

SWL

PROJECT ID:

5695-00-72

COUNTY:

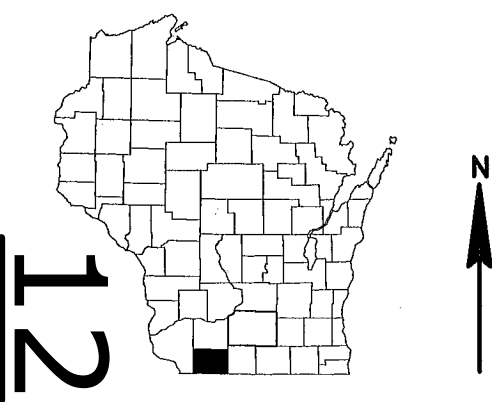
LAFAYETTE

SEPTEMBER 2017

ORDER OF SHEETS

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

TOTAL SHEETS = 52



DESIGN DESIGNATION

A.A.D.T. 2018	=	120
A.A.D.T. 2038	=	130
D.H.V.	=	5.4
D.D.	=	60/40
T.	=	2.9
DESIGN SPEED	=	25 MPH
ESALS	=	15,000

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	---
LOT LINE	---
LIMITED HIGHWAY EASEMENT	---
EXISTING RIGHT OF WAY	---
PROPOSED OR NEW R/W LINE	---
SLOPE INTERCEPT	300E
REFERENCE LINE	---
EXISTING CULVERT	---
PROPOSED CULVERT (Box or Pipe)	---
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	---
WOODED OR SHRUB AREA	---

PROFILE	
GRADE LINE	---
ORIGINAL GROUND	---
MARSH OR ROCK PROFILE (To be noted as such)	---
SPECIAL DITCH	---
GRADE ELEVATION	95.36
CULVERT (Profile View)	---
UTILITIES	
ELECTRIC	E
FIBER OPTIC	FO
GAS	G
SANITARY SEWER	SAN
STORM SEWER	SS
TELEPHONE	T
WATER	W
UTILITY PEDESTAL	---
POWER POLE	---
TELEPHONE POLE	---

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

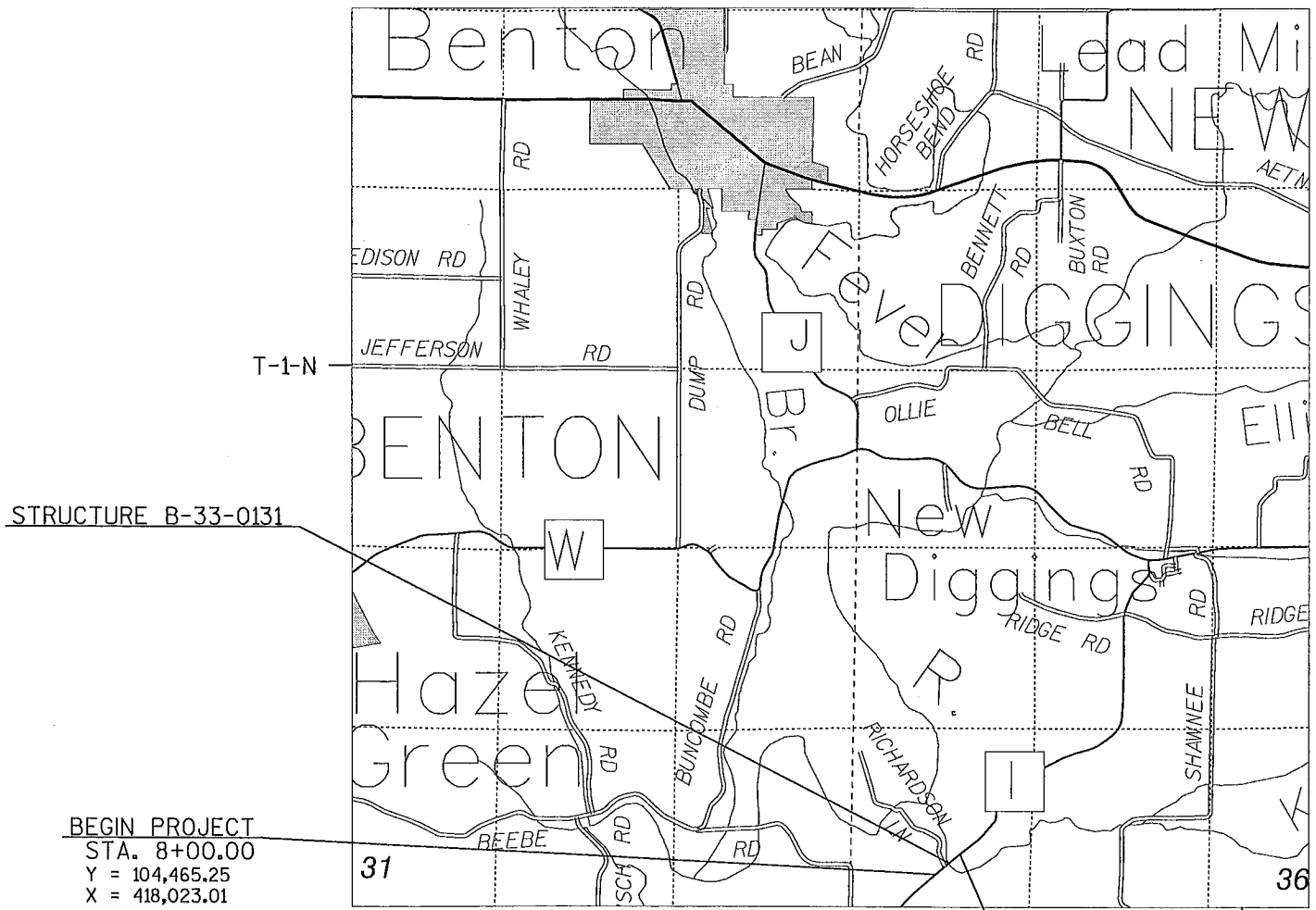
STATE LINE - STH 11

(KELSEY BRANCH BRIDGE B-33-0131)

CTH I

LAFAYETTE COUNTY

STATE PROJECT NUMBER
5695-00-72



BEGIN PROJECT
STA. 8+00.00
Y = 104,465.25
X = 418,023.01

END PROJECT R-1-E
STA. 11+20.00
Y = 104,674.27
X = 418,265.28

LAYOUT
SCALE 0 1 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.060 MILE

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, LAFAYETTE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5695-00-72	WISC 2017497	1

ACCEPTED FOR
COUNTY of LAFAYETTE

3-14-17 (Date) *Thomas R. Jean* (Highway Commissioner)

ORIGINAL PLANS PREPARED BY

WISCONSIN PROFESSIONAL ENGINEER
JAIME L. KURTEN-CHMIELEWSKI
E-42403
MADISON WI
3-14-17 (Date) *Jaime L. Kurten-Chmielewski* (Professional Engineer)

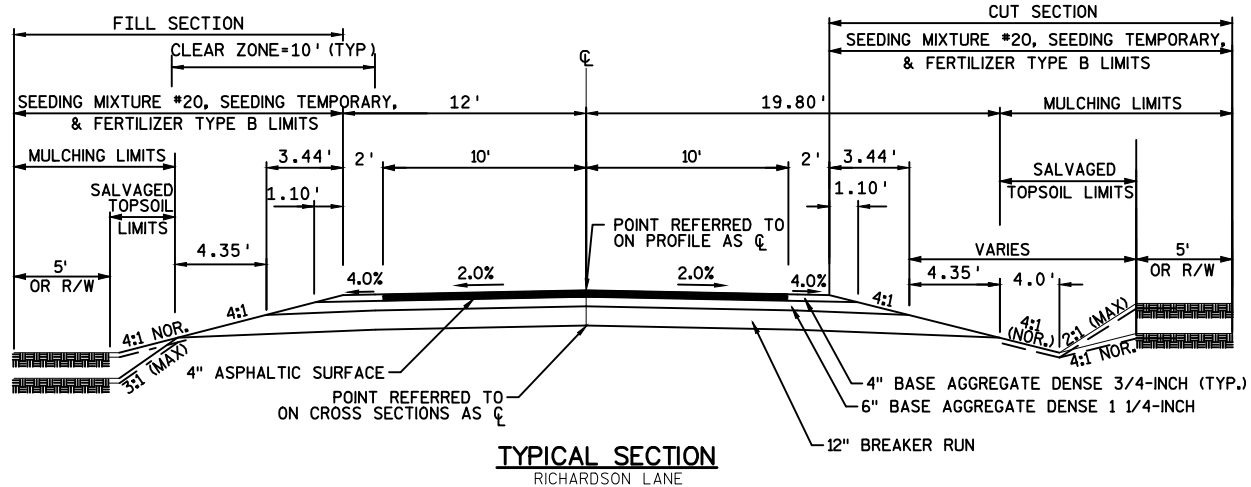
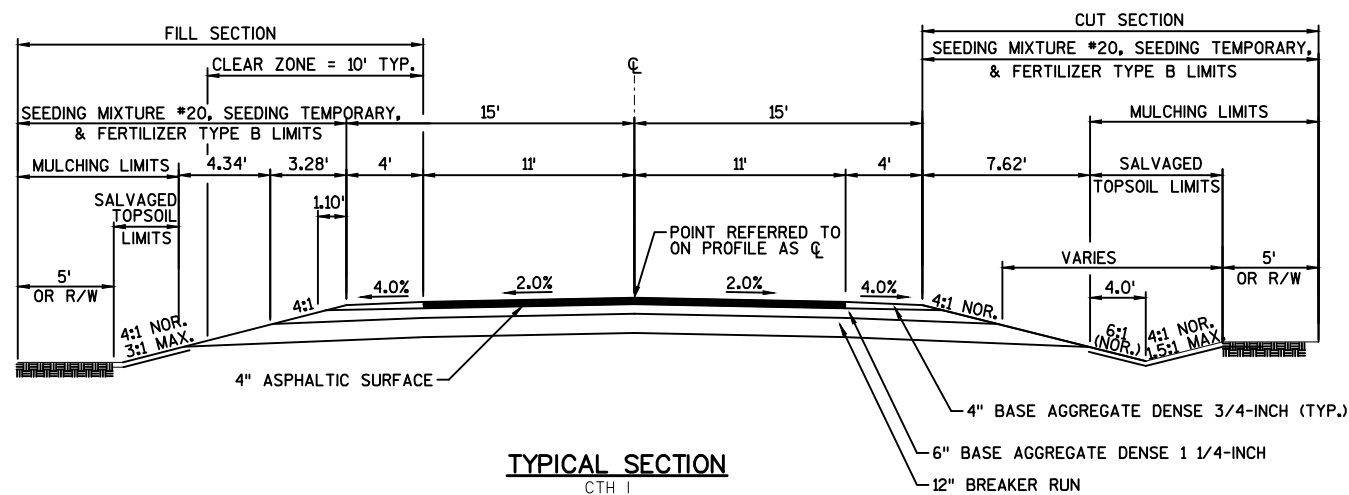
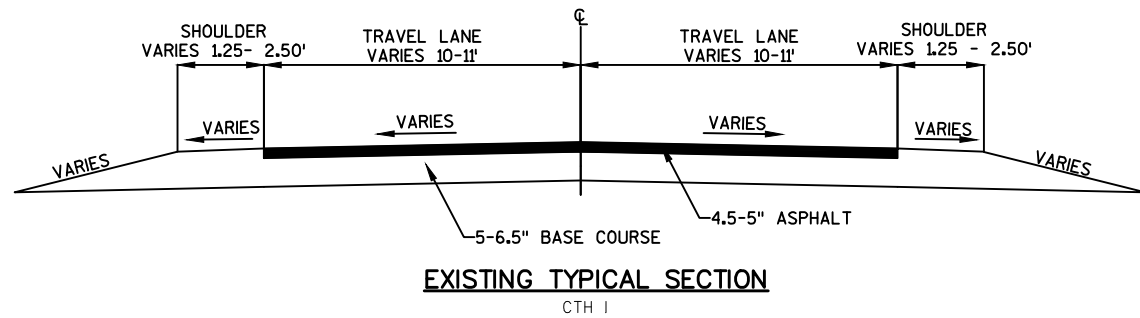
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor MSA PROFESSIONAL SERVICES, INC.
Designer MSA PROFESSIONAL SERVICES, INC.

MANAGEMENT CONSULTANT
KL ENGINEERING

APPROVED FOR THE DEPARTMENT
DATE 4/28/17 *Michael* (Management Consultant Signature)

E



DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN: JAIME KURTEN, P.E.
2901 INTERNATIONAL LANE, SUITE 300
MADISON, WI 53704-3133
PHONE: (608) 242-6619
EMAIL: JKURTEN@MSA-PS.COM

LAFAYETTE COUNTY HIGHWAY COMMISSIONER
ATTN: TOM JEAN
PO BOX 100
12016 COUNTY SHOP ROAD
DARLINGTON, WI 53530
PHONE: (608) 776-4919
EMAIL: tom.jean@lafayettecountywi.org

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
ATTN: LAURA BUB
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 275-3485
EMAIL: LAURA.BUB@WISCONSIN.GOV

UTILITIES

TELEPHONE:
CENTURYLINK
ATTN: STEVE BISHOP
130 FOURTH STREET
BARABOO, WI 53913
PHONE: (608) 355-8594
EMAIL: STEVEN.BISHOP@CENTURYLINK.COM

ELECTRIC:
SCENIC RIVERS ENERGY COOPERATIVE
ATTN: CHAD OLMSTEAD
231 N. SHERIDAN STREET
LANCASTER, WI 53813
PHONE: (608) 723-2121 (Ext 561)
EMAIL: colmsteade@SREC.NET

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS SHALL BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

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

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

THE 4" ASPHALTIC SURFACE SHALL BE CONSTRUCTED USING A 2.25" LOWER LAYER AND A 1.75" UPPER LAYER.

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

STONE OR ROCK DITCH CHECKS, IF NEEDED, SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

THE ASPHALTIC SURFACE SHALL TAPER FROM 16.25 FEET AT THE END OF THE BRIDGE TO 11.00 FEET AT 65 FEET FROM THE BRIDGE ENDS, EXCEPT AT WING 2. SEE RICHARDSON LANE INTERSECTION DETAIL FOR ADDITIONAL EDGES OF PAVEMENT LAYOUT.

RUNOFF COEFFICIENT TABLE

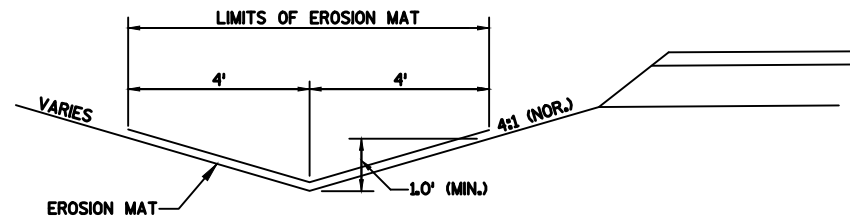
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.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 = 0.91 ACRES

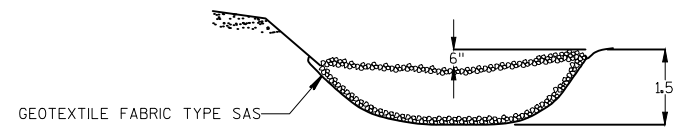
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.80 ACRES

**-DENOTES UTILITIES THAT ARE NOT
DIGGERS HOTLINE MEMBERS

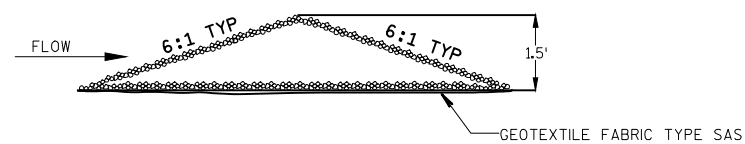
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com



EROSION MAT DITCH DETAIL

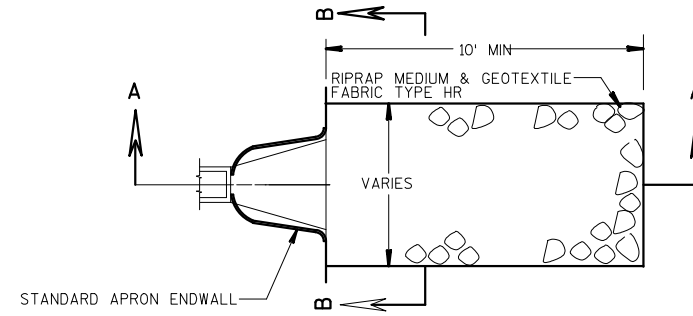


CROSS SECTIONAL VIEW

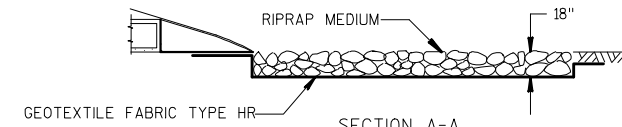


ELEVATION VIEW

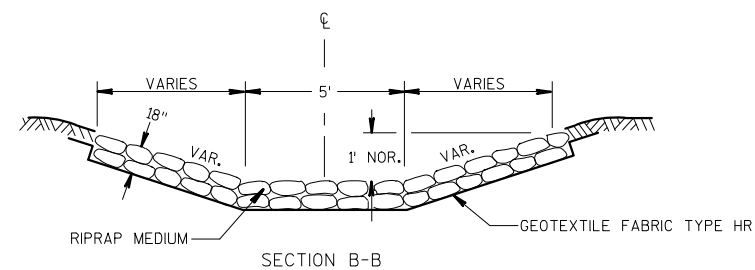
PERMANENT STONE OR ROCK DITCH CHECK DETAIL



PLAN VIEW



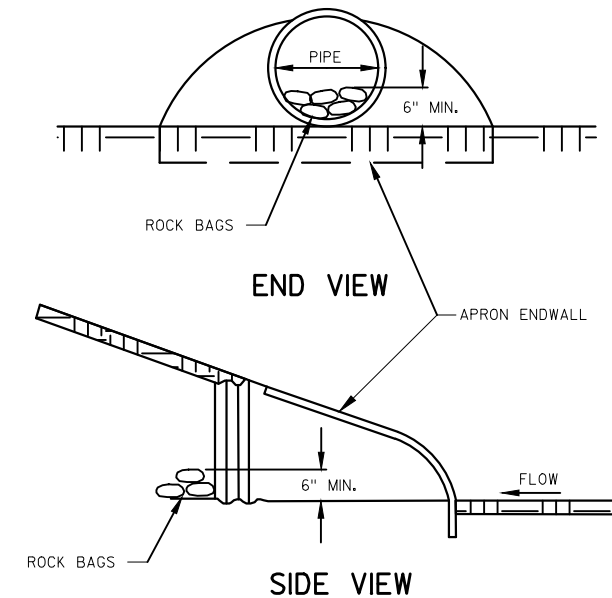
SECTION A-A



SECTION B-B

**RIPRAP MEDIUM AND GEOTEXTILE FABRIC
DETAIL AT APRON ENDWALLS**

ESTIMATED BAG SIZE = 24" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
18"	2
24"	3
30"	5
48"	10
54"	10
60"	13
72"	16



**CULVERT PIPE CHECKS
INSTALL ON INLET PIPE**

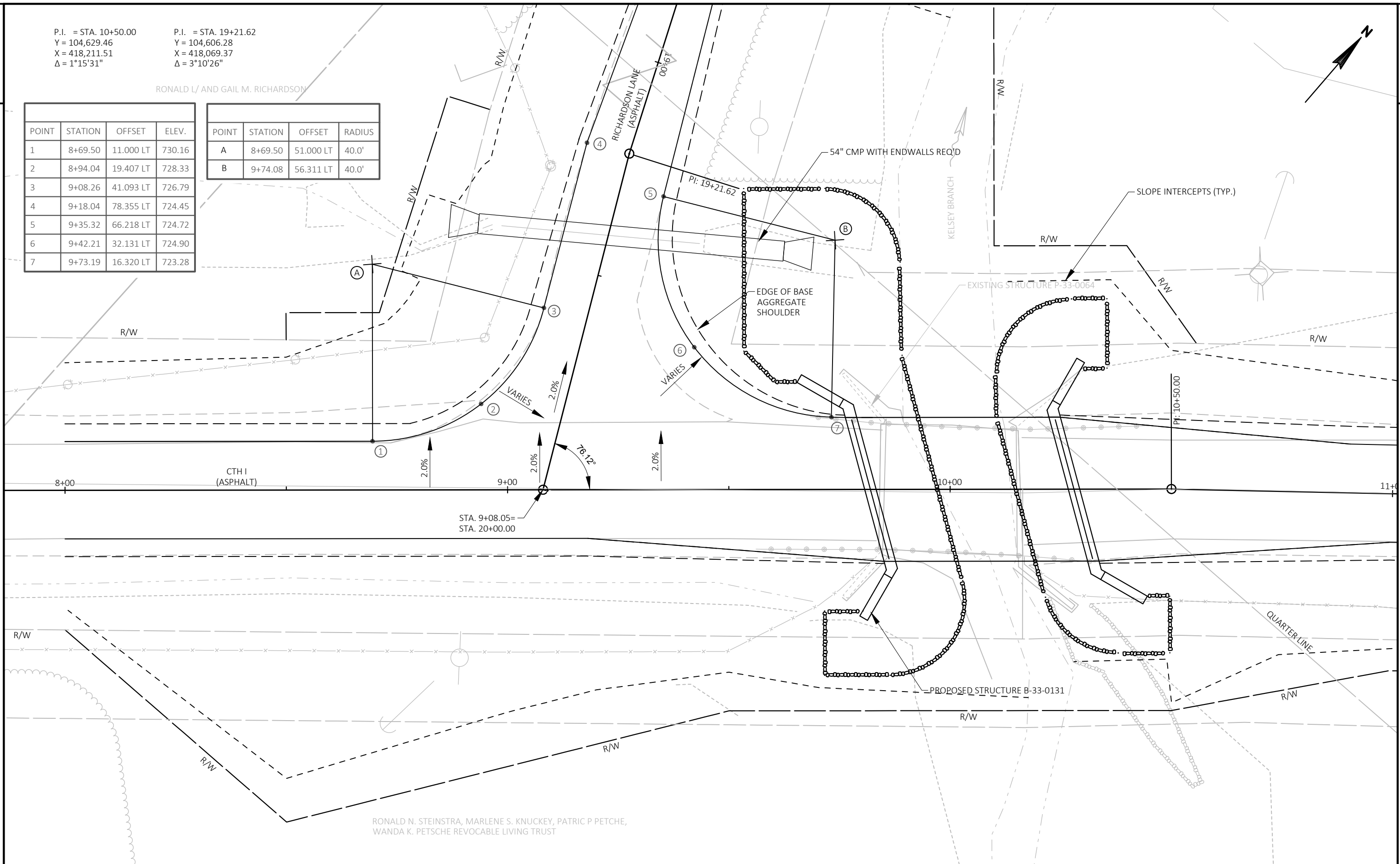
P.I. = STA. 10+50.00
Y = 104,629.46
X = 418,211.51
Δ = 1°15'31"

P.I. = STA. 19+21.62
Y = 104,606.28
X = 418,069.37
Δ = 3°10'26"

RONALD L/ AND GAIL M. RICHARDSON

POINT	STATION	OFFSET	ELEV.
1	8+69.50	11.000 LT	730.16
2	8+94.04	19.407 LT	728.33
3	9+08.26	41.093 LT	726.79
4	9+18.04	78.355 LT	724.45
5	9+35.32	66.218 LT	724.72
6	9+42.21	32.131 LT	724.90
7	9+73.19	16.320 LT	723.28

POINT	STATION	OFFSET	RADIUS
A	8+69.50	51.000 LT	40.0'
B	9+74.08	56.311 LT	40.0'



RONALD N. STEINSTR, MARLENE S. KNUCKEY, PATRIC P PETCHE,
WANDA K. PETSCHE REVOCABLE LIVING TRUST

Estimate Of Quantities

5695-00-72					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0010	205.0100	Excavation Common **p**	CY	686.000	686.000
0012	205.0200	Excavation Rock	CY	359.000	359.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-33-131	LS	1.000	1.000
0016	208.0100	Borrow	CY	144.000	144.000
0018	210.1500	Backfill Structure Type A	TON	620.000	620.000
0020	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 5695-00-72	LS	1.000	1.000
0022	213.0100	Finishing Roadway (project) 01. 5695-00-72	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	70.000	70.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	500.000	500.000
0028	311.0110	Breaker Run	TON	1,245.000	1,245.000
0030	455.0605	Tack Coat	GAL	60.000	60.000
0032	465.0105	Asphaltic Surface	TON	240.000	240.000
0034	502.0100	Concrete Masonry Bridges	CY	226.000	226.000
0036	502.3200	Protective Surface Treatment	SY	260.000	260.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	5,470.000	5,470.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	24,790.000	24,790.000
0042	513.4061	Railing Tubular Type M (structure) 01. B-33-131	LF	101.000	101.000
0044	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0046	520.1054	Apron Endwalls for Culvert Pipe 54-Inch	EACH	2.000	2.000
0048	520.3154	Culvert Pipe Class III 54-Inch	LF	70.000	70.000
0050	550.0020	Pre-Boring Rock or Consolidated Materials	LF	145.000	145.000
0052	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	197.000	197.000
0054	606.0200	Riprap Medium	CY	7.000	7.000
0056	606.0300	Riprap Heavy	CY	355.000	355.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	210.000	210.000
0060	614.0920	Salvaged Rail	LF	155.000	155.000
0062	619.1000	Mobilization	EACH	1.000	1.000
0064	624.0100	Water	MGAL	8.000	8.000
0066	625.0500	Salvaged Topsoil **p**	SY	1,225.000	1,225.000
0068	627.0200	Mulching **p**	SY	800.000	800.000
0070	628.1104	Erosion Bales	EACH	50.000	50.000
0072	628.1504	Silt Fence	LF	505.000	505.000
0074	628.1520	Silt Fence Maintenance	LF	1,010.000	1,010.000

Estimate Of Quantities

5695-00-72

Line	Item	Item Description	Unit	Total	Qty
0076	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0078	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0080	628.2006	Erosion Mat Urban Class I Type A	SY	800.000	800.000
0082	628.2027	Erosion Mat Class II Type C	SY	1,571.000	1,571.000
0084	628.6005	Turbidity Barriers	SY	165.000	165.000
0086	628.6510	Soil Stabilizer Type B	ACRE	0.500	0.500
0088	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0090	628.7515.S	Stone or Rock Ditch Checks	CY	60.000	60.000
0092	628.7555	Culvert Pipe Checks	EACH	10.000	10.000
0094	628.7560	Tracking Pads	EACH	2.000	2.000
0096	629.0210	Fertilizer Type B **p**	CWT	1.350	1.350
0098	630.0120	Seeding Mixture No. 20 **p**	LB	58.000	58.000
0100	630.0200	Seeding Temporary **p**	LB	29.000	29.000
0102	630.0300	Seeding Borrow Pit **p**	LB	2.000	2.000
0104	631.1100	Sod Erosion Control	SY	50.000	50.000
0106	633.5100	Markers Row	EACH	21.000	21.000
0108	633.5200	Markers Culvert End	EACH	2.000	2.000
0110	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0112	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	2.000	2.000
0114	637.2210	Signs Type II Reflective H	SF	12.000	12.000
0116	637.2230	Signs Type II Reflective F	SF	11.430	11.430
0118	642.5001	Field Office Type B	EACH	1.000	1.000
0120	643.0100	Traffic Control (project) 01. 5695-00-72	EACH	1.000	1.000
0122	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0124	645.0120	Geotextile Type HR	SY	672.000	672.000
0126	645.0135	Geotextile Type SR	SY	200.000	200.000
0128	645.0140	Geotextile Type SAS	SY	120.000	120.000
0130	646.0103	Pavement Marking Paint 4-Inch	LF	1,115.000	1,115.000
0132	650.4500	Construction Staking Subgrade	LF	385.000	385.000
0134	650.5000	Construction Staking Base	LF	385.000	385.000
0136	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0138	650.6500	Construction Staking Structure Layout (structure) 01. B-33-131	LS	1.000	1.000
0140	650.9910	Construction Staking Supplemental Control (project) 01. 5695-00-72	LS	1.000	1.000
0142	650.9920	Construction Staking Slope Stakes	LF	385.000	385.000
0144	690.0150	Sawing Asphalt	LF	44.000	44.000
0146	715.0502	Incentive Strength Concrete Structures	DOL	1,356.000	1,356.000

CLEARING & GRUBBING					
CATEGORY	STATION	TO STATION	LOCATION	(201.0105)	(201.0205)
				CLEARING STA	GRUBBING STA
0010	8+00	9+00	RT	1	1
	18+00	20+00	LT & RT	1	1
PROJECT TOTALS				2	2

REMOVING SMALL PIPE CULVERTS						
(203.0100)						
CATEGORY	STATION	LOCATION	TYPE	DIAMETER	LENGTH	EACH
0010	19+40	LT & RT	CMP	48-INCH	64	1
PROJECT TOTAL						1

SALVAGED RAIL				
(614.0920)				
CATEGORY	STATION	TO STATION	LOCATION	LF
0010	9+65	10+45	LT	80
	9+55	10+30	RT	75
PROJECT TOTAL				155

HMA PAVEMENT									
CATEGORY	STATION	TO STATION	LOCATION	INTERSECTION	(305.0110)	(305.0120)	(311.0110)	(455.0605)	(465.0105)
					BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	BREAKER RUN TON	TACK COAT GAL	ASPHALTIC SURFACE TON
0010	8+00	8+75	LT & RT	-	20	95	190	10	40
	8+75	9+80	LT & RT	RICHARDSON LANE	20	190	370	25	100
	10+30	11+20	LT & RT	-	15	135	255	15	60
	18+70	19+50	LT & RT	-	15	80	165	10	40
UNDISTRIBUTED					-	-	265	-	-
PROJECT TOTALS					70	500	1245	60	240

CULVERT PIPE						
CATEGORY	STATION	(520.3154)	THICKNESS		(520.1054)	(650.6000)
		CLASS III 54-INCH	STEEL	ALUM	APRON ENDWALLS FOR CULVERT PIPE 54-INCH EACH	CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	19+40	LF 70	IN 0.109	IN 0.105	2	1
PROJECT TOTALS		70				1

GEOTEXTILE TYPE SR		
CATEGORY	STATION	(645.0135)
		SY
0010	UNDISTRIBUTED	200
		200

SAWING ASPHALT			
CATEGORY	STATION	LOCATION	(690.0150)
			LF
0010	8+00	RT & LT	22
	11+20	RT & LT	22
PROJECT TOTAL			44

EARTHWORK PROJECT I.D. 5695-00-72

Division	From/To Station	Location	Excavation Common (1) (item # 205.0100)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Rock Excavation (6)	Expanded Rock (7)	Unexpanded Fill	Expanded Fill (8)	Mass Ordinate +/- (9)	Borrow	Comment:
			Cut (2)	EBS Excavation (3)			(item #205.0200)	Factor 1.10		Factor 1.25			
Project ID 5695-00-72													
1	8+00 - 9+81	CTH I - South Approach	247	0	0	247	359	395	587	240	7	7	
1	18+50 - 19+30	Richardson Lane	84	0	0	84	0	0	227	284	-200	-200	
2	10+29 - 11+20	CTH I - North Approach	205	0	0	205	0	0	125	157	49	49	
UNDISTRIBUTED EBS			0	150									
Grand Total			536	150	0	536	359	395	939	681	-144	-144	
			686										

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unsuable Pavement Material is included in Cut.
- 3) EBS Excavation to be backfilled with Breaker Run material.
- 4) Salvaged/Unusable Pavement Material
- 5) Available Material = Cut - Salvaged/Unusable Pavement Material
- 6) Rock Excavation item number 205.0200
- 7) Expanded Rock - Factor = 1.1.
- 8) Expanded Fill. Factor = 1.25
- 9) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

FINISHING ITEMS																	
				(625.0500)	(627.0200)	(628.1504)	(628.1520)	(628.2027)	(628.6005)	(629.0210)	(630.0120)	(630.0200)	(630.0300)	(628.2006)	(631.1100)	(628.1104)	(628.6510)
				SALVAGED	MULCHING	SILT	SILT FENCE	EROSION MAT	TURBIDITY	FERTILIZER	SEEDING MIXTURE	SEEDING	SEEDING	EROSION MAT URBAN	SOD EROSION	EROSION	SOIL STABILIZER
				TOPSOIL		FENCE	MAINTENANCE	CLASS II TYPE C	BARRIERS	TYPE B	NO. 20	TEMPORARY	BORROW PIT	CLASS I TYPE A	CONTROL	BALES	TYPE B
CATEGORY	STATION	TO STATION	LOCATION	SY	SY	LF	LF	SY	SY	CWT	LB	LB	LB	SY	SY	EACH	ACRE
0010	8+00	10+00	RT	500	215	-	-	920	-	0.52	22	22	-	215	-	-	0.23
	8+00	10+00	LT	125	175	130	260	-	80	0.17	7	7	-	175	-	-	0.04
	10+00	11+20	RT	120	75	35	70	216	85	0.15	7	7	-	75	-	-	0.06
	10+00	11+20	LT	90	165	145	290	-	-	0.16	7	7	-	165	-	-	0.03
	18+70	20+00	RT	170	170	95	190	-	-	0.15	6	6	-	170	-	-	0.04
	18+70	20+00	LT	220	-	50	100	436	-	0.21	9	9	-	-	-	-	0.09
UNDISTRIBUTED				-	-	50	100	-	-	-	-	-	2	0	50	50	-
PROJECT TOTALS				1,225	800	505	1,010	1,571	165	1.35	58	58	2	800	50	50	0.5

MOBILIZATIONS EROSION CONTROL			
		(628.1905)	(628.1910)
		MOBILIZATION	EMERGENCY
		EROSION CONTROL	EROSION CONTROL
CATEGORY	DESCRIPTION	EACH	EACH
0010	PROJECT 5695-00-72	4	2
PROJECT TOTALS		4	2

TRACKING PADS		
		(628.7560)
CATEGORY	STATION	EACH
0010	8+00	1
	11+20	1
		2

WATER		
		(624.0100)
CATEGORY	DESCRIPTION	MGAL
0010	DUST CONTROL	2
	COMPACTION	6
PROJECT TOTALS		8

MARKERS CULVERT END			
			(633.5200)
CATEGORY	STATION	LOCATION	EACH
0010	19+40	RT	1
	19+40	LT	1
PROJECT TOTALS			2

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

CONVENTIONAL SYMBOLS	
FOUND IRON PIPE/PIN	1/2" (1" UNLESS NOTED)
R/W MONUMENT	• (SET)
R/W STANDARD	Δ (SET)
SIGN	ISGN
SECTION CORNER MONUMENT	•
SECTION CORNER SYMBOL	⊕
FEE (HATCH VARIES)	1/2" (1" UNLESS NOTED)
TEMPORARY LIMITED EASEMENT	1/2" (1" UNLESS NOTED)
PERMANENT LIMITED EASEMENT	1/2" (1" UNLESS NOTED)
R/W BOUNDARY POINT	1/2" (1" UNLESS NOTED)
PARCEL NUMBER	102
UTILITY INTEREST	40
SIGN NUMBER (OFF PREMISE)	21
BUILDING	1/2" (1" UNLESS NOTED)

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	
POWER POLE	Δ
TELEPHONE POLE	Δ
TELEPHONE PEDESTAL	X
ELECTRIC TOWER	⊕

NOTES:

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

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

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

EXISTING RIGHT-OF-WAY OF CTH 1 IS BASED ON PREVIOUS PROJECT 83E-110, THE EXISTING CENTERLINE AND STATE STATUTE 82.31.

EXISTING RIGHT-OF-WAY OF RICHARDSON ROAD IS BASED ON THE EXISTING CENTERLINE AND STATE STATUTE 82.31.

ALL STATION/OFFSET DATA IS REFERENCED TO THE MAINLINE ALIGNMENT (CTH 1).

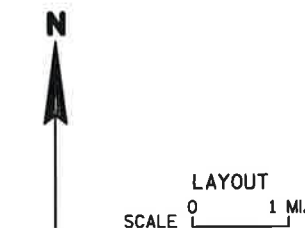


BEGIN RELOCATION
ORDER STA.7+50.00

Y = 104,432.403
X = 417,985.307
APPROXIMATELY 1131 FEET NORTH OF AND
1 FEET EAST OF THE SOUTH 1/4 CORNER
OF SECTION 34, T-1-N, R-1-E,
TOWN OF NEW DIGGINGS, LAFAYETTE COUNTY, WI.

END RELOCATION
ORDER STA.11+25.00

Y = 104,677.475
X = 418,269.127
APPROXIMATELY 1376 FEET NORTH OF AND
285 FEET EAST OF THE SOUTH 1/4 CORNER
OF SECTION 34, T-1-N, R-1-E,
TOWN OF NEW DIGGINGS, LAFAYETTE COUNTY, WI.



TOTAL NET LENGTH OF CENTERLINE = 0.071 MI.

