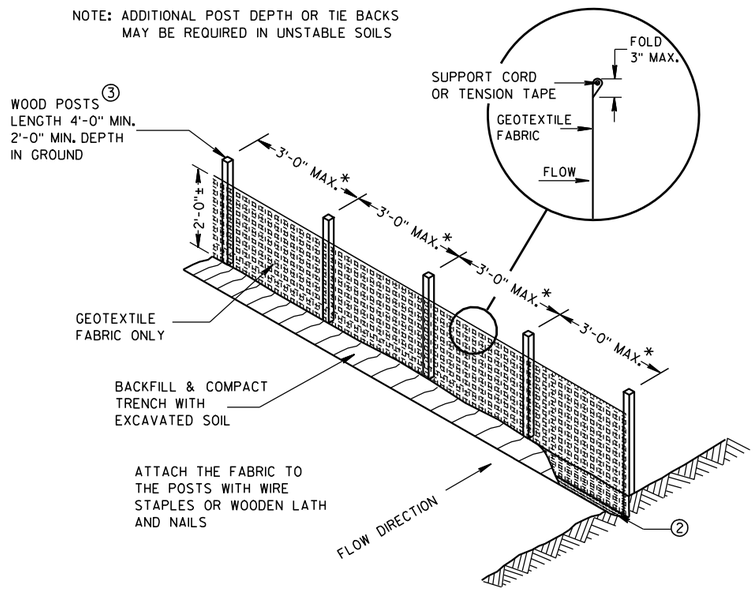
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE

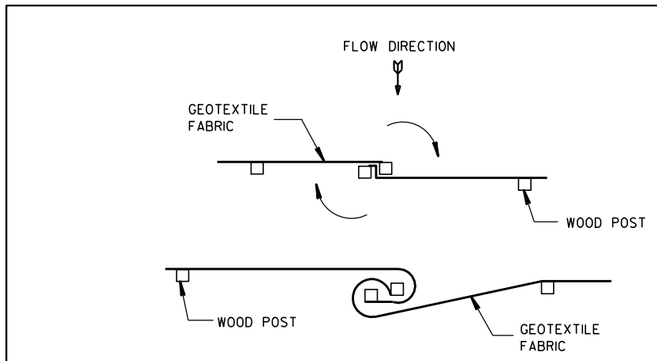


PLAN VIEW

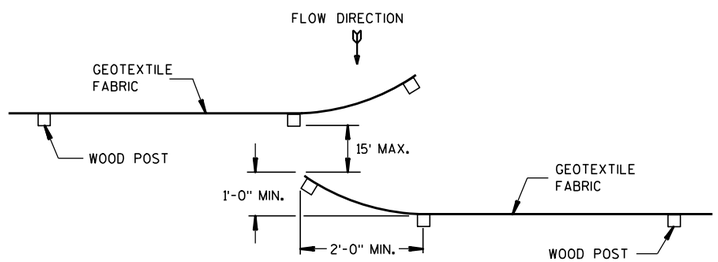
SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE



TWIST METHOD



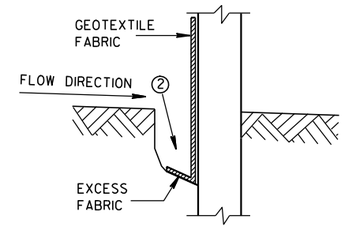
HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5

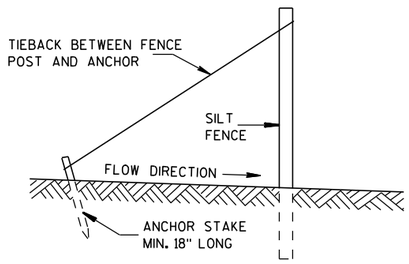
GENERAL NOTES

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)

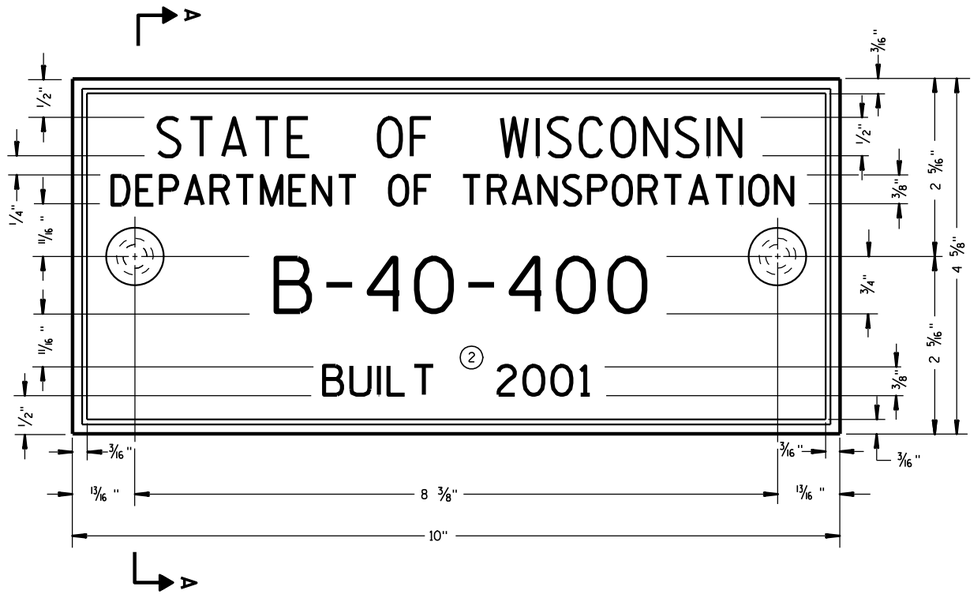
SILT FENCE

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



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

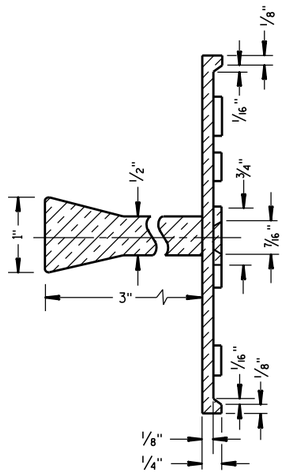
GENERAL NOTES

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.

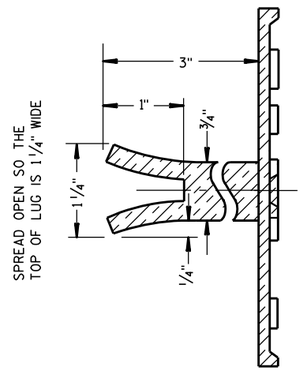
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

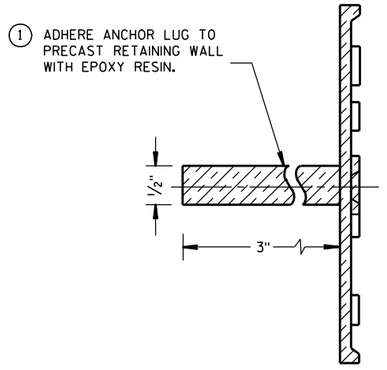
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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

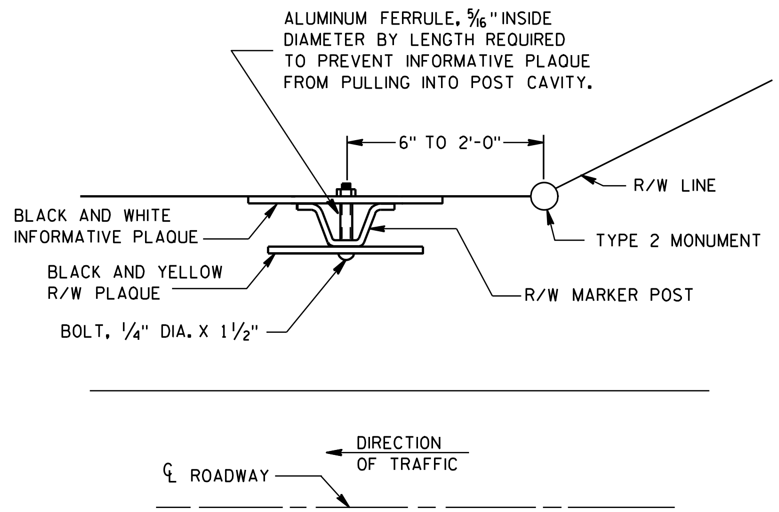
FHWA

6

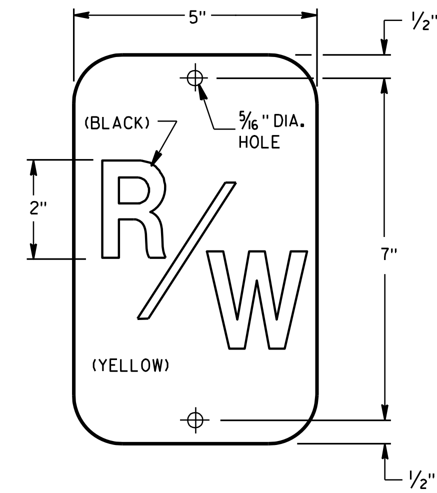
S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10

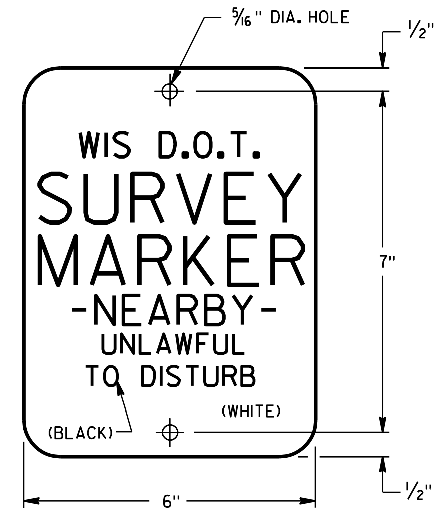


PLAN VIEW



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.

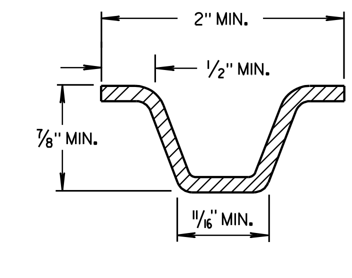
A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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.

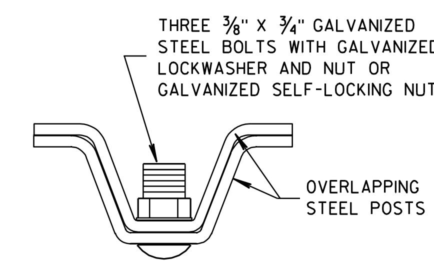
(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3'10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

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

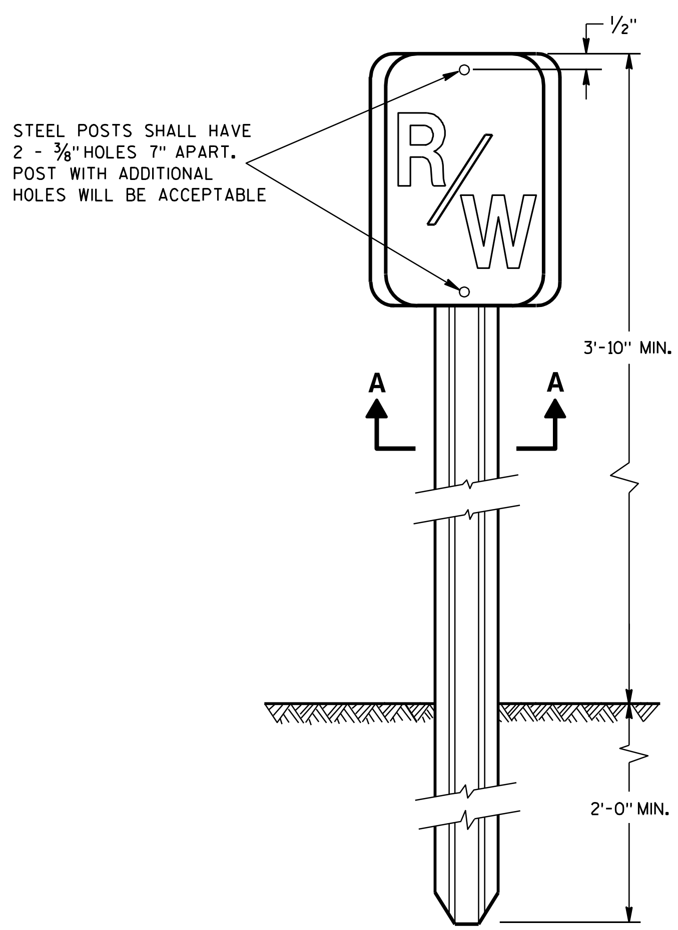


MIN. WEIGHT 1.12 LB./FT.

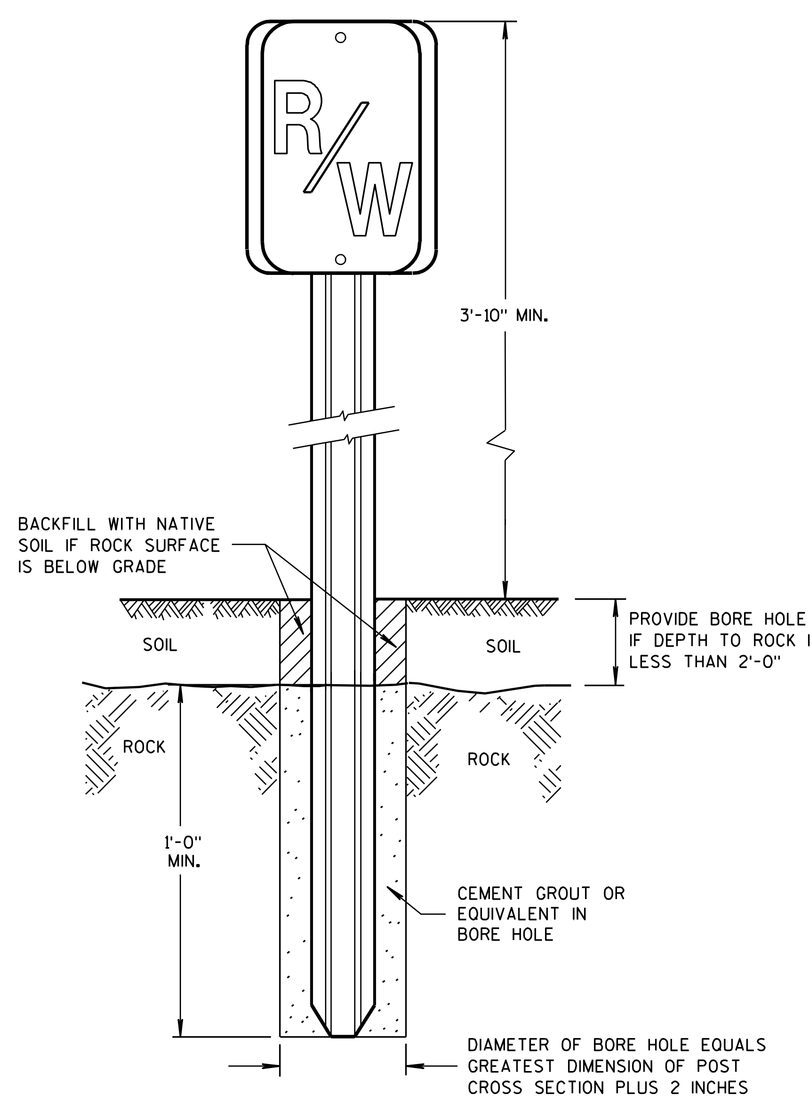
SECTION A-A



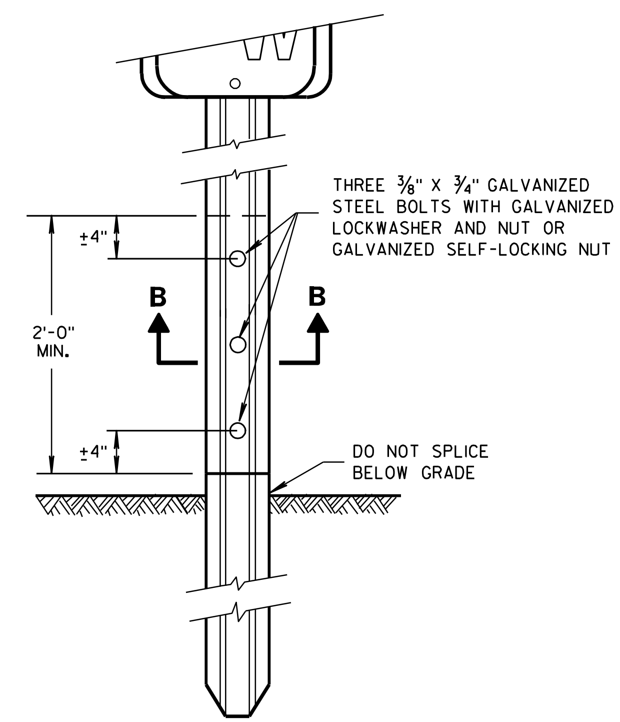
SECTION B-B



FRONT VIEW
STEEL MARKER POST



FRONT VIEW
ROCK INSTALLATION (1)



FRONT VIEW
SPLICE DETAIL

MARKER POST FOR RIGHT-OF-WAY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 4/27/09 DATE — /S/ Ray Kumapavi CHIEF SURVEYING AND M[illegible]17 [illegible]GINEER — FHWA

