NWL FEB 2014

PROJECT ID: 8899-01-73
WITH: N/A

COUNTY: TAYLOR

ORDER OF SHEETS

TOTAL SHEETS = 74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8899-01-73	WISC 2014031	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

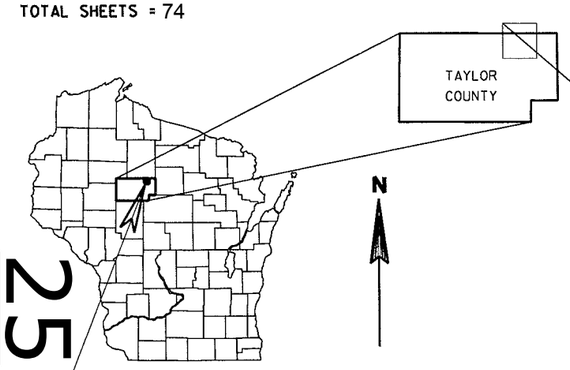
PLAN OF PROPOSED IMPROVEMENT

TOWN OF WESTBORO, BUSINESS HIGHWAY 13

(SILVER CREEK BRIDGE B-60-127)

TOWN ROAD
TAYLOR COUNTY

STATE PROJECT NUMBER
8899-01-73



PROJECT LOCATION

DESIGN DESIGNATION

A.D.T.	(2014)	=	390
A.D.T.	(2034)	=	460
D.H.V.		=	40
D.		=	50/50
T.		=	3.6%
DESIGN SPEED		=	40 MPH
ESALS		=	36,500

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS
PROPERTY LINE (PL + 58.1)
LOT LINE
LIMITED HIGHWAY EASEMENT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
SLOPE INTERCEPT
REFERENCE LINE
EXISTING CULVERT
PROPOSED CULVERT (Box or Pipe)
COMBUSTIBLE FLUIDS (CAUTION)
HIGH VOLTAGE (CAUTION)
MARSH AREA
WOODED OR SHRUB AREA

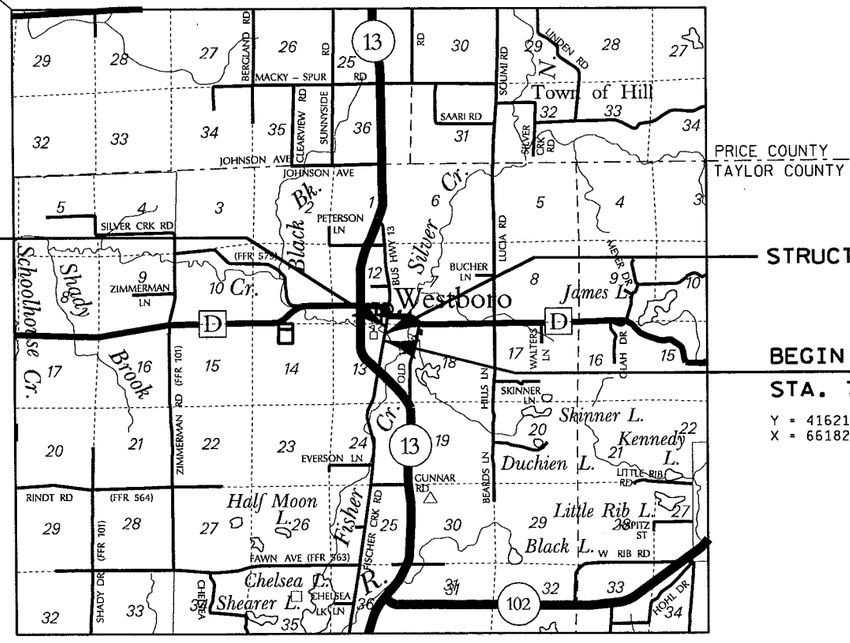
PROFILE

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

UTILITIES

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

T-34-N
T-33-N



END PROJECT
STA. 12+50
Y = 416707.30
X = 661879.77

STRUCTURE B-60-127

BEGIN PROJECT
STA. 7+50
Y = 416210.16
X = 661826.35

R-1-E | R-2-E

LAYOUT
SCALE 0 — 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.095 MI.

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

ACCEPTED FOR

Town of Westboro

6-17-13 (Date) — Edward Jr. (Town Chairman)

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER

DATE 7/3/2013

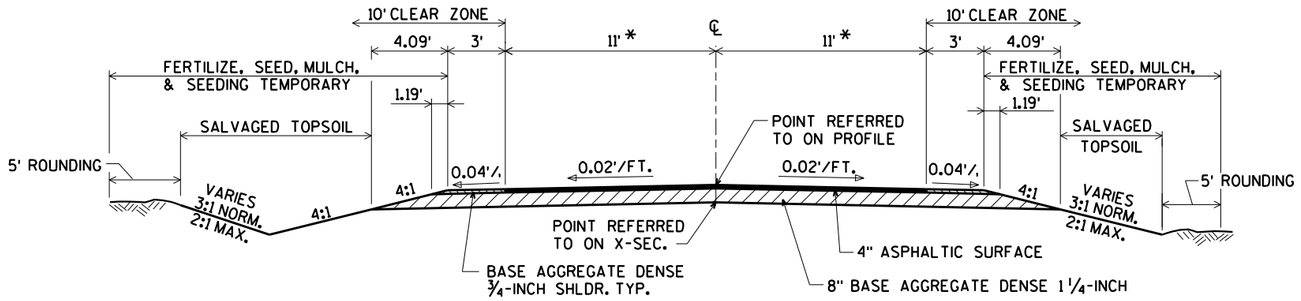
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor — AYRES ASSOCIATES INC
Designer — AYRES ASSOCIATES INC

Management Consultant — KJOHNSON ENGINEERS INC.
C.O. Examiner

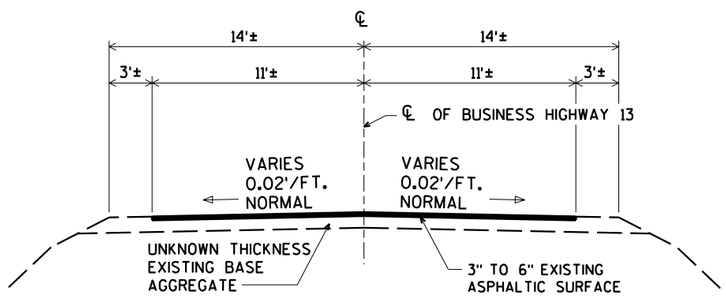
APPROVED FOR THE DEPARTMENT
DATE: 7/31/13
Management Consultant Signature

E



FINISHED TYPICAL SECTION

* THE ASPHALT SURFACE SHALL FOLLOW THE FACE OF THE GUARDRAIL AND TAPER TO 22 FT. WIDE AT THE ENDS OF THE PROJECT.



EXISTING TYPICAL SECTION

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

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

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE NO. 80 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN DATUM (NAD) 1983.

ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH TWO 2" LAYERS.

ASPHALTIC SURFACE SHALL USE 1/2" NOMINAL AGGREGATE SIZE.

NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPTS IN AREAS WHERE WETLANDS ARE PRESENT

ABBREVIATIONS

AC	ACRES
CHIS	CHISELED
℄	CENTERLINE
COR	CORNER
CWT	COUNT
CY	CUBIC YARD
EL	ELEVATION
GAL	GALLON
H	HOUSE
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
MON	MONUMENT
NORM	NORMAL
OAL	OVERALL LENGTH
PC	POINT OF CURVATURE
PD	PEDESTAL
PI	POINT OF INTERSECTION
PK	PARKER-KALON
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
PP	POWER POLE
PT	POINT OF TANGENCY
R	RADIUS
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
SF	SQUARE FEET
SHLDR	SHOULDER
STA	STATION
SY	SQUARE YARD
TLE	TEMPORARY LIMITED EASEMENT
VAR	VARIES
WL	WELL

UTILITIES

FRONTIER COMMUNICATIONS
53 NORTH STEVENS
RHINELANDER, WI 54501
ATTN: GLEN LEFEBVRE
715-365-2237
715-493-0017 (cell)
glen.lefebvre@Ftr.com

XCEL ENERGY
310 HICKORY HILLS LANE
PHILLIPS, WI 54555
ATTN: JASON McROBERTS
715-737-1198
jason.l.mcroberts@xcelenergy.com

**DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERS HOTLINE
Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

DESIGNER

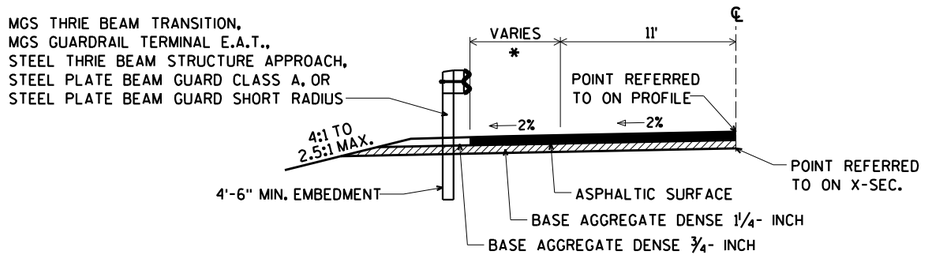
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com

WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT:

WILLIAM GANTZ
810 WEST MAPLE AVENUE
SPOONER, WI. 54801
715-635-4227
william.gantz@wisconsin.gov

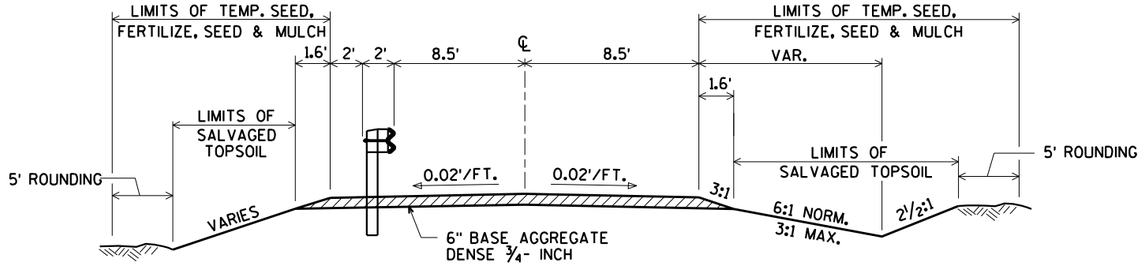
PROJECT NO: 8899-01-73	HWY: BUSINESS HIGHWAY 13	COUNTY: TAYLOR	TYPICAL SECTIONS	SHEET 2	E

2



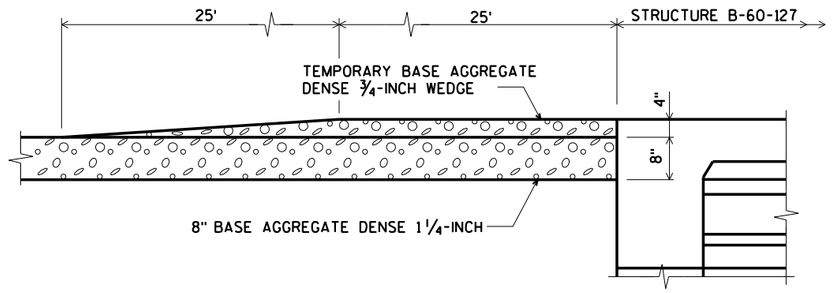
TYPICAL FINISHED HALF SECTION WITH BEAM GUARD

* 3' NORMAL
3' MIN. (AT END OF BRIDGE)
5' MAX. (AT END TERMINAL)



TYPICAL SECTION FOR PRIVATE ENTRANCE

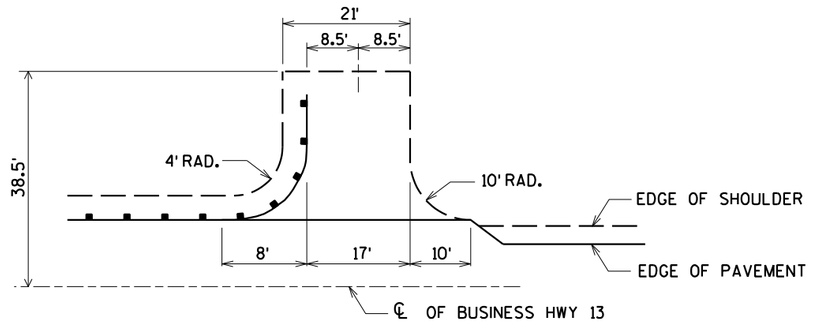
(STA. 12+05 P.E. LT.)



TEMPORARY BASE AGGREGATE WEDGES

COMPLETE PAVING AND SHOULDERING AFTER THE APPROACH ROADWAY HAS BEEN ALLOWED TO SETTLE THROUGH A WINTER SEASON.

PROVIDE TEMPORARY BASE AGGREGATE WEDGES AT ENDS OF BRIDGE AND AT ENDS OF PROJECT PRIOR TO OPENING ROAD TO TRAFFIC.

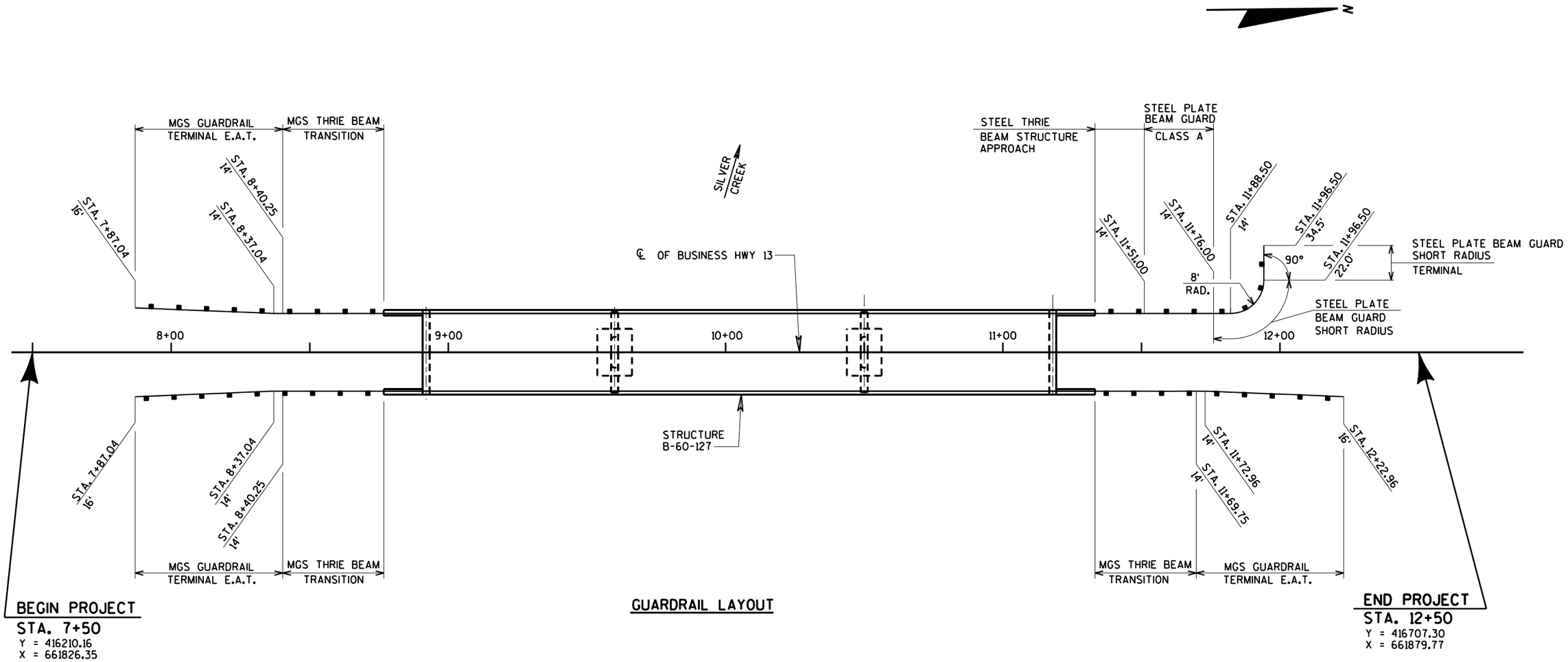


PRIVATE ENTRANCE PLAN

(STA. 12+05 P.E. LT.)

PROJECT NO: 8899-01-73	HWY: BUSINESS HIGHWAY 13	COUNTY: TAYLOR	TYPICAL SECTIONS AND DETAILS	SHEET 3	E

2



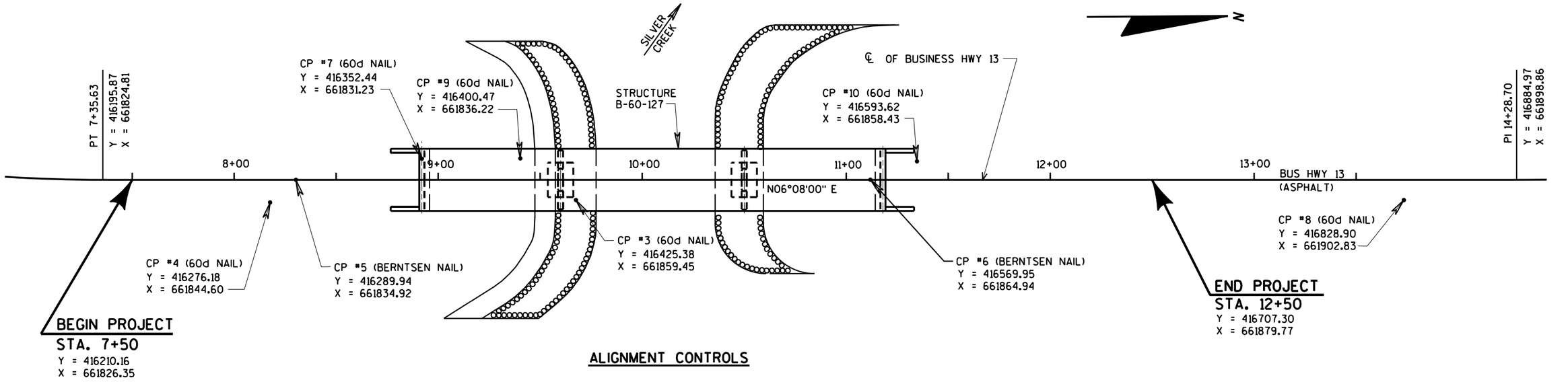
BEGIN PROJECT
STA. 7+50
Y = 416210.16
X = 661826.35

GUARDRAIL LAYOUT

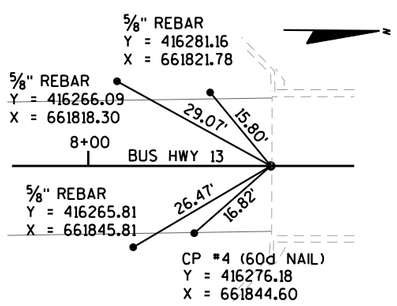
END PROJECT
STA. 12+50
Y = 416707.30
X = 661879.77

PROJECT NO: 8899-01-73	HWY: BUS. HWY 13	COUNTY: TAYLOR	GUARDRAIL LAYOUT	SHEET 4	E

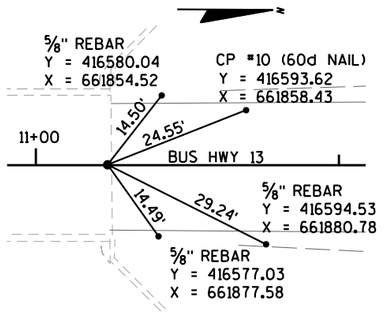
2



ALIGNMENT CONTROLS



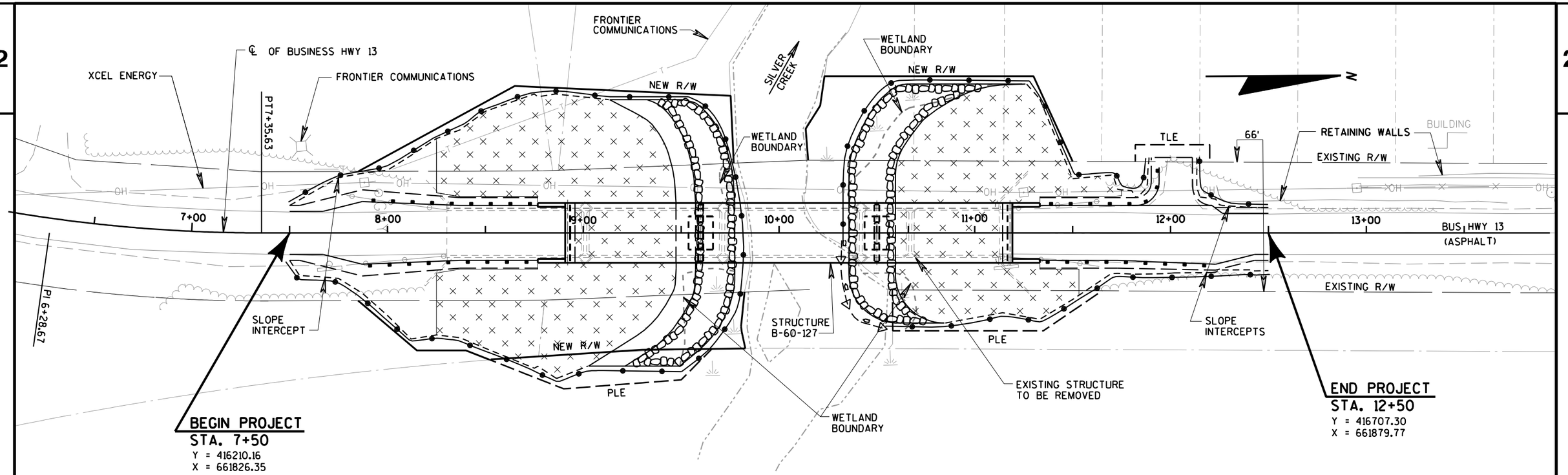
CP #5 (BERNTSEN NAIL)
STA. 8+30.24
Y = 416289.94
X = 661834.92



CP #6 (BERNTSEN NAIL)
STA. 11+11.85, 0.07' LT.
Y = 416569.95
X = 661864.94

ALIGNMENT TIES

PROJECT NO: 8899-01-73	HWY: BUS. HWY 13	COUNTY: TAYLOR	ALIGNMENT TIES & CONTROLS SHEET	SCALE, FEET 0 25 50	SHEET 5	E



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

TOTAL PROJECT AREA = 1.25 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.94 ACRES

HIGH WATER 2 EL. 1475.6

LEGEND

- EROSION MAT CLASS II TYPE C
- TEMPORARY DITCH CHECKS (UNDISTRIBUTED)
- SILT FENCE
- RIPRAP HEAVY
- TURBIDITY BARRIERS
- WETLAND

TURBIDITY BARRIERS SHOULD BE INSTALLED NO FURTHER THAN 3 FEET FROM THE TOE OF THE PROPOSED SLOPE.

PROJECT NO: 8899-01-73	HWY: BUS. HWY 13	COUNTY: TAYLOR	EROSION CONTROL PLAN	SCALE, FEET 0 25 50	SHEET 6	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\RDWY\420834eros.dgn PLOT DATE : 7/31/2013 PLOT BY : AYRES-EC

WISDOT/CADDS SHEET 40

DATE 03DEC13 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	8899-01-73 QUANTITY
0010	201.0105	CLEARING	STA	5.000	5.000
0020	201.0205	GRUBBING	STA	5.000	5.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. 9+72	LS	1.000	1.000
0040	204.0165	REMOVING GUARDRAIL	LF	206.000	206.000
0050	205.0100	EXCAVATION COMMON **P**	CY	266.000	266.000
0060	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-60-0127	LS	1.000	1.000
0070	206.5000	COFFERDAMS (STRUCTURE) 01. B-60-0127	LS	1.000	1.000
0080	208.0100	BORROW	CY	3,207.000	3,207.000
0090	210.0100	BACKFILL STRUCTURE	CY	250.000	250.000
0100	213.0100	FINISHING ROADWAY (PROJECT) 01. 8899-01-73	EACH	1.000	1.000
0110	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	125.000	125.000
0120	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	525.000	525.000
0130	455.0605	TACK COAT	GAL	21.000	21.000
0140	465.0105	ASPHALTIC SURFACE	TON	195.000	195.000
0150	502.0100	CONCRETE MASONRY BRIDGES	CY	492.000	492.000
0160	502.1100	CONCRETE MASONRY SEAL	CY	118.000	118.000
0170	502.3200	PROTECTIVE SURFACE TREATMENT	SY	870.000	870.000
0180	503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	906.000	906.000
0190	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	43,910.000	43,910.000
0200	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	61,330.000	61,330.000
0210	506.0105	STRUCTURAL STEEL CARBON	LB	600.000	600.000
0220	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	24.000	24.000
0230	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-60-0127	EACH	12.000	12.000
0240	513.4060	RAILING TUBULAR TYPE M (STRUCTURE) 01. B-60-0127	LS	1.000	1.000
0250	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	18.000	18.000
0260	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	4,440.000	4,440.000
0270	604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	470.000	470.000
0280	606.0300	RIPRAP HEAVY	CY	595.000	595.000
0290	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	130.000	130.000
0300	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	21.000	21.000
0310	614.0305	STEEL PLATE BEAM GUARD CLASS A	LF	25.000	25.000
0320	614.0345	STEEL PLATE BEAM GUARD SHORT RADIUS	LF	25.000	25.000
0330	614.0390	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	EACH	1.000	1.000
0340	614.2500	MGS THRIE BEAM TRANSITION	LF	120.000	120.000
0350	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	3.000	3.000
0360	619.1000	MOBILIZATION	EACH	1.000	1.000
0370	625.0500	SALVAGED TOPSOIL	SY	3,055.000	3,055.000
0380	627.0200	MULCHING	SY	960.000	960.000
0390	628.1504	SILT FENCE	LF	1,445.000	1,445.000
0400	628.1520	SILT FENCE MAINTENANCE	LF	5,780.000	5,780.000
0410	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	5.000	5.000
0420	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0430	628.2027	EROSION MAT CLASS II TYPE C	SY	3,315.000	3,315.000
0440	628.6005	TURBIDITY BARRIERS	SY	45.000	45.000
0450	628.7504	TEMPORARY DITCH CHECKS	LF	50.000	50.000
0460	629.0210	FERTILIZER TYPE B	CWT	3.000	3.000
0470	630.0180	SEEDING MIXTURE NO. 80	LB	115.000	115.000
0480	630.0200	SEEDING TEMPORARY	LB	30.000	30.000

3

DATE 03DEC13 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	8899-01-73 QUANTITY
0490	630.0300	SEEDING BORROW PIT	LB	30.000	30.000
0500	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	4.000	4.000
0510	637.2230	SIGNS TYPE II REFLECTIVE F	SF	12.000	12.000
0520	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0530	643.0100	TRAFFIC CONTROL (PROJECT) 01. 8899-01-73	EACH	1.000	1.000
0540	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	1,030.000	1,030.000
0550	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	272.000	272.000
0560	650.5000	CONSTRUCTION STAKING BASE	LF	272.000	272.000
0570	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-60-0127	LS	1.000	1.000
0580	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 8899-01-73	LS	1.000	1.000
0590	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	272.000	272.000
0600	690.0150	SAWING ASPHALT	LF	43.000	43.000
0610	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	3,660.000	3,660.000
0620	999.1000.S	SEISMOGRAPH	LS	1.000	1.000
0630	999.1500.S	CRACK AND DAMAGE SURVEY	LS	1.000	1.000
0640	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR	HRS	1,200.000	1,200.000
0650	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	300.000	300.000

CLEARING AND GRUBBING (CATEGORY 0010)

STATION TO STATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
Sta. 7+50 to Sta. 12+50	5	5

*EARTHWORK SUMMARY (CATEGORY 0010)

STAGE	STATION TO STATION	LOCATION	**P** 205.0100 EXCAVATION COMMON CY	FILL CY	EXPANDED FILL CY	208.0100 BORROW CY	WASTE CY
1 / Bus. HWY 13	7+50 - 8+90.75	Bus. HWY 13	150	2,582	3357	3,207	0
	11+19.25 - 12+50	Bus. HWY 13	116	22	29	0	87
TOTALS			266	2,604	3,386	3,207	87

* NOTE: SHRINKAGE = 30%

204.0165 REMOVING GUARDRAIL (CATEGORY 0010)

STATION TO STATION	LOCATION	LF
STA. 7+79 TO STA. 8+30	LT	52
STA. 7+79 TO STA. 8+30	RT	52
STA. 11+13 TO STA. 11+64	LT	51
STA. 11+13 TO STA. 11+64	RT	51
TOTAL		206

213.0100 FINISHING ROADWAY (CATEGORY 0010)

LOCATION	EACH
PROJECT 8899-01-73	1

BASE AGGREGATE DENSE (CATEGORY 0010)

STATION TO STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
Sta. 7+50 to Sta. 8+76.75	Shoulders	30	---
Sta. 11+33.25 to Sta. 12+50	Shoulders	45	---
Sta. 7+50 to Sta. 8+90.75	Mainline	---	285
Sta. 11+19.25 to Sta. 12+50	Mainline	---	240
Sta. 7+50 to Sta. 8+90.75	Temp. Wedges	25	---
Sta. 11+19.25 to Sta. 12+50	Temp. Wedges	25	---
TOTALS		125	525

455.0605 TACK COAT (CATEGORY 0010)

STATION TO STATION	LOCATION	GAL
Sta. 7+50 to Sta. 8+90.75	Mainline	11
Sta. 11+19.29 to Sta. 12+50	Mainline	10
TOTAL		21

465.0105 ASPHALTIC SURFACE (CATEGORY 0010)

STATION TO STATION	LOCATION	TON
Sta. 7+50 to Sta. 8+90.75	Mainline	100
Sta. 11+19.25 to Sta. 12+50	Mainline	95
TOTAL		195

614.0200 STEEL THRIE BEAM STRUCTURE APPROACH (CATEGORY 0010)

STATION TO STATION	LOCATION	LF
Sta. 11+23.25 to Sta. 11+51	LT	21
TOTAL		21

614.0305 STEEL PLATE BEAM GUARD CLASS A (CATEGORY 0010)

STATION TO STATION	LOCATION	LF
Sta. 11+51 to Sta. 11+76	LT	25
TOTAL		25

3

614.0345 STEEL BEAM GUARD SHORT RADIUS (CATEGORY 0010)

STATION TO STATION	LOCATION	LF
Sta. 11+76 to Sta. 11+96.5	LT	25
TOTAL		25

614.0390 STEEL PLATE BEAM BUARD SHORT RADIUS TERMINAL (CATEGORY 0010)

STATION TO STATION	LOCATION	EACH
Sta. 11+96.5	LT	1
TOTAL		1

614.2500 MGS THRIE BEAM TRANSITION (CATEGORY 0010)

STATION TO STATION	LOCATION	LF
Sta. 8+40.25 to Sta. 8+76.75	LT	40
Sta. 8+40.25 to Sta. 8+76.75	RT	40
Sta. 11+33.25 to Sta. 11+69.75	RT	40
TOTAL		120

614.2610 MGS GUARDRAIL TERMINAL EAT (CATEGORY 0010)

STATION TO STATION	LOCATION	EACH
Sta. 7+87.04 to Sta. 8+40.25	LT	1
Sta. 7+87.04 to Sta. 8+40.25	RT	1
Sta. 11+69.75 to Sta. 12+22.96	RT	1
TOTAL		3

619.1000 MOBILIZATION

LOCATION	EACH
PROJECT 8899-01-73 (CATEGORY 0010)	0.2
PROJECT 8899-01-73 (CATEGORY 0020)	0.8
TOTAL	1

SALVAGED TOPSOIL, MULCHING, FERTILIZER, SEED & TEMPORARY SEED (CATEGORY 0010)

STATION TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0180 SEEDING NO. 80 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB
Sta. 7+50 to Sta. 12+50	Mainline	3,055	770	2.2	92	21	22
Undistributed		---	190	0.8	23	9	8
TOTALS		3,055	960	3.0	115	30	30

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)

STATION TO STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
Sta. 7+50 to Sta. 9+81	LT	305	1,220
Sta. 7+50 to Sta. 9+81	RT	310	1,240
Sta. 10+33 to Sta. 11+88	LT	265	1,060
Sta. 12+14 to Sta. 12+50	LT	55	220
Sta. 10+33	RT	10	40
Sta. 10+54 to Sta. 12+50	RT	210	840
Undistributed		290	1,160
TOTALS		1,445	5,780

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 8899-01-73	5	2

628.2027 EROSION MAT CLASS II TYPE C (CATEGORY 0010)

STATION TO STATION	LOCATION	SY
Sta. 8+25 to Sta. 8+76.75	LT	240
Sta. 8+25 to Sta. 8+76.75	RT	245
South Abutment		1,150
North Abutment		895
Sta. 11+33.25 to Sta. 11+75	LT	80
Sta. 11+33.25 to Sta. 11+53.25	RT	45
Undistributed		660
TOTAL		3,315

628.6005 TURBIDITY BARRIERS (CATEGORY 0010)

LOCATION	SY
Pier 2	35
Undistributed	10
TOTAL	45

628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)

LOCATION	LF
UNDISTRIBUTED	50

634.0612 WOOD POSTS 4X6 INCH X 12 FT (CATEGORY 0010)

STATION	LOCATION	EACH
Sta. 8+76	LT (Object Marker)	1
Sta. 8+76	RT (Object Marker)	1
Sta. 11+34	LT (Object Marker)	1
Sta. 11+34	RT (Object Marker)	1
TOTAL		4

637.2230 SIGNS TYPE II REFLECTIVE F (CATEGORY 0010)

STATION			SF
Sta. 8+76	LT (Object Marker)	W5-52L	3
Sta. 8+76	RT (Object Marker)	W5-52R	3
Sta. 11+34	LT (Object Marker)	W5-52R	3
Sta. 11+34	RT (Object Marker)	W5-52L	3
TOTAL			12

642.5001 FIELD OFFICE TYPE B (CATEGORY 0010)

LOCATION	EACH
PROJECT 8899-01-73	1

643.0100 TRAFFIC CONTROL (CATEGORY 0010)

LOCATION	EACH
PROJECT 8899-01-73	1

CONSTRUCTION STAKING

CATEGORY	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTARY CONTROL LS	650.9920 SLOPE STAKES LF
0010	Sta. 7+50 to Sta. 12+50	272	272	---	1	272
0020	B-60-127	---	---	1	---	---
TOTALS		272	272	1	1	272

690.0150 SAWING ASPHALT (CATEGORY 0010)

STATION	LOCATION	LF
Sta. 7+50	Mainline	22
Sta. 12+50	Mainline	21
TOTAL		43

R/W PROJECT NUMBER 8899-01-03	SHEET NUMBER	TOTAL SHEETS
FEDERAL PROJECT NUMBER	4.01	2

PLAT OF RIGHT-OF-WAY REQUIRED FOR

TN. OF WESTBORO, BUS. HIGHWAY 13

(SILVER CREEK BRIDGE B-60-0127)

TOWN ROAD — TAYLOR COUNTY

CONSTRUCTION PROJECT NUMBER 8899-01-73

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.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

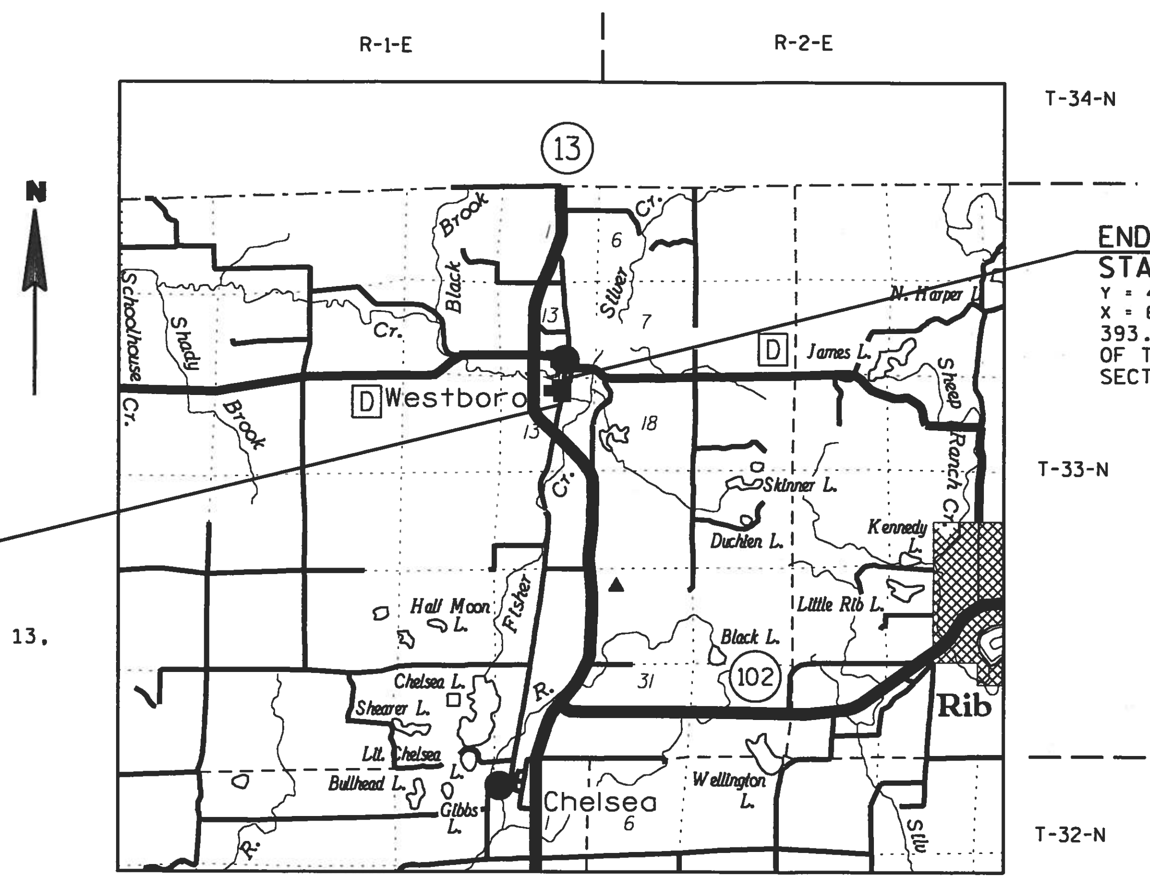
FOUND IRON PIPE/PIN (1" UNLESS NOTED)
R/W MONUMENT (SET)
R/W STANDARD (SET)
SIGN
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT (RWB20)
PARCEL NUMBER (102)
UTILITY PARCEL NUMBER (92)
SIGN NUMBER (OFF PREMISE) (21-1)
BUILDING

PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS
CORPORATE LIMITS
NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
NO ACCESS (BY ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

CONVENTIONAL UTILITY SYMBOLS

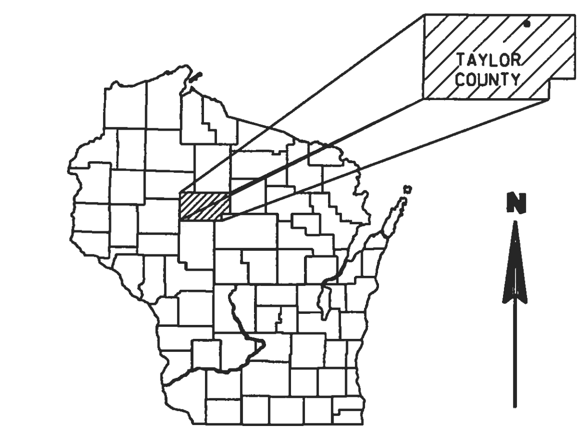
WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS

	NON COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		



BEGIN RELOCATION ORDER
STA. 7+85.00
Y = 416244.958
X = 661830.088
826.29' S. AND 1579.47' W. OF THE NORTHEAST CORNER OF SECTION 13, T 33 N, R 1 E.

END RELOCATION ORDER
STA. 12+20.00
Y = 416677.469
X = 661876.564
393.78' S. AND 1533.00' W. OF THE NORTHEAST CORNER OF SECTION 13, T 33 N, R 1 E.



ACCEPTED FOR TOWN of WESTBORO

6-14-13 — Edward P Schloss (signature)
DATE — TOWN CHAIRMAN

PLAT PREPARED BY AYRES ASSOCIATES

THIS SURVEY IS PREPARED AT THE REQUEST OF THE TOWN OF WESTBORO
THE FIELD SURVEY WAS PERFORMED JULY OF 2011.

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

WISCONSIN JOHN C. FAVORITE S-1890 MADISON WI LAND SURVEYOR

JOHN C. FAVORITE, RLS — S-1890 — DATE 6/4/13

NOTES

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, TAYLOR COUNTY ZONE, NAD 83 (2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (1"x24" IRON PIPE WEIGHING 1.13 LBS./LN.FT.) 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.

EXISTING RIGHT-OF-WAY FOR BUSINESS HIGHWAY 13 WAS DETERMINED FROM

PLAT OF RIGHT OF WAY REQUIRED FOR STATE PROJECT NO. 1614-07-21, STH 13 (CHESEA-NORTH COUNTY LINE ROAD) TAYLOR COUNTY, DATED JULY 14, 1972.

LOT 2 OF CERTIFIED SURVEY MAP 1310 AS RECORDED IN VOLUME 6 OF SURVEYS, P. 89 AS DOC. NO. 284911

BLOCK 3, ORIGINAL PLAT OF VILLAGE OF WESTBORO.

LAYOUT
SCALE 0 — 1 Mi.

TOTAL NET LENGTH OF RELOCATION ORDER = 0.082 MI.

