NCL

PROJECT ID: 6799-01-70

WITH: N/A

COUNTY: PORTAGE

FEBRUARY 2017

ORDER OF SHEETS

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

TOTAL SHEETS = 66

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6799-01-70	WISC 2017027	1

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

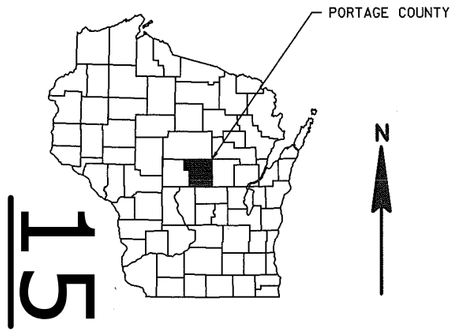
PLAN OF PROPOSED IMPROVEMENT

TOWN HALL ROAD - BROWN THRUSH ROAD

MILL CREEK BRIDGE B-49-0183

CTH G

PORTAGE COUNTY

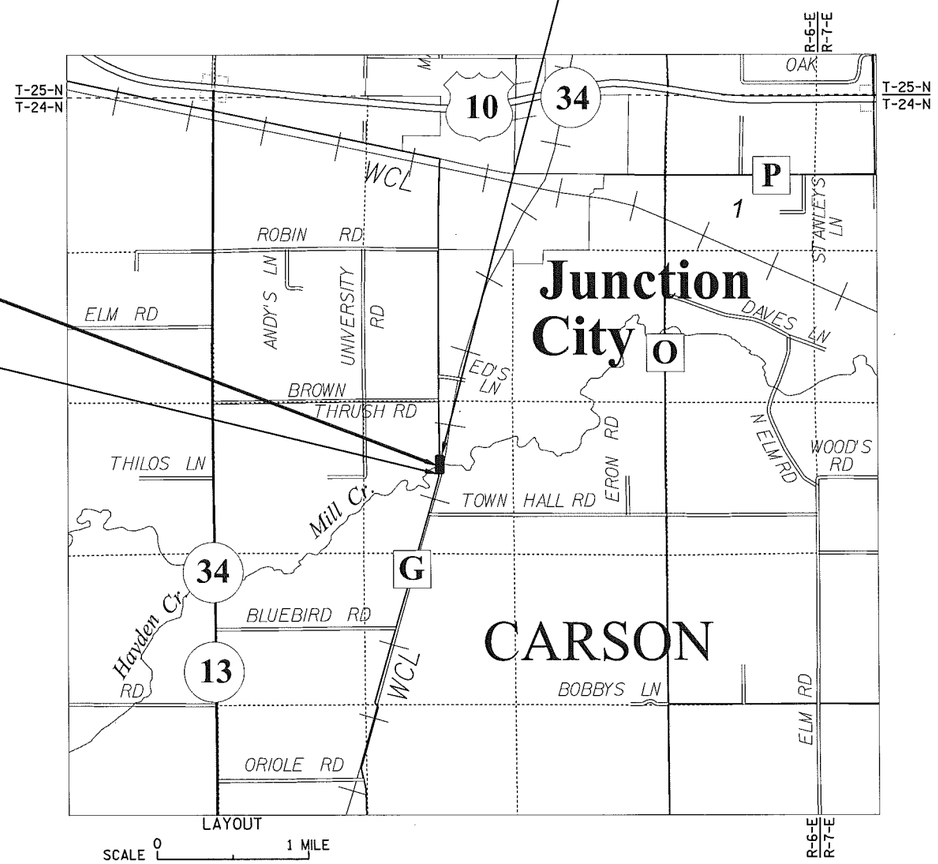


STATE PROJECT NUMBER
6799-01-70

END PROJECT 6799-01-70
STA 116+00.00

STRUCTURE B-49-183

BEGIN PROJECT 6799-01-70
STA 111+75.00
Y = 216871.857
X = 112513.990



TOTAL NET LENGTH OF CENTERLINE = 0.080 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, PORTAGE COUNTY, NAVD 88, IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DESIGN DESIGNATION

A.A.D.T.	2017	= 140
A.A.D.T.	2037	= 180
D.H.V.		= 18
D.D.		= 60/40
T.		= 5.1%
DESIGN SPEED		= 40 MPH
ESALS		= 14,600

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- HIGH VOLTAGE CAUTION
- COMBUSTIBLE FLUIDS
- WETLAND 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

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

ACCEPTED FOR
PORTAGE COUNTY

DATE: 7/18/16 (Signature)

Highway Commissioner
TITLE

ORIGINAL PLANS PREPARED BY

OMNI ASSOCIATES

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON WI
PROFESSIONAL ENGINEER
7/14/16

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	OMNNI ASSOCIATES
Designer	OMNNI ASSOCIATES
Management Consultant	CEDAR CORP

APPROVED FOR THE DEPARTMENT

DATE: 7-29-2016 (Signature)

E

FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\SHEETSPLAN\67990170-010101-TI.DWG
67990170-010101-t1

PLOT DATE : 7/13/2016 2:58 PM

PLOT BY : JAIRO MAZARIEGOS PLOT NAME :

WISDOT/CADDS SHEET 10

GENERAL NOTES

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

FILL AS SHOWN ON THE PLANS PERTAINS TO EMBANKMENTS CONSTRUCTED FROM COMMON EXCAVATION. THE ALLOWANCE USED FOR EXPANDING THE FILLS TO COMPUTE THE VOLUME OF MATERIAL REQUIRED IS 25 PERCENT. ALL FILL VOLUMES SHOWN ARE THE ACTUAL VOLUMES.

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

HMA PAVEMENT 4" DEPTH
- 1 3/4" UPPER LAYER (TYPE 4 LT 58-28 S)
- 2 1/4" LOWER LAYER (TYPE 3 LT 58-28 S)

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

ALL DISTURBED AREAS, NOT OTHERWISE SURFACED ARE TO BE TOPSOILED, FERTILIZED, TEMPORARY SEEDED, SEEDED AND COVERED WITH EROSION MAT OR MULCH.

SEED MIXTURE NO. 60 SHALL BE USED AT THE TOE OF SLOPES ADJACENT TO WETLANDS AND STREAM BANK IN FRONT OF THE SOUTH ABUTMENT.
SEED MIXTURE NO. 20 SHALL BE USED ON ALL OTHER DISTURBED AREAS.

WETLAND AREAS ARE SHOWN ON THE PLANS. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO WORK WITHIN THE SLOPE INTERCEPTS IN THE WETLAND AREAS.

THE EXACT LOCATIONS OF ALL EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.

EROSION CONTROL NOTES

RUNOFF COEFFICIENTS FOR THIS PROJECT: EXISTING PAVEMENT 0.95, EXISTING SLOPES 0.30, NEW PAVEMENT 0.95, NEW SLOPES 0.30.

TOTAL PROJECT AREA = 1.13 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.82 ACRES

UTILITIES

TELEPHONE

TDS TELECOM
10 COLLEGE AVENUE, SUITE 218A
APPLETON, WI 54911
ATTN: STEVE JAKUBIEC
TELEPHONE: 920-882-4166
CELL PHONE: 920-562-7221
EMAIL: steve.jakubiec@tdstelecom.com

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

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

CONTACTS

PORTAGE COUNTY

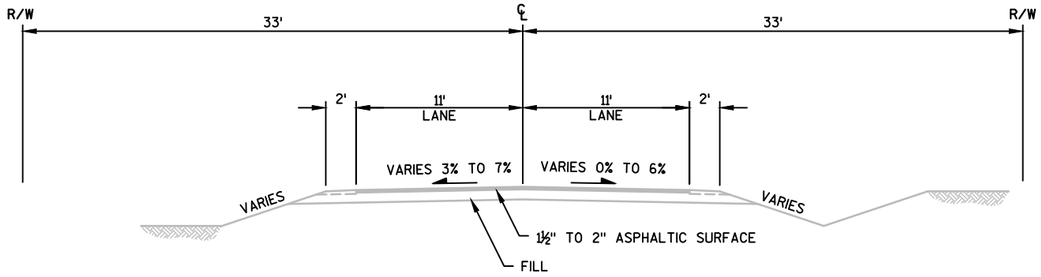
NATHAN CHECK, HIGHWAY COMMISSIONER
800 PLOVER ROAD
PLOVER, WI 54467
TELEPHONE: 715-345-5230
EMAIL: checkn@co.portage.wi.us

DESIGN CONSULTANT

KRIS OLSON, P.E.
OMNNI ASSOCIATES, INC.
ONE SYSTEMS DRIVE
APPLETON, WI 54914
TELEPHONE: 920-830-6123
EMAIL: kris.olson@omnni.com

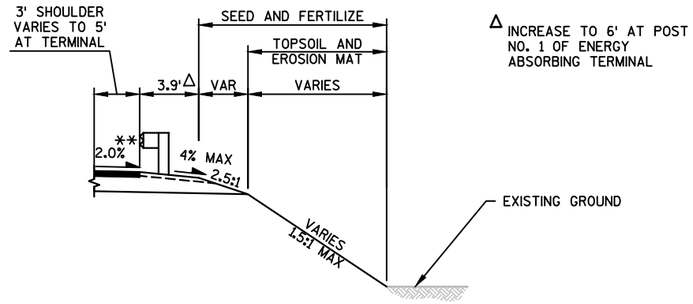
DNR LIAISON

MARC HERSHFIELD
DEPARTMENT OF NATURAL RESOURCES
473 GRIFFITH AVENUE
WISCONSIN RAPIDS, WI 54494
TELEPHONE: 715-421-7867
EMAIL: marc.hershfield@wisconsin.gov



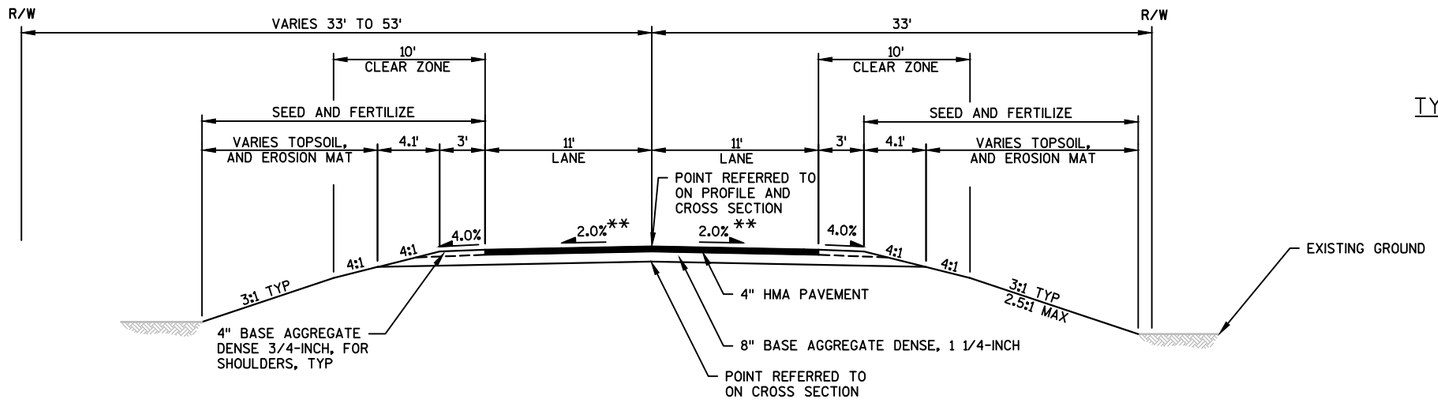
TYPICAL EXISTING SECTION CTH G

STA 111+75 TO STA 116+00



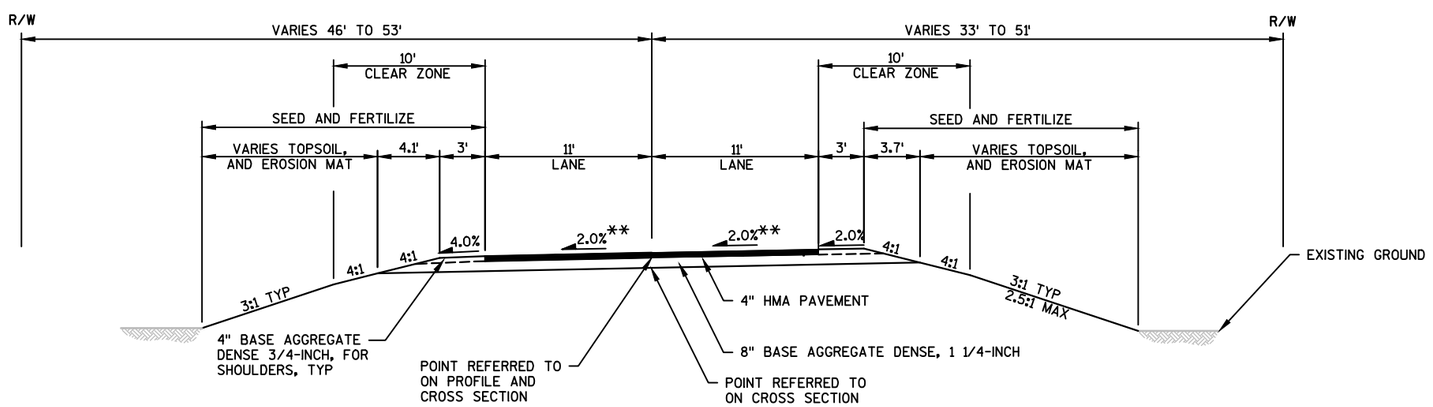
TYPICAL FINISHED SECTION AT BEAM GUARD

STA 111+80 TO STA 113+07 RT
STA 112+04 TO STA 113+07 LT
STA 114+57 TO STA 115+58 RT
STA 114+57 TO STA 115+85 LT



TYPICAL FINISHED SECTION CTH G

STA 111+75 TO STA 113+17.01

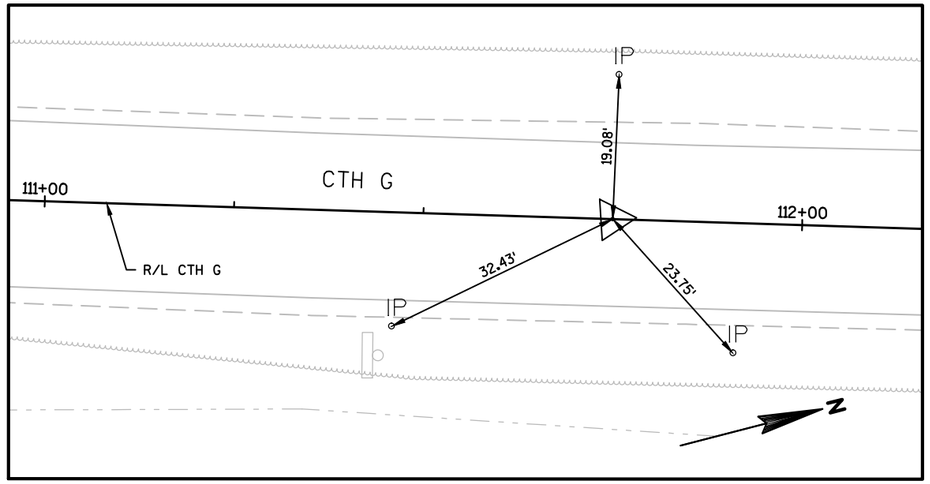


TYPICAL FINISHED SECTION CTH G

STA 114+46.51 TO STA 116+00

**** SUPERELEVATION TRANSITION**

STATION TO STATION	TRANSITIONS
111+75 TO 113+00	EXISTING CROSS-SLOPES TO REVERSE CROWN 2%
113+00 TO 114+87 (INCLUDES BRIDGE)	REVERSE CROWN 2%
114+87 TO 115+27	REVERSE CROWN 2% TO FULL SUPER 3.3%
115+27 TO 115+58	FULL SUPERELEVATION 3.3%
115+58 TO 116+00	FULL SE 3.3% TO EXISTING CROSS-SLOPES

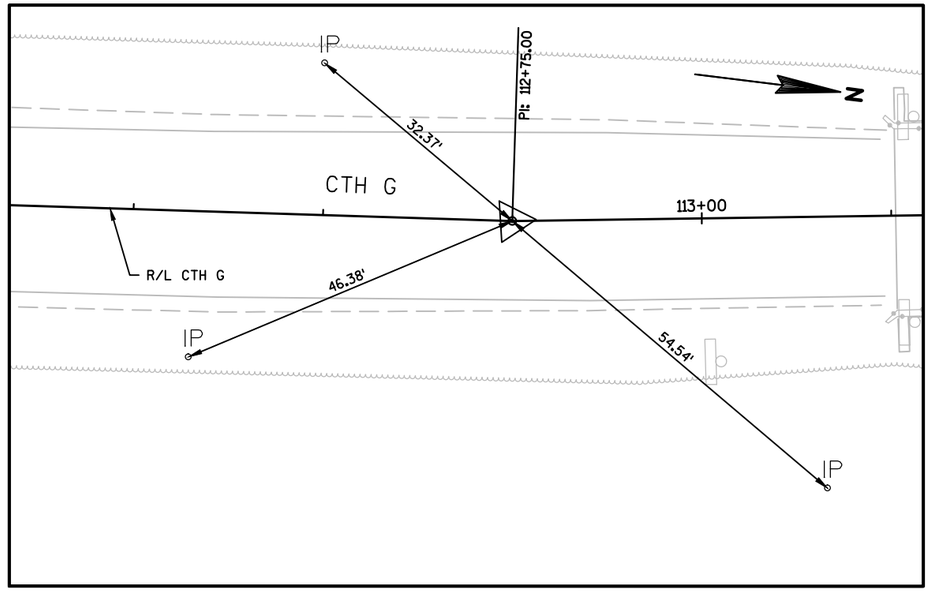


PI STA 111+75.00
Y=216871.856
X=112513.989

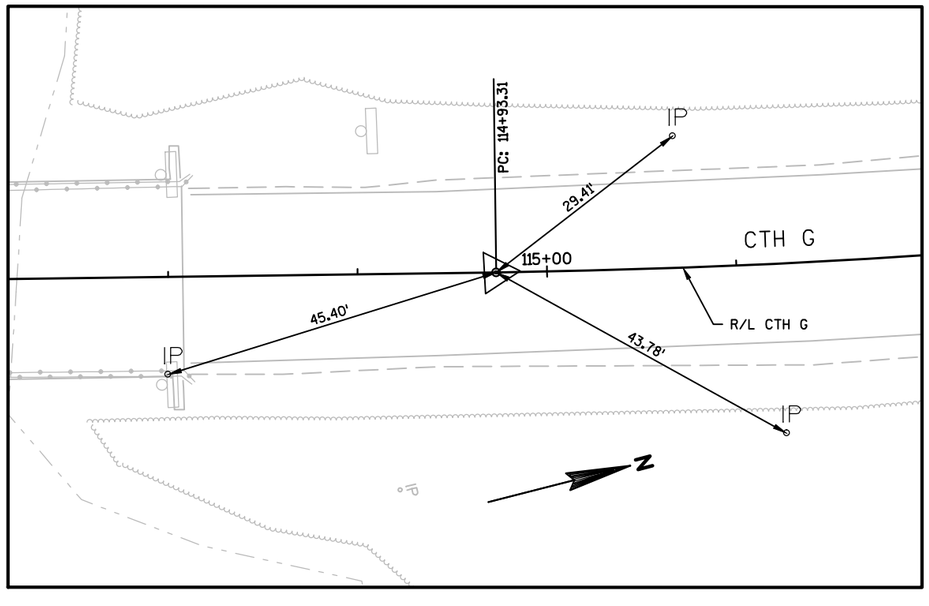
LEGEND

MAG SPIKE

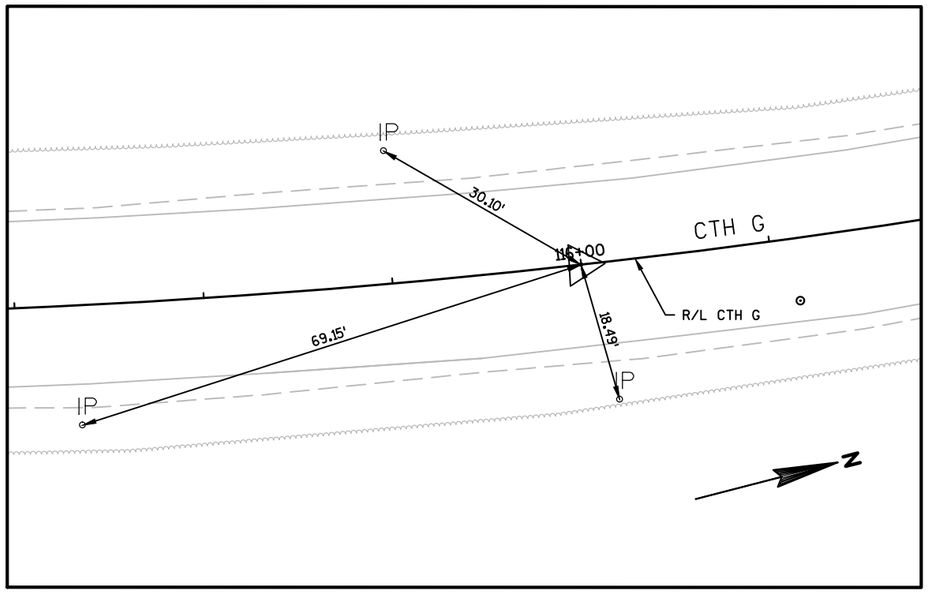
IP IRON PIPE PIN



PI STA 112+75.00
Y=216967.856
X=112541.989



PI STA 114+93.31
Y=217179.994
X=112593.539



PI STA 116+00.00
Y=217284.724
X=112613.669

PROJECT NO:6799-01-70	HWY: CTH G	COUNTY: PORTAGE	ALIGNMENT TIES	SHEET 4	E

2

2

LEGEND

- EROSION MAT URBAN CLASS I, TYPE B
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- SURFACE WATER FLOW

NOTE: USE SEED MIX NO. 60 AT THE TOE OF SLOPE ADJOINING WETLANDS. USE SEED MIX NO. 20 IN ALL OTHER LOCATIONS.

N

MILL CREEK

EDGE OF WATER

PROPOSED R/W

WETLAND BOUNDRY

SLOPE INTERCEPT

EXIST R/W

109+00 110+00 111+00 112+00 113+00

MATCH LINE STA 113+88

EXIST R/W

SLOPE INTERCEPT

COFFERDAM

NEW R/W

WETLAND BOUNDRY

REQUIRED FOR PIER REMOVAL

WCL RAILROAD

SECTION LINE

WCL RAILROAD R/W

EDGE OF WATER

PROJECT NO:6799-01-70	HWY: CTH G	COUNTY: PORTAGE	EROSION CONTROL	SHEET 5	E

FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\SHEETSPLAN\67990170-022001-EC.DWG
LAYOUT NAME - SHEET - (5)

PLOT DATE : 7/14/2016 12:37 PM PLOT BY : JAIRO MAZARIEGOS PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

EROSION MAT URBAN CLASS I, TYPE B

SILT FENCE

RIP RAP

SLOPE INTERCEPT

TURBIDITY BARRIER

SURFACE WATER FLOW

NOTE: USE SEED MIX NO. 60 AT THE TOE OF SLOPE ADJOINING WETLANDS. USE SEED MIX NO. 20 IN ALL OTHER LOCATIONS.

N

EDGE OF WATER

WETLAND BOUNDRY

PROPOSED R/W

REQUIRED FOR PIER REMOVAL

SLOPE INTERCEPT

EXIST R/W

MATCH LINE STA 113+88

114+00

115+00

116+00

117+00

118+00

119+00

EXIST R/W

SLOPE INTERCEPT

COFFERDAM

MILL CREEK

WETLAND BOUNDRY

NEW R/W

WCL RAILROAD R/W

WCL RAILROAD

EDGE OF WATER

SECTION LINE

WCL RAILROAD R/W

PROJECT NO:6799-01-70	HWY:CTH G	COUNTY:PORTAGE	EROSION CONTROL	SHEET 6	E

6799-01-70

Line	Item	Item Description	Unit	Total	Qty
0010	201.0205	Grubbing	STA	7.000	7.000
0020	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 113+82	LS	1.000	1.000
0030	205.0100	Excavation Common	CY	480.000	480.000
0040	206.1000	Excavation for Structures Bridges (structure) 01. B-49-183	LS	1.000	1.000
0050	206.5000	Cofferdams (structure) 01. B-49-183	LS	1.000	1.000
0060	208.0100	Borrow	CY	380.000	380.000
0070	210.1100	Backfill Structure Type A	CY	140.000	140.000
0080	213.0100	Finishing Roadway (project) 01. 6799-01-70	EACH	1.000	1.000
0090	305.0110	Base Aggregate Dense 3/4-Inch	TON	150.000	150.000
0100	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	850.000	850.000
0110	455.0605	Tack Coat	GAL	75.000	75.000
0120	460.2000	Incentive Density HMA Pavement	DOL	140.000	140.000
0130	460.5223	HMA Pavement 3 LT 58-28 S	TON	125.000	125.000
0140	460.5224	HMA Pavement 4 LT 58-28 S	TON	95.000	95.000
0150	502.0100	Concrete Masonry Bridges	CY	385.000	385.000
0160	502.3200	Protective Surface Treatment	SY	535.000	535.000
0170	505.0400	Bar Steel Reinforcement HS Structures	LB	7,150.000	7,150.000
0180	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	64,190.000	64,190.000
0190	513.4061	Railing Tubular Type M (structure) 01. B-49-183	LF	300.000	300.000
0200	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0210	550.0020	Pre-Boring Rock or Consolidated Materials	LF	168.000	168.000
0220	550.0500	Pile Points	EACH	10.000	10.000
0230	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	575.000	575.000
0240	606.0300	Riprap Heavy	CY	230.000	230.000
0250	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	130.000	130.000
0260	614.2300	MGS Guardrail 3	LF	100.000	100.000
0270	614.2500	MGS Thrie Beam Transition	LF	158.000	158.000
0280	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0290	619.1000	Mobilization	EACH	1.000	1.000
0300	624.0100	Water	MGAL	6.000	6.000
0310	625.0100	Topsoil	SY	2,100.000	2,100.000
0320	628.1504	Silt Fence	LF	1,300.000	1,300.000
0330	628.1520	Silt Fence Maintenance	LF	1,300.000	1,300.000
0340	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0350	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0360	628.2008	Erosion Mat Urban Class I Type B	SY	2,100.000	2,100.000
0370	628.6005	Turbidity Barriers	SY	440.000	440.000
0380	629.0210	Fertilizer Type B	CWT	2.000	2.000

6799-01-70

Line	Item	Item Description	Unit	Total	Qty
0390	630.0120	Seeding Mixture No. 20 **P**	LB	75.000	75.000
0400	630.0160	Seeding Mixture No. 60	LB	10.000	10.000
0410	630.0200	Seeding Temporary	LB	40.000	40.000
0420	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0430	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0440	638.2602	Removing Signs Type II	EACH	7.000	7.000
0450	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0460	642.5001	Field Office Type B	EACH	1.000	1.000
0470	643.0100	Traffic Control (project) 01. 6799-01-70	EACH	1.000	1.000
0480	643.0420	Traffic Control Barricades Type III	DAY	1,720.000	1,720.000
0490	643.0705	Traffic Control Warning Lights Type A	DAY	2,752.000	2,752.000
0500	643.0900	Traffic Control Signs	DAY	1,204.000	1,204.000
0510	645.0120	Geotextile Type HR	SY	380.000	380.000
0520	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,520.000	2,520.000
0530	650.4500	Construction Staking Subgrade	LF	502.000	502.000
0540	650.5000	Construction Staking Base	LF	502.000	502.000
0550	650.6500	Construction Staking Structure Layout (structure) 01. B-49-193	LS	1.000	1.000
0560	650.9910	Construction Staking Supplemental Control (project) 01. 6799-01-70	LS	1.000	1.000
0570	650.9920	Construction Staking Slope Stakes	LF	502.000	502.000
0580	690.0150	Sawing Asphalt	LF	44.000	44.000
0590	715.0502	Incentive Strength Concrete Structures	DOL	2,310.000	2,310.000
0600	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	200.000	200.000
0610	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	200.000	200.000

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

EARTHWORK

DIVISION	FROM / TO STATION	LOCATION	205.0100 EXCAVATION COMMON (CY) NOTE 2	SALVAGED / UNUSABLE PAVEMENT MATERIAL (CY)	AVAILABLE MATERIAL (CY) NOTE 3	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) NOTE 4	MASS ORDINATE +/- (CY) NOTE 5	208.0100 BORROW (CY)
							Factor		
							1.25		
SOUTH	110+75/113+07	CTH G	240	19	221	211	260	-39	40
NORTH	114+56/117+07	CTH G	240	20	220	451	560	-340	340
		TOTALS	**480**	39	441	662	820	-379	**380**

2) SALVAGED / UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN EXCAVATION COMMON

3) AVAILABLE MATERIAL = EXCAVATION COMMON - SALVAGED / UNUSABLE PAVEMENT MATERIAL

4) EXPANDED FILL = (UNEXPANDED FILL) * FILL FACTOR

5) THE MASS ORDINATE + OR - QUANTITY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

GRUBBING

STATION	LOCATION	201.0205 GRUBBING STATION
110+75 to 113+50	CTH G	4
114+25 to 116+75	CTH G	3
	TOTALS	**7**

BASE AGGREGATE DENSE AND WATER

STATION TO STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
110+75 - STRUCTURE	CTH G	80	425	3.0
STRUCTURE - 117+06	CTH G	70	425	3.0
	TOTALS	**150**	**850**	**6**

ASPHALTIC ITEMS

STATION TO STATION	LOCATION	455.0605 TACK COAT GAL	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON
111+75 - STRUCTURE	CTH G	35	60	45
STRUCTURE - 116+00	CTH G	40	65	50
	TOTALS	**75**	**125**	**95**

STEEL PLATE BEAM GUARD

STATION TO STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
111+80 - STRUCTURE, RT	CTH G	37.5	39.4	1
112+04 - STRUCTURE, LT	CTH G	12.5	39.4	1
STRUCTURE - 115+58, RT	CTH G	12.5	39.4	1
STRUCTURE - 115+85, LT	CTH G	37.5	39.4	1
	TOTALS	100	157.6	4
	ROUNDED TOTALS	**100**	**158**	**4**

LANDSCAPING

STATION TO STATION	LOCATION	625.0100 TOPSOIL SY	630.0120 SEEDING NO 20 LB	630.0160 SEEDING NO 60 LB	630.0200 SEEDING TEMPORARY LB	629.0210 FERTILIZER TYPE B CWT
110+75 - STRUCTURE, RT	CTH G	210	10	-	5	0.3
110+75 - STRUCTURE, LT	CTH G	435	16	-	8	0.4
STRUCTURE - 116+70, RT	CTH G	365	13	-	6	0.4
STRUCTURE - 117+06, LT	CTH G	725	24	-	12	0.6
UNDISTRIBUTED	CTH G	365	12	10	9	0.3
TOTALS		**2,100**	**75**	**10**	**40**	**2.0**

TURBIDITY BARRIER

STATION	LOCATION	628.6005 SY
113+50	CTH G	150
114+25	CTH G	290
TOTAL		**440**

EROSION CONTROL ITEMS

STATION TO STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY
110+75 - STRUCTURE, RT	HILLCREST RD	285	285	---	---	210
110+75 - STRUCTURE, LT	HILLCREST RD	280	280	---	---	435
STRUCTURE - 116+70, RT	HILLCREST RD	215	215	---	---	365
STRUCTURE - 117+06, LT	HILLCREST RD	290	290	---	---	725
UNDISTRIBUTED	HILLCREST RD	230	230	4	2	365
TOTALS		**1,300**	**1,300**	**4**	**2**	**2,100**

RIPRAP

STATION	LOCATION	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
112+75 - 113+07, RT	CTH G	30	65
114+56 - 114+75, RT	CTH G	25	50
TOTAL		**55**	**115**

SIGNS REFLECTIVE TYPE II & POSTS WOOD

STATION	LOCATION	CODE	SIGN SIZE HORIZ X VERT IN X IN	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II RELFECTIVE F SF
113+07, RT	CTH G	W5-52R	12 X 36	1	3
113+07, LT	CTH G	W5-52L	12 X 36	1	3
114+56, RT	CTH G	W5-52L	12 X 36	1	3
114+56, LT	CTH G	W5-52R	12 X 36	1	3
		TOTALS		**4**	**12**

REMOVING SIGNS TYPE II AND REMOVING SMALL SIGN SUPPORTS

STATION	LOCATION	DESCRIPTION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
111+45, RT	CTH G	NARROW BRIDGE	1	1
113+02, RT	CTH G	WEIGHT LIMIT 35 TONS	1	1
113+27, LT	CTH G	OBJECT MARKER	1	1
113+27, RT	CTH G	OBJECT MARKER	1	1
114+50, LT	CTH G	OBJECT MARKER	1	1
114+50, RT	CTH G	OBJECT MARKER	1	1
114+76, LT	CTH G	WEIGHT LIMIT 35 TONS	1	1
		TOTALS	**7**	**7**

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

PAVEMENT MARKING EPOXY

STATION	LOCATION	646.0106 4-INCH YELLOW LF	646.0106 4-INCH WHITE LF
110+75 - 117+06	CTH G	1,260	1,260
	TOTAL	**2,520**	

CONSTRUCTION STAKING

STATION TO STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	CATEGORY 0020 650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF
110+75 - STRUCTURE	CTH G	242	242	---	---	242
STRUCTURE B-49-183	CTH G	---	---	1	---	---
STRUCTURE - 117+06	CTH G	260	260	---	---	260
	TOTALS	**502**	**502**	**1**	**1**	**502**

TRAFFIC CONTROL ROAD CLOSURE

LOCATION	APROX. SERVICE PERIOD	643.0420 BARRICADES TYPE III EACH		643.0705 WARNING LIGHTS TYPE A EACH		643.0900 SIGNS EACH	
		NO.	DAYS	NO.	DAYS	NO.	DAYS
NORTH OF PROJECT	86	10	860	16	1376	7	602
SOUTH OF PROJECT	86	10	860	16	1376	7	602
			1,720		**2,752**		**1,204**

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT LF
111+75	CTH G	22
116+00	CTH G	22
	TOTAL	**44**

PORTAGE COUNTY

Conventional Signs and Abbreviations

- SECTION LINE
- QUARTER LINE
- TOWNSHIP AND RANGE LINE
- PROPOSED OR NEW CENTERLINE
- PROPOSED OR NEW R/W LINE
- EXISTING R/W LINE
- LOT LINE
- P.L. PROPERTY LINE
- COUNTY LIMITS LINE
- SLOPE INTERCEPTS
- EXISTING MONUMENTATION
- FENCE
- SECTION OR QUARTER CORNER
- TELEPHONE
- GAS
- WATER
- ELECTRIC
- FIBER OPTIC
- SANITARY
- STORM SEWER
- NO ACCESS (BY ACQUISITION)
- NO ACCESS (BY STATUTORY AUTHORITY)
- NO ACCESS (BY PREVIOUS PROJECT)
- TEMPORARY LIMITED EASEMENT
- PERMANENT LIMITED EASEMENT
- FEE TITLE
- RIGHT-OF-WAY MONUMENTS SET AT NEWLY ACQUIRED R/W ANGLE POINTS
- (6) PARCEL NUMBER
- (92) UTILITY PARCEL NUMBER
- TLE POINT NUMBER
- R/W POINT NUMBER

AC	ACRES	R	RADIUS
Δ	CENTRAL ANGLE	R.	RANGE
C/L	CENTERLINE	R/L	REFERENCE LINE
COR.	CORNER	R/W	RIGHT OF WAY
CTH	COUNTY TRUNK HIGHWAY	1/4 LINE	QUARTER LINE
D	DEGREE OF CURVE	1/16 LINE	SIXTEENTH LINE
E.	EAST	S.	SOUTH
L	LENGTH OF CURVE	SEC	SECTION
LC	LONG CHORD	SEC LINE	SECTION LINE
LCB	LONG CHORD BEARING	STH	STATE TRUNK HIGHWAY
MI	MILE	SF	SQUARE FEET
N.	NORTH	STA	STATION
N.T.S.	NOT TO SCALE	T.	TOWN
PC	POINT OF CURVATURE	T	TANGENT LENGTH OF CURVE
PI	POINT OF INTERSECTION	TLE	TEMPORARY LIMITED EASEMENT
PT	POINT OF TANGENCY	USH	UNITED STATES HIGHWAY
PLE	PERMANENT LIMITED EASEMENT	W.	WEST
P/L	PROPERTY LINE		
PC LINE	PRIVATE CLAIM LINE		

	COMPENSABLE	NON-COMPENSABLE
POWER POLE	■	□
TELEPHONE POLE	●	⊘
TELEPHONE PEDESTAL	■	⊠

REVISIONS	R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
	6799-01-00	4.01	4
	FEDERAL PROJECT NUMBER		

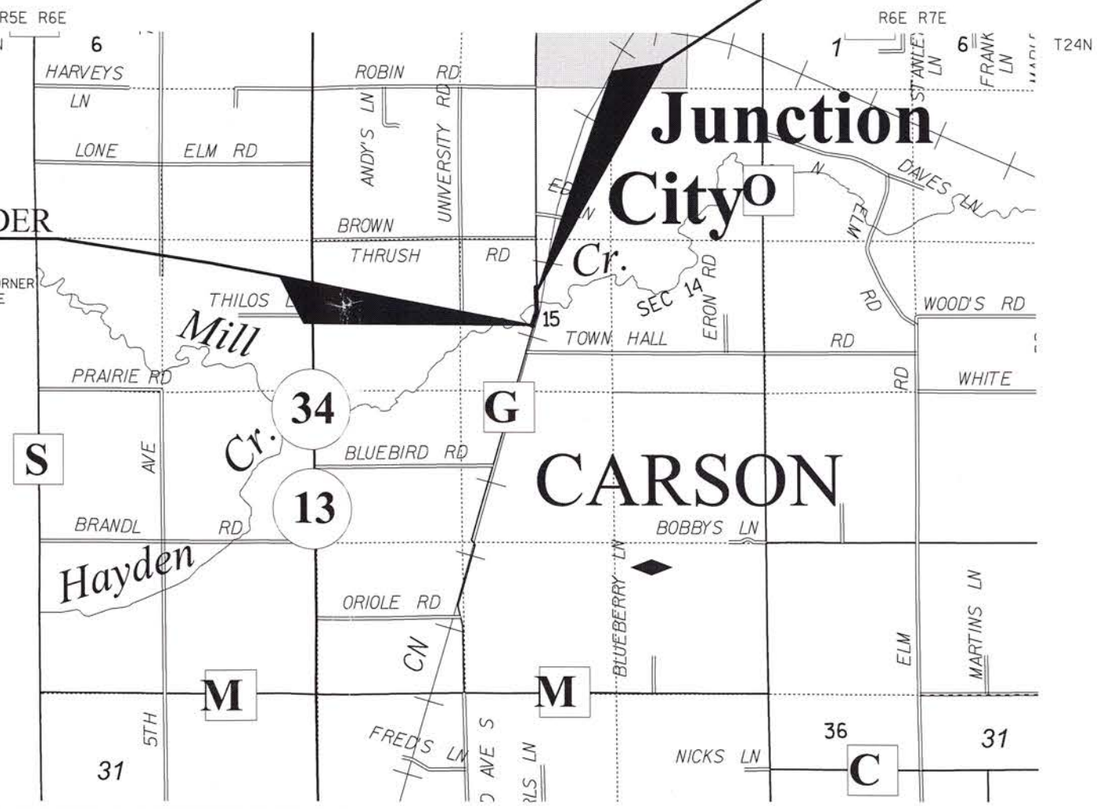
PLAT OF RIGHT-OF-WAY REQUIRED FOR
TOWN HALL ROAD - BROWN THRUSH ROAD
MILL CREEK BRIDGE, B-49-0183
CTH G

TOWN OF CARSON — PORTAGE COUNTY

CONSTRUCTION PROJECT NUMBER
6799-01-70

(PORTAGE COUNTY)
END RELOCATION ORDER
STATION 117+75.00
2955.20' NORTH OF AND 8.09' EAST OF THE S1/4 CORNER OF SECTION 15, T24N, R6E, TOWN OF CARSON, PORTAGE COUNTY, WISCONSIN.
Y: 217459.207
X: 112624.542

(PORTAGE COUNTY)
BEGIN RELOCATION ORDER
STATION 111+00.00
2298.46' NORTH OF AND 123.57' WEST OF THE S1/4 CORNER OF SECTION 15, T24N, R6E, TOWN OF CARSON, PORTAGE COUNTY WISCONSIN.
Y: 216799.465
X: 112492.876



LAYOUT
SCALE 0 — 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.128 MI.