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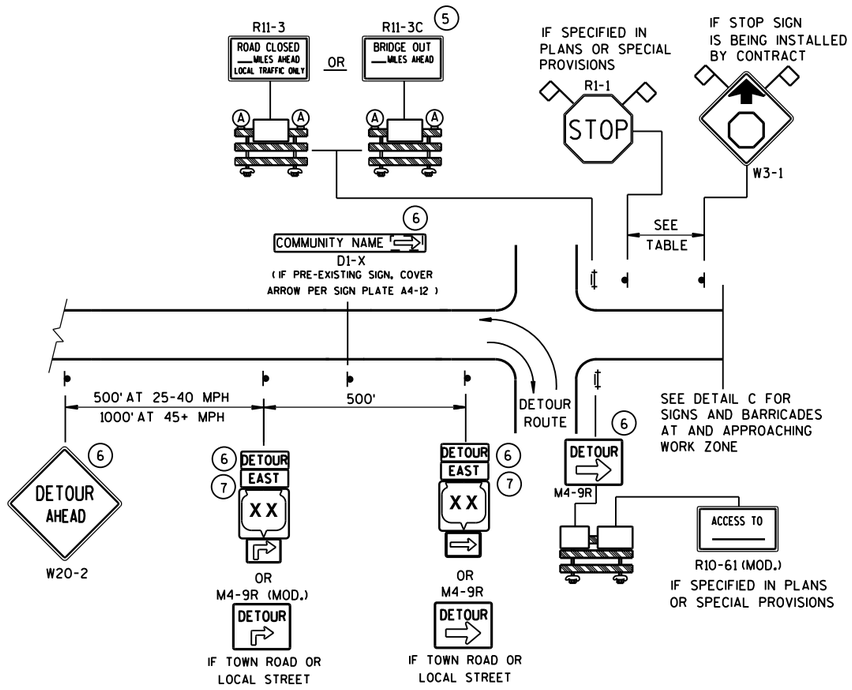
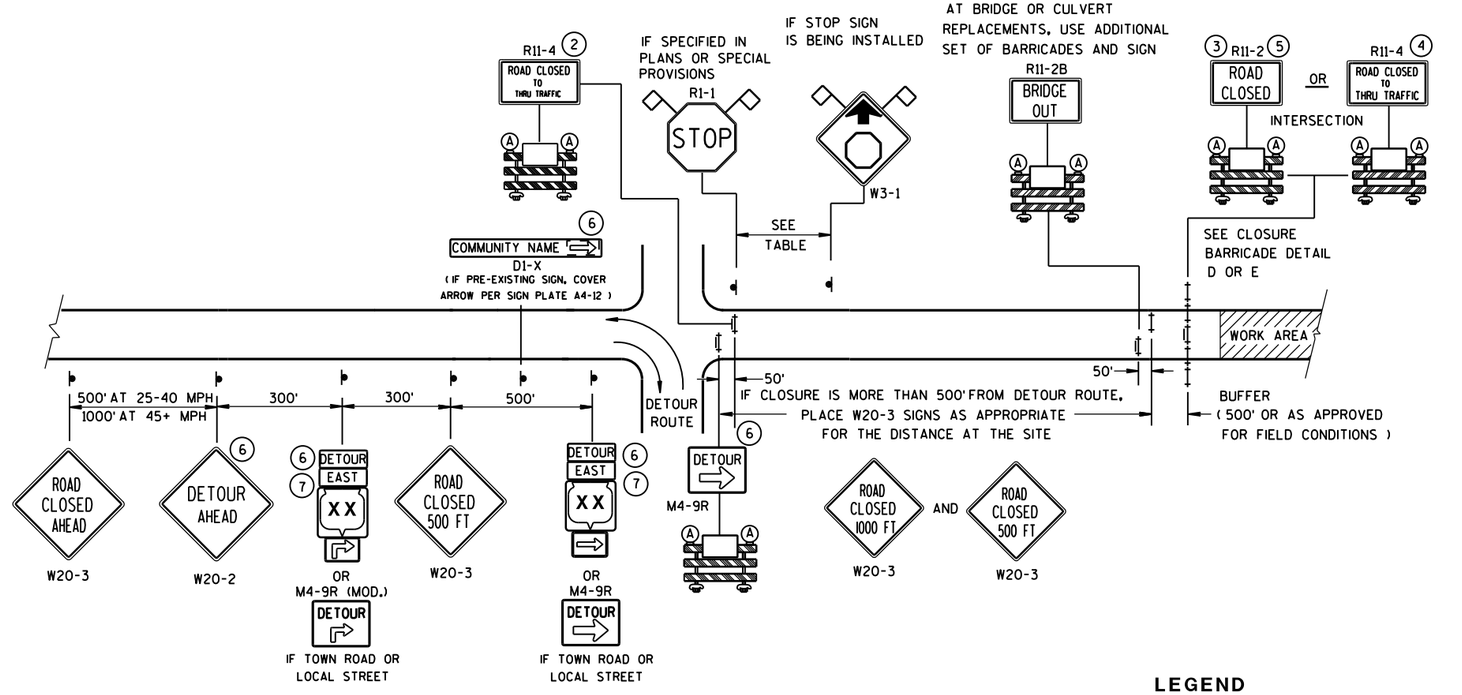
S.D.D. 15 A 1-11

S.D.D. 15 A 1-11



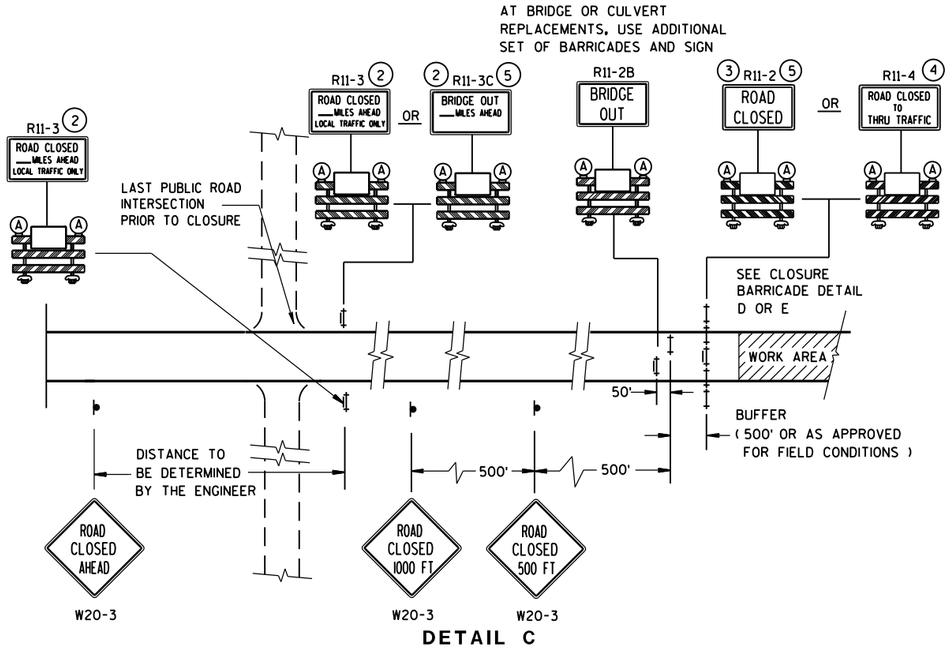
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

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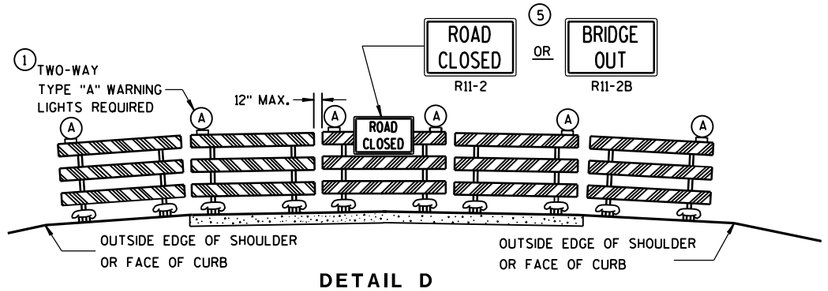
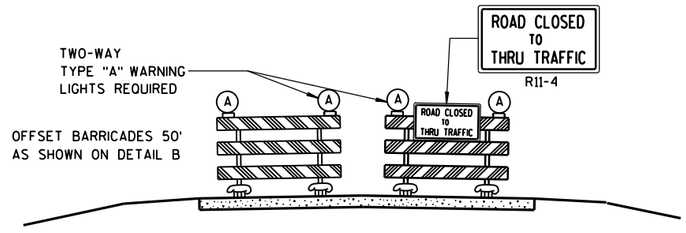
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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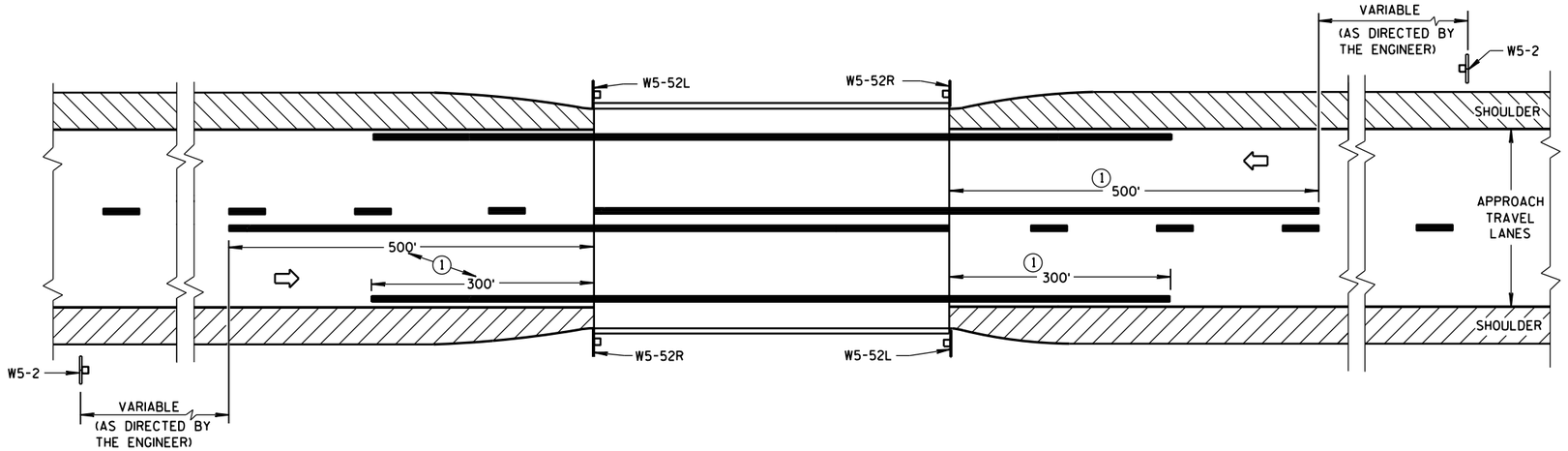
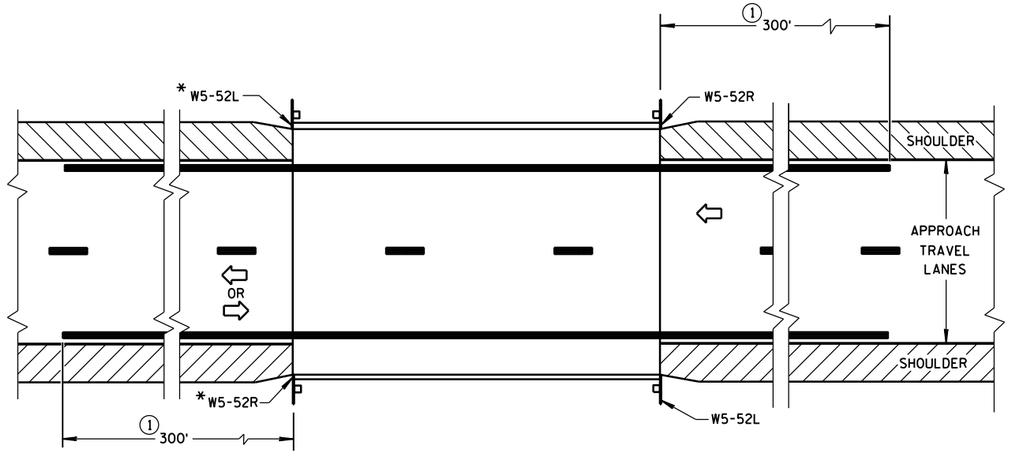
S.D.D. 15 C 2-5b



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 18 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.

GENERAL NOTES

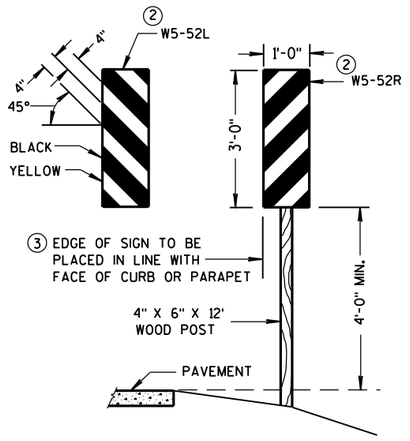
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

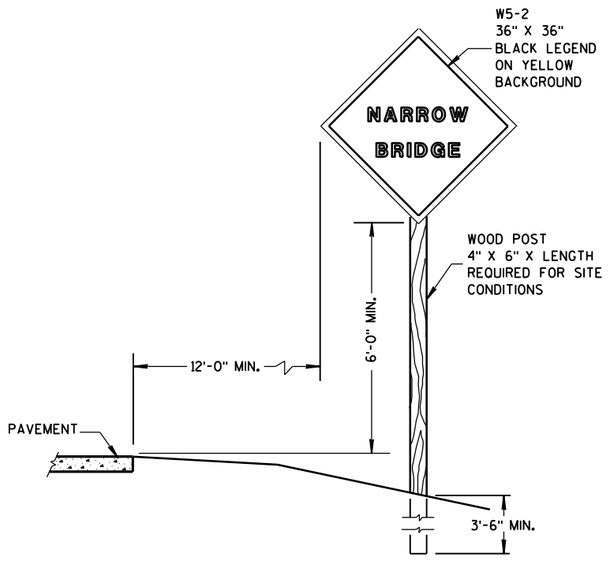
(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(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.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/4/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

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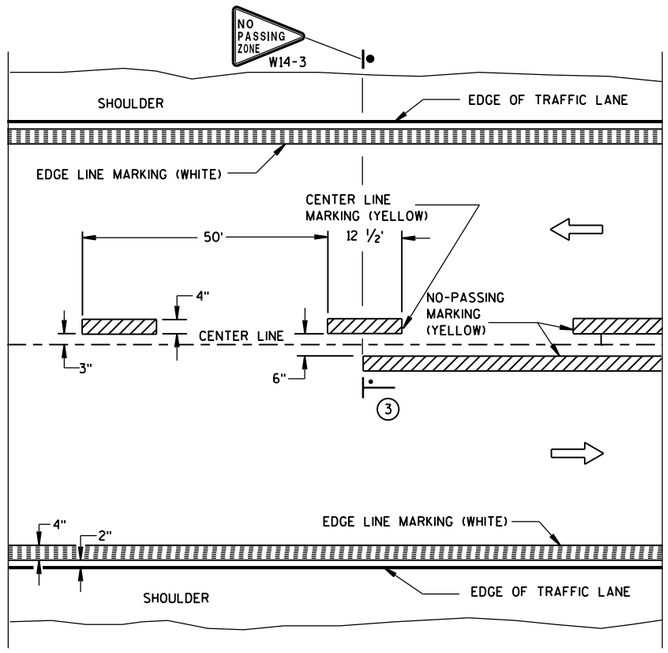
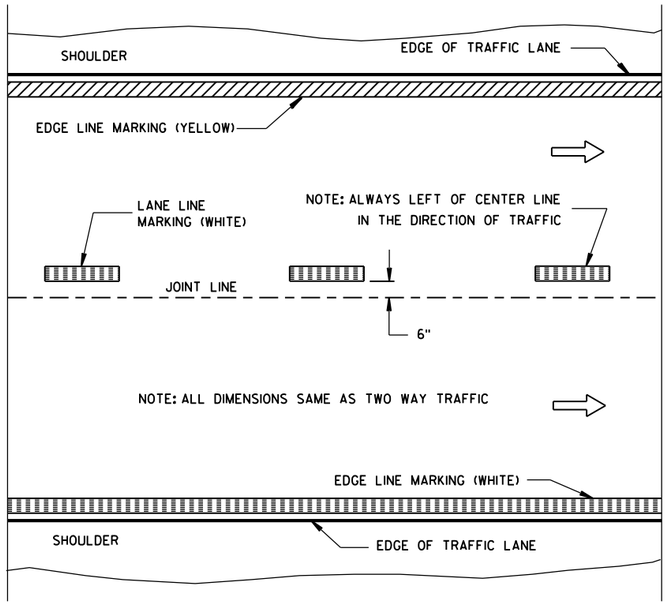
S.D.D. 15 C 6-6

