NWL MARCH 2015

PROJECT ID: 8396-00-72
WITH: N/A

COUNTY: DOUGLAS

39

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8396-00-72	———	—

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T WASCOTT, SMITH BRIDGE ROAD

MINONG FLOWAGE BRIDGE B160135

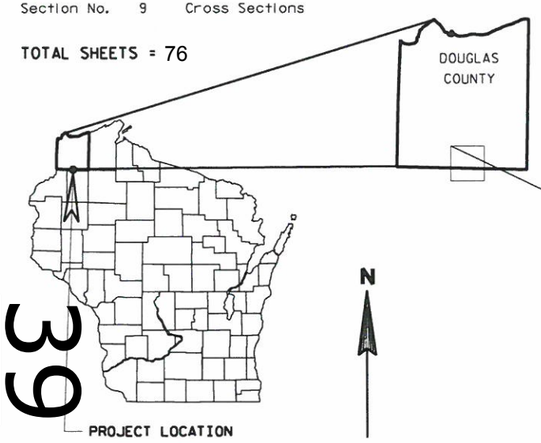
TOWN ROAD

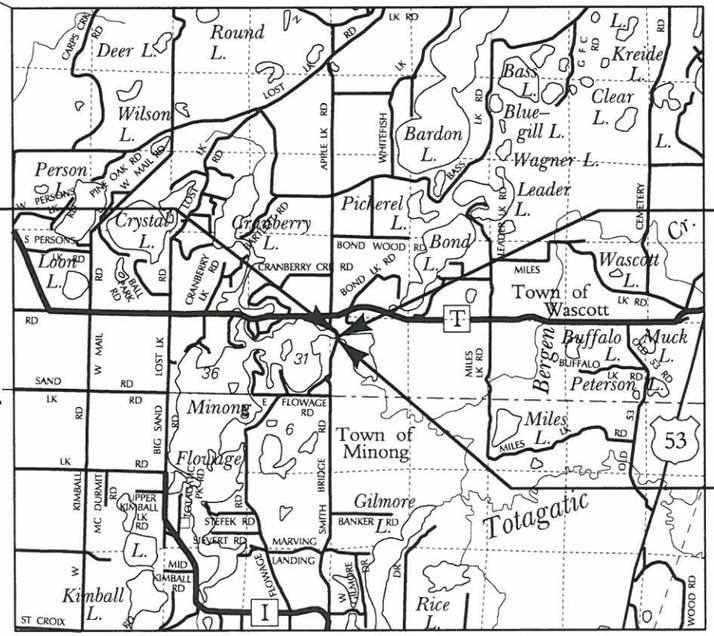
DOUGLAS COUNTY

STATE PROJECT NUMBER
8396-00-72

ORDER OF SHEETS

TOTAL SHEETS = 76





END PROJECT
STA. 13+00
Y = 104290.10
X = 197946.19

STRUCTURE B-16-0135

BEGIN PROJECT
STA. 7+50
Y = 103769.13
X = 198039.98

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.082 MI.

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

DESIGN DESIGNATION

A.D.T.	(2015)	=	100
A.D.T.	(2035)	=	130
D.H.V.		=	10
D.		=	50/50
T.		=	5.0
DESIGN SPEED		=	25 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

- OVERHEAD (OH)
- 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
Town of Wascott
10/6/2014 Date
Town Chairman

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

DANIEL N. SYDOW E-38363 WI
WISCONSIN PROFESSIONAL ENGINEER

DATE 9/30/2014

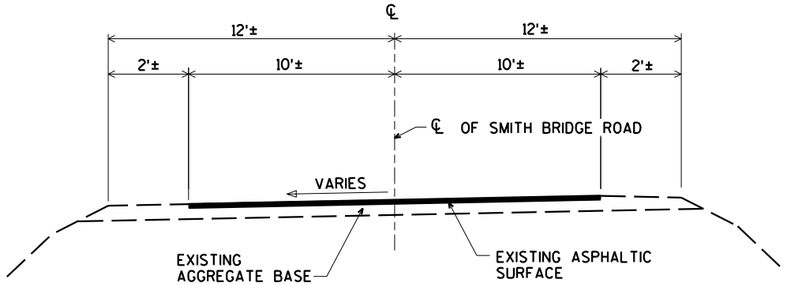
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor AYRES ASSOCIATES INC
Designer AYRES ASSOCIATES INC

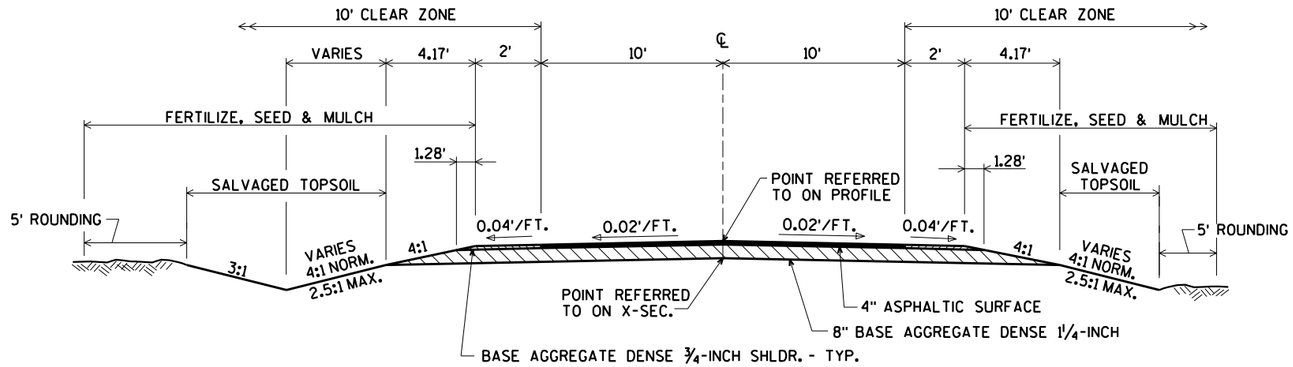
Management Consultant KNIGHT E/A INC.
C.O. Examiner

APPROVED FOR THE DEPARTMENT
DATE: 10/23/14 Ryan B McKane
Management Consultant Signature

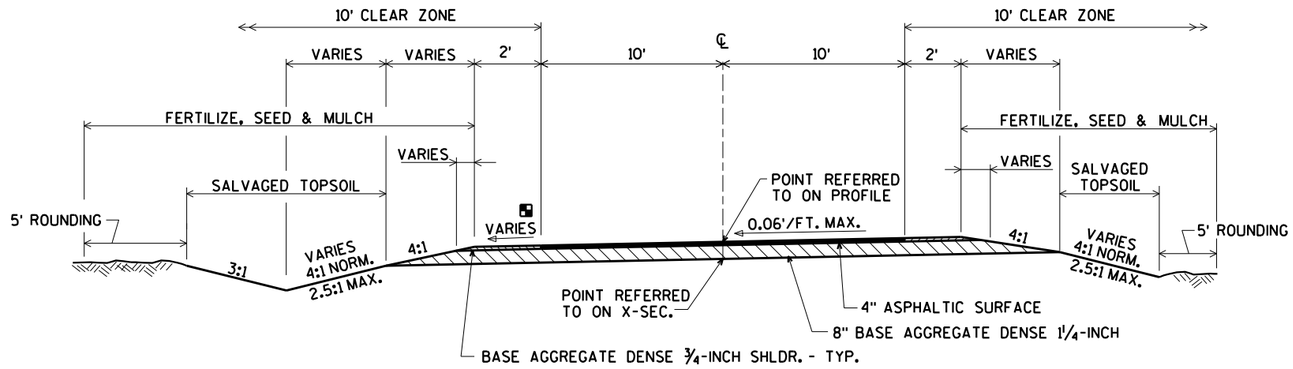
E



TYPICAL EXISTING SECTION
SMITH BRIDGE ROAD



TYPICAL FINISHED SECTION
STA. 7+50 TO STA. 8+00.73



■ WHEN SUPERELEVATION EXCEEDS 0.04'/FT. THE SHOULDER SHALL MATCH THE SUPERELEVATION, ELSE 0.04'/FT.

TYPICAL FINISHED SECTION
STA. 11+96.09 TO STA. 13+00

GENERAL NOTES

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

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

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

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

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2" UPPER LAYER AND A 2" LOWER LAYER. ASPHALTIC SURFACE SHALL USE 12.5 mm NOMINAL AGGREGATE SIZE.

UTILITIES

EAST CENTRAL ENERGY
P.O. BOX 39
BRAHAM, MN 55006
ATTN: DAVID WALETSKI
763-691-2037
612-390-0792 (cell)
dave.waletski@ecemn.com

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

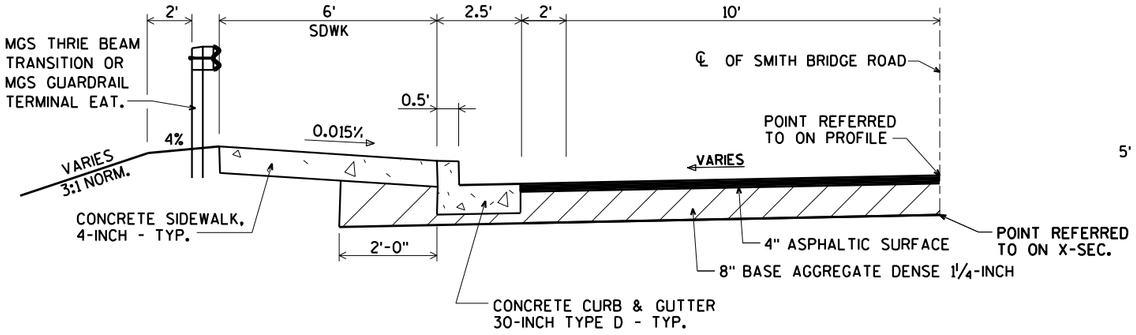
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT:
AMY CRONK
810 WEST MAPLE STREET
SPOONER, WI. 54801
715-635-4229
amy.cronk@wisconsin.gov

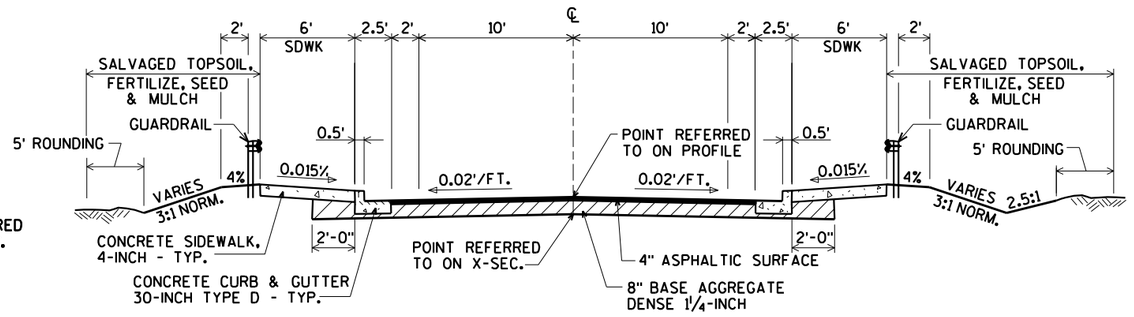
DESIGNER
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com

OWNER
TOWN OF WASCOTT
16362 S TOWN HALL ROAD
WASCOTT, WI 54890
ATTN: GREG JENSEN, CHAIRMAN
715-466-4251
gjensen@townofwascott.org

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	TYPICAL SECTIONS	SHEET 2	E

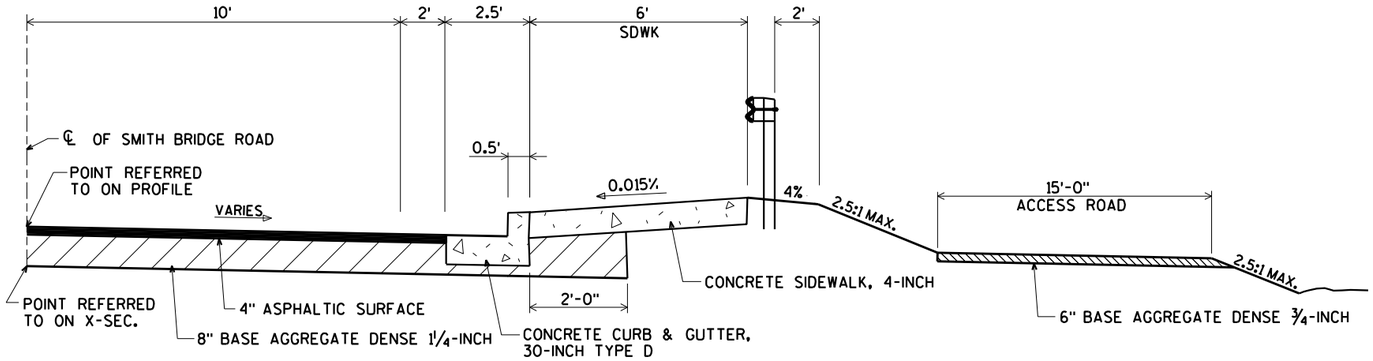


TYPICAL FINISHED HALF SECTION WITH BEAM GUARD



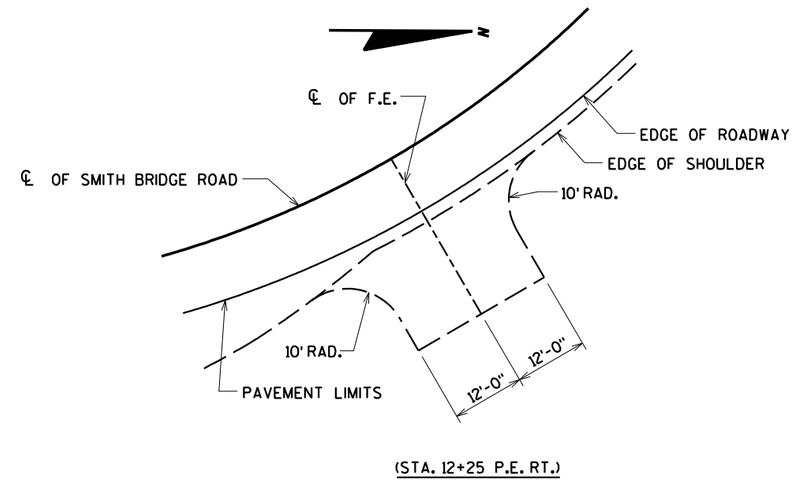
TYPICAL FINISHED SECTION

STA. 8+00.73 TO STA. 9+40.75
STA. 10+59.25 TO STA. 11+96.09



TYPICAL FINISHED HALF SECTION WITH ACCESS ROAD

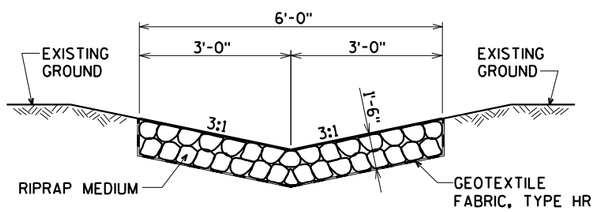
STA. 10+75 TO STA. 11+75



(STA. 12+25 P.E. RT.)

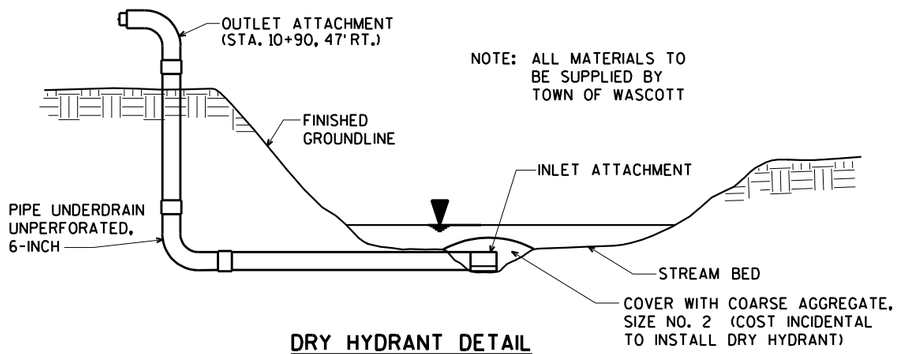
PRIVATE ENTRANCE PLAN

(BASE AGGREGATE DENSE ¾-INCH)



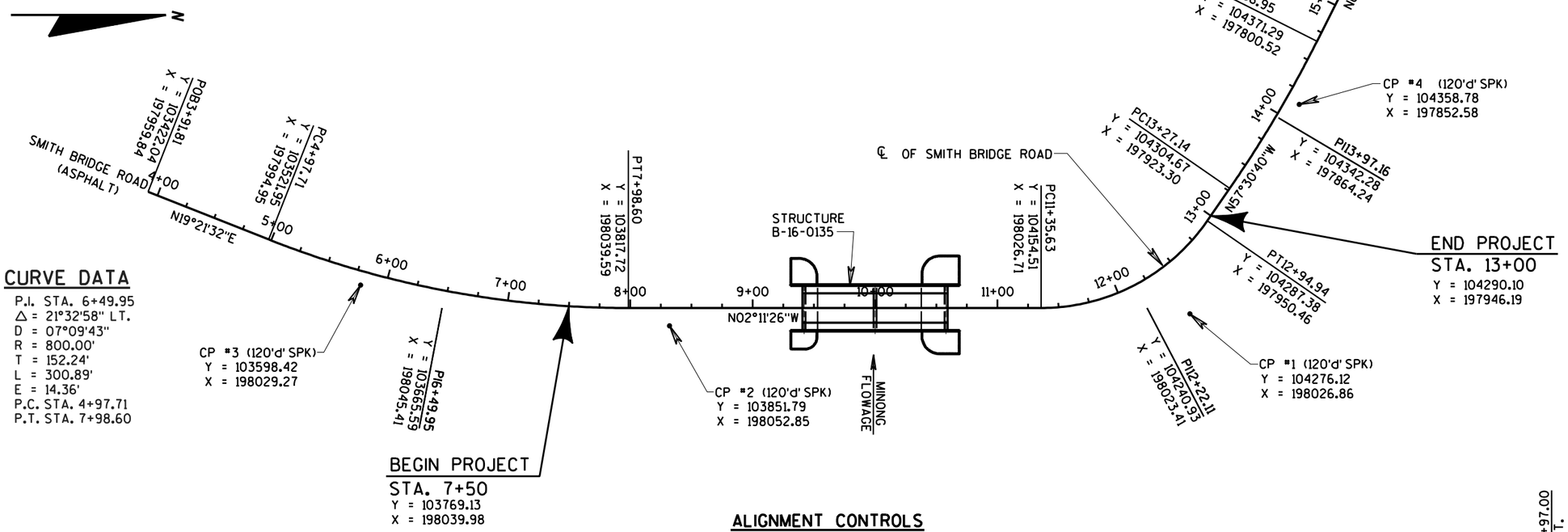
RIPRAP DITCH SECTION

STA. 8+50 LT. TO 8+70 LT.



DRY HYDRANT DETAIL

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	TYPICAL SECTIONS	SHEET 3	E

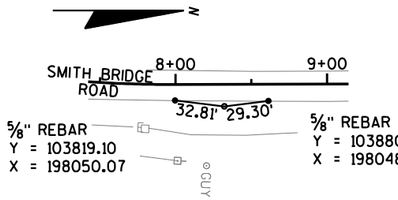


CURVE DATA
P.I. STA. 6+49.95
△ = 21°32'58" LT.
D = 07°09'43"
R = 800.00'
T = 152.24'
L = 300.89'
E = 14.36'
P.C. STA. 4+97.71
P.T. STA. 7+98.60

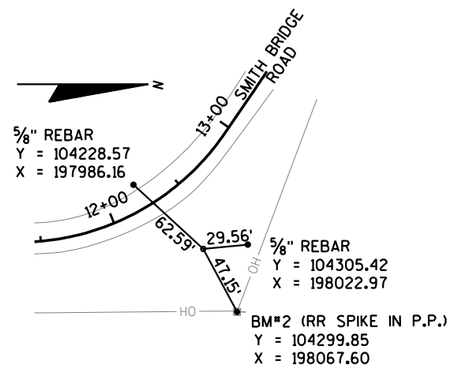
CURVE DATA
P.I. STA. 12+22.11
△ = 55°19'15" LT.
D = 34°43'29"
R = 165.00'
T = 86.48'
L = 159.31'
E = 21.29'
P.C. STA. 11+35.63
P.T. STA. 12+94.94
S.E. = 6.0%

CURVE DATA
P.I. STA. 13+97.16
△ = 08°00'37" LT.
D = 05°43'46"
R = 1000.00'
T = 70.02'
L = 139.81'
E = 2.45'
P.C. STA. 13+27.14
P.T. STA. 14+66.95

ALIGNMENT CONTROLS

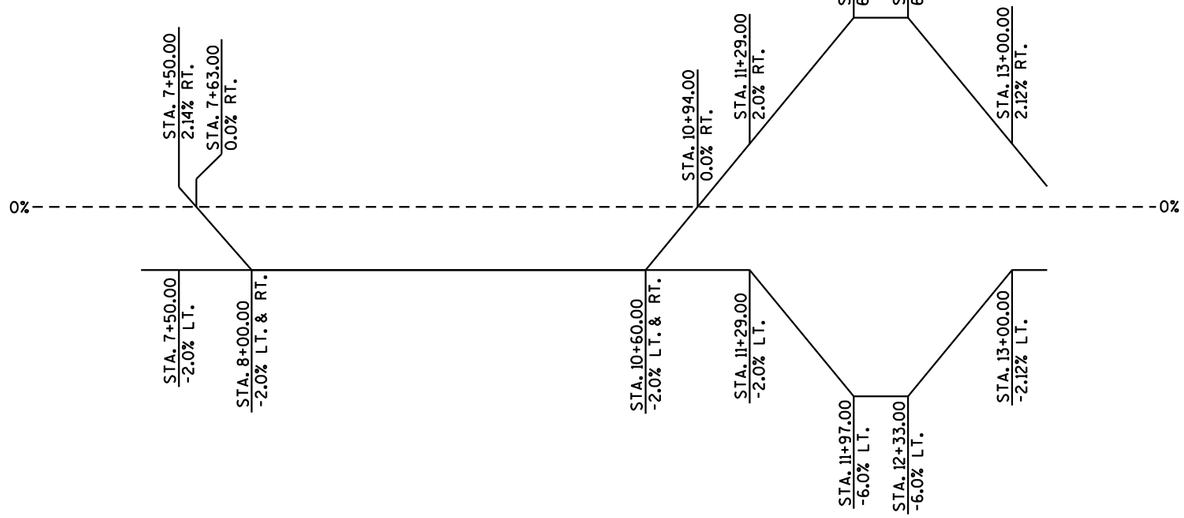


STA. 8+32.10, 14.5' RT. (120'd' SPK)
Y = 103851.79
X = 198052.85



STA. 12+38.12, 43.8' RT. (120'd' SPK)
Y = 104276.12
X = 198026.86

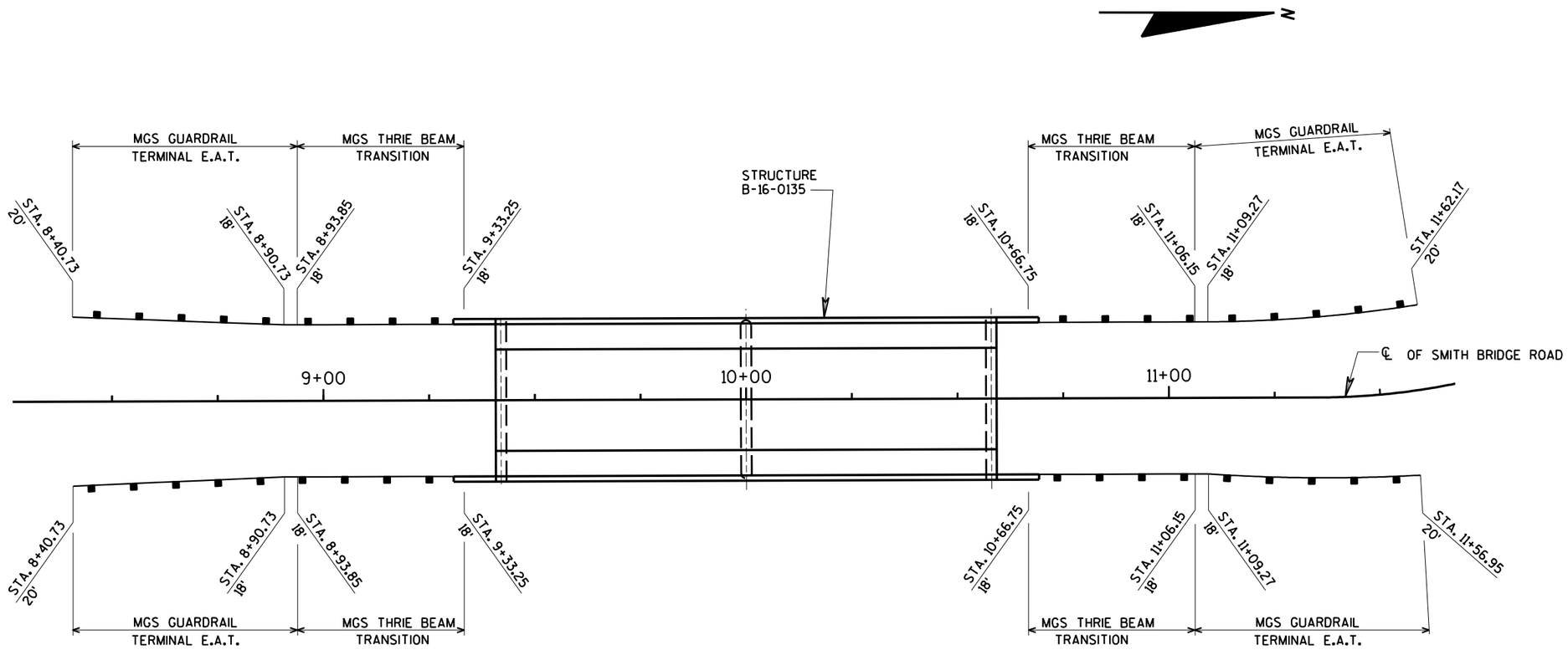
ALIGNMENT TIES



SUPERELEVATION DIAGRAM

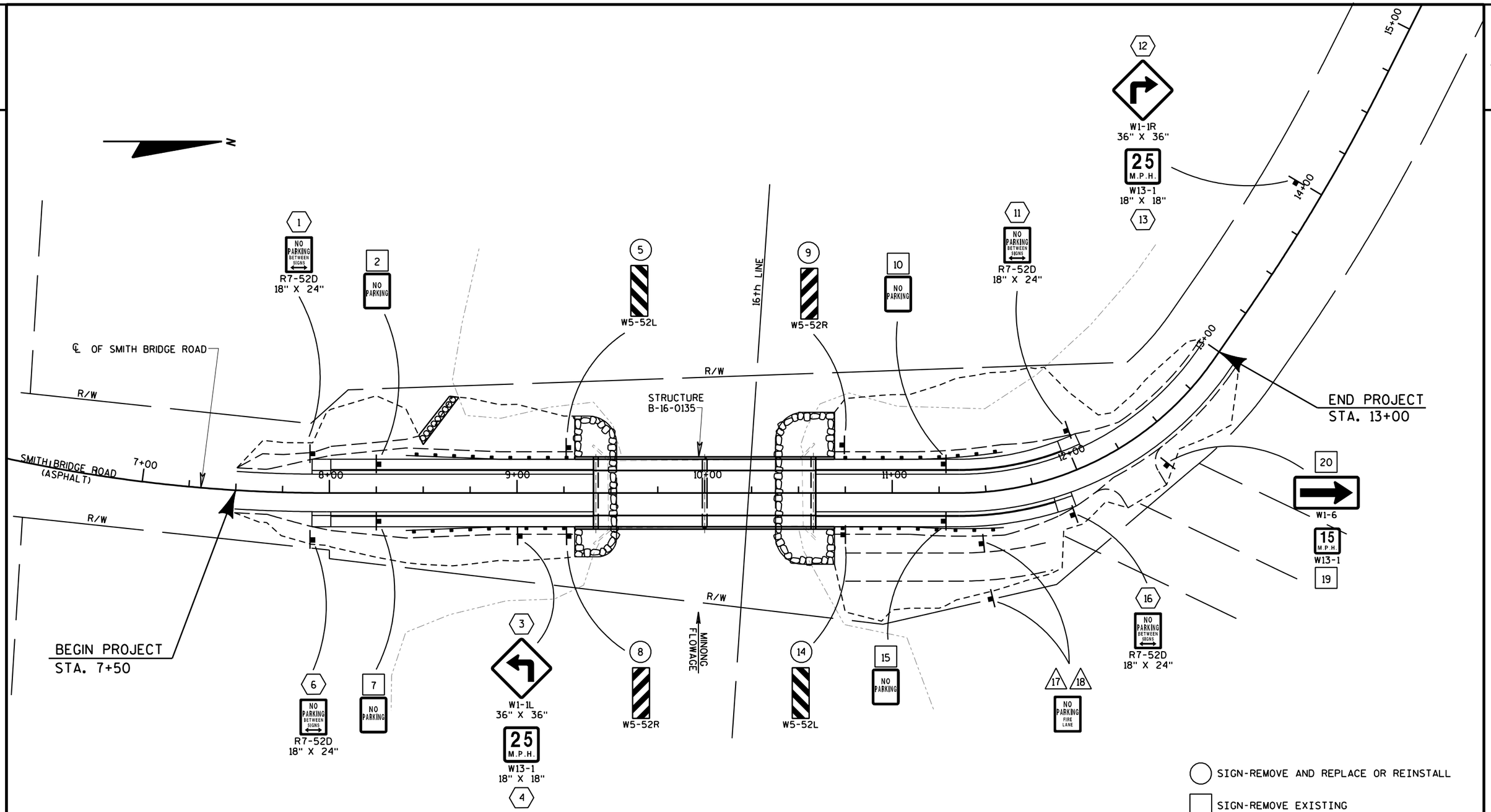
PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	ALIGNMENT CONTROLS & TIES	SHEET 4	E

2

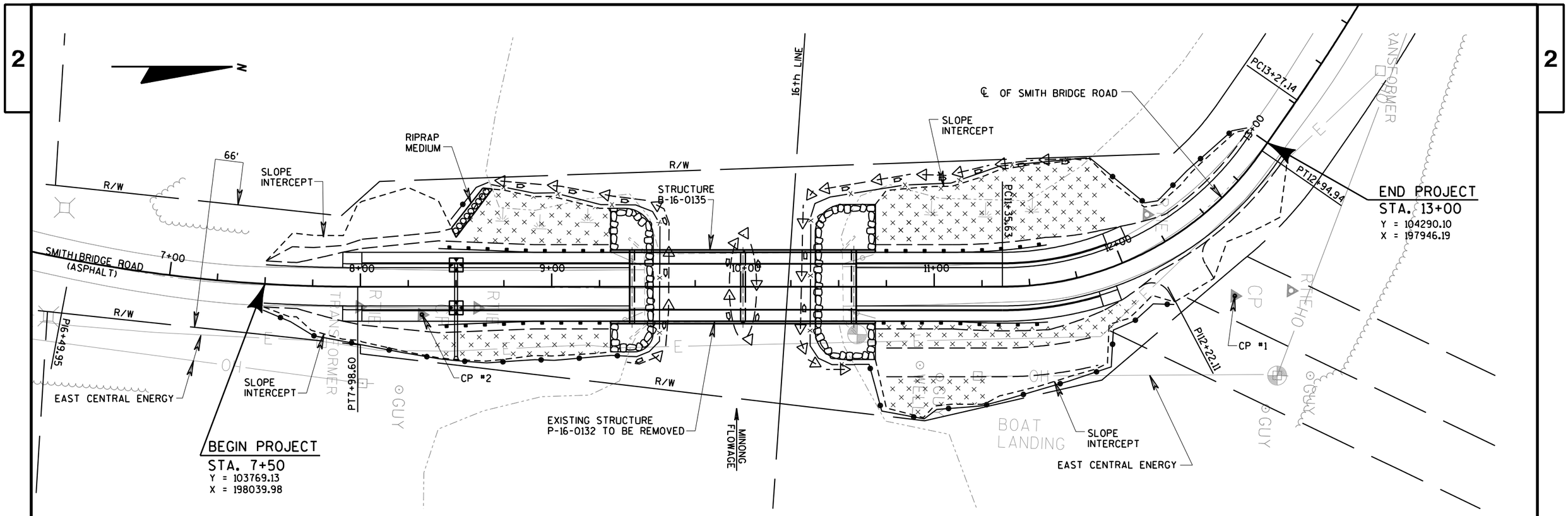


GUARDRAIL LAYOUT

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	GUARDRAIL LAYOUT	SCALE, FEET 0 15 30	SHEET 5 E



PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	SIGNING PLAN	SCALE, FEET 0 25 50	SHEET 6	E



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

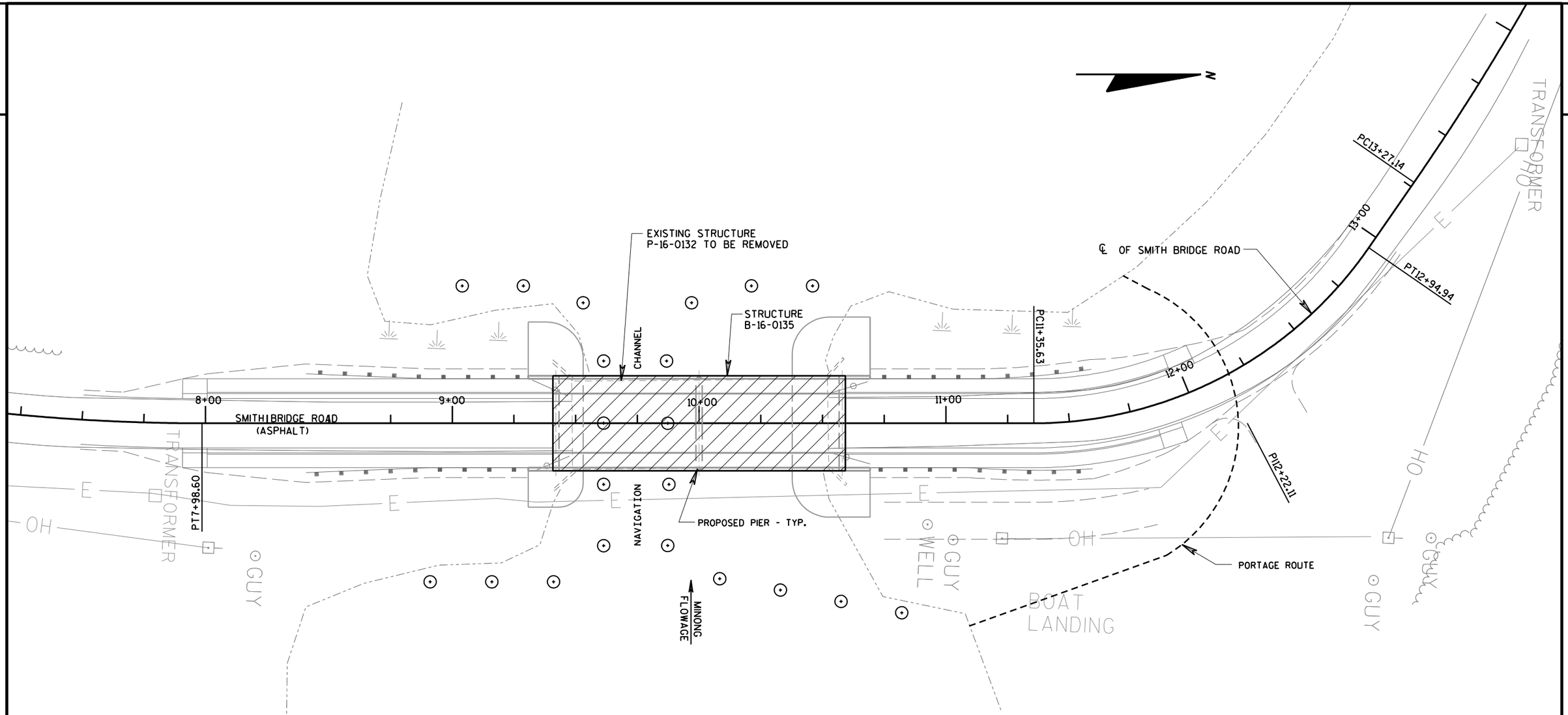
TOTAL PROJECT AREA = 1.30 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.83 ACRES

HIGH WATER $_2$ EL. 996.7

LEGEND

- EROSION MAT CLASS II TYPE B
- TEMPORARY DITCH CHECKS (UNDISTRIBUTED)
- SILT FENCE
- RIPRAP HEAVY
- TURBIDITY BARRIER
- RIPRAP MEDIUM
- HEAVY DUTY SILT FENCE
- INLET PROTECTION TYPE C

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	EROSION CONTROL	SCALE, FEET 0 25 50	SHEET 7	E



NOTE:

MAINTAIN NAVIGATION CHANNEL EXCEPT WHEN CONSTRUCTING THE BRIDGE SLAB

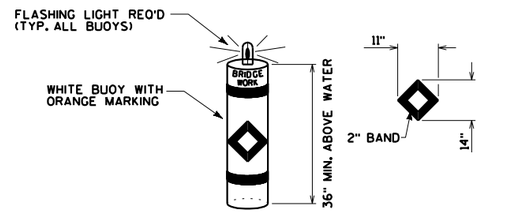
GENERAL NOTE

COMPLY WITH SECTION 107.19 OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.

LEGEND

WORK AREA

BUOY



TYPICAL HAZARD WARNING BUOY DETAIL

ALL BUOYS SHALL BE 7" DIAMETER WITH RED FLASHING LIGHTS AT 30 FLASHES/MIN.