N

ACCEPTED FOR
PORTAGE COUNTY

5-24-16 (Date)
Highway Commissioner (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES
APPLETON, WISCONSIN

WISCONSIN
DAVID A. YURK
S-2648
OSHKOSH, WI
PROFESSIONAL LAND SURVEYOR

5-13-2016 (Date)
David A. Yurk (Signature)

Notes:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, PORTAGE COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

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

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

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

C.T.H. G RIGHT-OF-WAY DEFINED FROM PORTAGE COUNTY CSM 9948-43-128, WISCONSIN STATE STATUTES

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE COUNTY OF PORTAGE.

PARCEL NUMBER	PLAT SHEET NUMBER	OWNER	INT. REQD.	AREA ACRES REQUIRED NEW	EXISTING	TOTAL
1	4.04	KENNETH J. CHASE & JO ANN CHASE	FEE	0.07 AC	0.53 AC	0.60 AC
2	4.04	DONALD J. MOSCINSKI & MONICA M. MOSCINSKI	FEE	0.08 AC	0.22 AC	0.30 AC
3	4.04	SCOTT W. EDWARDS & BECKY A. EDWARDS	FEE	0.01 AC	----	0.01 AC
4	4.04	JOEL J. BRICKLER & MARLIN G. STAPLETON	FEE	0.04 AC	0.07 AC	0.11 AC

UTILITY INTEREST REQUIRED

UTILITY NO.	OWNER	INTEREST REQUIRED
90	TDS TELECOM	RELEASE OF RIGHTS

N

SECTION 15 NE-SW

SECTION 15 SE-NW

SECTION 15 NW-SE

SECTION 15 SW-NE

1/4 LINE P/L

1/4 LINE P/L

TOWN OF CARSON

CTH G

CTH G

WISCONSIN CENTRAL LTD. RAILROAD

1/4 LINE

1/4 LINE

1/4 LINE

1/4 LINE

1 KENNETH J. CHASE AND JOANN CHASE

1 KENNETH J. CHASE AND JOANN CHASE

2 DONALD J. MOSCINSKI AND MONICA M. MOSCINSKI

3 SCOTT W. EDWARDS AND BECKY A. EDWARDS

4 JOEL J. BICKLER AND MARLIN G. STAPLETON

REVISION DATE	DATE 5-13-2016	SCALE, FEET 0 50 100	HWY: CTH G	STATE R/W PROJECT NUMBER 6799-01-00	PLAT SHEET 403
	GRID FACTOR		COUNTY: PORTAGE	CONSTRUCTION PROJECT NUMBER 6799-01-70	PS&E SHEET

FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\RW\67990170-RW-LAYOUT.DWG PLOT DATE : 4/4/2012 12:50 PM PLOT BY : DAVE A. YURK PLOT NAME : PLOT SCALE : ********

WISDOT/CADDS SHEET 75

BEGIN RELOCATION ORDER
STATION 111+00.00
BEING 2298.46' NORTH OF AND 123.57' WEST OF THE SOUTH QAURTER CORNER OF SECTION 15, T24N, R6E, TOWN OF CARSON, PORTAGE COUNTY WISCONSIN
Y: 216799.465
X: 112492.876

TDS TELECOM F/K/A CENTRAL STATE TELEPHONE COMPANY EASEMENT VOL. 367 OF RECORDS, PG 88, DOC. NO. 320158

COMPUTED CORNER N=217191.53 E=109997.24

T 24 N R 6 E (15)

N

111+50.00
53.00 R/W

111+25.00
33.00 R/W

EX R/W

SLOPE INTERCEPT

112+50.00
53.00 R/W

113+00.00
33.00 R/W

111+00

L1 L2 L3 L4 L5 L6 L7 L8 L9 L10

N16°15'37"E 100.00'

N73°44'23"W 33.00'

N22°23'59"W 32.02'

N37°33'33"E 52.03'

N25°00'06"W 32.07'

S87°37'42"E 10.00'

S87°37'42"E 27.48'

S83°12'04"E 31.77'

S27°04'50"E 31.50'

N73°44'23"W 33.00'

CTH G

NE - SW

(90)

(1) KENNETH J. CHASE AND JOANN CHASE

MILL CREEK

S89°19'17"E P/L

1/4 LINE 2620.99'

(2) DONALD J. MOSCINSKI AND MONICA M. MOSCINSKI

SLOPE INTERCEPT

SE - NW

TOWN

END RELOCATION ORDER
STATION 117+75.00
BEING 2955.20' NORTH OF AND 8.09' EAST OF THE SOUTH QAURTER CORNER OF SECTION 15, T24N, R6E, TOWN OF CARSON, PORTAGE COUNTY WISCONSIN
Y: 217459.207
X: 112624.542

112+00

175.41'

N13°39'30"E 140.00'

114+40.00
33.00 R/W

114+65.04
53.03 R/W

N13°27'44"E

116+53.44
42.47 R/W

181.68'

117+10.00
43.00 R/W

117+10.00
33.00 R/W

EX R/W

N03°16'59"E
54.36'

PI 112+75.00
Y: 216967.857
X: 112541.990

113+00

N13°39'30"E

114+00

R/L

218.31'

PC 114+93.31
Y: 217179.995
X: 112593.540

115+00

S16°15'37"W 150.75'

S13°39'30"W 75.75'

113+50.00
33.00 R/W

N99°20'23"W 124.85'

WISCONSIN CENTRAL LTD.

(A DIVISION OF CANADIAN NATIONAL RAILROAD)

CARSON

T 24 N R 6 E (15 22)

COMPUTED CORNER N=214504.01 E=112616.45

N00°02'04"E 2294.41'

N00°02'04"E 2656.48'

1/4 LINE

(1)

S16°27'21"W

N00°02'04"E 1/4 LINE

116+00

S00°02'04"W 85.08'

117+00

2641.34'

CURVE 'A'

87'

99'

T 24 N R 6 E (10 15)

HARRISON MONUMENT FOUND N=219801.82 E=112619.64

N00°22'33"W 12.25'

EX R/W

255.06'

100'

116+25.00
33.00 R/W

SLOPE INTERCEPT

PT 117+62.75
Y: 217446.954
X: 112624.623

116+00.00
50.86 R/W

(4) JOEL J. BICKLER AND MARLIN G. STAPLETON

OUTLOT 1
CSM 9948-43-139
DOC# 745188

(3) SCOTT W. EDWARDS AND BECKY A. EDWARDS

T 24 N R 6 E (15)

3/4" REBAR FOUND N=217160.49 E=112618.05

S89°19'17"E P/L

1/4 LINE 2599.24'

LOT 1
CSM 9948-43-128
DOC# 744614

NW - SE

SCOTT W. EDWARDS AND BECKY A. EDWARDS

SW - NE

P/L

LINE TABLE

POINTS	BEARING	DISTANCES
L1	N16°15'37"E	25.00'
L2	N73°44'23"W	33.00'
L3	N22°23'59"W	32.02'
L4	N37°33'33"E	52.03'
L5	N25°00'06"W	32.07'
L6	S87°37'42"E	10.00'
L7	S87°37'42"E	27.48'
L8	S83°12'04"E	31.77'
L9	S27°04'50"E	31.50'
L10	N73°44'23"W	33.00'

CURVE-A
PI = 116+28.71
Y = 217311.562
X = 112625.511
Δ = 14°02'03"
R = 1100.00'
T = 135.395'
L = 269.436'
LC = 268.763'
LCB = N06°38'28"E

COMPUTED CORNER N=217129.70 E=115217.10

T 24 N R 6 E (15 14)

4

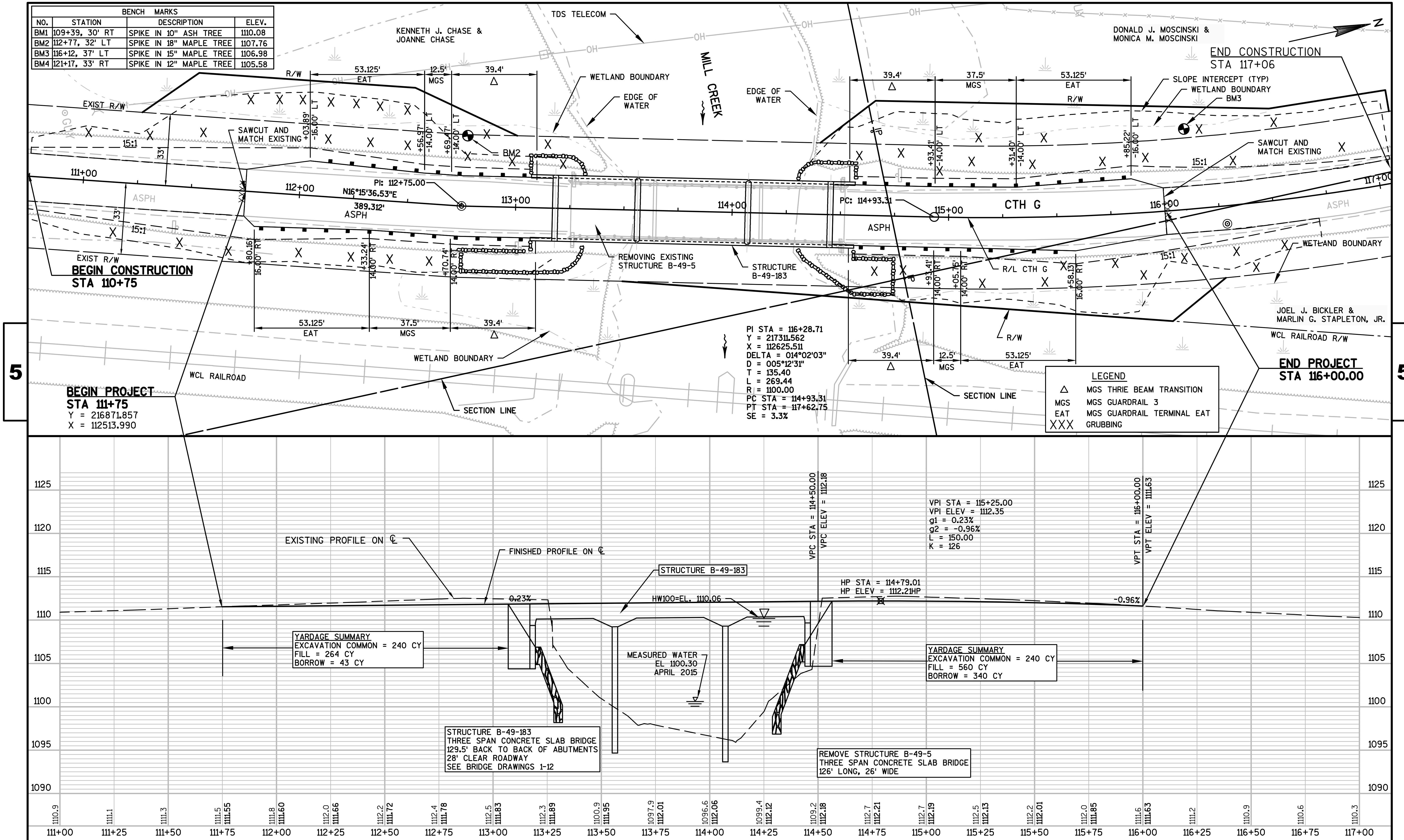
4

REVISION DATE	DATE 5-13-2016	SCALE, FEET 0 25 50	HWY: CTH G	STATE R/W PROJECT NUMBER 6799-01-00	PLAT SHEET 4.04
	GRID FACTOR		COUNTY: PORTAGE	CONSTRUCTION PROJECT NUMBER 6799-01-70	PS&E SHEET 15

FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\RW\PRW-PORTAGE CTH G-67990170.DWG PLOT DATE : 4/4/2012 12:50 PM PLOT BY : DAVE A. YURK PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 75

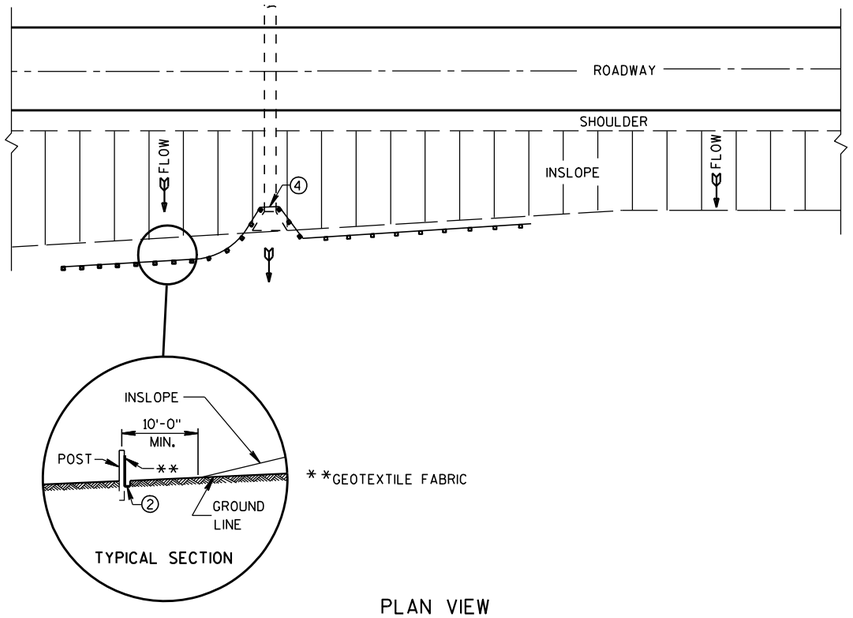
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM1	109+39, 30' RT	SPIKE IN 10" ASH TREE	1110.08
BM2	112+77, 32' LT	SPIKE IN 18" MAPLE TREE	1107.76
BM3	116+12, 37' LT	SPIKE IN 15" MAPLE TREE	1106.98
BM4	121+17, 33' RT	SPIKE IN 12" MAPLE TREE	1105.58



PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	PLAN AND PROFILE: CTH G	SHEET 16	E

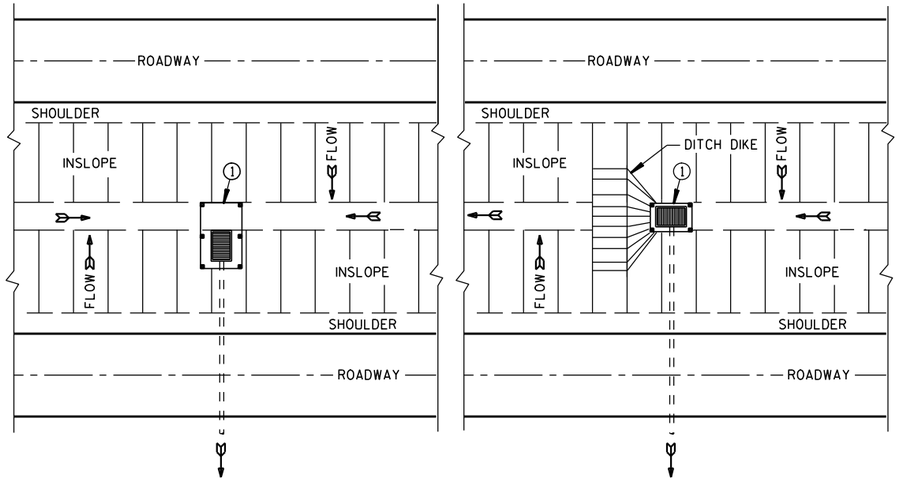
Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



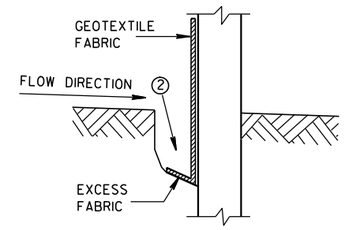
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

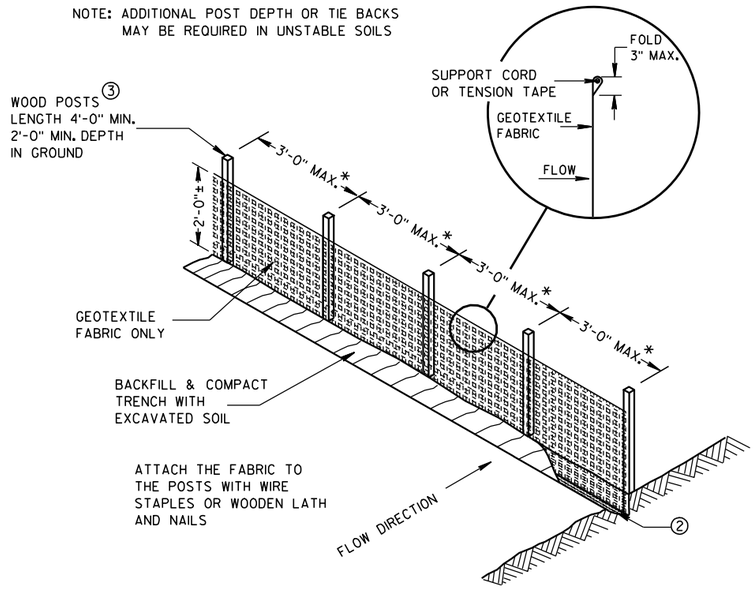
GENERAL NOTES

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

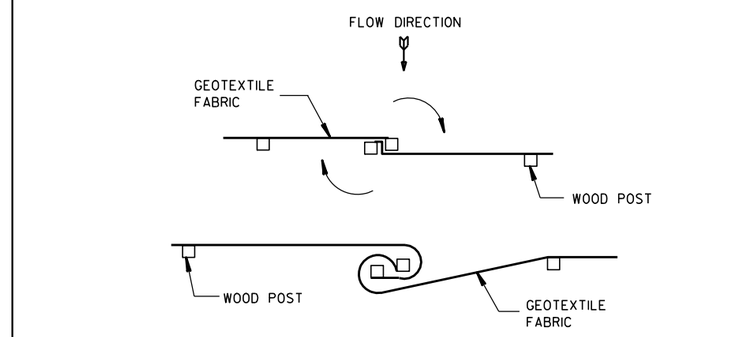
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



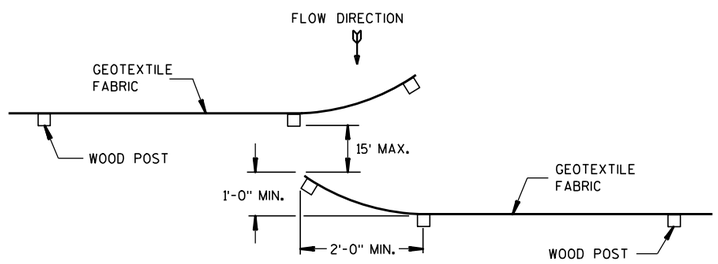
TRENCH DETAIL



SILT FENCE

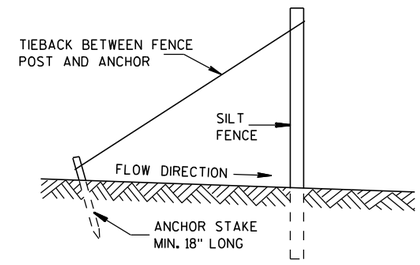


TWIST METHOD



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

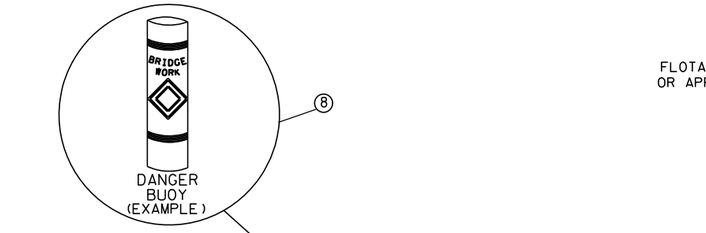
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

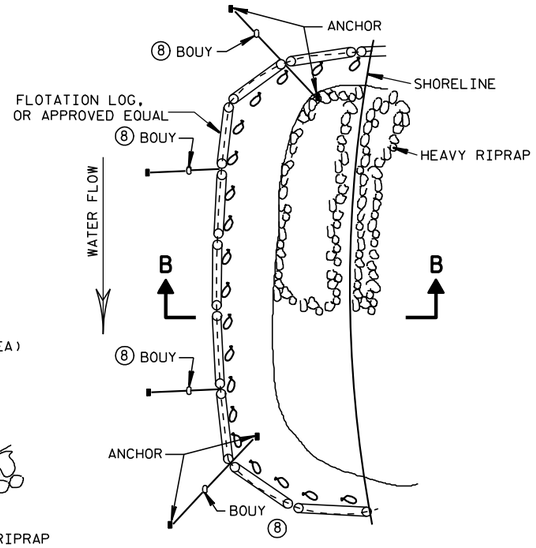
S.D.D. 8 E 9-6

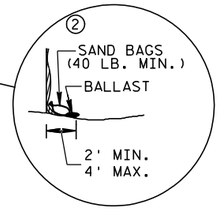
6

S.D.D. 8 E 9-6

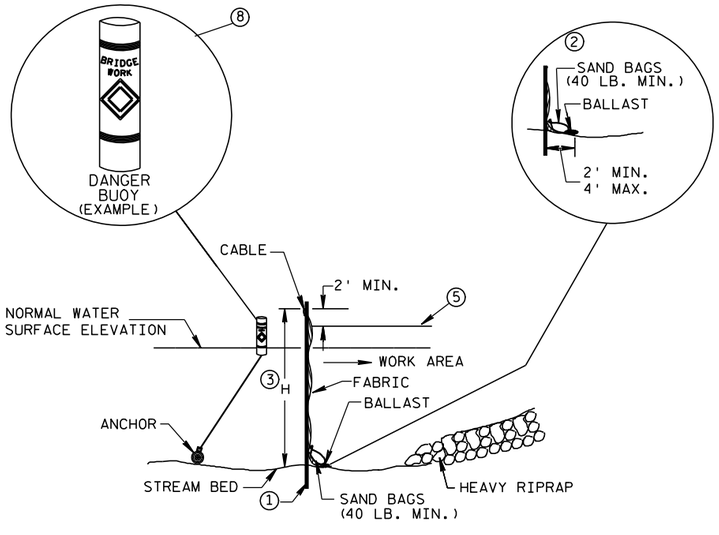


SECTION B-B

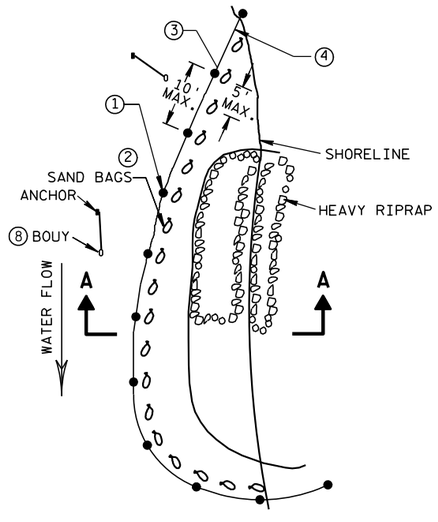




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

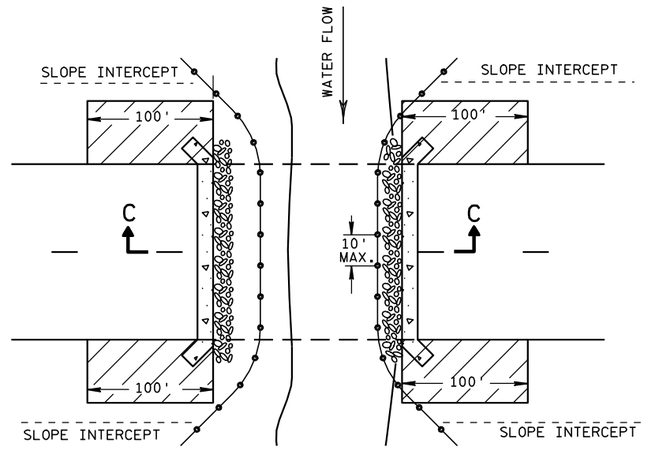
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

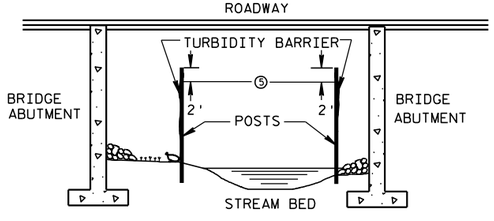
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

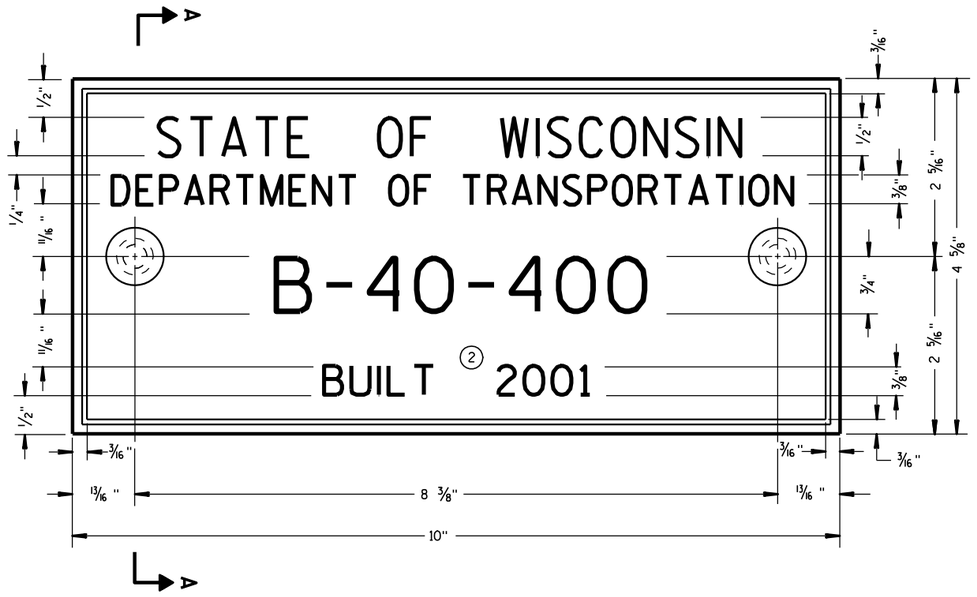
TURBIDITY BARRIER

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)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

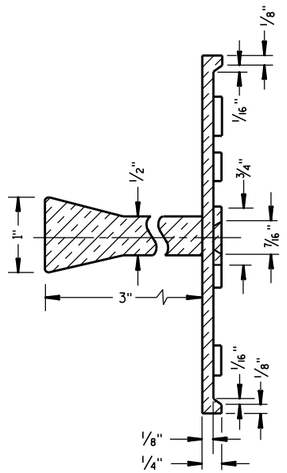
GENERAL NOTES

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

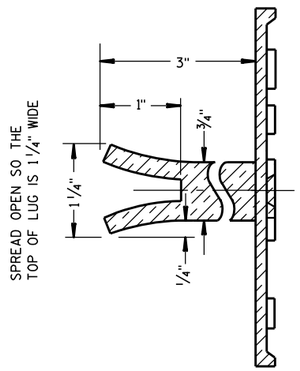
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

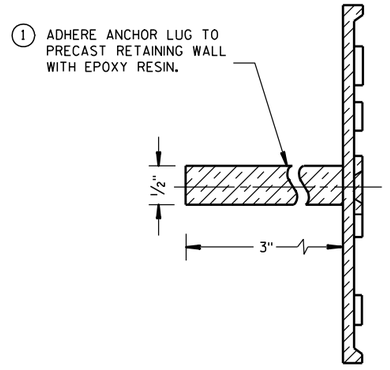
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

/S/ Scot Beck
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10

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.

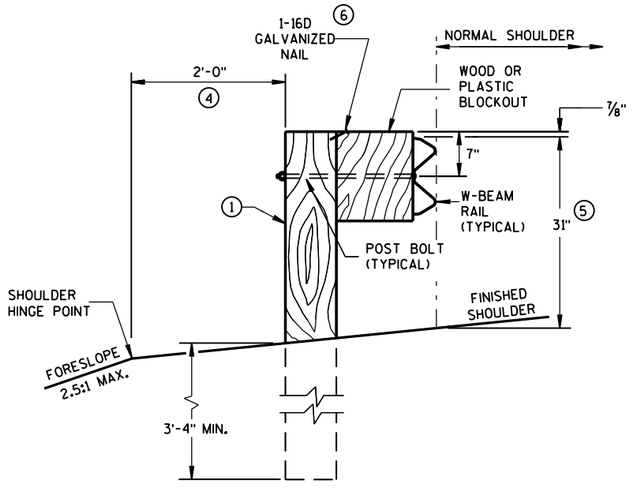
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES 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).

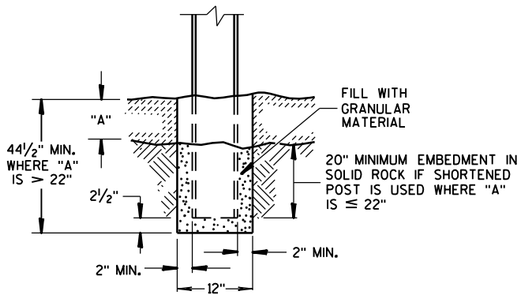
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



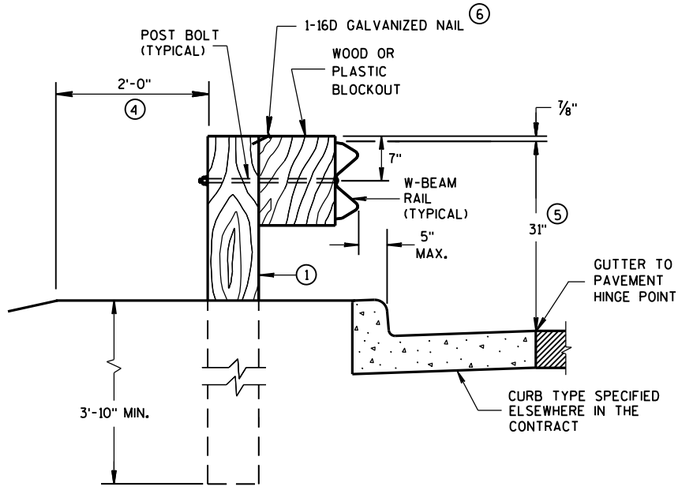
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



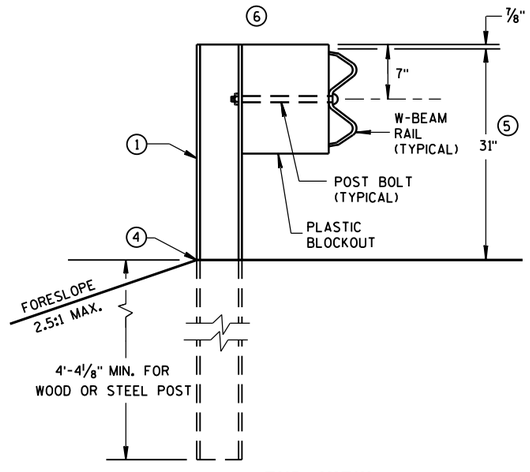
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



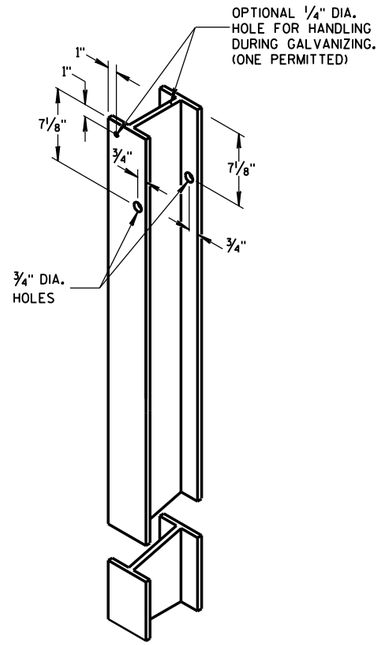
END VIEW

LOCATED ALONG A CURBED ROADWAY

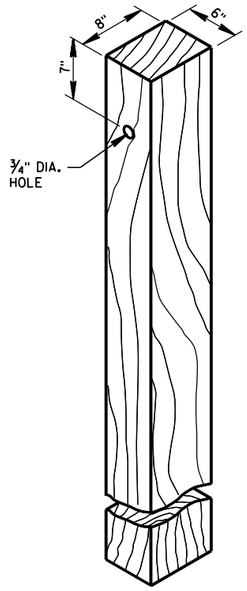


END VIEW

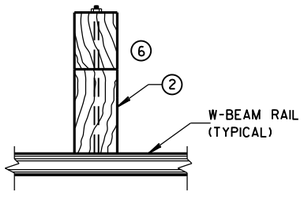
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



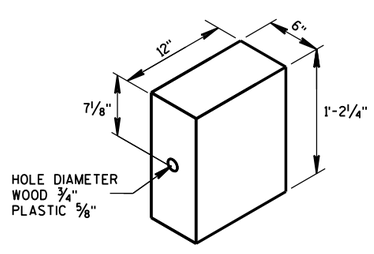
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



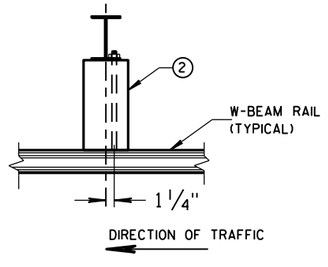
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

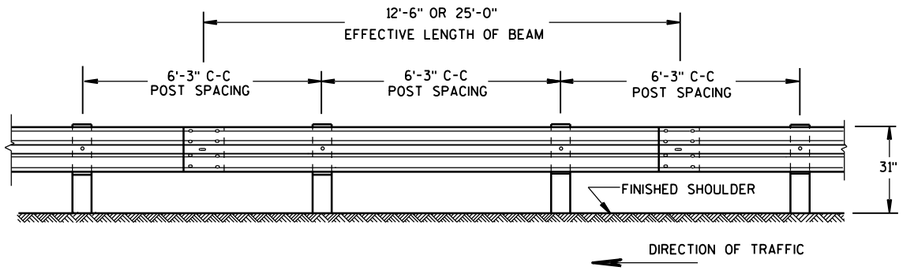


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

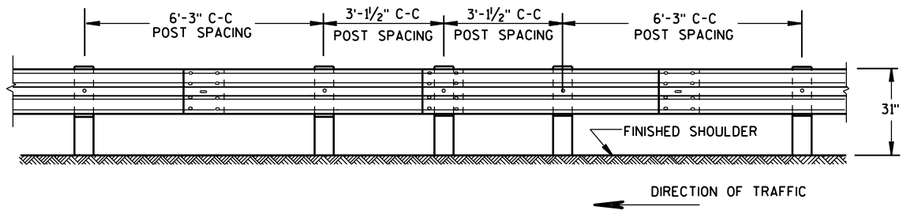
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-3a