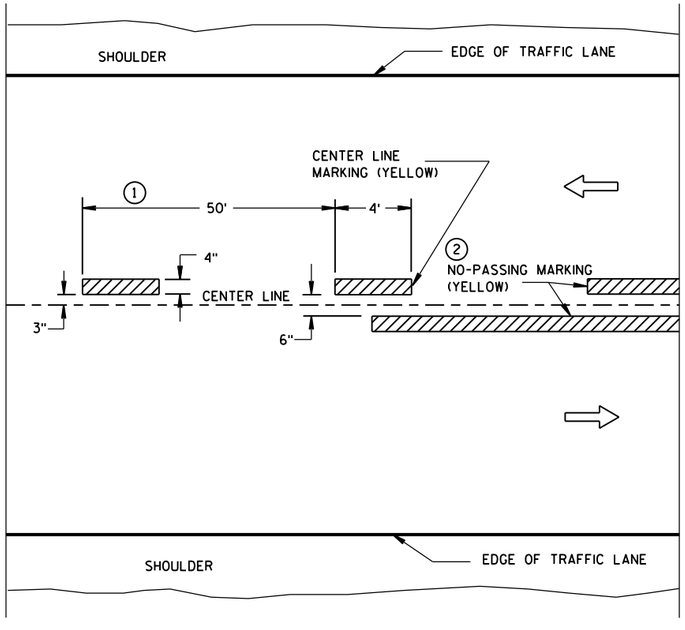


TWO WAY TRAFFIC

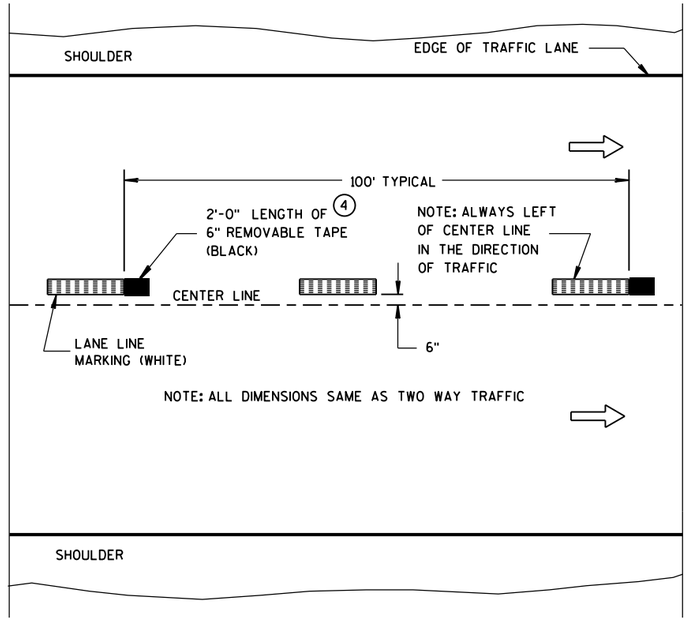


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

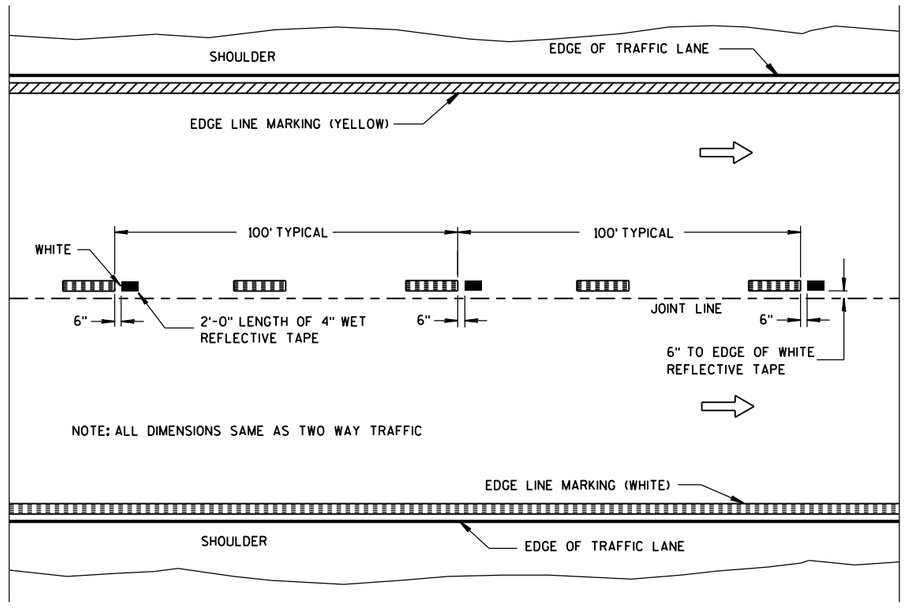
GENERAL NOTES

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

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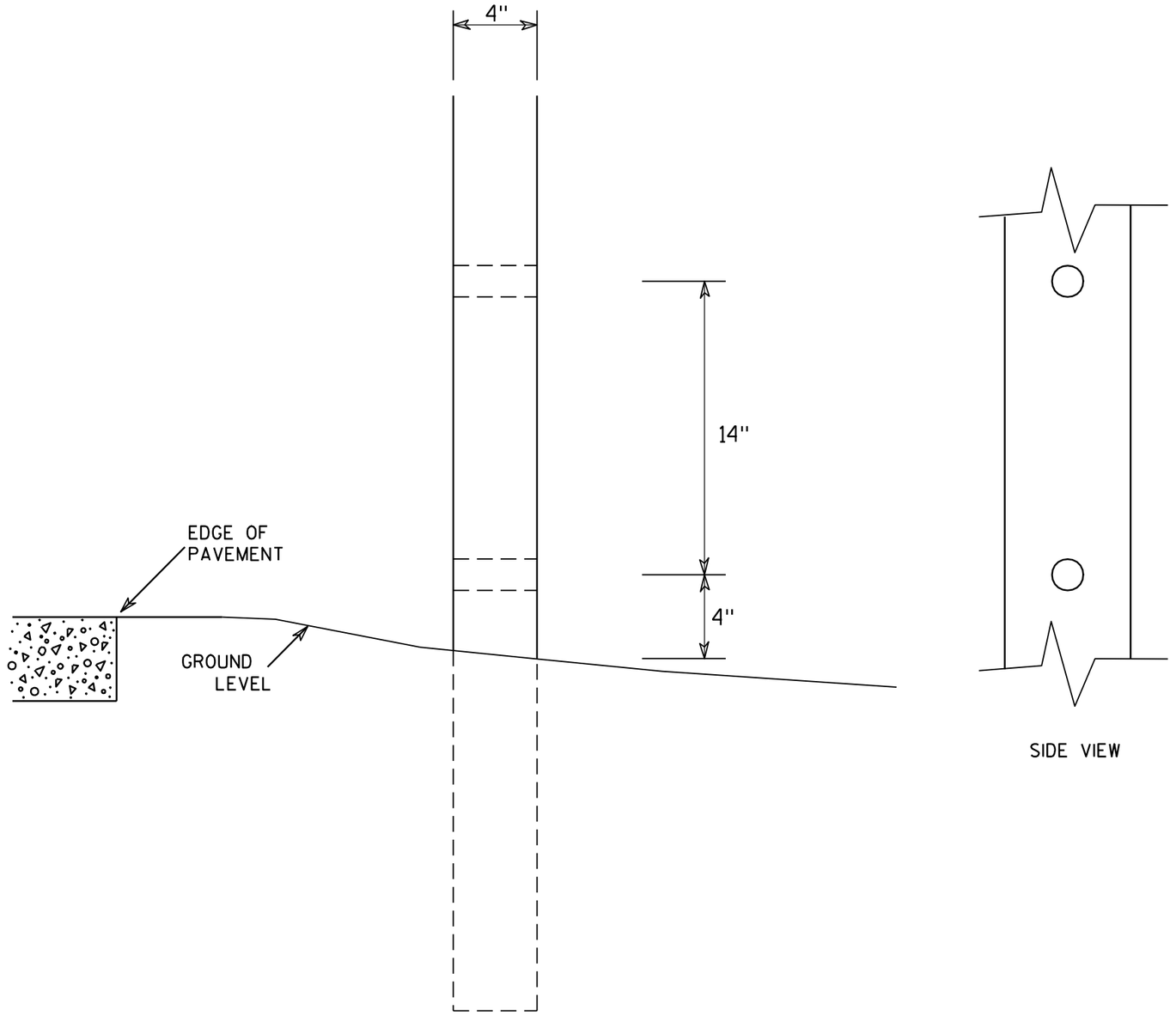
S.D.D. 15 C 8-16a



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

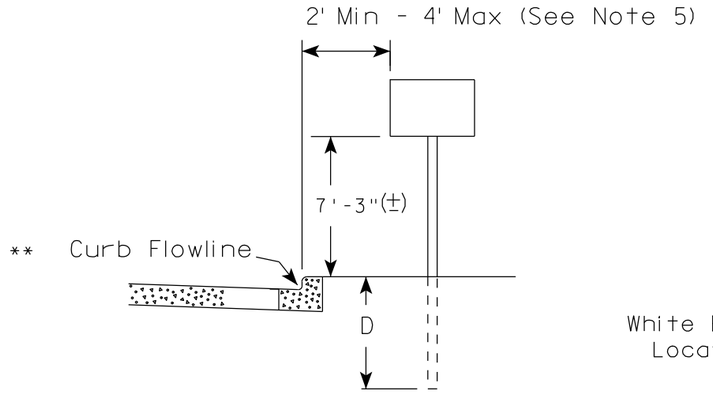
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

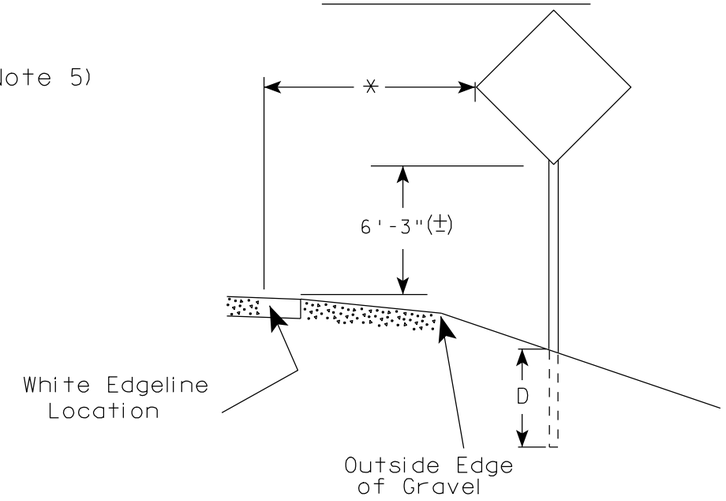
DATE 3/27/97 PLATE NO. A4-11.2

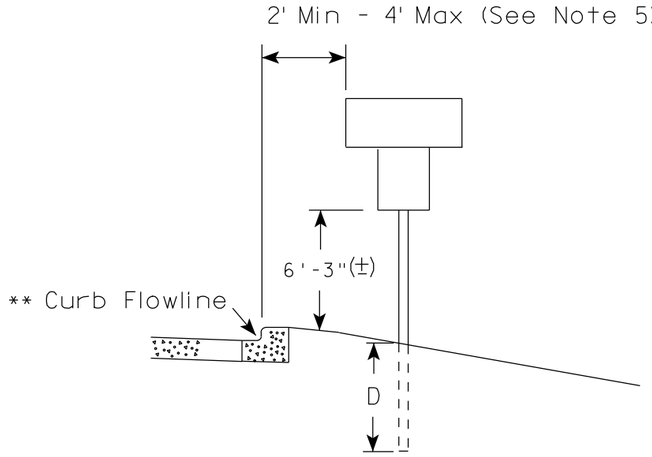
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 22	E

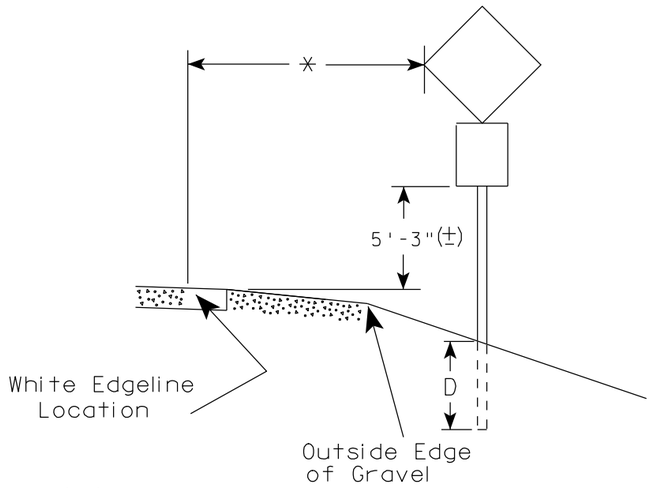
URBAN AREA



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 or larger than 20 sq. ft. 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road 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

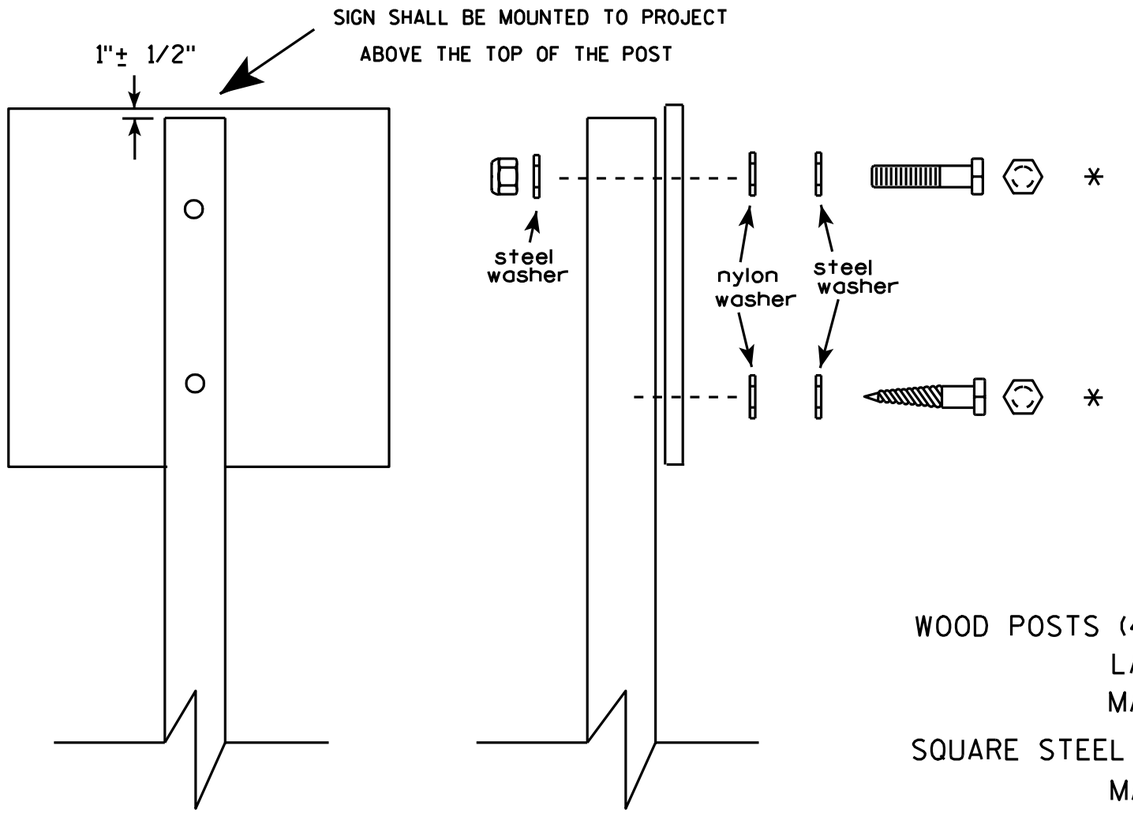
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

7

7

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



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

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

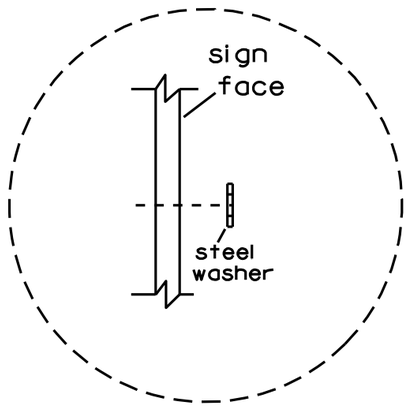
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

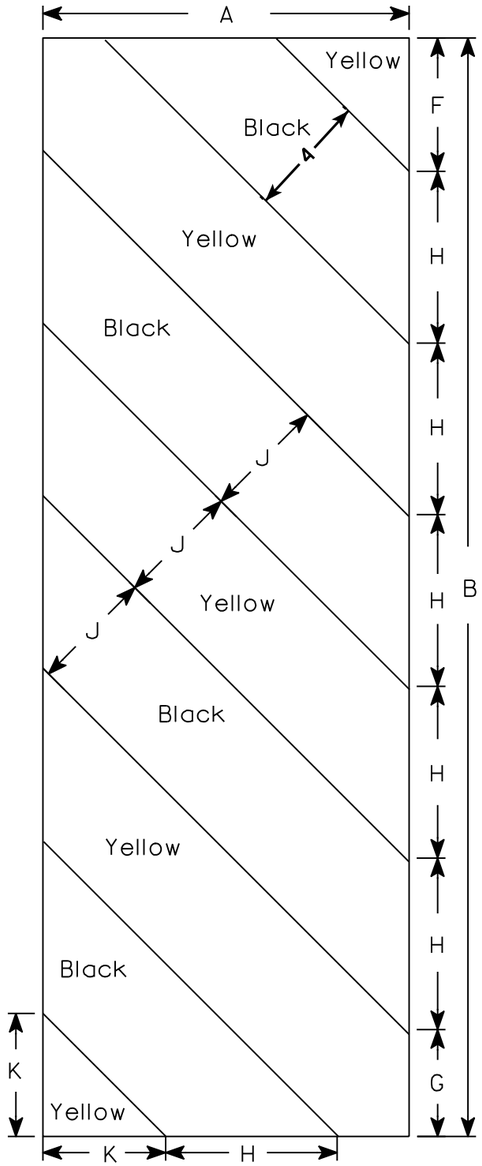
DATE 3/23/10 PLATE NO. A4-8.7

7

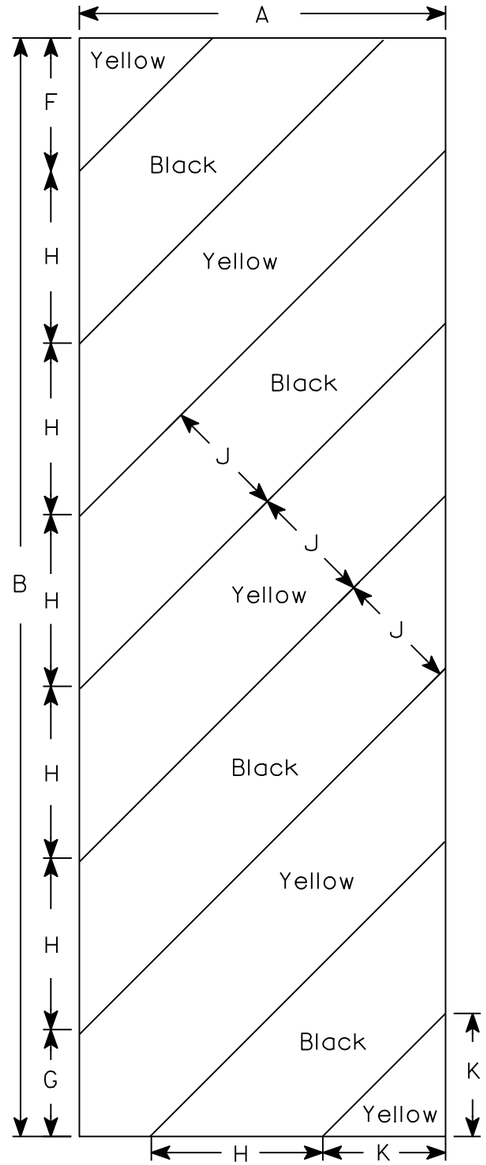
7

PROJECT NO:

SHEET NO: 24 E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type H 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																											

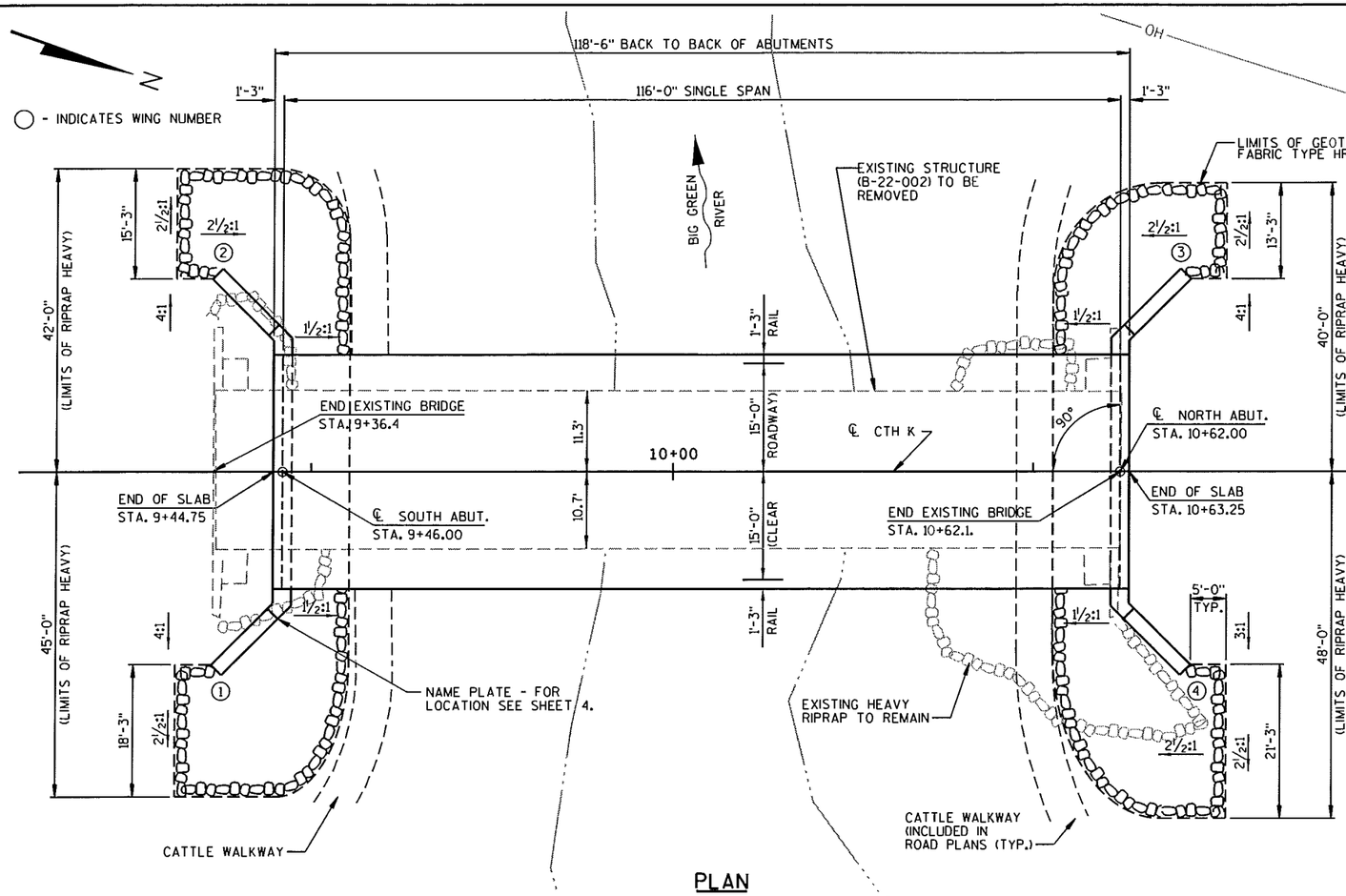
STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