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	BOATING TRAFFIC CONTROL	SCALE. FEET 0 20 40	SHEET 8	E

DATE 12JAN15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8396-00-72 QUANTITY
0010	201.0105	Clearing	STA	5.000	5.000
0020	201.0205	Grubbing	STA	5.000	5.000
0030	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0040	204.0165	Removing Guardrail	LF	64.000	64.000
0050	205.0100	Excavation Common **P**	CY	280.000	280.000
0060	206.1000	Excavation for Structures Bridges (structure) 01. B-16-0135	LS	1.000	1.000
0070	208.0100	Borrow	CY	2,187.000	2,187.000
0080	210.0100	Backfill Structure	CY	220.000	220.000
0090	213.0100	Finishing Roadway (project) 01. 8396-00-72	EACH	1.000	1.000
0100	305.0110	Base Aggregate Dense 3/4-Inch	TON	175.000	175.000
0110	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	695.000	695.000
0120	455.0605	Tack Coat	GAL	75.000	75.000
0130	465.0105	Asphaltic Surface	TON	250.000	250.000
0140	502.0100	Concrete Masonry Bridges	CY	504.000	504.000
0150	502.3200	Protective Surface Treatment	SY	565.000	565.000
0160	505.0405	Bar Steel Reinforcement HS Bridges	LB	7,320.000	7,320.000
0170	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	80,570.000	80,570.000
0180	513.4065	Railing Tubular Type PF (structure) 01. B-16-0135	LS	1.000	1.000
0190	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0200	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-16-0135	SF	2,810.000	2,810.000
0210	517.1050.S	Architectural Surface Treatment (structure) 01. B-16-0135	SF	1,730.000	1,730.000
0220	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	1.000	1.000
0230	550.2124	Piling Cip Concrete 12 3/4 X 0.25-Inch	LF	1,665.000	1,665.000
0240	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	540.000	540.000
0250	602.0405	Concrete Sidewalk 4-Inch	SF	3,575.000	3,575.000
0260	606.0200	Riprap Medium	CY	8.000	8.000
0270	606.0300	Riprap Heavy	CY	270.000	270.000
0280	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	42.000	42.000
0290	611.0639	Inlet Covers Type H-S	EACH	2.000	2.000
0300	611.3230	Inlets 2x3-Ft	EACH	2.000	2.000
0310	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0320	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0330	614.2500	Mgs Thrie Beam Transition	LF	157.600	157.600
0340	614.2610	Mgs Guardrail Terminal EAT	EACH	4.000	4.000
0350	619.1000	Mobilization	EACH	1.000	1.000
0360	625.0500	Salvaged Topsoil	SY	1,885.000	1,885.000
0370	627.0200	Mulching	SY	1,340.000	1,340.000
0380	628.1504	Silt Fence	LF	545.000	545.000
0390	628.1520	Silt Fence Maintenance	LF	1,090.000	1,090.000
0400	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0410	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0420	628.2023	Erosion Mat Class II Type B	SY	1,120.000	1,120.000
0430	628.6005	Turbidity Barriers	SY	600.000	600.000
0440	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0450	628.7504	Temporary Ditch Checks	LF	40.000	40.000

3

DATE 12JAN15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8396-00-72 QUANTITY
0460	629.0210	Fertilizer Type B	CWT	2.000	2.000
0470	630.0120	Seeding Mixture No. 20	LB	80.000	80.000
0480	630.0200	Seeding Temporary	LB	50.000	50.000
0490	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	12.000	12.000
0500	637.2210	Signs Type II Reflective H	SF	12.000	12.000
0510	637.2230	Signs Type II Reflective F	SF	34.500	34.500
0520	638.2102	Moving Signs Type II	EACH	2.000	2.000
0530	638.2602	Removing Signs Type II	EACH	10.000	10.000
0540	638.3000	Removing Small Sign Supports	EACH	10.000	10.000
0550	638.4000	Moving Small Sign Supports	EACH	2.000	2.000
0560	642.5001	Field Office Type B	EACH	1.000	1.000
0570	643.0100	Traffic Control (project) 01. 8396-00-72	EACH	1.000	1.000
0580	645.0120	Geotextile Fabric Type HR	SY	467.000	467.000
0590	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,200.000	2,200.000
0600	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
0610	650.4500	Construction Staking Subgrade	LF	432.000	432.000
0620	650.5000	Construction Staking Base	LF	432.000	432.000
0630	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	540.000	540.000
0640	650.6500	Construction Staking Structure Layout (structure) 01. B-16-0135	LS	1.000	1.000
0650	650.9910	Construction Staking Supplemental Control (project) 01. 8396-00-72	LS	1.000	1.000
0660	650.9920	Construction Staking Slope Stakes	LF	432.000	432.000
0670	690.0150	Sawing Asphalt	LF	43.000	43.000
0680	715.0502	Incentive Strength Concrete Structures	DOL	3,024.000	3,024.000
0690	SPV.0090	Special 01. Heavy Duty Silt Fence	LF	450.000	450.000
0700	SPV.0105	Special 01. Assemble And Install Dry Hydrant	LS	1.000	1.000

3

3

EARTHWORK SUMMARY (CATEGORY 0010)

DIVISION	STATION TO STATION	LOCATION	**P** 205.0100 EXCAVATION COMMON CUT (2) CY	EBS (3) CY	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL (4) CY	AVAILABLE MATERIAL (5) CY	UNEXPANDED FILL CY	EXPANDED FILL (7) CY	MASS ORDINATE ±(8) CY	WASTE CY	208.0100 BORROW CY	COMMENTS:
1	Sta.7+25 - Sta. 9+41	Smith Bridge Road	224	0	0	224	402	523	-299	0	299	
	Sta. 10+59 to Sta. 13+00	Smith Bridge Road	56	0	0	56	1,495	1,944	-1,888	0	1888	
	GRANDTOTAL		280	0	0	280	1,897	2,466		0	2,187	

TOTAL EXCAVATION COMMON **280** **TOTAL BORROW** **2,187**

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) EBS EXCAVATION TO BE BACKFILLED WITH BORROW MATERIAL.
4) SALVAGED/UNUSEABLE PAVEMENT MATERIAL
5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSEABLE PAVEMENT MATERIAL
6) NOT USED
7) EXPANDED FILL FACTOR = 1.30
EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
8) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

CLEARING AND GRUBBING (CATEGORY 0010)

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

204.0165 REMOVING GUARDRAIL (CATEGORY 0010)

STATION TO STATION	LOCATION	LF
Sta. 9+32 TO Sta. 9+47	LT	16
Sta. 9+33 TO Sta. 9+48	RT	16
Sta. 10+53 to Sta. 10+68	LT	16
Sta. 10+54 to Sta. 10+69	RT	16
TOTAL		64

213.0100 FINISHING ROADWAY (CATEGORY 0010)

LOCATION	EACH
PROJECT 8396-00-72	1

BASE AGGREGATE DENSE (CATEGORY 0010)

STATION TO STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
Sta. 7+50 to Sta. 8+00.73	Shoulders	7	---
Sta. 10+75 to Sta. 11+75	Service Road	61	---
Sta. 11+96.09 to Sta. 13+00	Shoulders	14	---
Sta. 12+25	Private Entrance	19	---
Sta. 7+67.22 to Sta. 9+30.75	Shoulders	39	---
Sta. 10+69.25 to Sta. 12+32.95	Shoulders	35	---
Sta. 7+50 to Sta. 8+00.73	Mainline	---	72
Sta. 8+00.73 to Sta. 9+40.75	Mainline	---	242
Sta. 10+59.25 to Sta. 11+96.09	Mainline	---	236
Sta. 11+96.09 to Sta. 13+00	Mainline	---	145
TOTALS		175	695

455.0605 TACK COAT (CATEGORY 0010)

STATION TO STATION	LOCATION	GAL
Sta. 7+50 to Sta. 8+00.73	Mainline	8
Sta. 8+00.73 to Sta. 9+40.75	Mainline	26
Sta. 10+59.25 to Sta. 11+96.09	Mainline	25
Sta. 11+96.09 to 13+00	Mainline	16
TOTAL		75

465.0105 ASPHALTIC SURFACE (CATEGORY 0010)

STATION TO STATION	LOCATION	TON
Sta. 7+50 to Sta. 8+00.73	Mainline	26
Sta. 8+00.73 to Sta. 9+40.75	Mainline	87
Sta. 10+59.25 to Sta. 11+96.09	Mainline	84
Sta. 11+96.09 to 13+00	Mainline	53
TOTAL		250

522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH (CATEGORY 0010)

STATION	LOCATION	EACH
Sta. 8+50	24' RT	1
TOTAL		1

601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D (CATEGORY 0010)

STATION TO STATION	LOCATION	LF
Sta. 8+00.73 to Sta. 9+40.75	LT & RT	280
Sta. 10+59.25 to Sta. 11+96	LT	132
Sta. 10+59.25 to Sta. 11+84	RT	128
TOTAL		540

3

602.0405 CONCRETE SIDEWALK 4-INCH (CATEGORY 0010)

STATION TO STATION	LOCATION	LF
Sta. 7+90.63 to Sta. 8+00.73	LT	80
Sta. 7+90.83 to Sta. 8+00.73	RT	80
Sta. 8+00.73 to Sta. 9+40.75	LT & RT	1,680
Sta. 10+59.25 to Sta. 11+84	RT	748
Sta. 10+59.25 to Sta. 11+95.84	LT	820
Sta. 11+84 to Sta. 11+93.01	RT	72
Sta. 11+95.84 to Sta. 12+07.64	LT	95
TOTALS		3,575

606.0200 RIPRAP MEDIUM (CATEGORY 0010)

STATION TO STATION	LOCATION	CY
Sta. 8+47 to Sta. 8+69	LT	8
TOTAL		8

608.0318 STORM SEWER PIPE REINFORCED CONCRETE 18-INCH (CATEGORY 0010)

STATION	LOCATION	RCCP CLASS	LF
Sta. 8+50		III	20
Sta. 8+50	RT	III	22
TOTAL			42

STORM SEWER (CATEGORY 0010)

STATION TO STATION	LOCATION	611.0639 INLET COVERS TYPE H-S EACH	611.3230 INLETS 2x3-FT EACH
Sta. 8+50	10' LT	1	1
Sta. 8+50	10' RT	1	1
TOTALS		2	2

BEAM GUARD (CATEGORY 0010)

STATION TO STATION	LOCATION	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
Sta. 8+93.85 to Sta. 9+33.25	LT & RT	78.8	
Sta. 10+66.75 to Sta. 11+06.15	LT & RT	78.8	
Sta. 8+40.73 to Sta. 8+93.85	LT & RT		2
Sta. 11+06.15 to Sta. 11+62.17	LT		1
Sta. 11+06.15 to Sta. 11+56.95	RT		1
TOTALS		157.6	4

619.1000 MOBILIZATION

LOCATION	EACH
PROJECT 8396-00-72 (CATEGORY 0010)	0.2
PROJECT 8396-00-72 (CATEGORY 0020)	0.8
TOTAL	1

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

STATION TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING NO. 20 LB	630.0200 SEEDING TEMPORARY LB
Sta. 7+50 to Sta. 13+00	Mainline	1,885	1,220	1.7	72	36
Undistributed		---	120	0.3	8	14
TOTALS		1,885	1,340	2.0	80	50

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)

STATION TO STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
Sta. 7+50 to Sta. 9+40	RT	196	392
Sta. 8+47 to Sta. 8+67	LT	28	56
Sta. 10+58 to Sta. 12+14	RT	214	428
Sta. 12+07 to Sta. 13+00	LT	107	214
TOTALS		545	1,090

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 8396-00-72	4	2

628.2023 EROSION MAT CLASS II TYPE B (CATEGORY 0010)

STATION TO STATION	LOCATION	SY
Sta. 8+39 to Sta. 9+31	RT	173
Sta. 8+57 to 9+31	LT	25
Sta. 10+69 to Sta. 12+09	LT	555
Sta. 10+69 to Sta. 11+26	47' RT	132
Sta. 10+69 to Sta. 12+00	RT	235
TOTAL		1,120

628.6005 TURBIDITY BARRIER (CATEGORY 0010)

LOCATION	SY
South Abutment	150
Pier	150
North Abutment	220
Undistributed	80
TOTAL	600

628.7015 INLET PROTECTION TYPE C (CATEGORY 0010)

LOCATION	EACH
Sta. 8+50 LT & RT	2

628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)

LOCATION	LF
UNDISTRIBUTED	40

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

STATION	LOCATION	EACH
Sta. 7+85	LT (R7-52D)	1
Sta. 7+85	RT (R7-52D)	1
Sta. 9+25	RT (W1-1L)	1
Sta. 9+25	RT (W13-1)	1
Sta. 9+40.75	LT (Object Marker)	1
Sta. 9+40.75	RT (Object Marker)	1
Sta. 10+59.25	LT (Object Marker)	1
Sta. 10+59.25	RT (Object Marker)	1
Sta. 11+91	RT (R7-52D)	1
Sta. 12+03	LT (R7-52D)	1
Sta. 14+00	LT (W1-1R)	1
Sta. 14+00	LT (W13-1)	1
TOTAL		12

637.2210 SIGNS TYPE II REFLECTIVE H (CATEGORY 0010)

STATION			SF
Sta. 7+85	LT	R7-52D	3
Sta. 7+85	RT	R7-52D	3
Sta. 11+91	RT	R7-52D	3
Sta. 12+03	LT	R7-52D	3
TOTAL			12

637.2230 SIGNS TYPE II REFLECTIVE F (CATEGORY 0010)

STATION			SF
Sta. 9+00	RT	W1-1L	9
Sta. 9+00	RT	W13-1	2.25
Sta. 9+30	LT (Object Marker)	W5-52L	3
Sta. 9+30	RT (Object Marker)	W5-52R	3
Sta. 10+70	LT (Object Marker)	W5-52L	3
Sta. 10+70	RT (Object Marker)	W5-52R	3
Sta. 14+00	LT	W1-1R	9
Sta. 14+00	LT	W13-1	2.25
TOTAL			34.5

SIGNS

STATION			638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGN TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH
Sta. 8+25	RT	(No Parking)		1	1	
Sta. 8+25	LT	(No Parking)		1	1	
Sta. 9+40	LT	W5-52L		1	1	
Sta. 9+40	RT	W5-52R		1	1	
Sta. 10+60	LT	W5-52R		1	1	
Sta. 10+60	RT	W5-52L		1	1	
Sta. 11+28	RT	(No Parking)		1	1	
Sta. 11+28	LT	(No Parking)		1	1	
Sta. 11+45	RT	(No Parking)	2			2
Sta. 12+40	RT	W1-6		1	1	
Sta. 12+40	RT	W13-1		1	1	
TOTAL			2	10	10	2

646.0106 PAVEMENT MARKING EPOXY 4-INCH

STATION	YELLOW SF	WHITE SF
Sta. 7+50 to Sta.13+00	1100	1100
TOTAL		2200

CONSTRUCTION STAKING

CATEGORY	LOCATION	650.4000 STORM SEWER EACH	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB GUTTER AND CURB & GUTTER LF	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTARY CONTROL LS	650.9920 SLOPE STAKES LF
0010	Sta. 7+50 to Sta. 13+00	2	432	432	540	---	1	432
0020	B-16-0135	---	---	---	---	1	---	---
TOTALS		2	432	432	540	1	1	432

642.5001 FIELD OFFICE TYPE B (CATEGORY 0010)

LOCATION	EACH
PROJECT 8396-00-72	1

643.0100 TRAFFIC CONTROL (CATEGORY 0010)

LOCATION	EACH
PROJECT 8396-00-72	1

690.0150 SAWING ASPHALT (CATEGORY 0010)

STATION	LOCATION	LF
Sta. 7+50	Mainline	20
Sta. 13+00	Mainline	23
TOTAL		43

SPV.0090.01 HEAVY DUTY SILT FENCE (CATEGORY 0010)

LOCATION	LF
SOUTH ABUTMENT	160
NORTH ABUTMENT	230
UNDISTRIBUTED	60
TOTAL	450

645.0120 GEOTEXTILE FABRIC TYPE HR

STATION	LOCATION	SY
Sta. 8+47 to Sta. 8+69	LT	27
TOTAL		27

SPV.0105.01 ASSEMBLE AND INSTALL DRY HYDRANT (CATEGORY 0010)

STATION TO STATION	LOCATION	EACH
Sta. 10+90	47' RT	1
TOTAL		1

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
8396-00-02		
FEDERAL PROJECT NUMBER	4.01	1

PLAT OF RIGHT-OF-WAY REQUIRED FOR

TOWN OF WASCOTT

MINONG FLOWAGE BRIDGE B-16-0135

SMITH BRIDGE ROAD — DOUGLAS COUNTY

CONSTRUCTION PROJECT NUMBER
8396-00-72

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (1" UNLESS NOTED)
R/W MONUMENT (SET)
R/W STANDARD (SET)
SIGN
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT (RW320)
PARCEL NUMBER (02)
UTILITY PARCEL NUMBER (92)
SIGN NUMBER (OFF PREMISE) (21)
BUILDING

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

CONVENTIONAL UTILITY SYMBOLS

WATER (W)
GAS (G)
TELEPHONE (T)
OVERHEAD (OH)
TRANSMISSION LINES ELECTRIC (E)
CABLE TELEVISION (TV)
FIBER OPTIC (FO)

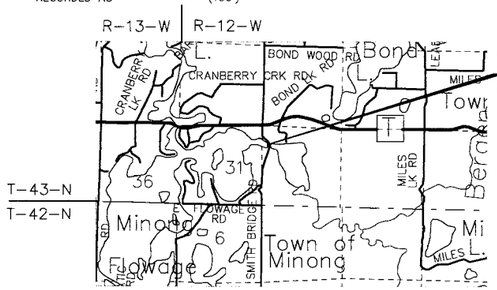
SANITARY SEWER (SAN)
STORM SEWER (SS)
NON COMPENSABLE / COMPENSABLE
POWER POLE
TELEPHONE POLE
TELEPHONE PEDESTAL
ELECTRIC TOWER

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		

CURVE DATA

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



VICINITY MAP

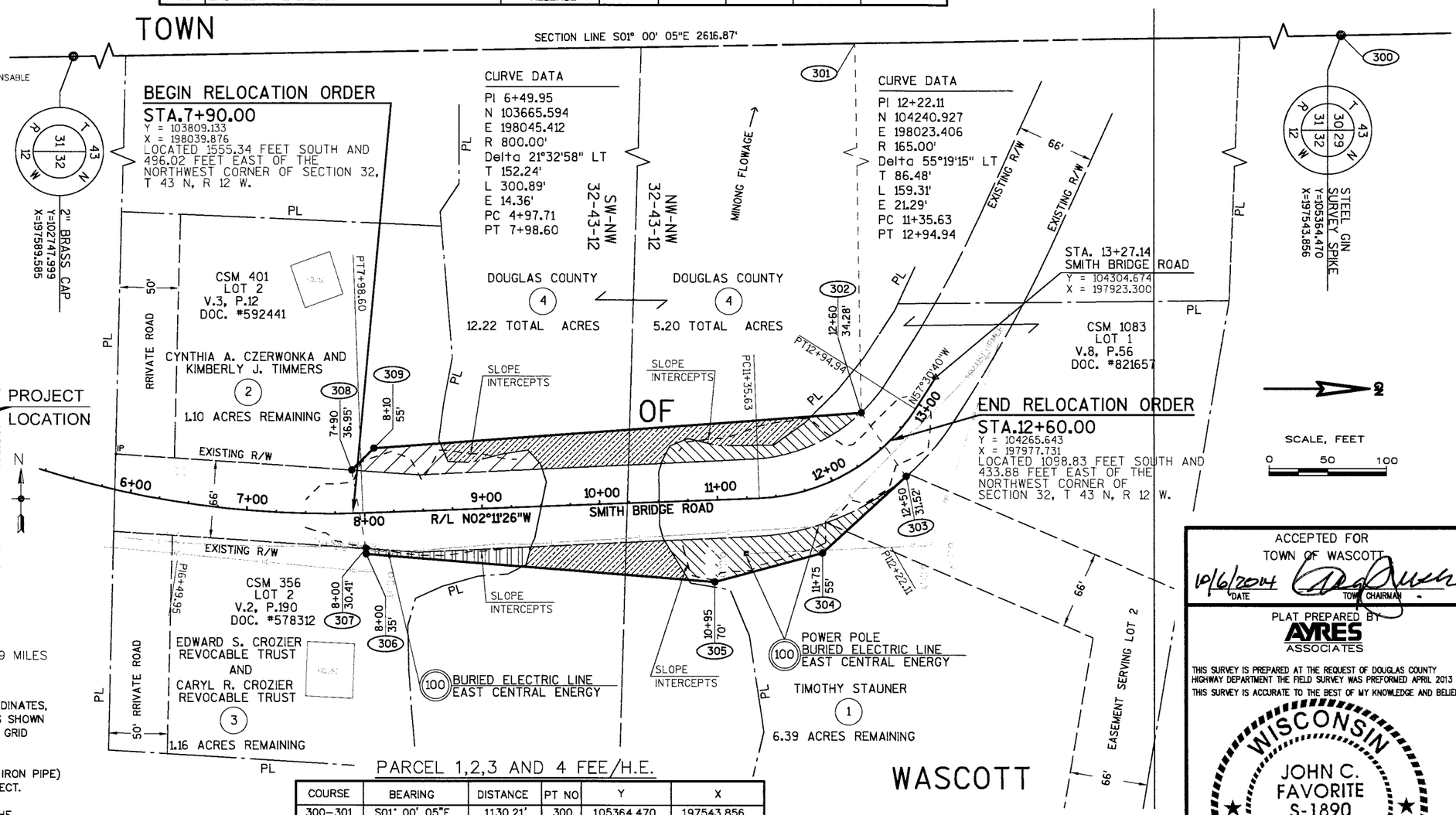
0 1 2 MILES

TOTAL NET LENGTH OF RELOCATION ORDER=0.089 MILES

SCHEDULE OF LANDS AND INTERESTS REQUIRED

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

PARCEL NO.	OWNERSHIP	INTEREST REQUIRED	TOTAL ACRES	R/W (ACRES) NEW	R/W (ACRES) EXISTING	R/W (ACRES) TOTAL	TOTAL ACRES REMAINING
1	TIMOTHY STAUNER	FEE	6.85	0.16	0.30	0.46	6.39
2	CYNTHIA A. CZERWONKA AND KIMBERLY J. TIMMERS	FEE	1.16	0.06	0.00	0.06	1.10
3	EDWARD S. CROZIER REVOCABLE TRUST AND CARYL R. CROZIER REVOCABLE TRUST	FEE	1.19	0.03	0.00	0.03	1.16
4	DOUGLAS COUNTY	H.E.	17.42	0.22 H.E.	0.00	0.22 H.E.	17.42
100	EAST CENTRAL ENERGY	RELEASE	----	----	----	----	----



PARCEL 1,2,3 AND 4 FEE/H.E.

COURSE	BEARING	DISTANCE	PT NO	Y	X
300-301	S01° 00' 05"E	1130.21'	300	105364.470	197543.856
301-302	N88° 59' 55"E	390.11'	301	104234.429	197563.606
302-303	N54° 56' 01"E	66.51'	302	104241.246	197953.654
303-304	S42° 34' 59"E	96.60'	303	104279.458	198008.091
304-305	S15° 06' 07"E	95.03'	304	104208.332	198073.455
305-306	S04° 34' 33"W	297.07'	305	104116.587	198098.213
306-307	S87° 46' 34"W	4.59'	306	103820.465	198074.514
307-308	S79° 42' 10"W	68.08'	307	103820.287	198069.924
308-309	N44° 45' 44"W	26.62'	308	103808.118	198002.942
309-302	N04° 13' 02"W	415.35'	309	103827.018	197984.198

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DOUGLAS COUNTY, NAD83 (2011) IN U.S. 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 (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

EXISTING RIGHT-OF-WAY FOR SMITH BRIDGE ROAD WAS DETERMINED FROM EXISTING PROPERTY MONUMENTATION/DEEDS, CERTIFIED SURVEY MAP 1083 RECORDED IN VOLUME 8, PAGE 56 AS DOCUMENT NUMBER 821657; CERTIFIED SURVEY MAP 401 RECORDED IN VOLUME 3, PAGE 12 AS DOCUMENT NUMBER 592441; AND CERTIFIED SURVEY MAP 356 RECORDED IN VOLUME 2, PAGE 190 AS DOCUMENT NUMBER 578312.

REVISION DATE

ACCEPTED FOR TOWN OF WASCOTT

10/6/2014 DATE — TOWN CHAIRMAN

PLAT PREPARED BY
AYRES ASSOCIATES

THIS SURVEY IS PREPARED AT THE REQUEST OF DOUGLAS COUNTY HIGHWAY DEPARTMENT THE FIELD SURVEY WAS PREFORMED APRIL 2013
THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF

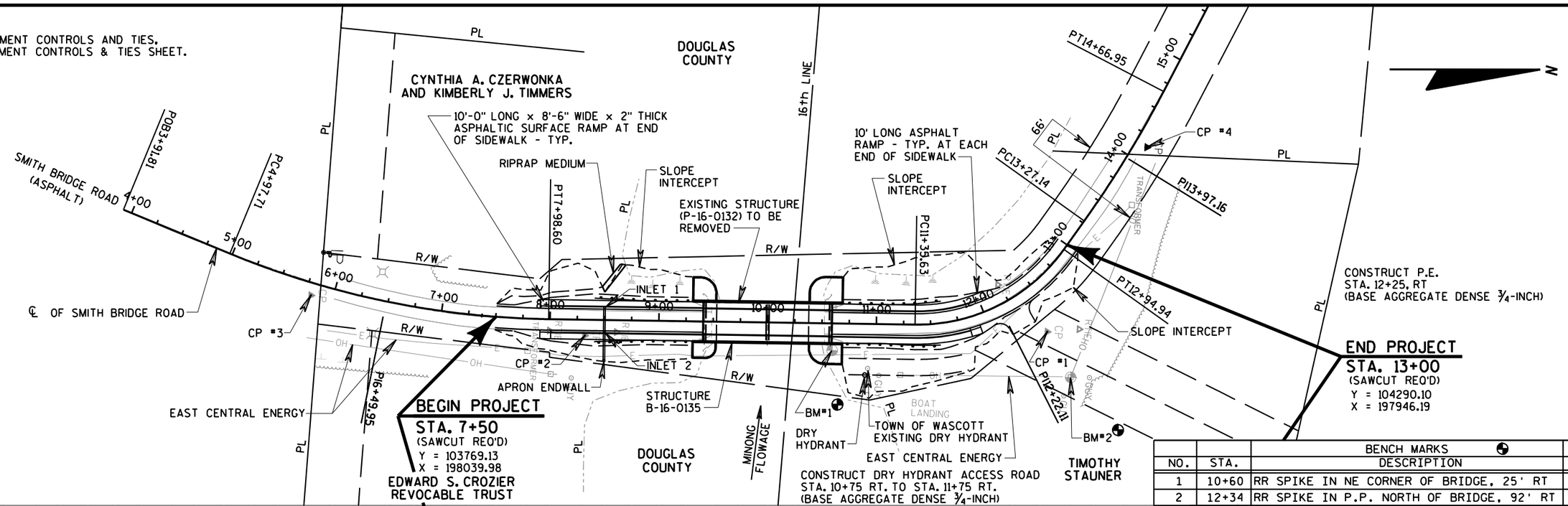
WISCONSIN
JOHN C. FAVORITE
S-1890
MADISON WI
LAND SURVEYOR

JOHN FAVORITE, R.L.S. S-1890 — 9/22/14 DATE

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 50

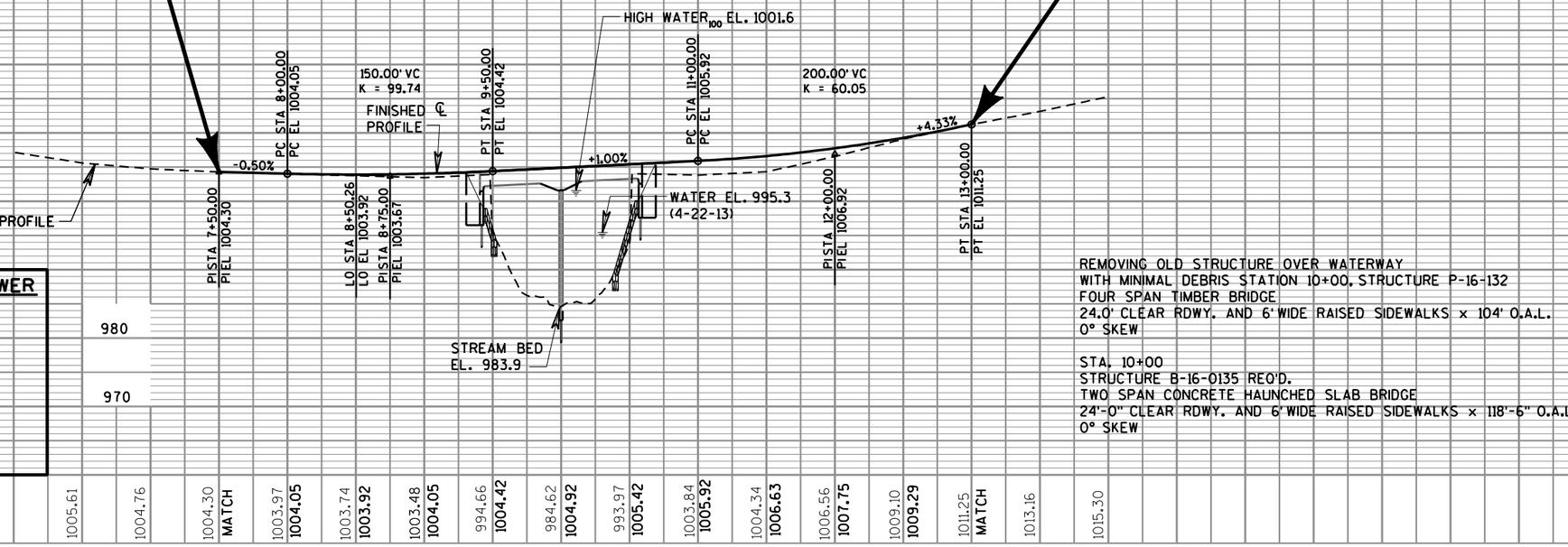
NOTES:
FOR ALIGNMENT CONTROLS AND TIES.
SEE ALIGNMENT CONTROLS & TIES SHEET.



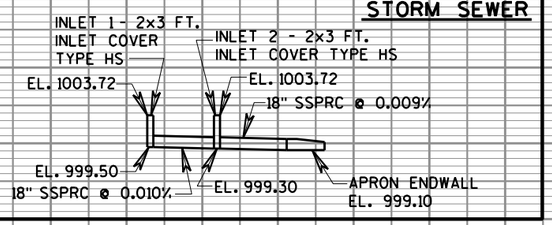
BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
1	10+60	RR SPIKE IN NE CORNER OF BRIDGE, 25' RT	999.57
2	12+34	RR SPIKE IN P.P. NORTH OF BRIDGE, 92' RT	1013.34

EARTHWORK SUMMARY
STA. 7+50 TO STA. 9+40.75
EXC. COMMON 224 C.Y.
FILL 402 C.Y.
SHR. = 30%
BORROW 299 C.Y.

EARTHWORK SUMMARY
STA. 10+59.25 TO STA. 13+00
EXC. COMMON 56 C.Y.
FILL 1,495 C.Y.
SHR. = 30%
BORROW 1,888 C.Y.



STORM SEWER



REMOVING OLD STRUCTURE OVER WATERWAY
WITH MINIMAL DEBRIS STATION 10+00, STRUCTURE P-16-132
FOUR SPAN TIMBER BRIDGE
24.0' CLEAR RDWY. AND 6' WIDE RAISED SIDEWALKS x 104' O.A.L.
0° SKEW

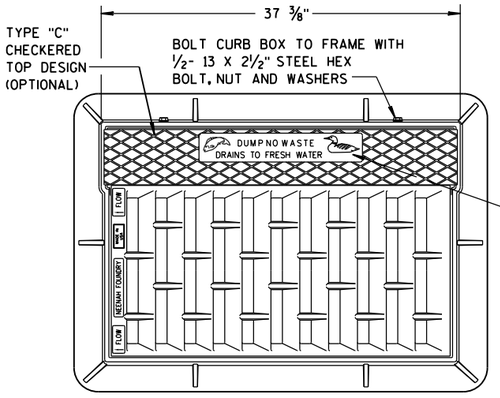
STA. 10+00
STRUCTURE B-16-0135 REQ'D.
TWO SPAN CONCRETE HAUNCHED SLAB BRIDGE
24'-0" CLEAR RDWY. AND 6' WIDE RAISED SIDEWALKS x 118'-6" O.A.L.
0° SKEW

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	PLAN AND PROFILE	SCALE, FEET 0 50 100	SHEET 17	E

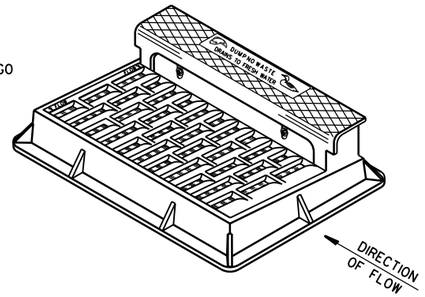
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)

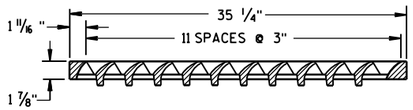
6

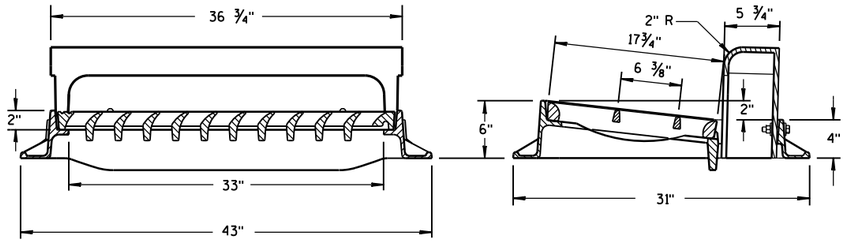


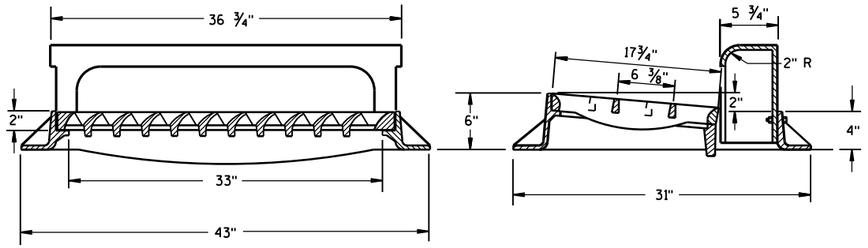
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

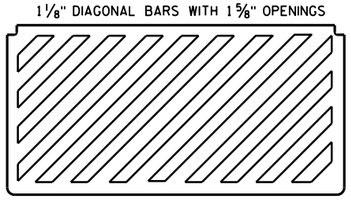






TYPE "H"

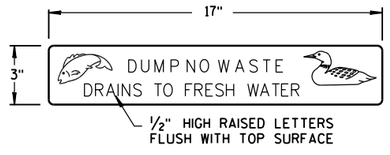
NOTE: EITHER CASTING IS ACCEPTABLE



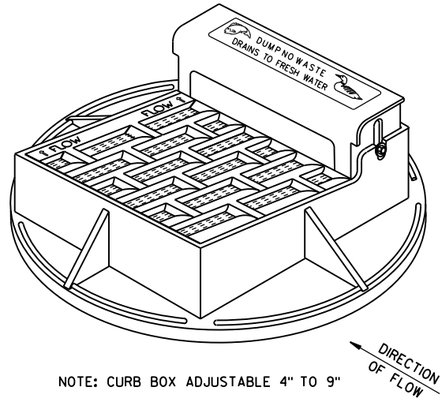
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

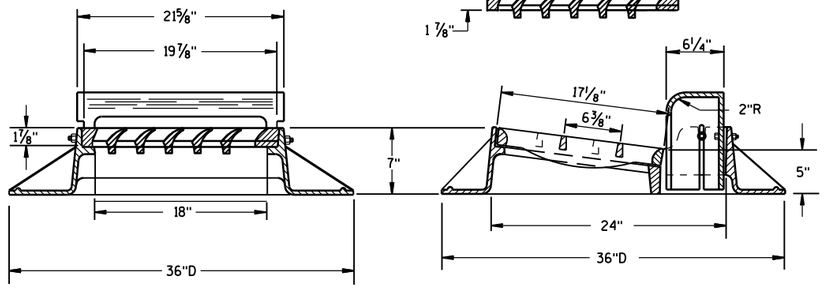


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



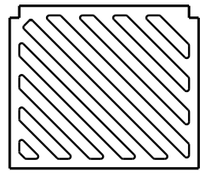
TYPE "A"

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

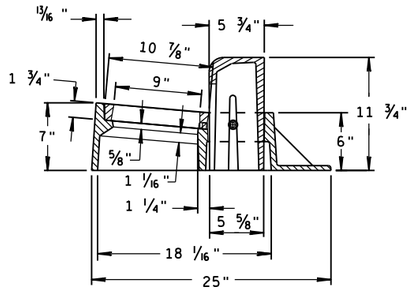
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

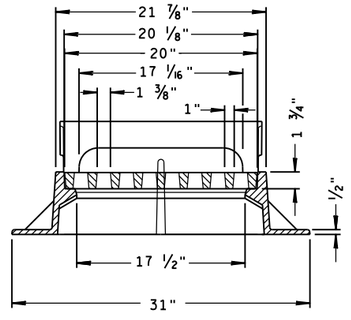


SPECIAL GRATE FOR TYPE "A" COVER

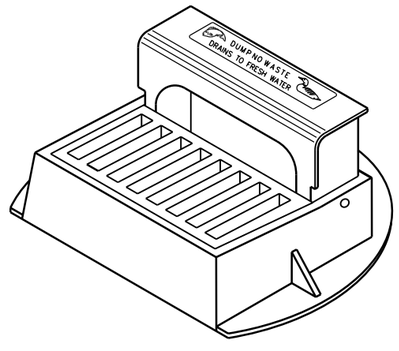
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



INLET COVERS TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

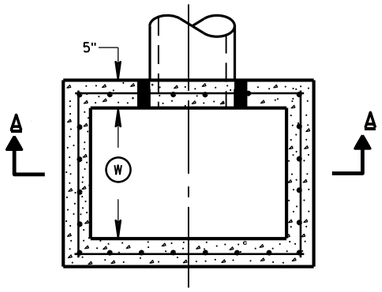
APPROVED
11-27-13 DATE
/S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER
FHWA

6

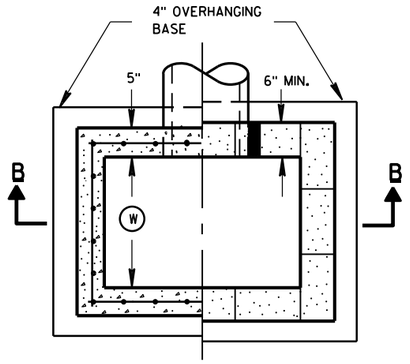
S.D.D. 8 A 5-19a

6

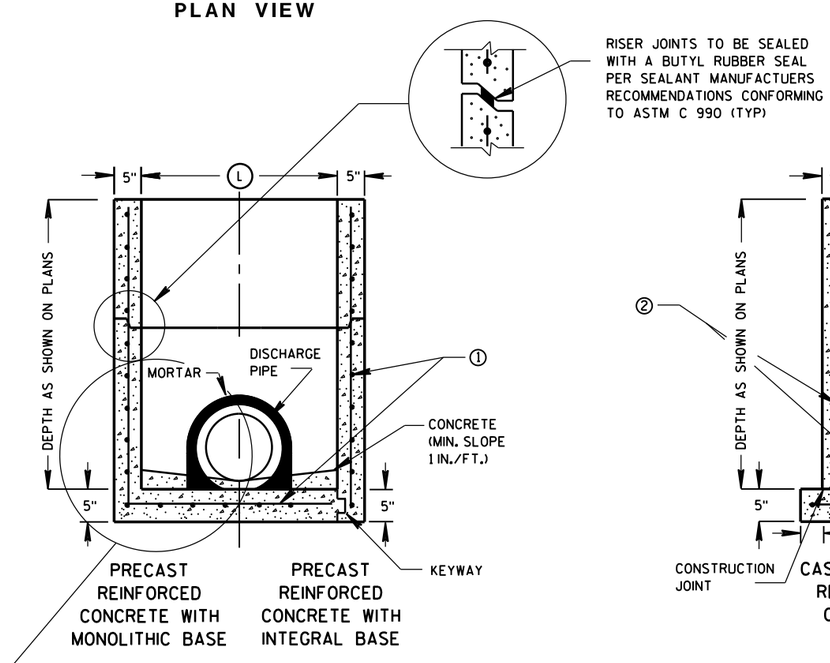
S.D.D. 8 A 5-19a



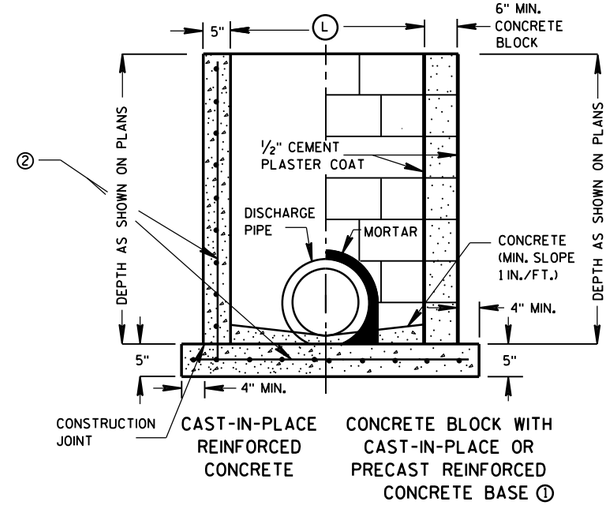
PLAN VIEW



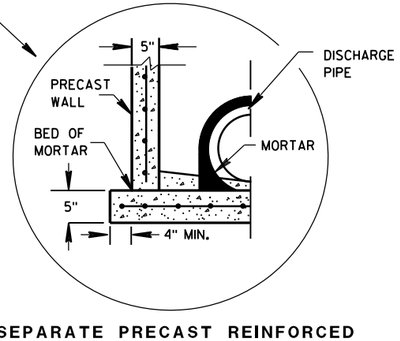
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

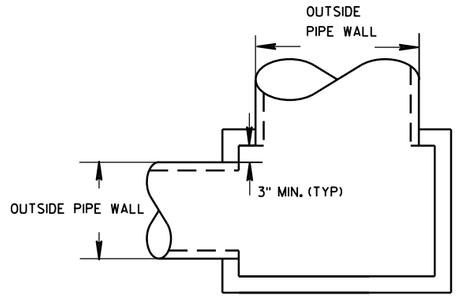
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



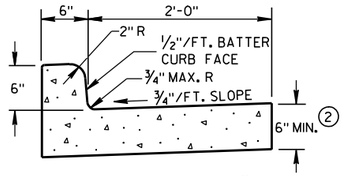
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

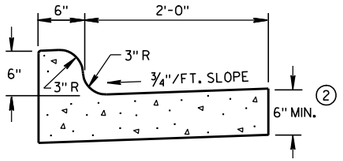
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER
FHWA

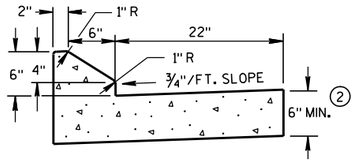
6
S.D.D. 8 C 7-1



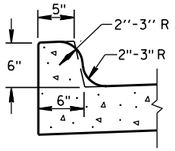
TYPES A & D (1)



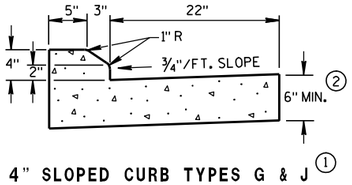
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

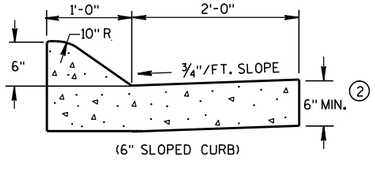


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

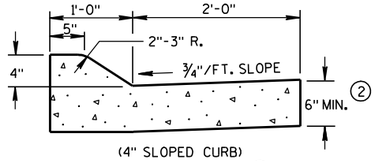


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

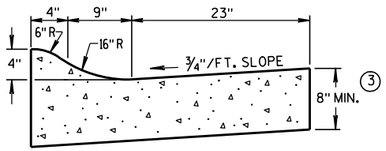


(6" SLOPED CURB)



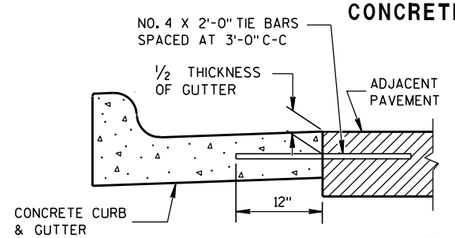
(4" SLOPED CURB)

TYPES A & D (1)

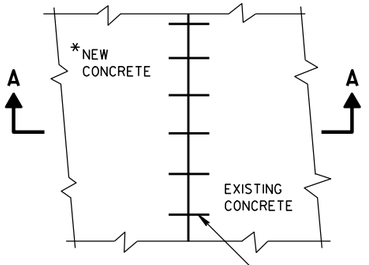


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

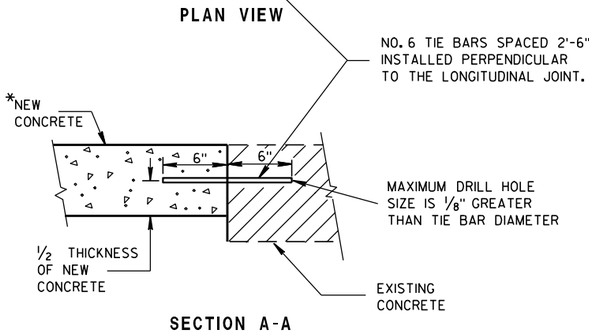


TYPICAL TIE BAR LOCATION (1)



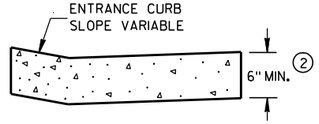
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW

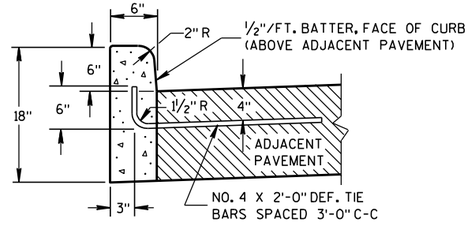


SECTION A-A

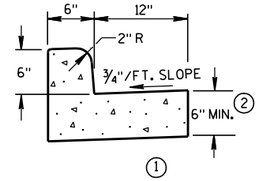
TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

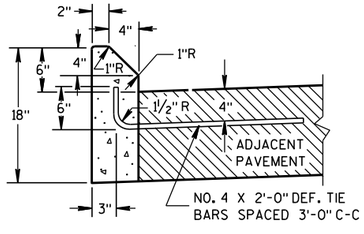


(1)
TYPES A & D



(1)
TYPES A & D

CONCRETE CURB & GUTTER 18"



(1)
TYPES G & J

CONCRETE CURB

REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

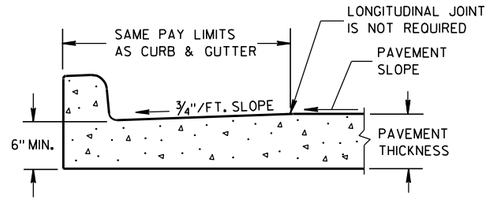
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

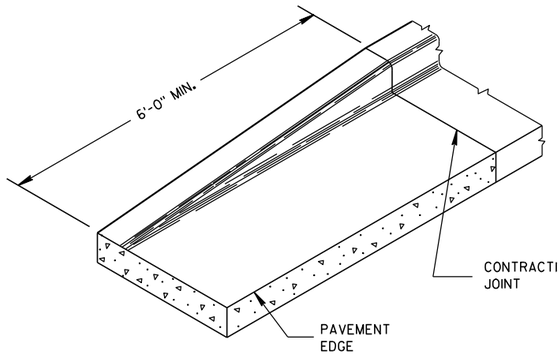
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



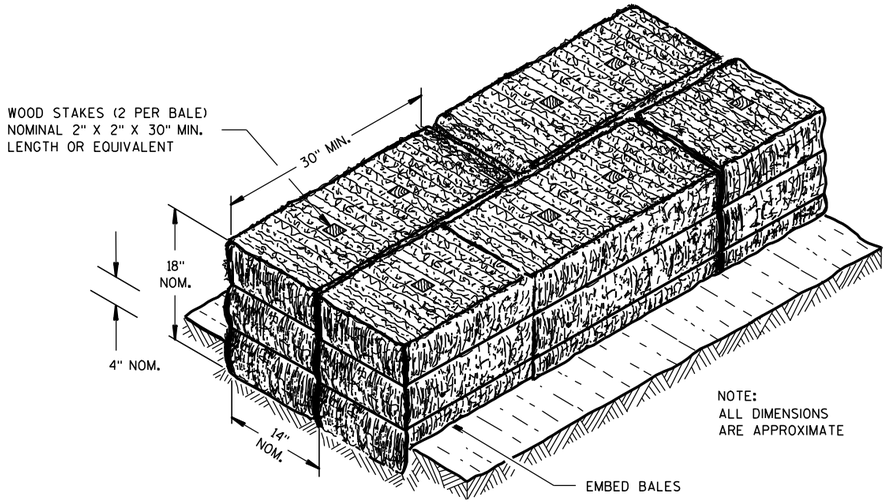
END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

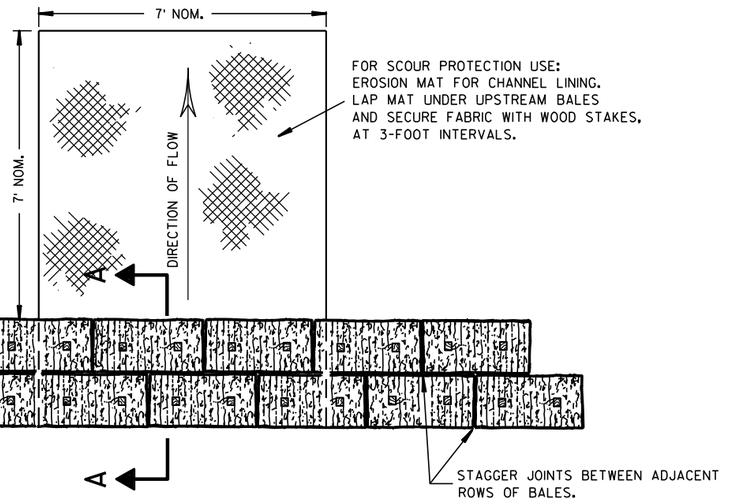
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA

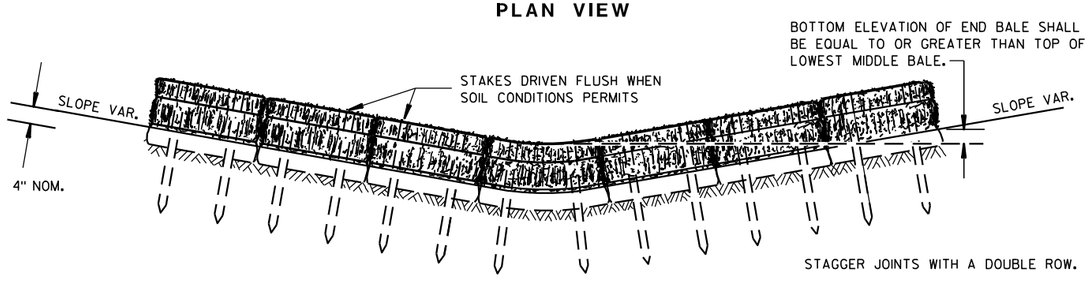
6
S.D.D. 8 D 1-17



SECTION A-A



PLAN VIEW



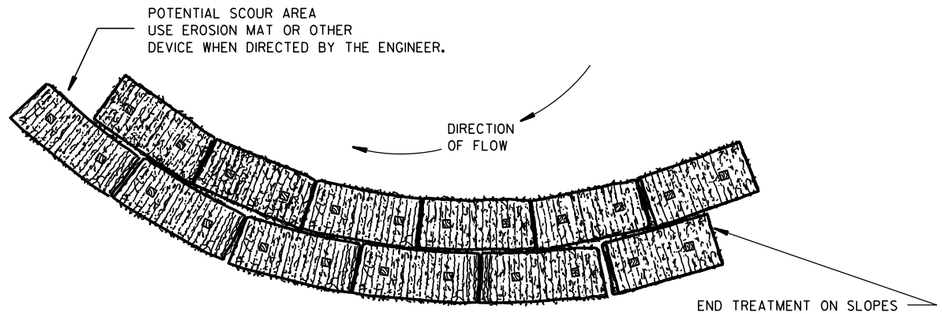
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

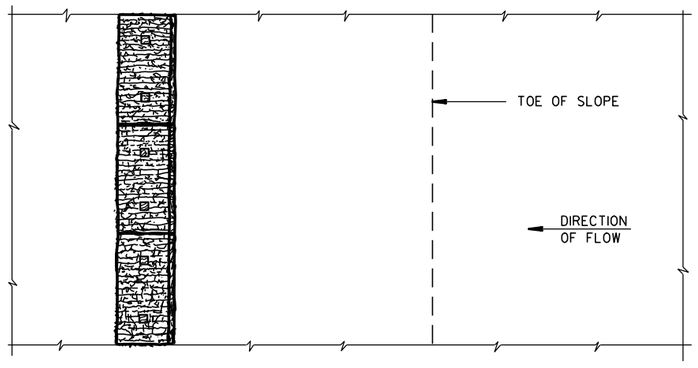
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

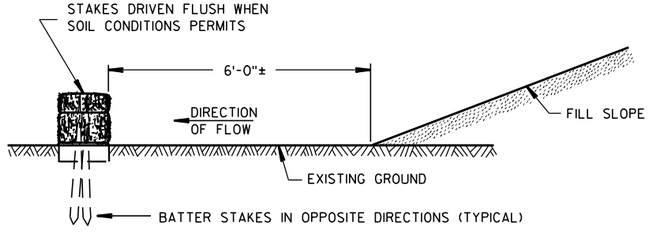


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

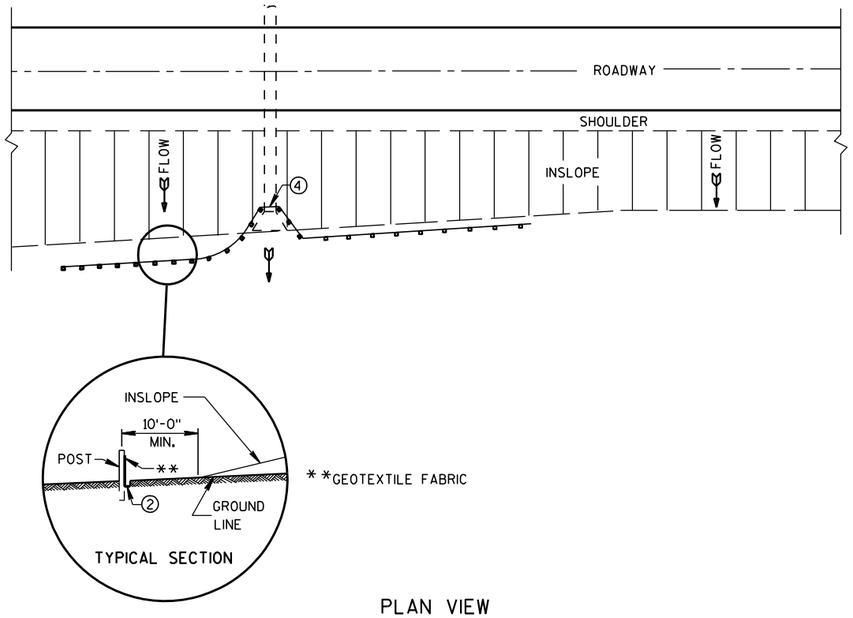
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

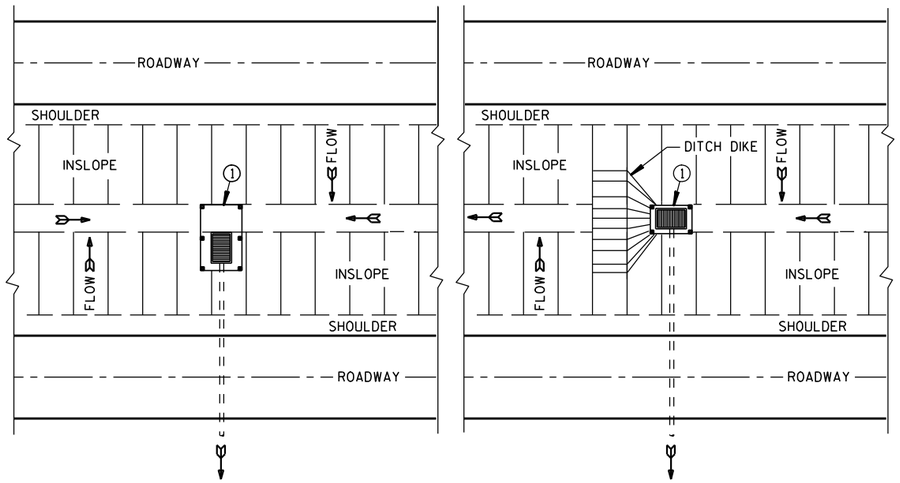
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



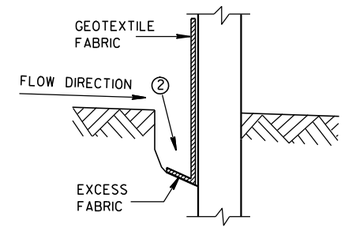
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

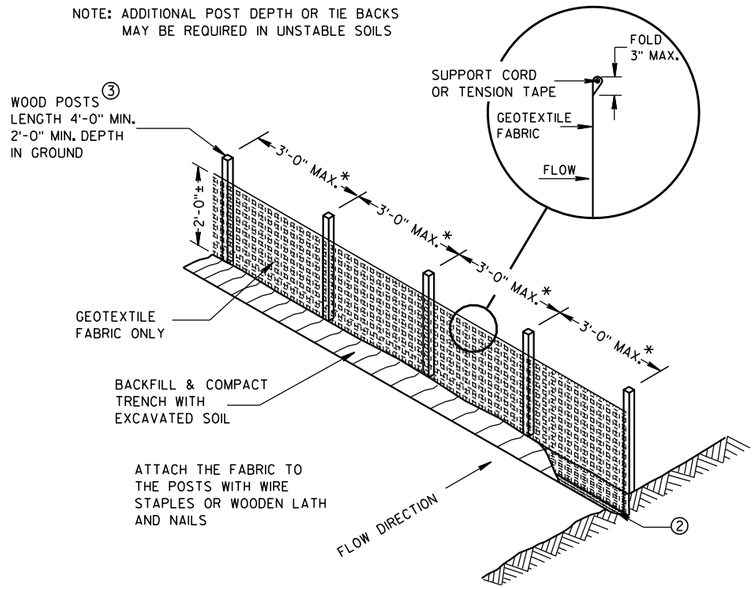
GENERAL NOTES

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

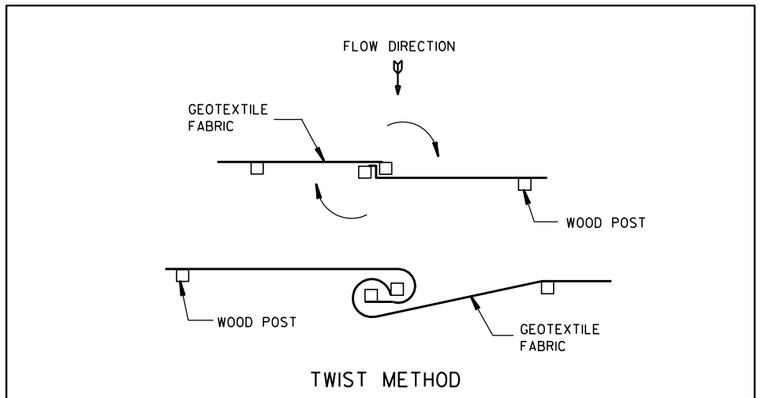
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



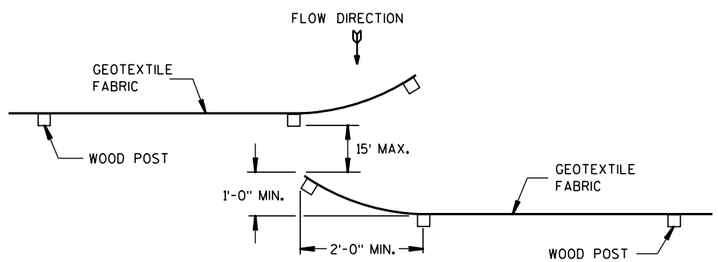
TRENCH DETAIL



SILT FENCE

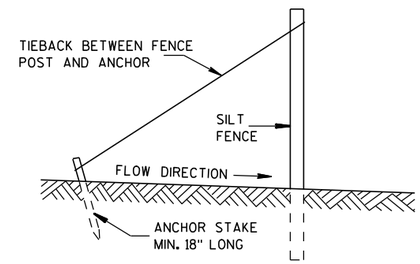


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 E 9-6

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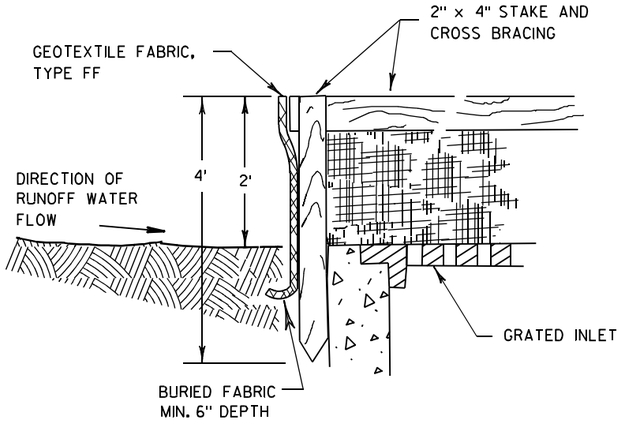
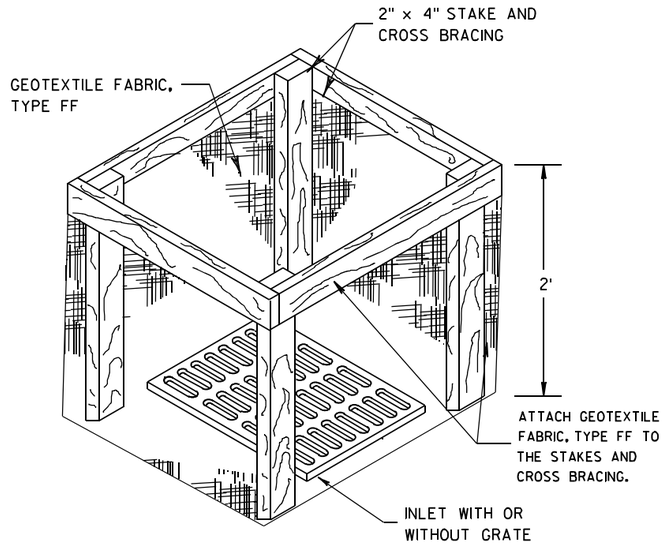
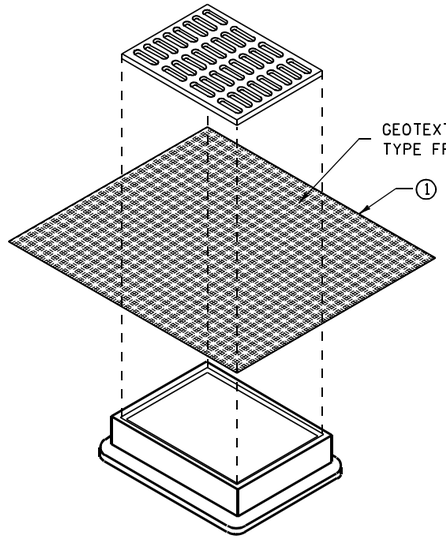
S.D.D. 8 E 9-6



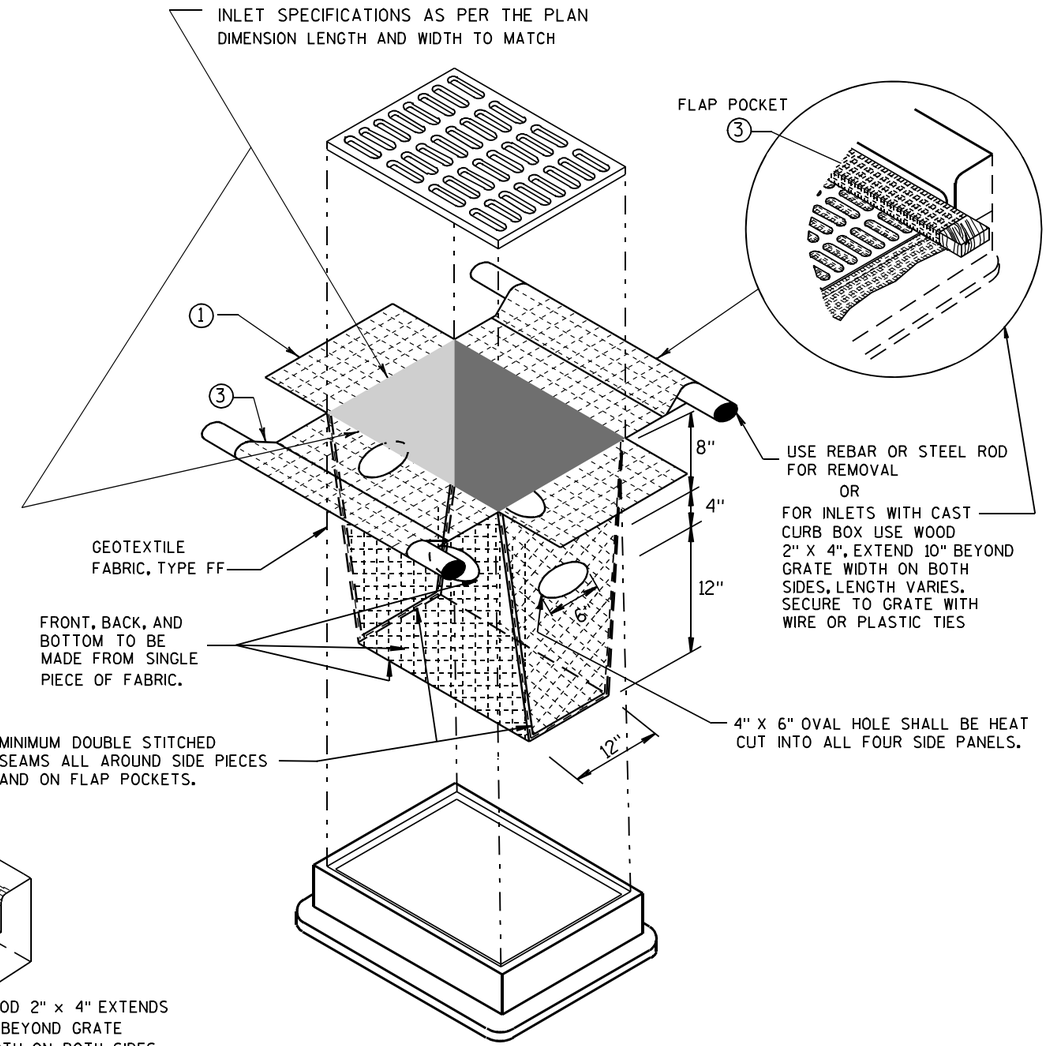


INLET PROTECTION, TYPE A



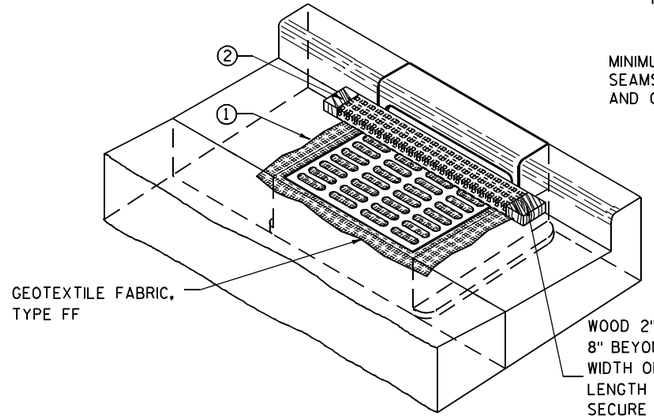
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

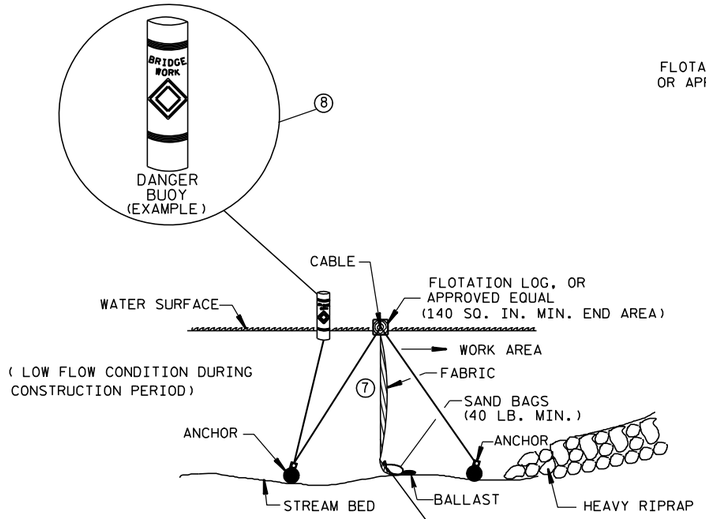
APPROVED

10/16/02
DATE

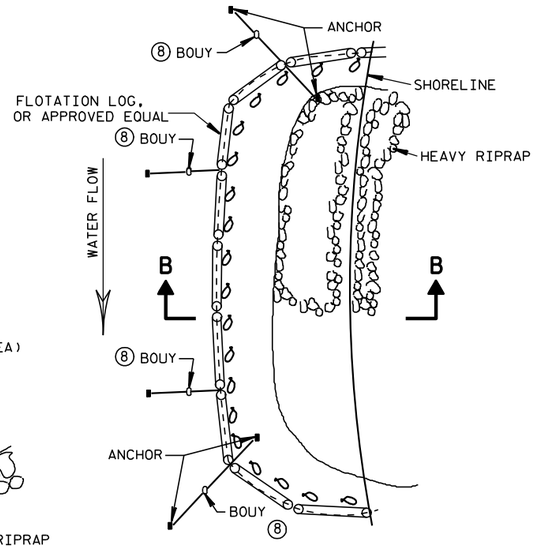
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

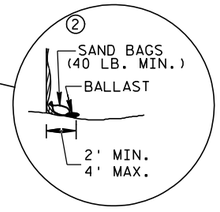
FHWA

6
S.D.D. 8 E 10-2

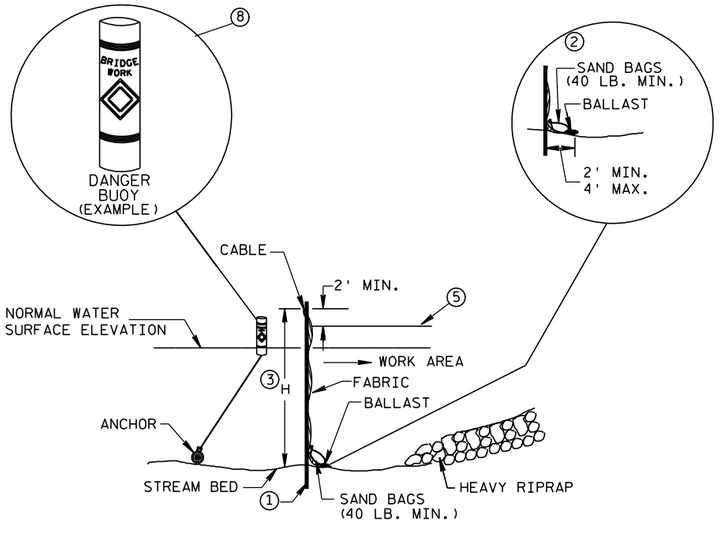


SECTION B-B

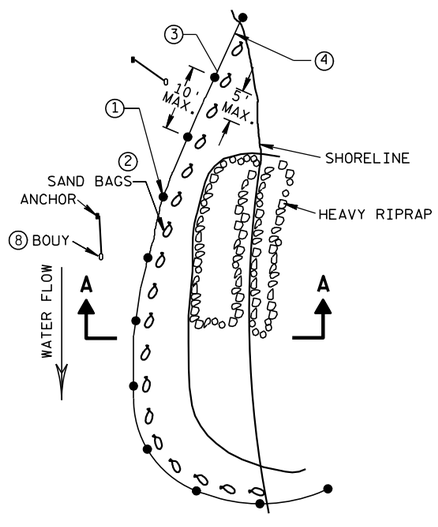




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

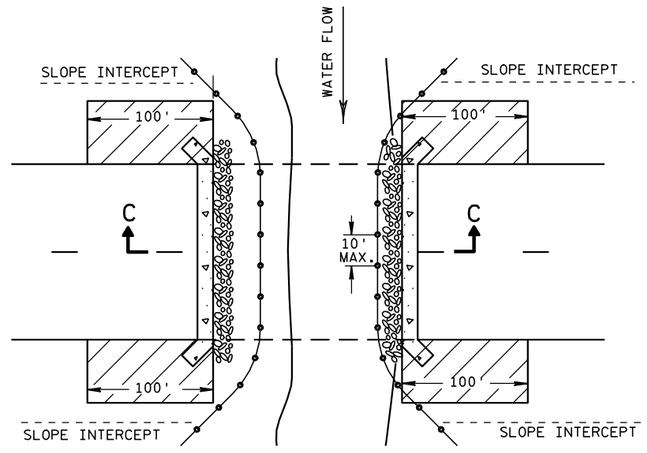
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

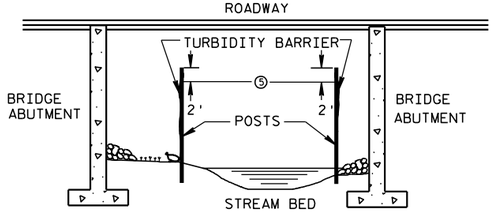
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 11-2

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S.D.D. 8 E 11-2

METAL APRON ENDWALLS

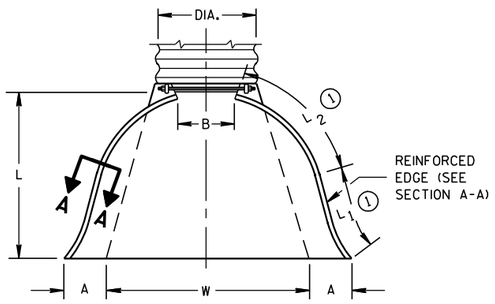
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

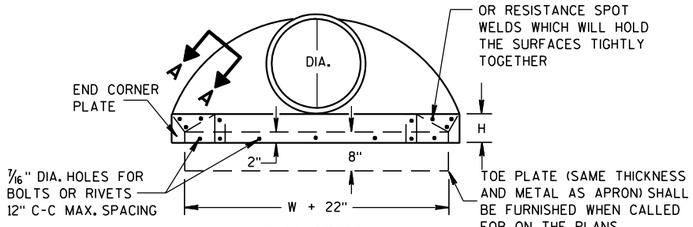
REINFORCED CONCRETE APRON ENDWALLS

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

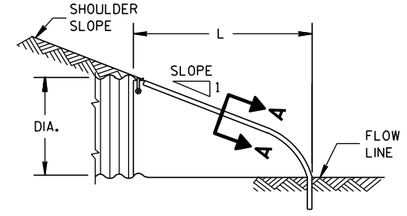
*MINIMUM
**MAXIMUM



PLAN VIEW

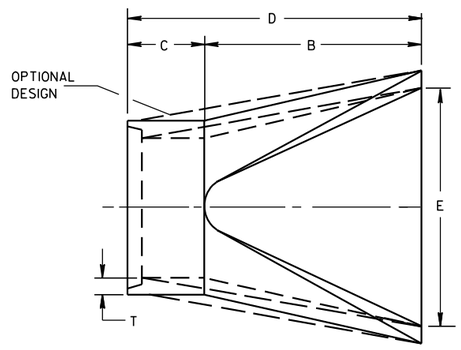


END VIEW

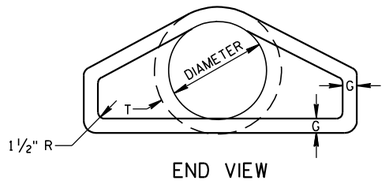


SIDE ELEVATION

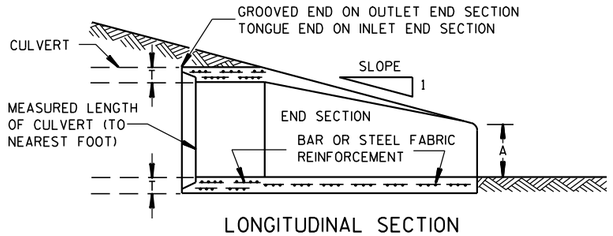
METAL ENDWALLS



PLAN

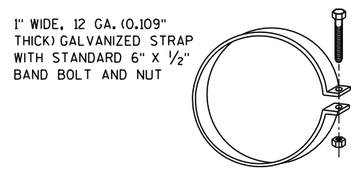


END VIEW



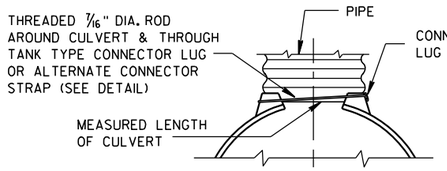
LONGITUDINAL SECTION

CONCRETE ENDWALLS

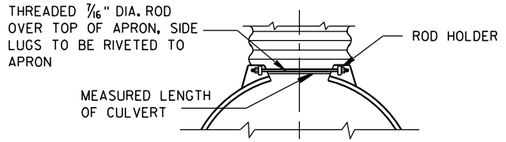


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

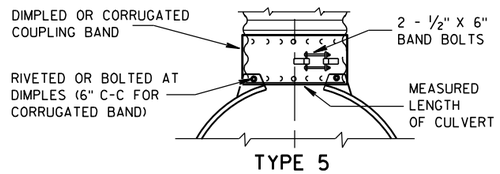


TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

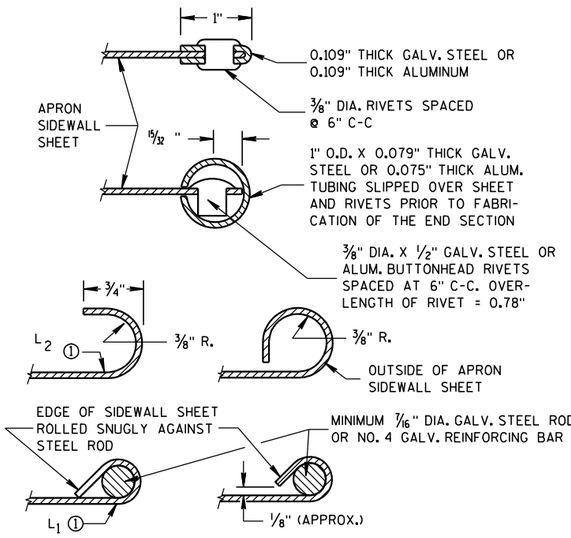
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

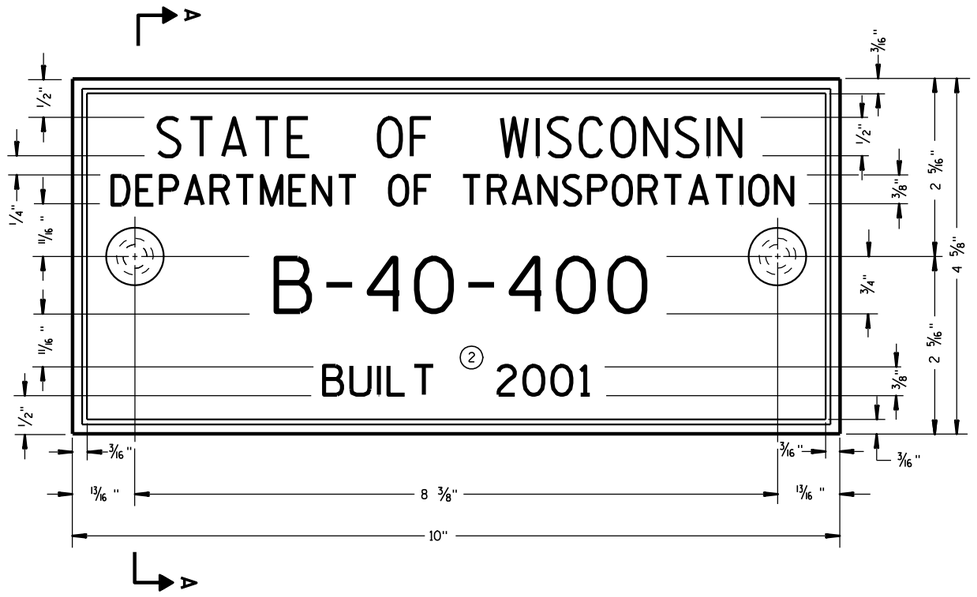
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

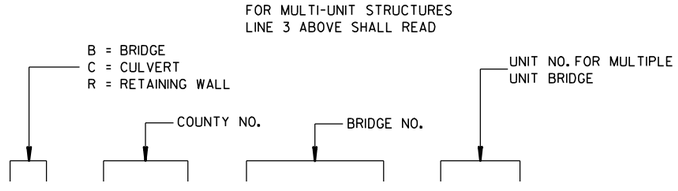
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

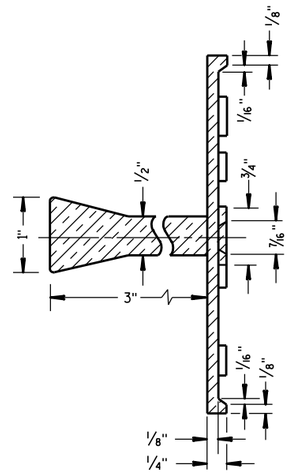
GENERAL NOTES

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.

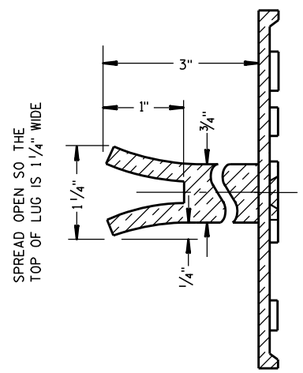
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

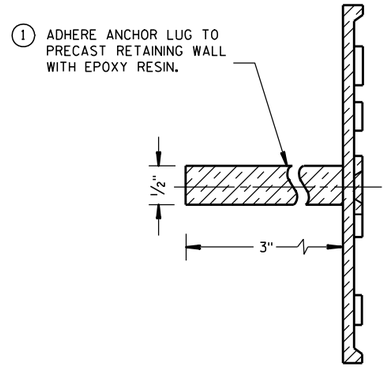
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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

GENERAL NOTES

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

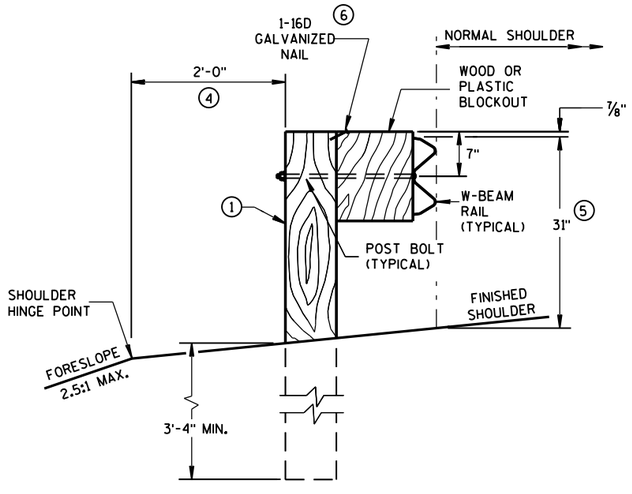
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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

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

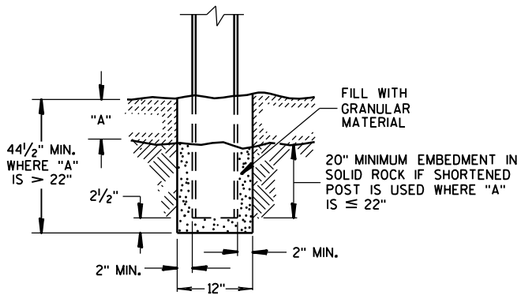
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



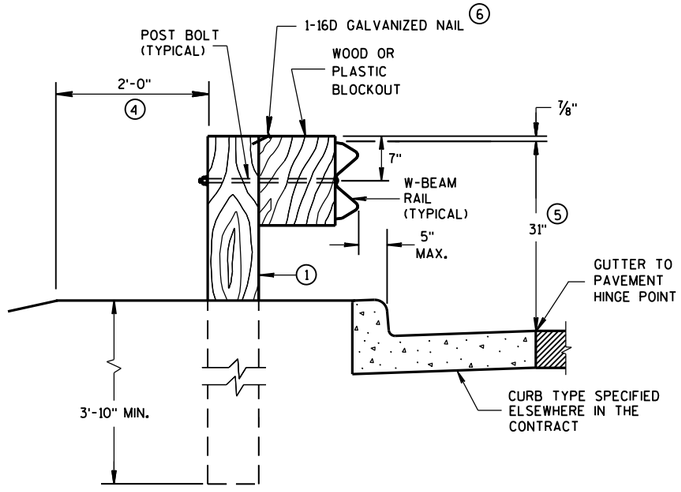
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



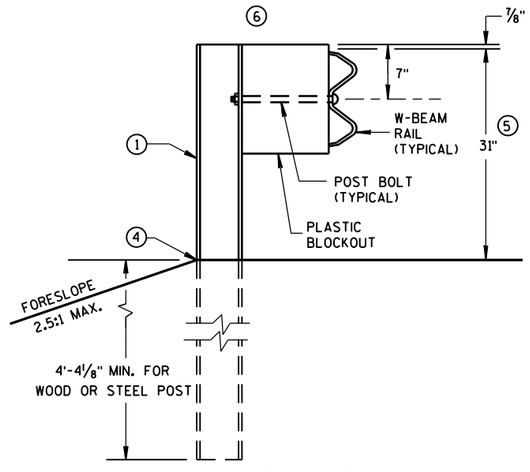
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



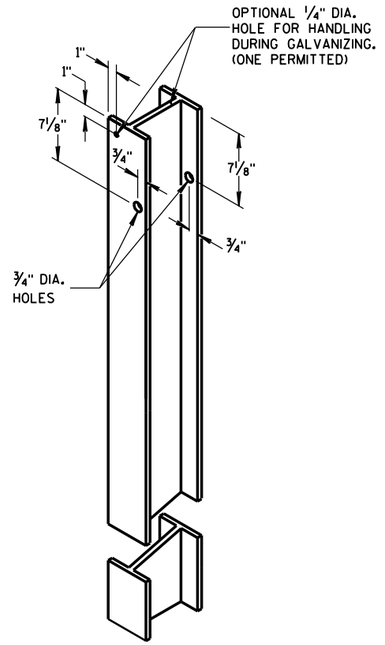
END VIEW

LOCATED ALONG A CURBED ROADWAY

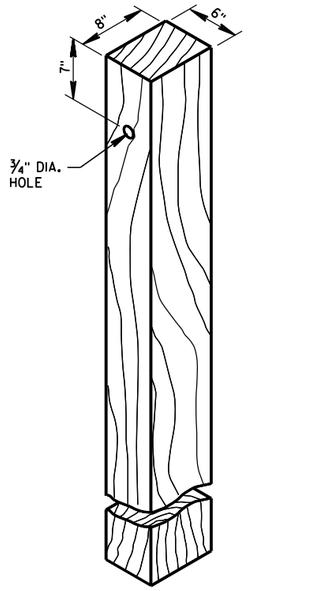


END VIEW

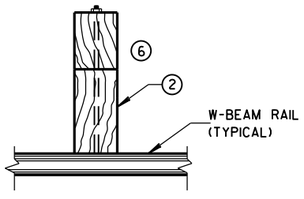
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



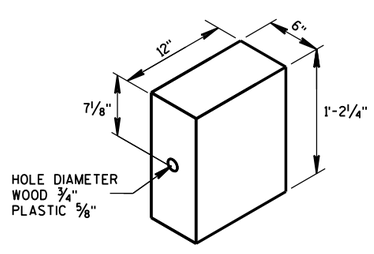
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



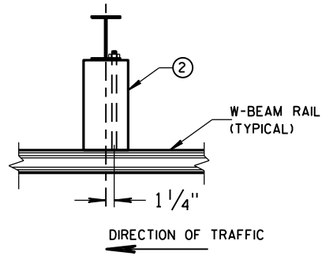
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

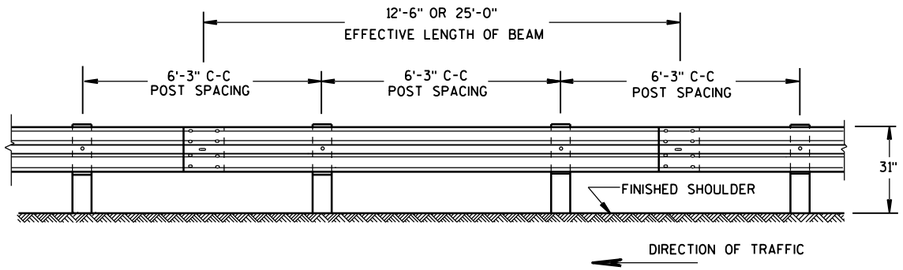


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

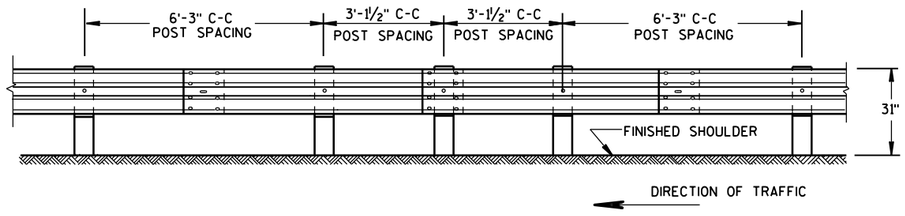
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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



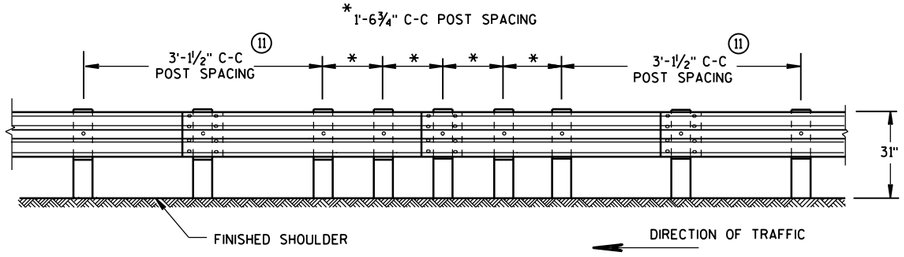
FRONT VIEW

POST SPACING STANDARD INSTALLATION



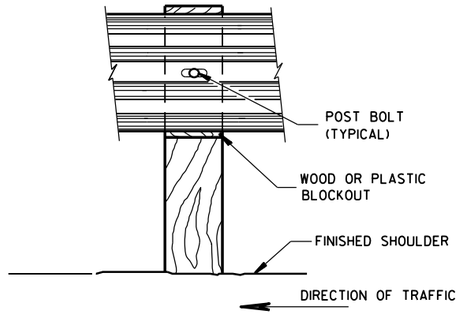
FRONT VIEW

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

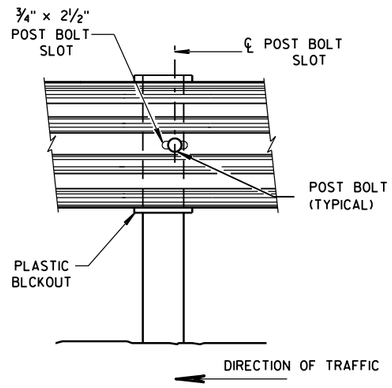


FRONT VIEW

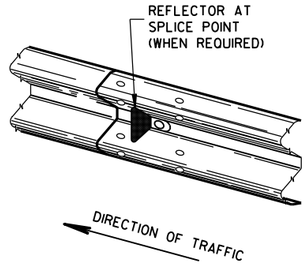
QUARTER POST SPACING (QS)

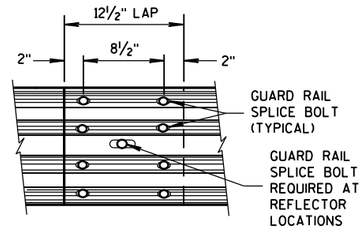


FRONT VIEW AT WOOD POST



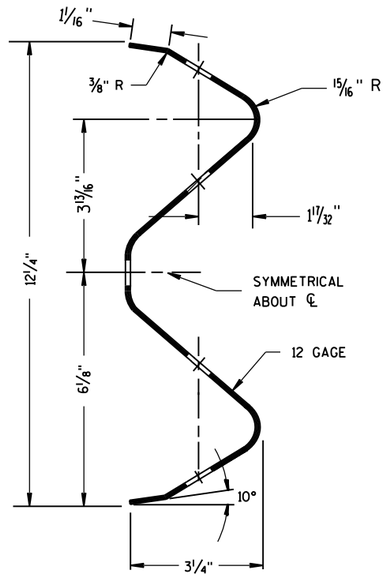
FRONT VIEW AT STEEL POST



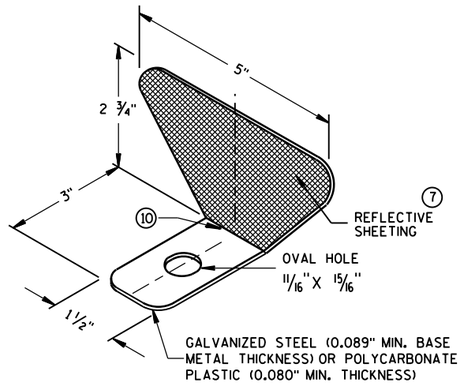


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

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

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

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

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

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

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

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

REFLECTOR SPACING ⑧

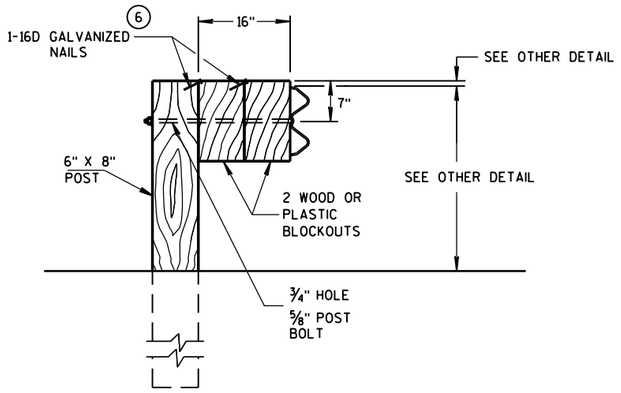
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ⑨ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ⑩	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

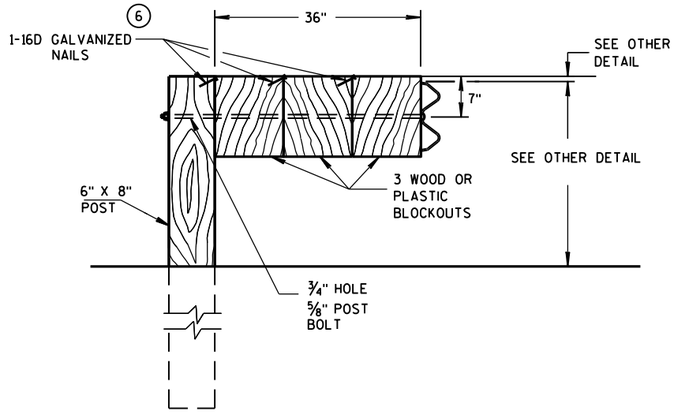
6

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



DETAIL FOR 16" BLOCKOUT DEPTH

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

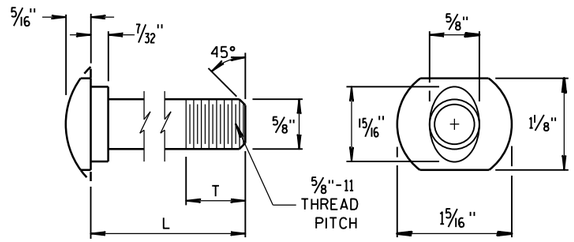


DETAIL FOR 36" BLOCKOUT DEPTH

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

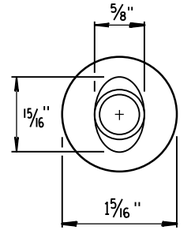
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

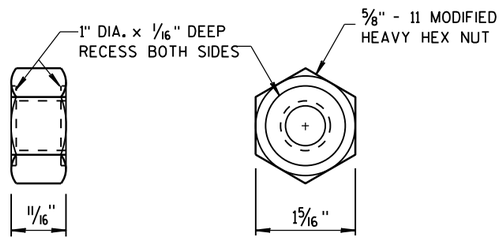


POST BOLT TABLE

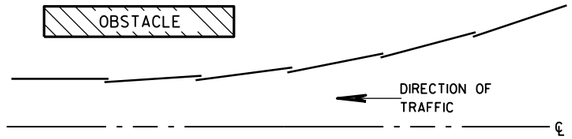
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

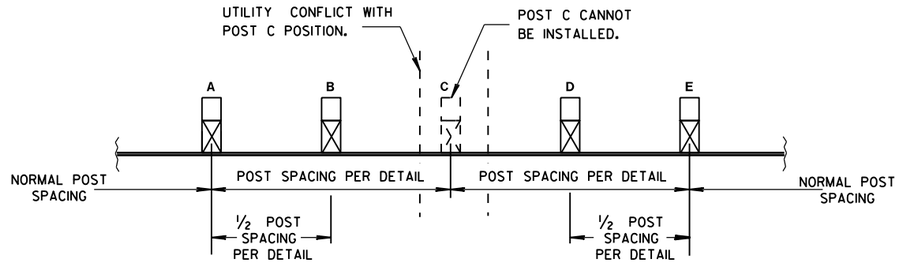


POST BOLT AND RECESS NUT

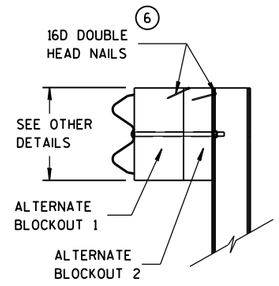


PLAN VIEW

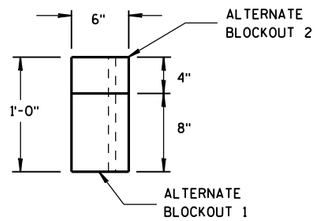
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

GENERAL NOTES

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

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

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

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

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

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

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

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

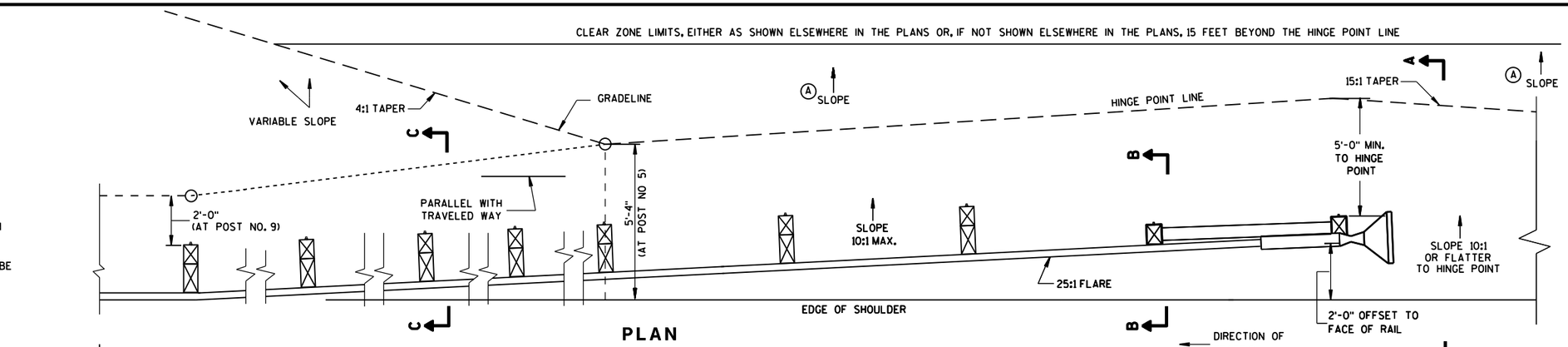
SEE SDD 14B42 FOR MORE INFORMATION.

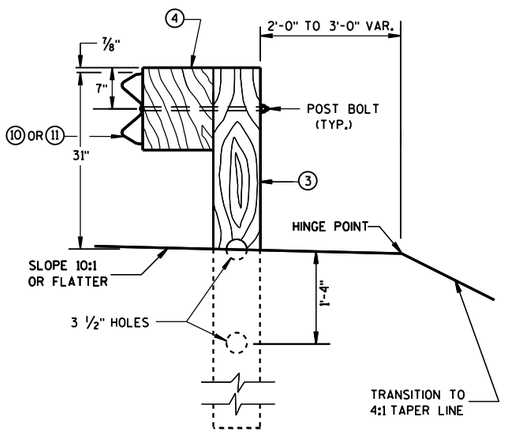
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

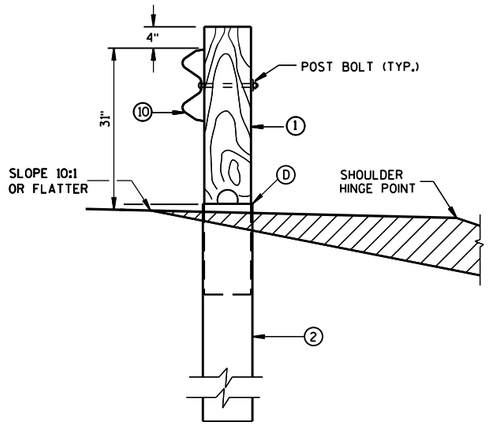
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

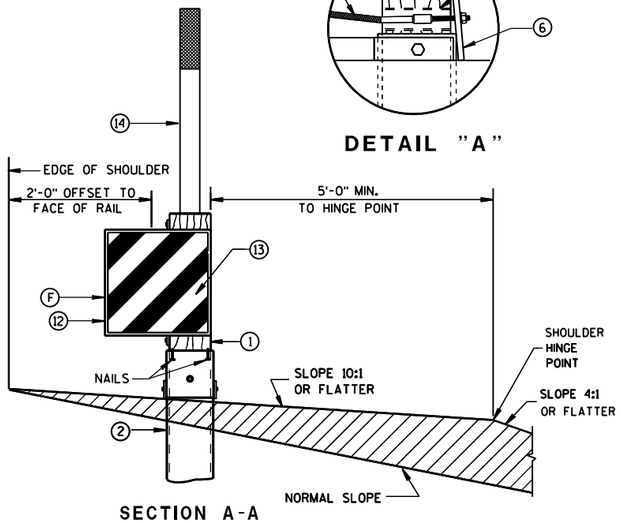




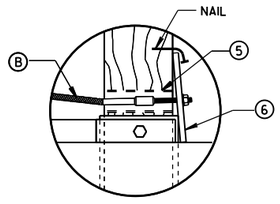
SECTION C-C
TYPICAL AT POST NOS. 3-9



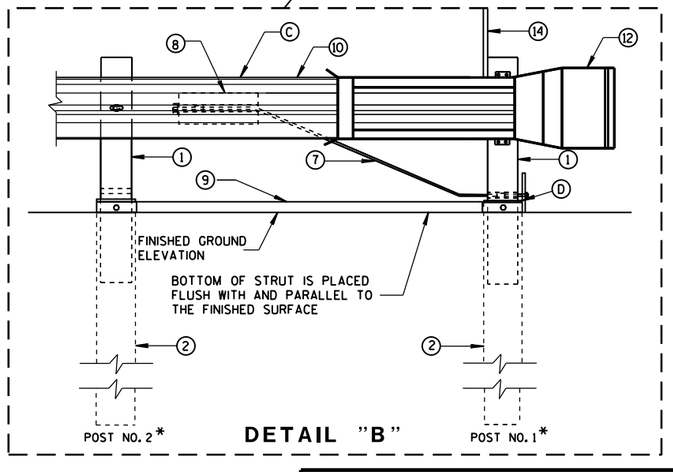
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



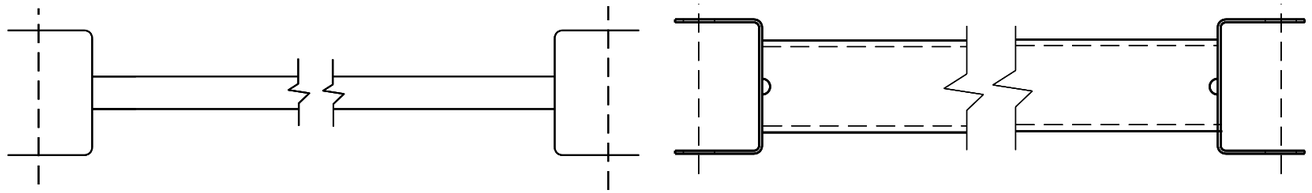
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

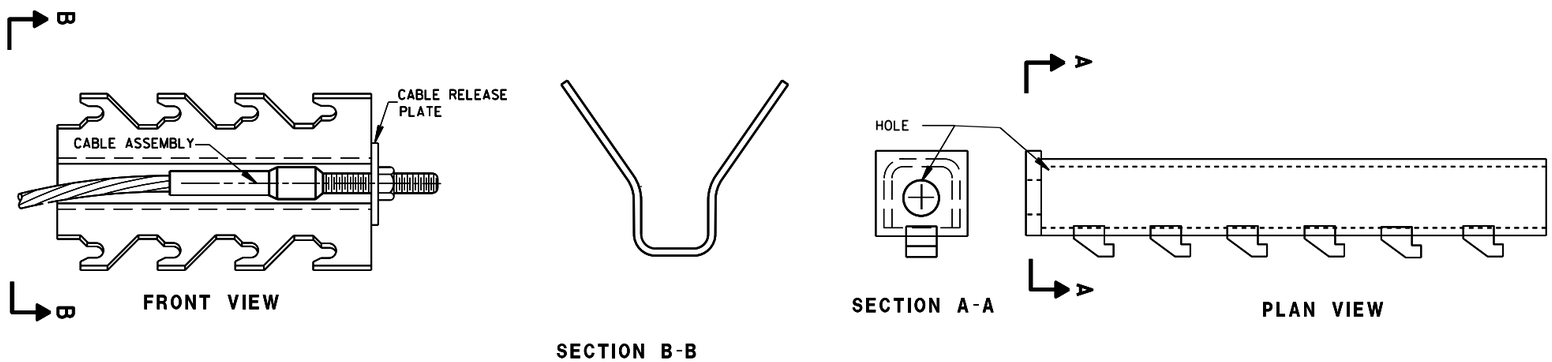
S.D.D. 14 B 44-2a



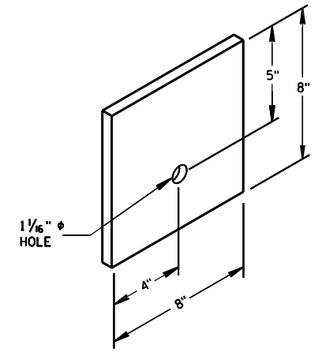
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)



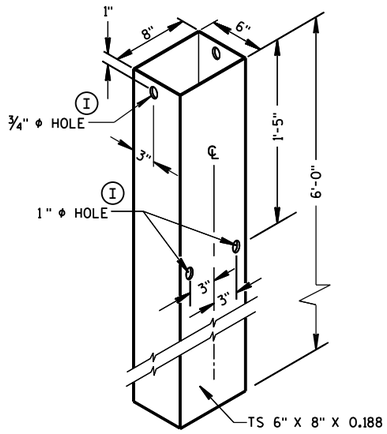
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

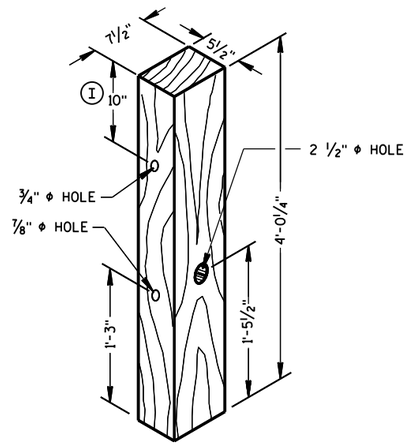
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

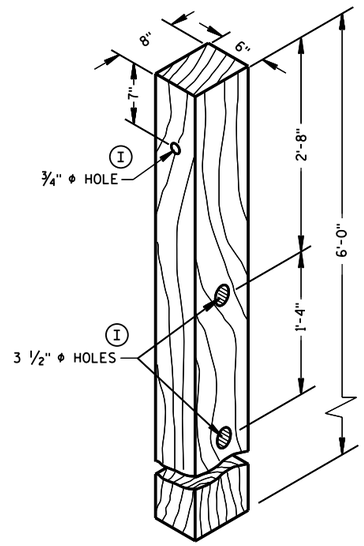


FOUNDATION TUBE (2)



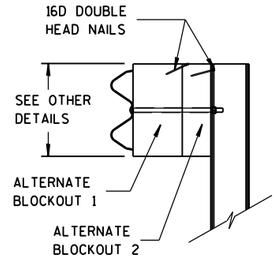
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

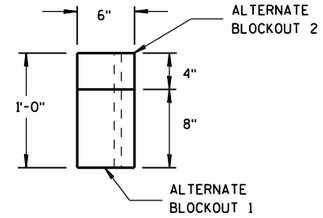


POSTS NUMBER 3-9

WOOD CRT POST (3)

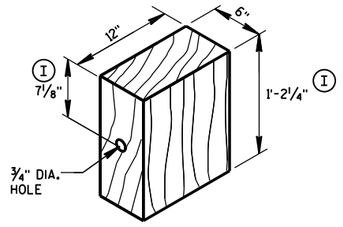


SIDE VIEW



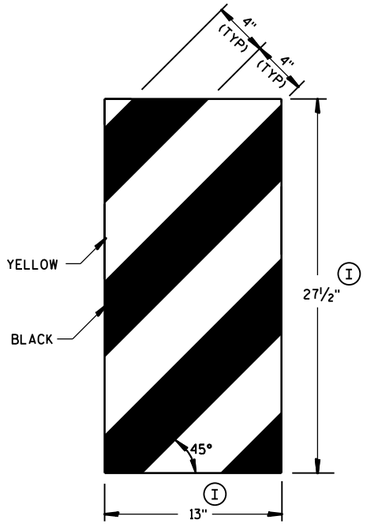
TOP VIEW

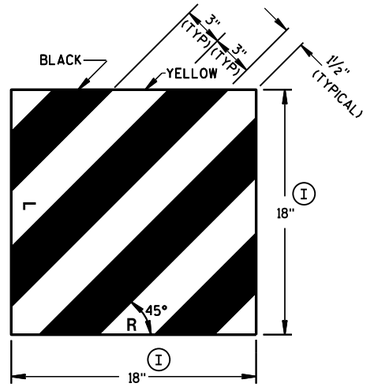
ALTERNATE WOOD BLOCKOUT DETAIL



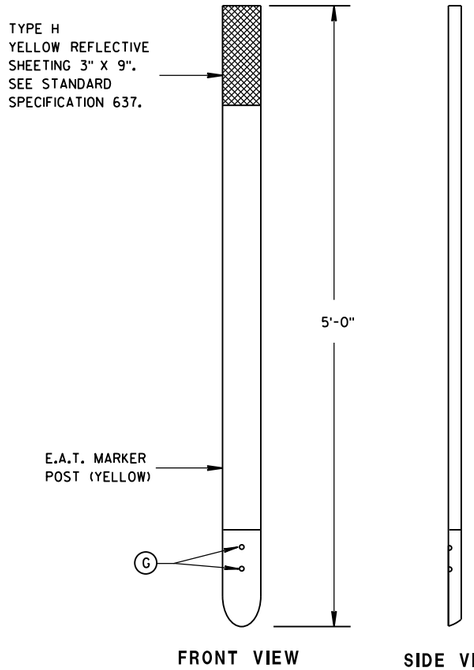
WOOD BLOCKOUT (4)

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





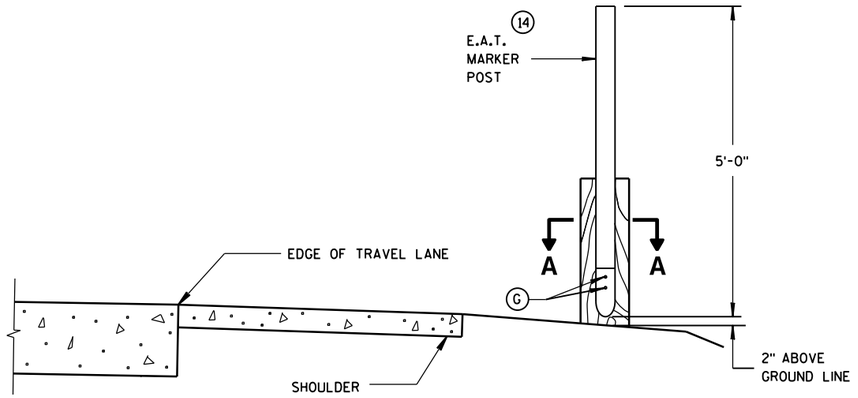
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

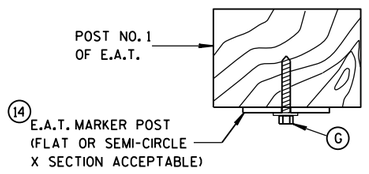
SIDE VIEW

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

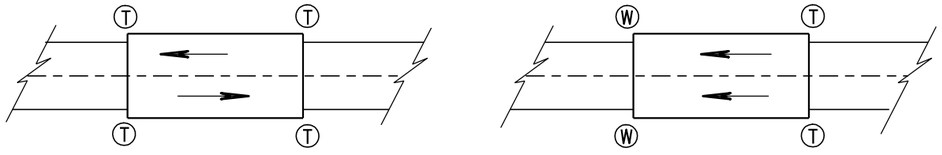
APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

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

6

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

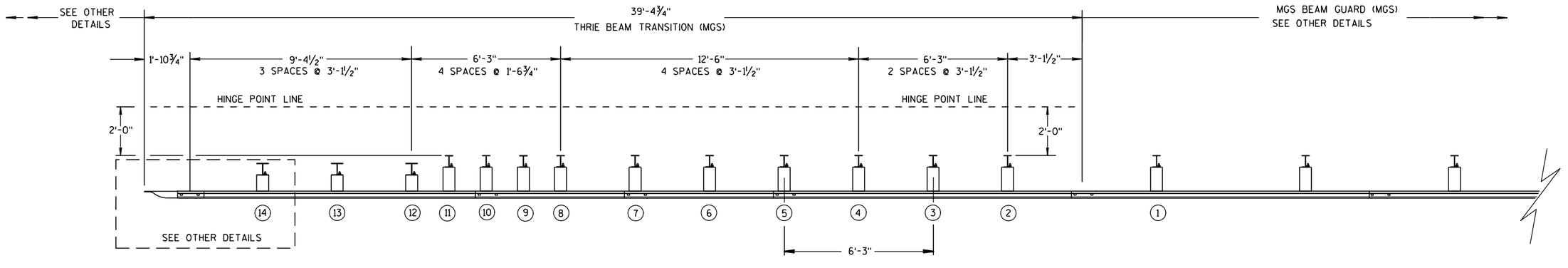
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

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

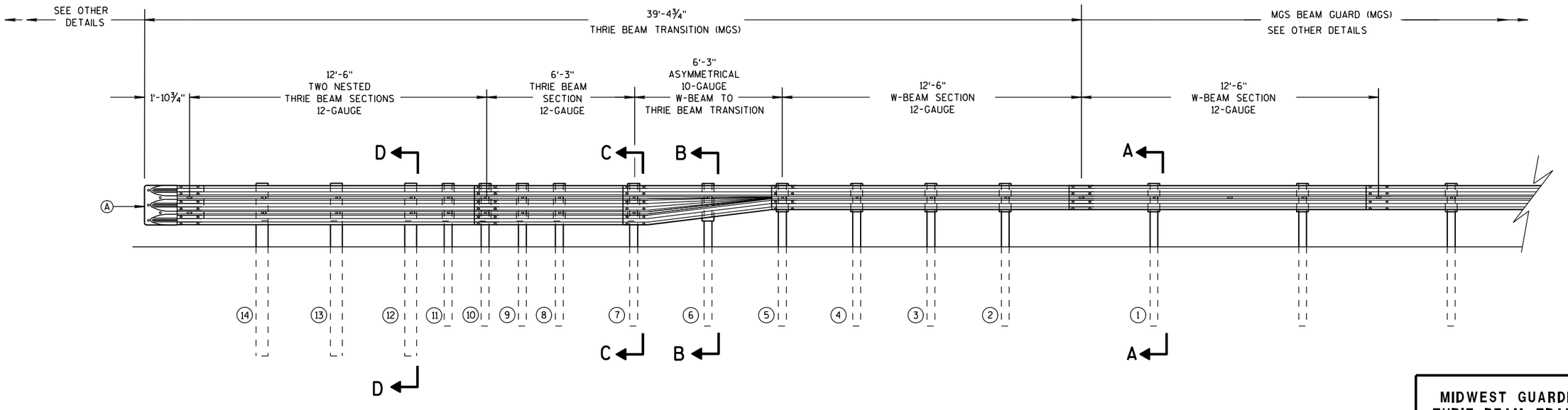
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	34

6

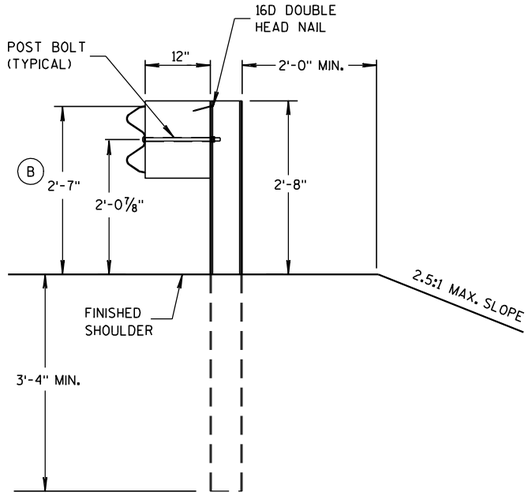
S.D.D. 14 B 45-3a

6

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

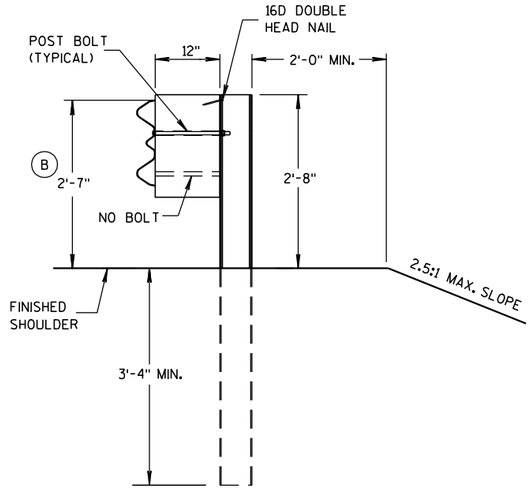
GENERAL NOTES

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



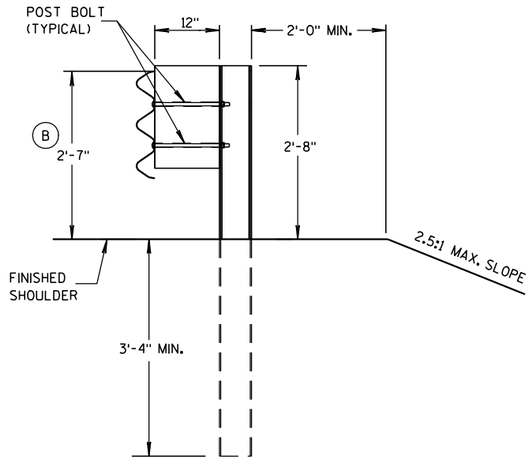
SECTION A-A

POSTS 1-5



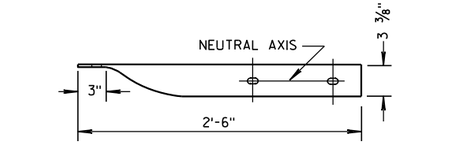
SECTION B-B

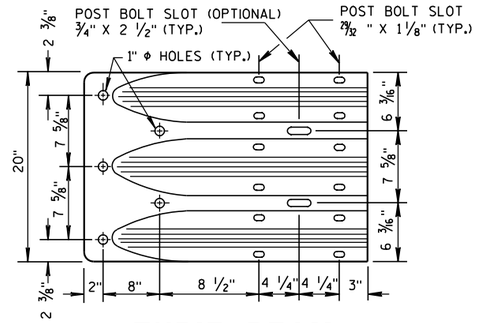
POST 6



SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR

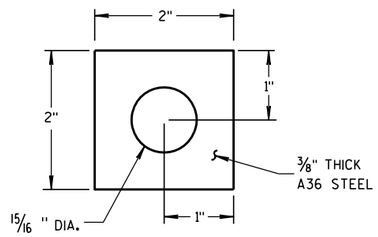
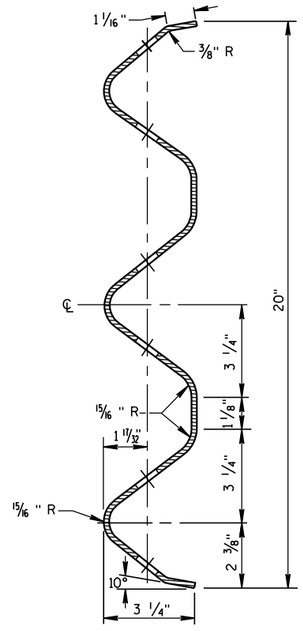
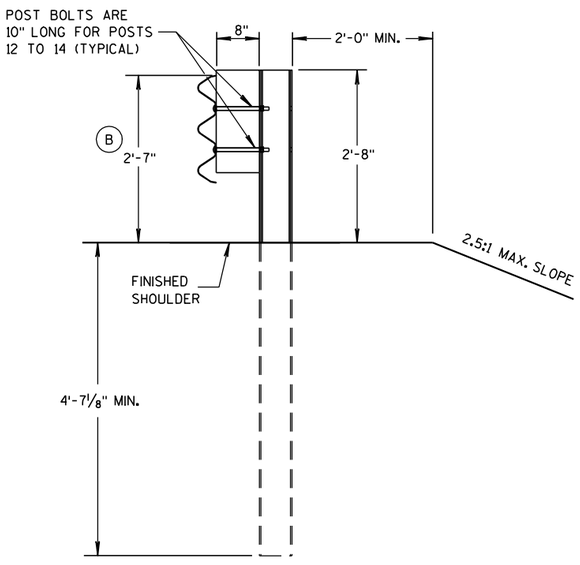


PLATE WASHER DETAIL

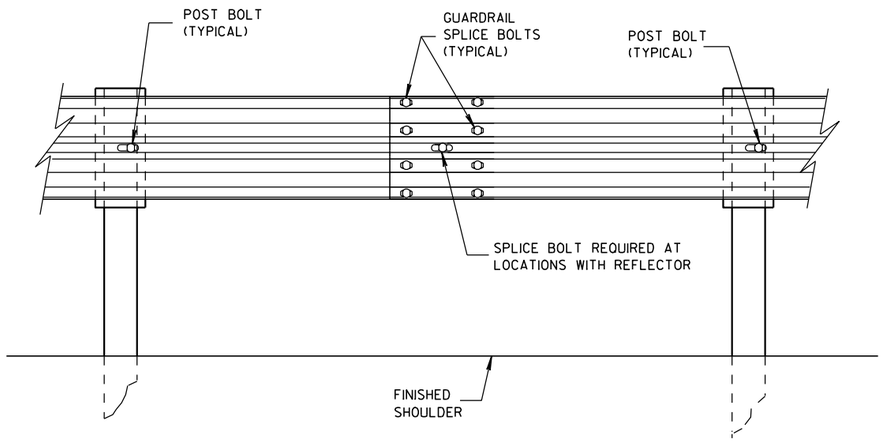


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-14



SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

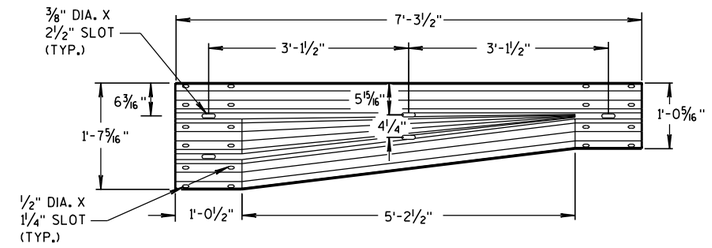
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

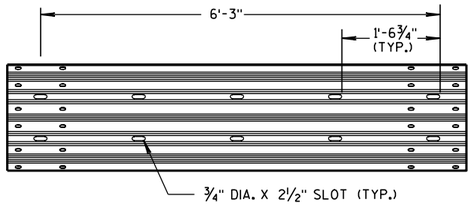
S.D.D. 14 B 45-3b

6

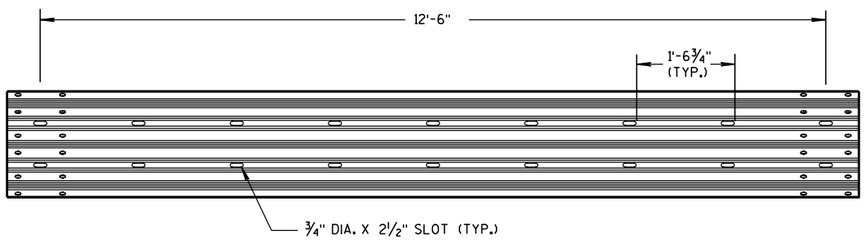
S.D.D. 14 B 45-3b



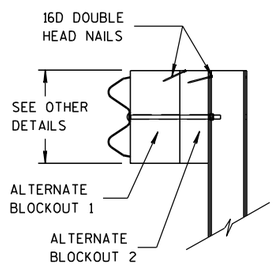
W-BEAM TO THRIE BEAM TRANSITION SECTION



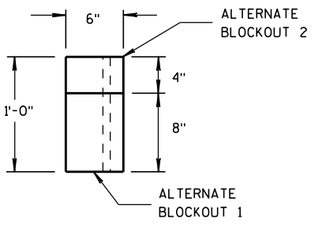
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

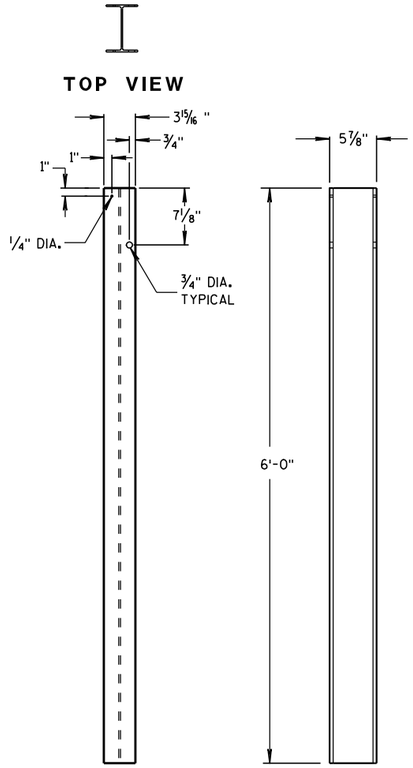


SIDE VIEW

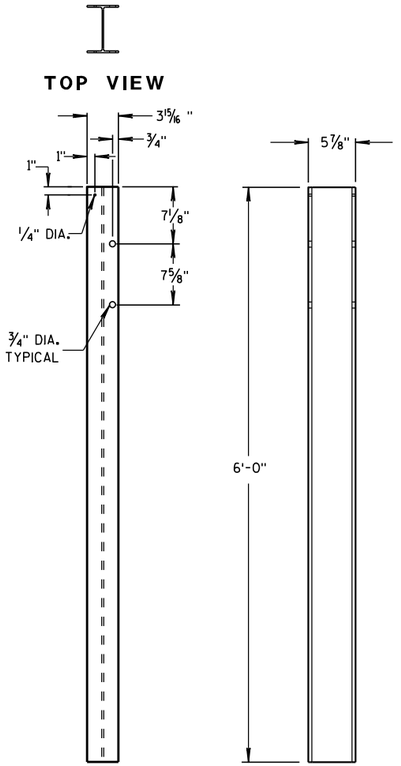


TOP VIEW

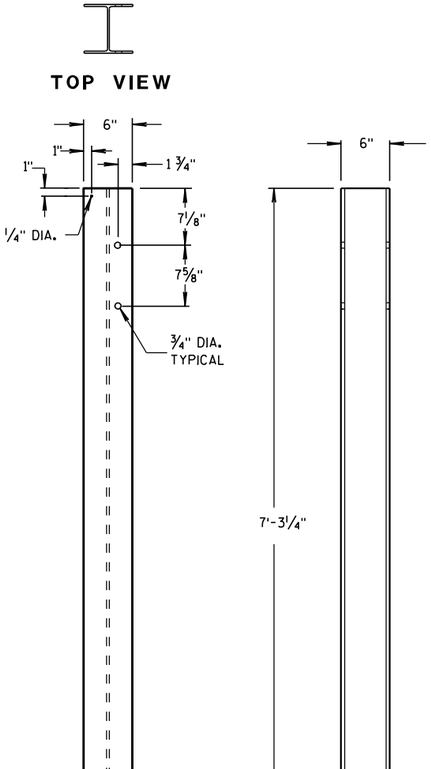
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

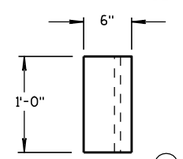


STEEL POSTS 6-11

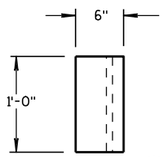


STEEL POSTS 12-14

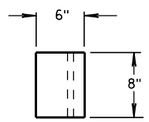
1 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



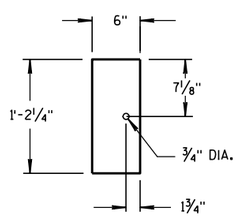
TOP VIEW (1)



TOP VIEW (1)

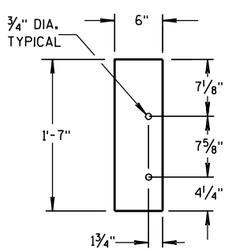


TOP VIEW



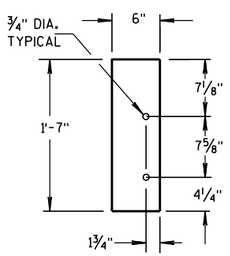
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

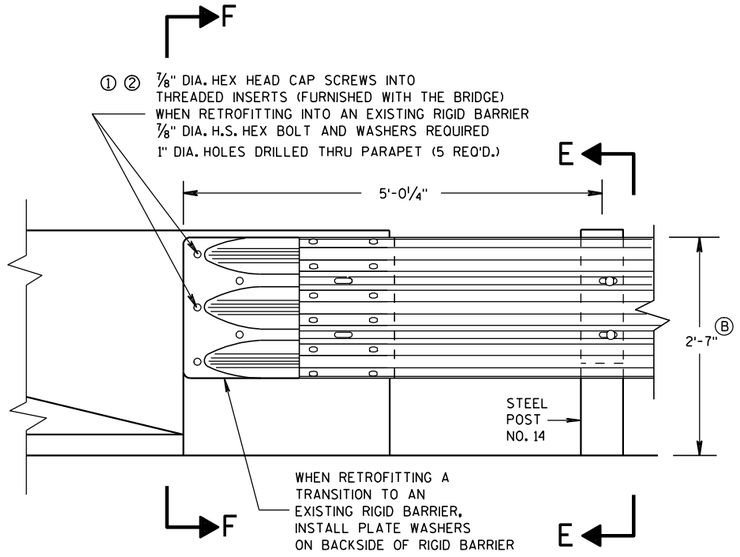
POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

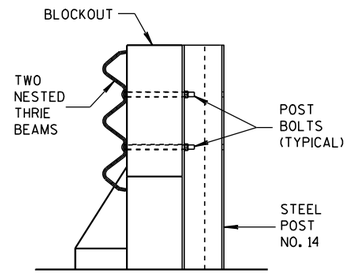
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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



FRONT VIEW



SECTION E-E

GENERAL NOTES

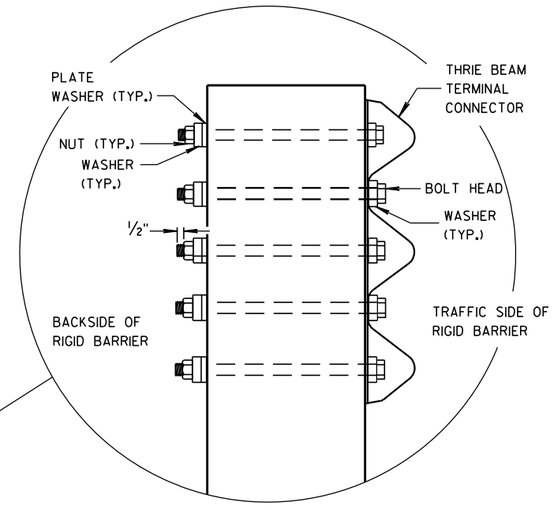
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

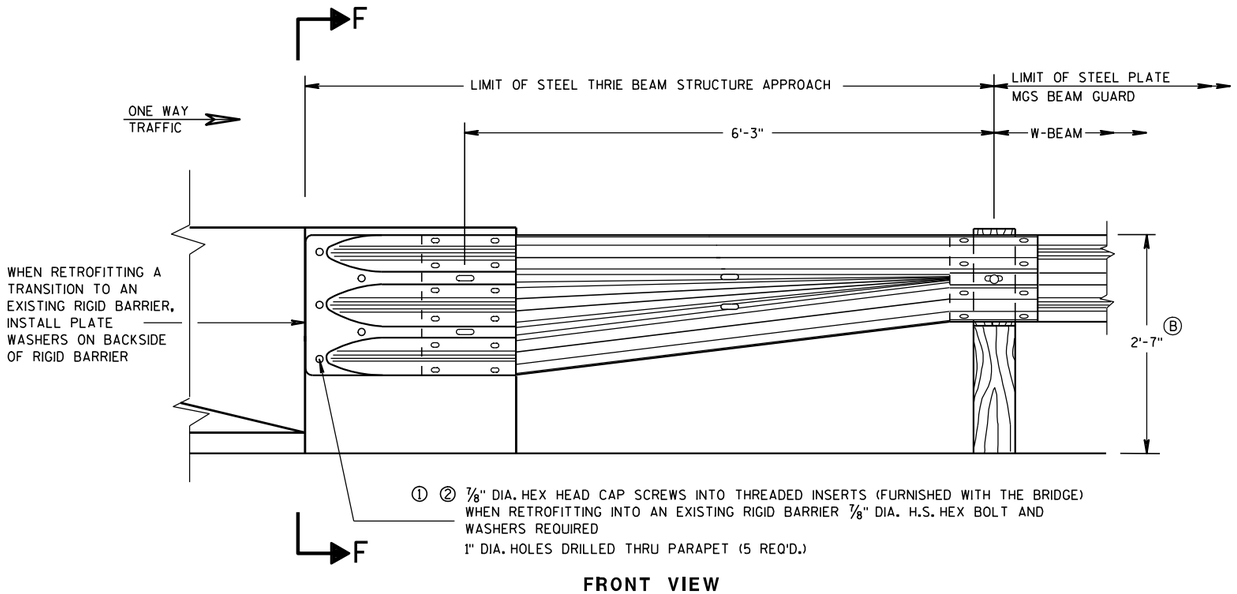
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

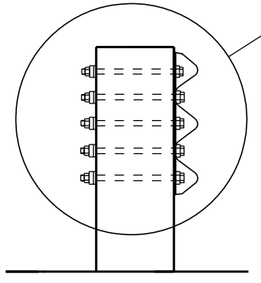
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW



SECTION F-F

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

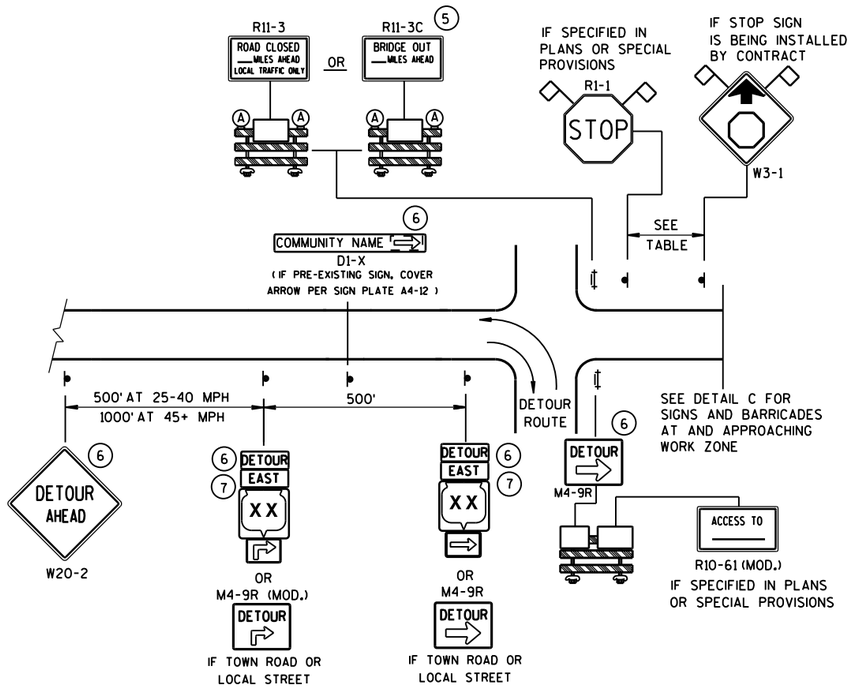
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

