GRE

FEBRUARY 2018

PROJECT ID: 4201-03-71

WITH: N/A

COUNTY: SHEBOYGAN

ORDER OF SHEETS

TOTAL SHEETS = 66

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T HERMAN, CTH FF

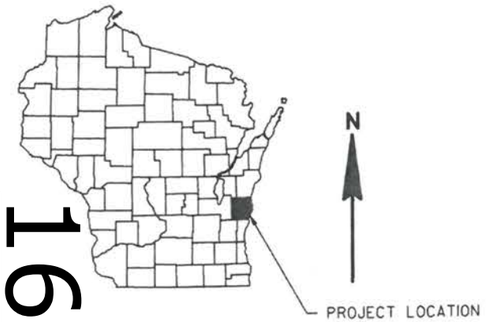
SHEBOYGAN RIVER BRIDGE & APPROACHES

CTH FF

SHEBOYGAN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4201-03-71	WISC 2018104	1

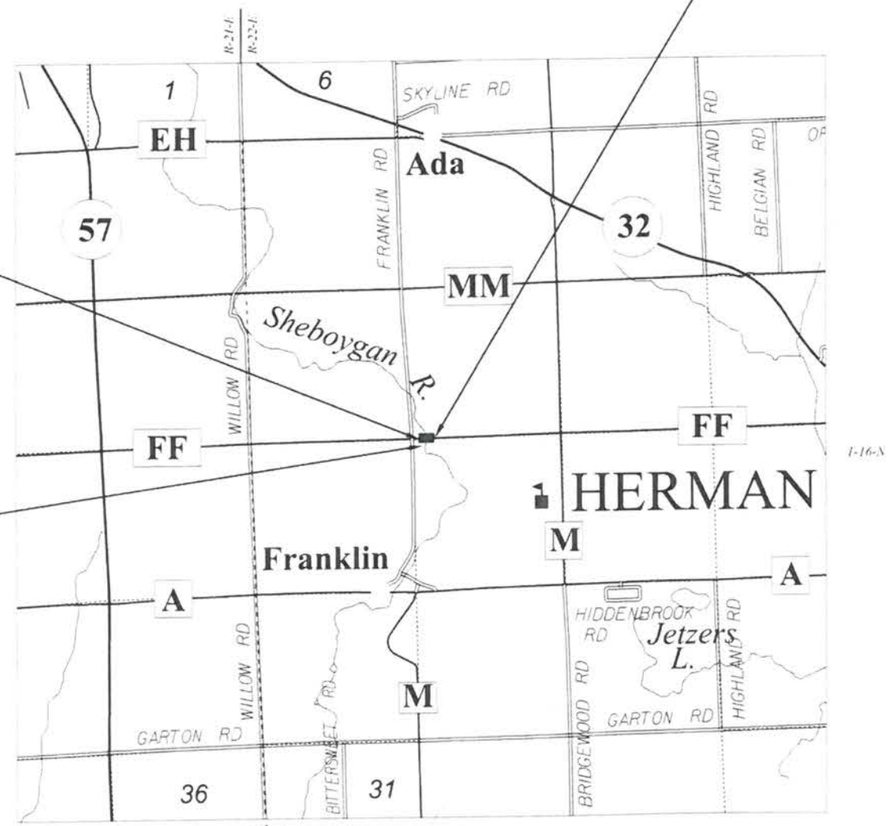
STATE PROJECT NUMBER
4201-03-71



BEGIN PROJECT 4201-03-71
STA 11+75.00
Y=212222.624
X=169778.394

END PROJECT 4201-03-71
STA 15+65.00

STRUCTURE B-59-191



LAYOUT
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.074 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM, SHEBOYGAN COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. VERTICAL DATUM IS NGVD 1929.

DESIGN DESIGNATION

A.A.D.T.	2018	= 380
A.A.D.T.	2038	= 430
D.H.V.		= 75
D.D.		= 60/40
T.		= 5.8%
DESIGN SPEED		= 60 MPH
ESALS		= 22,000

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)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (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 SHEBOYGAN COUNTY

DATE: 7/24/17 (Signature)

Thomas Director
TITLE

ORIGINAL PLANS PREPARED BY

OMNNI ASSOCIATES

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON WI
PROFESSIONAL ENGINEER

7/21/17

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	OMNNI ASSOCIATES
Designer	OMNNI ASSOCIATES
Management Consultant	JT ENGINEERING

APPROVED FOR THE DEPARTMENT

DATE: 7/25/17

MANAGEMENT CONSULTANT SIGNATURE

E

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.

ASPHALTIC SURFACE 5" DEPTH TO BE CONSTRUCTED AS FOLLOWS:
- 2" UPPER LAYER (12.5 mm NOMINAL SIZE AGGREGATE)
- 3" LOWER LAYER (19 mm NOMINAL SIZE AGGREGATE)

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.

SEED MIXTURE NO. 30 SHALL BE USED ON ALL DISTURBED AREAS, EXCEPT WETLANDS SHALL BE SEEDED WITH MIXTURE NO. 60.

FERTILIZER SHALL NOT BE USED WITHIN 10 FEET OF NAVIGABLE WATERWAYS AND WETLANDS.

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.

PLAN ELEVATIONS = USGS DATUM, NGVD 29.

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

CONTACTS

ELECTRIC	PLYMOUTH UTILITIES 900 COUNTY HWY PP PLYMOUTH, WI 53073 ATTN: JIM PETERSON TELEPHONE: (920) 946-1953 EMAIL: jpeterson@plymouthutilities.com
DNR LIAISON	JAY SCHIEFELBEIN DEPARTMENT OF NATURAL RESOURCES 2984 SHAWANO AVENUE GREEN BAY, WI 54313 TELEPHONE: 920-360-3784 EMAIL: jeremiah.schiefelbein@wisconsin.gov

DIGGERS HOTLINE

Dial 811 or (800)242-8511

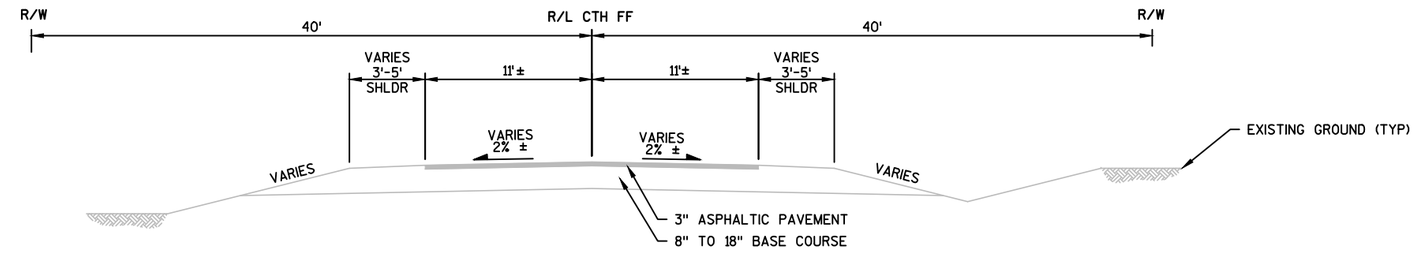
www.DiggersHotline.com

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS.

EROSION CONTROL NOTES

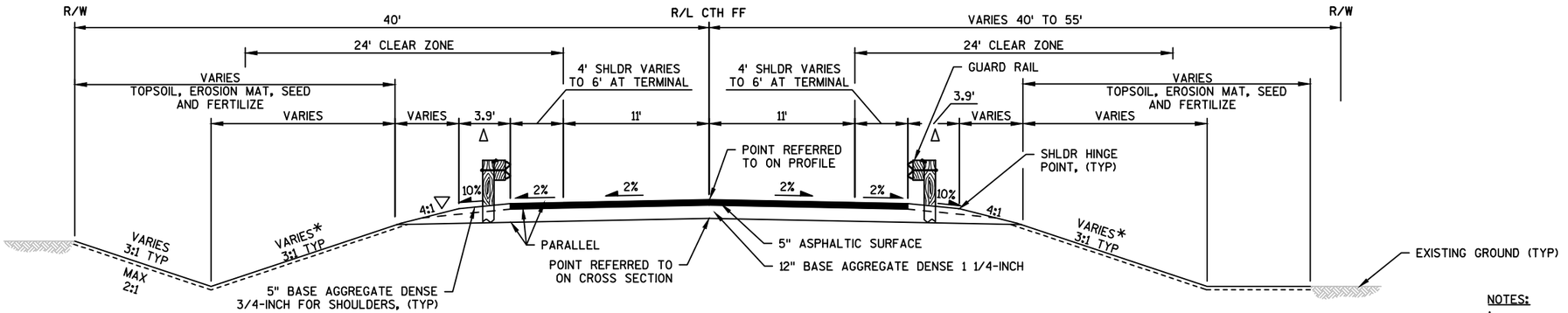
RUNOFF COEFFICIENTS FOR THIS PROJECT: EXISTING PAVEMENT 0.95, EXISTING SLOPES 0.30, NEW PAVEMENT 0.95, NEW SLOPES 0.30.

TOTAL PROJECT AREA = 1.50 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.82 ACRES.



TYPICAL EXISTING SECTION - CTH FF

STA 11+25 TO STA 15+65



TYPICAL FINISHED SECTION - CTH FF

IN CUT

STA 11+75 TO STA 15+65

IN FILL

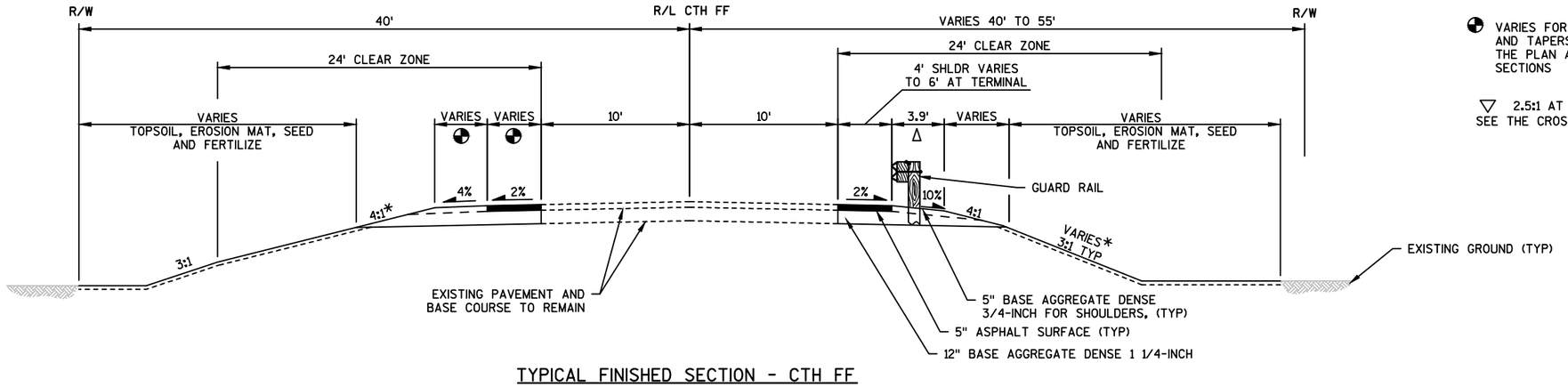
NOTES:

Δ TRANSITION TO 6' AT POST NO. 1 OF ENERGY ABSORBING TERMINAL

✳ FORESLOPE 4:1 MAX WITHIN CLEAR ZONE FOR THE LIMITS OF EAT.

◒ VARIES FOR EAT GRADING AND TAPERS AS SHOWN ON THE PLAN AND CROSS SECTIONS

▽ 2.5:1 AT SOME LOCATIONS. SEE THE CROSS SECTIONS



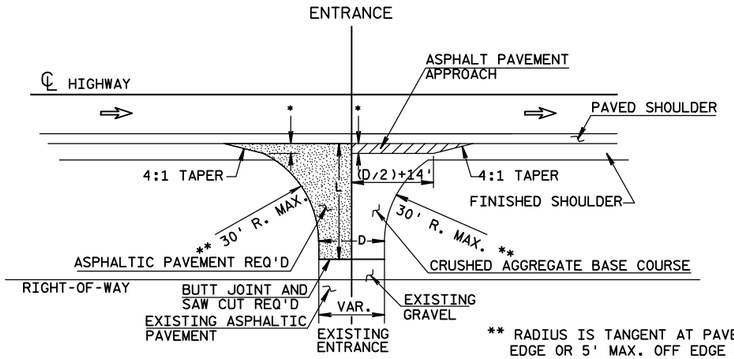
TYPICAL FINISHED SECTION - CTH FF

NO BEAM GUARD

STA 10+66 TO STA 11+75
STA 15+65 TO STA 16+69

WITH BEAM GUARD

PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	TYPICAL SECTIONS	SHEET 3	E



L=VARIABLE, EXACT LENGTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER. BLEND BACK ON THE ENTRANCE FAR ENOUGH TO GET A SMOOTH PROFILE.

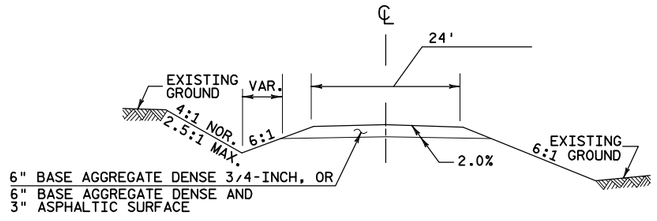
D=DRIVEWAY WIDTH
SEE PLAN AND PROFILE

** RADIUS IS TANGENT AT PAVED SHOULDER EDGE OR 5' MAX. OFF EDGE OF MAIN LINE PAVEMENT WHICH EVER IS LESS.

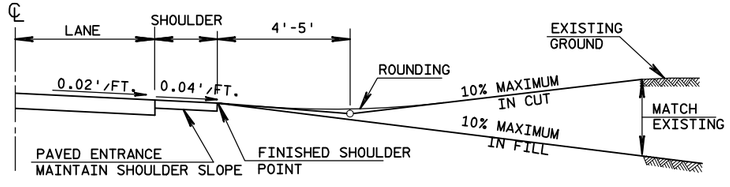
* 3' MAX. OR TO FINISHED SHOULDER WHICH EVER IS LESS.

PLAN VIEW

ONLY THE BASE AGGREGATE DENSE DRIVEWAY USED IN THIS CONTRACT

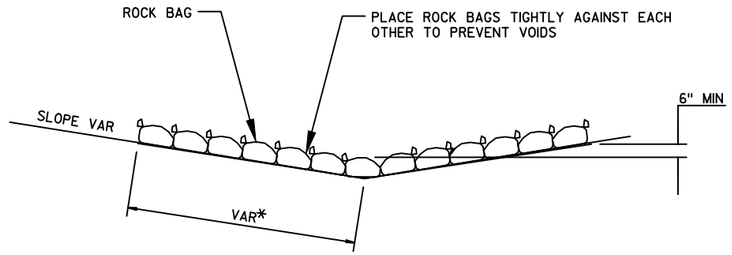


TYPICAL CROSS SECTION

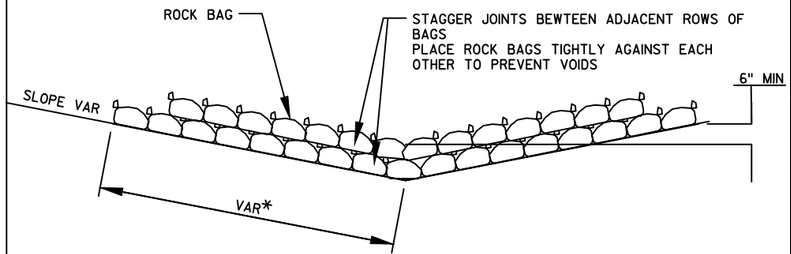


PROFILE VIEW

RURAL DRIVEWAY INTERSECTION DETAIL



SIDE VIEW (SINGLE LAYER)

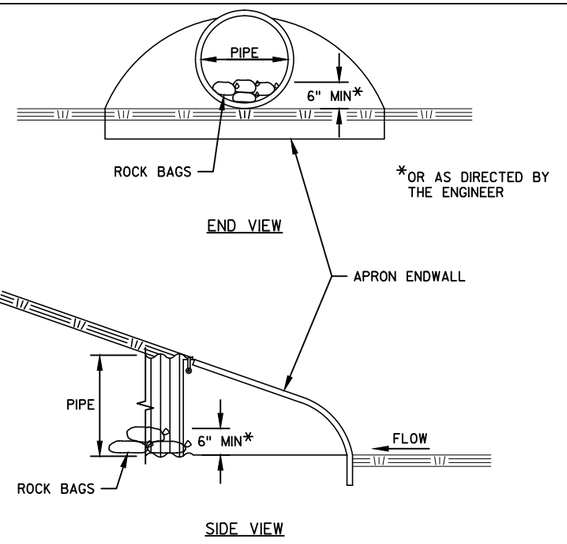


*LENGTH AND NUMBER OF BAGS MAY VARY DEPENDING ON DESIRED DEPTH OF WATER POOL

SIDE VIEW (MULTIPLE LAYER)

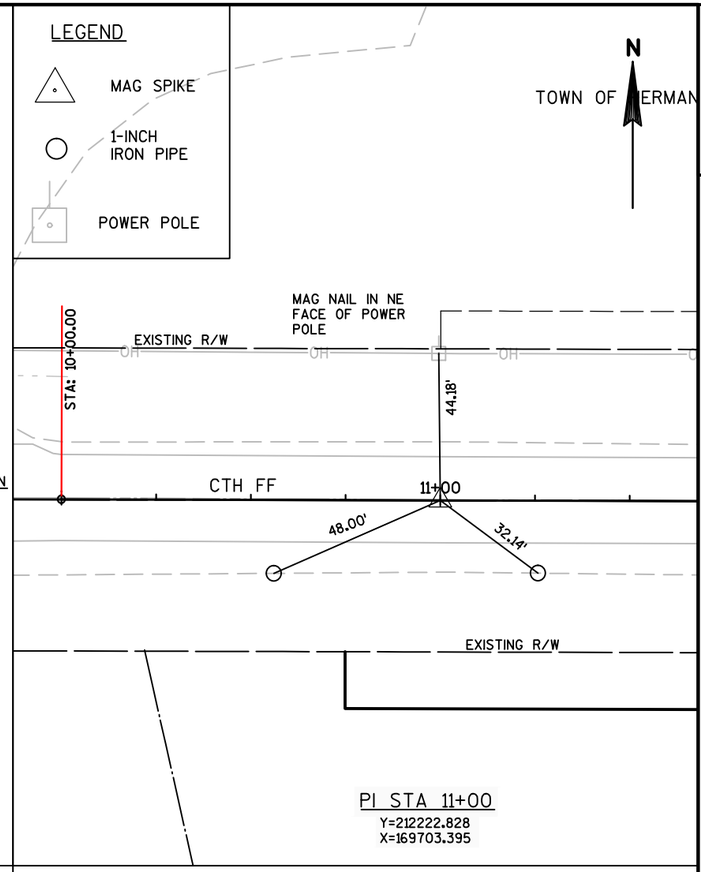
ROCK BAGS DITCH CHECK

PAID AS ROCK BAGS



SIDE VIEW

CULVERT PIPE CHECKS



PI STA 11+00
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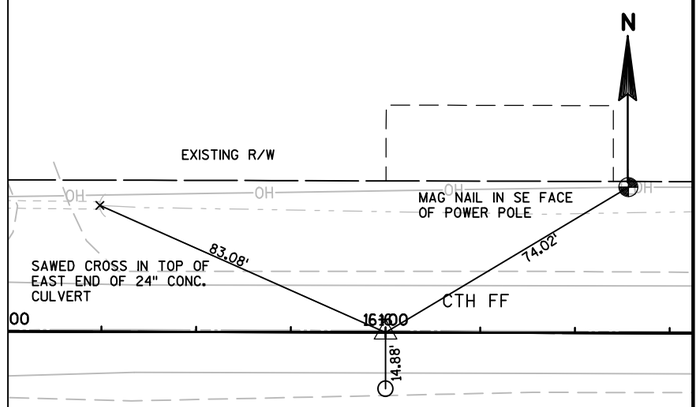
X=169703.395



PI STA 16+00
Y=212221.527
X=170203.393

PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CONSTRUCTION DETAILS & ALIGNMENT TIES	SHEET 4	E

2

2

N

ROADSIDE

SILT FENCE

OPENING 12" MIN 18" MAX

30" MIN 36" MAX

10'

NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

TEMPORARY SMALL ANIMAL BARRIER

EDGE OF WATER

WETLAND BOUNDARY

SHEBOYGAN RIVER

SLOPE INTERCEPT

TLE

EXISTING R/W

OH

XXXX XXXX XXXX

11+00

12+00

13+00

CTH FF

14+00

15+00

16+00

XXXX XXXX XXXX XXXX

XXXX XXXX

PROPOSED R/W

SLOPE INTERCEPT

WETLAND BOUNDARY

EDGE OF WATER

LEGEND

- SILT FENCE
- EROSION MAT URBAN CLASS I TYPE B
- TURBIDITY BARRIER
- ROCK BAG DITCH CHECK
- TEMPORARY SMALL ANIMAL BARRIER
- CULVERT PIPE CHECK

PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	EROSION CONTROL	SHEET 5	E

FILE NAME : F:\TR\JOBS\E2149A15\CIVIL 3D 2014\SHEETSPLAN\42010371-022001-EC.DWG
LAYOUT NAME - 42010371-022001-EC

PLOT DATE : 7/6/2017 9:03 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

4201-03-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	2.000	2.000
0004	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 13+70	LS	1.000	1.000
0008	205.0100	Excavation Common **P**	CY	560.000	560.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-59-191	LS	1.000	1.000
0012	208.0100	Borrow **P**	CY	330.000	330.000
0014	210.1500	Backfill Structure Type A	TON	680.000	680.000
0016	213.0100	Finishing Roadway (project) 01. 4201-03-71	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	190.000	190.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,240.000	1,240.000
0022	455.0605	Tack Coat	GAL	63.000	63.000
0024	465.0105	Asphaltic Surface	TON	260.000	260.000
0026	502.0100	Concrete Masonry Bridges	CY	279.000	279.000
0028	502.3200	Protective Surface Treatment	SY	620.000	620.000
0030	503.0172	Prestressed Girder Type I 72W-Inch	LF	564.000	564.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,240.000	4,240.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	34,640.000	34,640.000
0036	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0038	506.4000	Steel Diaphragms (structure) 01. B-59-191	EACH	6.000	6.000
0040	513.4061	Railing Tubular Type M (structure) 01. B-59-191	LF	356.000	356.000
0042	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0044	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0046	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	40.000	40.000
0048	550.0500	Pile Points	EACH	18.000	18.000
0050	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	1,035.000	1,035.000
0052	606.0200	Riprap Medium	CY	10.000	10.000
0054	606.0300	Riprap Heavy	CY	240.000	240.000
0056	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0058	614.2300	MGS Guardrail 3	LF	125.000	125.000
0060	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0062	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0064	619.1000	Mobilization	EACH	1.000	1.000
0066	624.0100	Water	MGAL	8.000	8.000
0068	625.0100	Topsoil	SY	2,500.000	2,500.000
0070	628.1504	Silt Fence	LF	1,370.000	1,370.000
0072	628.1520	Silt Fence Maintenance	LF	1,370.000	1,370.000
0074	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0076	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000

4201-03-71

Line	Item	Item Description	Unit	Total	Qty
0078	628.2008	Erosion Mat Urban Class I Type B	SY	2,500.000	2,500.000
0080	628.6005	Turbidity Barriers	SY	120.000	120.000
0082	628.7555	Culvert Pipe Checks	EACH	5.000	5.000
0084	628.7570	Rock Bags	EACH	30.000	30.000
0086	629.0210	Fertilizer Type B	CWT	1.500	1.500
0088	630.0130	Seeding Mixture No. 30	LB	45.000	45.000
0090	630.0160	Seeding Mixture No. 60	LB	5.000	5.000
0092	630.0200	Seeding Temporary	LB	35.000	35.000
0094	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0096	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0098	638.2602	Removing Signs Type II	EACH	6.000	6.000
0100	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0102	642.5001	Field Office Type B	EACH	1.000	1.000
0104	643.0420	Traffic Control Barricades Type III	DAY	980.000	980.000
0106	643.0705	Traffic Control Warning Lights Type A	DAY	1,400.000	1,400.000
0108	643.0900	Traffic Control Signs	DAY	980.000	980.000
0110	643.5000	Traffic Control	EACH	1.000	1.000
0112	645.0111	Geotextile Type DF Schedule A	SY	62.000	62.000
0114	645.0120	Geotextile Type HR	SY	359.000	359.000
0116	646.1020	Marking Line Epoxy 4-Inch	LF	1,365.000	1,365.000
0118	650.4500	Construction Staking Subgrade	LF	422.000	422.000
0120	650.5000	Construction Staking Base	LF	422.000	422.000
0122	650.6500	Construction Staking Structure Layout (structure) 01. B-59-191	LS	1.000	1.000
0124	650.9910	Construction Staking Supplemental Control (project) 01. 4201-03-71	LS	1.000	1.000
0126	650.9920	Construction Staking Slope Stakes	LF	422.000	422.000
0128	690.0150	Sawing Asphalt	LF	265.000	265.000
0130	715.0502	Incentive Strength Concrete Structures	DOL	1,674.000	1,674.000
0132	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0134	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000

3

EARTHWORK

DIVISION	STATION TO STATION	LOCATION	205.0100 Common Excavation (2)	Salvaged/Unusable Pavement Material	Available Material (5)	Unexpanded Fill	Expanded Fill Factor 1.25	Mass Ordinate +/- (14)	Waste	208.0100 Borrow
Division 1										
	10+66 - 12+81	CTH FF	282	23	260	317	397	-137	0	137
Division 2										
	14+57 - 16+68	CTH FF	273	23	250	356	446	-196	0	196
Grand Total			555	45	510	674	842	-333	0	333
ROUNDED TOTALS			560							330

2) Salvaged/Unsuable Pavement Material is included in Cut.

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material wi

3

3

GRUBBING

STATION TO STATION	LOCATION	201.0205 GRUBBING STA
12+00 - 13+00	CTH FF	1
14+00 - 15+00	CTH FF	1
	TOTAL	**2**

REMOVING SMALL CULVERT PIPE

STATION TO STATION	LOCATION	203.0100 EACH	COMMENT
15+00 - 15+25 LT	CTH FF	1	24" CPSC, 25 LF
	TOTAL	**1**	

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
10+66 - 12+98	CTH FF	95	620	4
14+25 - 16+70	CTH FF	95	620	4
16+32 LT	DWY	20	---	---
	TOTALS	**190**	**1,240**	**8**

ASPHALTIC ITEMS

STATION TO STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
11+00 - 12+98	CTH FF	32	130
14+25 - 16+25	CTH FF	31	130
	TOTALS	**63**	**260**

STEEL PLATE BEAM GUARD

STATION TO STATION	DIR	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
11+42 - 12+84	RT	CTH FF	50	39.4	1
11+79 - 12+84	LT	CTH FF	12.5	39.4	1
14+55 - 15+60	RT	CTH FF	12.5	39.4	1
14+55 - 15+98	LT	CTH FF	50	39.4	1
		TOTALS	**125**	**157.6**	**4**

LANDSCAPING

STATION TO STATION	DIR	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	630.0200 SEEDING TEMPORARY LB	630.0130 SEEDING NO 30 LB	630.0160 SEEDING NO 60 LB	629.0210 FERTILIZER TYPE B CWT
10+87 - 12+81	RT	CTH FF	570	570	8	10	---	0.4
10+66 - 12+81	LT	CTH FF	430	430	6	8	---	0.3
14+57 - 16+69	RT	CTH FF	600	600	8	11	---	0.4
14+57 - 16+69	LT	CTH FF	390	390	5	7	---	0.2
UNDISTRIBUTED		CTH FF	510	510	8	9	5	0.2
		TOTALS	**2,500**	**2,500**	**35**	**45**	**5**	**1.5**

EROSION CONTROL ITEMS

STATION TO STATION	DIR	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	628.7570 ROCK BAGS EACH	628.7555 CULVERT PIPE CHECKS EACH
10+87 - 12+81	RT	CTH FF	260	260	---	---	---	---
10+66 - 12+81	LT	CTH FF	280	280	---	---	---	---
14+57 - 16+69	RT	CTH FF	280	280	---	---	---	---
14+57 - 16+69	LT	CTH FF	270	270	---	---	15	3
UNDISTRIBUTED			280	280	4	2	15	2
		TOTALS	**1,370**	**1,370**	**4**	**2**	**30**	**5**

CULVERT PIPE AND APRON ENDWALLS

STATION	DIR	LOCATION	521.3124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF	521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH EACH	THICKNESS STEEL INCHES	INLET ELEVATION	DISCHARGE ELEVATION	COMMENT
16+32	LT	CTH FF	40	2	0.064	814.35	813.95	BURY PIPE 0.75 FT
		TOTALS	**40**	**2**	**0.064**			

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
13+00, RT	CTH FF	10 TONS	1	1
13+06, RT	CTH FF	OBJECT MARKER	1	1
13+06, LT	CTH FF	OBJECT MARKER	1	1
14+35, RT	CTH FF	OBJECT MARKER	1	1
14+35, LT	CTH FF	OBJECT MARKER	1	1
14+35, LT	CTH FF	10 TONS	1	1
		TOTALS	**6**	**6**

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
10+70 - 12+82	CTH FF	212	212	---	---	212
14+58 - 16+68	CTH FF	210	210	---	---	210
PROJECT		---	---	1	1	---
	TOTALS	**422**	**422**	**1**	**1**	**422**

SIGNS REFLECTIVE TYPE II & POSTS WOOD

STATION	DIR	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 REFLECTIVE F SF
12+80	RT	CTH FF	W5-52R	12 X 36	1	3
12+80	LT	CTH FF	W5-52L	12 X 36	1	3
14+59	LT	CTH FF	W5-52R	12 X 36	1	3
14+59	RT	CTH FF	W5-52L	12 X 36	1	3
				TOTALS	**4**	**12**

TURBIDITY BARRIER

STATION	LOCATION	628.6005 SY
13+14	CTH FF	60
14+25	CTH FF	60
	TOTALS	**120**

TRAFFIC CONTROL

LOCATION	SERVICE PERIOD DAYS	643.0420 BARRICADES TYPE III NO	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO	643.0705 WARNING LIGHTS TYPE A DAYS	643.0900 SIGNS NO	643.0900 SIGNS DAYS
CTH FF ROAD CLOSURE	70	14	980	20	1,400	14	980
PROJECT TOTALS			**980**		**1,400**		**980**

MARKING LINE EPOXY 4-INCH

STATION TO STATION	LOCATION	646.102 4-INCH DASHED YELLOW LF	646.102 4-INCH SOLID YELLOW LF	646.102 4-INCH WHITE EDGE LINE LF	COMMENT
11+00 - 16+25	CTH FF	130	---	1,050	
14+40 16+25	CTH FF	---	185	---	EB TRAFFIC
	TOTAL	**1,365**			

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT LF
11+75	CTH FF	145
15+65	CTH FF	120
	TOTAL	**265**

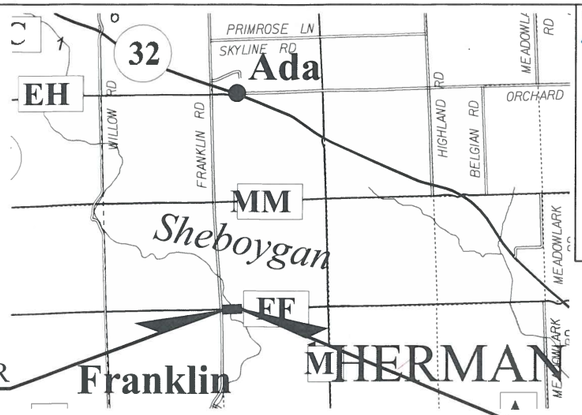
Conventional Signs and Abbreviations

- 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

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

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



REVISIONS	R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
7-5-2017	4201-03-00	4.01	1
	FEDERAL PROJECT NUMBER ----------		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

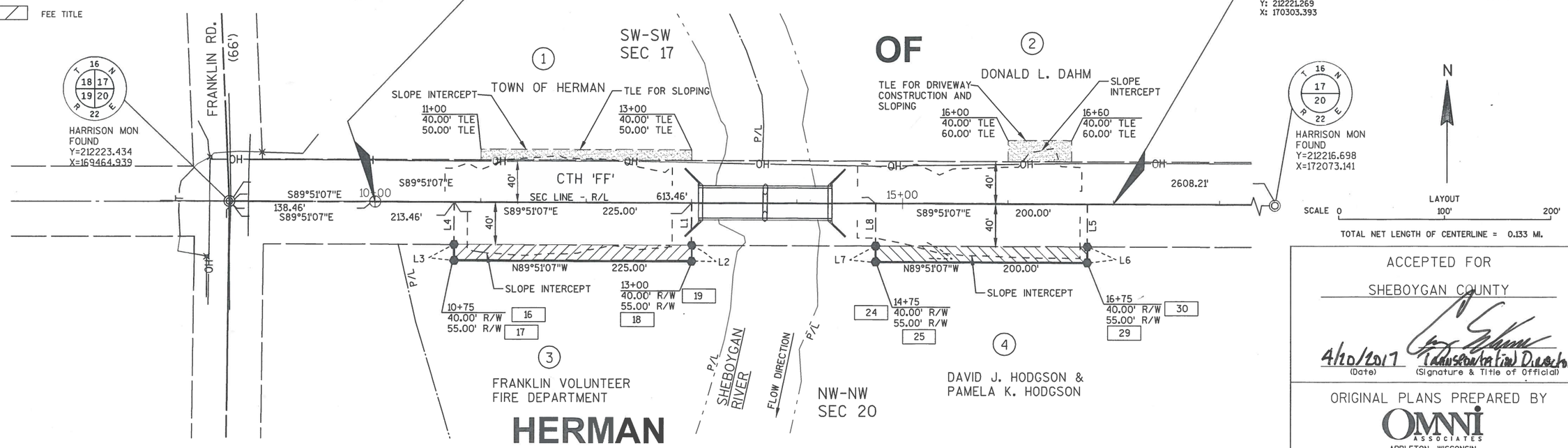
T HERMAN, CTH FF
SHEBOYGAN RIVER BRIDGE & APPROACHES

TOWN OF HERMAN — SHEBOYGAN COUNTY

CONSTRUCTION PROJECT NUMBER
4201-03-71

BEGIN RELOCATION ORDER
STATION 10+00.00
0.35' SOUTH OF AND 138.46' EAST OF THE NW CORNER OF SECTION 20, T16N, R22E, TOWN OF HERMAN, SHEBOYGAN COUNTY, WISCONSIN.
Y: 212223.076
X: 169603.395

END RELOCATION ORDER
STATION 17+00.00
2.16' SOUTH OF AND 838.45' EAST OF THE NW CORNER OF SECTION 20, T16N, R22E, TOWN OF HERMAN, SHEBOYGAN COUNTY WISCONSIN.
Y: 212221.269
X: 170303.393



TOTAL NET LENGTH OF CENTERLINE = 0.133 MI.

ACCEPTED FOR
SHEBOYGAN COUNTY

4/20/2017 (Date) — (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES
APPLETON, WISCONSIN

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

1-20-2017 (Date) — (Signature)

Notes:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, SHEBOYGAN 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.

EXISTING RIGHT-OF-WAY WAS ESTABLISHED FROM SHEBOYGAN COUNTY VOLUME 403 PAGES 428-429. DOC. NO. 766194, VOLUME 403. PAGES 513-514, DOC. NO. 766586, VOLUME 502. PAGES 230-231, DOC. NO. 888416.

R/W COORDINATE TABLE

POINT #	Y	X
16	212182.883	169678.291
17	212167.883	169678.253
18	212167.302	169903.252
19	212182.302	169903.291
24	212181.850	170078.290
25	212166.850	170078.251
29	212166.333	170278.251
30	212181.333	170278.289

LINE TABLE

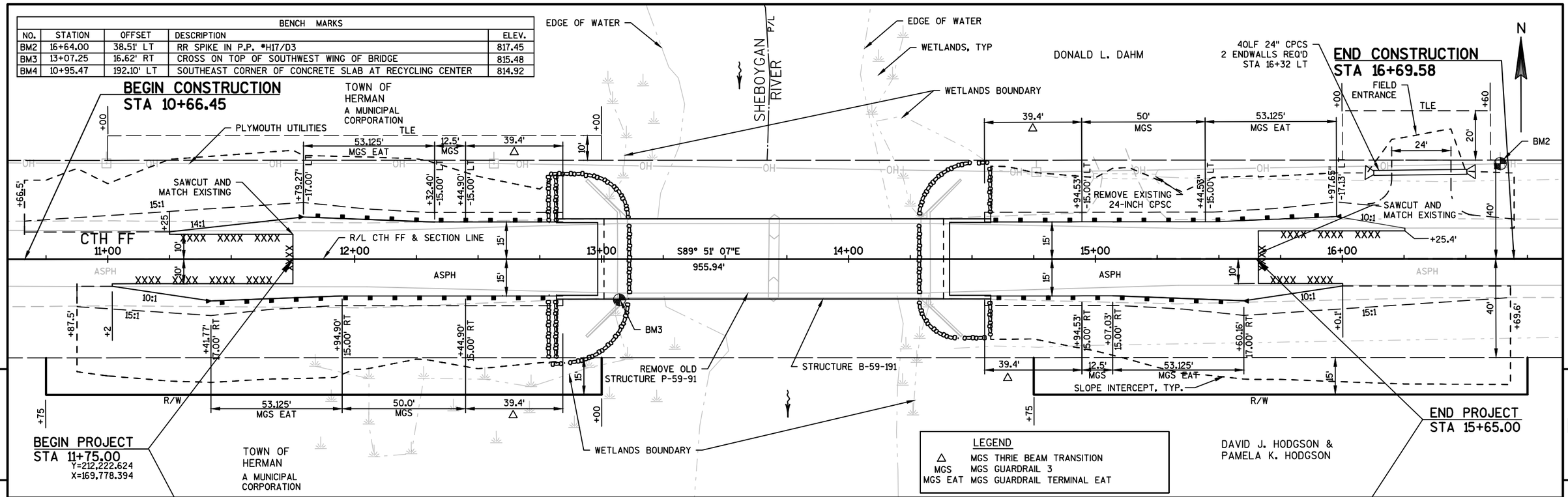
LINE	BEARING	DISTANCE
L1	S00°08'53"W	40.00'
L2	S00°08'53"W	15.00'
L3	N00°08'53"E	15.00'
L4	N00°08'53"E	40.00'
L5	S00°08'53"W	40.00'
L6	S00°08'53"W	15.00'
L7	N00°08'53"E	15.00'
L8	N00°08'53"E	40.00'

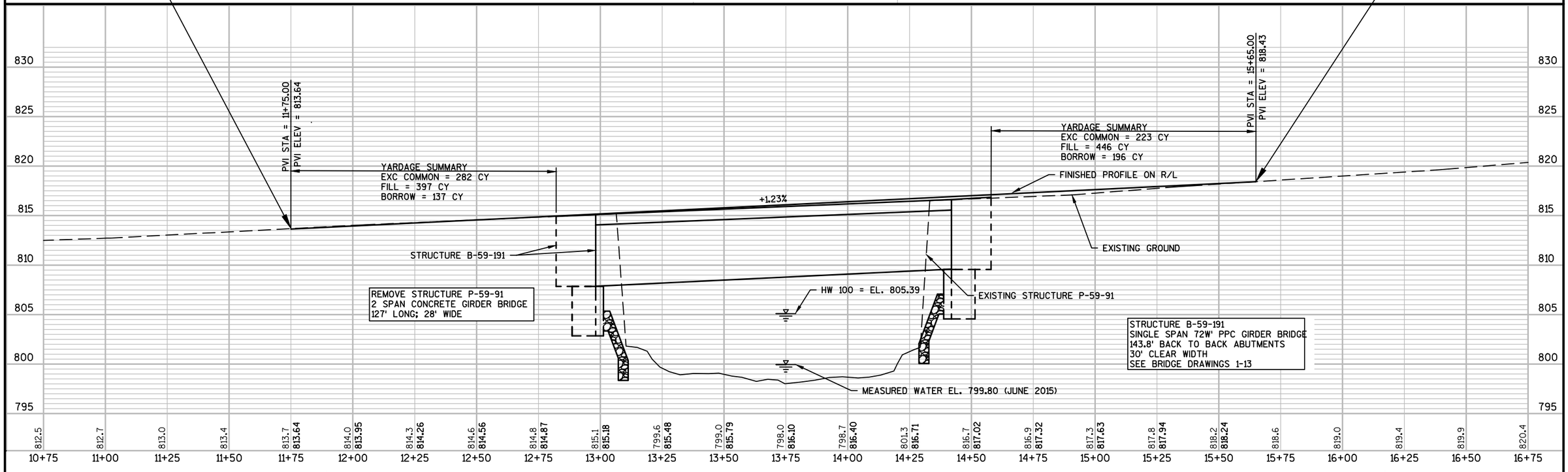
"OWNERS" NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE TOWN OF HERMAN

SCHEDULE OF LANDS AND INTERESTS

PARCEL NUMBER	OWNER	INTEREST REQUIRED	AREA ACRES REQUIRED NEW	EXISTING	TOTAL	TLE AREA
1	TOWN OF HERMAN	TLE	---	---	---	0.05 AC
2	DONALD L. DAHM	TLE	---	---	---	0.03 AC
3	FRANKLIN VOLUNTEER FIRE DEPT.	FEE	0.08 AC	0.21 AC	0.29 AC	---
4	DAVID J. HODGSON & PAMELA K. HODGSON	FEE	0.07 AC	0.18 AC	0.25 AC	---

BENCH MARKS				
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
BM2	16+64.00	38.51' LT	RR SPIKE IN P.P. *H17/D3	817.45
BM3	13+07.25	16.62' RT	CROSS ON TOP OF SOUTHWEST WING OF BRIDGE	815.48
BM4	10+95.47	192.10' LT	SOUTHEAST CORNER OF CONCRETE SLAB AT RECYCLING CENTER	814.92

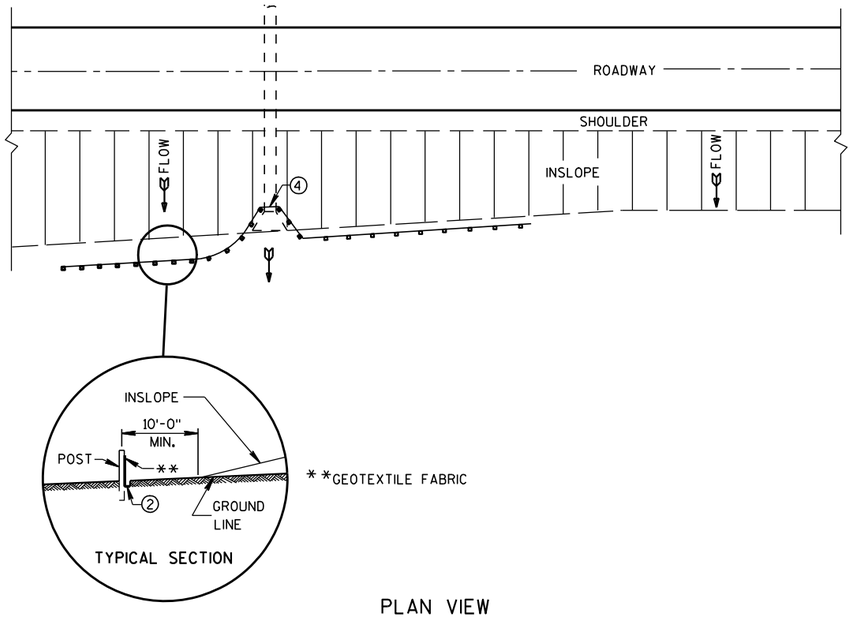




PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	PLAN AND PROFILE: CTH FF	SHEET 12	E

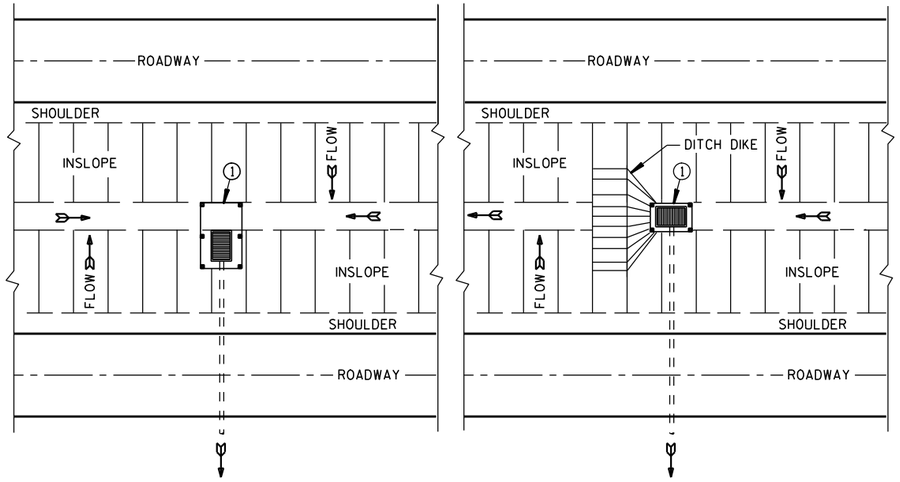
Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	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
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS



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.

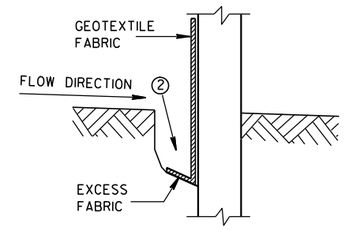
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

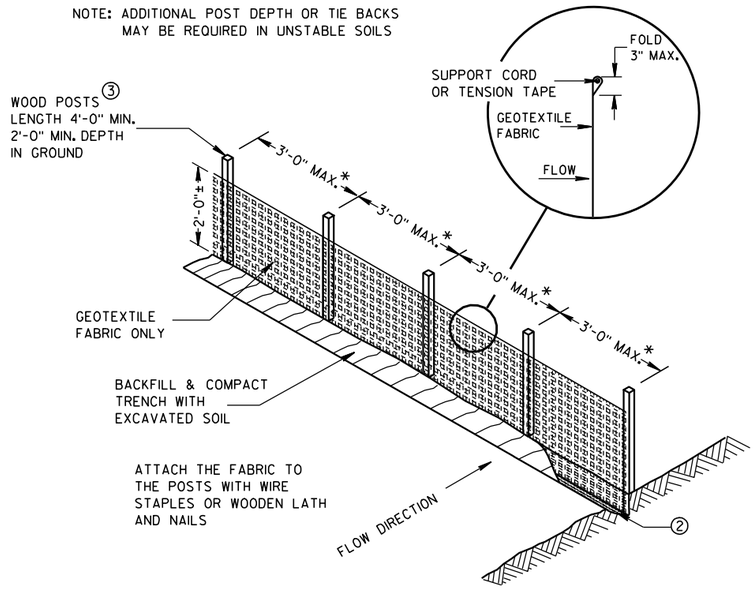
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

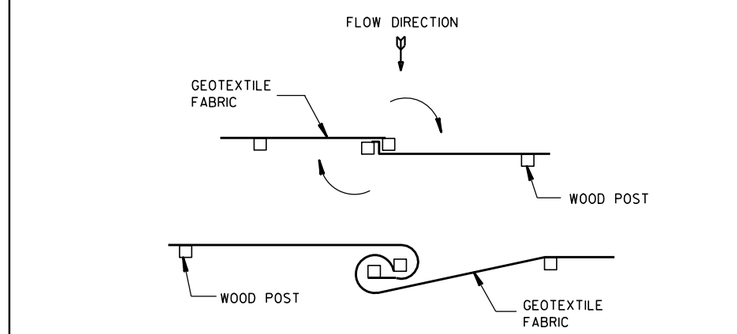
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



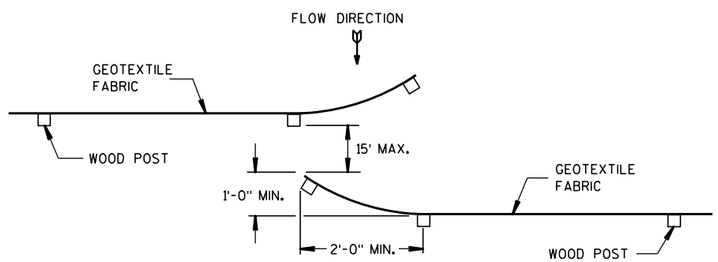
TRENCH DETAIL



SILT FENCE

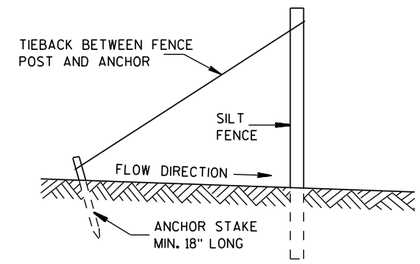


TWIST METHOD



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

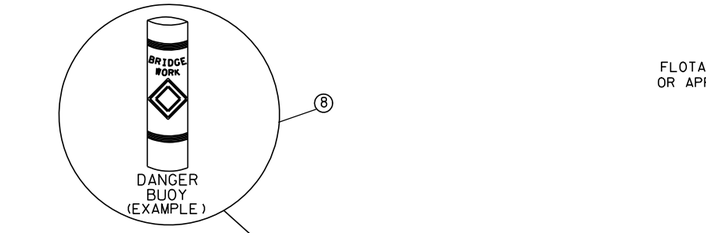
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

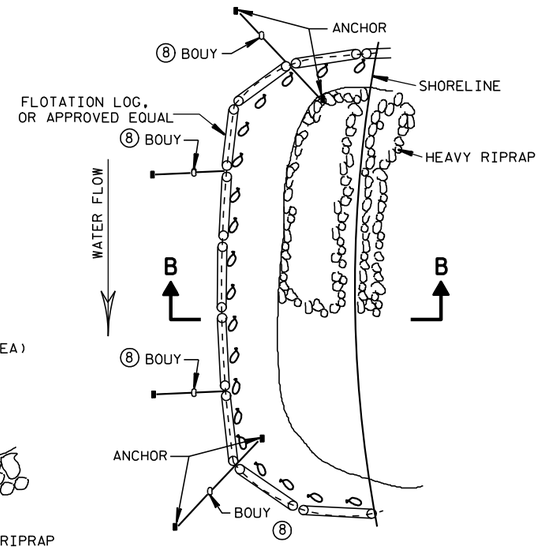
S.D.D. 8 E 9-6

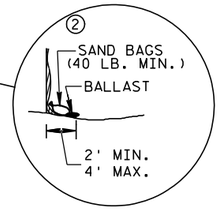
6

S.D.D. 8 E 9-6

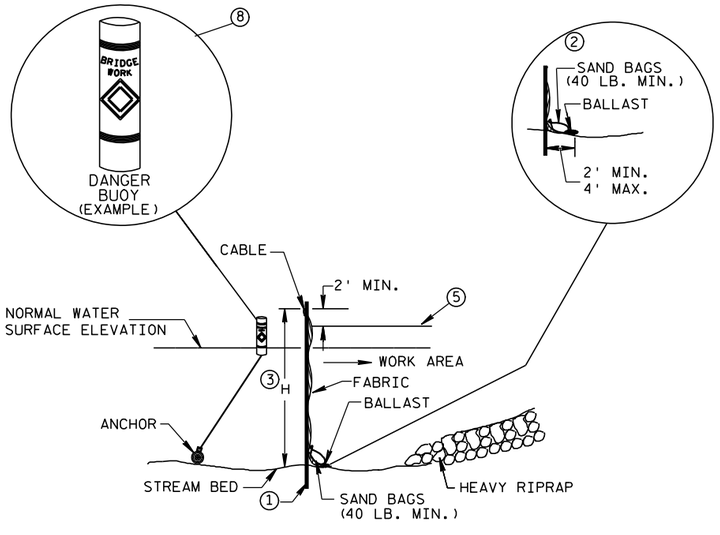


SECTION B-B

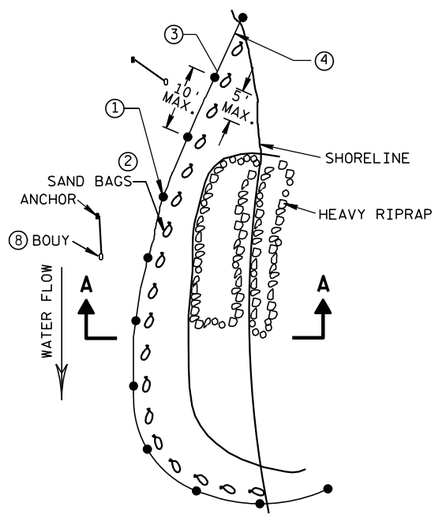




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

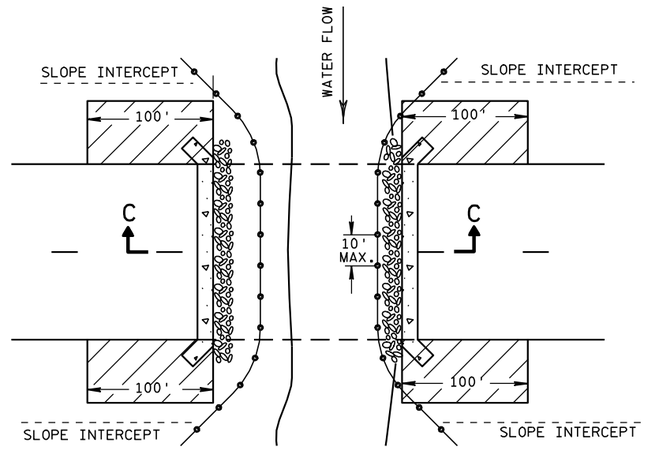
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

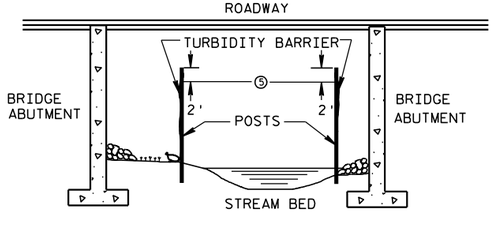
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 11-2

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

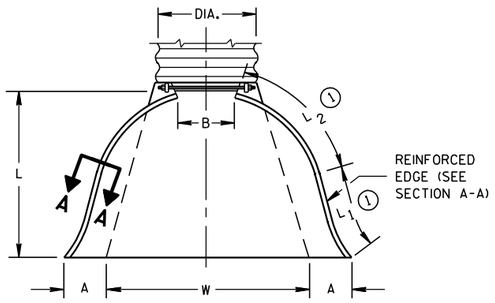
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

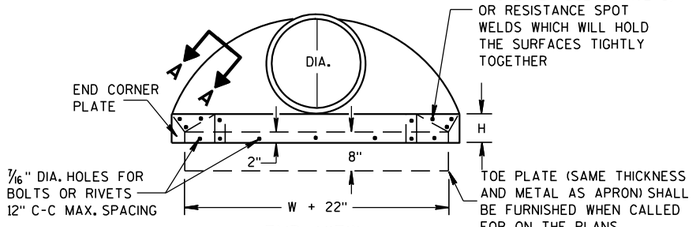
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

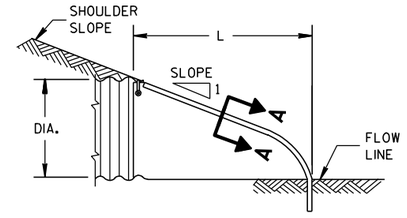
*MINIMUM
**MAXIMUM



PLAN VIEW

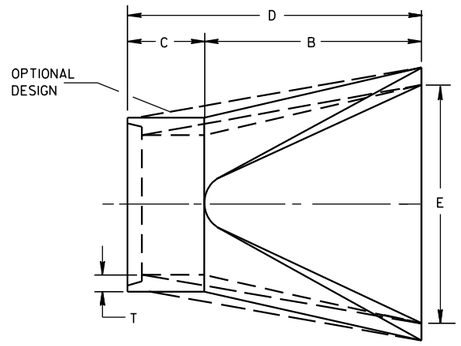


END VIEW

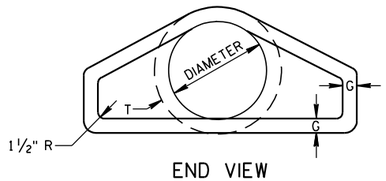


SIDE ELEVATION

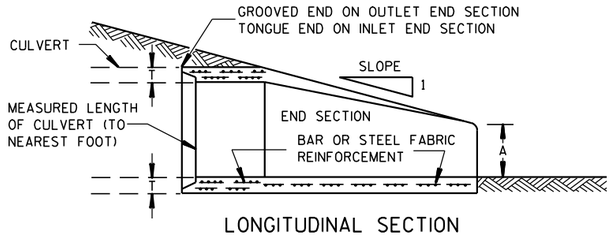
METAL ENDWALLS



PLAN

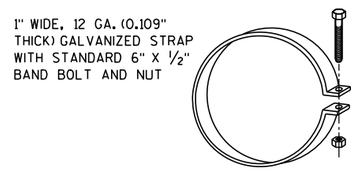


END VIEW



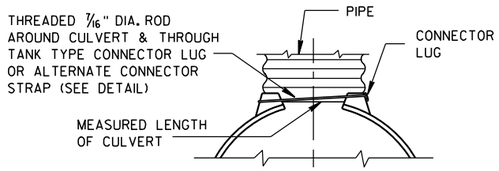
LONGITUDINAL SECTION

CONCRETE ENDWALLS

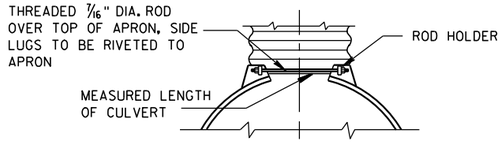


ALTERNATE FOR TYPE 1 CONNECTION

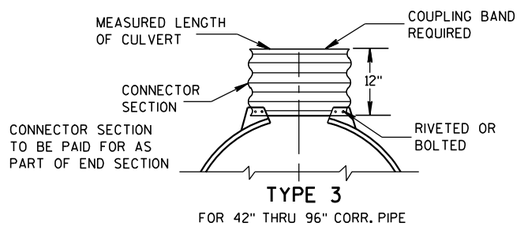
END SECTION CONNECTOR STRAP



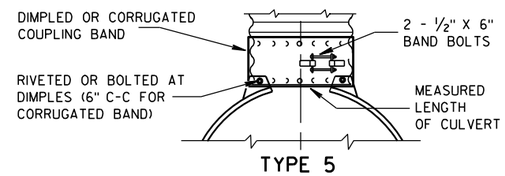
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

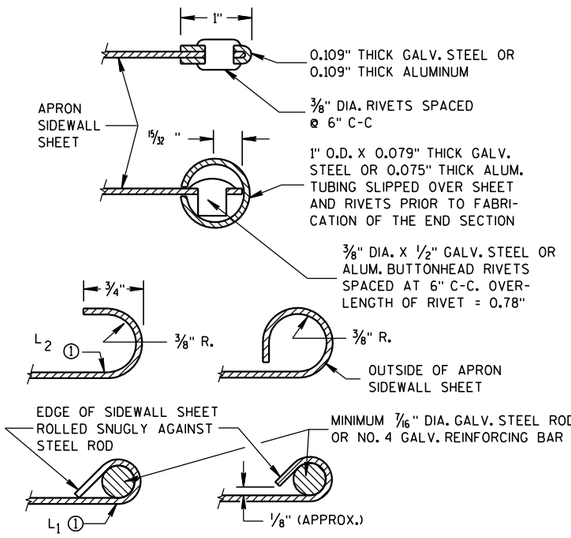
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

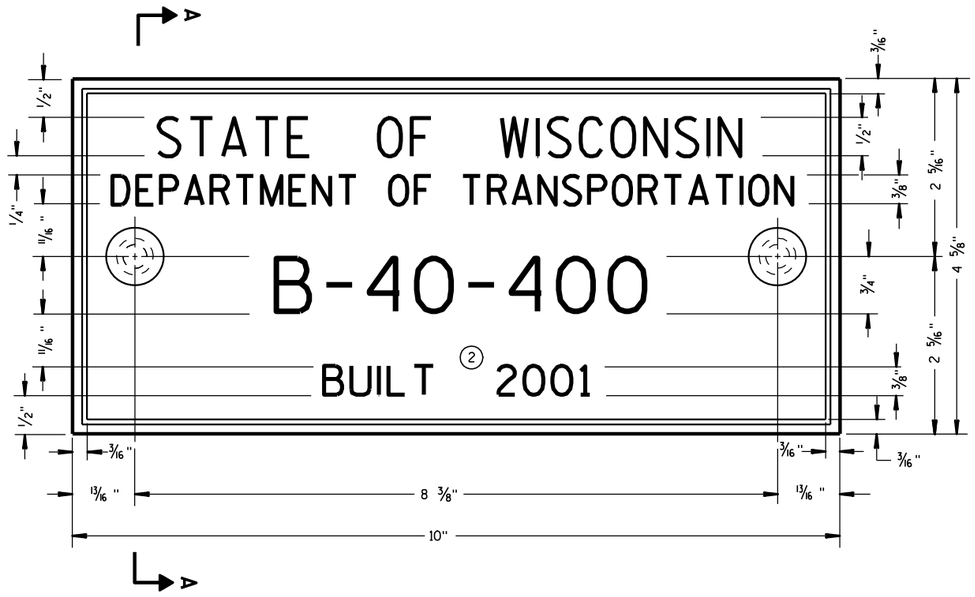
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 1-11



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

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

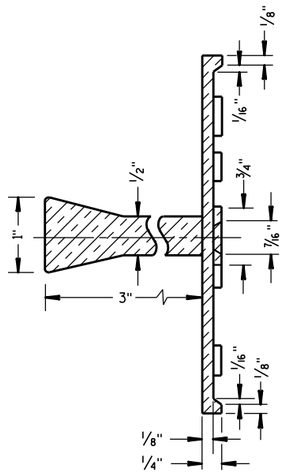
GENERAL NOTES

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

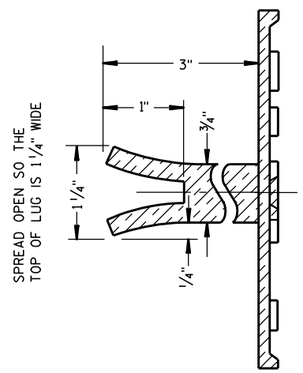
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

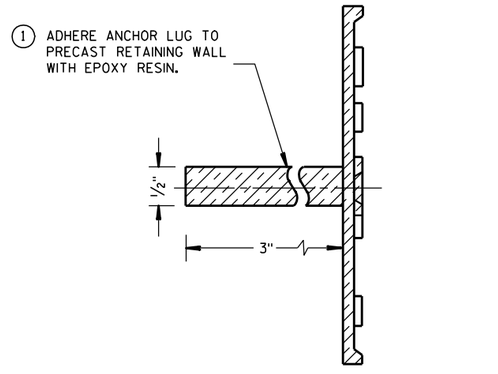
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE — /S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10

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.

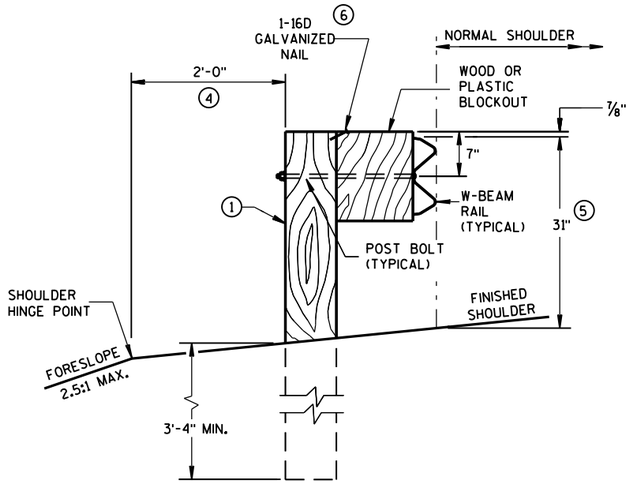
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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).

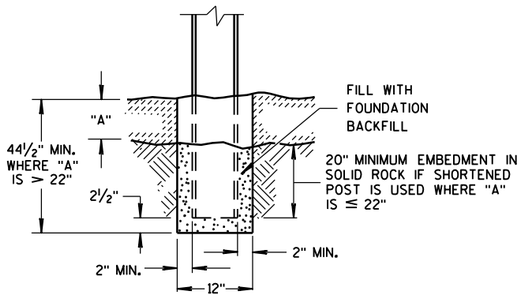
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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.



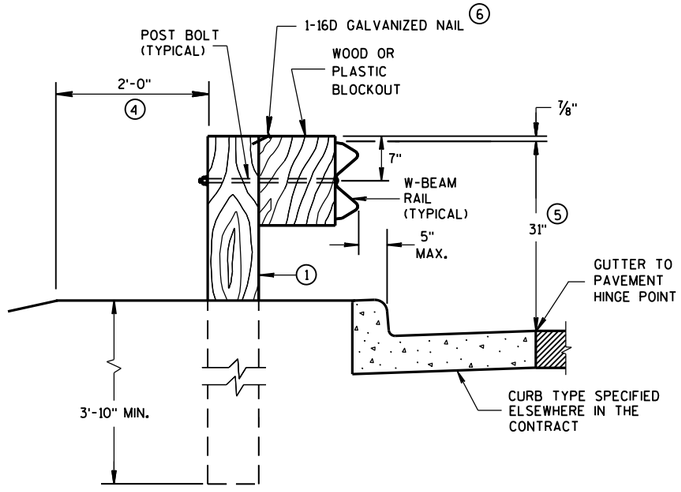
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



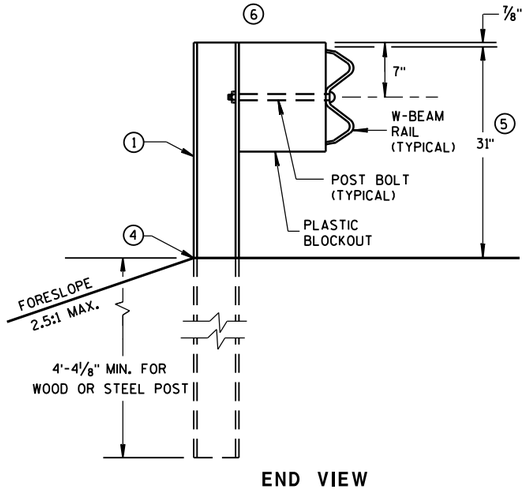
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



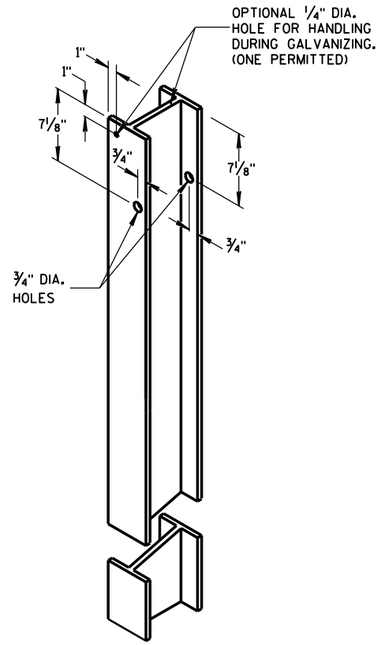
END VIEW

LOCATED ALONG A CURBED ROADWAY

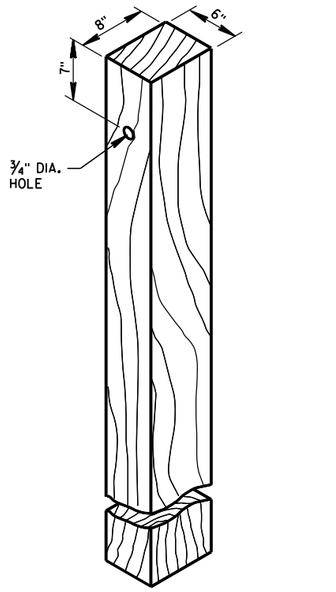


END VIEW

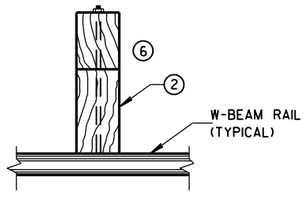
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



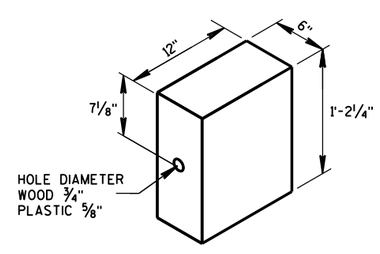
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



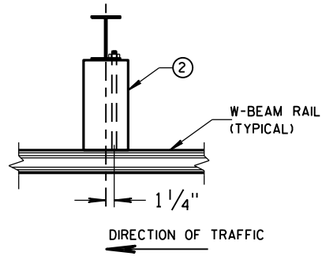
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



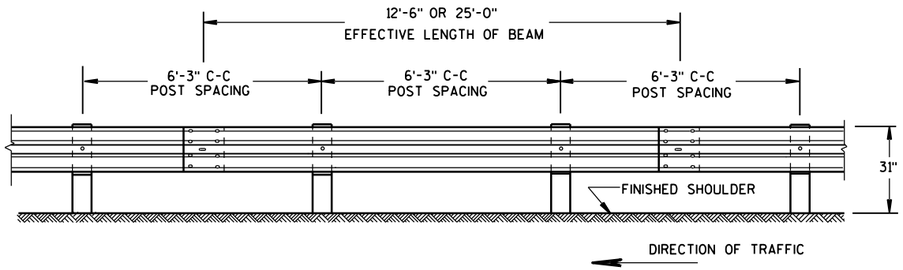
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

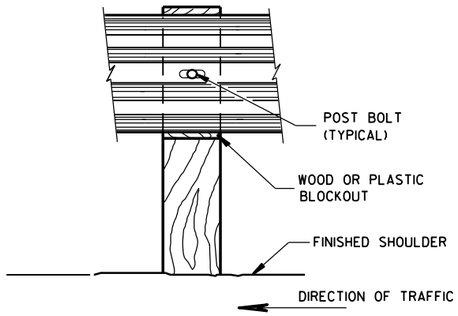
6

S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

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.

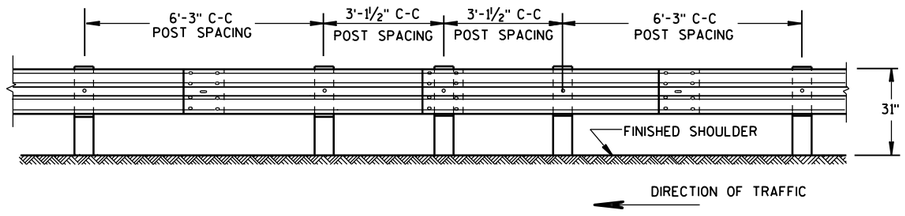
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

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.

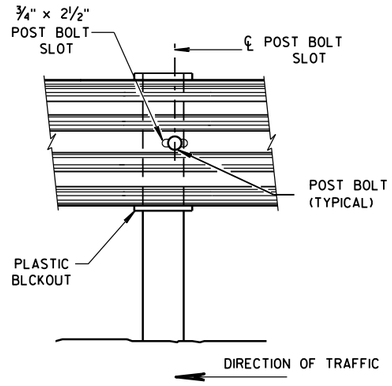
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

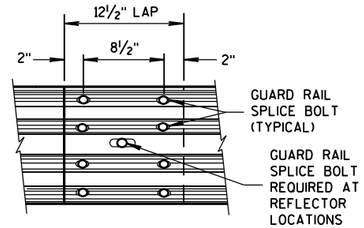


FRONT VIEW

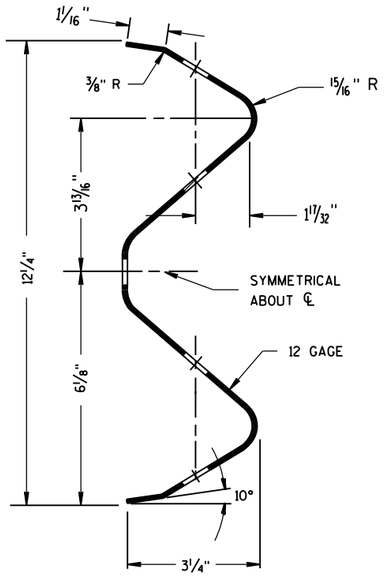
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



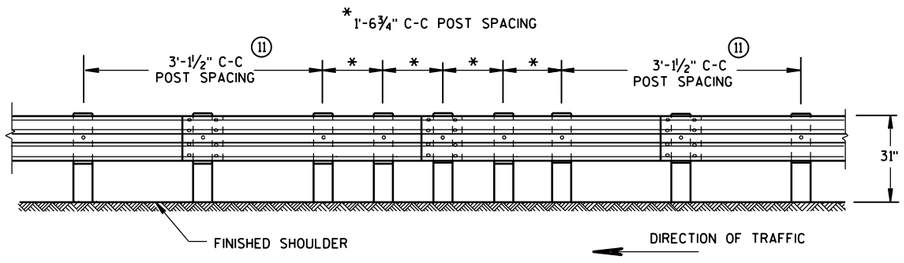
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

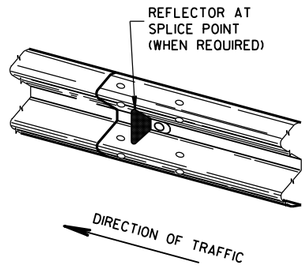


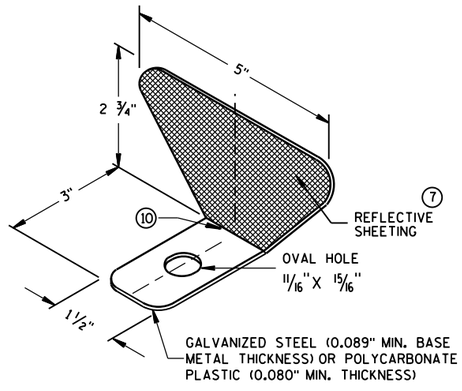
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

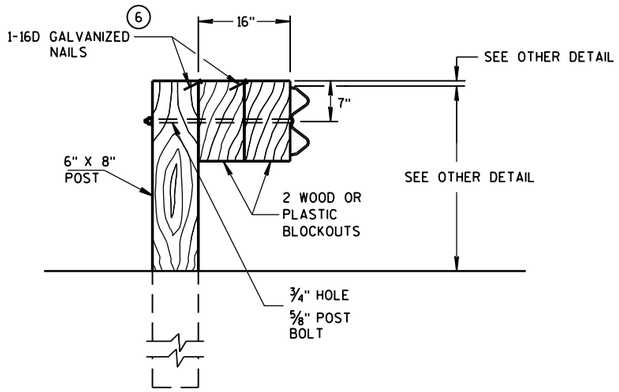
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (9)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (10)	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

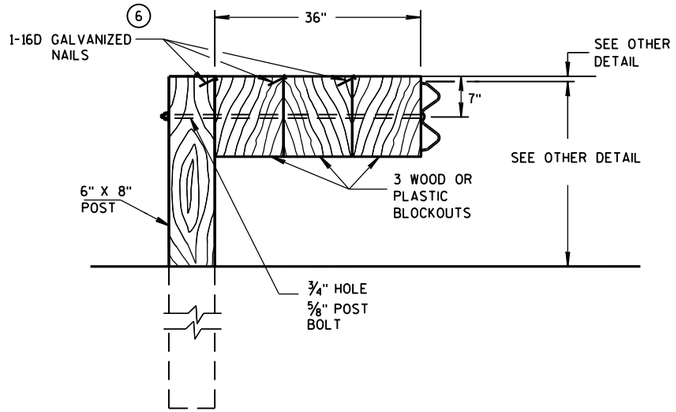
6

S.D.D. 14 B 42-4b



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.

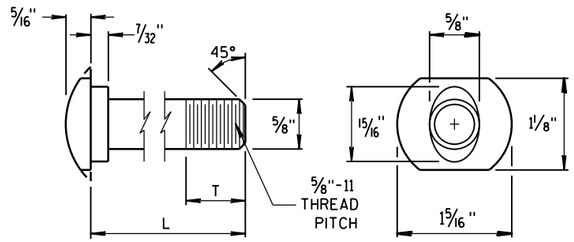


DETAIL FOR 36" BLOCKOUT DEPTH

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.

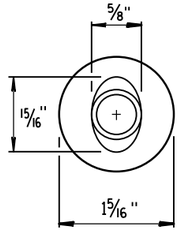
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

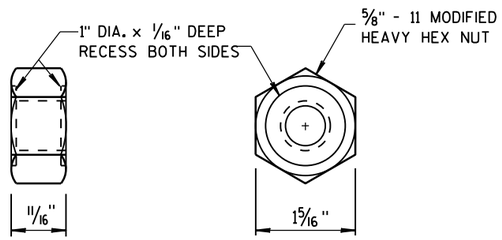


POST BOLT TABLE

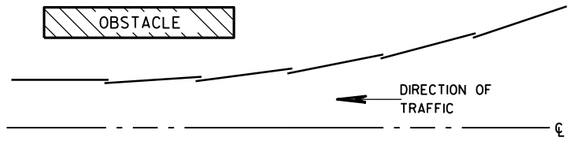
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

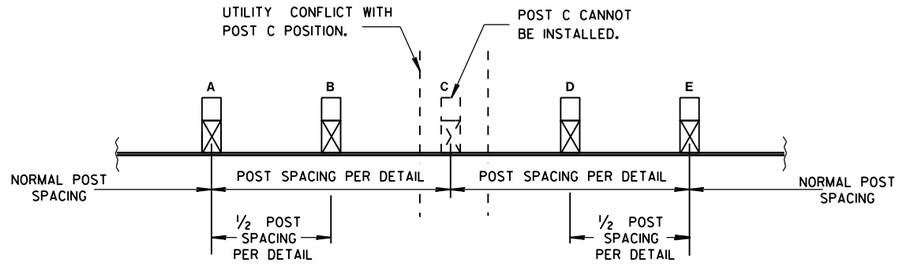


POST BOLT, SPLICE BOLT AND RECESS NUT

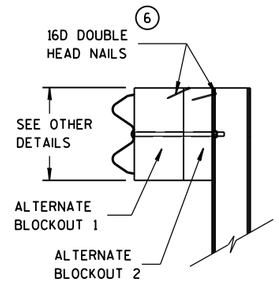


PLAN VIEW

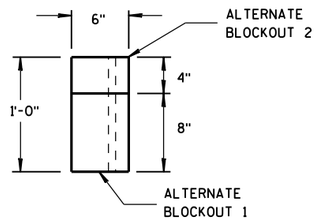
BEAM LAPPING DETAIL



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 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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.

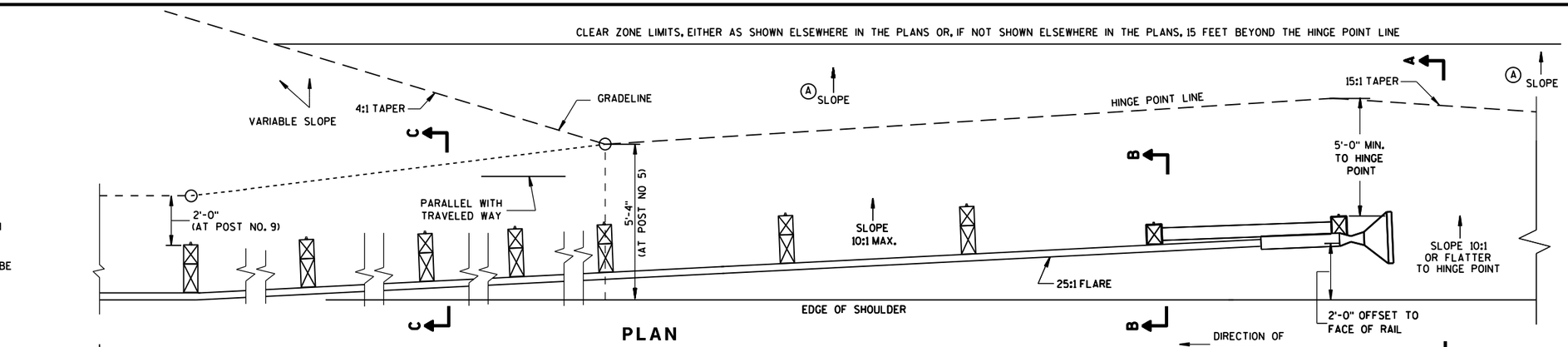
SEE SDD 14B42 FOR MORE INFORMATION.

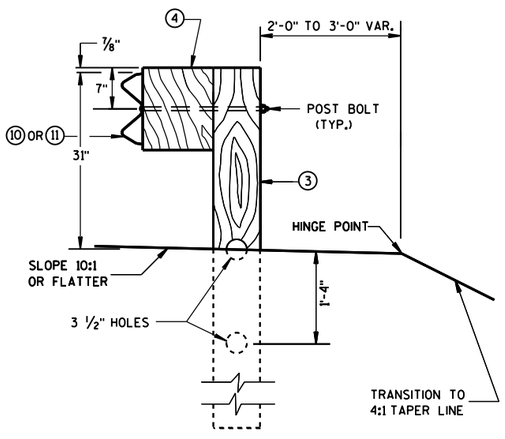
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

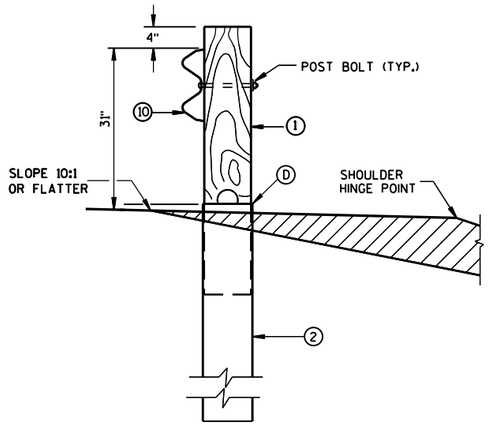
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.

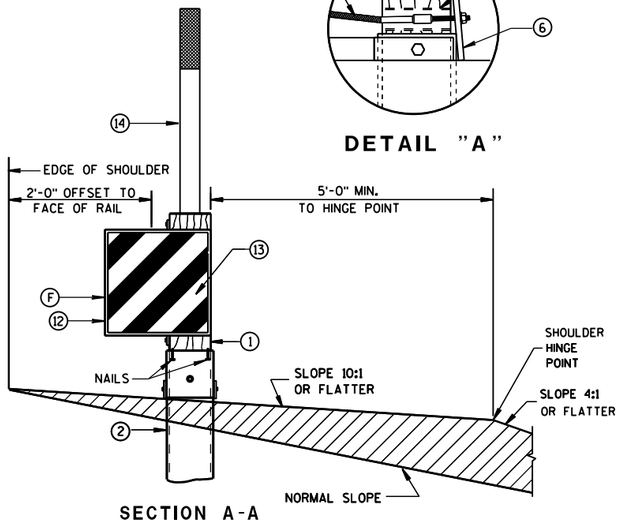




SECTION C-C
TYPICAL AT POST NOS. 3-9

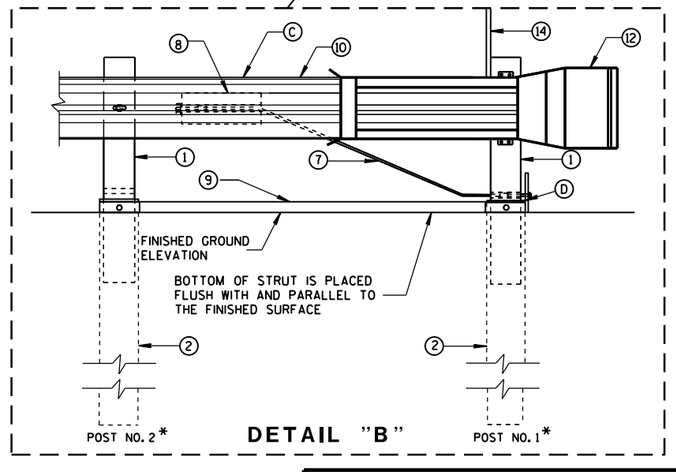


SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*

DETAIL "A"



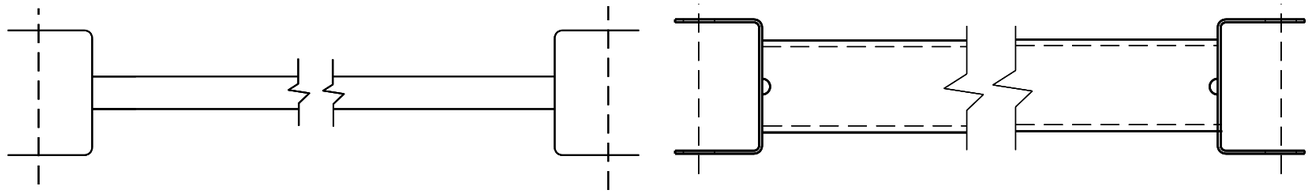
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

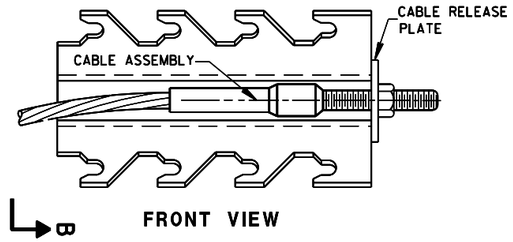
S.D.D. 14 B 44-2a



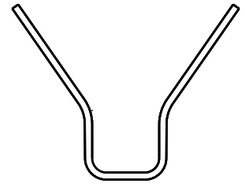
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

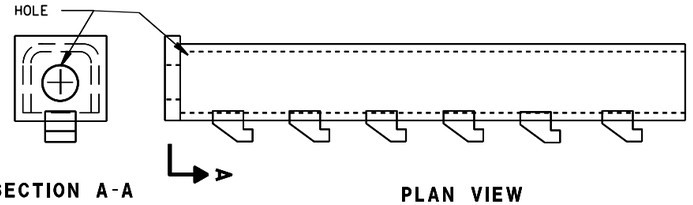
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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)



FRONT VIEW



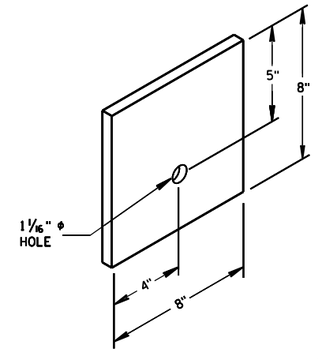
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



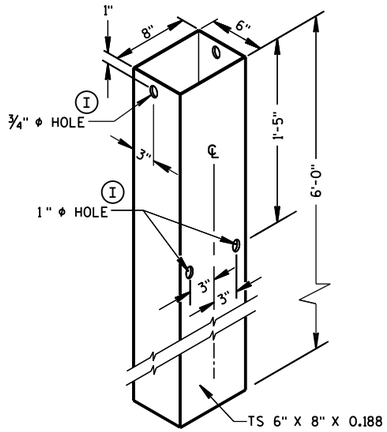
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

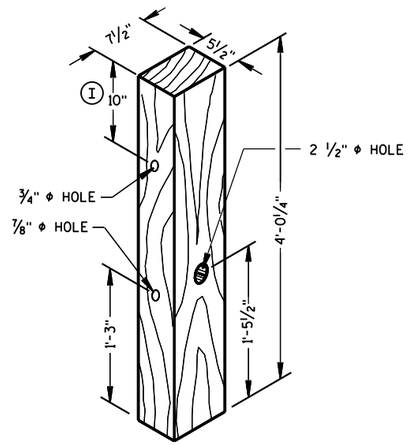
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

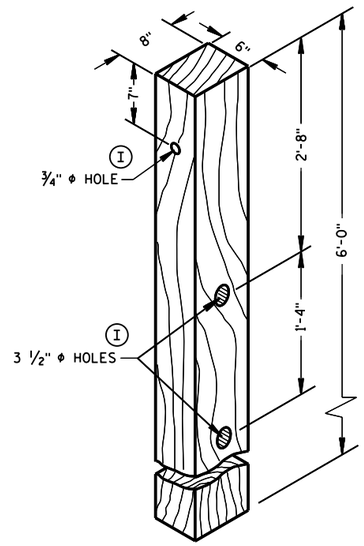


FOUNDATION TUBE (2)



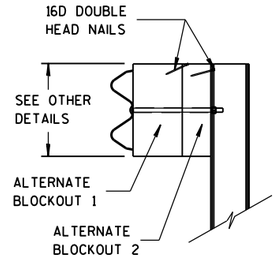
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

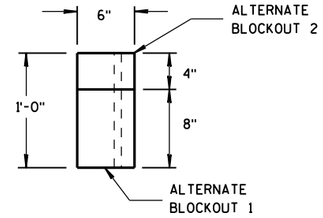


POSTS NUMBER 3-9

WOOD CRT POST (3)

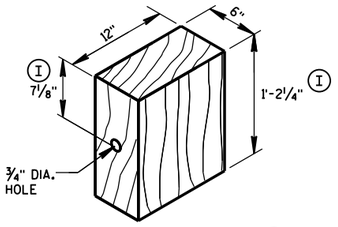


SIDE VIEW



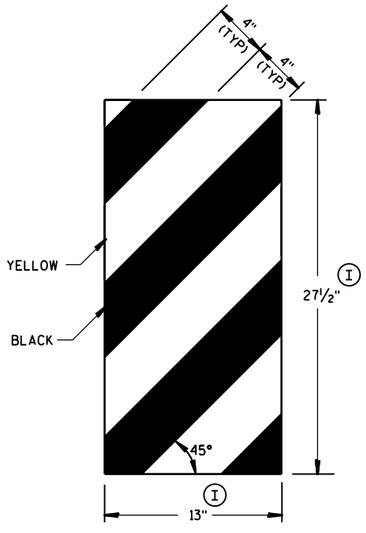
TOP VIEW

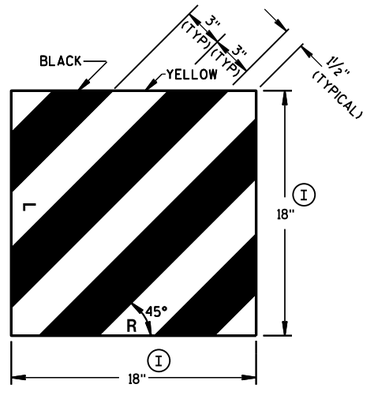
ALTERNATE WOOD BLOCKOUT DETAIL



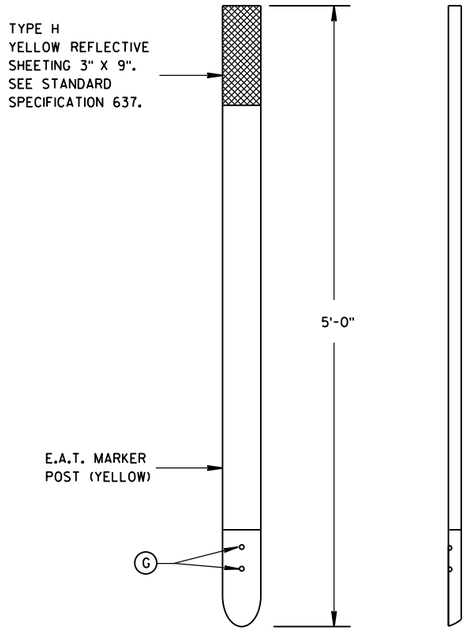
WOOD BLOCKOUT (4)

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





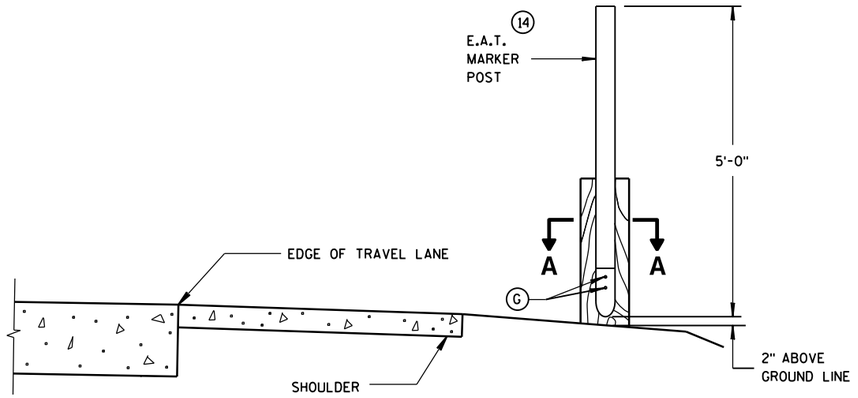
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

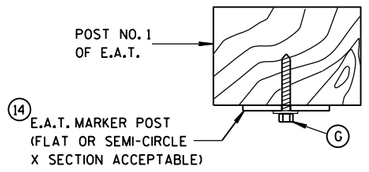
SIDE VIEW

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

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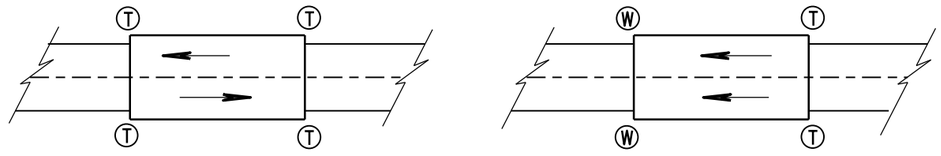
S.D.D. 14 B 44-2c



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

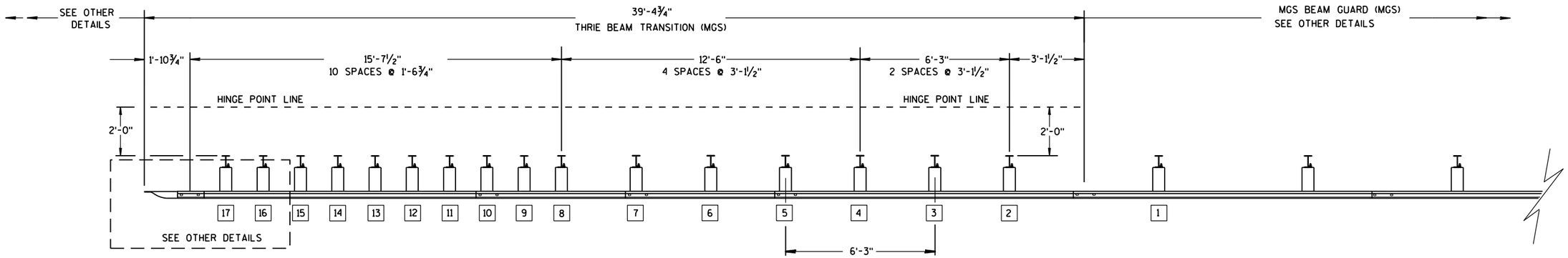
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

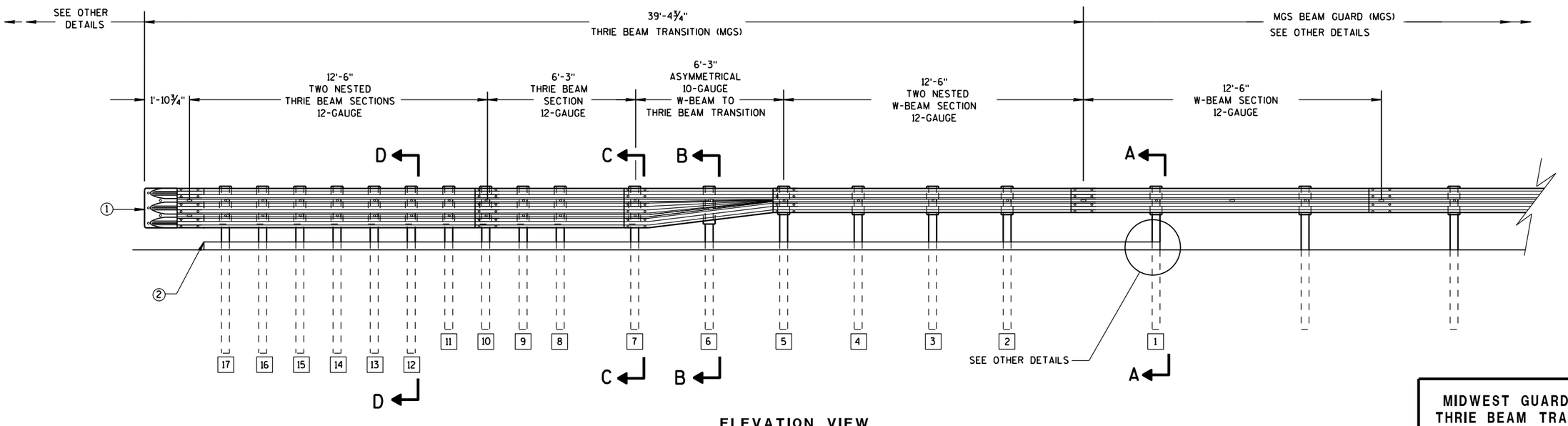
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

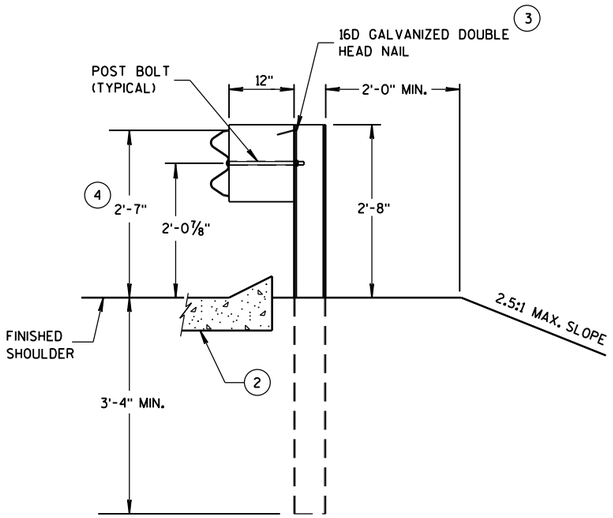
S.D.D. 14 B 45-4a

GENERAL NOTES

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

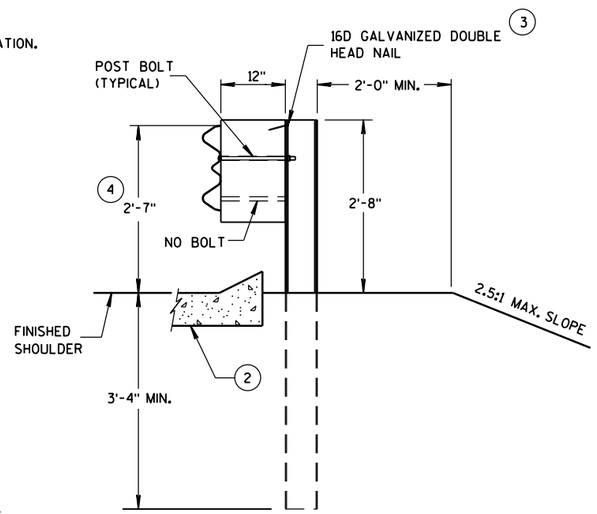
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



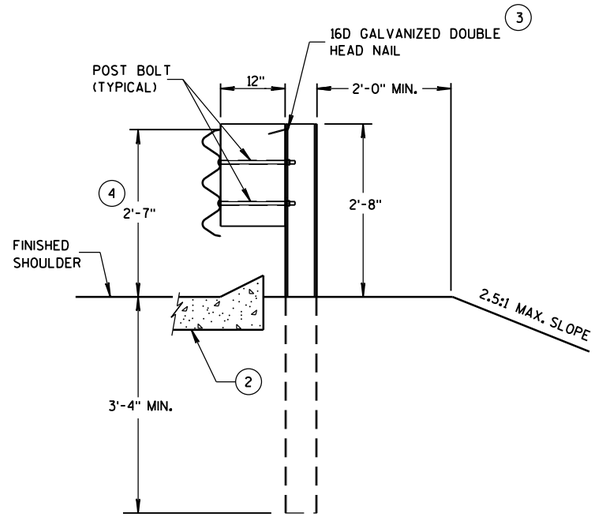
SECTION A-A

POSTS 1-5



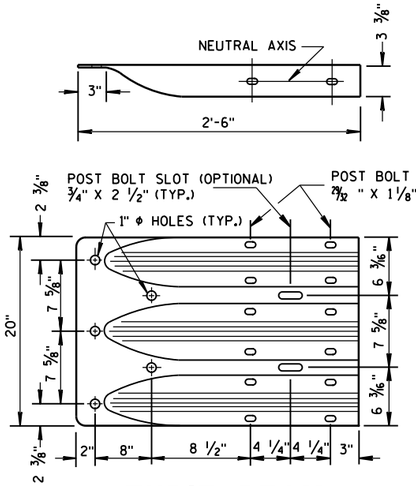
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

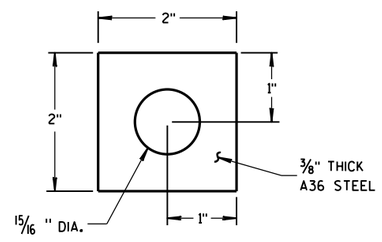
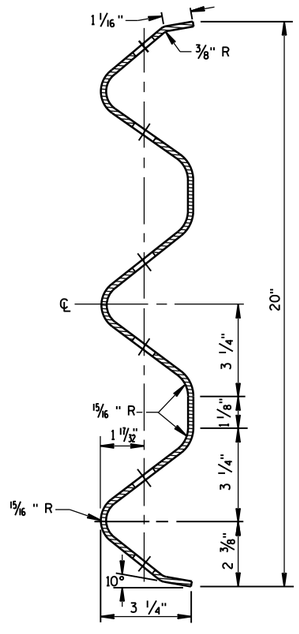
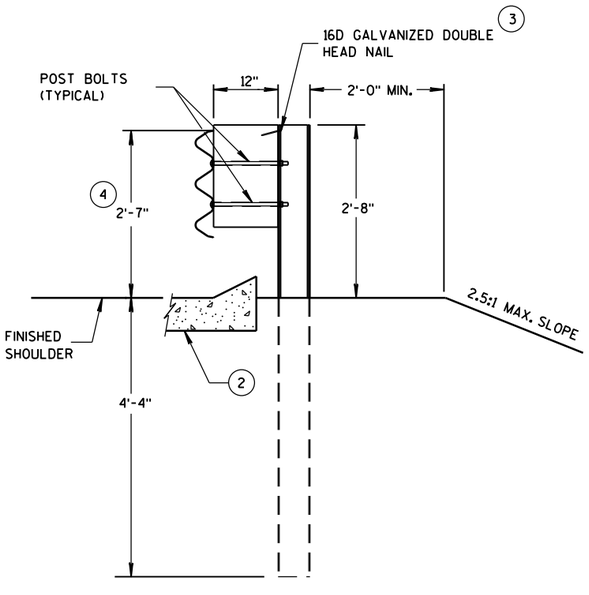


PLATE WASHER DETAIL

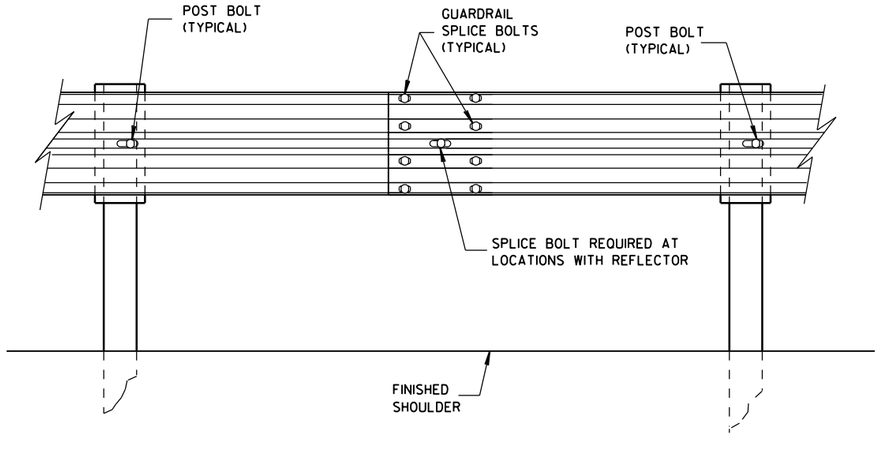


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



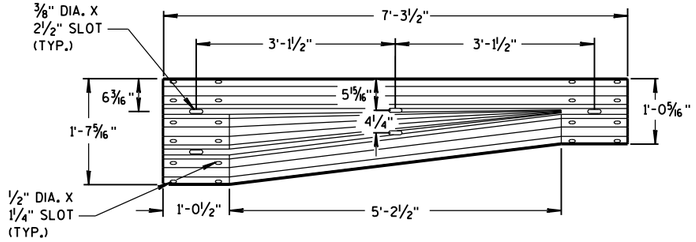
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

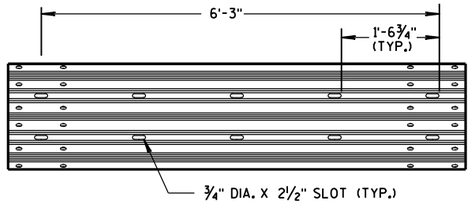
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

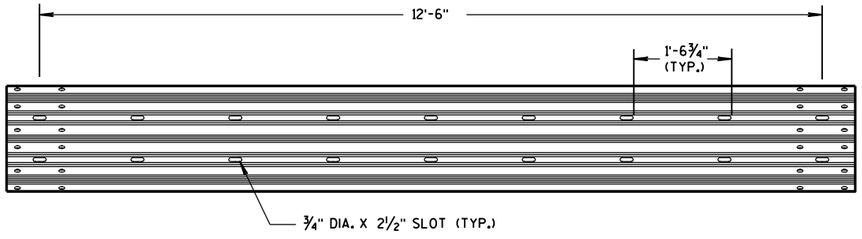
S.D.D. 14 B 45-4b



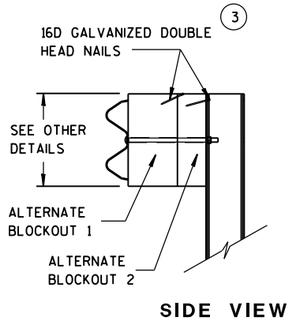
W-BEAM TO THRIE BEAM TRANSITION SECTION



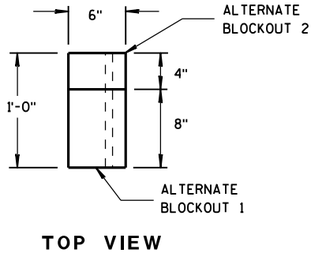
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

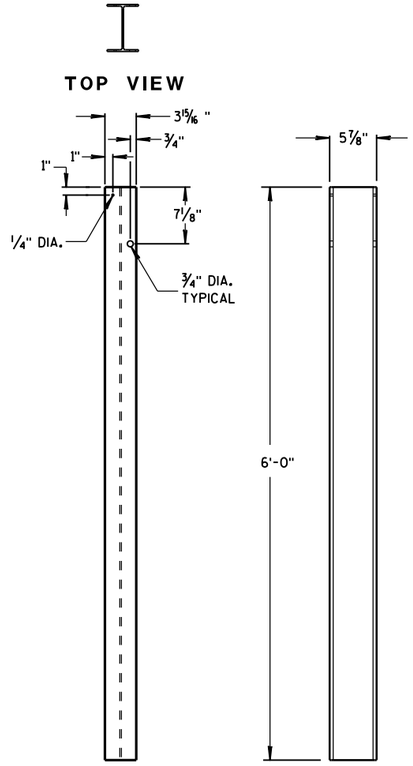


SIDE VIEW

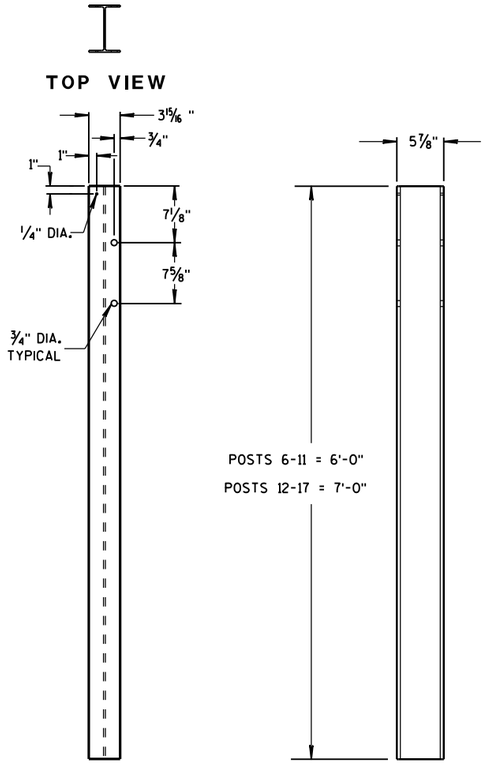


TOP VIEW

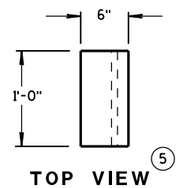
ALTERNATE WOOD BLOCKOUT DETAIL



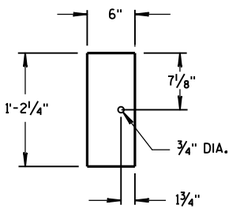
STEEL POSTS 1-5



STEEL POSTS 6-17

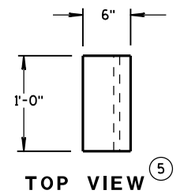


TOP VIEW (5)

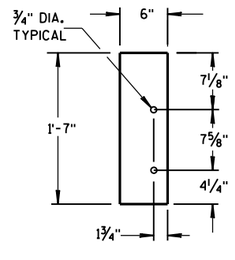


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW (5)



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)

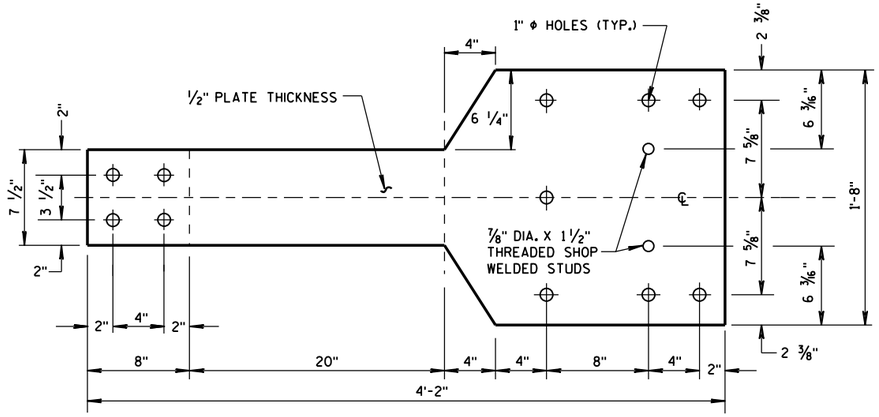
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

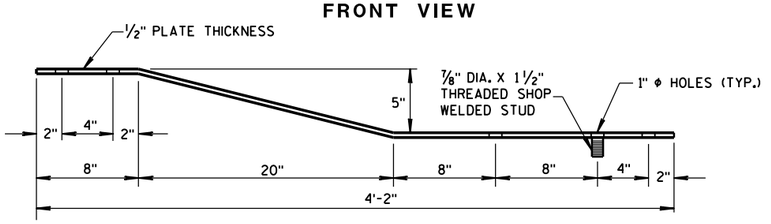
S.D.D. 14 B 45-4c
S.D.D. 14 B 45-4c

GENERAL NOTES

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

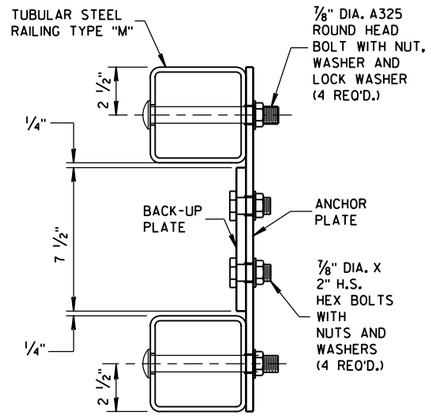


FRONT VIEW

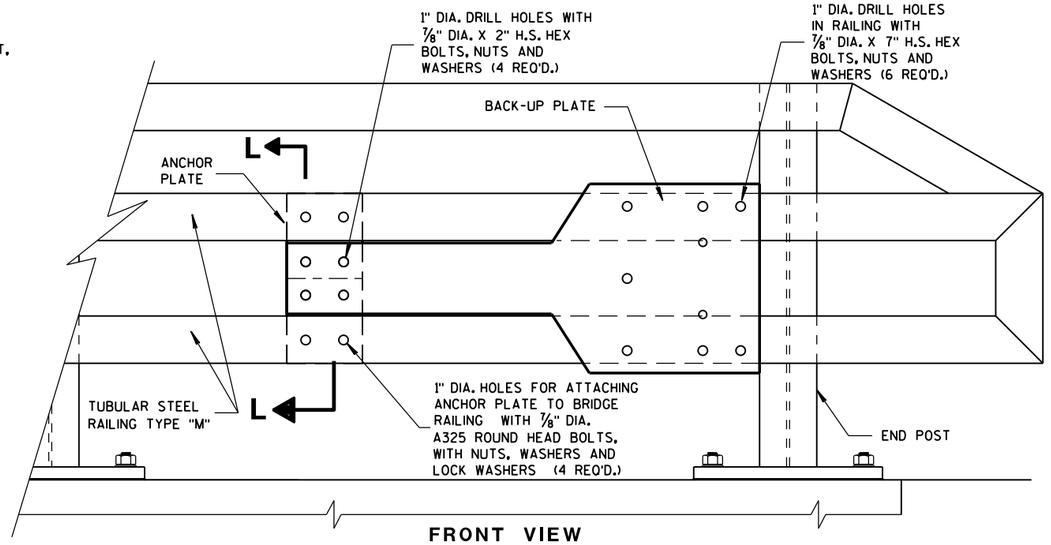


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

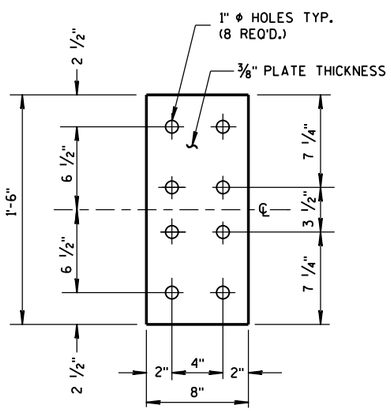


SECTION L-L



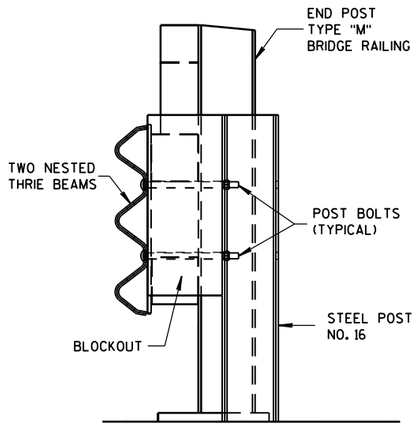
FRONT VIEW

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

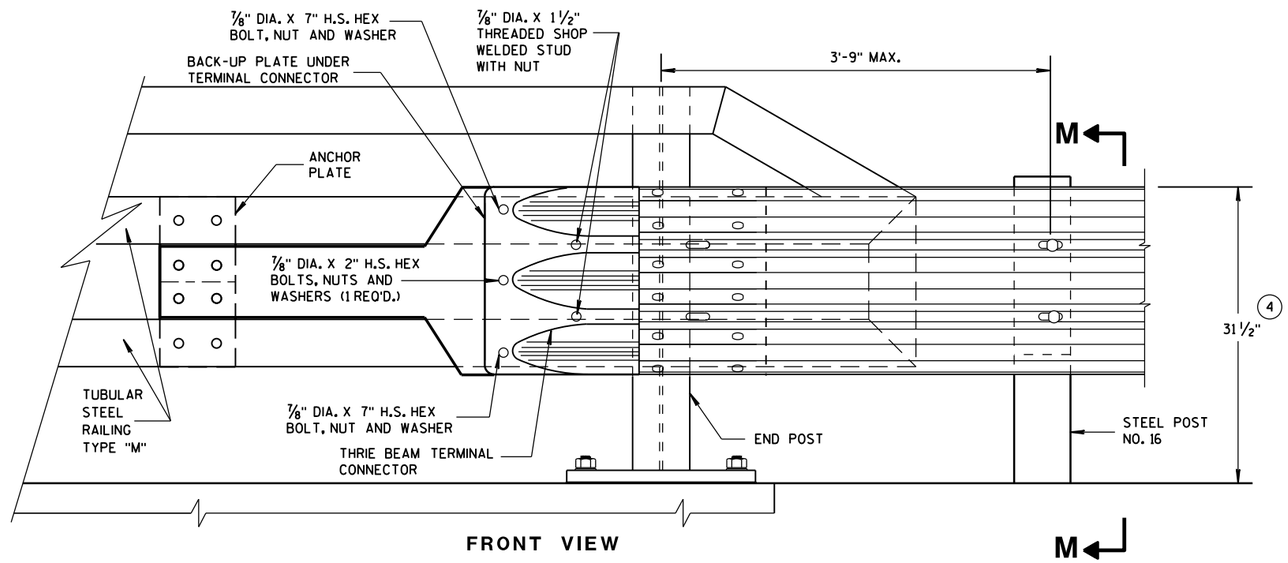


FRONT VIEW

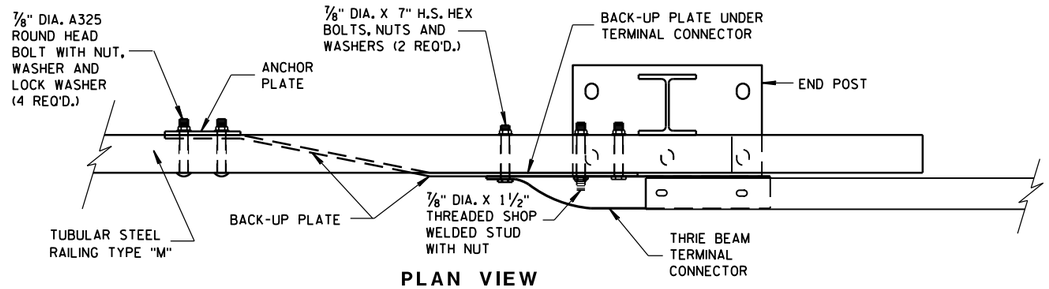
ANCHOR PLATE DETAIL, TYPE "M"



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

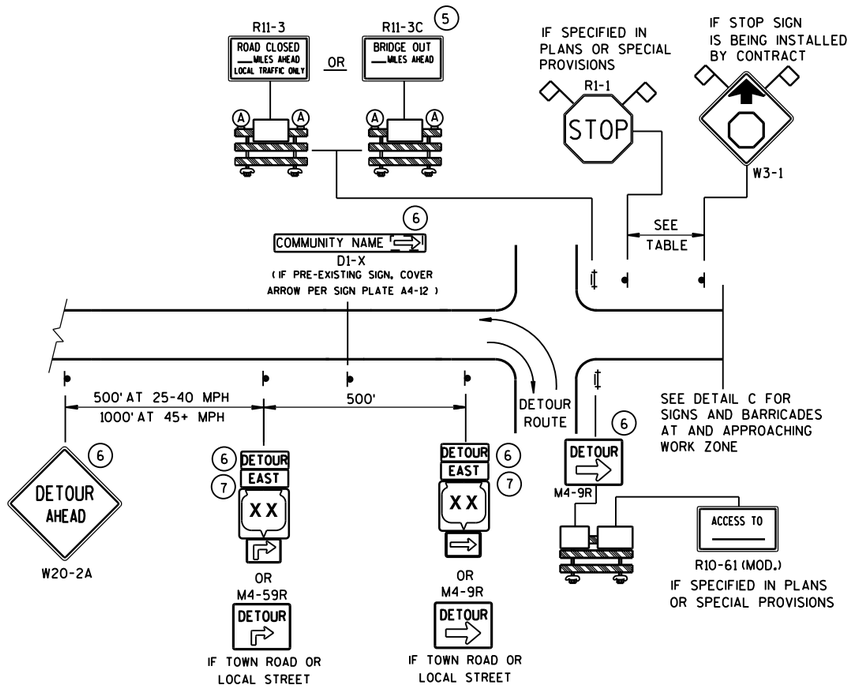
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

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

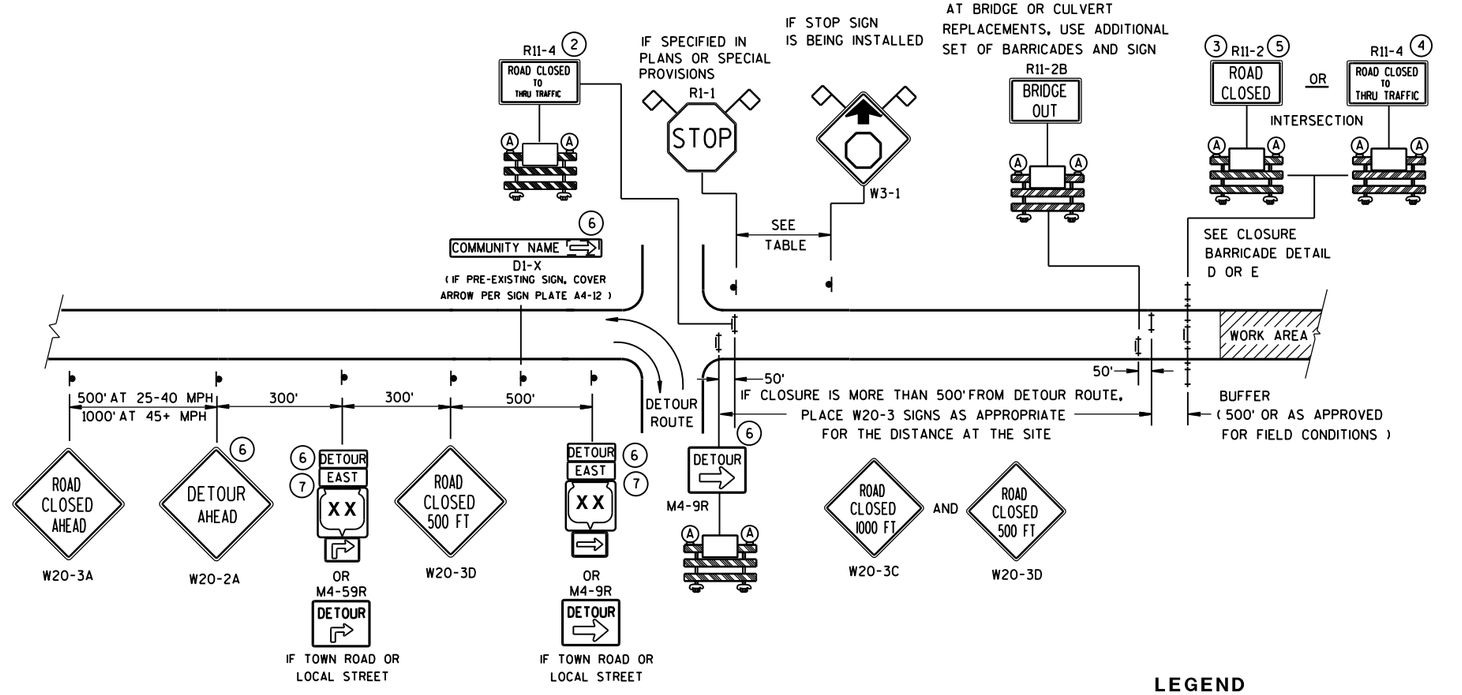
6

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



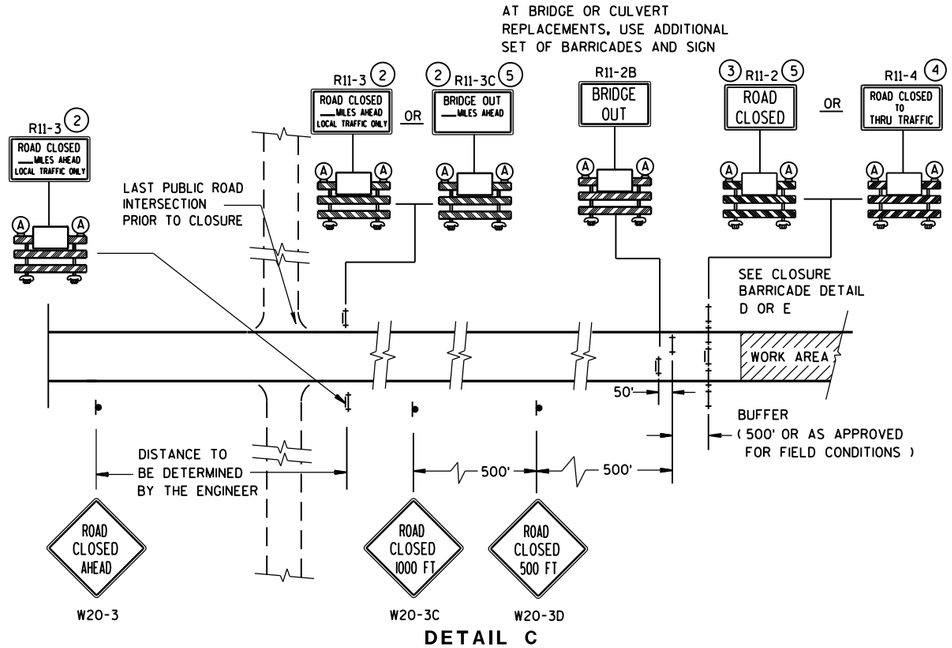
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

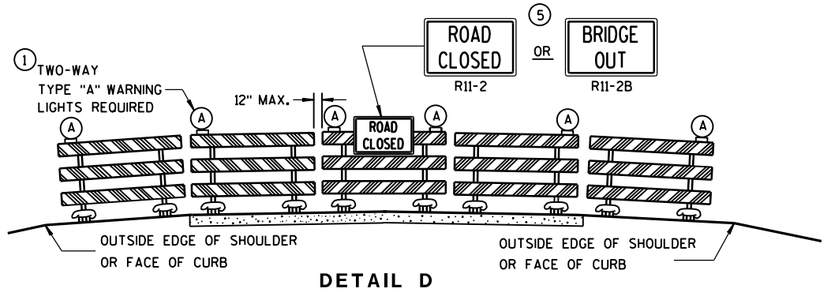
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

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

6

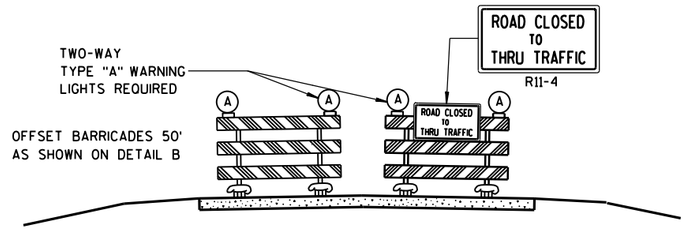
S.D.D. 15 C 2-6a



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 — FIC

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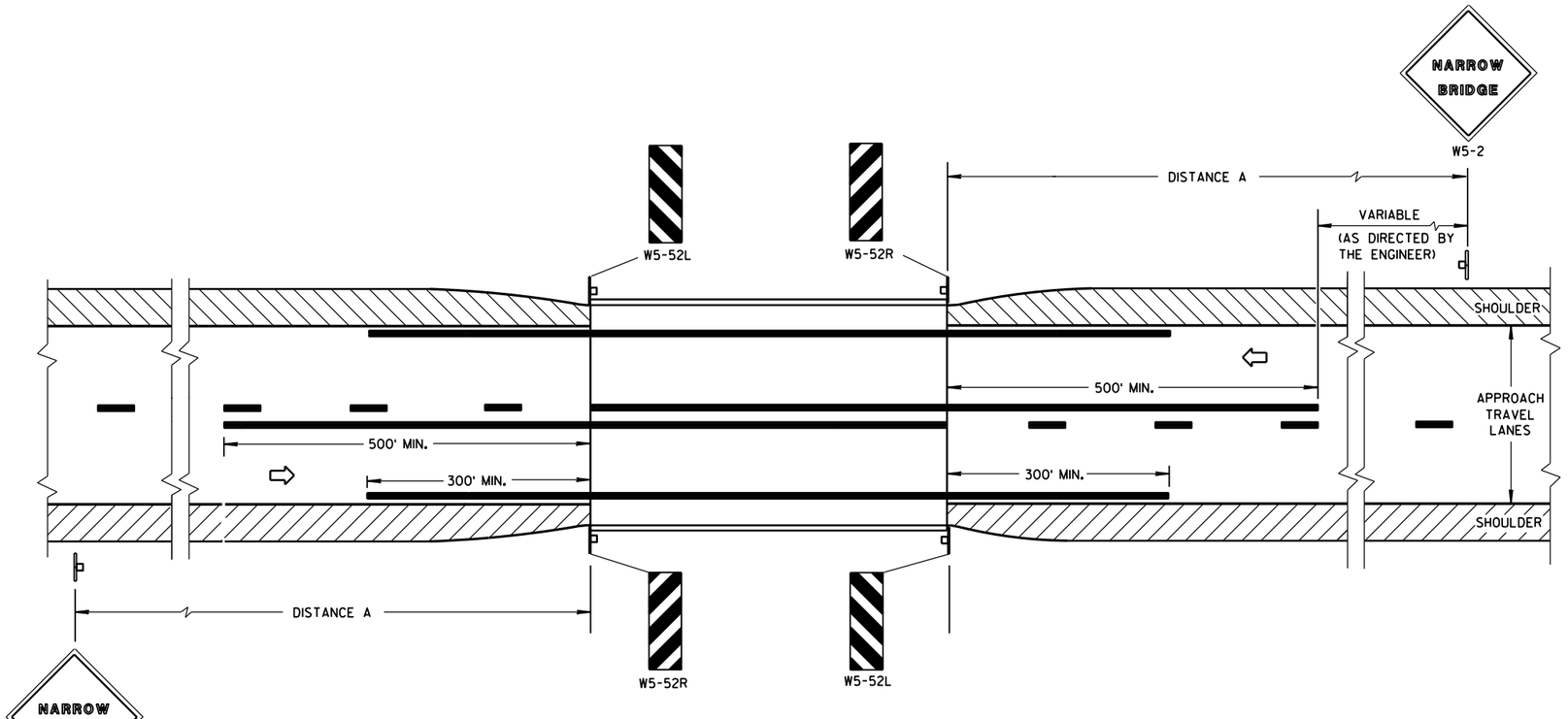
S.D.D. 15 C 2-6b



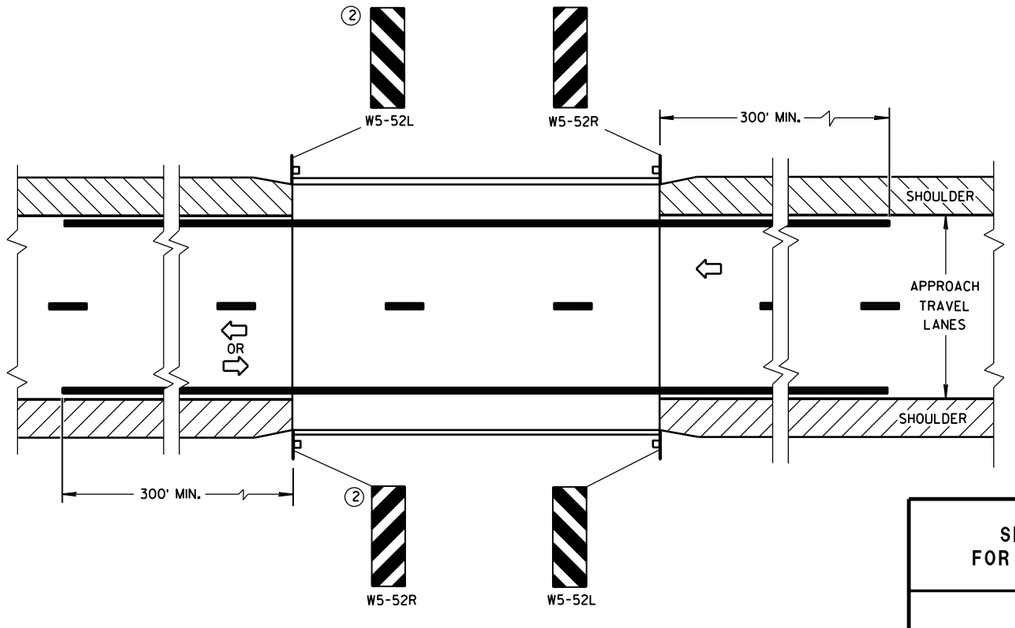
SITUATION 1

WARRANTING CRITERIA:

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

DISTANCE TABLE

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



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

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.

① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

② OMIT ON ONE-WAY TRAVELLED WAYS.

③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

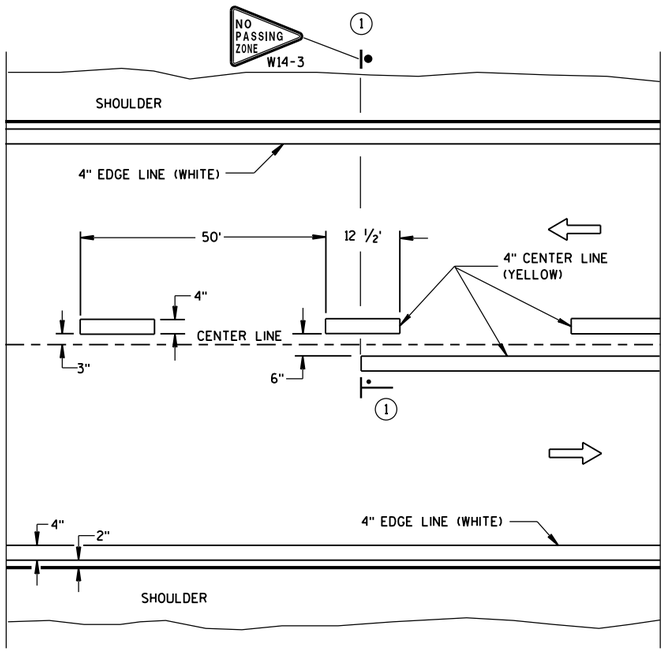
APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

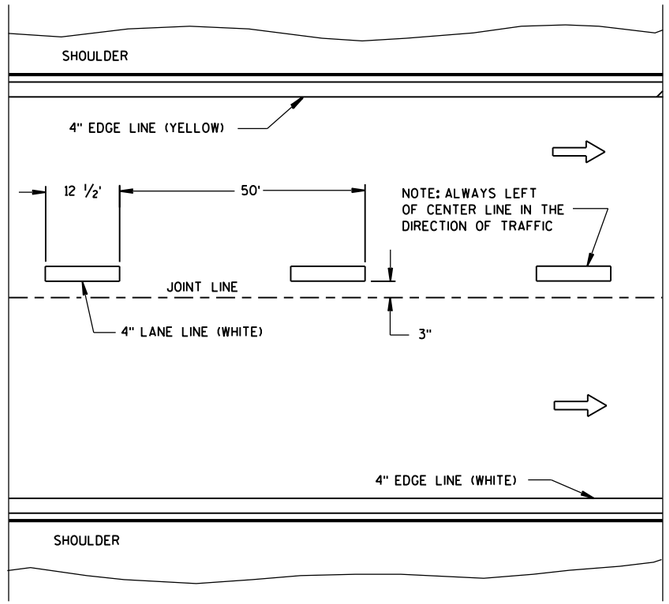
S.D.D. 15 C 6-8

6

S.D.D. 15 C 6-8



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

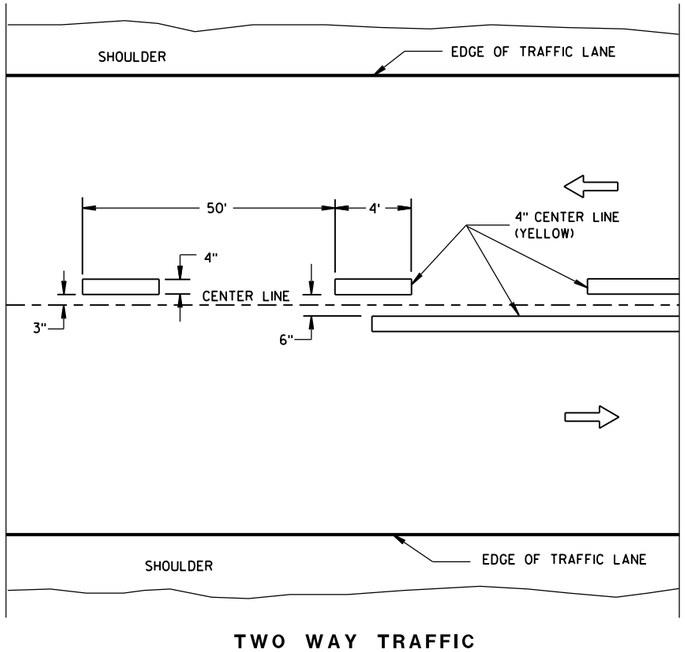
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

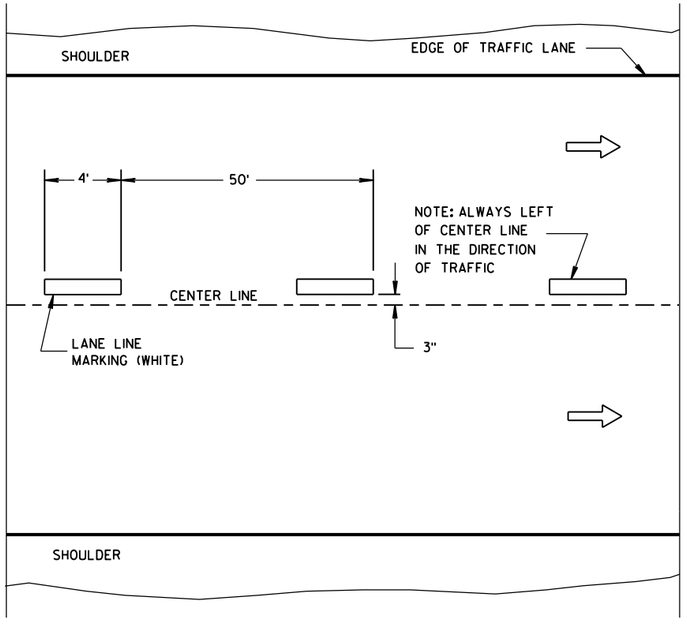
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

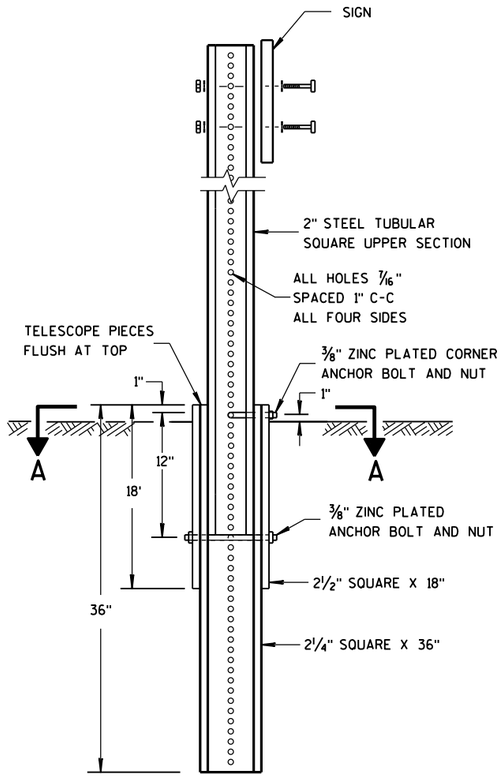
APPROVED
Sept., 2016 — /S/ Matthew R. Rauch
DATE — STATE SIGNING AND MAR[illegible]INEER
FHWA

6

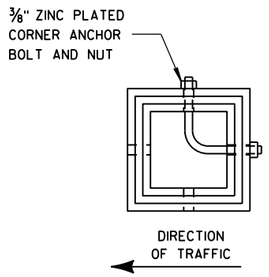
S.D.D. 15 C 8-17a

6

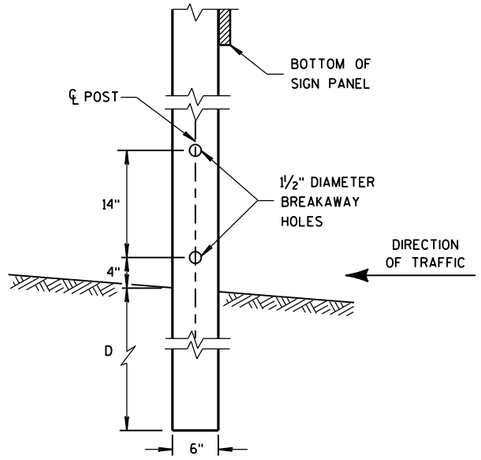
S.D.D. 15 C 8-17a



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



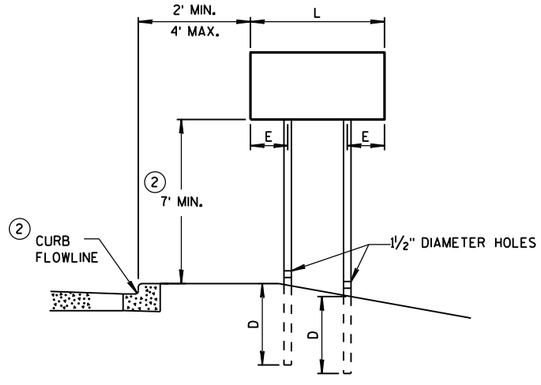
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

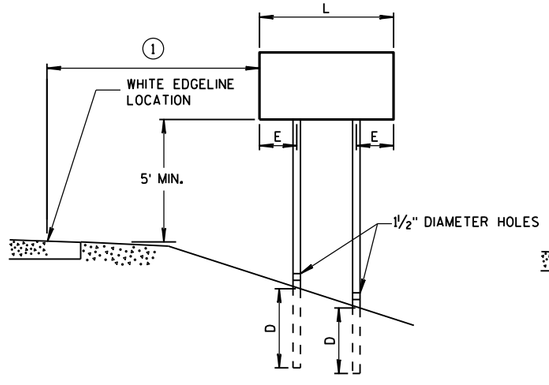
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

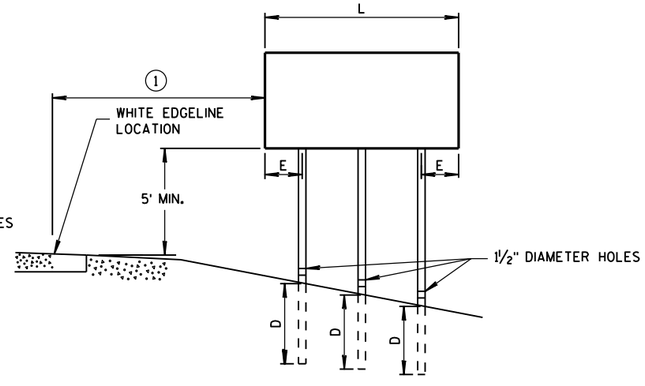
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

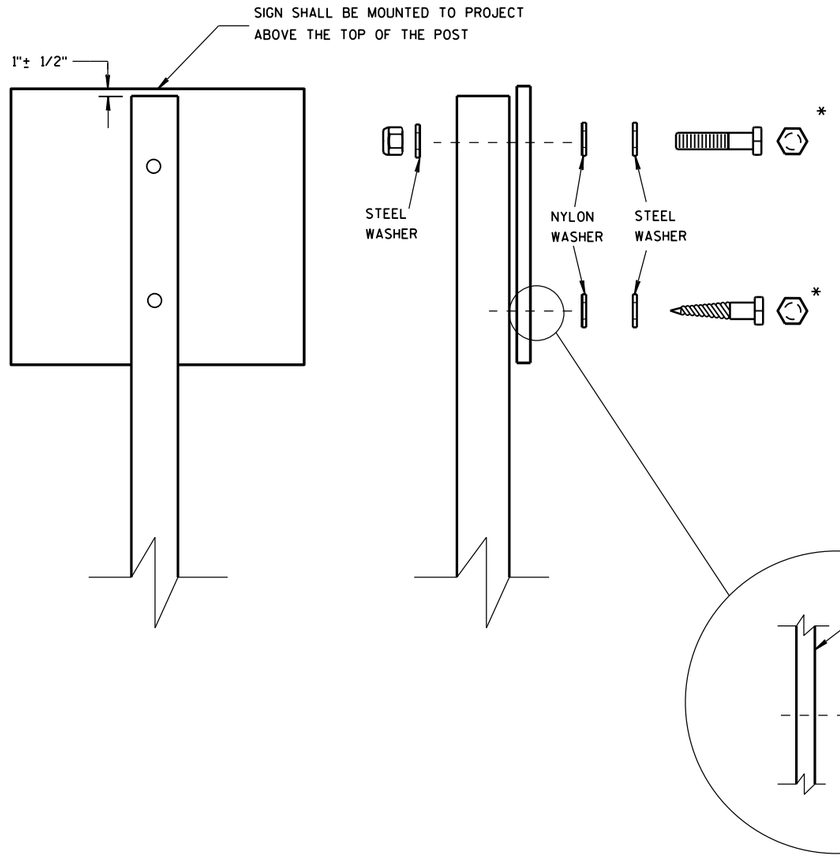
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 38-1a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

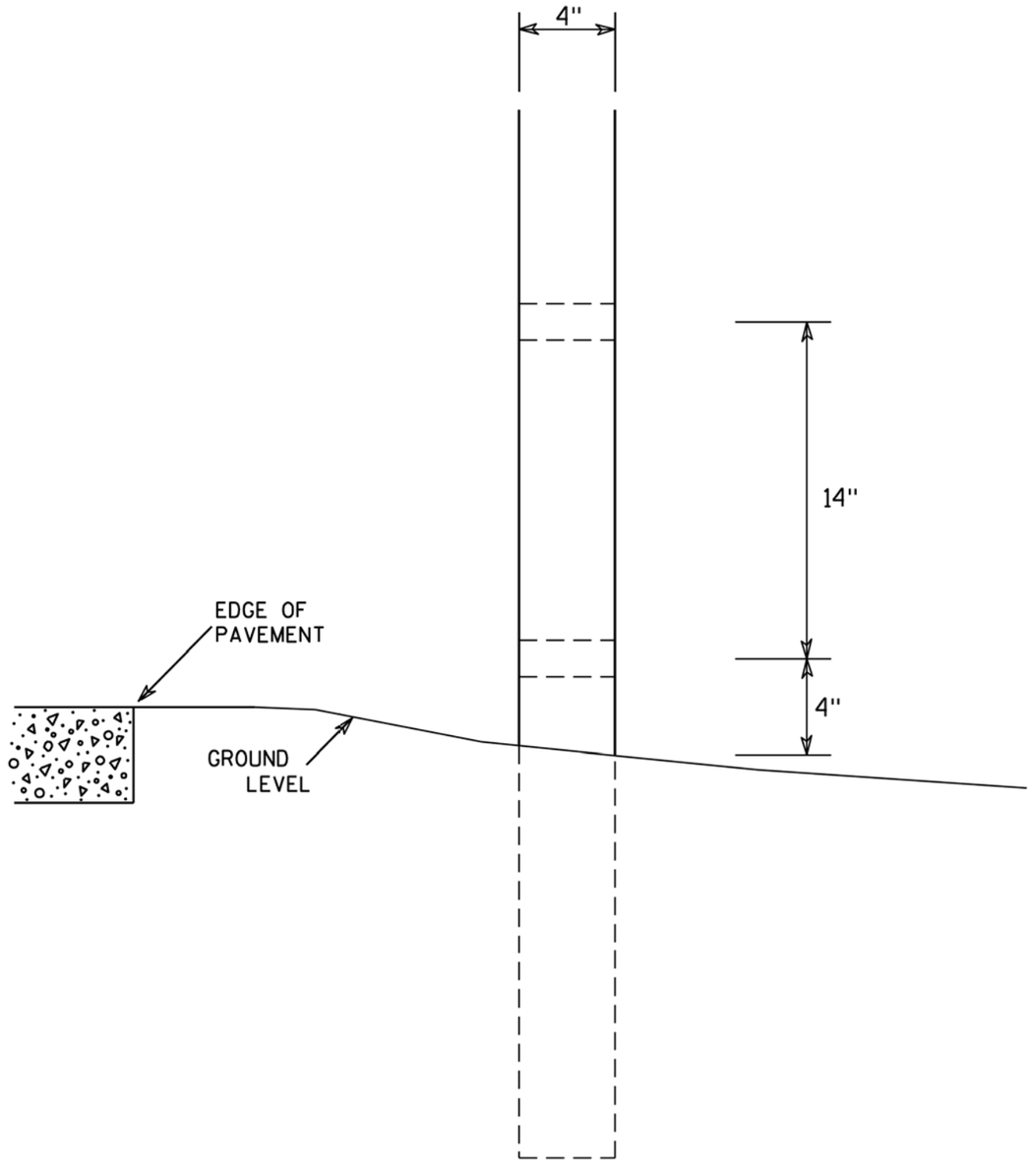
APPROVED

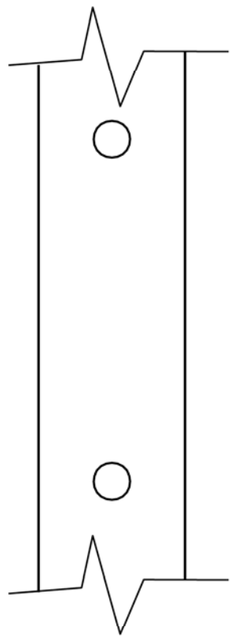
Feb. 2015 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

SIGN





SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

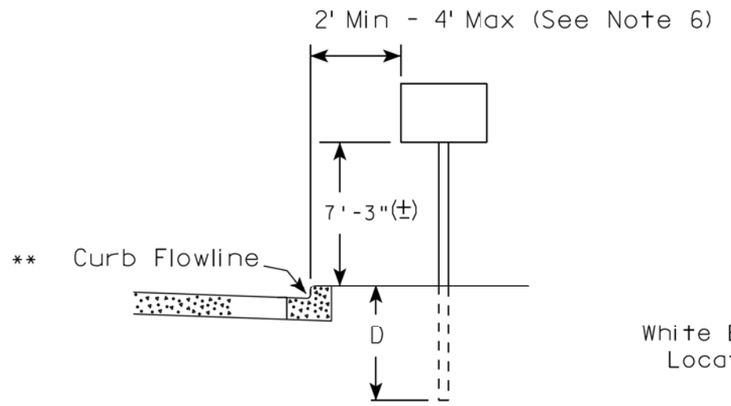
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spong for State Traffic Engineer

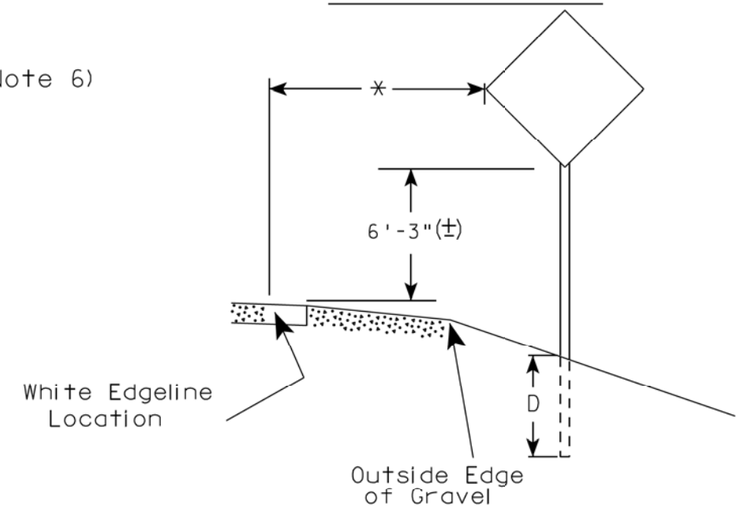
DATE 3/27/97 PLATE NO. A4-11.2

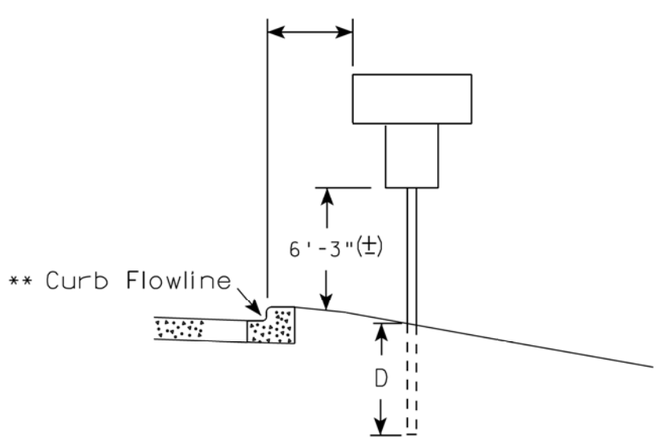
PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	SIGNS	SHEET NO: 34	E

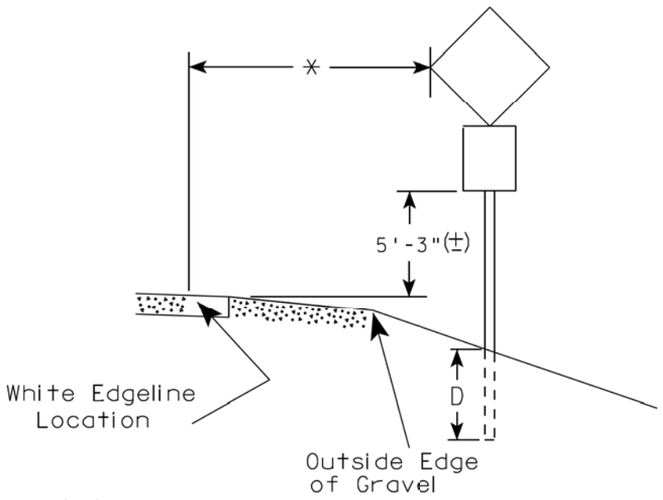
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 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" (±).

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

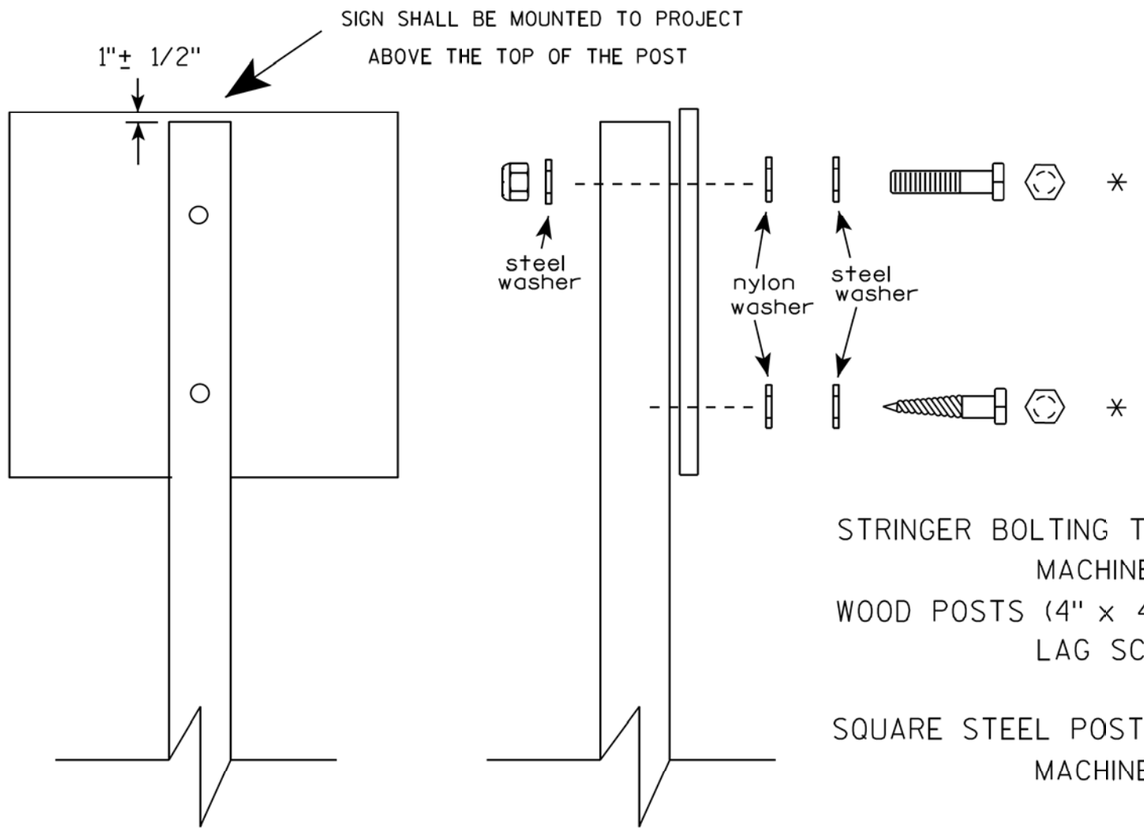
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	SIGNS	SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A43.DGN PLOT DATE : 23-JUL-2015 15:21 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 99.237937:1.000000 WISDOT/CADDS SHEET 42



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

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

* 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.

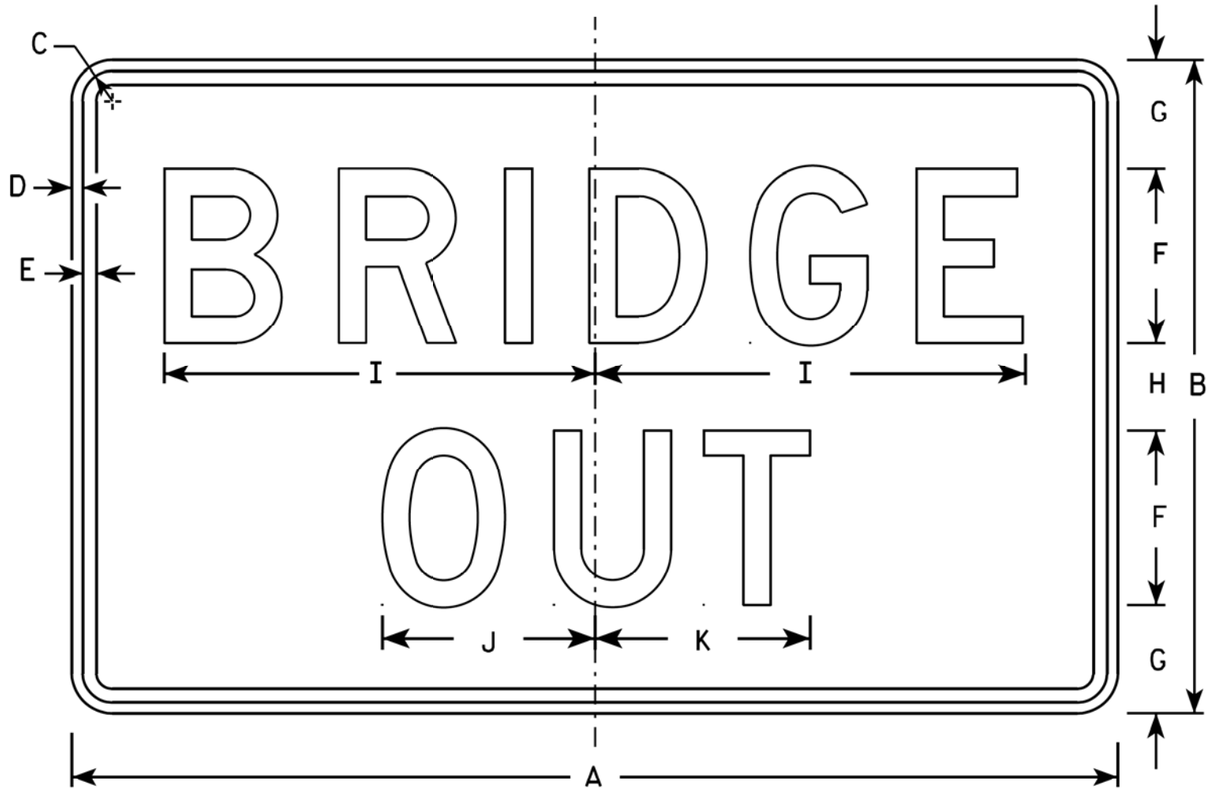
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	SIGNS	SHEET NO:	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: 4201-03-71 | HWY: CTH FF | COUNTY: SHEBOYGAN | SIGNS | SHEET NO: 37 | 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

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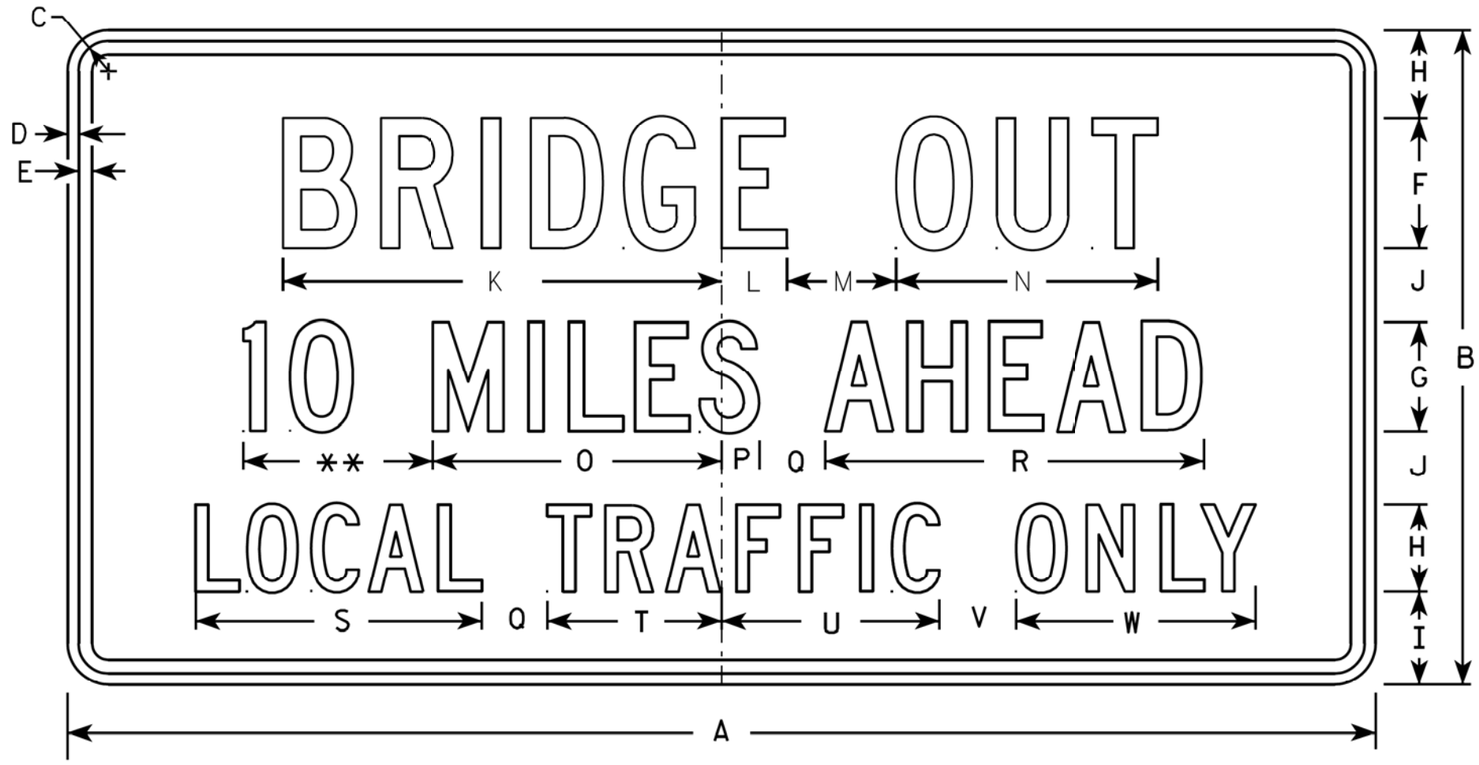


R11-3B

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

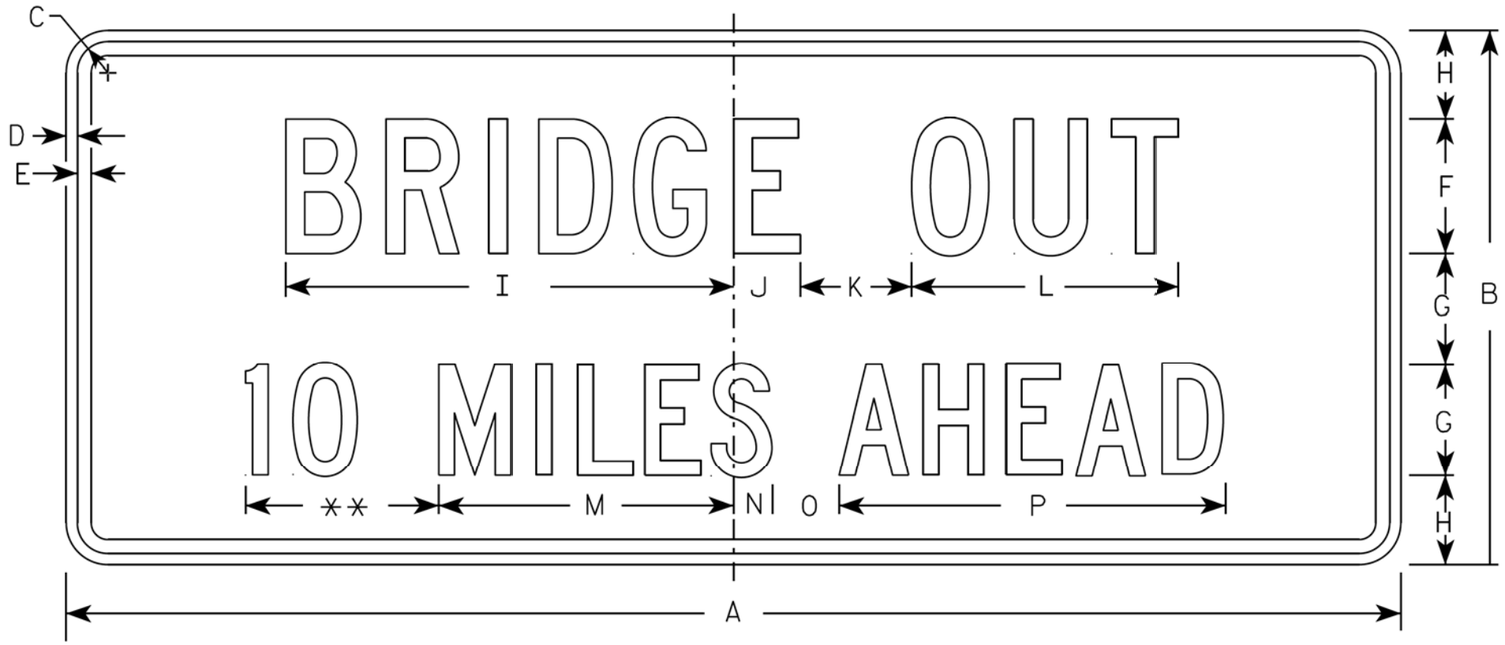
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: 4201-03-71 | HWY: CTH FF | COUNTY: SHEBOYGAN | SIGNS | SHEET NO: 38 | E

NOTES

1. Sign is Type II - Type H Reflective
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 to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C ** 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

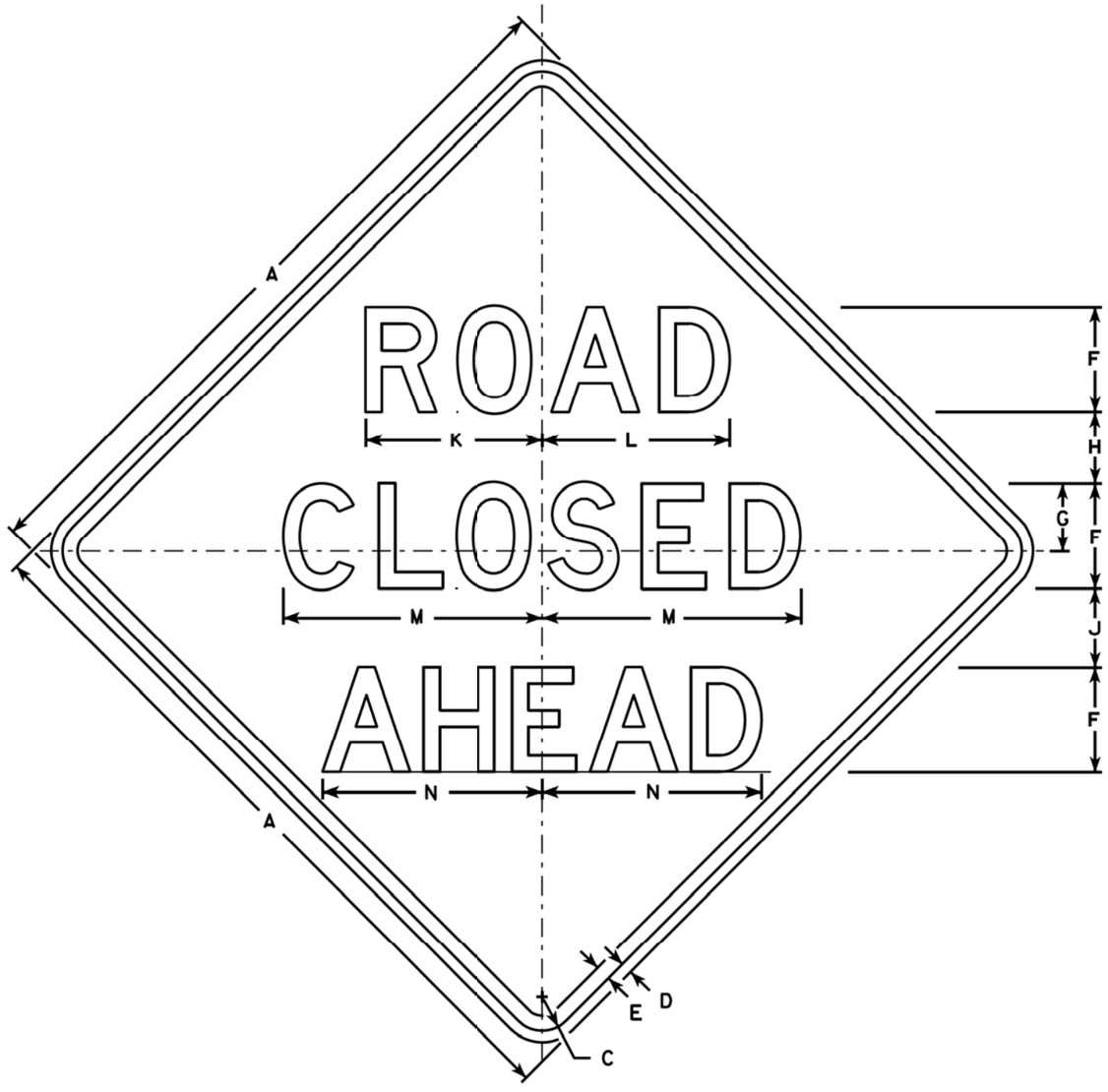
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/28/16 PLATE R11-3C.3

PROJECT NO: 4201-03-71 | HWY: CTH FF | COUNTY: SHEBOYGAN | SIGNS | SHEET NO: E

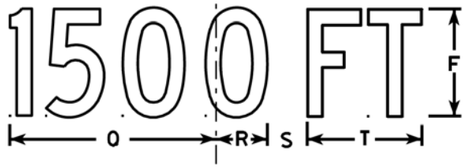
FILE NAME = C:\CAEfiles\Projects\tc_stdplate\R113C.DGN PLOT DATE = 28-JUL-2016 16:56 PLOT BY = ** plotuser **



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

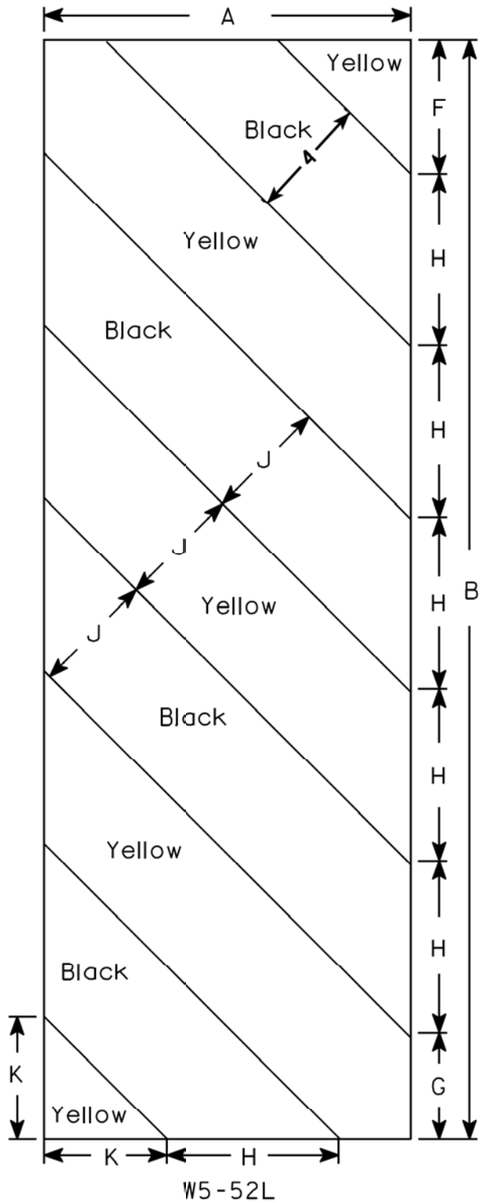
PROJECT NO: 4201-03-71 | HWY: CTH FF | COUNTY: SHEBOYGAN | SIGNS | SHEET NO: 40 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

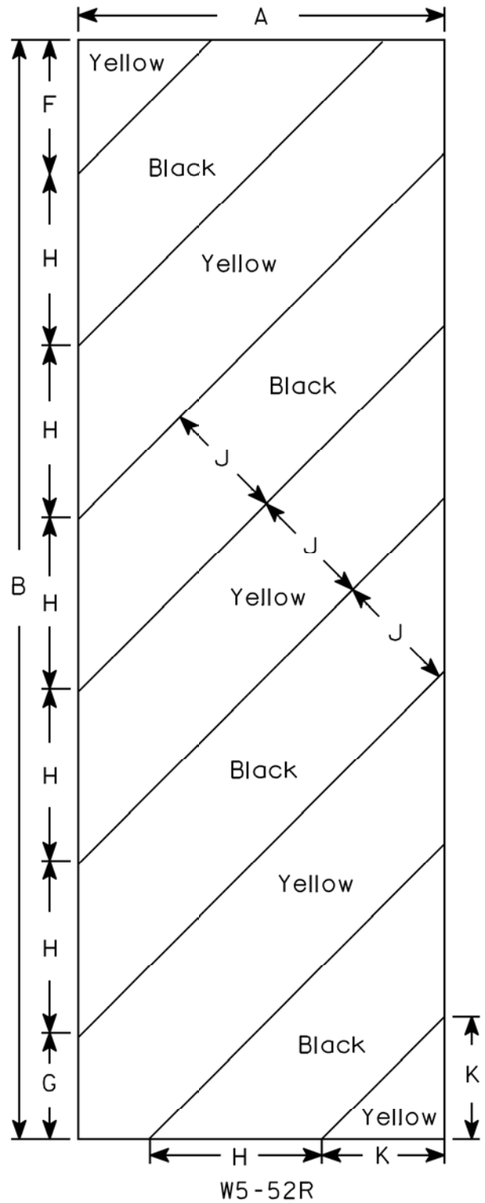
WISDOT/CADDS SHEET 42

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: 4201-03-71 | HWY: CTH FF | COUNTY: SHEBOYGAN | SIGNS | SHEET NO: 41 | E

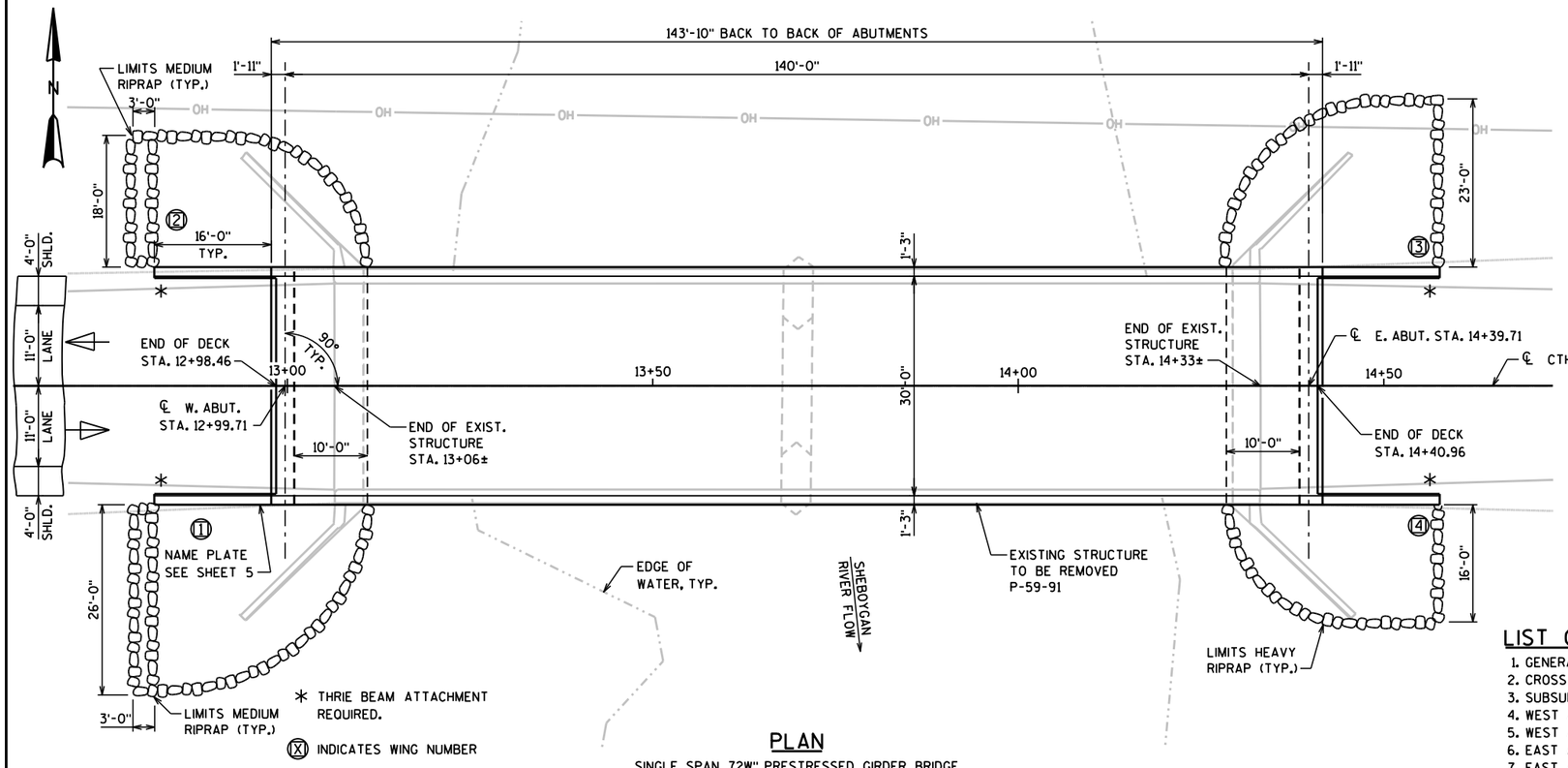
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

WISDOT/CADDS SHEET 42

7

7

STATE PROJECT NUMBER
4201-03-71

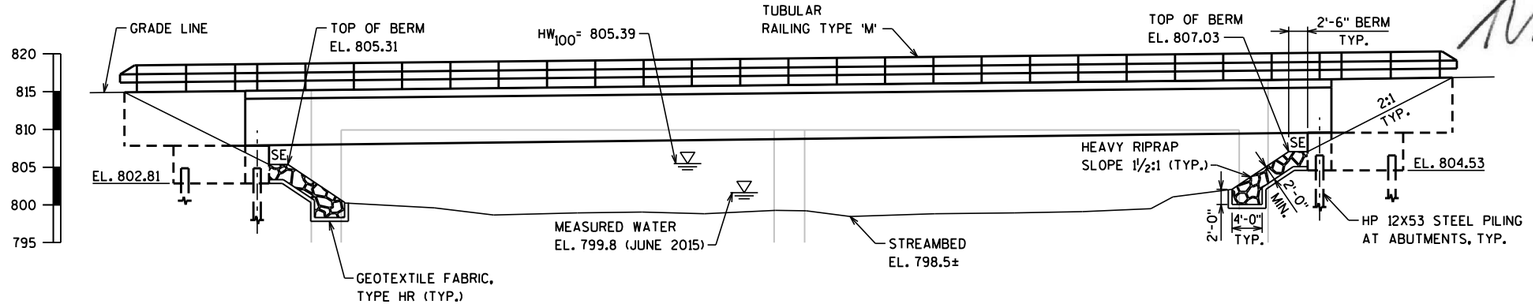


PLAN

SINGLE SPAN 72W" PRESTRESSED GIRDER BRIDGE

TRAFFIC VOLUME

A.D.T. 430 (2038)
R.D.S.= 60 M.P.H.



ELEVATION

(LOOKING NORTH)

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. ABUTMENT DETAILS
9. 72W" PRESTRESSED GIRDER DETAILS
10. STEEL DIAPHRAGMS
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE DETAILS
13. TUBULAR STEEL RAILING TYPE 'M'

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.40
OPERATING RATING FACTOR	RF = 1.84
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	
SUPERSTRUCTURE	f'c = 4,000 P.S.I.
ALL OTHER	f'c = 3,500 P.S.I.
72W" PRESTRESSED	
GIRDERS CONCRETE MASONRY	f'c = 8,000 P.S.I.
HIGH STRENGTH BAR STEEL	
REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
STRANDS - 0.6" DIA.	
ULTIMATE TENSILE STRENGTH	fy = 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS AND PIERS TO BE SUPPORTED ON HP 12X53 STEEL PILING. PILING AT THE WEST AND EAST ABUTMENTS SHALL BE DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE. ALL PILES SHALL BE FITTED WITH PILE POINTS.
ESTIMATED 55' LONG AT WEST ABUTMENT
ESTIMATED 60' LONG AT EAST ABUTMENT

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

HYDRAULIC DATA

Q_{100}	3,900 C.F.S.
$Q_{REGULATORY}$	4,585 C.F.S.
VELOCITY	5.82 F.P.S.
HIGH WATER	EL. 805.39 (100 YEAR)
HIGH WATER	EL. 802.64 (2 YEAR)
HIGH WATER	EL. 805.87 (REGULATORY)
WATERWAY AREA	670 S.F.
DRAINAGE AREA	194 SQ. MILES

OVERTOPPING FREQUENCY = N/A
SCOUR CRITICAL CODE = 8

WISCONSIN
KRISTOFER R. OLSON
E-35236
APPLETON, WI
PROFESSIONAL ENGINEER

6/29/17

CONSULTANT CONTACT

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

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
OMNNI ASSOCIATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/28/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-59-191

CTH FF OVER SHEBOYGAN RIVER

COUNTY: SHEBOYGAN	TOWN: HERMAN
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	LOAD: HL-93

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

GENERAL PLAN

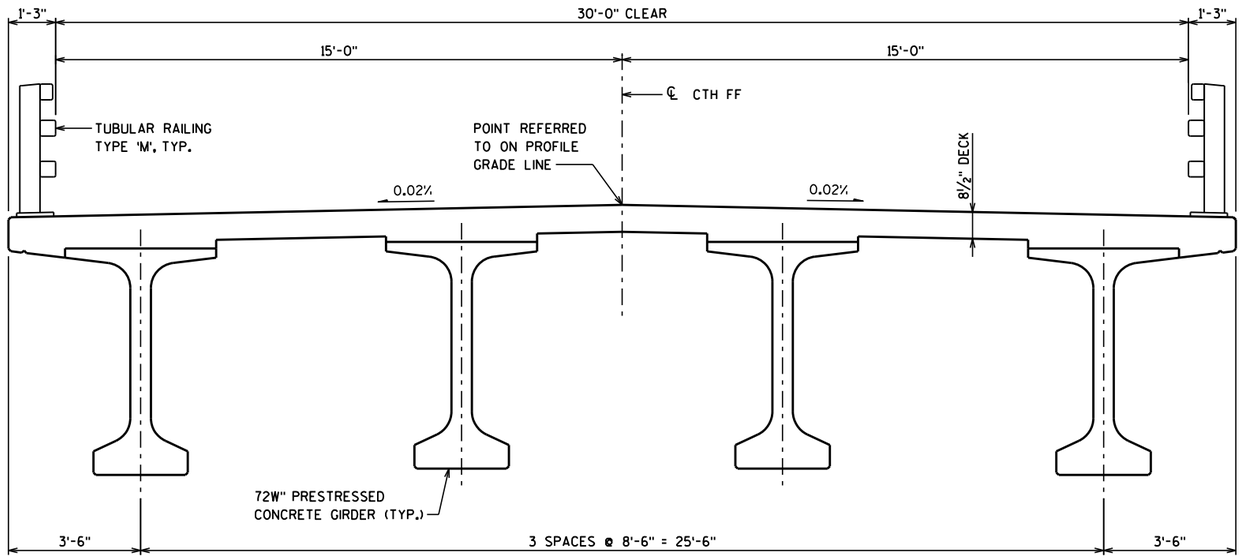
SHEET 1 OF 13

42

8

8

STATE PROJECT NUMBER
4201-03-71



CROSS SECTION THRU ROADWAY

BENCH MARKS

NO.	DESCRIPTION	NORTHING	EASTING	ELEV.
BM2	RR SPIKE IN P.P. *H17/D3	212259.87	170267.49	817.45
BM3	CROSS ON TOP OF SOUTHWEST WING OF BRIDGE	212205.67	169910.60	815.48
BM4	SOUTHEST CORNER OF CONCRETE SLAB AT RECYCLING CENTER	212414.93	169699.36	814.92

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA 13+70	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-59-191	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-----	340	340	680
502.0100	CONCRETE MASONRY BRIDGES	CY	192	43	44	279
502.3200	PROTECTIVE SURFACE TREATMENT	SY	620	-----	-----	620
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	564	-----	-----	564
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-----	2,120	2,120	4,240
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	29,670	2,480	2,490	34,640
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	8	-----	-----	8
506.4000	STEEL DIAPHRAGMS B-59-191	EACH	6	-----	-----	6
513.4061	RAILING TUBULAR TYPE M B-59-191	LF	356	-----	-----	356
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-----	10	10	20
550.0500	PILE POINTS	EACH	-----	9	9	18
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	-----	495	540	1,035
606.0200	RIPRAP MEDIUM	CY	-----	10	-----	10
606.0300	RIPRAP HEAVY	CY	-----	125	115	240
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-----	75	75	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	-----	31	31	62
645.0120	GEOTEXTILE TYPE HR	SY	-----	188	171	359
	NON-BID ITEMS					
	FILLER	SIZE	—	—	—	½"&¾"

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.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

THIS BRIDGE WILL REPLACE THE EXISTING TWO-SPAN CIP CONCRETE BEAM BRIDGE SUPPORTED ON CONCRETE RETAINING ABUTMENTS AND A CONCRETE PIER. THE STRUCTURE WAS BUILT IN 1961.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

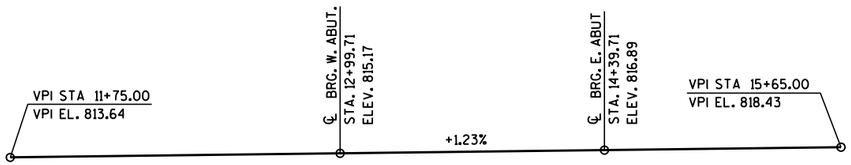
AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

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

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP, SIDES, 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.

ALL VOIDS BETWEEN HEAVY RIPRAP SHALL BE FILLED USING 1" TO 3" STONE, INCIDENTAL TO HEAVY RIPRAP IN ACCORDANCE WITH THE SPECIAL PROVISION.



PROFILE GRADE LINE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-191

DRAWN BY BRE | PLANS CK'D. KRO

CROSS SECTION & QUANTITIES

SHEET 2 OF 13

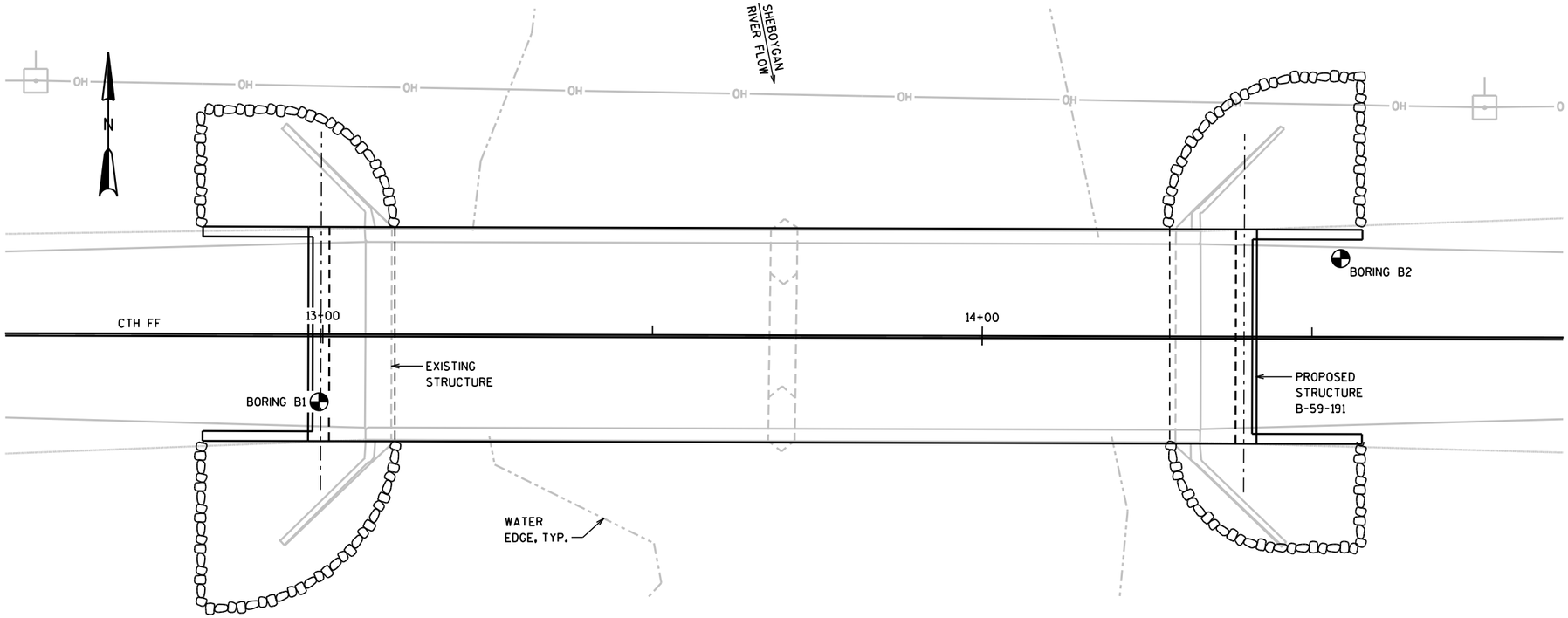
8

8

FILE NAME : F:±TR±JOBS±E2149A15±Sheets±B-59-191 02 xc & quant.dgn PLOT BY : EpleyB PLOT DATE: 6/29/2017 2:50:40 PM

STATE PROJECT NUMBER

4201-03-71



ABBREVIATIONS

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

MATERIAL SYMBOLS

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

LEGEND OF PROBING

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

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

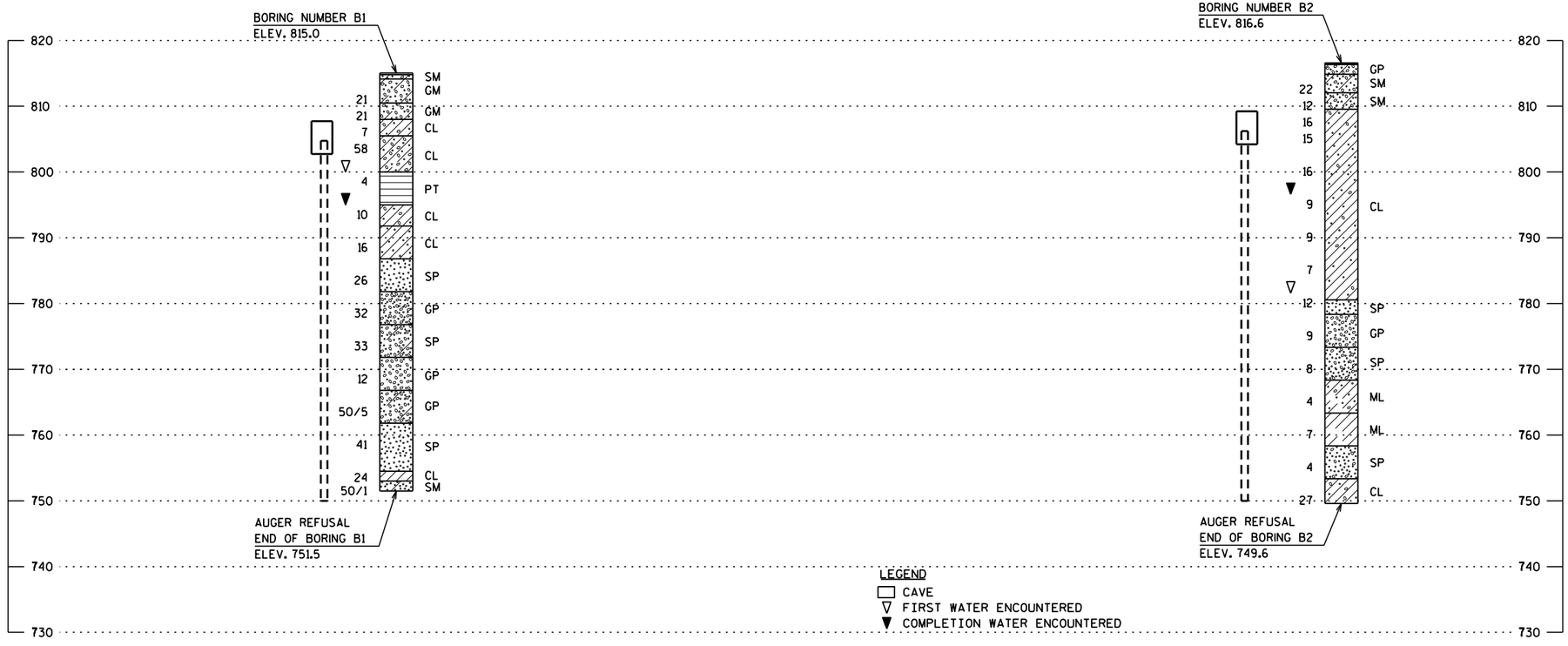
LEGEND OF BORING

Boring No.
Elev.
Sta.
Unconfined Strength → 7.7 7
Blows Per Ft. Using 140# Wt. Falling 30"
Wash Sample
Shelby Tube — S.T.
Ground Water Elevation
No Ground Water Observed Above This Elevation
Sandy Gravel
F. Boulders or Cobbles
Sand
Silty Clay
So Limestone

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-59-191

DRAWN BY BRE PLANS CK'D. KRO

SUBSURFACE EXPLORATION

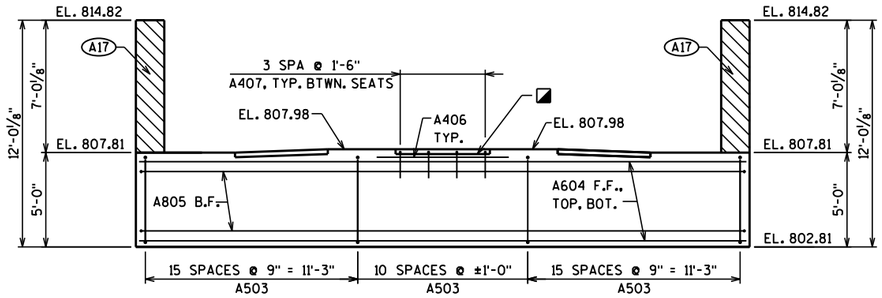
SHEET 3 OF 13

44

8

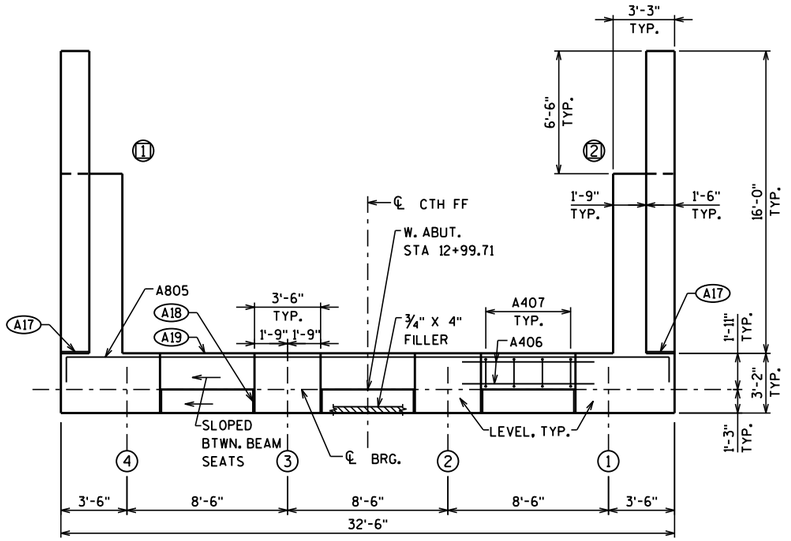
8

STATE PROJECT NUMBER
4201-03-71

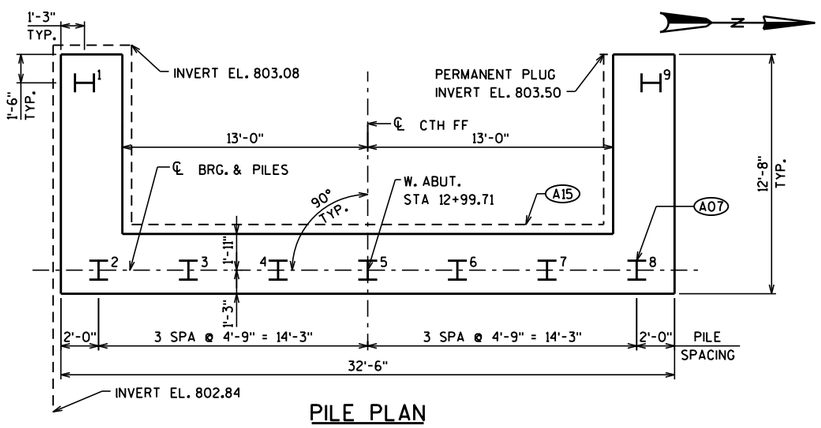


NOTE: SPACE A503 TO MISS PILING

ELEVATION
(LOOKING WEST)



PLAN



PILE PLAN

LEGEND

(A07) ABUTMENTS TO BE SUPPORTED ON HP 12 X 53 STEEL PILING. PILING AT WEST ABUTMENT SHALL BE FITTED WITH PILE POINTS AND DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 55' AT THE WEST ABUTMENT.

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SOUTH SLOPES. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

(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.

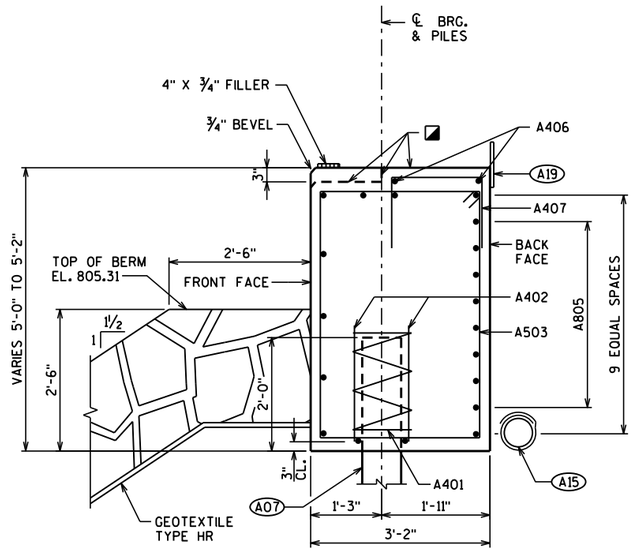
(A18) ¾" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

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

(X) DENOTES WING NUMBER

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

SEE SHEET 5 FOR WINGWALL DETAILS, BILL OF BARS AND BAR BENDING DIAGRAMS.



SECTION THRU BODY
HORIZ. BARS NOT OTHERWISE IDENTIFIED ARE A604 BARS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-191

DRAWN BY MRW | PLANS CK'D. BRE

WEST ABUTMENT

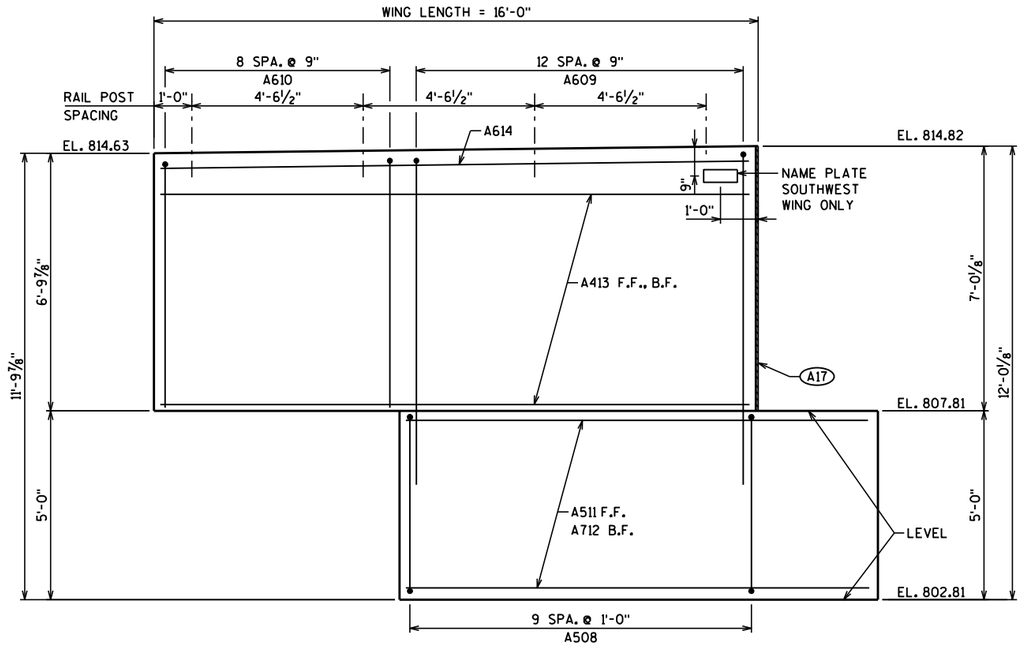
SHEET 4 OF 13

45

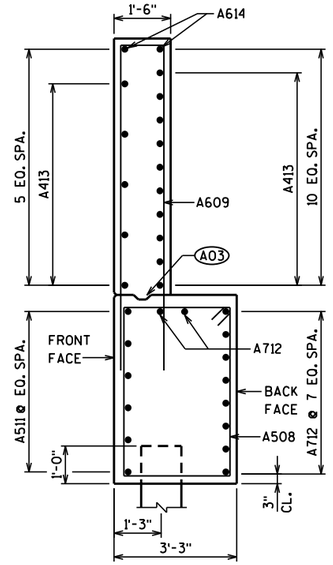
8

8

STATE PROJECT NUMBER
4201-03-71



WING 1 ELEVATION

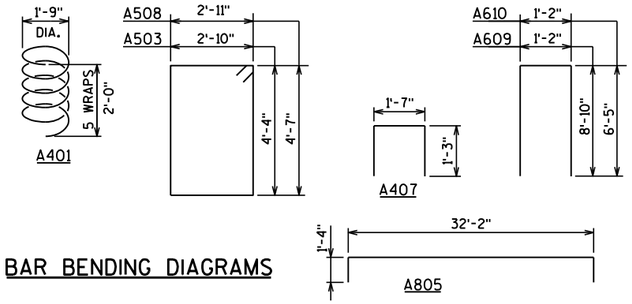


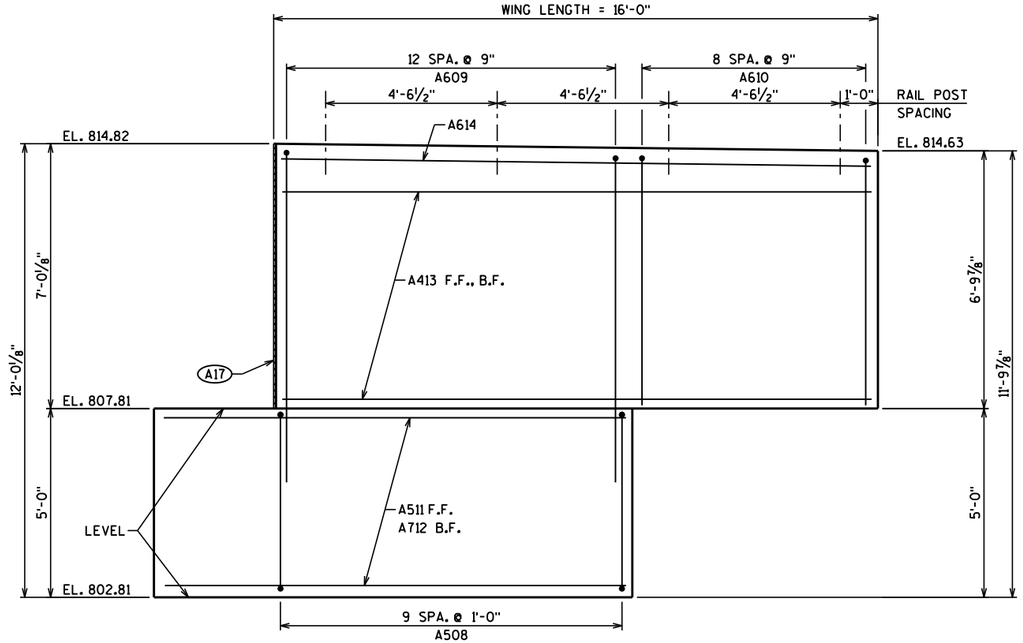
WING 1 SECTION

BILL OF BARS

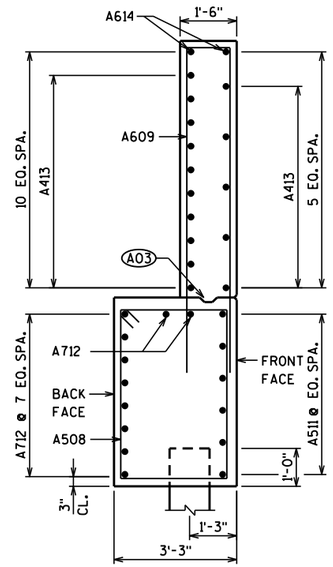
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401		7	28'-0"	X	BODY - ONE PER PILE
A402		14	2'-3"		BODY - TWO PER PILE
A503		41	15'-0"	X	BODY - STIRRUPS
A604		11	32'-2"		BODY - HORIZONTAL
A805		8	34'-5"	X	BODY - HORIZONTAL B.F.
A406		6	7'-0"		BODY - HORIZONTAL TOP
A407		12	3'-11"	X	BODY - VERTICAL TOP
A508	X	20	15'-8"	X	WINGS - STIRRUPS
A609	X	26	18'-6"	X	WINGS - VERTICAL
A610	X	18	13'-8"	X	WINGS - VERTICAL
A511	X	12	12'-4"		WINGS - HORIZONTAL, F.F.
A712	X	20	12'-1"		WINGS - HORIZONTAL, B.F., TOP
A413	X	30	15'-8"		WINGS - HORIZONTAL
A614	X	4	15'-8"		WINGS - HORIZONTAL, TOP

BAR BENDING DIAGRAMS





WING 2 ELEVATION

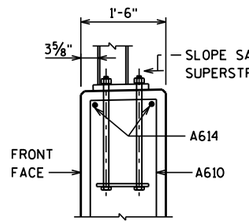


WING 2 SECTION

NOTES

(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) 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.



TYPE 'M' RAIL AT TOP OF WING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-191

DRAWN BY MRW | PLANS CK'D. BRE

WEST ABUTMENT DETAILS

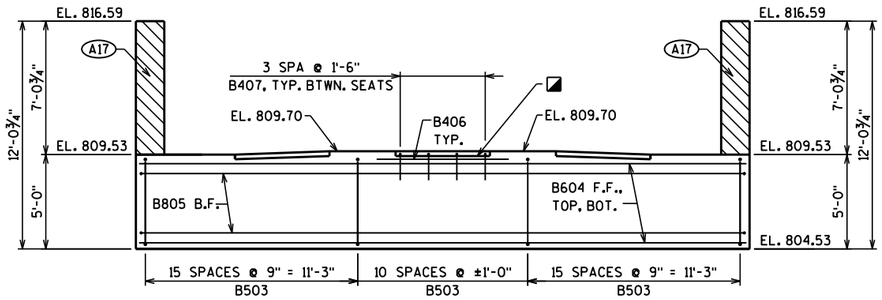
SHEET 5 OF 13

8

8

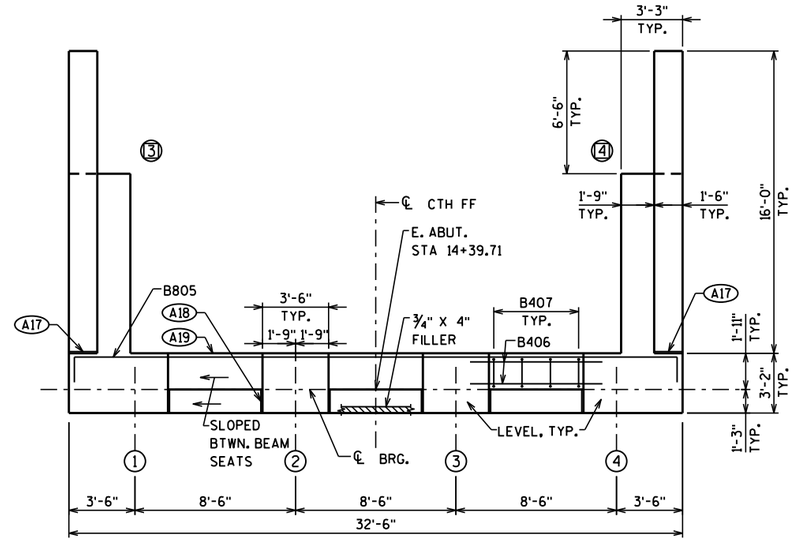
FILE NAME : F:±TR±JOBS±E2149A15±Sheets±B-59-191 05 w abut det.dgn PLOT BY : epleyb PLOT DATE: 4/5/2017 10:58:38 AM

STATE PROJECT NUMBER
4201-03-71

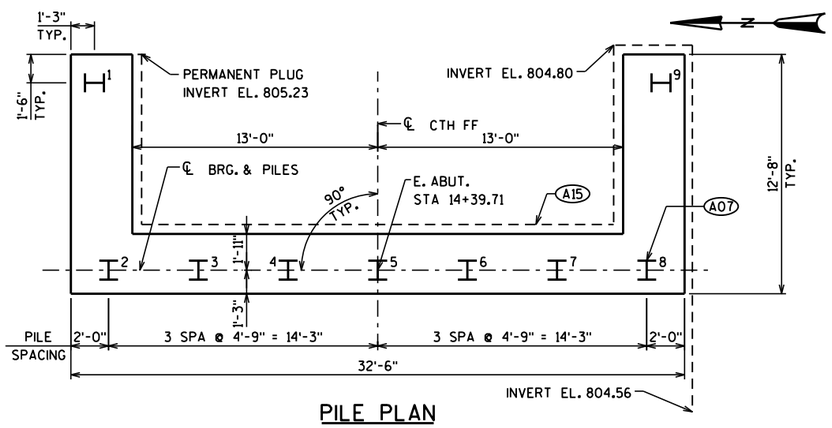


NOTE: SPACE B503 TO MISS PILING

ELEVATION
(LOOKING EAST)



PLAN



PILE PLAN

LEGEND

(A07) ABUTMENTS TO BE SUPPORTED ON HP 12 X 53 STEEL PILING. PILING AT EAST ABUTMENT SHALL BE FITTED WITH PILE POINTS AND DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. ESTIMATED LENGTH = 60' AT THE EAST ABUTMENT.

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SOUTH SLOPES. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

(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.

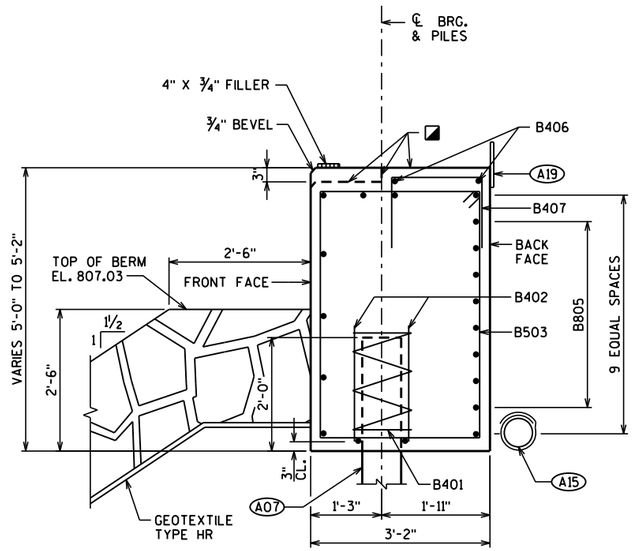
(A18) ¾" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

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

(X) DENOTES WING NUMBER

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

SEE SHEET 7 FOR WINGWALL DETAILS, BILL OF BARS AND BAR BENDING DIAGRAMS.



SECTION THRU BODY
HORIZ. BARS NOT OTHERWISE IDENTIFIED ARE B604 BARS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-191

DRAWN BY MRW | PLANS CK'D. BRE

EAST ABUTMENT

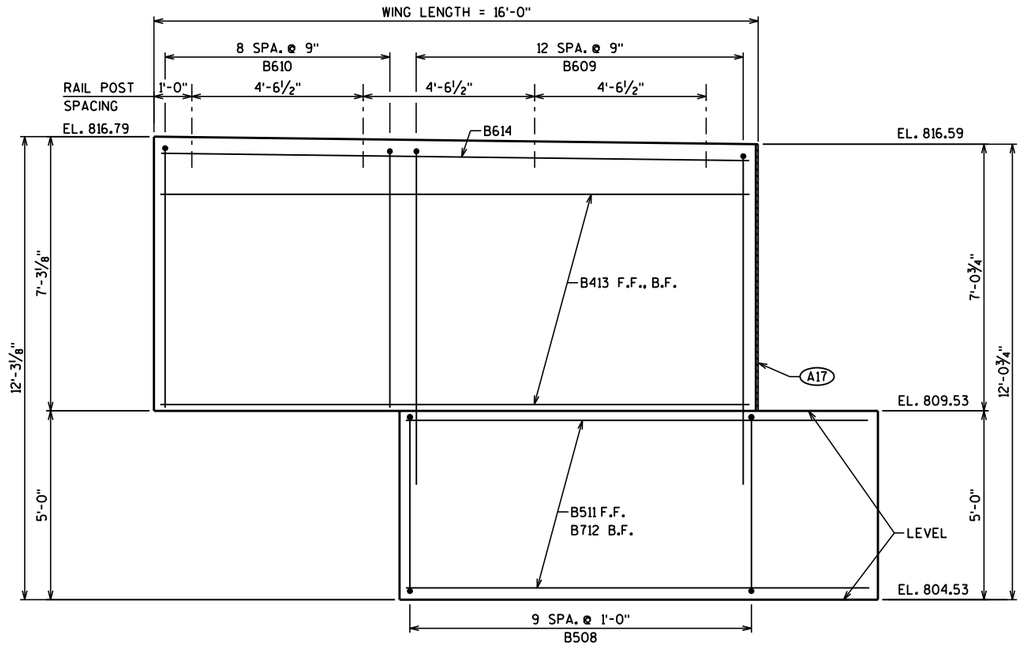
SHEET 6 OF 13

47

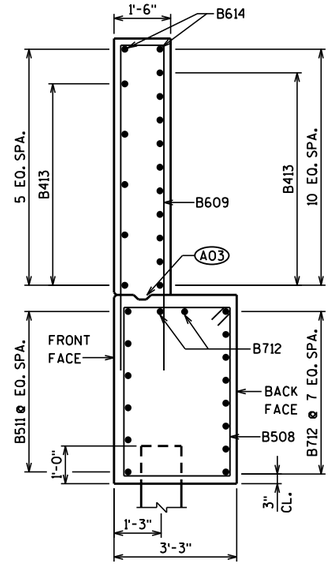
8

8

STATE PROJECT NUMBER
4201-03-71



WING 3 ELEVATION

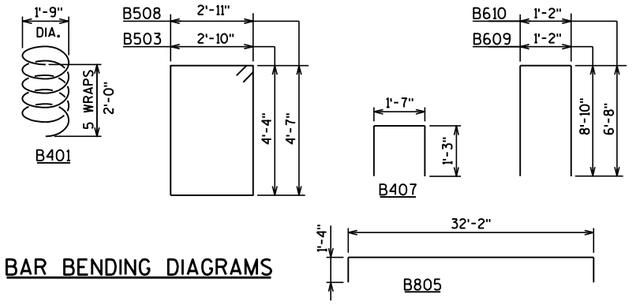


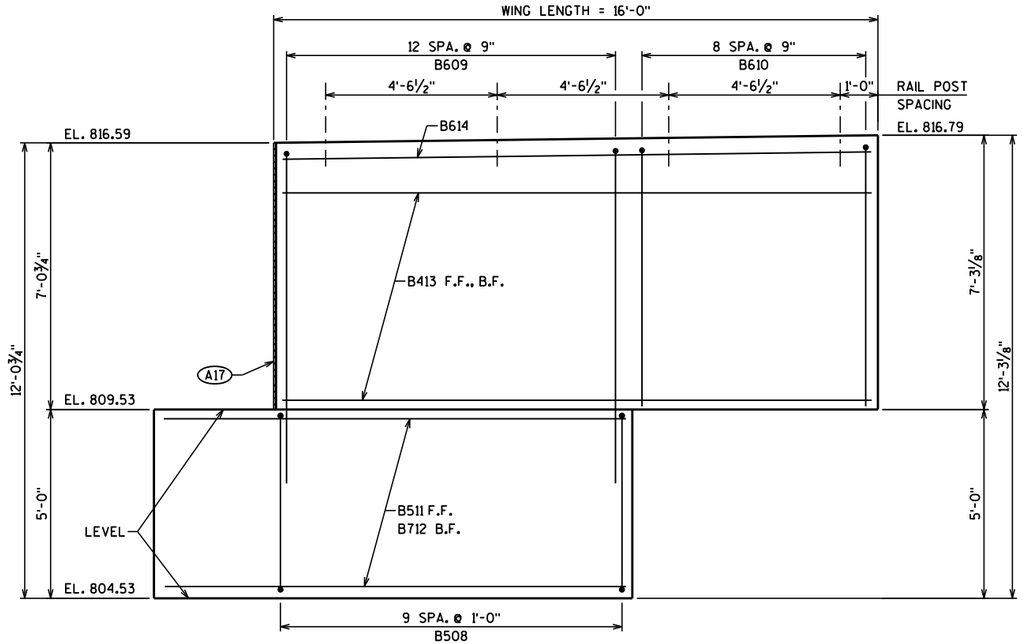
WING 3 SECTION

BILL OF BARS

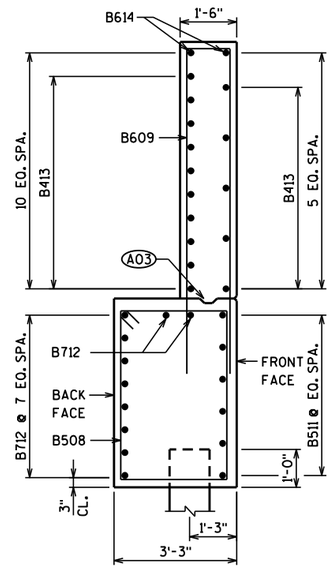
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401		7	28'-0"	X	BODY - ONE PER PILE
B402		14	2'-3"		BODY - TWO PER PILE
B503		41	15'-0"	X	BODY - STIRRUPS
B604		11	32'-2"		BODY - HORIZONTAL
B805		8	34'-5"	X	BODY - HORIZONTAL B.F.
B406		6	7'-0"		BODY - HORIZONTAL TOP
B407		12	3'-11"	X	BODY - VERTICAL TOP
B508	X	20	15'-8"	X	WINGS - STIRRUPS
B609	X	26	18'-6"	X	WINGS - VERTICAL
B610	X	18	14'-2"	X	WINGS - VERTICAL
B511	X	12	12'-4"		WINGS - HORIZONTAL, F.F.
B712	X	20	12'-1"		WINGS - HORIZONTAL, B.F., TOP
B413	X	30	15'-8"		WINGS - HORIZONTAL
B614	X	4	15'-8"		WINGS - HORIZONTAL, TOP

BAR BENDING DIAGRAMS





WING 4 ELEVATION

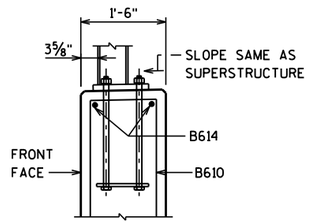


WING 4 SECTION

NOTES

(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) 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.



TYPE 'M' RAIL AT TOP OF WING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-191

DRAWN BY MRW | PLANS CK'D. BRE

EAST ABUTMENT DETAILS

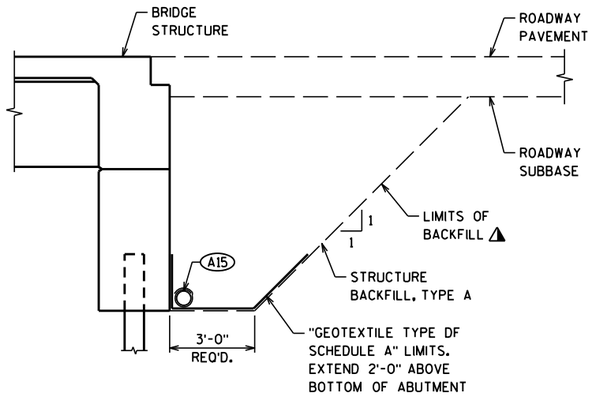
SHEET 7 OF 13

48

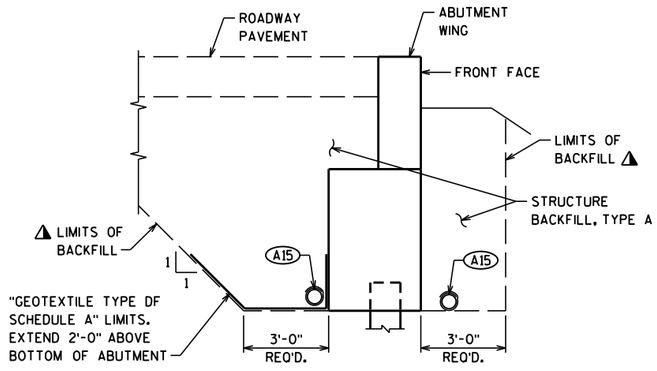
8

8

STATE PROJECT NUMBER
4201-03-71



TYPICAL SECTION THRU ABUTMENT

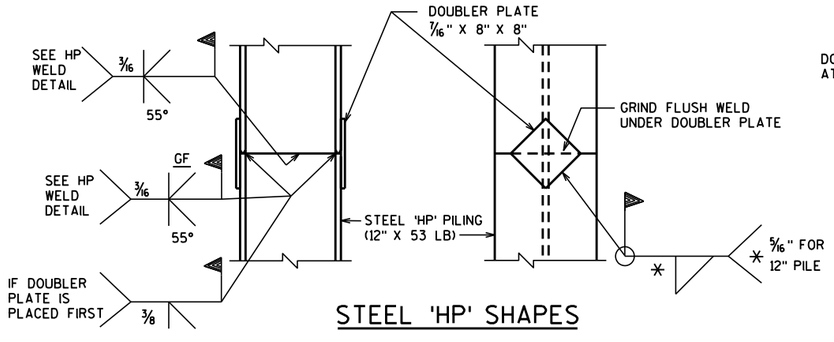


TYPICAL SECTION THRU WING

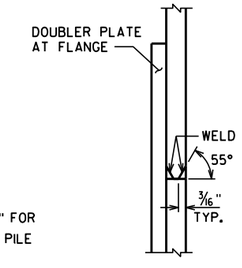
NOTES

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SOUTH SLOPES. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

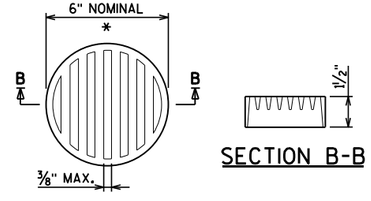
⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.



STEEL 'HP' SHAPES



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR



SECTION B-B

RODENT SCREEN DETAIL

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

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

THE RODENT SCREEN 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 SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH SHEET METAL SCREWS.

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STRUCTURE B-59-191

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ABUTMENT DETAILS

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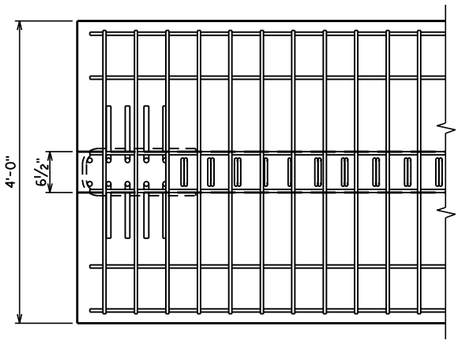
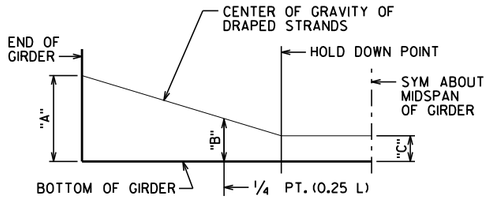
FILE NAME : F:±TR±JOBS±E2149A15±Sheets±B-59-191 08 abut det.dgn
PLOT BY : epleyb PLOT DATE: 4/5/2017 11:13:07 AM



TOP FLANGE



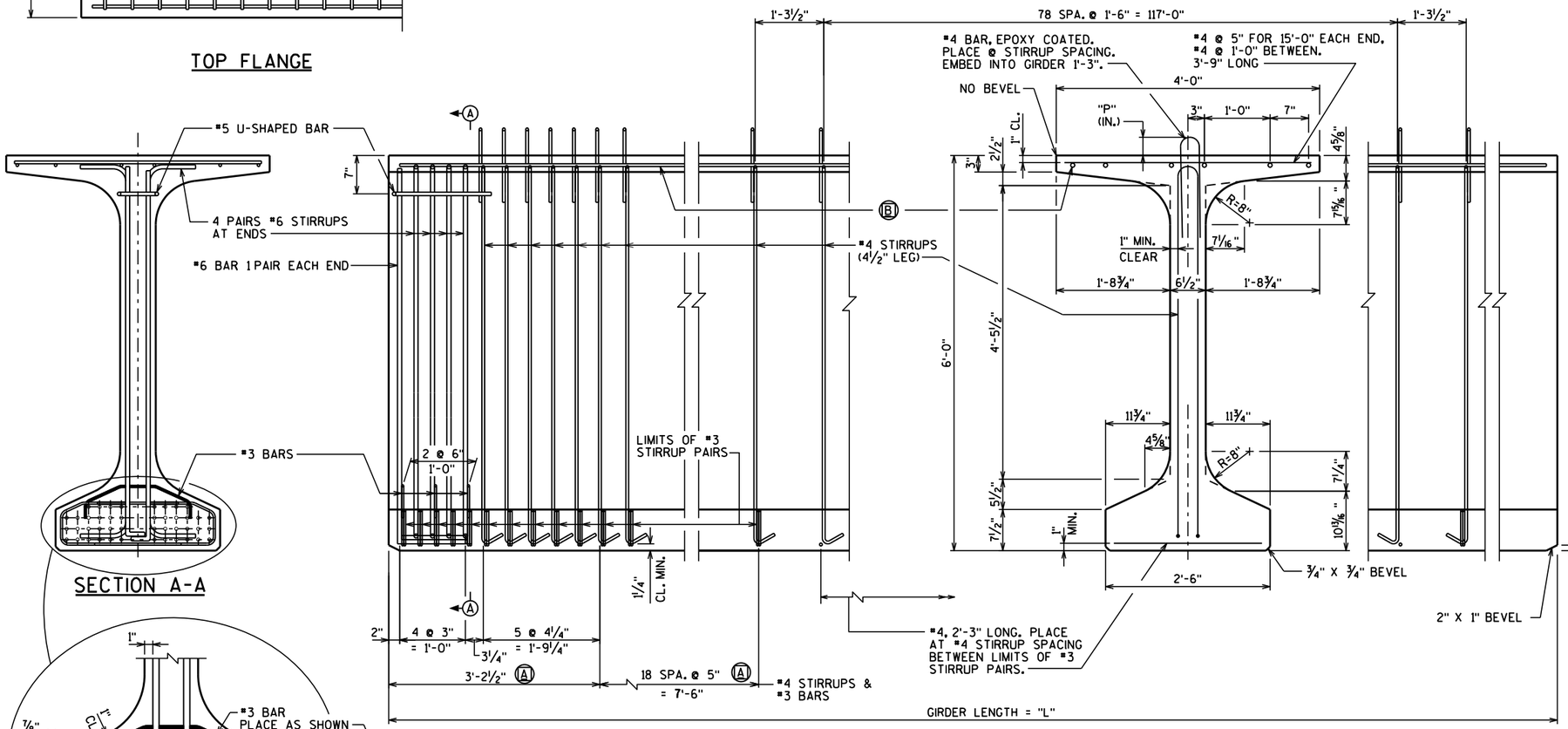
DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.98

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

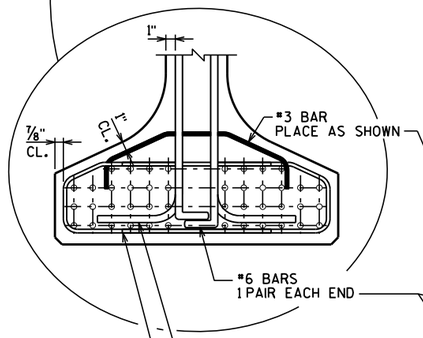
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



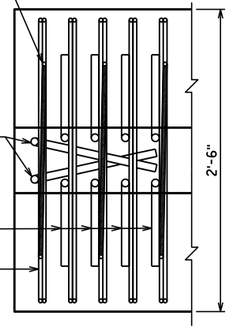
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

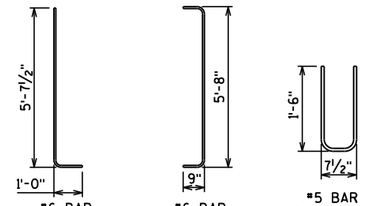
Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



SECTION A-A



BOTTOM FLANGE



NOTES

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

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

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

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

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

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

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

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	"P" 1ST ⅓ OF GIRDER	"P" MID ⅓ OF GIRDER	"P" END ⅓ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	ALL	141.0'	0.68	1.31	1.80	2.12	2.22	2.12	1.80	1.31	0.68	8,000	8"	7"	8"	0.6	44	6,800	67	20⅜"	23⅜"	5	---	---

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-191

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72W" PRESTRESSED GIRDER DETAILS

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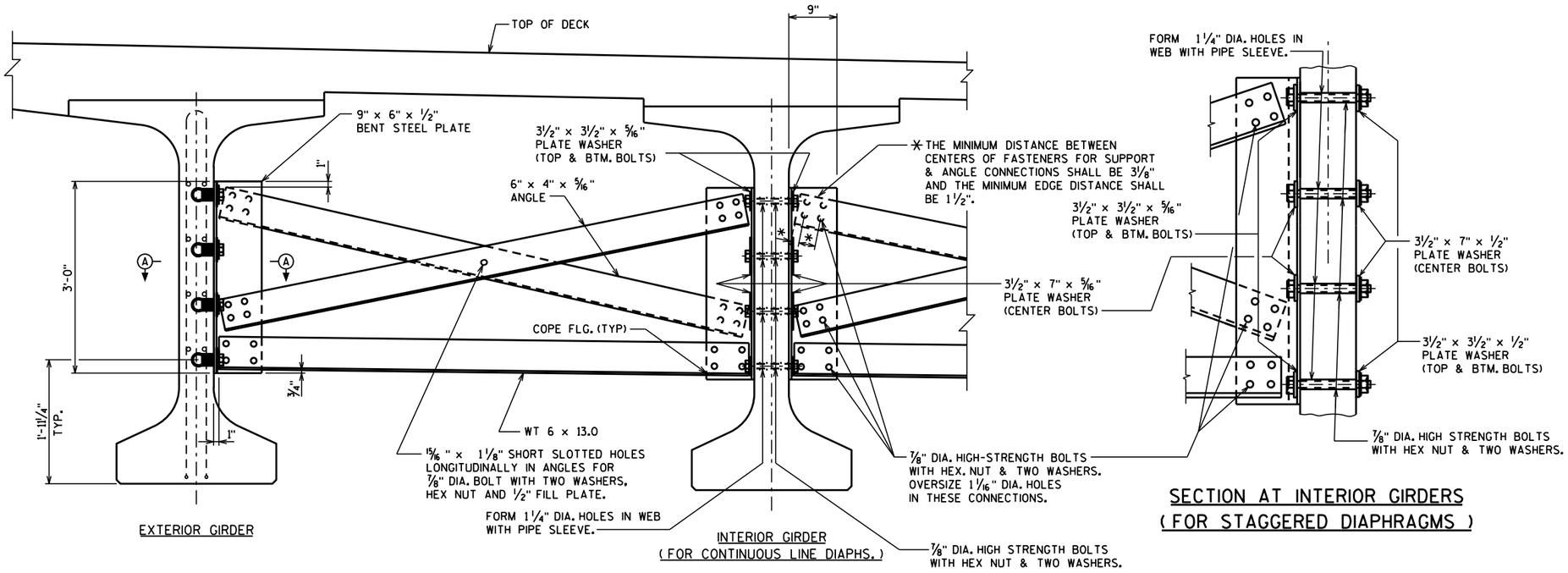


PART TRANSVERSE SECTION AT DIAPHRAGM

SECTION AT INTERIOR GIRDERS
(FOR STAGGERED DIAPHRAGMS)

NOTES

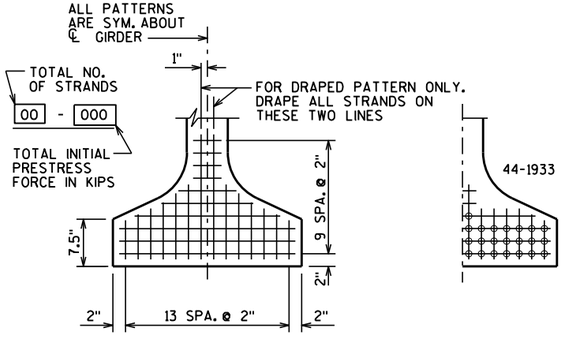
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-59-191", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

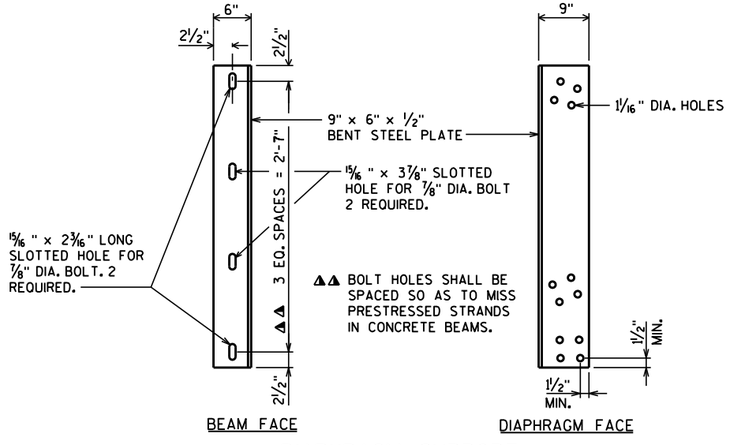
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

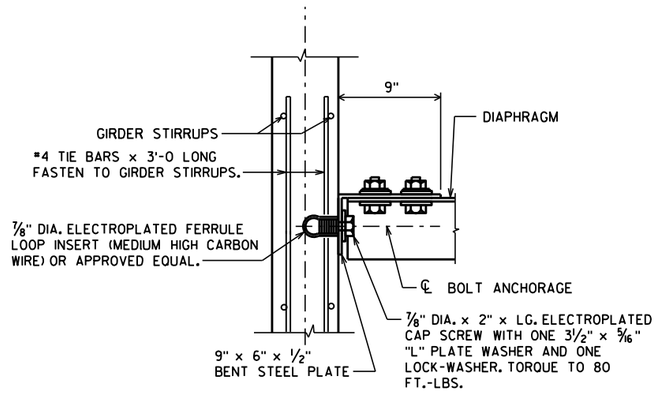
STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



TYP. STRAND PATTERN



DIAPHRAGM SUPPORT



SECT. A-A
(FOR EXTERIOR ATTACHMENT)
"L" = 3½"; TOP AND BOTTOM BOLTS
"L" = 7"; CENTER BOLTS

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-191

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STEEL DIAPHRAGMS

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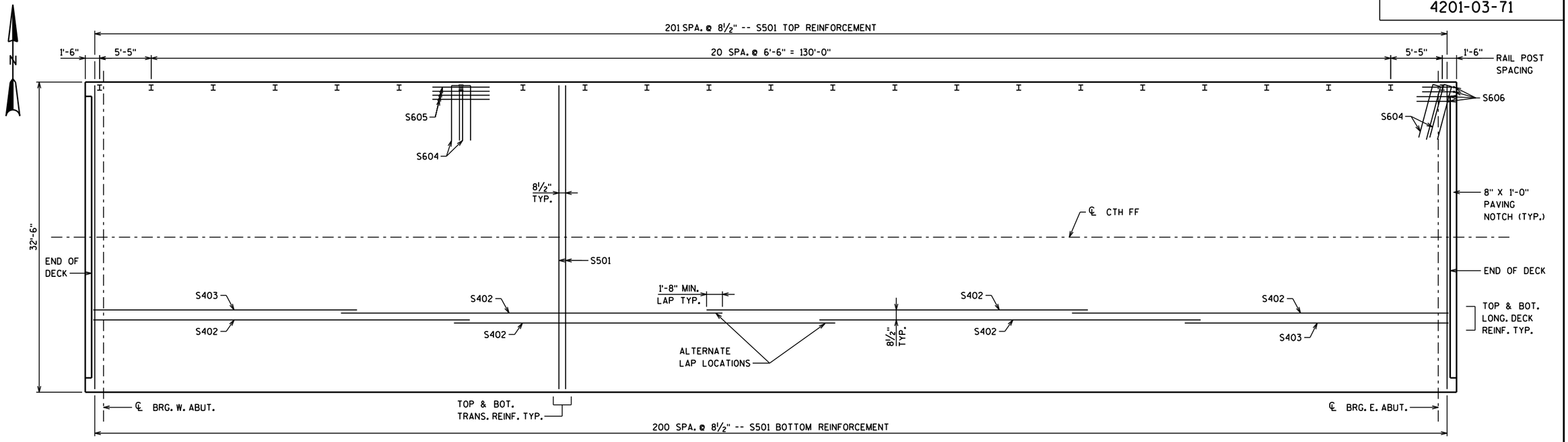
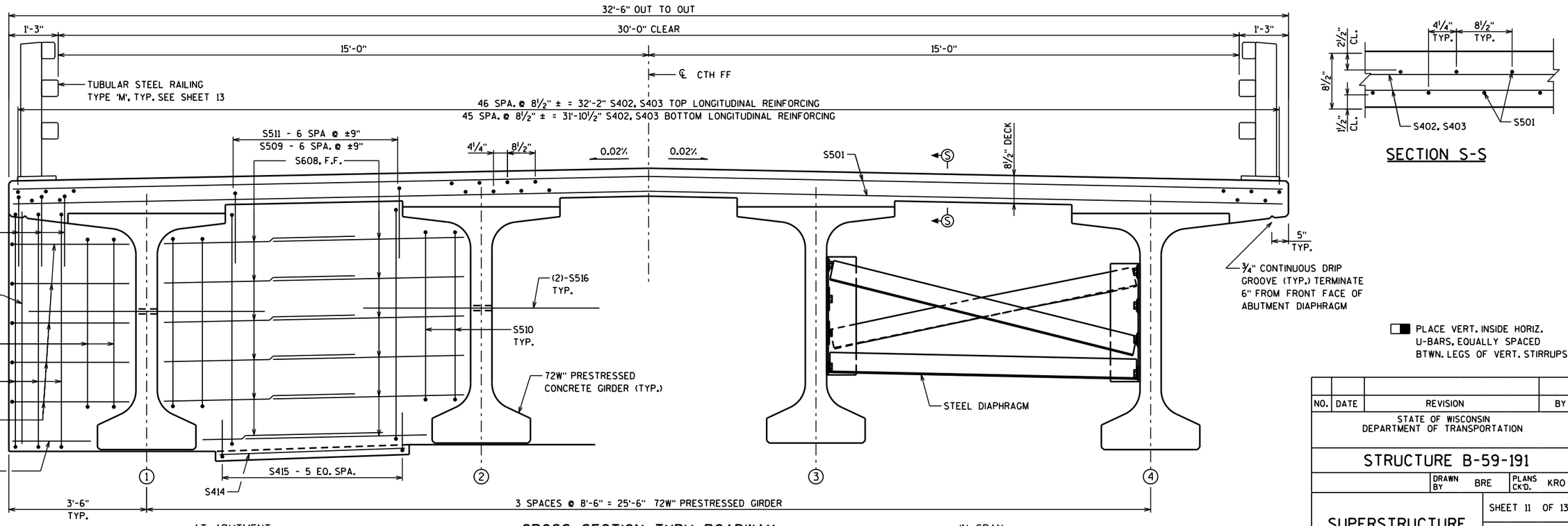


SLAB PLAN



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

SECTION S-S

PLACE VERT. INSIDE HORIZ. U-BARS, EQUALLY SPACED BTWN. LEGS OF VERT. STIRRUPS

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DEPARTMENT OF TRANSPORTATION

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SUPERSTRUCTURE

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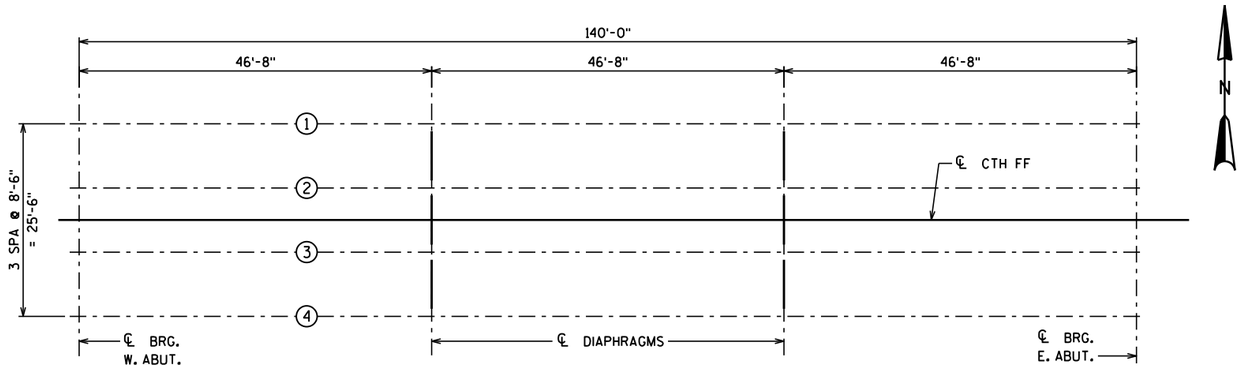
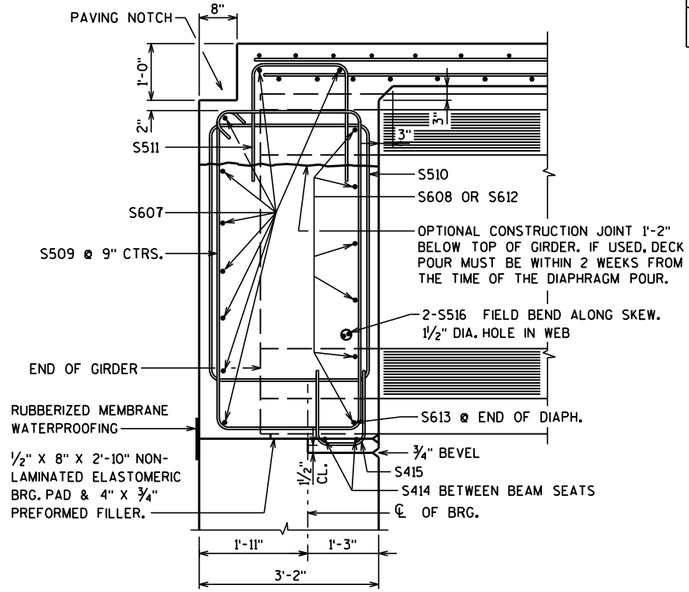
FILE NAME : F:±TR±JOBS±E2149A15±Sheets±B-59-191 11 super.dgn PLOT BY : epleyb PLOT DATE: 4/5/2017 11:50:02 AM

STATE PROJECT NUMBER
4201-03-71



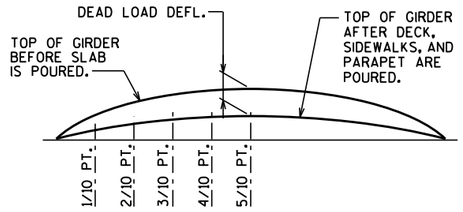
FRAMING PLAN



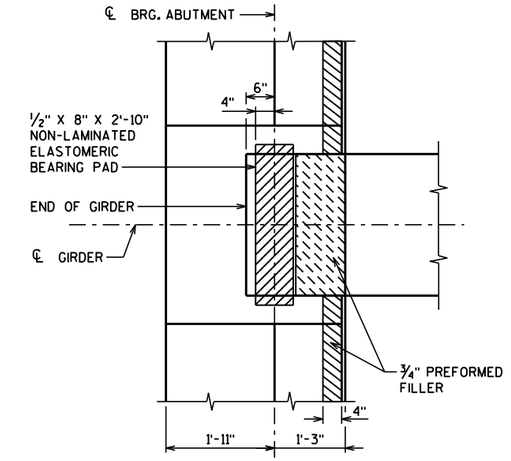
PART LONGIT. SECTION

BILL OF BARS

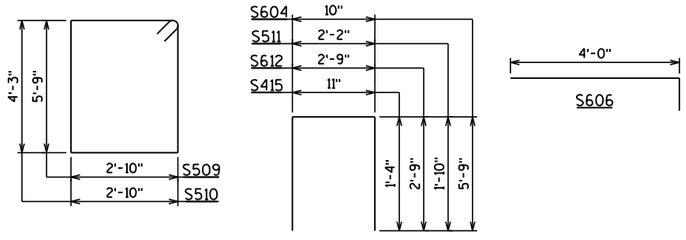
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	X	403	32'-2"		TRANS. TOP & BOT.
S402	X	279	40'-0"		LONG. TOP & BOTTOM
S403	X	93	27'-2"		LONG. TOP & BOTTOM
S604	X	92	12'-0"	X	AT RAIL POST
S605	X	168	6'-0"		AT RAIL POST
S606	X	16	4'-10"	X	AT END RAIL POST
S607	X	18	32'-2"		DIAPH. HORIZONTAL, B.F. & TOP
S608	X	72	4'-11"		DIAPH. HORIZONTAL, F.F.
S509	X	54	17'-10"	X	DIAPH. STIRRUPS VERTICAL
S510	X	32	14'-10"	X	DIAPH. STIRRUPS VERTICAL
S511	X	54	5'-7"	X	DIAPH. TOP
S612	X	20	7'-11"	X	DIAPH. HORIZONTAL, ENDS
S613	X	4	1'-11"		DIAPH. HORIZONTAL, ENDS
S414	X	12	4'-8"		DIAPH. HORIZ., BTW. BEAM SEATS
S415	X	36	3'-5"	X	DIAPH. VERT., BTW. BEAM SEATS
S516	X	16	6'-0"		DIAPH. HORIZ. THRU GIRDERS
S417	X	8	5'-7"		DIAPH. END, VERT.



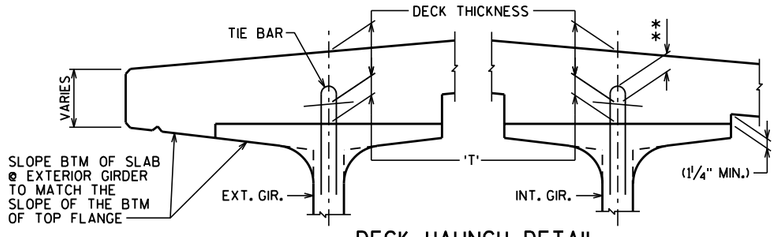
DEAD LOAD DEFLECTION DIAGRAM



BEARING PAD DETAIL



BAR BEND DIAGRAMS



DECK HAUNCH DETAIL

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

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

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

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

NOTE: AN AVERAGE HAUNCH ('T') OF 3⅛" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

TOP OF DECK ELEVATIONS

LOCATION	W.ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	E. ABUT.
N. EDGE	814.85	815.02	815.19	815.36	815.53	815.71	815.88	816.05	816.22	816.40	816.57
GIRDER 1	814.92	815.09	815.26	815.43	815.60	815.78	815.95	816.12	816.29	816.47	816.64
GIRDER 2	815.09	815.26	815.43	815.60	815.77	815.95	816.12	816.29	816.46	816.64	816.81
GIRDER 3	815.09	815.26	815.43	815.60	815.77	815.95	816.12	816.29	816.46	816.64	816.81
GIRDER 4	814.92	815.09	815.26	815.43	815.60	815.78	815.95	816.12	816.29	816.47	816.64
S. EDGE	814.85	815.02	815.19	815.36	815.53	815.71	815.88	816.05	816.22	816.40	816.57

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STRUCTURE B-59-191

DRAWN BY BRE | PLANS CK'D. KRO

SUPERSTRUCTURE DETAILS

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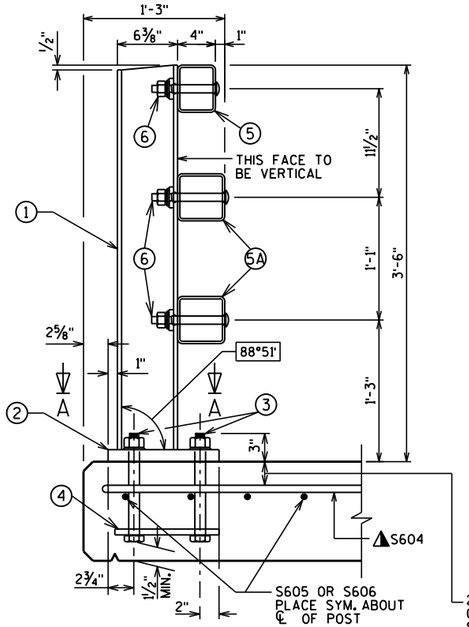
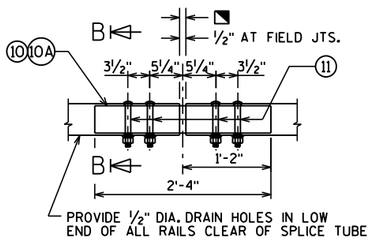
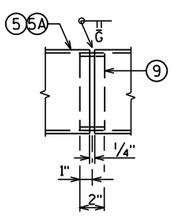


SECTION THRU RAILING ON DECK

2½" FOR SLABS ON GIRDERS; FOR OTHER STRUCTURES, PLACE BELOW TOP MAT SLAB REINFORCEMENT.

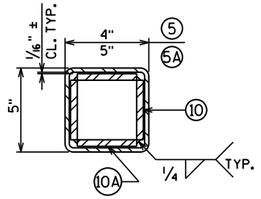


FIELD ERECTION JOINT DETAIL

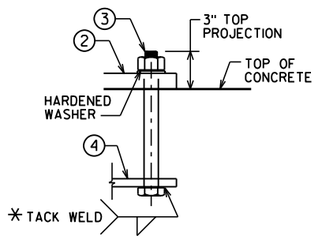


SHOP RAIL SPLICE DETAIL

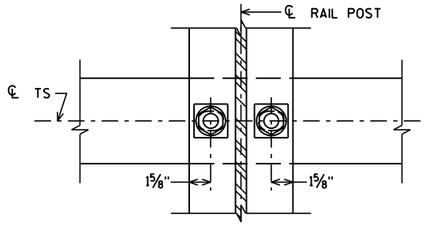
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



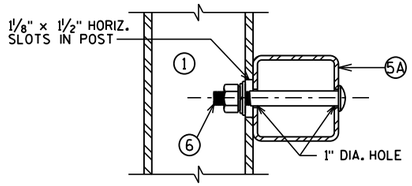
SECTION B-B



ANCHOR BOLTS



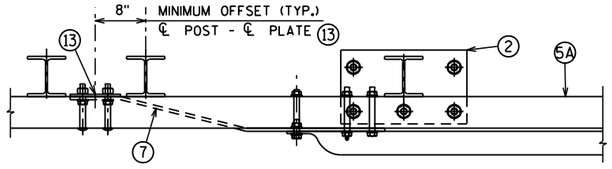
SECTION THRU POST WEB



SECTION THRU RAIL

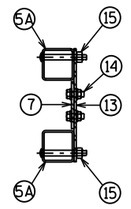
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

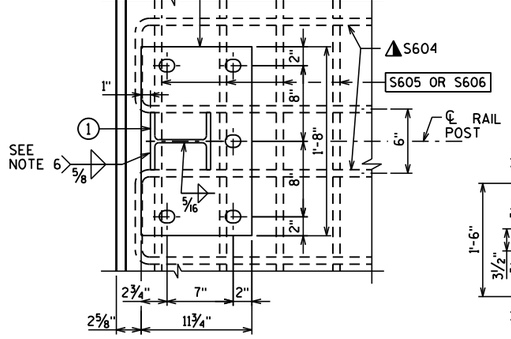


TOP VIEW AT END POST

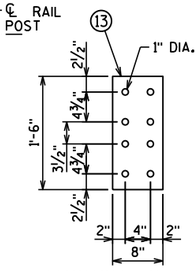
THRIE BEAM RAIL ATTACHMENT



SECTION C-C

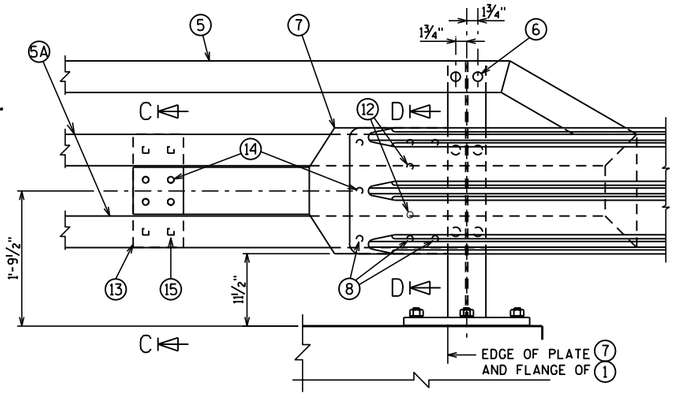


SECTION A-A



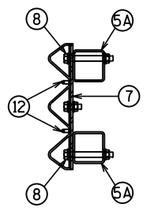
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

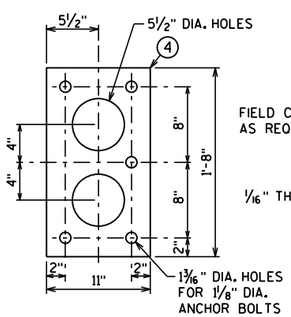


DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

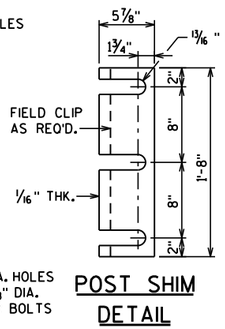


SECTION D-D

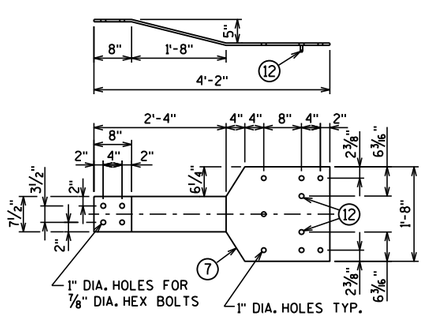


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

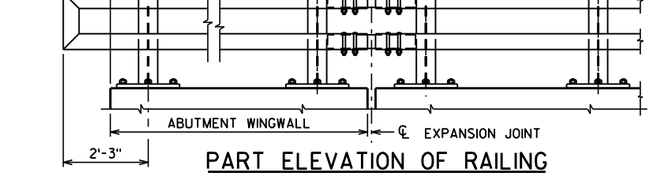


POST SHIM DETAIL



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

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-59-191" 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

4201-03-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-191

DRAWN BY BRE | PLANS CK'D. KRO

TUBULAR STEEL RAILING TYPE 'M'