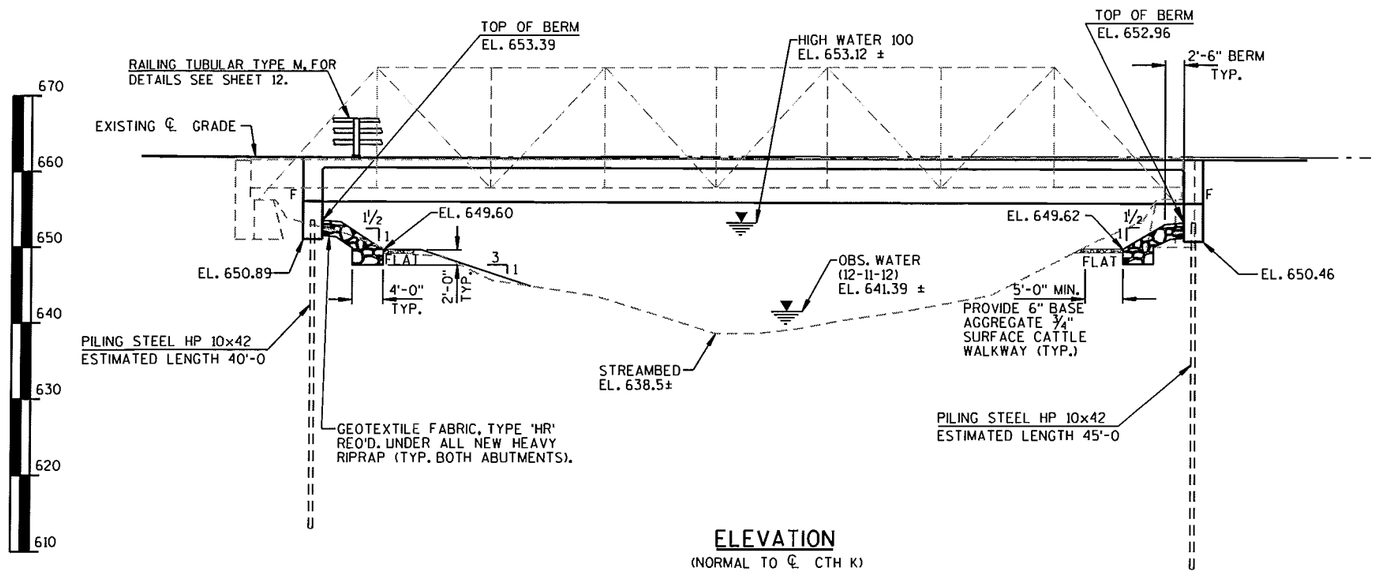
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/22/11 PLATE NO. W5-52.8

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



PLAN
(SINGLE SPAN 54W" PRESTRESSED CONCRETE GIRDER)



ELEVATION
(NORMAL TO ℄ CTH K)

STATE PROJECT NUMBER

5801-00-76

BENCHMARKS

NO.	STA.	DESCRIPTION	ELEV.
1	9+37, 13.2' RT.	CHISELED CROSS TOP OF WING	661.31
2	12+44, 44.4' LT.	TWO SPIKES IN 16" BOX ELDER TREE	655.25
3	9+13, 36.3' LT.	TWO SPIKES IN 42" MAPLE TREE	655.44

DESIGN DATA

LIVE LOAD:
DESIGN RATING : HL-93
INVENTORY RATING FACTOR : 1.15
OPERATIONAL RATING FACTOR : 1.85
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

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

TRAFFIC DATA:
A.A.D.T. (2014) = 170
A.A.D.T. (2034) = 210
R.D.S. = 55 MPH

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.
54W-INCH PRESTRESSED GIRDERS CONCRETE MASONRY — $f'c$ = 8,000 P.S.I.
STRANDS - 0.60" ϕ WITH AN ULTIMATE TENSILE STRENGTH OF — fy = 270,000 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. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 40'-0 AT THE SOUTH ABUTMENT AND 45'-0 AT THE NORTH ABUTMENT.

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

HYDRAULIC DATA:
100 YEAR FREQUENCY
DRAINAGE AREA — 48 SQ. MI.
Q_{100} — 5,600 C.F.S.
VELOCITY — 6.17 F.P.S.
WATERWAY AREA — 907 SQ. FT.
HIGH WATER$_{100}$ ELEVATION — 653.12 ±
ROADWAY OVERFLOW DESIGN FREQUENCY — N/A
SCOUR CRITICAL CODE — 8
HIGH WATER$_2$ ELEVATION (940 C.F.S.) — 646.17 ±

LIST OF DRAWINGS

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
9-20-2013

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 11/27/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-22-282

CTH K OVER BIG GREEN RIVER

COUNTY GRANT | TOWN/~~CITY/VILLAGE~~ WOODMAN

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

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

GENERAL PLAN

SHEET 1 OF 13
26

8

8

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DATE= 9/20/2013

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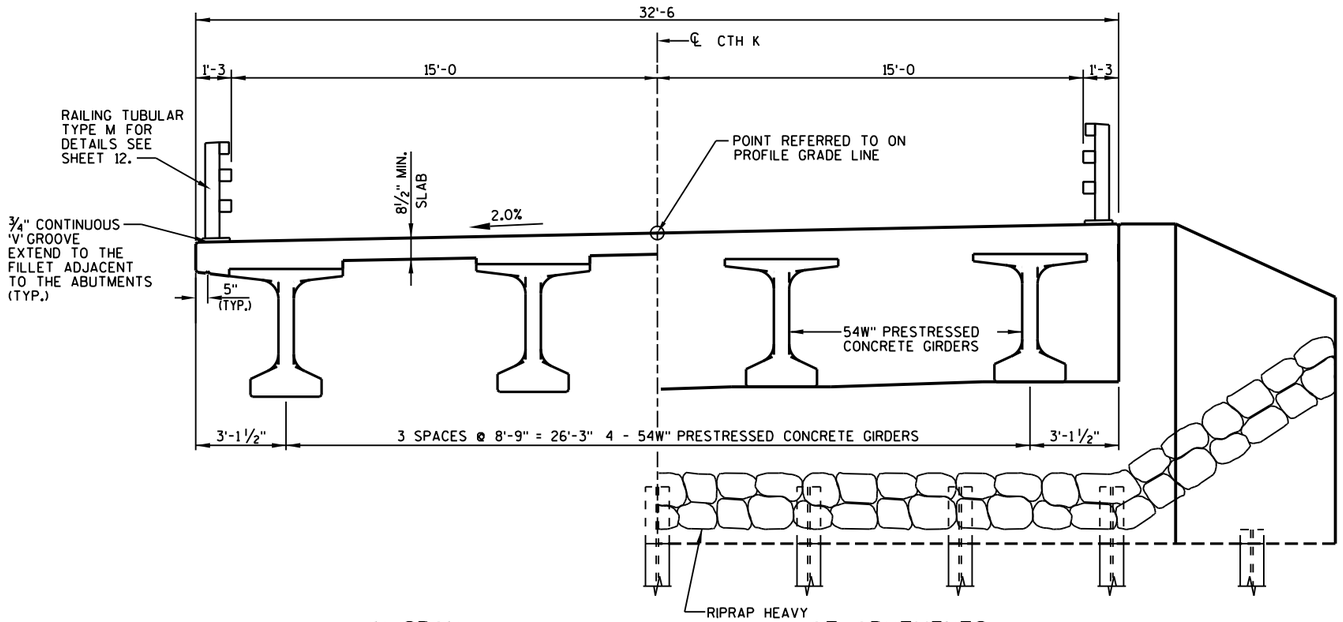
STATE PROJECT NUMBER

5801-00-76



IN SPAN AT ABUTMENTS

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

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 SIGNIFIES 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.

THE MINIMUM CONCRETE HAUNCH OVER EITHER EDGE OF THE PRESTRESSED GIRDERS SHALL BE 1¼" AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE HAUNCH DEPTH OF 3½" WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, B-22-2, A 126.0 FOOT LONG, 22.0 FOOT WIDE, SINGLE SPAN STEEL LOW TRUSS BRIDGE SET ON CONCRETE ABUTMENTS.

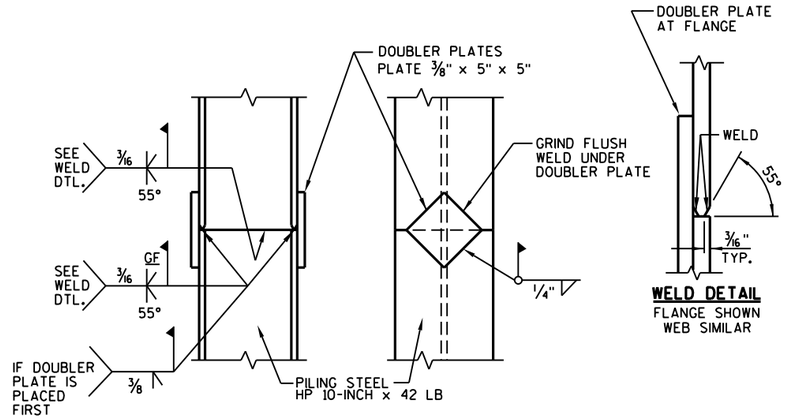
AT THE ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. THE BACKFILL STRUCTURE ESTIMATED QUANTITIES ASSUMED A 1½:1 EXCAVATION SLOPE AT THE ABUTMENTS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO BENCHMARK NAVD 88 DATUM, A CHISELED + ON THE SE ABUTMENT OF EXISTING BRIDGE B-22-2, EL. 661.31.

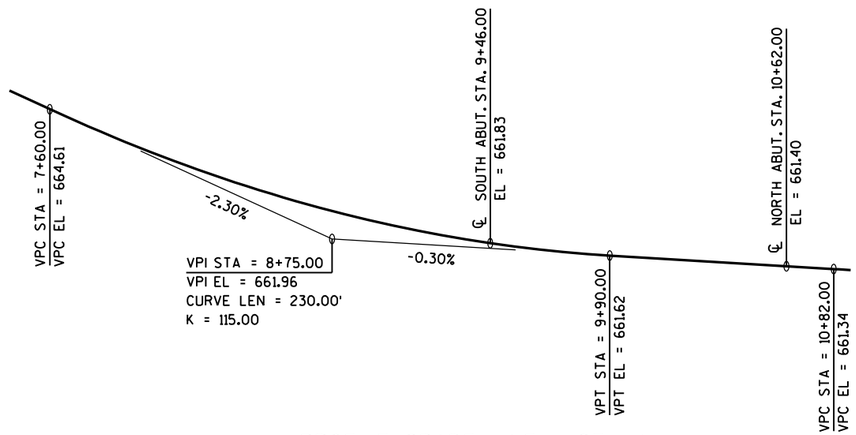
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTER 1'-1½" UNDERSIDE OF SLAB OVERHANG, AND TO THE TOP SURFACE OF THE ABUTMENT WING WALLS.

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 STRUCTURES BRIDGES (B-22-0282)	LS	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	200	200	-	400
502.0100	CONCRETE MASONRY BRIDGES	CY	39	39	152	230
502.3200	PROTECTIVE SURFACE TREATMENT	SY	7	7	486	500
503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF	-	-	468	468
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2300	2300	-	4600
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	2115	2115	24480	28710
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	8	8
506.4000.01	STEEL DIAPHRAGMS B-22-0282	EACH	-	-	6	6
513.4060.01	RAILING TUBULAR TYPE M (B-22-0282)	LS	-	-	-	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	12	-	24
550.1100	PILING STEEL HP (10-INCH x 42 LB)	LF	360	405	-	765
606.0300	RIPRAP HEAVY	CY	120	120	-	240
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	75	-	150
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	220	220	-	440
	NON-BID ITEMS					
	PREFORMED FILLER	SIZE	-	-	-	½", ¾"



PILE SPLICE DETAILS



PROFILE GRADE LINE - CTH K

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

DRAWN BY RLR | PLANS CK'D. DHW

CROSS SECTION, QUANTITIES & DETAILS

SHEET 2 OF 13
27

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DATE= 9/19/2013

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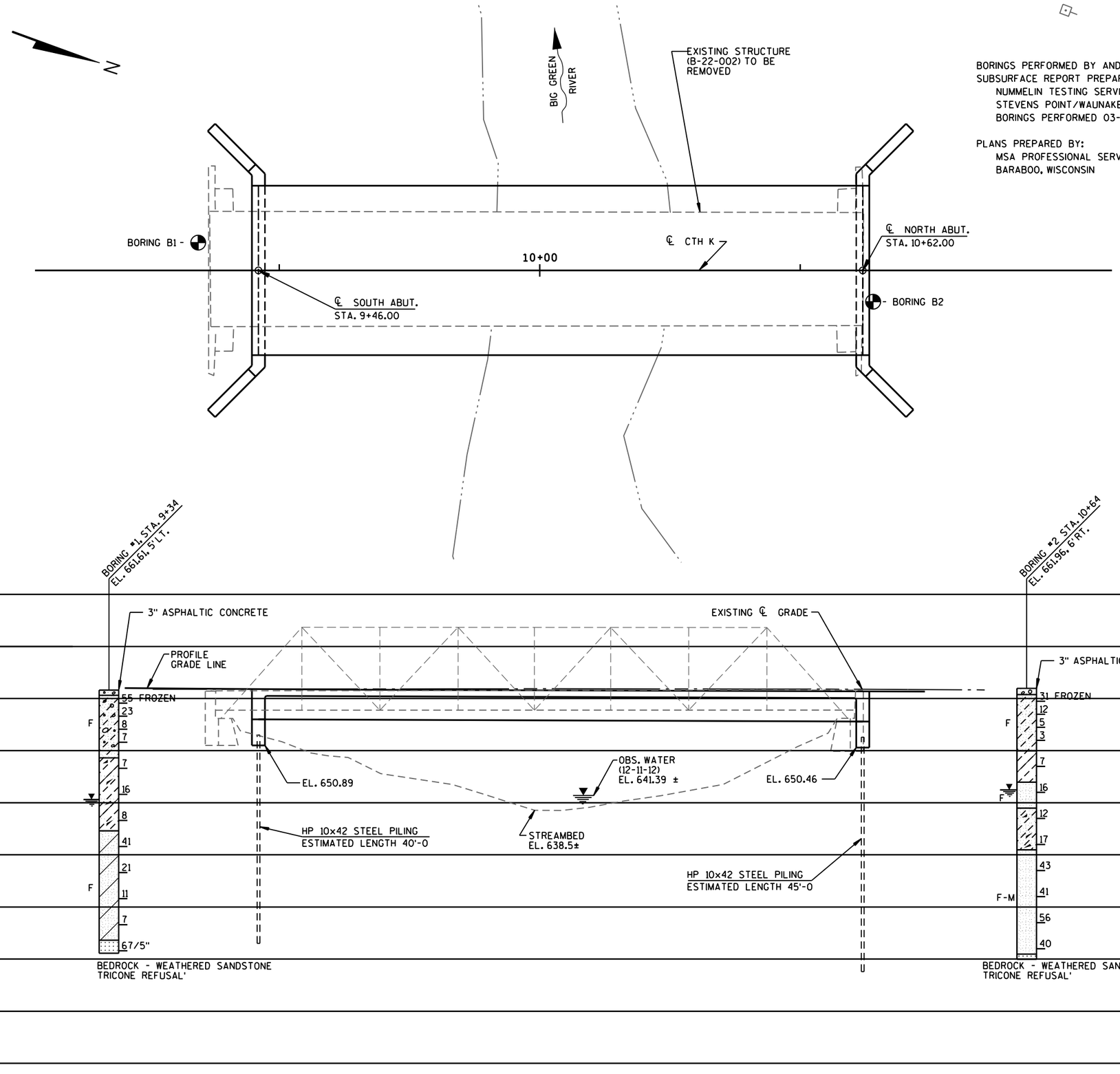


STATE PROJECT NUMBER

5801-00-76

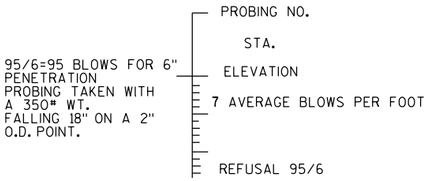
ABBREVIATIONS

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

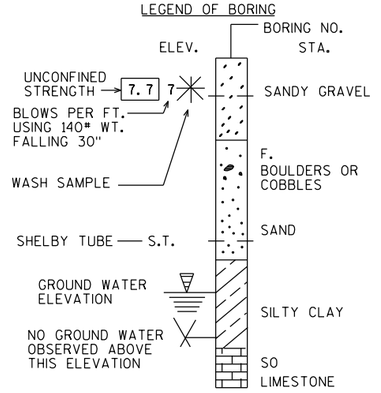
MATERIAL SYMBOLS

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-22-282

DRAWN BY RLR | PLANS CK'D. DHW

SUBSURFACE EXPLORATION

SHEET 3 OF 13
28

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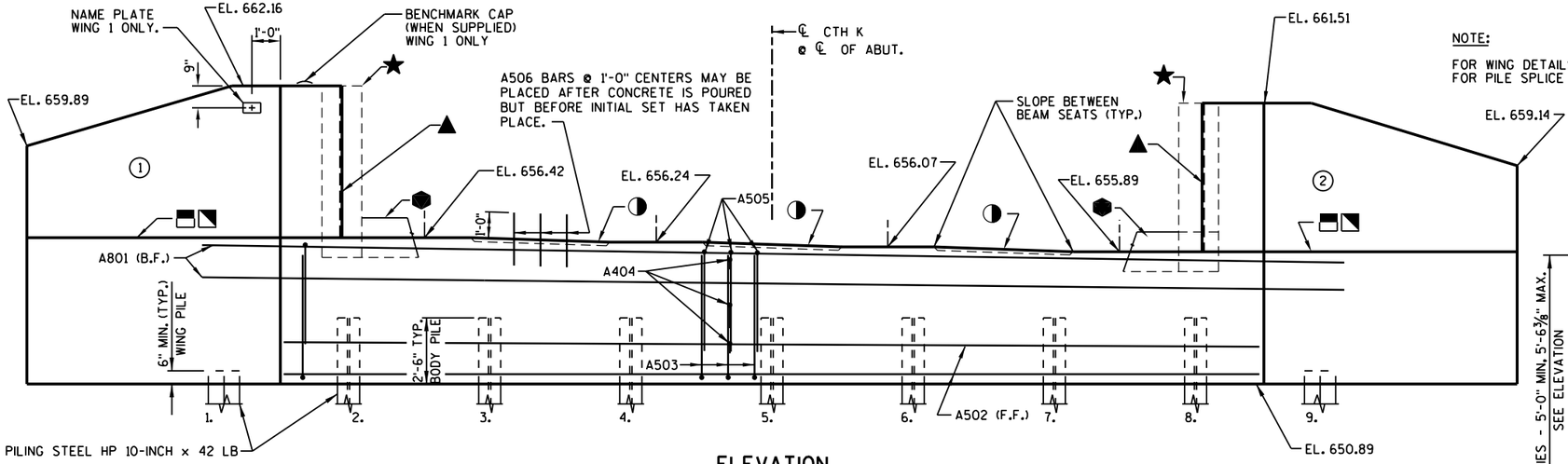
DATE= 9/19/2013