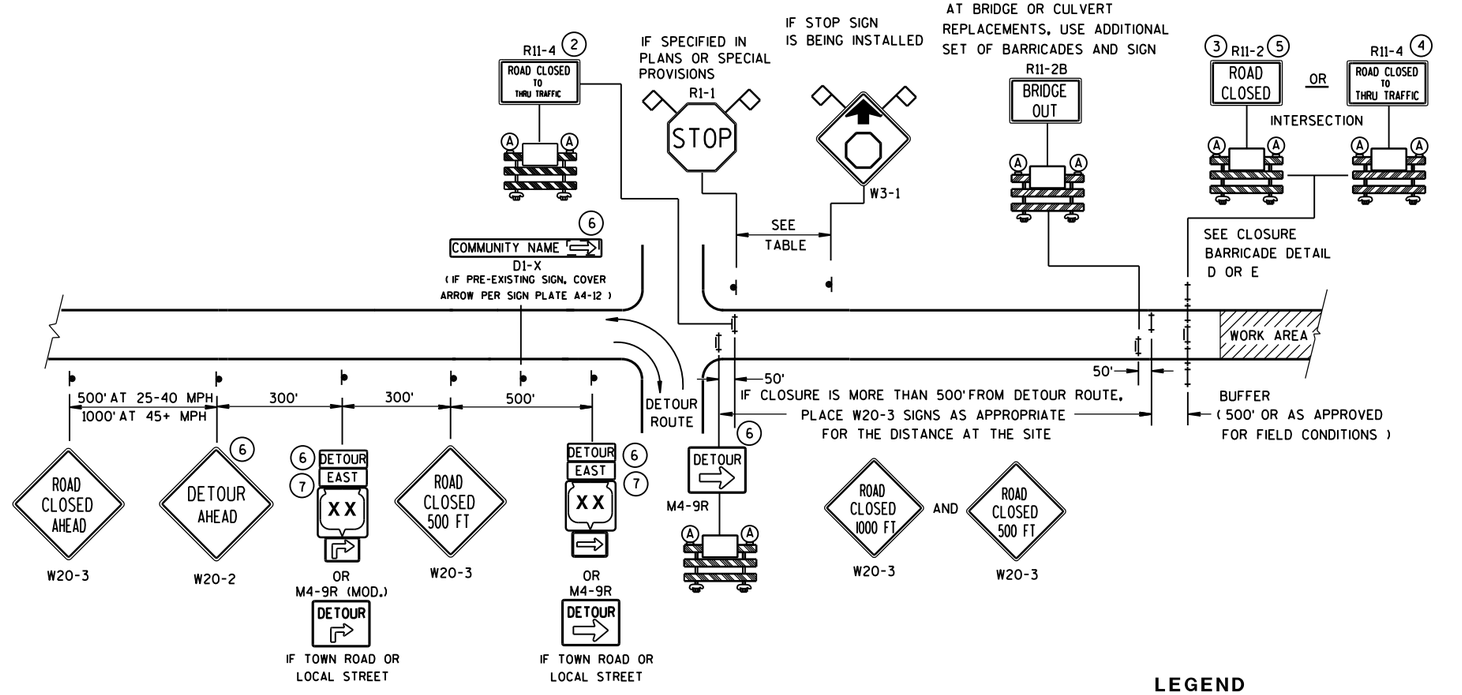
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

FHWA



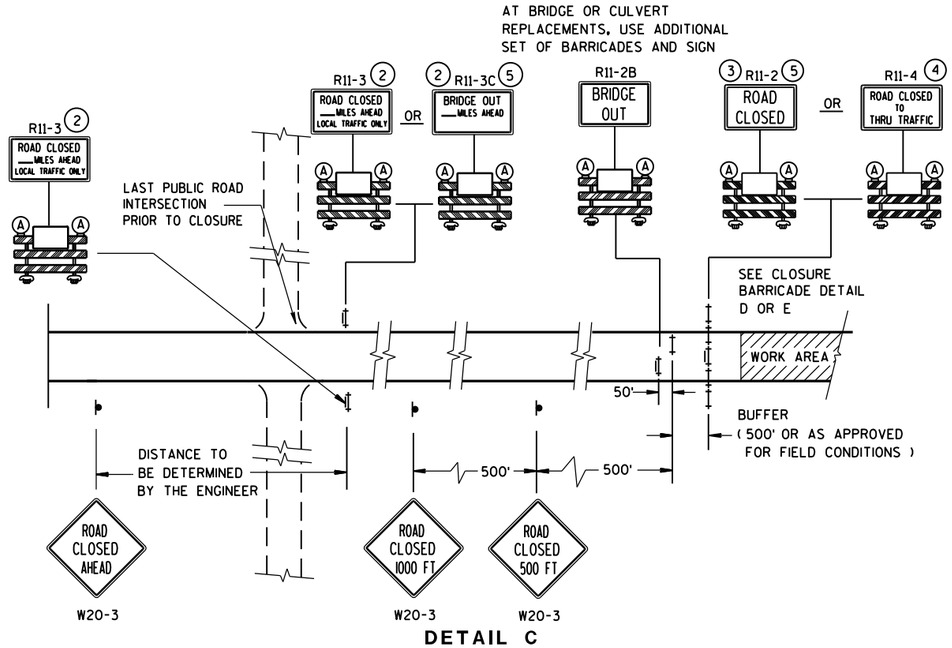
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

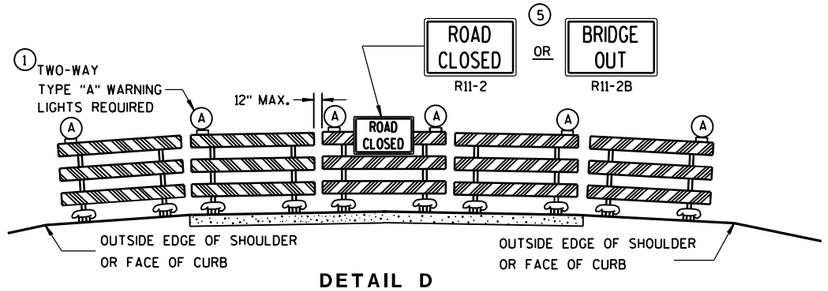
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

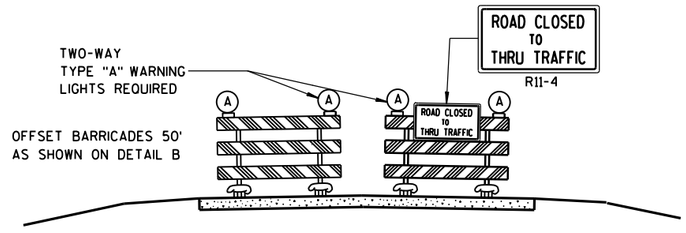
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

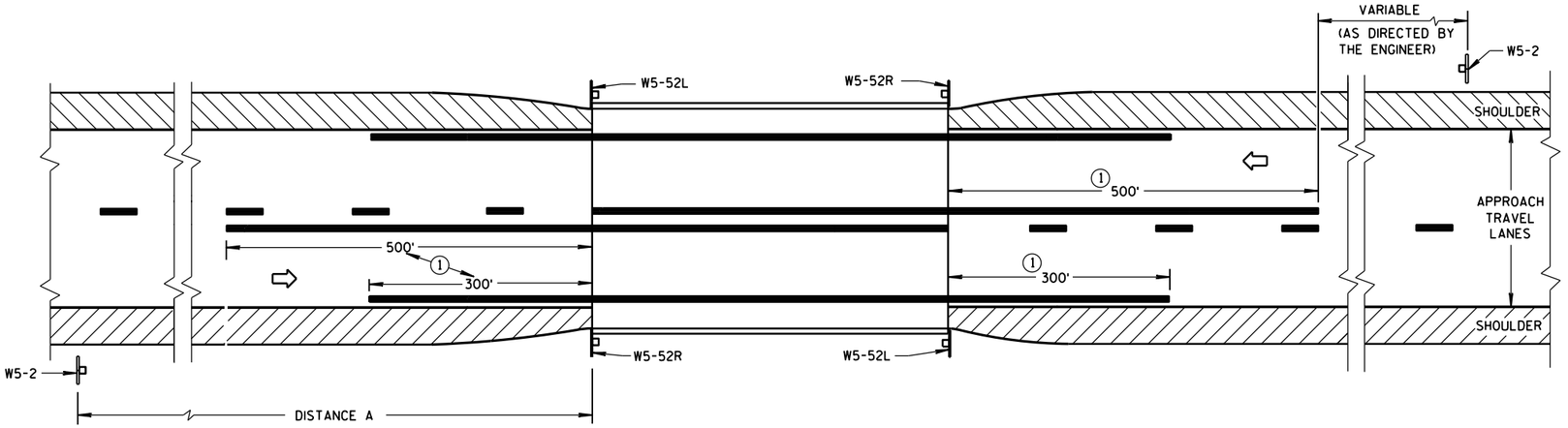
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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



GENERAL NOTES

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

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

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

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

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

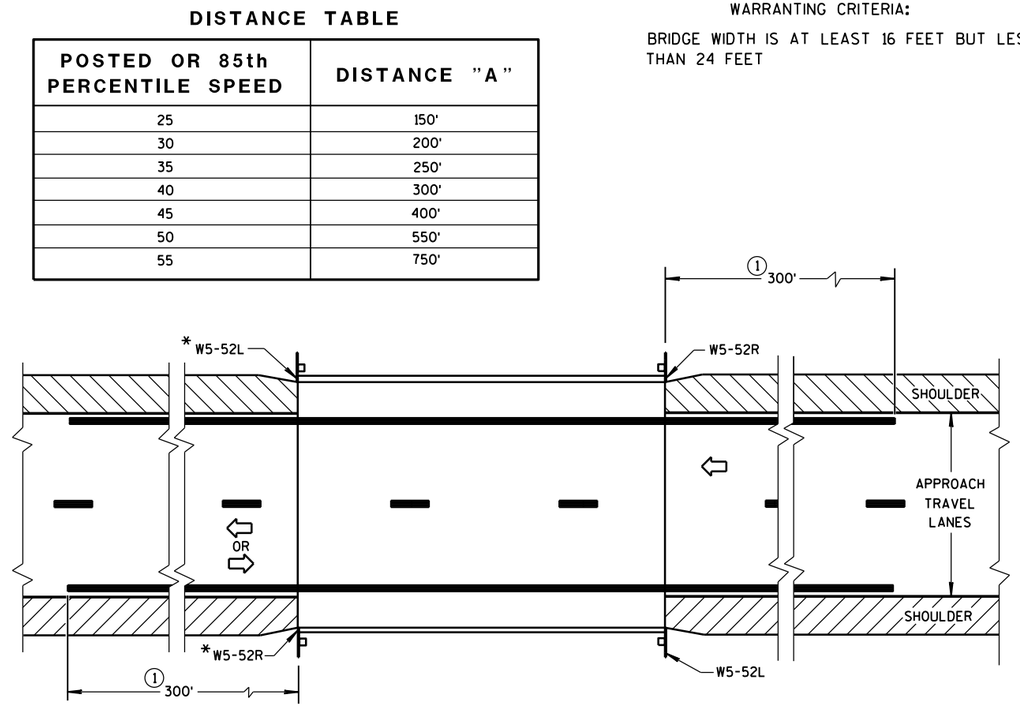
DISTANCE TABLE

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

SITUATION 1

WARRANTING CRITERIA:

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



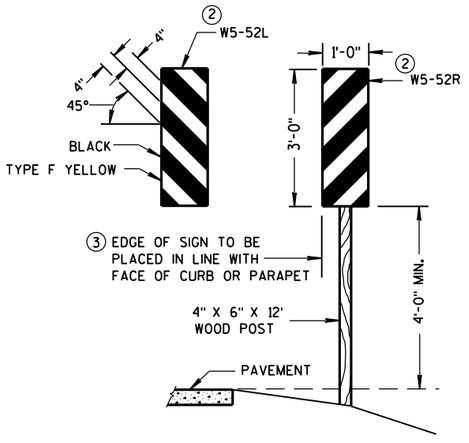
*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

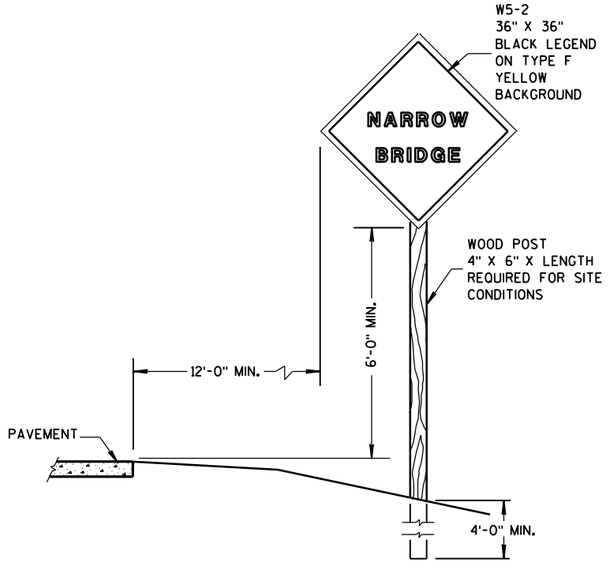
WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND

2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

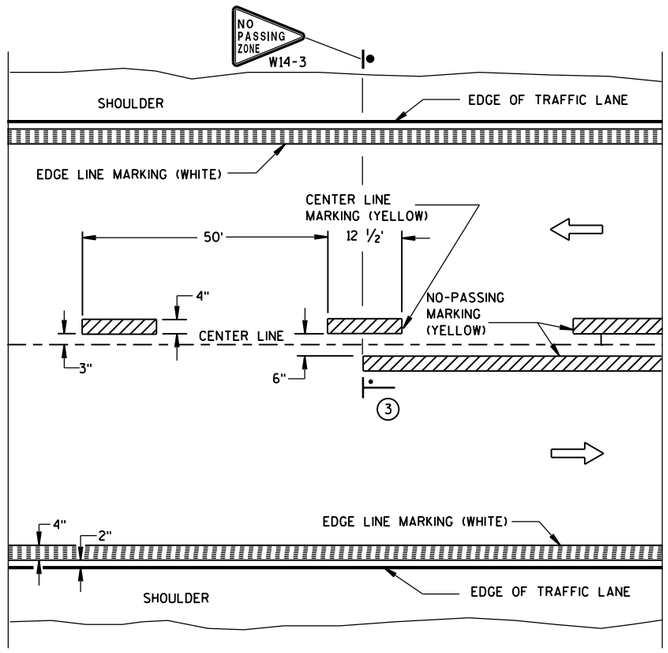
3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

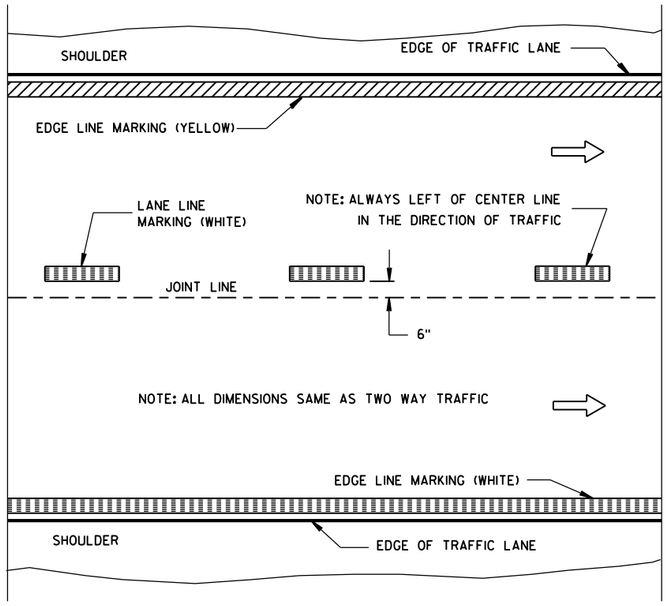
FHWA

6

S.D.D. 15 C 6-7

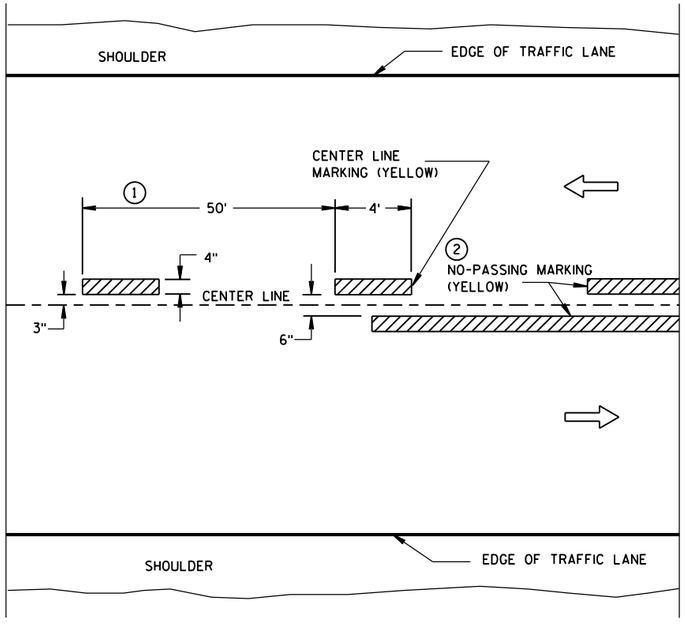


TWO WAY TRAFFIC

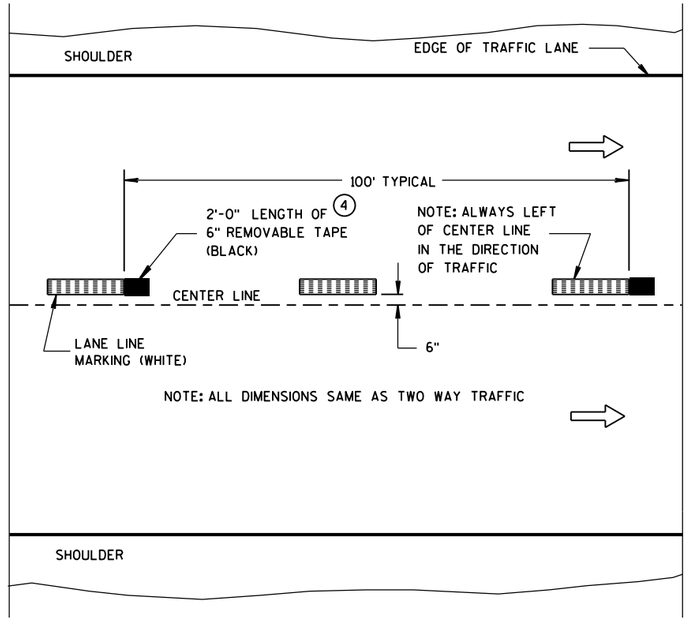


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

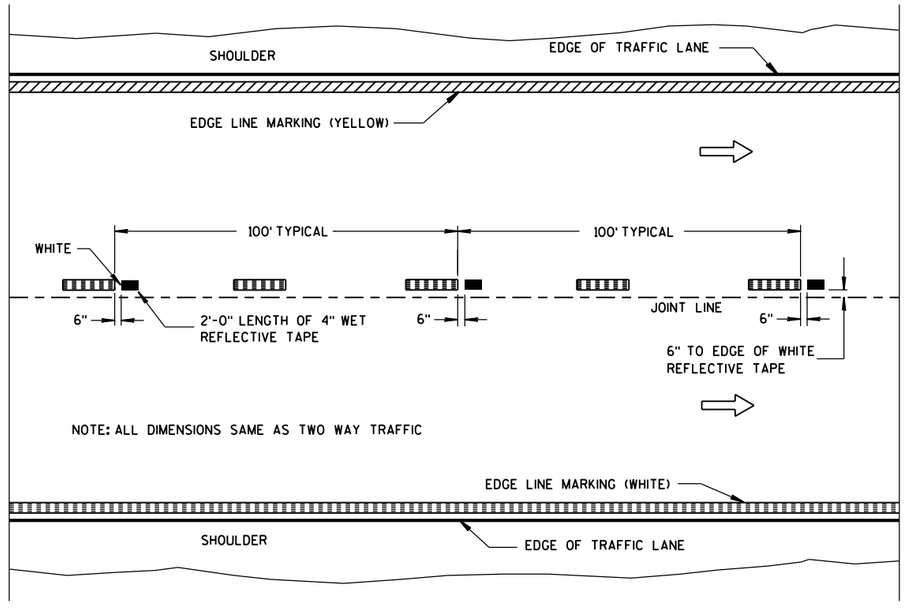
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC E

FHWA

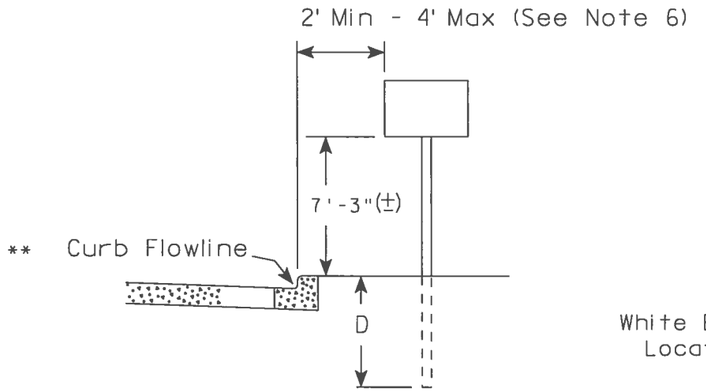
6

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

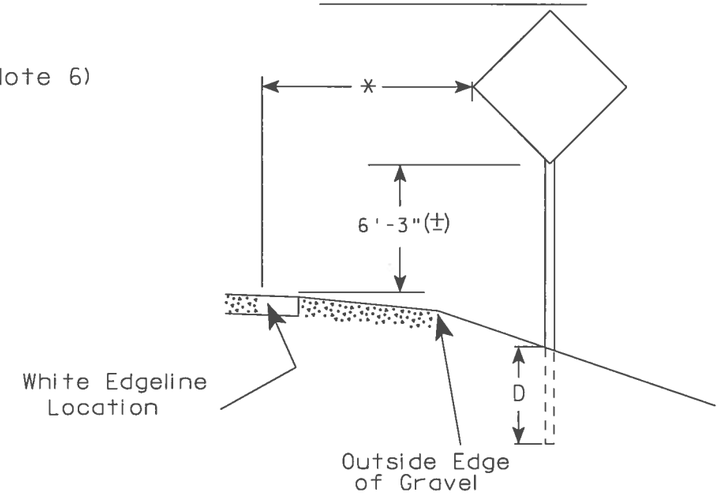
6

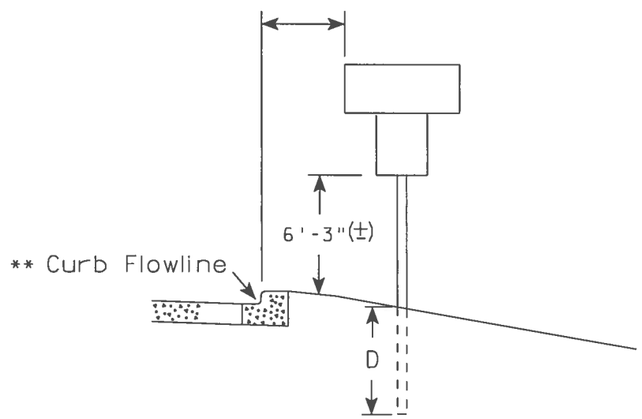
S.D.D. 15 C 8-16a

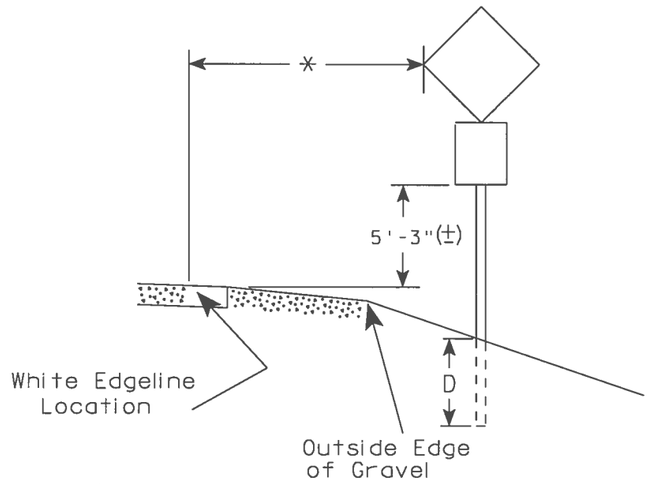
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

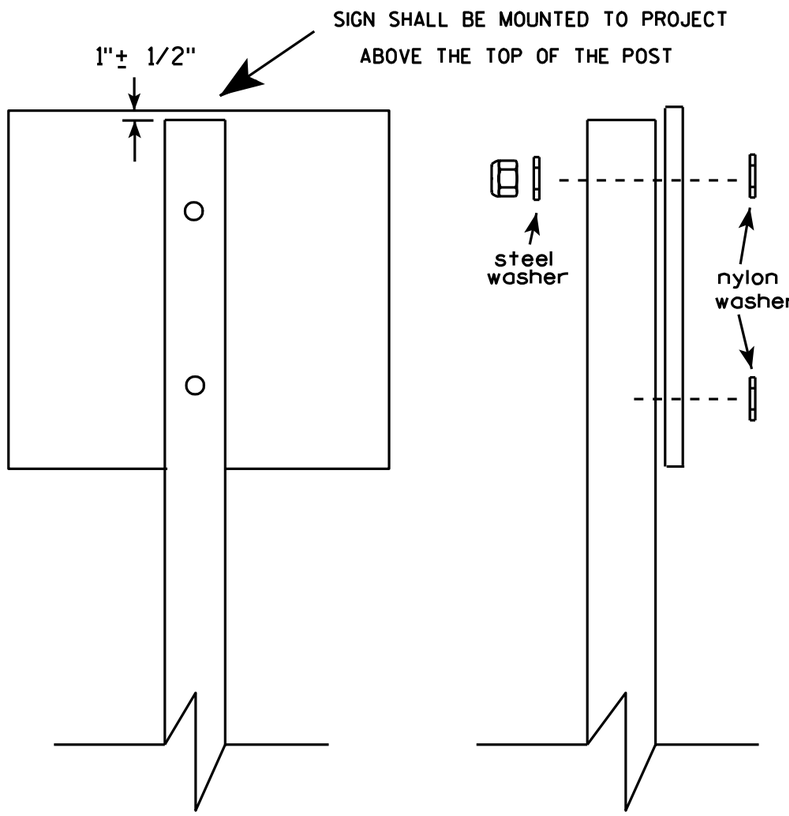
APPROVED Matthew R Rauch for State Traffic Engineer

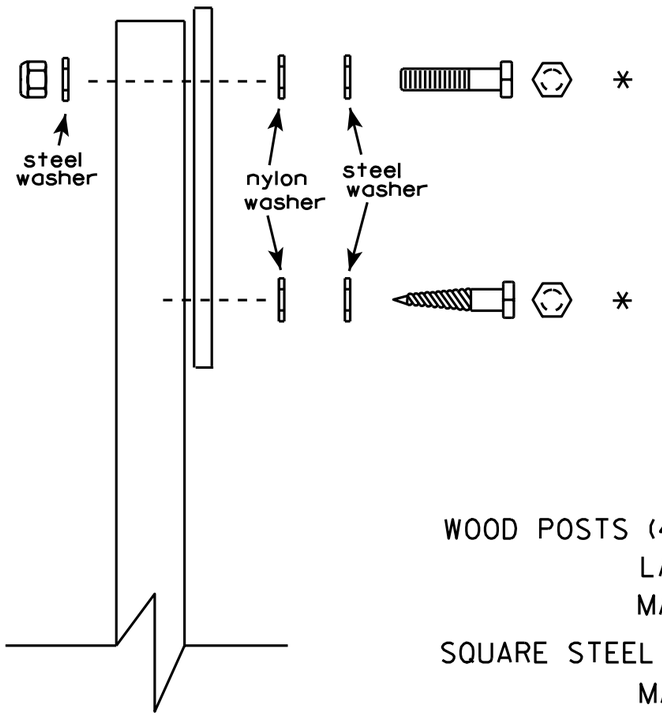
DATE 9/30/13 PLATE NO. A4-3.18

7

7

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS		SHEET NO: 42	E





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

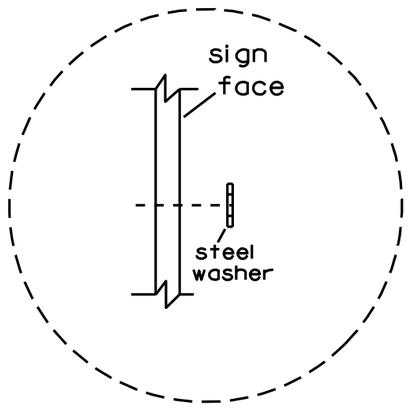
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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



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

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

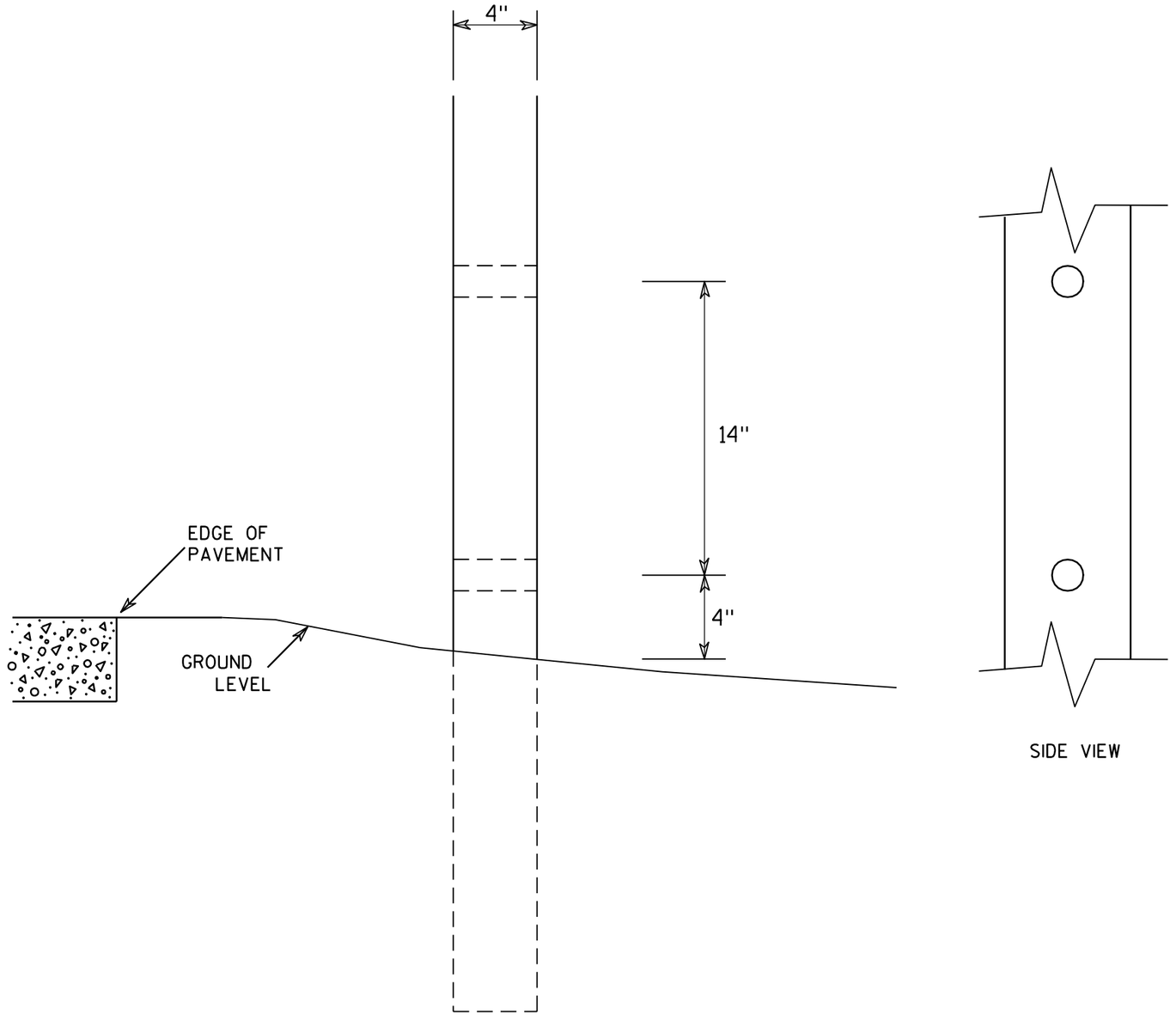
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS		SHEET NO: 43	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

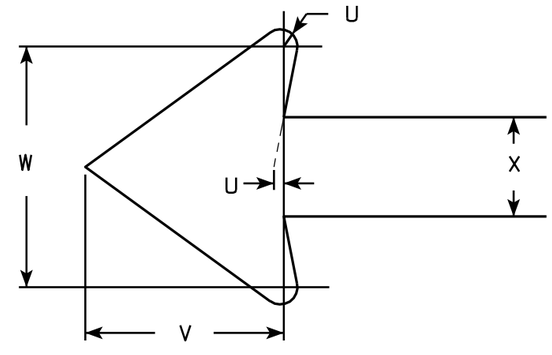
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO: 8396-00-72	HWY: SMITH BRDIGE ROAD	COUNTY: DOUGLAS		SHEET NO: 44	E

R7-52

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 - Red
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, 3 and 4 are series C, line 2 is series B.
6. R7-52D (double arrow)
   R7-52L (left arrow)
   R7-52R (right arrow)



ARROW DETAIL

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	12	18	1 1/8	3/8	3/8	3	1 7/8	1 1/2	7/8	7/8	2	2 1/2	2	2	4 7/8	4 7/8	5 1/8	5	3 1/8	3 7/8	1/8	1 1/2	1 3/4	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	6 3/8	6 1/4	3 7/8	5 7/8	1/4	2 1/4	2 5/8	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 5/8	7 5/8	4 3/4	7 3/4	1/4	3	3 1/2	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 5/8	7 5/8	4 3/4	7 3/4	1/4	3	3 1/2	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-52

WISCONSIN DEPT OF TRANSPORTATION

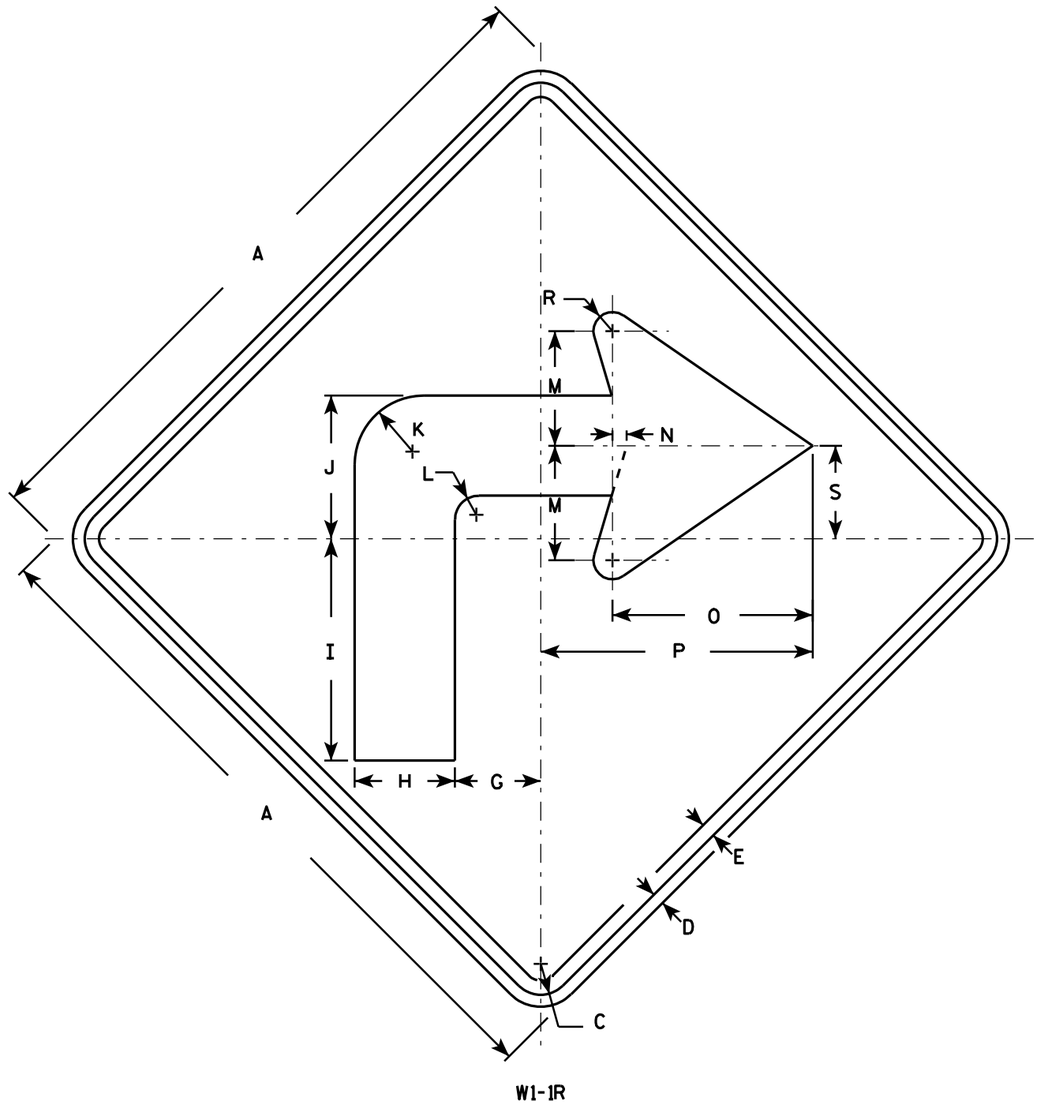
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-52.6

PROJECT NO: 8396-00-72	HWY: SMITH BRDIGE ROAD	COUNTY: DOUGLAS		SHEET NO: 45	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R752.dgn PLOT DATE : 31-MAR-2011 13:07 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.476110:1.000000

WISDOT/CADDS SHEET 42



W1-1R

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. W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.

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	24		1 1/8	3/8	1/2		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

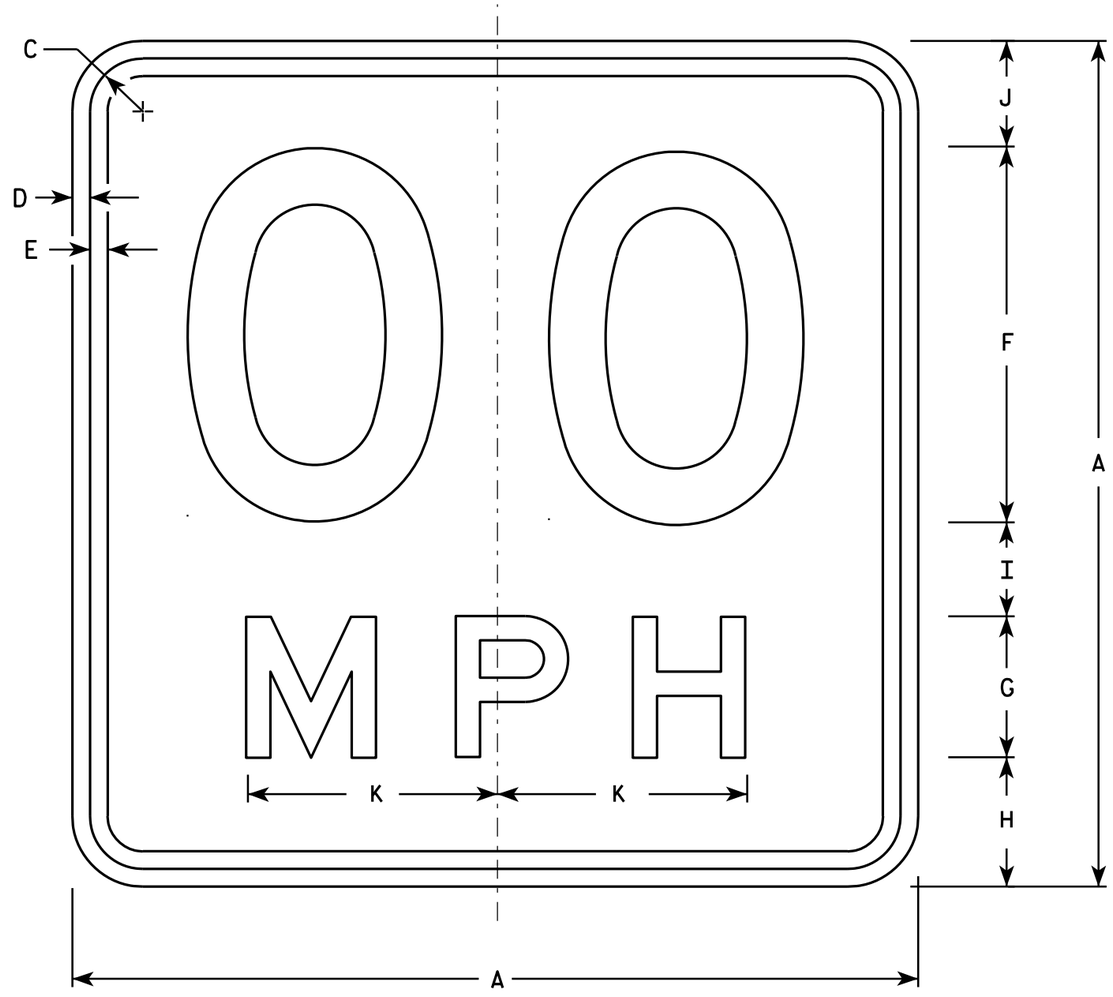
STANDARD SIGN
W1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-1.11

PROJECT NO: 8396-00-72 | HWY: SMITH BRDIGE ROAD | COUNTY: DOUGLAS | SHEET NO: 46 | E



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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. Message Series - See Note 6
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 space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

	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	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

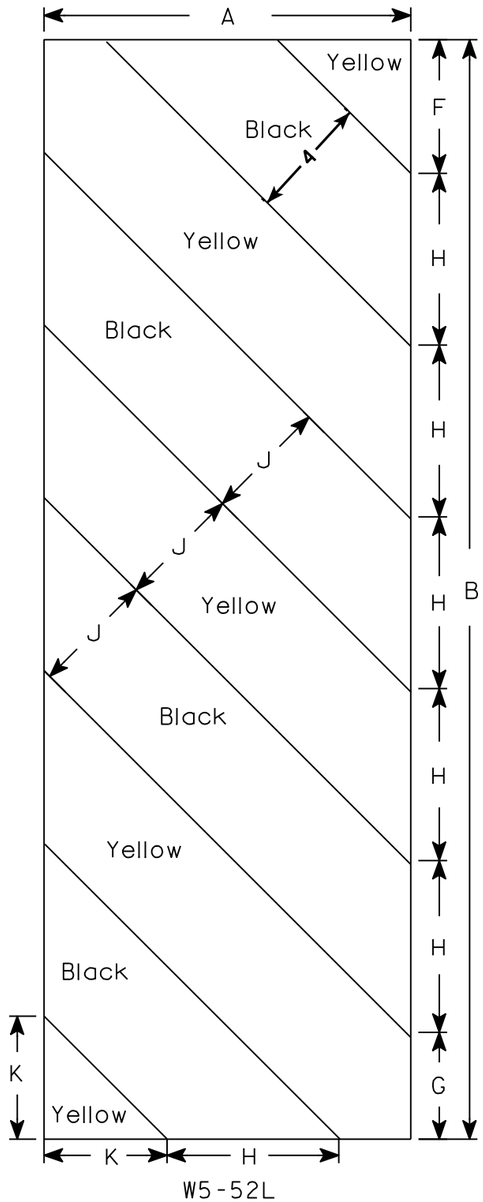
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

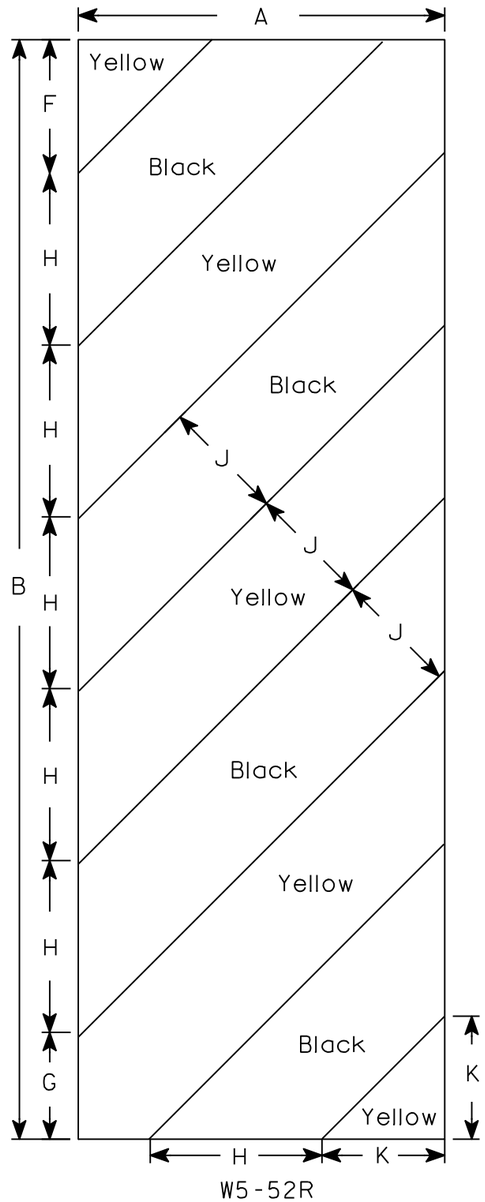
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO: 8396-00-72 | HWY: SMITH BRDIGE ROAD | COUNTY: DOUGLAS | SHEET NO: 47 | E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

W5-52L & W5-52R

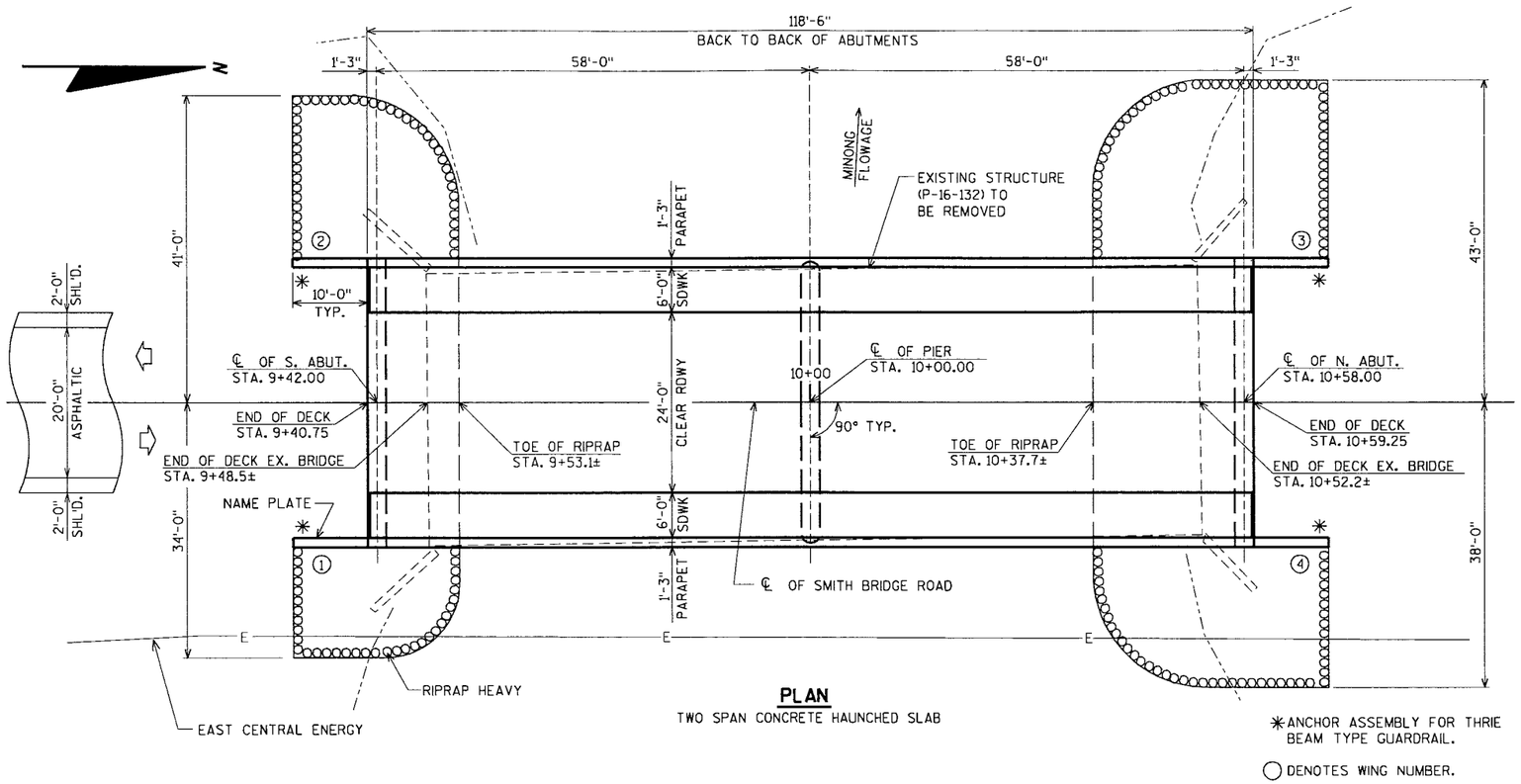
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: 8396-00-72 | HWY: SMITH BRDIGE ROAD | COUNTY: DOUGLAS | SHEET NO: 48 | E

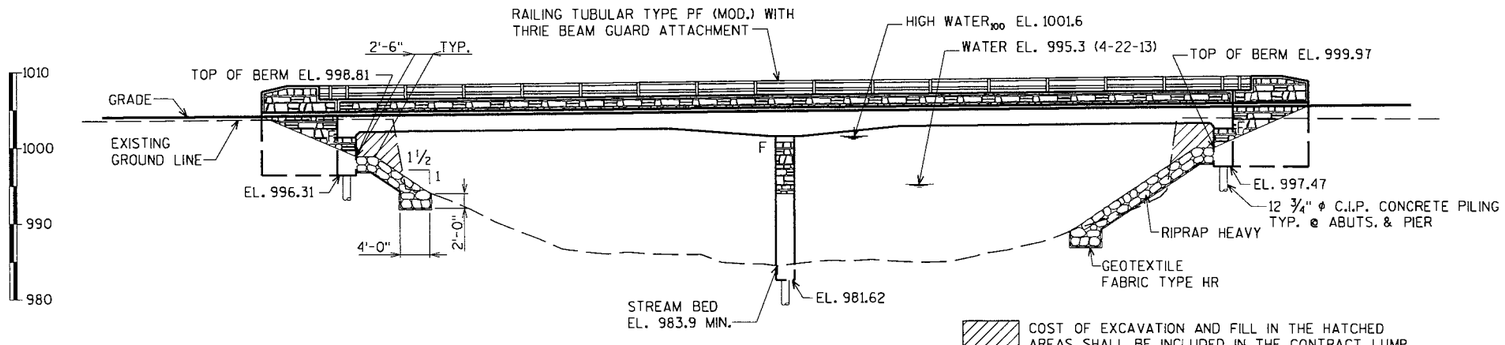
STATE PROJECT NUMBER
8396-00-72



PLAN
TWO SPAN CONCRETE HAUNCHED SLAB

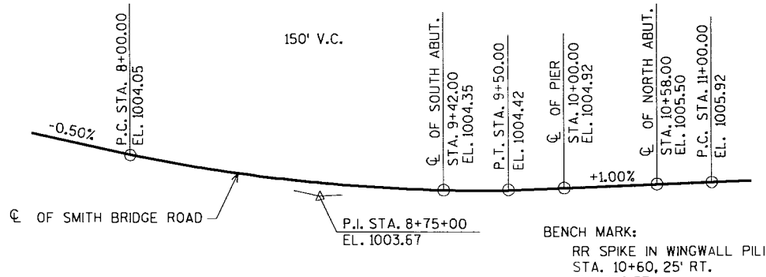
✳ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.

◯ DENOTES WING NUMBER.



ELEVATION

COST OF EXCAVATION AND FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-16-135".



PROFILE GRADE LINE
(SMITH BRIDGE ROAD)

BENCH MARK:
RR SPIKE IN WINGWALL PILING @ NE CORNER OF BRIDGE
STA. 10+60. 25' RT.
EL. 999.57

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.05
OPERATING RATING FACTOR : 1.36
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY { SUPERSTRUCTURE ____ f'_c = 4,000 p.s.i.
ALL OTHER ____ f'_c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ____ f_y = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD
DRAINAGE AREA = 280 sq. mi.
WATERWAY AREA = 1300 sq. ft.
V = 5.54 f.p.s.
Q_{100} = 7,200 c.f.s.
HIGH $WATER_{100}$ EL. 1001.6
HIGH $WATER_2$ EL. 996.7
RDWY. OVERFLOW = N/A
SCOUR CRITICAL CODE = 5

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON 12¾"ϕ x 0.25" CIP PILING WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS ‡ PER PILE. ESTIMATED LENGTH 70'-0" AT THE SOUTH ABUTMENT AND 70'-0" AT THE NORTH ABUTMENT.

PIER TO BE SUPPORTED ON 12¾"ϕ x 0.25" CIP PILING WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS ‡ PER PILE. ESTIMATED LENGTH 75'-0".

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

TRAFFIC DATA:

A.D.T. = 100 (2015)
A.D.T. = 130 (2035)
R.D.S. = 25 M.P.H.

FOR TYPICAL SECTION, AND GENERAL NOTES SEE SHEET 2

LIST OF DRAWINGS

10/24/14

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

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

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 11/20/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-16-135

SMITH BRIDGE ROAD OVER MINONG FLOWAGE

COUNTY	TOWN/~~CITY/VILLAGE~~
DOUGLAS	WASCOTT

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AEB	CJM	CLS	DNS

GENERAL PLAN

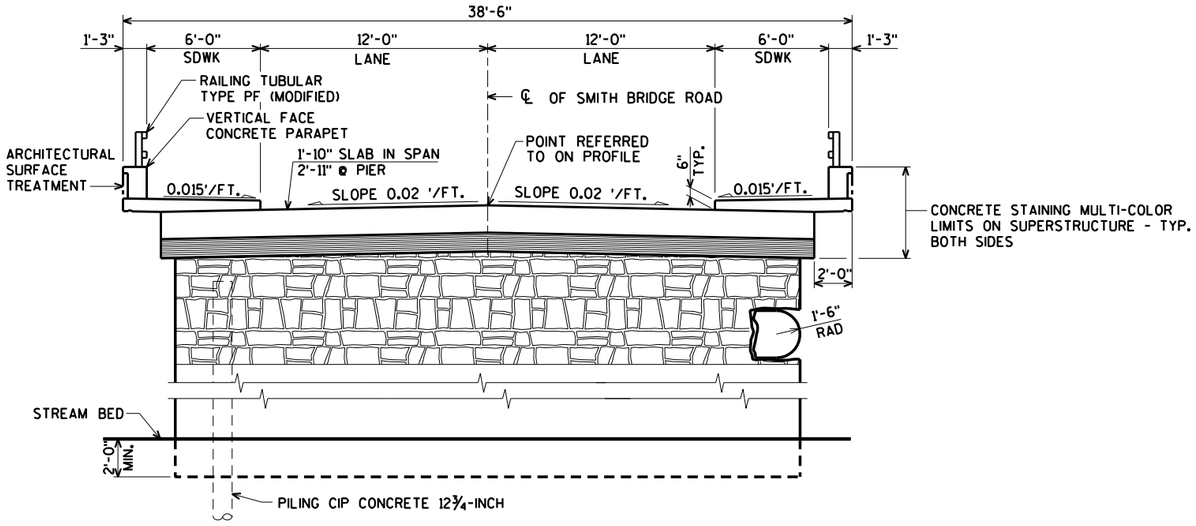
SHEET 1 OF 13
49

DATE:
DATE:
DATE:
CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

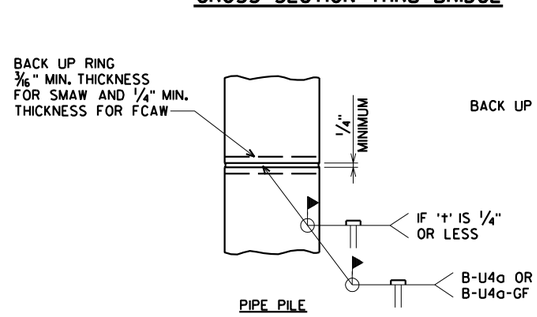
8

8

STATE PROJECT NUMBER
8396-00-72

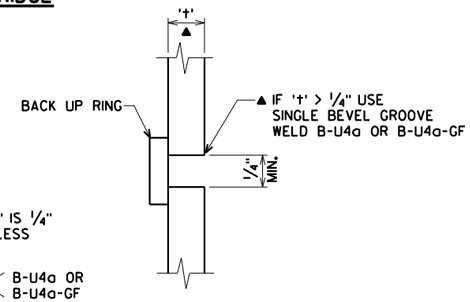


CROSS SECTION THRU BRIDGE



PILE SPLICE DETAIL

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.



CIP PILE WELD DETAIL

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	PIER	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-16-135	LS	-----	-----	-----	-----	1
210.0100	BACKFILL STRUCTURE	CY	110	-----	110	-----	220
502.0100	CONCRETE MASONRY BRIDGES	CY	37	73	37	357	504
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	-----	565	565
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2,260	2,800	2,260	-----	7,320
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,850	70	1,860	76,790	80,570
513.4065	RAILING TUBULAR TYPE PF B-16-135	LS	-----	-----	-----	-----	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	-----	11	-----	22
517.1015.S	CONCRETE STAINING MULTI-COLOR B-16-135	SF	445	440	445	1,480	2,810
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-16-135	SF	445	440	445	400	1,730
550.2124	PILING CIP CONCRETE 12¾X 0.25-INCH	LF	420	825	420	-----	1,665
606.0300	RIPRAP HEAVY	CY	100	-----	170	-----	270
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	-----	75	-----	150
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-----	2	-----	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	160	-----	280	-----	440
	NON-BID ITEMS						
	FILLER	SIZE	-----	-----	-----	-----	½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

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

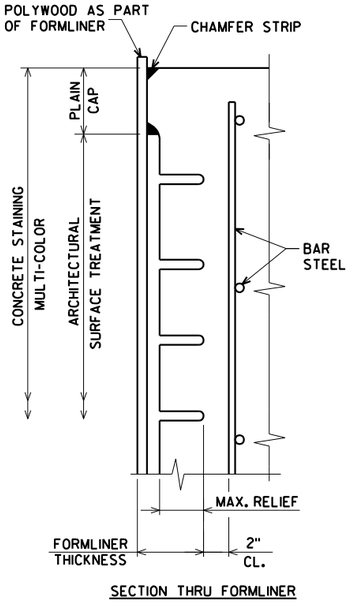
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

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

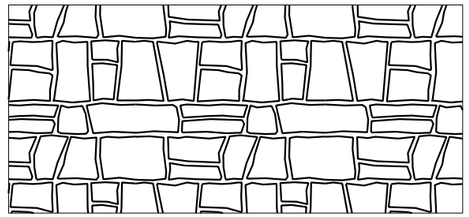
THE EXISTING STRUCTURE, P-16-132, TO BE REMOVED, IS A FOUR SPAN TIMBER DECK GIRDER BRIDGE, 104 FOOT LONG WITH A 24.0 FOOT CLEAR ROADWAY WIDTH AND 6 FOOT WIDE SIDEWALKS.

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

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF DECK, FACE OF CURBS, TOP OF SIDEWALK, AND INSIDE AND TOP FACE OF PARAPETS.



SECTION THRU FORMLINER



RUSTIC ASHLAR

FORMLINER THICKNESS = 3"
SIZE = 8" TO 32"
MAX. RELIEF = 2"

ABUTMENT NOTES

FORMLINER COURSING ON ABUTMENTS AND WINGS SHALL BE LEVEL.

THE FORMLINER COURSING ON THE WINGS SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER COURSING ON THE FRONT OF THE ABUTMENT AND ABUTMENT DIAPHRAGM.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

PIER NOTES

FORMLINER COURSING ON PIER SHALL BE LEVEL.

THE FORMLINER COURSING ON ALL FACES SHALL BE VERTICALLY ALIGNED.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

WRAPAROUND/MATCH FORMLINER PATTERN AT CORNERS.

PARAPET NOTES

FORMLINER COURSING ON PARAPETS SHALL BE PARALLEL TO TOP OF PARAPET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

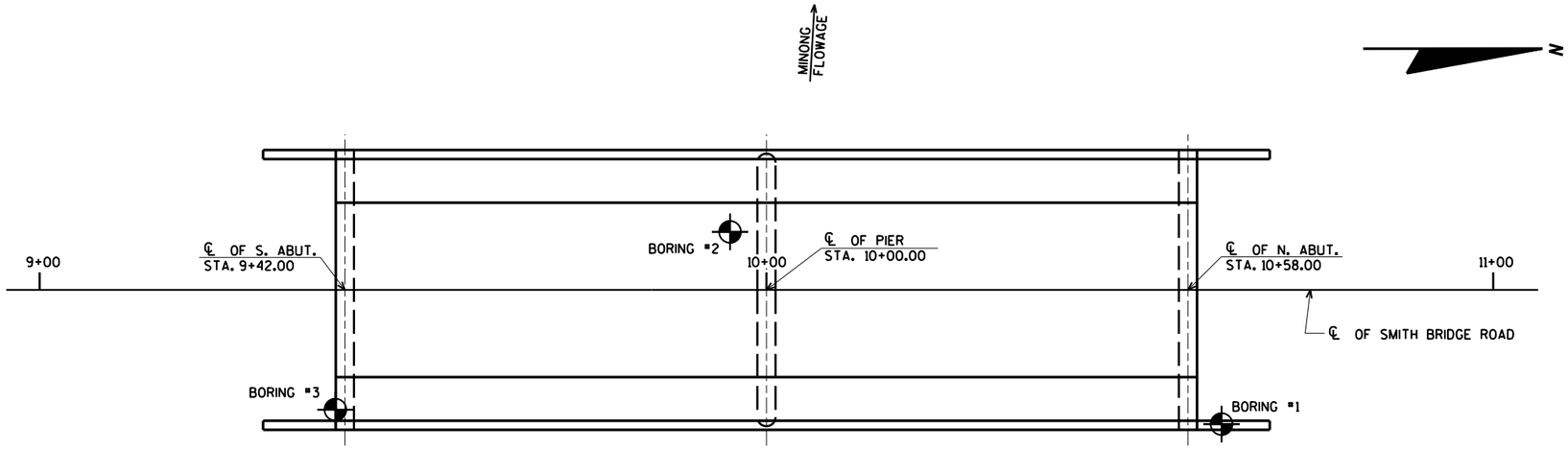
STRUCTURE B-16-135

DRAWN BY CLS | PLANS CK'D. AEB

TYPICAL SECTION QUANTITIES, AND NOTES

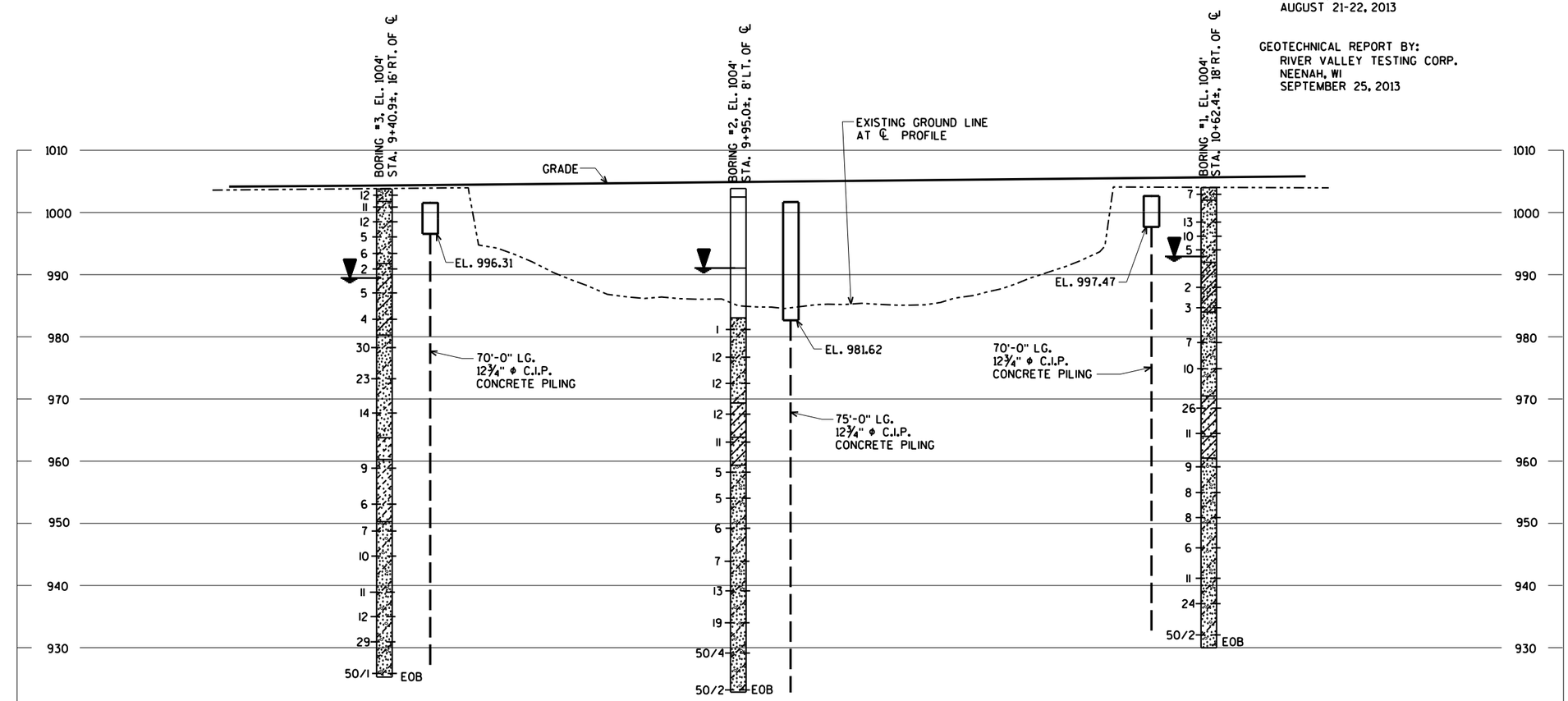
SHEET 2 OF 13
50

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



BORINGS TAKEN BY:
GEOTECHNICAL DRILLING CONTRACTORS, LLC
WAUSAU, WI
AUGUST 21-22, 2013

GEOTECHNICAL REPORT BY:
RIVER VALLEY TESTING CORP.
NEENAH, WI
SEPTEMBER 25, 2013



STATE PROJECT NUMBER

8396-00-72

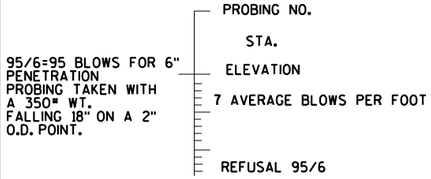
ABBREVIATIONS

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

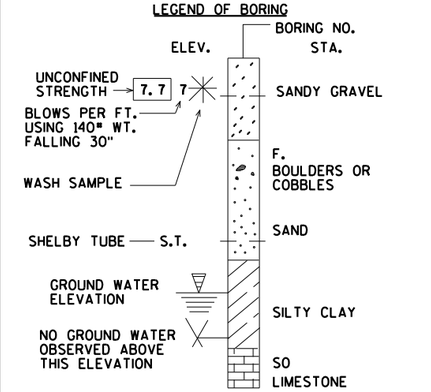
MATERIAL SYMBOLS

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

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-135

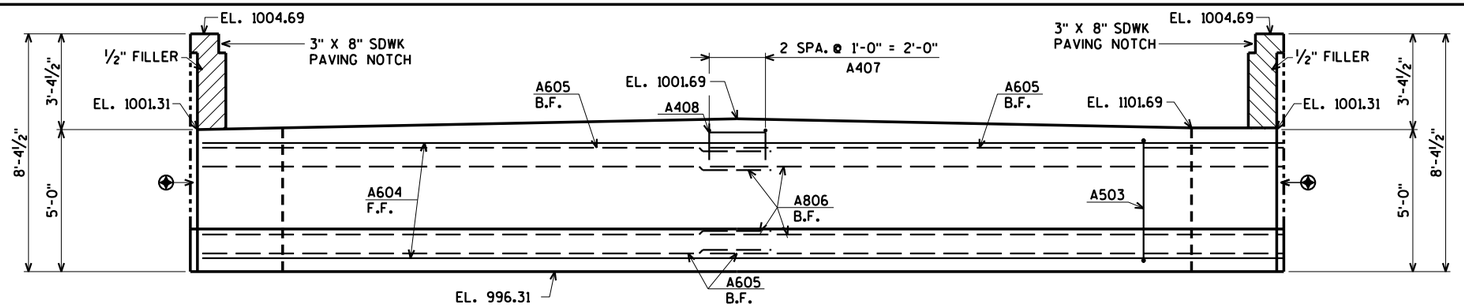
DRAWN BY KAH/CLS | PLANS CK'D. AEB

SUBSURFACE EXPLORATION

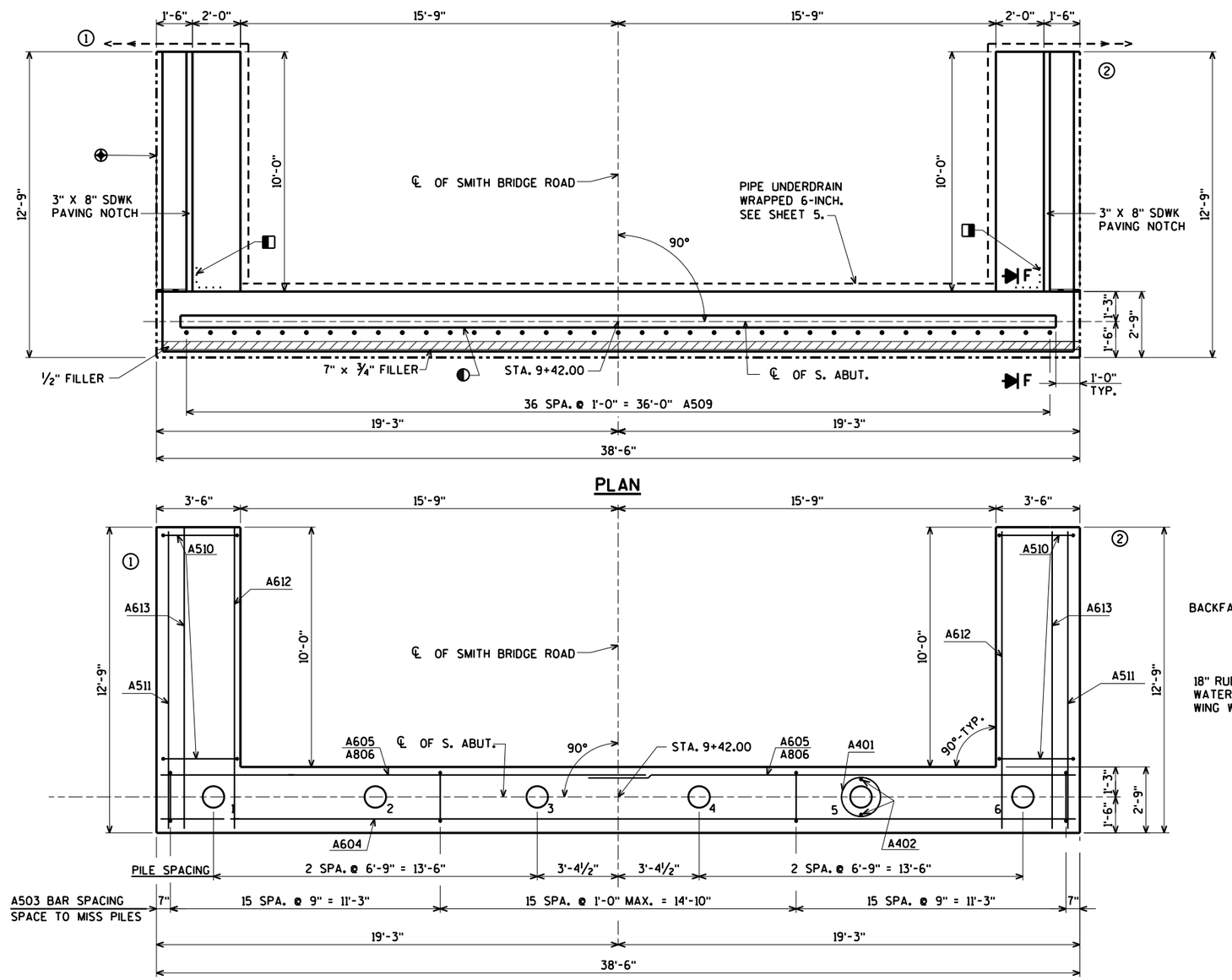
SHEET 3 OF 13
51

8

8



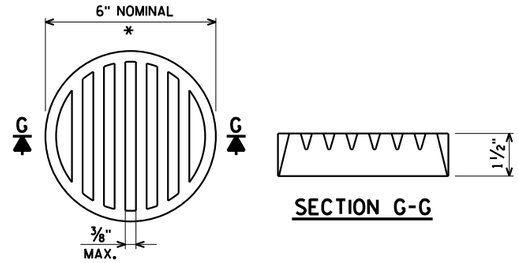
ELEVATION
(LOOKING SOUTH)



PLAN

PILE LAYOUT

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



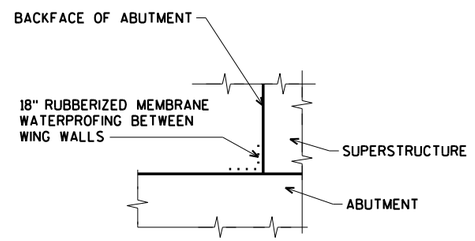
SECTION G-G

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

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

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

RODENT SHIELD DETAIL



SECTION F

⊕ ARCHITECTURAL SURFACE TREATMENT FOR DETAILS SEE SHEET 2.

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

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

WORK THIS SHEET WITH SHEET 5

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

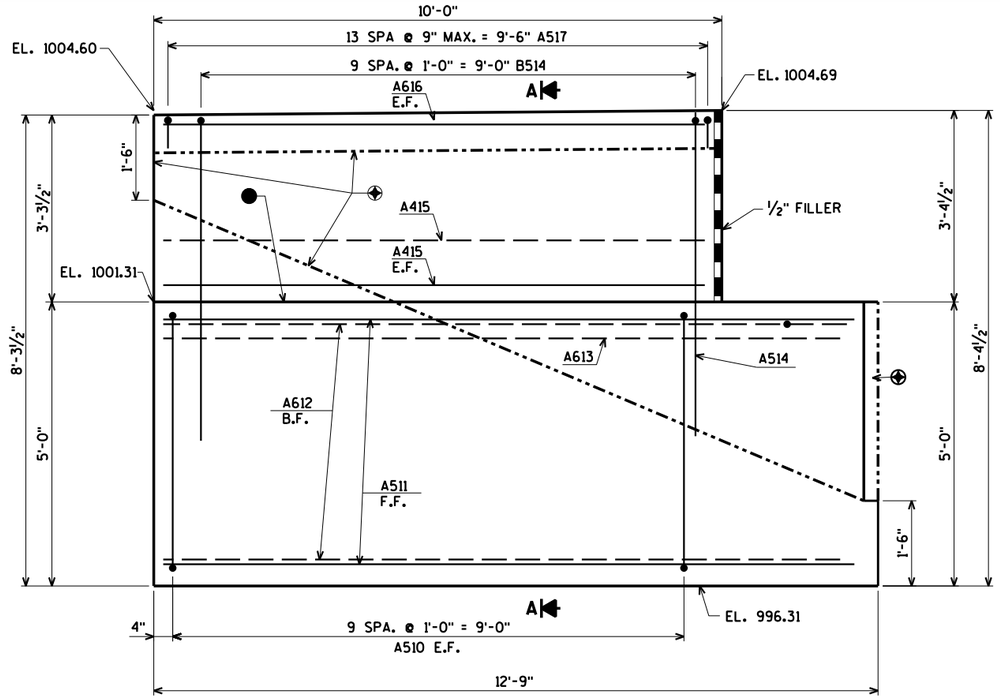
STRUCTURE B-16-135

DRAWN BY CJM | PLANS CK'D. AEB

SOUTH ABUTMENT

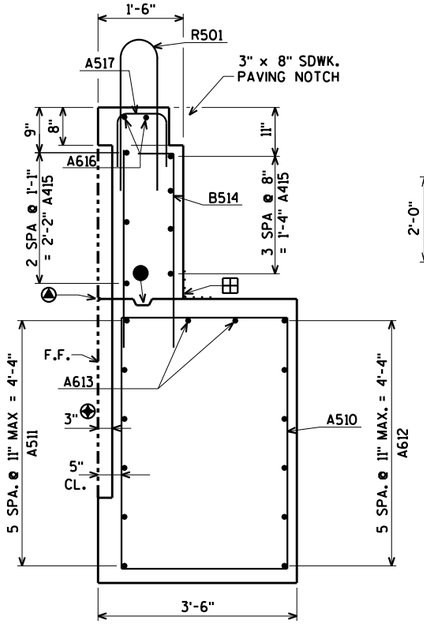
SHEET 4 OF 13
52

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

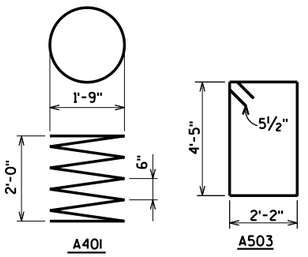


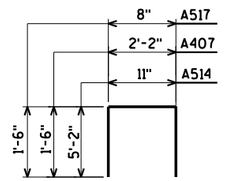
ELEVATION - WING 1

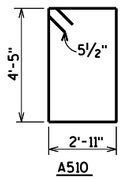
(WING 2 SIMILAR)



SECTION A



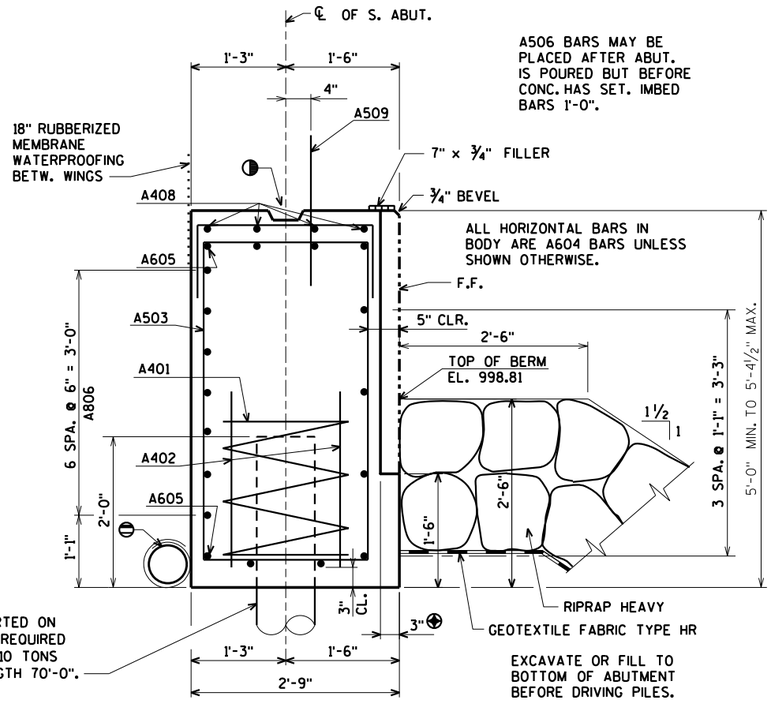




BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	1.850# COATED 2.260# UNCOATED LOCATION
A401		6	28-0	X		BODY @ PILES
A402		12	2-3			BODY @ PILES
A503		46	13-10	X		BODY VERT.
A604		9	38-2			BODY HORIZ. F.F.
A605		4	20-7			BODY HORIZ. B.F.
A806		14	21-8			BODY HORIZ. B.F.
A407		3	5-0	X		BODY VERT.
A408		4	2-0			BODY HORIZ.
A509	X	37	2-0			BODY DOWELS
A510	X	20	15-3	X		WINGS VERT.
A511	X	12	12-2			WINGS HORIZ. F.F
A612	X	12	12-2			WINGS HORIZ. B.F.
A613	X	4	12-2			WINGS HORIZ.
A514	X	20	11-2	X		WINGS VERT.
A415	X	14	9-8			WINGS HORIZ. E.F.
A616	X	4	9-8			WINGS HORIZ. E.F. TOP
A517	X	28	3-6	X		WINGS SDWK. NOTCH

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



TYPICAL SECTION THRU BODY

⊕ ARCHITECTURAL SURFACE TREATMENT FOR DETAILS SEE SHEET 2.

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

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

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

◔ ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

MATCH THIS SHEET WITH SHEET 4.

STATE PROJECT NUMBER

8396-00-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-135

DRAWN BY CJM | PLANS CK'D. AEB

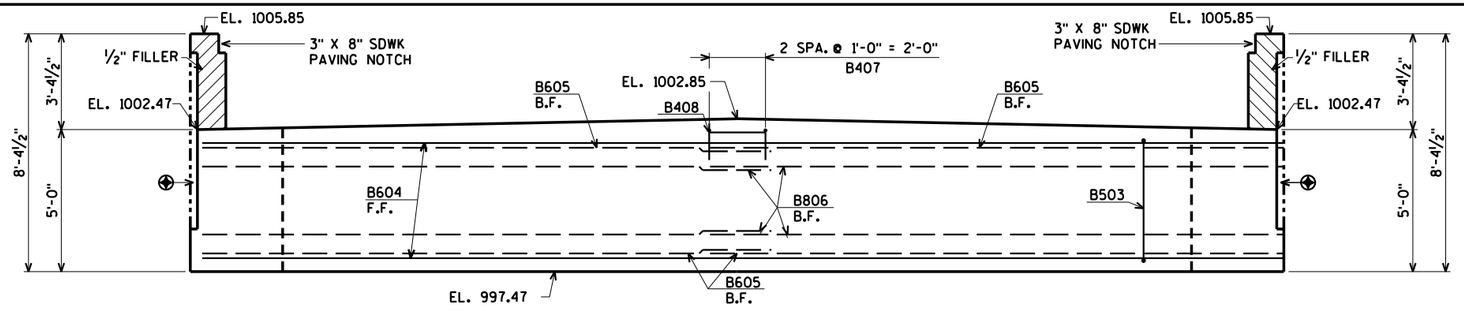
SOUTH ABUTMENT DETAILS & BILL OF BARS

SHEET 5 OF 13
53

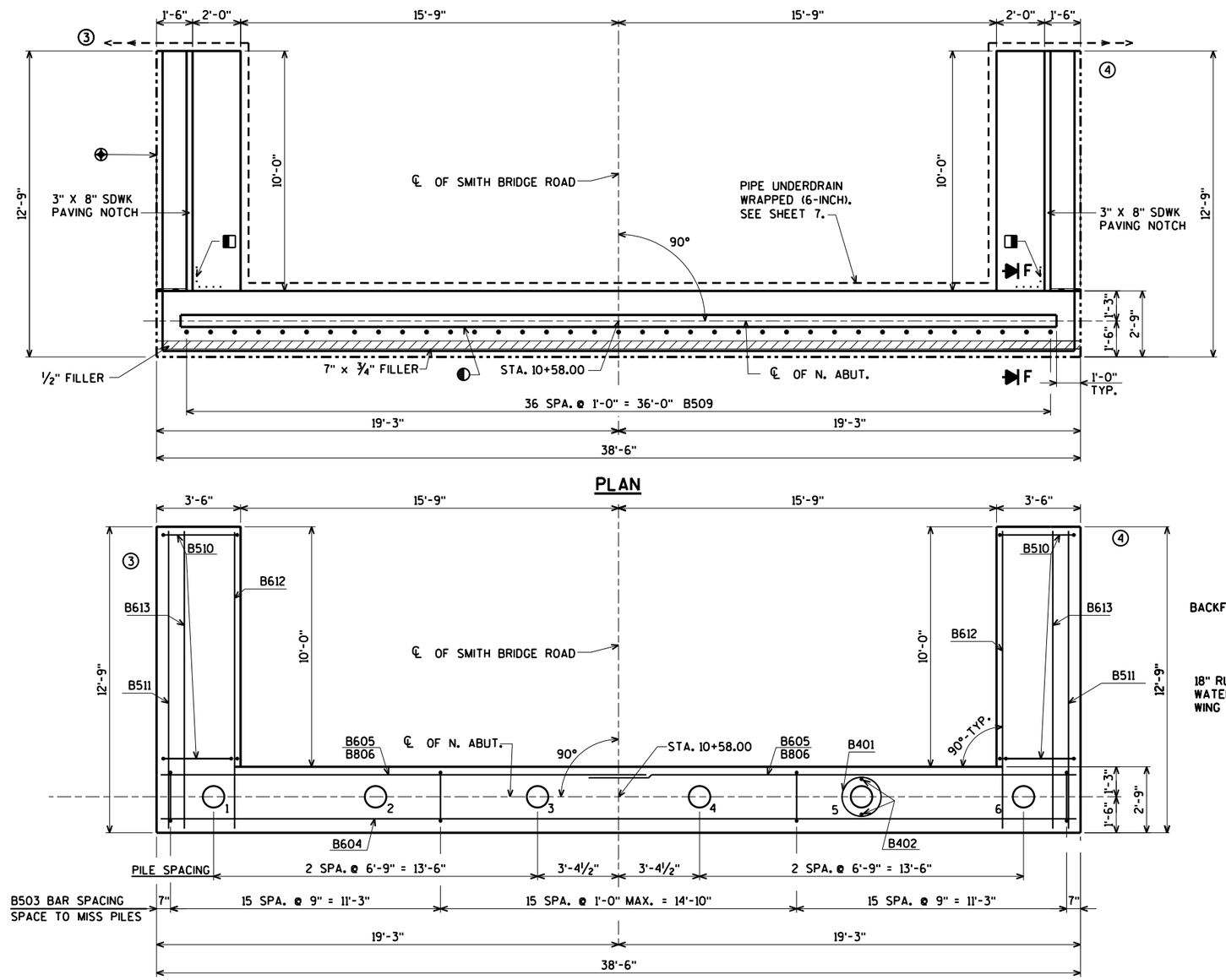
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

8



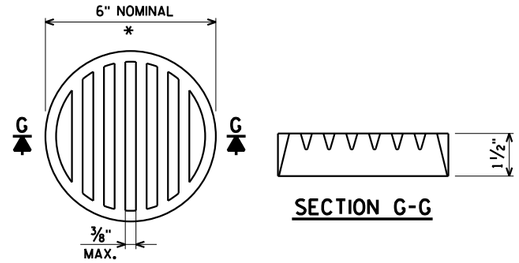
ELEVATION
(LOOKING NORTH)



PLAN

PILE LAYOUT

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



SECTION G-G

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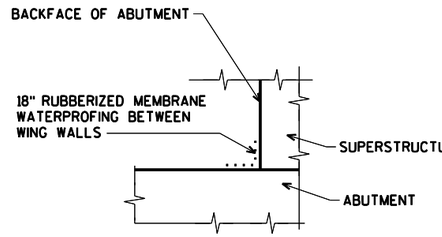
RODENT SHIELD DETAIL



SECTION F

- ARCHITECTURAL SURFACE TREATMENT FOR DETAILS SEE SHEET 2.
- KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

WORK THIS SHEET WITH SHEET 7

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

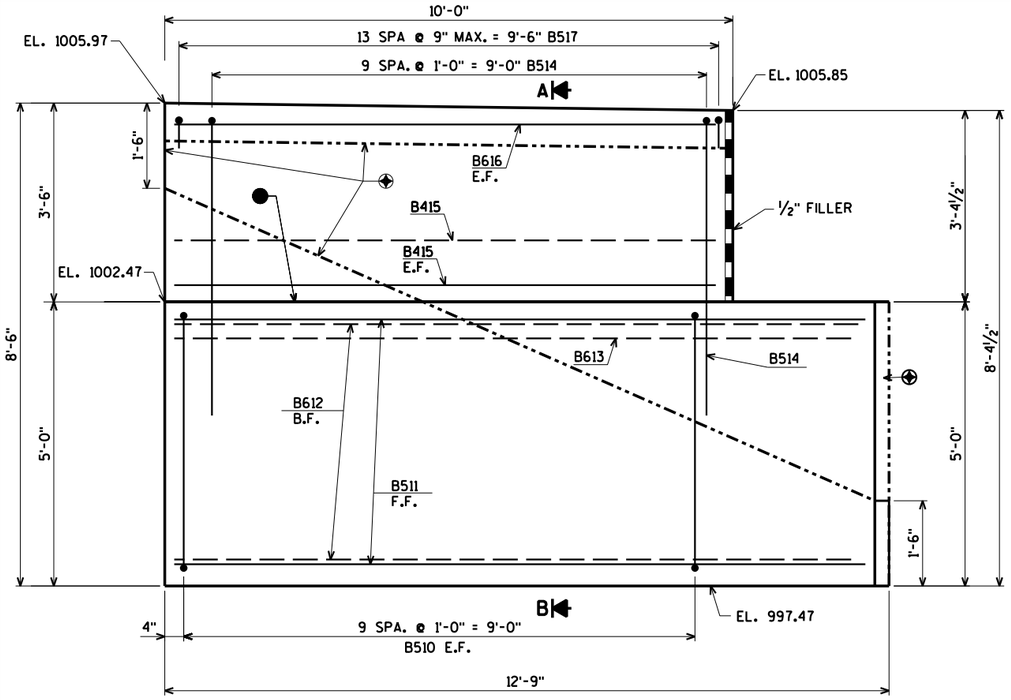
STRUCTURE B-16-135

DRAWN BY	CJM	PLANS CK'D.	AEB

NORTH ABUTMENT

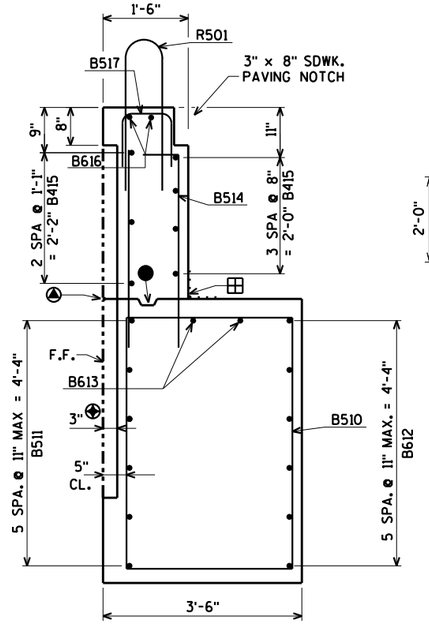
SHEET 6 OF 13
54

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

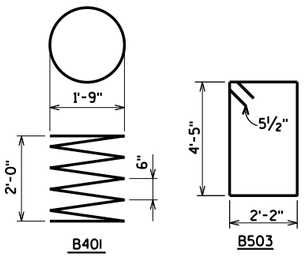


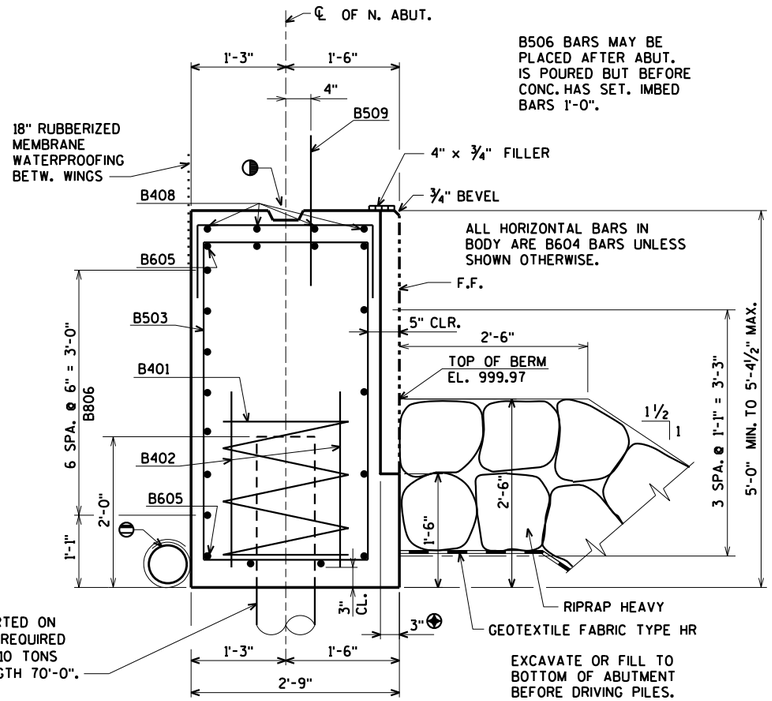
ELEVATION - WING 3

(WING 4 SIMILAR)



SECTION A





TYPICAL SECTION THRU BODY

STATE PROJECT NUMBER

8396-00-72

BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	1,860# COATED 2,260# UNCOATED LOCATION
B401		6	28-0	X		BODY @ PILES
B402		12	2-3			BODY @ PILES
B503		46	13-10	X		BODY VERT.
B604		9	38-2			BODY HORIZ. F.F.
B605		4	20-7			BODY HORIZ. B.F.
B806		14	21-8			BODY HORIZ. B.F.
B407		3	5-0	X		BODY VERT.
B408		4	2-0			BODY HORIZ.
B509	X	37	2-0			BODY DOWELS
B510	X	20	15-3	X		WINGS VERT.
B511	X	12	12-2			WINGS HORIZ. F.F
B612	X	12	12-2			WINGS HORIZ. B.F.
B613	X	4	12-2			WINGS HORIZ.
B514	X	20	11-3	X		WINGS VERT.
B415	X	14	9-8			WINGS HORIZ. E.F.
B616	X	4	9-8			WINGS HORIZ. E.F. TOP
B517	X	28	3-6	X		WINGS SDWK. NOTCH

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊕ ARCHITECTURAL SURFACE TREATMENT FOR DETAILS SEE SHEET 2.