SHEET 13 OF 13

54

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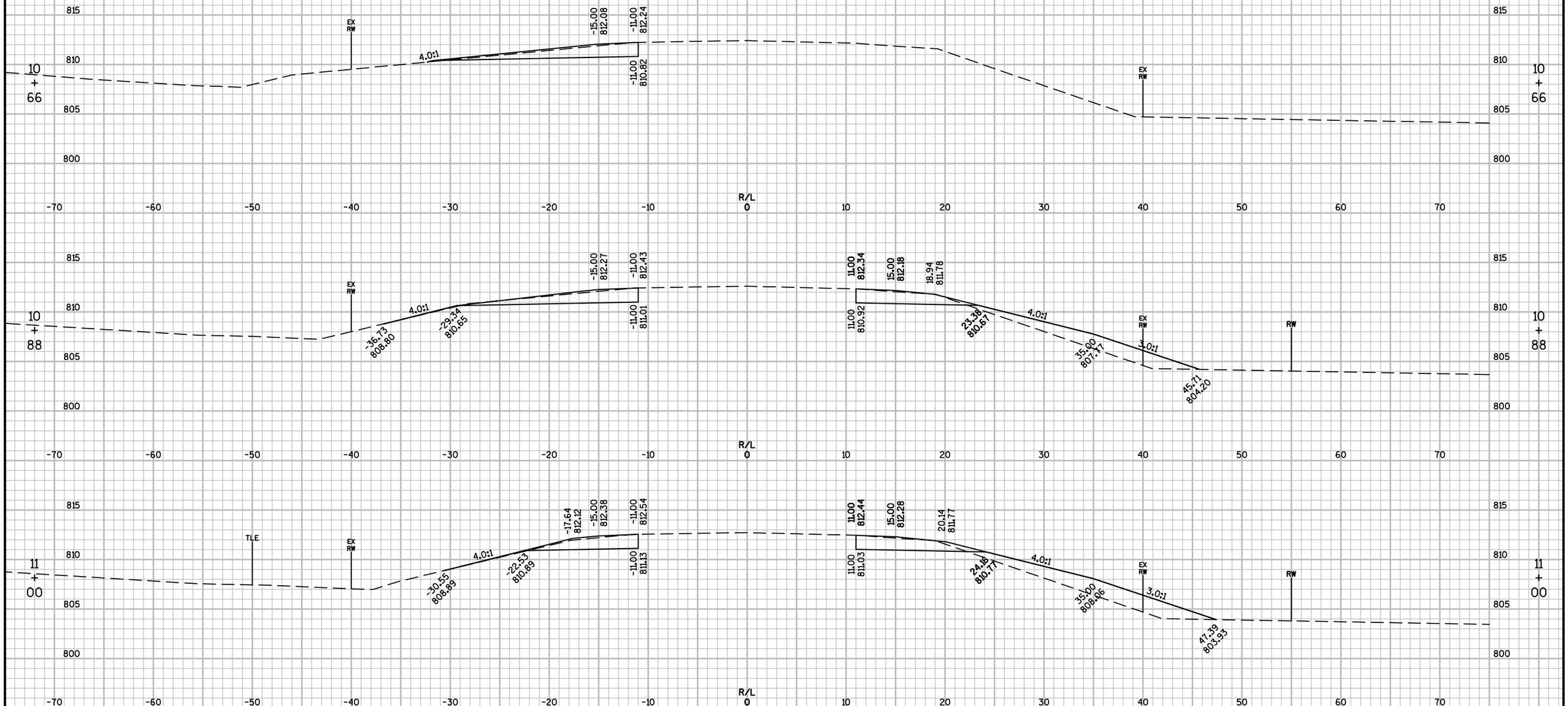
EARTHWORK

STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 8
10+66.27	14.27	0.00	0.07	0	0	0	0	0	0.00
10+87.53	25.50	0.00	23.50	16	0	9	16	12	4.05
11+00	21.63	0.00	29.72	11	0	12	27	27	-0.43
11+25	22.33	0.00	53.50	20	0	39	47	75	-28.23
11+41.77	22.04	0.00	60.40	14	0	35	61	119	-58.67
11+50	21.89	0.00	58.62	7	0	18	67	142	-74.65
11+66.77	21.59	0.00	55.09	14	0	35	81	186	-105.29
11+75	50.74	5.50	55.04	11	1	17	92	207	-116.09
11+79.27	51.95	5.50	54.02	8	1	9	100	218	-119.62
11+91.77	52.20	5.50	48.90	24	3	24	124	248	-127.84
12+00	52.35	5.50	37.12	16	2	13	140	264	-129.97
12+04.26	52.42	5.50	30.97	8	1	5	148	271	-129.28
12+29.27	44.52	5.50	38.51	45	5	32	193	311	-129.70
12+50	45.53	5.50	33.56	35	4	28	228	346	-133.93
12+81.8	47.17	5.50	36.00	55	6	41	282	397	-137.02
STRUCTURE B-59-91									
14+57.63	38.51	5.50	29.70	0	0	0	282	397	-137.02
15+00	43.21	5.50	12.09	64	9	33	346	438	-122.53
15+10.16	66.23	5.50	11.42	21	2	4	367	443	-109.55
15+35.16	47.75	5.50	24.71	53	5	17	420	464	-82.78
15+47.66	49.09	5.50	37.15	22	3	14	442	482	-80.81
15+60.16	50.70	5.50	49.86	23	3	20	465	507	-85.43
15+65	51.42	5.50	51.85	9	1	9	475	519	-88.66
15+72.65	23.20	0.00	51.36	11	1	15	485	537	-97.15
15+97.65	23.04	0.00	66.00	21	0	54	506	605	-143.66
16+25	20.89	0.00	93.35	22	0	81	529	706	-222.28
16+50	16.48	0.00	76.24	17	0	79	546	804	-303.12
16+69.58	8.35	0.00	8.57	9	0	31	555	842	-332.55

BEGIN CONSTRUCTION STA 10+66.45

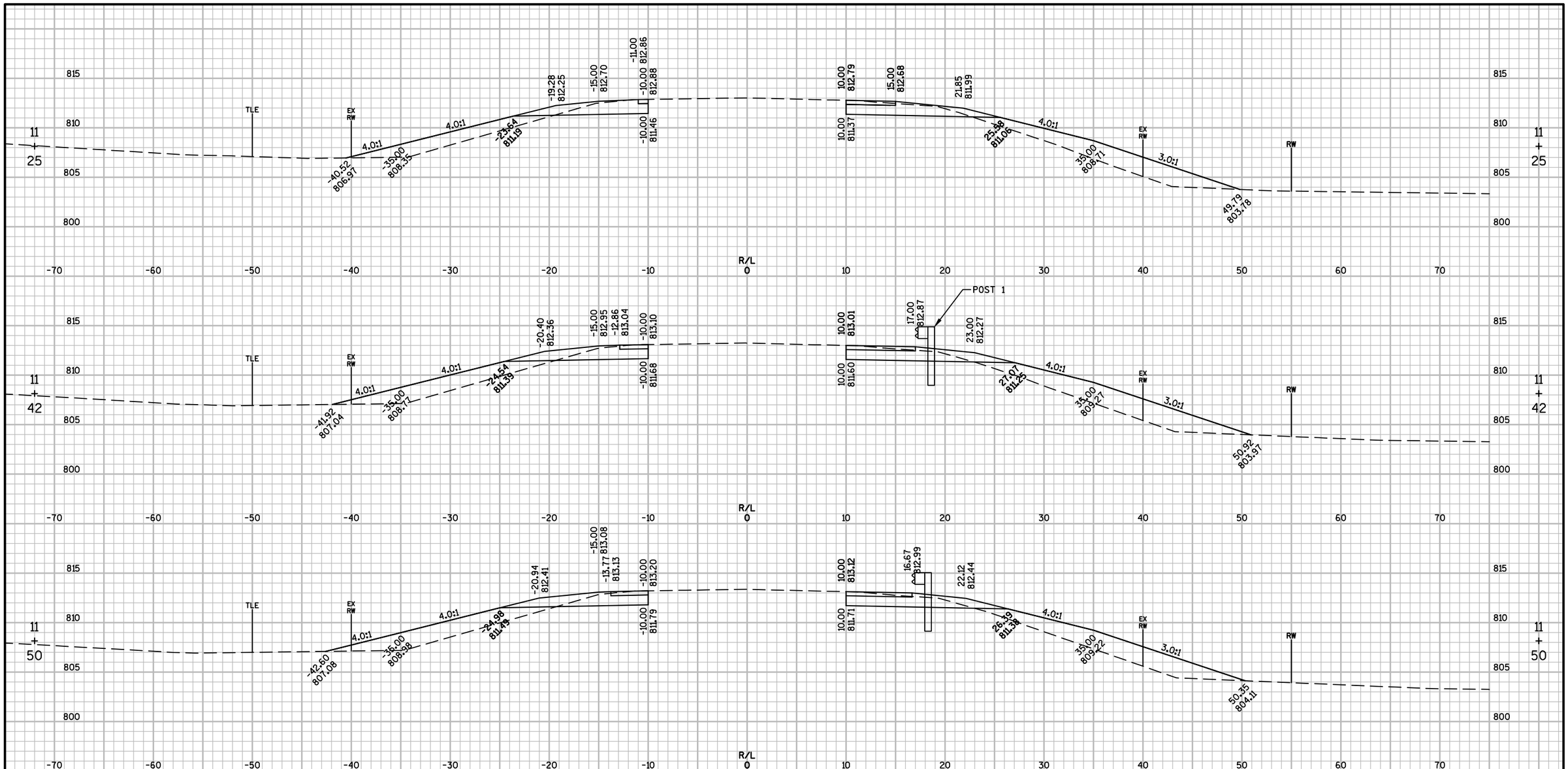


PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 56	E

FILE NAME : F:\TR\JOBS\E2149A15\CIVIL 3D 2014\SHEETSPLAN\42010371-090201-XS-ALT DWY.DWG
LAYOUT NAME - 42010371-090201-XS

PLOT DATE : 7/6/2017 9:37 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 57	E

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LAYOUT NAME - 42010371-090202-XS

PLOT DATE : 7/6/2017 9:38 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT

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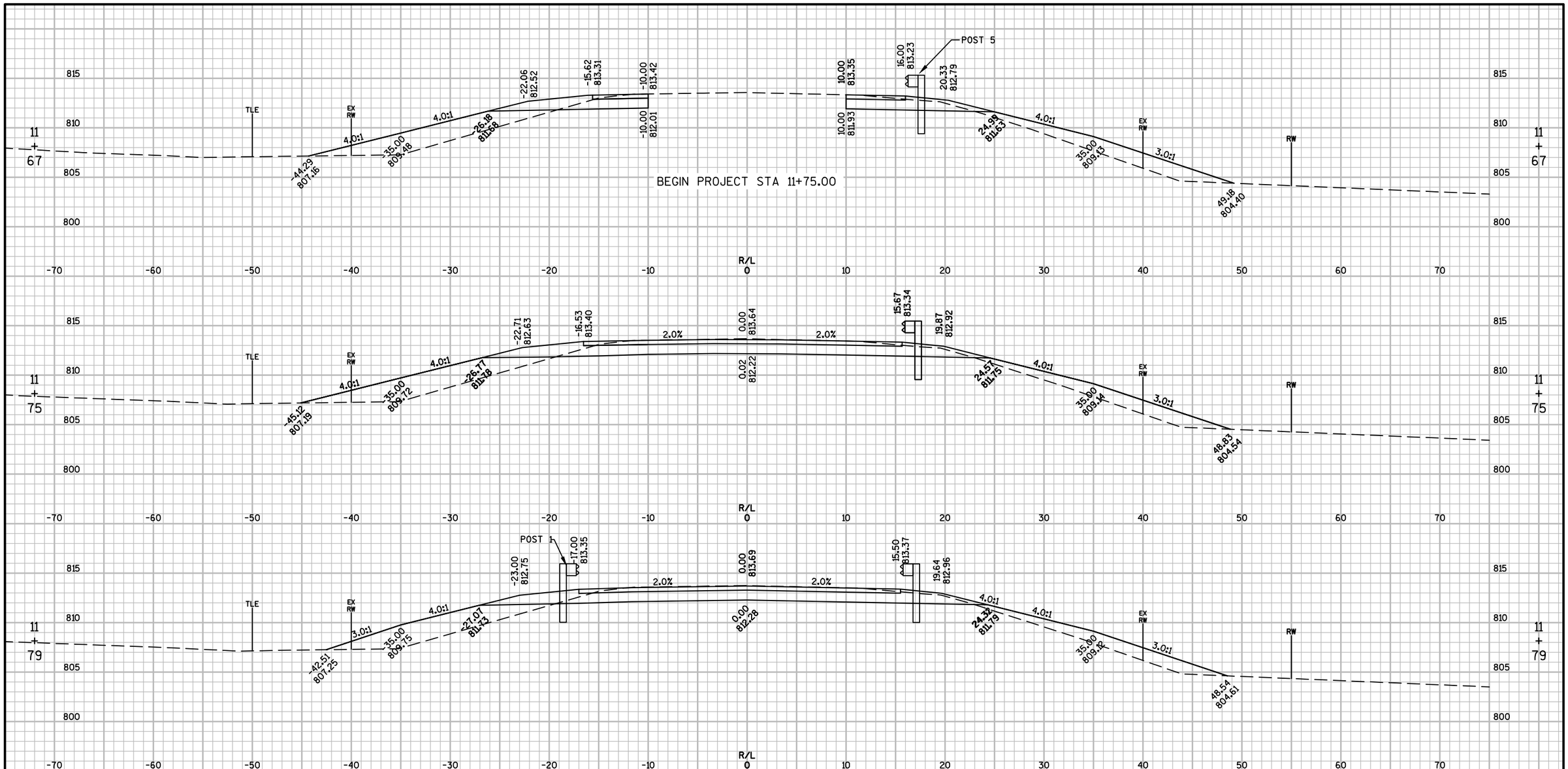
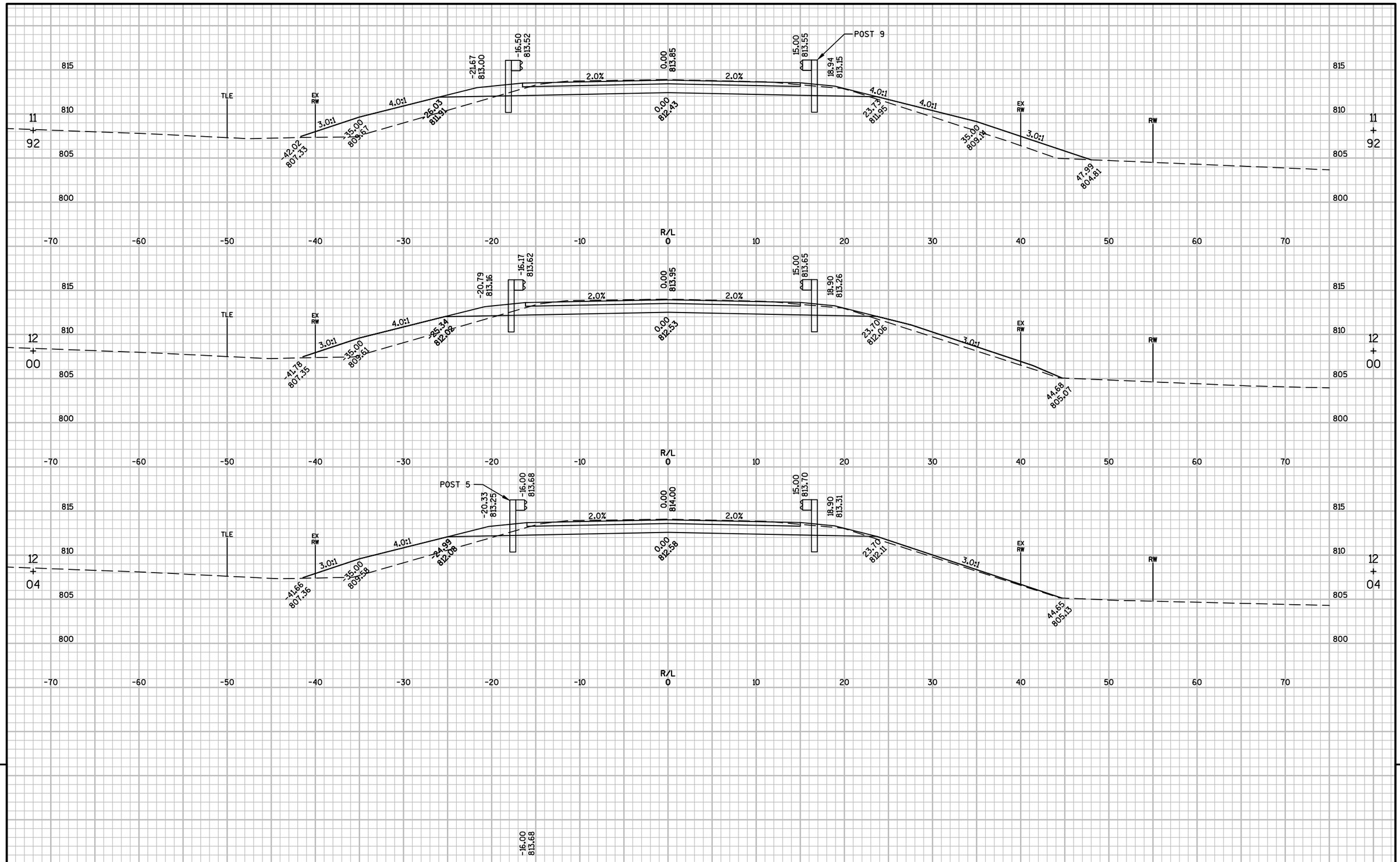


PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 58 E



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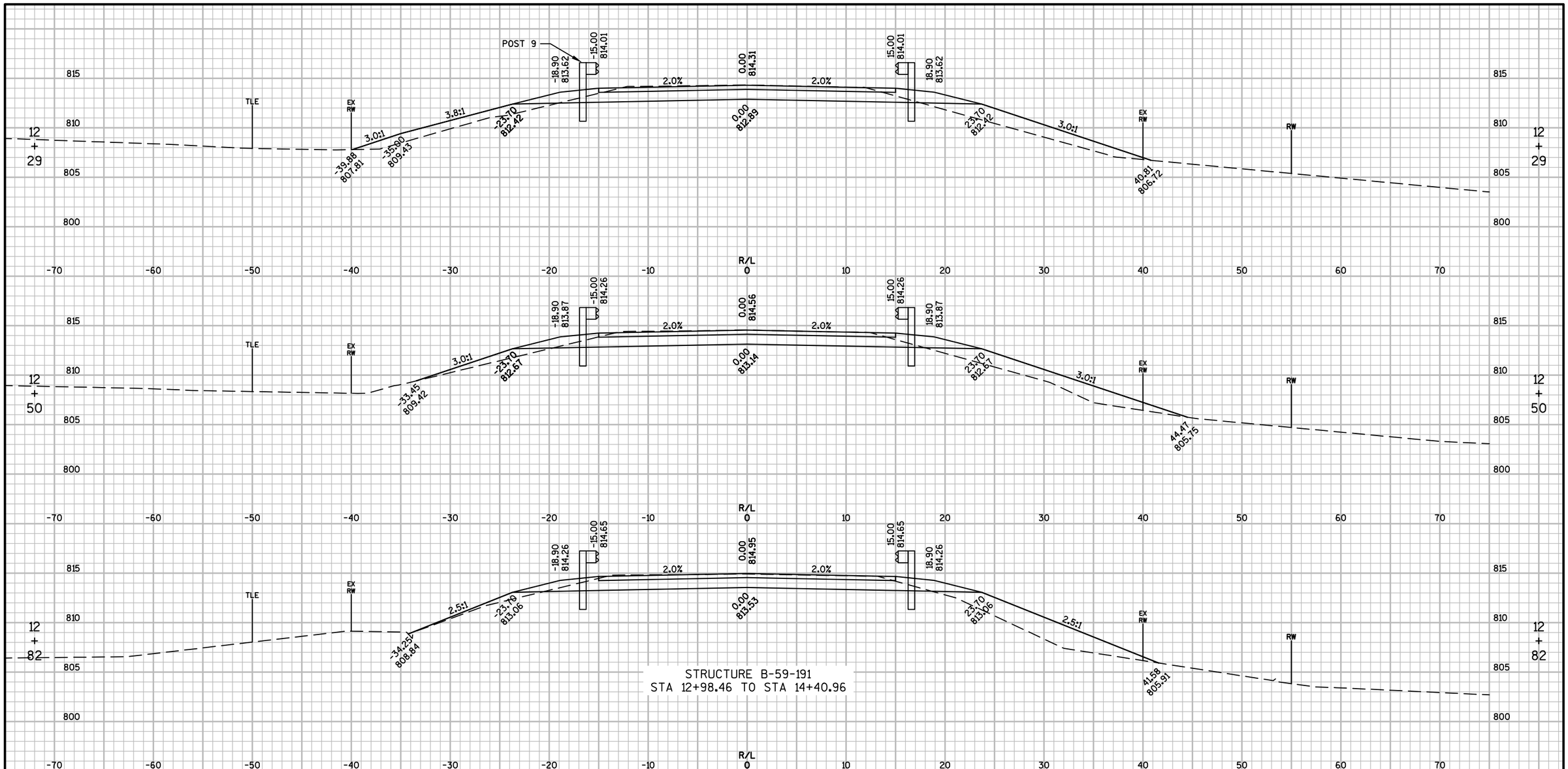
PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 59	E

FILE NAME : F:\TR\JOBS\E2149A15\CIVIL 3D 2014\SHEETSPLAN\42010371-090201-XS-ALT DWY.DWG
LAYOUT NAME - 42010371-090204-XS

PLOT DATE : 7/6/2017 9:38 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 60	E

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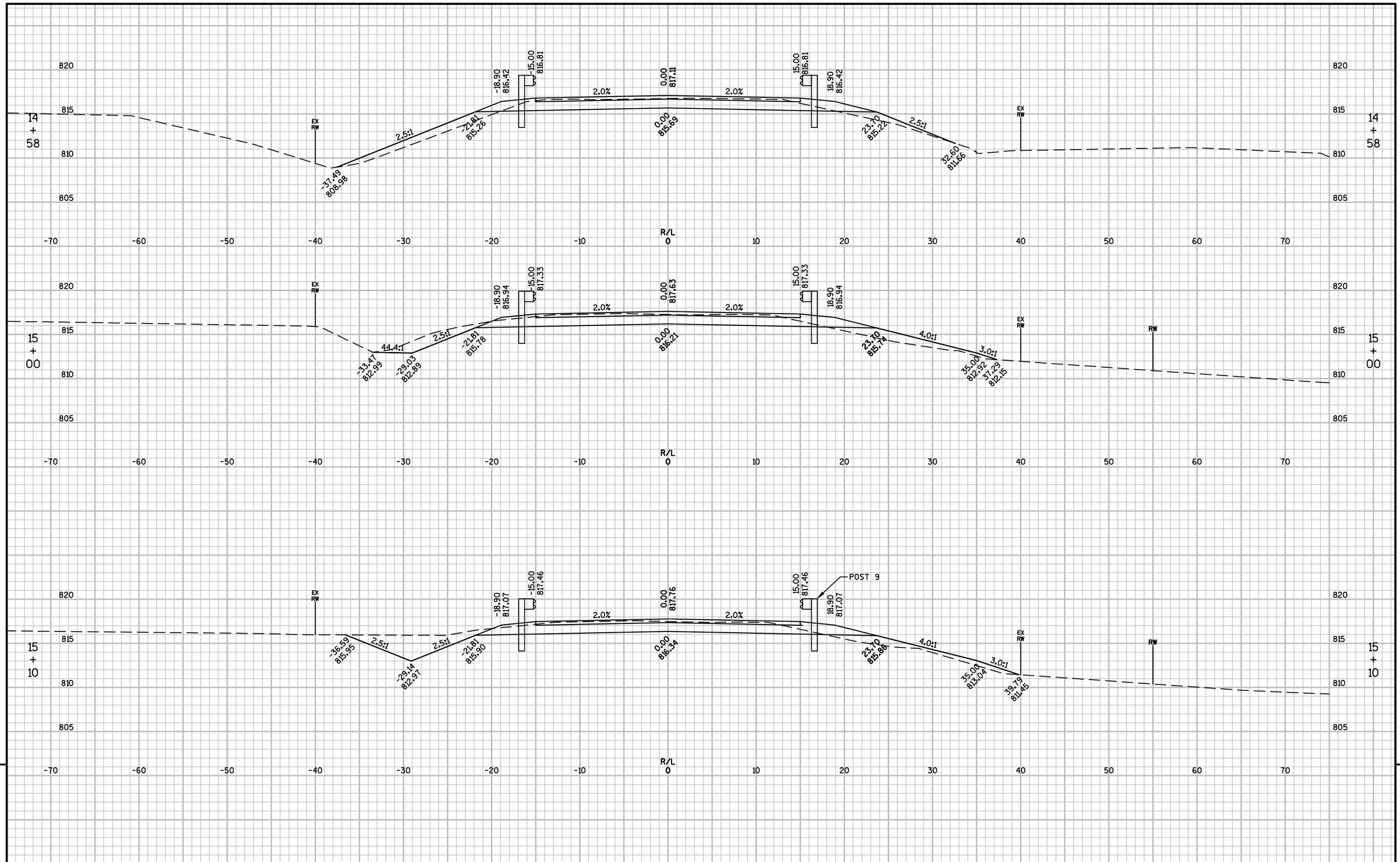

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PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 61	E

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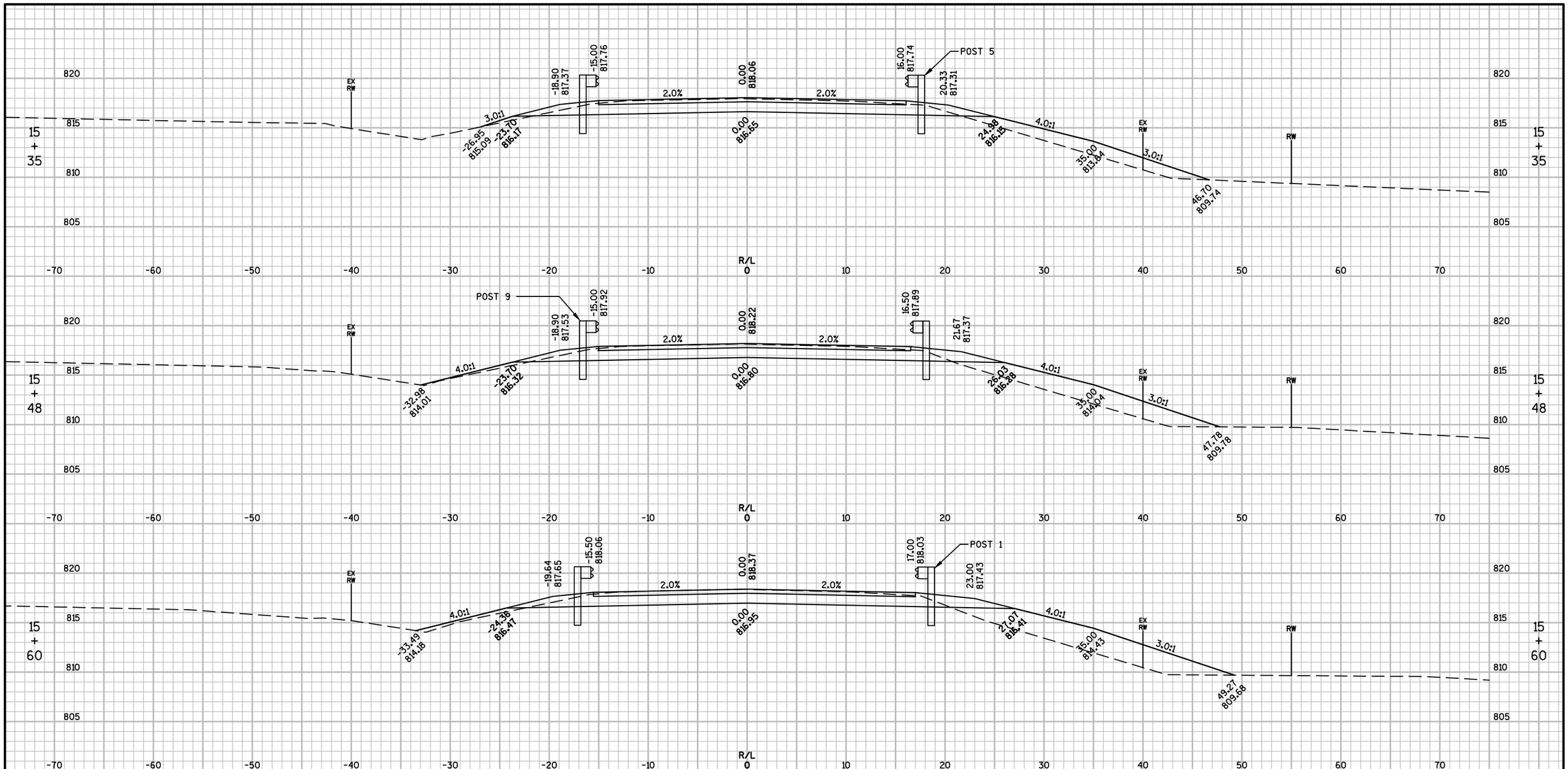
WISDOT/CADDS SHEET 49



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PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 62	E

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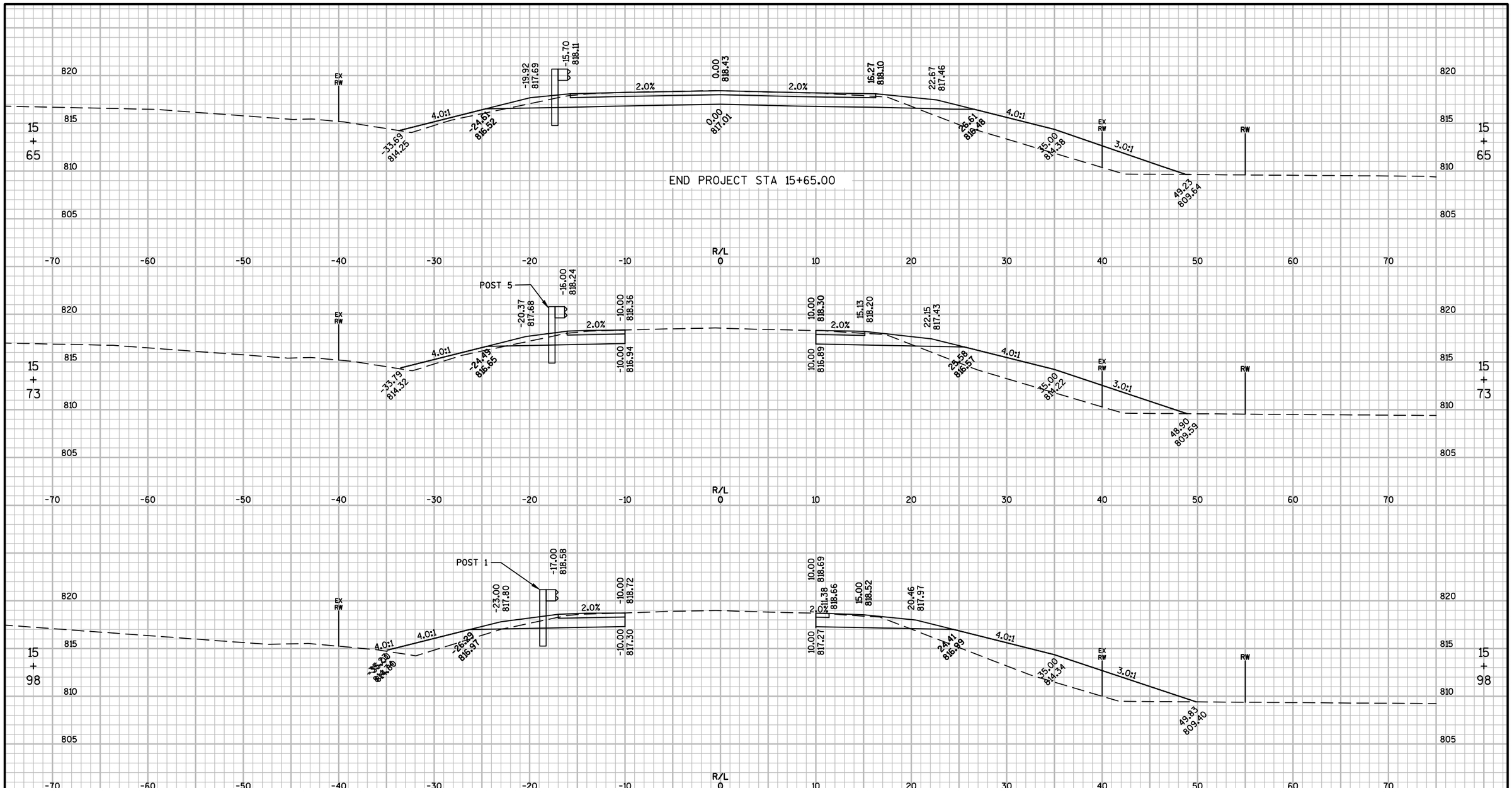
LAYOUT NAME - 42010371-090207-XS

PLOT DATE : 7/6/2017 9:38 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 63	E

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LAYOUT NAME - 42010371-090208-XS

PLOT DATE : 7/6/2017 9:38 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT

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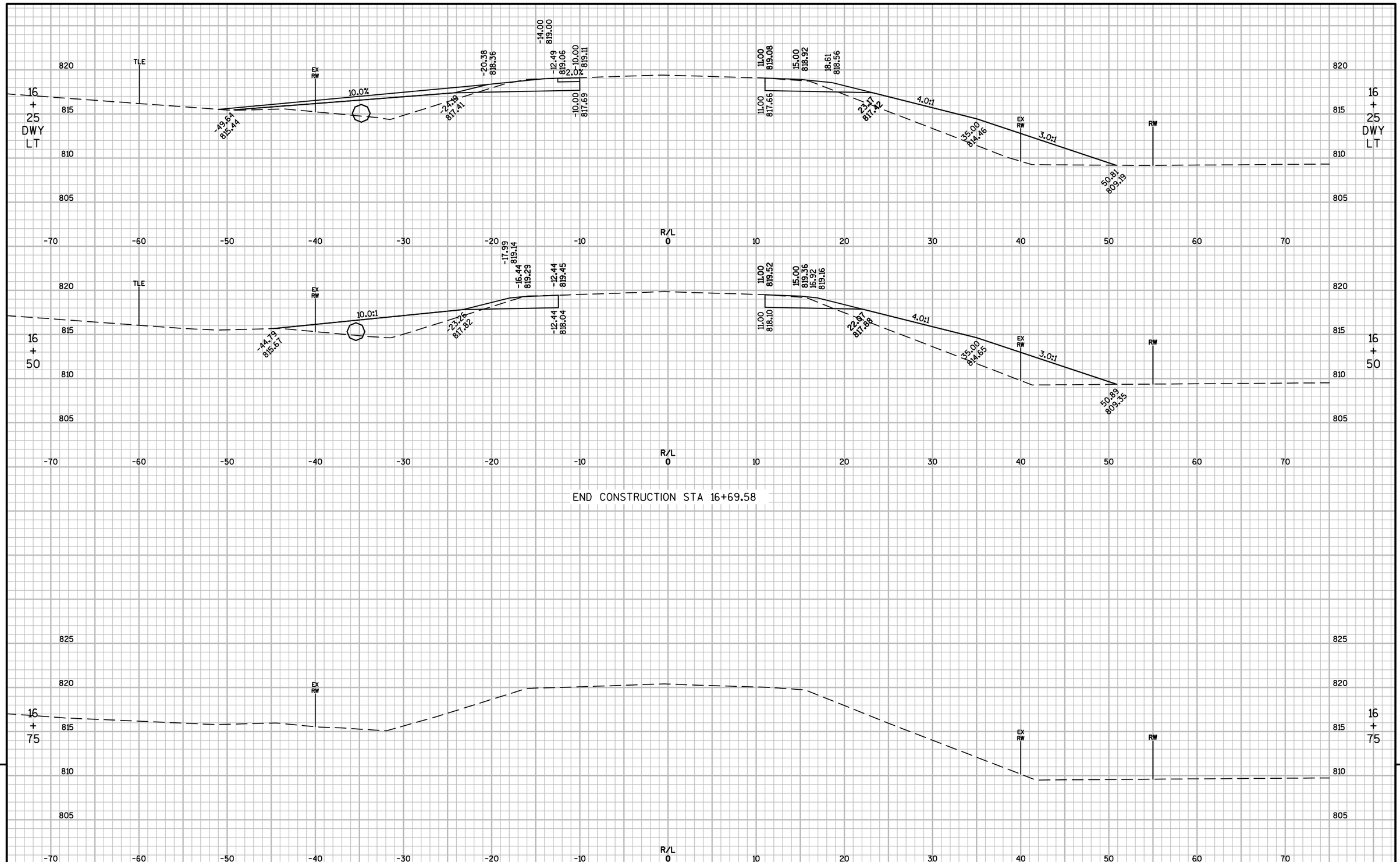

PROJECT NO: 4201-03-71	HWY: CTH FF	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH FF	SHEET 64	E

FILE NAME : F:\TR\JOBS\E2149A15\CIVIL 3D 2014\SHEETSPLAN\42010371-090201-XS-ALT DWY.DWG
LAYOUT NAME - 42010371-090209-XS

PLOT DATE : 7/6/2017 9:38 AM PLOT BY : MATT TOMSOVIC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

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