STATE PROJECT NUMBER

5801-00-76

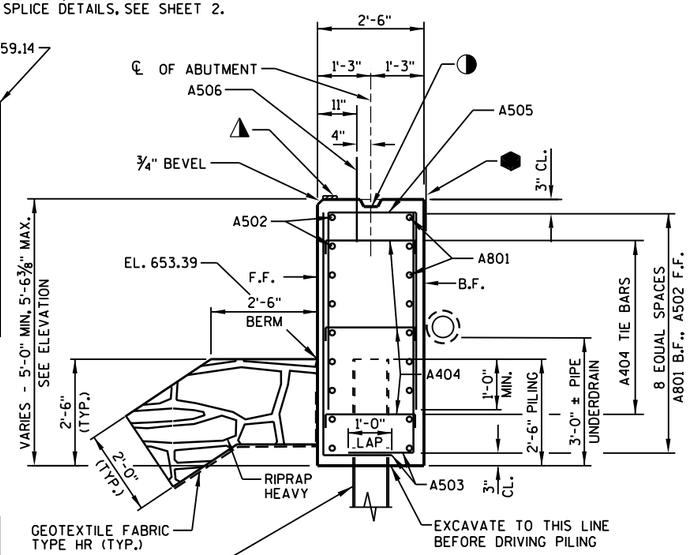


ELEVATION

(SOUTH ABUTMENT LOOKING SOUTH)

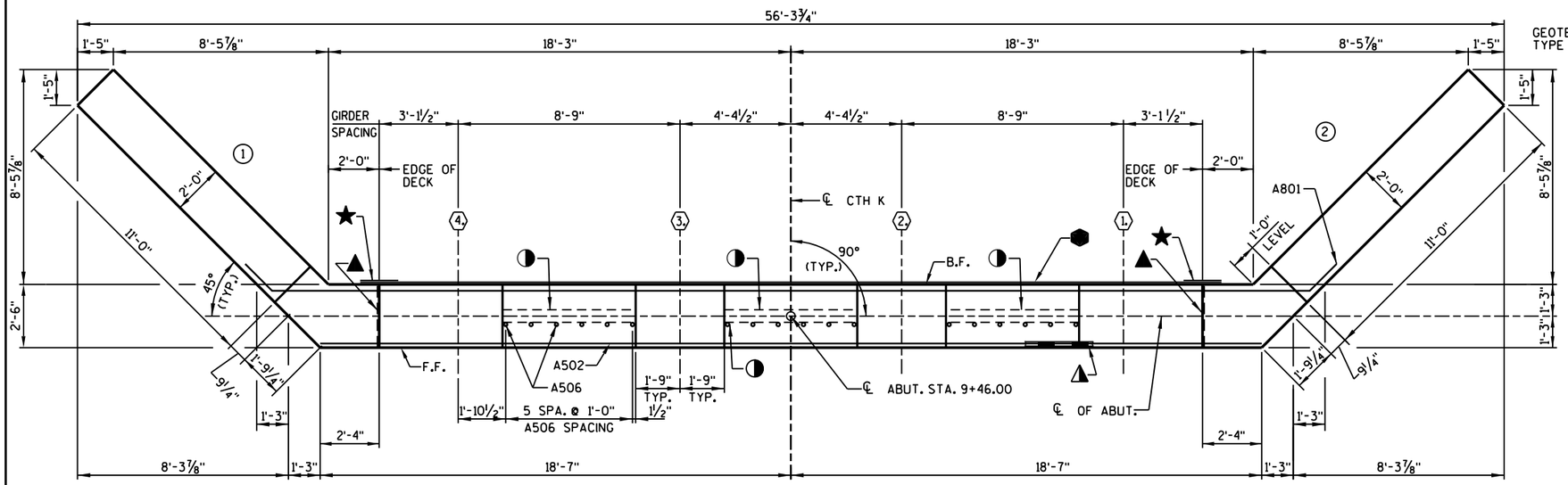
NOTE:

FOR WING DETAILS, SEE SHEET 5.
FOR PILE SPLICE DETAILS, SEE SHEET 2.

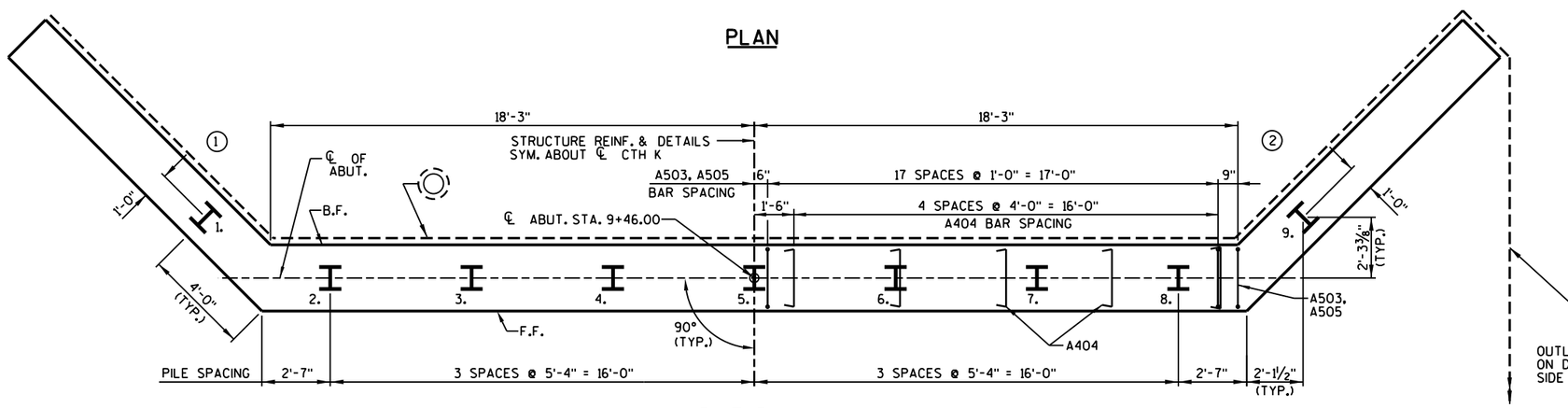


ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 40'-0".

TYPICAL SECTION THRU ABUTMENT



PLAN



PILE PLAN

OUTLET PIPE UNDERDRAIN ON DOWNSTREAM (WEST) SIDE OF BRIDGE.

LEGEND

- ◑ — 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 WING TIPS.
- ◓ — KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2 X 6. POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE ⬢ ON B.F. OF WING.
- ◹ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONST. 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.
- ○ — INDICATES WING NUMBER ⬡ — INDICATES GIRDER NUMBER
- F.F. — FRONT FACE
- B.F. — BACK FACE
- CL. — CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

DRAWN BY RLR | PLANS CK'D. DHW

SOUTH ABUTMENT

SHEET 4 OF 13
29

FILE= 03405001_04.DGN
DATE= 9/19/2013

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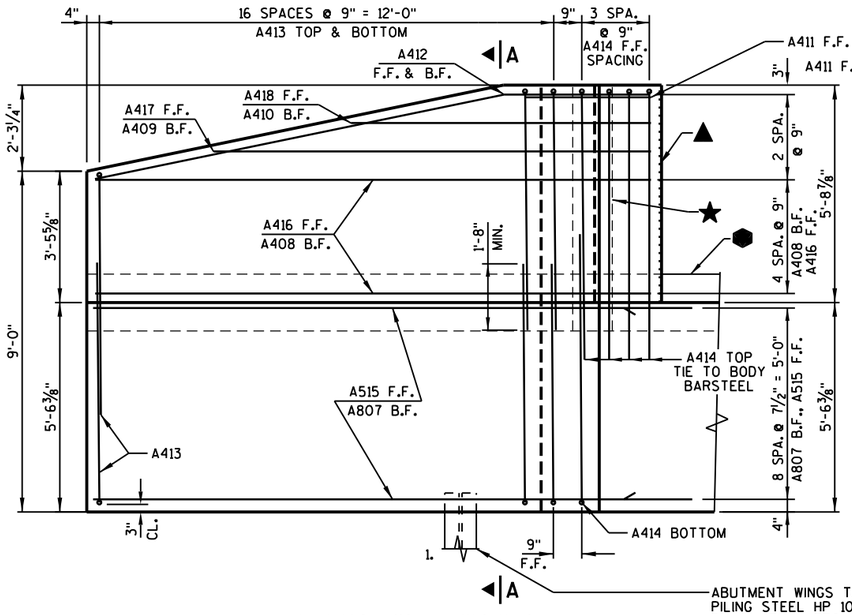
STATE PROJECT NUMBER

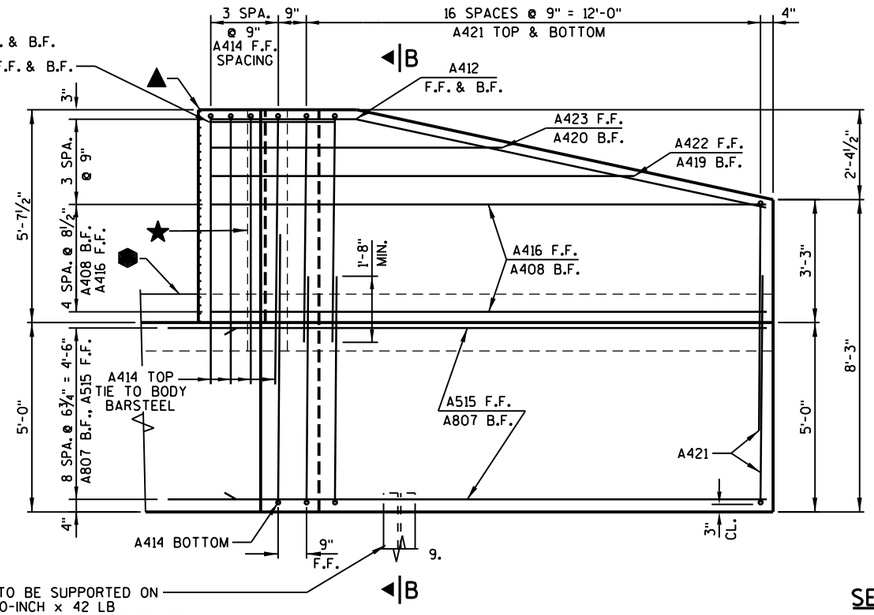
5801-00-76



◀|A

ELEVATION - WING 1

(LOOKING AT F.F. OF WING)

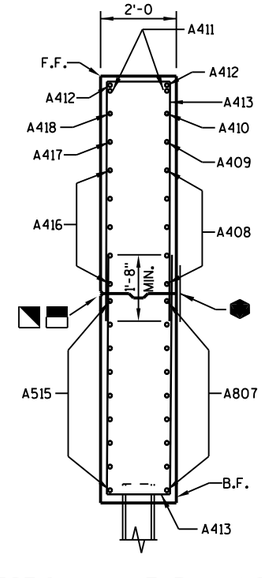


◀|B

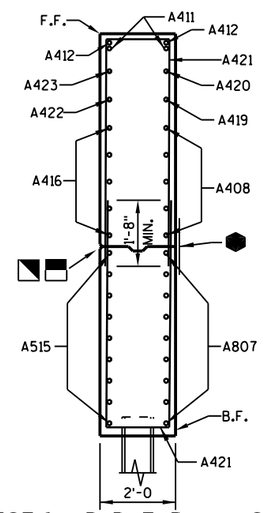
ELEVATION - WING 2

(LOOKING AT F.F. OF WING)

ABUTMENT WINGS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 40'-0" LONG.



SECTION A-A THRU WING 1



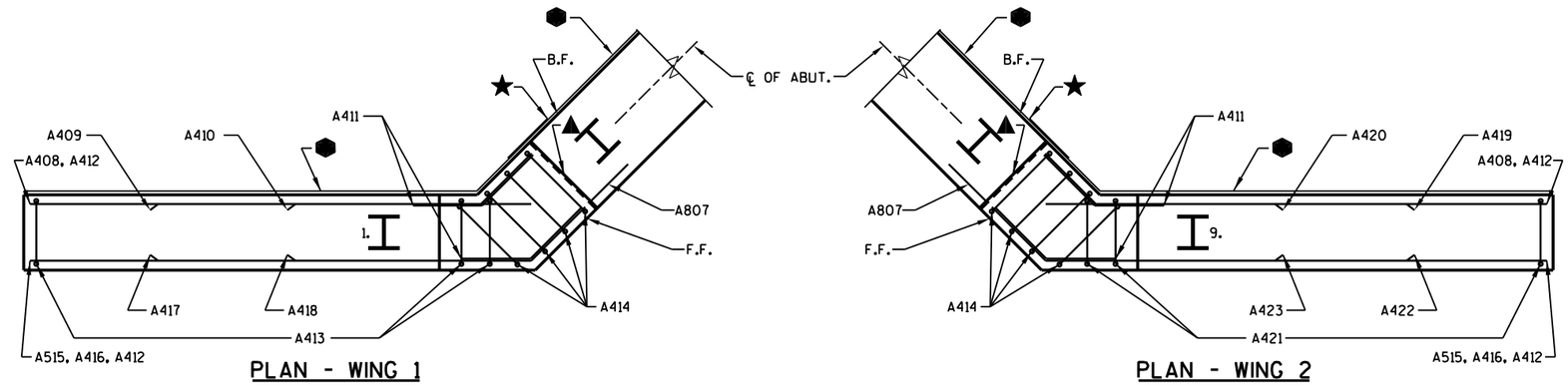
SECTION B-B THRU WING 2

BILL OF BARS (SOUTH ABUTMENT)

UNCOATED 2300 LBS.
COATED 2115 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
A801	-	9	43'-8"	X	ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	37'-0"		ABUTMENT BODY - F.F. - HORIZ.
A503	-	76	6'-0"	X	ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	30	2'-8"	X	ABUTMENT BODY - TIES - HORIZ.
A505	-	38	9'-5"	X	ABUTMENT BODY - TOP - VERT.
A506	18	-	2'-0"		ABUTMENT BODY - TOP DOWELS - VERT.
A807	18	-	16'-2"	X	WINGS - B.F. - HORIZ.
A408	10	-	13'-9"	X	WINGS - B.F. - HORIZ.
A409	1	-	10'-7"	X	WING 1 - B.F. - HORIZ.
A410	1	-	6'-11"	X	WING 1 - B.F. - HORIZ.
A411	4	-	3'-8"	X	WINGS - F.F. & B.F. - TOP - HORIZ.
A412	4	-	13'-5"	X	WINGS - F.F. & B.F. - TOP
A413	34	-	14'-2"	X	WING 1 - TOP & BOTTOM - VERT.
A414	10	-	16'-2"	X	WINGS - F.F. & B.F. - VERT.
A515	18	-	14'-8"	X	WINGS - F.F. - HORIZ.
A416	10	-	15'-2"	X	WINGS - F.F. - HORIZ.
A417	1	-	12'-1"	X	WING 1 - F.F. - HORIZ.
A418	1	-	8'-5"	X	WING 1 - F.F. - HORIZ.
A419	1	-	10'-3"	X	WING 2 - B.F. - HORIZ.
A420	1	-	6'-9"	X	WING 2 - B.F. - HORIZ.
A421	34	-	13'-6"	X	WING 2 - TOP & BOTTOM - VERT.
A422	1	-	11'-9"	X	WING 2 - F.F. - HORIZ.
A423	1	-	8'-3"	X	WING 2 - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



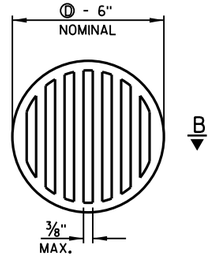
PLAN - WING 1

PLAN - WING 2

RODENT SHIELD NOTES:

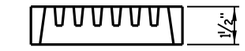
ORIENT SHIELD SO SLOTS ARE VERTICAL.

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".



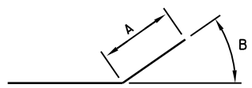
RODENT SHIELD

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

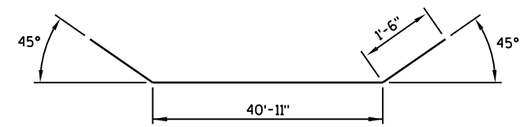


SECTION B-B

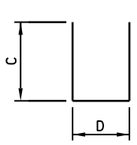
SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF ★ ⬢ ◥ ◓ ▲ ◑



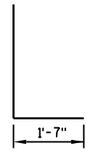
MARK	A	B
A807 A515	1'-6"	45°
A408 THRU A411 A419 A420	1'-10"	45°
A412	2'-5"	12°
A416 A417 A418 A422 A423	2'-0	45°



A801



MARK	C	D
A404	4½"	2'-1"
A505	3'-9"	2'-2"
A413	6'-4"	1'-8"
A414	7'-1"	2'-2"
A421	6'-0"	1'-8"



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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

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SOUTH ABUTMENT DETAILS

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30

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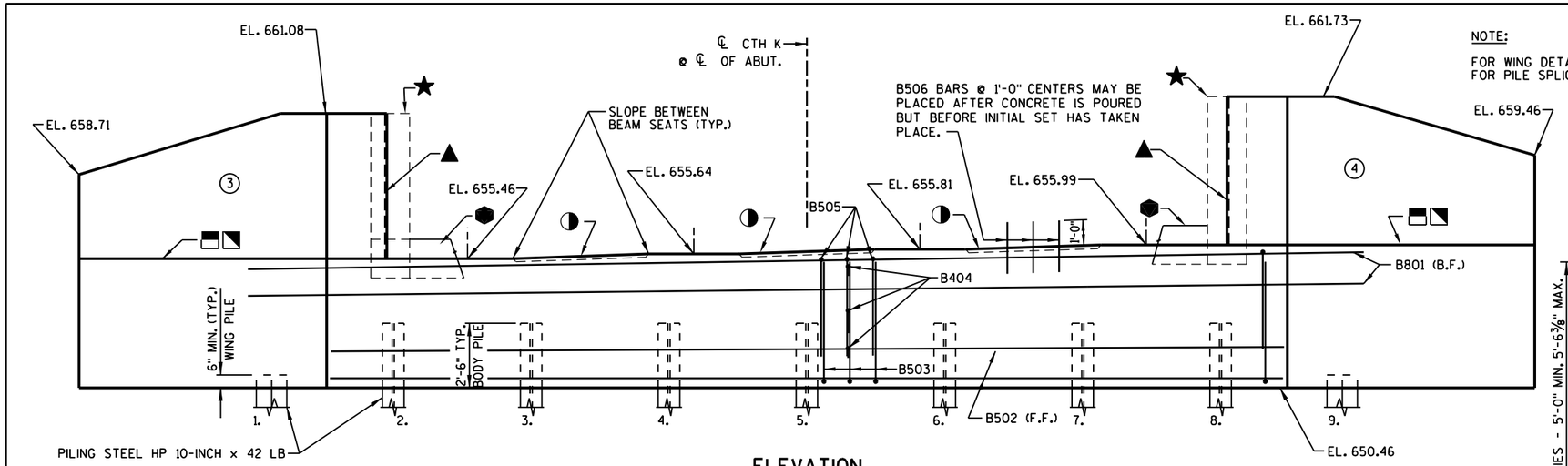
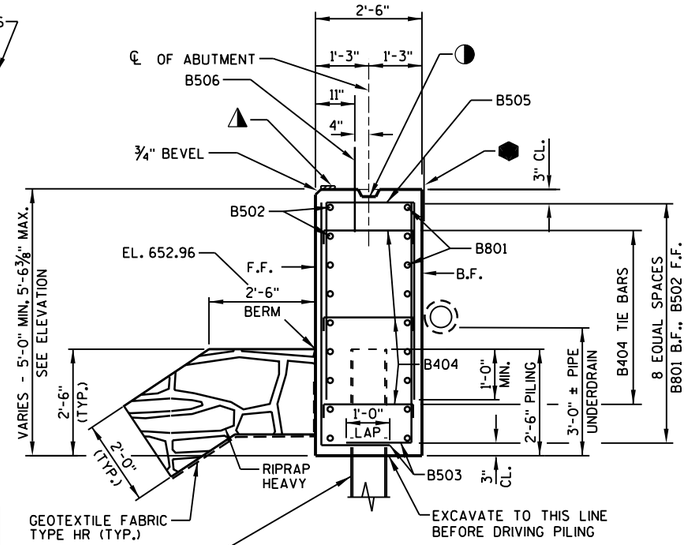