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

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

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

◔ ¾" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

◨ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

WORK THIS SHEET WITH SHEET 6

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-135

DRAWN BY CJM | PLANS CK'D. AEB

NORTH ABUTMENT DETAILS & BILL OF BARS

SHEET 7 OF 13
55

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

8

8

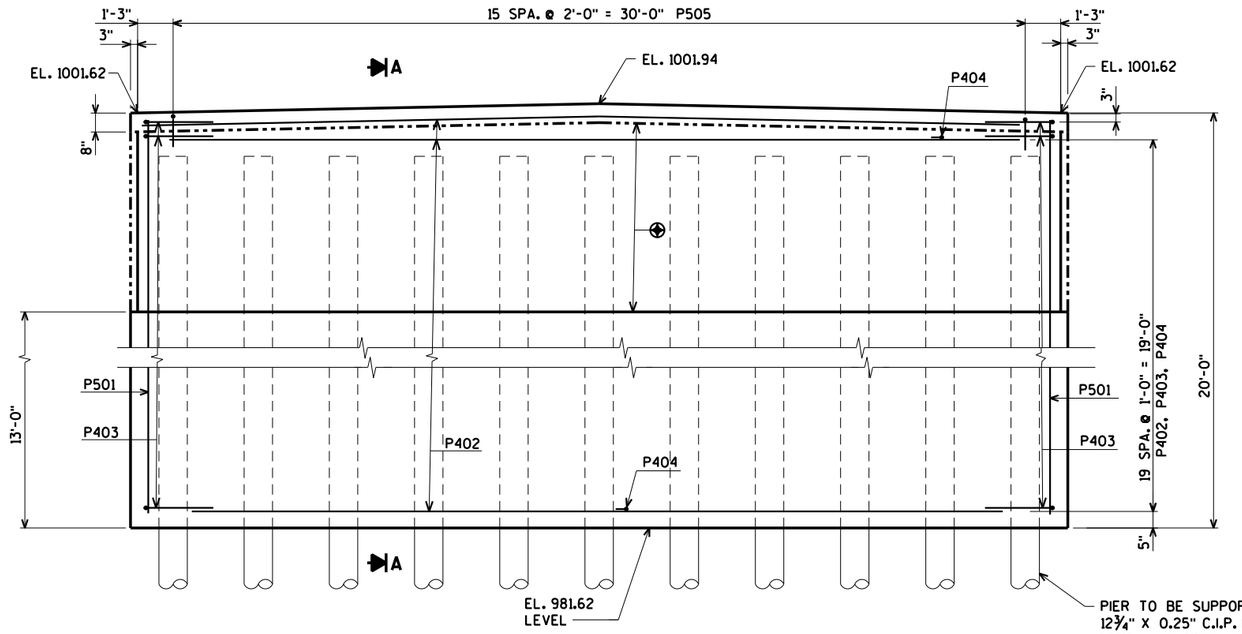
STATE PROJECT NUMBER

8396-00-72

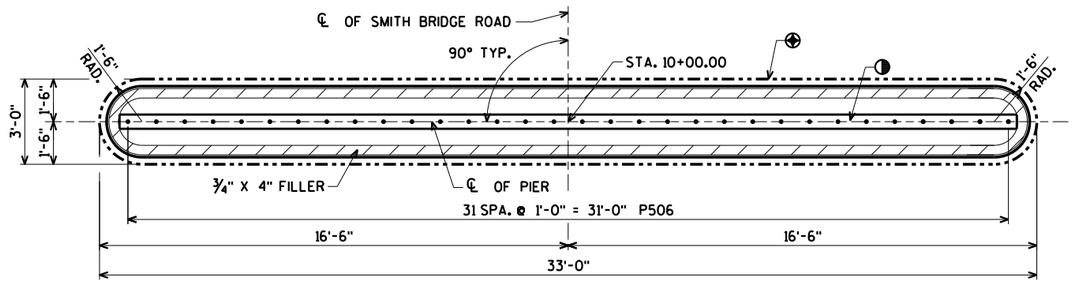
BILL OF BARS

BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	2,800# UNCOATED 70# COATED — LOCATION
P501		68	19-4			COLUMN VERT.
P402		40	30-0			COLUMN HORIZ.
P403		40	6-1	X		COLUMN HORIZ.
P404		220	2-8	X		COLUMN TIES
P505		16	4-7	X		COLUMN TOP
P506	X	32	2-0			COLUMN DOWELS

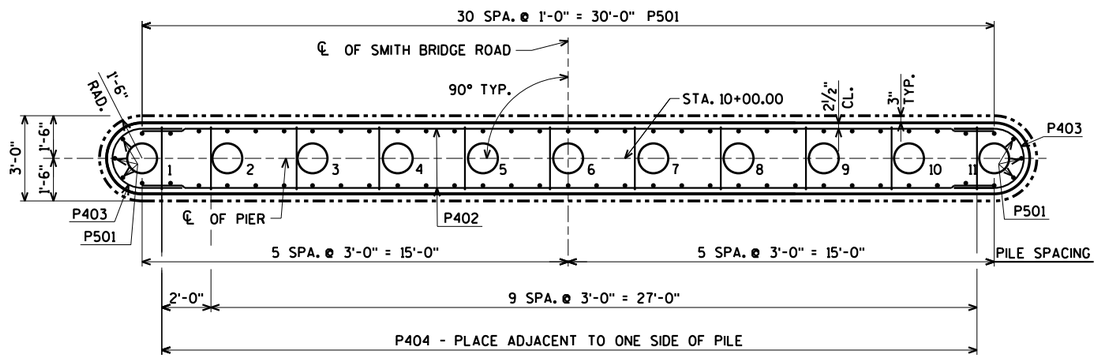
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



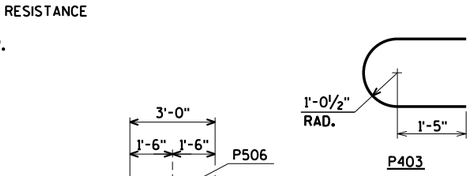
ELEVATION
(LOOKING NORTH)

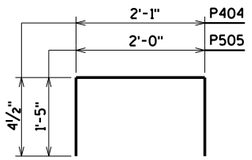


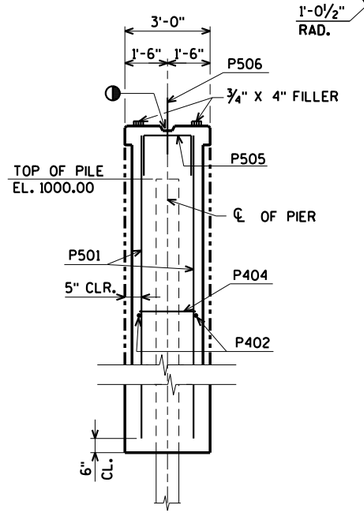
PLAN



PILE LAYOUT







SECTION A

P506 BARS MAY BE PLACED AFTER PIER IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

⊕ ARCHITECTURAL SURFACE TREATMENT FOR DETAILS SEE SHEET 2.

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

FOR PILE SPLICE DETAIL SEE SHEET 2.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

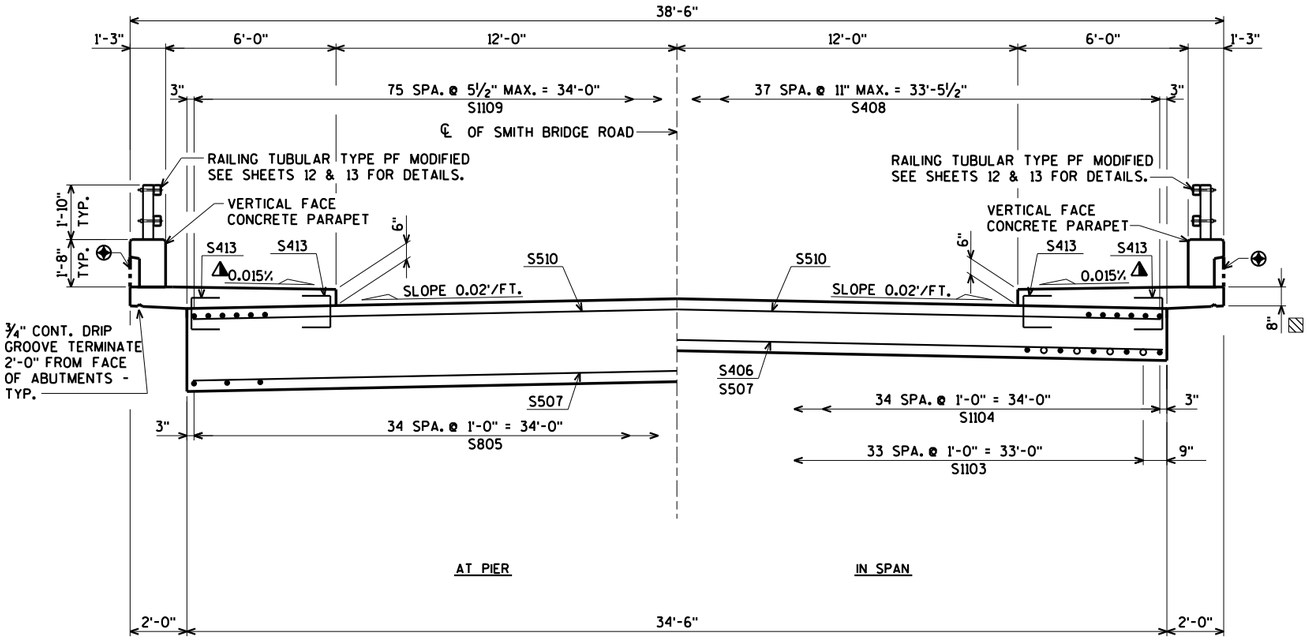
STRUCTURE B-16-135

DRAWN BY CJM | PLANS CK'D. AEB

PLANS PREPARED BY
AYRES ASSOCIATES
Engineers/Architects
Scientists/Surveyors
3433 Oakwood Hills Parkway
Eau Claire, WI 54701

PIER

SHEET 8 OF 13
56



CROSS SECTION THRU ROADWAY
(LOOKING NORTH)

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

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

PARAPETS PLACED ON TOP OF THIS SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

⊕ ARCHITECTURAL SURFACE TREATMENT FOR DETAILS SEE SHEET 2.

▲ ± 0.005% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 0.02% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

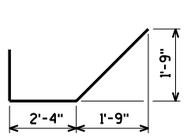
▨ 8" MIN SIDEWALK THICKNESS ALSO REQUIRED AT THE EDGE OF SLAB.

¾" V-GROOVE TERMINATE AT 2'-0" FROM FACE OF ABUTMENTS - TYP.

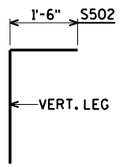
BILL OF BARS

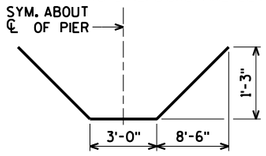
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	76,790# COATED LOCATION
S501	X	70	6-6	X		SLAB @ ABUT.
S502	X	70	3-7	X		SLAB @ ABUT.
S1103	X	68	36-8			SLAB LONG. BOT.
S1104	X	70	56-5			SLAB LONG. BOT.
S805	X	35	20-2			SLAB LONG. BOT. @ PIER
S406	X	82	34-2			SLAB TRANS. BOT.
S507	X	60	34-2			SLAB TRANS. BOT.
S408	X	76	32-2			SLAB LONG. TOP
S1109	X	76	44-6			SLAB LONG. TOP @ PIER
S510	X	119	34-2			SLAB TRANS. TOP
S511	X	358	4-1	X		PARAPET VERT.
S412	X	358	3-0	X		PARAPET VERT.
S413	X	948	3-0	X		SLAB AT SIDEWALK
S414	X	160	3-0	X		SDWK. TRANS BOT.
S415	X	78	40-11			SDWK. LONG BOT. & TOP
S516	X	474	7-6	X		SDWK. AT PARAPET HORIZONTAL
S517	X	12	9-11	X		SDWK. AT PARAPET VERT.
S518	X	4	4-2			SLAB TRANS. TOP AT SLAB EDGE
S419	X	36	40-11			HORIZ. @ PARAPET
S420	X	358	2-9	X		PARAPET VERT

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

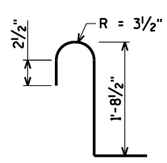


S501





S805



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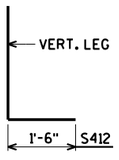

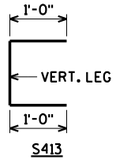

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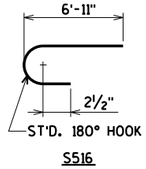

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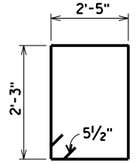

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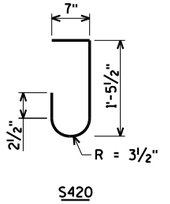
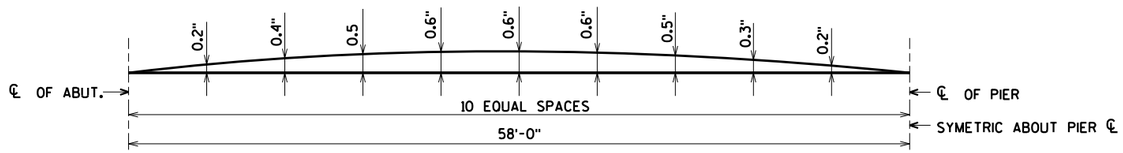


S420

TOP OF DECK ELEVATIONS

LOCATION	℄ OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF PIER	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF N. ABUT.
W. EDGE OF SLAB	1004.00	1004.06	1004.11	1004.17	1004.23	1004.29	1004.34	1004.40	1004.46	1004.52	1004.58	1004.63	1004.69	1004.75	1004.81	1004.87	1004.92	1004.98	1005.04	1005.10	1005.16
℄ OF ROAD	1004.35	1004.40	1004.46	1004.51	1004.57	1004.63	1004.69	1004.75	1004.80	1004.86	1004.92	1004.98	1005.04	1005.09	1005.15	1005.21	1005.27	1005.33	1005.38	1005.44	1005.50
E. EDGE OF SLAB	1004.00	1004.06	1004.11	1004.17	1004.23	1004.29	1004.34	1004.40	1004.46	1004.52	1004.58	1004.63	1004.69	1004.75	1004.81	1004.87	1004.92	10004.98	1005.04	1005.10	1005.16

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-135

DRAWN BY CJM | PLANS CK'D. AEB

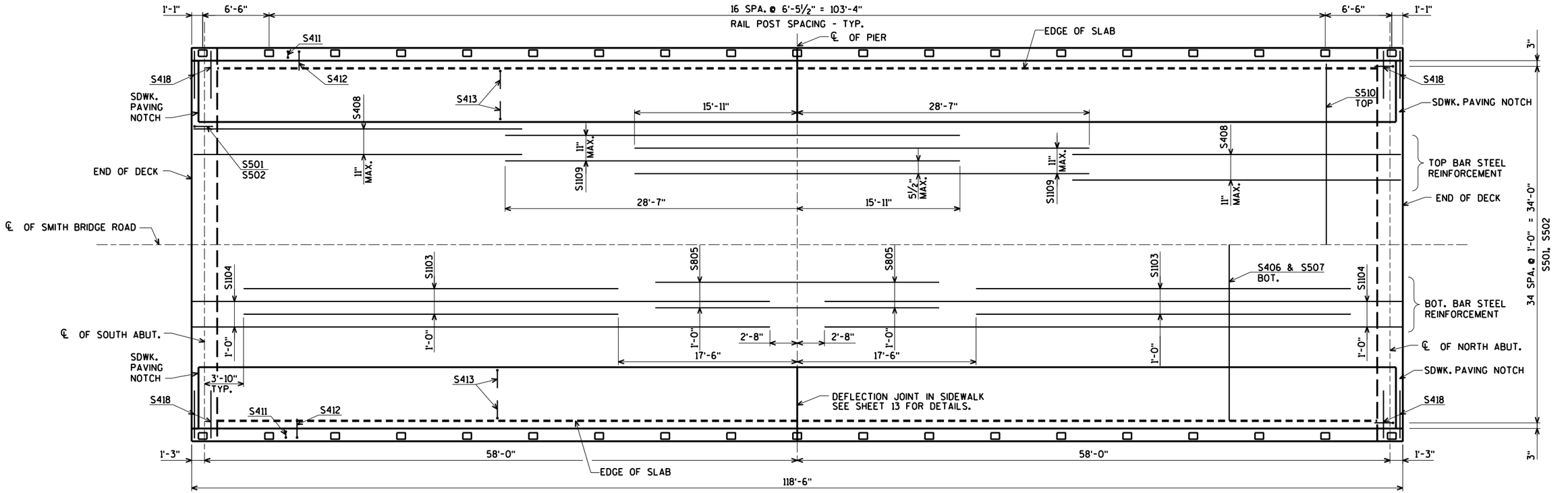
SUPERSTRUCTURE

SHEET 9 OF 13
57

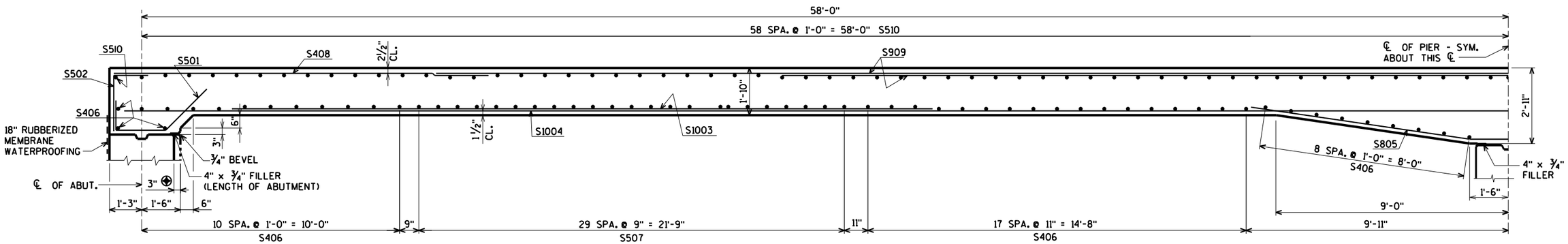
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE PROJECT NUMBER

8396-00-72



PLAN



PART LONGITUDINAL SECTION

⊕ ARCHITECTURAL SURFACE TREATMENT
FOR DETAILS SEE SHEET 2.

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-135

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SUPERSTRUCTURE DETAILS

SHEET 10 OF 13
58

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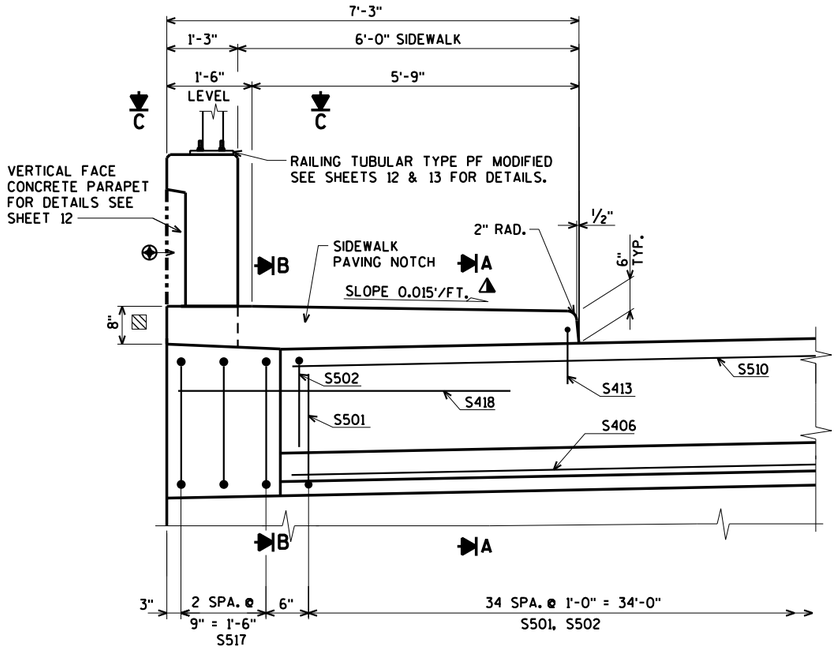
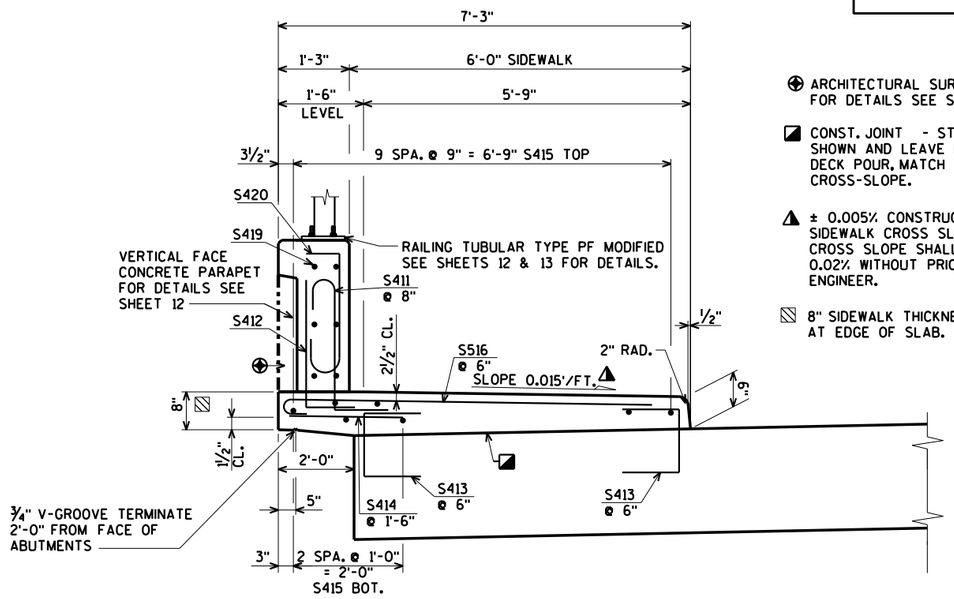


PART SECTION AT ABUTMENT

(TYPICAL BOTH PARAPETS)



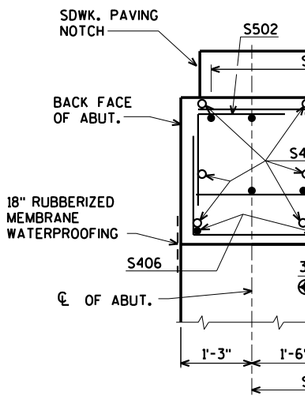
ARCHITECTURAL SURFACE TREATMENT FOR DETAILS SEE SHEET 2.

CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE CROSS-SLOPE.

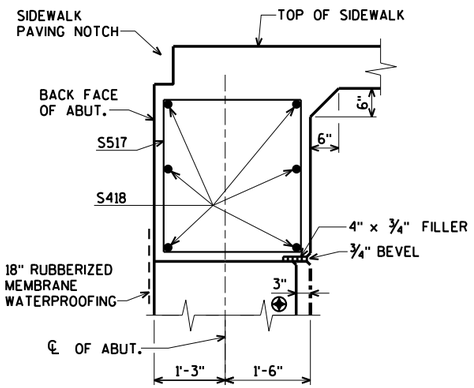
± 0.005% CONSTRUCTION TOLERENCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 0.02% WITHOUT PRIOR APPROVAL OF THE ENGINEER.

8" SIDEWALK THICKNESS ALSO REQUIRED AT EDGE OF SLAB.

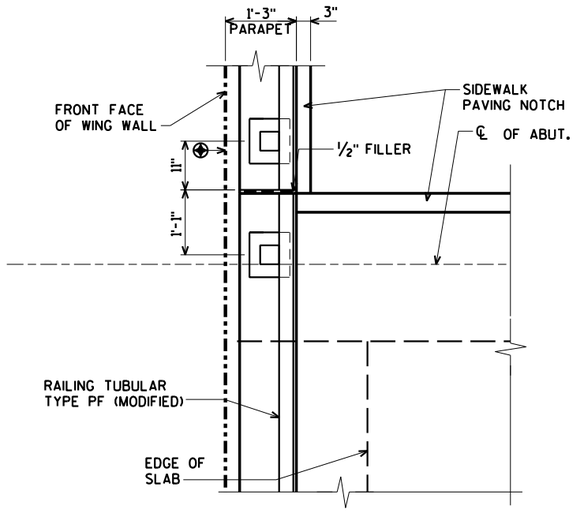
PART SECTION THRU SIDEWALK



SECTION A



SECTION B



SECTION C

WING 3 SHOWN - WING 2 SIMILAR

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-135

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SUPERSTRUCTURE DETAILS

SHEET 11 OF 13
59

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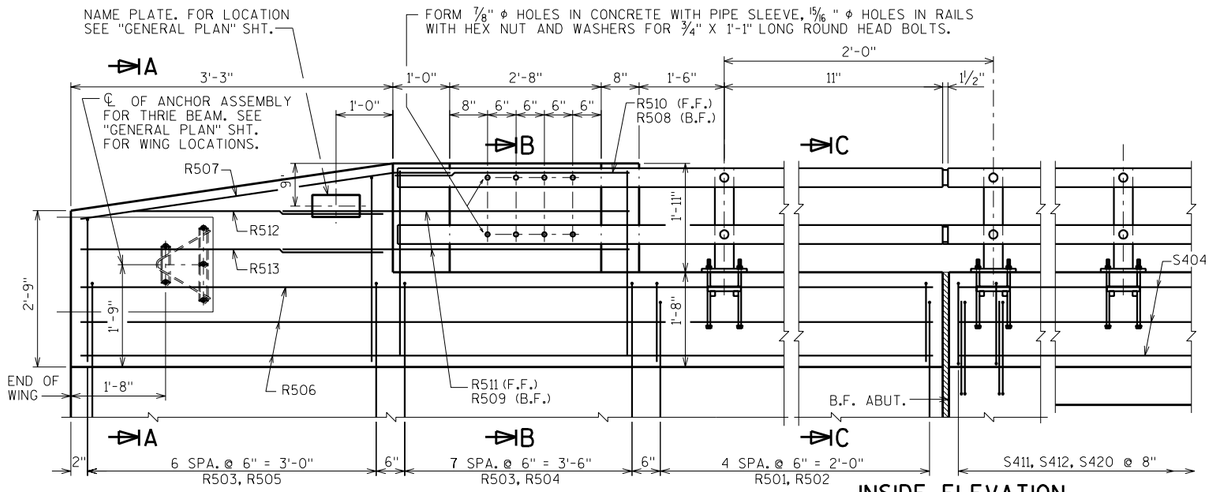
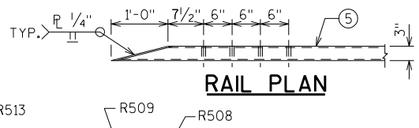
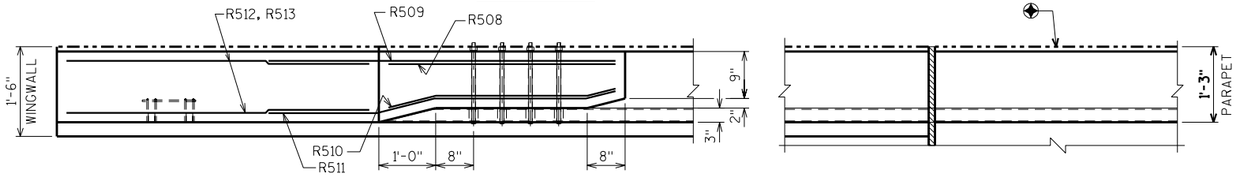


INSIDE ELEVATION

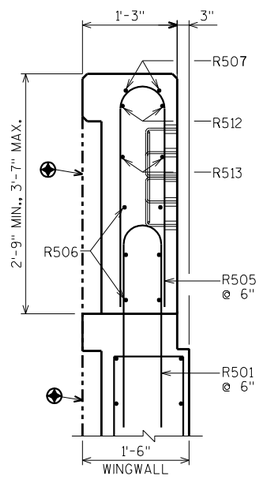
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-5". MINIMUM CONSTRUCTION JOINT SPACING OF 80'-0". DEFINE CONSTR. JT. WITH A 3/4" "V"-GROOVE.



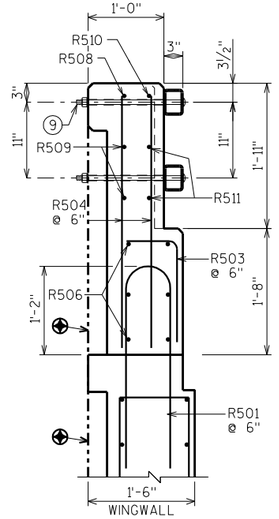
RAIL PLAN



PARAPET PLAN



SECTION A-A



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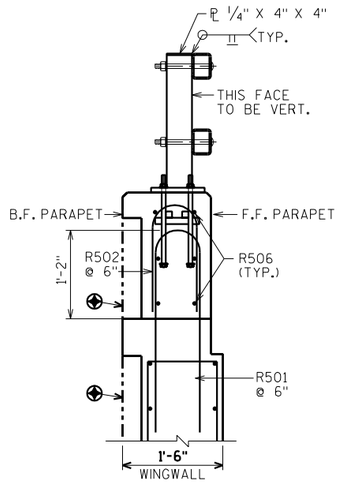
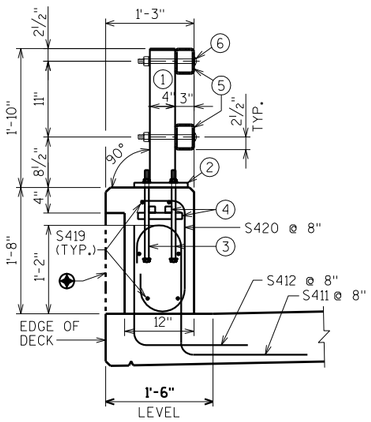


SECTION C-C



SECTION THRU DECK

ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING AND BEAM GUARD (WHEN REQ'D.).

STATE PROJECT NUMBER

8396-00-72

NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE PF B-16-135", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN, AND PAINTING.

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 CUTS.

NO. 2, NO. 7 AND NO. 8 SHALL CONFORM TO ASTM A709 GRADE 36. STRUCTURAL TUBING, NO. 1 AND NO. 5, SHALL CONFORM TO ASTM A500 GRADE B

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET POSTS NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN TRANSVERSE DIRECTION.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT.

FILL BOLT SLOT OPENINGS IN SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL JOINTS IN CONCRETE PARAPET ARE TO BE VERTICAL.

AFTER FABRICATION, ALL MATERIAL, EXCEPT ANCHORAGE NO. 3 & 4 SHALL BE GALVANIZED. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.

1/4" Φ VENT HOLES TO BE LOCATED AT LOW END OF RAILS.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 2 (TL-2).

SEE SHT. 13 FOR RAILING DETAILS.

LEGEND

1. TS 4 X 4 X 0.25 X 1'-9 1/4" STRUCTURAL TUBING WITH 15/16 " Φ HOLES FOR BOLT NO. 6. PLACE POSTS VERTICAL IN TRANSVERSE DIRECTION. WELD TO NO. 2. PLACE POSTS NORMAL TO GRADE LINE
2. PLATE 3/4" X 8 1/2" X 9 1/2" WITH 7/8" X 1 1/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
3. 5/8" DIA. X 1'-1" LONG ASTM A325 HEX BOLTS (GALVANIZED) WITH A325 NUT AND WASHER. 4 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. EMBED A MIN. OF 10". CHAMFER TOP OF BOLTS BEFORE THREADING.
4. BAR 3/4" SQ. X 7" LONG. WELD TO ANCHOR BOLTS NO. 3 (GALVANIZED).
5. TS 5 X 3 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH BOLTS NO. 6. PROVIDE 13/16 " DIA. HOLE FOR NO. 6.
6. 3/4" DIA. X 9" LONG ROUND HEAD BOLTS, ASTM A307, WITH HEX. NUT AND WASHERS AND LOCK WASHER. (1 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. RECTANGULAR SLEEVE FABRICATED FROM 1/4" PLATES. 1'-6" LONG.
8. RECTANGULAR SLEEVE FABRICATED FROM 1/4" PLATES. PROVIDE "SLIDING FIT" WITH MIN. OUT TO OUT DIMENSION OF 3 13/32 " X 2 13/32 ".

8A. RECTANGULAR SLEEVE FABRICATED FROM 1/4" PLATES. PROVIDE "SLIDING FIT" WITH MIN. OUT TO OUT DIMENSION OF 3 13/32 " X 2 13/32 " WITH 3/16 " PLATE AT ONE END WELDED ALL AROUND TO BLOCK WATER.

9. 3/4" DIA. X 1'-1" LONG ROUND HEAD BOLTS, ASTM A307, WITH HEX NUT AND WASHERS

⊕ ARCHITECTURAL SURFACE TREATMENT FOR DETAILS SEE SHEET 2.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

WORK THIS SHEET WITH SHEET 13.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-135

DRAWN BY CJM | PLANS CK'D. AEB

RAILING TUBULAR TYPE PF MOD.

SHEET 12 OF 13
60

ORIGINAL PLANS PREPARED BY
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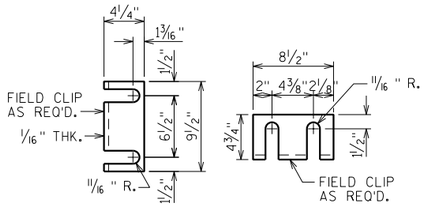
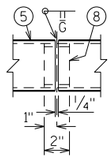
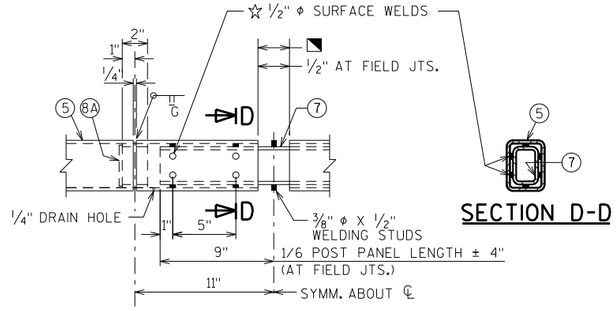


POST SHIM DETAILS



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



FIELD ERECTION JOINT DETAIL

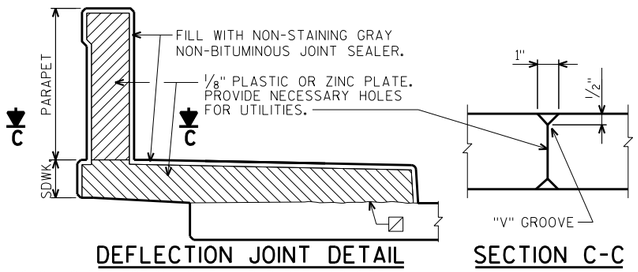
☆MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

BILL OF BARS

WEIGHTS INCLUDED IN ABUTMENT WEIGHTS SHOWN ON SHEETS 5 & 7.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	20	5'-9"	X		PARAPET VERT.
R502	X	20	3'-1"	X		PARAPET VERT.
R503	X	60	1'-11"	X		PARAPET VERT.
R504	X	32	3'-4"			PARAPET VERT.
R505	X	28	6'-2"	X	⚠	PARAPET VERT.
R506	X	24	9'-8"			PARAPET HORIZ.
R507	X	8	4'-4"	X		PARAPET HORIZ.
R508	X	4	4'-0"			PARAPET HORIZ.
R509	X	8	5'-8"			PARAPET HORIZ.
R510	X	4	4'-0"	X		PARAPET HORIZ.
R511	X	8	6'-0"	X		PARAPET HORIZ.
R512	X	8	2'-9"			PARAPET HORIZ.
R513	X	8	2'-11"			PARAPET HORIZ.

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

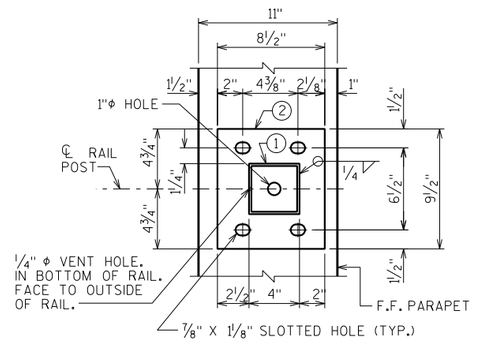


DEFLECTION JOINT DETAIL

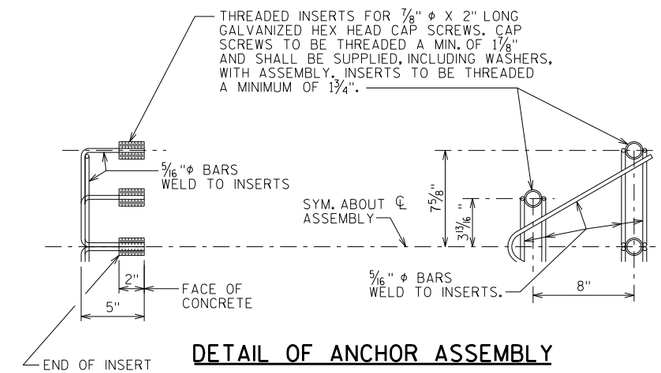
(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR PLASTIC PLATE CUT AS SHOWN BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

SECTION C-C



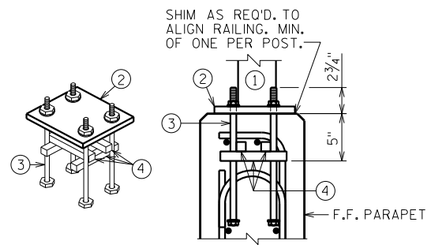
BASE PLATE



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

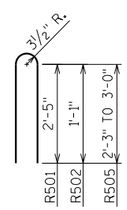


ANCHOR BOLTS FOR RAIL POSTS

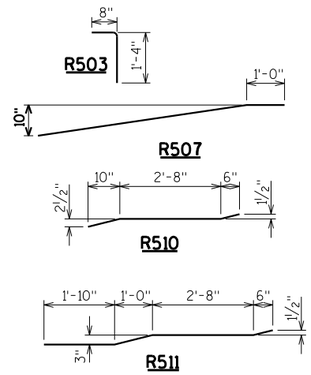
BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
R505	4 SERIES OF 7	5'-5" TO 6'-11"

BUNDLE AND TAG EACH SERIES SEPARATELY.



R501, R502, R505



WORK THIS SHEET WITH SHEET 12.