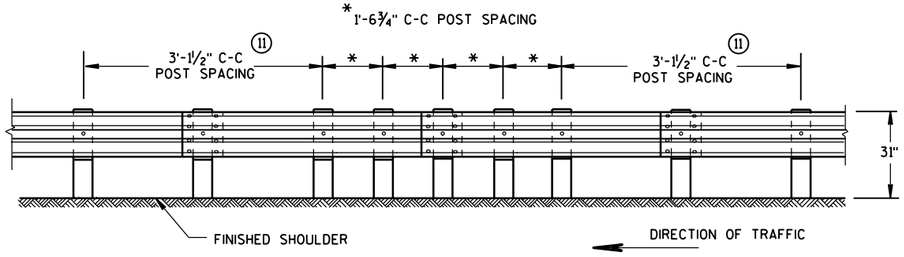
FRONT VIEW

POST SPACING STANDARD INSTALLATION



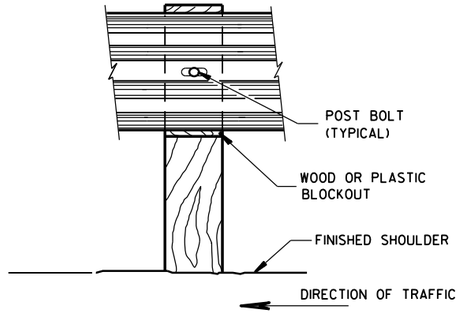
FRONT VIEW

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

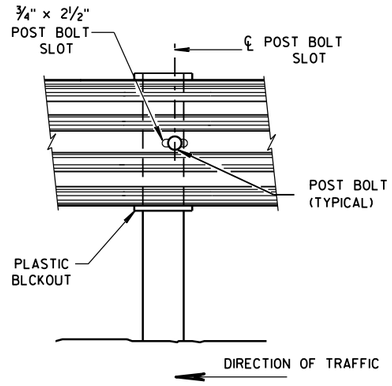


FRONT VIEW

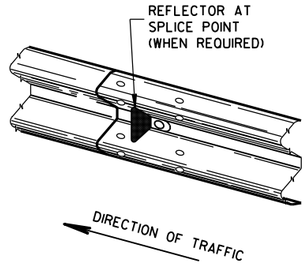
QUARTER POST SPACING (QS)

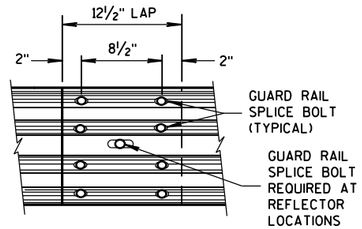


FRONT VIEW AT WOOD POST



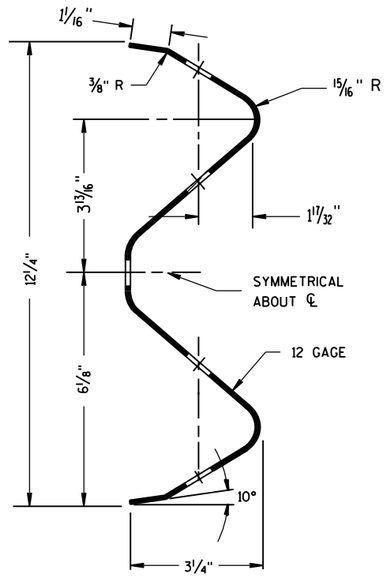
FRONT VIEW AT STEEL POST



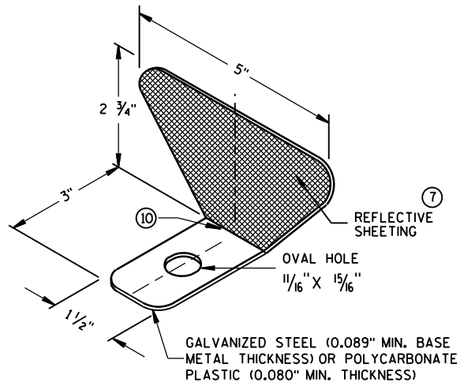


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ 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.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

	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 ⑨ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ⑩	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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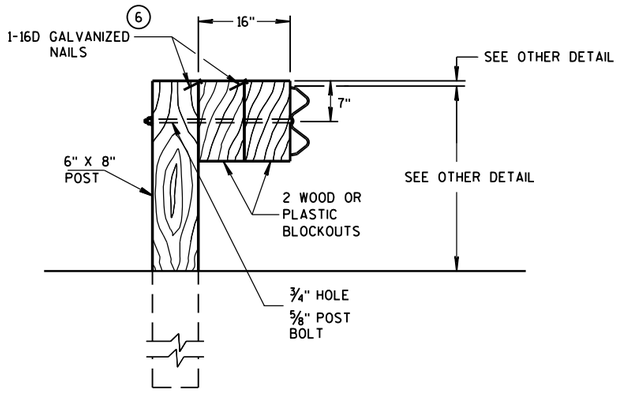
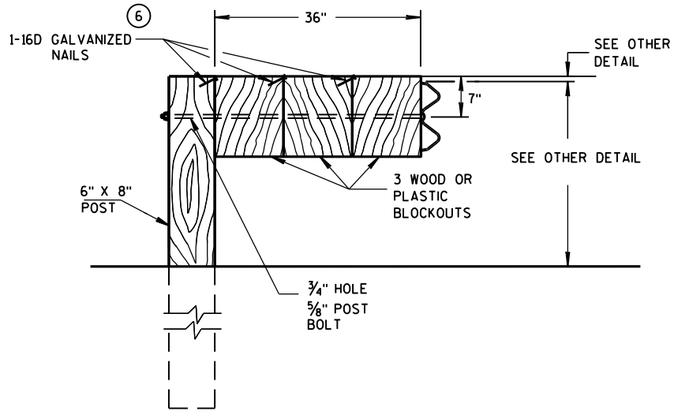
S.D.D. 14 B 42-3b



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.

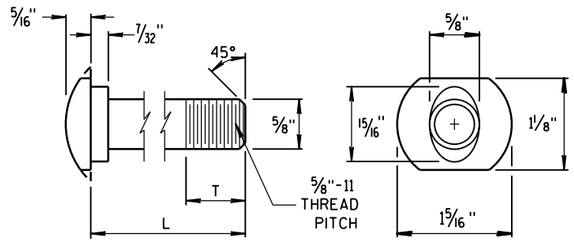


DETAIL FOR 36" BLOCKOUT DEPTH

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.

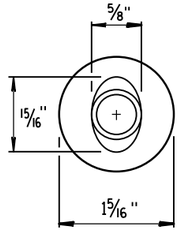
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

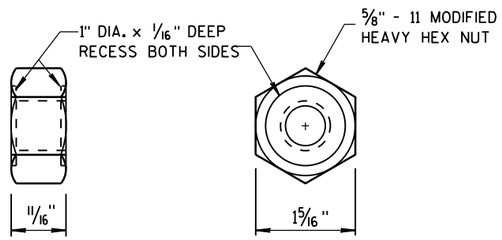


POST BOLT TABLE

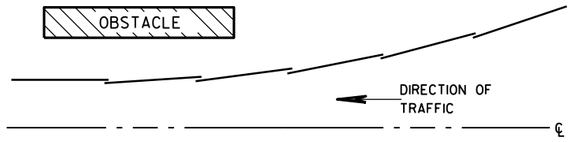
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

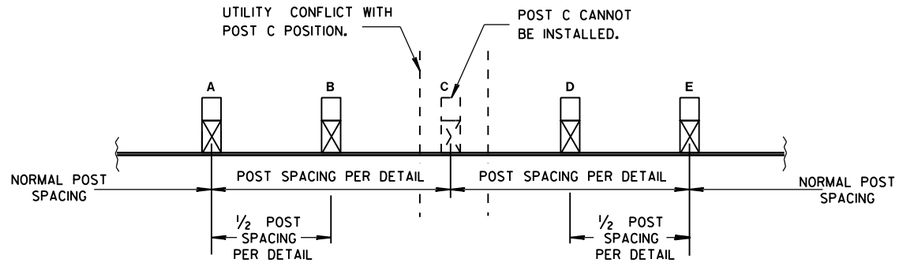


POST BOLT AND RECESS NUT

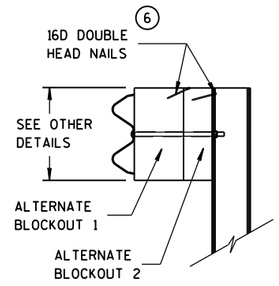


PLAN VIEW

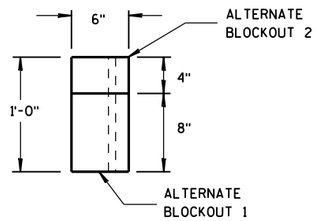
BEAM LAPPING DETAIL



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
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, 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) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(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.

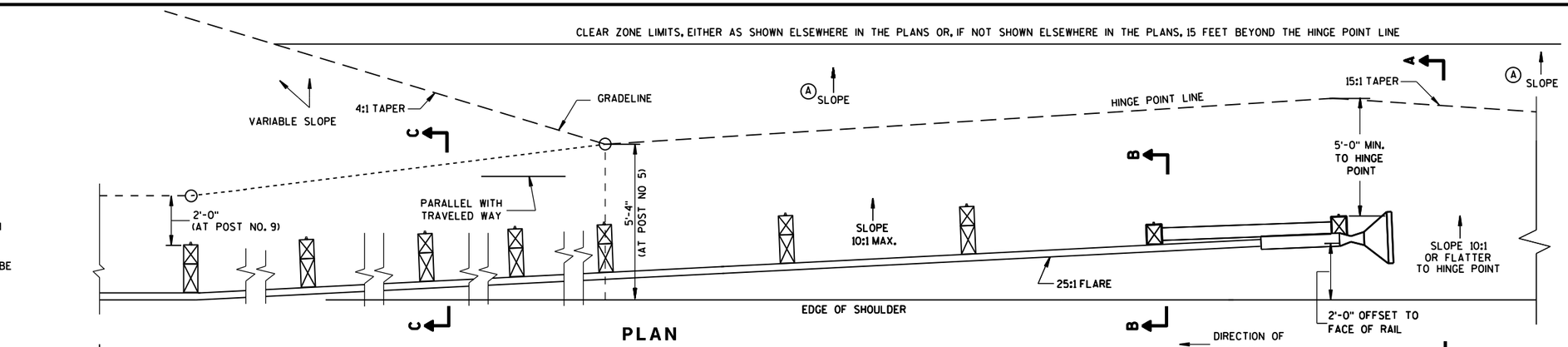
SEE SDD 14B42 FOR MORE INFORMATION.

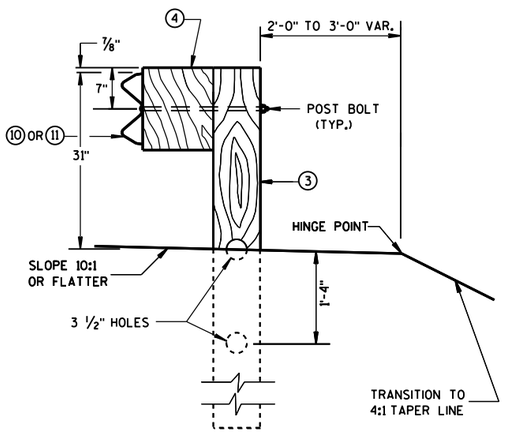
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

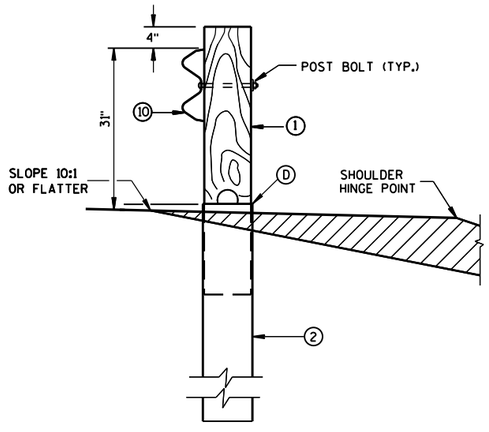
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

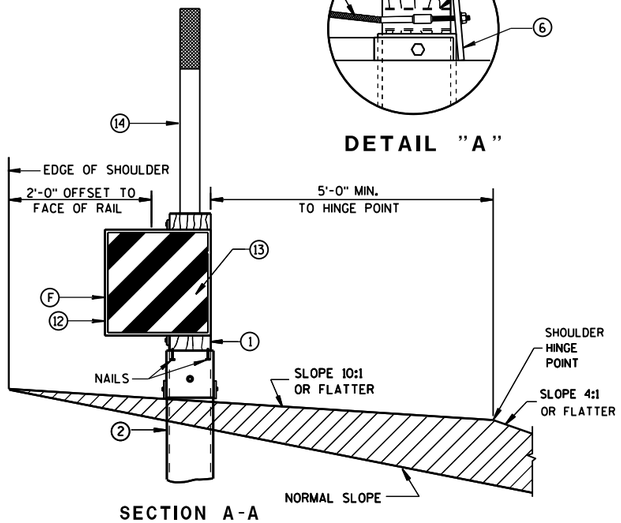




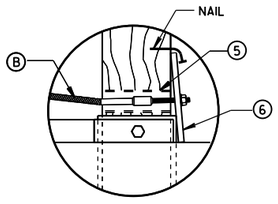
SECTION C-C
TYPICAL AT POST NOS. 3-9



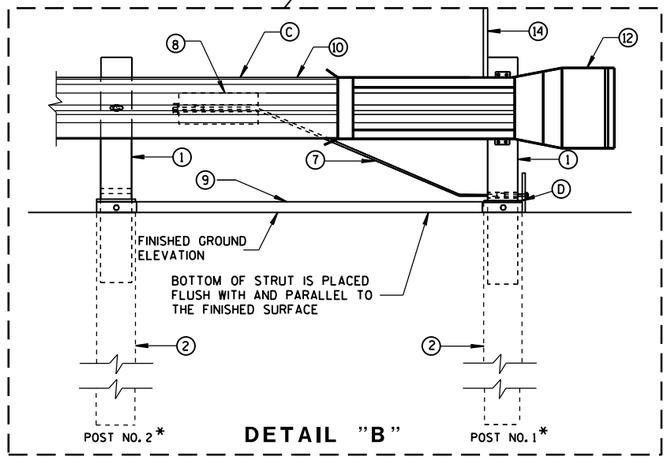
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



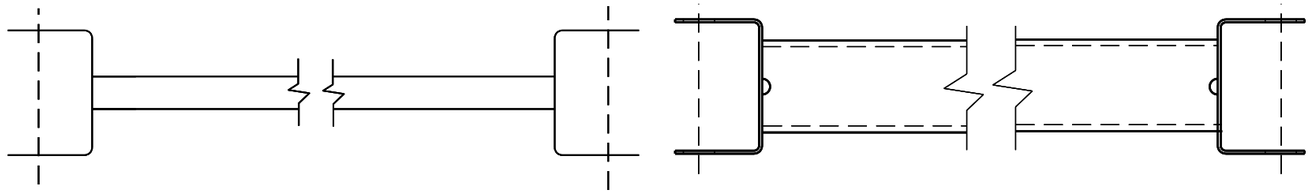
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

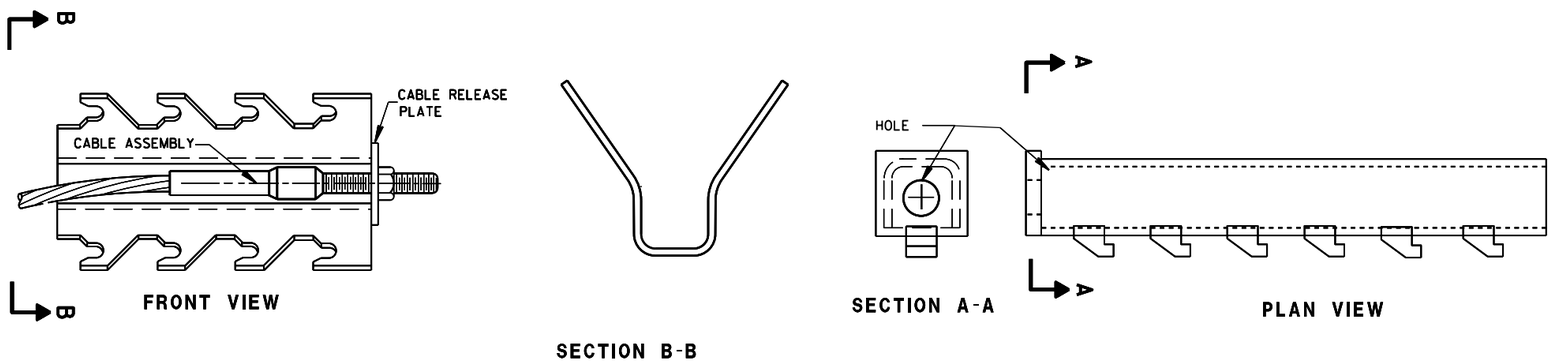
S.D.D. 14 B 44-2a



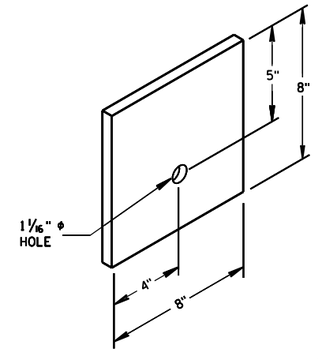
GENERIC GROUND STRUT (9) (H)

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 F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)

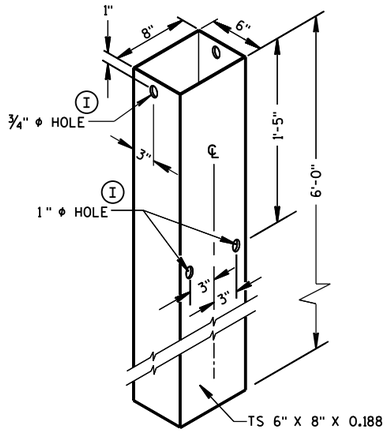


BEARING PLATE (6)

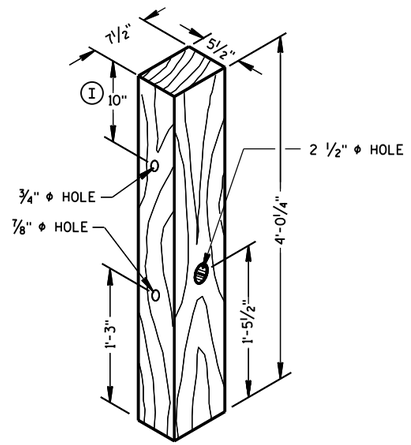
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 44-2b

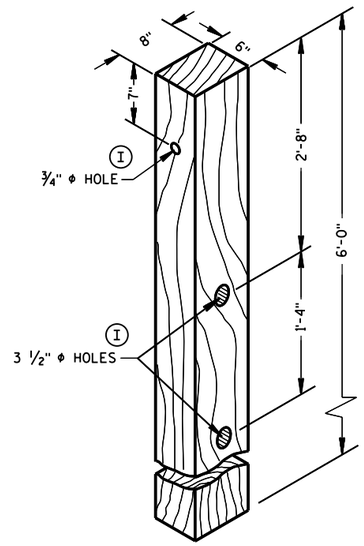


FOUNDATION TUBE (2)



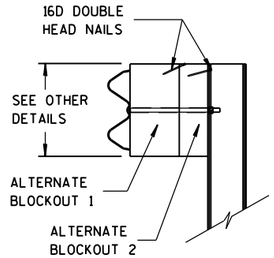
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

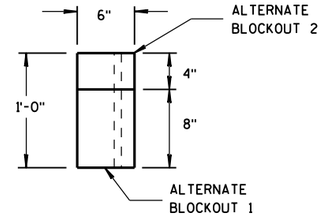


POSTS NUMBER 3-9

WOOD CRT POST (3)

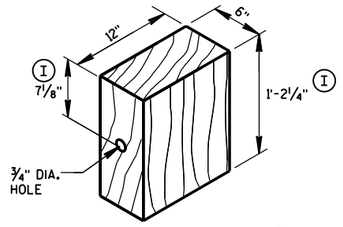


SIDE VIEW



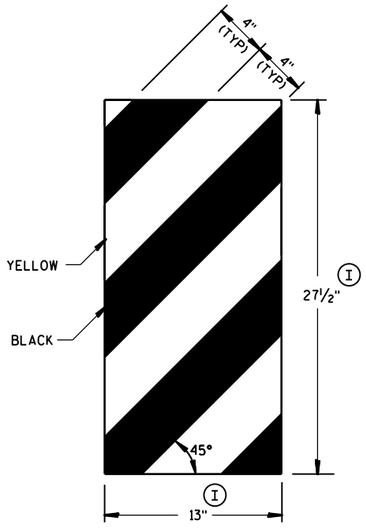
TOP VIEW

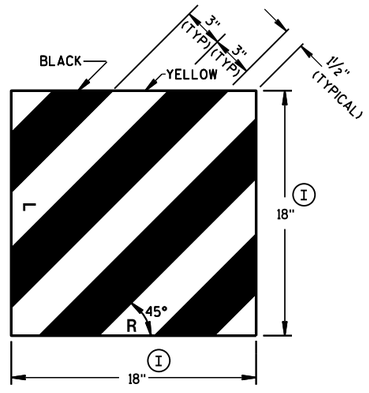
ALTERNATE WOOD BLOCKOUT DETAIL



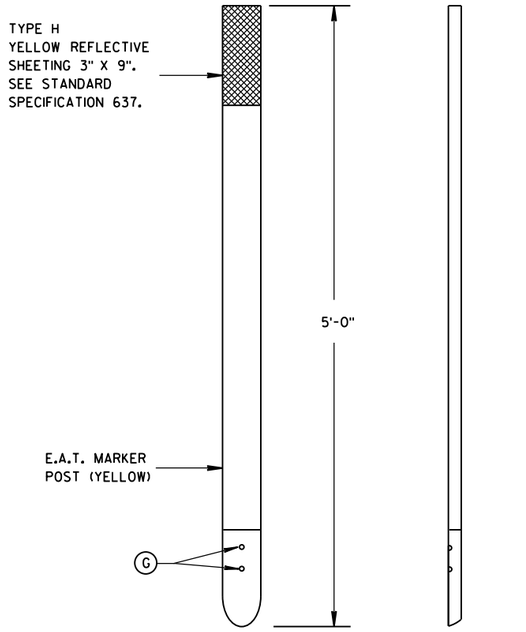
WOOD BLOCKOUT (4)

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





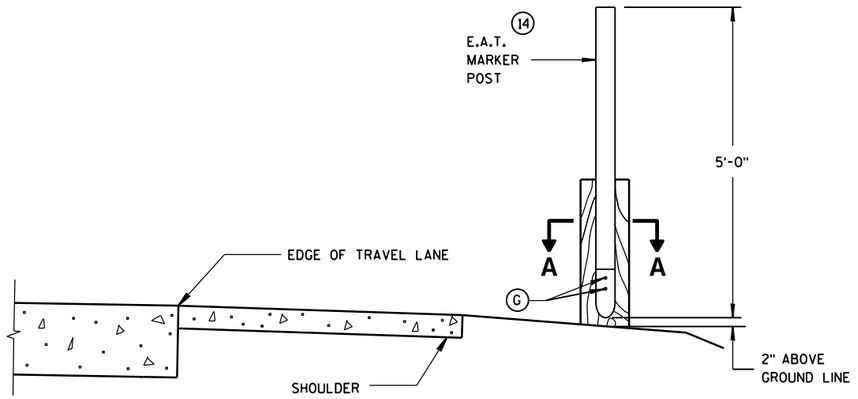
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

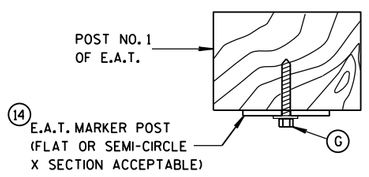
SIDE VIEW

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)

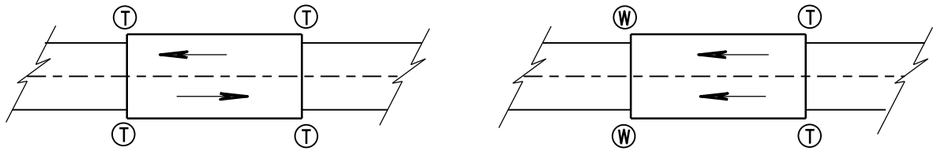


SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA



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

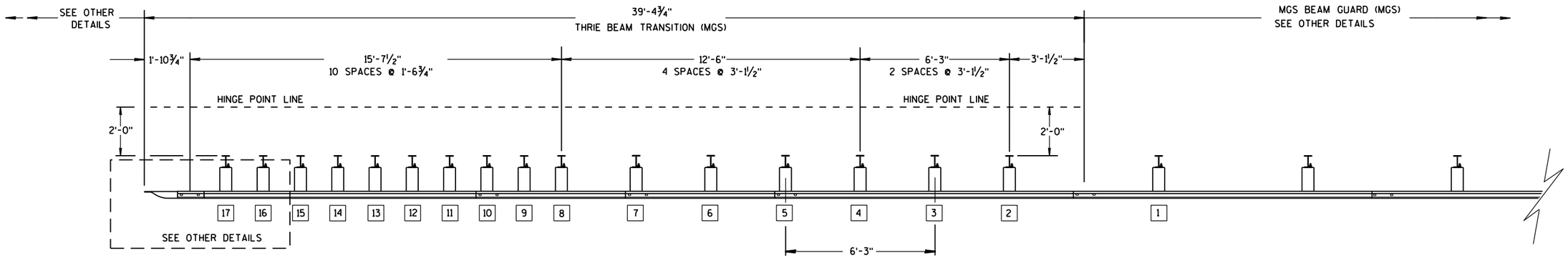
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

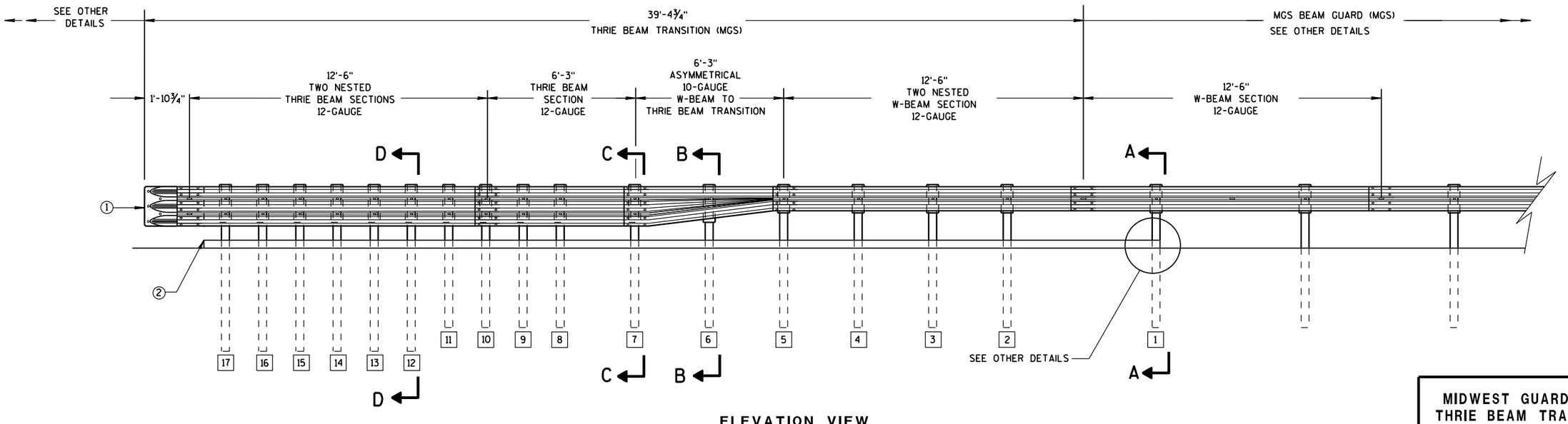
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 45-4a

6

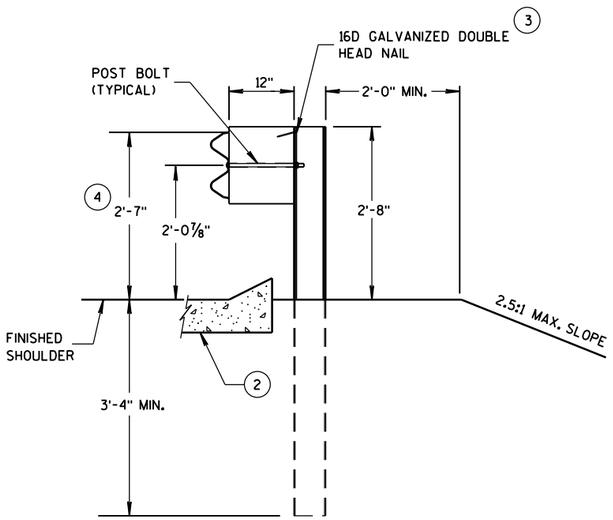
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

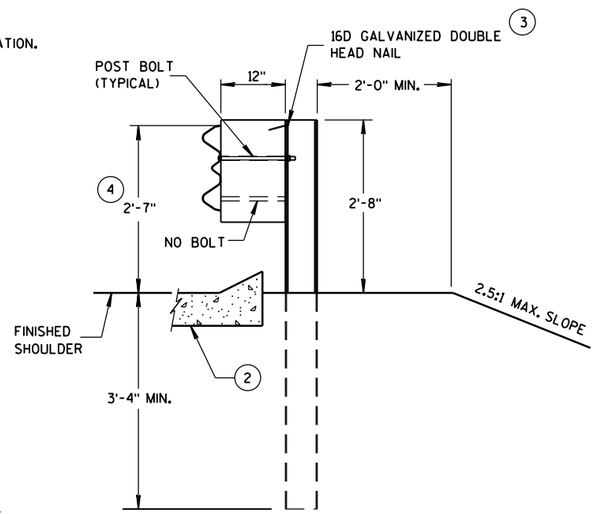
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



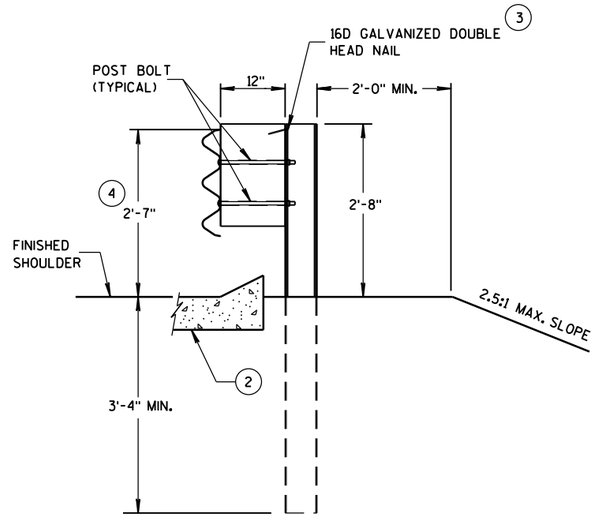
SECTION A-A

POSTS 1-5



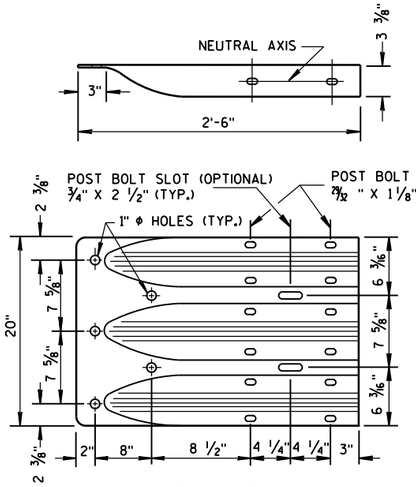
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

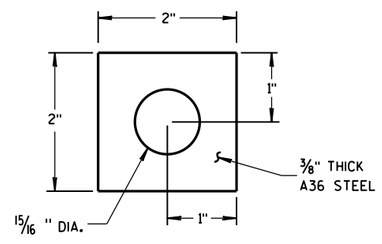
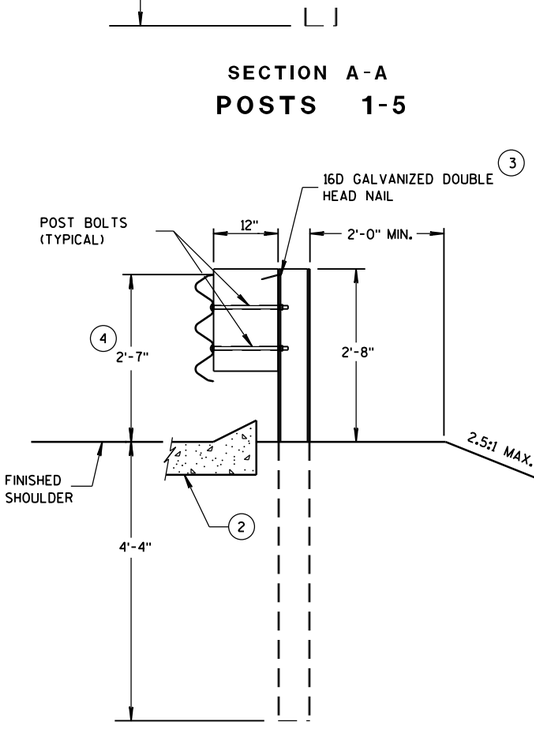
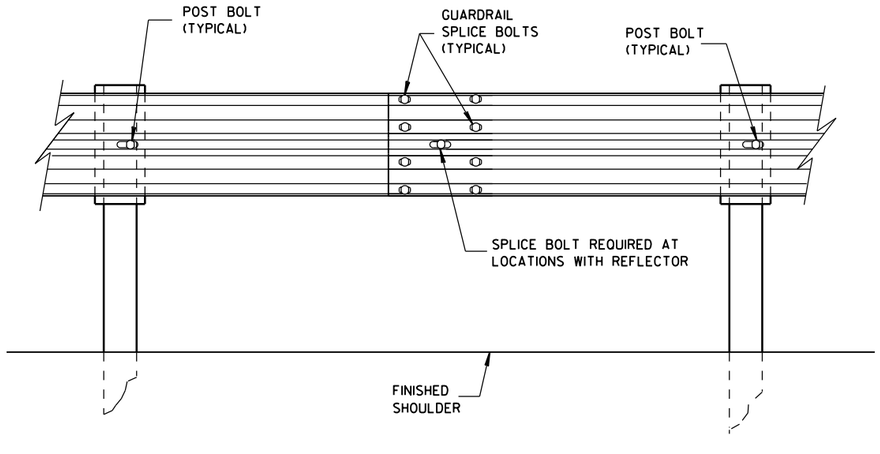


PLATE WASHER DETAIL

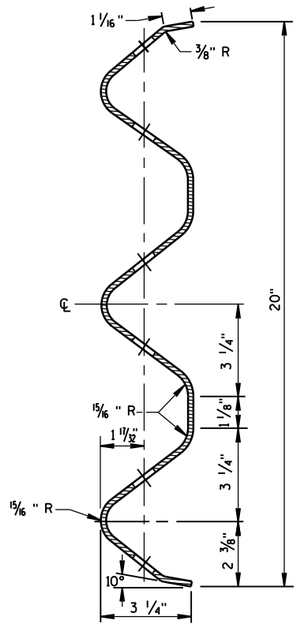


SECTION D-D

POSTS 12-17



SPLICE DETAIL



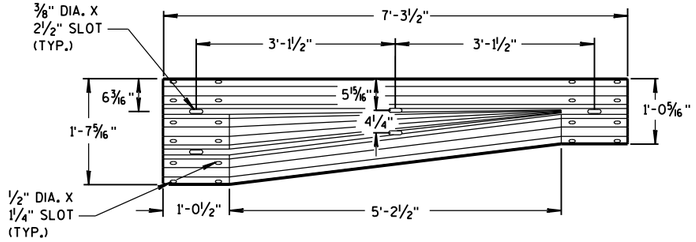
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

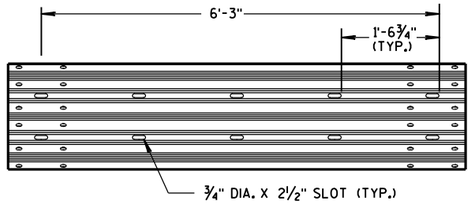
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

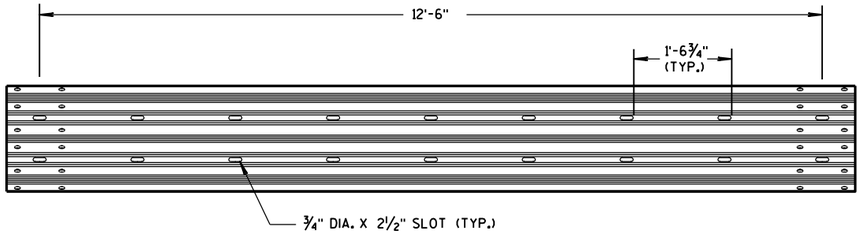
S.D.D. 14 B 45-4b



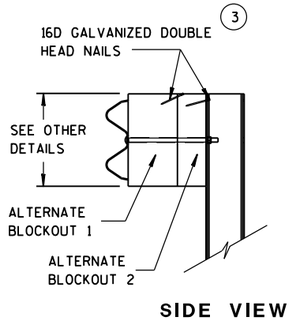
W-BEAM TO THRIE BEAM TRANSITION SECTION



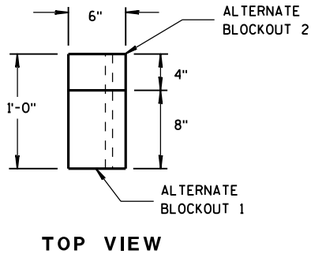
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