REVISION DATE

E

FILE NAME : R:\Survey\42-0834.00 Westboro Plat\RW_PLAT_04_2013\040101_rp.dgn — PLOT DATE : 5/14/2013 — PLOT BY : soufalk — PLOT NAME : — PLOT SCALE : 1:200 — WISDOT/CADDS SHEET 50

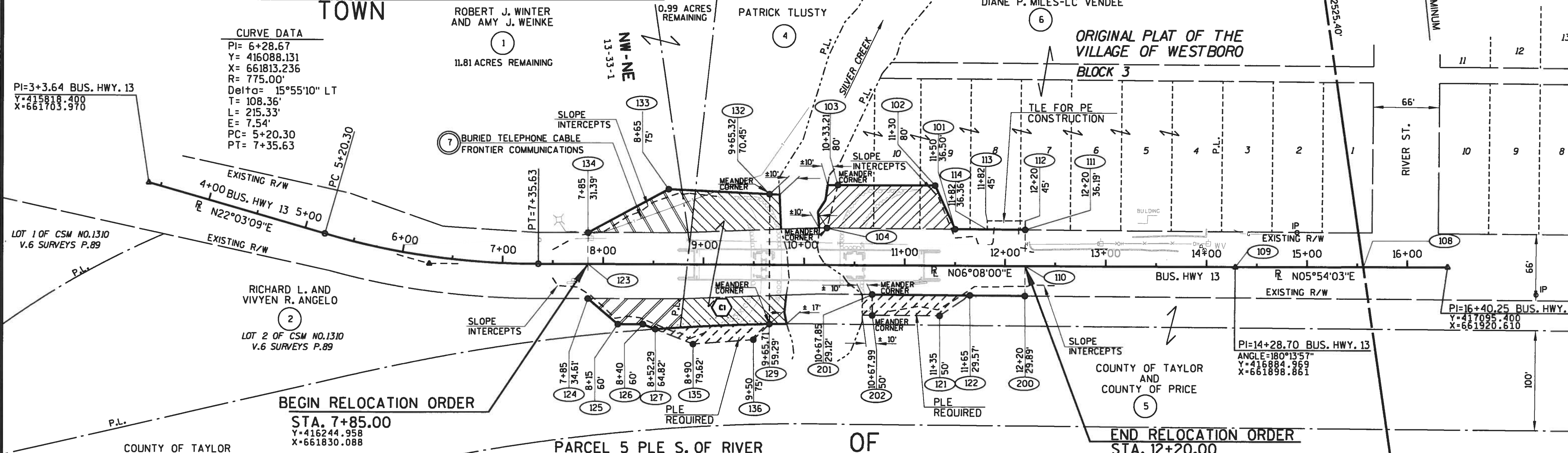
SCHEDULE OF LANDS AND INTERESTS REQUIRED

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

PARCEL NO.	OWNERSHIP	INTEREST REQUIRED	R/W (SQ. FT.) NEW	R/W (SQ. FT.) EXISTING	R/W (SQ. FT.) TOTAL	PLE (SQ. FT.) TOTAL	TLE (SQ. FT.) TOTAL
1	ROBERT J. WINTER AND AMY J. WEINKE	FEE	2784	6519	9303	----	----
2	RICHARD L. AND VIVYEN R. ANGELO	FEE	2142	----	2142	----	----
3							
4	PATRICK TLUSTY	FEE	6201	6529	12730	----	----
5	COUNTY OF TAYLOR AND COUNTY OF PRICE	PLE	----	----	----	3346	----
6	MAT INVESTMENTS, LLC-LC VENDOR DIANE P. MILES-LC VENDEE	FEE AND TLE	5273	----	5273	----	332
7	FRONTIER COMMUNICATIONS	RELEASE	----	----	----	----	----

CURVE TABLE

CURVE	CHORD DISTANCE	CHORD BEARING	RADIUS	ARC LENGTH	PI COORDINATES Y	PI COORDINATES X
C1	113.56'	N03°20'25"E	2009.86'	113.57'	416361.71	661903.43



PARCEL 1, 2 AND 4

COURSE	BEARING	DISTANCE	PT NO	Y	X
107-108	S 87°43'32" W	1498.77'	107	417071.250	663409.560
108-109	S 05°54'03" W	127.47'	108	417011.768	661911.966
109-123	S 06°08'00" W	643.70'	109	416884.969	661898.861
123-124	S 83°52'00" E	34.61'	123	416244.958	661830.088
124-125	N 46°22'32" E	39.30'	124	416241.261	661864.500
125-126	N 06°08'00" E	25.00'	125	416268.376	661892.950
126-127	N 27°33'13" E	13.20'	126	416293.233	661895.621
127-129	N 03°20'25" E	113.56'	127	416304.938	661901.728
129-132	N 84°02'22" W	129.74'	129	416418.302	661908.344
132-133	S 08°43'43" W	100.42'	132	416431.774	661779.304
133-134	S 22°27'45" E	91.11'	133	416332.514	661764.065
134-123	S 83°52'00" E	31.39'	134	416248.312	661798.878

PARCEL 5 PLE S. OF RIVER

COURSE	BEARING	DISTANCE	PT NO	Y	X
107-108	S 87°43'32" W	1498.77'	107	417071.250	663409.560
108-109	S 05°54'03" W	127.47'	108	417011.768	661911.966
109-123	S 06°08'00" W	643.70'	109	416884.969	661898.861
123-124	S 83°52'00" E	34.61'	123	416244.958	661830.088
124-125	N 46°22'32" E	39.30'	124	416241.261	661864.500
125-126	N 06°08'00" E	25.00'	125	416268.376	661892.950
126-127	N 27°33'13" E	13.20'	126	416293.233	661895.621
127-135	N 27°33'13" E	40.51'	127	416304.938	661901.728
135-136	N 01°44'04" E	60.18'	135	416340.851	661920.466
136-129	N 38°52'00" W	22.22'	136	416401.001	661922.288
129-127	S 03°20'25" W	113.56'	129	416418.302	661908.344

PARCEL 5 PLE N. OF RIVER

COURSE	BEARING	DISTANCE	PT NO	Y	X
107-108	S 87°43'32" W	1498.77'	107	417071.250	663409.560
108-109	S 05°54'03" W	127.47'	108	417011.768	661911.966
109-110	S 06°08'00" W	263.70'	109	416884.969	661898.861
110-200	S 83°52'00" E	29.82'	110	416677.469	661876.564
200-122	S 06°23'40" W	55.00'	200	416474.283	661906.209
122-201	S 06°23'40" W	97.15'	122	416619.625	661900.084
201-202	S 84°14'48" E	20.88'	201	416523.083	661889.264
202-121	N 06°08'00" E	67.01'	202	416520.990	661910.037
121-122	N 28°07'41" W	36.30'	121	416587.613	661917.196

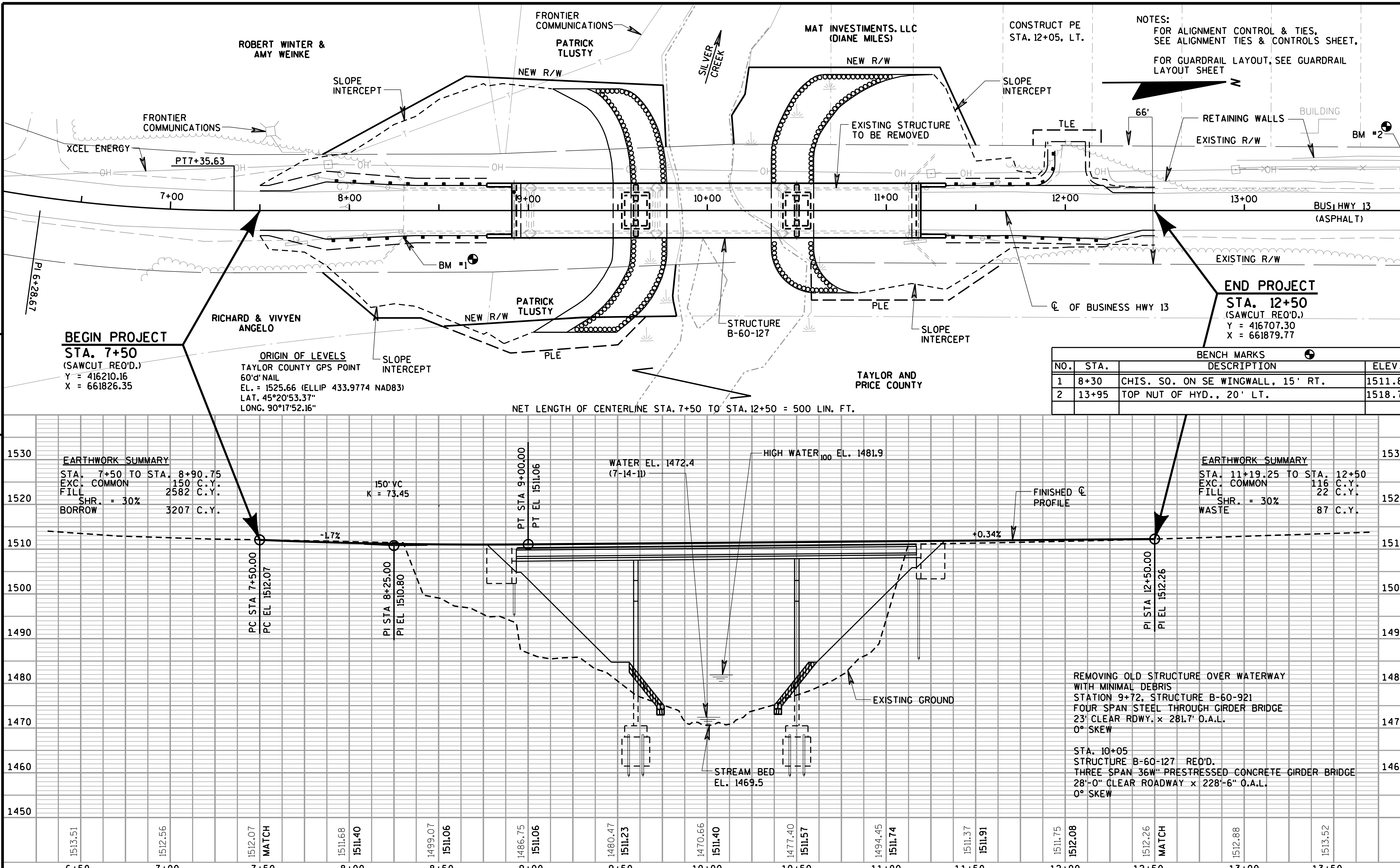
PARCEL 6 FEE

COURSE	BEARING	DISTANCE	PT NO	Y	X
107-108	S 87°43'32" W	1498.77'	107	417071.250	663409.560
108-109	S 05°54'03" W	127.47'	108	417011.768	661911.966
109-110	S 06°08'00" W	208.70'	109	416884.969	661898.861
110-111	N 83°52'00" W	36.19'	110	416677.469	661876.564
111-101	S 06°23'40" W	70.00'	111	416681.335	661840.586
101-102	S 71°26'23" W	47.87'	101	416611.769	661832.790
102-103	S 06°08'00" W	96.79'	102	416596.531	661787.406
103-104	S 69°53'44" E	44.22'	103	416500.297	661777.065
104-101	N 06°23'40" E	127.47'	104	416485.096	661818.594

PARCEL 6 TLE

COURSE	BEARING	DISTANCE	PT NO	Y	X
107-108	S 87°43'32" W	1498.77'	107	417071.250	663409.560
108-109	S 05°54'03" W	127.47'	108	417011.768	661911.966
109-110	S 06°08'00" W	208.70'	109	416884.969	661898.861
110-111	N 83°52'00" W	36.19'	110	416677.469	661876.564
111-112	N 83°52'00" W	8.81'	111	416681.335	661840.586
112-113	S 06°08'00" W	38.00'	112	416682.276	661831.822
113-114	S 83°52'00" E	8.64'	113	416644.494	661827.762
114-111	N 06°23'40" E	38.00'	114	416643.571	661836.354

REVISION DATE	DATE June 4, 2013	SCALE, FEET 0 50 100	HWY: BUS. HWY. 13	STATE R/W PROJECT NUMBER 8899-01-03	PLAT SHEET 4.02	
	GRID FACTOR N/A		COUNTY: TAYLOR	CONSTRUCTION PROJECT NUMBER 8899-01-73	PS&E SHEET 13	E



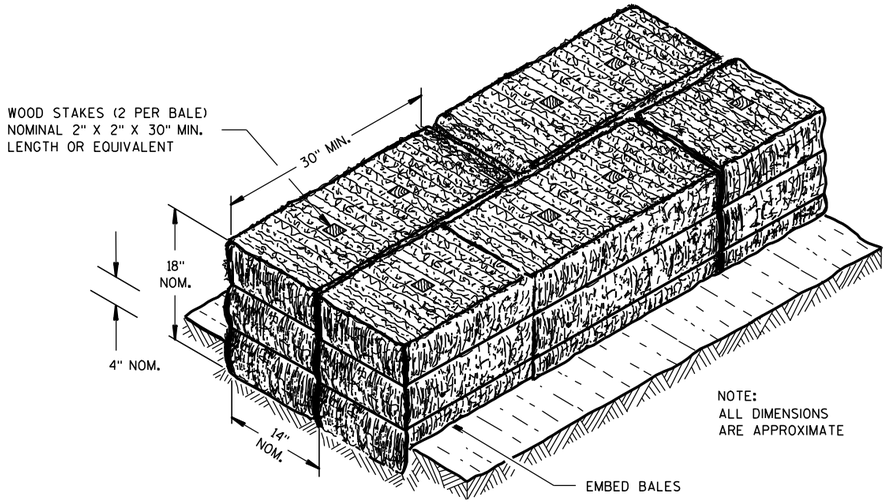
BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	8+30	CHIS. SQ. ON SE WINGWALL, 15' RT.	1511.80
2	13+95	TOP NUT OF HYD., 20' LT.	1518.71

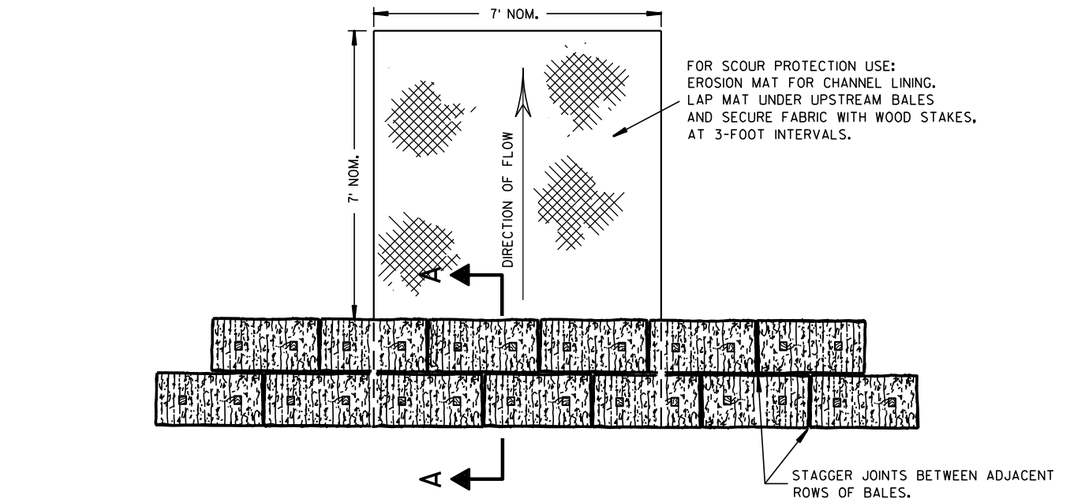
PROJECT NO: 8899-01-73	HWY: BUS. HWY 13	COUNTY: TAYLOR	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 14	E

Standard Detail Drawing List

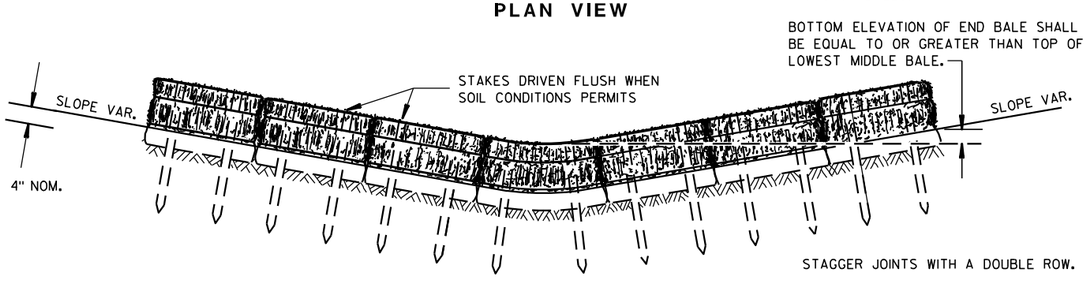
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-06	SIGNING & MARKING FOR TWO LANE BRIDGES
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)



SECTION A-A



PLAN VIEW



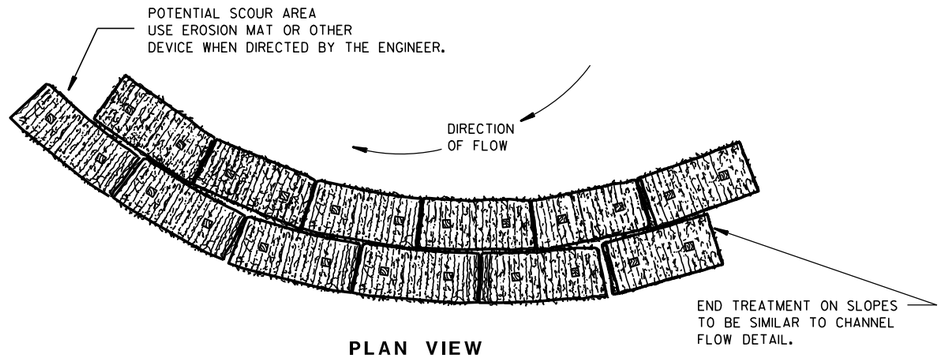
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

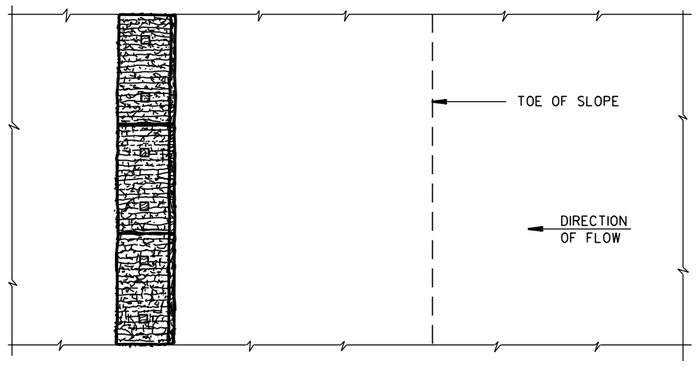
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

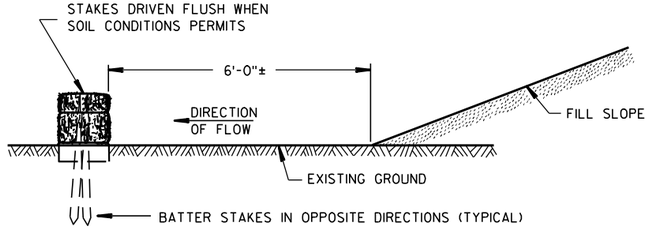


PLAN VIEW

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

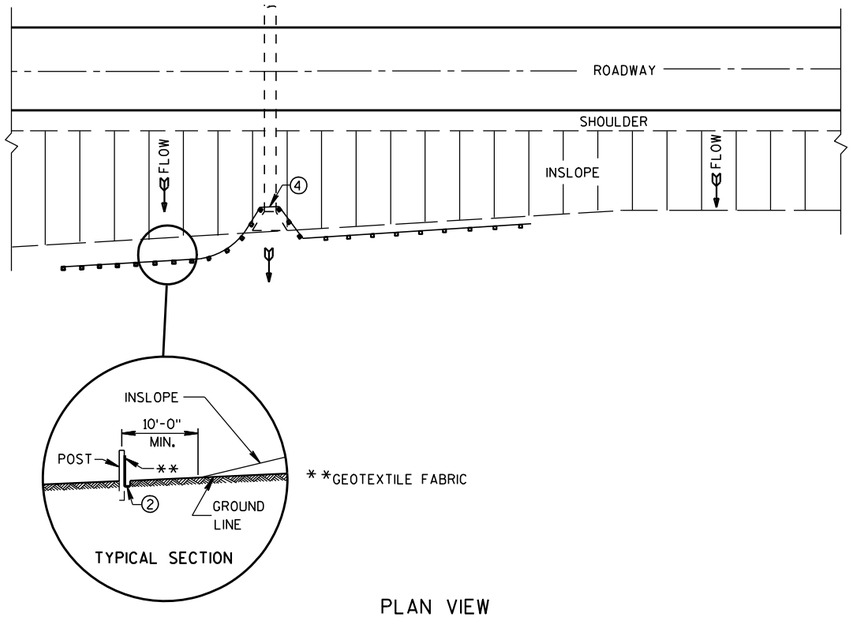
FHWA

6

S.D.D. 8 E 8-3

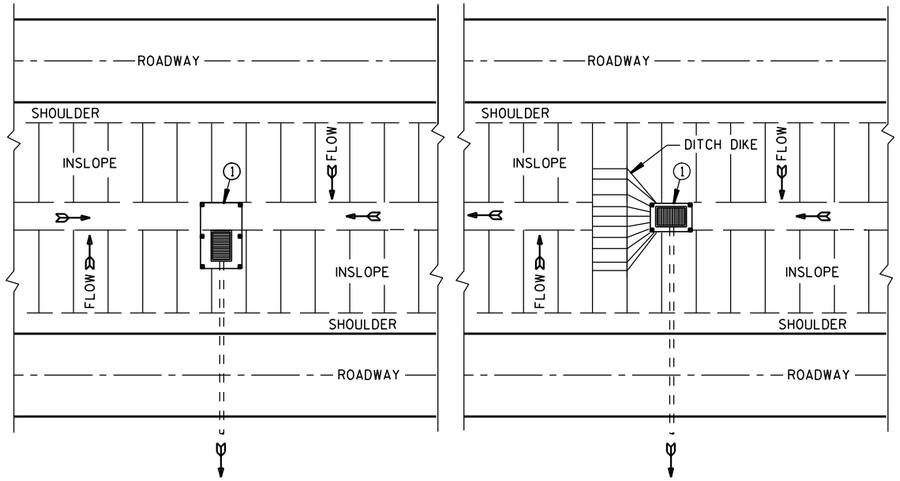
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



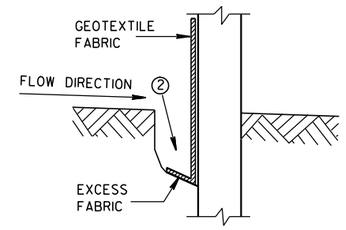
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

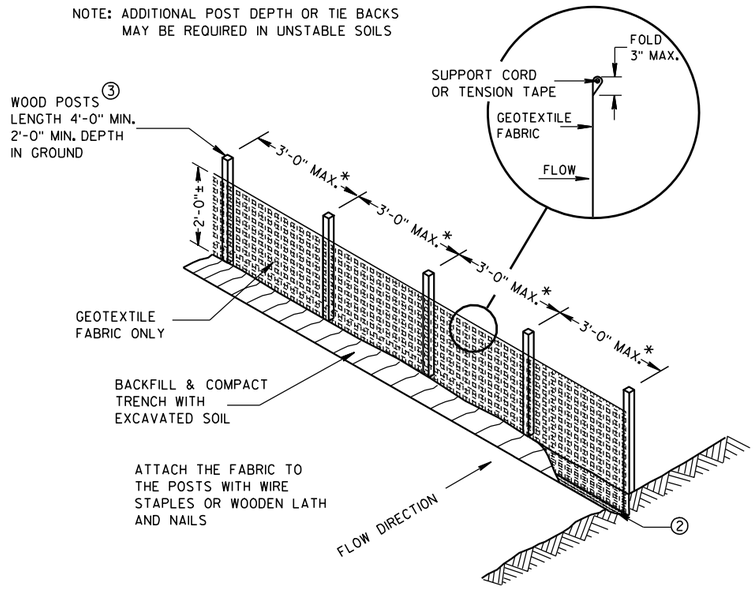
GENERAL NOTES

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

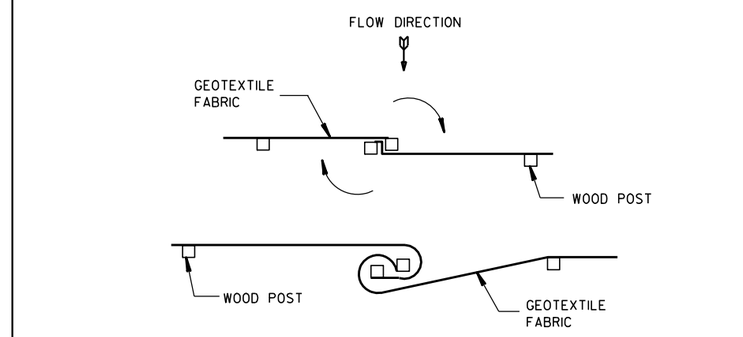
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



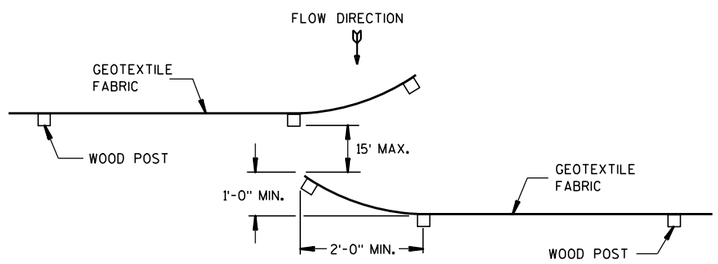
TRENCH DETAIL



SILT FENCE

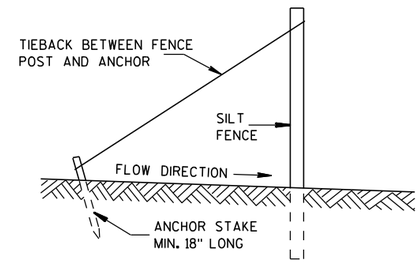


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

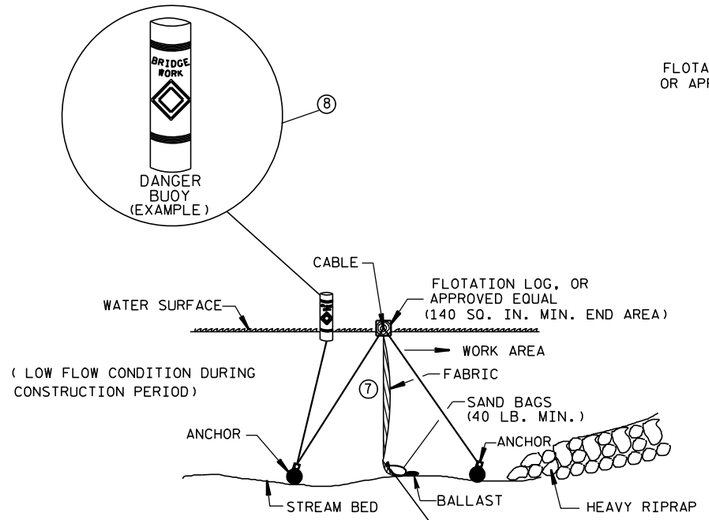
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

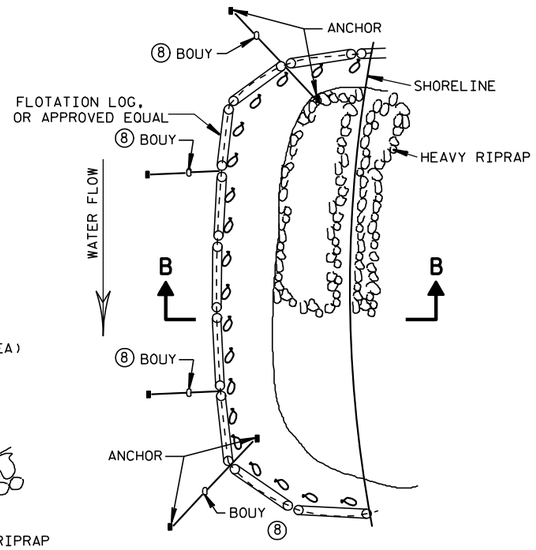
S.D.D. 8 E 9-6

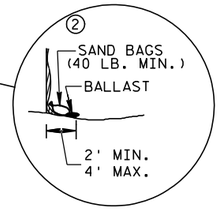
6

S.D.D. 8 E 9-6

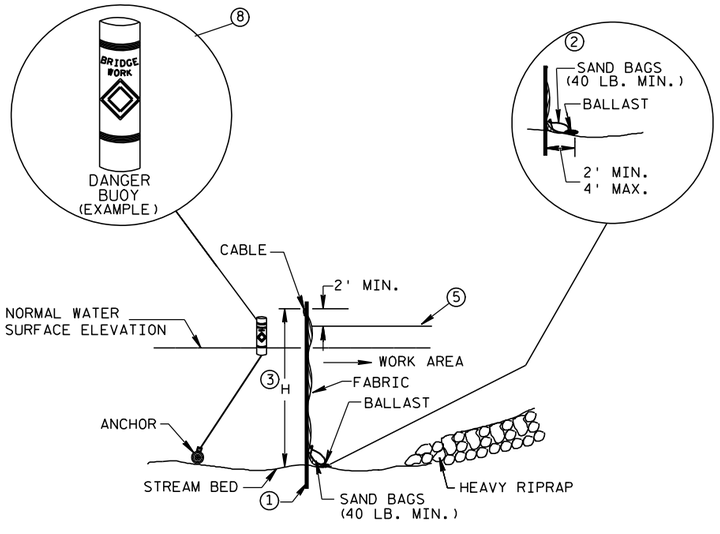


SECTION B-B

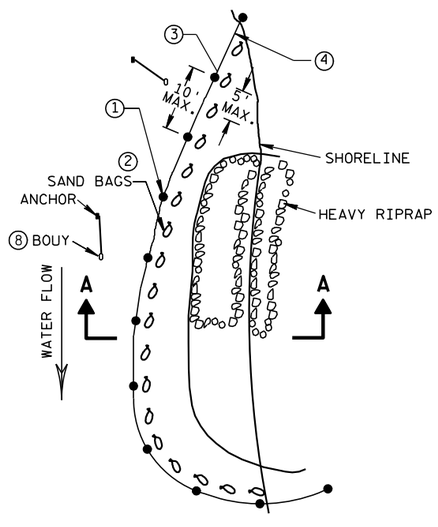




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

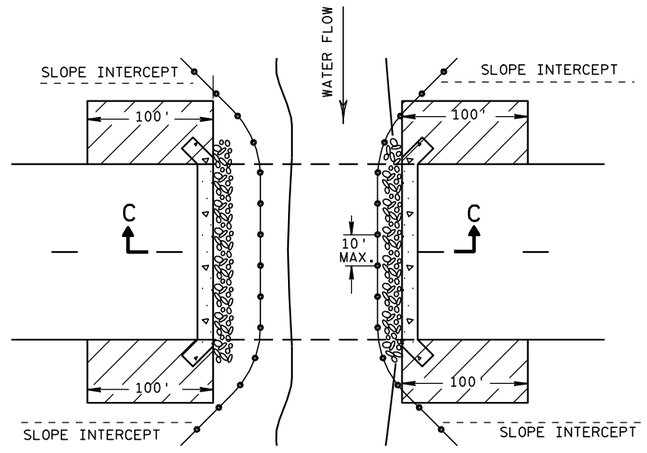
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

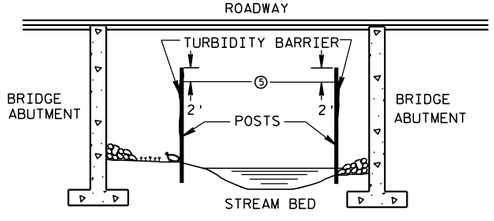
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

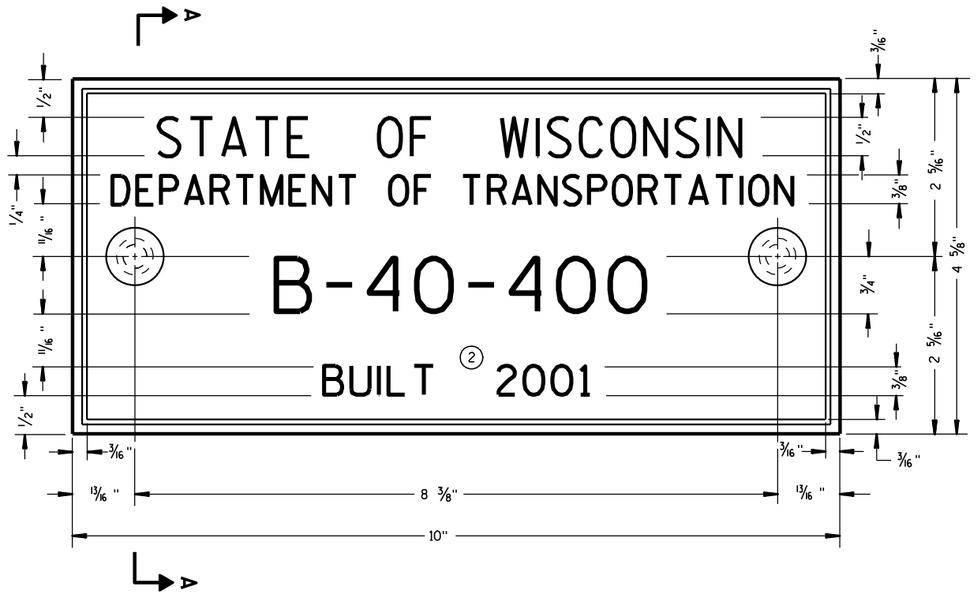
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

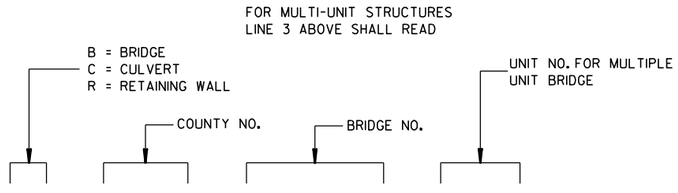
6

S.D.D. 8 E 11-2



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

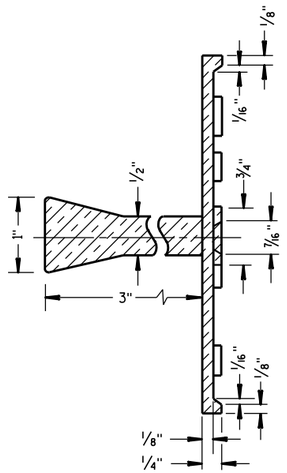
GENERAL NOTES

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

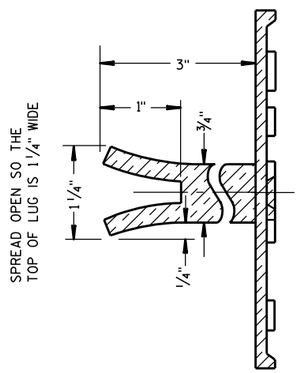
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

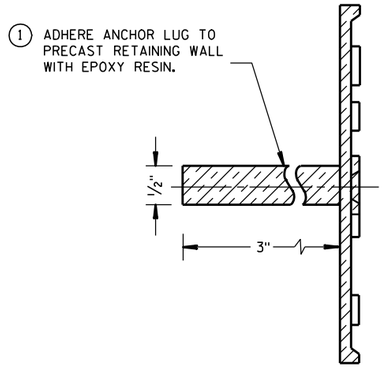
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

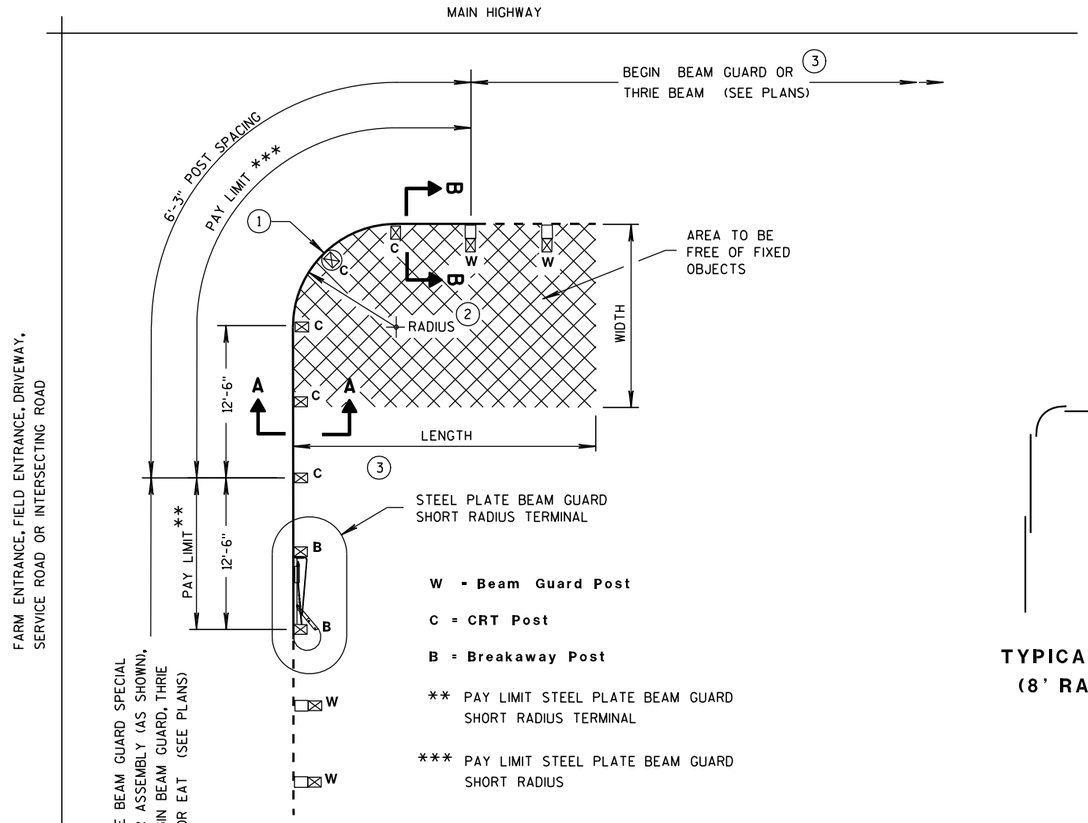
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

6

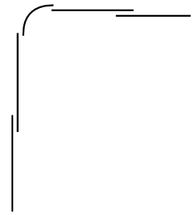
S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

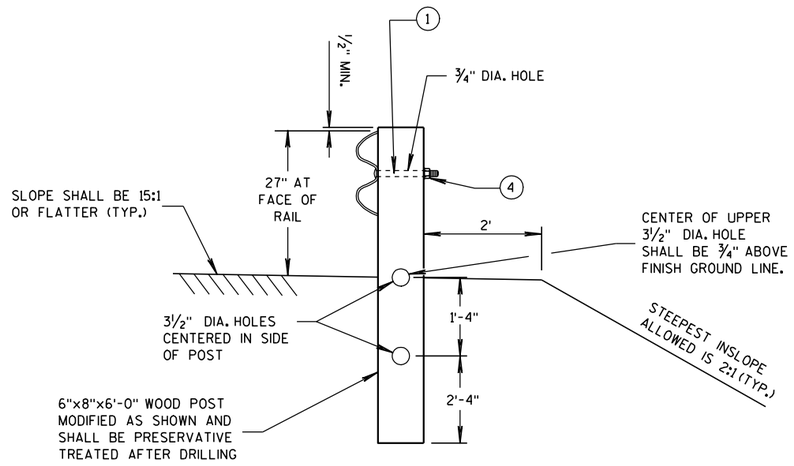
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

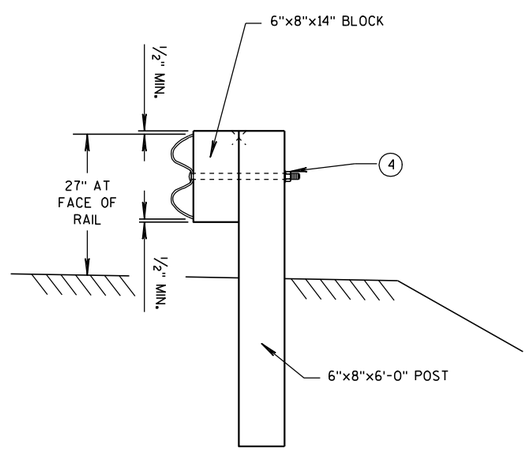
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)



SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

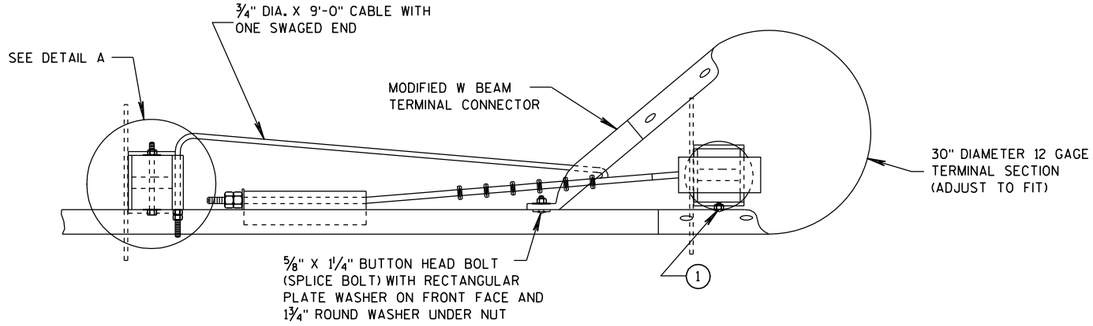
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

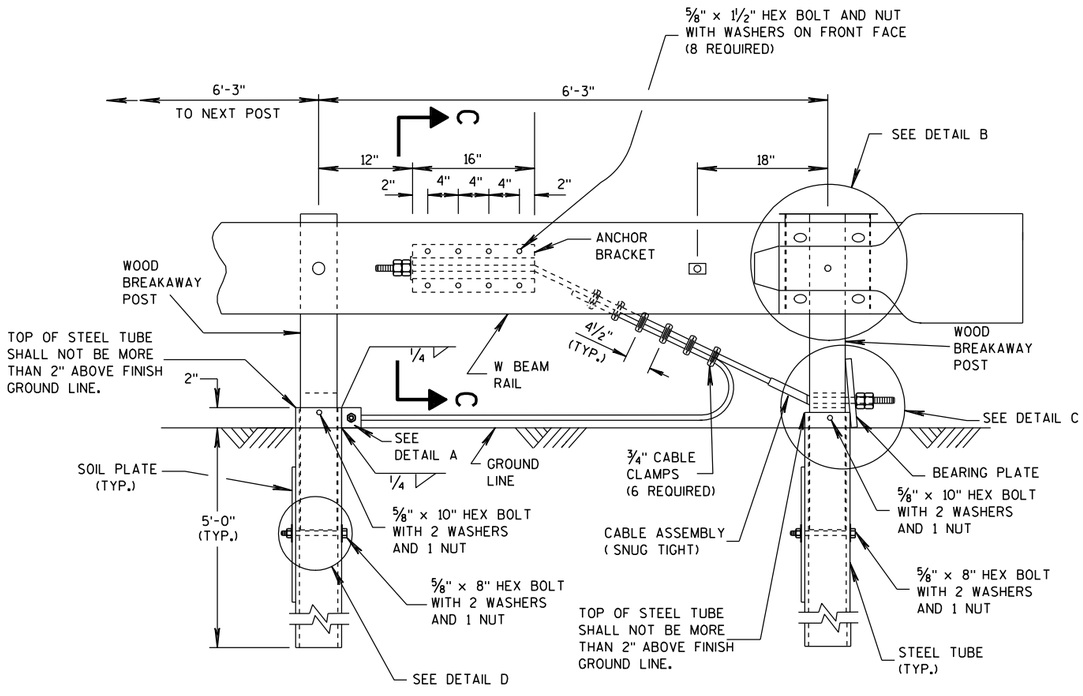
S.D.D. 14 B 27-1a

6

S.D.D. 14 B 27-1a



PLAN VIEW



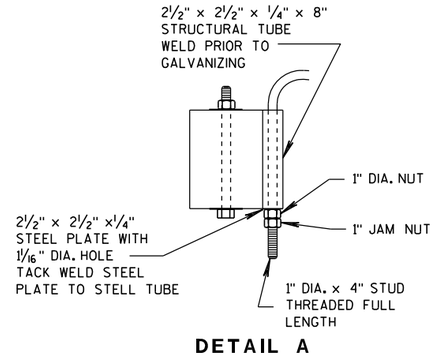
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