R/W PROJECT NUMBER	5695-00-01	SHEET NUMBER	TOTAL SHEETS
FEDERAL PROJECT NUMBER		4.01	2
PLAT OF RIGHT-OF-WAY REQUIRED FOR			
STATE LINE - STH 11			
(KELSEY BRANCH BRIDGE B-33-0131)			
CTH 1		LAFAYETTE CO.	
CONSTRUCTION PROJECT NUMBER			
5695-00-72			

ACCEPTED FOR

COUNTY of LAFAYETTE

(Date) (COUNTY HIGHWAY COMMISSIONER)

ORIGINAL PLAT PREPARED BY

MSA

PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL • REMEDIATION
DEVELOPMENT • ENVIRONMENTAL

2901 International Lane, Suite 300 Madison, WI 53704-3133
608-242-7779 1-800-448-0879 Fax: 608-242-5684



02/14/17
(DATE)

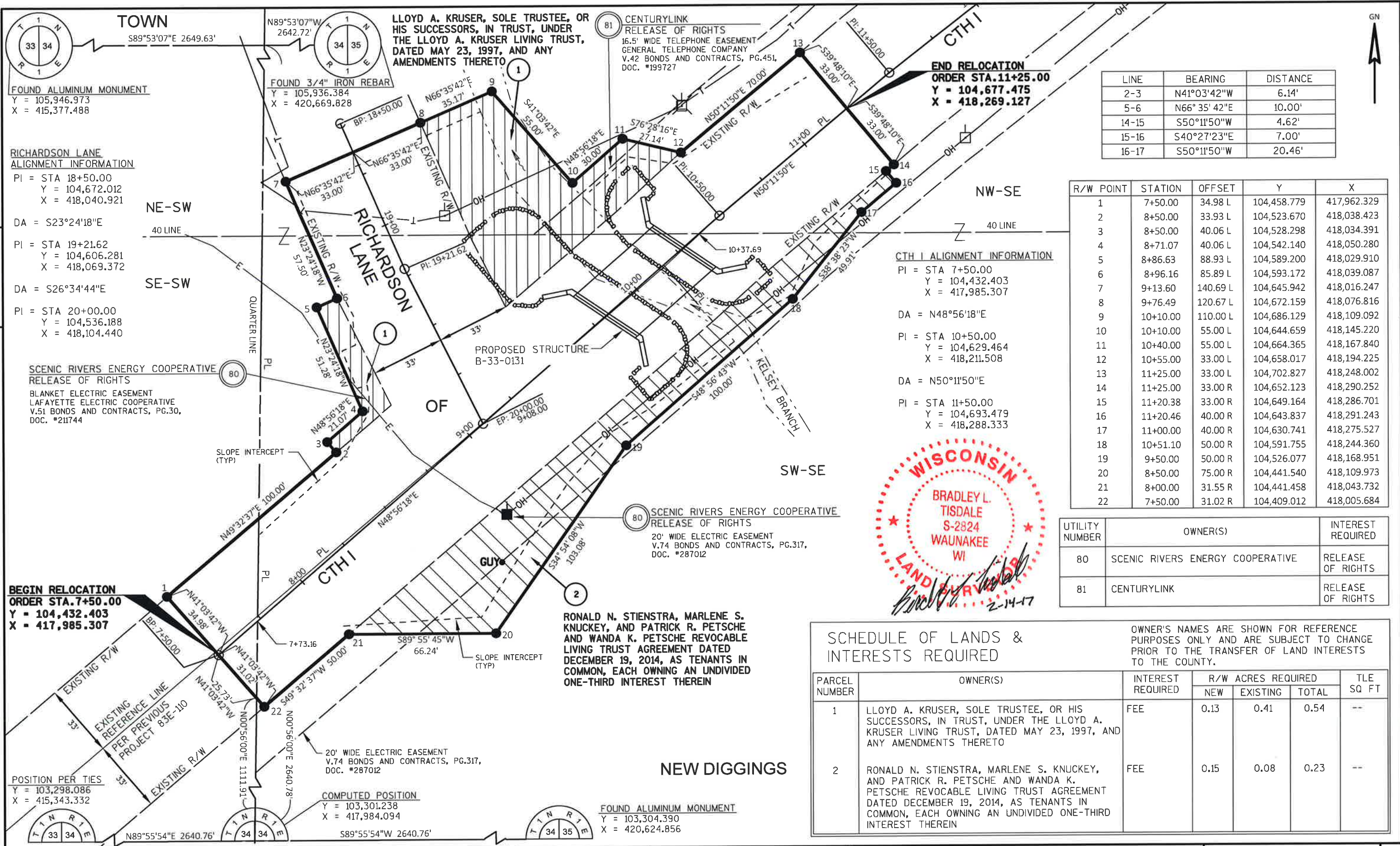
Bradley L. Tisdale
(Professional Land Surveyor)



REVISION DATE				

DATE 02/14/17

GRID FACTOR NA



LINE	BEARING	DISTANCE
2-3	N41°03'42"W	6.14'
5-6	N66°35'42"E	10.00'
14-15	S50°11'50"W	4.62'
15-16	S40°27'23"E	7.00'
16-17	S50°11'50"W	20.46'

R/W POINT	STATION	OFFSET	Y	X
1	7+50.00	34.98 L	104,458.779	417,962.329
2	8+50.00	33.93 L	104,523.670	418,038.423
3	8+50.00	40.06 L	104,528.298	418,034.391
4	8+71.07	40.06 L	104,542.140	418,050.280
5	8+86.63	88.93 L	104,589.200	418,029.910
6	8+96.16	85.89 L	104,593.172	418,039.087
7	9+13.60	140.69 L	104,645.942	418,016.247
8	9+76.49	120.67 L	104,672.159	418,076.816
9	10+10.00	110.00 L	104,686.129	418,109.092
10	10+10.00	55.00 L	104,644.659	418,145.220
11	10+40.00	55.00 L	104,664.365	418,167.840
12	10+55.00	33.00 L	104,658.017	418,194.225
13	11+25.00	33.00 L	104,702.827	418,248.002
14	11+25.00	33.00 R	104,652.123	418,290.252
15	11+20.38	33.00 R	104,649.164	418,286.701
16	11+20.46	40.00 R	104,643.837	418,291.243
17	11+00.00	40.00 R	104,630.741	418,275.527
18	10+51.10	50.00 R	104,591.755	418,244.360
19	9+50.00	50.00 R	104,526.077	418,168.951
20	8+50.00	75.00 R	104,441.540	418,109.973
21	8+00.00	31.55 R	104,441.458	418,043.732
22	7+50.00	31.02 R	104,409.012	418,005.684

UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
80	SCENIC RIVERS ENERGY COOPERATIVE	RELEASE OF RIGHTS
81	CENTURYLINK	RELEASE OF RIGHTS

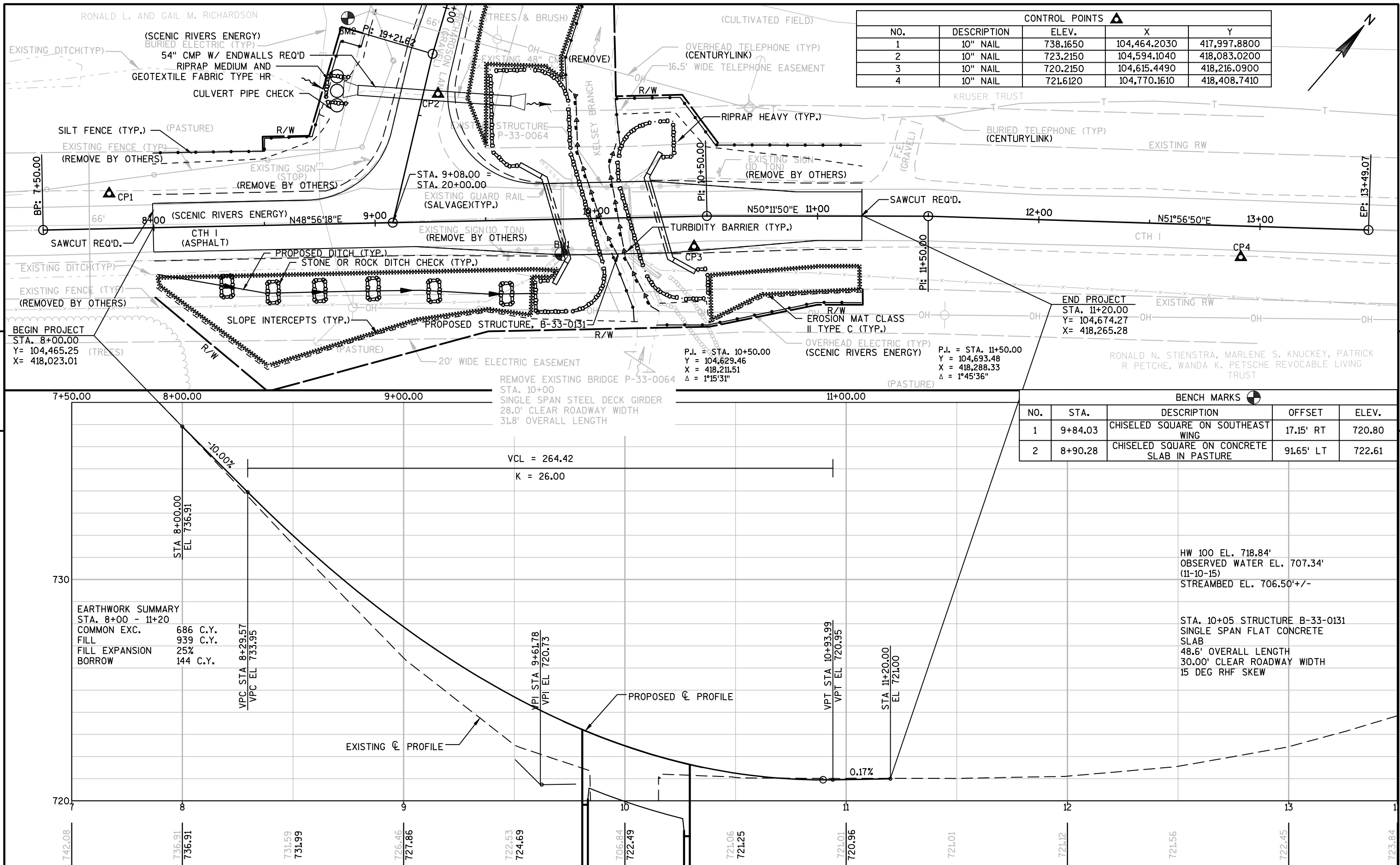


SCHEDULE OF LANDS & INTERESTS REQUIRED

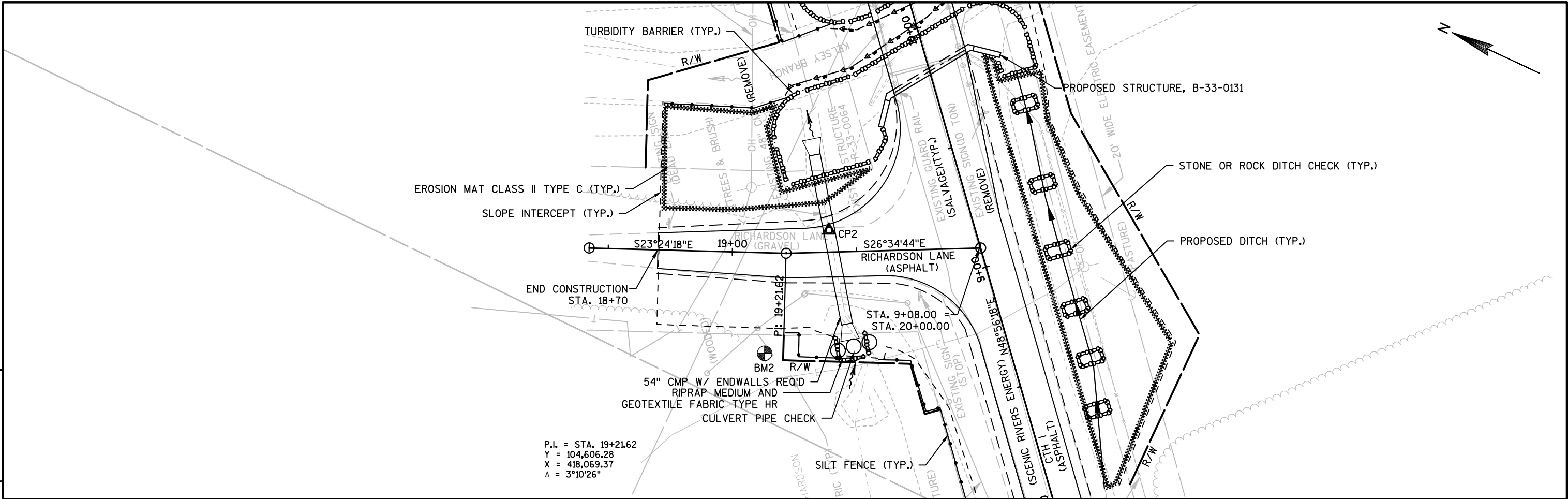
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED			TLE SQ FT
			NEW	EXISTING	TOTAL	
1	LLOYD A. KRUSER, SOLE TRUSTEE, OR HIS SUCCESSORS, IN TRUST, UNDER THE LLOYD A. KRUSER LIVING TRUST, DATED MAY 23, 1997, AND ANY AMENDMENTS THERETO	FEE	0.13	0.41	0.54	--
2	RONALD N. STIENSTRA, MARLENE S. KNUCKEY, AND PATRICK R. PETSCH AND WANDA K. PETSCH REVOCABLE LIVING TRUST AGREEMENT DATED DECEMBER 19, 2014, AS TENANTS IN COMMON, EACH OWNING AN UNDIVIDED ONE-THIRD INTEREST THEREIN	FEE	0.15	0.08	0.23	--

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

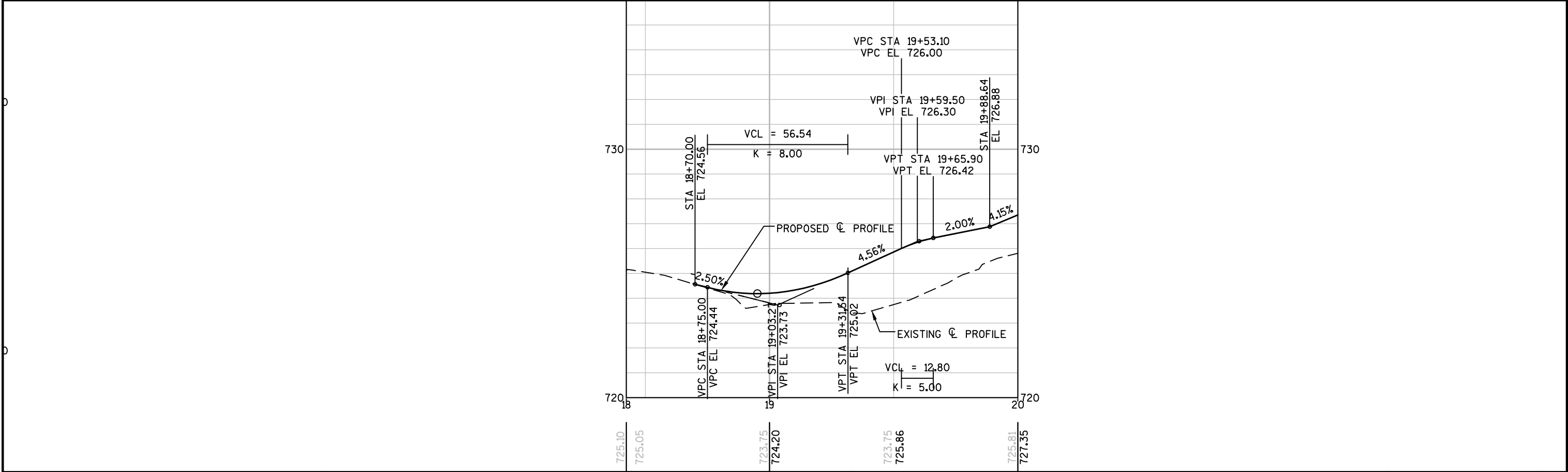
REVISION DATE	DATE 02/14/17	SCALE, FEET	HWY: CTH I	STATE R/W PROJECT NUMBER 5695-00-01	PLAT SHEET 4.02
	GRID FACTOR	0 20 40	COUNTY: LAFAYETTE	CONSTRUCTION PROJECT NUMBER 5695-00-72	PS&E SHEET



5



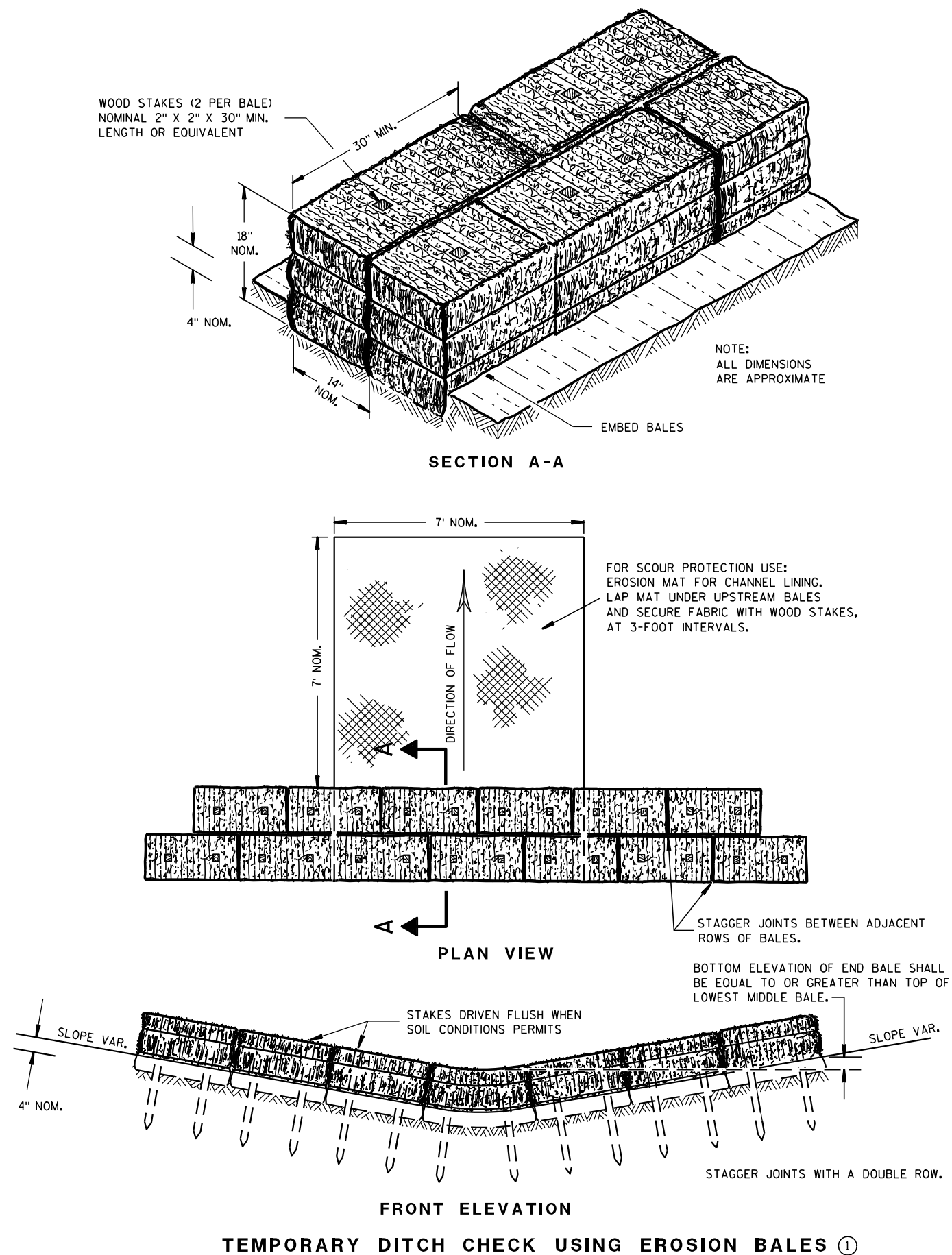
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PROJECT NO: 5695-00-72	HWY: CTH I	COUNTY: LAFAYETTE	PLAN AND PROFILE: RICHARDSON LANE	SHEET	E
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Standard Detail Drawing List

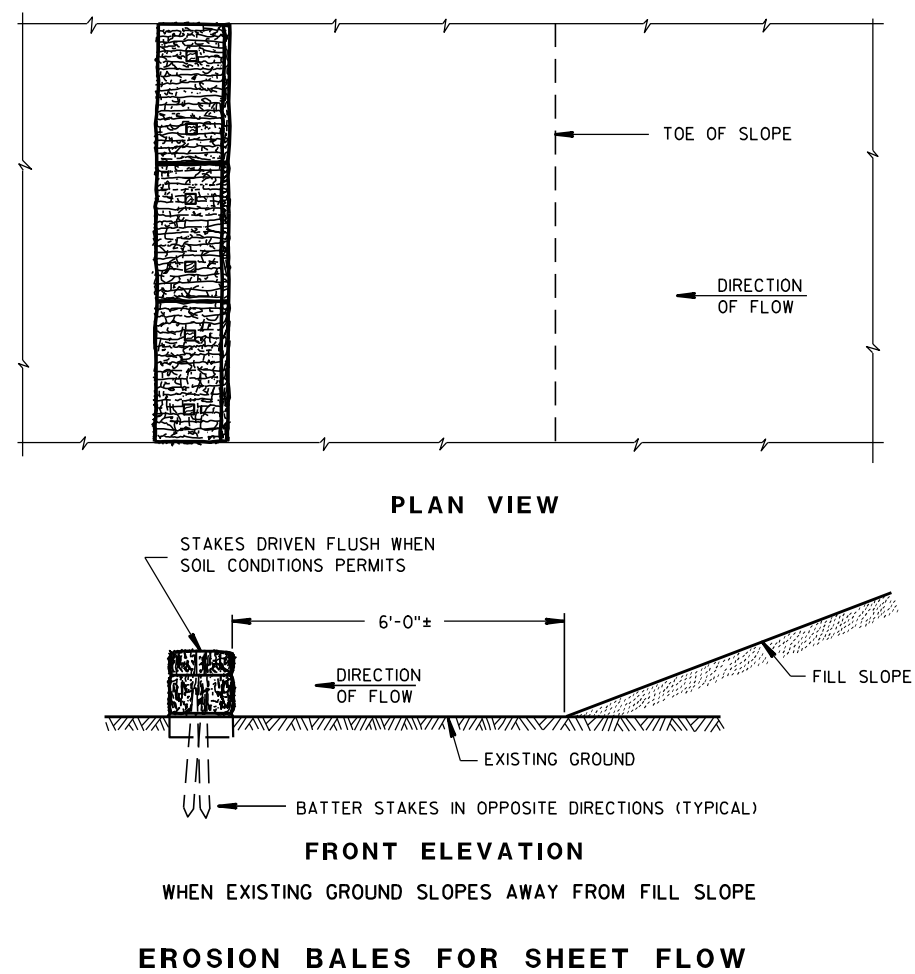
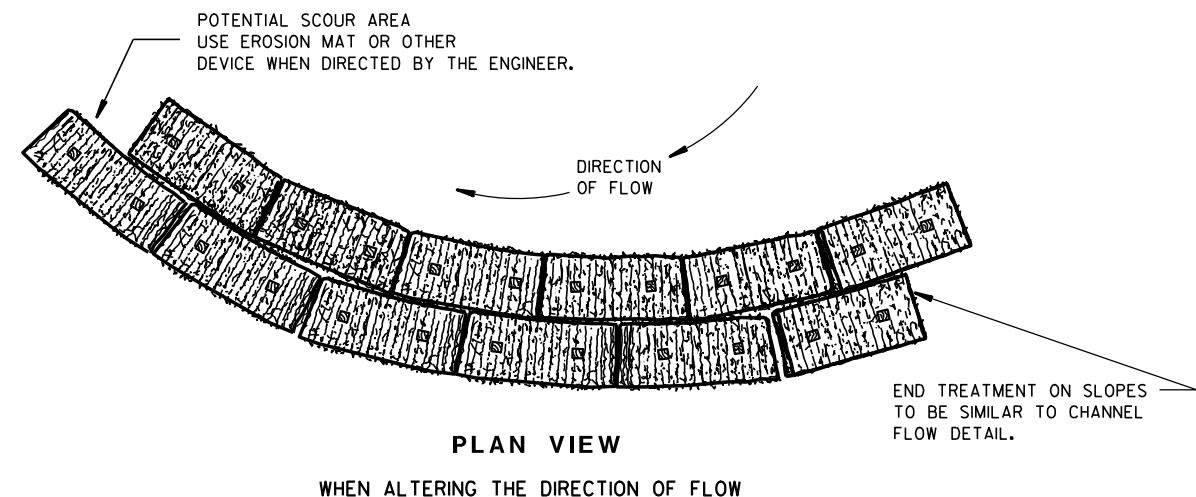
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
12A03-10	NAME PLATE (STRUCTURES)
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C35-01A	PAVEMENT MARKING (INTERSECTIONS)



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.



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

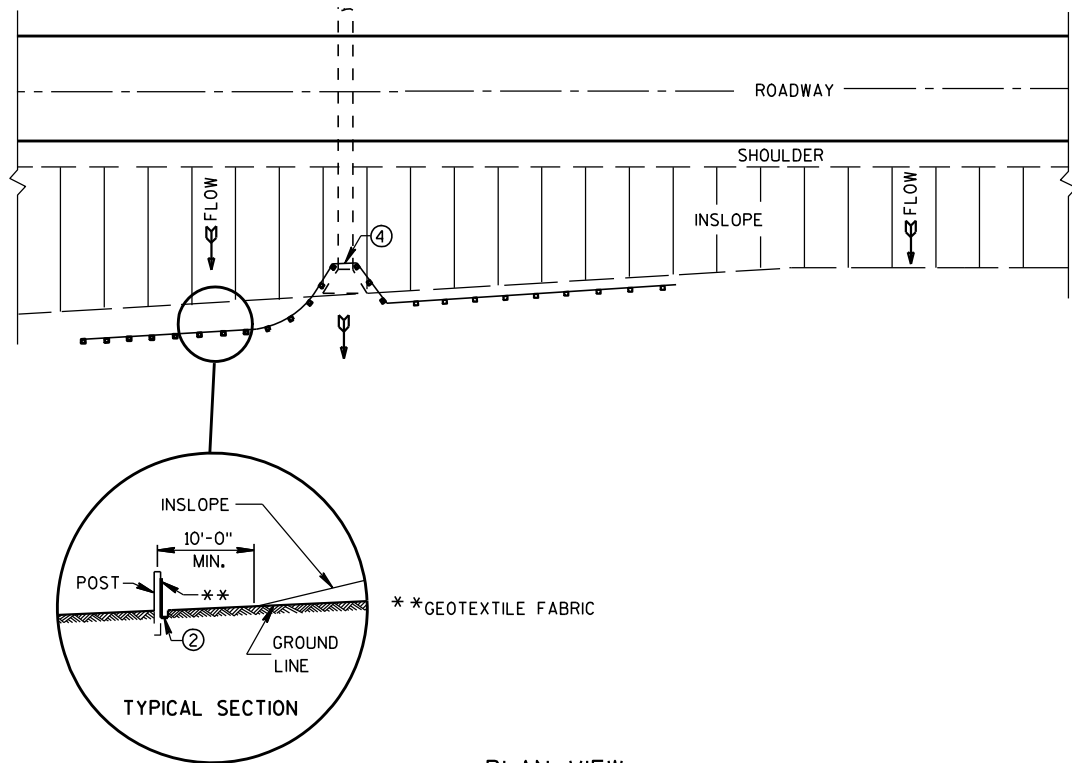
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

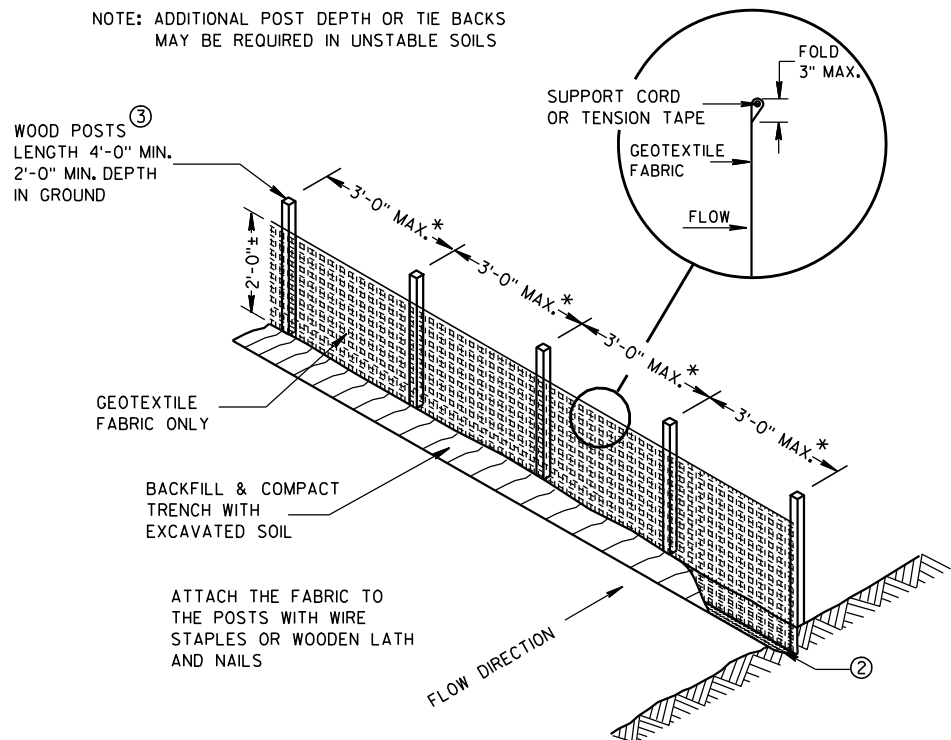
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

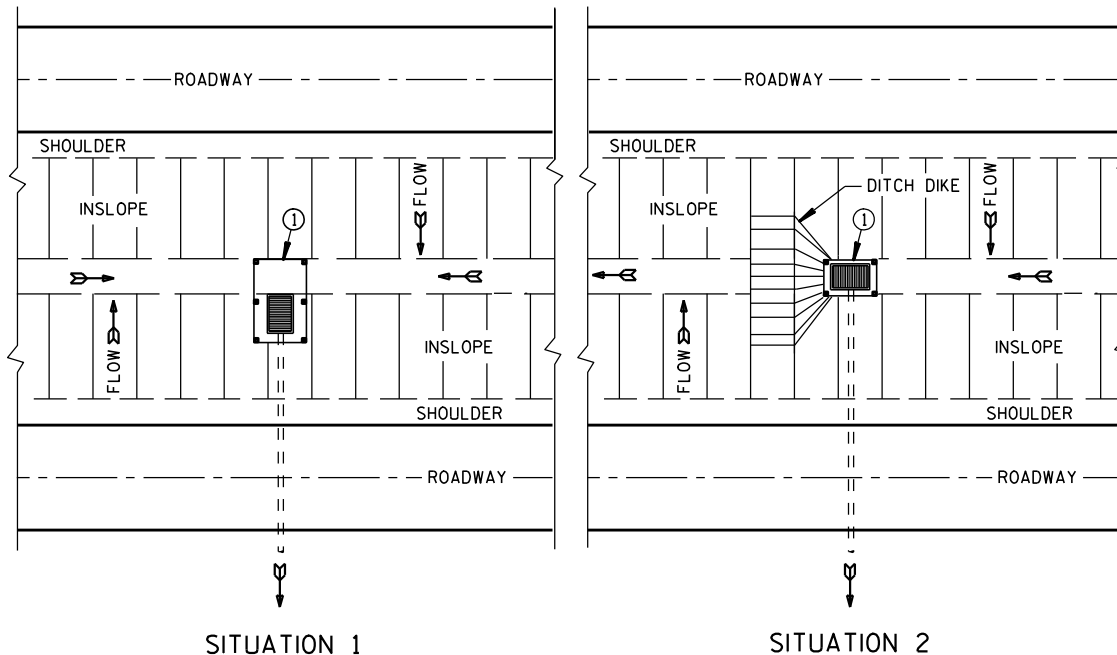


PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

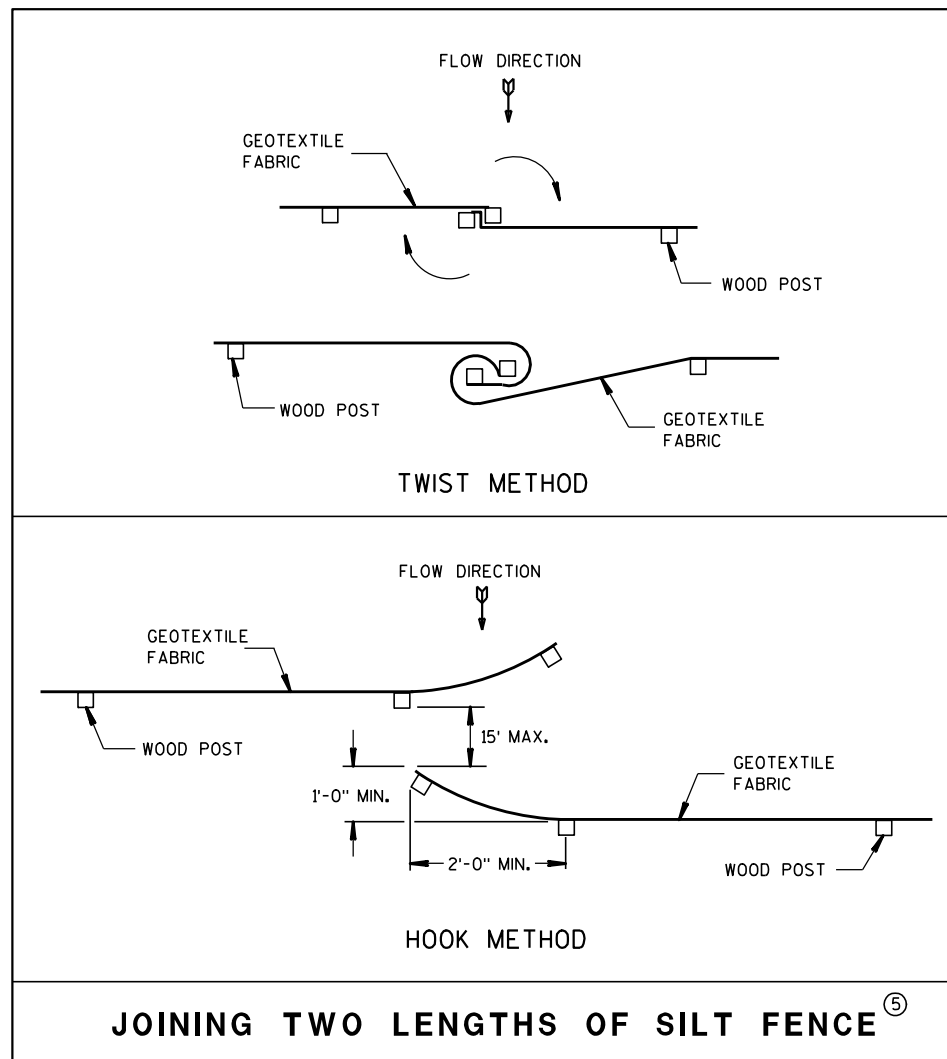


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

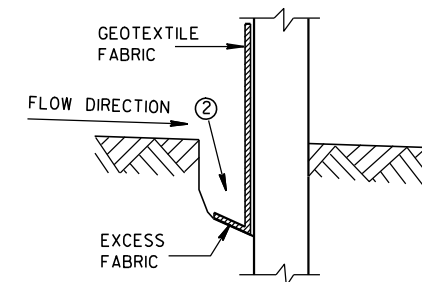


JOINING TWO LENGTHS OF SILT FENCE (5)

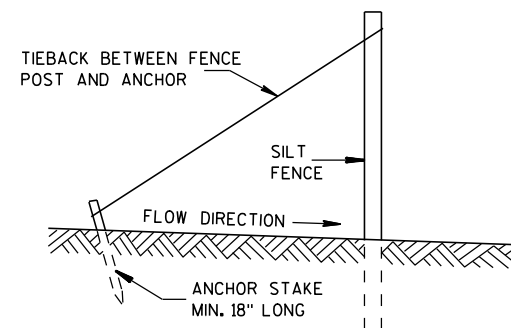
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

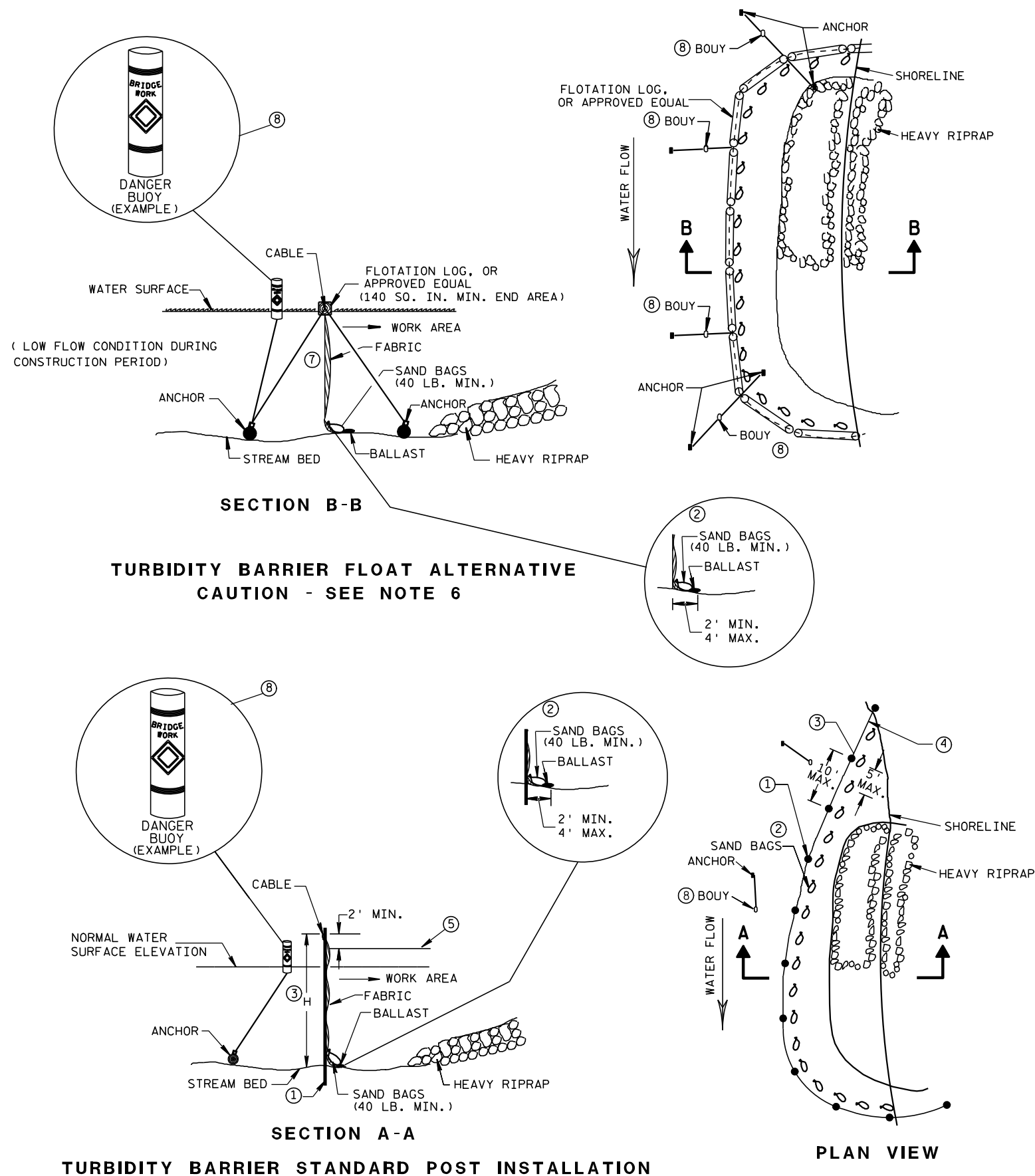


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

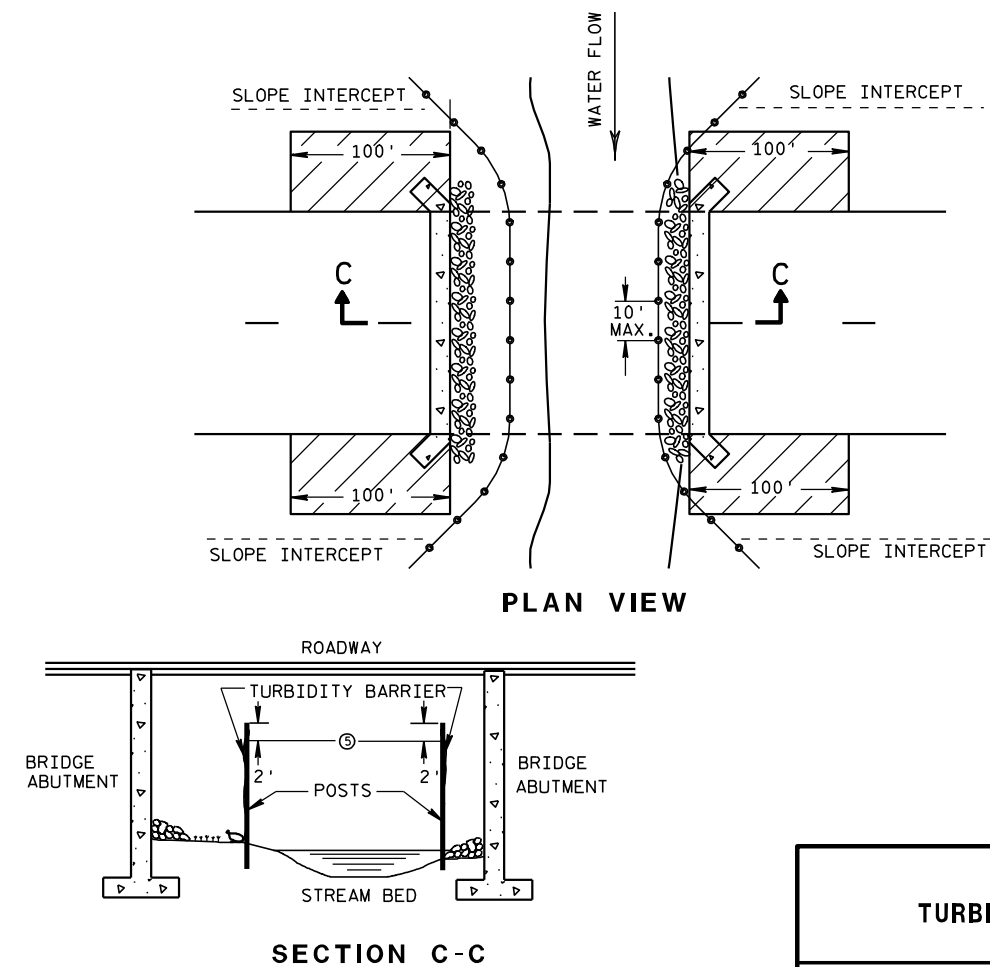


GENERAL NOTES

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. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER 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.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

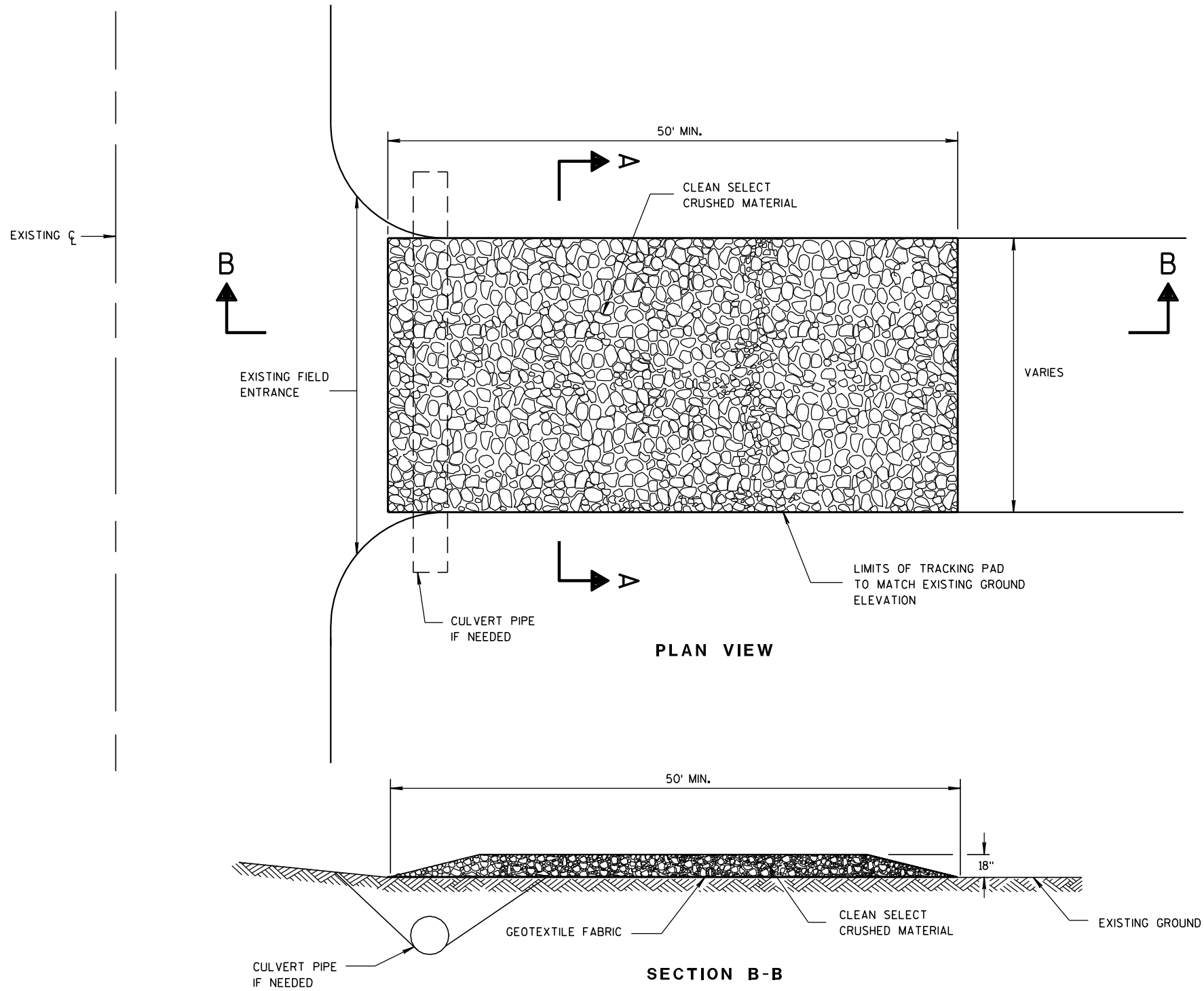
APPROVED

6/04/02

DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

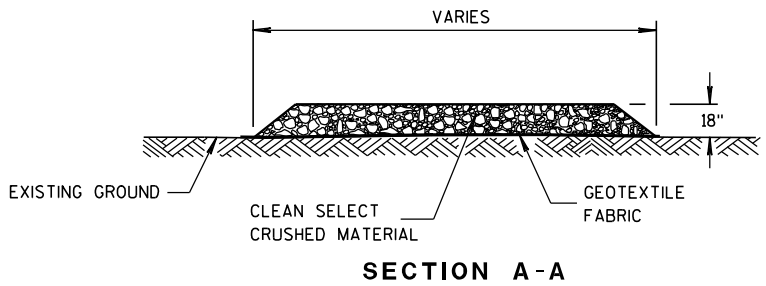
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



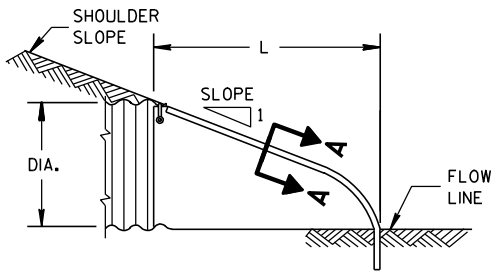
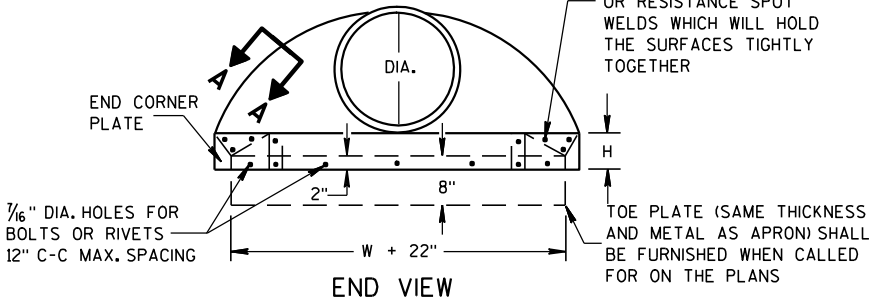
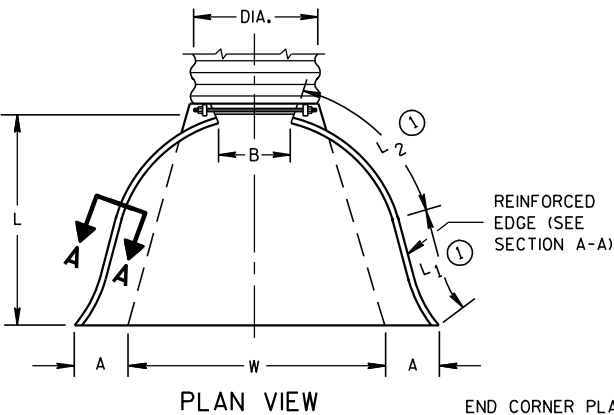
TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
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	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

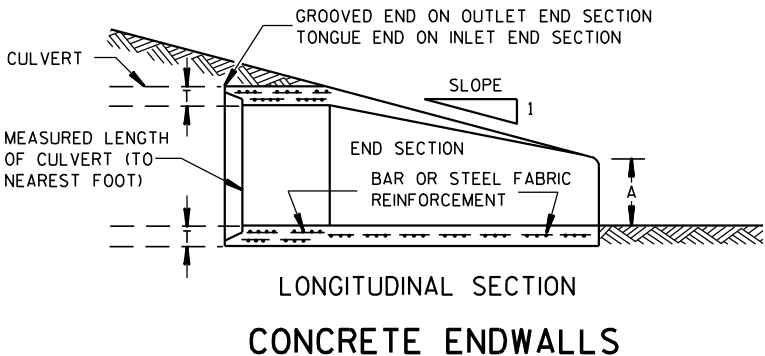
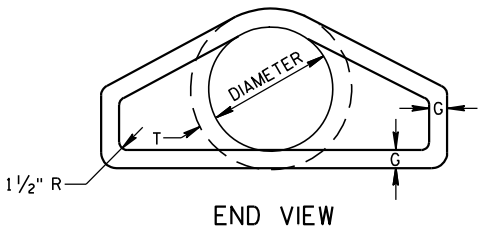
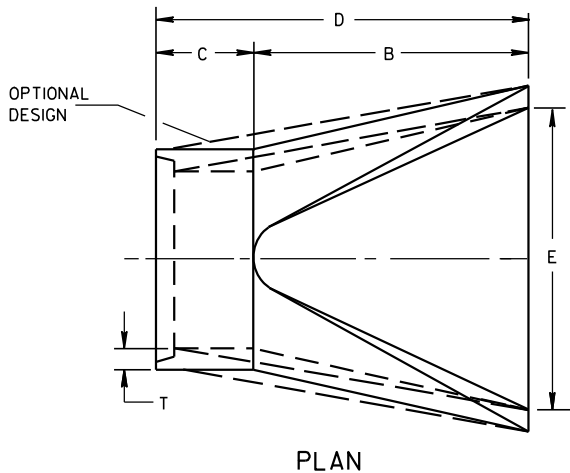
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

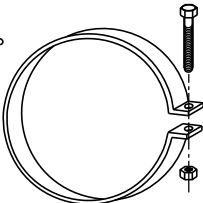
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 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 1/2 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

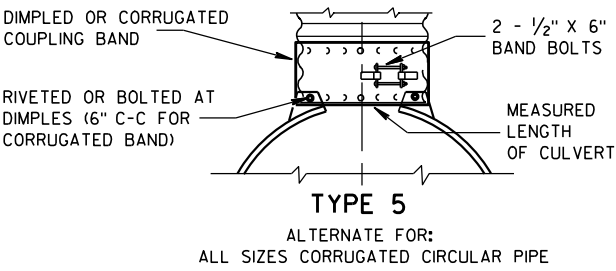
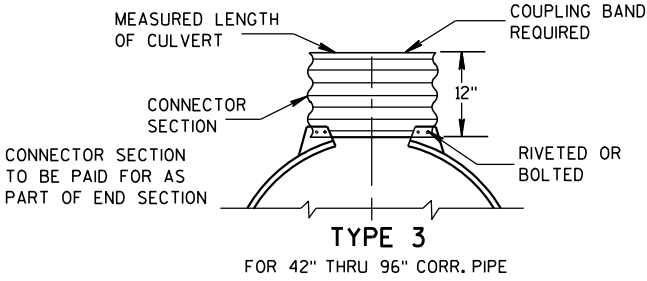
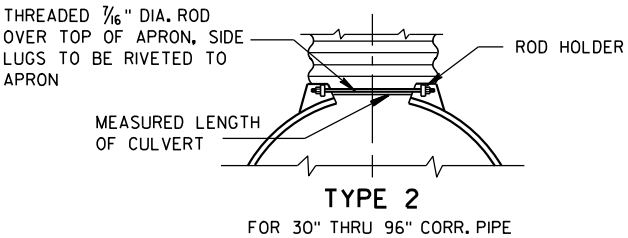
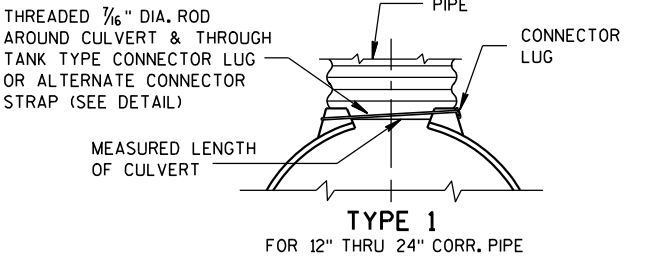


CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



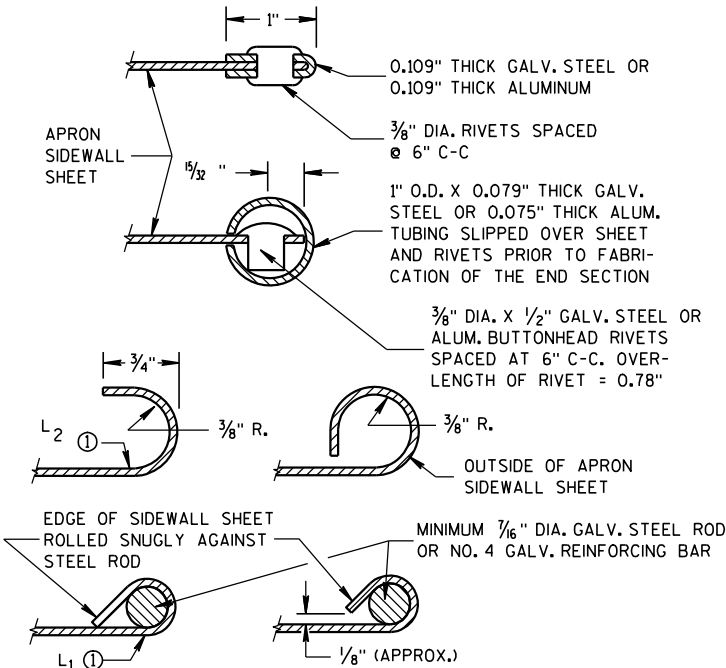
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

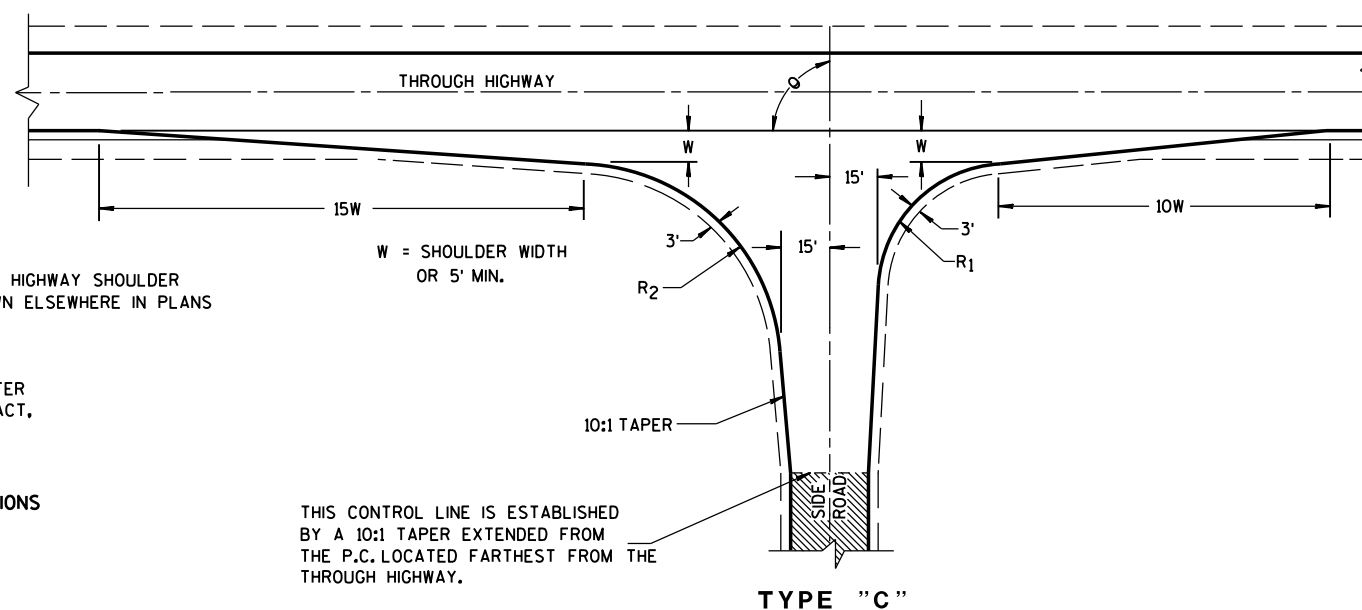
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

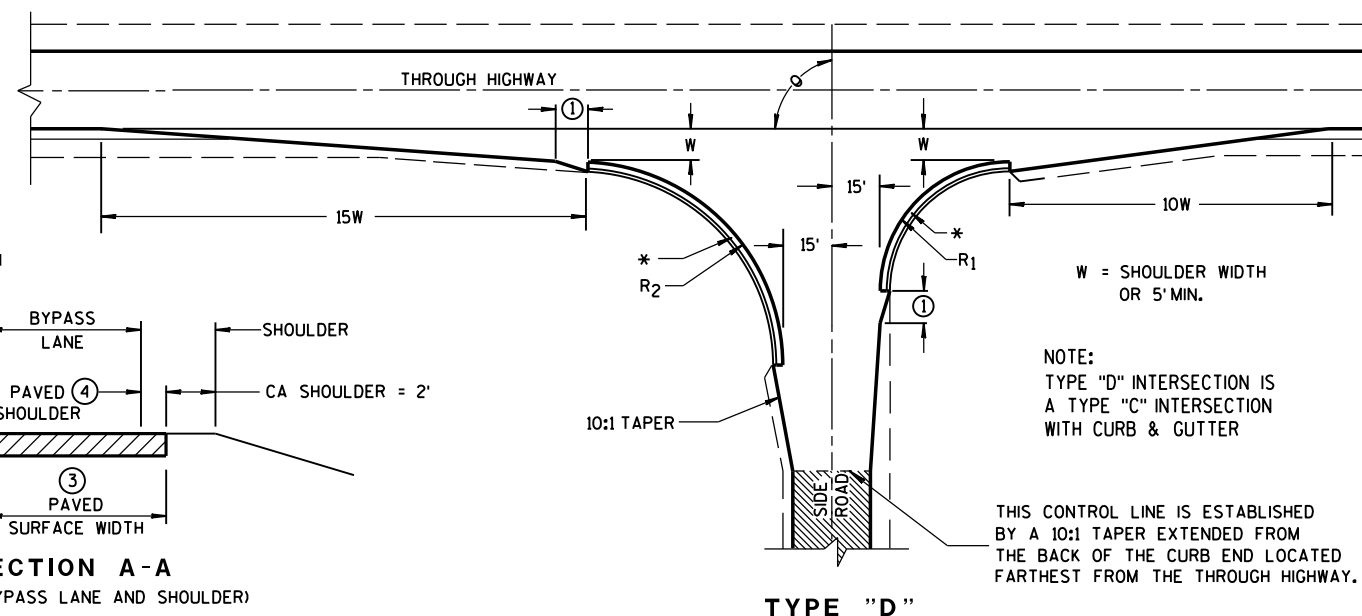
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

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	



**RADII DIMENSIONS FOR TYPES
"B1", "B2", "C" AND "D" INTERSECTIONS**

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

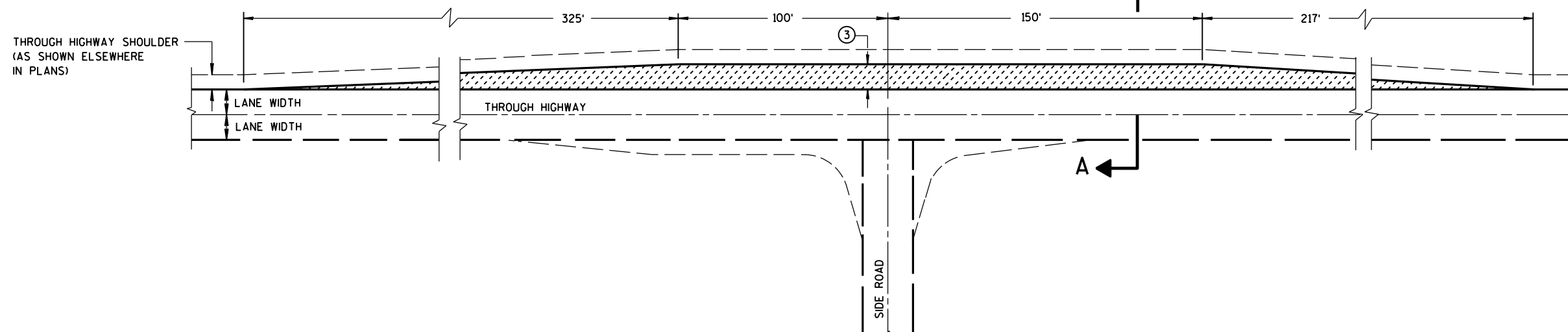
WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

-  EXISTING PAVED SURFACE
-  BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.

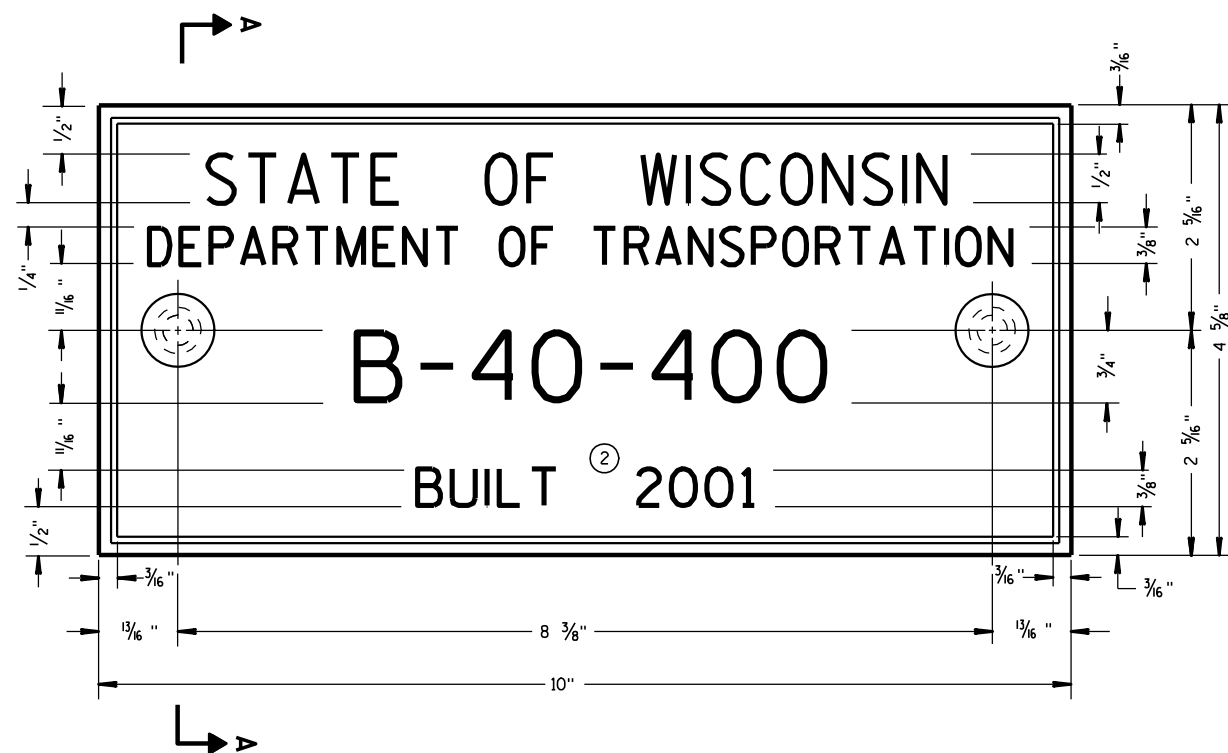
SECTION A-A
 NG BYPASS LANE AND SHOULDER



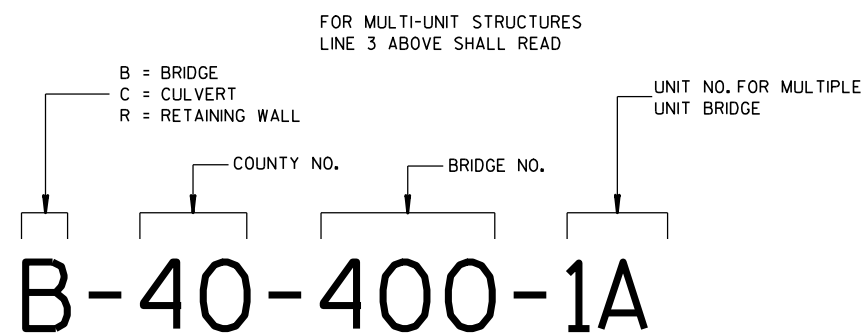
TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B1", "B2",
"C" AND "D" AND TEE
INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



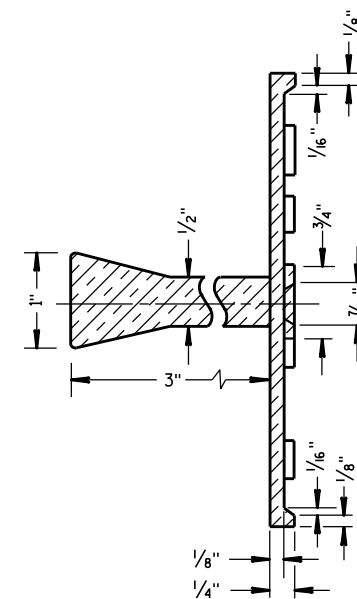
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

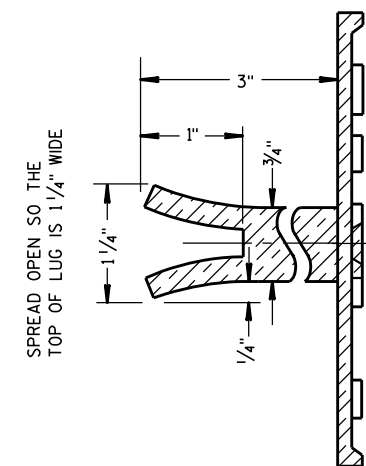
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

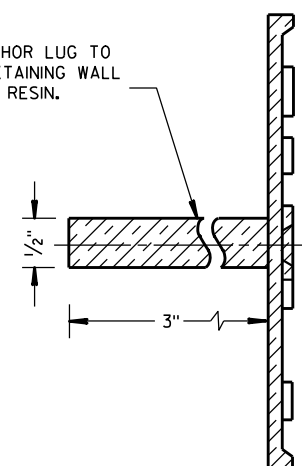


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

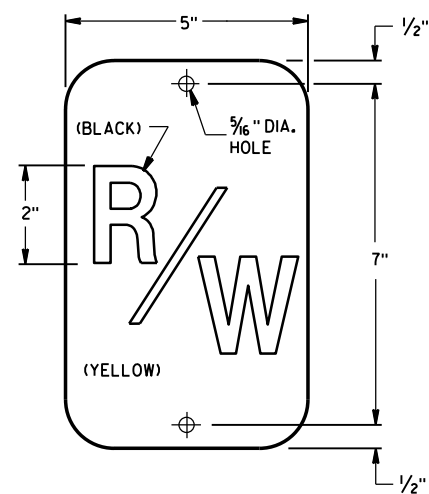
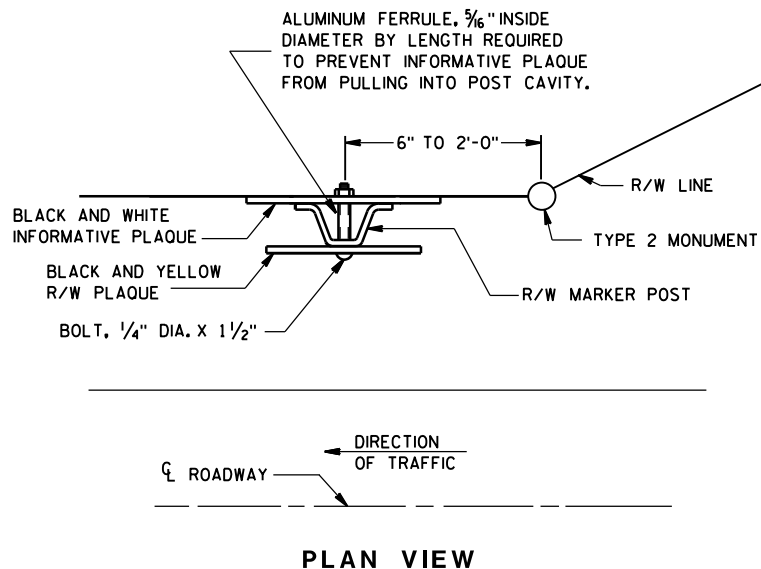
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

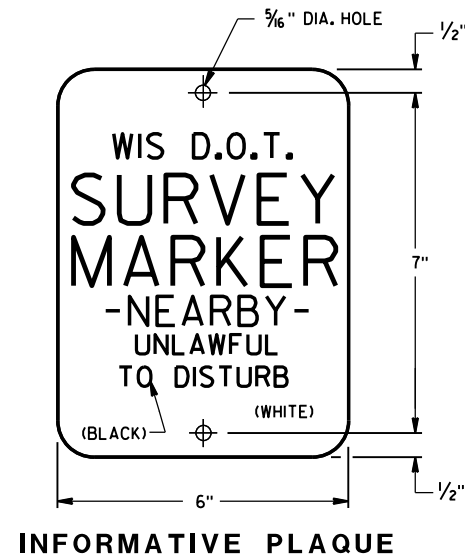
3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



R/W PLAQUE
THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



GENERAL NOTES

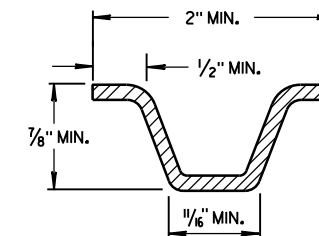
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

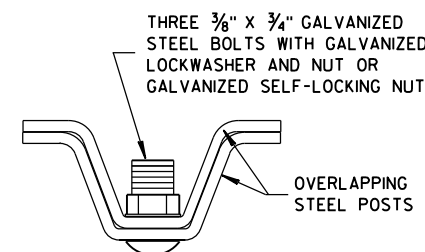
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

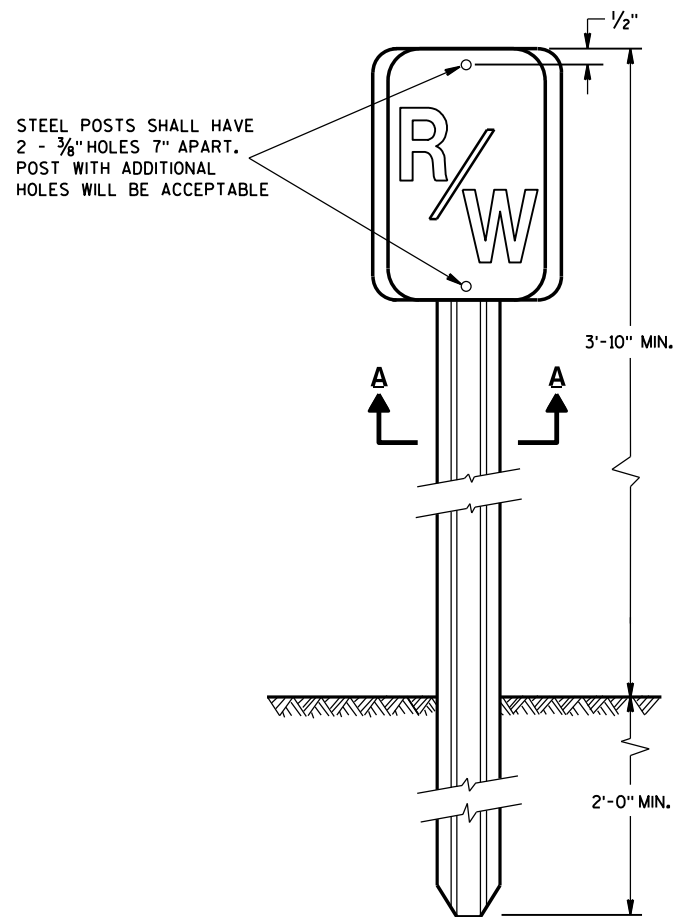
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL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



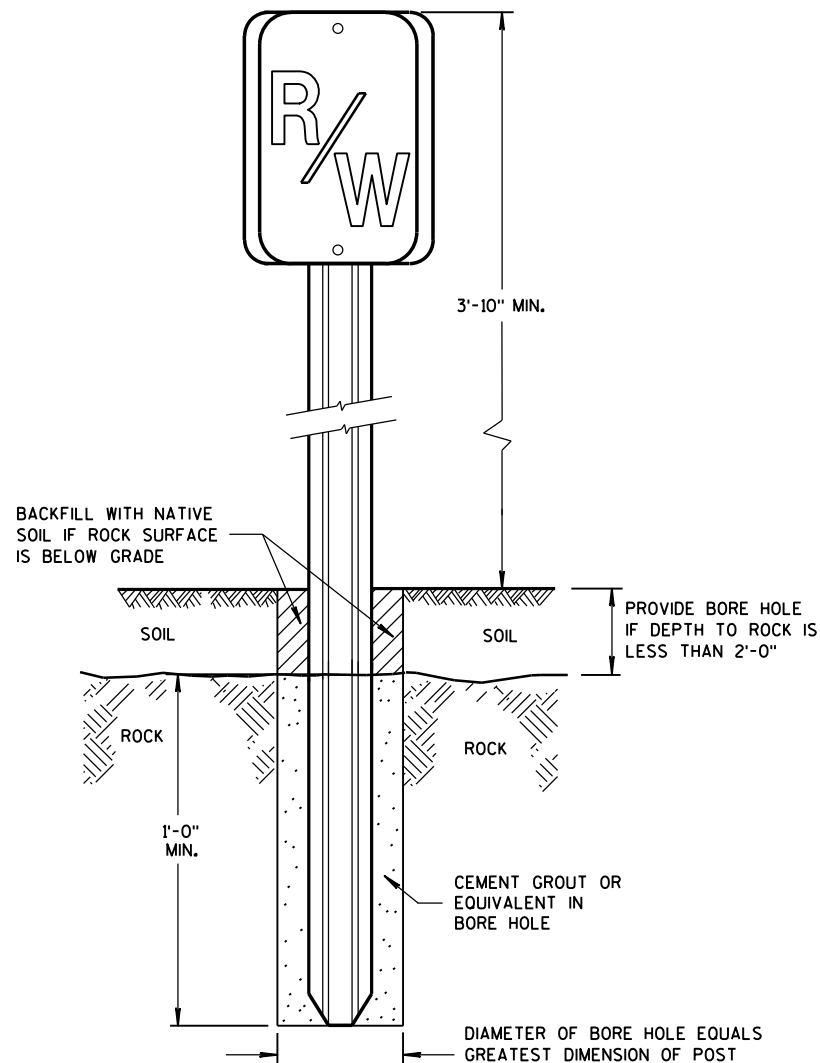
MIN. WEIGHT 1.12 LB./FT.
SECTION A-A



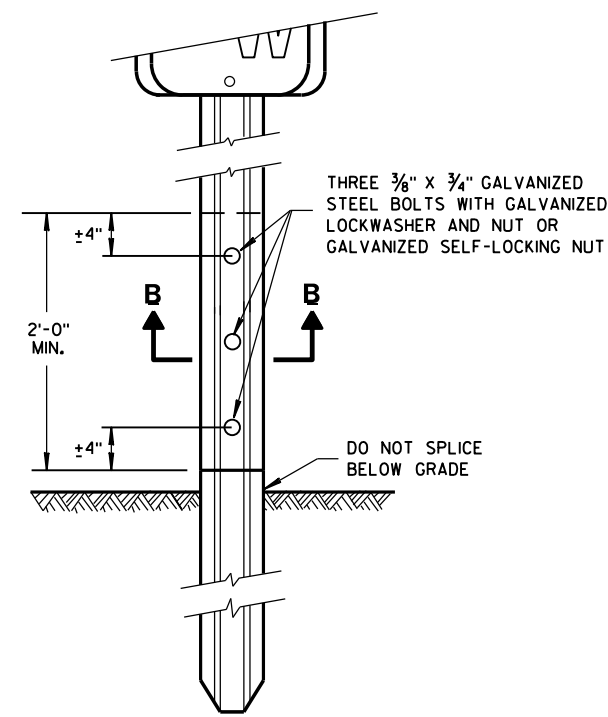
SECTION B-B



**FRONT VIEW
STEEL MARKER POST**



**FRONT VIEW
ROCK INSTALLATION** ①



**FRONT VIEW
SPLICE DETAIL**

**MARKER POST
FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

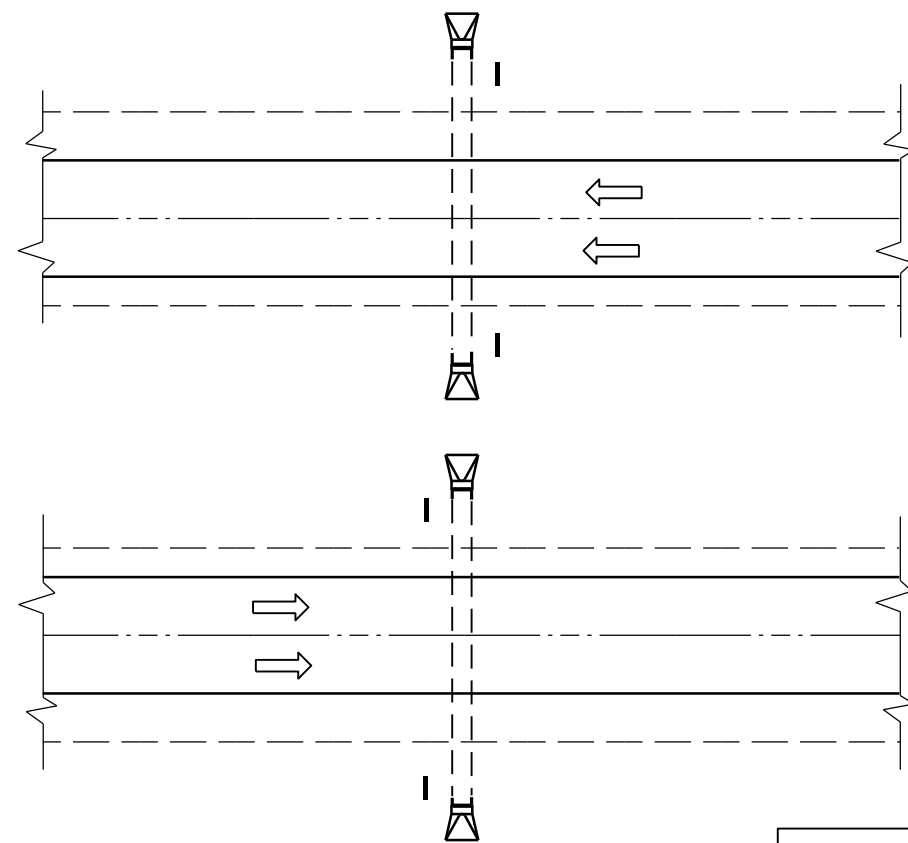
APPROVED

2/18/2016

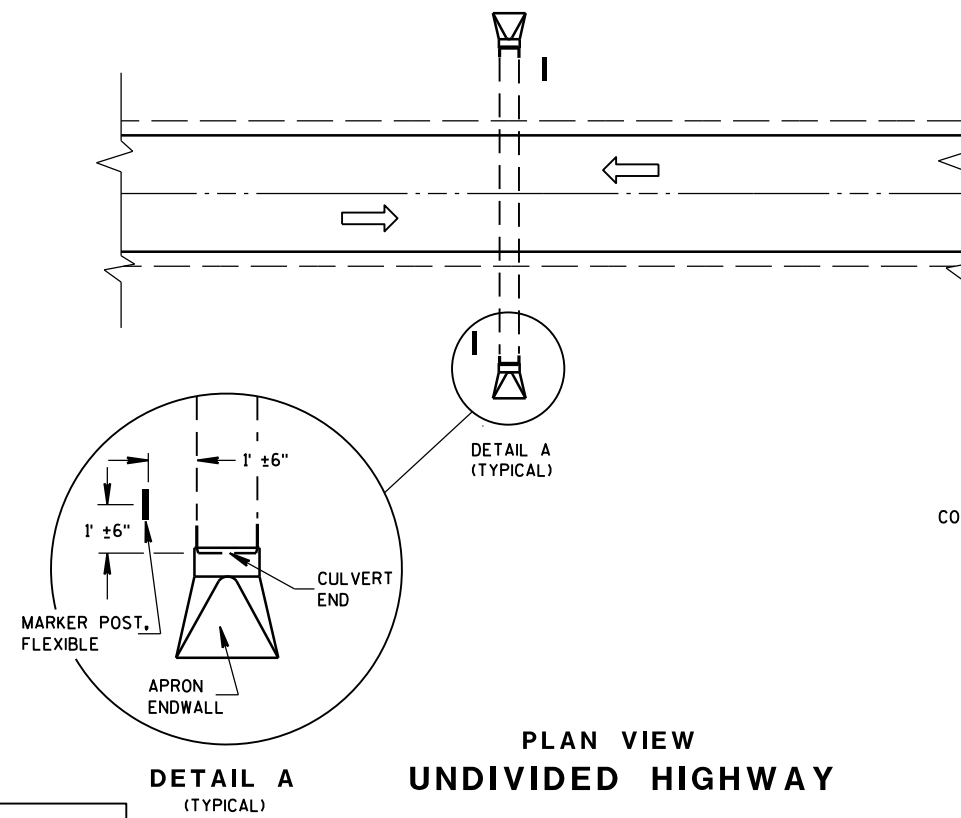
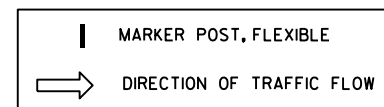
DATE

/S/ Ray Kumapayi
CHIEF SURVEYING AND MAPPING ENGINEER

FHWA



PLAN VIEW
DIVIDED HIGHWAY

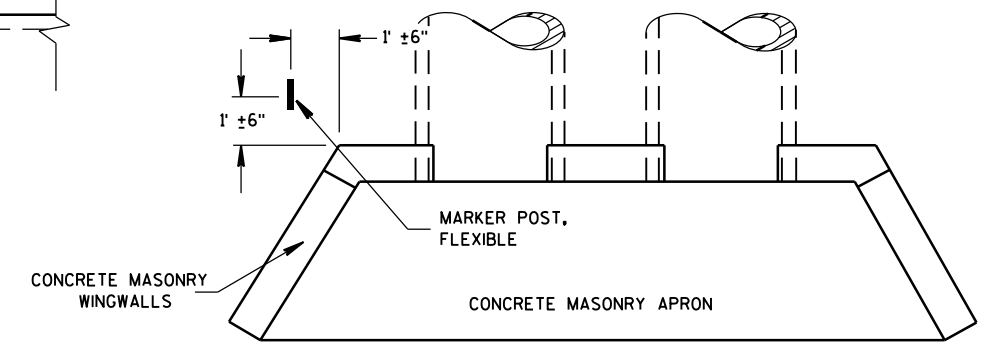


PLAN VIEW
UNDIVIDED HIGHWAY

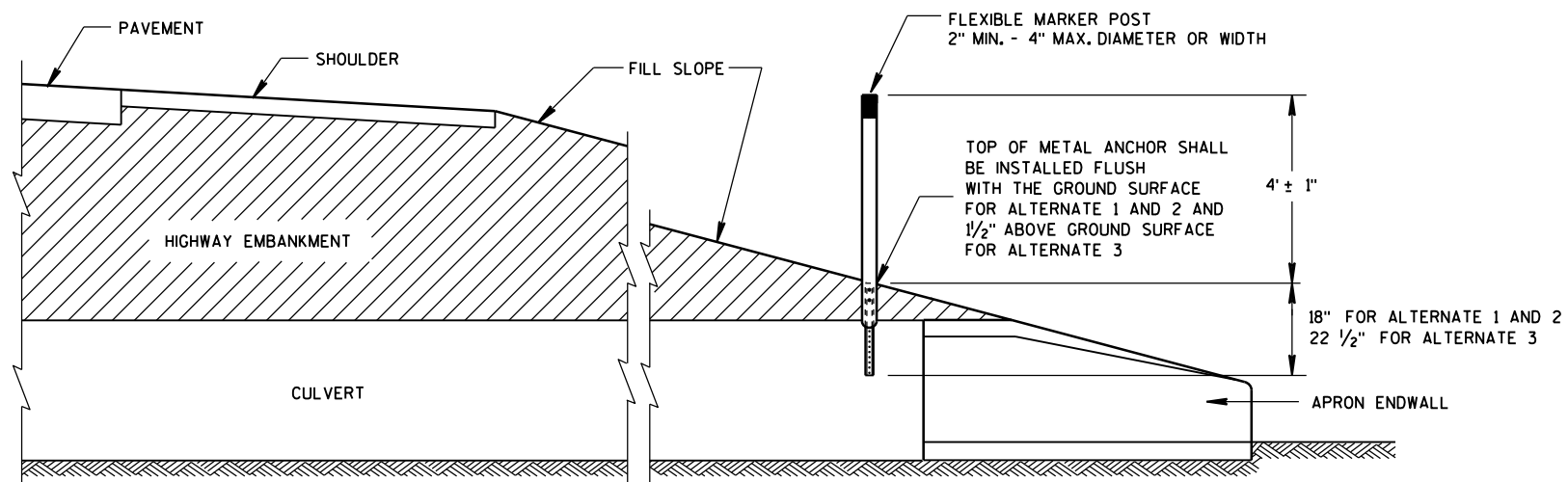
FLEXIBLE MARKER POST LOCATION

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.



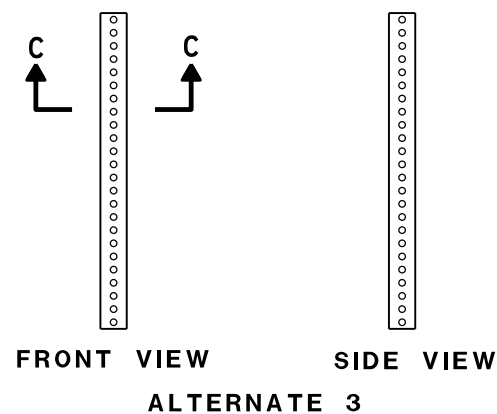
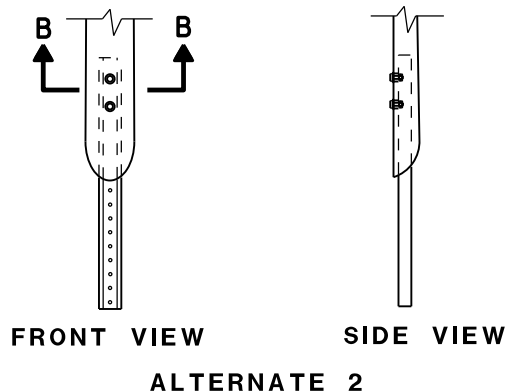
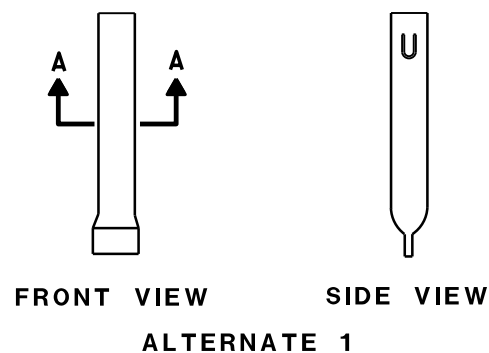
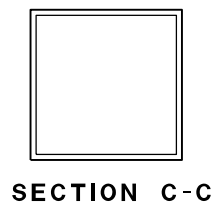
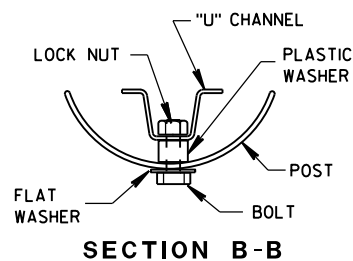
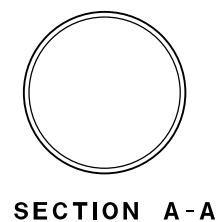
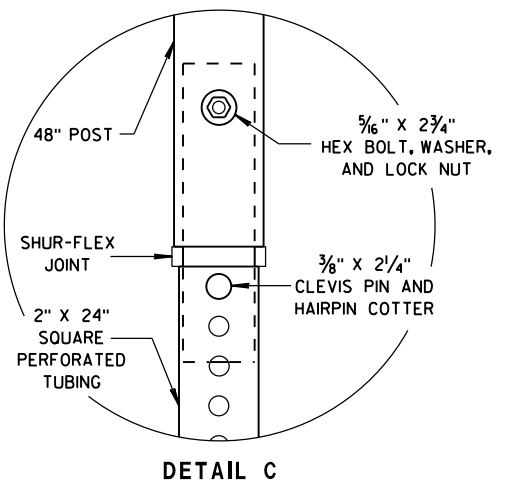
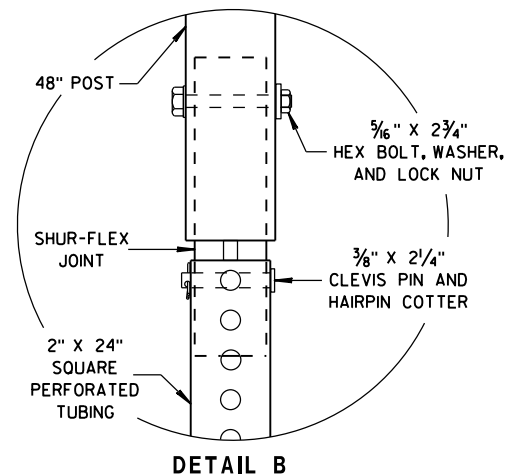
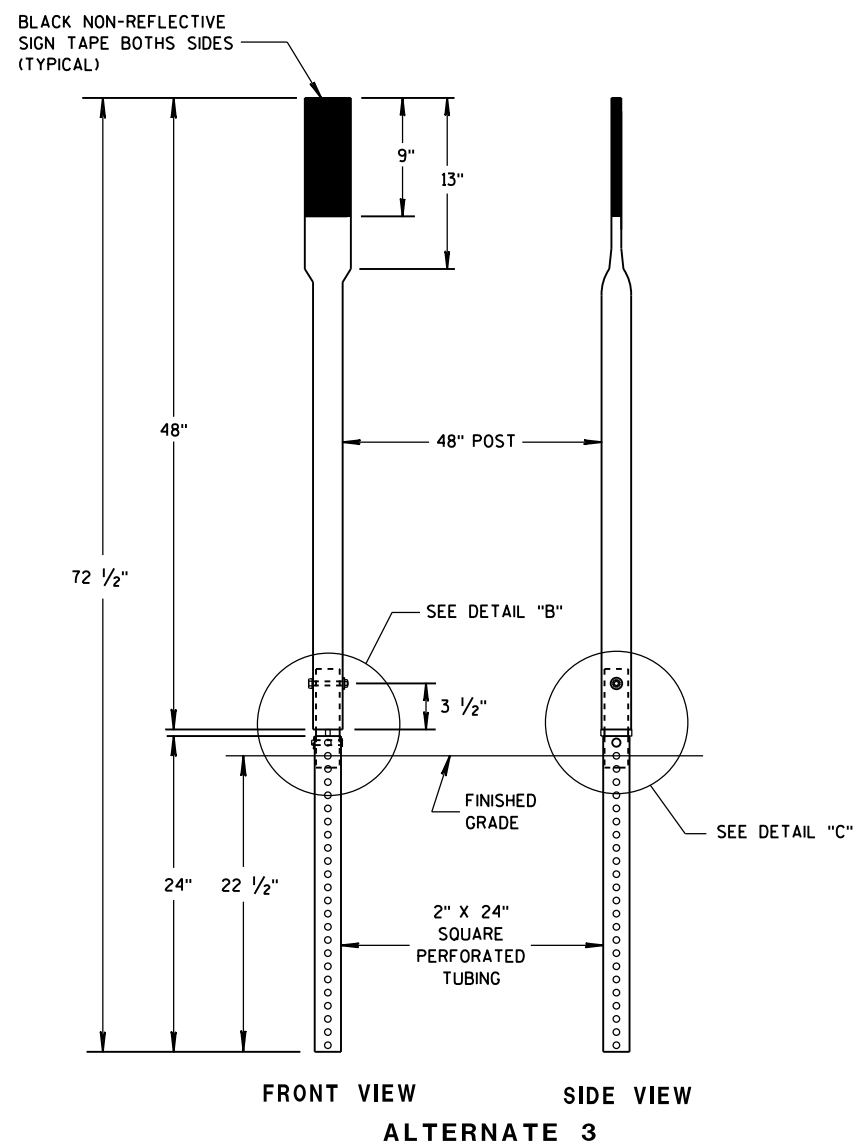
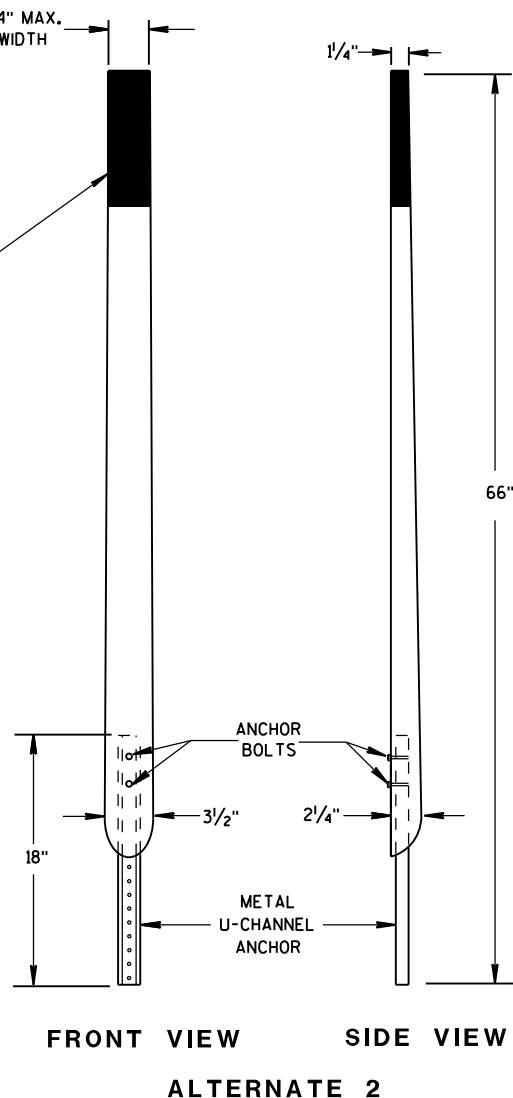
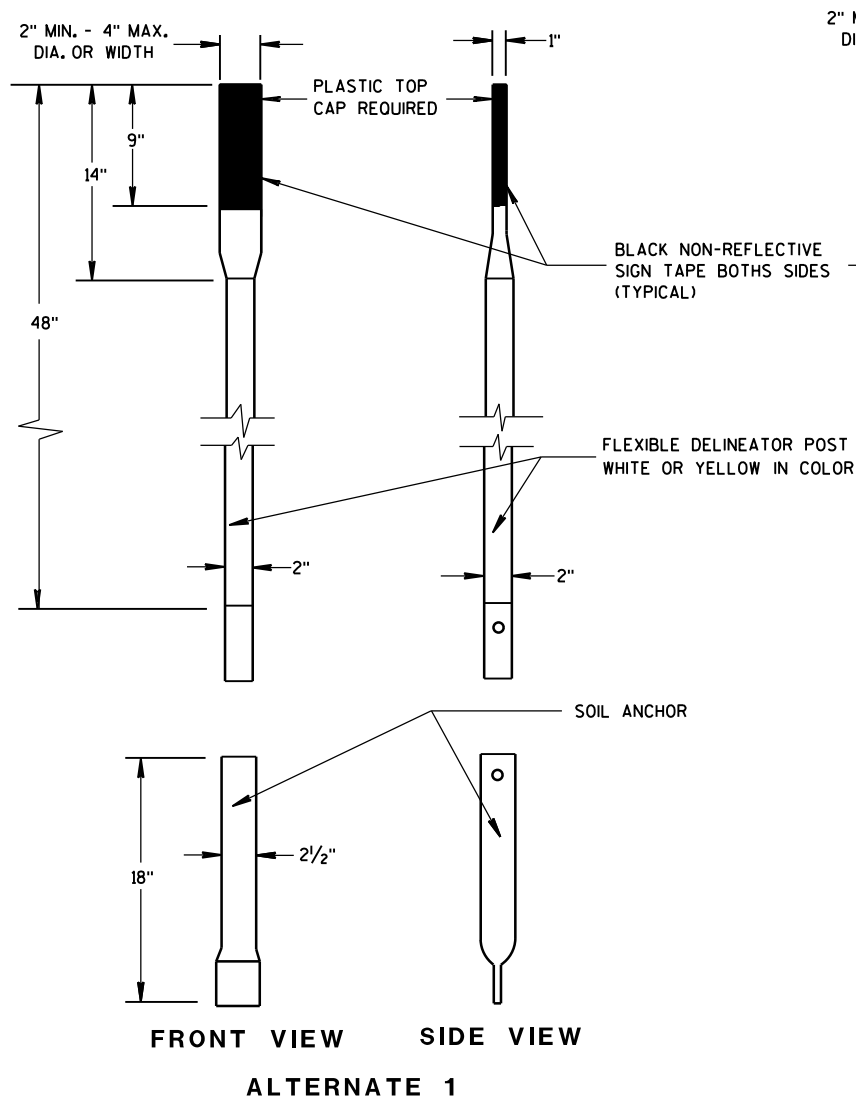
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



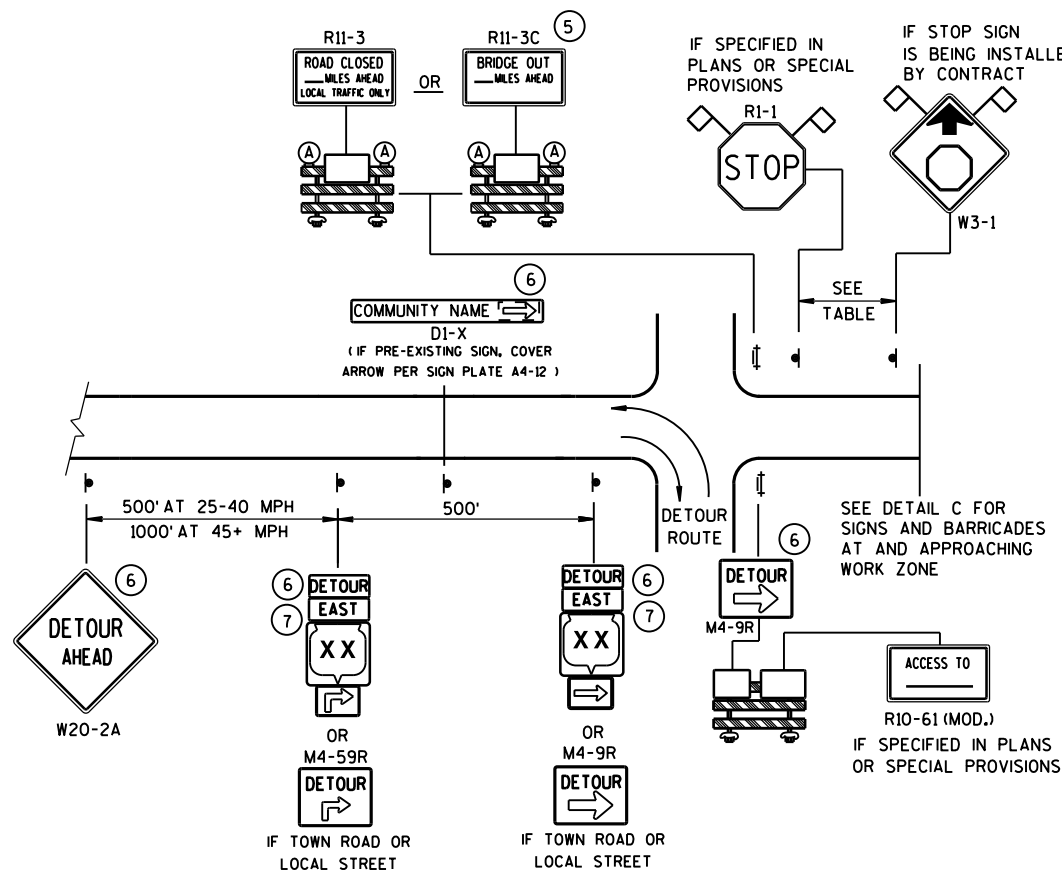
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

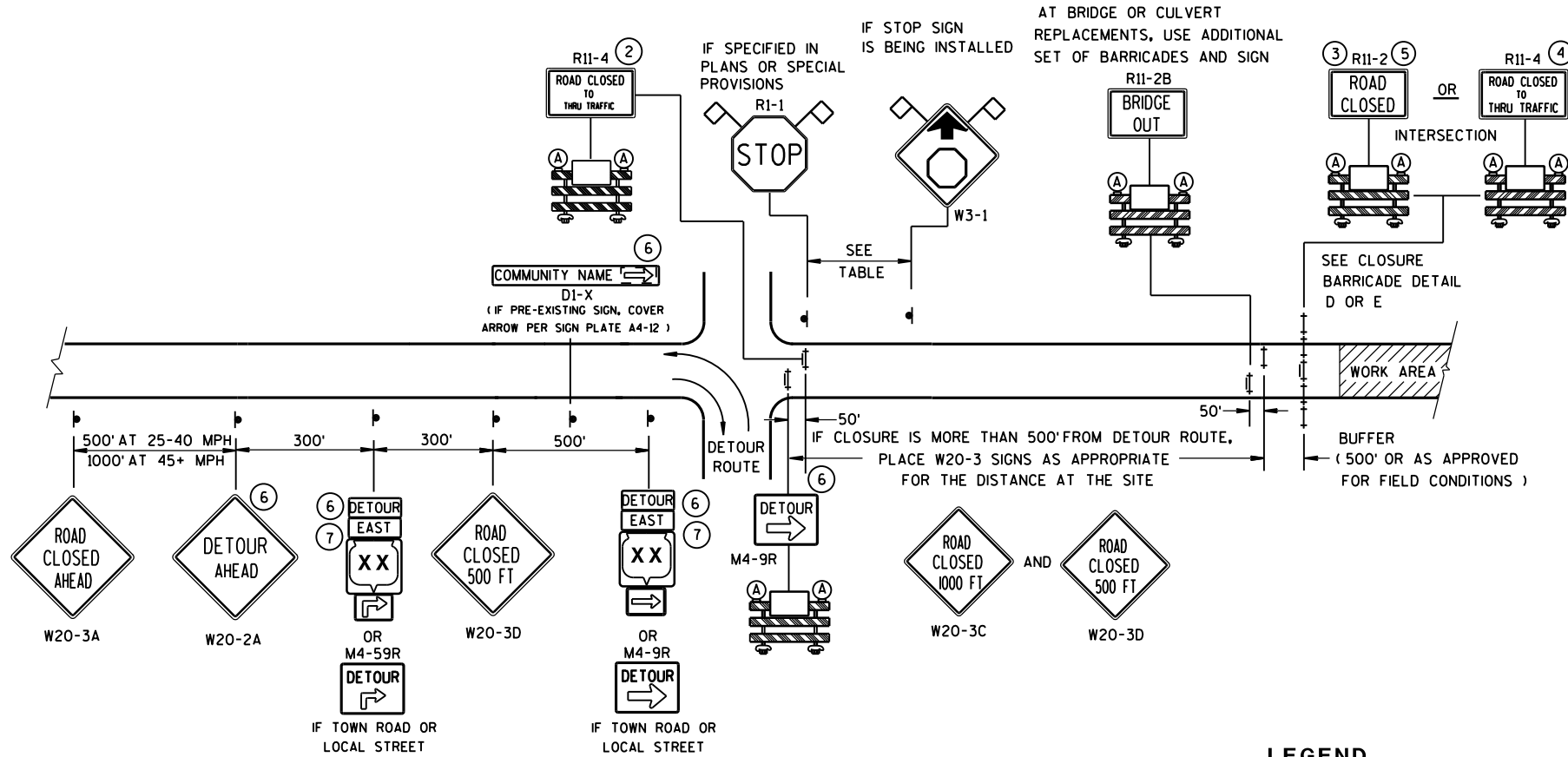
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



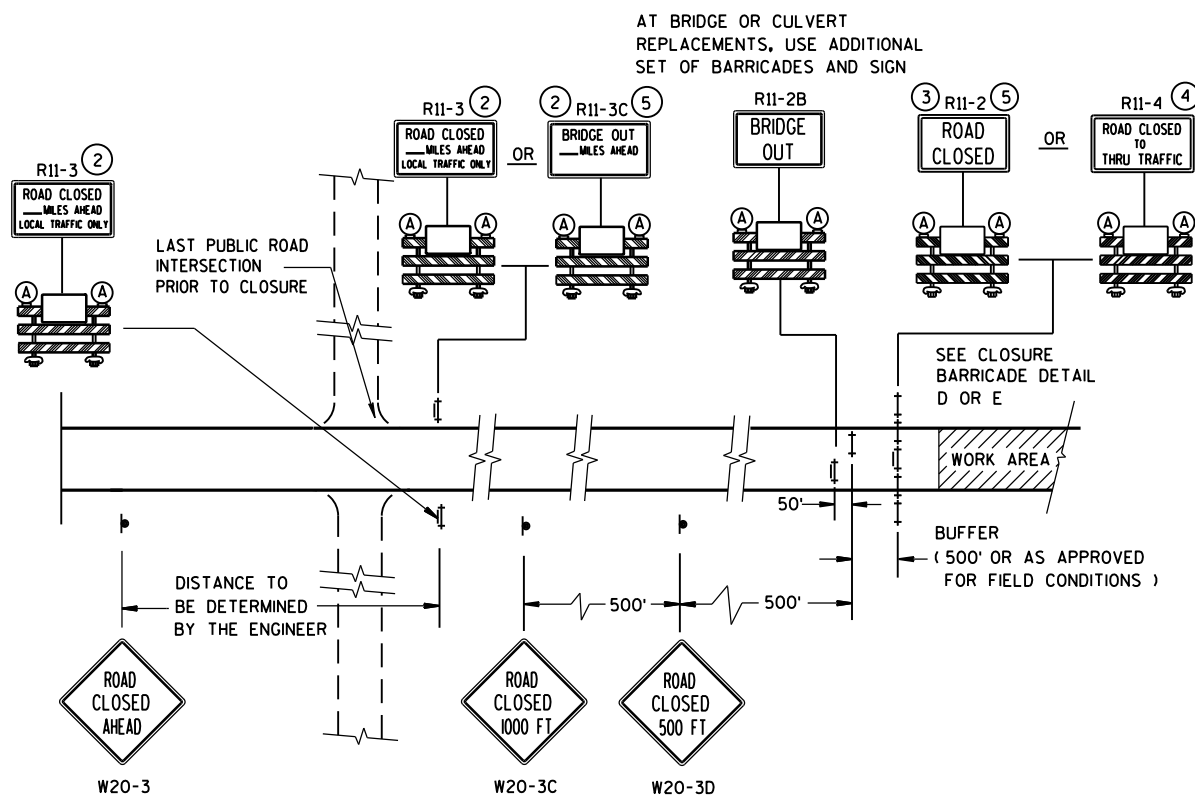
FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

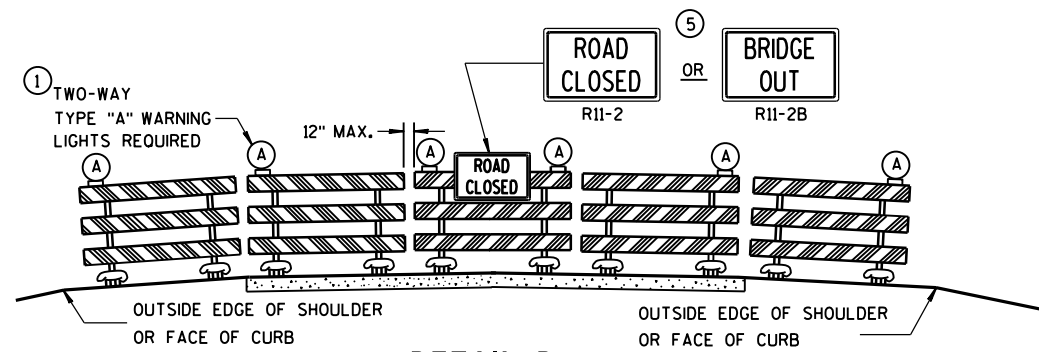


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

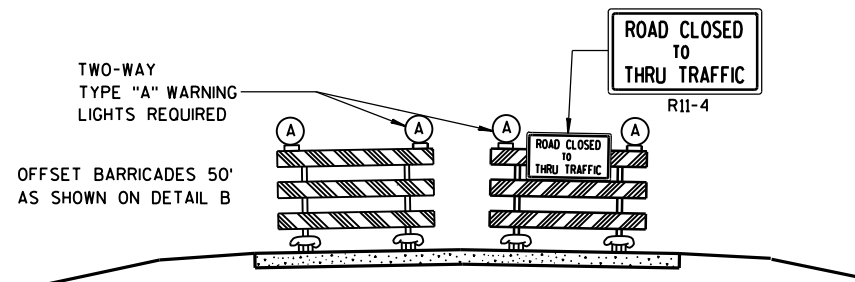
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

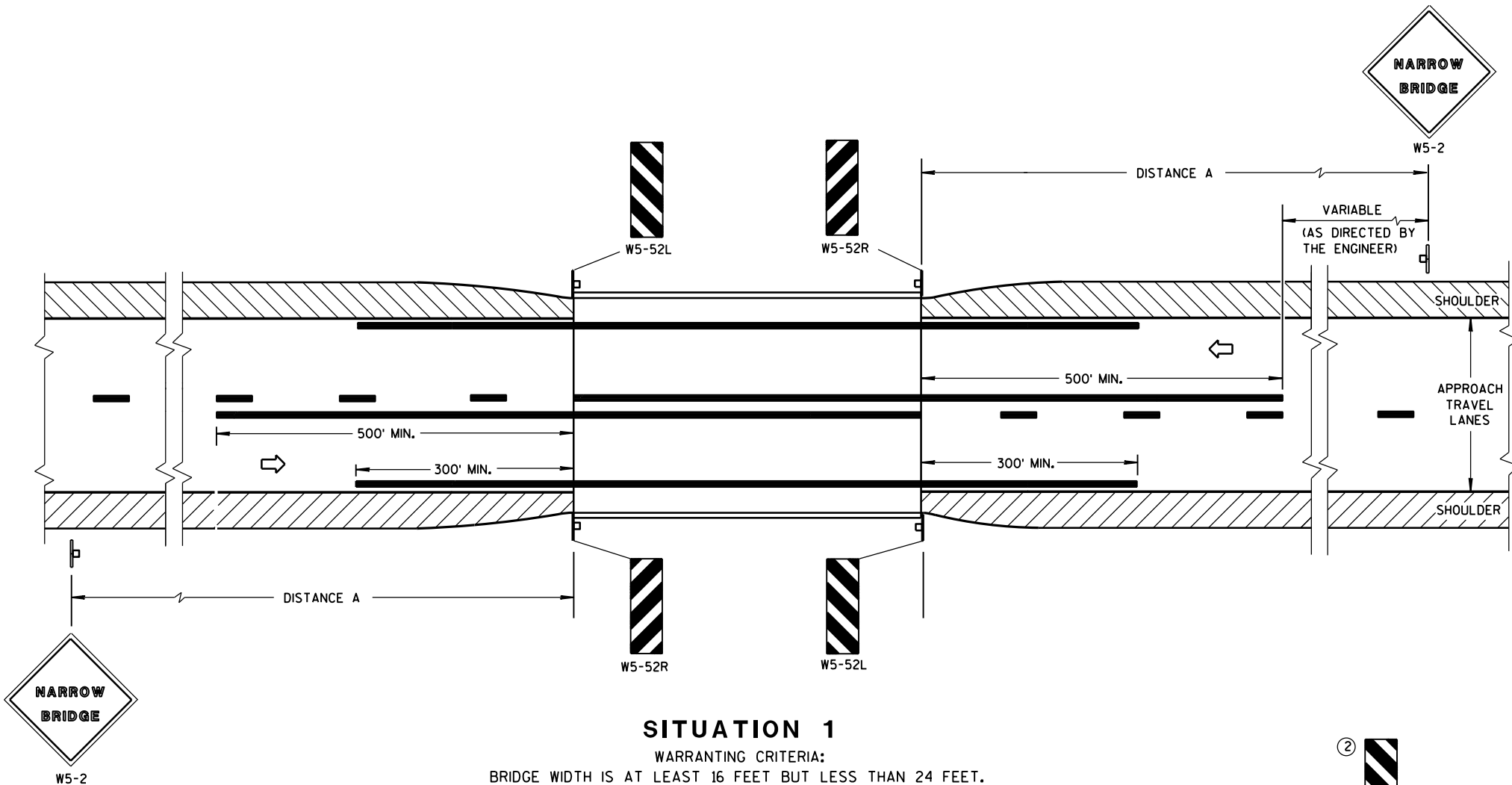
R1-1 SHALL BE 36" X 36".

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



SITUATION 1

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

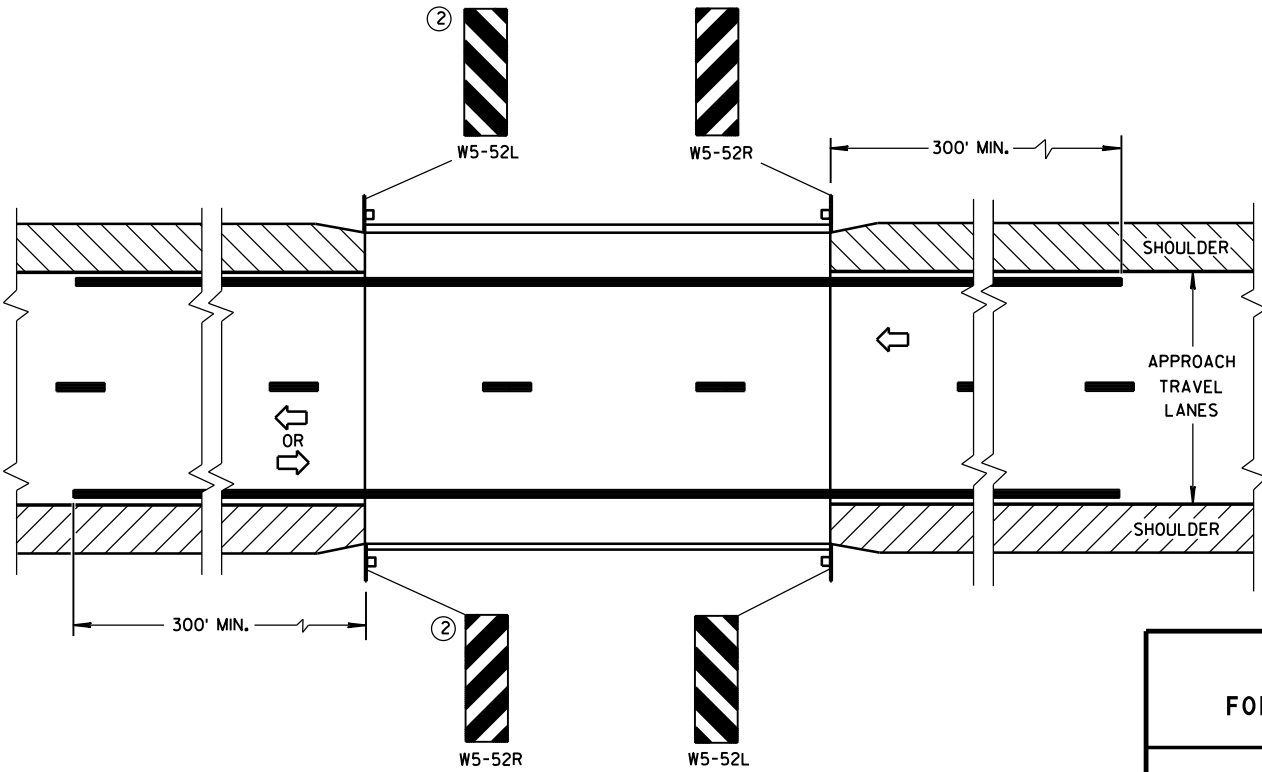
DISTANCE TABLE

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

GENERAL NOTES

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

- ① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ② OMIT ON ONE-WAY TRAVELLED WAYS.
- ③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.



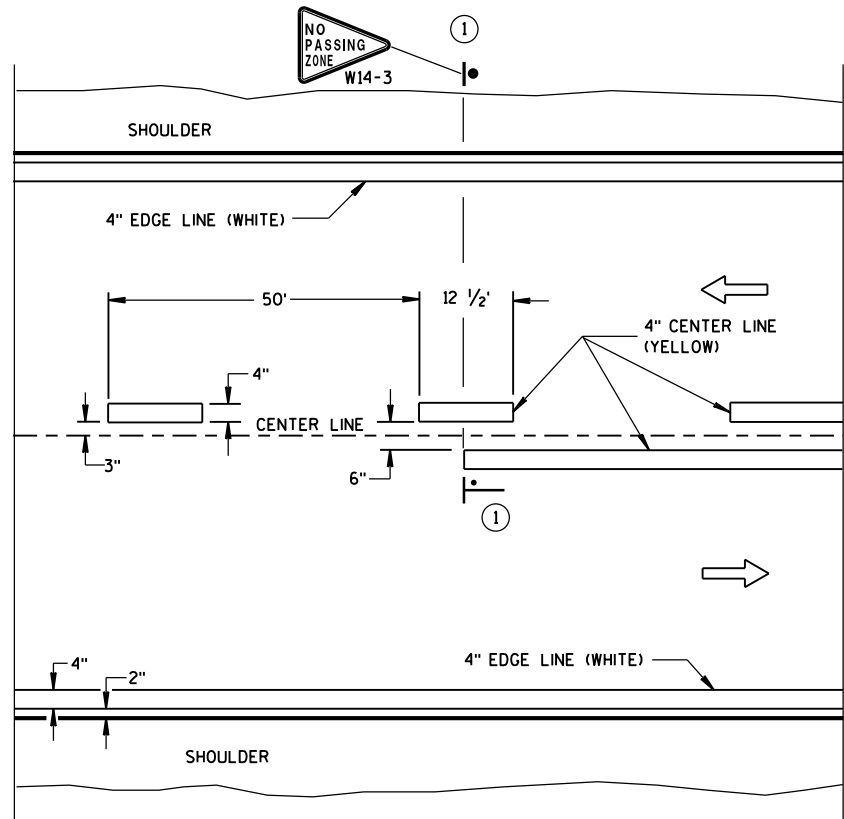
SITUATION 2

- WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
 2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

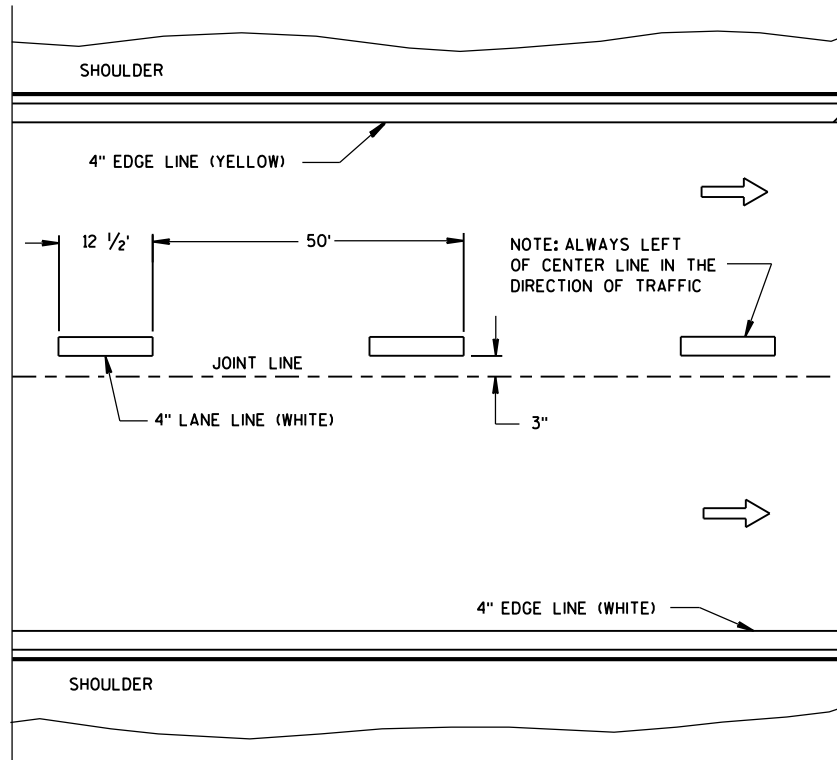
**SIGNING & MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

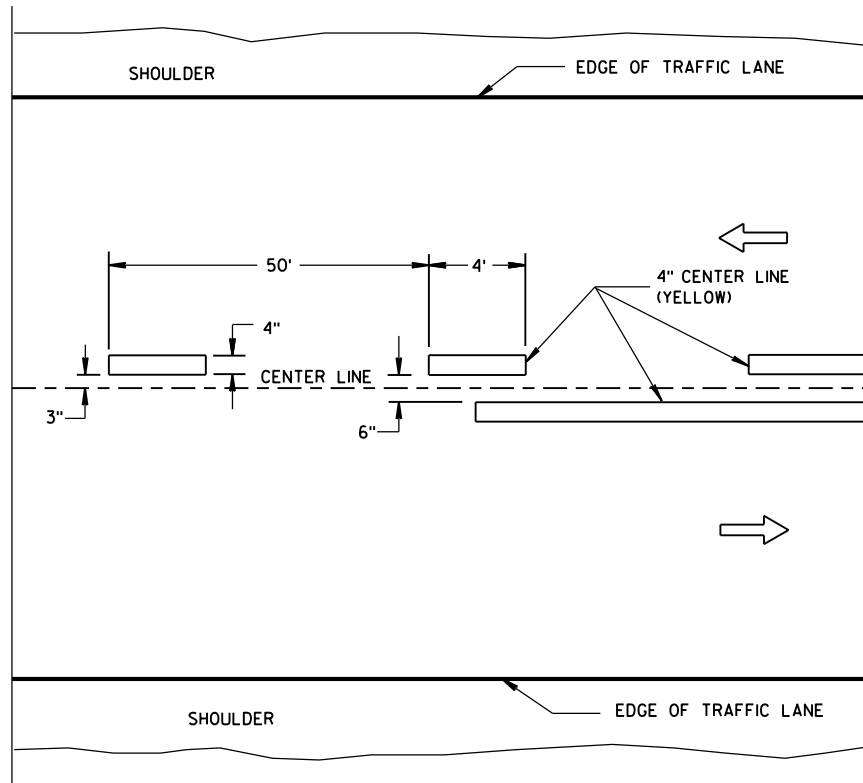


TWO WAY TRAFFIC

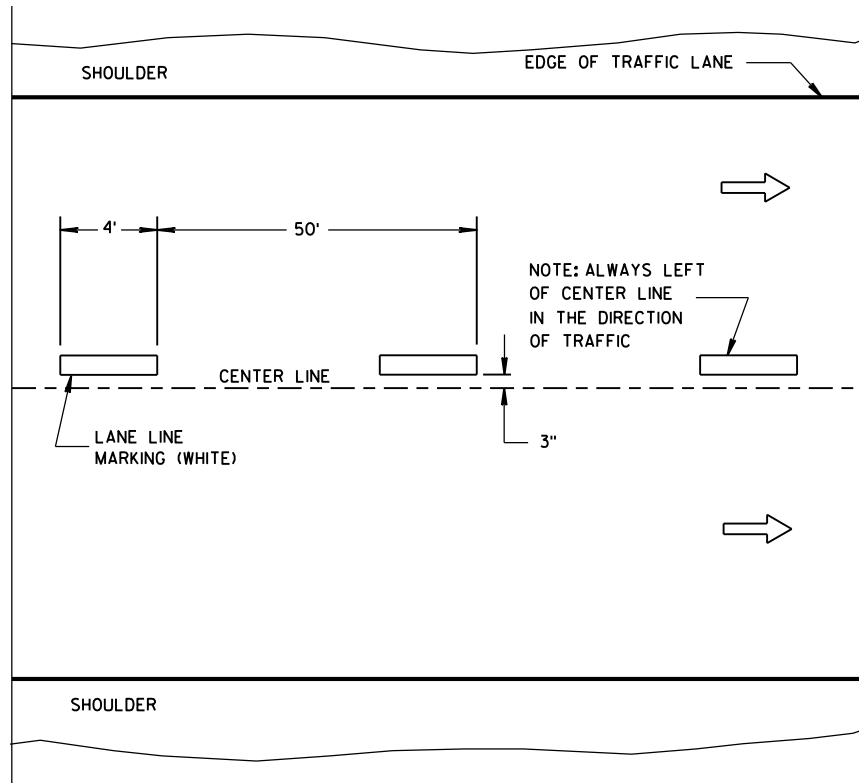


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

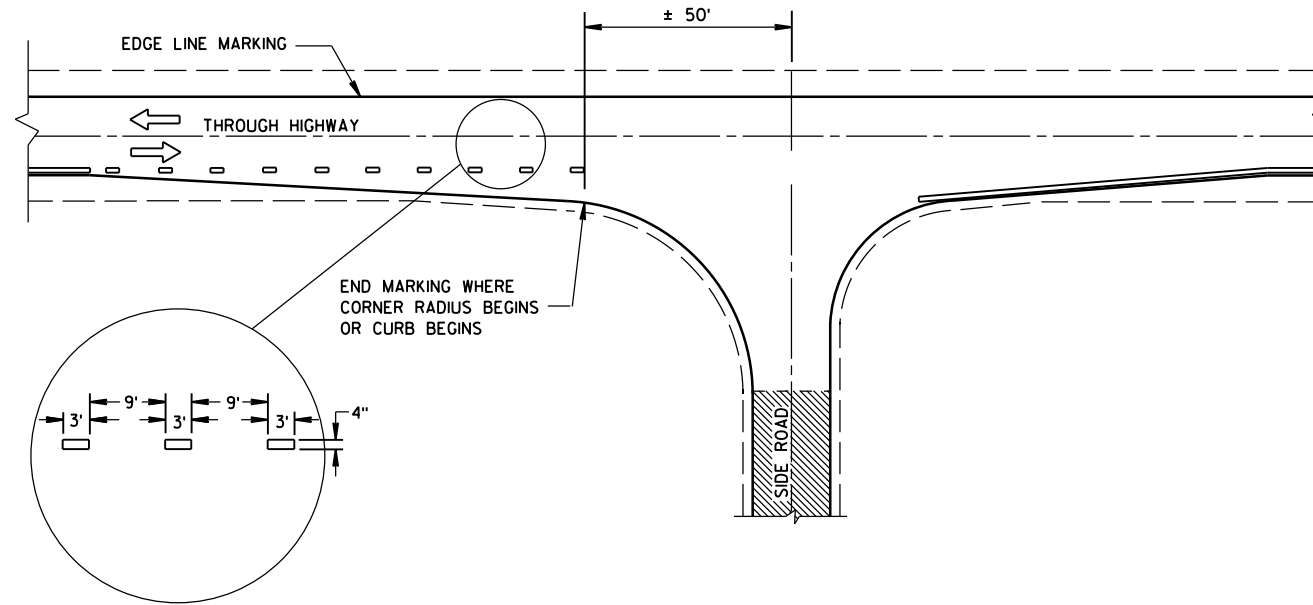
—●— "T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



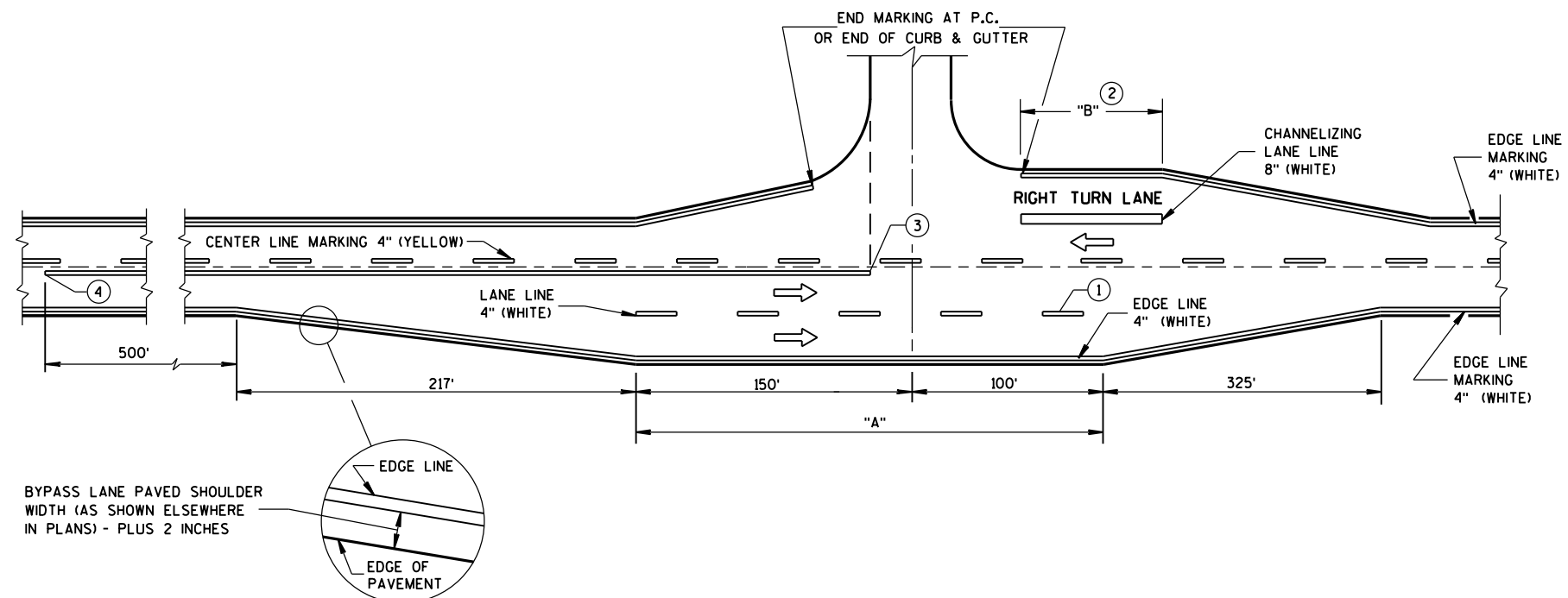
MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

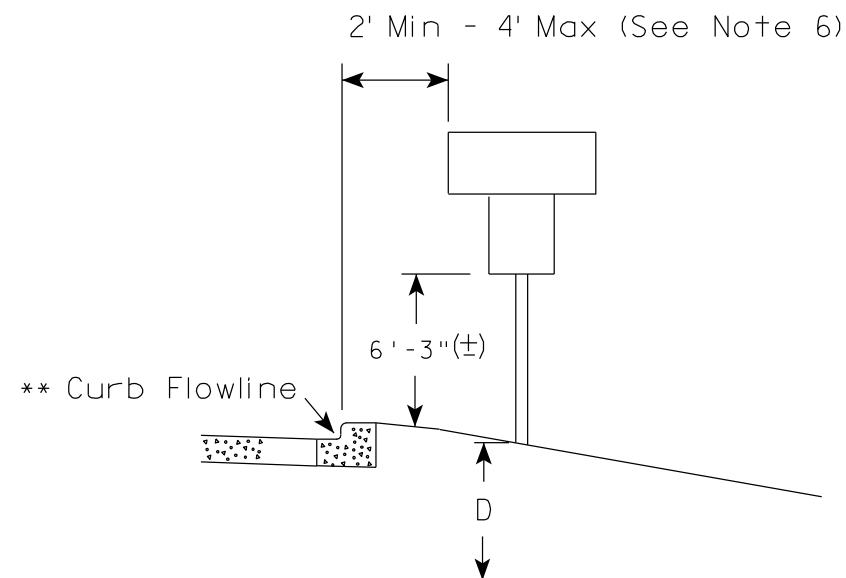
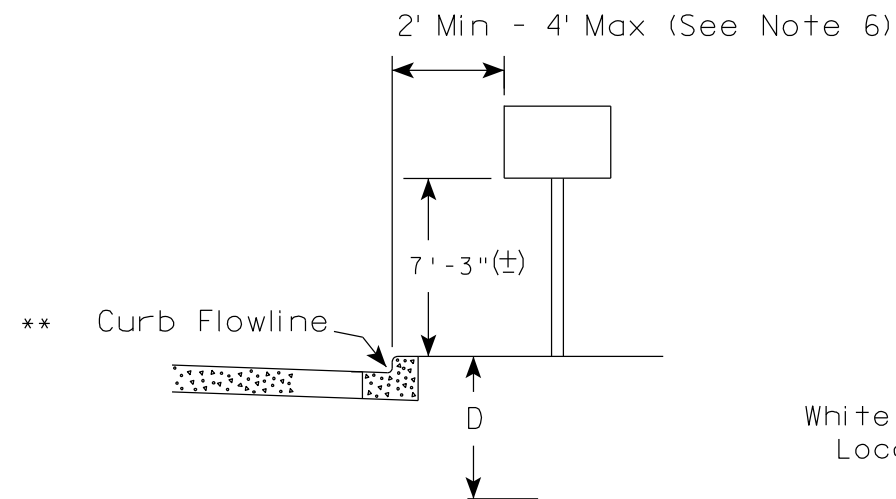


MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)

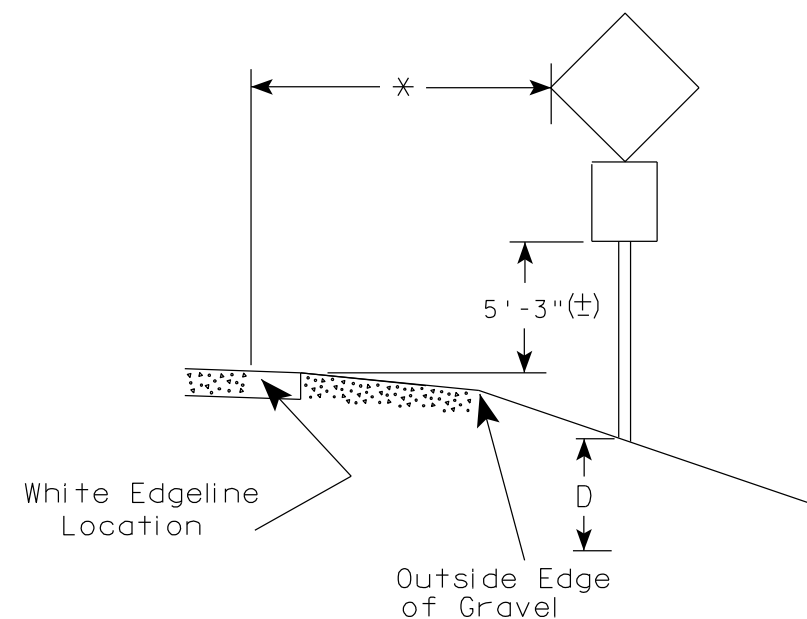
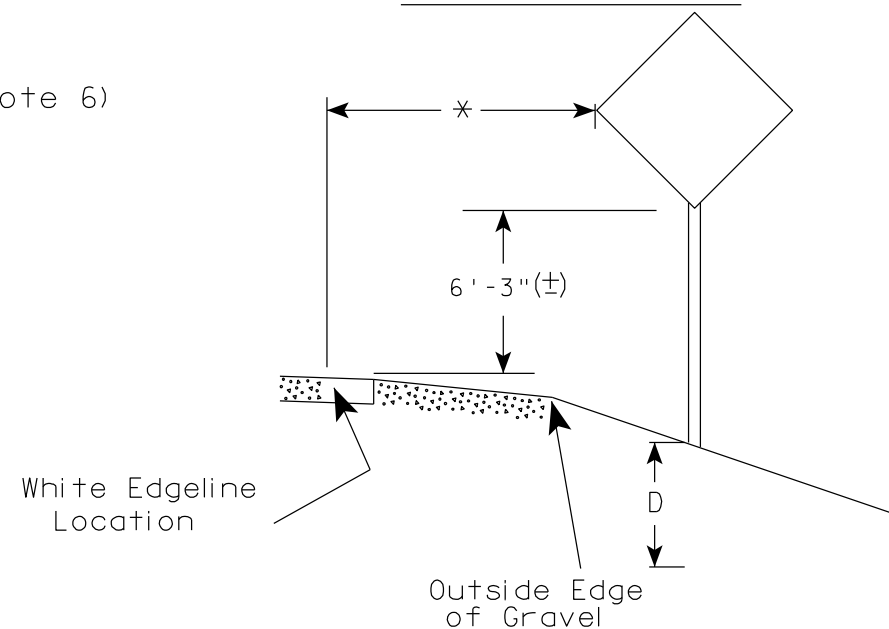
**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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

* * 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.

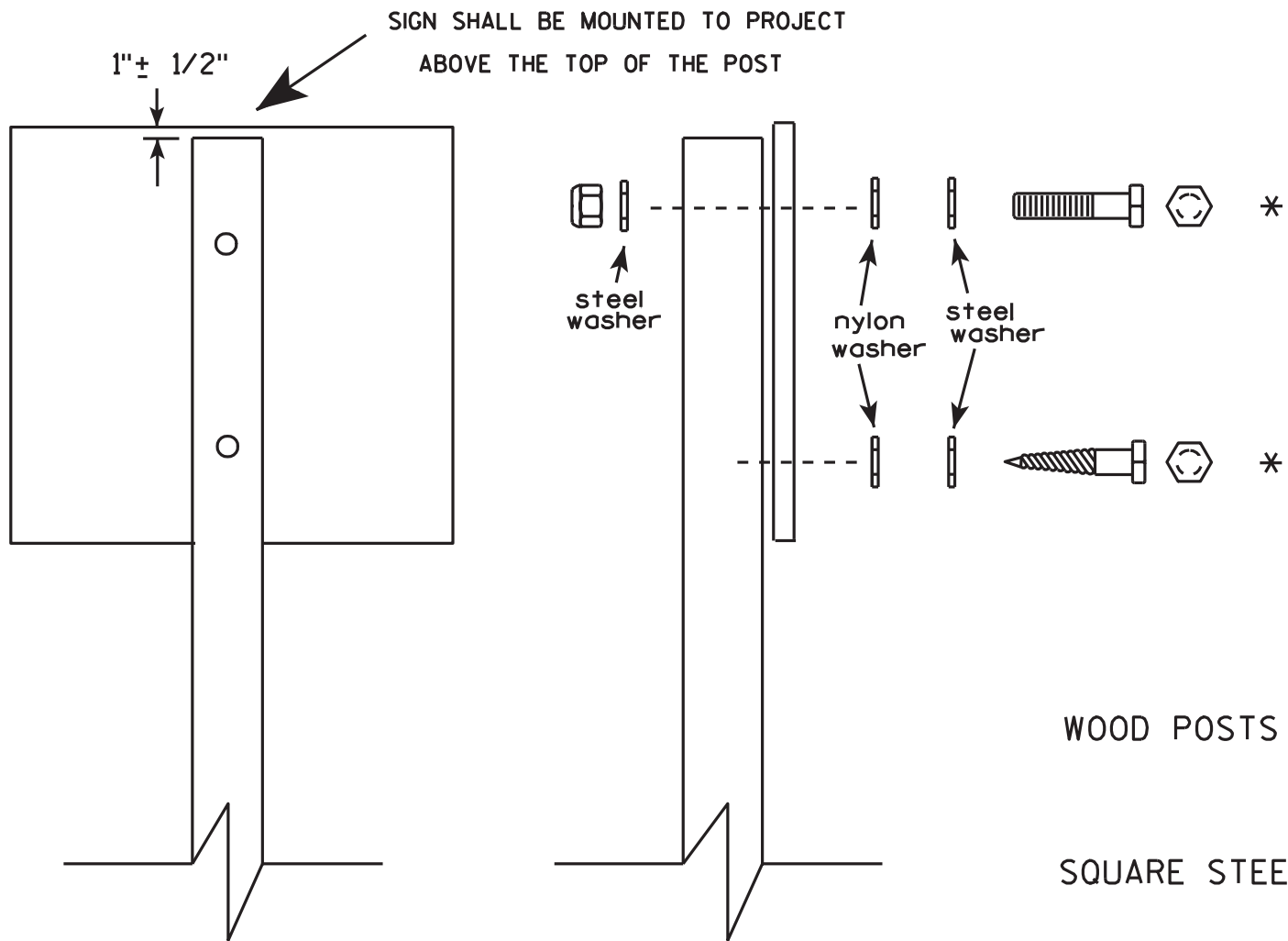
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



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.

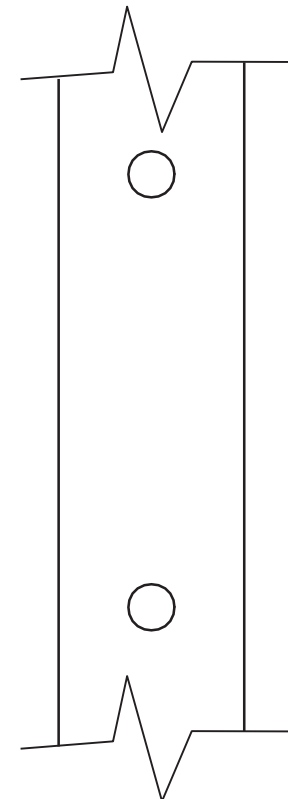
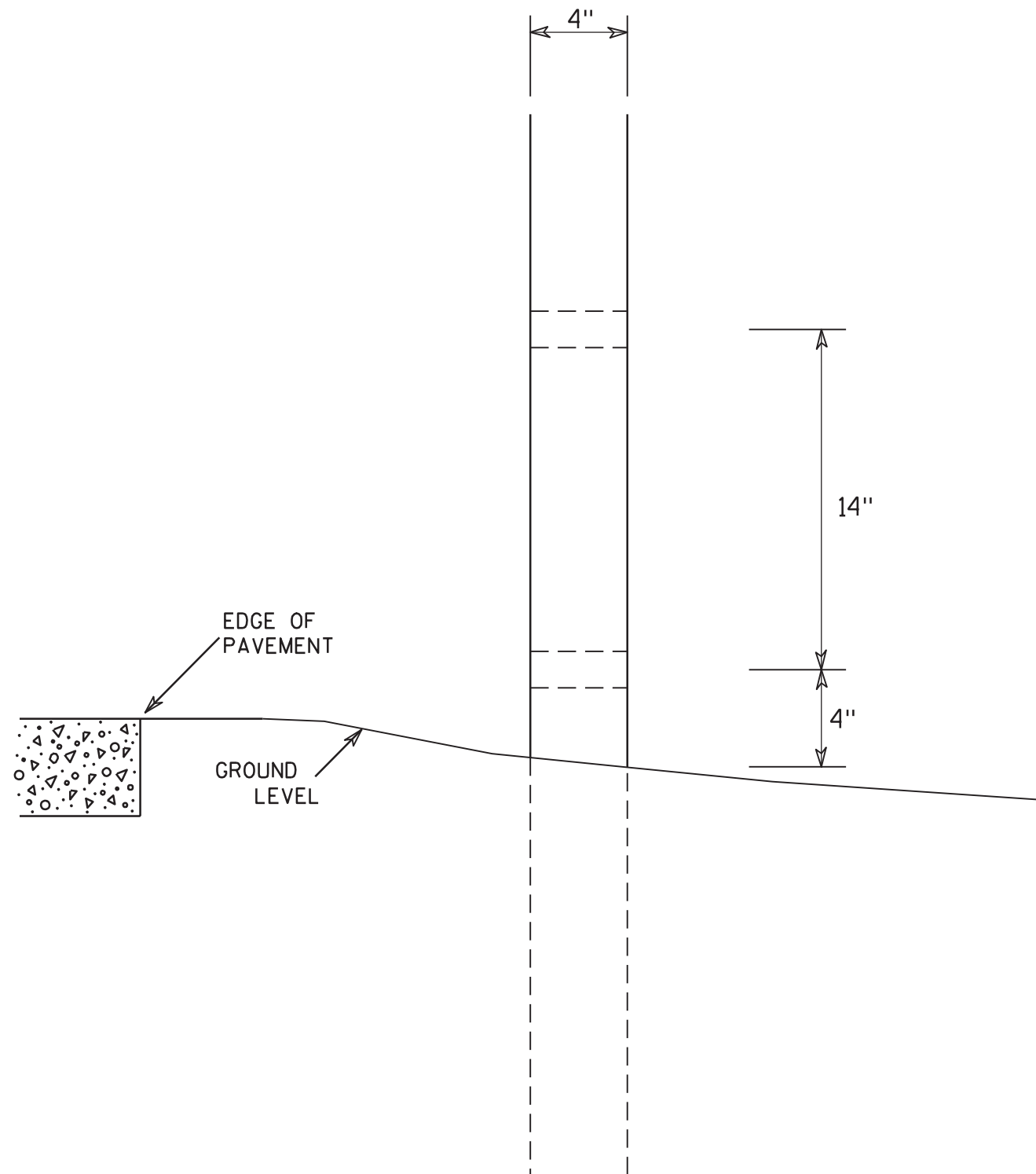
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3"
- MACHINE BOLTS - $\frac{5}{16}$ " X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON for all Type H signs.

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

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7



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: 5695-00-72

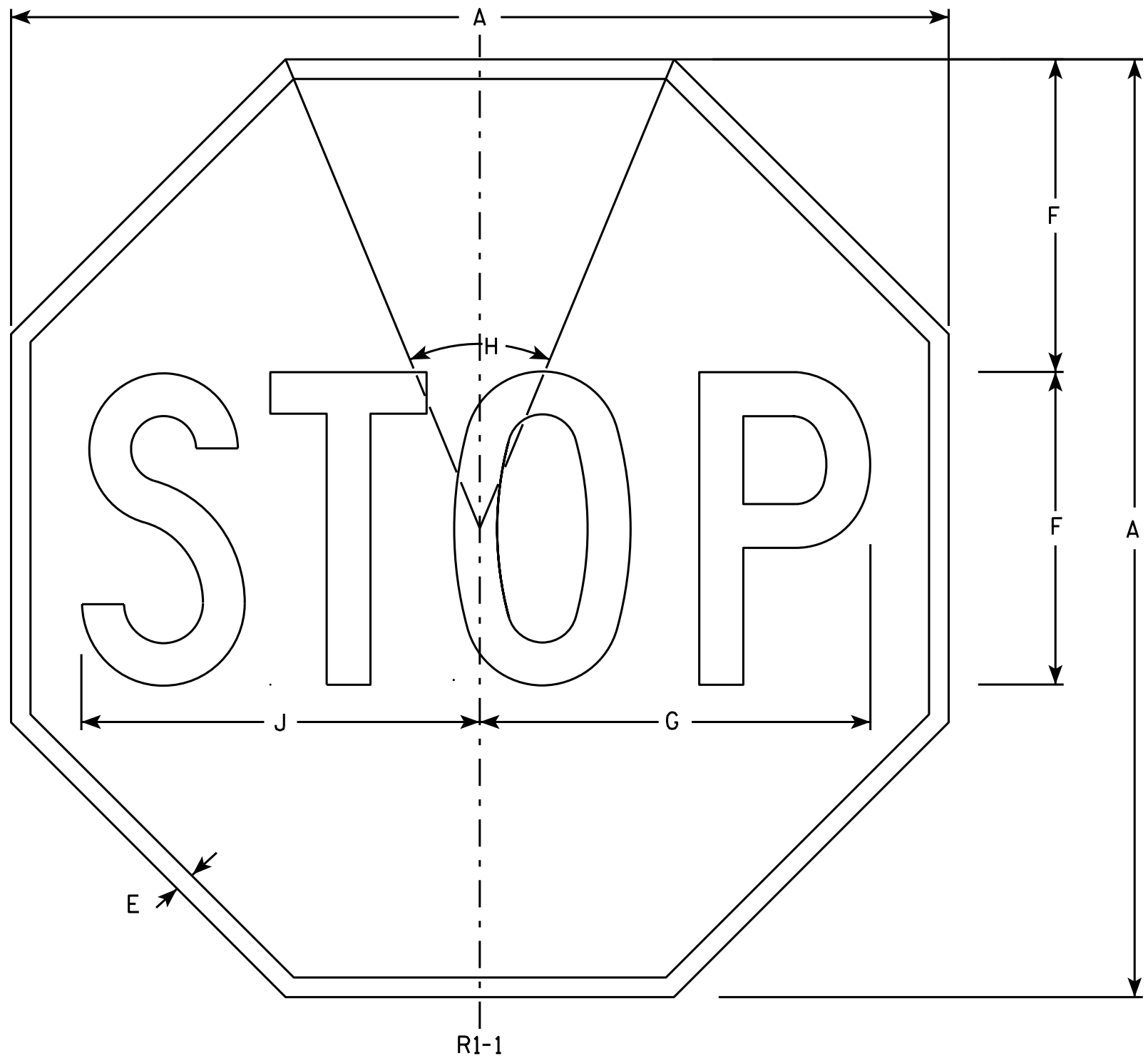
HWY: CTH I

COUNTY: LAFAYETTE

SIGN PLATE DETAILS

SHEET NO:

E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Red
Message - White
3. Message Series - C

R1-1

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	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 11/12/15

PLATE NO. R1-1.12

PROJECT NO: 5695-00-72

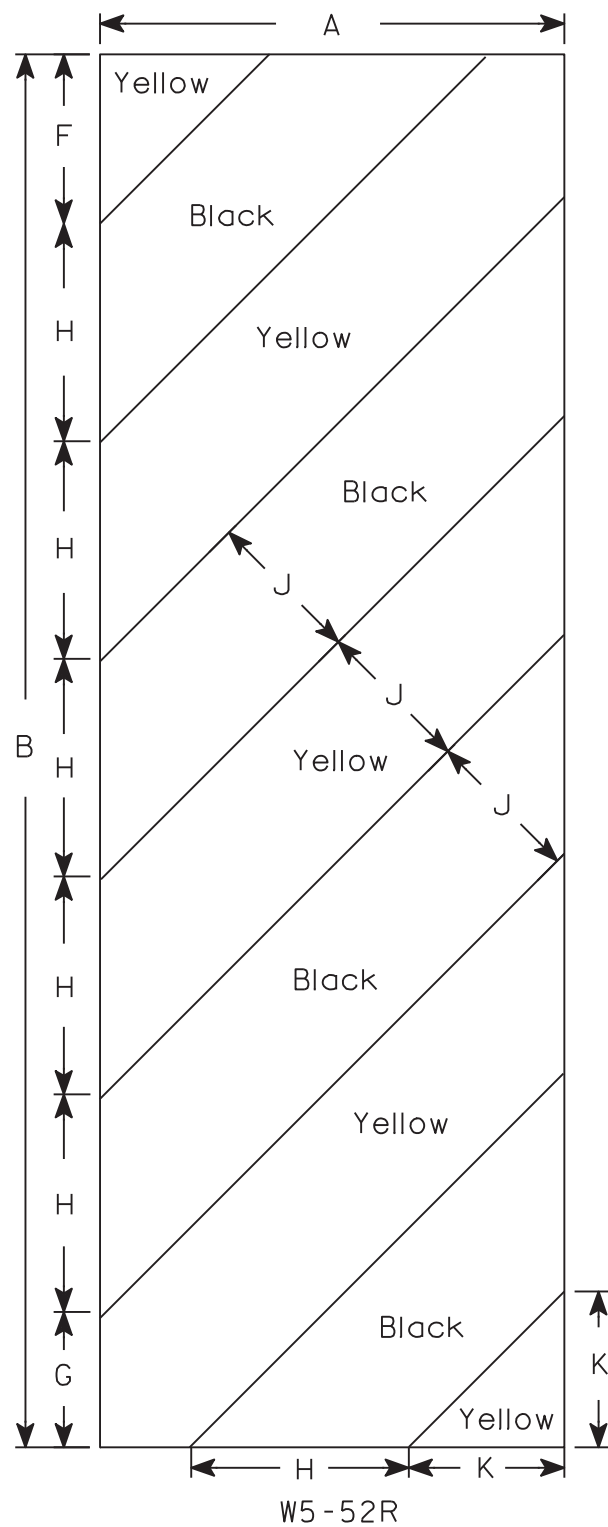
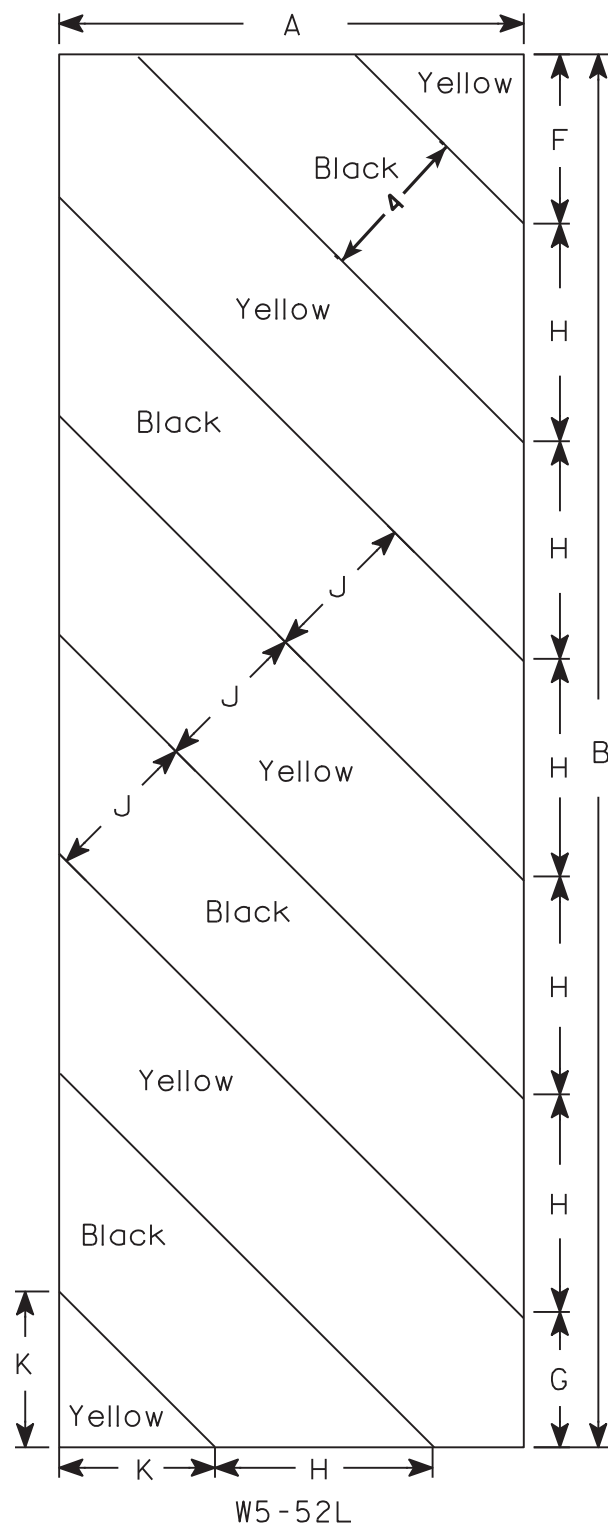
HWY: CTH I

COUNTY: LAFAYETTE

SIGN PLATE DETAILS

SHEET NO:

E



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.

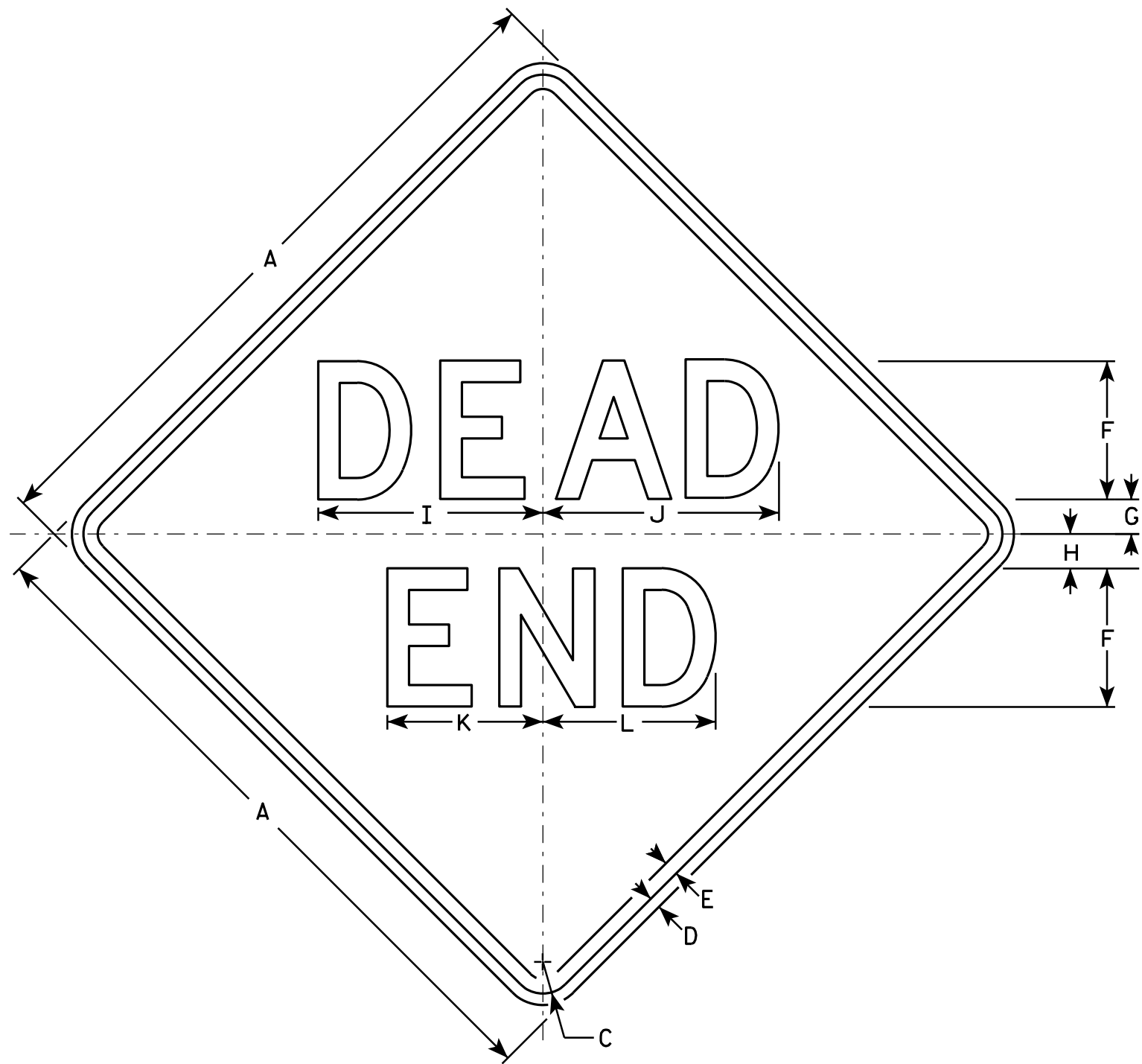
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 9⁄16																6.75
4																											
5																											

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



W14-1

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 - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area, sq. ft.
1	24		1 1/8	3/8	1/2	5	1	2	8 1/4	8 5/8	5 5/8	6 1/4															4.0
2S	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
2M	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
3	36		1 5/8	5/8	3/4	7	2	3	11 3/8	12	7 7/8	8 3/4															9.0
4																											
5																											

STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W14-1.7

PROJECT NO: 5695-00-72

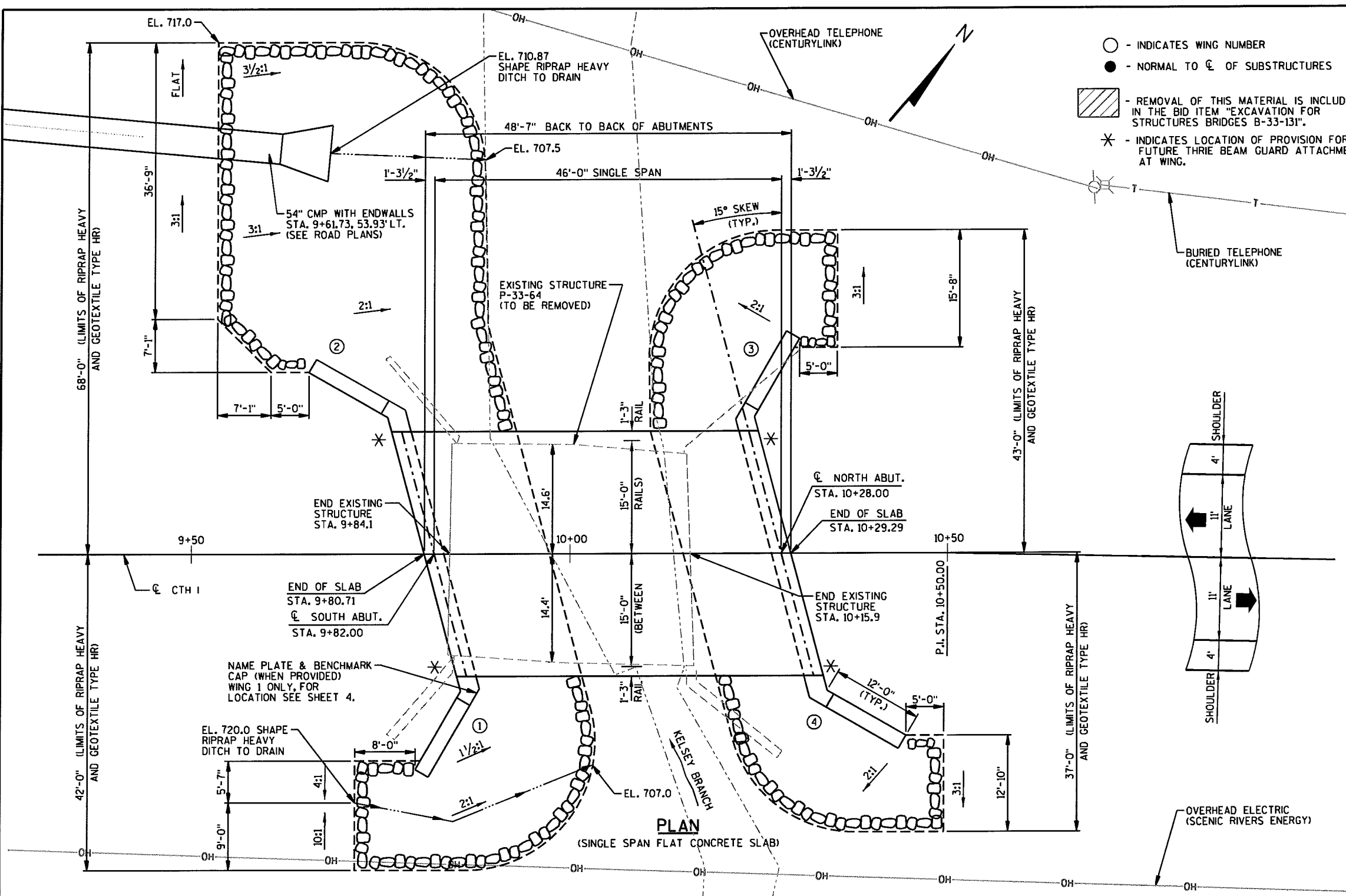
HWY: CTH I

COUNTY: LAFAYETTE

SIGN PLATE DETAILS

SHEET NO:

E



STATE PROJECT NUMBER			
5695-00-72			
BENCHMARKS		NAVD 88	
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	9+84.03, 17.15' RT.	CHIS SQUARE ON SE WING	720.80
2	8+90.28, 91.65' LT.	CHIS SQUARE ON CONCRETE SLAB IN PASTURE	722.61

DESIGN DATA
LIVE LOAD: DESIGN LOADING : HL-93
INVENTORY RATING FACTOR : 1.10
OPERATIONAL RATING FACTOR : 1.42
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

TRAFFIC DATA: A.A.D.T. (2018) = 120
A.A.D.T. (2038) = 130
RDS = 25 MPH

MATERIAL PROPERTIES:
CONCRETE MASONRY, SLAB $f'_c = 4,000$ P.S.I.
ALL OTHER $f'_c = 3,500$ P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.

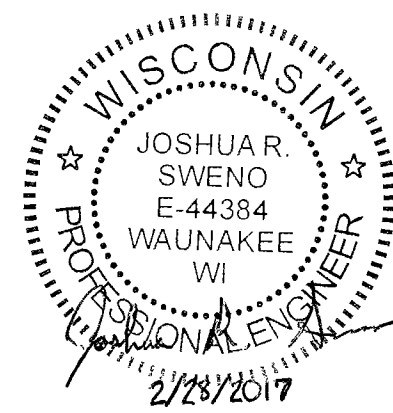
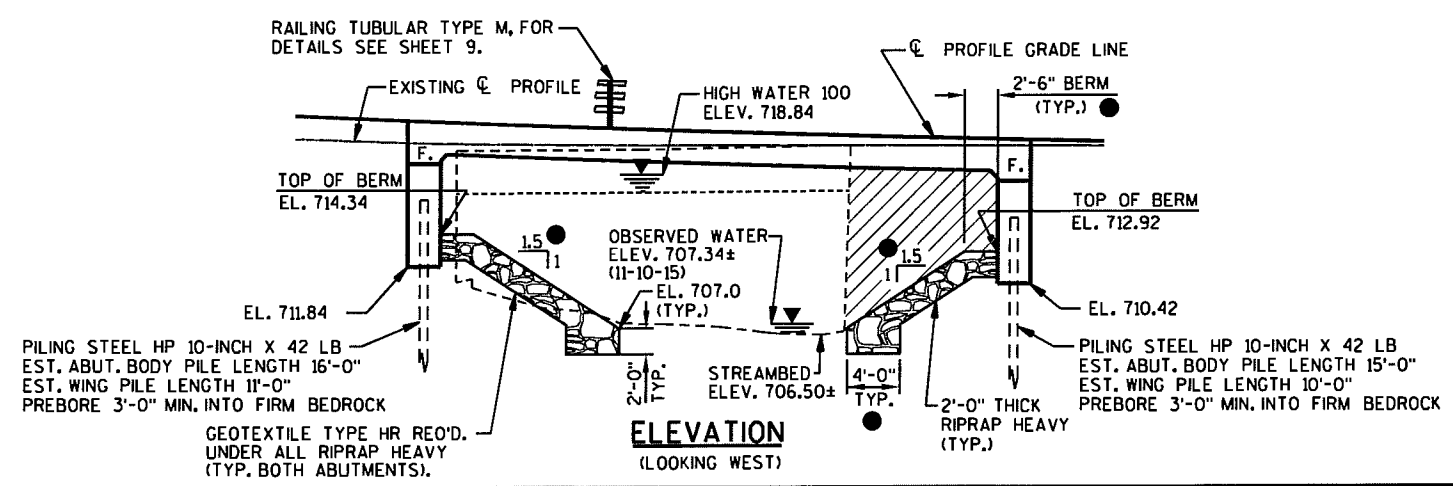
FOUNDATION DATA:
ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. ESTIMATED PILE LENGTHS ARE 16'-0" AT THE SOUTH ABUTMENT BODY, 11'-0" AT THE SOUTH ABUTMENT WINGS, 15'-0" AT THE NORTH ABUTMENT BODY AND 10'-0" AT THE NORTH ABUTMENT WINGS. ALL PILING SHALL BE PREBORED 3'-0" MINIMUM INTO FIRM BEDROCK. SEAT PREBORED PILING BY TAPPING IN PLACE, DRIVING NOT REQUIRED.

HYDRAULIC DATA:
100 YEAR FREQUENCY
DRAINAGE AREA 7.7 SQ. MI.
Q100 3350 C.F.S.
VELOCITY 12.32 FT./SEC.
WATERWAY AREA 272 SQ. FT.
SCOUR CRITICAL CODE 5
HIGH WATER 100 ELEVATION 718.84
O2 ELEVATION (490 C.F.S.) 711.65
O2 VELOCITY 5.02 FT./SEC.

ROADWAY OVERFLOW DESIGN FREQUENCY
OVERTOPPING FREQUENCY > 100 YEARS

- LIST OF DRAWINGS**
1. GENERAL PLAN
 2. CROSS SECTION, QUANTITIES & NOTES
 3. SUBSURFACE EXPLORATION
 4. SOUTH ABUTMENT
 5. SOUTH ABUTMENT DETAILS
 6. NORTH ABUTMENT
 7. NORTH ABUTMENT DETAILS
 8. SUPERSTRUCTURE
 9. RAILING TUBULAR TYPE M

CONSULTANT DESIGN CONTACT: JOSHUA SWENO (608) 355-8852
BRIDGE OFFICE CONTACT: WILLIAM DREHER (608) 266-8489



NO.	DATE	REVISION	BY
MSA TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL 1230 South Boulevard, Durban, WI 53913 608-356-2771 1-800-362-4505 Fax: 608-356-2770			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> 06/05/17 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-33-131			
CTH 1 OVER KELSEY BRANCH			
COUNTY	LAFAYETTE	TOWN/CITY/VILLAGE	NEW DIGGINGS
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS		
DESIGNED BY	JAS	DESIGN CK'D.	JRS
DRAWN BY	RLR	PLANS CK'D.	JAS
GENERAL PLAN			SHEET 1 OF 9

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-33-131" FOR THE ABUTMENTS.

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

THIS STRUCTURE WILL REPLACE EXISTING STRUCTURE P-33-64, A 29 FT. WIDE BY 31.8 FT. LONG STEEL DECK GIRDER BRIDGE SUPPORTED ON FULL RETAINING CONCRETE ABUTMENTS.

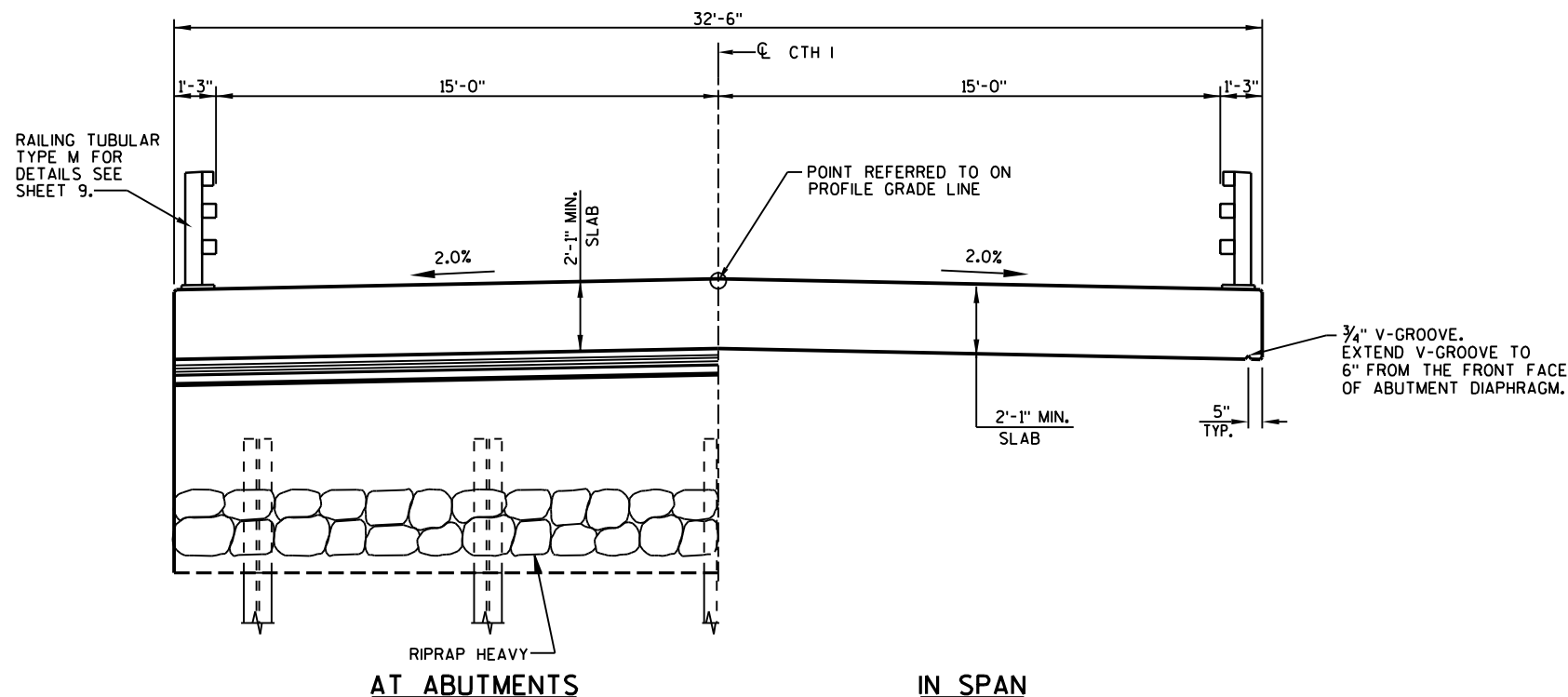
B- BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

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

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, AND TO THE EXPOSED FRONT FACES OF WINGS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.



AT ABUTMENTS

IN SPAN

CROSS SECTION THRU BRIDGE

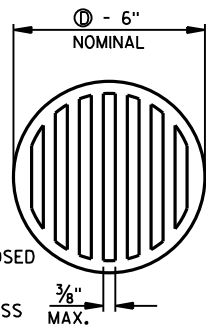
(LOOKING NORTH)

RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

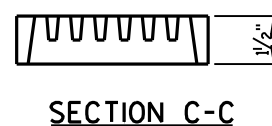
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER.

A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS, SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

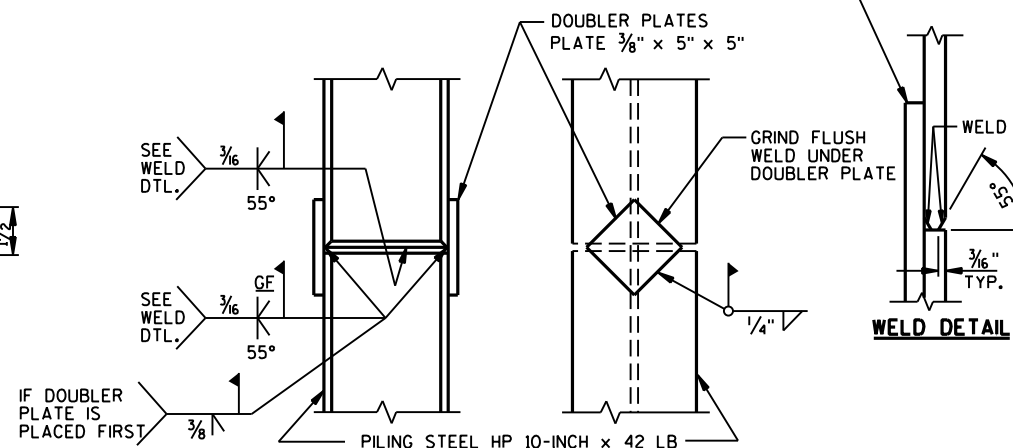


RODENT SHIELD

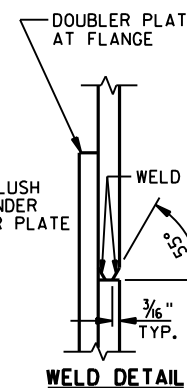
① - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



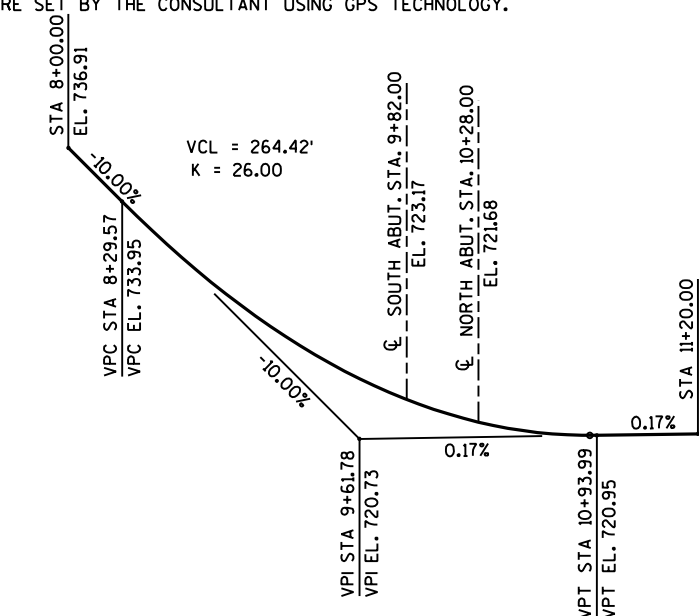
SECTION C-C



PILE SPLICE DETAILS



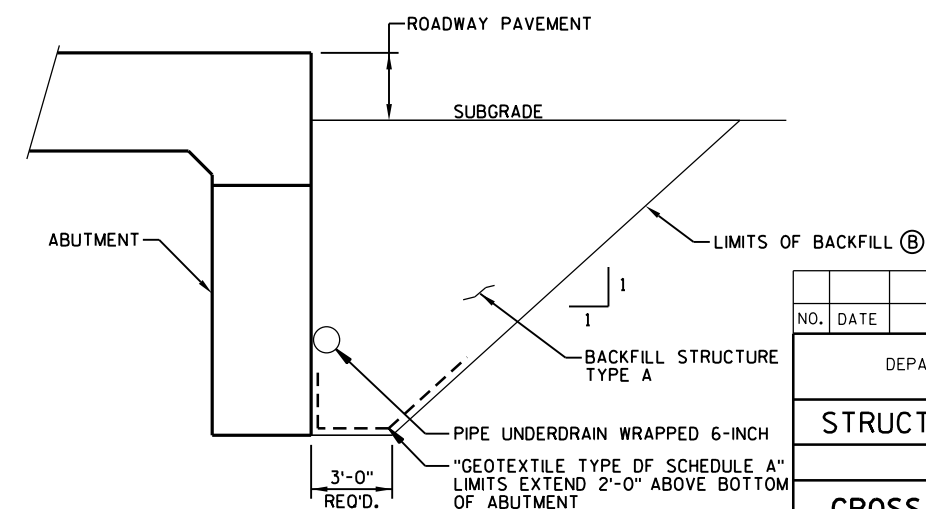
WELD DETAIL



PROFILE GRADE LINE - CTH I

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPER	TOTAL
203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-33-131	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	310	310	-	620
502.0100	CONCRETE MASONRY BRIDGES	CY	50	49	127	226
502.3200	PROTECTIVE SURFACE TREATMENT	SY	28	27	205	260
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2740	2730	-	5470
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1995	1985	20810	24790
513.4061.01	RAILING TUBULAR TYPE M B-33-131	LF	-	-	101	101
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	7	-	14
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	76	69	-	145
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	102	95	-	197
606.0300	RIPRAP HEAVY	CY	235	120	-	355
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	105	105	-	210
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	55	55	-	110
645.0120	GEOTEXTILE TYPE HR	SY	420	230	-	650
	NON-BID ITEMS					
	PREFORMED FILLER	SIZE				1/2" & 3/4"



STRUCTURE BACKFILL DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-33-131			
DRAWN BY RLR		PLANS CK'D. JAS	
CROSS SECTION, QUANTITIES & NOTES		SHEET 2 OF 9	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	3-28-2016	104,575.19	418,160.65
2	3-29-2016	104,618.04	418,186.98

BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) LAFAYETTE COUNTY

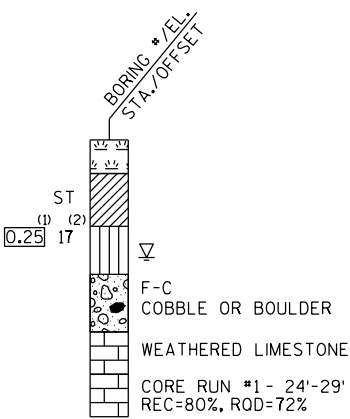
STATE PROJECT NUMBER

5695-00-72

MATERIAL SYMBOLS

	ASPHALT		TOPSOIL		PEAT
	CONCRETE		FILL		GRAVEL
	SAND		CLAY		SILT
	BOULDERS OR COBBLES		LIMESTONE		BEDROCK (UNKNOWN)
	SHALE		SANDSTONE		IGNEOUS/META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

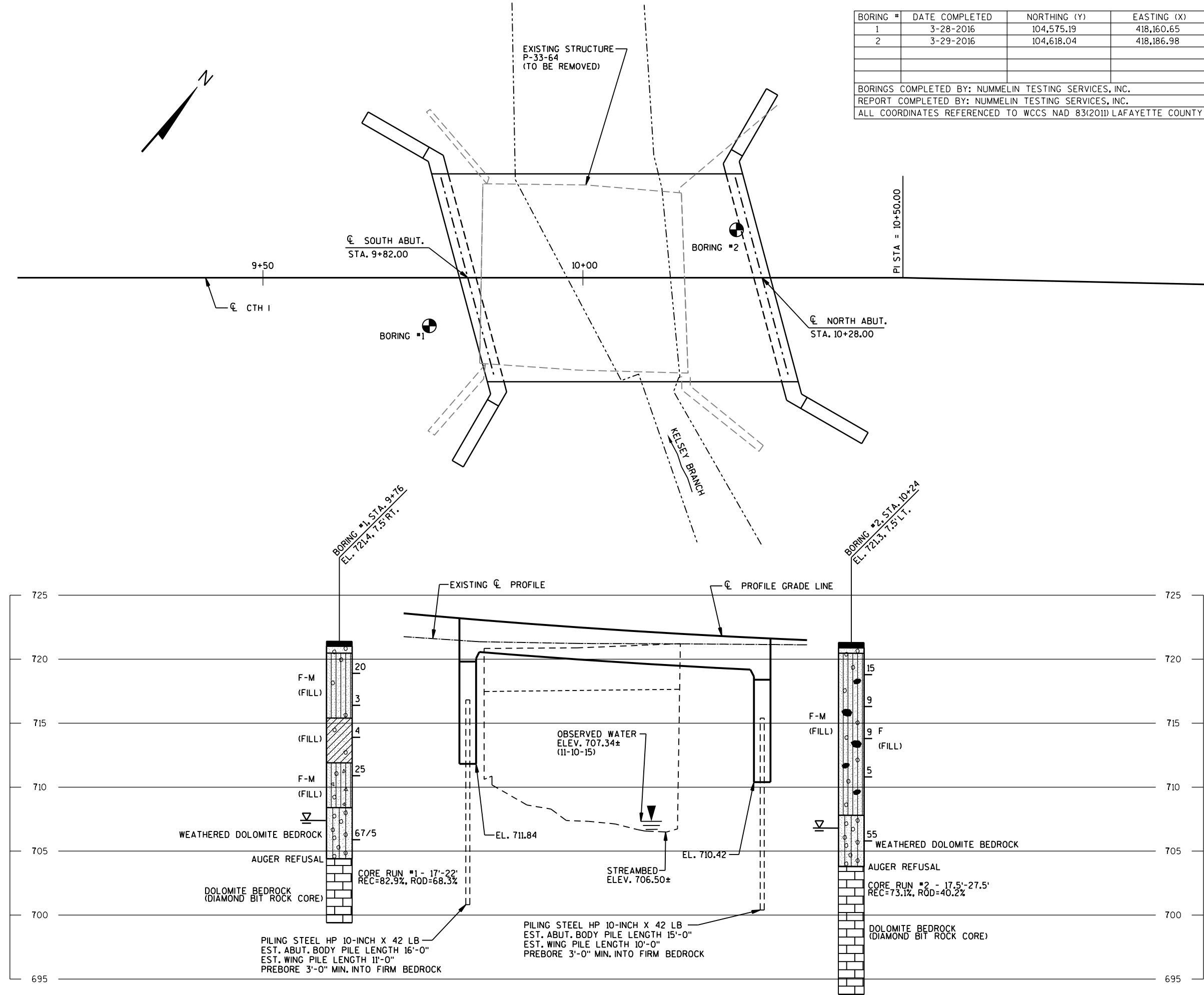
ABBREVIATIONS

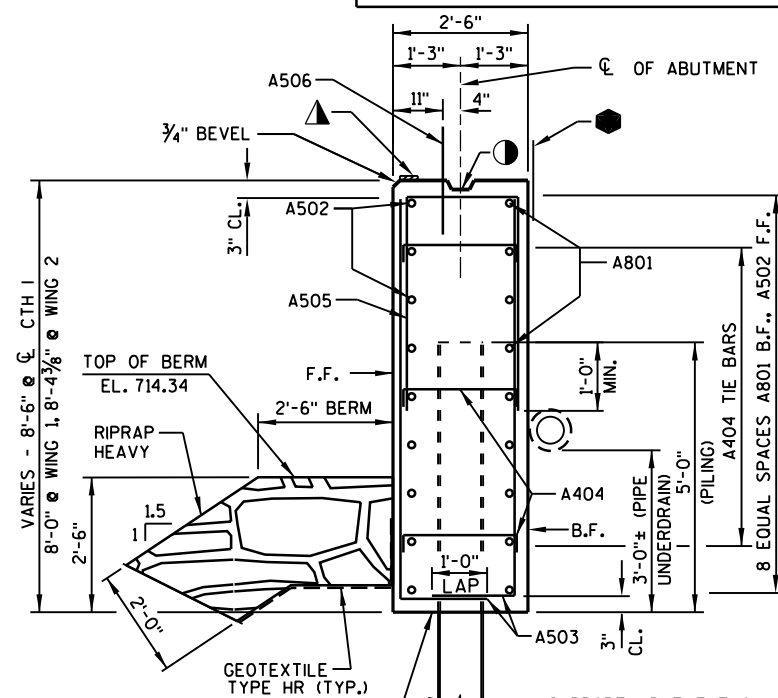
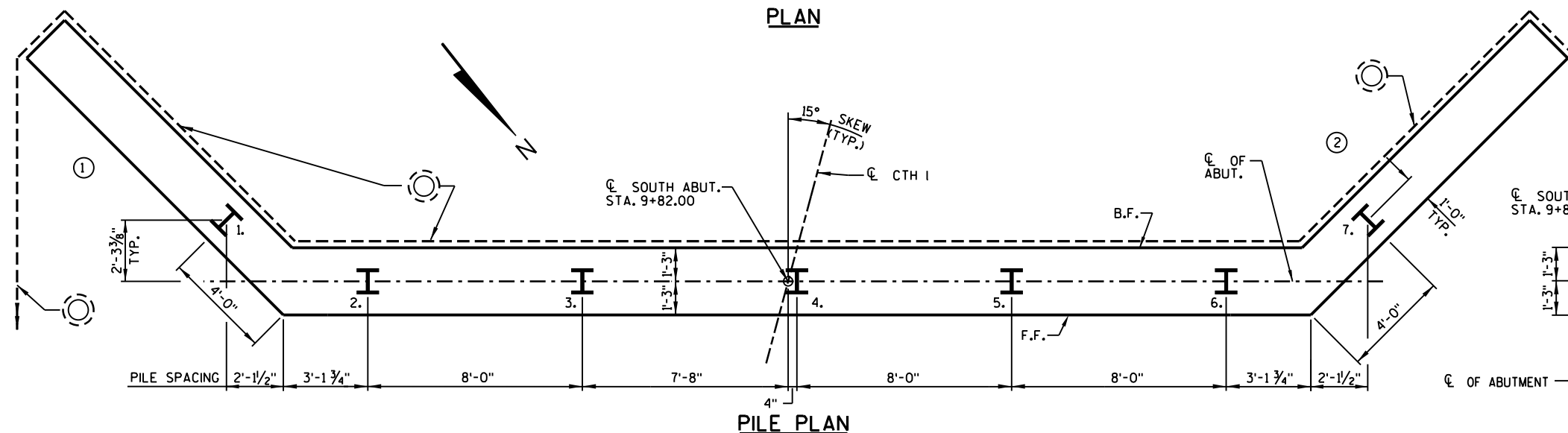
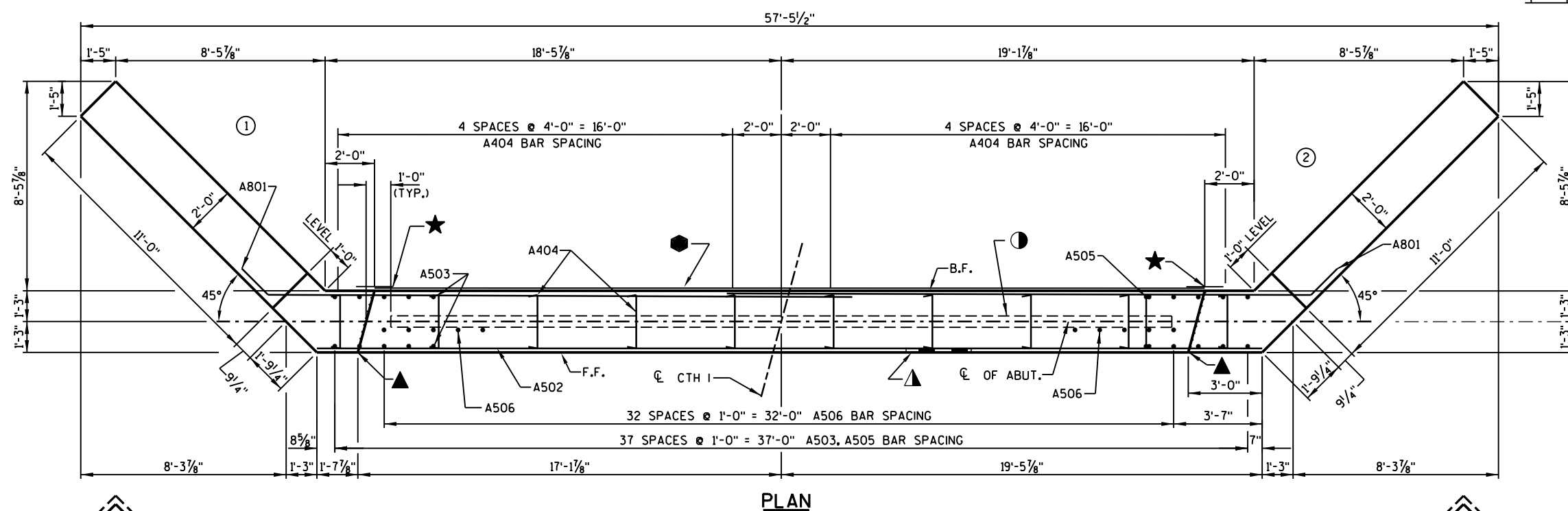
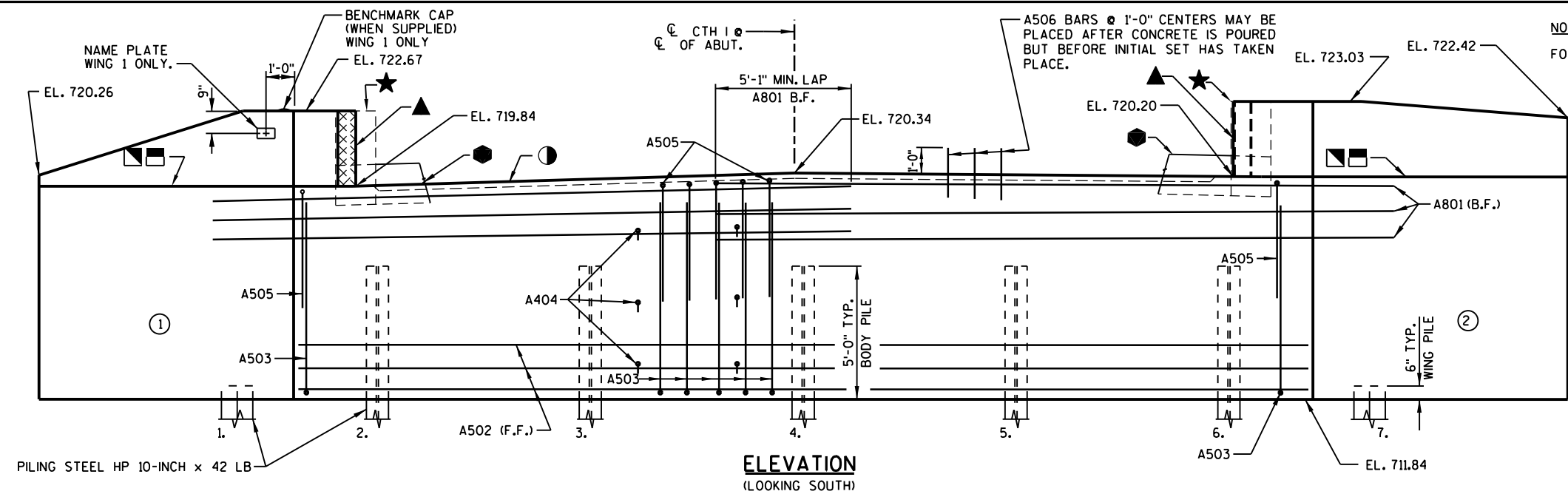
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-33-131	
DRAWN BY		RLR	PLANS CK'D. JAS
SUBSURFACE EXPLORATION		SHEET 3 OF 9	



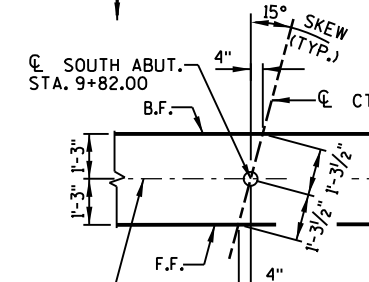


TYPICAL SECTION THRU ABUTMENT

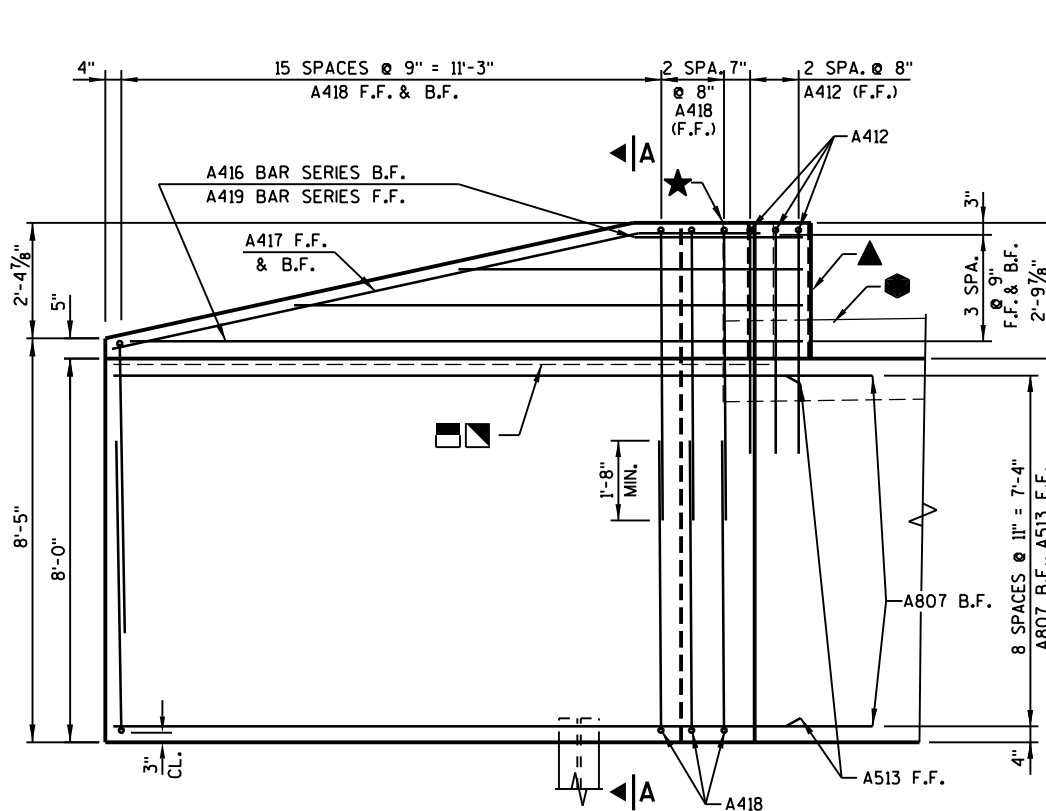
LEGEND

- — INDICATES WING NUMBER.
- ◐ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ▲ — 4"x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ◻ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ● ON B.F. OF WING. COST OF ● INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ◻ — 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE DETAIL, SHEET 2.

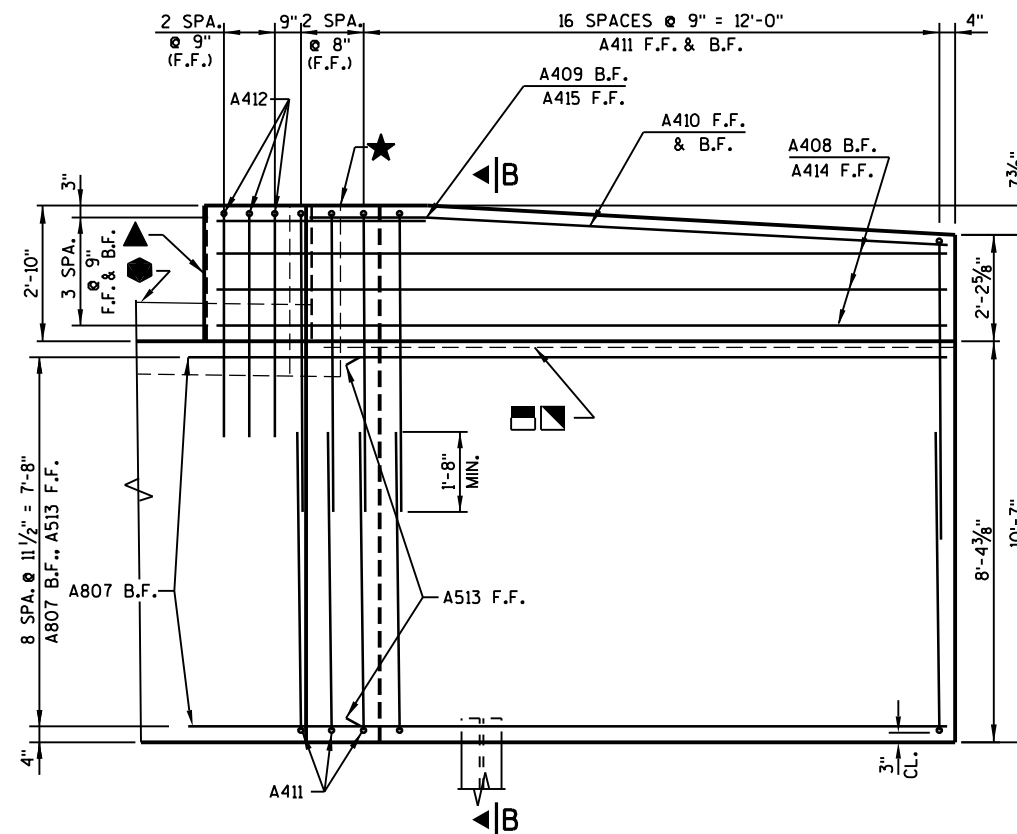
F.F.—FRONT FACE B.F.—BACK FACE CL.—CLEAR



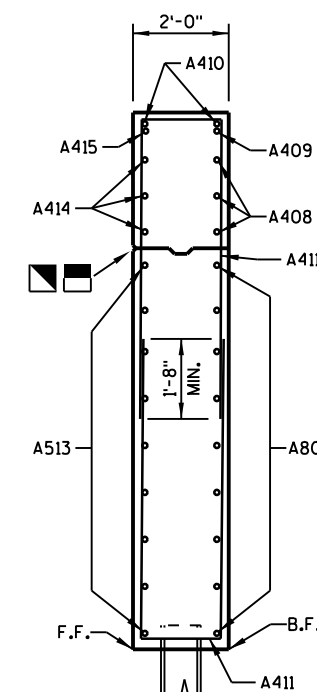
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-33-131	
DRAWN BY		RLR	PLANS CK'D. JAS
SOUTH ABUTMENT		SHEET 4 OF 9	



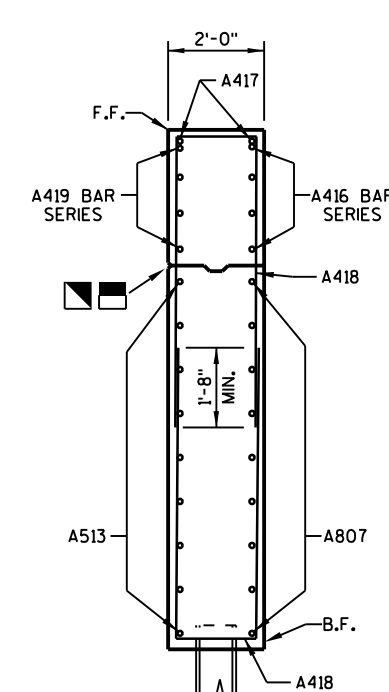
ELEVATION WING 1
(LOOKING AT F.F. OF WING)



ELEVATION WING 2
(LOOKING AT F.F. OF WING)



**SECTION B-B
THRU WING 2**



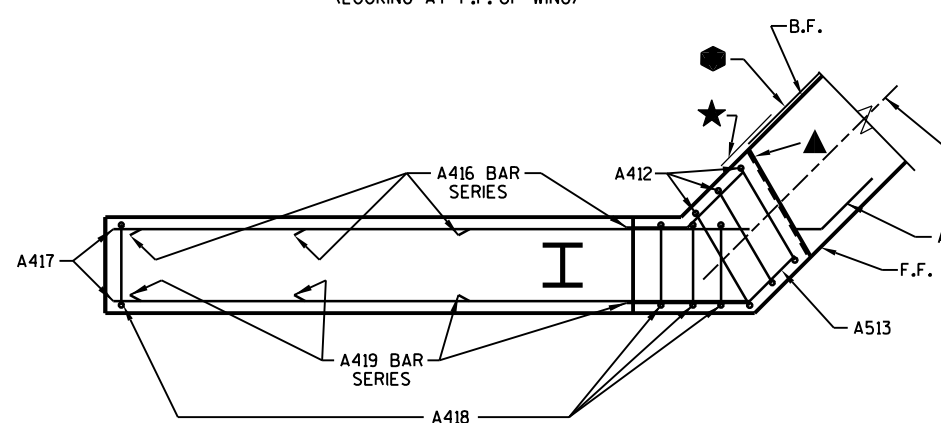
**SECTION A-A
THRU WING 1**

**COATED 1995 LBS.
UNCOATED 2740 LBS.**

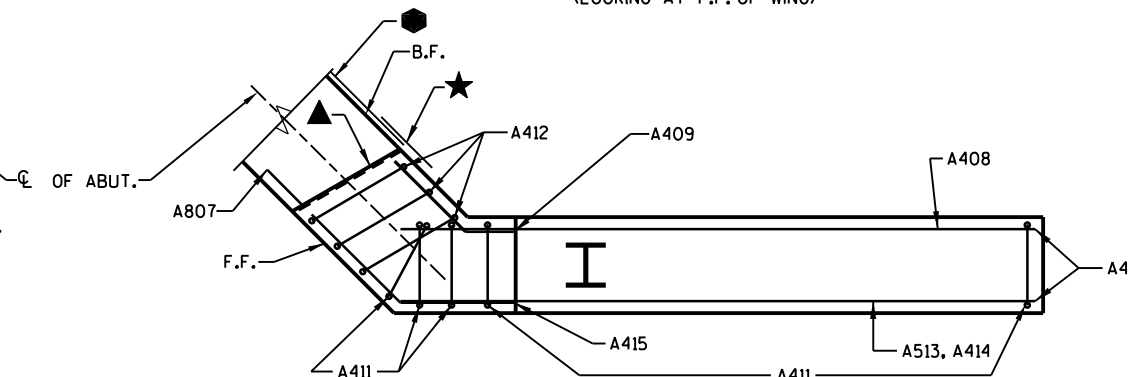
BILL OF BARS (1 ABUTMENT)

MARK	NUMBER COATED	REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
A801	-	18	25'-1"	X		ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	38'-3"			ABUTMENT BODY - F.F. - HORIZ.
A503	-	76	9'-0"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	30	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
A505	-	38	10'-3"	X		ABUTMENT BODY - TOP - VERT.
A506	33	-	2'-0"			ABUTMENT BODY - TOP DOWEL - VERT.
A807	18	-	16'-2"	X		WINGS - B.F. - HORIZ.
A408	3	-	13'-9"	X		WING 2 - B.F. - HORIZ.
A409	1	-	2'-11"	X		WING 2 - B.F. - HORIZ.
A410	2	-	13'-3"	X		WING 2 - F.F. & B.F. - TOP - HORIZ.
A411	38	-	14'-0"	X		WING 2 - F.F. & B.F. - VERT.
A412	6	-	11'-4"	X		WINGS - F.F. & B.F. - TOP - VERT.
A513	18	-	14'-8"	X		WINGS - F.F. - HORIZ.
A414	3	-	15'-9"	X		WING 2 - F.F. - HORIZ.
A415	1	-	4'-11"	X		WING 2 - F.F. - HORIZ.
A416	4	-	8'-3"	X	⊠	WING 1 - B.F. - HORIZ.
A417	2	-	13'-7"	X		WING 1 - F.F. & B.F. - TOP - HORIZ.
A418	36	-	13'-8"	X		WING 1 - F.F. & B.F. - VERT.
A419	4	-	9'-2"	X	⊠	WING 1 - F.F. - HORIZ.

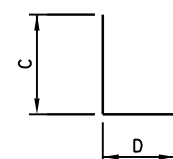
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



PLAN WING 1



PLAN WING 2



MARK	C	D
A404	4 1/2"	2'-2"
A505	4'-2"	2'-2"
A411	6'-3"	1'-8"
A412	4'-8"	2'-2"
A418	6'-1"	1'-8"

MARK	A	B
A801	1'-6"	45°
A807	1'-10"	45°
A410	2'-5"	3°
A414	2'-7"	45°
A416	1'-9"	45°
A417	2'-5"	13°
A419	1'-4"	45°

A503

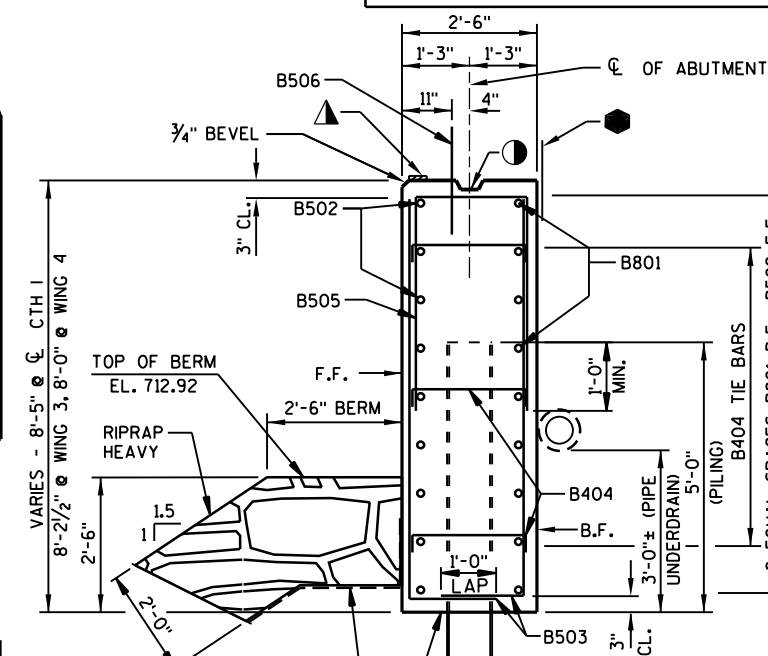
⊠ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.
BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR MARK	NO. REQ'D.	LENGTH
A416	1 SERIES OF 4	3'-1" TO 13'-5"
A419	1 SERIES OF 4	4'-1" TO 14'-2"

BAR SERIES TABLE

SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF
★ ● ▣ ▢ ▲

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-33-131	
DRAWN BY		RLR	PLANS CK'D. JAS
SOUTH ABUTMENT DETAILS		SHEET 5 OF 9	



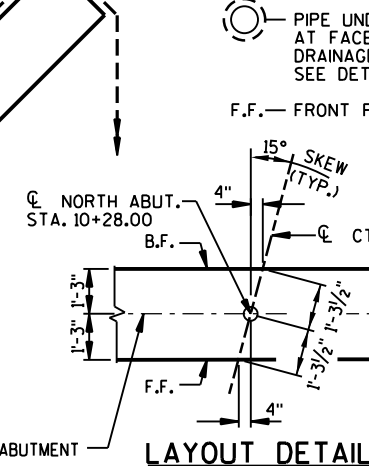
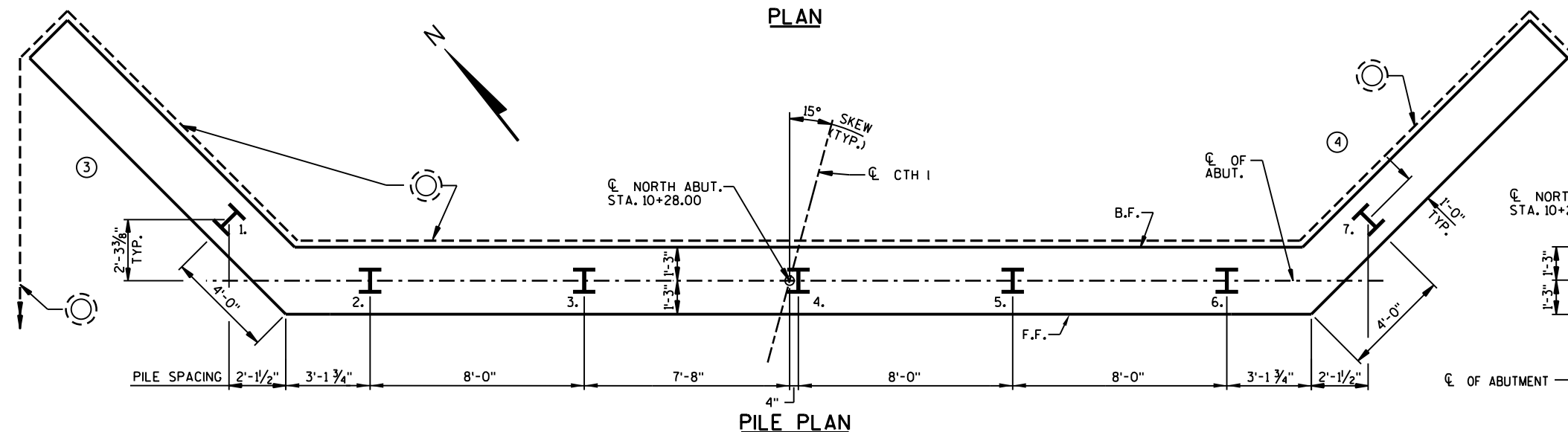
EXCAVATE TO THIS
LINE BEFORE
DRIVING PILING

SUPPORT ABUTMENT ON
PILING STEEL HP 10-INCH X 42 LB.
ESTIMATED PILE LENGTHS ARE 15'-0"
AT THE ABUTMENT BODY, AND 10'-0"
AT THE WINGS. PREBORE PILING 3'-0"
MINIMUM INTO FIRM BEDROCK, SEAT
PREBORED PILING BY TAPPING IN PLACE.
DRIVING NOT REQUIRED.

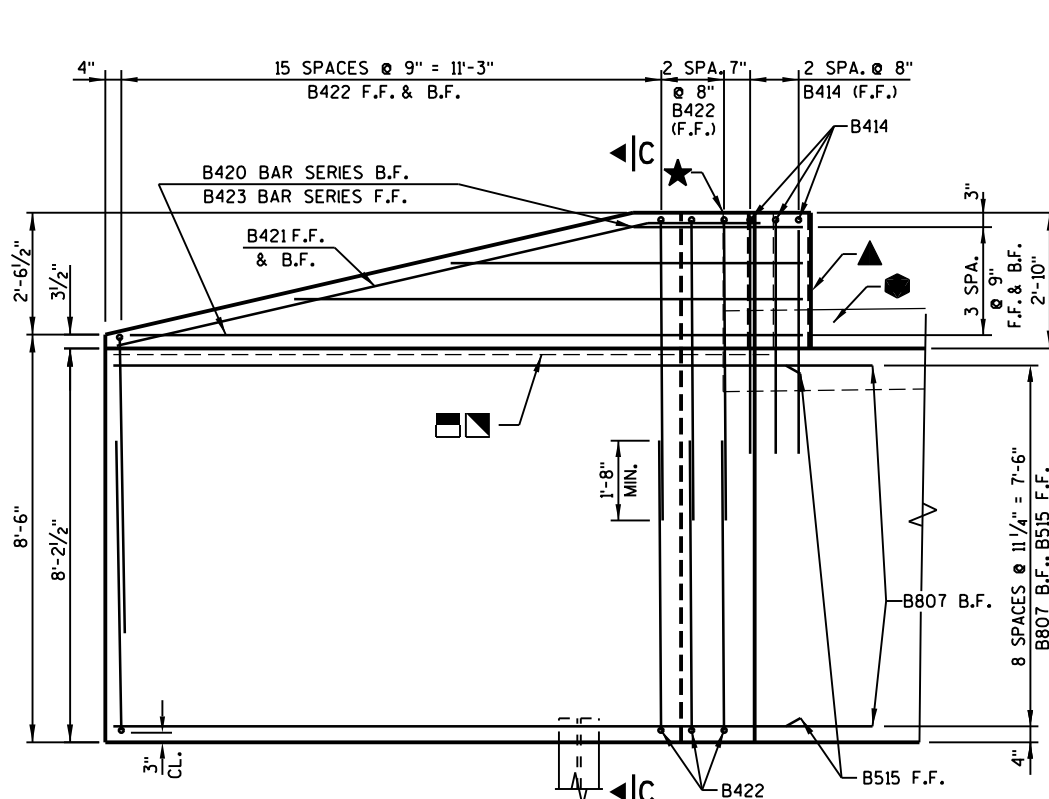
LEGEND

- — INDICATES WING NUMBER.
- ◐ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ▲ — 4"x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ◻ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ● ON B.F. OF WING. COST OF ● INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ◼ — 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE DETAIL, SHEET 2.

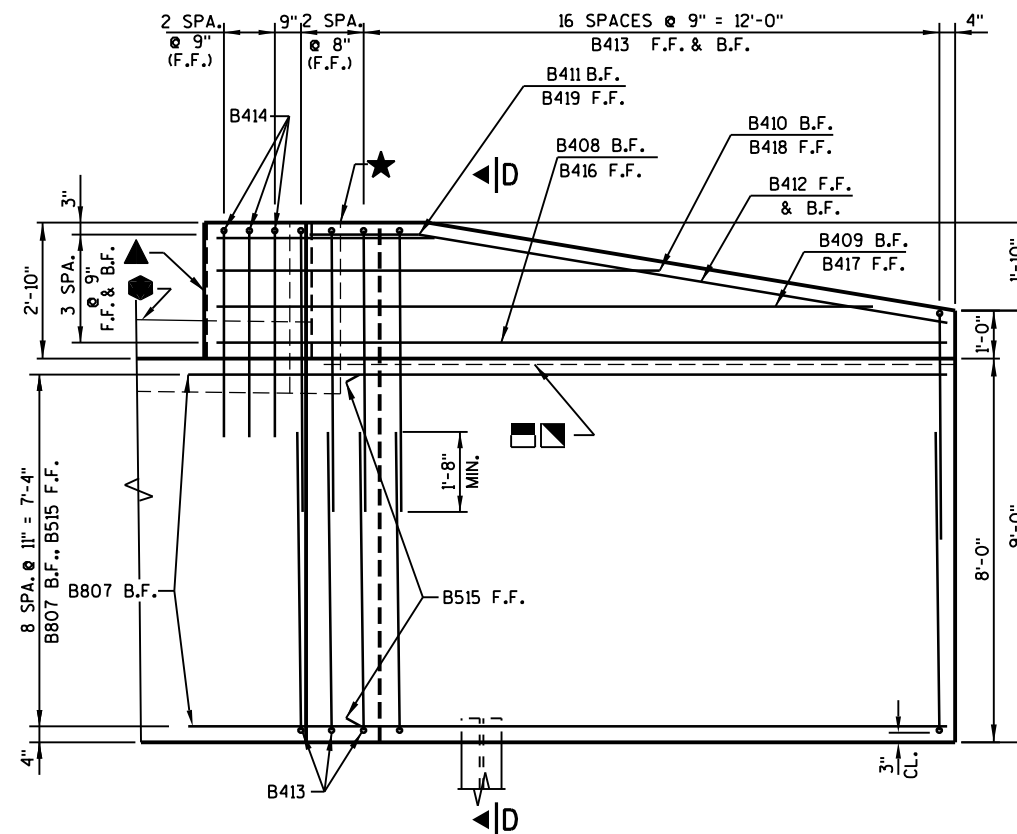
F.F.—FRONT FACE B.F.—BACK FACE CL.—CLEAR



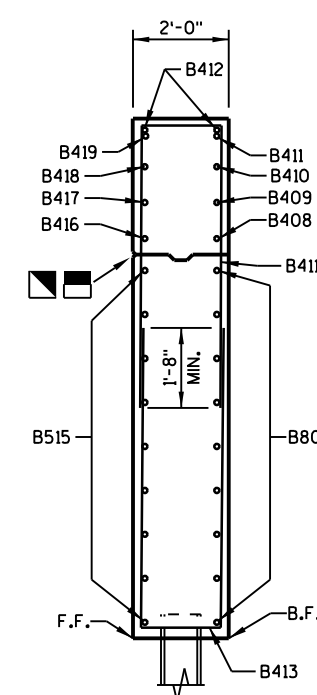
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-33-131	
DRAWN BY		CAR	PLANS CK'D. JAS
NORTH ABUTMENT		SHEET 6 OF	



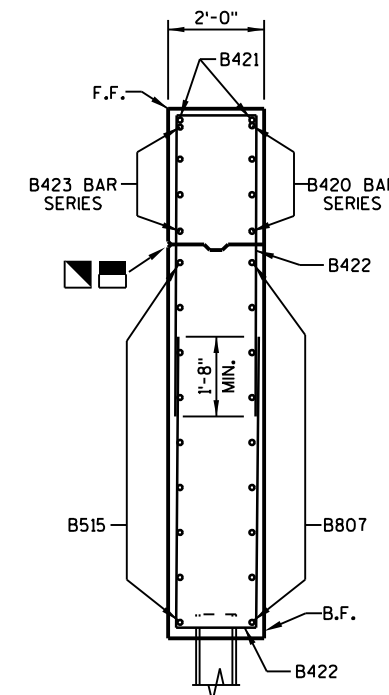
ELEVATION WING 3
(LOOKING AT F.F. OF WING)



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



**SECTION D-D
THRU WING 4**



**SECTION C-C
THRU WING 3**

**COATED 1985 LBS.
UNCOATED 2730 LBS.**

BILL OF BARS (1 ABUTMENT)

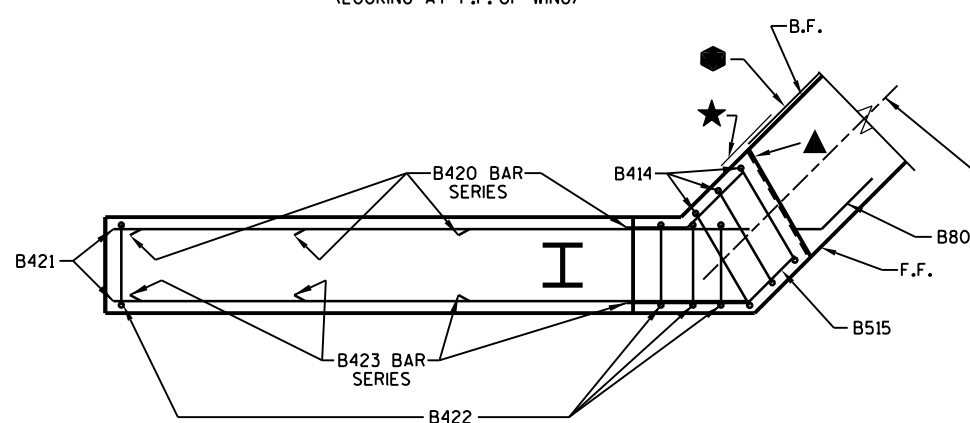
MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
B801	-	18	25'-1"	X		ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	38'-3"			ABUTMENT BODY - F.F. - HORIZ.
B503	-	76	9'-0"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	30	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
B505	-	38	10'-1"	X		ABUTMENT BODY - TOP - VERT.
B506	33	-	2'-0"			ABUTMENT BODY - TOP DOWEL - VERT.
B807	18	-	16'-2"	X		WINGS - B.F. - HORIZ.
B408	1	-	13'-9"	X		WING 4 - B.F. - HORIZ.
B409	1	-	12'-3"	X		WING 4 - B.F. - HORIZ.
B410	1	-	7'-9"	X		WING 4 - B.F. - HORIZ.
B411	1	-	3'-4"	X		WING 4 - B.F. - HORIZ.
B412	2	-	13'-6"	X		WING 4 - F.F. & B.F. - TOP - HORIZ.
B413	38	-	13'-8"	X		WING 4 - F.F. & B.F. - VERT.
B414	6	-	11'-4"	X		WINGS - F.F. & B.F. - TOP - VERT.
B515	18	-	14'-8"	X		WINGS - F.F. - HORIZ.
B416	1	-	15'-9"	X		WING 4 - F.F. - HORIZ.
B417	1	-	14'-3"	X		WING 4 - F.F. - HORIZ.
B418	1	-	9'-10"	X		WING 4 - F.F. - HORIZ.
B419	1	-	5'-5"	X		WING 4 - F.F. - HORIZ.
B420	4	-	8'-3"	X	⊠	WING 3 - B.F. - HORIZ.
B421	2	-	13'-9"	X		WING 3 - F.F. & B.F. - TOP - HORIZ.
B422	36	-	13'-10"	X		WING 3 - F.F. & B.F. - VERT.
B423	4	-	9'-0"	X	⊠	WING 3 - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

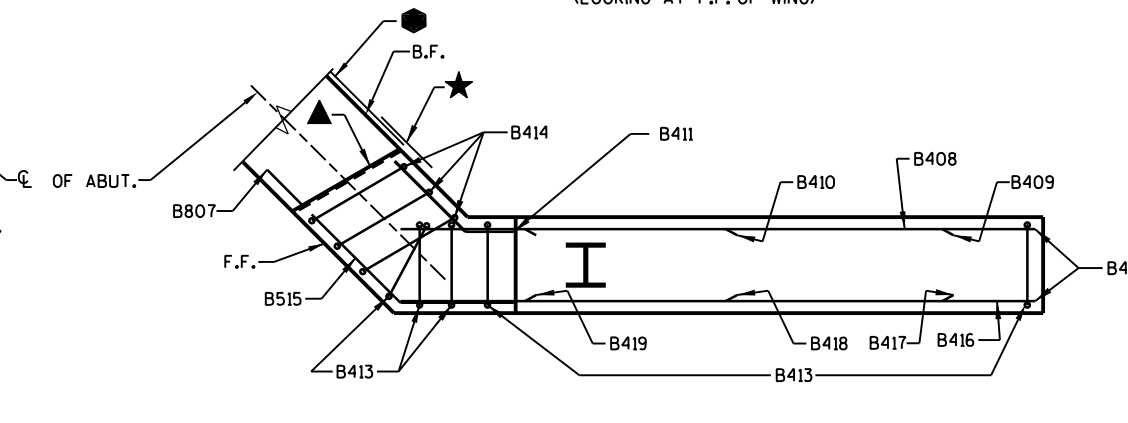
⊠ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.
BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR MARK	NO. REQ'D.	LENGTH
B420	1 SERIES OF 4	3'-2" TO 13'-4"
B423	1 SERIES OF 4	3'-11" TO 14'-2"

BAR SERIES TABLE



PLAN WING 3



PLAN WING 4

MARK	A	B
B801 B807 B515	1'-6"	45°
B408 B409 B410 B411	1'-10"	45°
B412	2'-5"	9°
B416 B417 B418 B419	2'-7"	45°
B420	1'-9"	45°
B421	2'-5"	13°
B423	1'-4"	45°

MARK	C	D
B404	4 1/2"	2'-2"
B505	4'-1"	2'-2"
B413	6'-1"	1'-8"
B414	4'-8"	2'-2"
B422	6'-2"	1'-8"

SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF



B503

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	66	7'-8"	X	DIAPHRAGM @ ABUTS. - LONGIT.
S1002	37	48'-3"		SLAB BOTTOM - LONGIT.
S1003	36	36'-11"		SLAB BOTTOM - LONGIT.
S504	118	33'-3"		SLAB TOP & BOTTOM - TRANS.
S405	88	25'-4"		SLAB TOP - LONGIT.
S606	36	12'-0"	X	SLAB TOP @ RAIL POST, 2 PER POST
S607	56	6'-0"		SLAB TOP @ RAIL POST, 4 PER POST
S608	16	6'-0"	X	SLAB TOP @ RAIL END POST AS NOTE

46'-0" SINGLE SPAN

← C. OF S. ABUT.

← C. OF N. ABUT.

CAMBER

DESIGN PROFILE GRADE LINE

CAMBER DIAGRAM

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

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 TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED ON THE SKEW.

LOCATION	SPAN POINT	WEST SLAB EDGE	C/L C/T I	EAST SLAB EDGE
SOUTH ABUT.	1.0			
	1.5			
NORTH ABUT.	2.0			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C OF ABUTMENTS AND AT THE 0.5 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR C. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

LOCATION	SPAN POINT	EAST SLAB EDGE	C/L C/T H I	WEST SLAB EDGE	CAMBER VALUE (INCHES)
SOUTH ABUT.	1.0	722.67	723.17	723.03	0.0
	1.1	722.49	722.99	722.84	0.5
	1.2	722.32	722.81	722.65	1.0
	1.3	722.16	722.64	722.48	1.4
	1.4	722.01	722.48	722.31	1.6
	1.5	721.86	722.32	722.14	1.7
	1.6	721.72	722.18	721.99	1.6
	1.7	721.59	722.04	721.85	1.4
	1.8	721.47	721.91	721.71	1.0
	1.9	721.36	721.79	721.58	0.5
NORTH ABUT.	2.0	721.25	721.68	721.46	0.0

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB,
CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

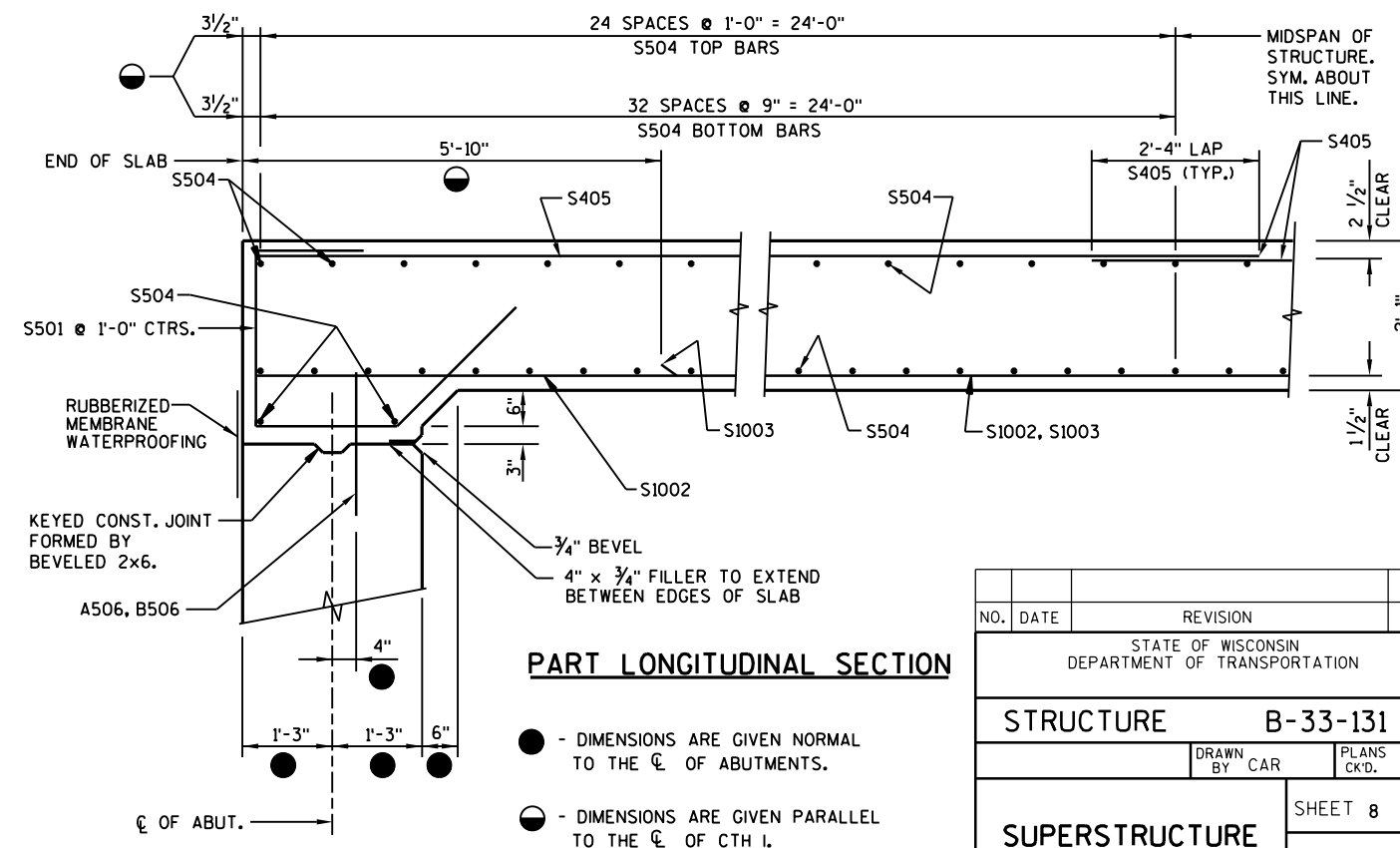
TOP OF SLAB ELEVATION AT FINAL GRADE

- SLAB THICKNESS

+ CAMBER

+ FORM SETTLEMENT/DEFLECTION DUE TO
PLACEMENT OF SLAB CONCRETE
(TO BE COMPUTED BY THE CONTRACTOR)

= TOP OF SLAB FALSEWORK ELEVATION



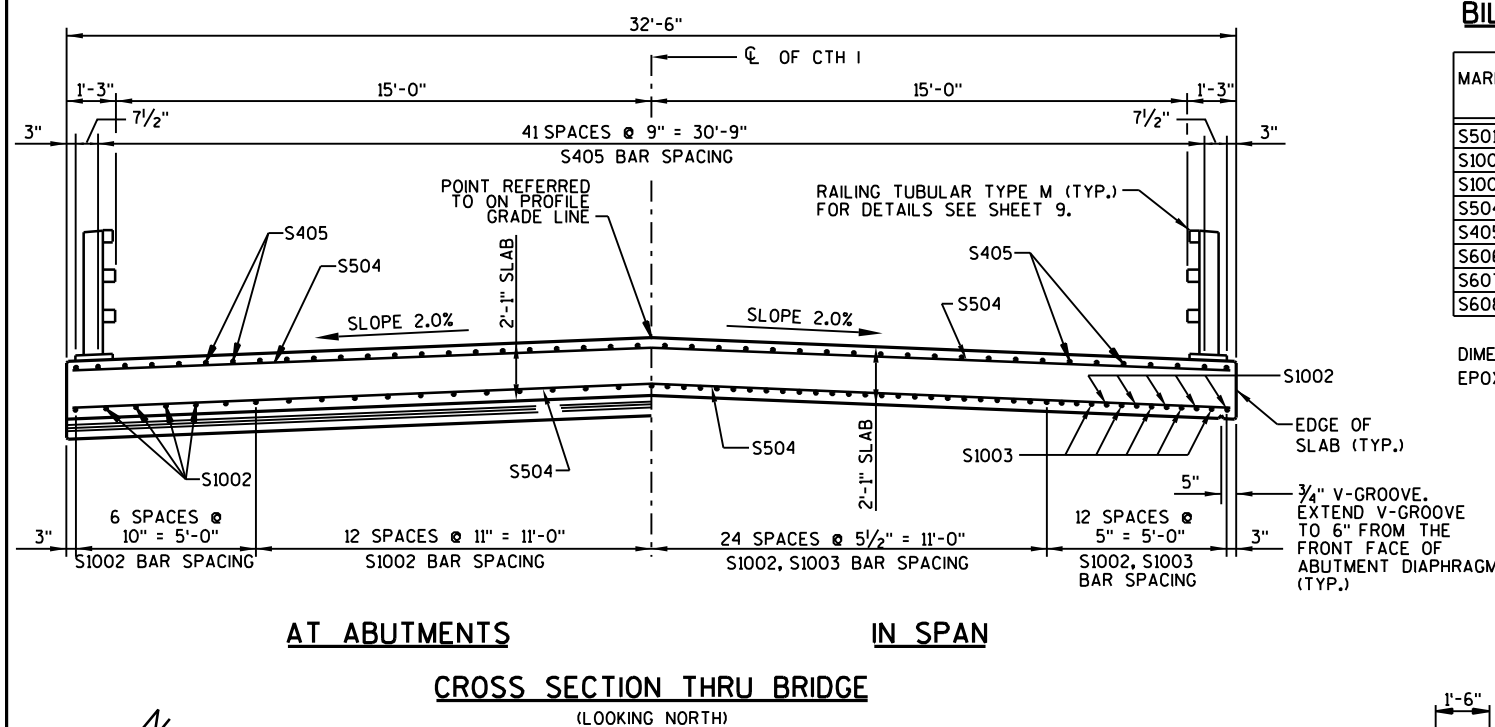
PART LONGITUDINAL SECTION

● - DIMENSIONS ARE GIVEN NORMAL TO THE ϕ OF ABUTMENTS.

⊙ - DIMENSIONS ARE GIVEN PARALLEL TO THE ϕ OF CTH 1.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-33-131	
DRAWN BY CAR		PLANS CK'D. JA	
SUPERSTRUCTURE		SHEET 8 OF	

FILE= 2398016_08.DGN

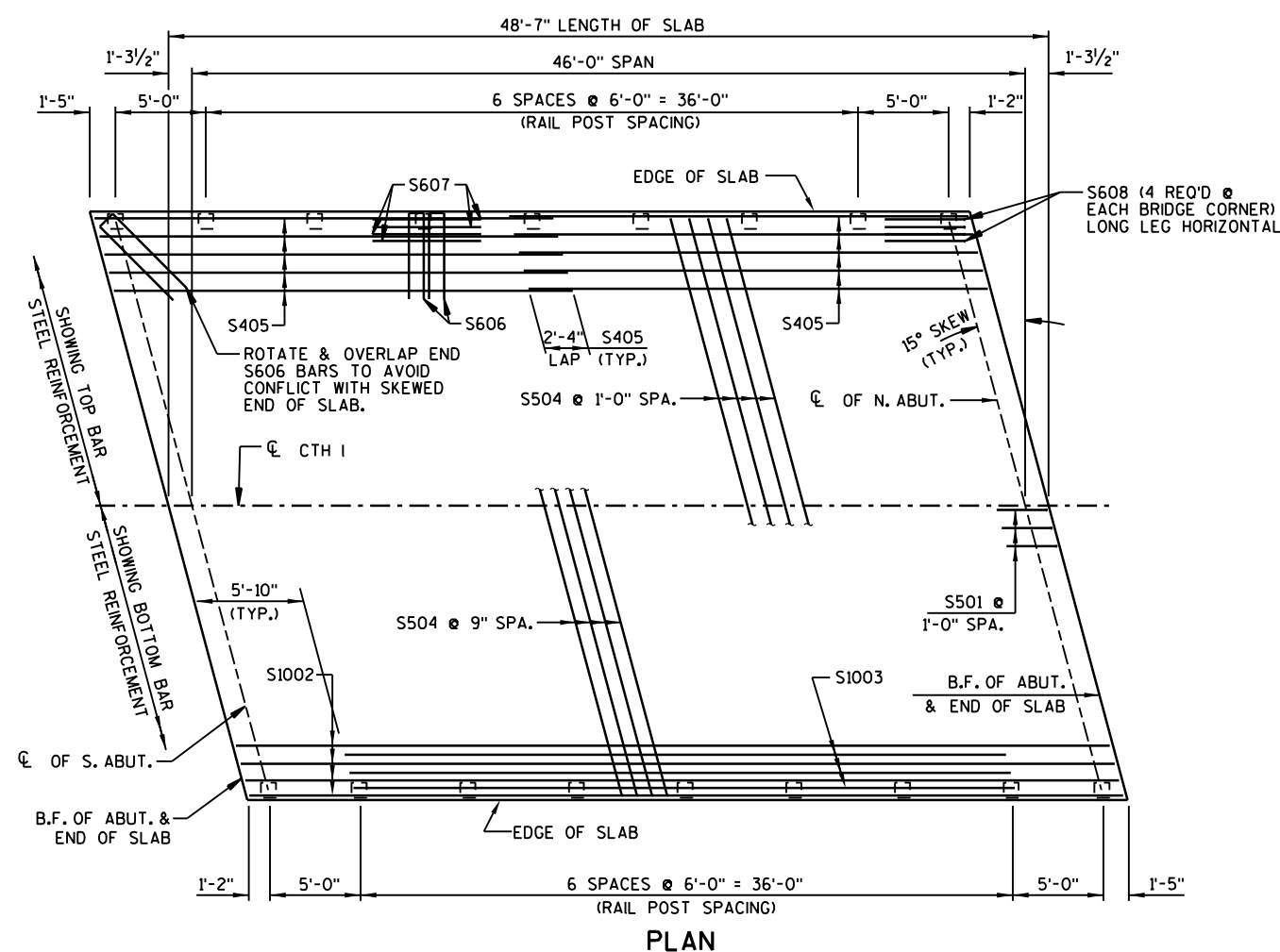


THIS LEG
VERT.

5'-9"

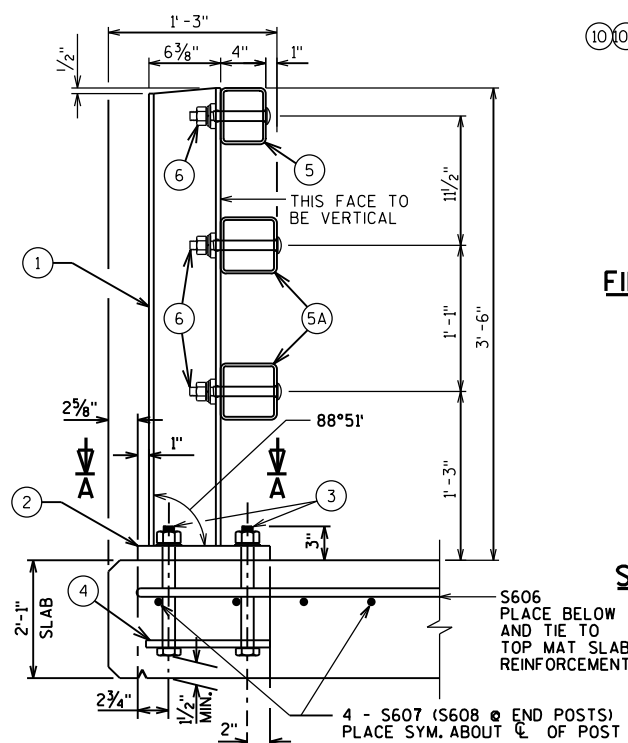
S606

Diagram of an S501 channel section. The top flange width is 1'-6". The bottom flange width is 2'-1". The web has a 4:1 slope.

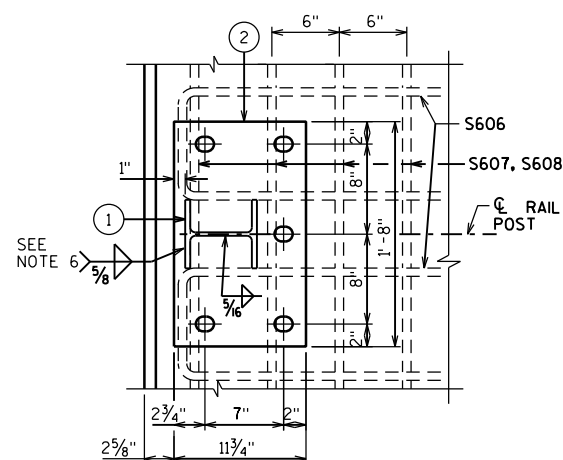


8

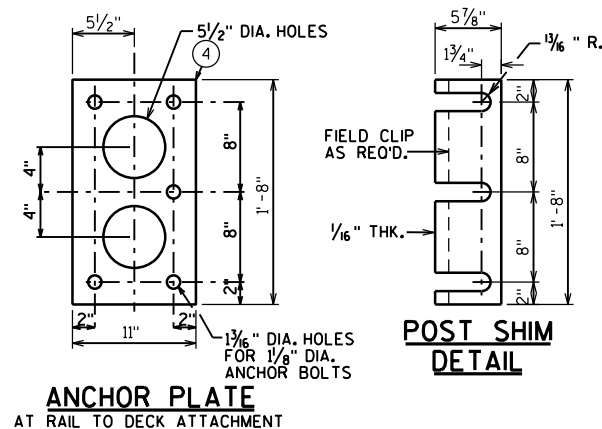
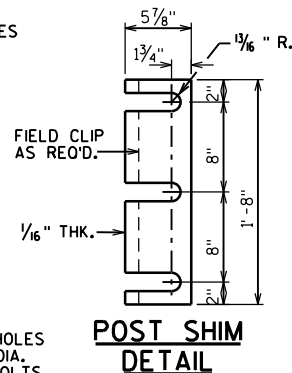
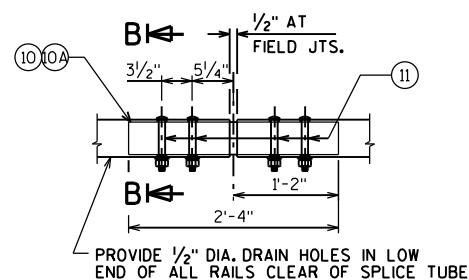
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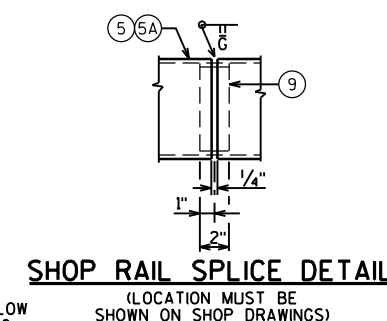
SECTION THRU RAILING ON SLAB



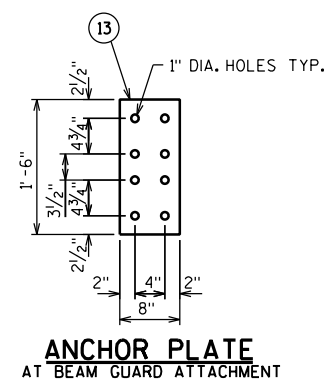
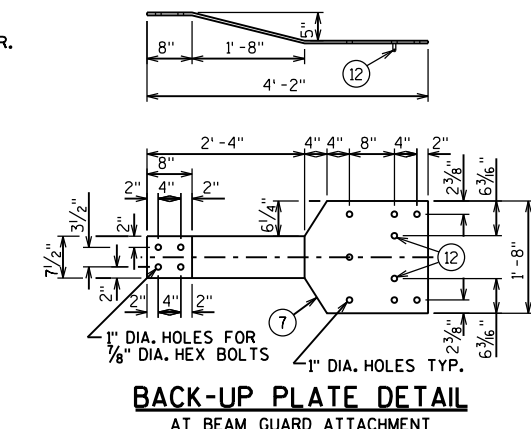
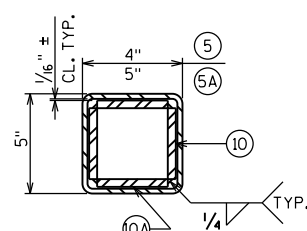
SECTION A-A

ANCHOR PLATE
AT RAIL TO DECK ATTACHMENTPOST SHIM
DETAIL

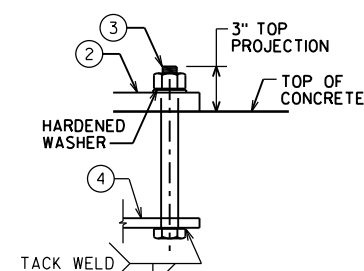
FIELD ERECTION JOINT DETAIL



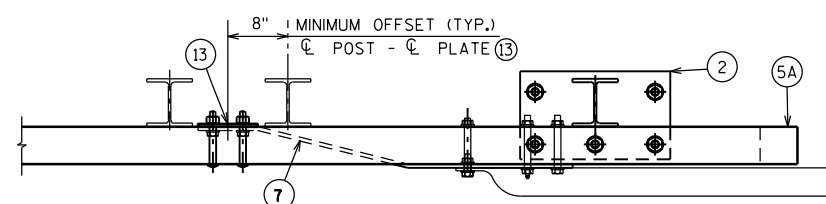
SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE
SHOWN ON SHOP DRAWINGS)ANCHOR PLATE
AT BEAM GUARD ATTACHMENTBACK-UP PLATE DETAIL
AT BEAM GUARD ATTACHMENT

SECTION B-B

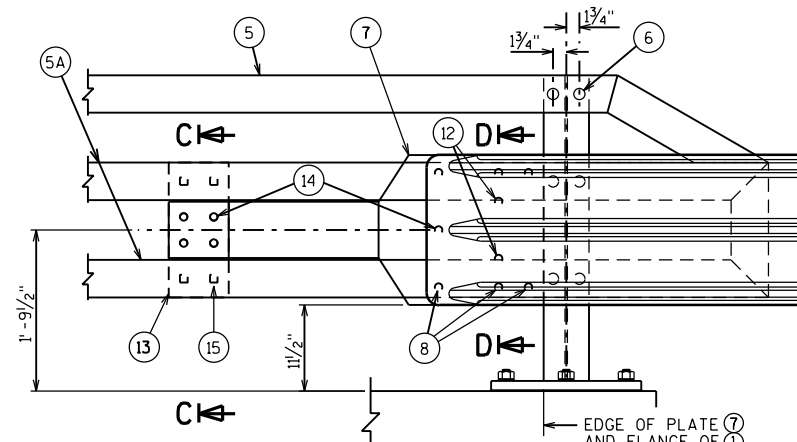


ANCHOR BOLTS



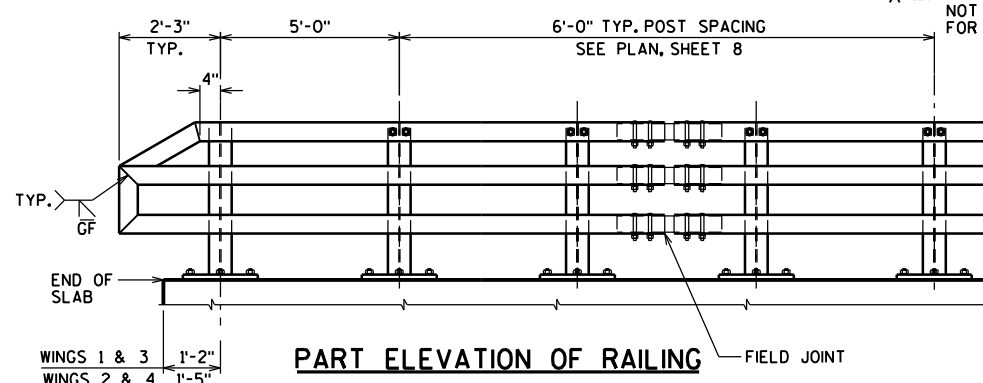
TOP VIEW AT END POST

(THREE BEAM RAIL ATTACHMENT)

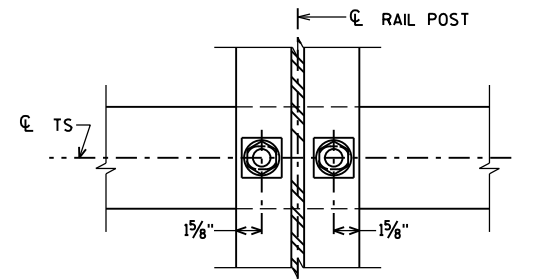


DETAIL AT END POST

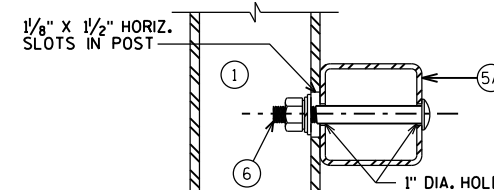
(THREE BEAM RAIL ATTACHMENT)



PART ELEVATION OF RAILING

WINGS 1 & 3 1'-2"
WINGS 2 & 4 1'-5"

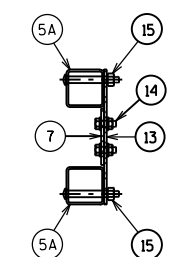
SECTION THRU POST WEB



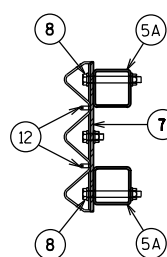
SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C



SECTION D-D

LEGEND

- ① W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 1 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/4" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-3" LONG.
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- * ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THREE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- * ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5, 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 5/8" x 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.
- * ⑫ 7/8" DIA. x 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- * ⑬ 3/8" x 8" x 1'-6" ANCHOR PLATE, BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THREE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- * ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).
- * ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-33-131" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. PAINTING IS NOT REQUIRED.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- * 12. THREE BEAM RAIL ATTACHMENT IS INCLUDED FOR FUTURE USE. ENSURE PROPER FIT BUT DO NOT MOUNT TO RAILING. FURNISH PLATES AND ATTACHMENT HARDWARE TO LAFAYETTE COUNTY FOR FUTURE INSTALLATION.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-33-131	
DRAWN BY CAR		PLANS CK'D. JAS	
RAILING TUBULAR TYPE M		SHEET 9 OF 9	

EARTHWORK PROJECT I.D. 5695-00-72 - CTH I - BRIDGE RECONSTRUCTION

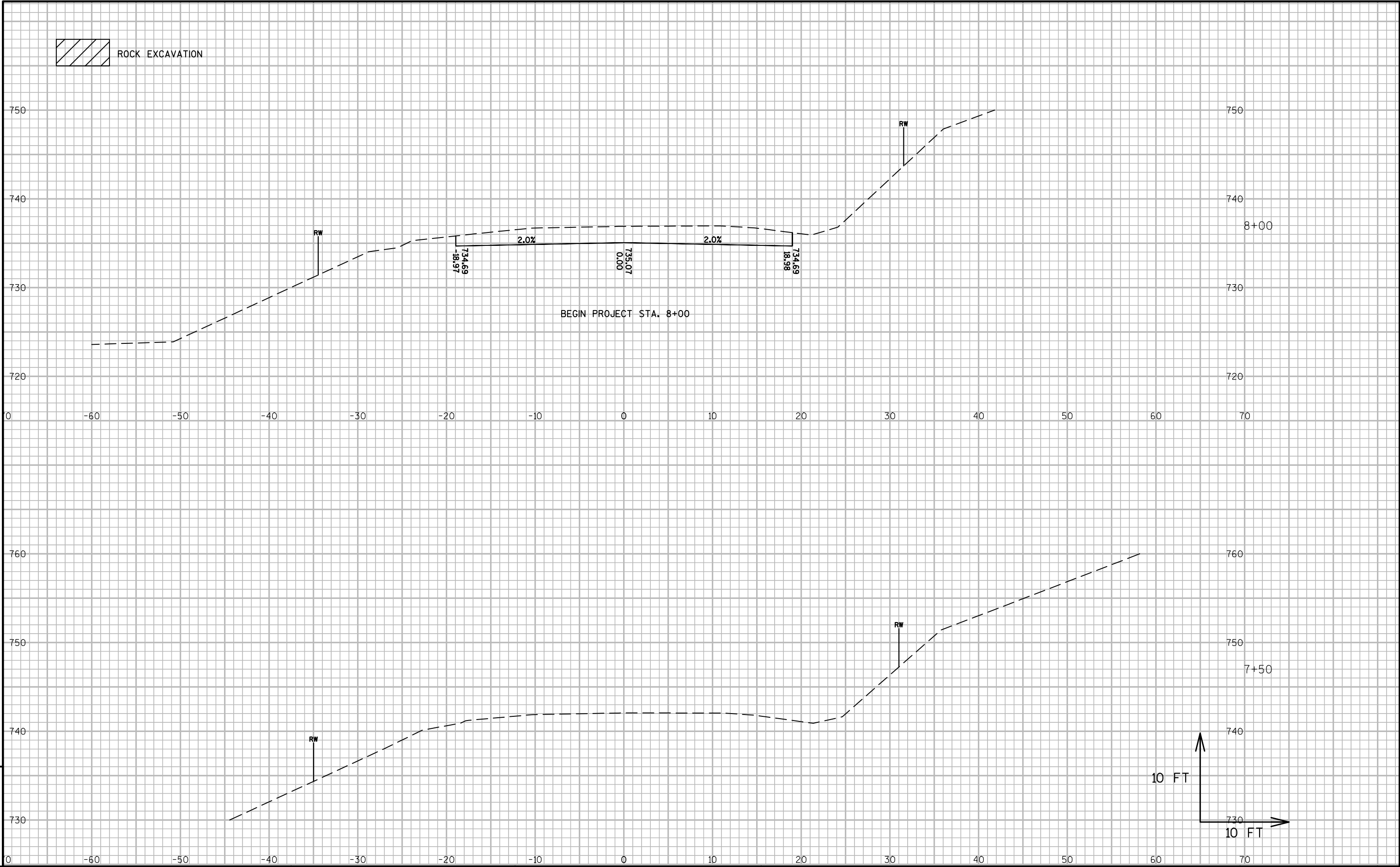
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		Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Cut 1.00	Expanded Fill 1.25	Expanded Rock 1.10	
8+00		74	0	0	0	0	0	0	0	0	0	0	0
8+50.	50.00	69	0	0	93	132	0	0	86	132	-118	95	250
9+00.	50.00	20	0	76	65	82	0	70	146	214	-231	256	445
9+20.	20.00	25	0	8	50	17	0	31	43	231	-251	303	482
9+50.	30.00	1	0	282	33	15	0	161	46	246	-113	353	359
9+81.	31.00	1	0	282	33	2	0	324	38	247	240	395	7
B-33-0131													
						247	0	587	359				

EARTHWORK PROJECT I.D. 5695-0072 - CTH I - BRIDGE RECONSTRUCTION

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)					Cumulative Vol (CY)			Mass Ordinate
		Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Cut 1.00	Expanded Fill 1.25	Expanded Rock 1.10		
B-33-0131														
10+29.		59	0	60	0	0	0	0	0	0	0	0	0	
10+50.	21.00	59	0	60	0	46	0	47	0	46	58	0	-13	
11+00	50.00	64	0	18	0	113	0	72	0	159	148	0	11	
11+20	20	61	0	0	0	46	0	7	0	205	157	0	49	
						205	0	125	0					

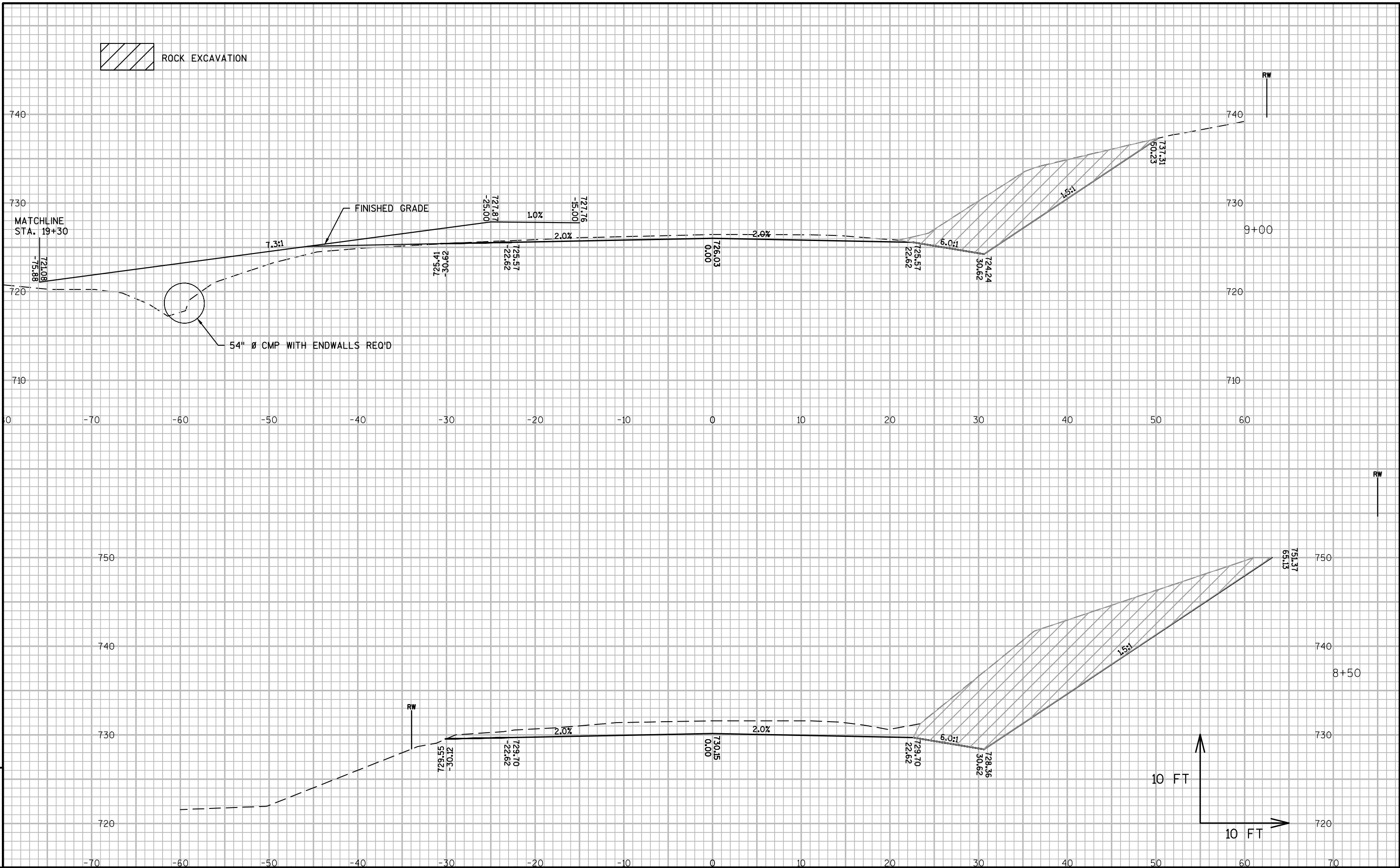
EARTHWORK PROJECT I.D. 5695-00-72 - CTH I - BRIDGE RECONSTRUCTION

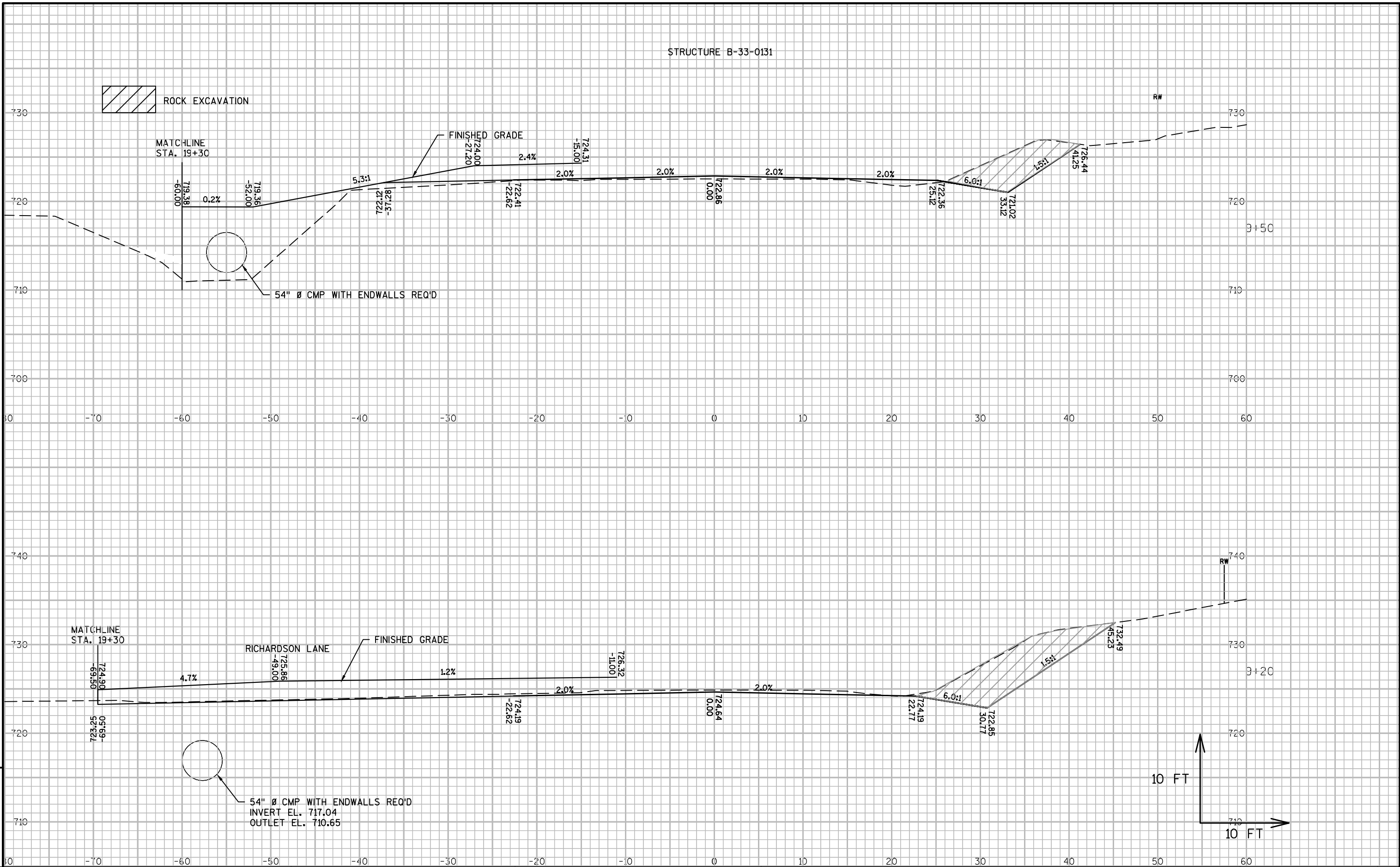
STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)			Mass Ordinate
		Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Cut 1.00	Expanded Fill 1.25	Expanded Rock 1.10	
18+70.		42	0	0	0	0	0	0	0	0	0	0	0
19+00.	30.00	48	0	63	0	50	0	35	0	50	43	0	7
19+30.	30.00	13	0	283	0	34	0	192	0	84	284	0	-200
						84	0	227	0				

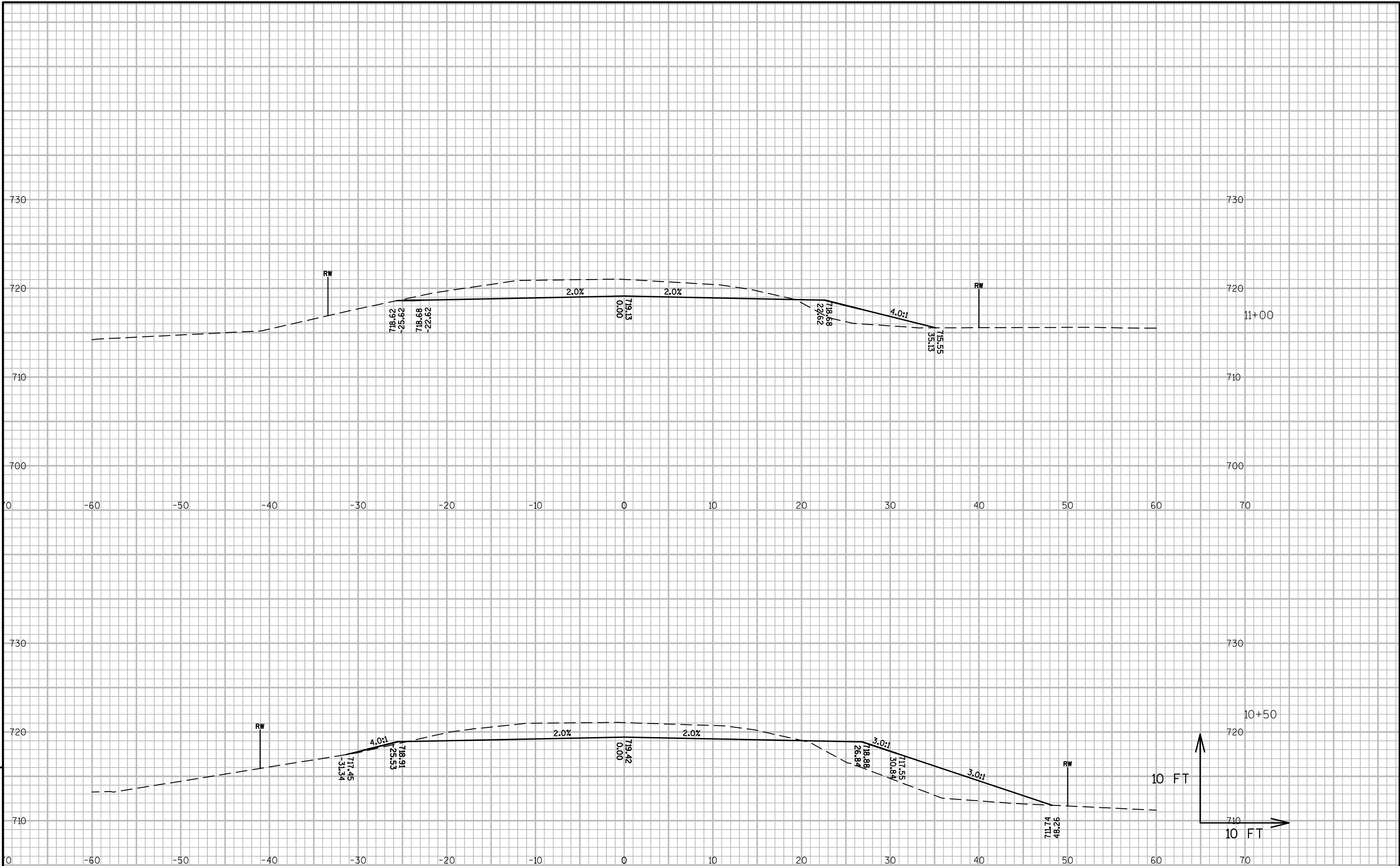


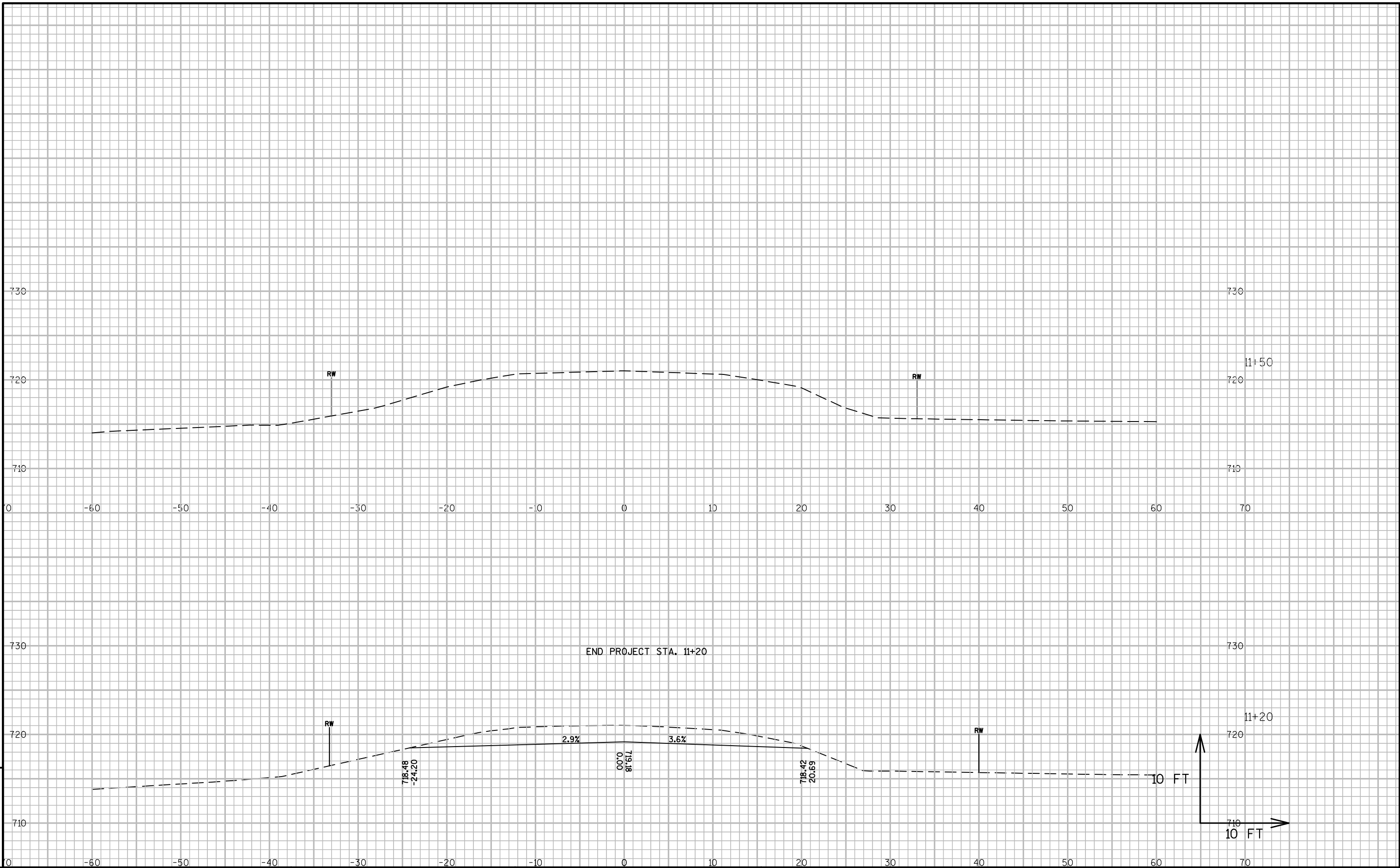
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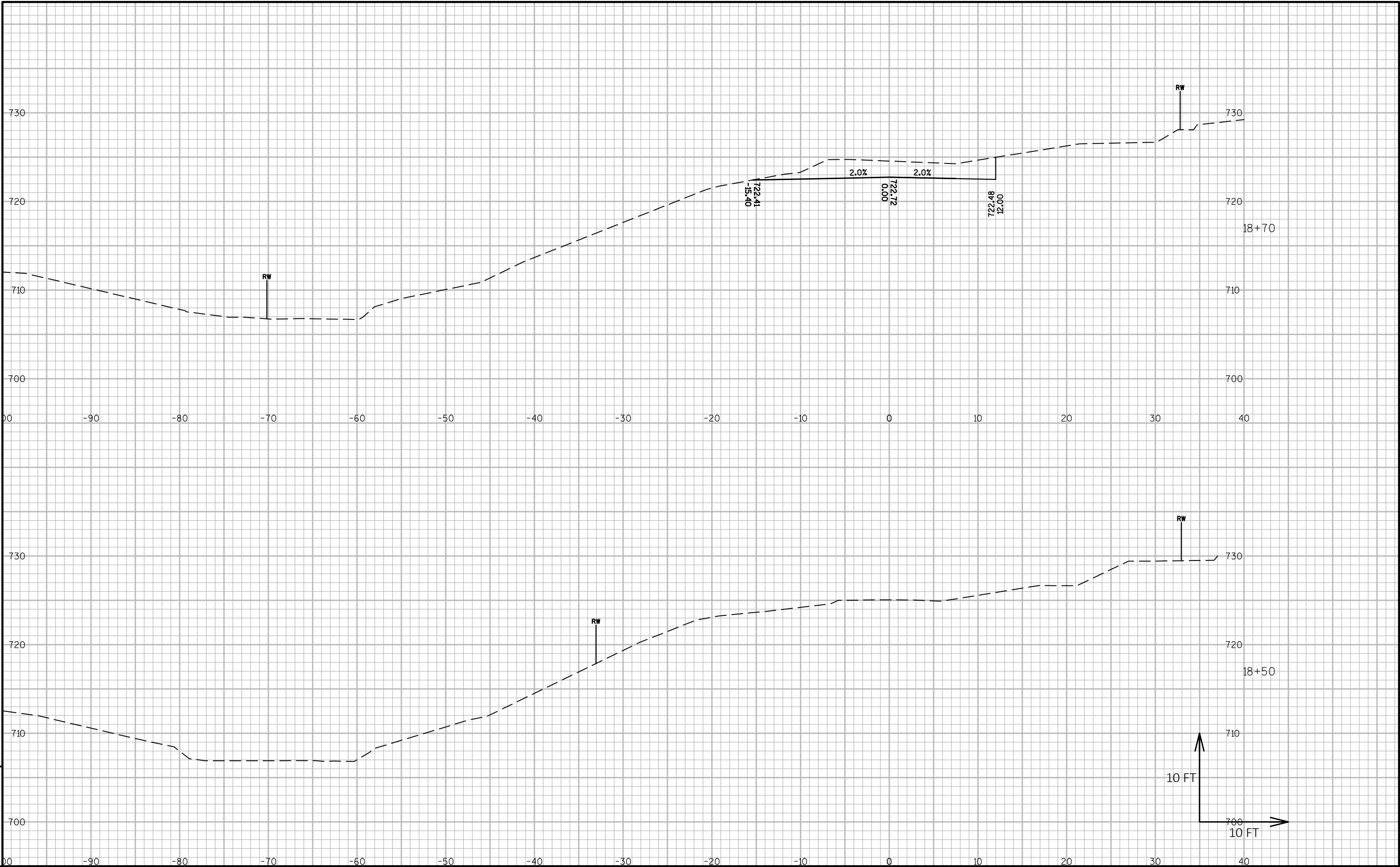


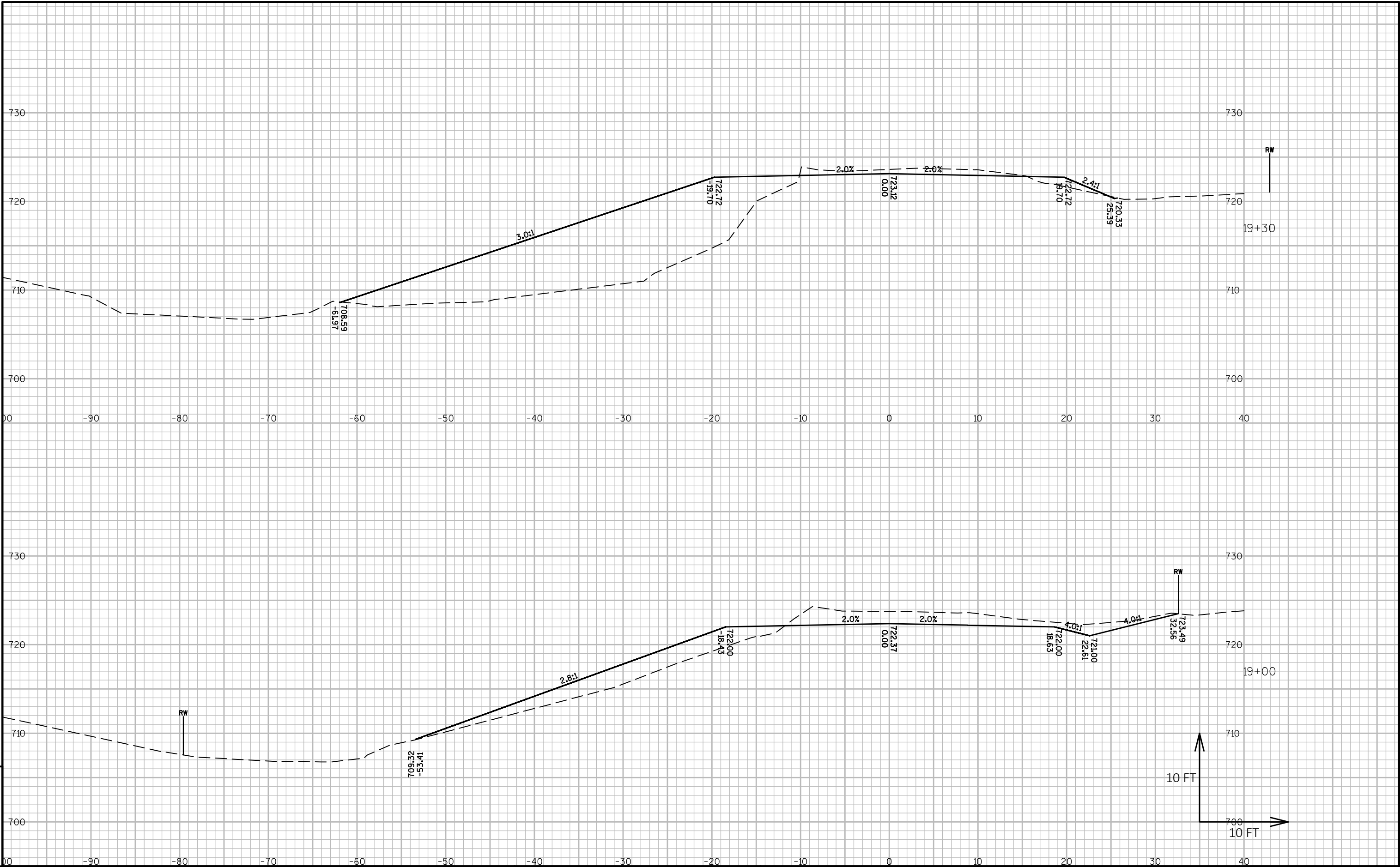


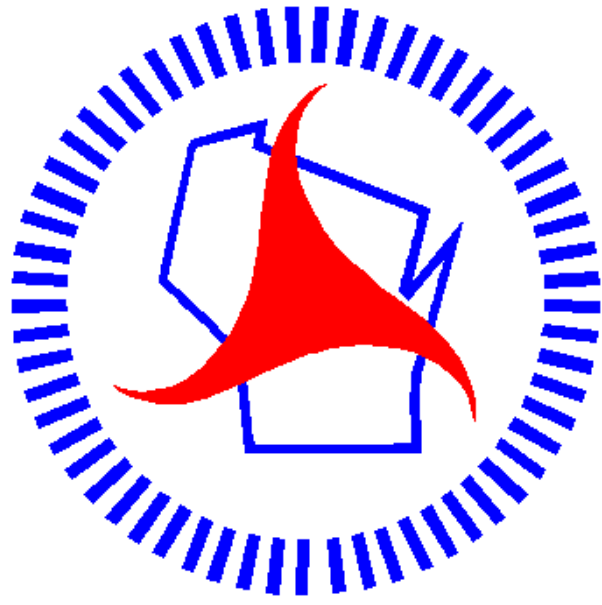


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