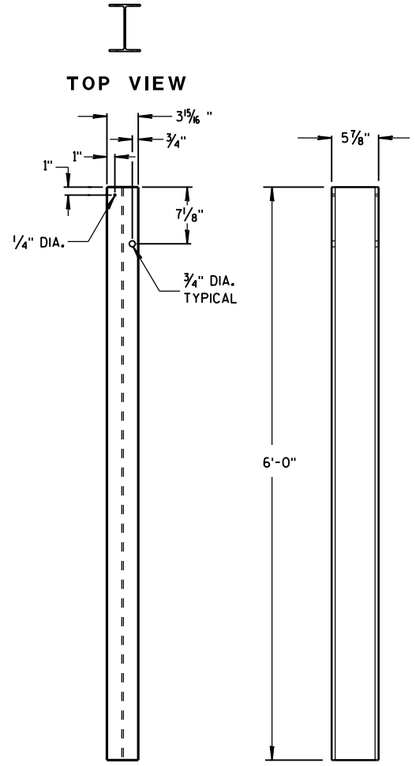


SIDE VIEW

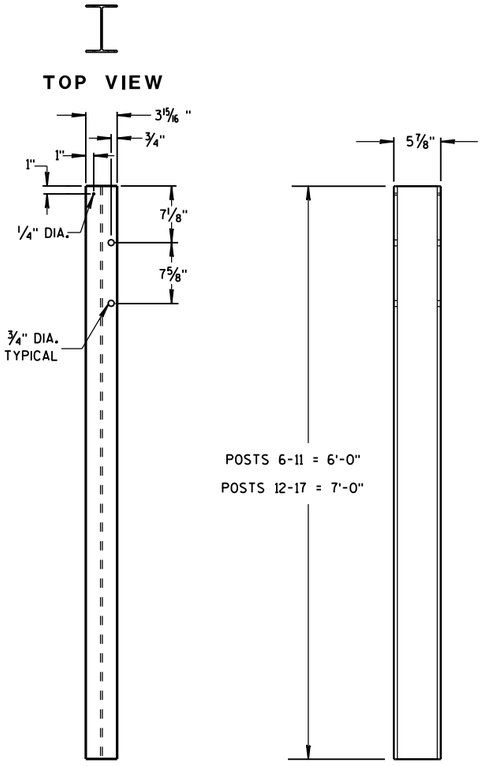


TOP VIEW

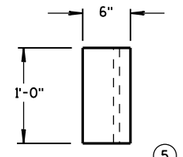
ALTERNATE WOOD BLOCKOUT DETAIL



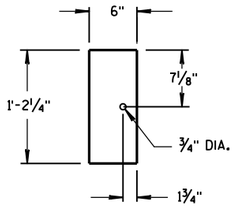
STEEL POSTS 1-5



STEEL POSTS 6-17

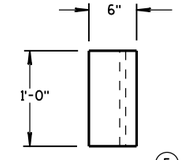


TOP VIEW

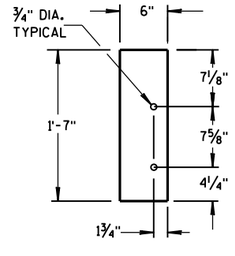


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

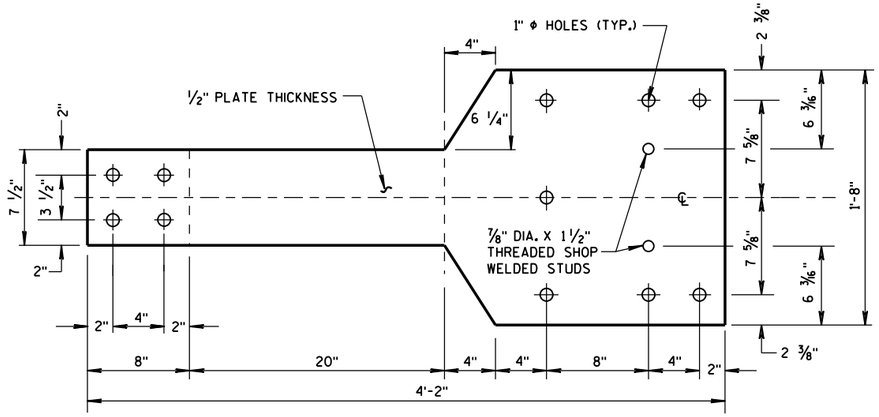
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

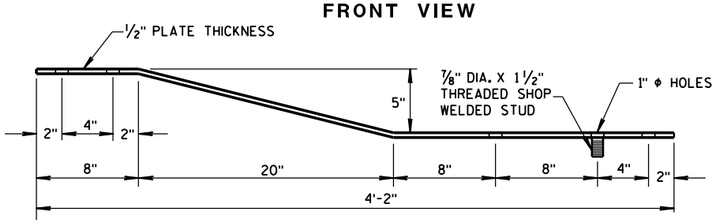
S.D.D. 14 B 45-4c

GENERAL NOTES

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

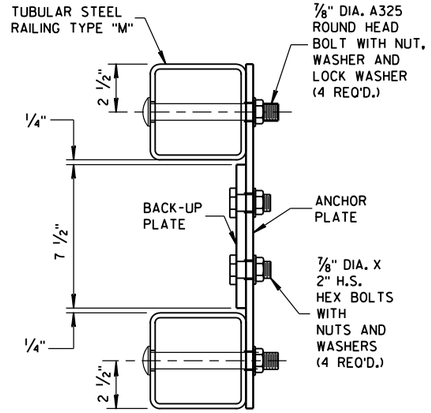


FRONT VIEW

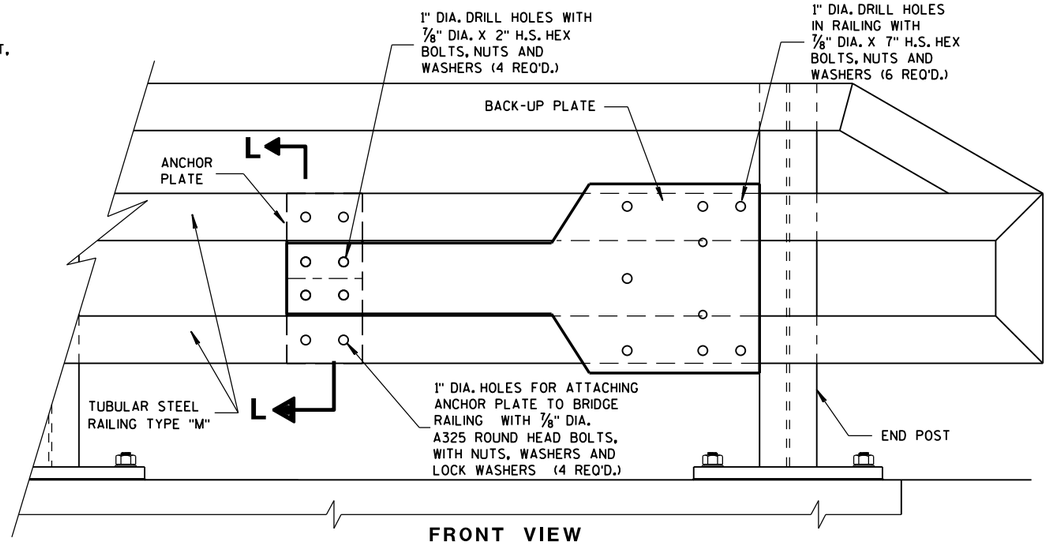


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

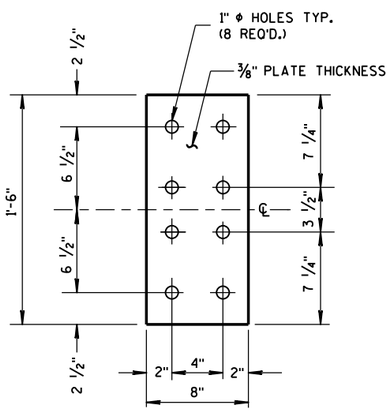


SECTION L-L



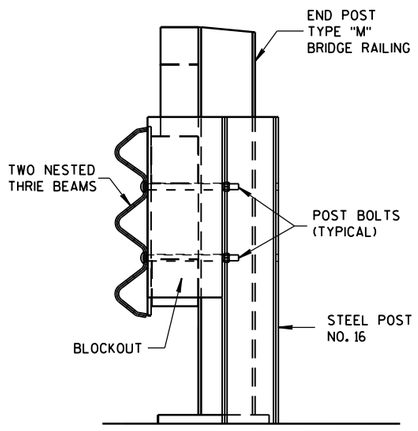
FRONT VIEW

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

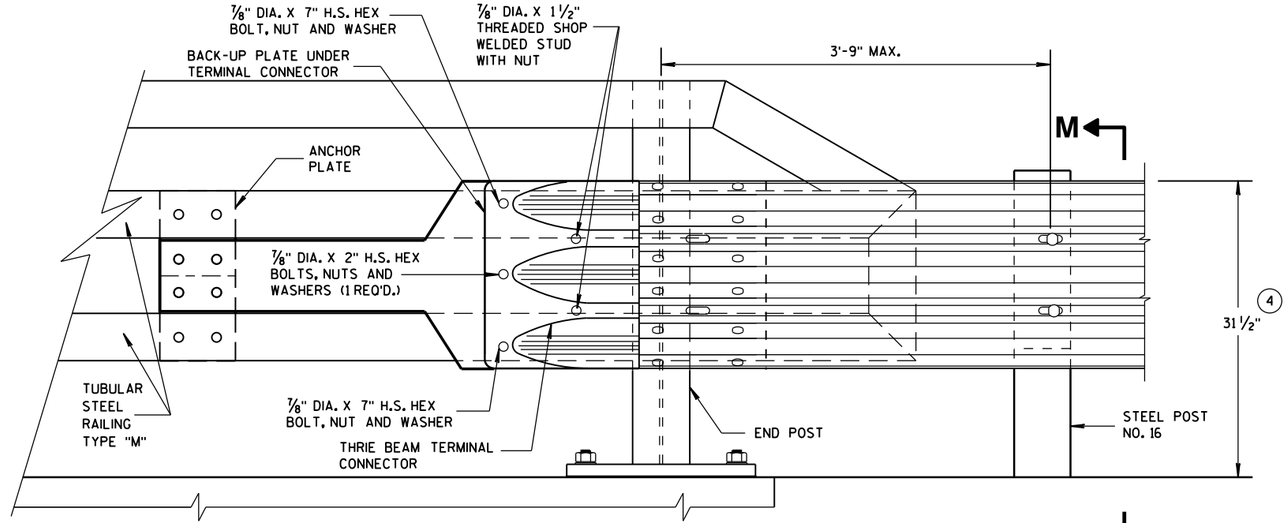


FRONT VIEW

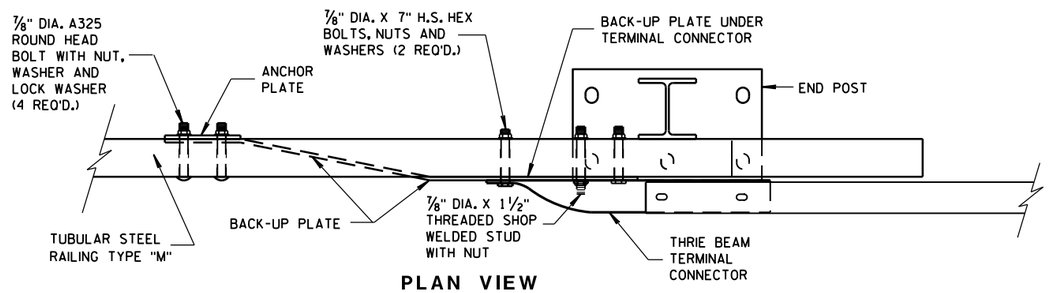
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-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

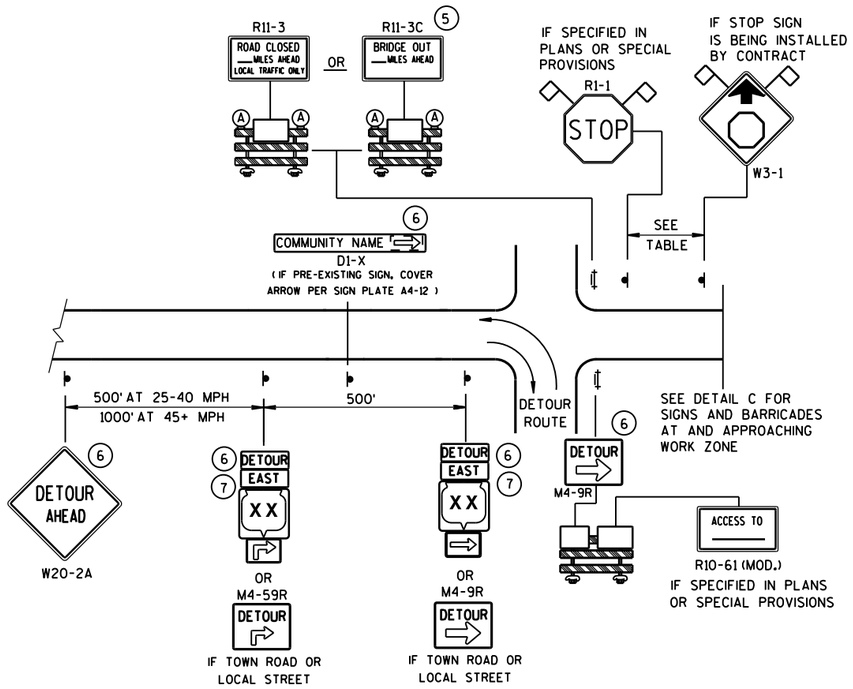
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 45-4h

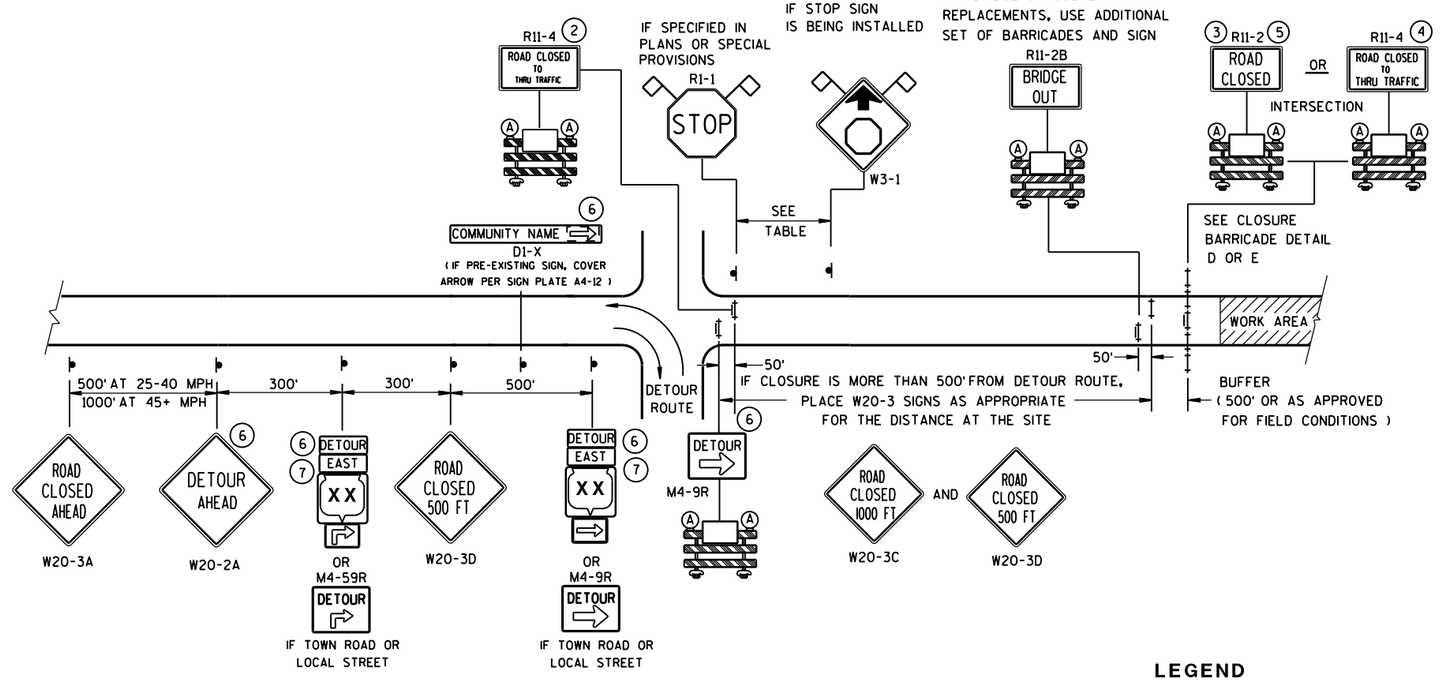
6

S.D.D. 14 B 45-4h



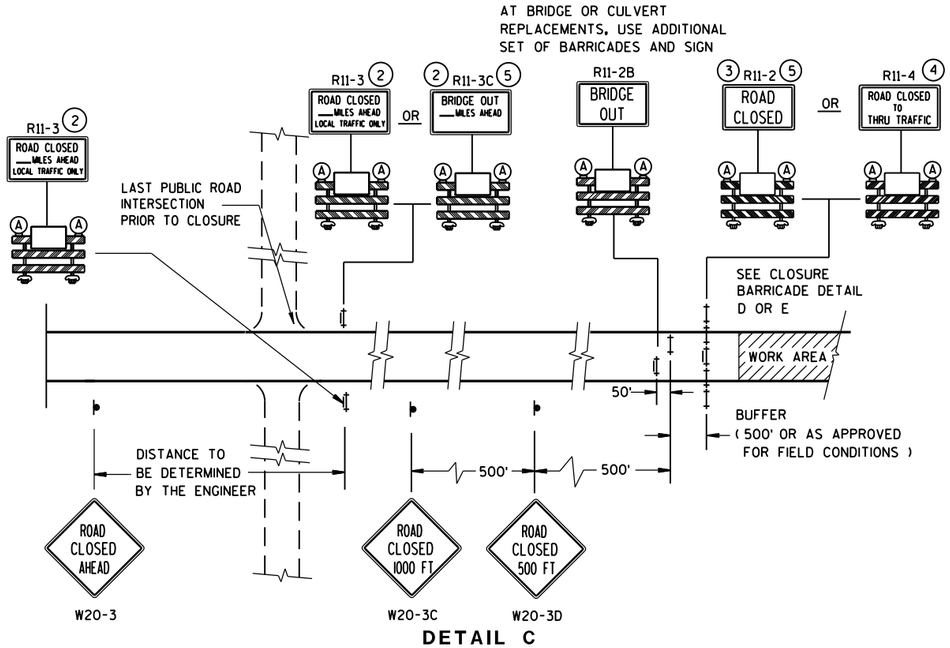
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

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)

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

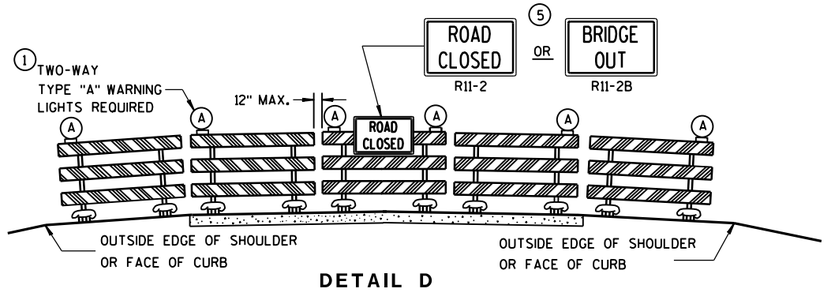
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

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

6

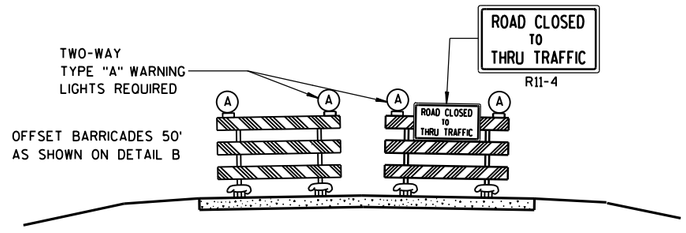
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

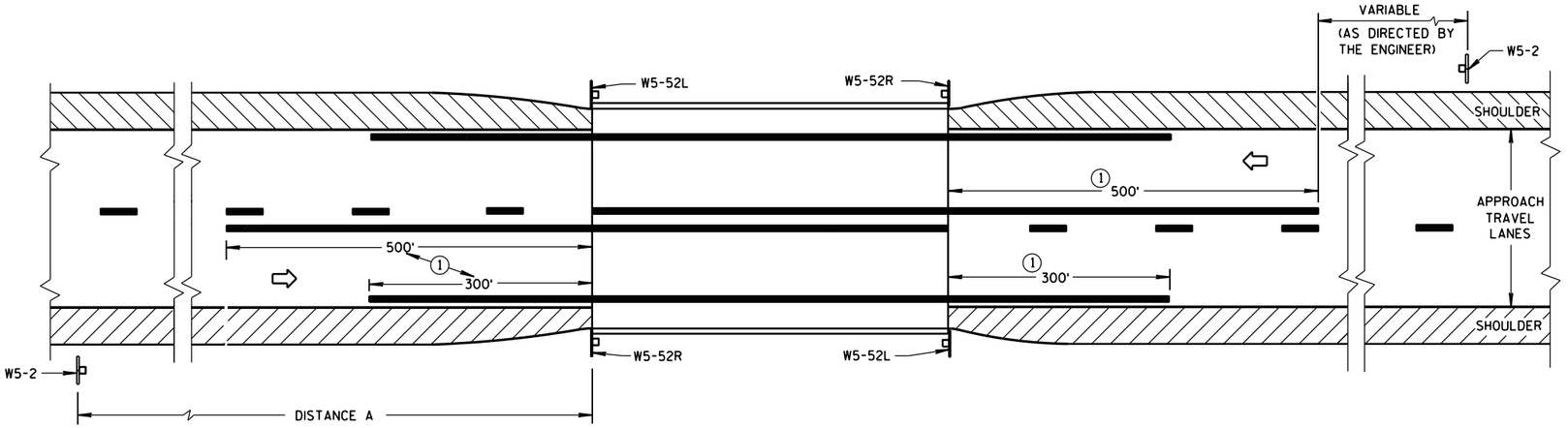
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA

6

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



GENERAL NOTES

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

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

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

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

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

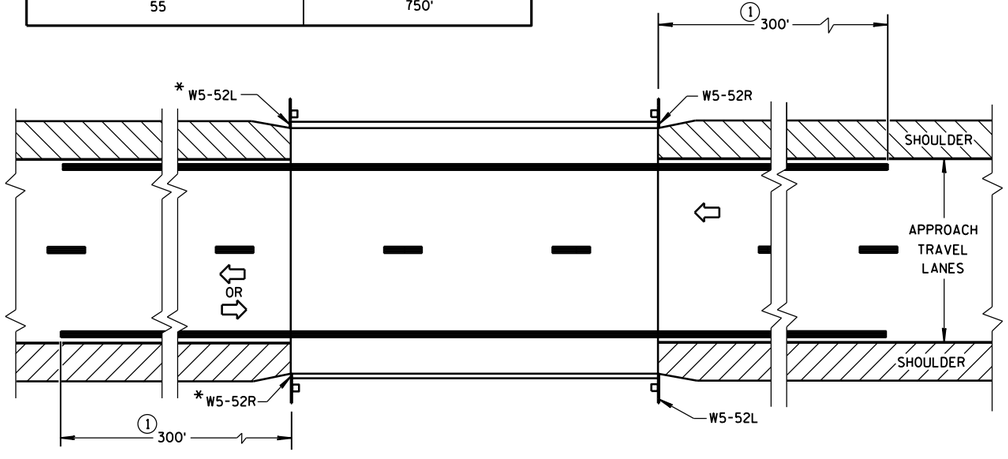
DISTANCE TABLE

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

SITUATION 1

WARRANTING CRITERIA:

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

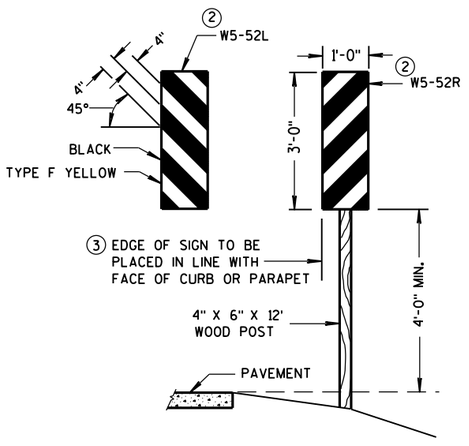


*OMIT ON ONE-WAY TRAVELLED WAYS

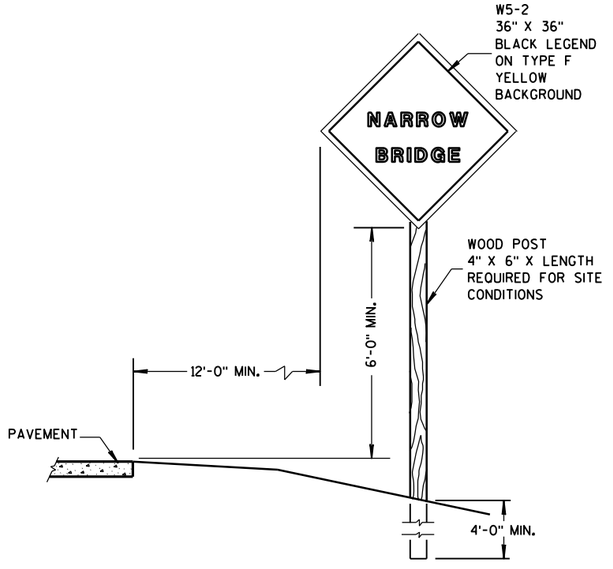
SITUATION 2

WARRANTING CRITERIA:

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



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

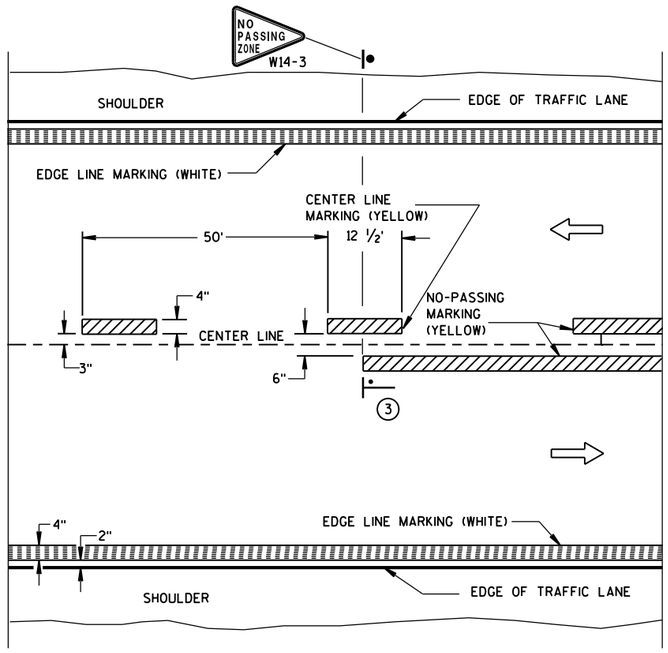
3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

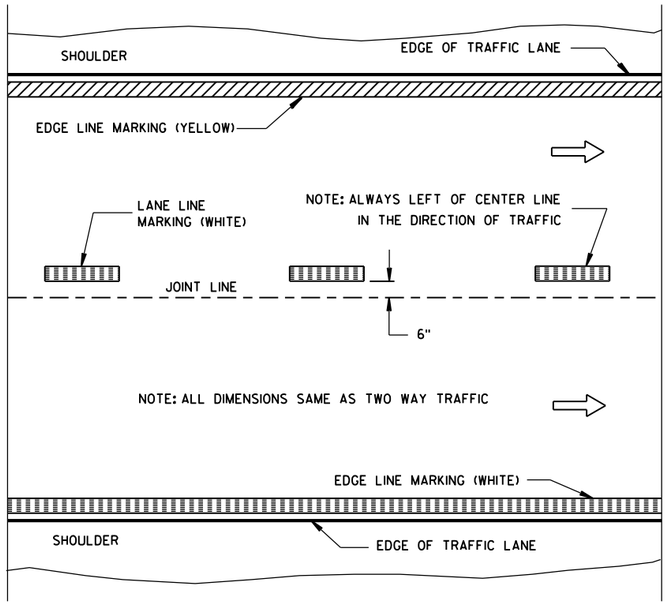
FHWA

6

S.D.D. 15 C 6-7

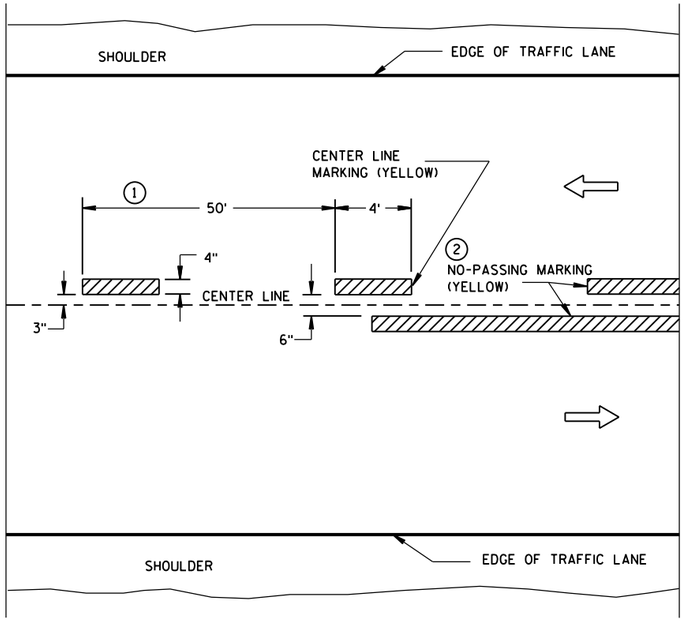


TWO WAY TRAFFIC

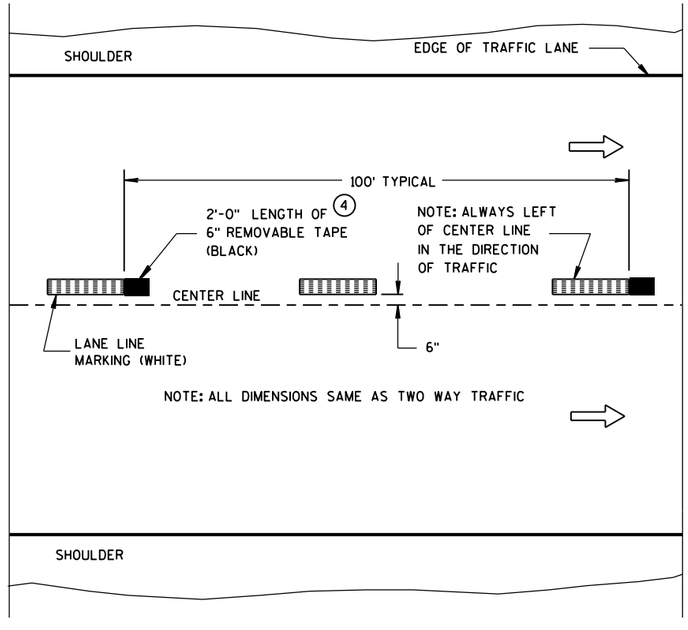


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

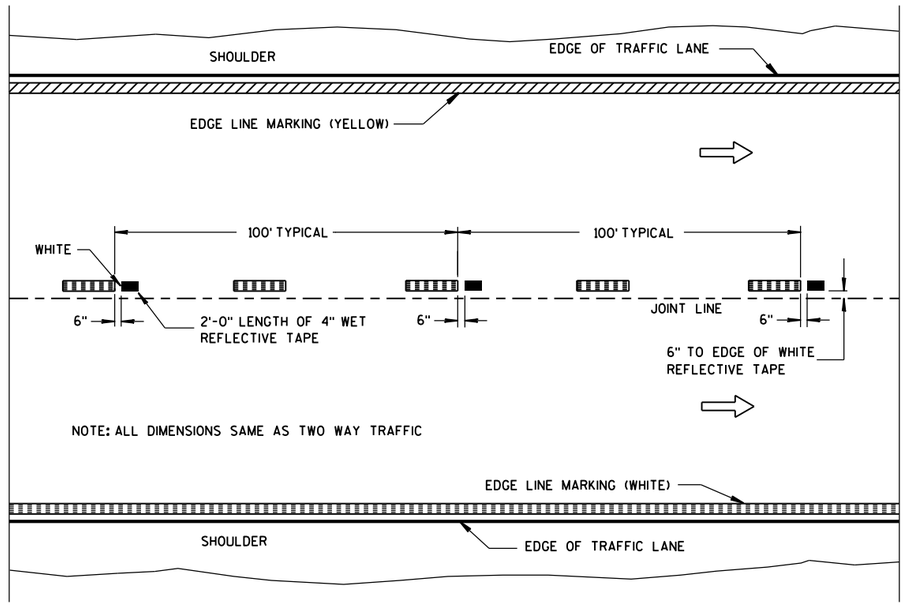
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

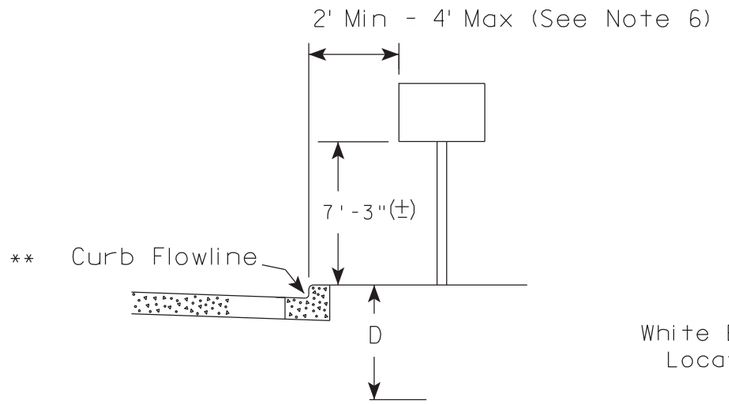
6

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

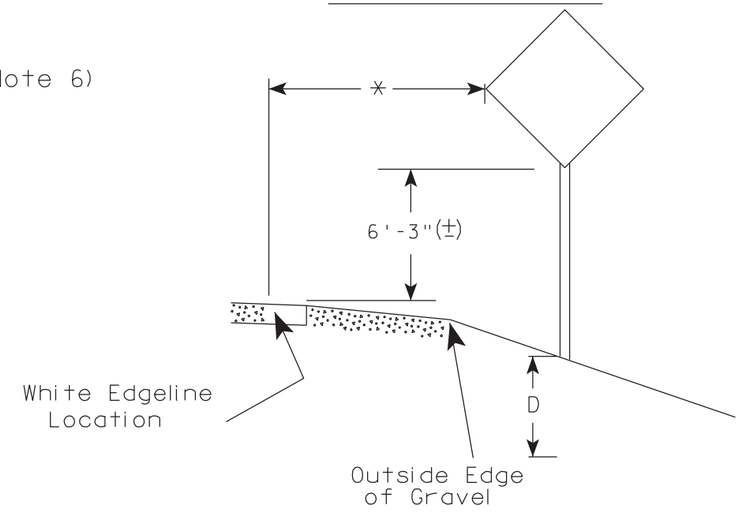
6

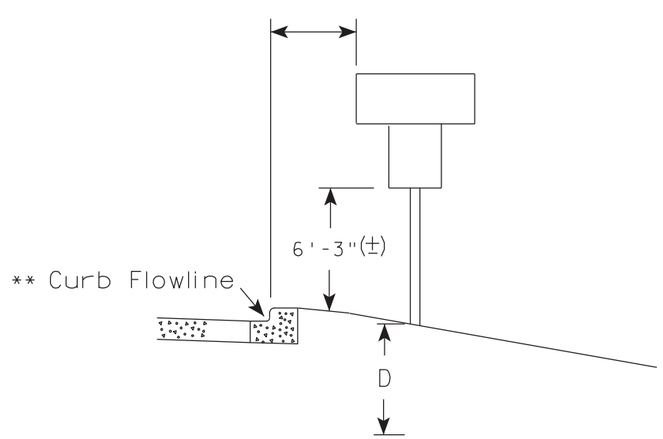
S.D.D. 15 C 8-16a

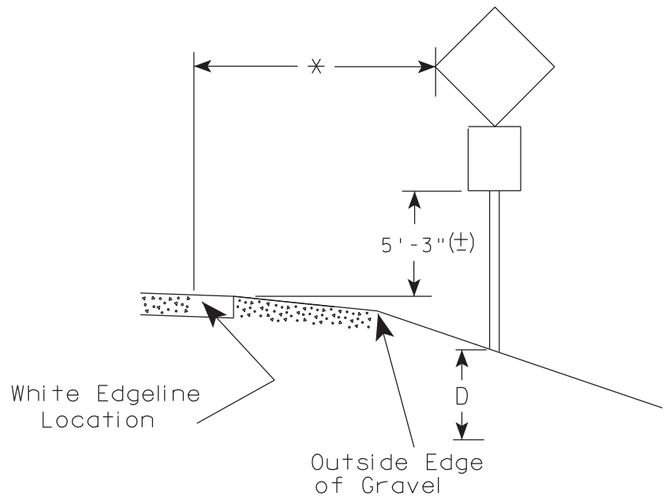
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