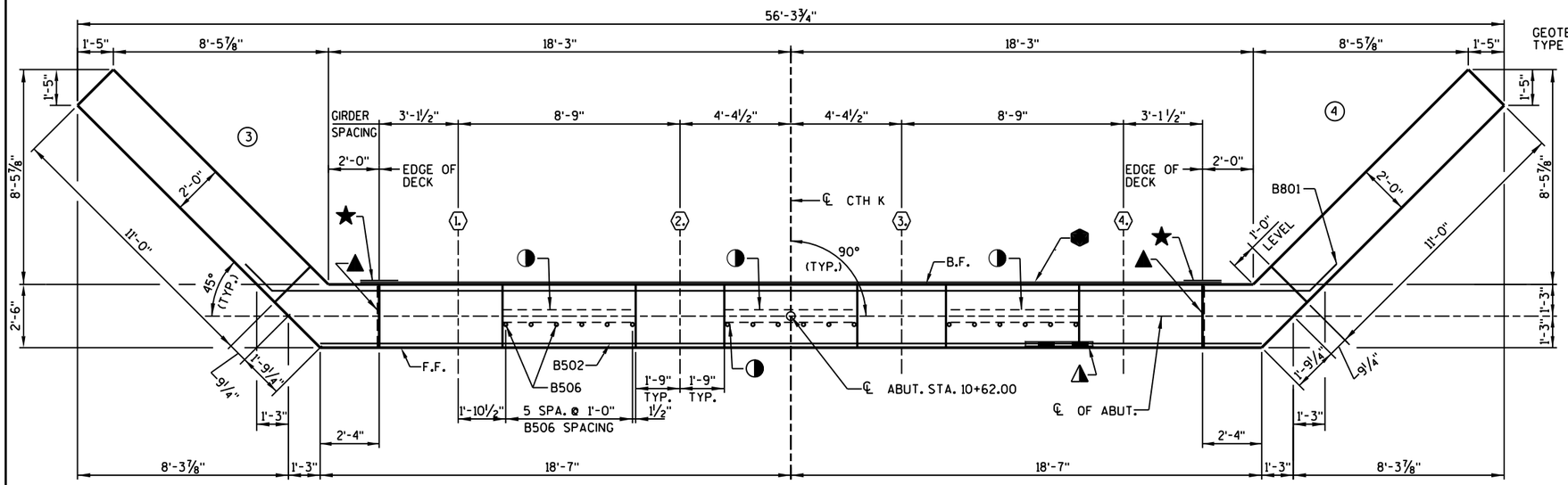
ELEVATION

(NORTH ABUTMENT LOOKING NORTH)

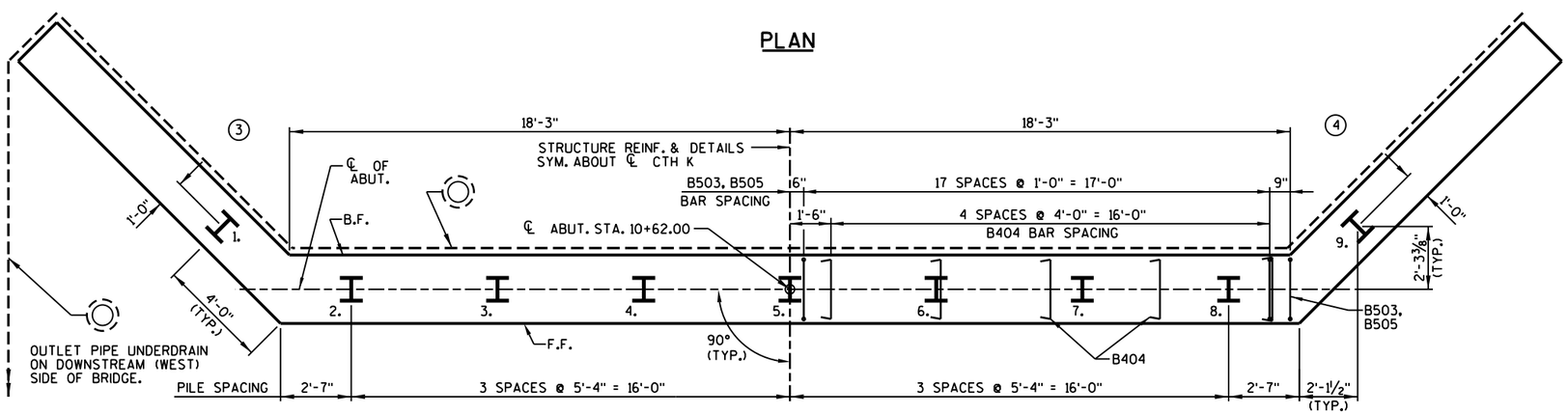


ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 45'-0".

TYPICAL SECTION THRU ABUTMENT



PLAN



PILE PLAN

LEGEND

- ◑ — 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 WING TIPS.
- ◓ — KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2 X 6. POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE ⬢ ON B.F. OF WING.
- ◹ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONST. 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.
- ◯ — INDICATES WING NUMBER ⬡ — INDICATES GIRDER NUMBER
- F.F. — FRONT FACE
- B.F. — BACK FACE
- CL. — CLEAR

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NORTH ABUTMENT

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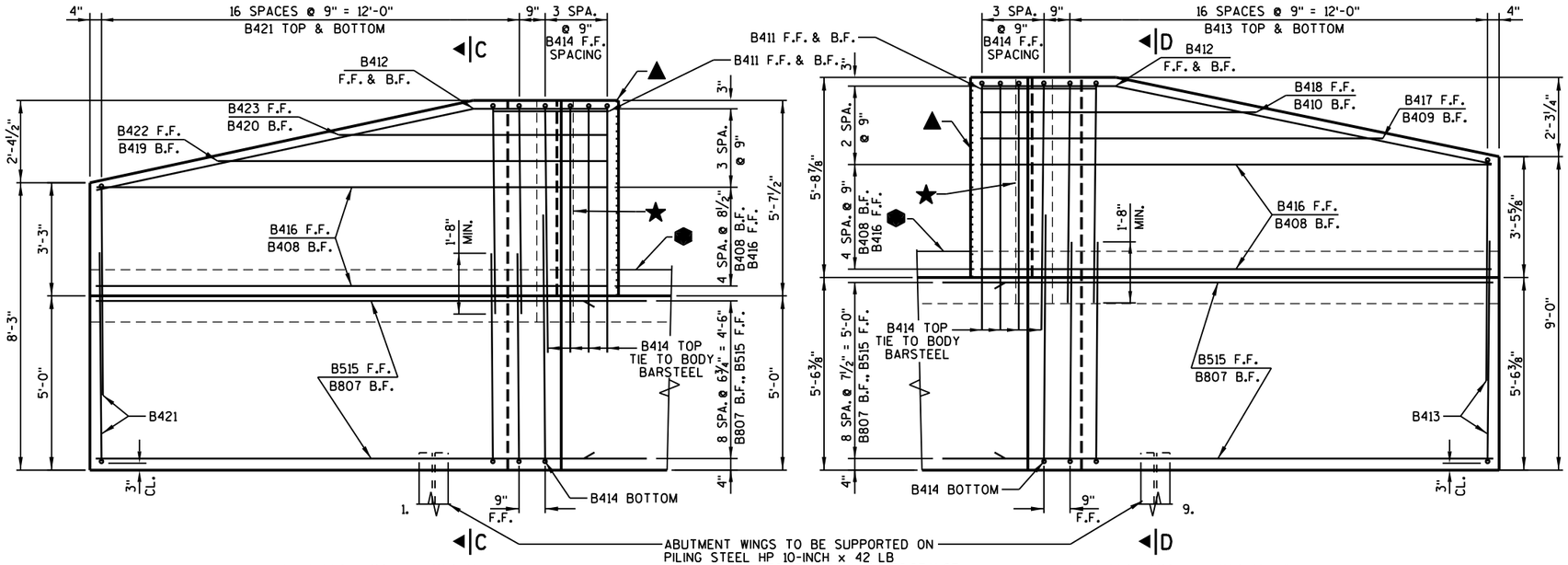
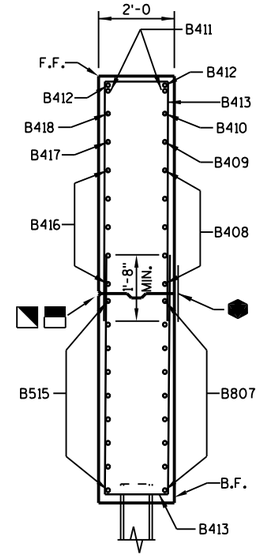


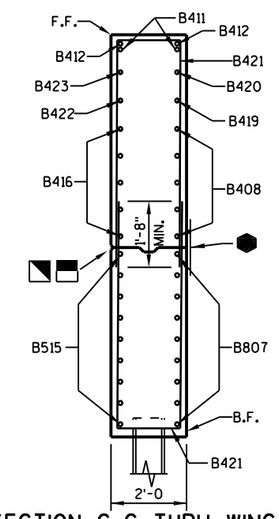
ABUTMENT WINGS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 45'-0" LONG.

ELEVATION - WING 3
(LOOKING AT F.F. OF WING)

ELEVATION - WING 4
(LOOKING AT F.F. OF WING)



SECTION D-D THRU WING 4

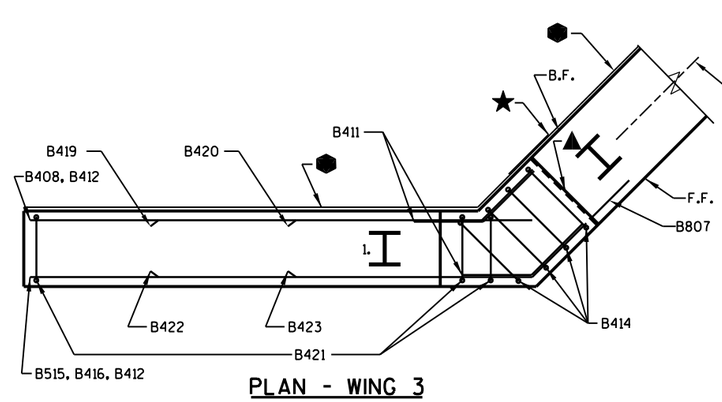


SECTION C-C THRU WING 3

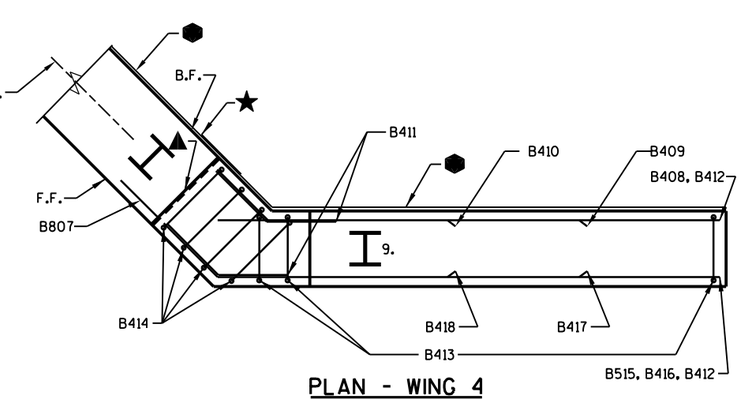
BILL OF BARS (SOUTH ABUTMENT) UNCOATED 2300 LBS. COATED 2115 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
B801	-	9	43'-8"	X	ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	37'-0"		ABUTMENT BODY - F.F. - HORIZ.
B503	-	76	6'-0"	X	ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	30	2'-8"	X	ABUTMENT BODY - TIES - HORIZ.
B505	-	38	9'-5"	X	ABUTMENT BODY - TOP - VERT.
B506	18	-	2'-0"		ABUTMENT BODY - TOP DOWELS - VERT.
B807	18	-	16'-2"	X	WINGS - B.F. - HORIZ.
B408	10	-	13'-9"	X	WINGS - B.F. - HORIZ.
B409	1	-	10'-7"	X	WING 4 - B.F. - HORIZ.
B410	1	-	6'-11"	X	WING 4 - B.F. - HORIZ.
B411	4	-	3'-8"	X	WINGS - F.F. & B.F. - TOP - HORIZ.
B412	4	-	13'-5"	X	WINGS - F.F. & B.F. - TOP
B413	34	-	14'-2"	X	WING 4 - TOP & BOTTOM - VERT.
B414	10	-	16'-2"	X	WINGS - F.F. & B.F. - VERT.
B515	18	-	14'-8"	X	WINGS - F.F. - HORIZ.
B416	10	-	15'-2"	X	WINGS - F.F. - HORIZ.
B417	1	-	12'-1"	X	WING 4 - F.F. - HORIZ.
B418	1	-	8'-5"	X	WING 4 - F.F. - HORIZ.
B419	1	-	10'-3"	X	WING 3 - B.F. - HORIZ.
B420	1	-	6'-9"	X	WING 3 - B.F. - HORIZ.
B421	34	-	13'-6"	X	WING 3 - TOP & BOTTOM - VERT.
B422	1	-	11'-9"	X	WING 3 - F.F. - HORIZ.
B423	1	-	8'-3"	X	WING 3 - F.F. - HORIZ.

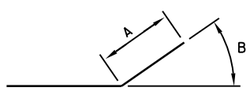
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



PLAN - WING 3

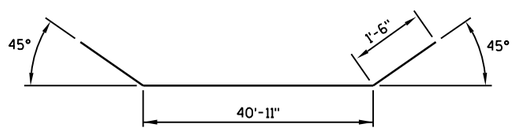


PLAN - WING 4

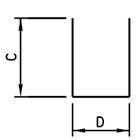


MARK	A	B
B807 B515	1'-6"	45°
B408 THRU B411 B419 B420	1'-10"	45°
B412	2'-5"	12°
B416 B417 B418 B422 B423	2'-0	45°

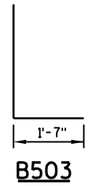
SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF ★ ⬢ ◹ ⬒ ▲ ◑



B801



MARK	C	D
B404	4½"	2'-1"
B505	3'-9"	2'-2"
B413	6'-4"	1'-8"
B414	7'-1"	2'-2"
B421	6'-0"	1'-8"



B503

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

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NORTH ABUTMENT DETAILS

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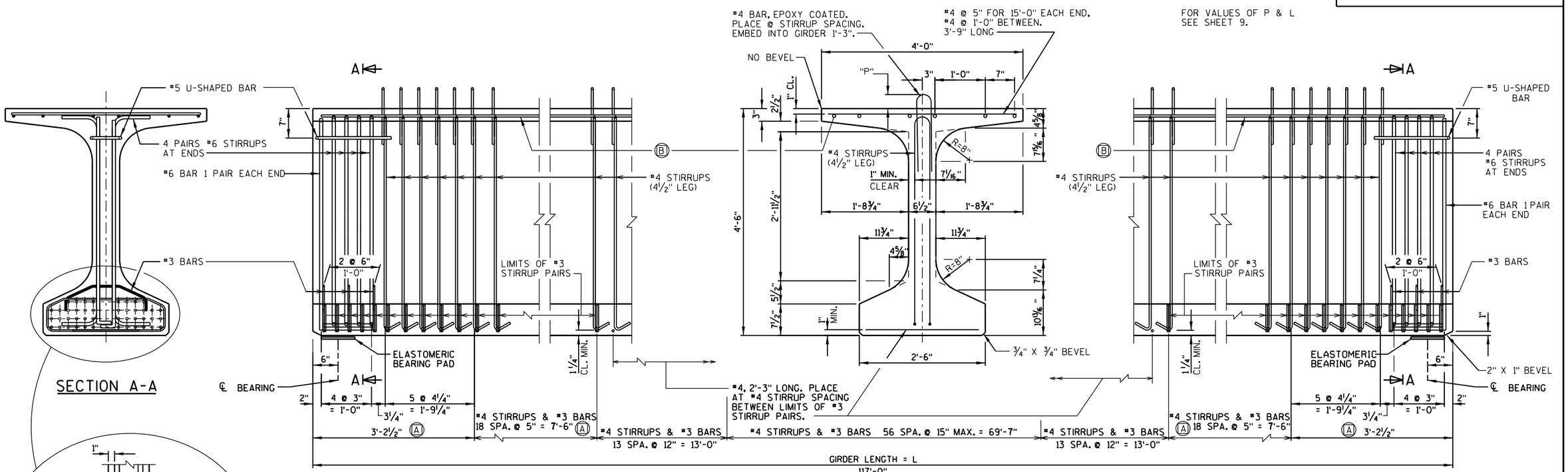
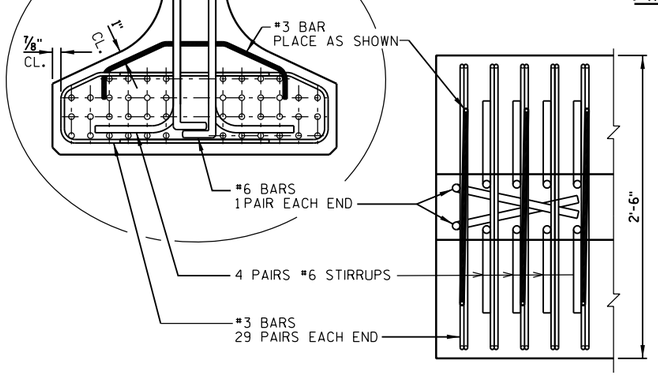


SECTION A-A

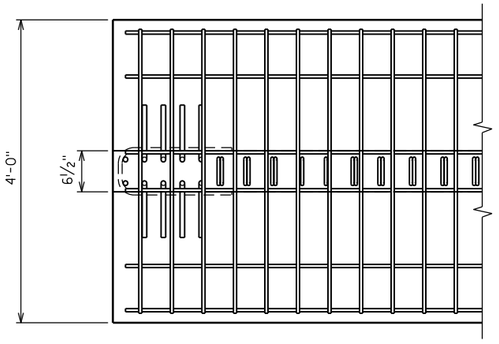


BOTTOM FLANGE

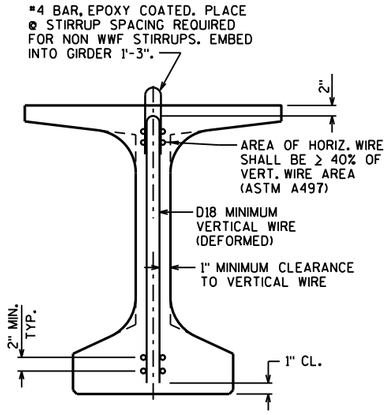
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

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

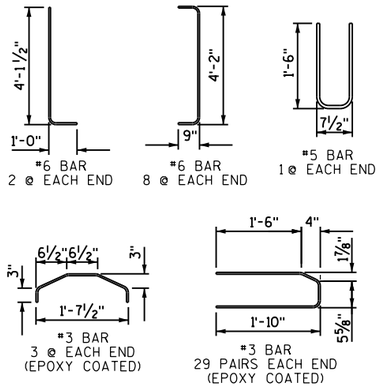


TOP FLANGE



SECTION THRU GIRDER

SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS ASTM A497 (FY = 70 KSI)



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STATE OF WISCONSIN
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STRUCTURE B-22-282

DRAWN BY RLR | PLANS CK'D. DHW

54W" PRESTRESSED GIRDER

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GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

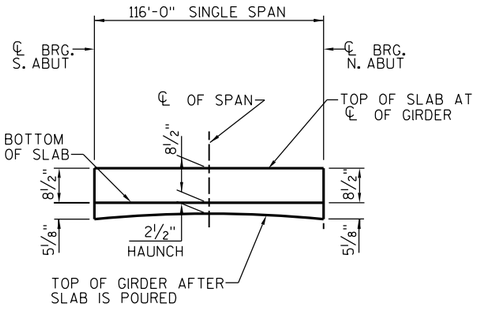
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

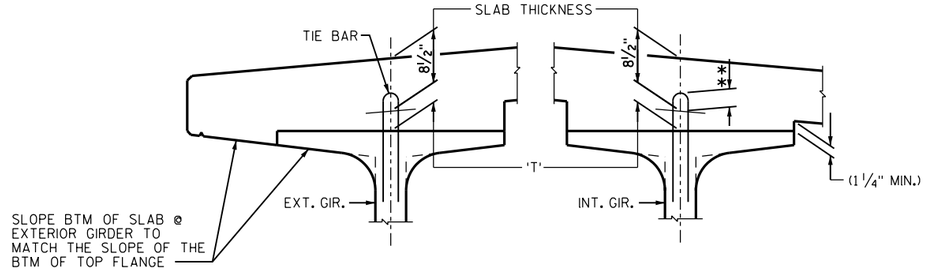
PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET 13.