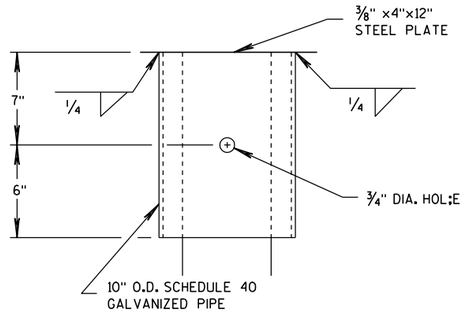
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

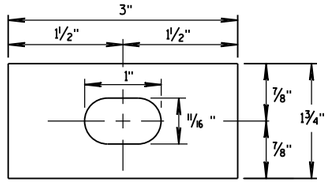
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

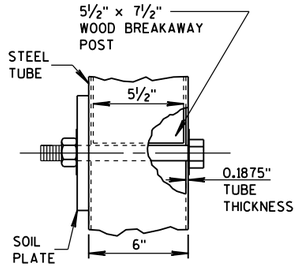
S.D.D. 14 B 27-1b

6

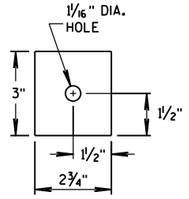
S.D.D. 14 B 27-1b



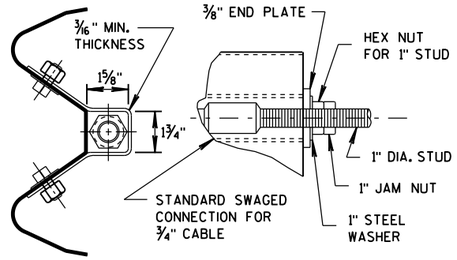
RECTANGULAR PLATE WASHER



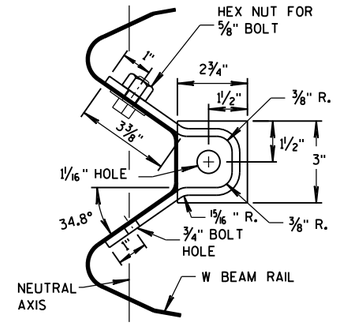
DETAIL D



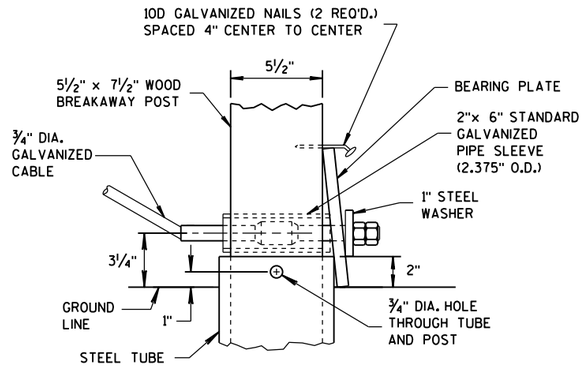
END PLATE



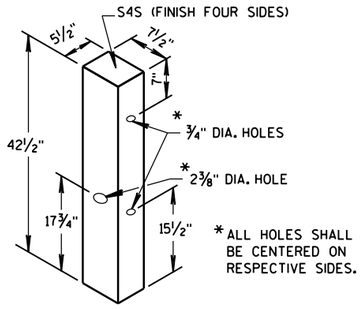
SECTION C-C
(END PLATE REMOVED)



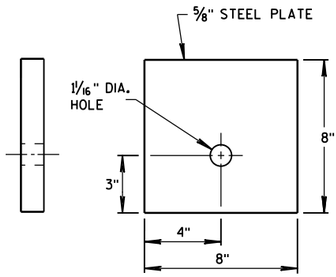
ANCHOR BRACKET



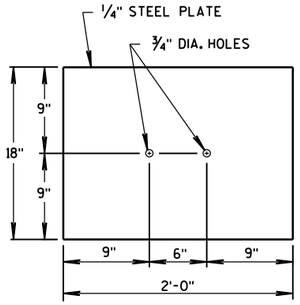
DETAIL C



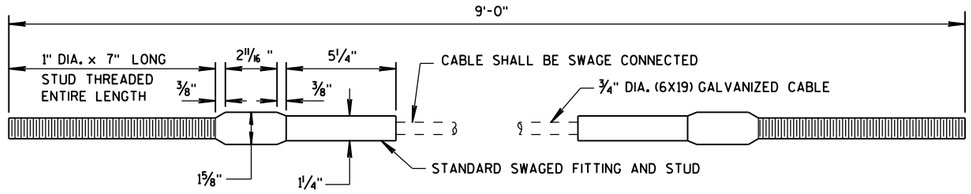
WOOD BREAKAWAY POST



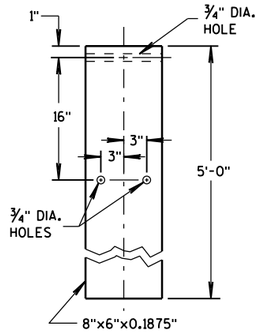
BEARING PLATE



SOIL PLATE



CABLE ASSEMBLY



STEEL TUBE

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/18/08 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 27-1c

6

S.D.D. 14 B 27-1c

GENERAL NOTES

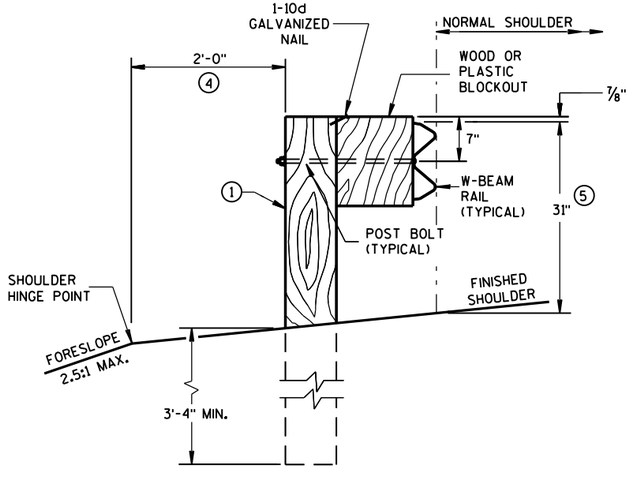
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

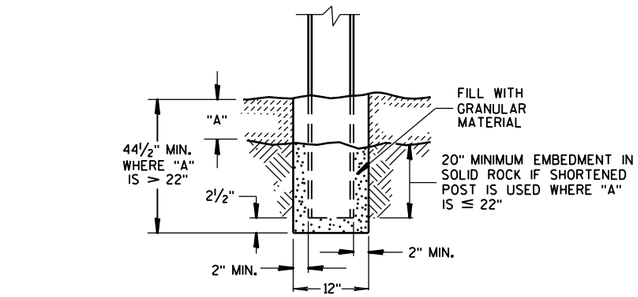
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".



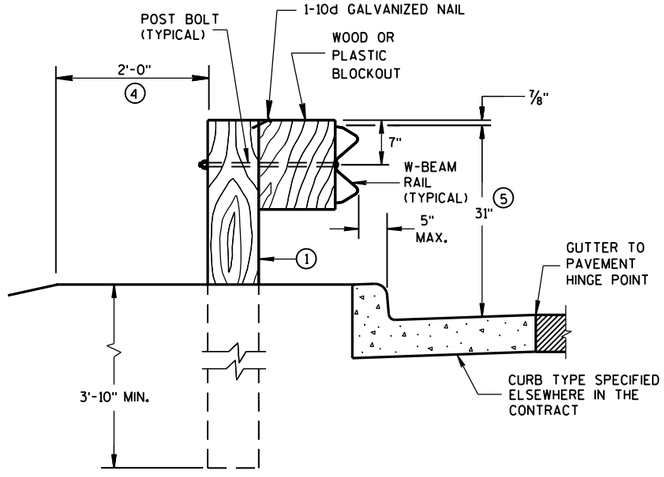
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



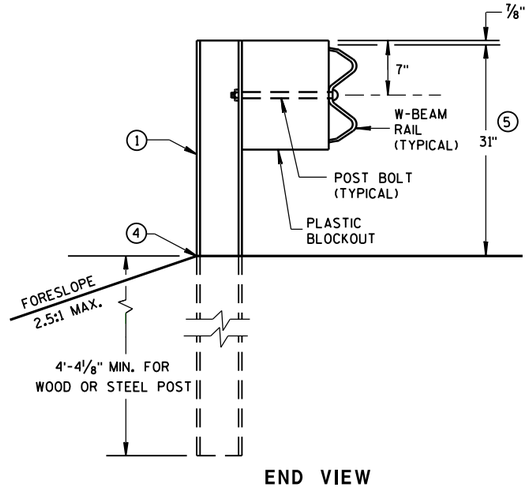
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



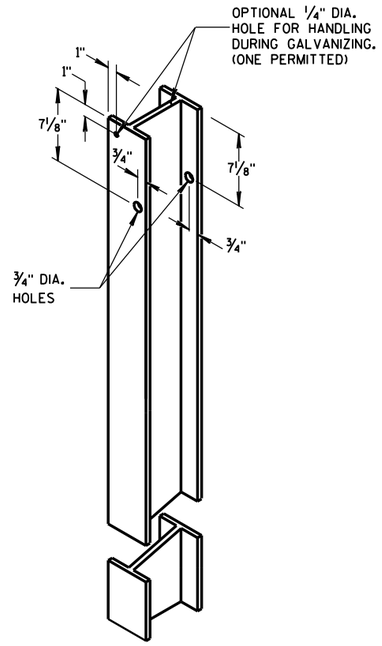
END VIEW

LOCATED ALONG A CURBED ROADWAY

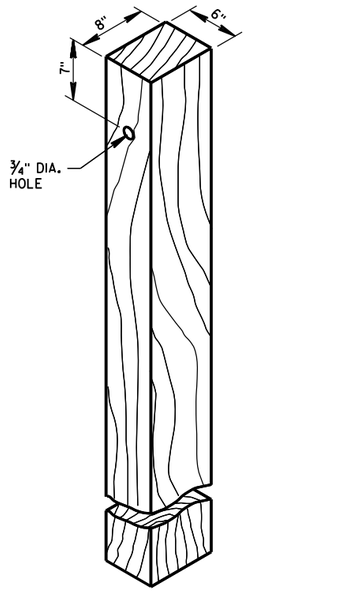


END VIEW

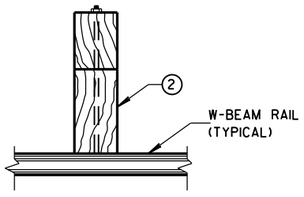
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



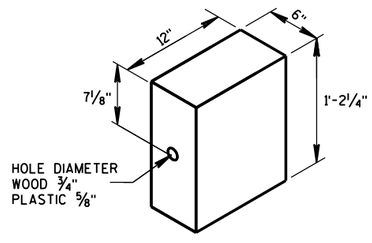
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



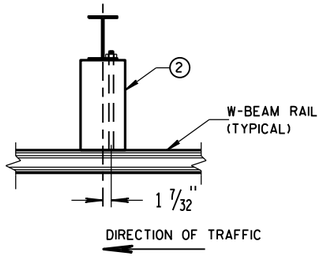
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

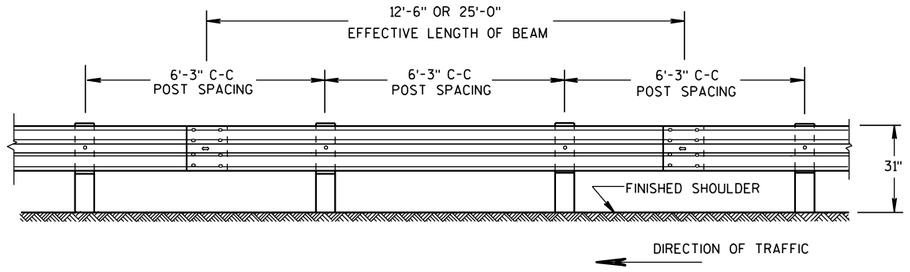


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

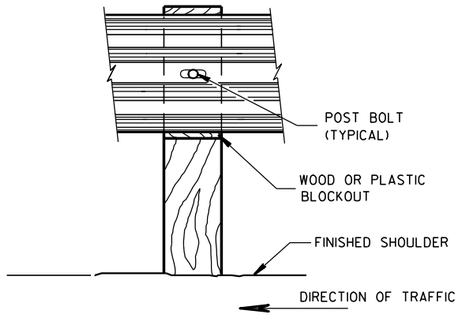
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



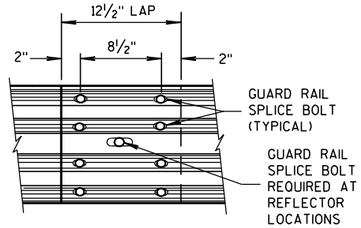
FRONT VIEW AT WOOD POST

GENERAL NOTES

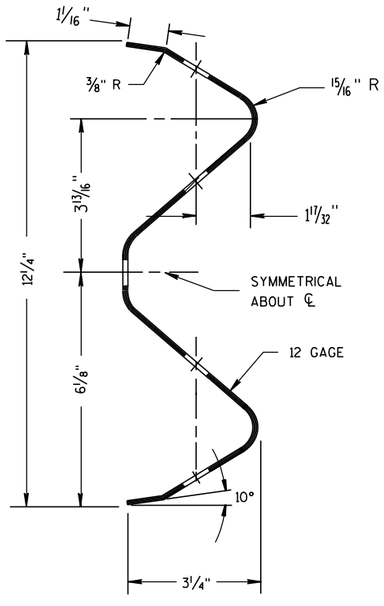
1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

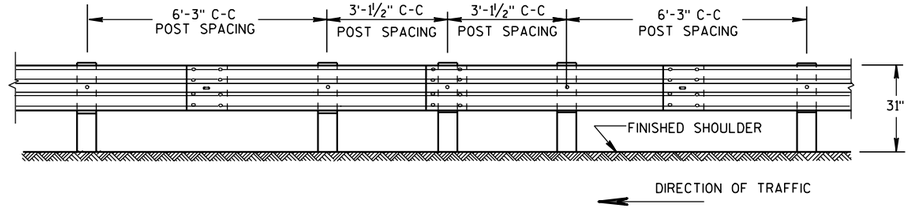
GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



FRONT VIEW
MID-SPAN BEAM SPLICE

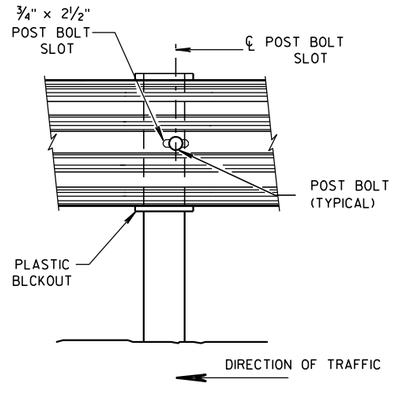


SECTION THRU W-BEAM RAIL



FRONT VIEW

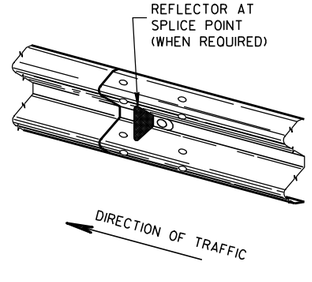
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

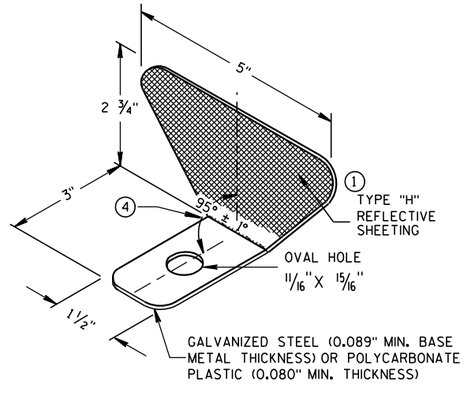


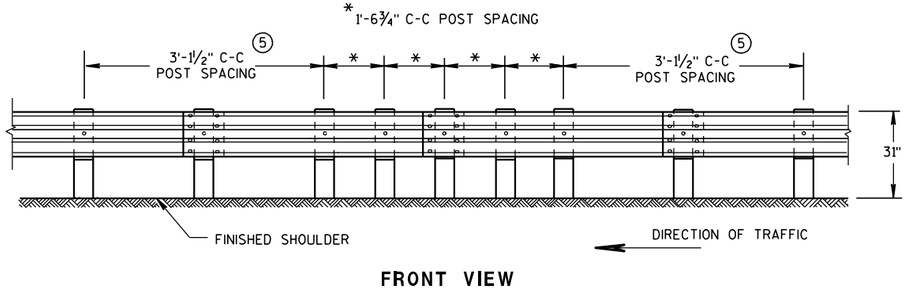
FRONT VIEW AT STEEL POST

REFLECTOR SPACING (2)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (3) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 (4) 2	3







FRONT VIEW

QUARTER POST SPACING (QS)

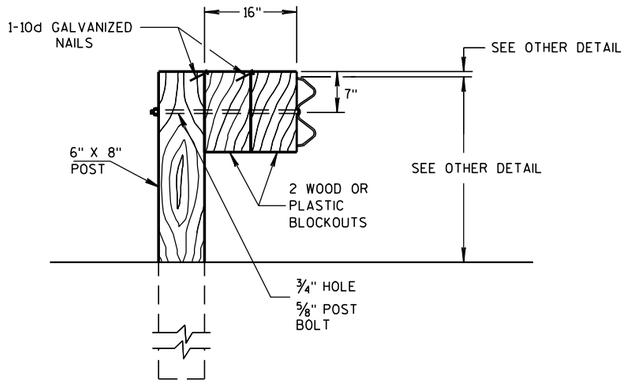
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

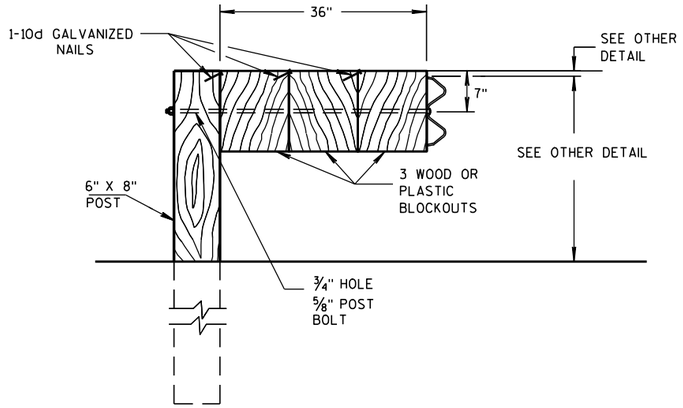
S.D.D. 14 B 42-2b

S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

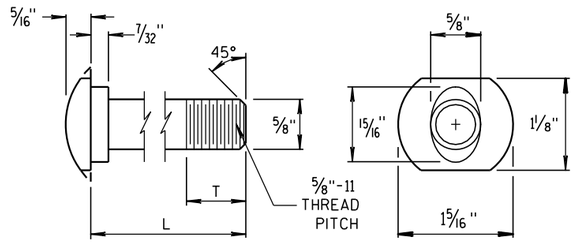


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

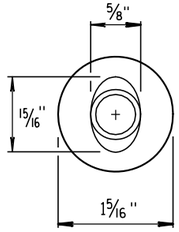
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

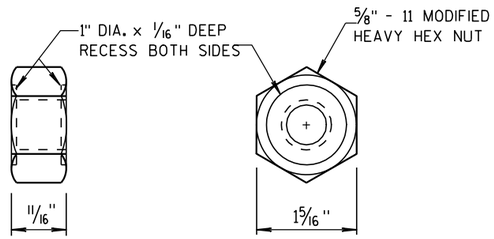


POST BOLT TABLE

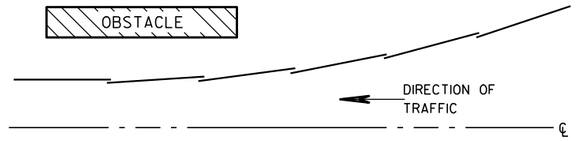
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

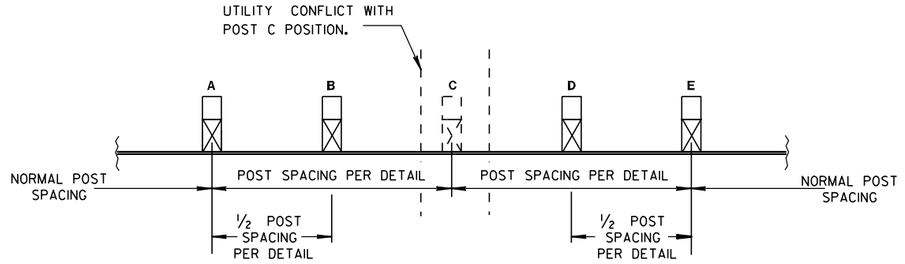


POST BOLT AND RECESS NUT

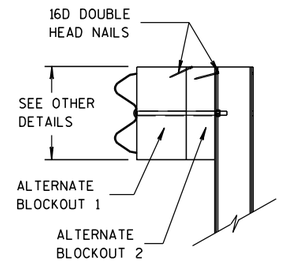


PLAN VIEW

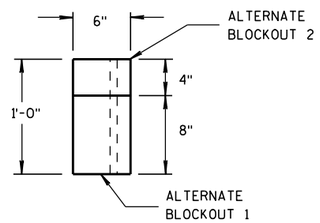
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

25

ENT

6

S.D.D. 14 B 42-2c

6

S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

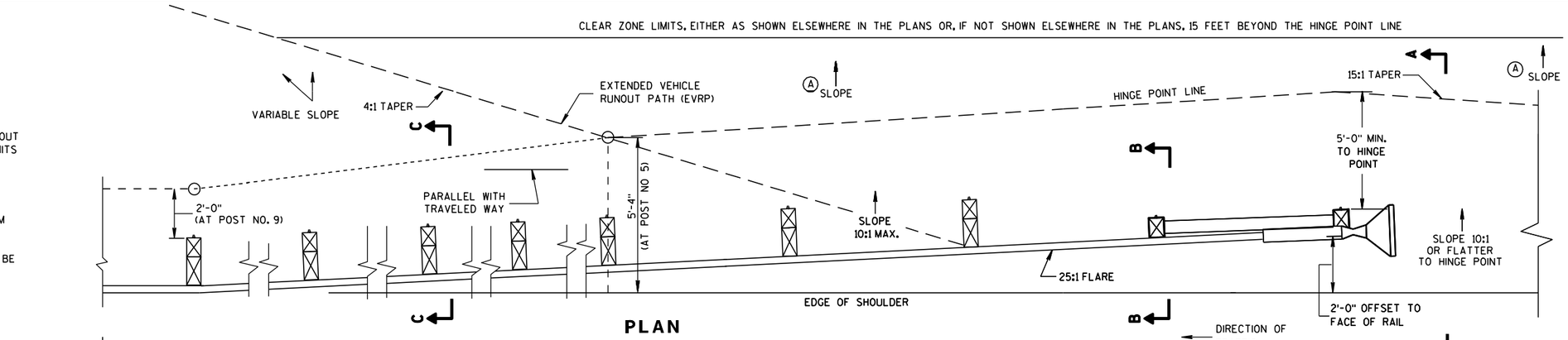
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

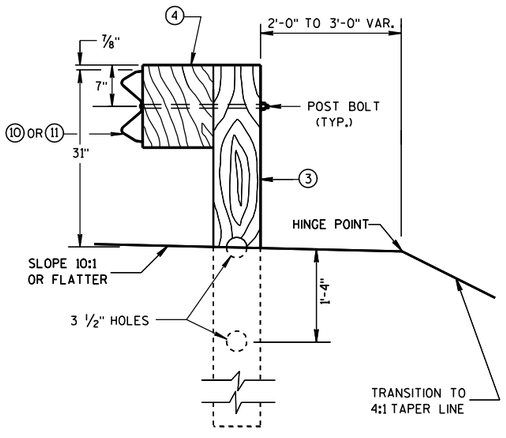
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

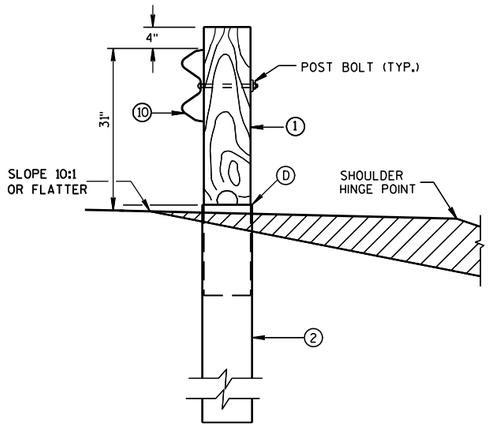
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

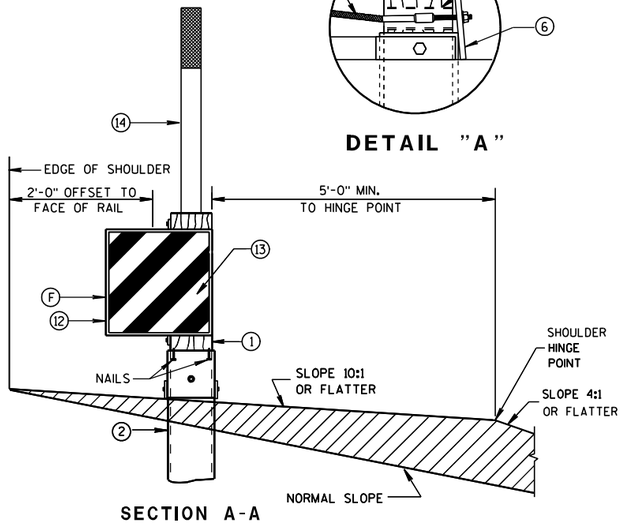




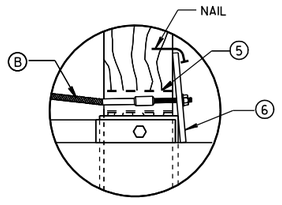
SECTION C-C
TYPICAL AT POST NOS. 3-9



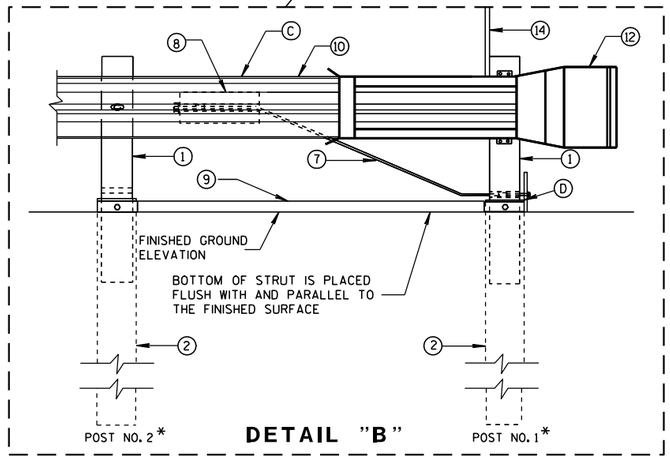
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

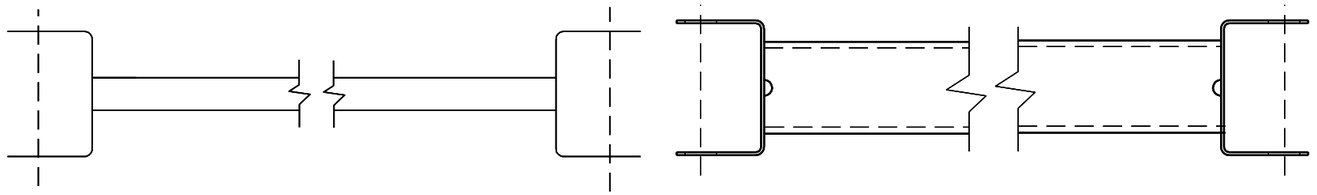


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

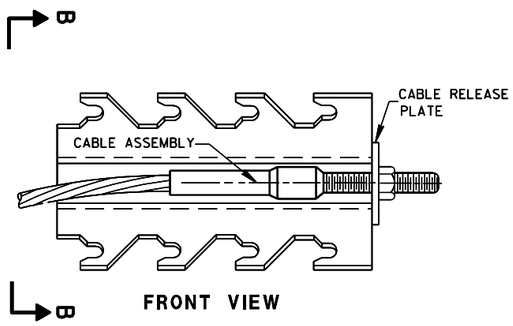
6
S.D.D. 14 B 44-1a



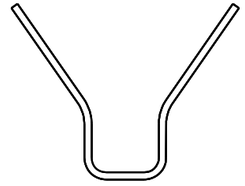
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

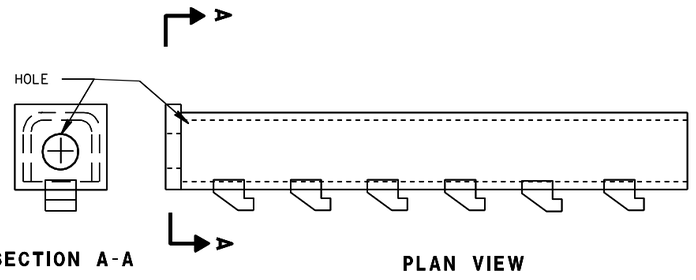
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



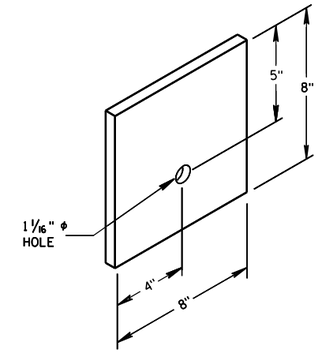
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



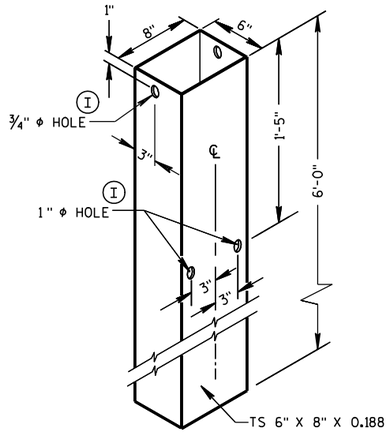
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

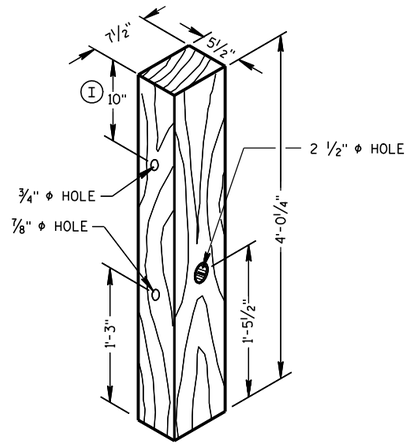
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

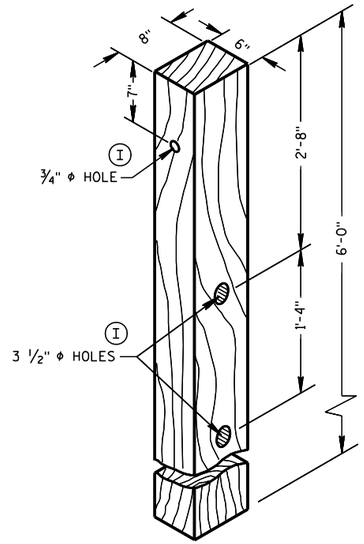


FOUNDATION TUBE (2)



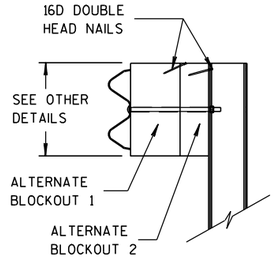
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

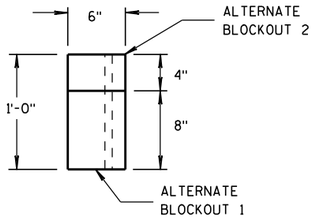


POSTS NUMBER 3-9

WOOD CRT POST (3)

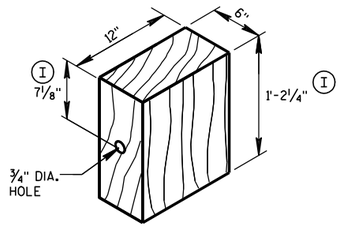


SIDE VIEW



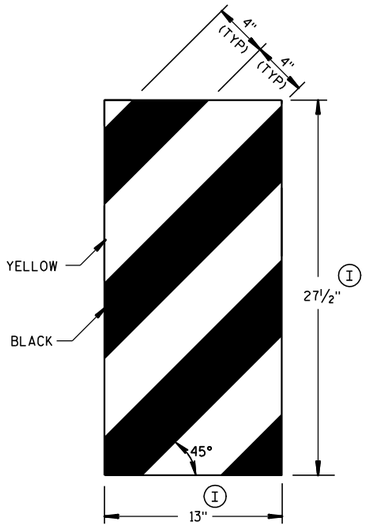
TOP VIEW

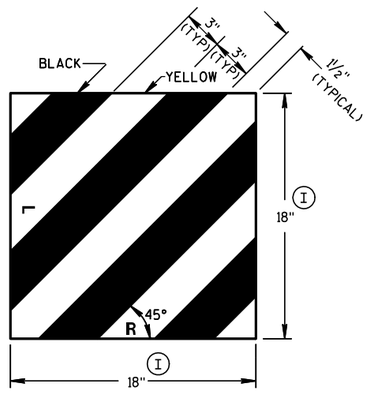
ALTERNATE WOOD BLOCKOUT DETAIL



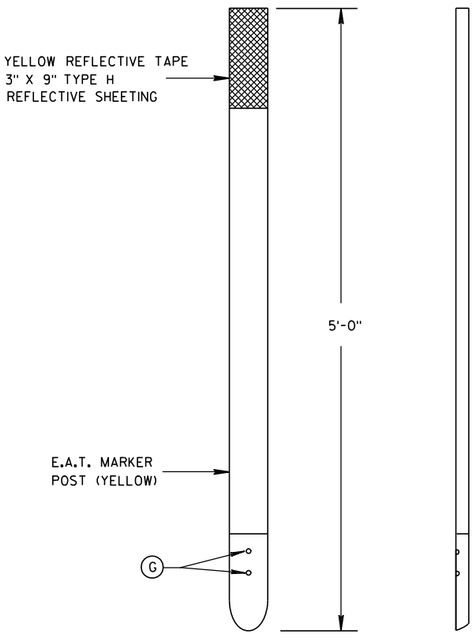
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





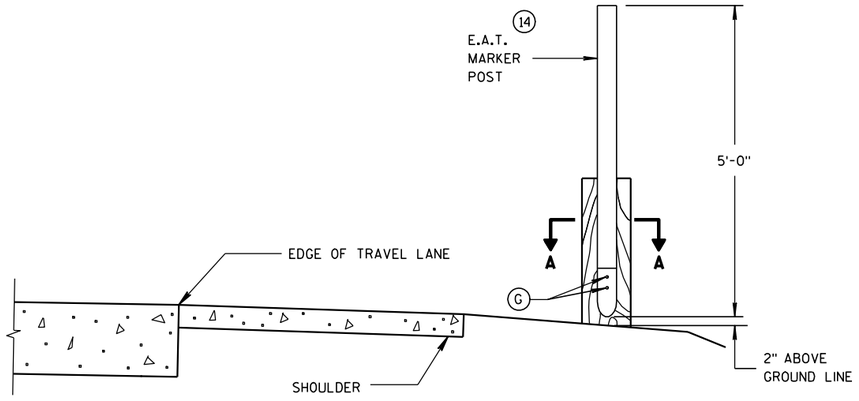
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

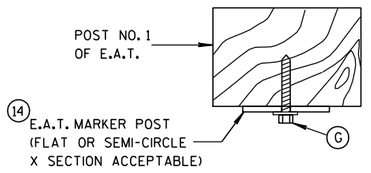
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

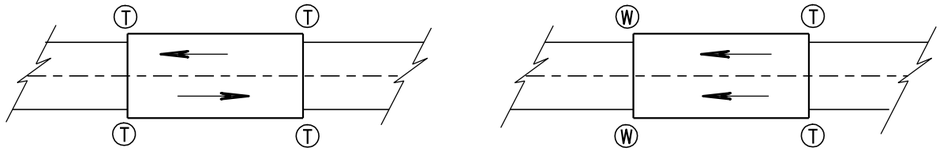
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 44-1c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

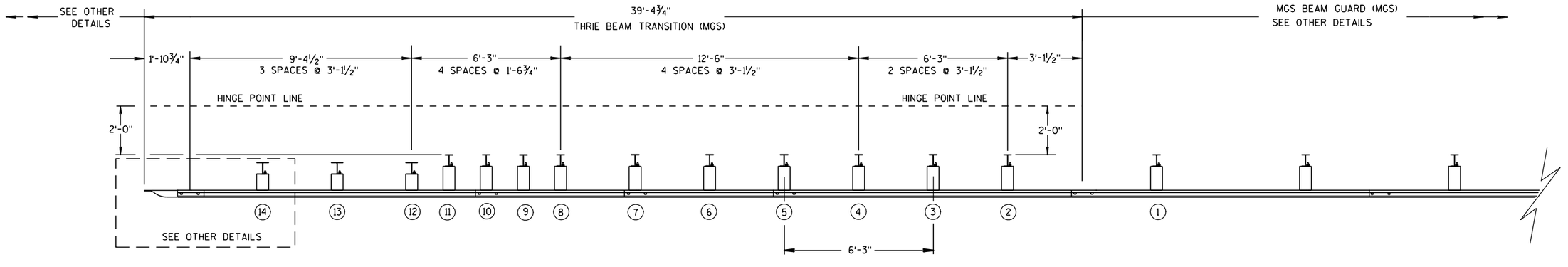
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

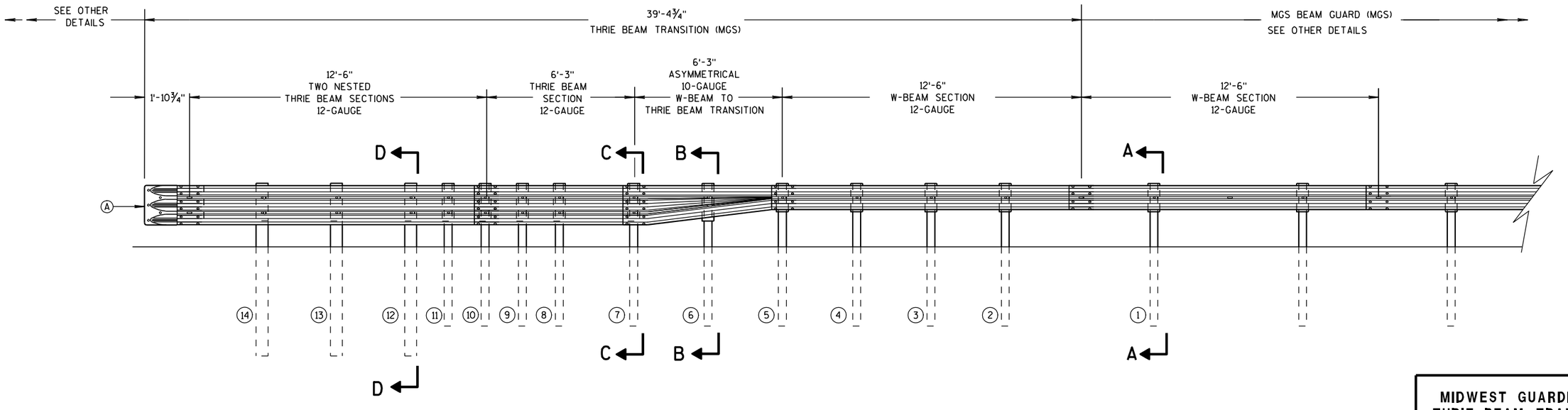
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

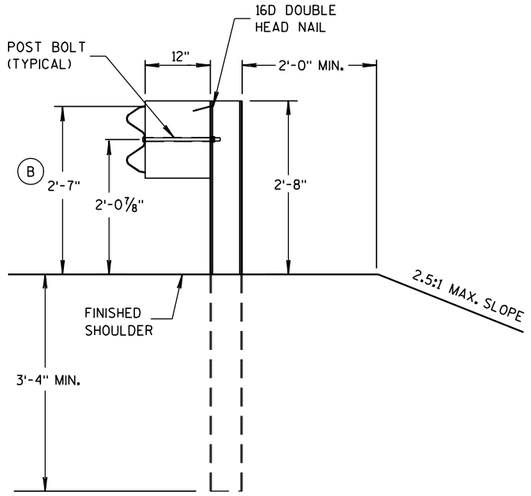
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3a

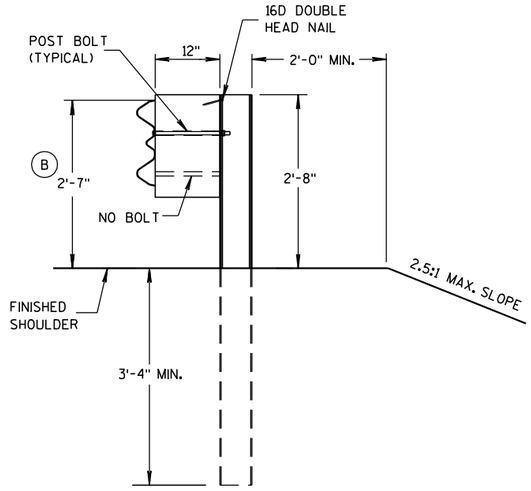
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