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-135

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RAILING TUBULAR TYPE PF (MOD.) DETAILS

SHEET 13 OF 13

61

8

8

8/28/2014

PENTABLE:BReau_shd_util.tbl

EARTHWORK SUMMARY (CATEGORY 0010)

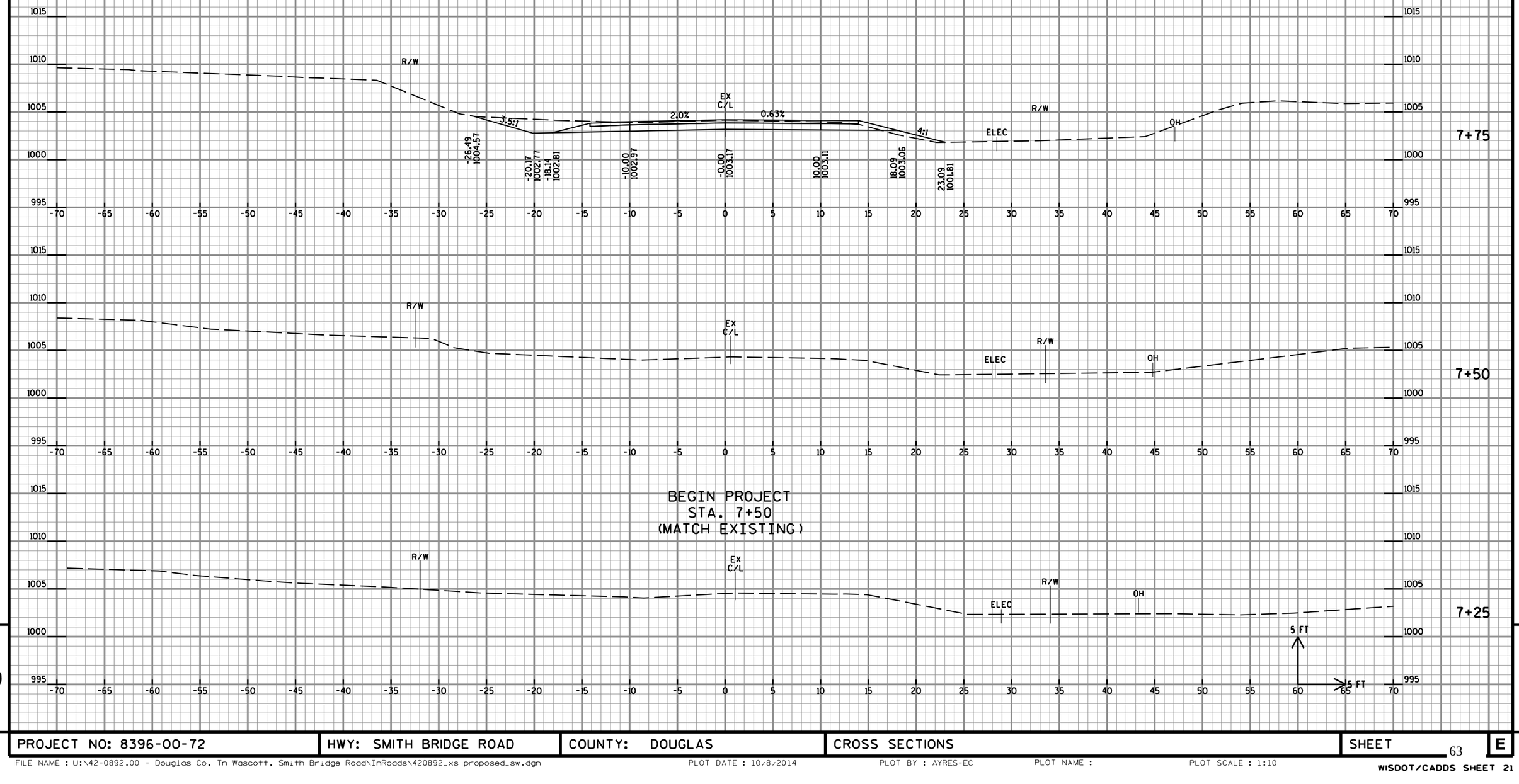
		AREA			INCREMENTAL VOLUME			CUMULATIVE VOLUME		
DIVISION	STATION	CUT SF	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL SF	FILL SF	CUT (1) CY	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY	CUT (1) 1.00 CY	EXPANDED FILL (4) 1.30 CY	MASS ORDINATE ±(5) CY
1	7+25	0	0	0	0	0	0	0	0	0
	7+50	0	0	0	18	0	1	18	1	17
Smith Bridge Road	7+75	39	0	2	40	0	10	58	14	44
	8+00	47	0	20	55	0	24	113	46	68
	8+25	73	0	31	37	0	20	150	72	79
	8+41	51	0	38	13	0	14	163	90	73
	8+50	26	0	43	14	0	49	177	153	24
	8+66	23	0	123	7	0	41	184	207	-23
	8+75	21	0	121	11	0	68	195	295	-100
	8+91	17	0	108	5	0	37	200	343	-143
	9+00	15	0	113	14	0	90	214	460	-246
	9+25	16	0	82	10	0	48	224	523	-299
	9+41	16	0	82						
	STRUCTURE (B-16-135)									
	10+59	0	0	255	0	0	148	0	192	-192
	10+75	0	0	255	0	0	257	0	527	-527
	11+00	0	0	300	0	0	99	0	655	-655
	11+09	0	0	294	0	0	186	0	897	-897
	11+25	0	0	333	0	0	114	0	1,045	-1,045
	11+34	0	0	353	0	0	210	0	1,318	-1,318
	11+50	0	0	357	0	0	89	0	1,434	-1,434
	11+57	0	0	329	0	0	58	0	1,509	-1,509
	11+62	0	0	296	3	0	125	3	1,672	-1,669
	11+75	11	0	222	5	0	151	8	1,868	-1,860
	12+00	0	0	105	3	0	53	11	1,937	-1,926
	12+25	6	0	10	11	0	5	22	1,944	-1,922
	12+50	18	0	0	21	0	0	43	1,944	-1,901
	12+75	27	0	0	13	0	0	56	1,944	-1,888
	13+00	0	0	0						
TOTALS					280	0	1,897			-2,187

205.0100 EXCAVATION COMMON = 280 **208.0100 BORROW 2187**

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.

PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

STA. 7+25 TO 7+75



PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET 63	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 8+00 TO 8+41

POST 1
LT & RT

8+41

R/W
-44.90 1008.98
2.5:1
3:1
-24.00 1003.94
-18.00 1004.18
-12.50 1004.10
-10.00 1003.73
Ex C/L
10.00 1003.73
12.50 1004.10
18.00 1004.18
24.00 1003.94
4.0%
1.5%
2.0%
2.0%
1.5%
4.0%
3:1
ELEC
R/W
-28.56 1002.44
-18.00 1003.85
-14.50 1002.64
-10.00 1002.73
0.00 1002.93
10.00 1002.73
14.50 1002.64
18.00 1003.85
37.14 999.56

8+25

R/W
-51.86 1012.45
2.5:1
3:1
-22.43 1004.03
-18.00 1004.21
-12.50 1004.13
-10.00 1003.75
Ex C/L
10.00 1003.75
12.50 1004.13
18.00 1004.21
22.43 1004.03
4.0%
1.5%
2.0%
2.0%
1.5%
4.0%
3:1
ELEC
R/W
-27.02 1002.52
-18.00 1003.88
-14.50 1002.66
-10.00 1002.75
-0.00 1002.95
10.00 1002.75
14.50 1002.66
18.00 1003.88
34.22 1000.10

8+00

R/W
-44.10 1010.48
2.5:1
3:1
-19.86 1004.17
-18.00 1004.24
-12.00 1004.18
-12.00 1003.81
-10.00 1003.85
Ex C/L
10.00 1003.85
12.00 1003.81
12.00 1004.20
18.00 1004.31
19.85 1004.19
4.0%
2.0%
2.0%
4.0%
3:1
ELEC
R/W
OH
-24.49 1002.64
-18.00 1003.91
-14.50 1002.76
-10.00 1002.85
0.00 1003.05
10.00 1002.85
14.00 1002.77
18.00 1003.93
28.38 1001.35
5 FT
5 FT

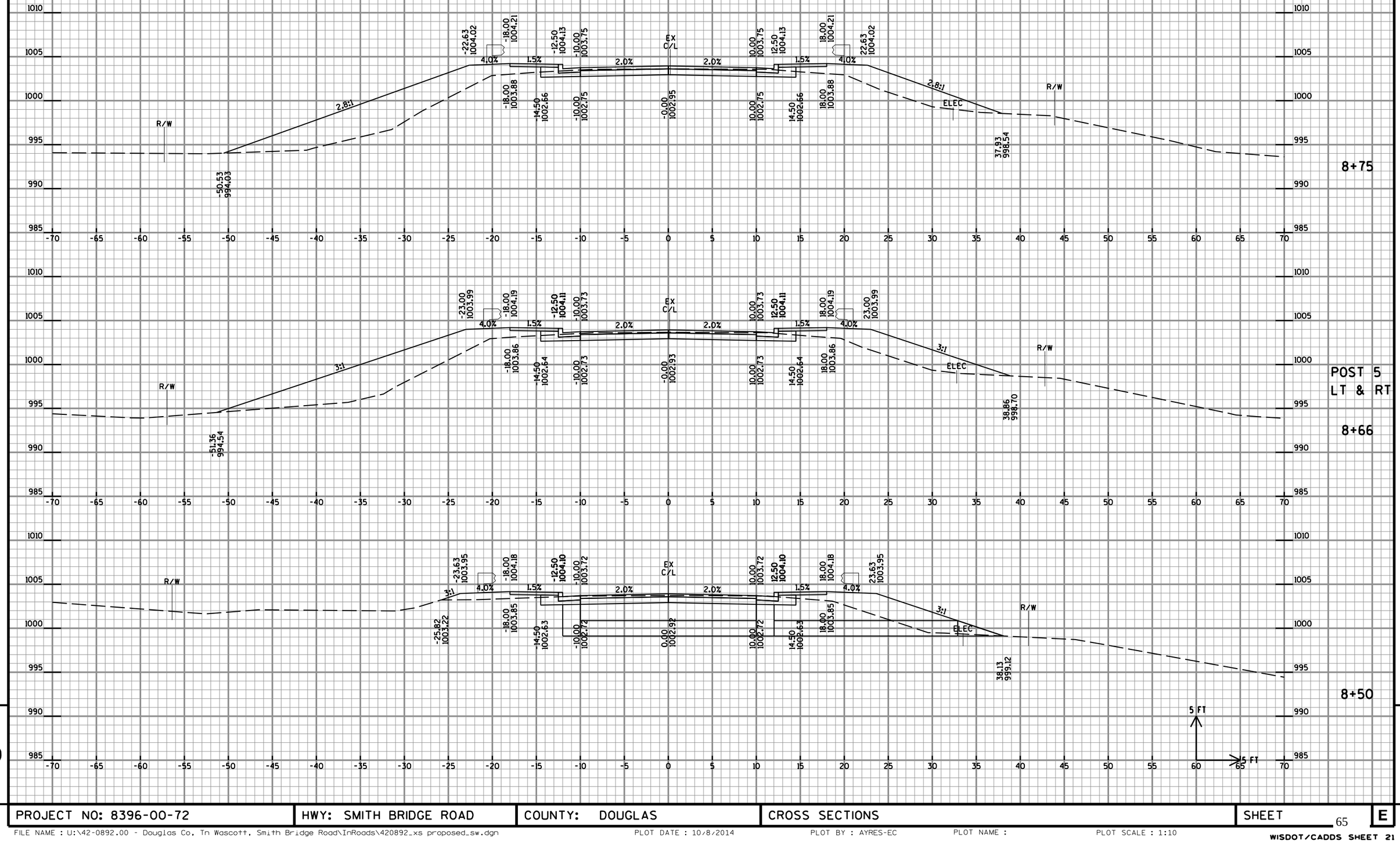
9

9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10
WISDOT/CADDS SHEET 21

STA. 8+50 TO 8+75



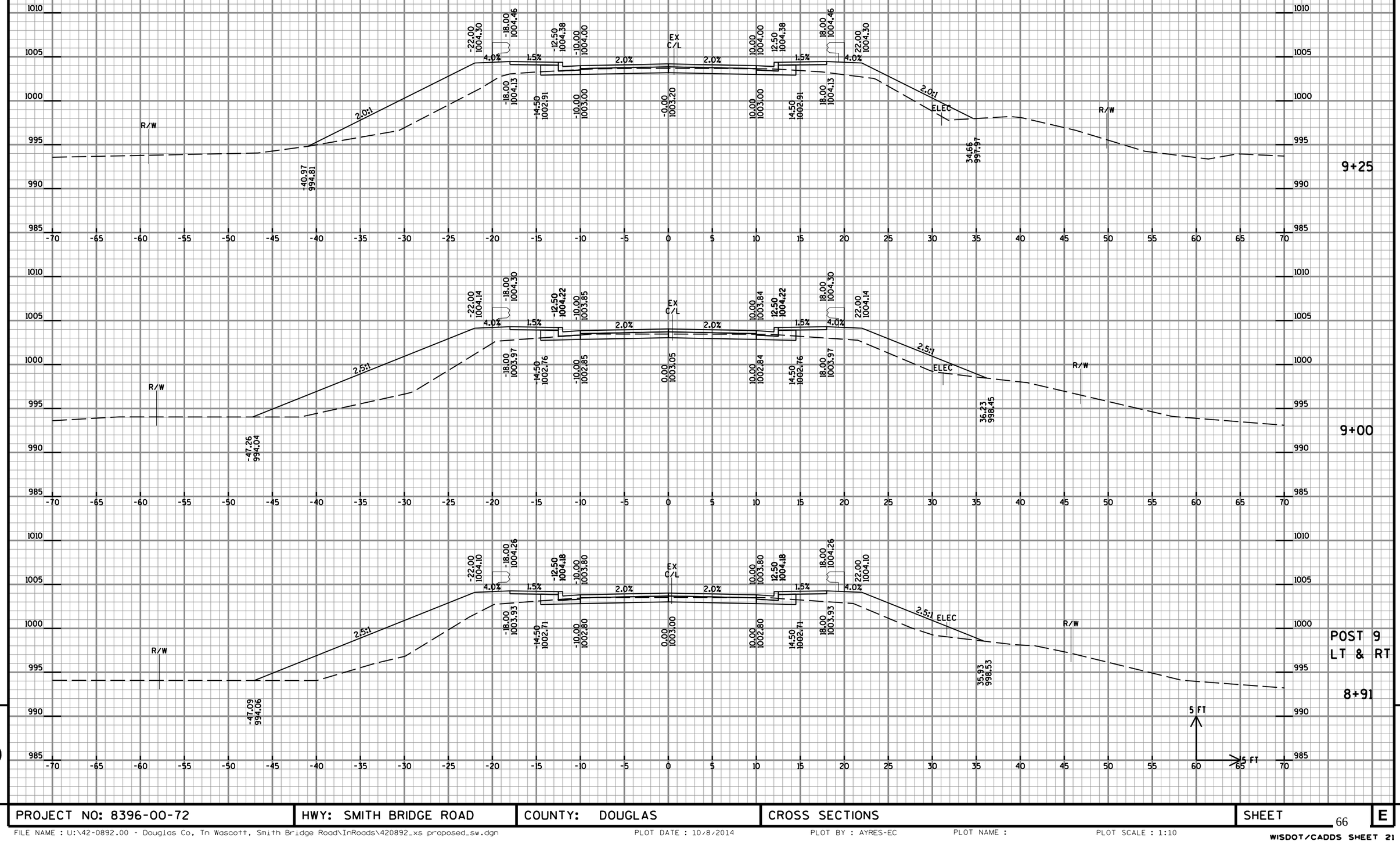
9 9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 8+91 TO 9+25



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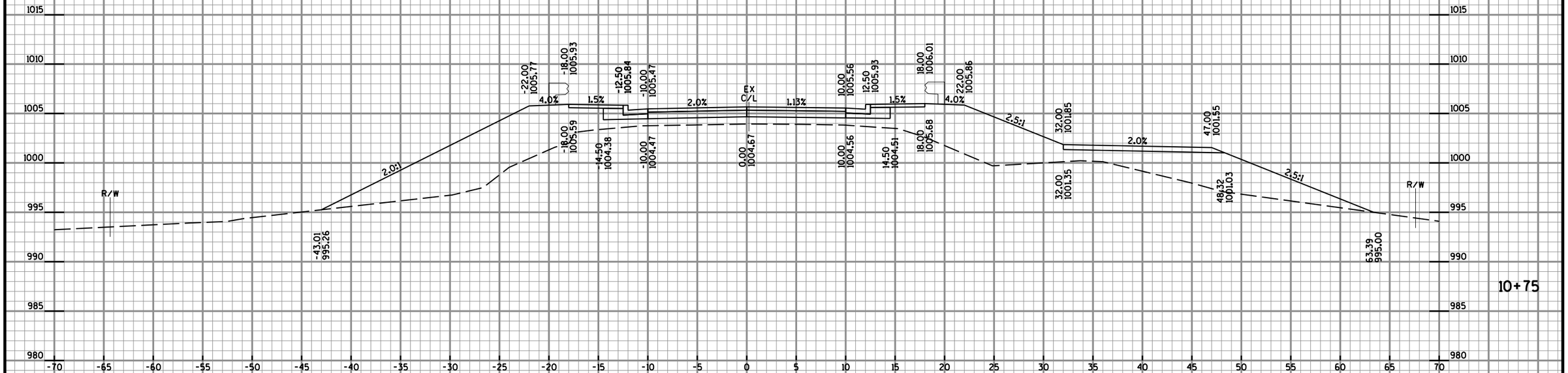
9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 10+75 TO 10+75



10+75

STRUCTURE B-16-0135

5 FT
5 FT

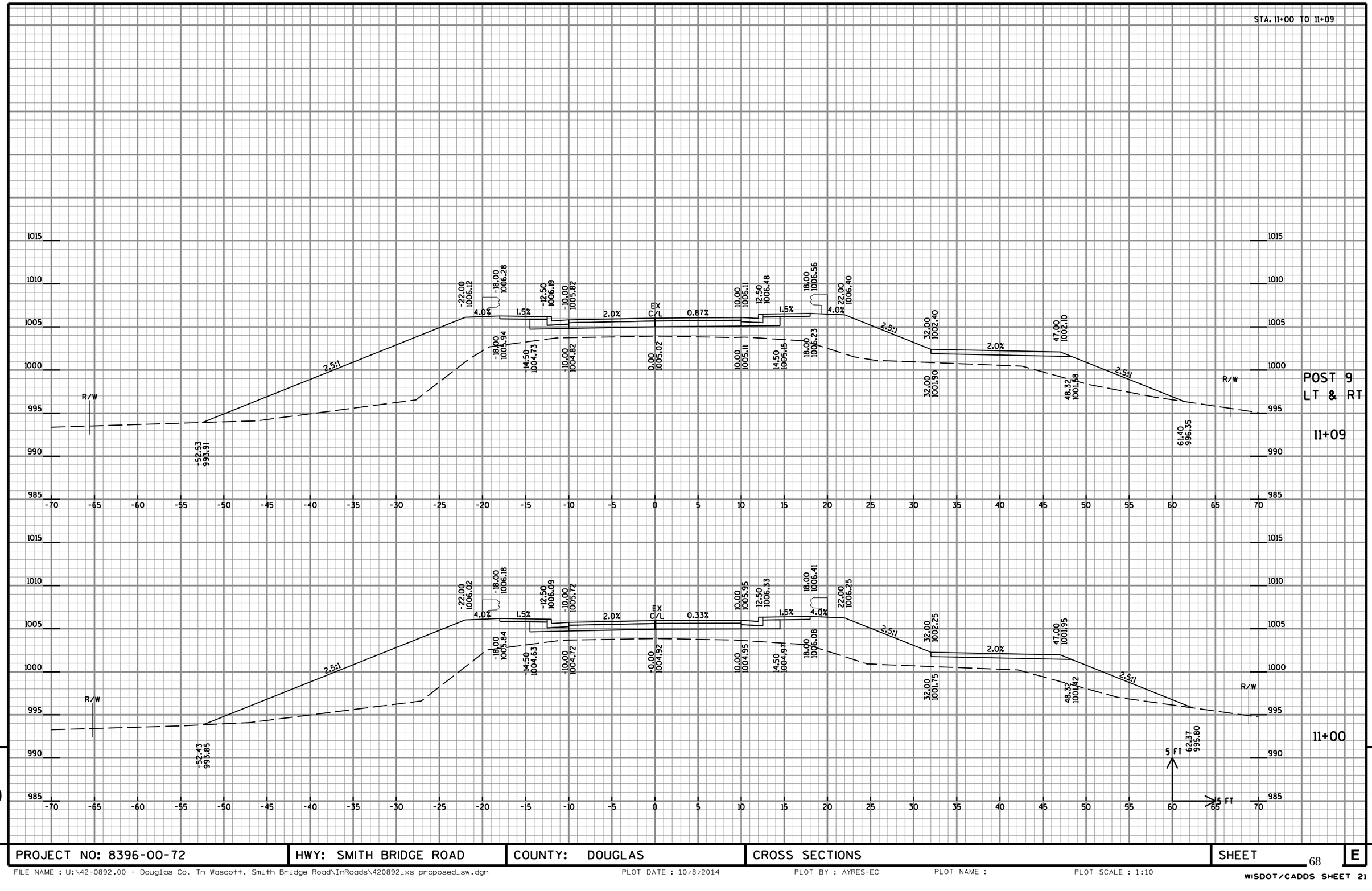
9 9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+00 TO 11+09



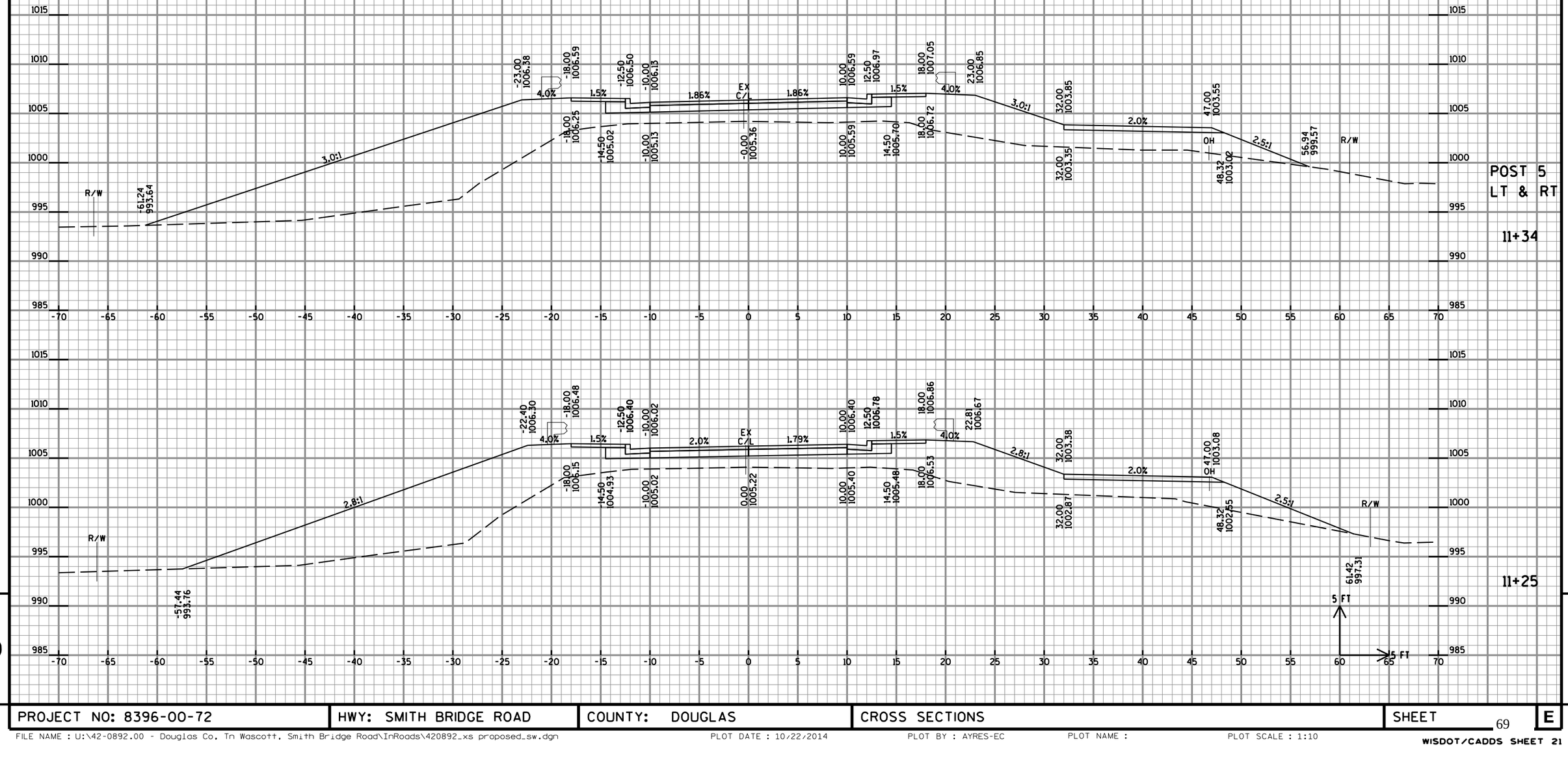
9 9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+25 TO 11+34

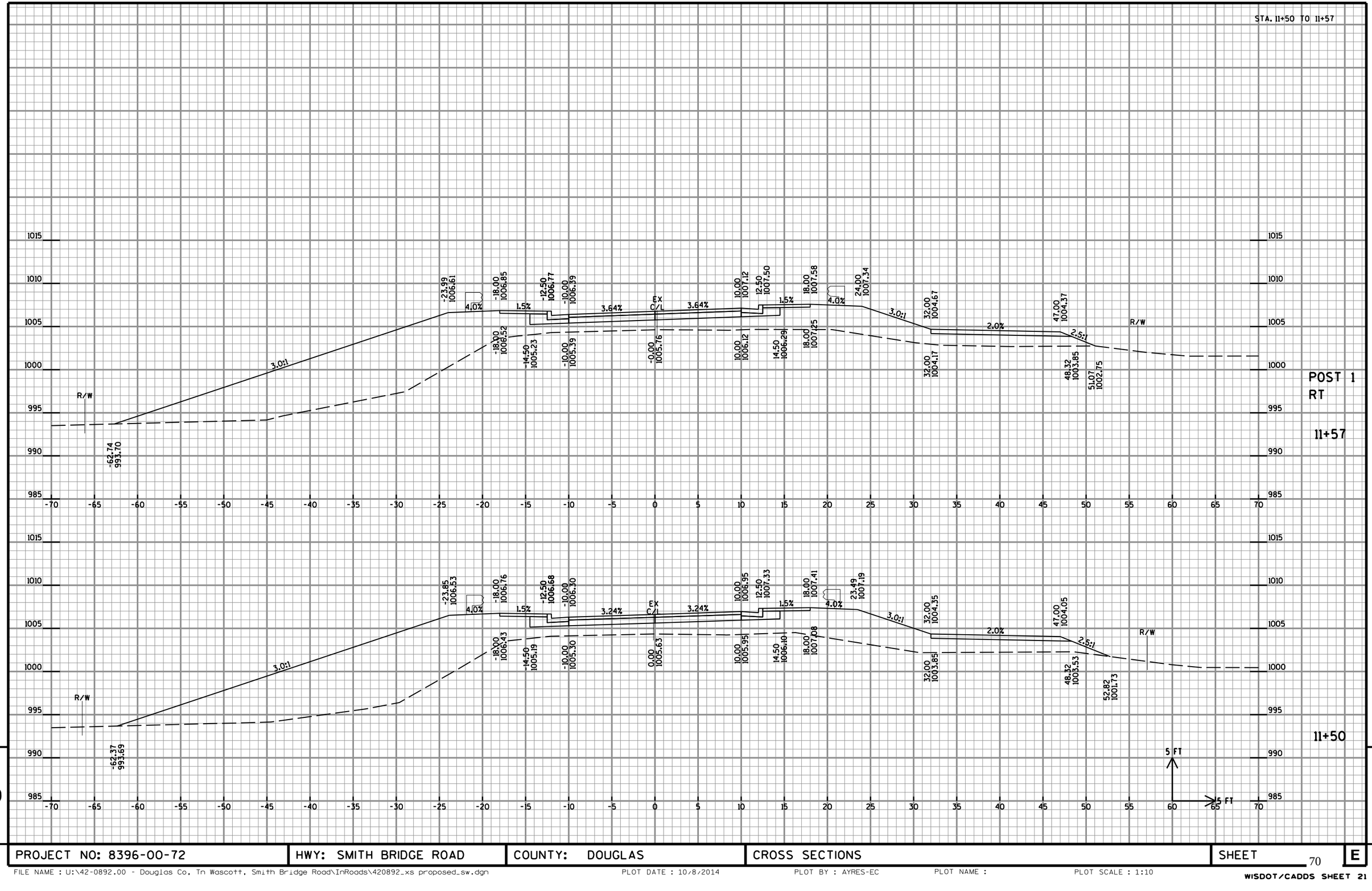


PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/22/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+50 TO 11+57



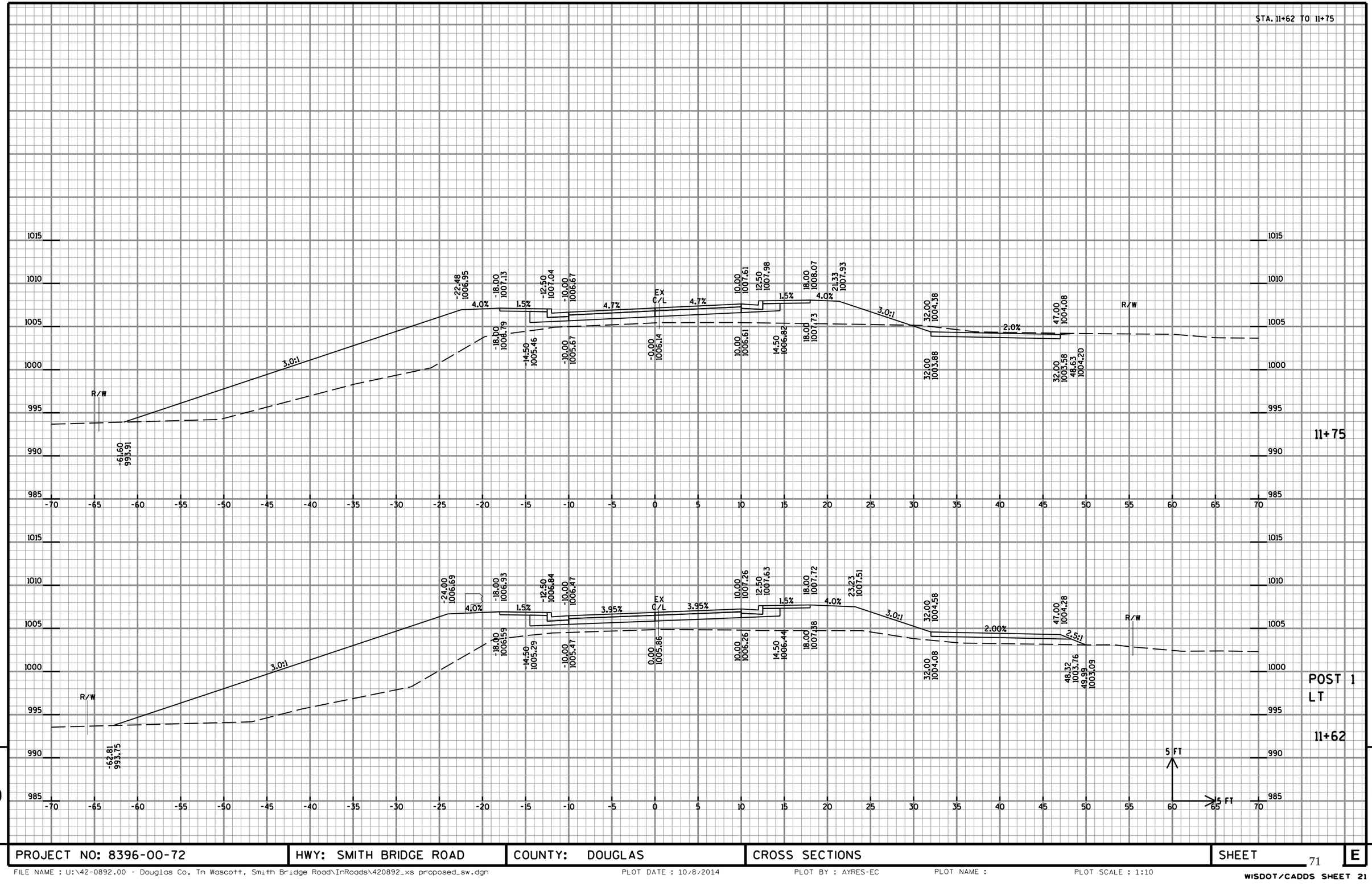
9 9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+62 TO 11+75



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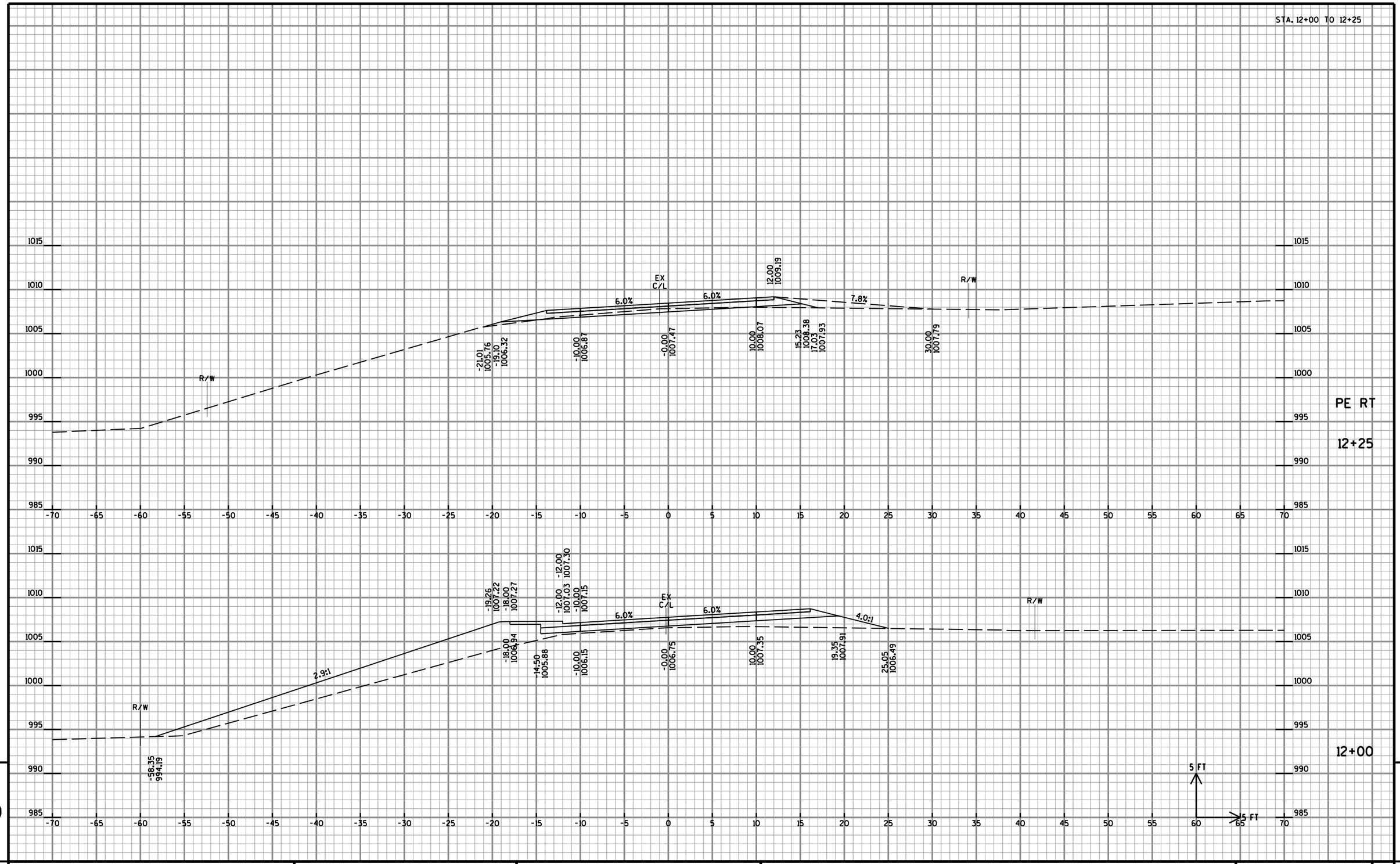
9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 12+00 TO 12+25



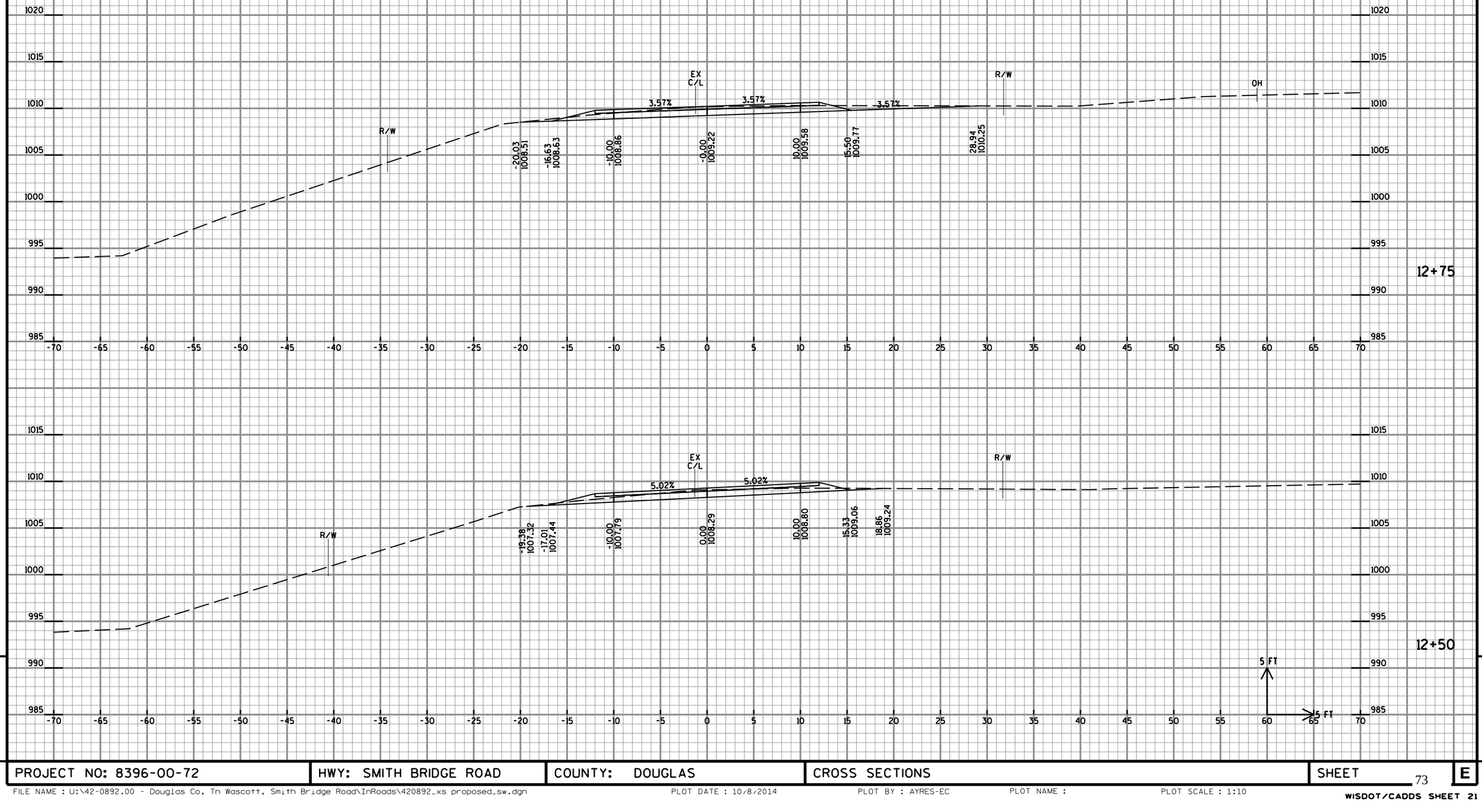
9 9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 12+50 TO 12+75



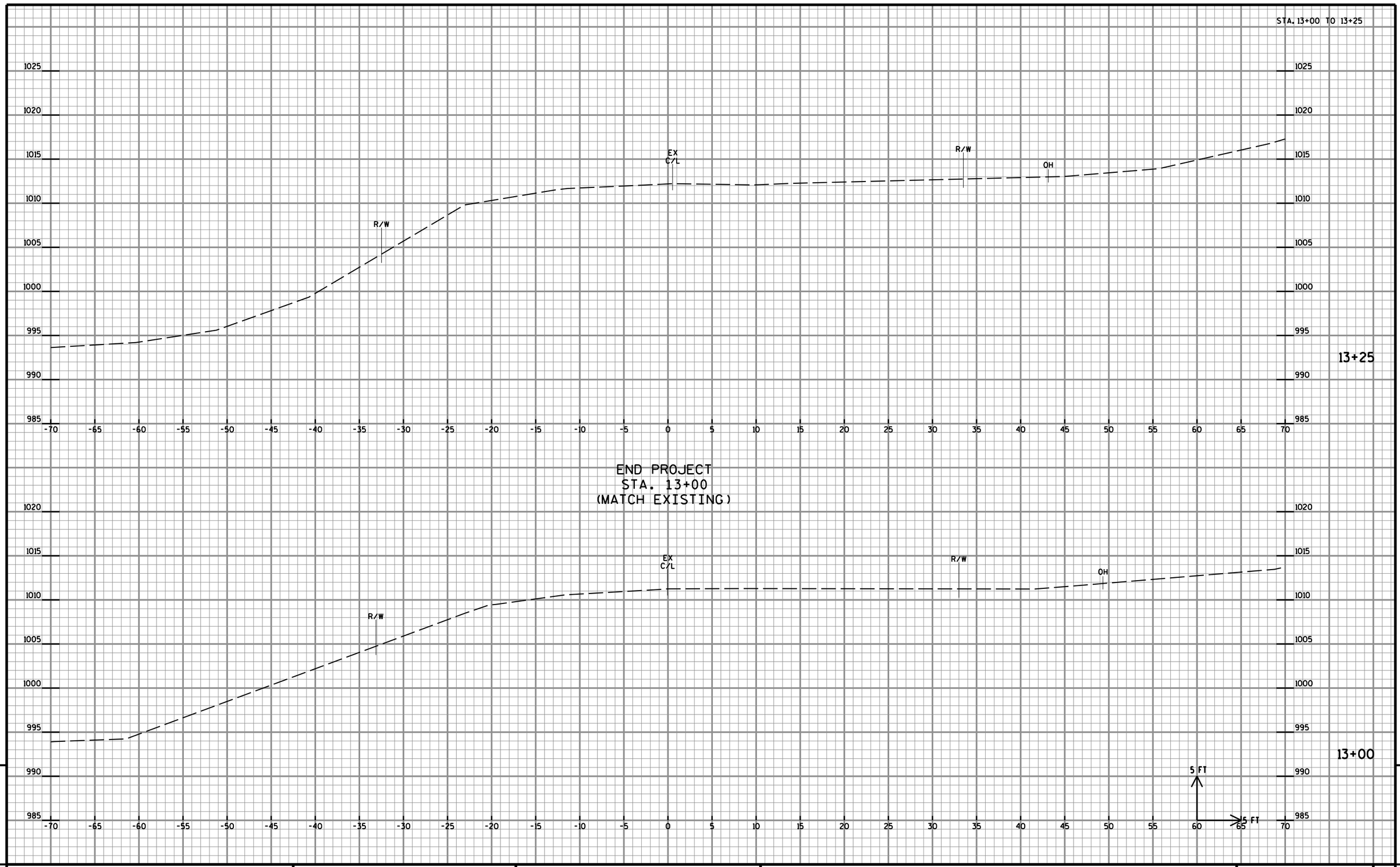
9 9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0892.00 - Douglas Co, Tn Wascott, Smith Bridge Road\InRoads\420892_xs proposed_sw.dgn PLOT DATE : 10/8/2014 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 13+00 TO 13+25



9 9

PROJECT NO: 8396-00-72	HWY: SMITH BRIDGE ROAD	COUNTY: DOUGLAS	CROSS SECTIONS	SHEET 74	E

Notes

Wisconsin Department of Transportation

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