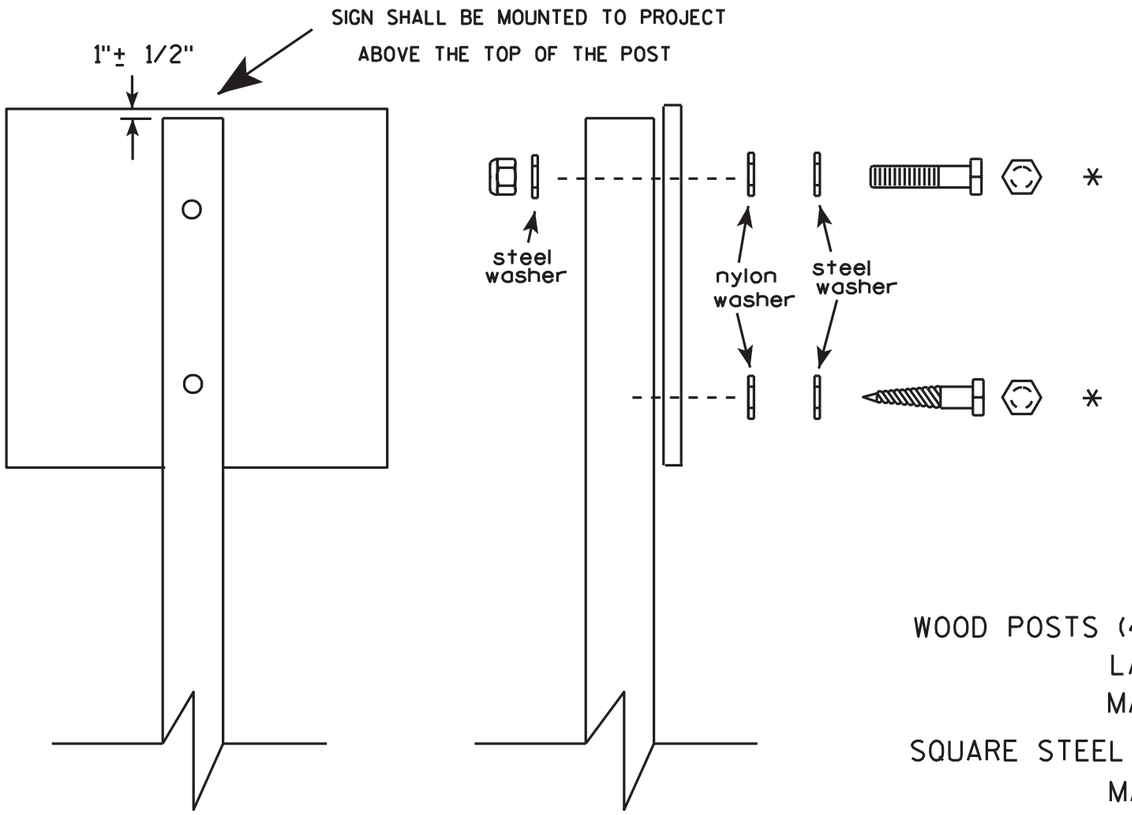
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	SIGNS	SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 12-NOV-2014 14:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 99.237937:1.000000
WISDOT/CADDS SHEET 42



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

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

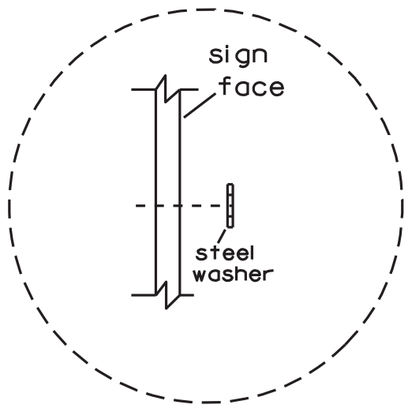
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

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



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

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

ATTACHMENT OF SIGNS TO POSTS

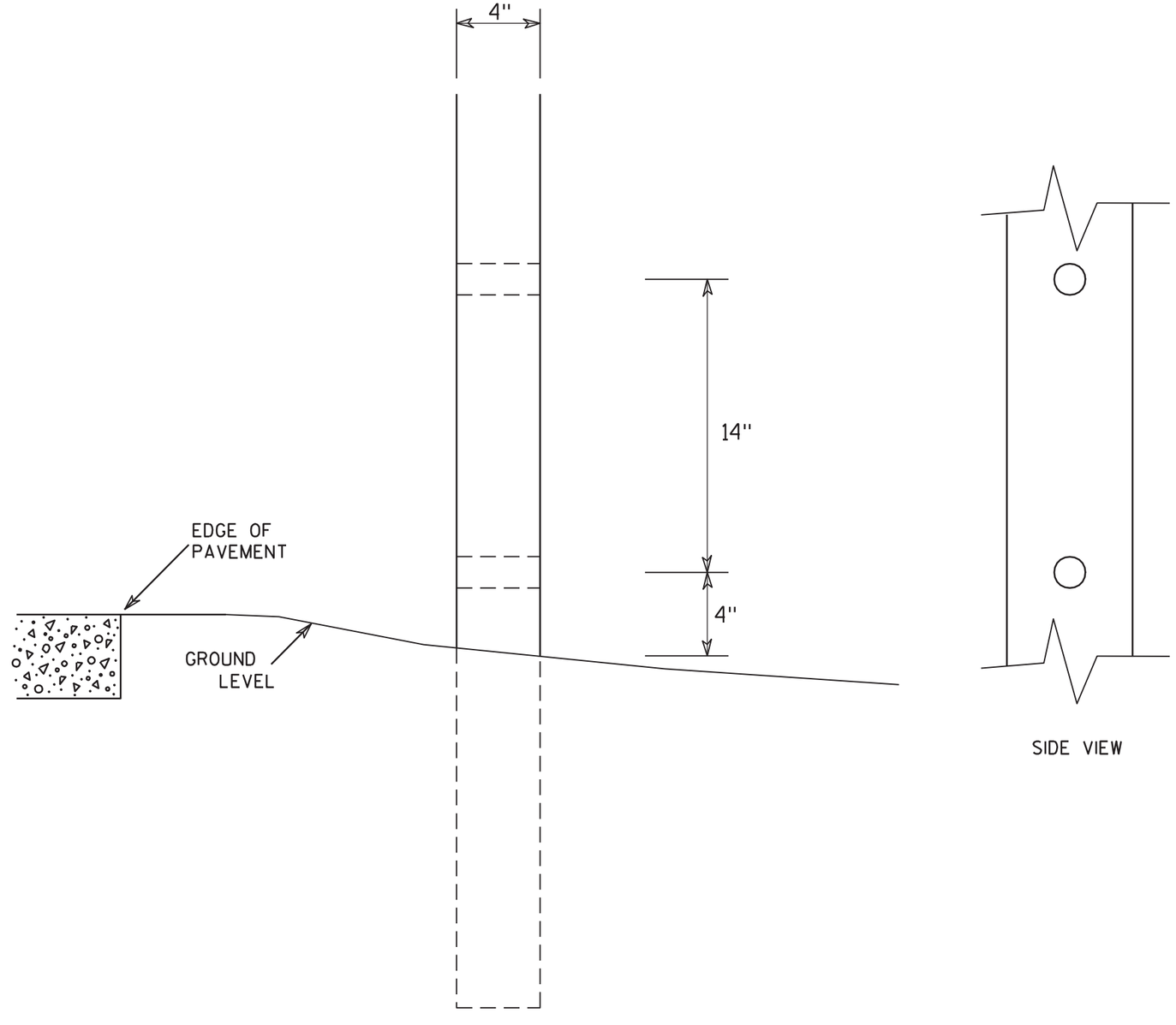
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	SIGNS	SHEET NO: 36	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.

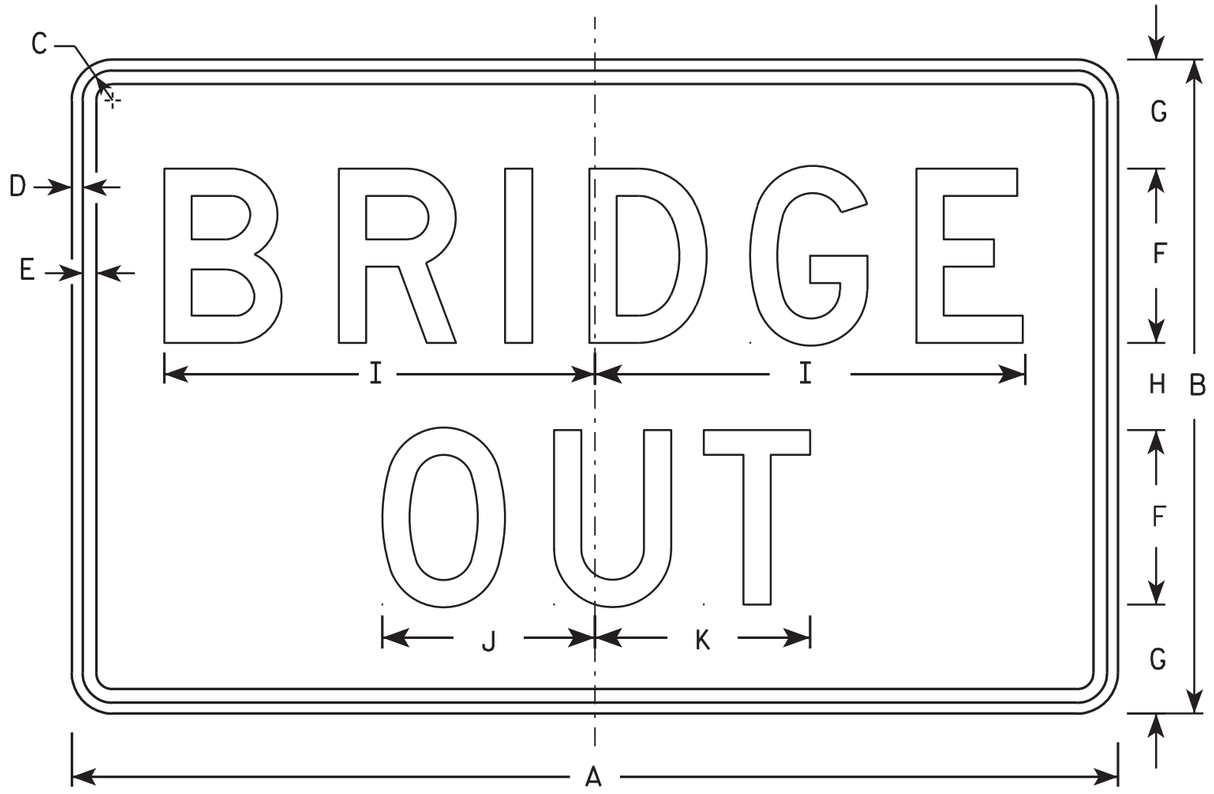
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	SIGNS	SHEET NO: 37	E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

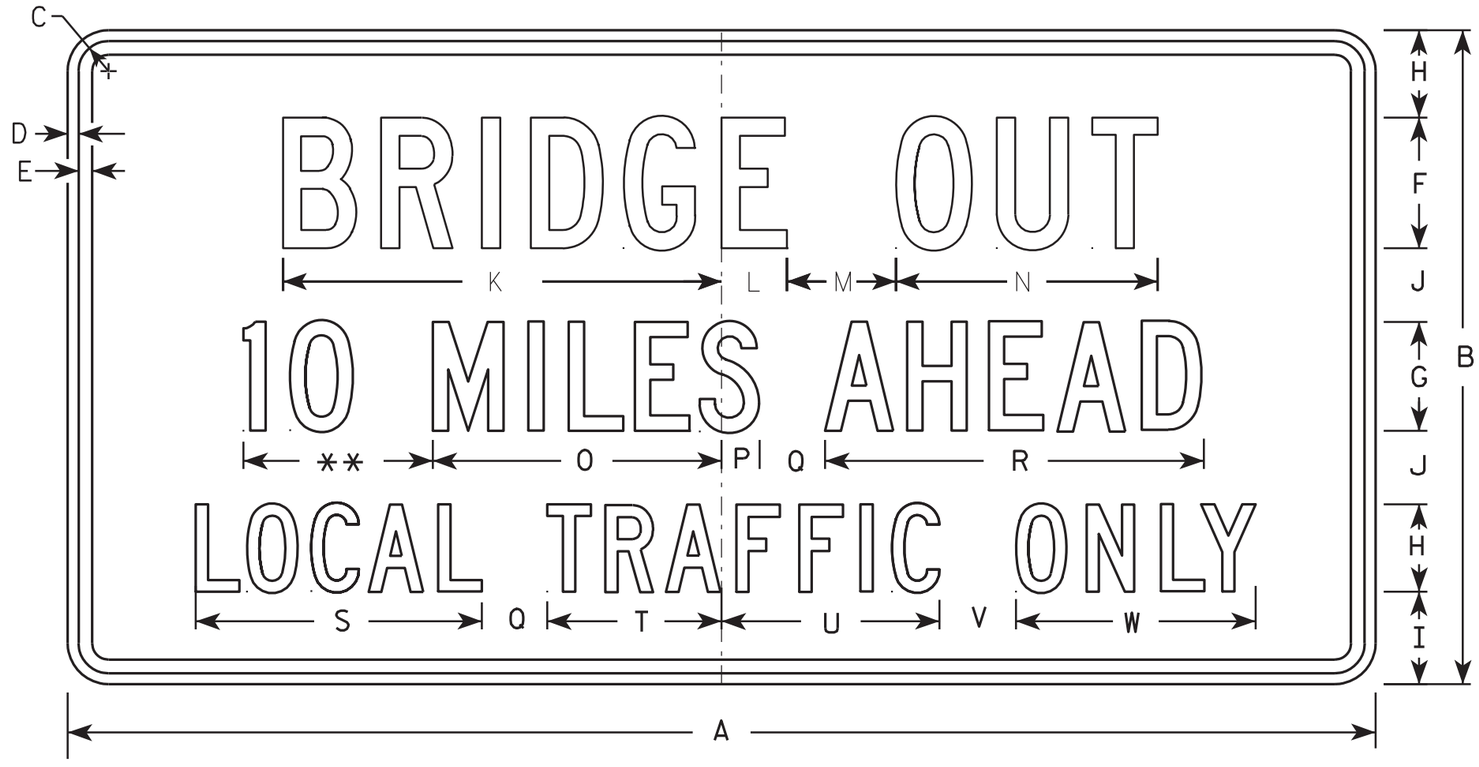
PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	SIGNS	SHEET NO: 38	E

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

WISDOT/CADDS SHEET 42

7

7



R11-3B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

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

STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

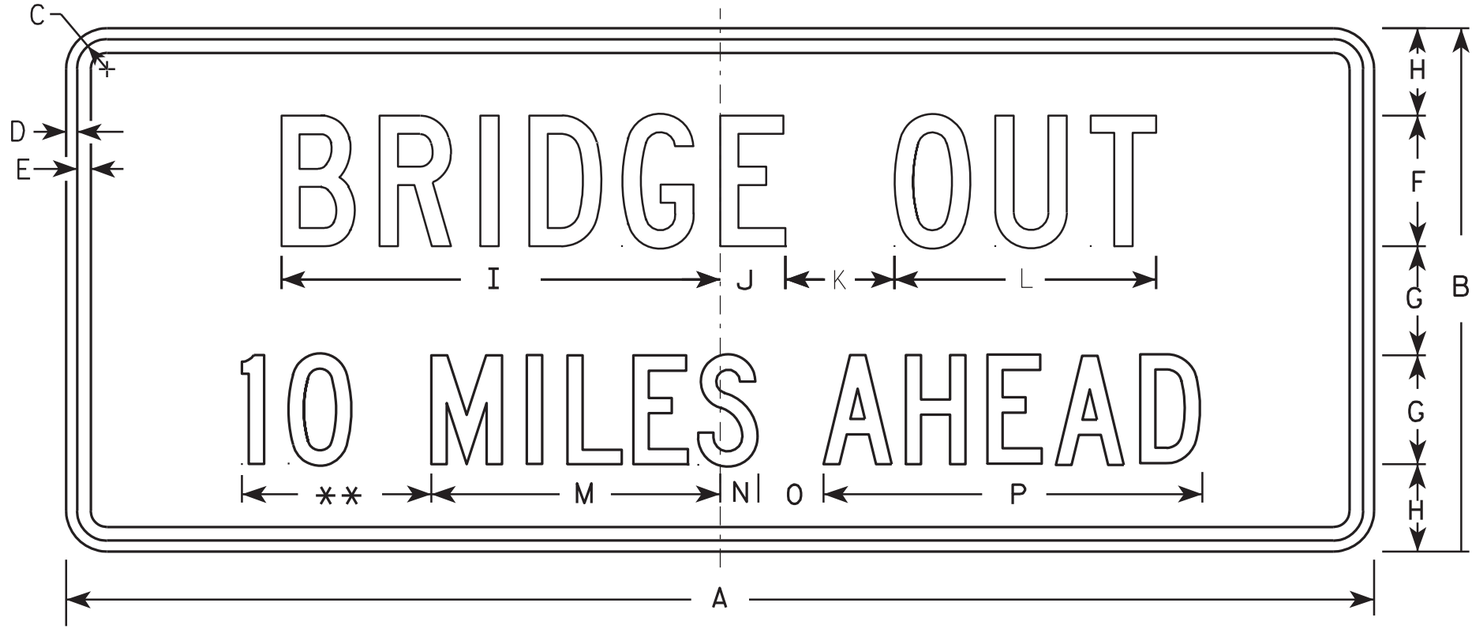
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-3B.2

PROJECT NO: 6799-01-70 | HWY: CTH G | COUNTY: PORTAGE | SIGNS | SHEET NO: 39 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R113B.DGN PLOT DATE : 01-APR-2011 14:17 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.952219:1.000000
WISDOT/CADDS SHEET 42



R11-3C

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4											3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8											10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8											10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-3C.2

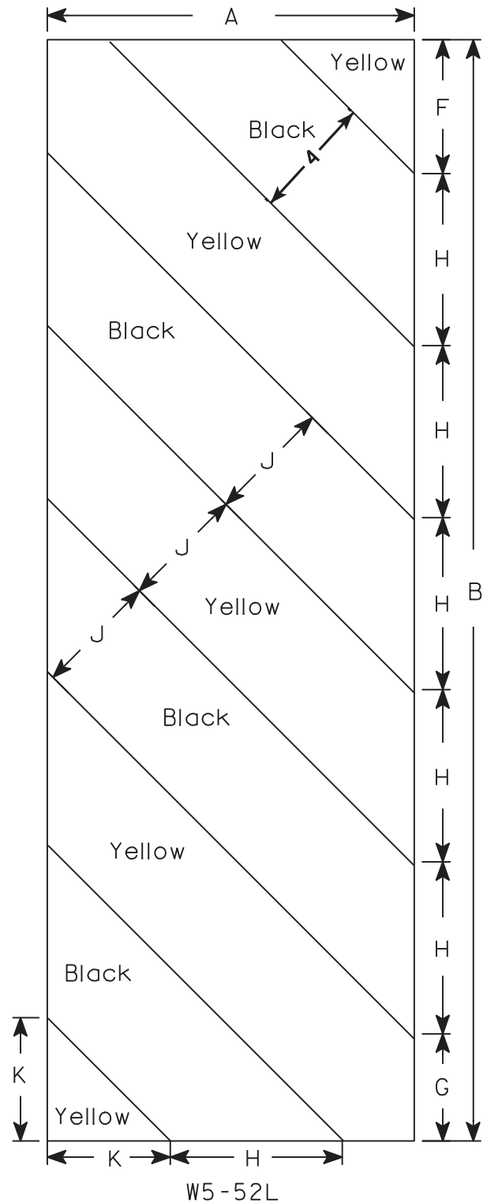
PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	SIGNS	SHEET NO: 40	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R113C.DGN PLOT DATE : 01-APR-2011 14:15 PLOT BY : mscj9h

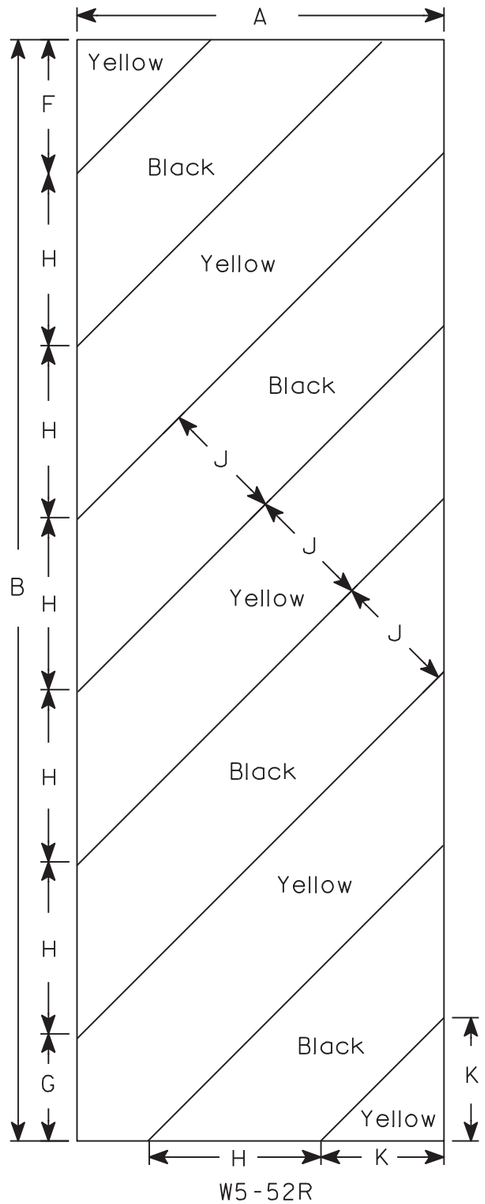
WISDOT/CADDS SHEET 42

7

7



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

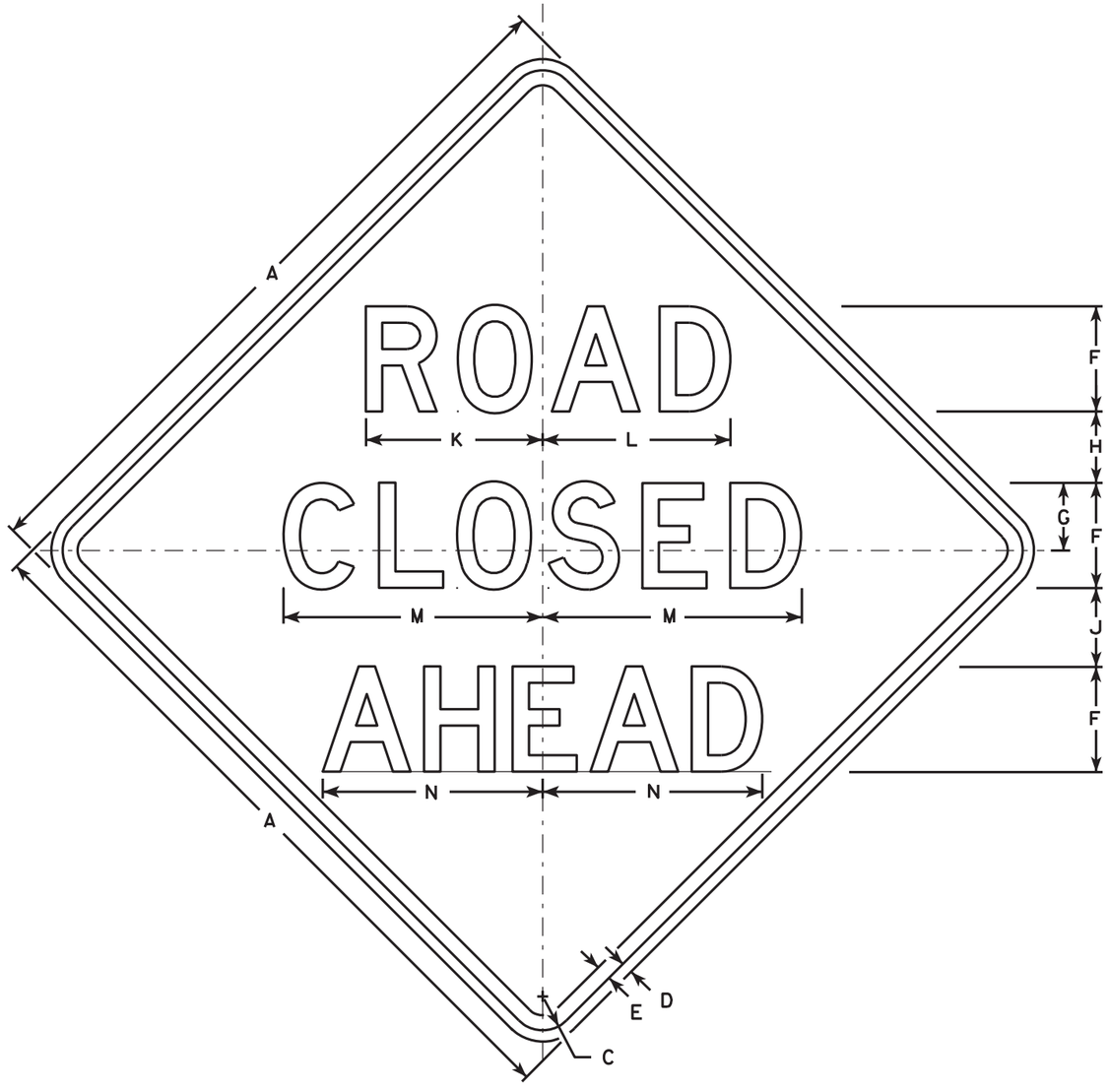
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

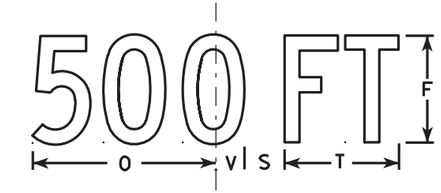
APPROVED Matthew R Rauch
for State Traffic Engineer

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

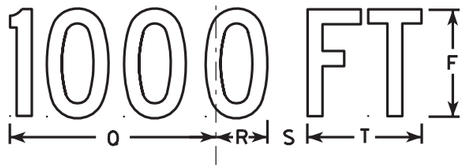
PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	SIGNS	SHEET NO: 41	E



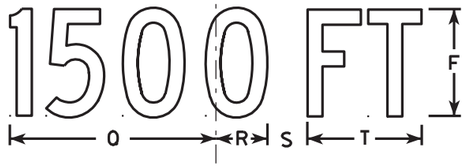
W20-3A



W20-3D



W20-3C



W20-3B

W20-3G

W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

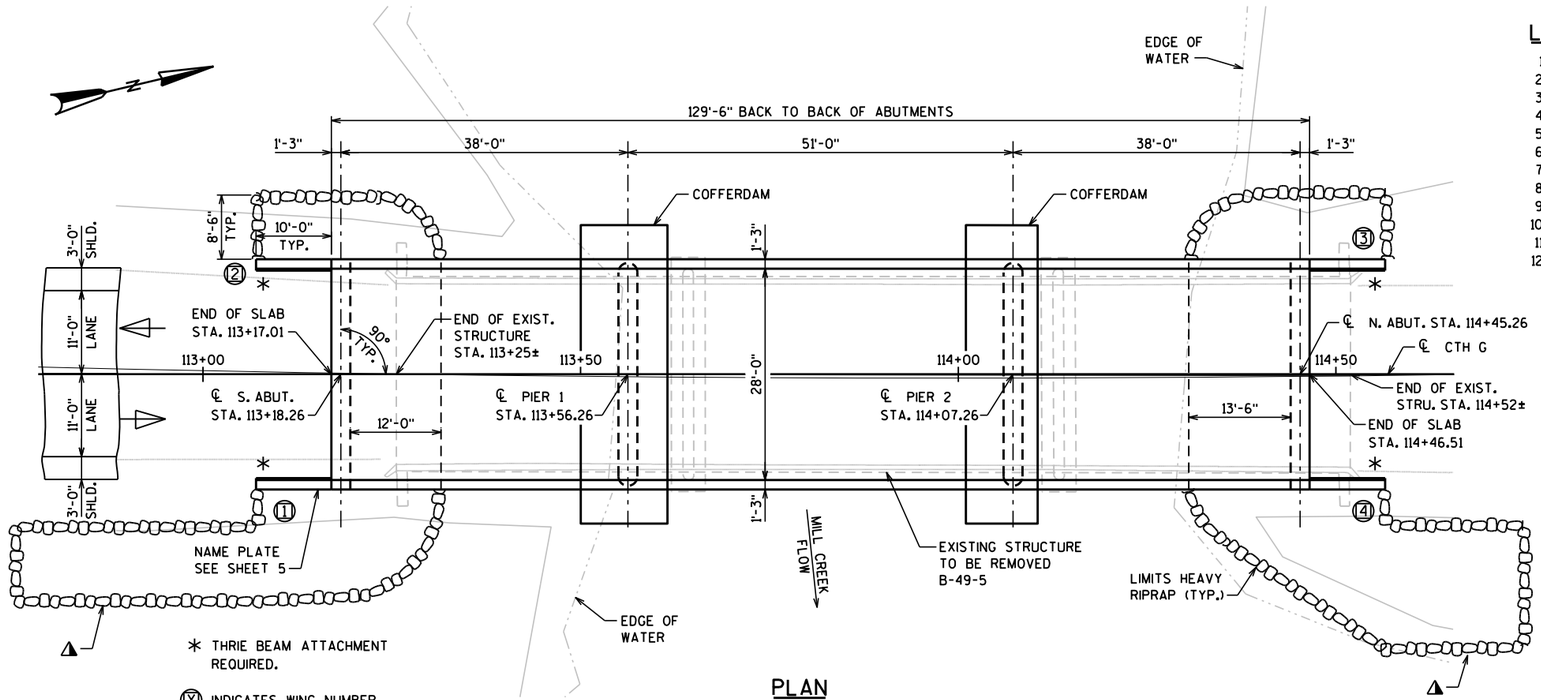
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: 6799-01-70 | HWY: CTH G | COUNTY: PORTAGE | SIGNS | SHEET NO: 42 | E

STATE PROJECT NUMBER
6799-01-70



PLAN

THREE SPAN HAUNCHED CONCRETE SLAB BRIDGE

* THRIE BEAM ATTACHMENT REQUIRED.

(X) INDICATES WING NUMBER

⚠ AREA OF RIPRAP BEYOND END OF WINGS PAID FOR UNDER ROAD PLAN QUANTITIES

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. PIER 1
9. PIER 2
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE DETAILS
12. TUBULAR STEEL RAILING TYPE 'M'

TRAFFIC VOLUME

A.D.T. 180 (2037)
R.D.S.= 50 M.P.H.

HYDRAULIC DATA

Q_{100} ——— 9000 C.F.S.
Q_{BRIDGE} ——— 6827 C.F.S.
$Q_{OVERFLOW\ BRIDGE}$ — 2173 C.F.S.
VELOCITY ——— 6.97 F.P.S.
HIGH WATER —— EL. 1110.06 (100 YEAR)
HIGH WATER —— EL. 1105.20 (2 YEAR)
WATERWAY AREA ——— 979 S.F.
DRAINAGE AREA ——— 76 SQ. MILES
OVERTOPPING FREQUENCY = N/A
SCOUR CRITICAL CODE = 5

DESIGN DATA

LIVE LOAD:

DESIGN LOADING ——— HL-93
INVENTORY RATING FACTOR ——— RF = 1.21
OPERATING RATING FACTOR ——— RF = 1.57
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) — 250 (KIPS)
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT

MATERIAL PROPERTIES:

CONCRETE MASONRY
SLAB ——— f'c = 4,000 P.S.I.
ALL OTHER ——— f'c = 3,500 P.S.I.
HIGH STRENGTH BAR STEEL
REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS AND PIERS TO BE SUPPORTED ON HP 10X42 STEEL PILING. PILING AT THE NORTH AND SOUTH ABUTMENTS SHALL BE DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE. PILING AT PIER 1 AND PIER 2 SHALL BE PREBORED A MINIMUM OF 3' INTO WEATHERED ROCK. SHAFTS SHALL BE CASED AND HAVE A DIAMETER OF AT LEAST 18-INCHES. AFTER PILES HAVE BEEN FIRMLY SEATED, FILL THE SHAFT WITH CEMENT GROUT. ABUTMENT PILES SHALL BE FITTED WITH PILE POINTS.

ESTIMATED 25' LONG AT SOUTH ABUTMENT
ESTIMATED 25' LONG AT PIER 1
ESTIMATED 25' LONG AT PIER 2
ESTIMATED 30' LONG AT NORTH ABUTMENT

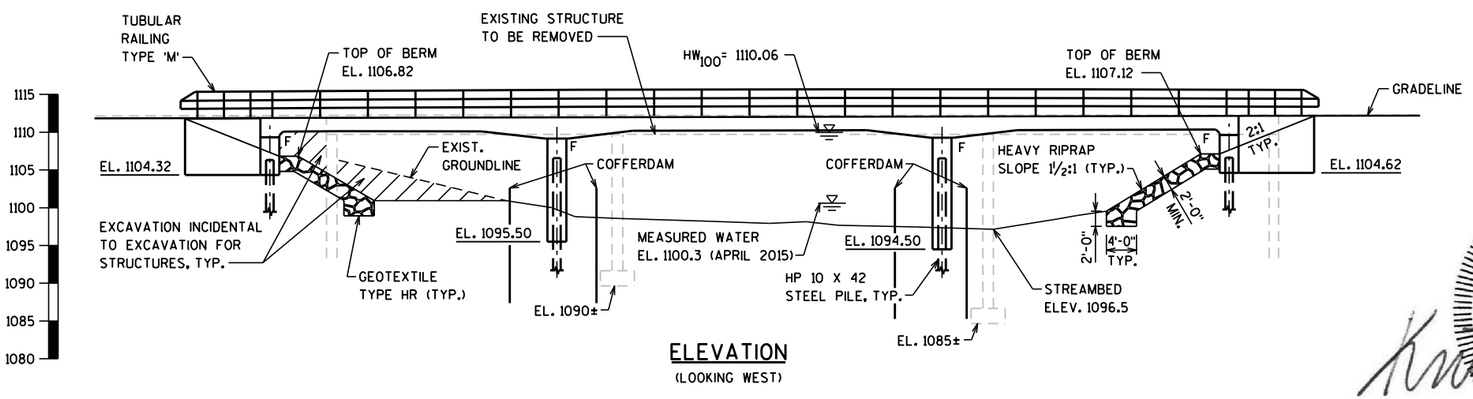
** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

CONSULTANT CONTACT

KRISTOFER OLSON
OMNNI ASSOCIATES, INC.
(920) 735-6900

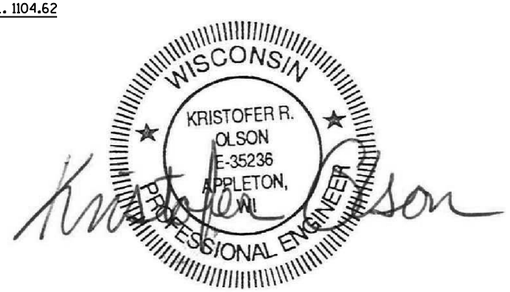
BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489



ELEVATION

(LOOKING WEST)



6/1/16

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR — 08/12/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-49-183

CTH G OVER MILL CREEK

COUNTY	TOWN
PORTAGE	CARSON

DESIGN SPEC.	LOAD
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	HL-93

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BRE	KRO	BRE	KRO

GENERAL PLAN

SHEET 1 OF 12

43

8

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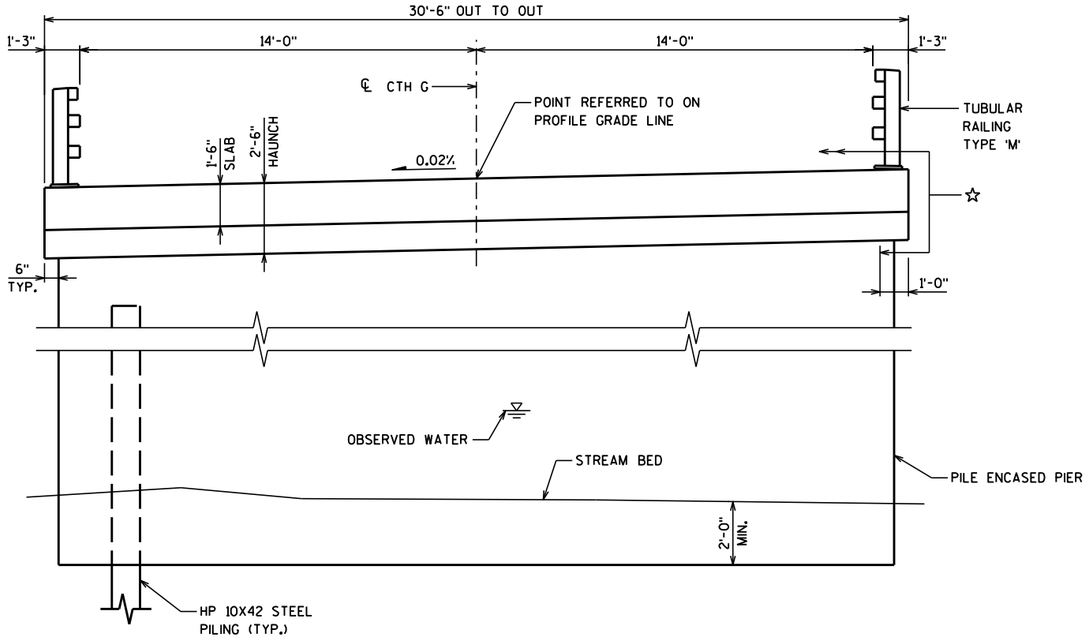
FILE NAME : F:±TR±JOBS±E2144A15±Sheets±B-49-183 01 gp.dgn PLOT BY : EpleyB PLOT DATE: 6/1/2016 3:08:17 PM



CROSS SECT. THRU RDWY.

LOOKING UPSTATION

BENCH MARKS (NAVD 88)

NO.	STATION	DESCRIPTION	ELEV.
1	109+39, 30' RT.	SPK IN 10" ASH @ TREE	1110.08
2	112+77, 32' LT.	SPK IN TWIN 18" MAPLE TREE	1107.76
3	116+12, 37' LT.	SPK IN TWIN 15" MAPLE TREE	1106.98
4	121+17, 33' RT.	SPK IN TWIN 12" MAPLE TREE	1105.58

TOTAL ESTIMATED QUANTITIES (CATEGORY 0020)

ITEM NO.	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	PIER 1	PIER 2	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA 113+82	LS	-----	-----	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-49-183	LS	-----	-----	-----	-----	-----	1
206.5000	COFFERDAM STRUCTURE B-49-183	LS	-----	-----	-----	-----	-----	1
210.1100	BACKFILL STRUCTURE TYPE A	CY	-----	70	70	-----	-----	140
502.0100	CONCRETE MASONRY BRIDGES	CY	247	30	30	38	40	385
502.3200	PROTECTIVE SURFACE TREATMENT	SY	535	-----	-----	-----	-----	535
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-----	1,840	1,840	1,670	1,800	7,150
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	61,330	1,370	1,370	60	60	64,190
513.4061	RAILING TUBULAR TYPE M B-49-183	LF	300	-----	-----	-----	-----	300
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-----	8	8	-----	-----	16
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	-----	-----	-----	87	81	168
550.0500	PILE POINTS	EA	-----	5	5	-----	-----	10
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	-----	125	150	150	150	575
606.0300	RIPRAP HEAVY	CY	-----	86	89	-----	-----	175
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	65	65	-----	-----	130
645.0120	GEOTEXTILE TYPE HR	SY	-----	130	135	-----	-----	265
	NON-BID ITEMS							
	FILLER	SIZE						½"&¾"

STATE PROJECT NUMBER

6799-01-70

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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

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

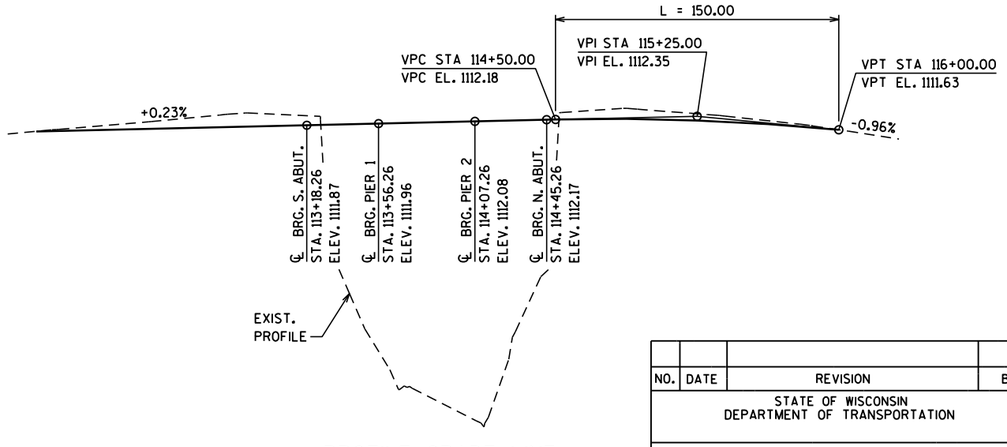
THE EXISTING GROUND LINE AND STREAMBED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION.

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

THIS BRIDGE WILL REPLACE THE EXISTING CONCRETE SLAB BRIDGE SUPPORTED ON CONCRETE SILL ABUTMENTS AND CONCRETE SOLID SHAFT PIERS. THE STRUCTURE WAS BUILT IN 1956.

☆ PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP, SIDES, AND EXTERIOR 1'-0" OF THE UNDERSIDE OF THE DECK, TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.

AT PIERS CONCRETE POURED UNDER WATER WILL BE ALLOWED IF WATER DEPTH TO BOTTOM OF PIER IS LESS THAN 5 FEET. WORK SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.



PROFILE GRADE LINE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY BRE | PLANS CK'D. KRO

CROSS SECTION & QUANTITIES

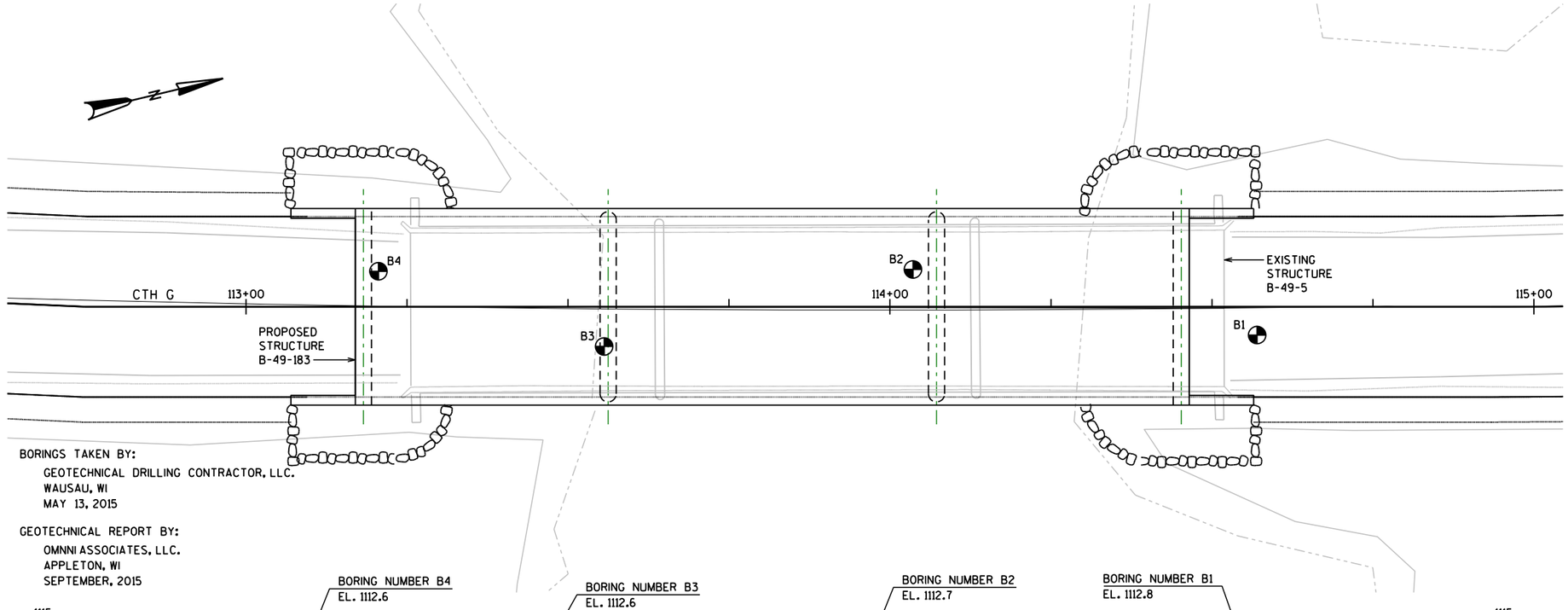
SHEET 2 OF 12

44

8

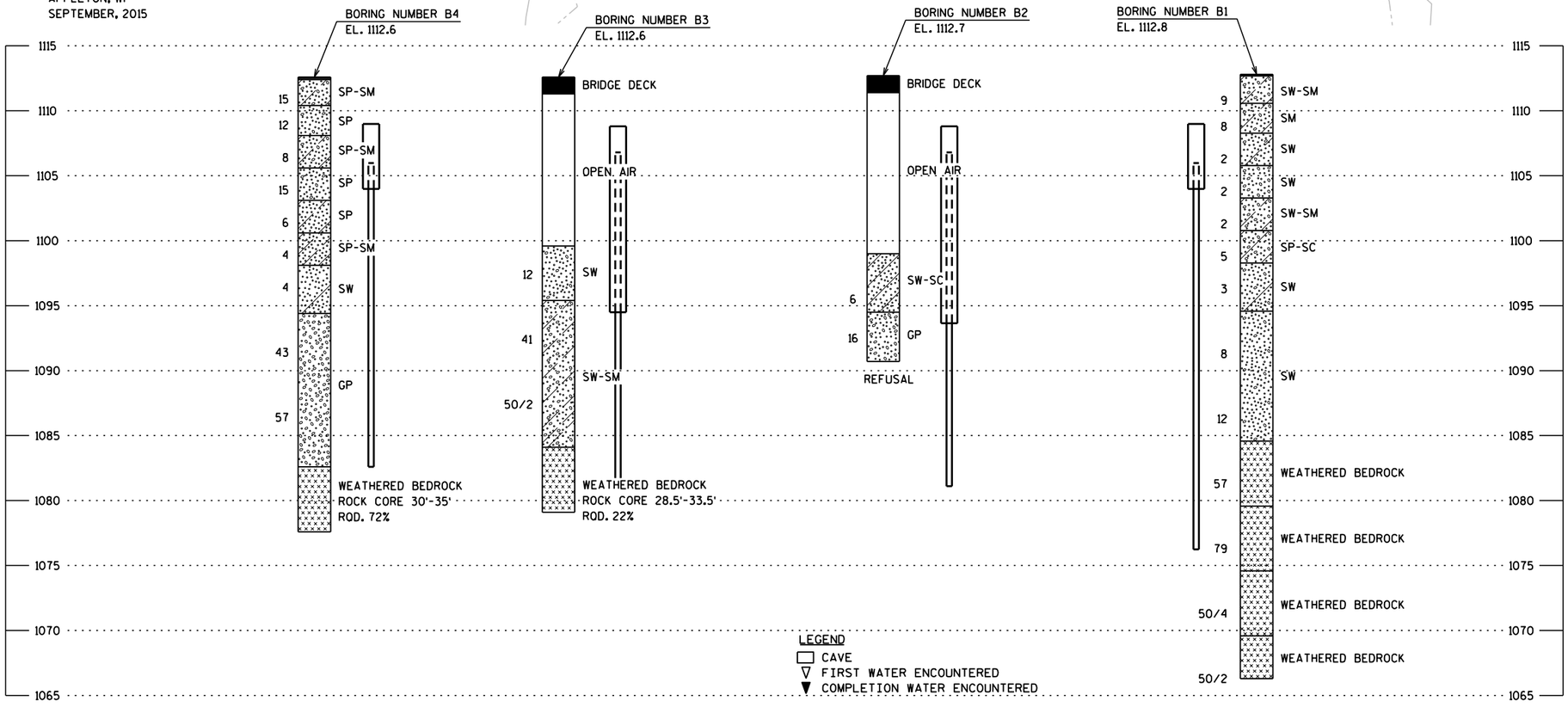
8

STATE PROJECT NUMBER
6799-01-70



BORINGS TAKEN BY:
GEOTECHNICAL DRILLING CONTRACTOR, LLC.
WAUSAU, WI
MAY 13, 2015

GEOTECHNICAL REPORT BY:
OMNNI ASSOCIATES, LLC.
APPLETON, WI
SEPTEMBER, 2015

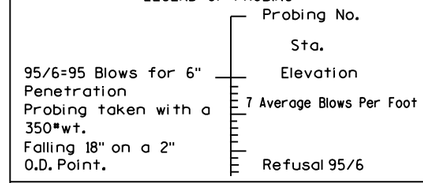


LEGEND
- CAVE
- FIRST WATER ENCOUNTERED
- COMPLETION WATER ENCOUNTERED

ABBREVIATIONS
F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

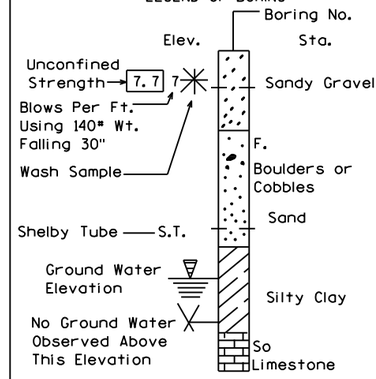
MATERIAL SYMBOLS
Topsoil, Sand, Gravel, Silt, Peat, Clay, Sandstone, Limestone, Igneous Rock

LEGEND OF PROBING



95/6=95 Blows for 6" Penetration
Probing taken with a 350#wt.
Falling 18" on a 2" O.D. Point.

LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a O.D.x1. 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 Division of Highways 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-49-183

DRAWN BY BRE | PLANS CK'D. KRO

SUBSURFACE EXPLORATION

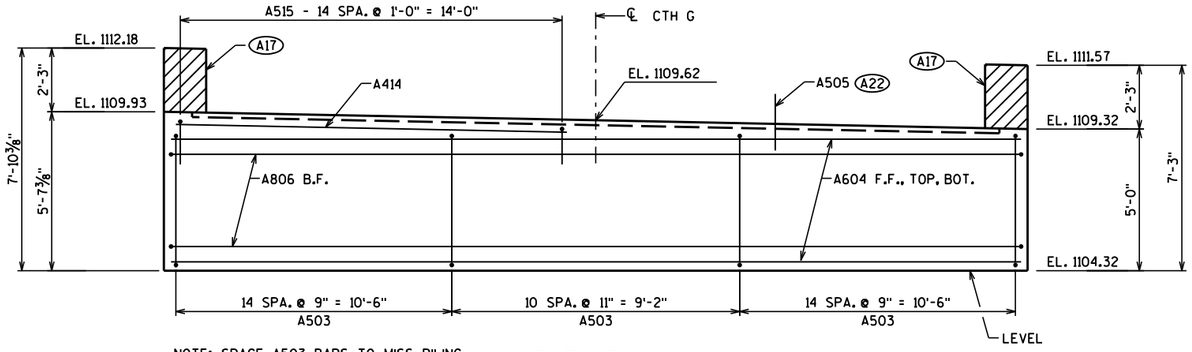
SHEET 3 OF 12

45

8

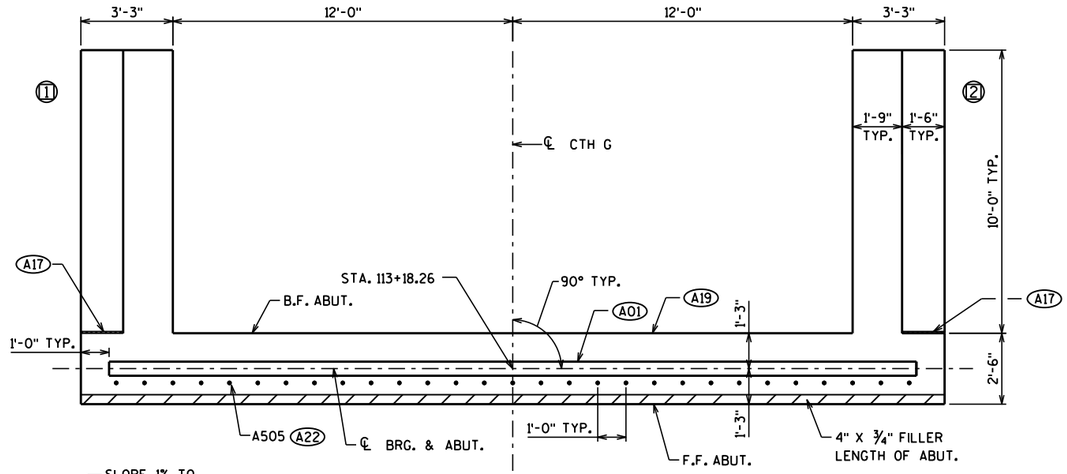
8

STATE PROJECT NUMBER
6799-01-70

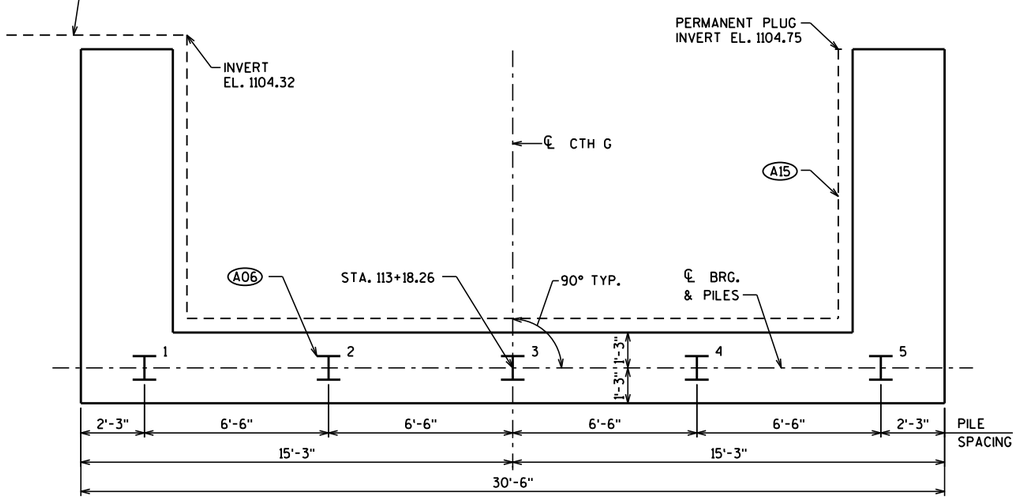


NOTE: SPACE A503 BARS TO MISS PILING

ELEVATION



PLAN



PILE PLAN

LEGEND

(A01) KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

(A06) SOUTH ABUTMENT TO BE SUPPORTED ON HP10x42 STEEL PILING FITTED WITH PILE POINTS, ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN, SEE THIS SHEET FOR DETAILS.

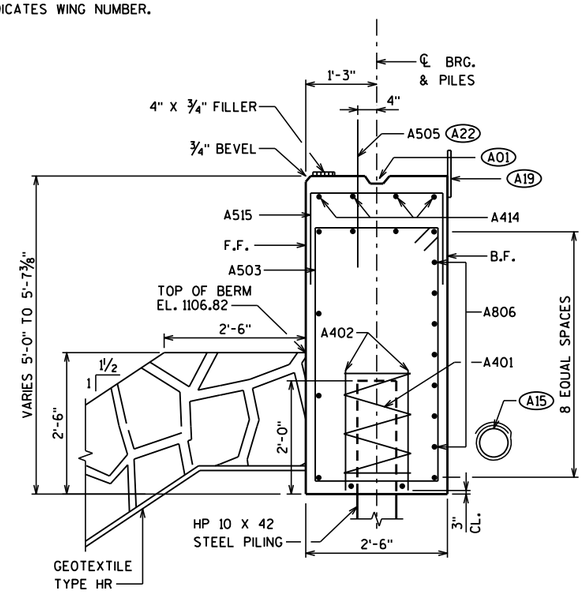
(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.) EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(A22) A505 BARS AT 1'-0". THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

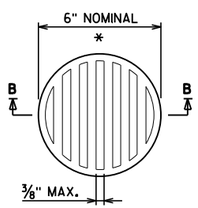
SEE SHEET 5 FOR BILL OF BARS AND BAR BENDING DIAGRAMS. SEE SHEET 8 FOR PILE SPLICE DETAILS.

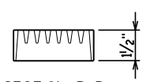
(X) INDICATES WING NUMBER.



SECTION THRU BODY

HORIZ. BARS NOT OTHERWISE IDENTIFIED ARE A604 BARS





SECTION B-B

RODENT SHIELD DETAIL

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY KRW | PLANS CK'D. JAW

SOUTH ABUTMENT

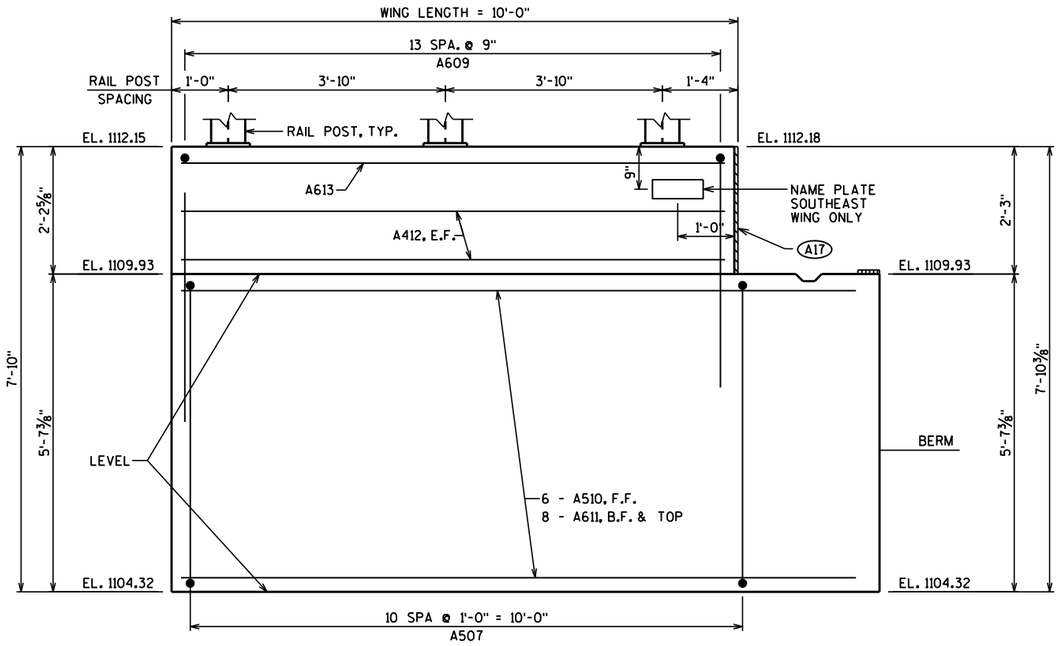
SHEET 4 OF 12

46

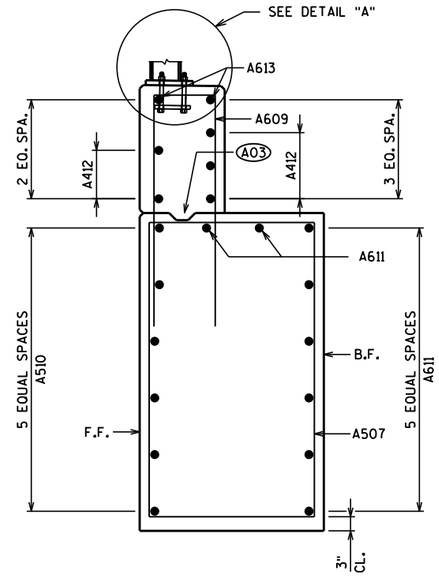
8

8

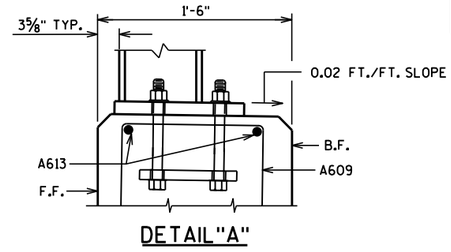
STATE PROJECT NUMBER
6799-01-70



WING 1 ELEVATION



WING 1 SECTION



DETAIL "A"

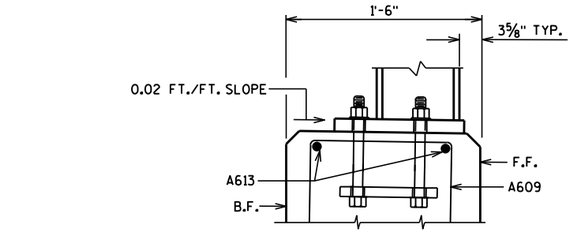
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401		5	28'-0"	X	BODY - ONE PER PILE
A402		10	2'-3"		BODY - TWO PER PILE
A503		39	13'-10"	X	BODY - STIRRUPS
A604		10	30'-2"		BODY - HORIZONTAL
A505	X	29	2'-0"		BODY - VERTICAL, DOWEL
A806		7	32'-5"	X	BODY - HORIZONTAL B.F.
A507	X	11	16'-10"	X	WING - STIRRUPS W1
A508	X	11	15'-8"	X	WING - STIRRUPS W2
A609	X	28	9'-0"	X	WINGS - VERTICAL
A510	X	12	11'-7"		WINGS - HORIZONTAL, F.F.
A611	X	16	11'-11"		WINGS - HORIZONTAL, B.F. & TOP
A412	X	10	9'-7"		WINGS - HORIZONTAL
A613	X	4	9'-7"		WINGS - HORIZONTAL-TOP
A414		4	14'-0"		BODY - HORIZONTAL-TOP
A515		15	4'-11"	X	BODY - TOP

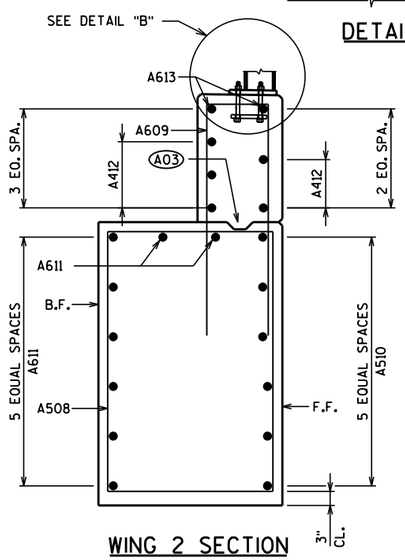
LEGEND

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" X 6". (18" R.M.W. @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED.)

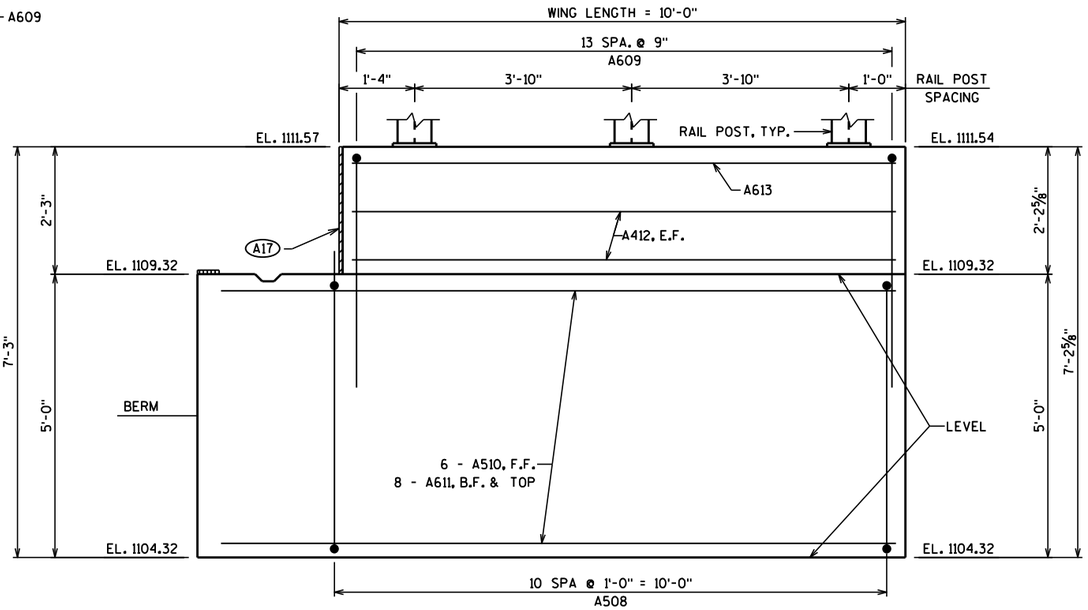
(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.



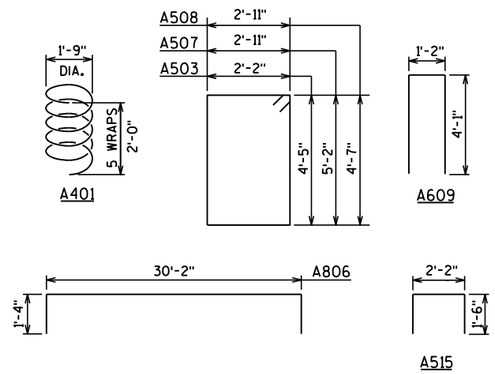
DETAIL "B"



WING 2 SECTION



WING 2 ELEVATION



BAR BENDING DIAGRAMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY KRW | PLANS CK'D. JAW

SOUTH ABUTMENT DETAILS

SHEET 5 OF 12

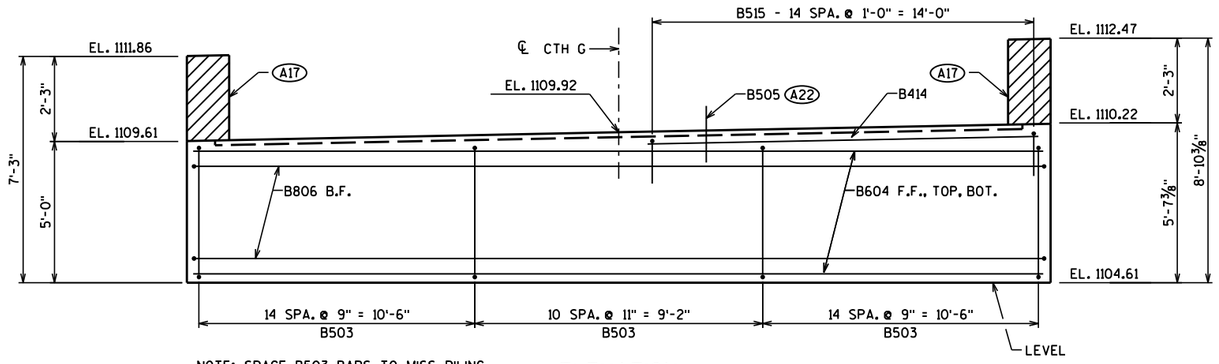
47

8

8

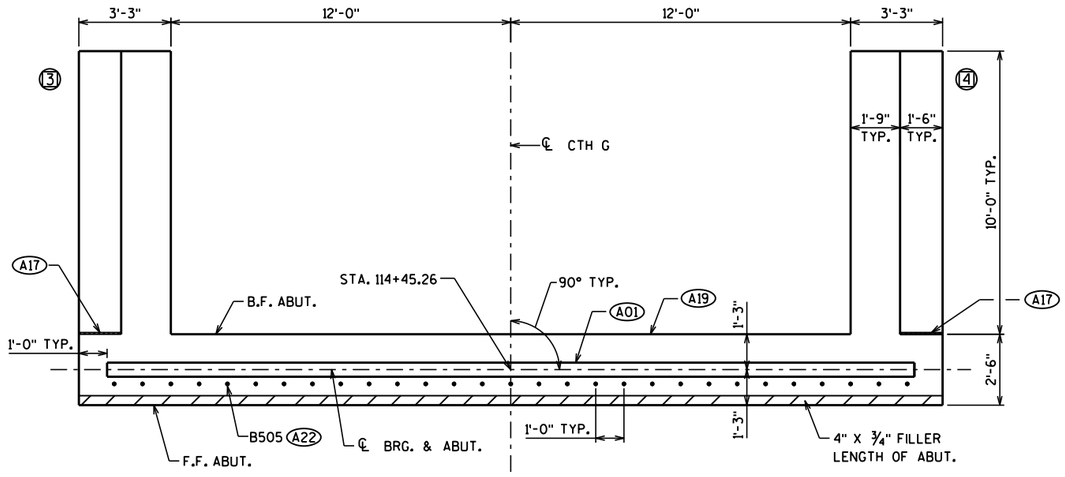
FILE NAME : F:±TR±JOBS±E2144A15±Sheets±B-49-183 05 s abut det.dgn
PLOT BY : EpleyB PLOT DATE: 5/21/2016 11:08:10 AM

STATE PROJECT NUMBER
6799-01-70

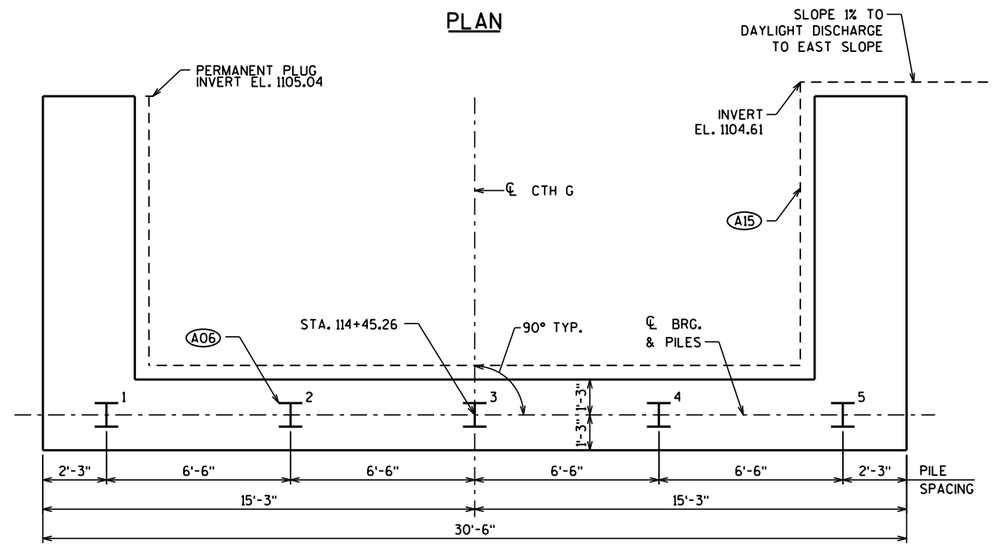


NOTE: SPACE B503 BARS TO MISS PILING

ELEVATION



PLAN



PILE PLAN

LEGEND

(A01) KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

(A06) NORTH ABUTMENT TO BE SUPPORTED ON HP10x42 STEEL PILING FITTED WITH PILE POINTS. ESTIMATED 30'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 4 FOR DETAILS.

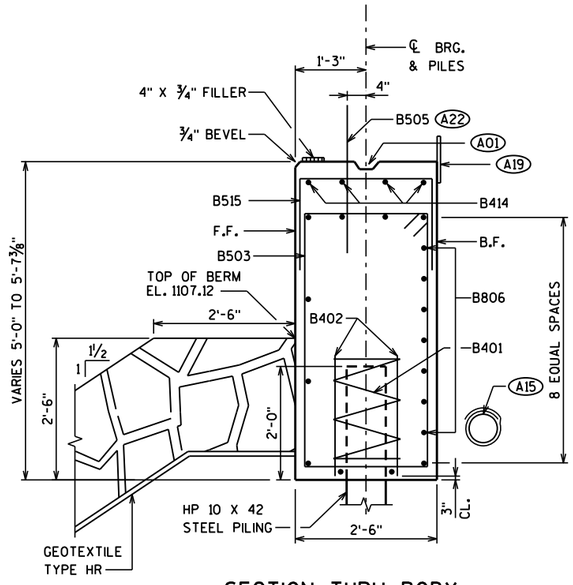
(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.) EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(A22) B505 BARS AT 1'-0". THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

SEE SHEET 7 FOR BILL OF BARS AND BAR BENDING DIAGRAMS. SEE SHEET 8 FOR PILE SPLICE DETAILS.

(X) INDICATES WING NUMBER



SECTION THRU BODY

HORIZ. BARS NOT OTHERWISE IDENTIFIED ARE B604 BARS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY KRW | PLANS CK'D. JAW

NORTH ABUTMENT

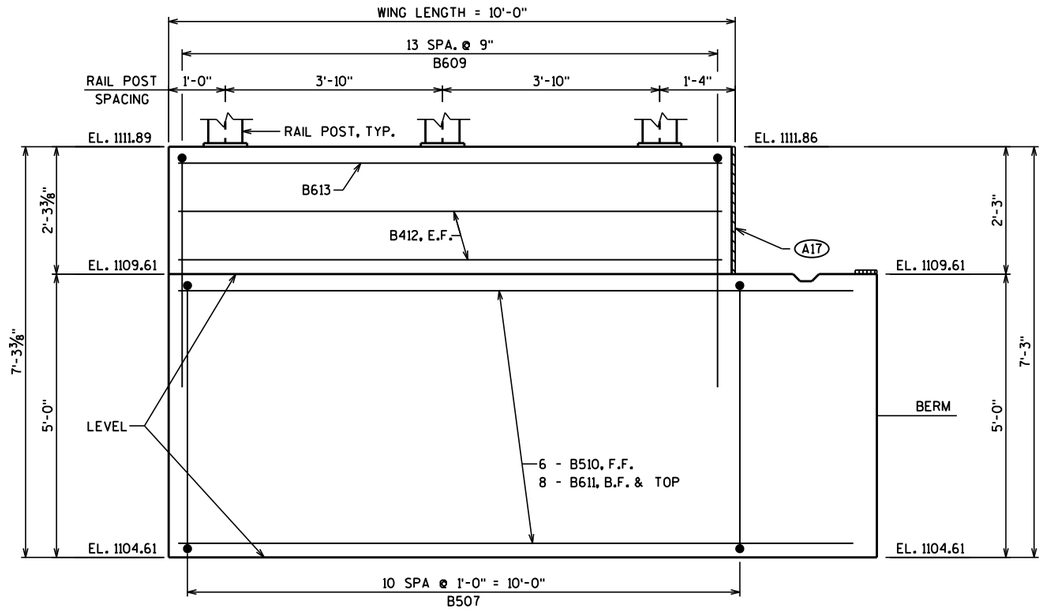
SHEET 6 OF 12

8

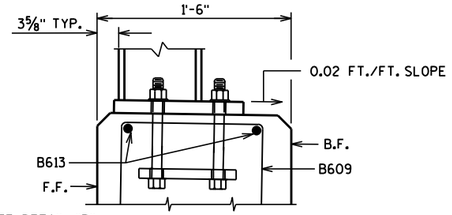
8

FILE NAME : F:±TR±JOBS±E2144A15±Sheets±B-49-183 06 n abut.dgn PLOT BY : EpleyB PLOT DATE: 6/1/2016 3:06:47 PM

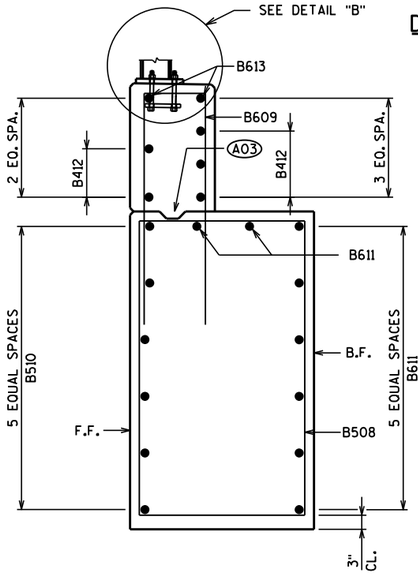
STATE PROJECT NUMBER
6799-01-70



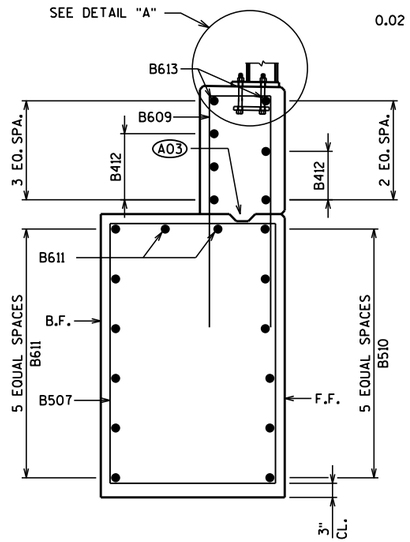
WING 3 ELEVATION



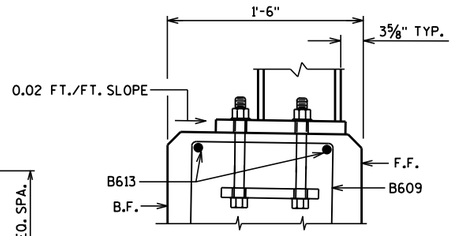
DETAIL "B"



WING 4 SECTION



WING 3 SECTION



DETAIL "A"

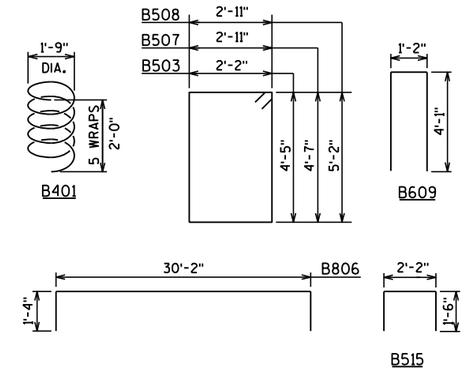
LEGEND

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" X 6". (18" R.M.W. @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED.)

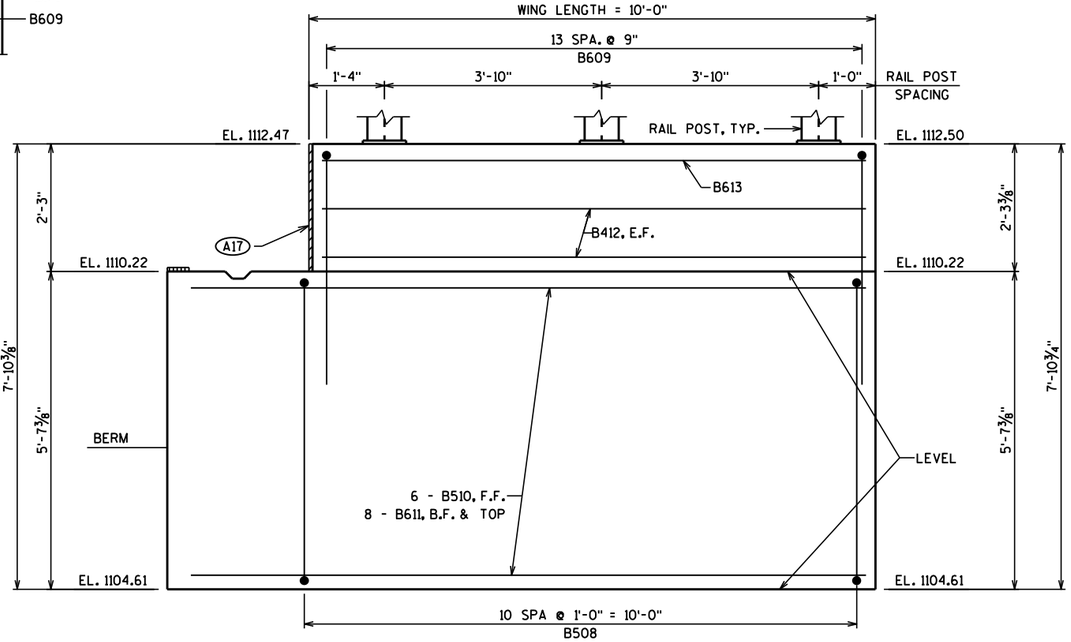
(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401		5	28'-0"	X	BODY - ONE PER PILE
B402		10	2'-3"		BODY - TWO PER PILE
B503		39	13'-10"	X	BODY - STIRRUPS
B604		10	30'-2"		BODY - HORIZONTAL
B505	X	29	2'-0"		BODY - VERTICAL, DOWEL
B806		7	32'-5"	X	BODY - HORIZONTAL B.F.
B507	X	11	15'-8"	X	WING - STIRRUPS W3
B508	X	11	16'-10"	X	WING - STIRRUP W4
B609	X	28	9'-0"	X	WINGS - VERTICAL
B510	X	12	11'-7"		WINGS - HORIZONTAL, F.F.
B611	X	16	11'-11"		WINGS - HORIZONTAL, B.F. & TOP
B412	X	10	9'-7"		WINGS - HORIZONTAL
B613	X	4	9'-7"		WINGS - HORIZONTAL-TOP
B414		4	14'-0"		BODY - HORIZONTAL-TOP
B515		15	4'-11"		BODY - TOP



BAR BENDING DIAGRAMS



WING 4 ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY KRW | PLANS CK'D. JAW

NORTH ABUTMENT DETAILS

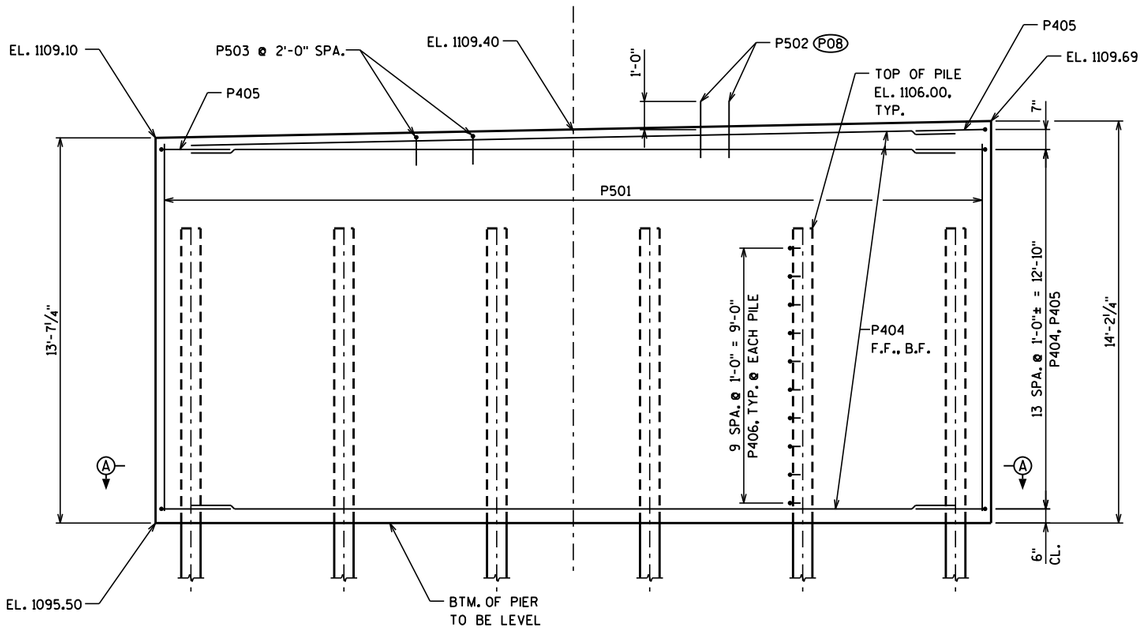
SHEET 7 OF 12

8

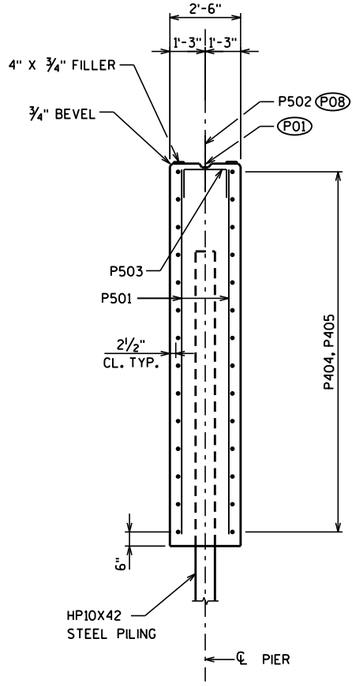
8

FILE NAME : F:±TR±JOBS±E2144A15±Sheets±B-49-183 07 n abut det.dgn PLOT BY : EpleyB PLOT DATE: 5/21/2016 11:12:09 AM

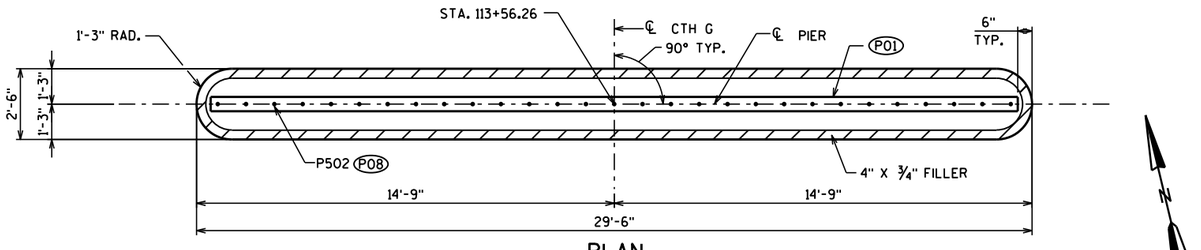
STATE PROJECT NUMBER
6799-01-70



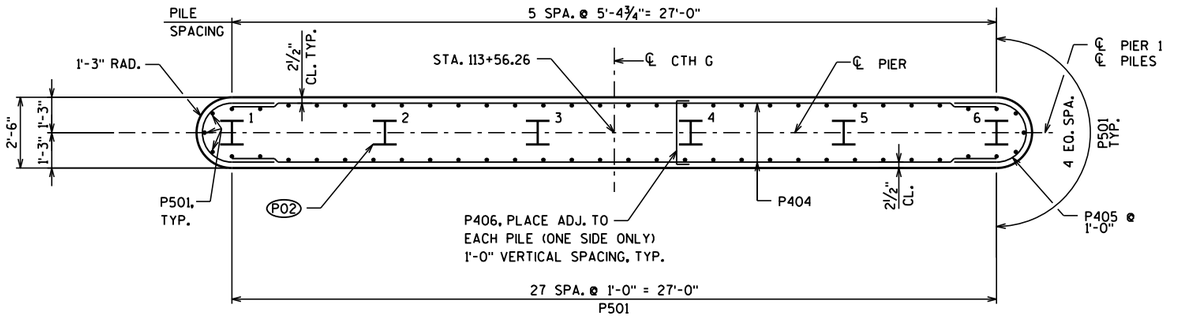
ELEVATION
LOOKING NORTH



END VIEW



PLAN



SECTION A-A

LEGEND

(P01) KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

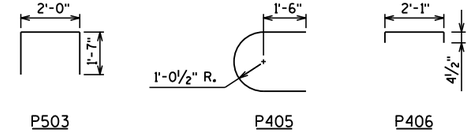
(P02) PIER 1 TO BE SUPPORTED ON HP10X42 STEEL PILING, ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. PILING AT PIER 1 SHALL BE PREBORED A MINIMUM OF 3'-0" INTO WEATHERED ROCK. SHAFTS SHALL BE CASED AND HAVE A DIAMETER OF AT LEAST 18-INCHES. AFTER PILES HAVE BEEN FIRMLY SEATED, FILL THE SHAFT WITH CEMENT GROUT.

(P08) P502 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

SEE THIS SHEET FOR PILE SPLICE DETAILS

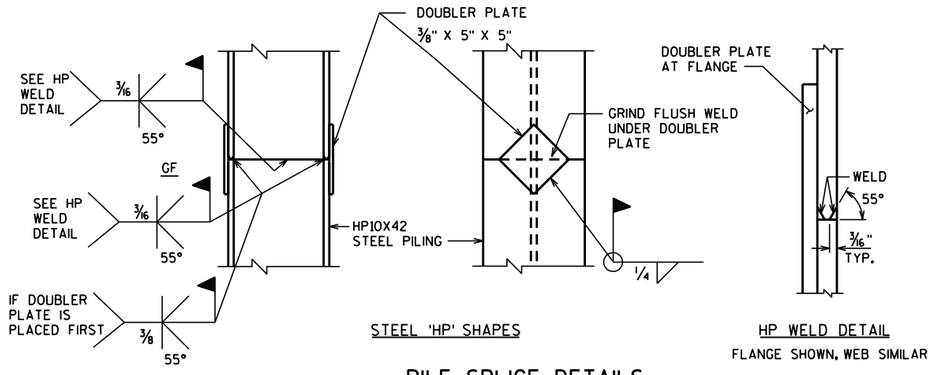
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
P501		62	12'-10"		VERTICAL
P502	X	29	2'-0"		VERTICAL DOWELS
P503		14	4'-11"	X	STIRRUP
P404		30	27'-0"		HORIZONTAL
P405		29	6'-3"	X	HORIZONTAL ENDS
P406		60	2'-8"	X	HORIZONTAL TIES



P503 P405 P406

BAR BENDING DIAGRAMS



STEEL 'HP' SHAPES

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY KRW | PLANS CK'D. JAW

PIER 1

SHEET 8 OF 12

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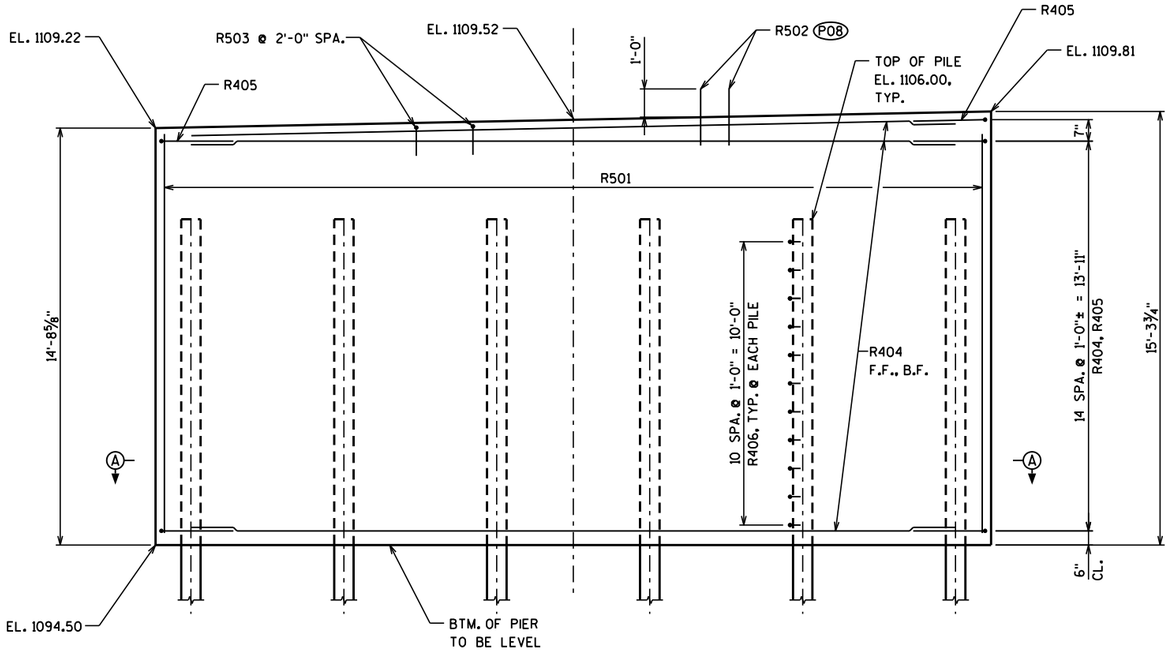
8

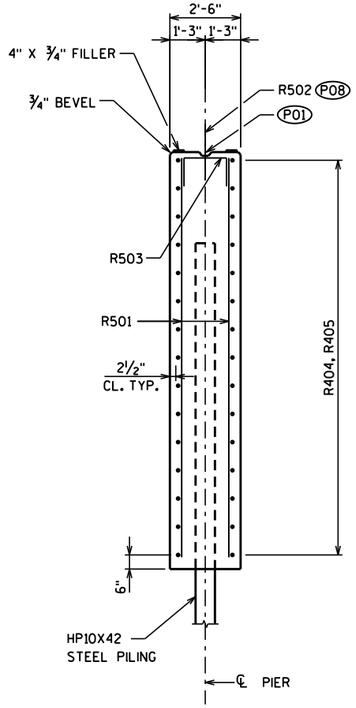
8

FILE NAME : F:±TR±JOBS±E2144A15±Sheets±B-49-183 08 pier1.dgn PLOT BY : EpleyB PLOT DATE: 5/21/2016 11:43:48 AM

STATE PROJECT NUMBER
6799-01-70



ELEVATION
LOOKING NORTH



END VIEW

LEGEND

(P01) KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

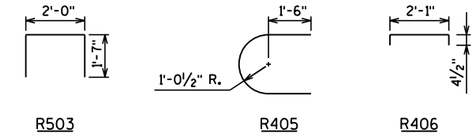
(P02) PIER 2 TO BE SUPPORTED ON HP10X42 STEEL PILING, ESTIMATED 25'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. PILING AT PIER 2 SHALL BE PREBORED A MINIMUM OF 3'-0" INTO WEATHERED ROCK. SHAFTS SHALL BE CASED AND HAVE A DIAMETER OF AT LEAST 18-INCHES. AFTER PILES HAVE BEEN FIRMLY SEATED, FILL THE SHAFT WITH CEMENT GROUT.

(P08) R502 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

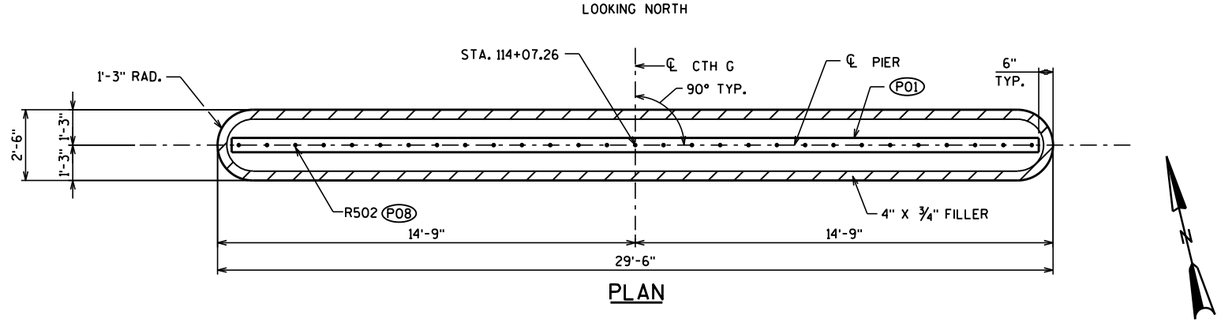
SEE SHEET 8 FOR PILE SPLICE DETAILS

BILL OF BARS

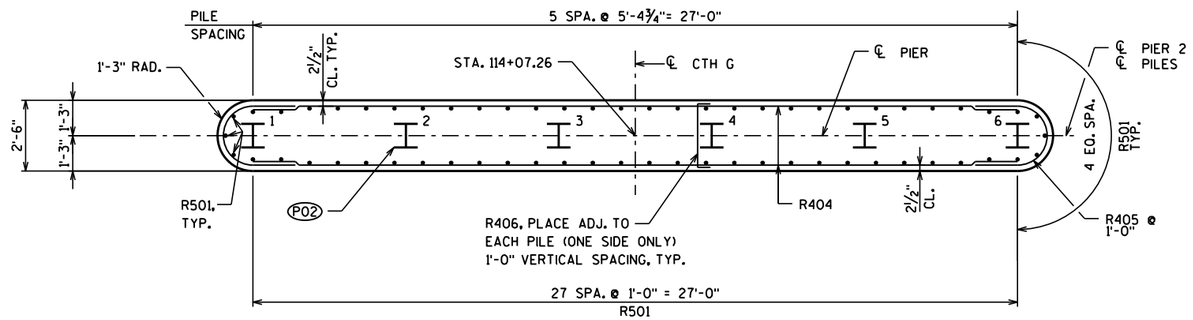
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
R501		62	13'-11"		VERTICAL
R502	X	29	2'-0"		VERTICAL DOWELS
R503		14	4'-11"	X	STIRRUP
R404		32	27'-0"		HORIZONTAL
R405		31	6'-3"	X	HORIZONTAL ENDS
R406		66	2'-8"	X	HORIZONTAL TIES



BAR BENDING DIAGRAMS



PLAN



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY KRW | PLANS CK'D. JAW

PIER 2

SHEET 9 OF 12

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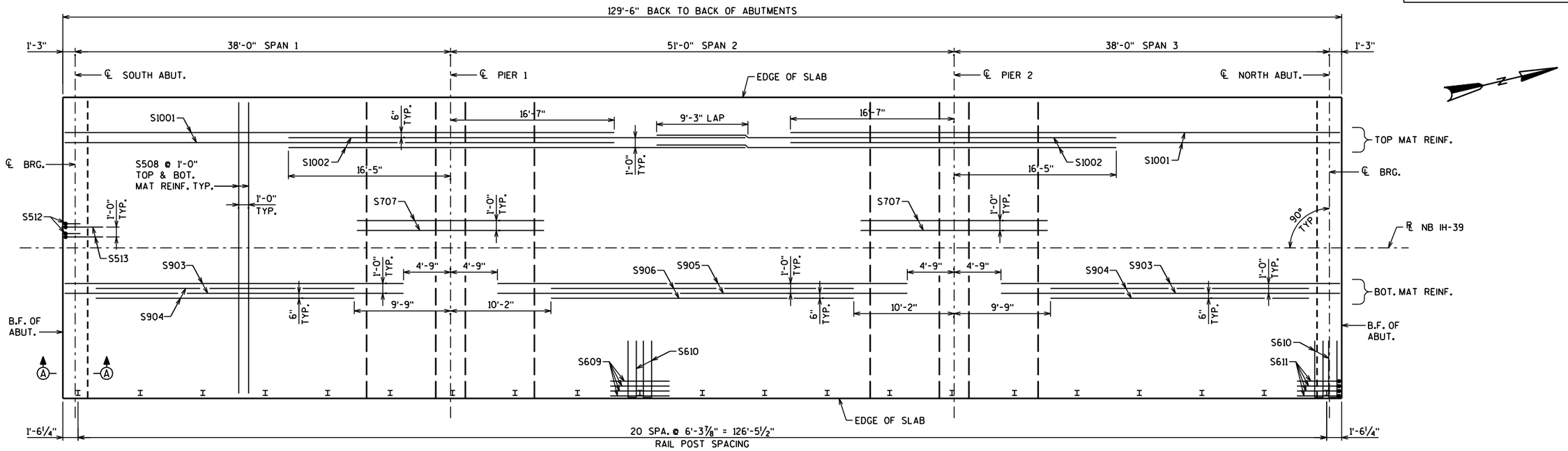
FILE NAME : F:±TR±JOBS±E2144A15±Sheets±B-49-183 09 pier2.dgn PLOT BY : EpleyB PLOT DATE: 5/21/2016 11:49:23 AM

STATE PROJECT NUMBER
6799-01-70



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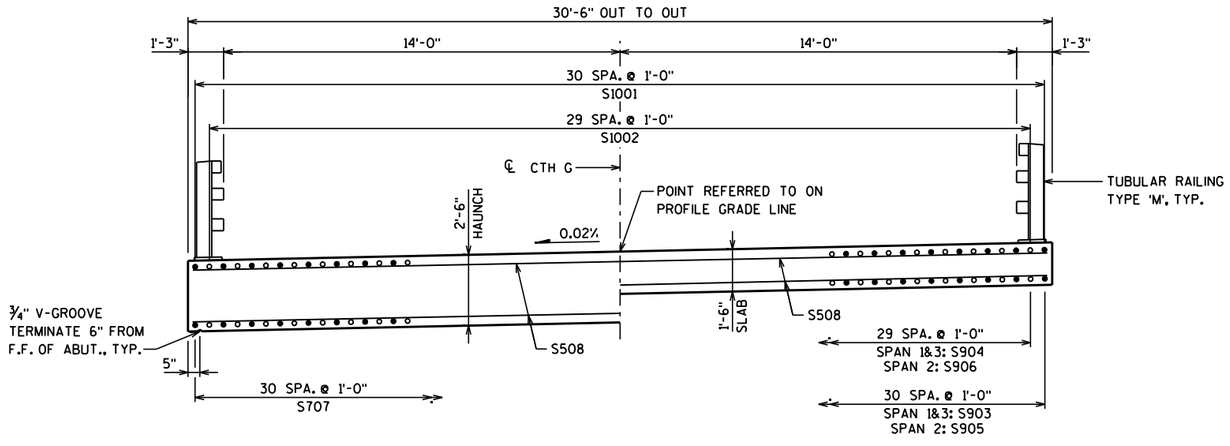
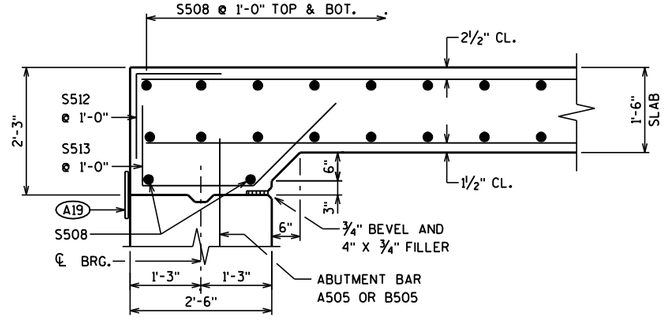


AT PIERS IN SPAN

CROSS SECTION THRU ROADWAY



SECTION A-A

NOTES

(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY BRE | PLANS CK'D. JAW

SUPERSTRUCTURE

SHEET 10 OF 12

STATE PROJECT NUMBER
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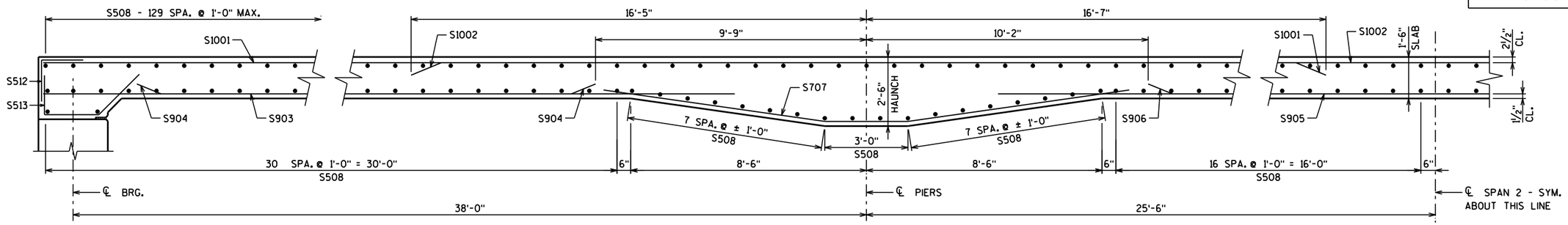
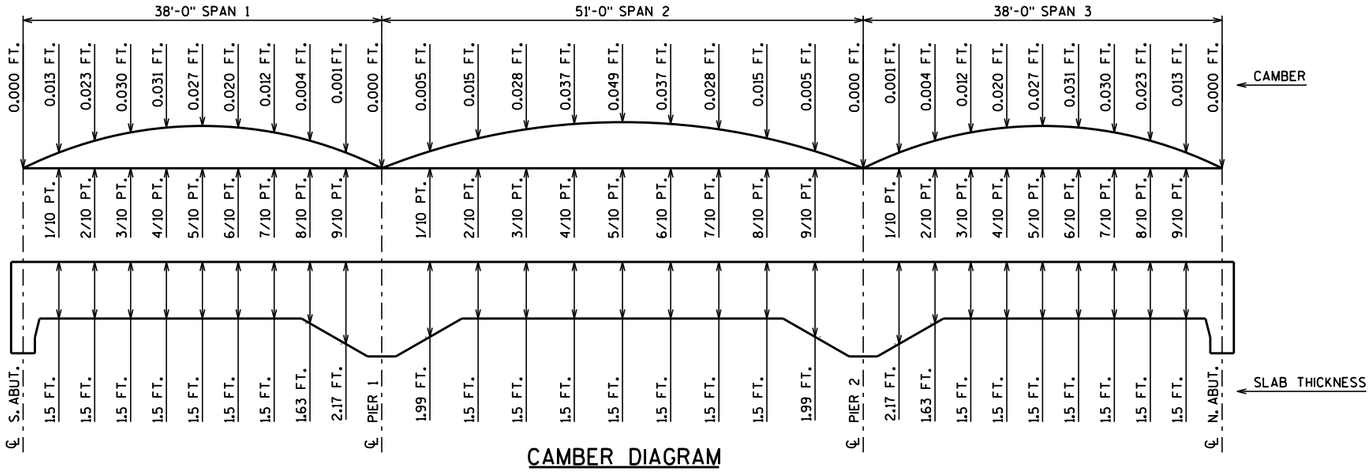


LONGITUDINAL SECTION THRU ROADWAY



CAMBER DIAGRAM

CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TOP OF DECK ELEVATIONS

LOCATION	S.ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1
W. EDGE	1111.57	1111.58	1111.59	1111.60	1111.60	1111.61	1111.62	1111.63	1111.64	1111.65	1111.66
PROFILE	1111.87	1111.88	1111.89	1111.90	1111.91	1111.92	1111.93	1111.94	1111.94	1111.95	1111.96
E. EDGE	1112.18	1112.19	1112.20	1112.21	1112.21	1112.22	1112.23	1112.24	1112.25	1112.26	1112.27

LOCATION	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 2
W. EDGE	1111.66	1111.67	1111.68	1111.69	1111.70	1111.72	1111.73	1111.74	1111.75	1111.76	1111.77
PROFILE	1111.96	1111.97	1111.99	1112.00	1112.01	1112.02	1112.03	1112.04	1112.06	1112.07	1112.08
E. EDGE	1112.27	1112.28	1112.29	1112.30	1112.31	1112.33	1112.34	1112.35	1112.36	1112.37	1112.38

LOCATION	PIER 2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N.ABUT.
W. EDGE	1111.77	1111.78	1111.79	1111.80	1111.81	1111.82	1111.83	1111.84	1111.84	1111.85	1111.86
PROFILE	1112.08	1112.09	1112.10	1112.11	1112.11	1112.12	1112.13	1112.14	1112.15	1112.16	1112.17
E. EDGE	1112.38	1112.39	1112.40	1112.41	1112.42	1112.43	1112.44	1112.45	1112.45	1112.46	1112.47

NOTES

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

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

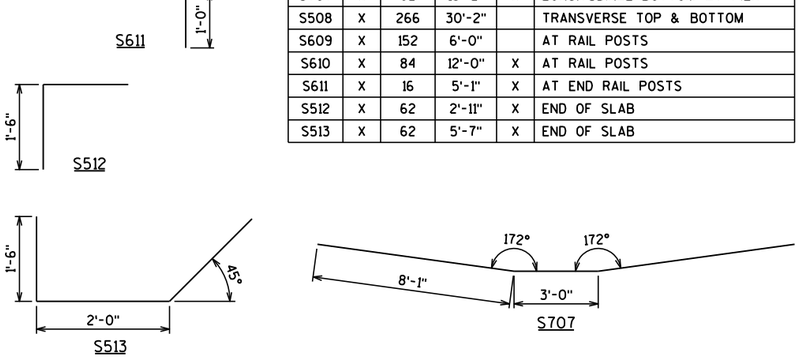
TRANSVERSE BARS SHALL BE PLACED PARALLEL TO THE ℄ OF SUBSTRUCTURE UNITS.

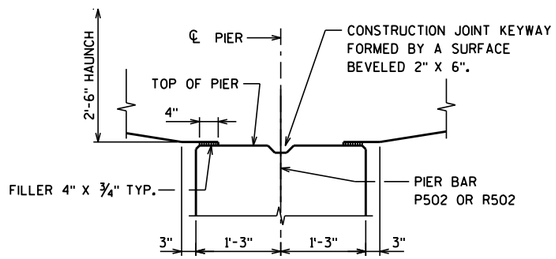
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, THE ℄ OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR ℄.