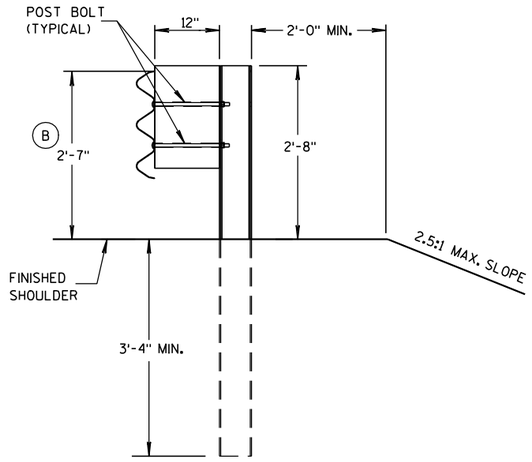
SECTION A-A

POSTS 1-5



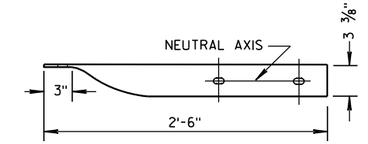
SECTION B-B

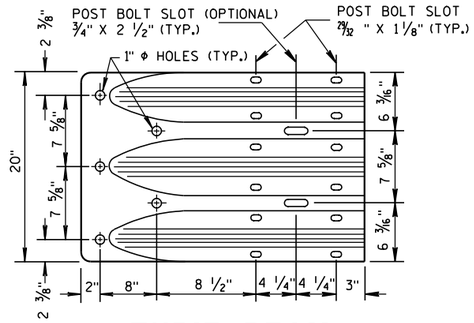
POST 6



SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR

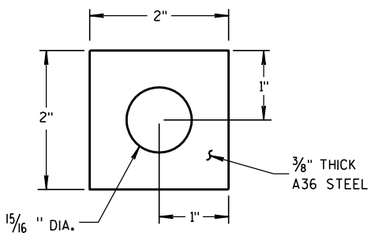
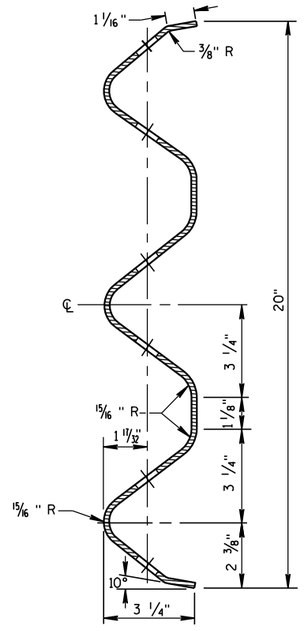
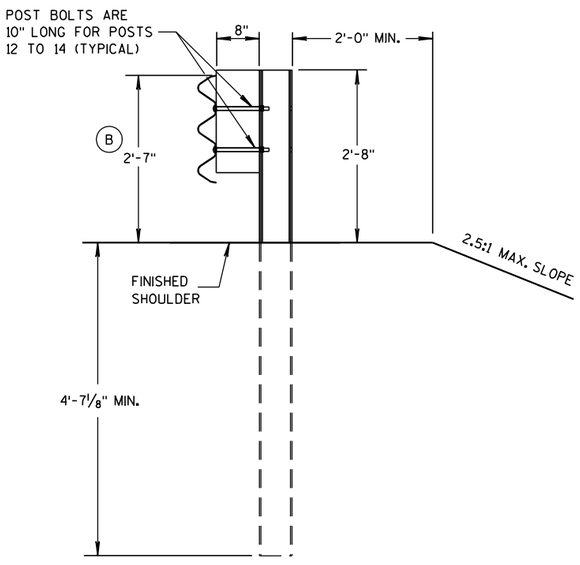


PLATE WASHER DETAIL

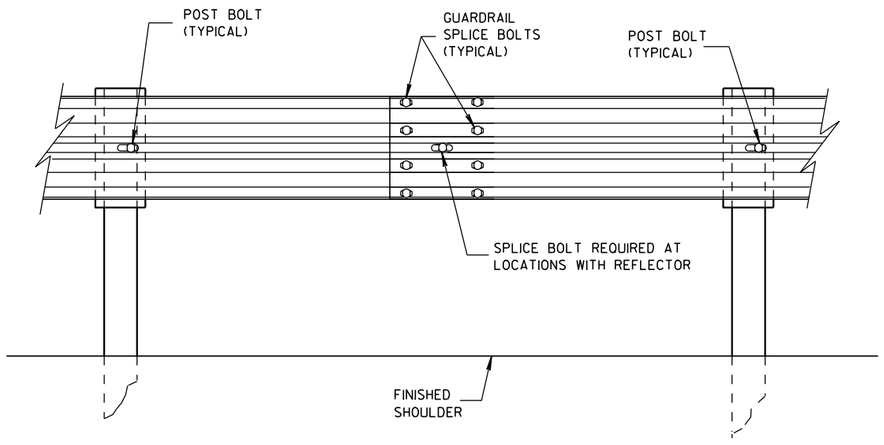


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-14



SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

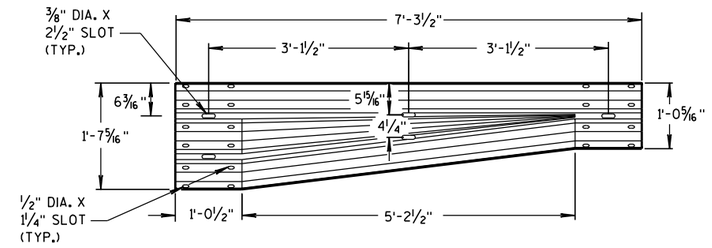
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

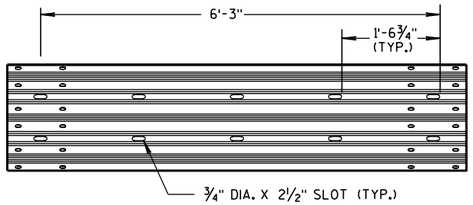
S.D.D. 14 B 45-3b

6

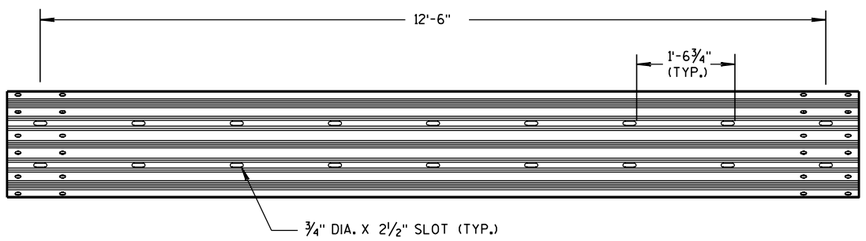
S.D.D. 14 B 45-3b



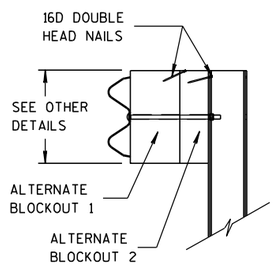
W-BEAM TO THRIE BEAM TRANSITION SECTION



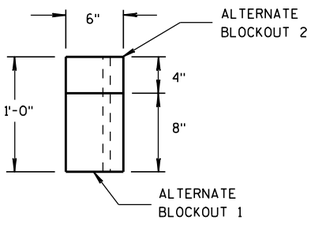
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

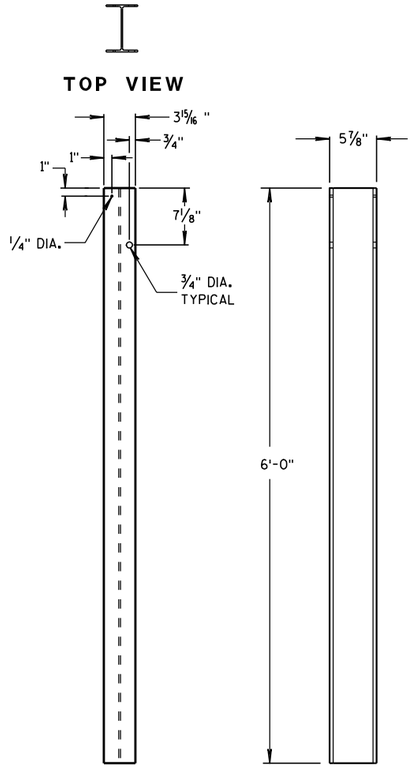


SIDE VIEW

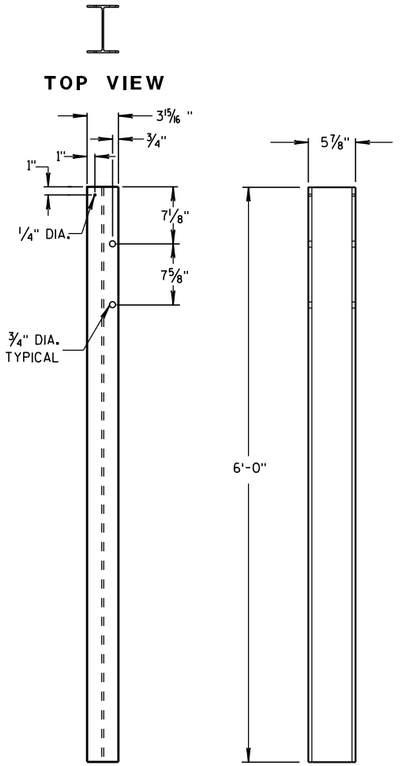


TOP VIEW

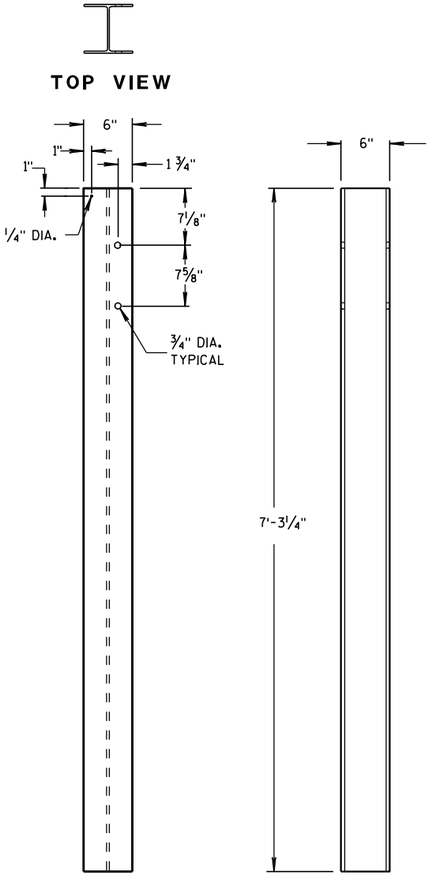
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

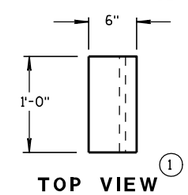


STEEL POSTS 6-11

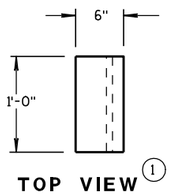


STEEL POSTS 12-14

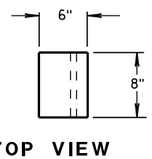
1 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



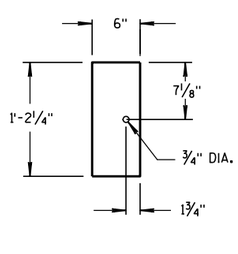
TOP VIEW (1)



TOP VIEW (1)

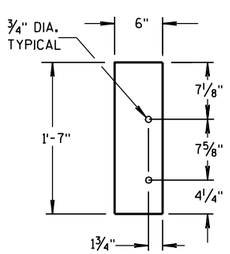


TOP VIEW



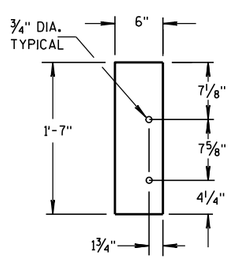
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

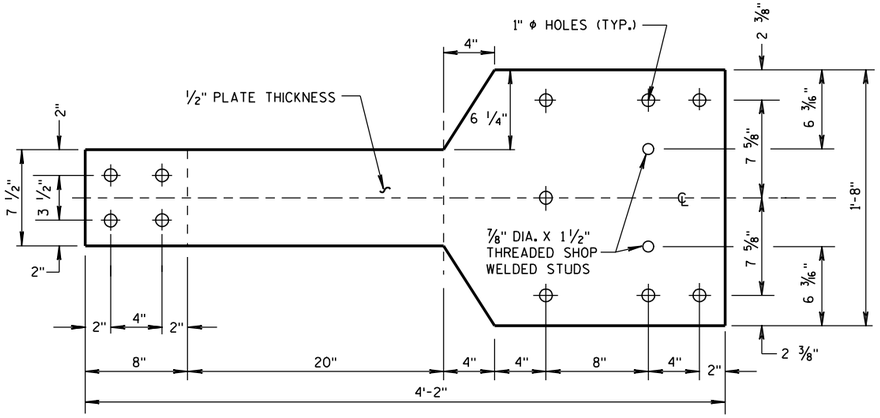
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

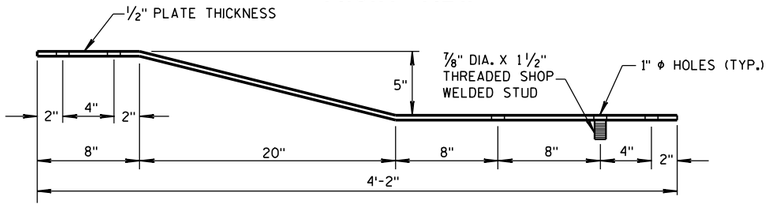
S.D.D. 14 B 45-3c

GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

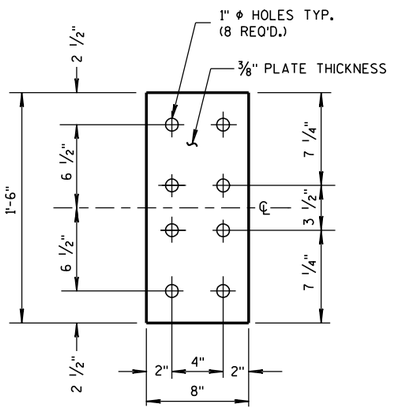


FRONT VIEW



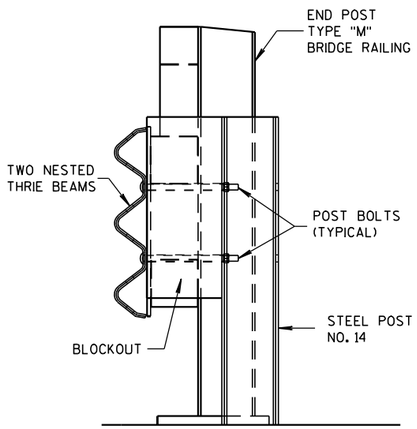
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

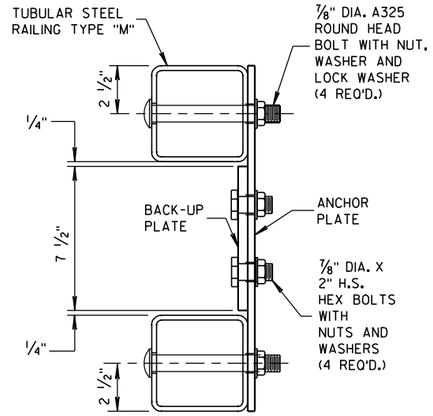


FRONT VIEW

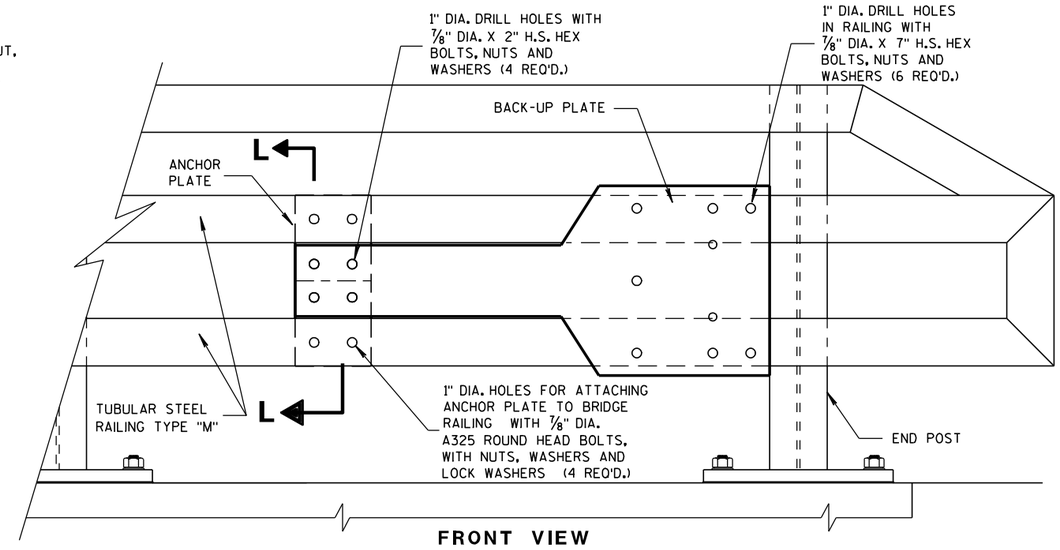
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

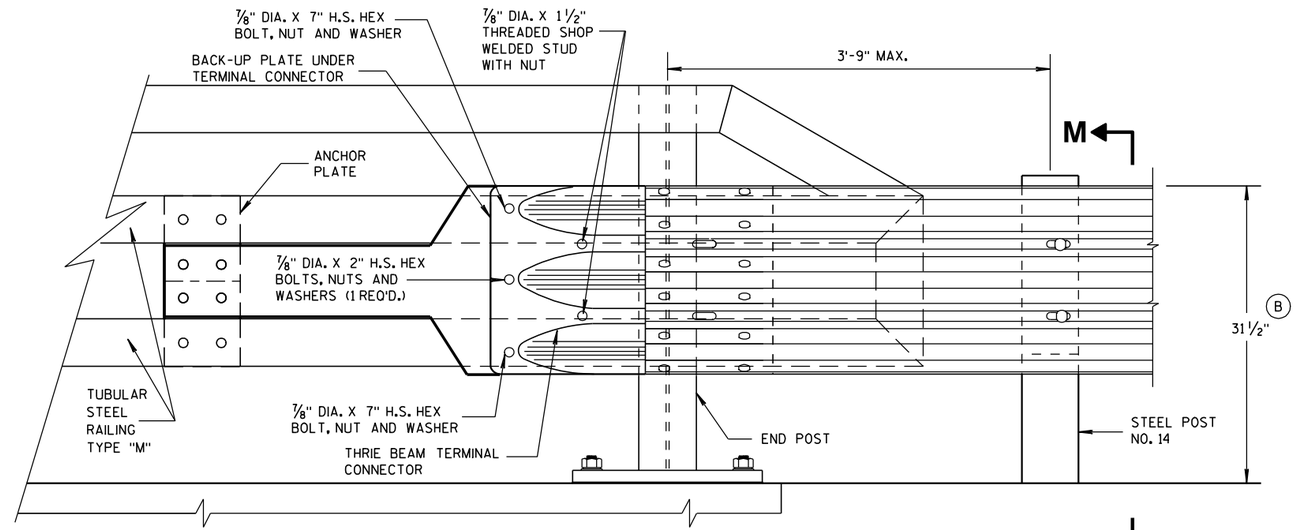


SECTION L-L

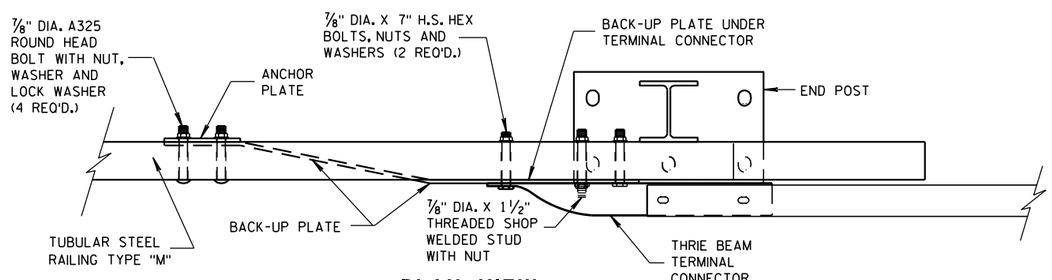


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

32

ENT

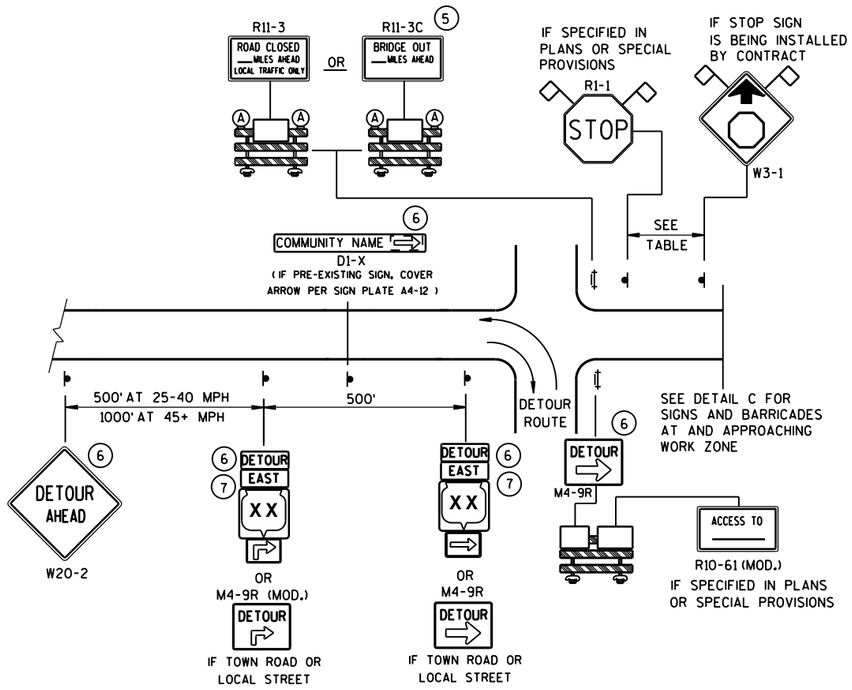
FHWA

6

S.D. 14 B 45-3h

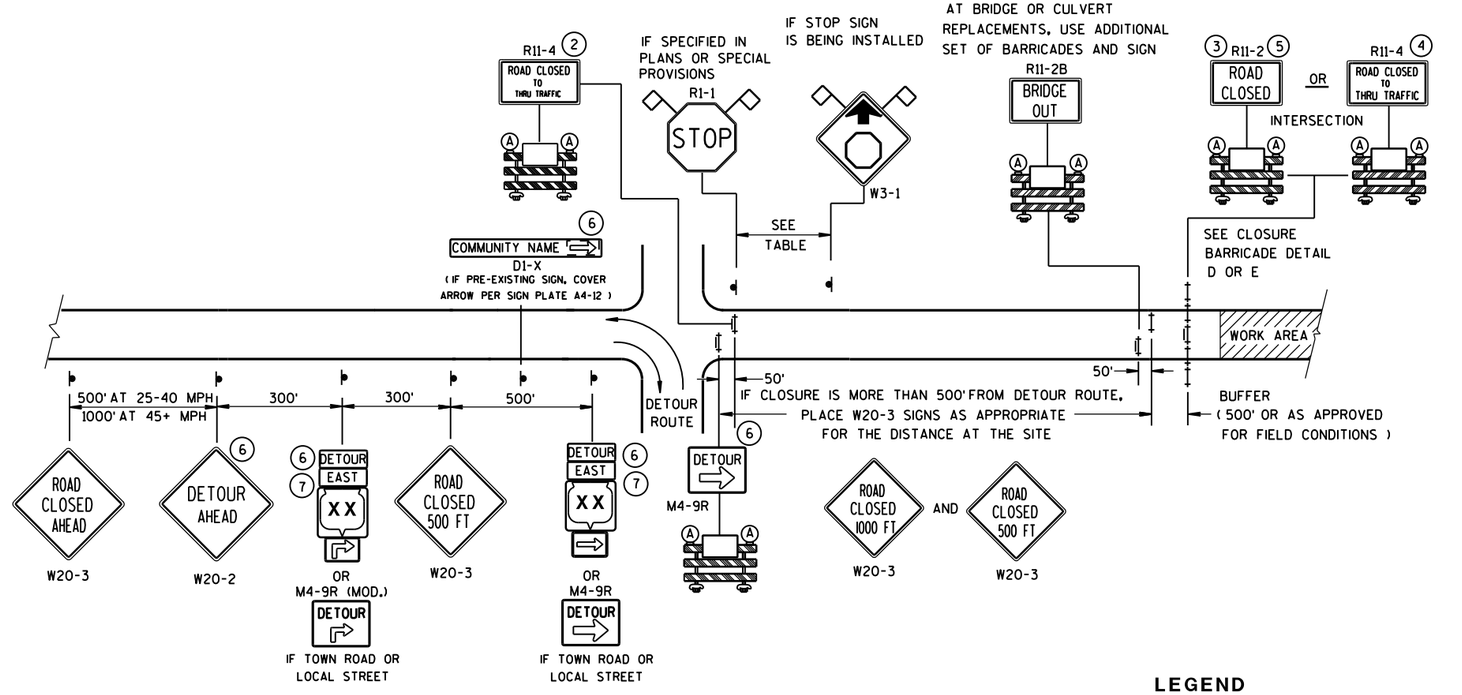
6

S.D. 14 B 45-3h



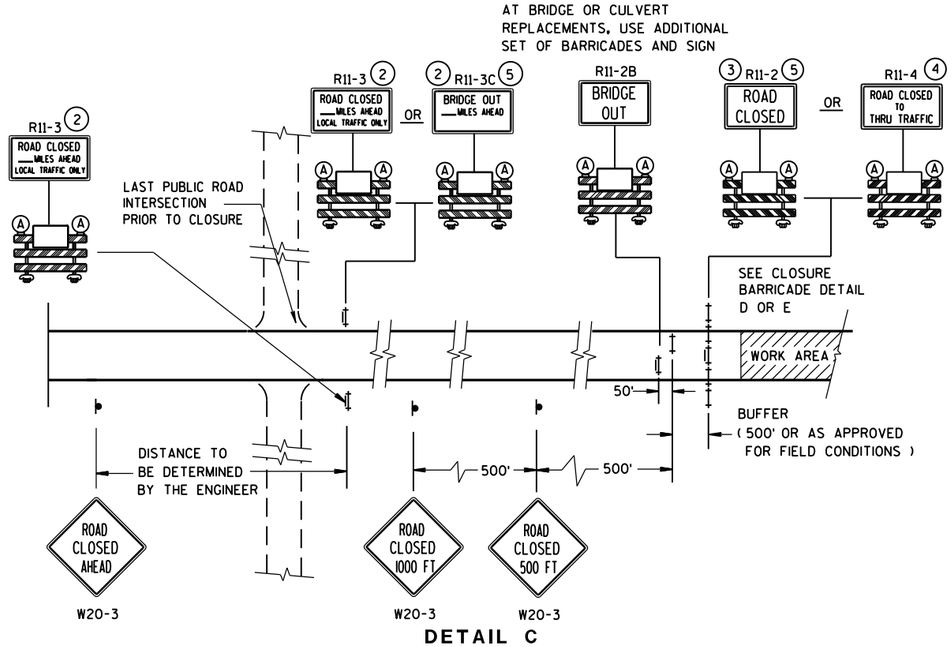
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

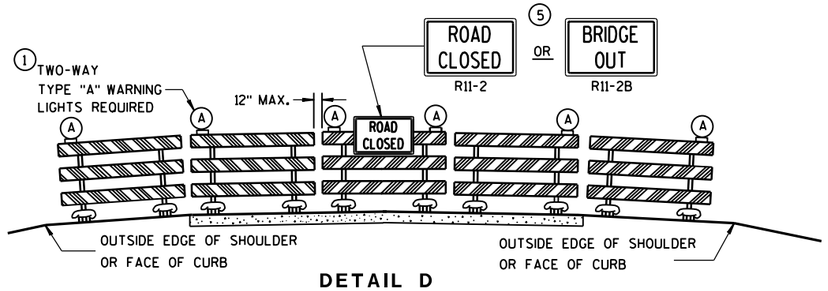
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

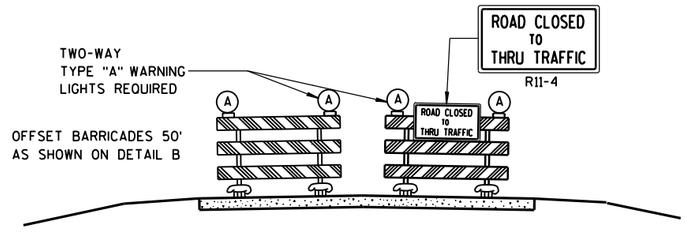
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

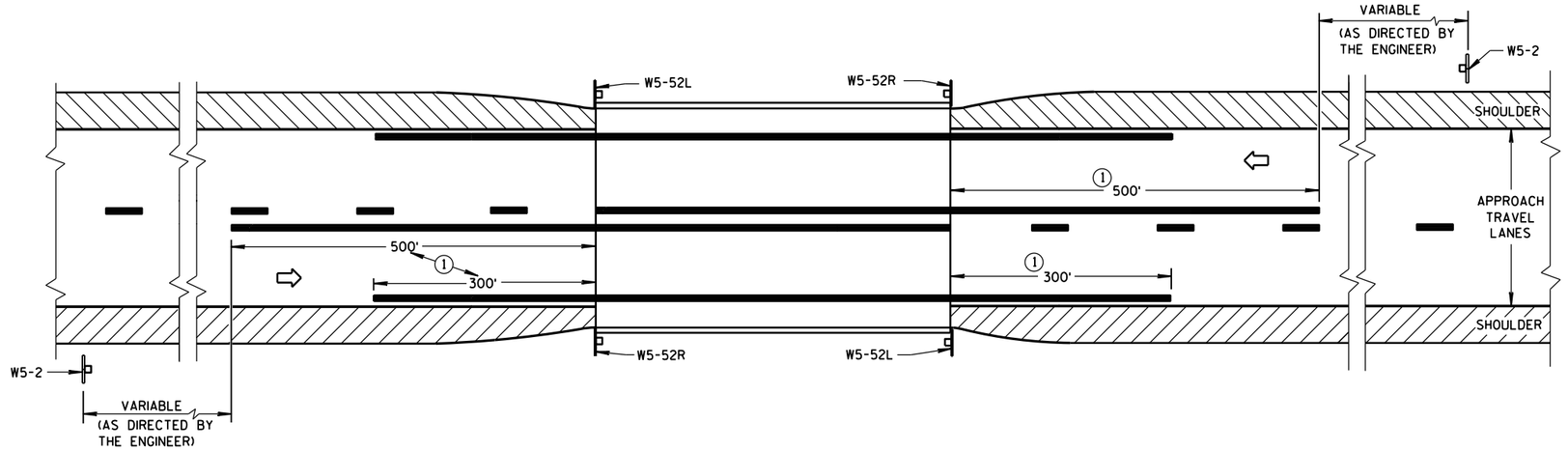
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

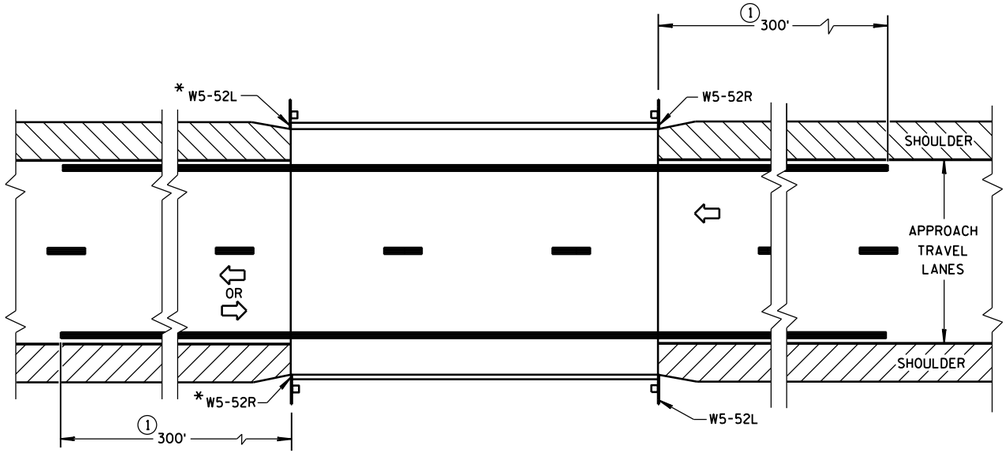
S.D.D. 15 C 2-5b



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

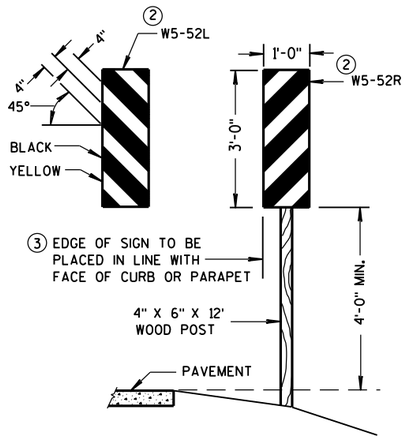
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

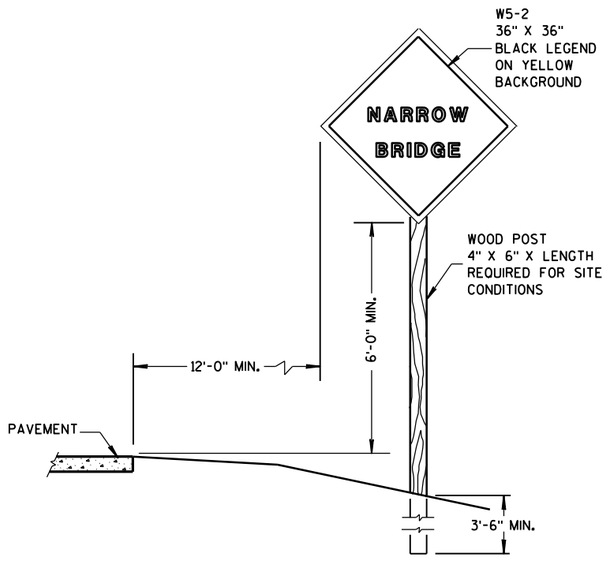
(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(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

6

S.D.D. 15 C 6-6

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

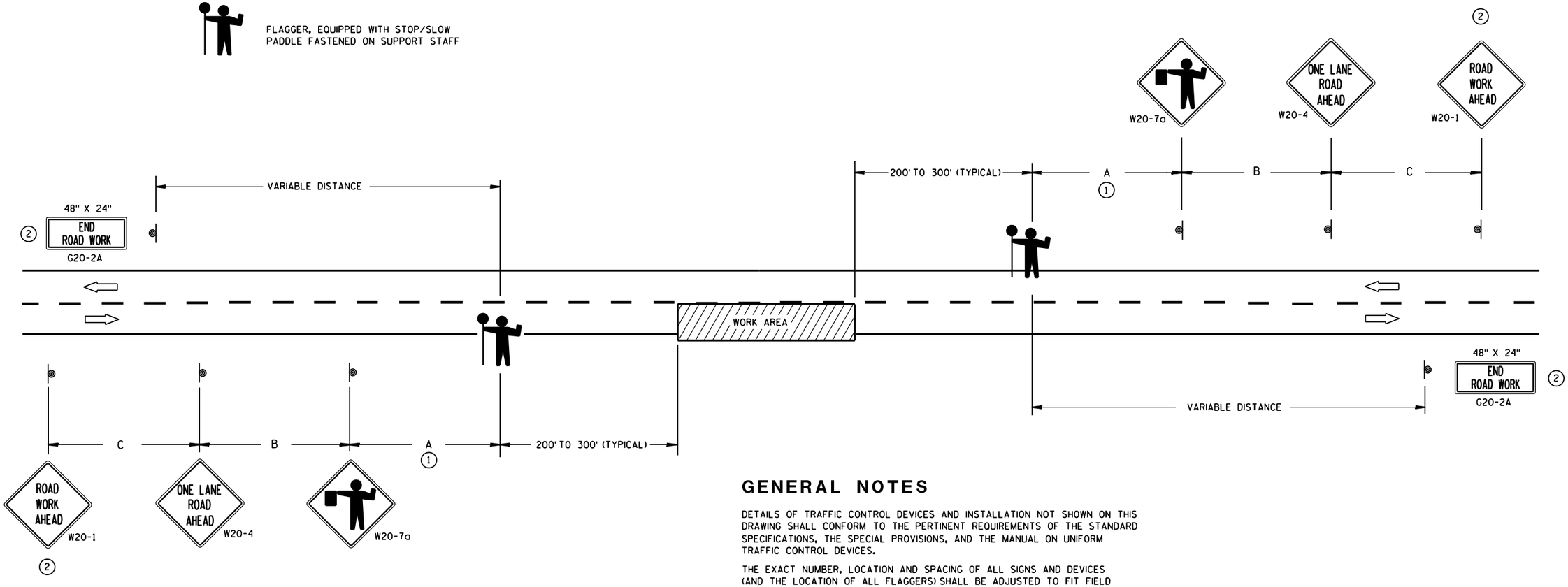
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

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.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

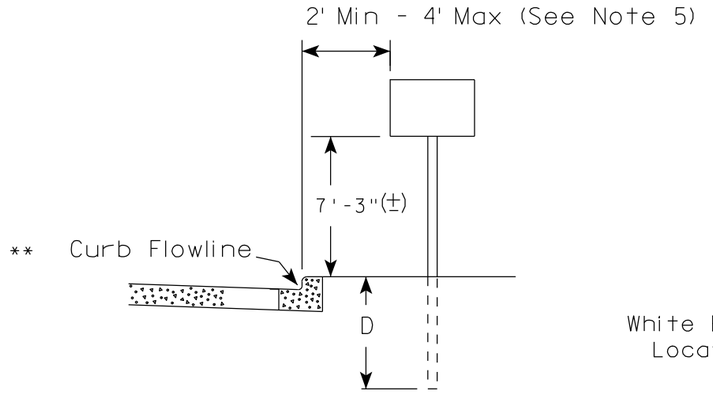
6

S.D.D. 15 C 12-4

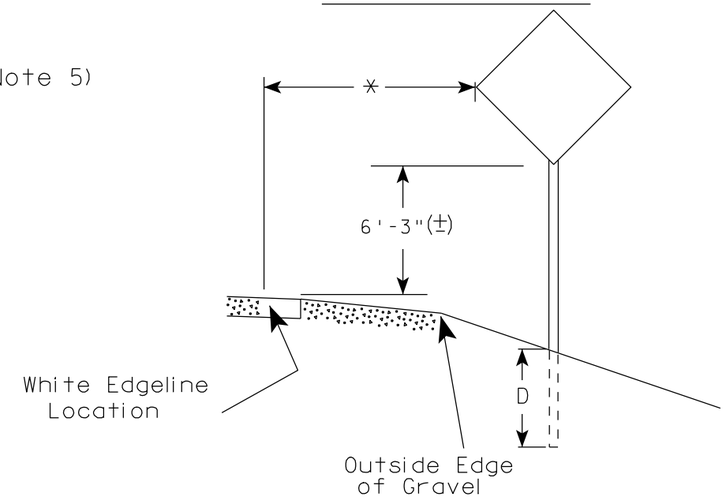
6

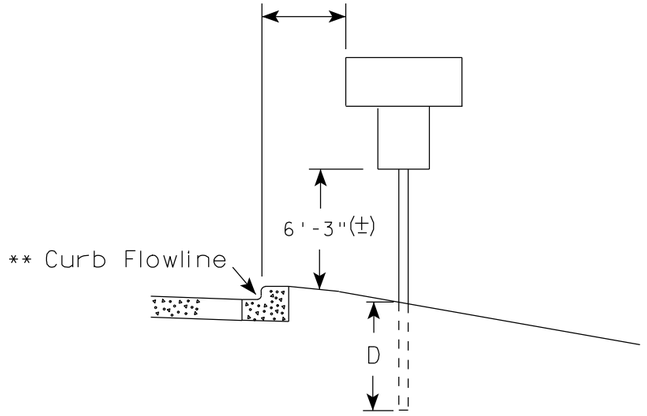
S.D.D. 15 C 12-4

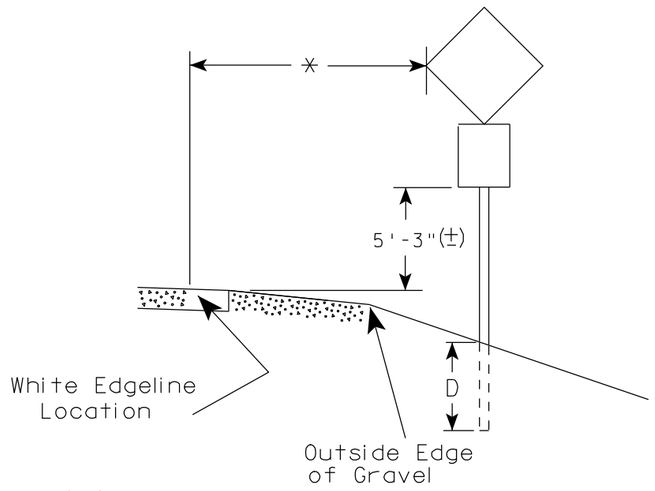
URBAN AREA



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

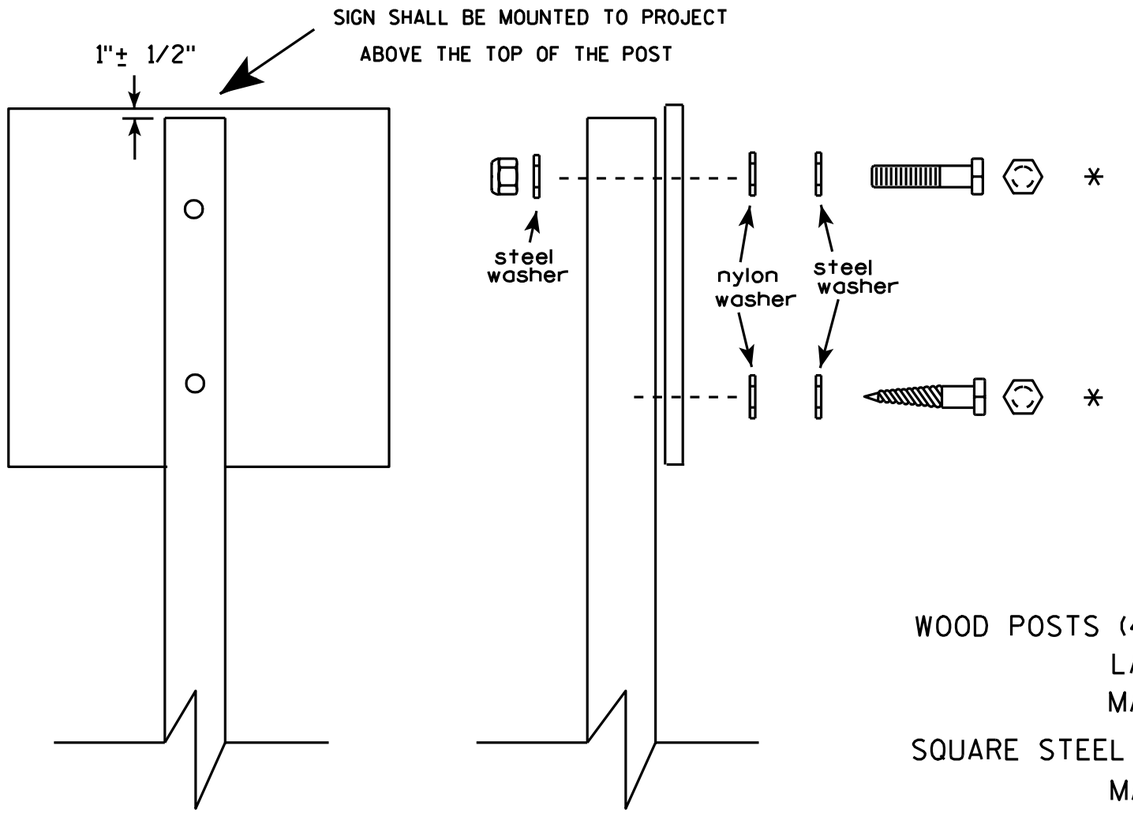
APPROVED Matthew R Rauch for State Traffic Engineer