HAUNCH HEIGHTS FOR GIRDER STIRRUP PROJECTION

NOTE: HAUNCH HEIGHTS ARE BASED ON THE TIME DEPENDENT VARIABLE "PRESTRESSED CAMBER" ASSUMING NORMAL CONSTRUCTION SCHEDULING.



SLAB HAUNCH DETAIL

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

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

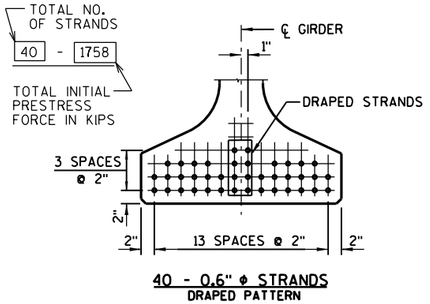
TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

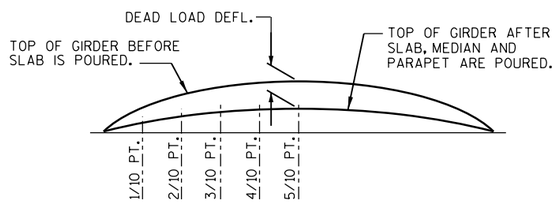
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN

SPAN	CAMBER (IN.)
1	4.25"

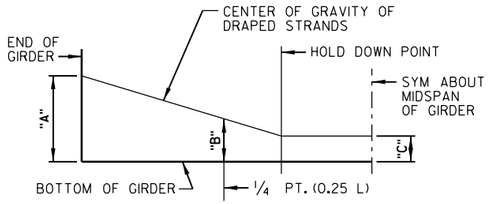
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



SECTION THRU GIRDER AT ℄ SPAN



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" IST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"
1	54W	117'-0"	0.66	1.27	1.72	2.02	2.12	2.02	1.72	1.27	0.66	8000	8"	7"	8"	0.6	40	6800	49	16	19	5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

DRAWN BY RLR | PLANS CK'D. DHW

54W" PRESTRESSED GIRDER DETAILS

SHEET 9 OF 13
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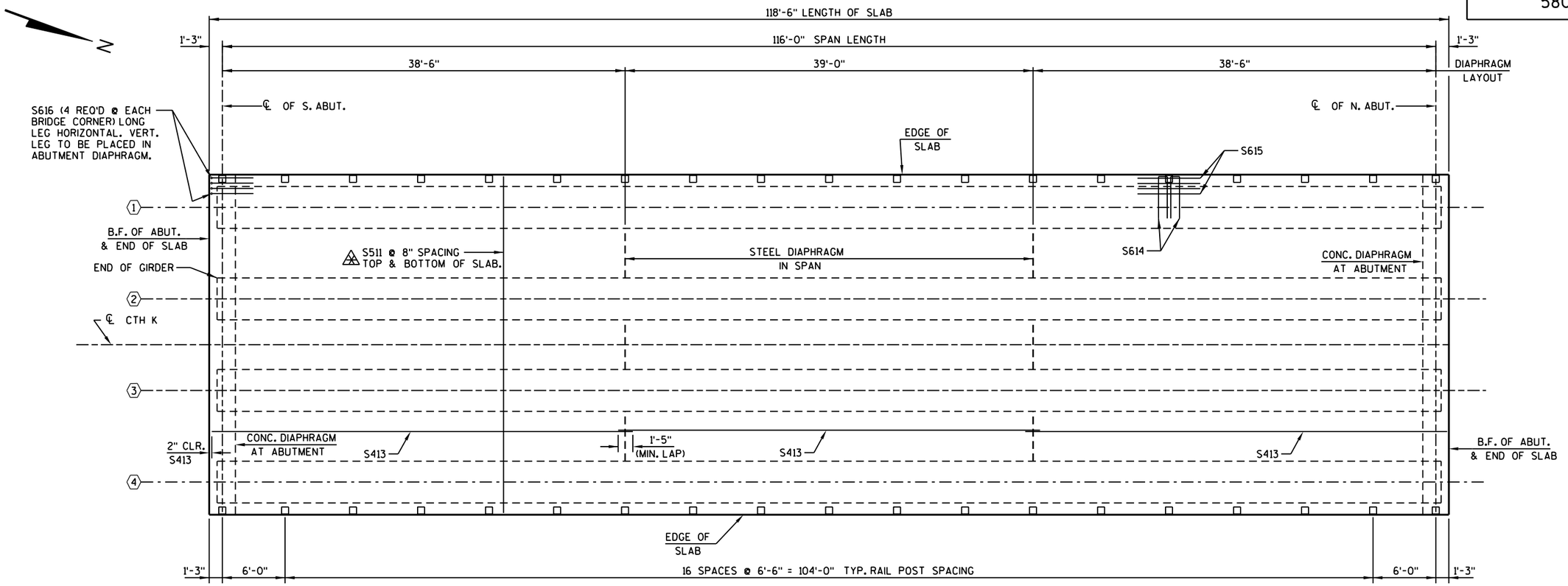
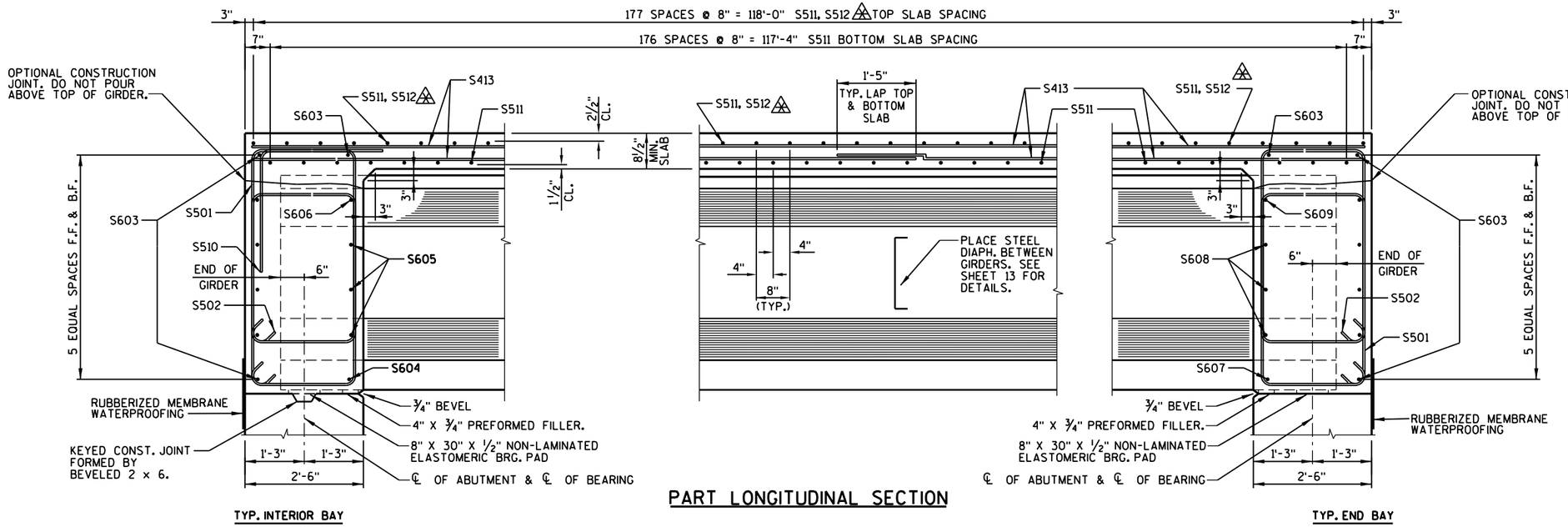


PLAN



TYP. INTERIOR BAY

PART LONGITUDINAL SECTION

TYP. END BAY

GENERAL NOTES

SEE SHEET 9 FOR SLAB HAUNCH DETAIL AND HAUNCH HEIGHTS FOR GIRDER STIRRUP PROJECTION.

SEE CROSS SECTION THRU BRIDGE, SHEET 11 FOR TYPICAL LONGITUDINAL BAR SPACING.

⬡ - INDICATES GIRDER NUMBER

⚠ - PLACE S512 BARS IN LIEU OF S511 BARS AT RAIL POSTS TO AVOID CONFLICT WITH S615 BARS.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

DRAWN BY RLR | PLANS CK'D. DHW

SUPERSTRUCTURE

SHEET 10 OF 13
35

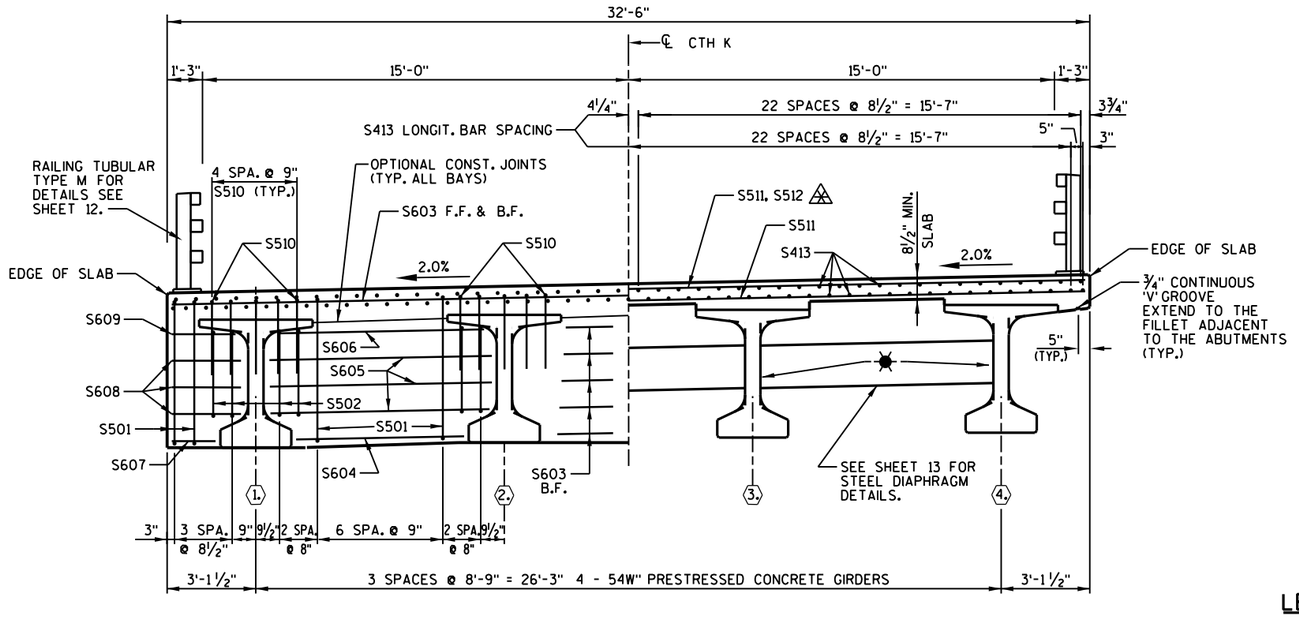
8

8

FILE= 03405001_10.DGN
DATE= 9/4/2013

STATE PROJECT NUMBER

5801-00-76



AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

BILL OF BARS (COATED) 24,480 LBS.

MARK	NUMBER REQ'D.	LENGTH	BENT	DESCRIPTION
S501	50	15-0	X	DIAPH. @ ABUT. - STIRRUP - VERT.
S502	32	11-4	X	DIAPH. @ ABUT. - STIRRUP - VERT.
S603	14	32-2		DIAPH. @ ABUT. - B.F. & TOP - HORIZ.
S604	6	5-10		DIAPH. @ ABUT. - F.F. BETWEEN GIRDERS - HORIZ.
S605	18	7-8		DIAPH. @ ABUT. - F.F. BETWEEN GIRDERS - HORIZ.
S606	6	7-3		DIAPH. @ ABUT. - F.F. BETWEEN GIRDERS - HORIZ.
S607	4	1-6		DIAPH. @ ABUT. - F.F. @ ENDS - HORIZ.
S608	12	2-5		DIAPH. @ ABUT. - F.F. @ ENDS - HORIZ.
S609	4	2-2		DIAPH. @ ABUT. - F.F. @ ENDS - HORIZ.
S510	40	5-0	X	DIAPH. @ ABUT. - OVER & BEHIND GIRDERS - VERT.
S511	291	32-2		SLAB - TOP & BOTTOM - TRANS.
⁂ S512	64	30-4		SLAB - TOP @ RAIL POSTS - TRANS.
S413	279	40-4		SLAB - TOP & BOTTOM - LONGIT.
S614	76	12-0	X	SLAB @ RAIL POSTS, 2 PER POST - TRANS.
S615	136	6-0		SLAB @ RAIL POSTS, 4 PER POST - LONGIT.
S616	16	6-0	X	SLAB @ RAIL POSTS, 4 PER END POST - LONGIT.

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

LEGEND

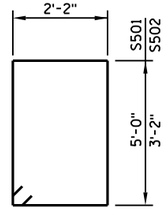
⬡ - INDICATES GIRDER NUMBER

✱ - FOR DETAILS OF DIAPHRAGM CONNECTIONS SEE SHEET 13.

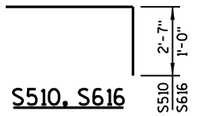
⁂ - PLACE S512 BARS IN LIEU OF S511 BARS AT RAIL POSTS TO AVOID CONFLICT WITH RAIL POST ANCHORS AND S614 BARS.

B.F. - BACK FACE

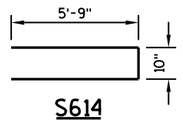
F.F. - FRONT FACE



S501, S502



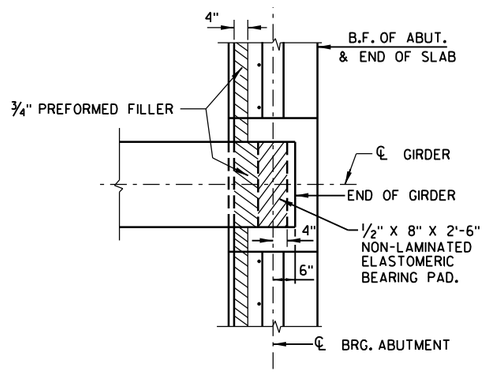
S510, S616



S614

TOP OF DECK ELEVATIONS @ ℄ OF GIRDERS

LOCATION	SPAN POINT	EAST SLAB EDGE	C/L GIRDER 4	C/L GIRDER 3	C/L CTH K	C/L GIRDER 2	C/L GIRDER 1	WEST SLAB EDGE
S. ABUT.	1	662.16	662.09	661.92	661.83	661.74	661.57	661.51
	1.1	662.08	662.02	661.85	661.76	661.67	661.50	661.43
	1.2	662.02	661.96	661.78	661.70	661.61	661.43	661.37
	1.3	661.97	661.91	661.73	661.65	661.56	661.38	661.32
	1.4	661.93	661.87	661.70	661.61	661.52	661.35	661.28
	1.5	661.90	661.84	661.66	661.57	661.49	661.31	661.25
	1.6	661.86	661.80	661.63	661.54	661.45	661.28	661.21
	1.7	661.83	661.77	661.59	661.50	661.42	661.24	661.18
	1.8	661.79	661.73	661.56	661.47	661.38	661.21	661.14
	1.9	661.76	661.70	661.52	661.43	661.35	661.17	661.11
N. ABUT	2	661.72	661.66	661.49	661.40	661.31	661.14	661.07



BEARING PAD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

DRAWN BY RLR | PLANS CK'D. DHW

SUPERSTRUCTURE SECTION & DETAILS

SHEET 11 OF 13

36

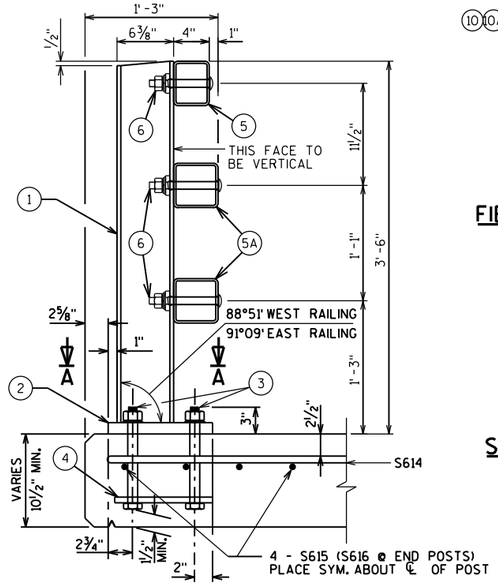
FILE= 03405001_11.DGN
DATE= 9/19/2013

8

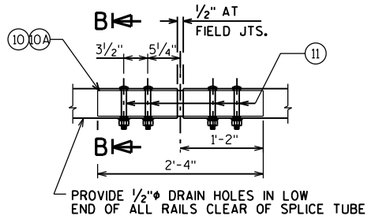
8

STATE PROJECT NUMBER

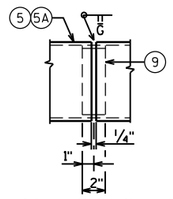
5801-00-76



SECTION THRU RAILING ON DECK

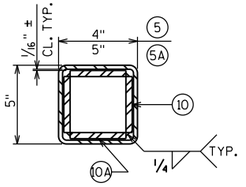


FIELD ERECTION JOINT DETAIL

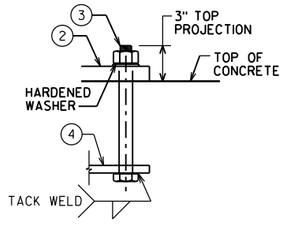


SHOP RAIL SPLICE DETAIL

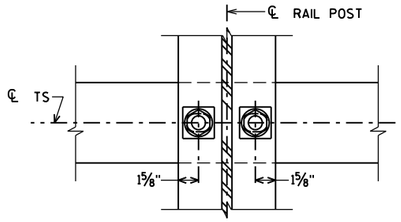
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



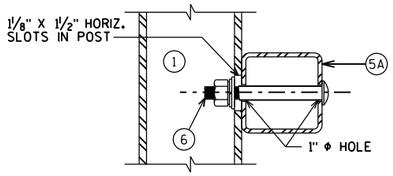
SECTION B-B



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

LEGEND

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

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

(3) ASTM A449 - 1 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 10 3/4" LONG.

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

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

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

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

~~(7) 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 1/2" 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 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.~~

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

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

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

(11) 7/8" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 5/8 " X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.

~~(12) 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).~~

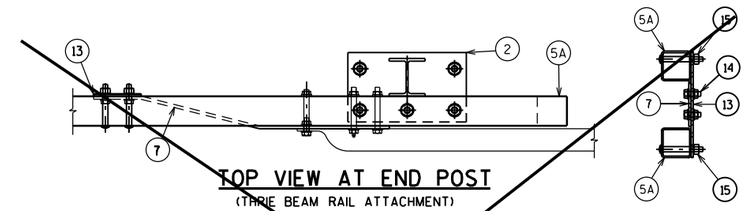
~~(13) 3/8" X 8" X 1'-6" ANCHOR PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.~~

~~(14) 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).~~

~~(15) 1" ϕ HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.~~

GENERAL NOTES

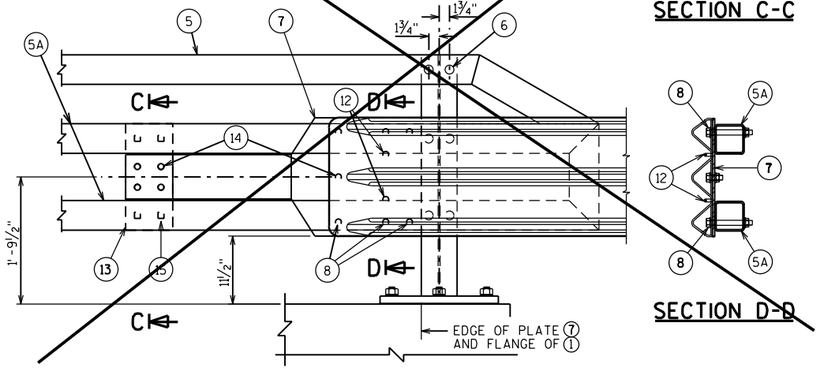
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-22-282" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
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. THIS PROJECT DOES NOT REQUIRE THRIE BEAM RAIL ATTACHMENT.



TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

SECTION C-C

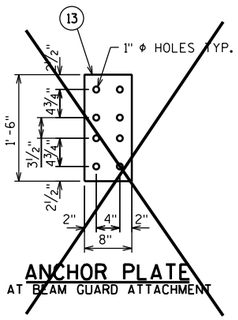


DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)

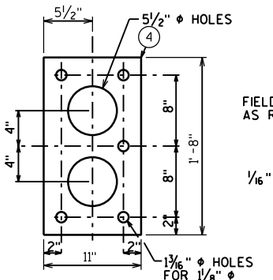
SECTION D-D

SECTION A-A



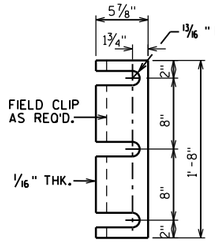
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

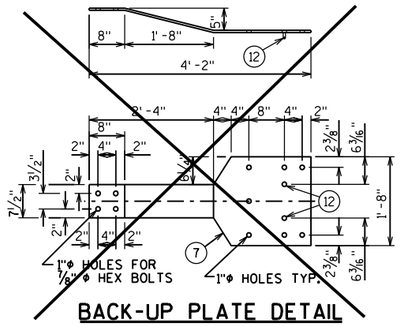


ANCHOR PLATE

AT ANCHOR BOLTS

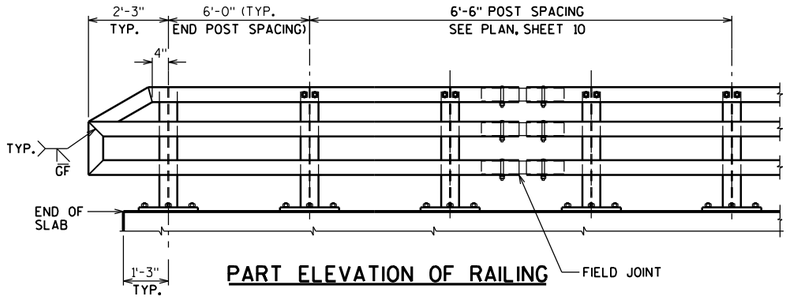


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

DRAWN BY RLR | PLANS CK'D. DHW

RAILING TUBULAR TYPE M

SHEET 12 OF 13
37

FILE= 03405001_12.DGN
DATE= 9/5/2013

8

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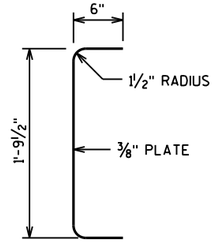
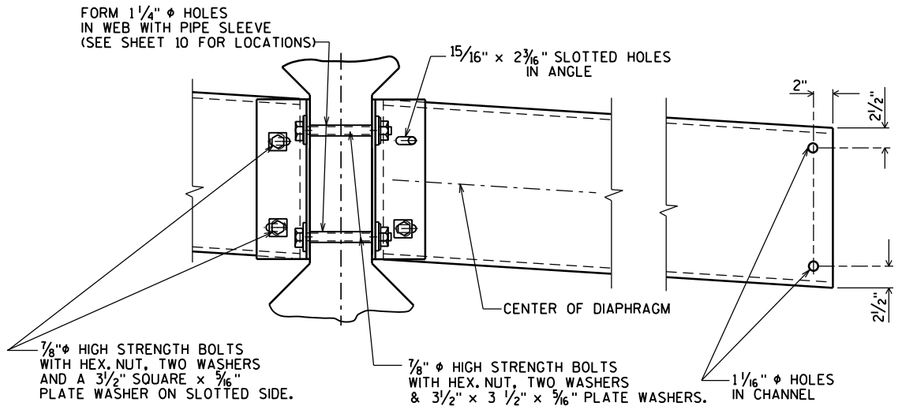
STATE PROJECT NUMBER

5801-00-76



SECTION THRU ALTERNATE DIAPHRAGM



DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-22-282", EACH.

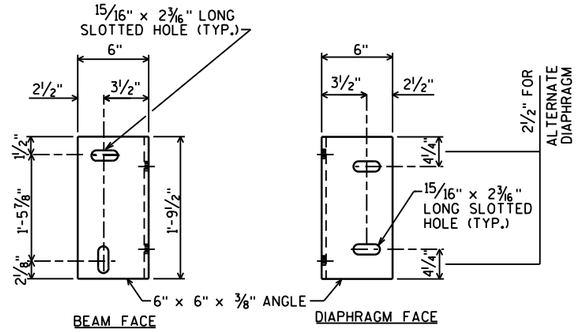
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

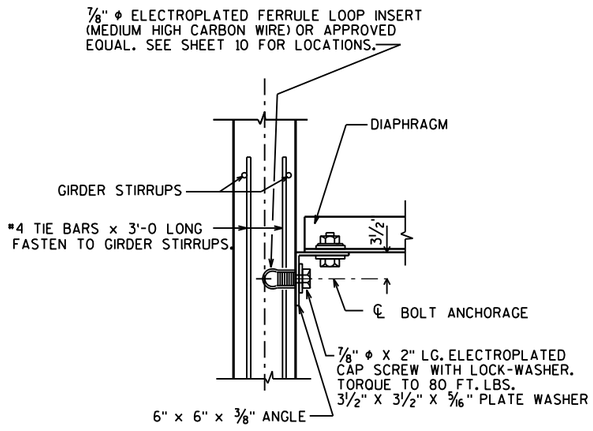
ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

SEE PLAN, SHEET 10 FOR LOCATION OF DIAPHRAGMS.

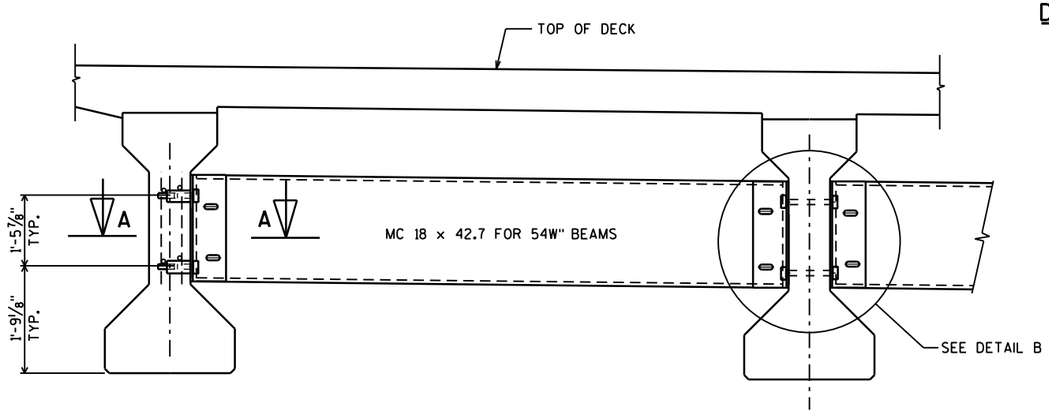


DIAPHRAGM SUPPORT



SECT. A-A

(FOR EXTERIOR ATTACHMENT)



EXTERIOR GIRDER

INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM

8

8

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-22-282

DRAWN BY RLR | PLANS CK'D. DHW

STEEL DIAPHRAGM

SHEET 13 OF 13

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FILE= 03405001.13.DGN
DATE= 9/4/2013

03405001_13.dgn 9/4/2013 12:05:59 PM RRABSKA

STRUCTURE B-22-282

9 + 25

665
660
655

R/W
-43.01
653.76
3:1
4:1
-30.00
658.09
-23.62
659.69
2.00%
2.00%
660.16
4:1
22.79
660.62
30.00
658.81
3:1
R/W
48.41
652.68
TLE

9 + 00

665
660
655

R/W
-42.05
654.32
3:1
4:1
-30.00
658.34
-23.62
659.93
2.00%
1.06%
660.40
4:1
22.75
660.65
30.00
658.83
3:1
R/W
46.11
653.46
TLE

8 + 50

665
660
655

R/W
-41.04
655.31
3:1
4:1
-30.00
658.99
-23.62
660.58
2.00%
0.81%
661.05
4:1
23.05
660.87
30.00
659.13
3:1
R/W
46.15
653.75
TLE

8 + 00

665
660
655

R/W
-17.85
661.51
± 2.3%
± 2.1%
661.92
MATCH EXISTING
17.85
661.54
BEGIN PROJECT
STA. 8+00
TLE
R/W
5 FT
5 FT

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

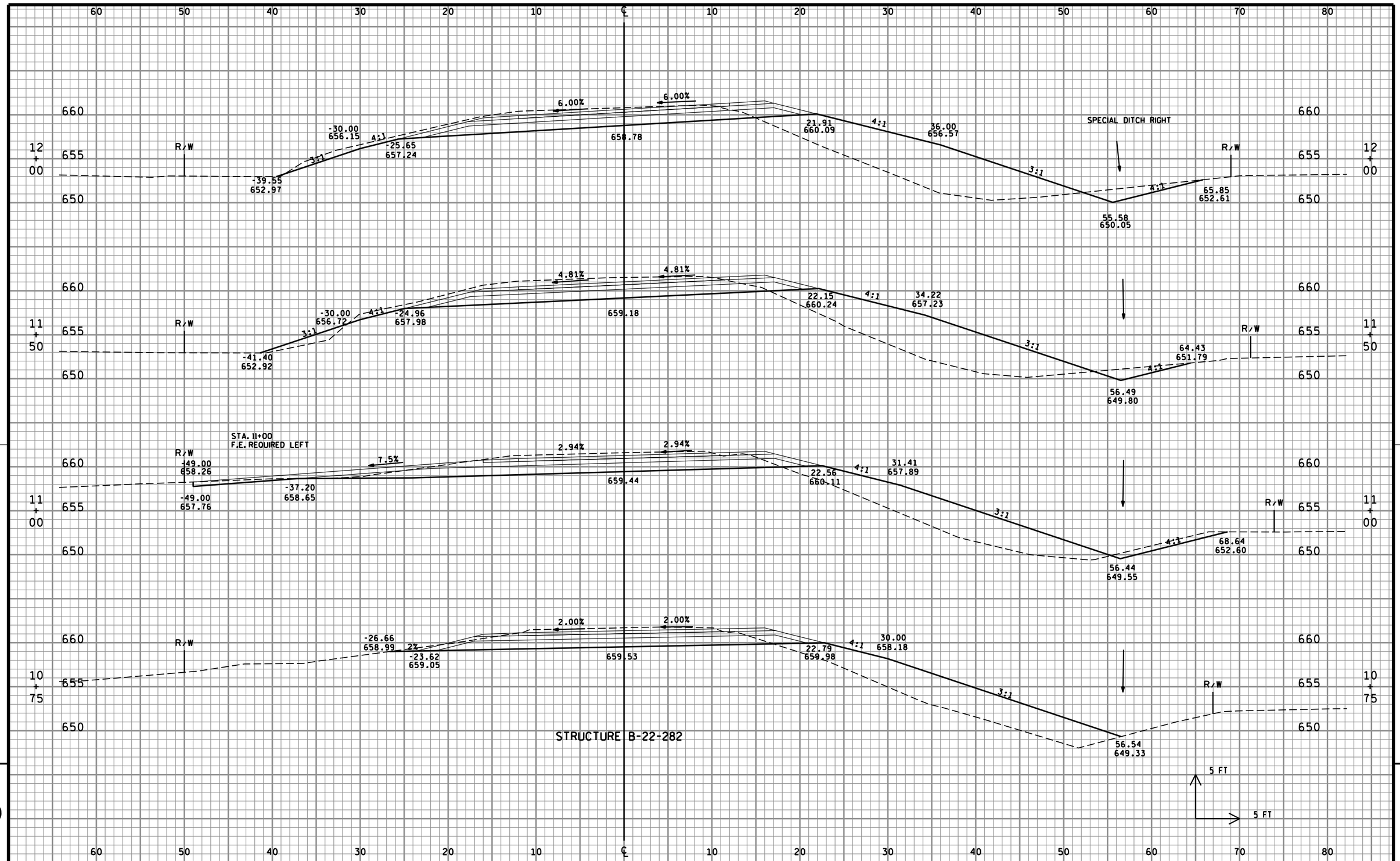
9

9

PROJECT NO: 5801-00-76	HWY: CTH K	COUNTY: GRANT	CROSS SECTIONS: CTH K	SHEET	E

FILE NAME : P:\3400s\3400s\3405\03405001\caddWDOT\Planshts\Xsect 01.dgn PLOT DATE : 6/19/2013 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:2
WISDOT/CADDS SHEET 21

Xsect 01.dgn 6/19/2013 11:43:50 AM bhalley



PROJECT NO: 5801-00-76	HWY: CTH K	COUNTY: GRANT	CROSS SECTIONS: CTH K	SHEET	E

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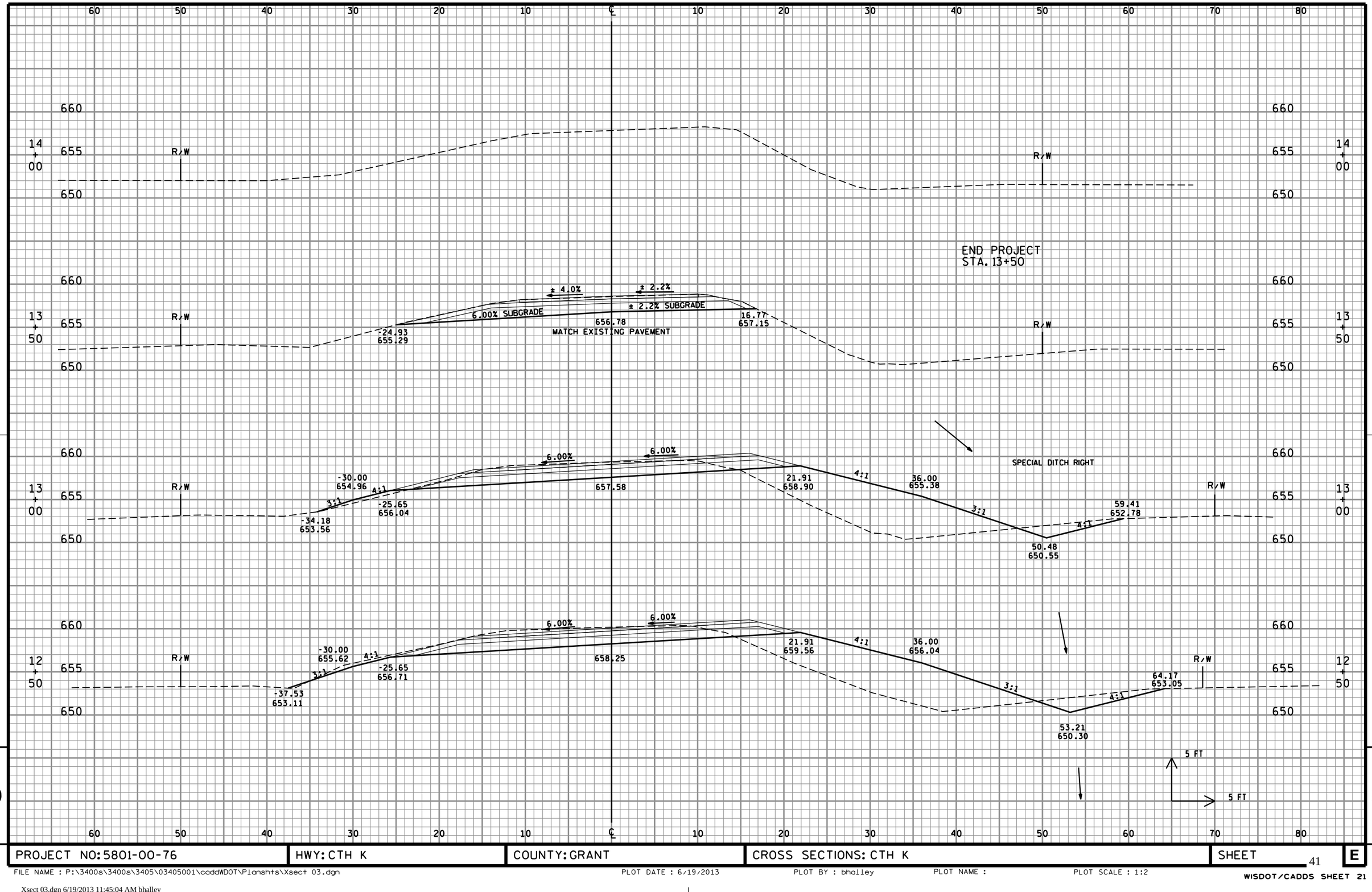
WISDOT/CADDS SHEET 21

Xsect 02.dgn 6/19/2013 11:44:19 AM bhalley



PROJECT NO: 5801-00-76	HWY: CTH K	COUNTY: GRANT	CROSS SECTIONS: CTH K	SHEET	E

FILE NAME : P:\3400s\3400s\3405\03405001\caddWDOT\Planshts\Xsect 03.dgn PLOT DATE : 6/19/2013 PLOT BY : bhalley PLOT NAME : PLOT SCALE : 1:2

WISDOT/CADDS SHEET 21

Xsect 03.dgn 6/19/2013 11:45:04 AM bhalley

Wisconsin Department of Transportation

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