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S1001	X	62	55'-8"		LONGITUDINAL TOP
S1002	X	60	46'-7"		LONGITUDINAL TOP
S903	X	62	34'-4"		LONGITUDINAL BOTTOM
S904	x	60	26'-3"		LONGITUDINAL BOTTOM
S905	x	31	41'-6"		LONGITUDINAL BOTTOM
S906	X	30	30'-8"		LONGITUDINAL BOTTOM
S707	X	62	19'-2"	X	LONGITUDINAL BOTTOM AT PIER
S508	X	266	30'-2"		TRANSVERSE TOP & BOTTOM
S609	X	152	6'-0"		AT RAIL POSTS
S610	X	84	12'-0"	X	AT RAIL POSTS
S611	X	16	5'-1"	X	AT END RAIL POSTS
S512	X	62	2'-11"	X	END OF SLAB
S513	X	62	5'-7"	X	END OF SLAB

BAR BEND DIAGRAMS





PIER DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY BRE | PLANS CK'D. JAW

SUPERSTRUCTURE DETAILS

SHEET 11 OF 12

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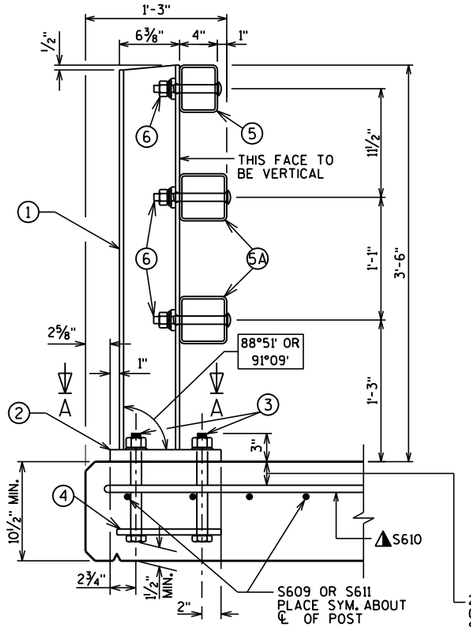
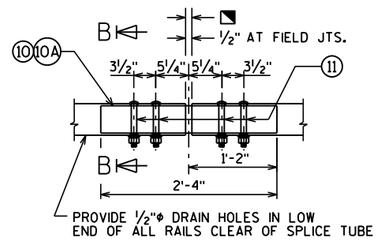
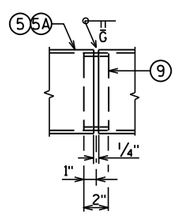


SECTION THRU RAILING ON DECK

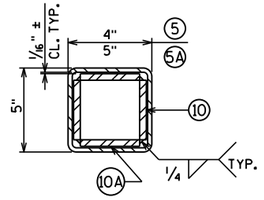


FIELD ERECTION JOINT DETAIL

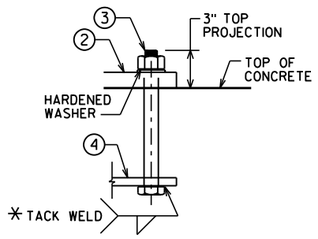


SHOP RAIL SPLICE DETAIL

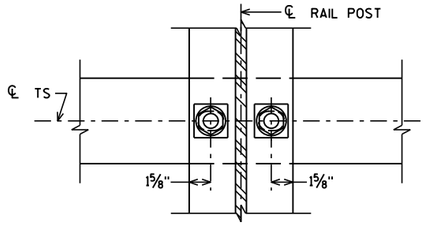
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



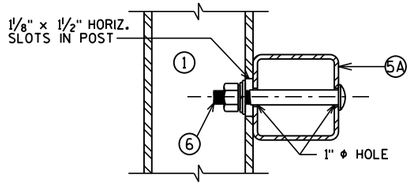
SECTION B-B



ANCHOR BOLTS



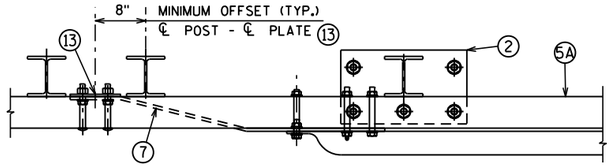
SECTION THRU POST WEB



SECTION THRU RAIL

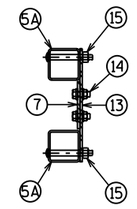
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



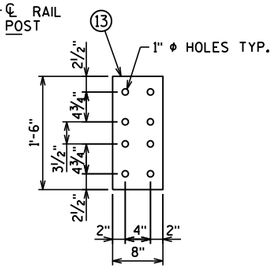
TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



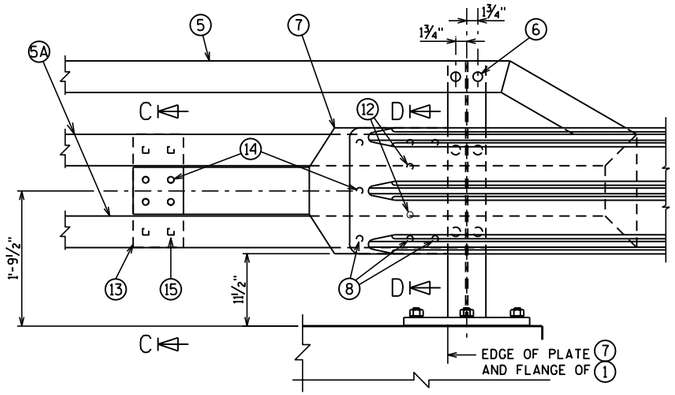
SECTION C-C

SECTION A-A



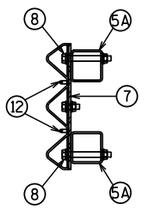
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

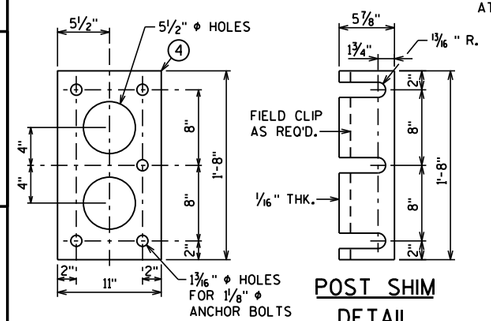


DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



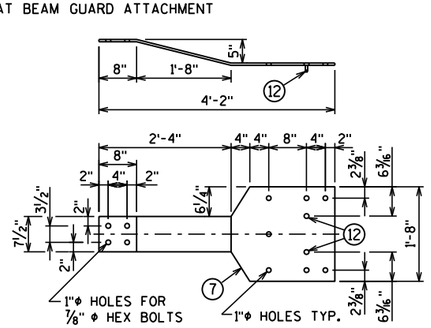
SECTION D-D



ANCHOR PLATE

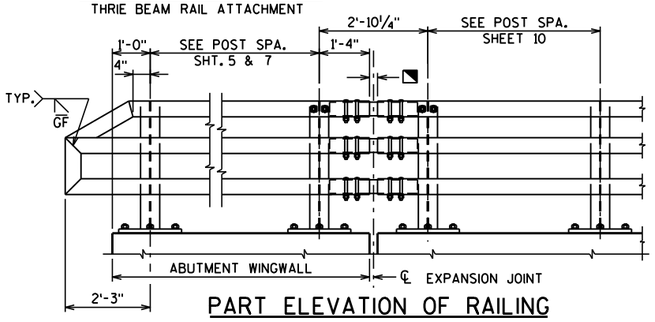
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

LEGEND

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

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

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

④ ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1¾6" 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 1⅝" X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1⅝" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

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

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

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

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

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-49-183" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 ksi. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

⚠ TIE TO TOP MAT OF STEEL.

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

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

STATE PROJECT NUMBER
6799-01-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-49-183

DRAWN BY	BRE	PLANS CK'D.	KRO

TUBULAR STEEL RAILING TYPE 'M'

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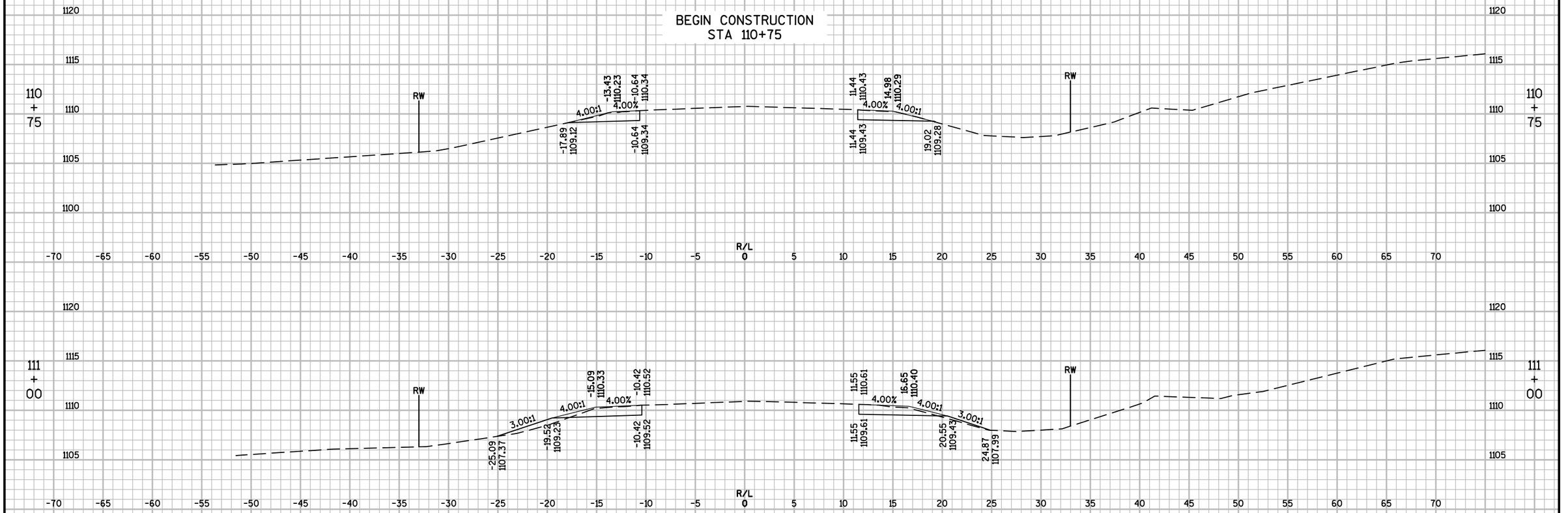
CTH G SOUTH

STATION	AREA (SF)			INCREMENTAL VOLUME (CY) (UNADJUSTED)			CUMULATIVE VOLUME (CY)		MASS ORDINATE
	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	
110+75	10	0	0	0	0	0	0	0	0
111+00	11	0	3	10	0	2	10	2	8
111+25	13	0	2	11	0	3	21	5	15
111+50	15	0	21	13	0	10	33	18	15
111+75	39	4	40	25	2	28	58	54	3
111+80.16	39	4	46	7	1	8	66	64	0
112+03.89	34	4	71	32	3	51	98	128	-36
112+33.24	34	4	41	37	4	61	134	205	-80
112+56.97	37	4	17	31	3	25	165	236	-83
112+75	41	4	10	26	2	9	192	247	-71
113+07.01	43	4	12	50	4	13	241	264	-42

CTH G NORTH

STATION	AREA (SF)			INCREMENTAL VOLUME (CY) (UNADJUSTED)			CUMULATIVE VOLUME (CY)		MASS ORDINATE
	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	
114+56.51	30	4	37	0	0	0	0	0	0
114+75	33	4	56	22	3	32	22	40	-21
115+05.5	36	4	32	39	5	49	61	102	-48
115+31.4	36	4	50	35	4	39	95	151	-67
115+58.13	31	4	96	33	4	73	129	242	-128
115+85.22	34	4	88	32	4	93	161	357	-215
116+00	35	0	43	19	1	36	180	402	-243
116+50	11	0	34	42	0	71	222	492	-290
116+70.11	9	0	32	8	0	25	230	523	-313
117+00	4	0	20	7	0	29	237	559	-341
117+06.47	4	0	17	1	0	4	238	564	-346

NOTE 1: CUT INCLUDES REMOVING EXISTING PAVEMENT.
EXISTING PAVEMENT IS NOT SHOWN IN CROSS SECTIONS.



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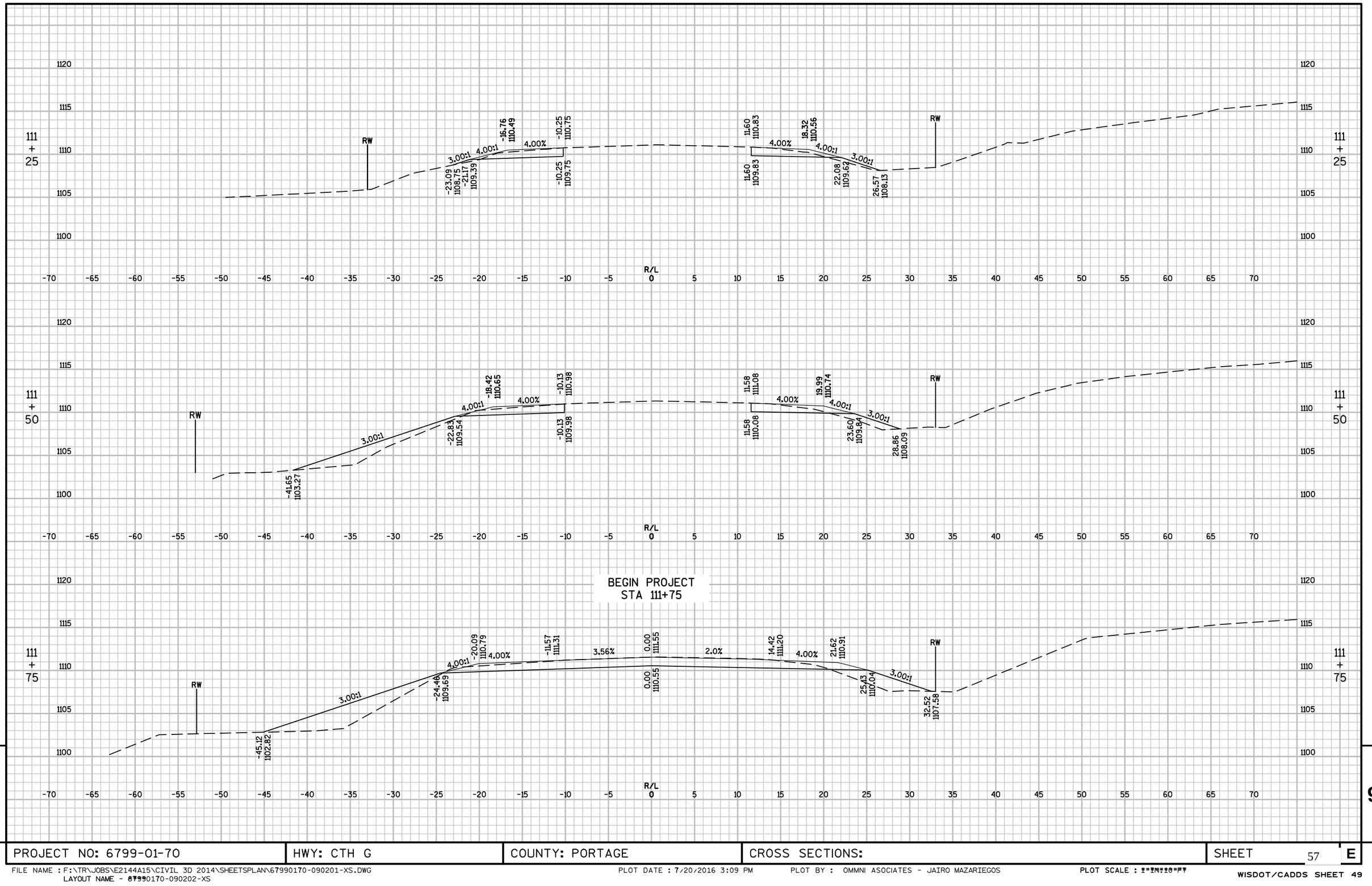
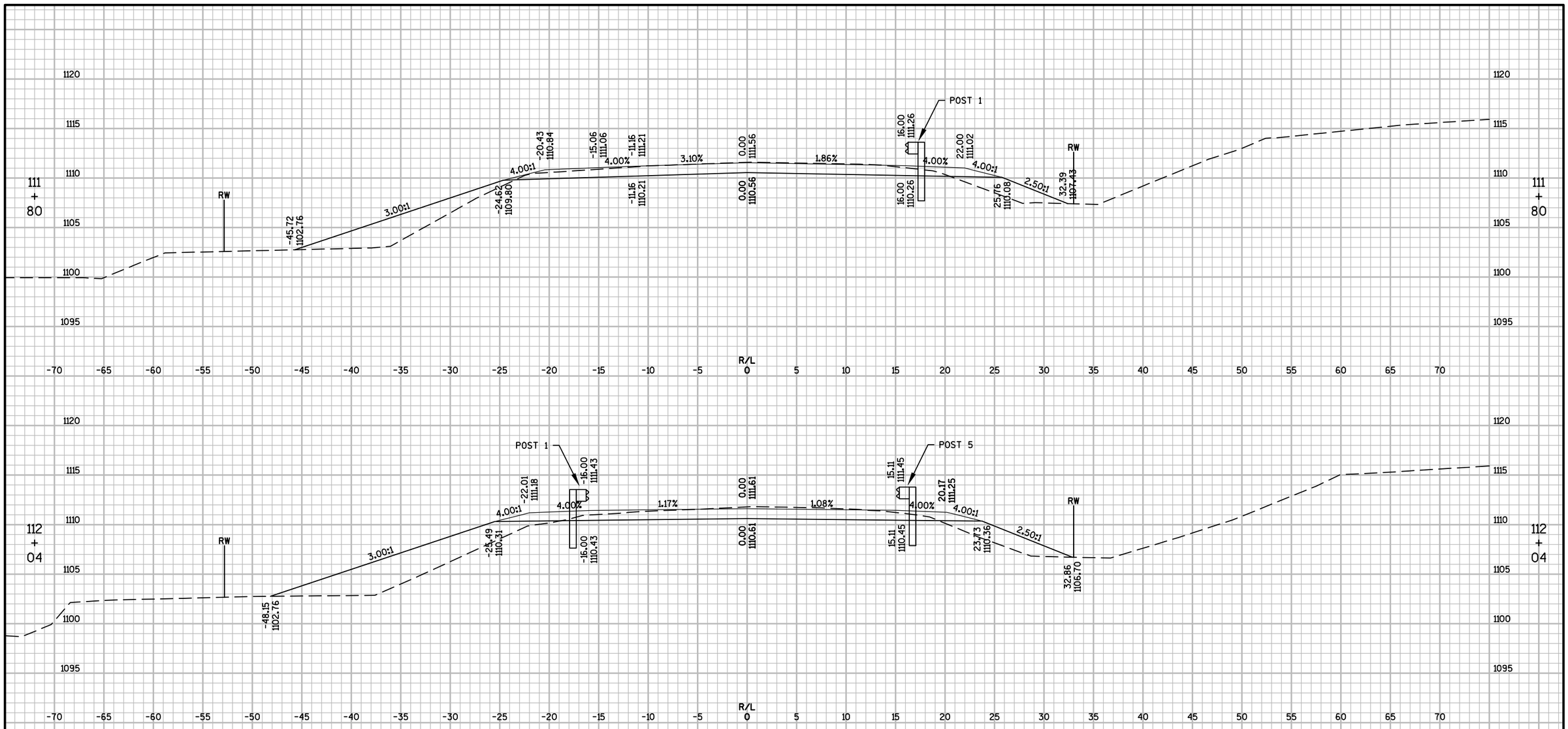
PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 56 E



PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 57 E

FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\SHEETSPLAN\67990170-090201-XS.DWG
LAYOUT NAME - 67990170-090202-XS
PLOT DATE : 7/20/2016 3:09 PM
PLOT BY : OMMNI ASOCIATES - JAIRO MAZARIEGOS
PLOT SCALE : 1"=10'
WISDOT/CADDS SHEET 49



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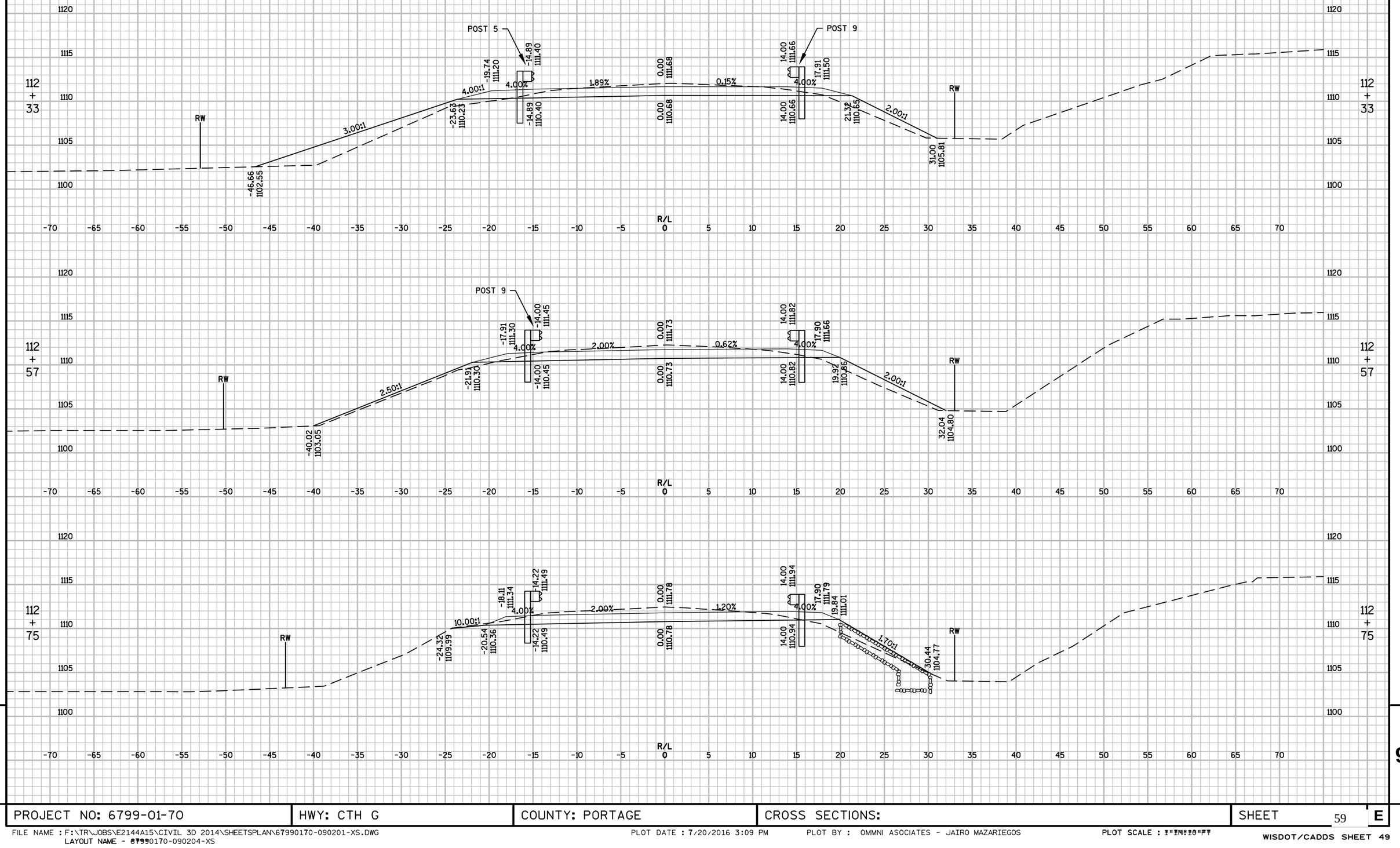
PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 58	E

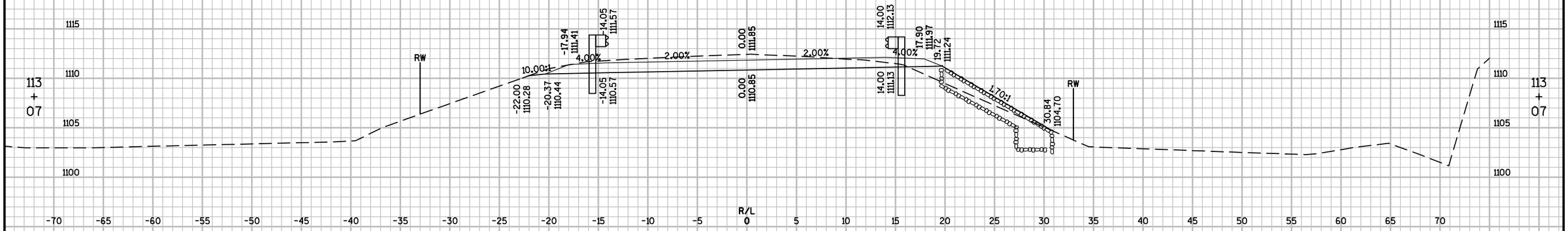
FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\SHEETSPLAN\67990170-090201-XS.DWG
LAYOUT NAME - 67990170-090203-XS

PLOT DATE : 7/20/2016 3:09 PM PLOT BY : OMMNI ASOCIATES - JAIRO MAZARIEGOS PLOT SCALE : 1"=10'

WISDOT/CADDS SHEET 49



9	PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 59 E



STRUCTURE B-49-183
STA 113+17.01 TO STA 114+46.51

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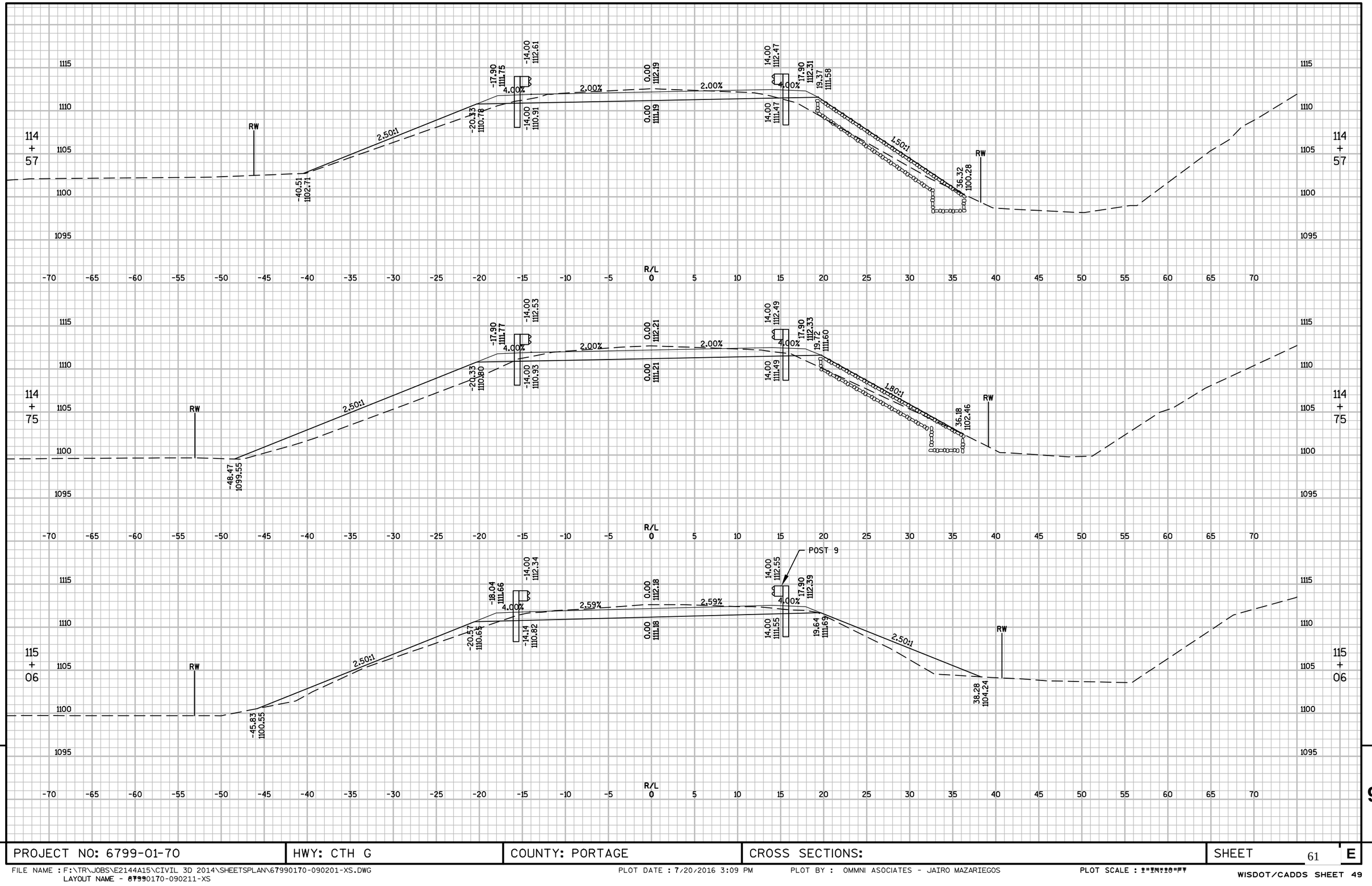
PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 60 E

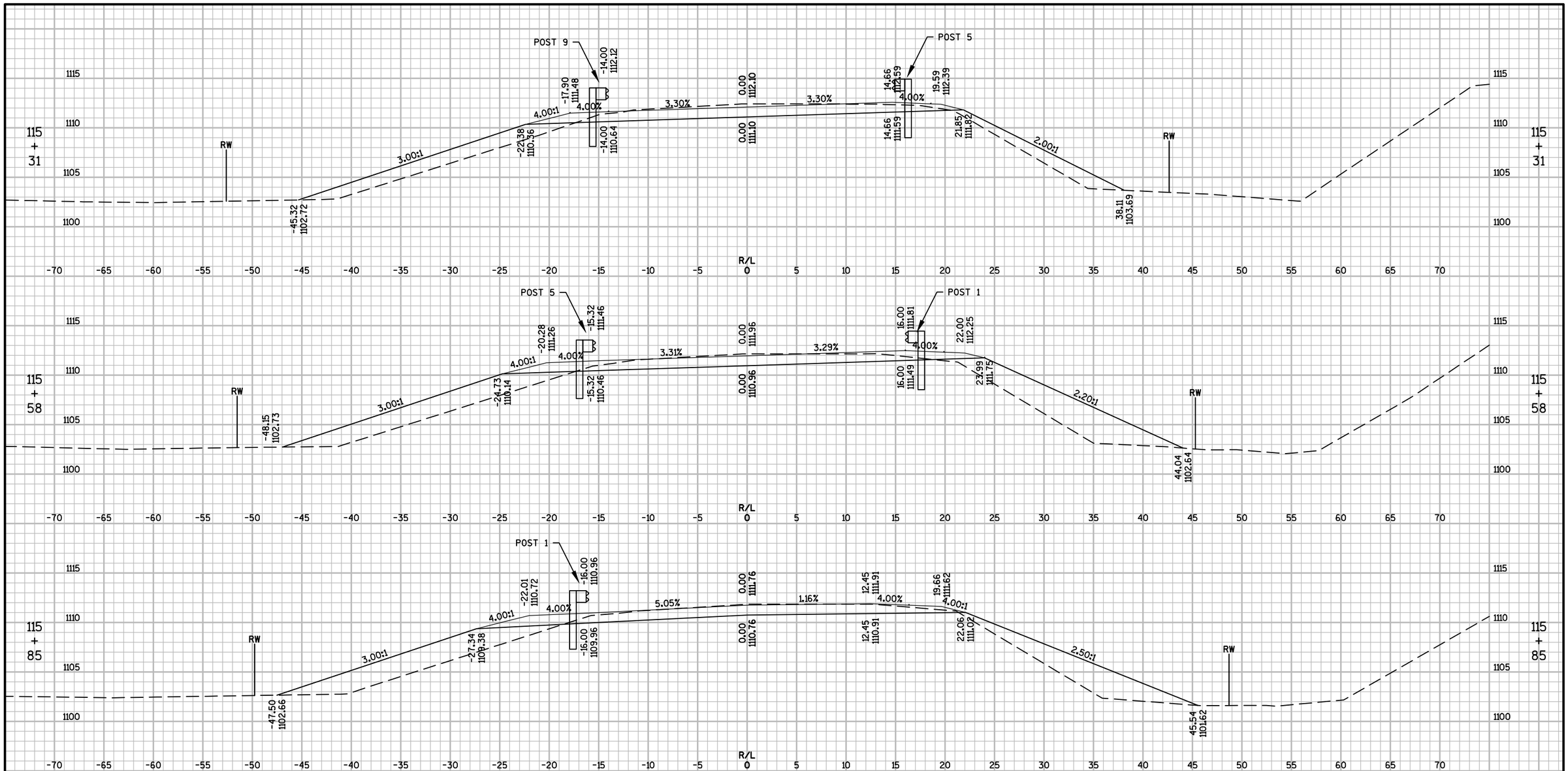


PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 61 E

FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\SHEETSPLAN\67990170-090201-XS.DWG
LAYOUT NAME - 67990170-090211-XS

PLOT DATE : 7/20/2016 3:09 PM PLOT BY : OMMNI ASOCIATES - JAIRO MAZARIEGOS PLOT SCALE : 1"=10'

WISDOT/CADDS SHEET 49

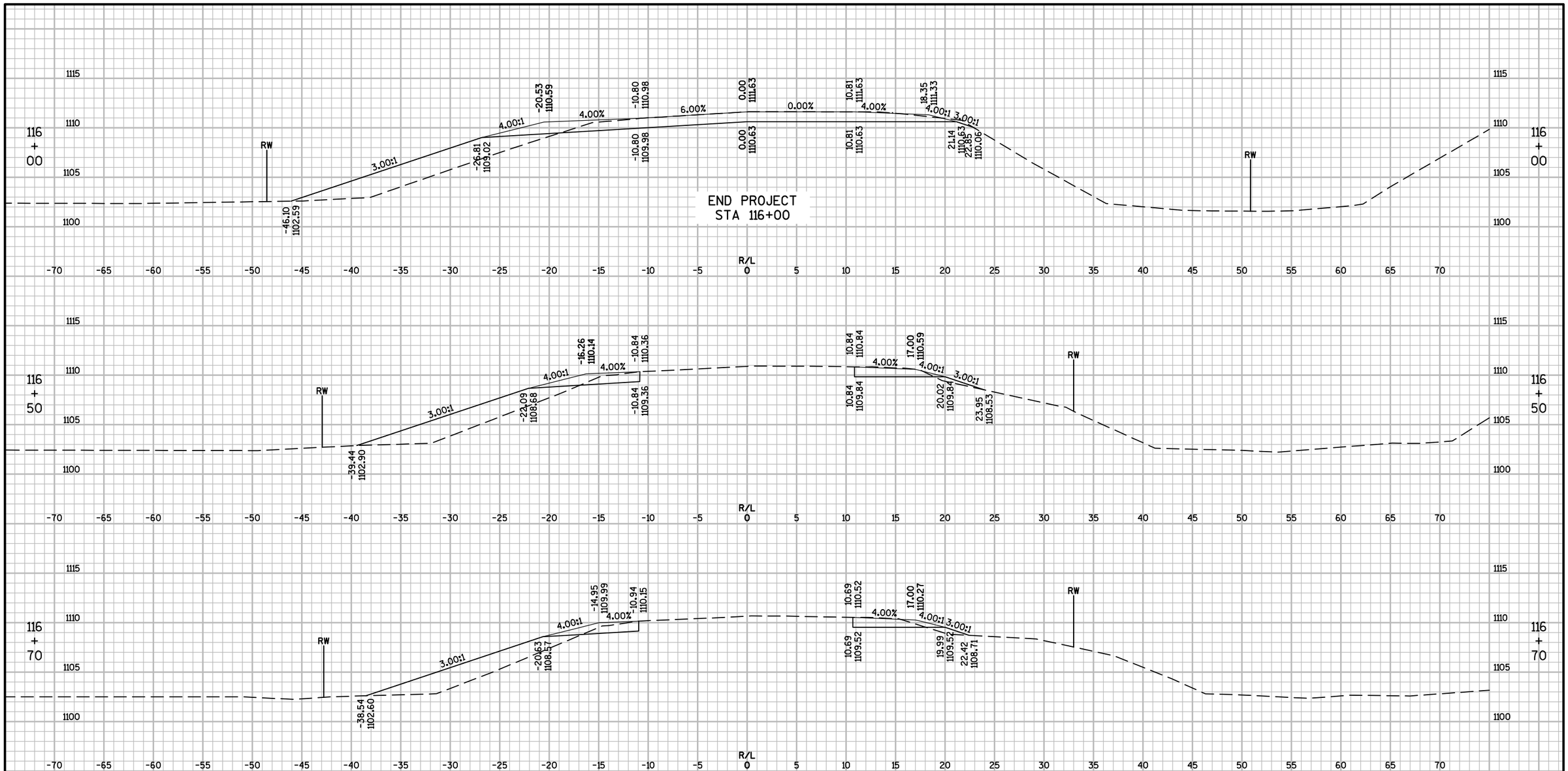


9	PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 62 E

FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\SHEETSPLAN\67990170-090201-XS.DWG
LAYOUT NAME - 67990170-090212-XS

PLOT DATE : 7/20/2016 3:09 PM PLOT BY : OMMNI ASOCIATES - JAIRO MAZARIEGOS PLOT SCALE : 1"=10'

WISDOT/CADDS SHEET 49



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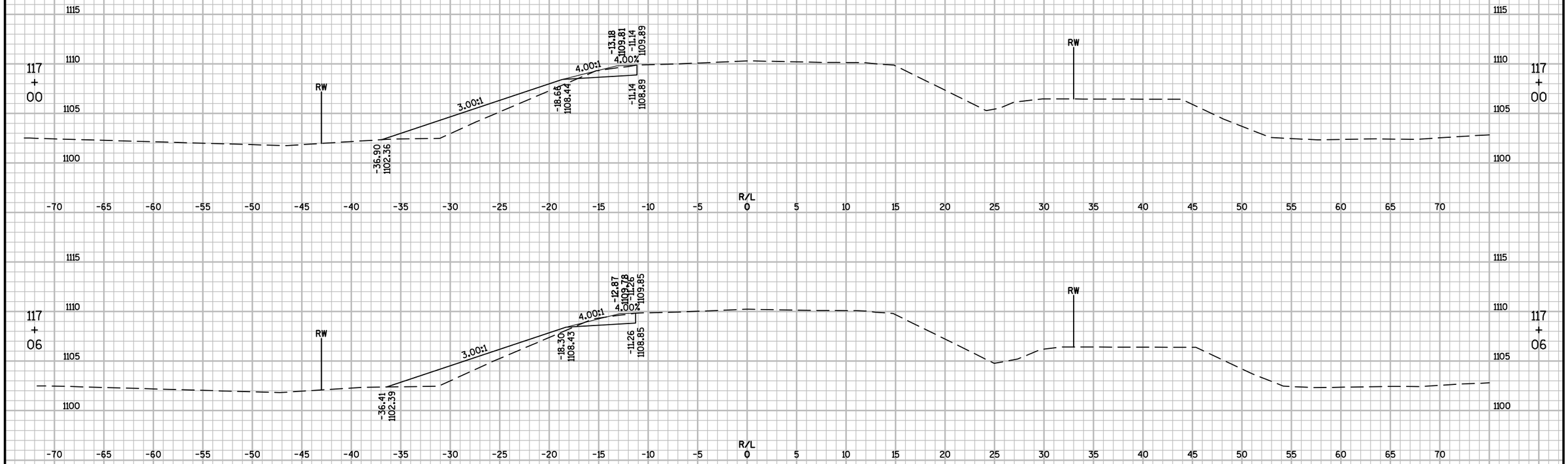
PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 63	E



END CONSTRUCTION
STA 117+06

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PROJECT NO: 6799-01-70	HWY: CTH G	COUNTY: PORTAGE	CROSS SECTIONS:	SHEET 64	E

FILE NAME : F:\TR\JOBS\E2144A15\CIVIL 3D 2014\SHEETSPLAN\67990170-090201-XS.DWG
LAYOUT NAME - 6799170-090214-XS

PLOT DATE : 7/20/2016 3:09 PM

PLOT BY : OMMNI ASOCIATES - JAIRO MAZARIEGOS

PLOT SCALE : 1"=10'

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

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