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

7

7

PROJECT NO: 8899-01-73 | HWY: BUS. HWY 13 | COUNTY: TAYLOR | SHEET NO: 37 | 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

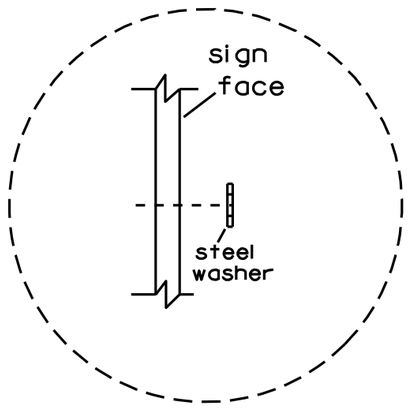
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

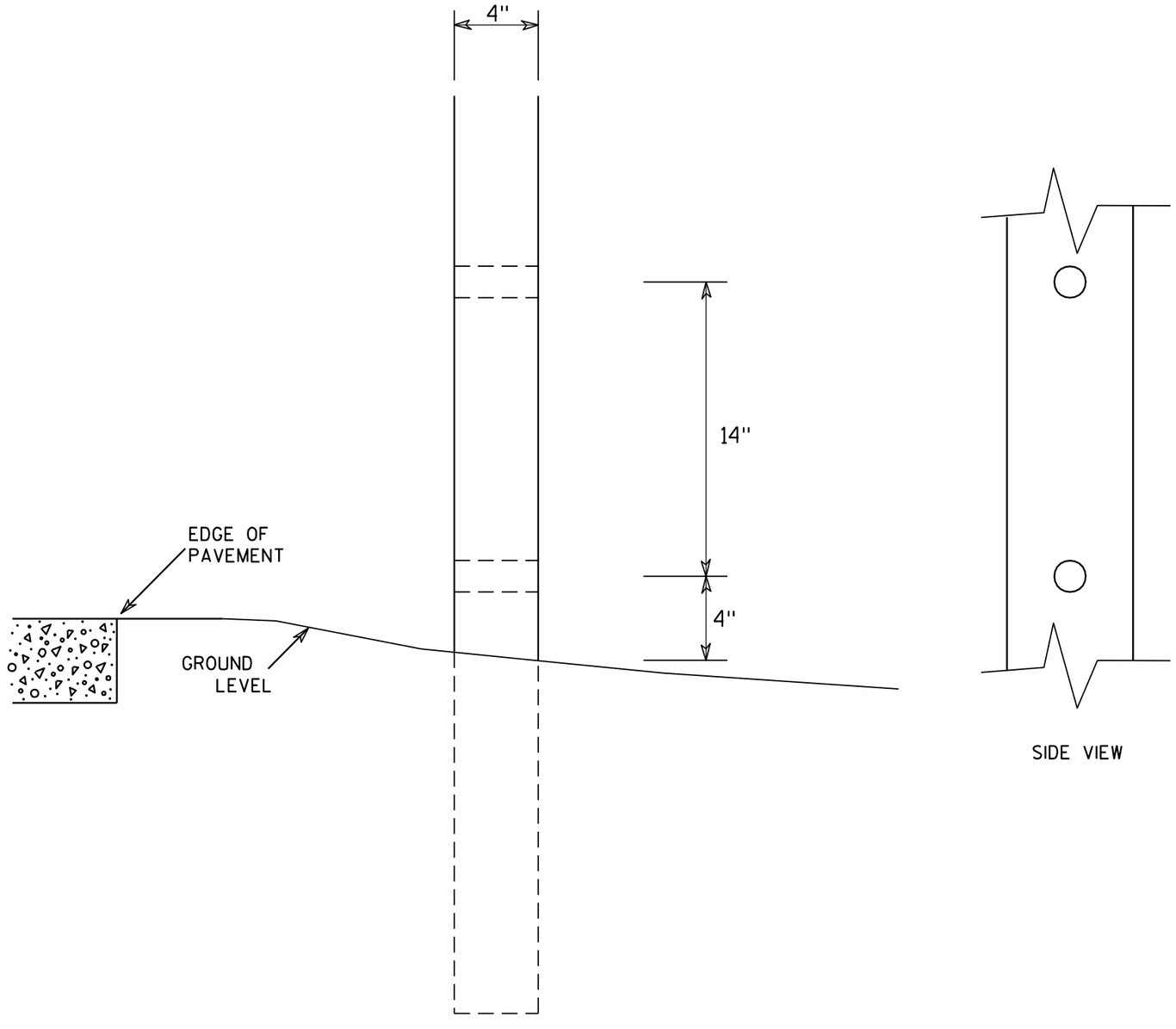
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: 8899-01-73	HWY: BUS. HWY 13	COUNTY: TAYLOR		SHEET NO: 38	E

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



SIDE VIEW

GENERAL NOTES

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

7

7

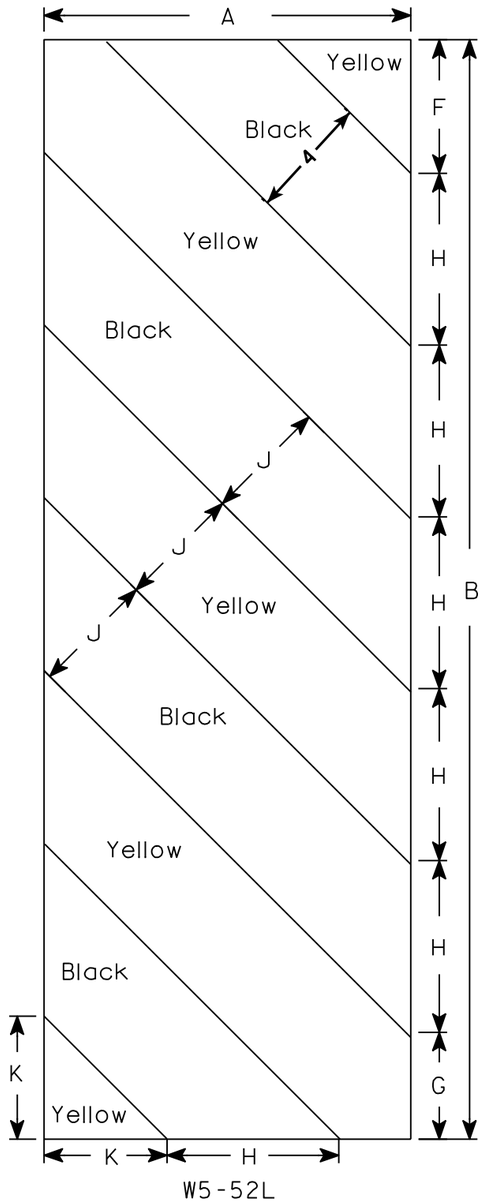
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

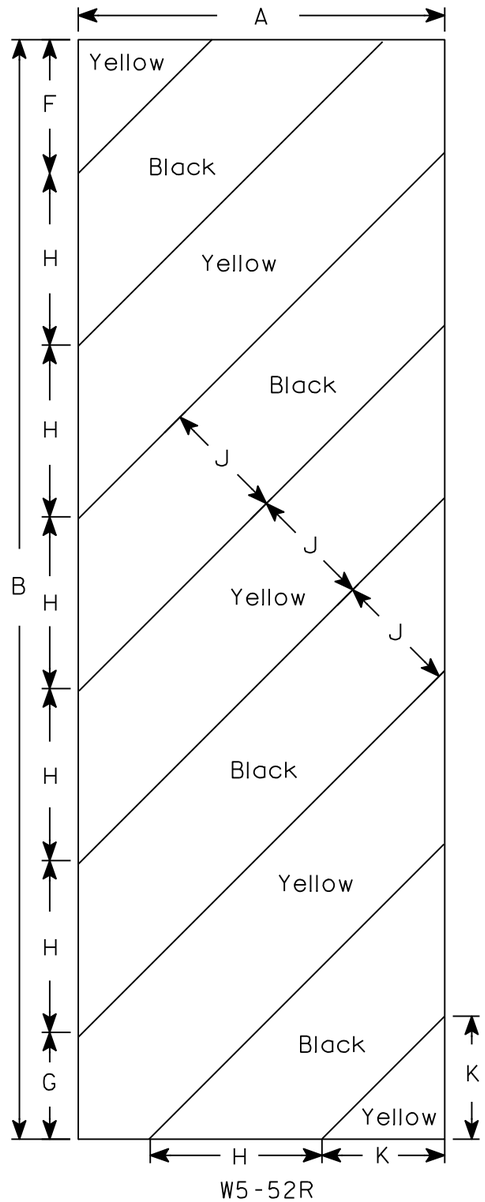
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO: 8899-01-73	HWY: BUS. HWY 13	COUNTY: TAYLOR		SHEET NO: 39	E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

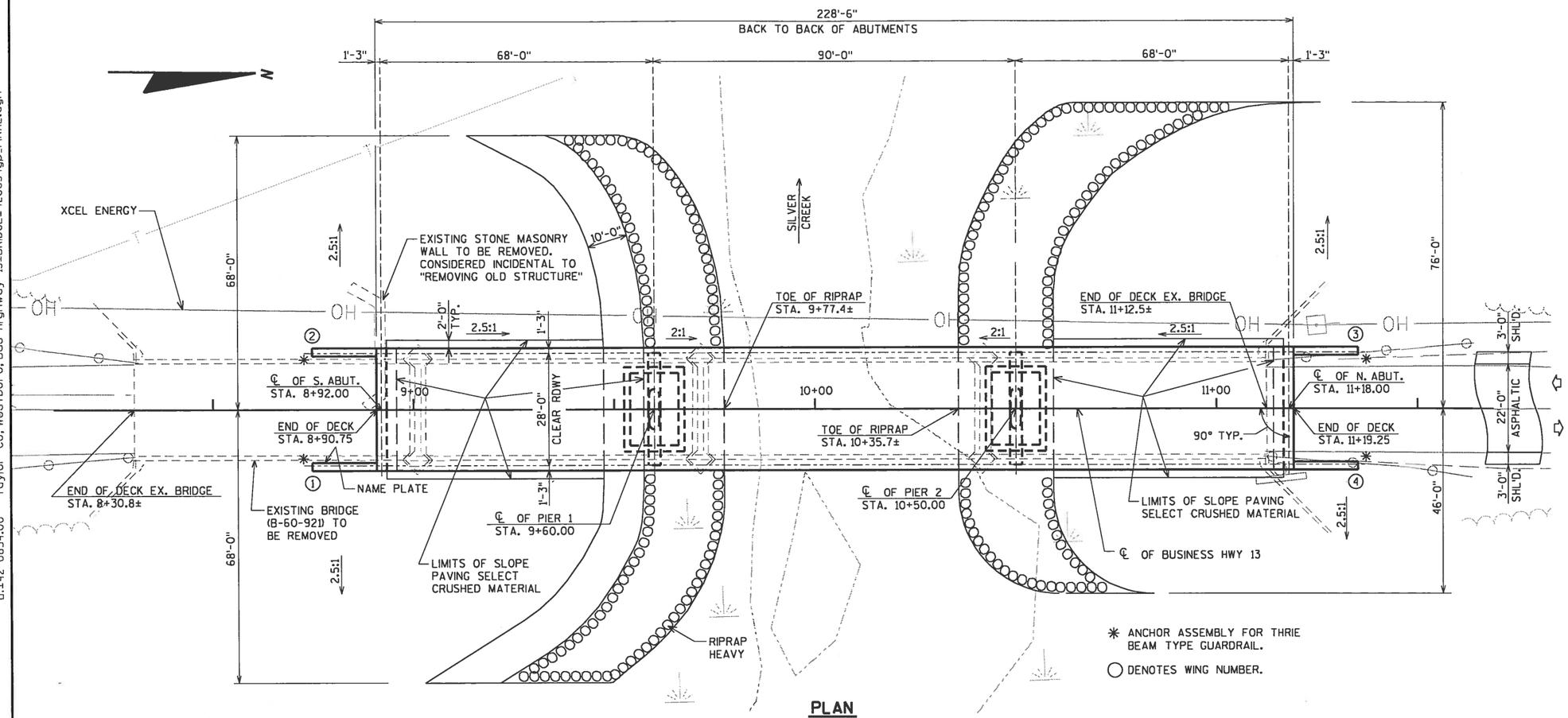
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: 8899-01-73	HWY: BUS. HWY 13	COUNTY: TAYLOR		SHEET NO: 40	E

STATE PROJECT NUMBER

8899-01-73

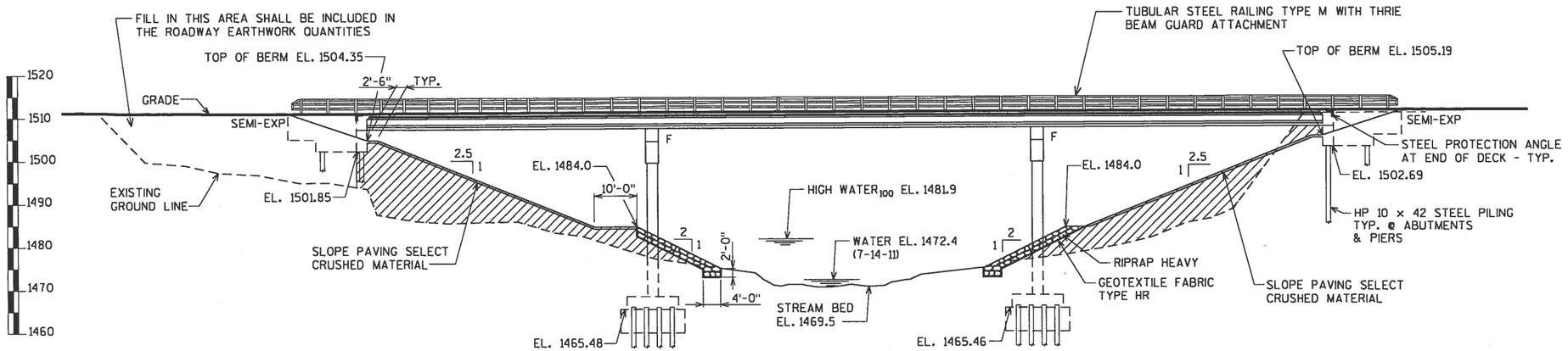


✳ ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.

◯ DENOTES WING NUMBER.

PLAN

THREE SPAN 36W" PRESTRESSED GIRDER BRIDGE



ELEVATION

COST OF EXCAVATION AND FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-60-127".

LIST OF DRAWINGS

FOR TYPICAL SECTION, DESIGN DATA, & PROFILE GRADE LINE, SEE SHEET 2

WISCONSIN
DANIEL N. SYDOW
E-38363
WI
PROFESSIONAL ENGINEER
7/31/2013

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 08/12/13
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-60-127

BUSINESS HWY 13 OVER SILVER CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
TAYLOR	WESTBORO

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JCK	CJM	CLS	BNS

GENERAL PLAN

SHEET 1 OF 23
41

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

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

$PRFNAME$
U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\BRIDGE\420834gp_FINAL.dgn

DATE:
DATE:
DATE:

CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

8

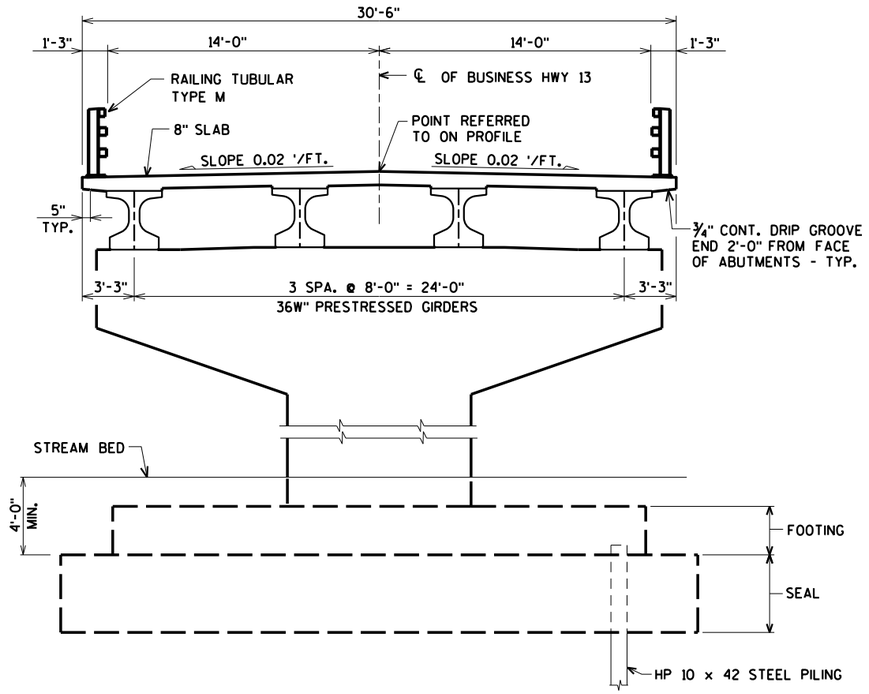
8

7/31/2013

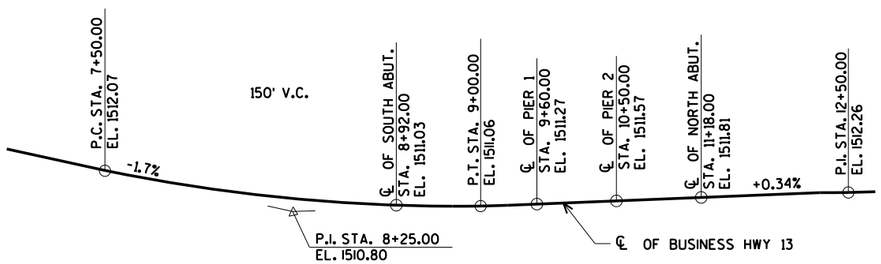
PENTABLE:BReau_shd_util.tbl

I.D.

DATE:



TYPICAL SECTION THRU BRIDGE



PROFILE GRADE LINE
(BUSINESS HWY 13)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.06
OPERATING RATING FACTOR: 1.54
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

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)		f_y =	60,000 p.s.i.

36W" PRESTRESSED GIRDER
CONCRETE MASONRY f'_c = 8,000 p.s.i.
STRANDS - 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF = 270,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD
DRAINAGE AREA = 35.6 sq. mi.
WATERWAY AREA = 469 sq. ft.
V = 7.5 f.p.s.
Q_{100} = 3,500 c.f.s.
HIGH WATER$_{100}$ EL. 1481.9
HIGH WATER$_2$ EL. 1475.6
RDWY. OVERRFLOW = N/A
SCOUR CRITICAL CODE = 5
NAD 83 DATUM

FOUNDATION DATA:

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 155 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED LENGTH 95'-0".

PIER TO BE SUPPORTED ON HP 10 x 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS ‡ PER PILE. ESTIMATED LENGTH 60'-0".

NORTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 155 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED LENGTH 100'-0".

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

TRAFFIC DATA:

A.D.T. = 390 (2014)
A.D.T. = 460 (2034)
R.D.S. = 40 M.P.H.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY CLS | PLANS CK'D. AEB

TYPICAL SECTION AND DESIGN DATA

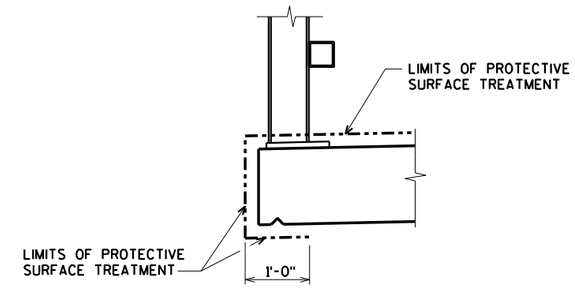
SHEET 2 OF 23
42

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

STATE PROJECT NUMBER
8899-01-73

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 9+72	LS	-----	-----	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-60-127	LS	-----	-----	-----	-----	-----	1
206.5000	COFFERDAMS B-60-127	LS	-----	-----	-----	-----	-----	1
210.0100	BACKFILL STRUCTURE	CY	145	-----	-----	105	-----	250
502.0100	CONCRETE MASONRY BRIDGES	CY	34	95	95	34	234	492
502.1100	CONCRETE MASONRY SEAL	CY	-----	59	59	-----	-----	118
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	-----	-----	870	870
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	-----	-----	-----	-----	906	906
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	1,790	20,150	20,180	1,790	-----	43,910
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,800	-----	-----	1,800	57,730	61,330
506.0105	STRUCTURAL STEEL CARBON	LB	-----	-----	-----	-----	600	600
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4	8	8	4	-----	24
506.4000	STEEL DIAPHRAGM B-60-127	EACH	-----	-----	-----	-----	12	12
513.4060	RAILING TUBULAR TYPE M B-60-127	LS	-----	-----	-----	-----	-----	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	-----	-----	9	-----	18
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	760	1,440	1,440	800	-----	4,440
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	260	-----	-----	210	-----	470
606.0300	RIPRAP HEAVY	CY	-----	275	320	-----	-----	595
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	65	-----	-----	65	-----	130
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	-----	480	550	-----	-----	1,030
	NON-BID ITEMS							
	FILLER	SIZE	-----	-----	-----	-----	-----	½" & ¾"



PROTECTIVE SURFACE TREATMENT DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

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

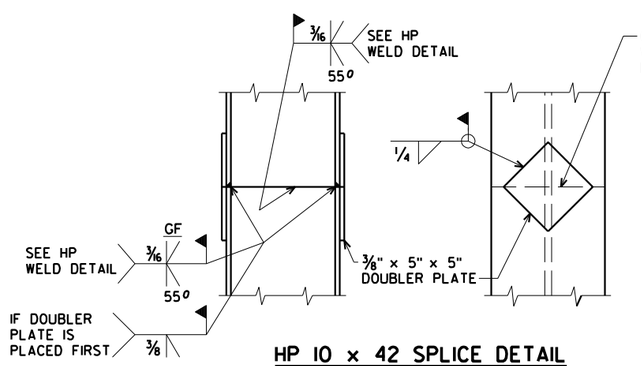
THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

THE EXISTING STRUCTURE, P-60-921, TO BE REMOVED, IS A FOUR SPAN STEEL THROUGH GIRDER BRIDGE, 279 FT. LONG WITH A 23.0 FT. CLEAR ROADWAY WIDTH.

AT BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

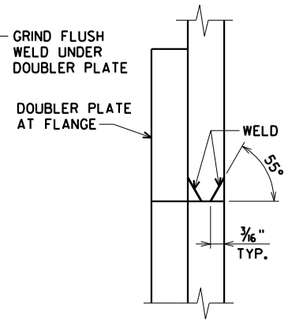
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

THE HAUNCH CONCRETE IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.



HP 10 x 42 SPLICE DETAIL

GRINDING MAY BE USED IN LIEU OF BACKGOUGING



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

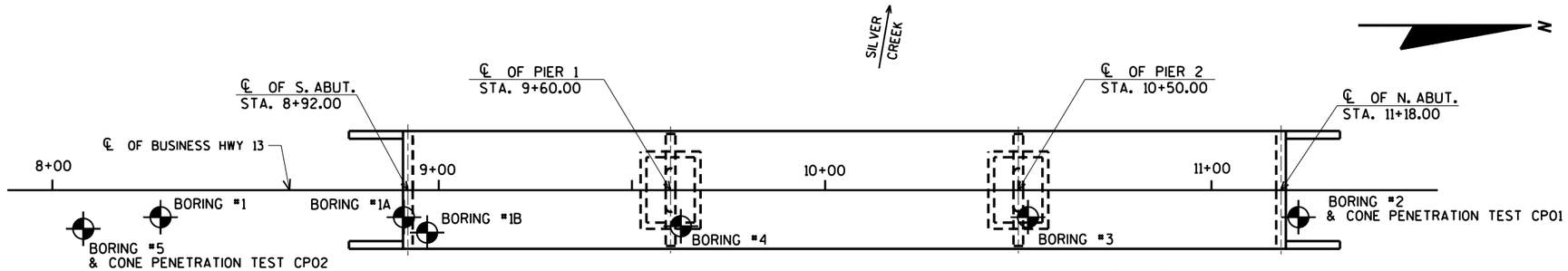
QUANTITIES AND NOTES

SHEET 3 OF 23
43

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

8

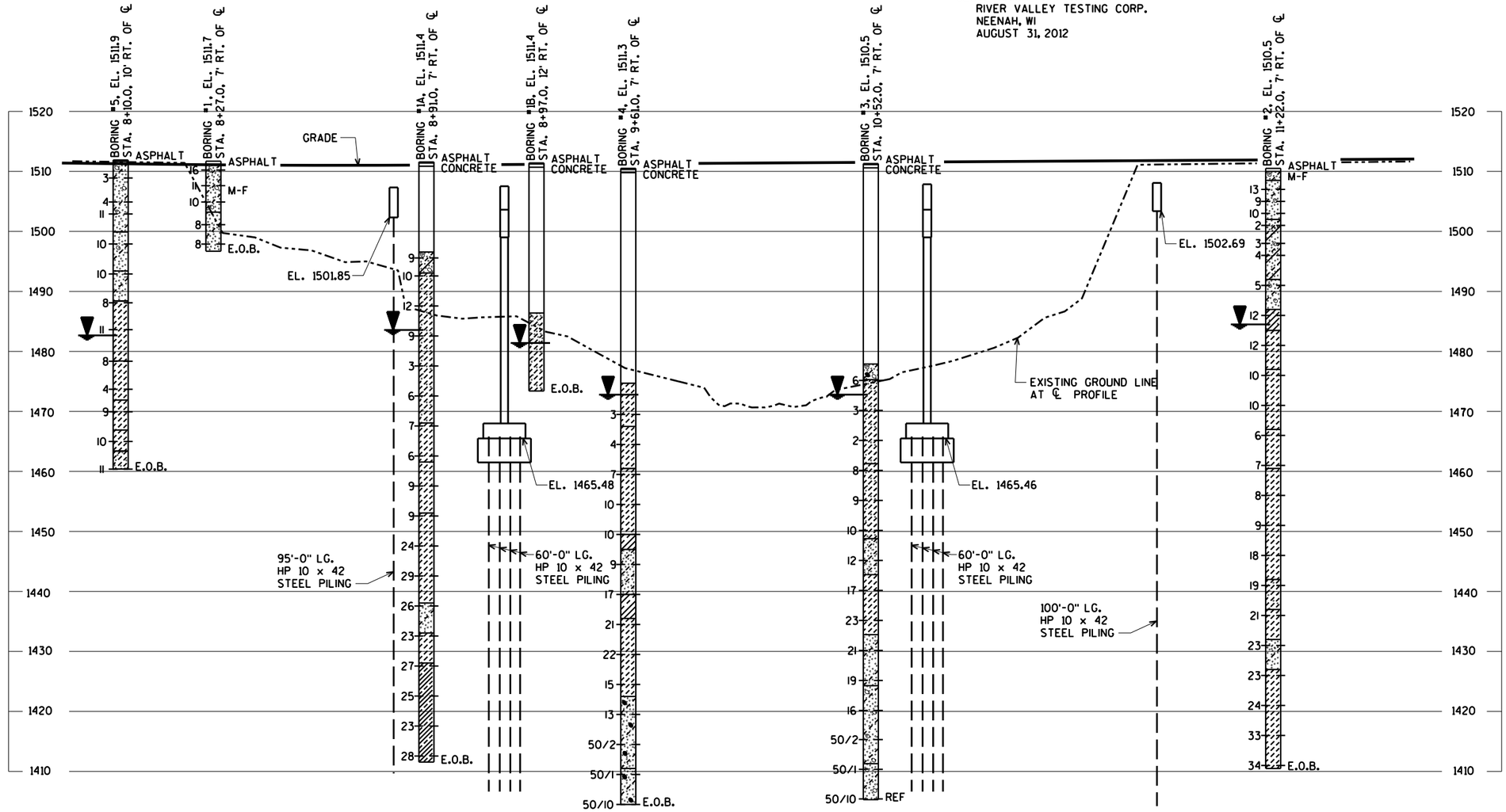
8



BORINGS TAKEN BY:
GEOTECHNICAL DRILLING CONTRACTORS, LLC
WAUSAU, WI
JANUARY 25 & 26, 2012
JUNE 20, 2012

CONE PENETRATION TEST BY:
STRATIGRAPHICS, INC.
HILLPOINT, WI
JUNE 19 & 20, 2012

GEOTECHNICAL REPORT BY:
RIVER VALLEY TESTING CORP.
NEENAH, WI
AUGUST 31, 2012



STATE PROJECT NUMBER

8899-01-73

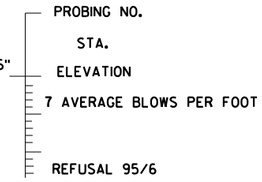
ABBREVIATIONS

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

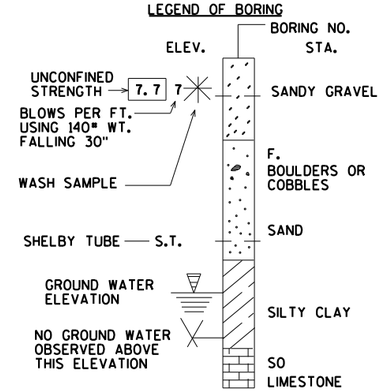
MATERIAL SYMBOLS

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-60-127

DRAWN BY CLS | PLANS CK'D. AEB

SUBSURFACE EXPLORATION

SHEET 4 OF 23
44

8

8

$PRFNAME$
U:±42-0834.00 - Taylor Co. Westboro, Bus Highway 13±BRIDGE±420834sl.dgn

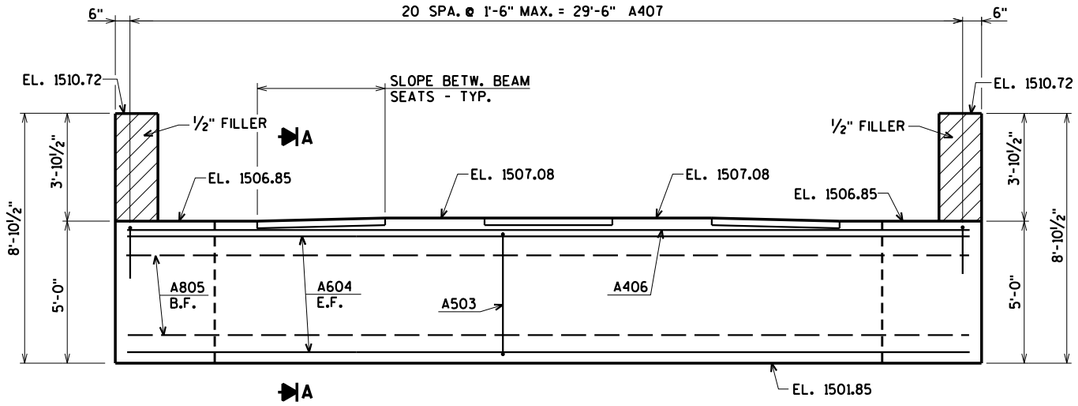
5/31/2013

PENTABLE:BReau_shd_util.tbl

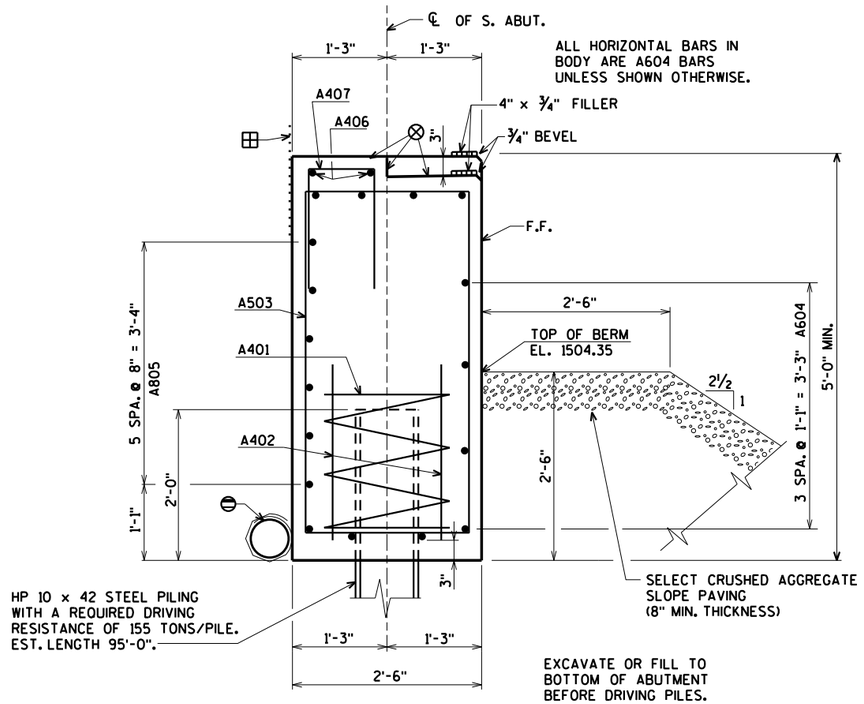
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

STATE PROJECT NUMBER

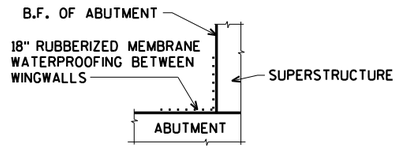
8899-01-73



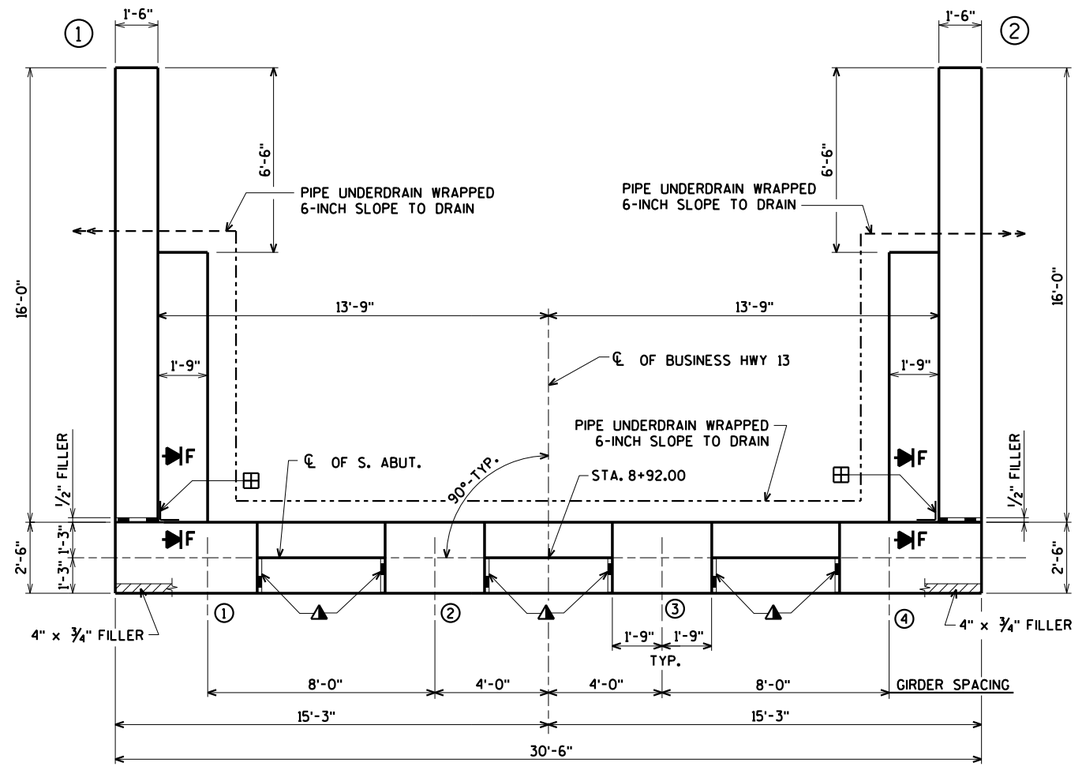
ELEVATION
(LOOKING SOUTH)



SECTION A



SECTION F



PLAN

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SDD REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE. SEE DETAIL ON SHEET 6.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

¾" CORK FILLER ON VERTICAL FACE ONLY.

18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.

FOR PILE SPLICE DETAIL SEE SHEET 3.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

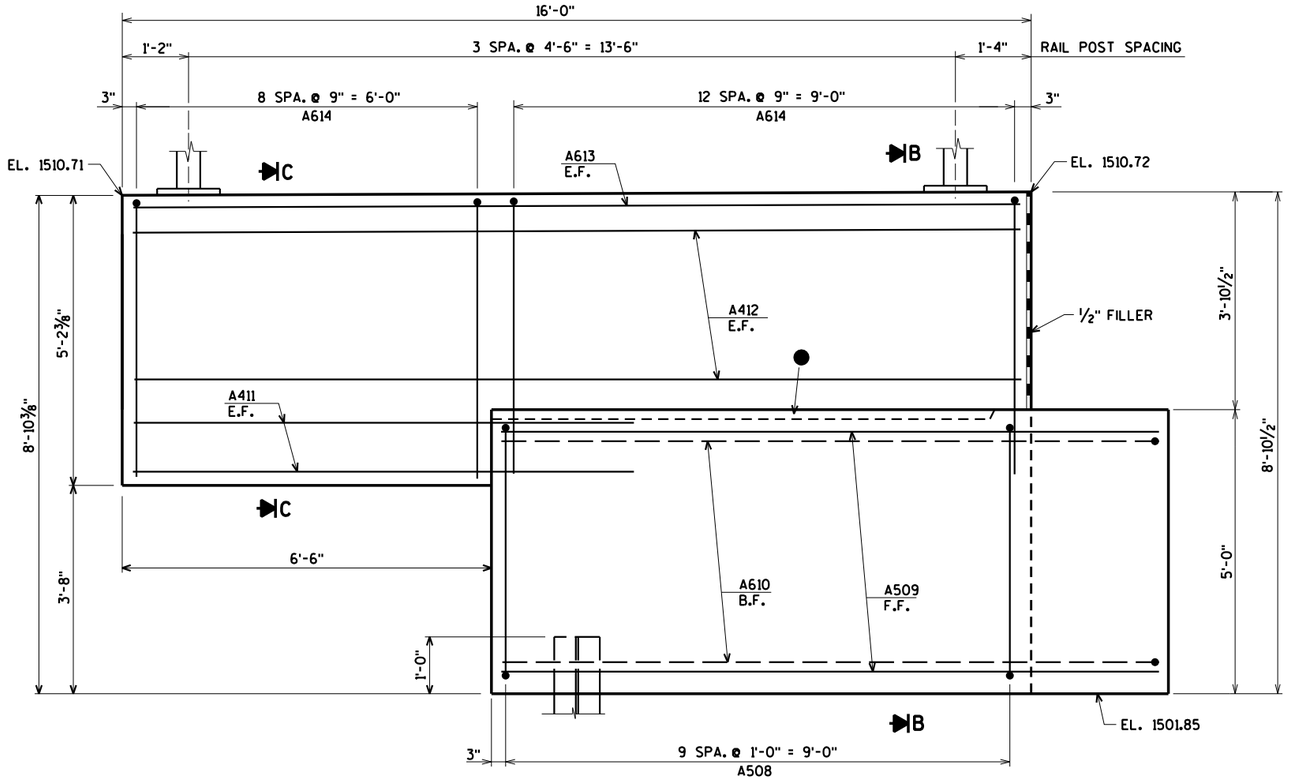
SOUTH ABUTMENT

SHEET 5 OF 23
45

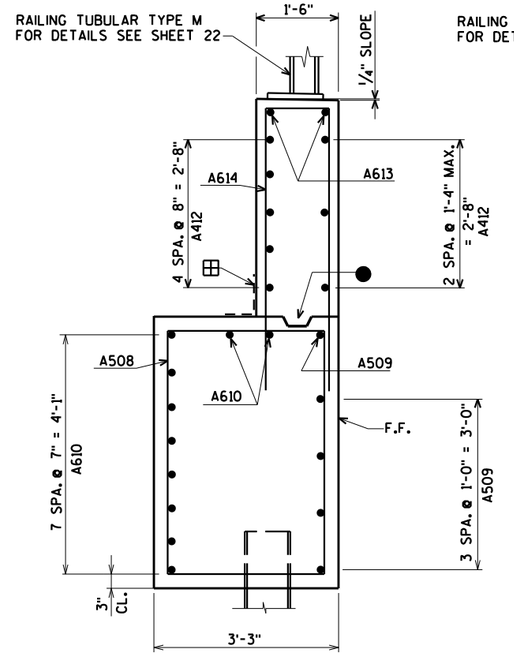
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

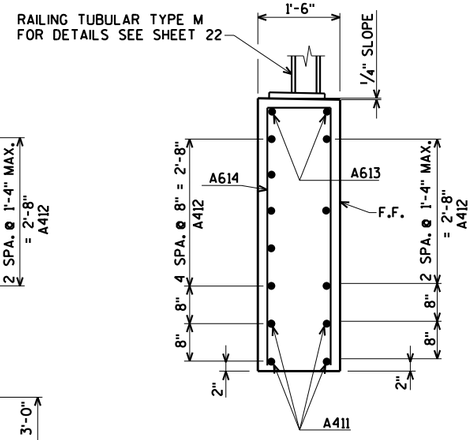
8



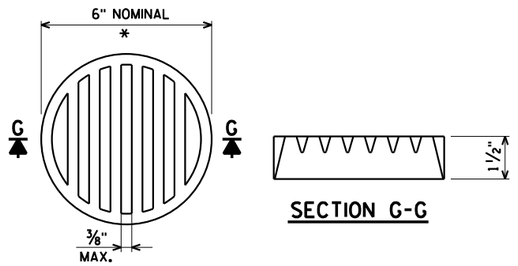
ELEVATION - WING 1
WING 2 SIMILAR



SECTION B



SECTION C



SECTION G-G

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

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

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

RODENT SHIELD DETAIL

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

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENT.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

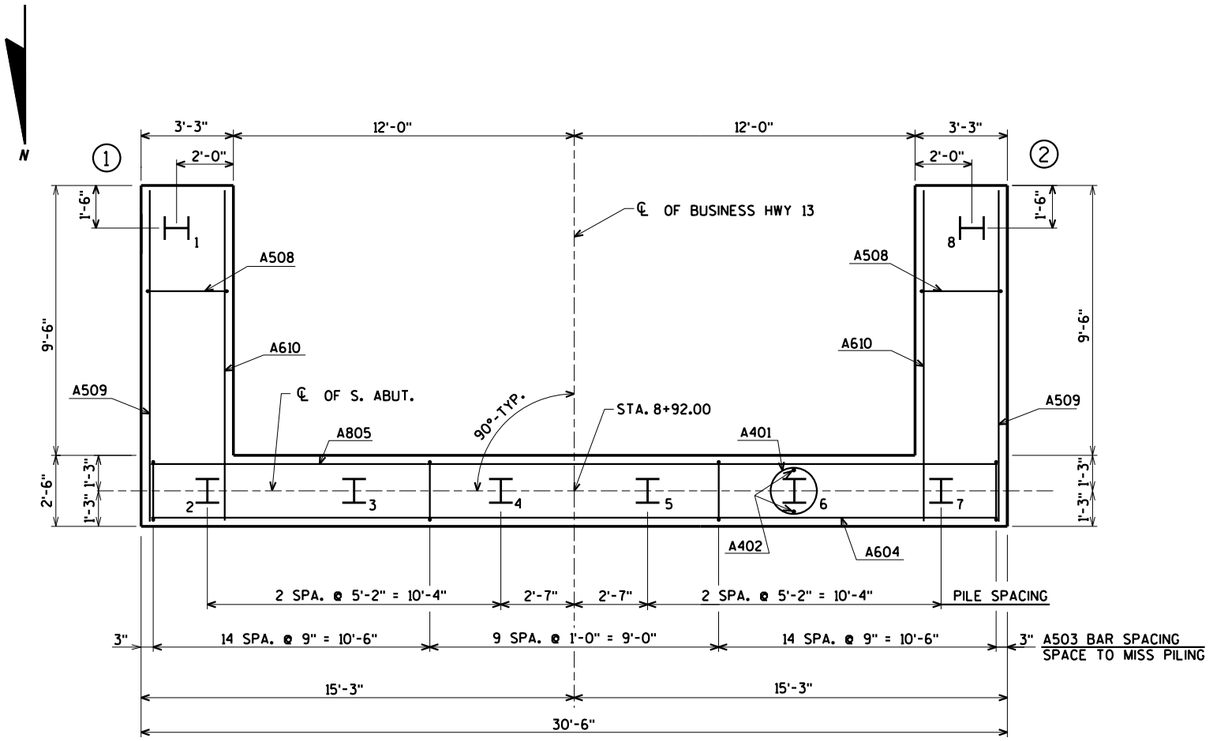
SOUTH ABUTMENT WING DETAILS

SHEET 6 OF 23
46

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

STATE PROJECT NUMBER

8899-01-73

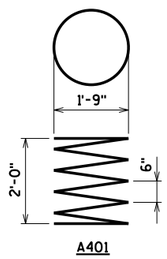


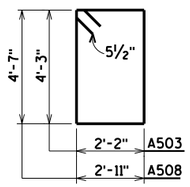
PILE LAYOUT

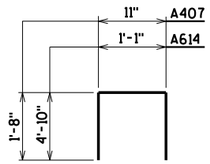
BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	1,800# COATED 1,790# UNCOATED LOCATION
A401		8	28-0	X		BODY @ PILES
A402		16	2-3			BODY @ PILES
A503		38	13-5	X		BODY VERT.
A604		11	30-2			BODY HORIZ.
A805		6	30-2			BODY HORIZ. @ WINGS
A406		2	30-2			BODY HORIZ.
A407		21	4-3	X		BODY VERT.
A508	X	20	15-7	X		WING 1 & 2 VERT.
A509	X	10	11-8			WING 1 & 2 HORIZ. F.F.
A610	X	20	11-8	X		WING 1 & 2 HORIZ. B.F.
A411	X	8	7-9			WING 1 & 2 HORIZ. E.F.
A412	X	16	15-7			WING 1 & 2 HORIZ. E.F.
A613	X	4	15-7			WING 1 & 2 HORIZ. TOP
A614	X	44	10-7	X		WING 1 & 2 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.







F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

SOUTH ABUTMENT DETAILS AND BILL OF BARS

SHEET 7 OF 23
47

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

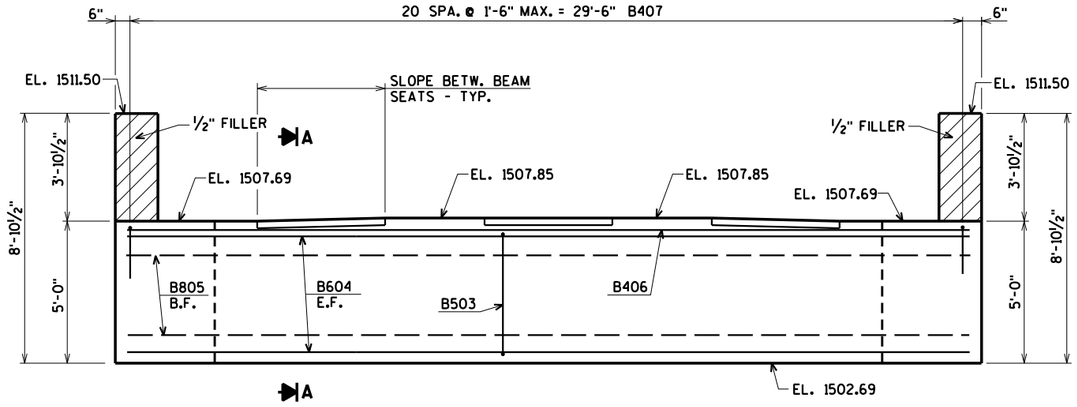
8

8

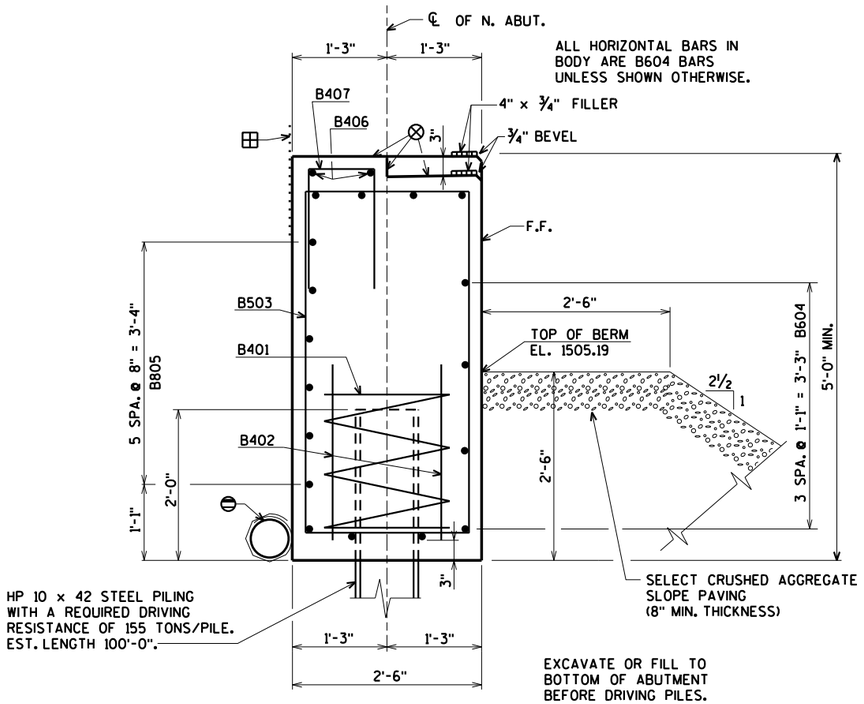
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

STATE PROJECT NUMBER

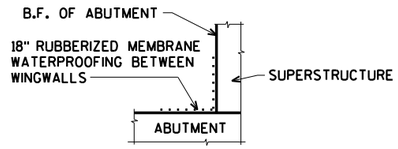
8899-01-73



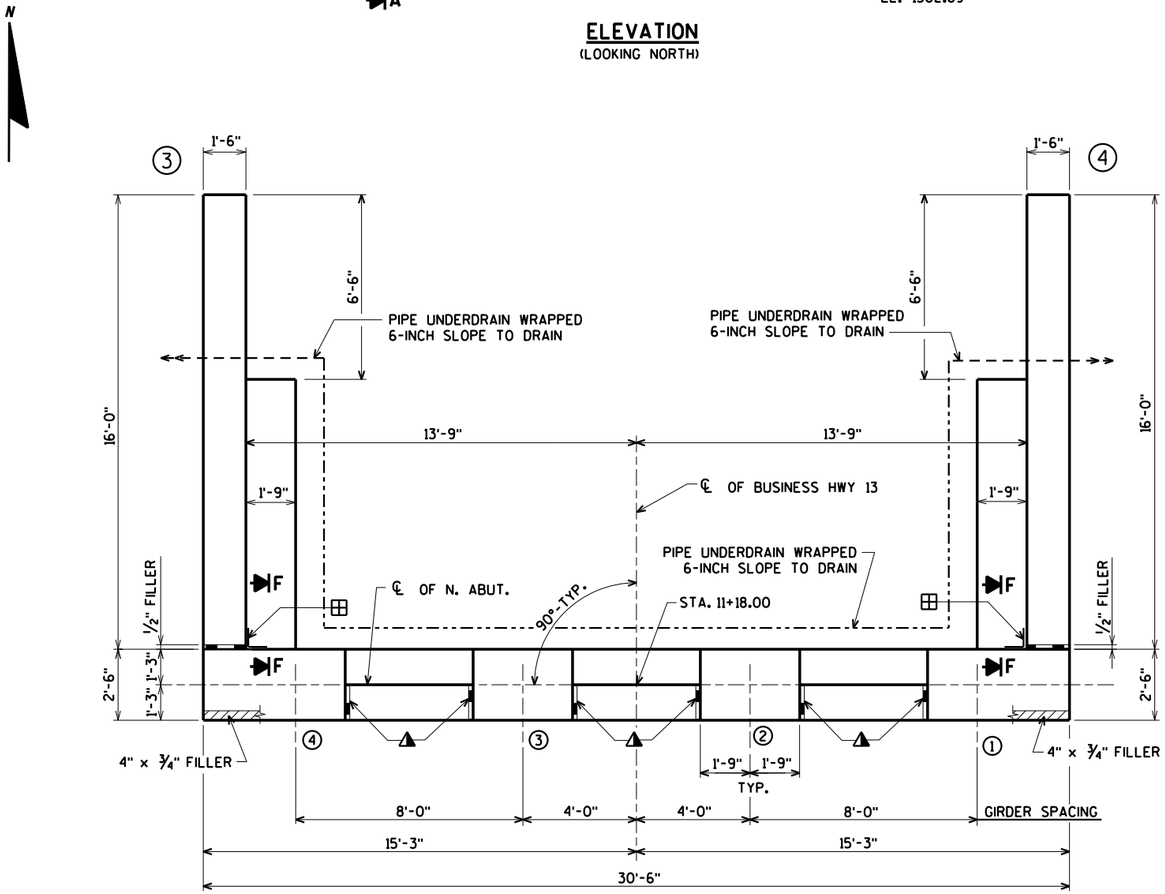
ELEVATION
(LOOKING NORTH)



SECTION A



SECTION F



PLAN

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SDD REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE. SEE DETAIL ON SHEET 9.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

¾" CORK FILLER ON VERTICAL FACE ONLY.

18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE OF ABUTMENT.

FOR PILE SPLICE DETAIL SEE SHEET 3.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

NORTH ABUTMENT

SHEET 8 OF 23
48

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

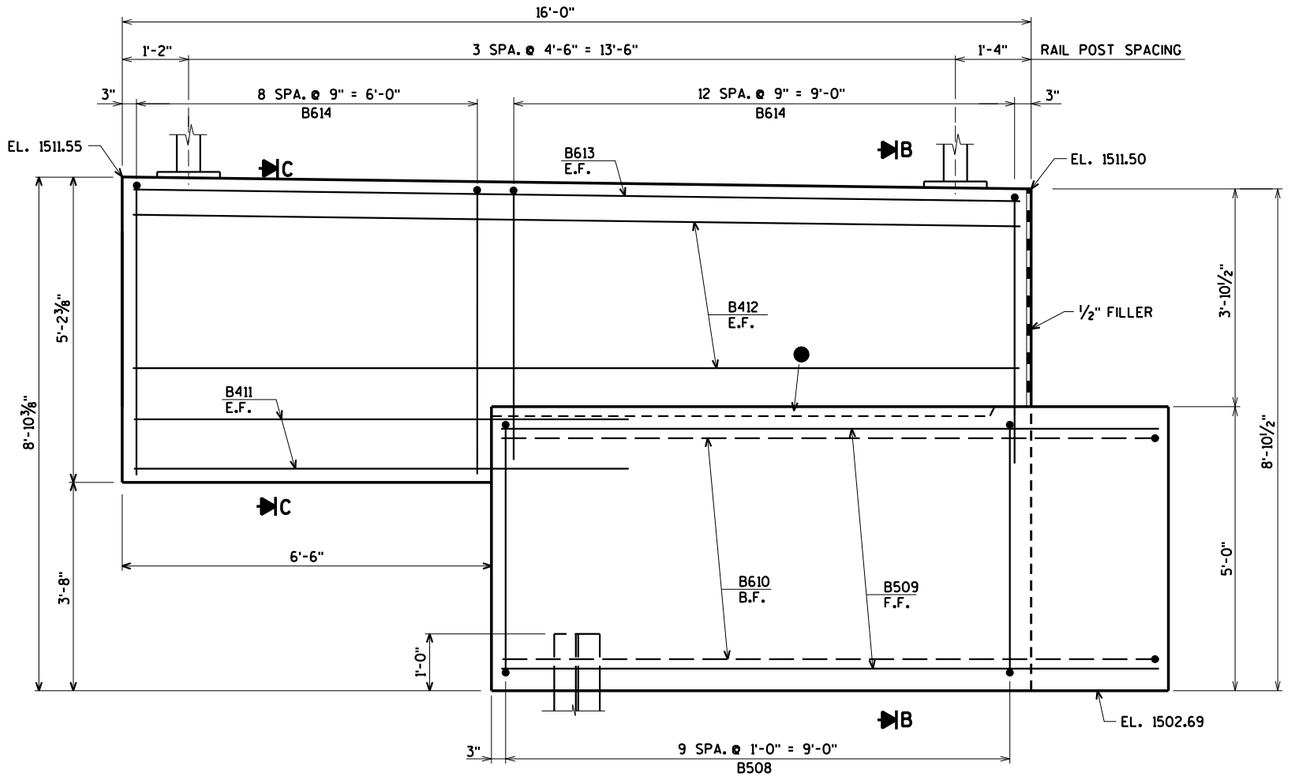
8

8

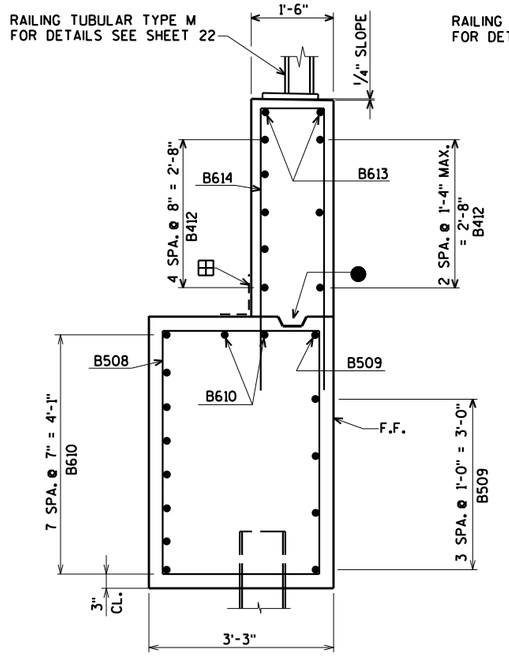
$PRFNAME$
U:±42-0834.00 - Taylor Co, Westboro, Bus Highway 13±BRIDGE±420834 Nabut.dgn

5/31/2013

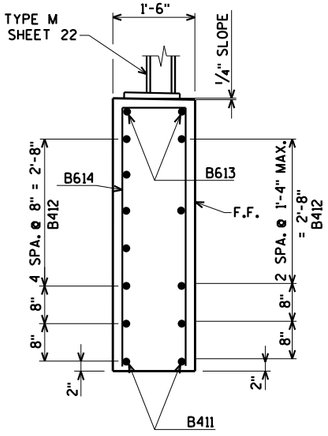
PENTABLE:BReau_shd_util.tbl



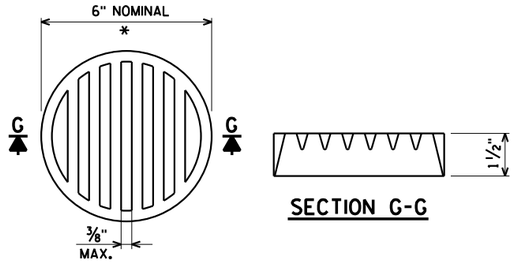
ELEVATION - WING 3
WING 4 SIMILAR



SECTION B



SECTION C



SECTION G-G

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

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

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

RODENT SHIELD DETAIL

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

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENT.

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

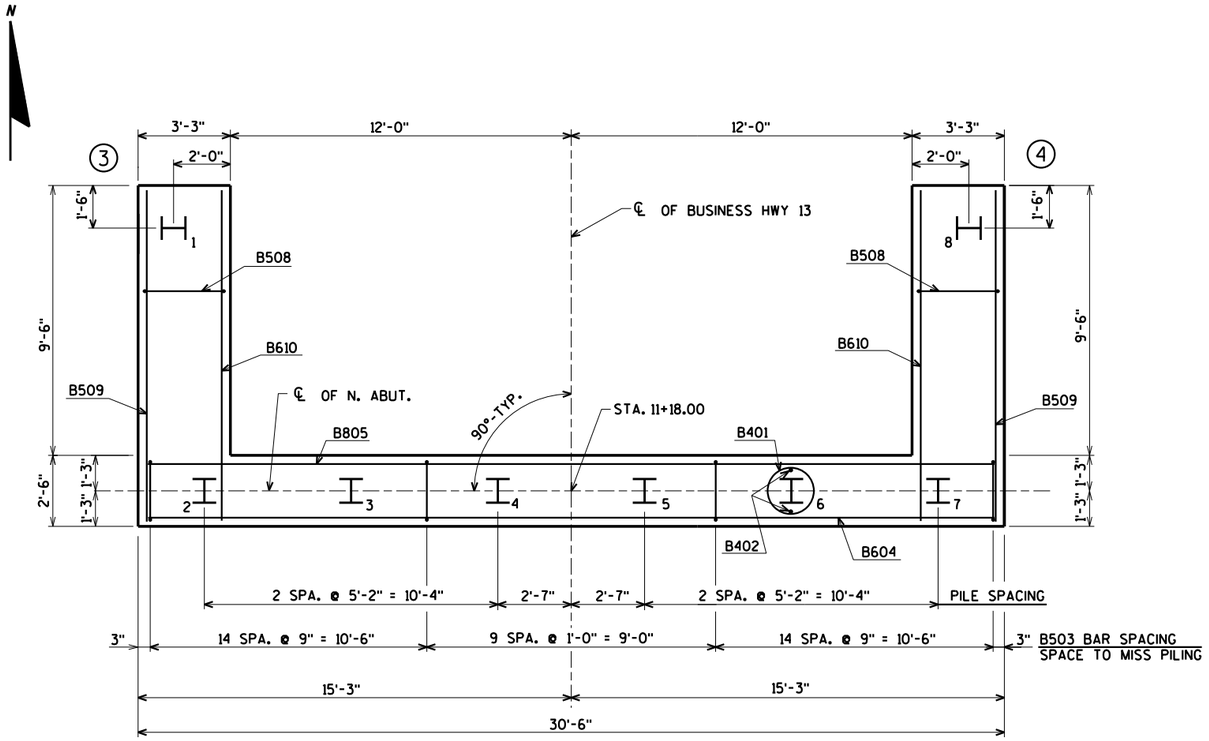
DRAWN BY KAZ | PLANS CK'D. AEB

NORTH ABUTMENT WING DETAILS

SHEET 9 OF 23
49

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

STATE PROJECT NUMBER
8899-01-73

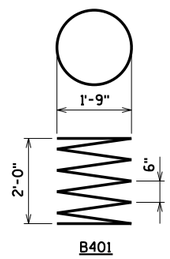


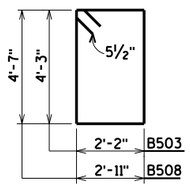
PILE LAYOUT

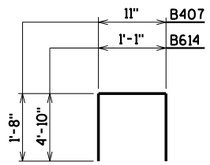
BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	1,800# COATED 1,790# UNCOATED LOCATION
B401		8	28-0	X		BODY @ PILES
B402		16	2-3			BODY @ PILES
B503		38	13-5	X		BODY VERT.
B604		11	30-2			BODY HORIZ.
B805		6	30-2			BODY HORIZ. @ WINGS
B406		2	30-2			BODY HORIZ.
B407		21	4-3	X		BODY VERT.
B508	X	20	15-7	X		WING 3 & 4 VERT.
B509	X	10	11-8			WING 3 & 4 HORIZ. F.F.
B610	X	20	11-8	X		WING 3 & 4 HORIZ. B.F.
B411	X	8	7-9			WING 3 & 4 HORIZ. E.F.
B412	X	16	15-7			WING 3 & 4 HORIZ. E.F.
B613	X	4	15-7			WING 3 & 4 HORIZ. TOP
B614	X	44	10-7	X		WING 3 & 4 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.







F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

NORTH ABUTMENT DETAILS AND BILL OF BARS

SHEET 10 OF 23
50

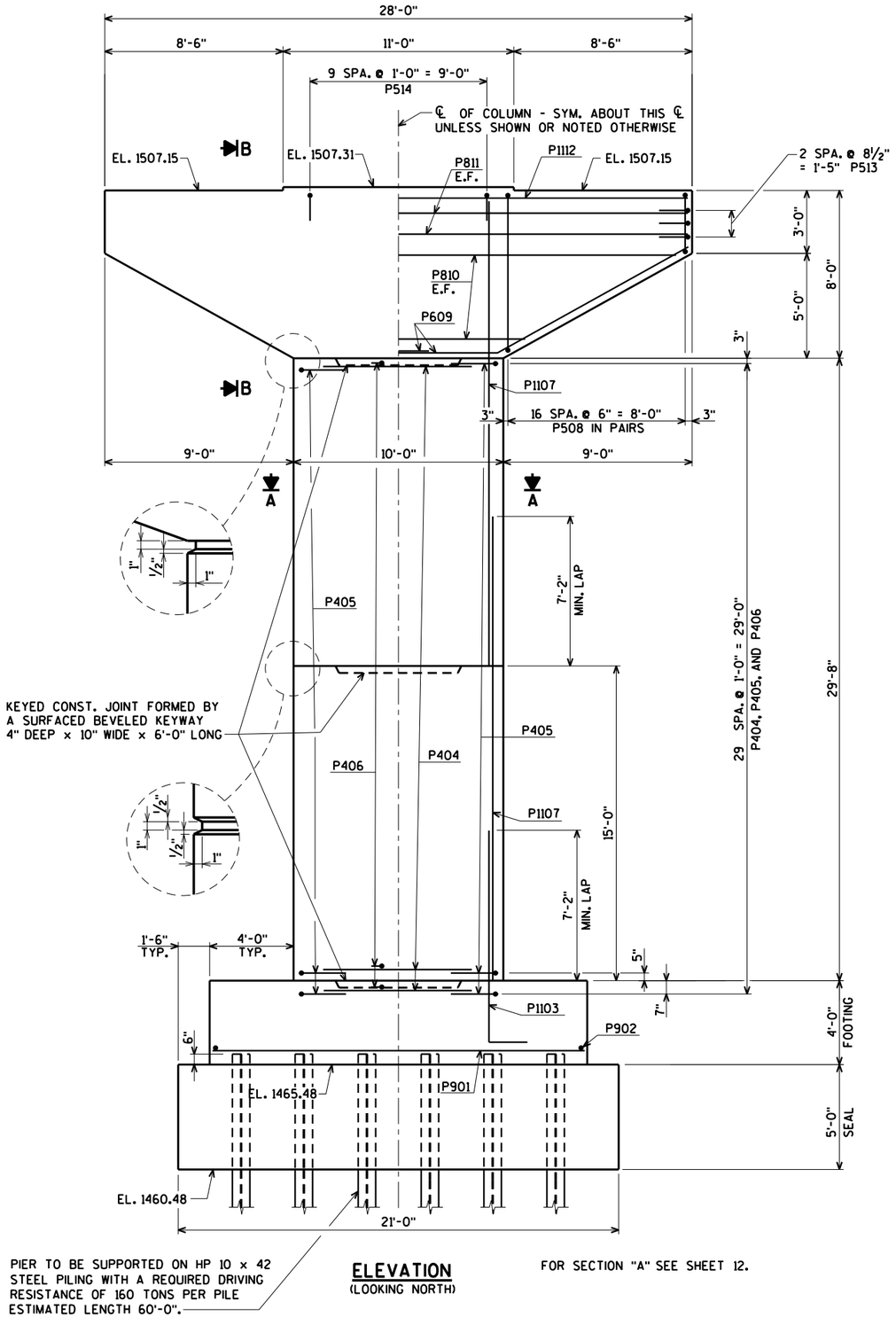
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

8

STATE PROJECT NUMBER

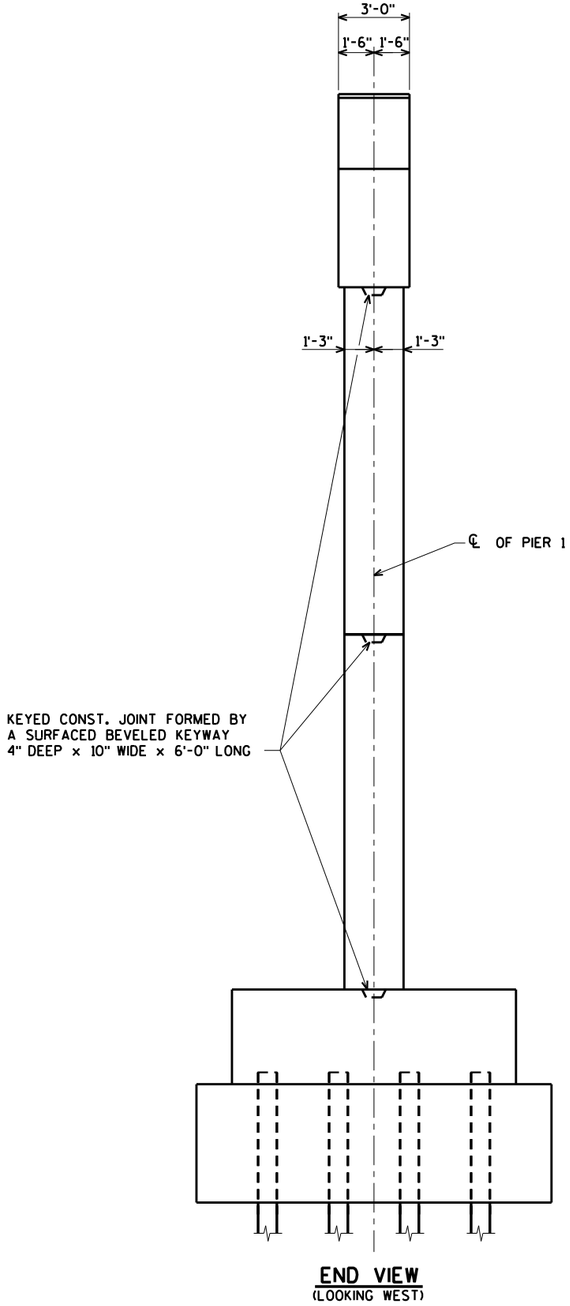
8899-01-73



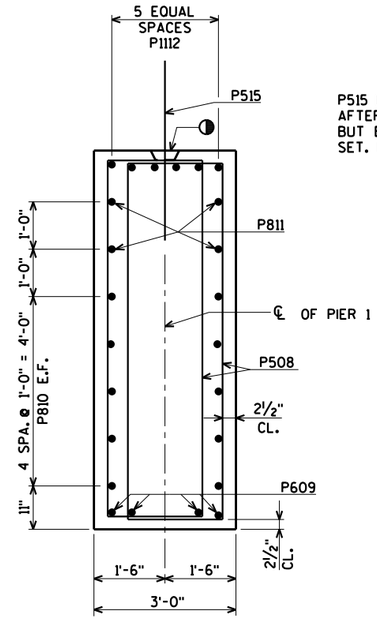
PIER TO BE SUPPORTED ON HP 10 x 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE ESTIMATED LENGTH 60'-0".

ELEVATION
(LOOKING NORTH)

FOR SECTION "A" SEE SHEET 12.



END VIEW
(LOOKING WEST)



SECTION B

P515 BARS MAY BE PLACED AFTER PIER CAP IS POURED BUT BEFORE CONCRETE HAS SET. IMBED BARS 1'-0".

E.F. DENOTES EACH FACE.

◑ KEYED CONSTRUCTION JOINT FORMED BY A SURFACED BEVELED 2" x 6".

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

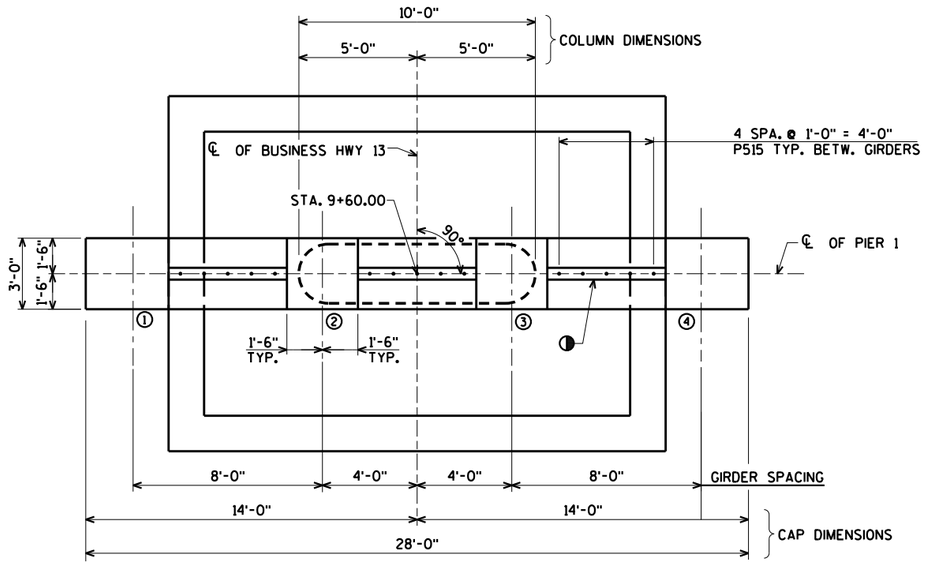
STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

PIER 1

SHEET 11 OF 23
51

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



PLAN

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	20,150# UNCOATED LOCATION
P901		13	17-6			FOOTING
P902		25	11-6			FOOTING
P1103		48	12-8	X		FOOTING DOWELS
P404		60	7-6			FOOTING & COLUMN HORIZ.
P405		60	6-2	X		FOOTING & COLUMN HORIZ.
P406		180	2-5	X		FOOTING & COLUMN TIES
P1107		96	22-2			COLUMN VERT.
P508		68	14-6	X	X	CAP VERT.
P609		8	16-4	X		CAP BOT.
P810		10	19-3		X	CAP HORIZ.
P811		4	27-8			CAP HORIZ.
P1112		6	27-8			CAP TOP
P513		6	4-2	X		CAP ENDS
P514		10	5-0	X		CAP TOP
P515		15	2-0			CAP DOWELS

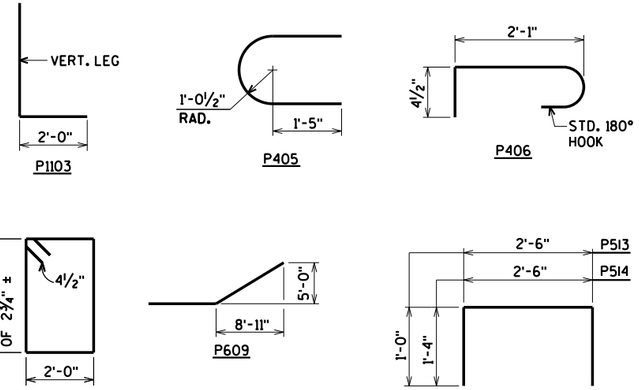
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

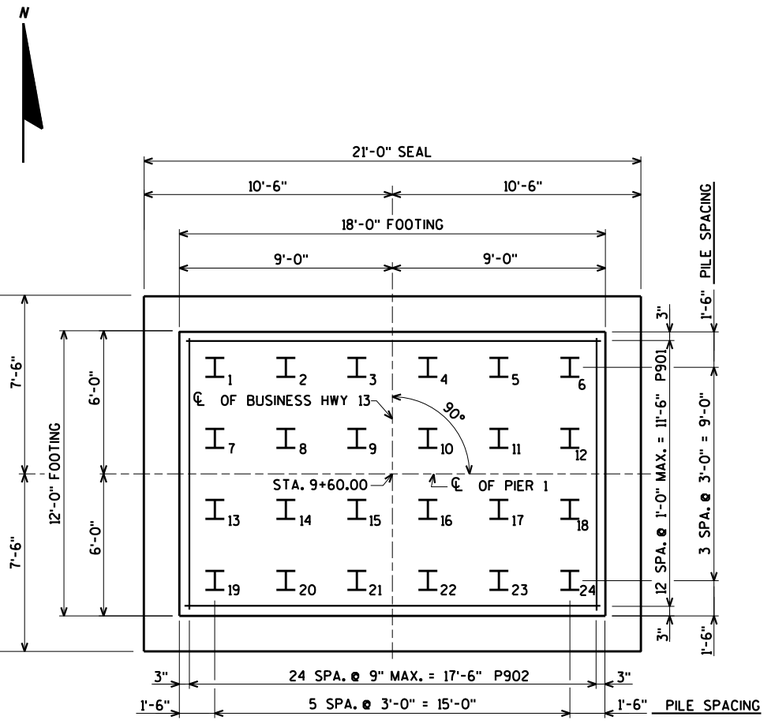
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

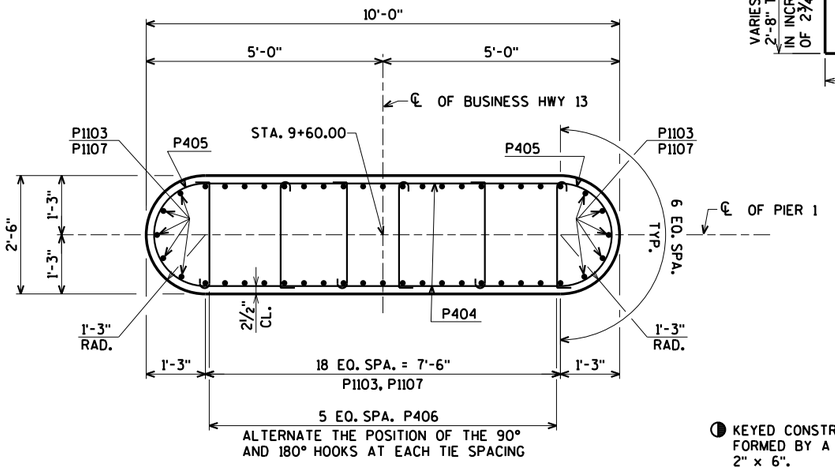
BAR MARK	NO REQ'D.	LENGTH
P508	4 SERIES OF 17	9-9 TO 19-3
P810	2 SERIES OF 5	12-0 TO 26-6

BUNDLE AND TAG EACH SERIES SEPARATELY.





FOOTING LAYOUT



ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH TIE SPACING

◑ KEYED CONSTRUCTION JOINT FORMED BY A SURFACED BEVELED 2" x 6".

SECTION A

FOR LOCATION OF SECTION "A" SEE SHEET 11.

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

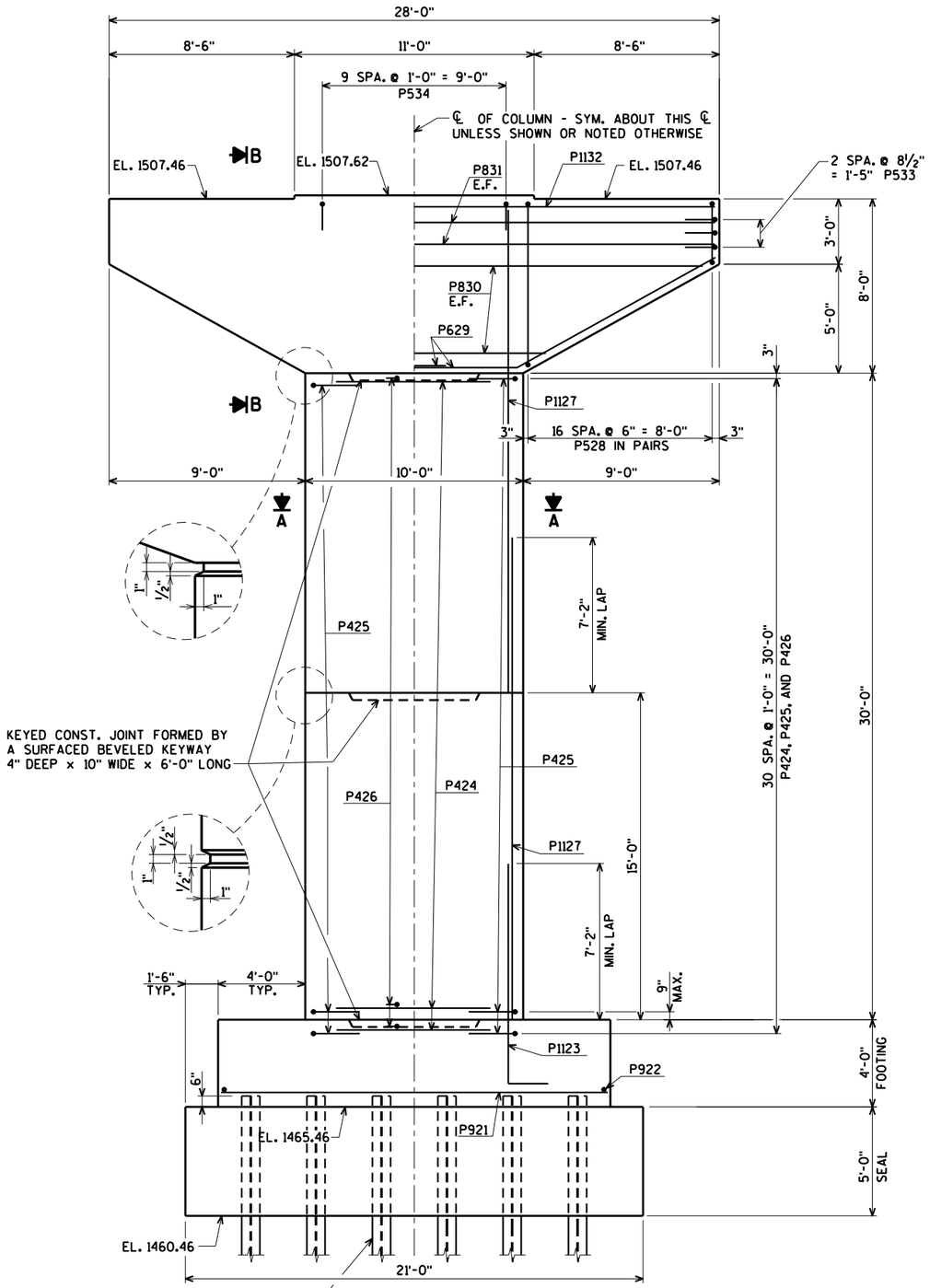
STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

PIER 1 DETAILS

SHEET 12 OF 23
52

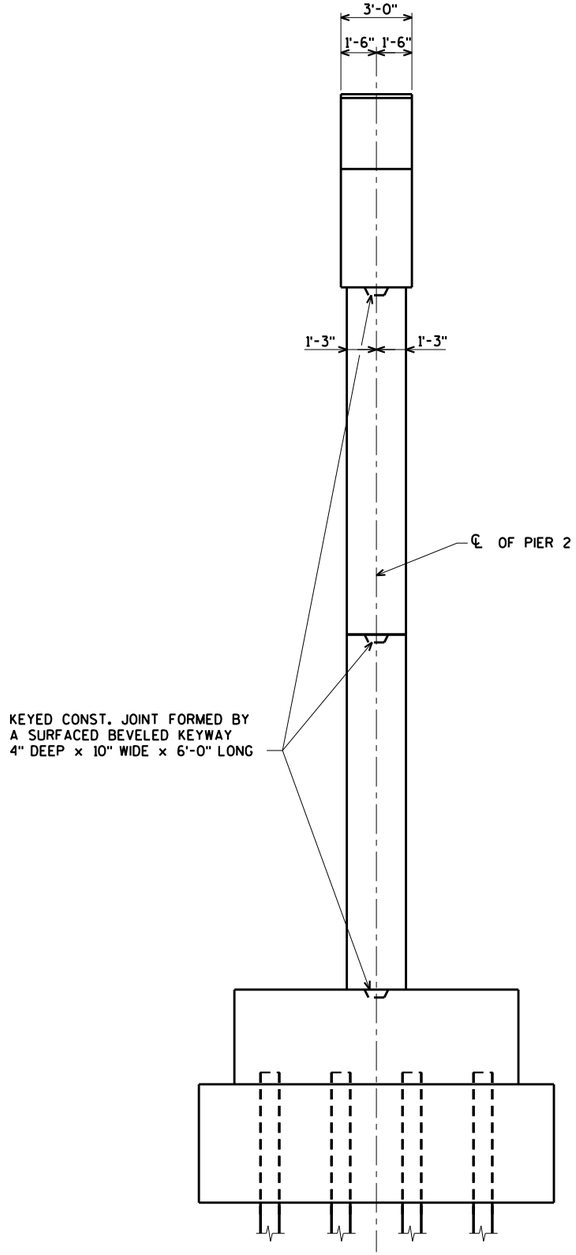
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com



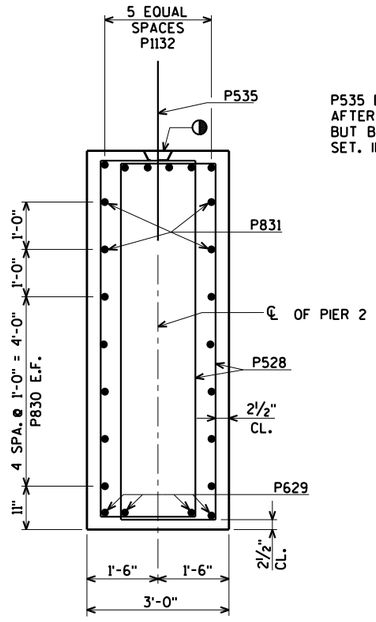
PIER TO BE SUPPORTED ON HP 10 x 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE ESTIMATED LENGTH 60'-0".

ELEVATION
(LOOKING NORTH)

FOR SECTION "A" SEE SHEET 14.



END VIEW
(LOOKING WEST)



SECTION B

P535 BARS MAY BE PLACED AFTER PIER CAP IS POURED BUT BEFORE CONCRETE HAS SET. IMBED BARS 1'-0".

E.F. DENOTES EACH FACE.

◑ KEYED CONSTRUCTION JOINT FORMED BY A SURFACED BEVELED 2" x 6".

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

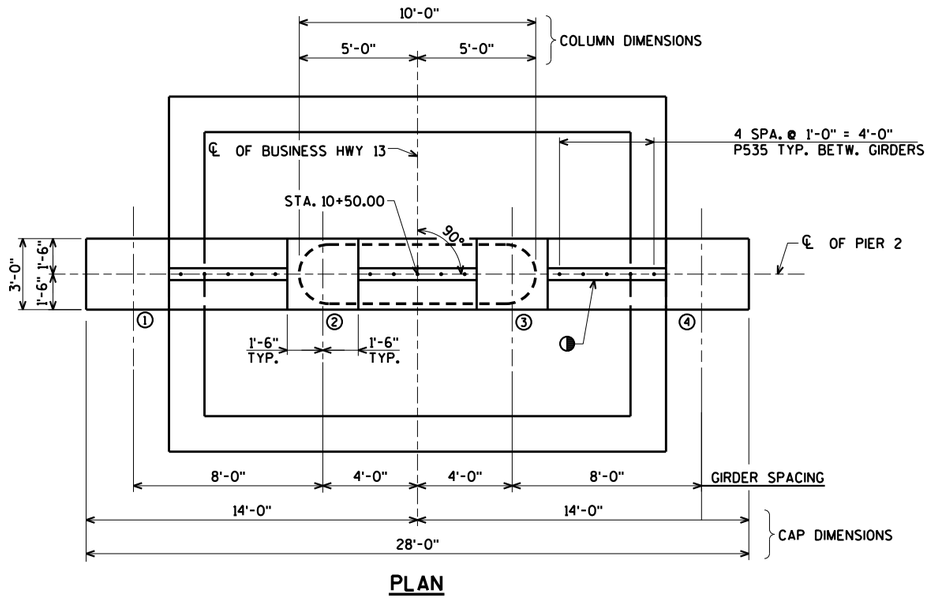
PIER 2

SHEET 13 OF 23
53

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

STATE PROJECT NUMBER

8899-01-73



PLAN

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	20.180" UNCOATED LOCATION
P921		13	17-6			FOOTING
P922		25	11-6			FOOTING
P1123		48	12-8	X		FOOTING DOWELS
P424		62	7-6			FOOTING & COLUMN HORIZ.
P425		62	6-2	X		FOOTING & COLUMN HORIZ.
P426		186	2-5	X		FOOTING & COLUMN TIES
P1127		96	22-2			COLUMN VERT.
P528		68	14-6	X	X	CAP VERT.
P629		8	16-4	X		CAP BOT.
P830		10	19-3		X	CAP HORIZ.
P831		4	27-8			CAP HORIZ.
P1132		6	27-8			CAP TOP
P533		6	4-2	X		CAP ENDS
P534		10	5-0	X		CAP TOP
P535		15	2-0			CAP DOWELS

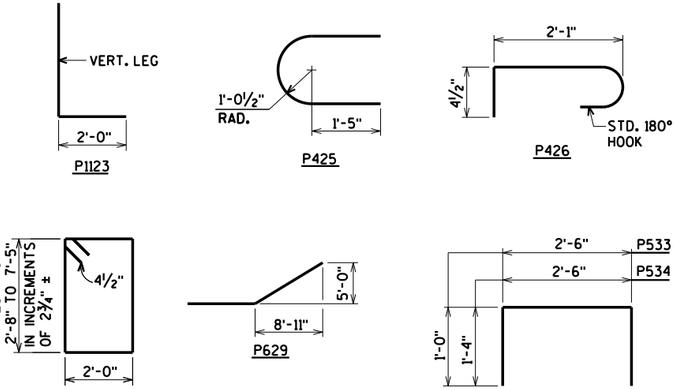
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

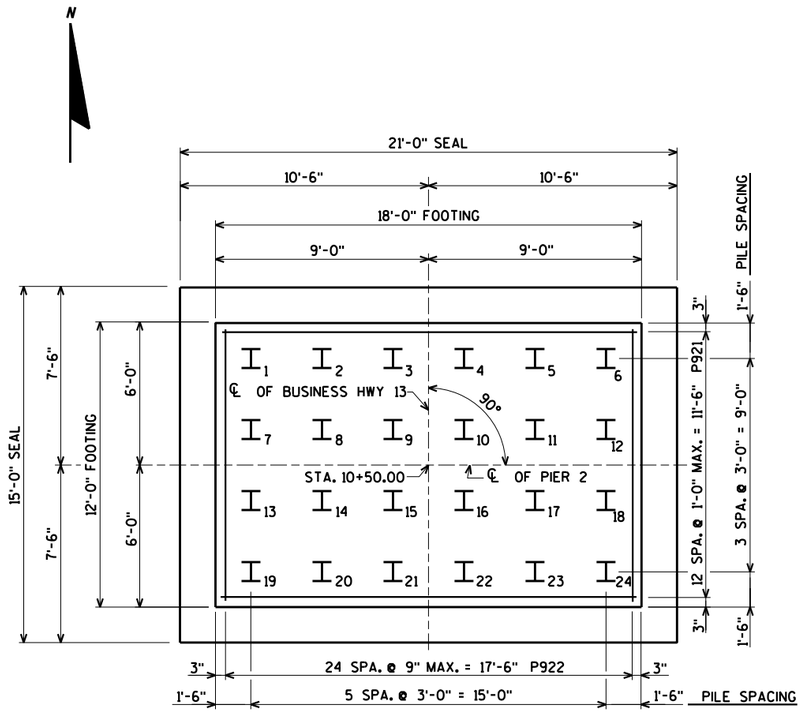
⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

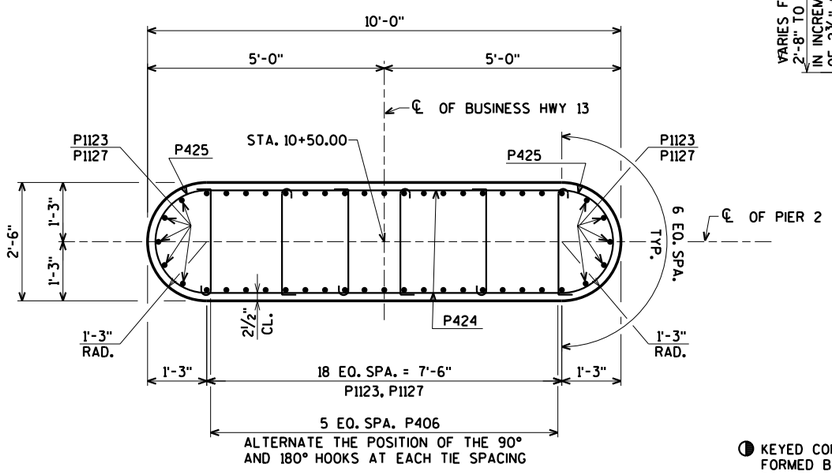
BAR MARK	NO REQ'D.	LENGTH
P528	4 SERIES OF 17	9-9 TO 19-3
P830	2 SERIES OF 5	12-0 TO 26-6

BUNDLE AND TAG EACH SERIES SEPARATELY.





FOOTING LAYOUT



ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH TIE SPACING

SECTION A

FOR LOCATION OF SECTION "A" SEE SHEET 13.

◑ KEYED CONSTRUCTION JOINT FORMED BY A SURFACED BEVELED 2" x 6".

FOR PILE SPLICE DETAIL SEE SHEET 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

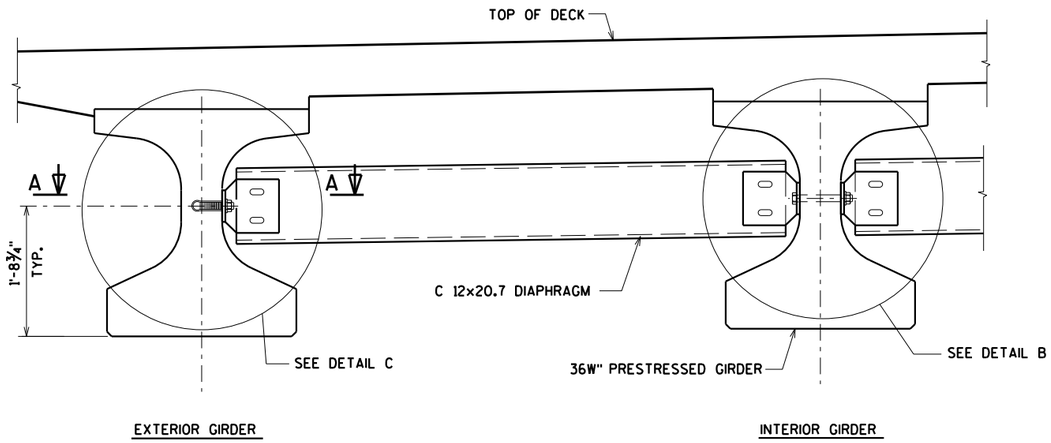
PIER 2 DETAILS

SHEET 14 OF 23
54

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

8

8



PART TRANSVERSE SECTION AT DIAPHRAGM

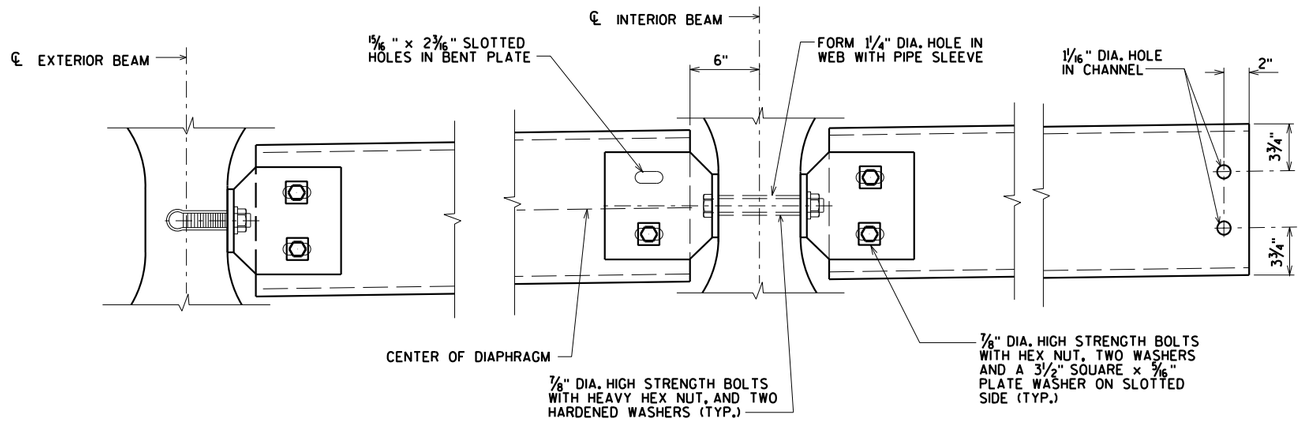
NOTES

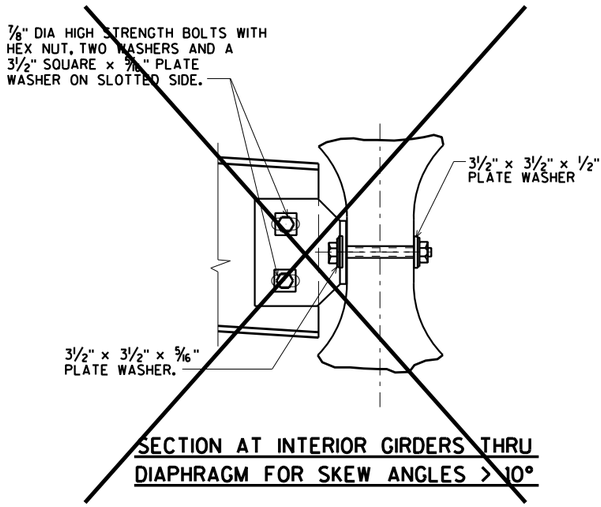
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGM B-60-127", EACH.

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.

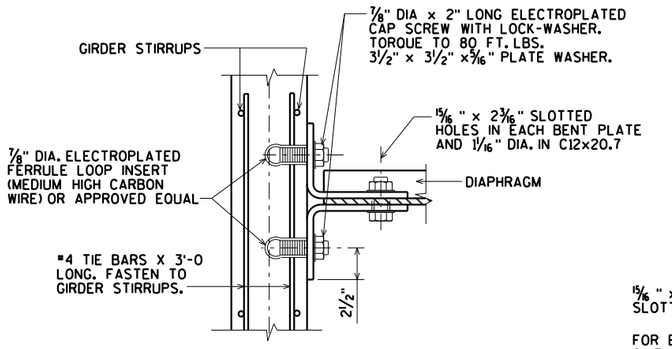
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY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





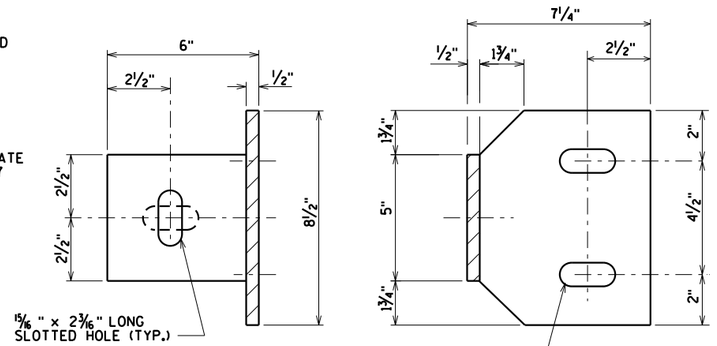
SECTION AT INTERIOR GIRDERS THRU DIAPHRAGM FOR SKEW ANGLES > 10°

DETAIL C



SECTION A-A
(FOR EXTERIOR ATTACHMENT)

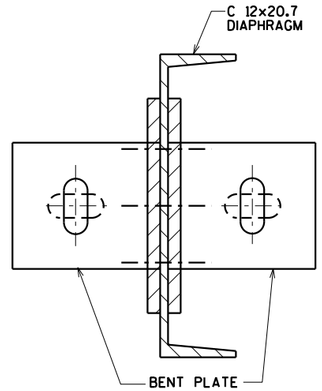
DETAIL B



FOR EACH PAIR OF ANGLES ON A GIVEN BEAM FACE, ONE SLOTTED HOLE TO BE VERTICAL AND ONE TO BE HORIZONTAL.

BEAM FACE

DIAPHRAGM FACE



ATTACHMENT TO CHANNEL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

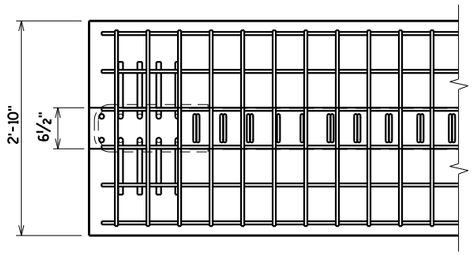
STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

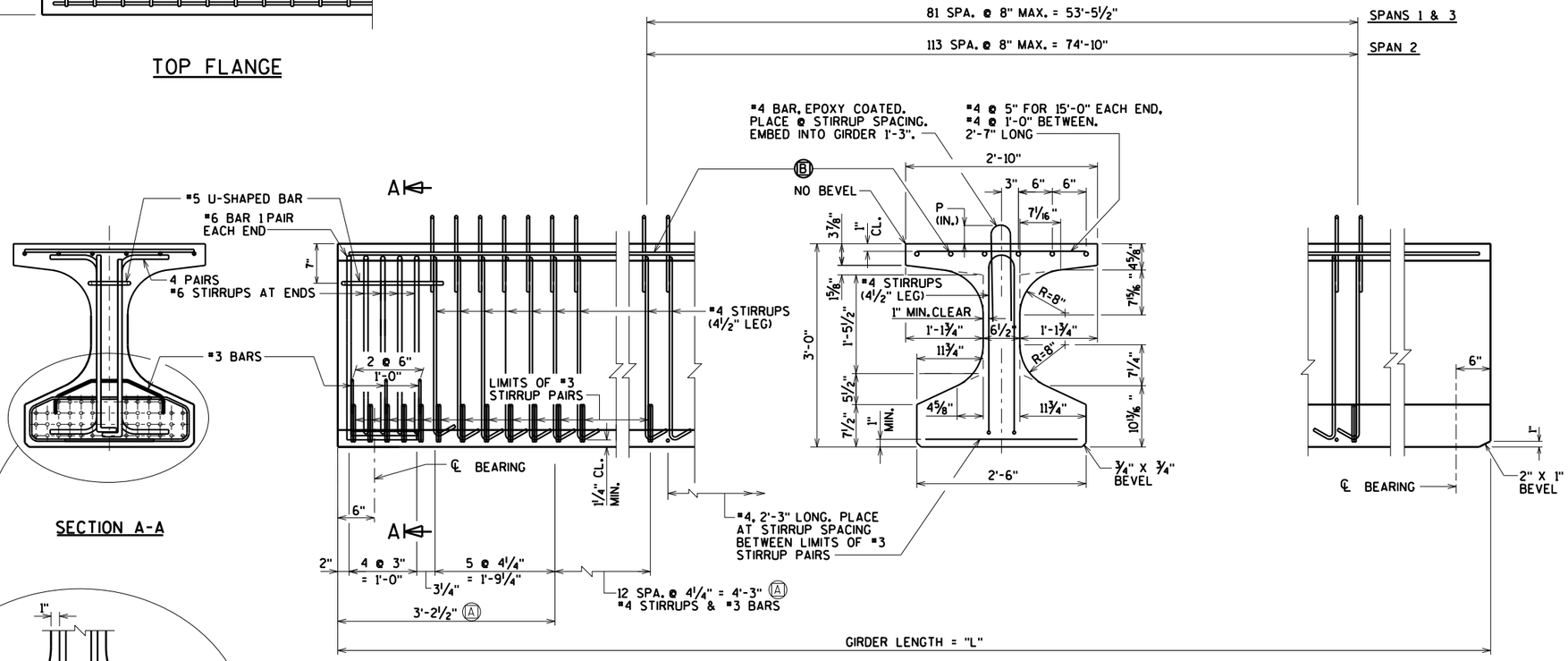
STEEL INTER. DIAPHRAGM DETAILS

SHEET 15 OF 23
55

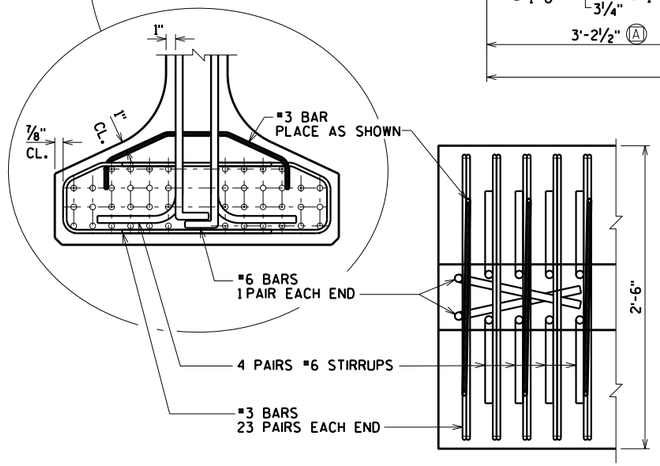
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com



TOP FLANGE



SECTION A-A

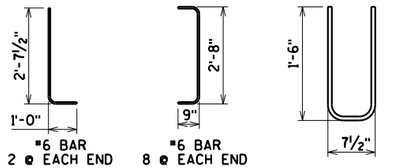


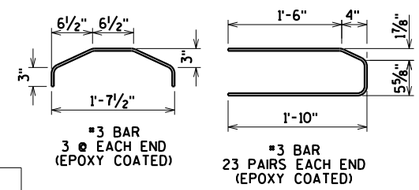
BOTTOM FLANGE

SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 2'-4"





* 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"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	ALL	68'-4½"	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	16	6,400	33	10.5	13.5	3	-----	---
2	ALL	89'-9"	0.6	1.2	1.7	2.0	2.1	2.0	1.7	1.2	0.6	8,000	7"	7"	7"	0.6	26	6,400	32	11	14	4	-----	---
3	ALL	68'-4½"	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8,000	7"	7"	7"	0.6	16	6,400	33	10.5	13.5	3	-----	---

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

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

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608)266-5161.

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 INTER. DIAPHRAGM DETAILS" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

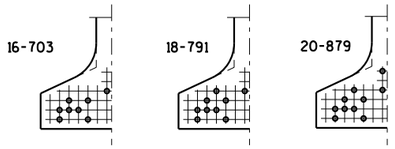
STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

36W" PRESTRESSED GIRDER DETAILS

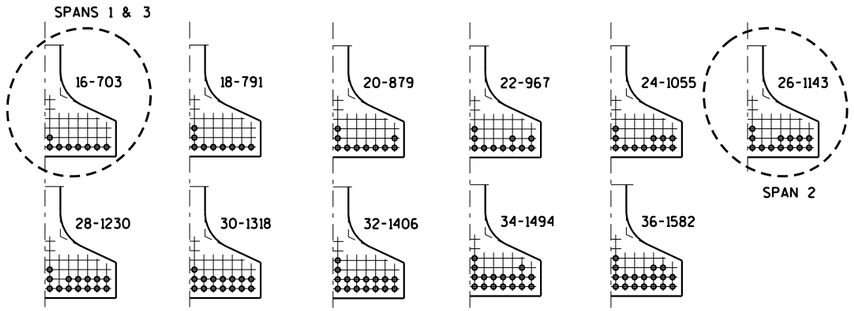
SHEET 16 OF 23
56

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



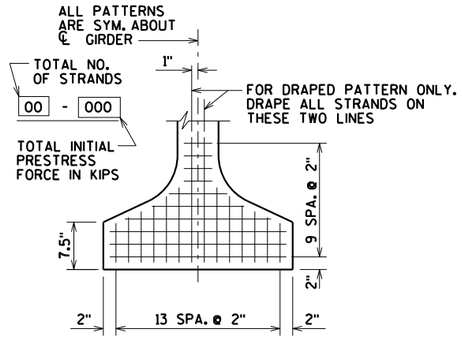
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS

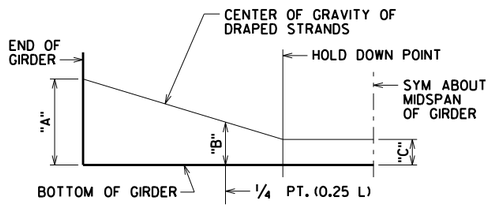


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



STRAND PATTERN



DRAPED STRAND PROFILE

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

SPAN	CAMBER (IN.)
1	1.1
2	2.6
3	1.1

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

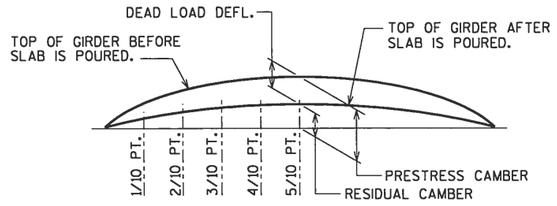
36W" PRESTRESSED GIRDER DETAILS

SHEET 17 OF 23
57

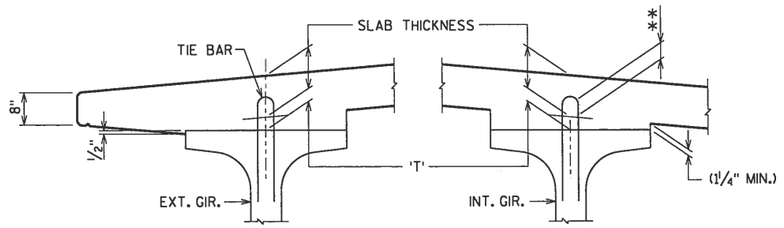
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

8



DEAD LOAD DEFLECTION DIAGRAM



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 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

TOP OF DECK ELEVATIONS

		SPAN 1										SPAN 2									
	℄ S. Abut	0.1 PT	0.2 PT	0.3PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	Pier 1	0.1 PT	0.2 PT	0.3PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	Pier 2
West EOD	1510.72	1510.74	1510.77	1510.80	1510.82	1510.84	1510.87	1510.89	1510.91	1510.94	1510.96	1510.99	1511.02	1511.05	1511.08	1511.11	1511.14	1511.17	1511.20	1511.23	1511.27
Girder 1	1510.79	1510.81	1510.84	1510.86	1510.89	1510.91	1510.93	1510.95	1510.98	1511.00	1511.02	1511.05	1511.09	1511.12	1511.15	1511.18	1511.21	1511.24	1511.27	1511.30	1511.33
Girder 2	1510.95	1510.97	1511.00	1511.02	1511.05	1511.07	1511.09	1511.11	1511.14	1511.16	1511.18	1511.21	1511.25	1511.28	1511.31	1511.34	1511.37	1511.40	1511.43	1511.46	1511.49
℄ HWY 13	1511.03	1511.05	1511.08	1511.10	1511.13	1511.15	1511.17	1511.19	1511.22	1511.24	1511.26	1511.29	1511.33	1511.36	1511.39	1511.42	1511.45	1511.48	1511.51	1511.54	1511.57
Girder 3	1510.95	1510.97	1511.00	1511.02	1511.05	1511.07	1511.09	1511.11	1511.14	1511.16	1511.18	1511.21	1511.25	1511.28	1511.31	1511.34	1511.37	1511.40	1511.43	1511.46	1511.49
Girder 4	1510.79	1510.81	1510.84	1510.86	1510.89	1510.91	1510.93	1510.95	1510.98	1511.00	1511.02	1511.05	1511.09	1511.12	1511.15	1511.18	1511.21	1511.24	1511.27	1511.30	1511.33
East EOD	1510.72	1510.74	1510.77	1510.80	1510.82	1510.84	1510.87	1510.89	1510.91	1510.94	1510.96	1510.99	1511.02	1511.05	1511.08	1511.11	1511.14	1511.17	1511.20	1511.23	1511.27

		SPAN 3									
	Pier 2	0.1 PT	0.2 PT	0.3PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	℄ N Abut
West EOD	1511.27	1511.29	1511.31	1511.33	1511.36	1511.38	1511.40	1511.43	1511.45	1511.47	1511.50
Girder 1	1511.33	1511.35	1511.38	1511.40	1511.42	1511.45	1511.47	1511.49	1511.51	1511.54	1511.56
Girder 2	1511.49	1511.51	1511.54	1511.56	1511.58	1511.61	1511.63	1511.65	1511.67	1511.70	1511.72
℄ HWY 13	1511.57	1511.59	1511.62	1511.64	1511.66	1511.69	1511.71	1511.73	1511.75	1511.78	1511.80
Girder 3	1511.49	1511.51	1511.54	1511.56	1511.58	1511.61	1511.63	1511.65	1511.67	1511.70	1511.72
Girder 4	1511.33	1511.35	1511.38	1511.40	1511.42	1511.45	1511.47	1511.49	1511.51	1511.54	1511.56
East EOD	1511.27	1511.29	1511.31	1511.33	1511.36	1511.38	1511.40	1511.43	1511.45	1511.47	1511.50

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

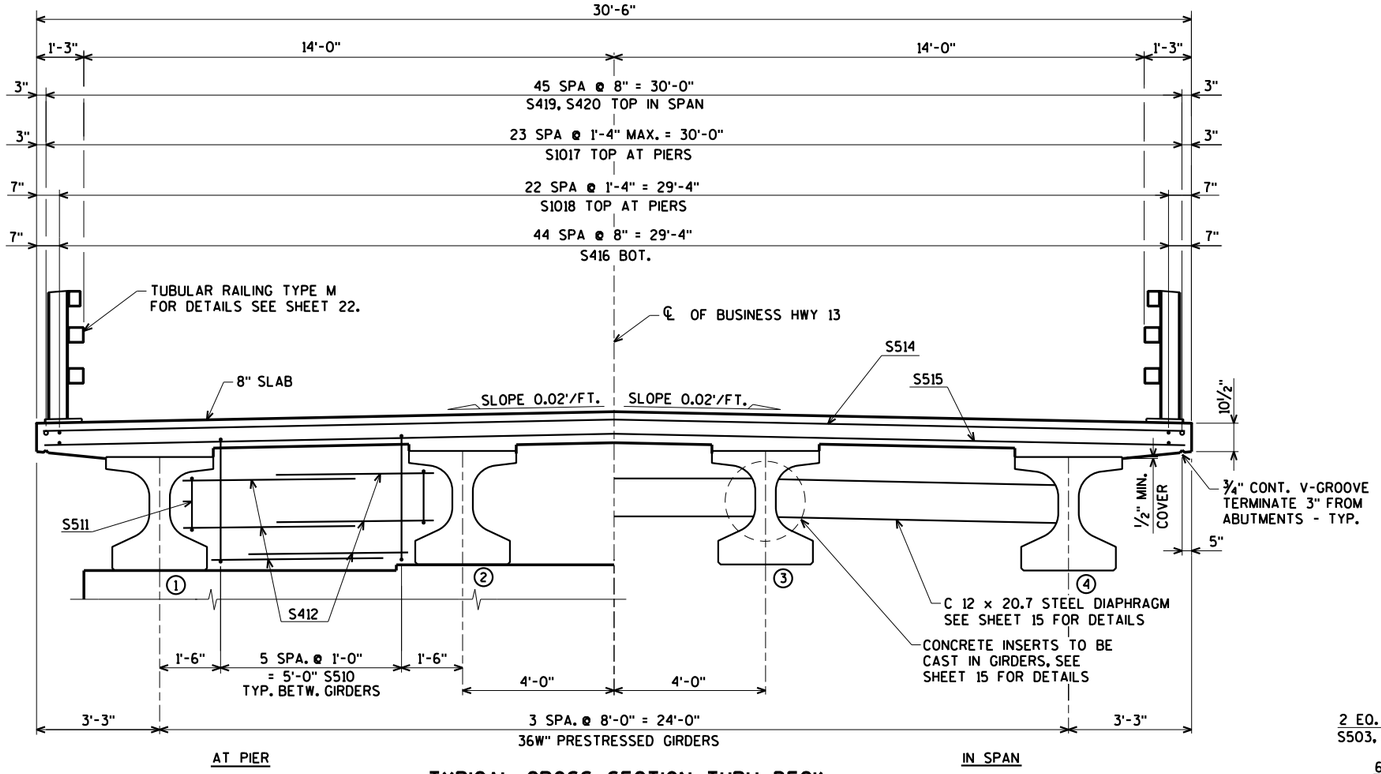
TOP OF DECK ELEVATIONS

SHEET 18 OF 23
58

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

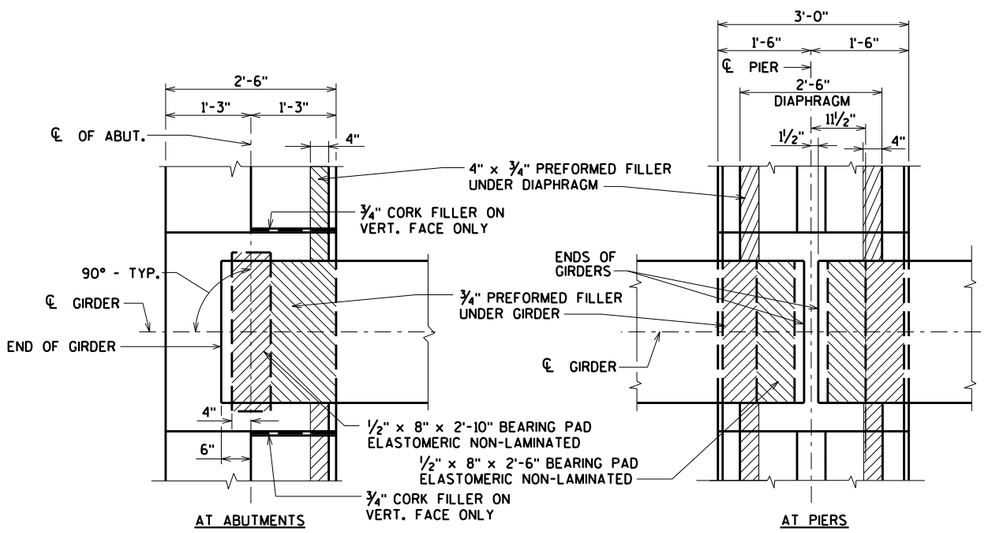
STATE PROJECT NUMBER

8899-01-73

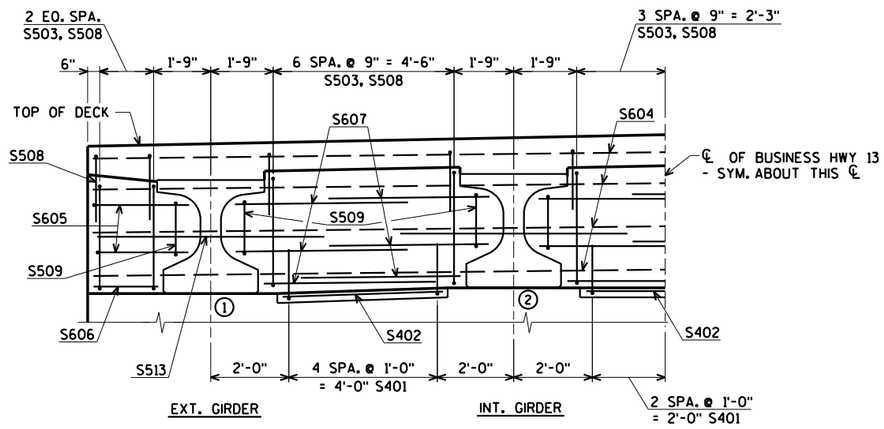


TYPICAL CROSS SECTION THRU DECK

(LOOKING NORTH)



BEARING PAD DETAIL



TYPICAL DIAPHRAGM DETAIL AT ABUTMENTS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

SUPERSTRUCTURE

SHEET 19 OF 23
59

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

8

8

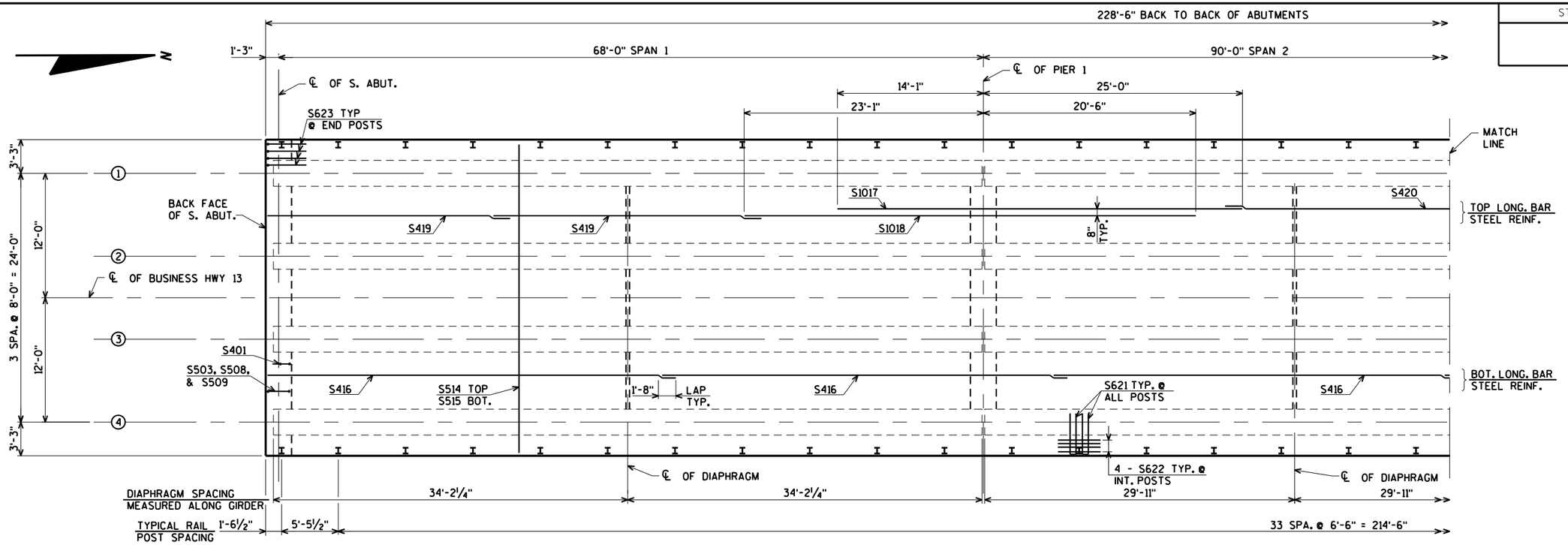
$PRFNAME$
U:\42-0834.00 - Taylor Co. Westboro, Bus Highway 13\BRIDGE\420834 super.dgn

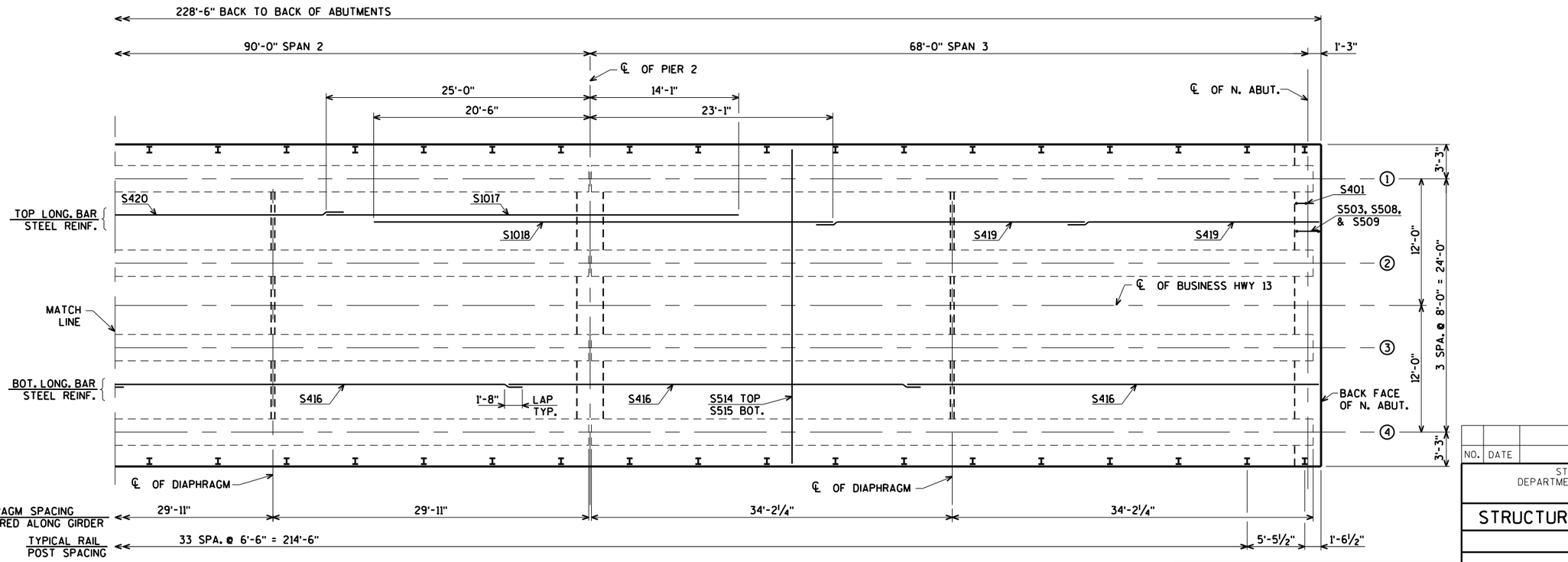
5/31/2013

PENTABLE:BReau_shd_util.tbl

STATE PROJECT NUMBER

8899-01-73





PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

SUPERSTRUCTURE PLAN

SHEET 20 OF 23
60

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

$PRFNAME$
U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\BRIDGE\420834 super.dgn

8

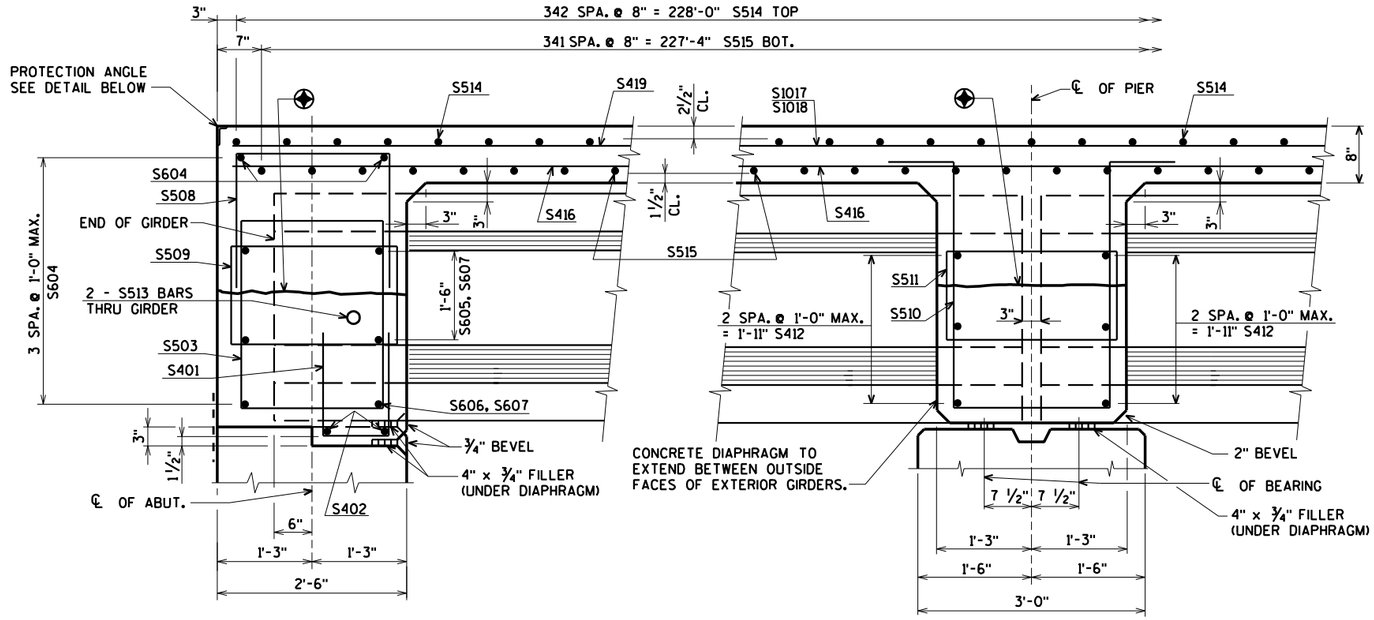
8

5/31/2013

PENTABLE:BReau_shd_util.tbl

STATE PROJECT NUMBER

8899-01-73

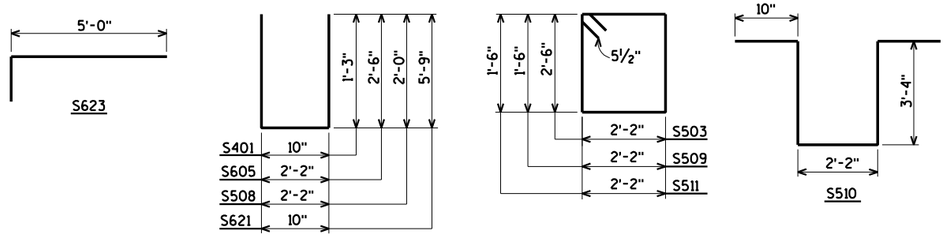


PART LONGITUDINAL SECTION

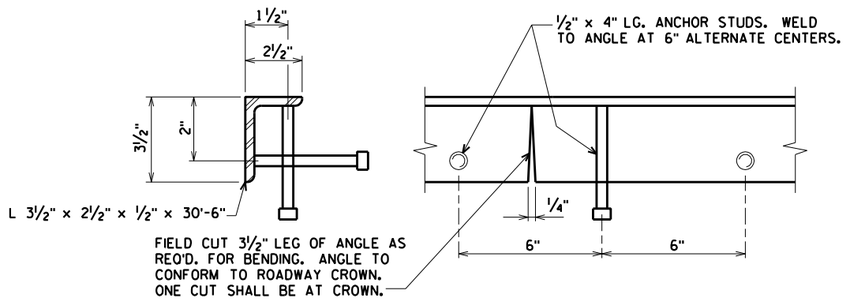
BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	57,730# COATED LOCATION
S401	X	30	3-2	X		DIAPH. @ ABUT. VERT. @ NOTCH
S402	X	12	4-2			DIAPH. @ ABUT. HORIZ. @ NOTCH
S503	X	54	9-11	X		DIAPH. @ ABUT. VERT.
S604	X	10	30-2			DIAPH. @ ABUT. HORIZ.
S605	X	8	6-10	X		DIAPH. @ ABUT. HORIZ.
S606	X	4	1-8			DIAPH. @ ABUT. HORIZ.
S607	X	36	4-6			DIAPH. @ ABUT. HORIZ.
S508	X	54	5-11	X		DIAPH. @ ABUT. VERT.
S509	X	16	7-11	X		DIAPH. @ ABUT. VERT.
S510	X	36	10-2	X		DIAPH. @ PIER VERT.
S511	X	12	7-11	X		DIAPH. @ PIER VERT.
S412	X	72	4-1			DIAPH. @ PIER HORIZ.
S513	X	16	6-0			DIAPH. @ ABUT. HORIZ. THRU GDR.
S514	X	343	30-2			SLAB TRANS. TOP
S515	X	342	30-2			SLAB TRANS. BOT.
S416	X	270	39-5			SLAB LONG. BOT.
S1017	X	48	39-1			SLAB LONG. TOP @ PIERS
S1018	X	46	43-7			SLAB LONG. TOP @ PIERS
S419	X	184	23-7			SLAB LONG. TOP SPANS 1 & 3
S420	X	92	23-6			SLAB LONG. TOP SPAN 2
S621	X	144	12-0	X		SLAB @ INT. RAIL POSTS
S622	X	272	6-0			SLAB @ RAIL POSTS
S623	X	16	12-0			SLAB @ EXT. RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.



PROTECTION ANGLE DETAIL

(ANGLE AND STUDS TO BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL STEEL CARBON". SANDBLAST PROTECTION ANGLE AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

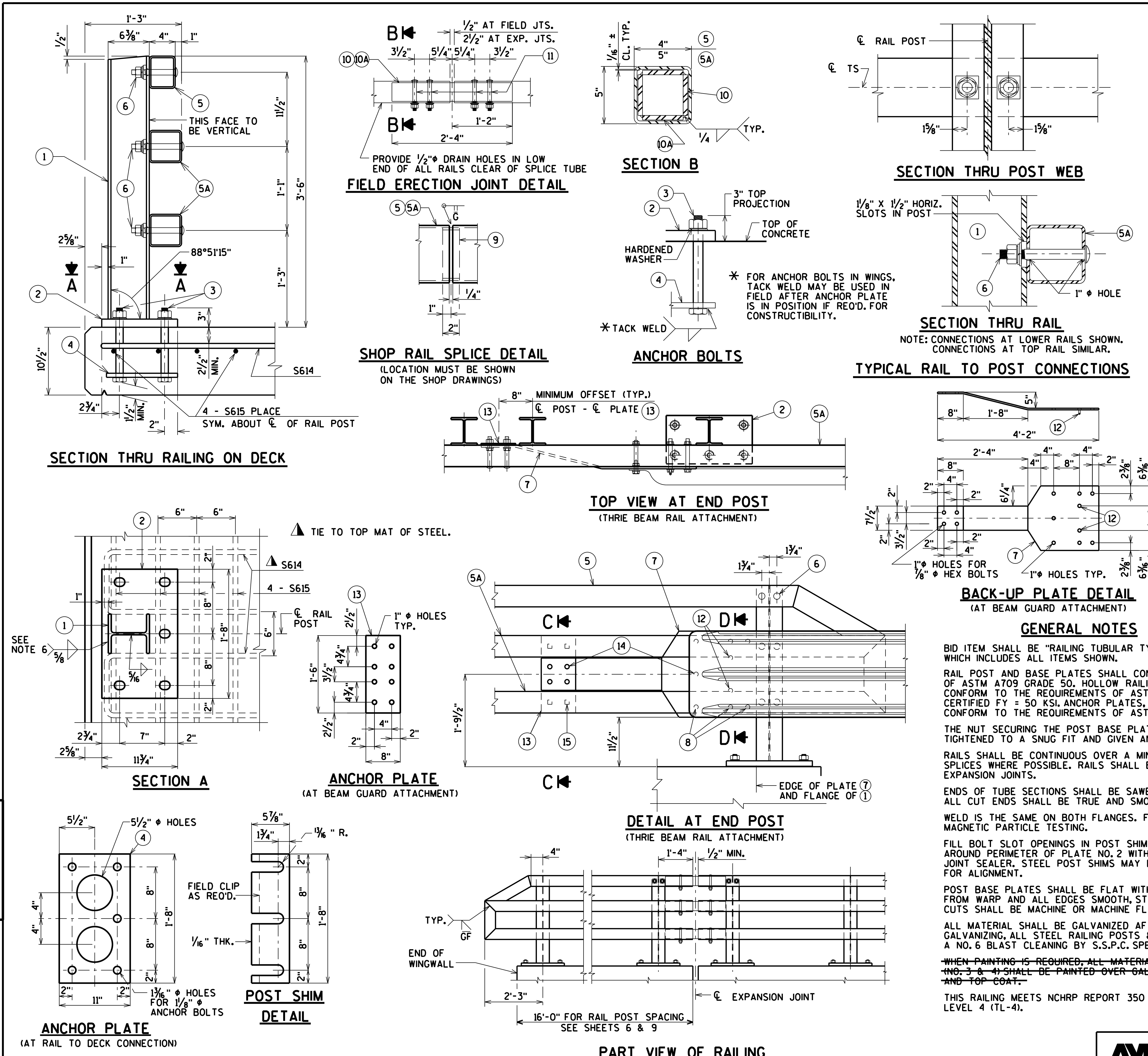
STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

SUPERSTRUCTURE DETAILS

SHEET 21 OF 23
61

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



STATE PROJECT NUMBER

8899-01-73

LEGEND

(1) W6 x 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1¼" x 11¾" x 1'-8" WITH 1⁵⁄₁₆" X 1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. ~~AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG.~~ USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)

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

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

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

(6) ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, ³⁄₁₆" X 1⅝" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-60-127" WHICH INCLUDES ALL ITEMS SHOWN.

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.

THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.

RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.

ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.

WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.

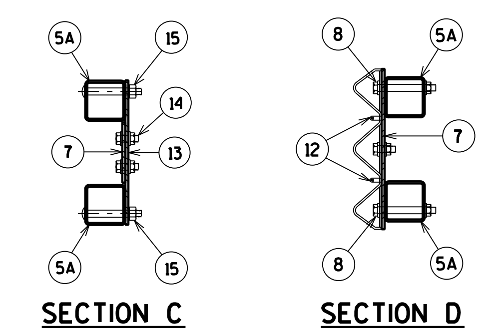
FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.

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.

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.

~~WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.~~

THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

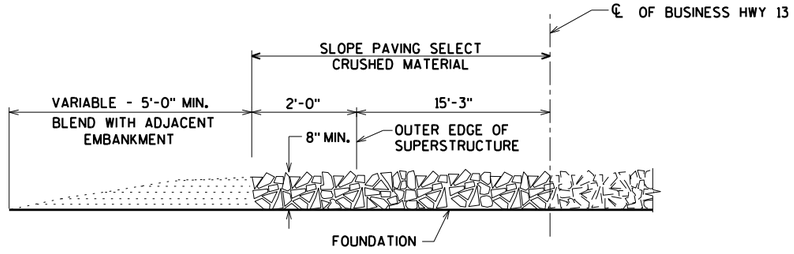
DRAWN BY KAZ | PLANS CK'D. AEB

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

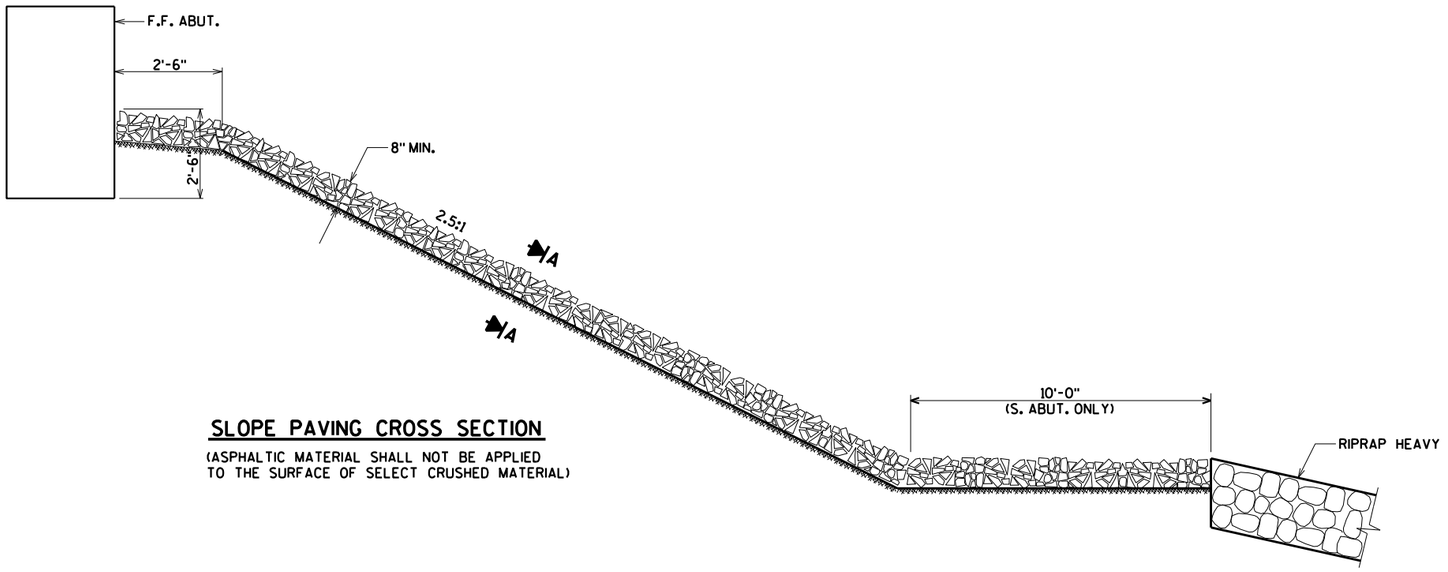
RAILING TUBULAR TYPE M

SHEET 22 OF 23

8



SECTION A



SLOPE PAVING CROSS SECTION

(ASPHALTIC MATERIAL SHALL NOT BE APPLIED TO THE SURFACE OF SELECT CRUSHED MATERIAL)

GENERAL NOTES

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

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-60-127

DRAWN BY KAZ | PLANS CK'D. AEB

SLOPE PAVING SELECT CRUSHED AGGREGATE

SHEET 23 OF 23
63

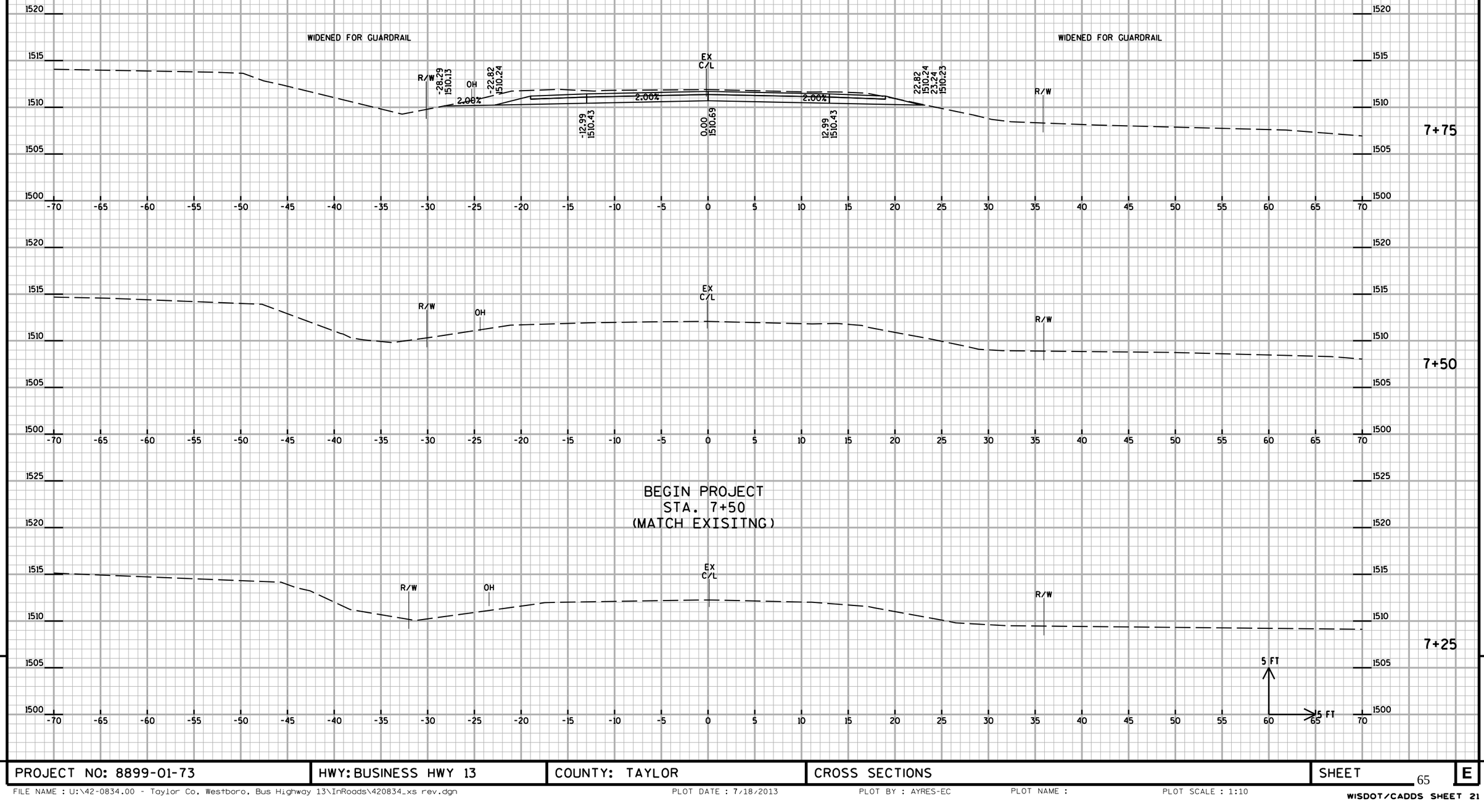
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

***EARTHWORK SUMMARY (CATEGORY 0010)**

STAGE	STATION	**P** 205.0100 EXCAVATION COMMON CY	FILL CY	208.0100 BORROW CY	WASTE CY
1	7+50				
Bus. Hwy. 13	7+75	45	0		
	7+87	25	1		
	8+00	26	8		
	8+12	22	27		
	8+25	22	66	3,207	0
	8+37	10	174		
	8+50	0	376		
	8+75	0	1,102		
	8+90.75	0	828		
	STRUCTURE (B-60-127)				
	11+19.25	17	15		
	11+50	15	7		
	11+73	2	0		
	11+75	19	0		
	11+98	2	0		
	12+00	3	0	0	87
	12+03	22	0		
	12+23	2	0		
	12+25	28	0		
	12+50				
	PE (12+05 LT)	6	0		
SUBTOTALS		**266**	**2,604**	**3,207**	**87**

* NOTE:
FOR BORROW EXCAVATION QUANTITY AND SHRINKAGE FACTOR, SEE PLAN SHEET BALANCE POINTS.

STA. 7+25 TO 7+75

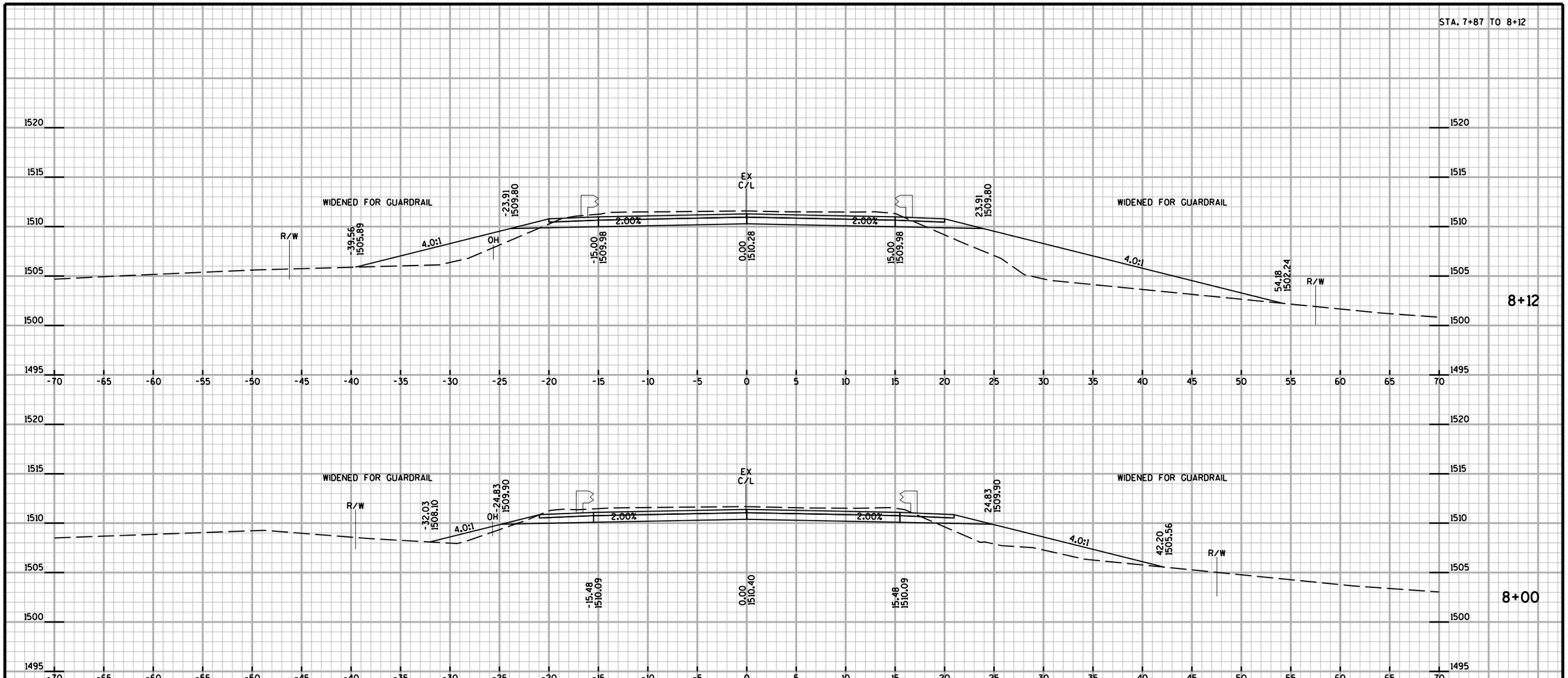


PROJECT NO: 8899-01-73	HWY: BUSINESS HWY 13	COUNTY: TAYLOR	CROSS SECTIONS	SHEET 65	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\InRoads\420834_xs rev.dgn PLOT DATE : 7/18/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 7+87 TO 8+12



9

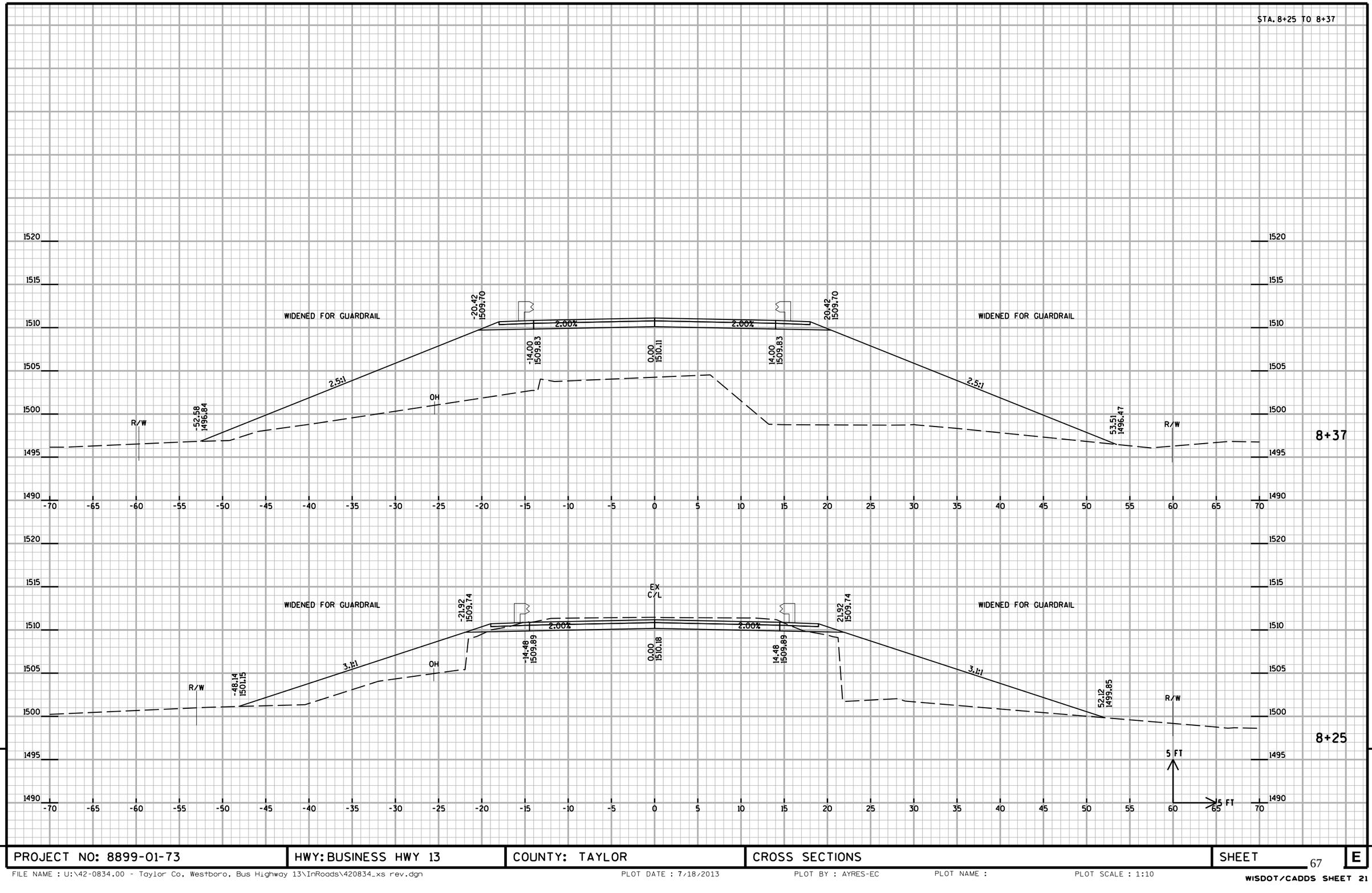
9

PROJECT NO: 8899-01-73	HWY: BUSINESS HWY 13	COUNTY: TAYLOR	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\InRoads\420834_xs rev.dgn PLOT DATE : 7/18/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 8+25 TO 8+37



9

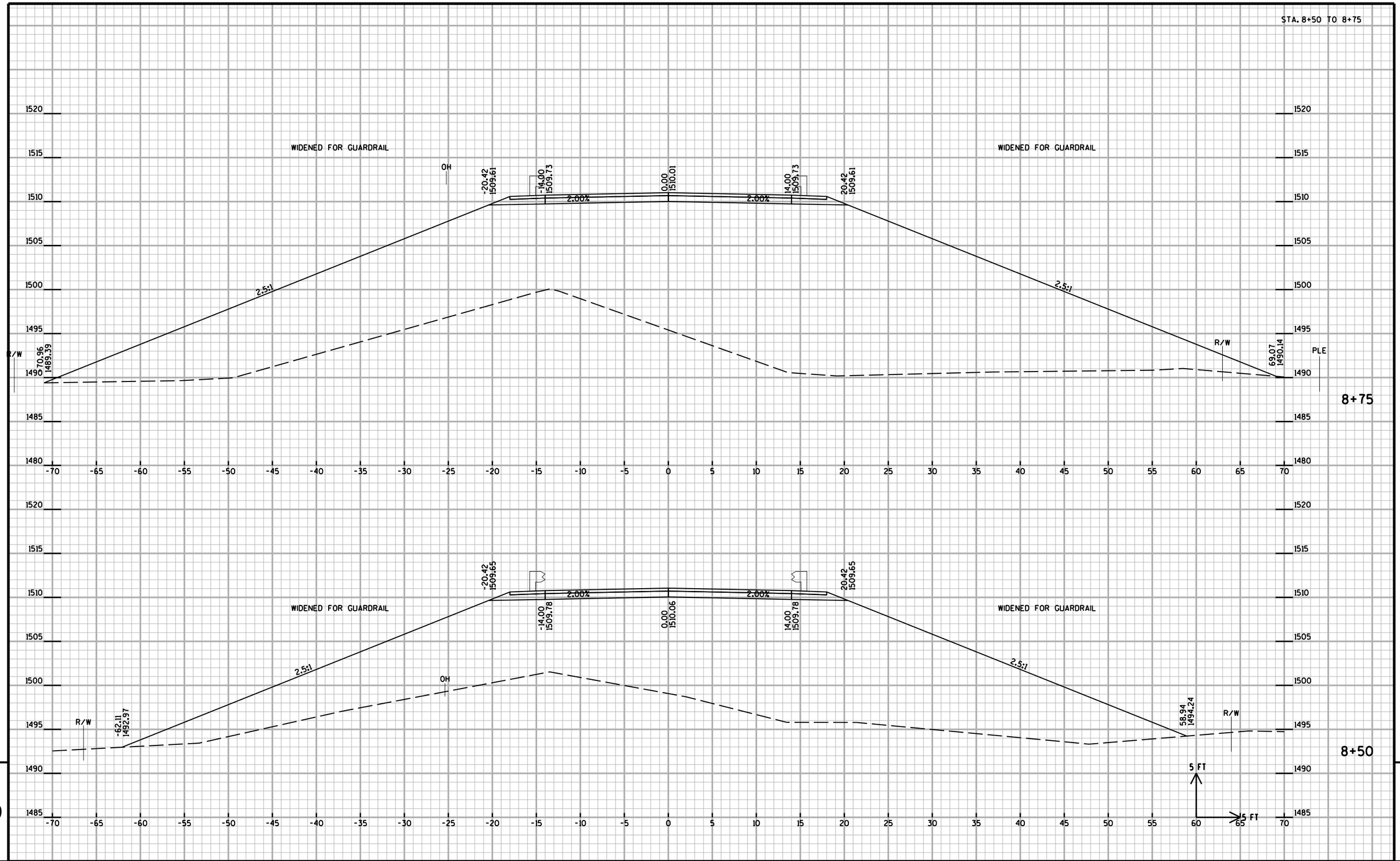
9

PROJECT NO: 8899-01-73	HWY: BUSINESS HWY 13	COUNTY: TAYLOR	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\InRoads\420834_xs rev.dgn PLOT DATE : 7/18/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 8+50 TO 8+75



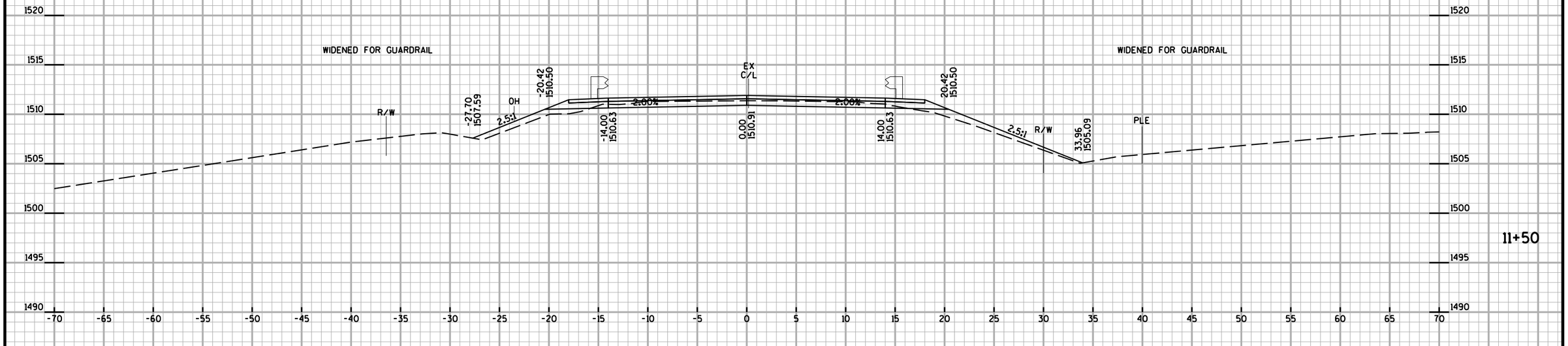
9 9

PROJECT NO: 8899-01-73	HWY: BUSINESS HWY 13	COUNTY: TAYLOR	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\InRoads\420834_xs rev.dgn PLOT DATE : 7/18/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+50 TO 11+50



11+50

STRUCTURE B-60-127

5 FT
5 FT

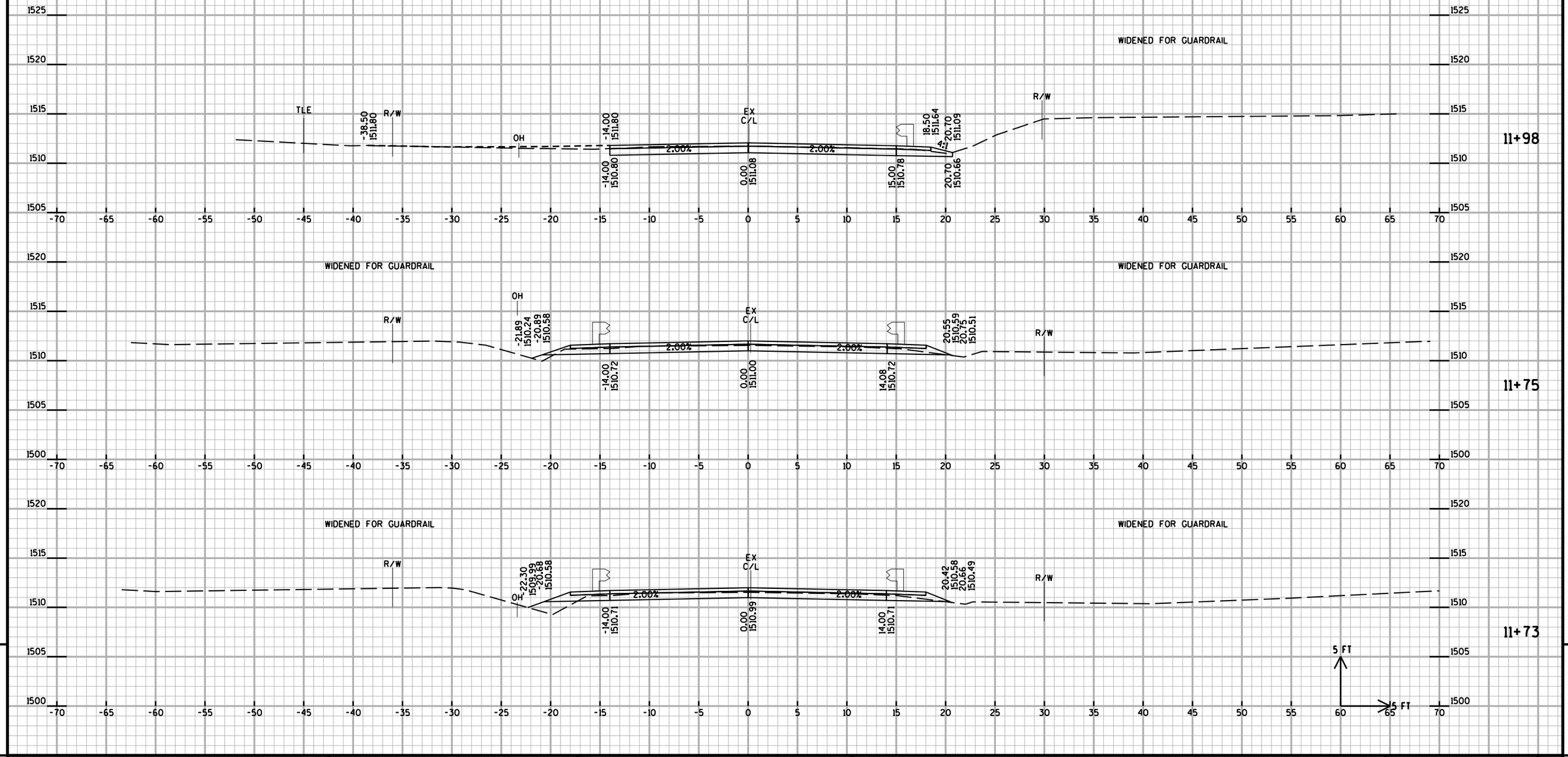
9 9

PROJECT NO: 8899-01-73	HWY: BUSINESS HWY 13	COUNTY: TAYLOR	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\InRoads\420834_xs rev.dgn PLOT DATE : 7/18/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+73 TO 11+98



9

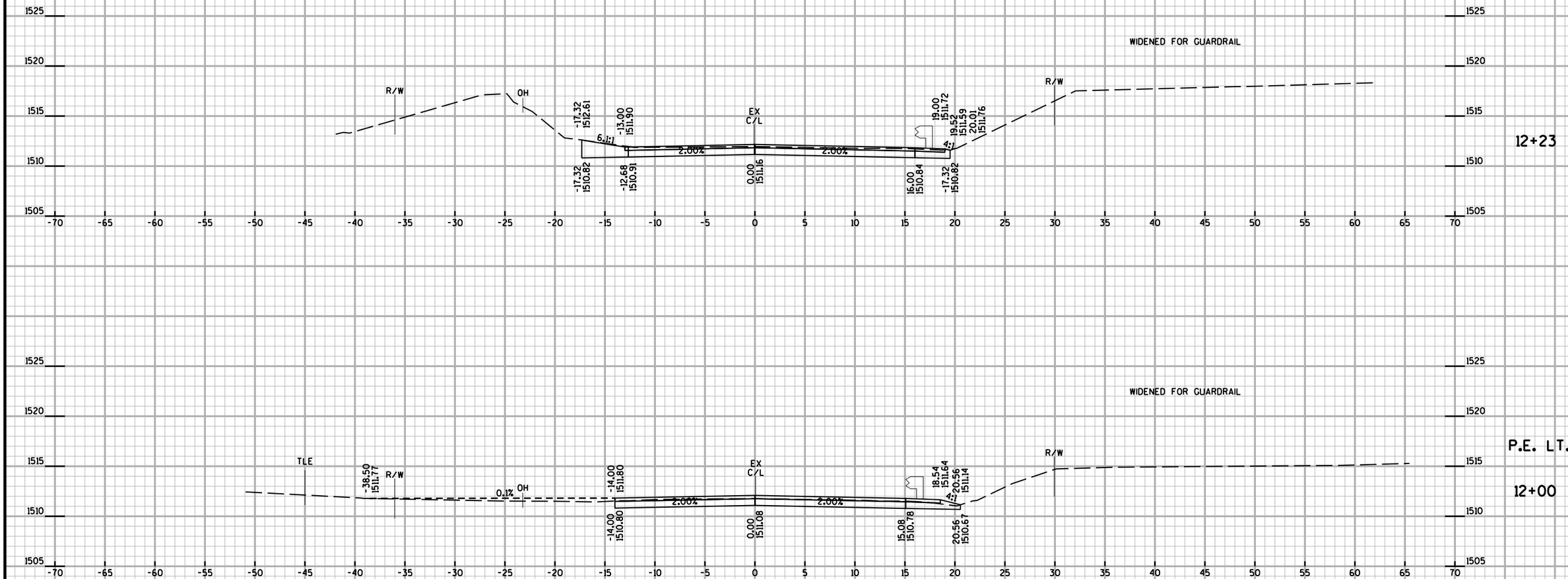
9

PROJECT NO: 8899-01-73	HWY: BUSINESS HWY 13	COUNTY: TAYLOR	CROSS SECTIONS	SHEET 70	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\InRoads\420834_xs rev.dgn | PLOT DATE : 7/18/2013 | PLOT BY : AYRES-EC | PLOT NAME : | PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 12+00 TO 12+23



9

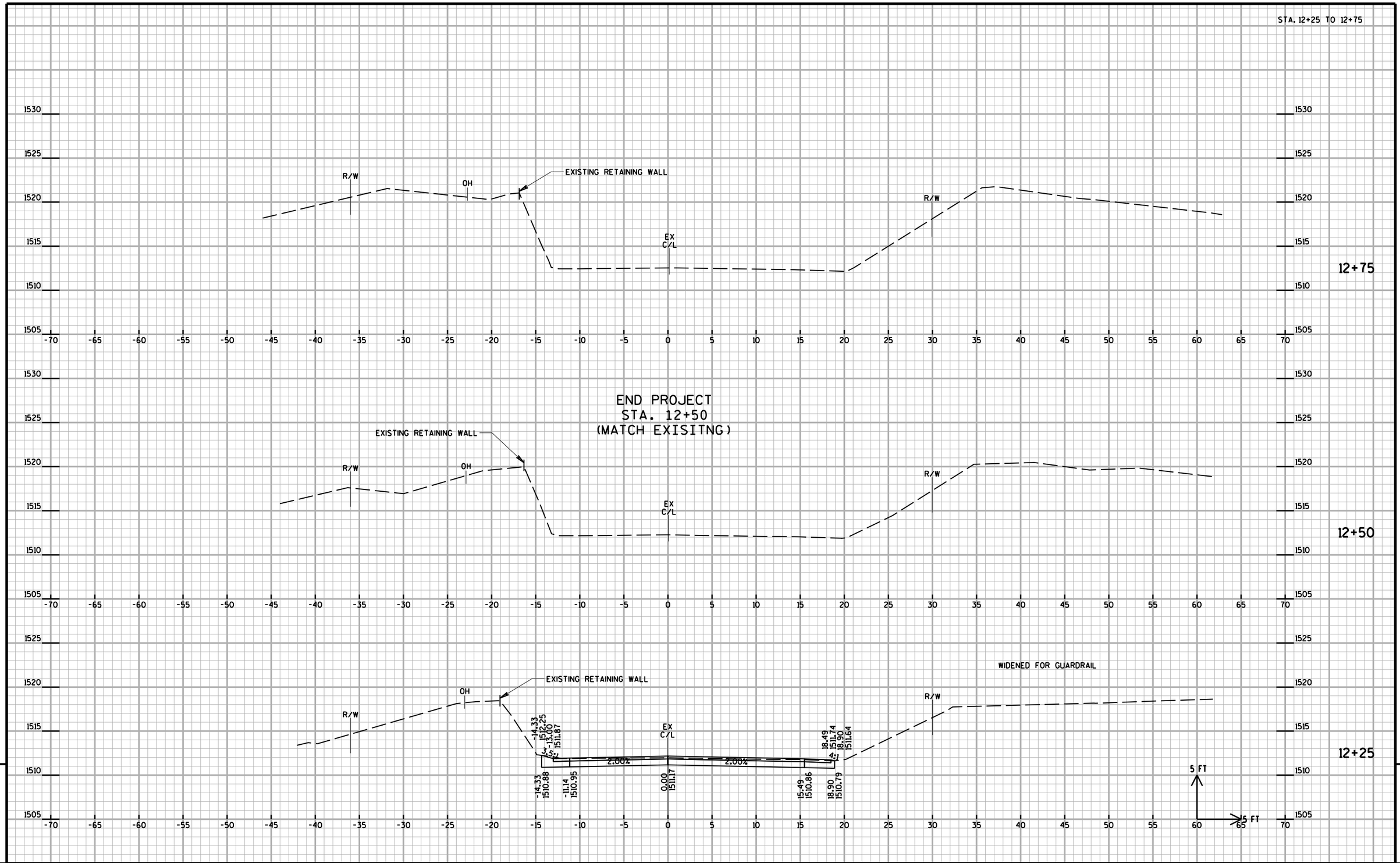
9

PROJECT NO: 8899-01-73	HWY: BUSINESS HWY 13	COUNTY: TAYLOR	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\InRoads\420834_xs rev.dgn PLOT DATE : 7/18/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 12+25 TO 12+75



9 9

PROJECT NO: 8899-01-73	HWY: BUSINESS HWY 13	COUNTY: TAYLOR	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0834.00 - Taylor Co, Westboro, Bus Highway 13\InRoads\420834_xs rev.dgn PLOT DATE : 7/18/2013 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov