

SUP
PROJECT ID: 8888-00-70
WITH: N/A

COUNTY: TAYLOR

FEBRUARY 2018

ORDER OF SHEETS

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

TOTAL SHEETS = 44

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

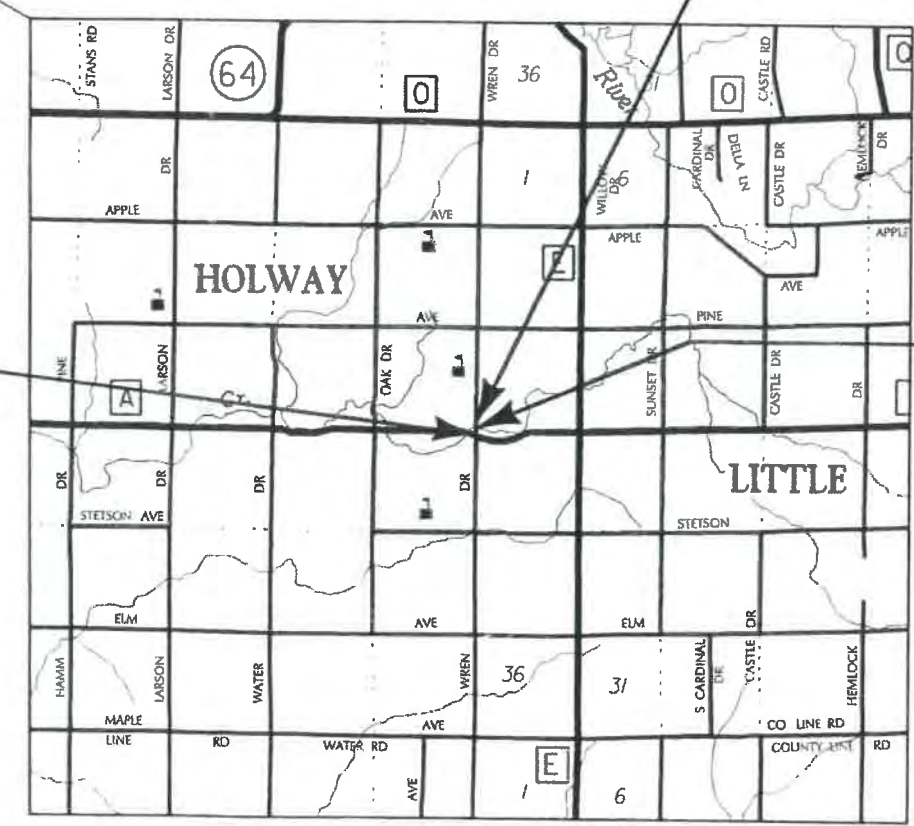
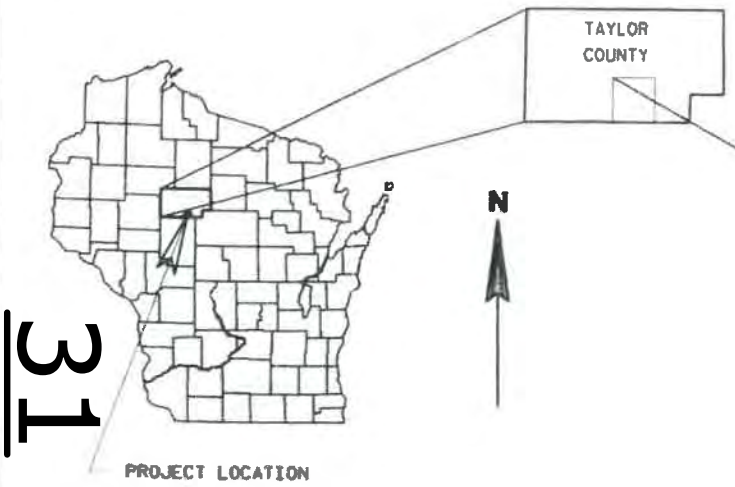
T HOLWAY, WREN DRIVE
PINE CREEK BRIDGE B600142
LOC STR
TAYLOR COUNTY

STATE PROJECT NUMBER
8888-00-70

END PROJECT
STA. 11+75
Y = 316086.91
X = 621443.54

BEGIN PROJECT
STA. 8+75
Y = 315786.91
X = 621443.91

STRUCTURE B-60-142

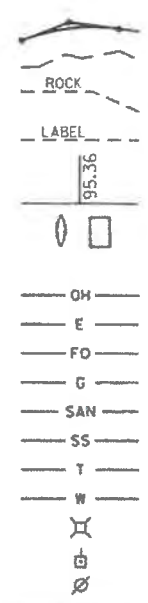


DESIGN DESIGNATION
A.A.D.T. (2018) = 100
A.A.D.T. (2038) = 130
D.H.V. = 10
D. = 50/50
T. = 5%
DESIGN SPEED = 50 MPH
ESALS = 36,500

CONVENTIONAL SYMBOLS
PLAN

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

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



LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI.

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8888-00-70	WISC 2018103	1

ACCEPTED FOR

Town of Holway

Date 7-11-17

Town Chairman Rodney Adams

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES 3433 Oakwood Hills Parkway
Eau Claire, WI 54601
www.ayresassociates.com

WISCONSIN PROFESSIONAL ENGINEER

CHRISTOPHER B. McMAHON
E-29454
EAU CLAIRE WI

DATE 7/24/17

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor AYRES ASSOCIATES INC

Designer AYRES ASSOCIATES INC

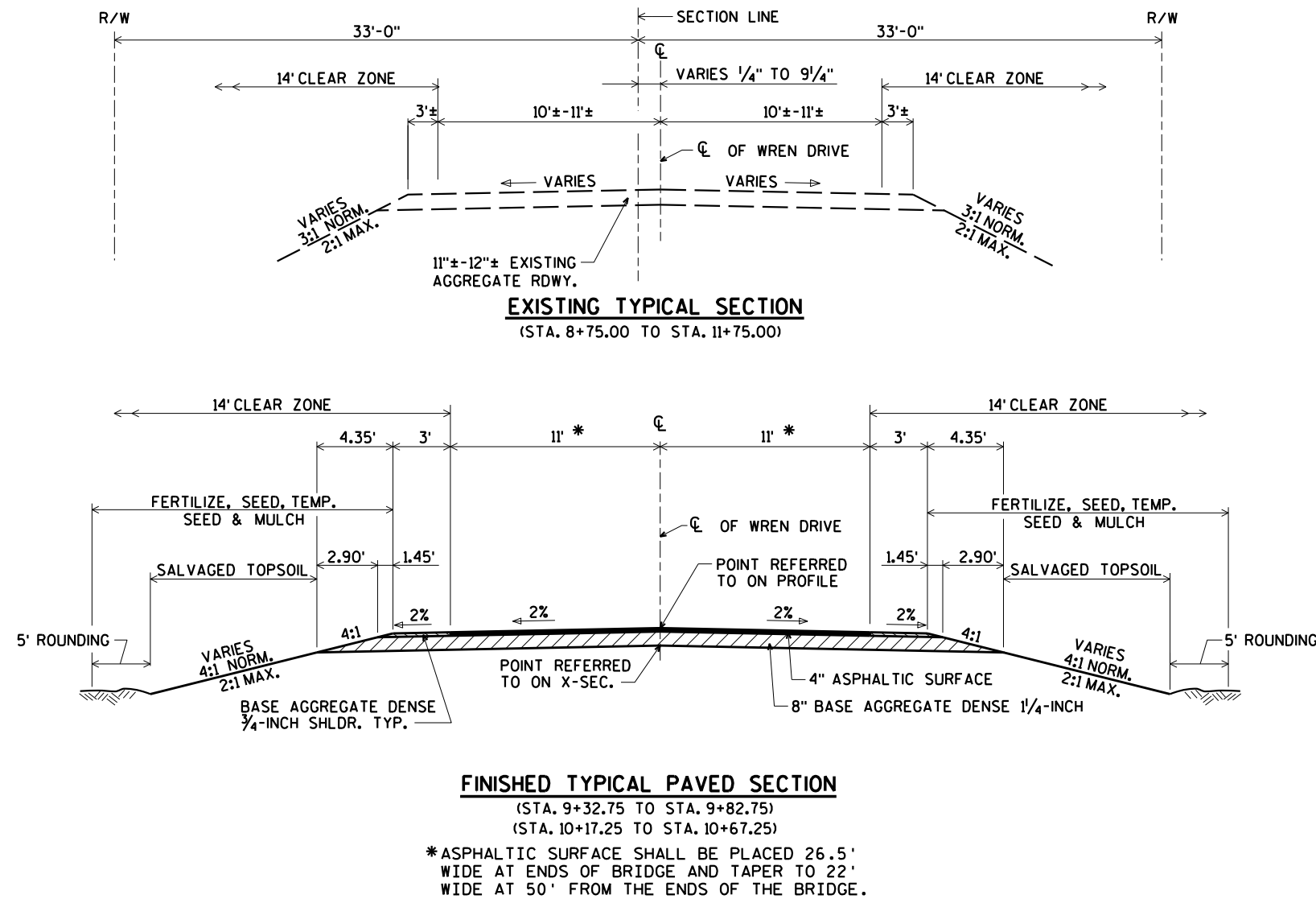
Management Consultant KNIGHT E/A INC.

C.O. Examiner

APPROVED FOR THE DEPARTMENT

DATE: 7/25/17

Management Consultant Signature

**GENERAL NOTES**

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

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

EXCAVATION FOR STRUCTURES SHALL INCLUDE FURNISHING, PLACEMENT AND COMPACTION OF ANY FILL MATERIAL REQUIRED TO PROVIDE A SUITABLE FOUNDATION FOR SUBSTRUCTURE UNITS.

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

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD 88 2012).

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPT.

THE LOCATION AND WIDTH OF THE EXISTING RIGHT-OF-WAY WAS NOT DETERMINED FOR THIS PROJECT. THE INFORMATION SHOWN IS ASSUMED AND AYRES ASSOCIATES DOES NOT WARRANT ITS ACCURACY.

ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2" UPPER LAYER AND A 2" LOWER LAYER.

UTILITIES

TDS TELECOM
10 COLLEGE AVE., SUITE 218A
APPLETON, WI 54911
ATTN: STEVE JAKUBIEC
920-882-4166
920-562-7221 (cell)
steve.jakubiec@tdstelecom.com

TAYLOR ELECTRIC COOPERATIVE
N1831 STH 13
MEDFORD, WI 54451
ATTN: KEVIN COMSTOCK
800-862-2407
kevin@taylorelectric.org

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERS HOTLINE

Dial **811** or (800)242-8511

www.DiggersHotline.com

TOWN CONTACT

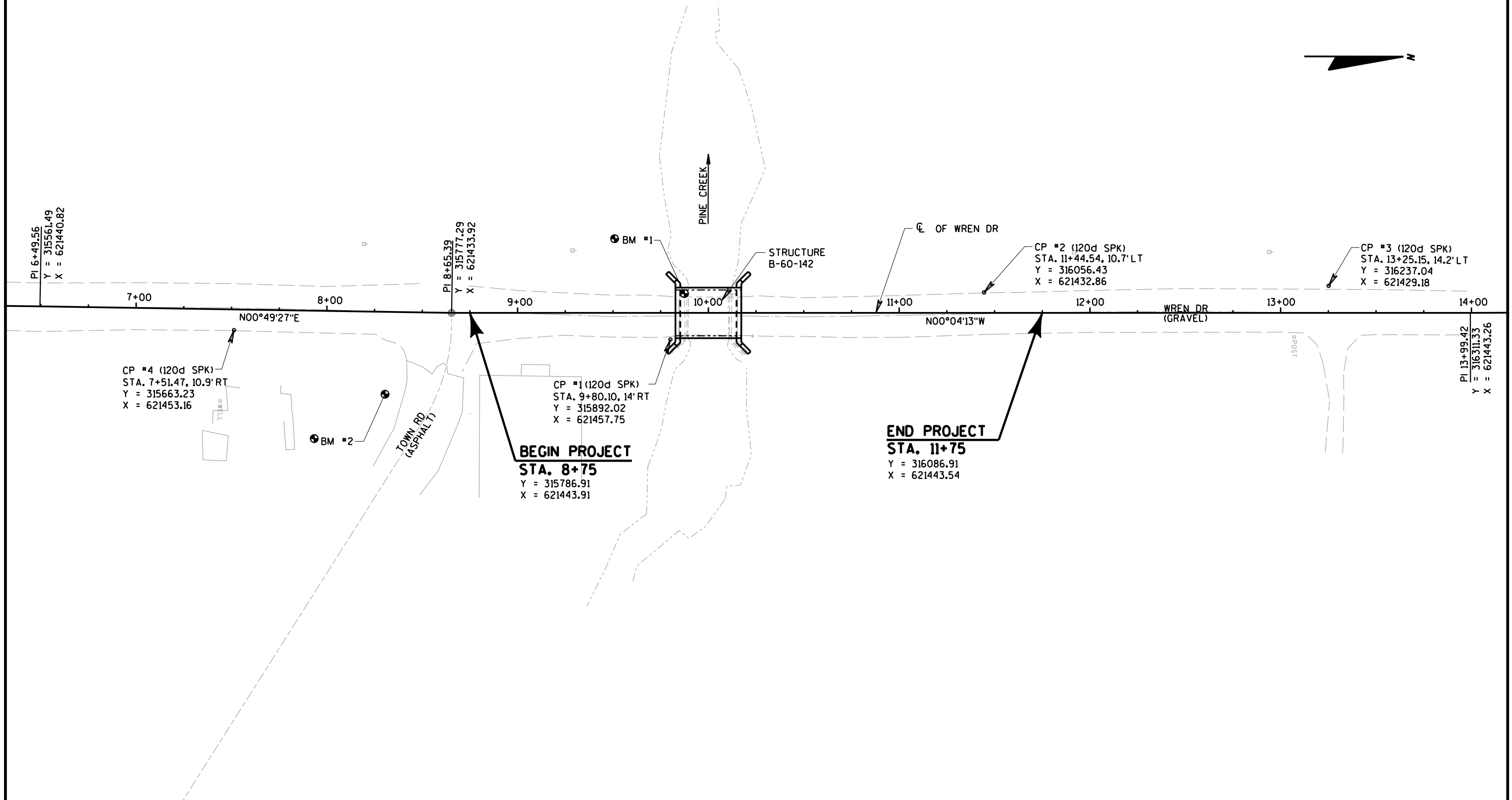
TOWN OF HOLWAY, CHAIRMAN
N710 OAK DRIVE
CURTISS, WI 54422
ATTN: RODNEY ADAMS
715-678-2397
townofholway@gmail.com

DESIGNER

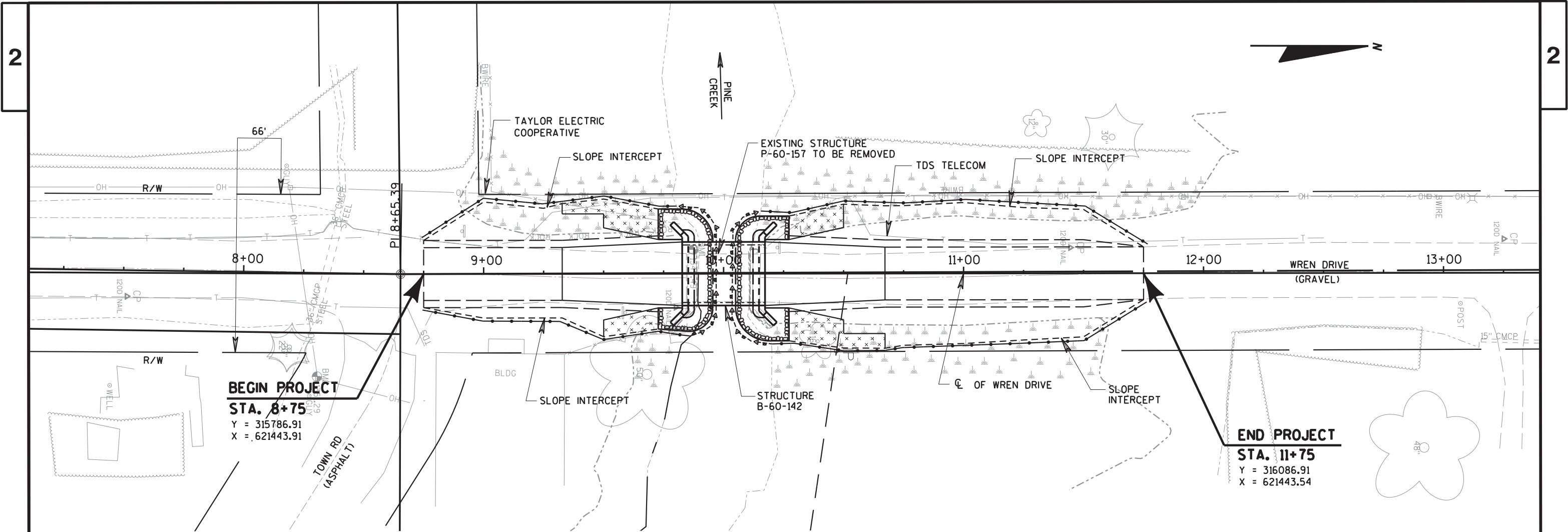
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: CHRIS McMAHON, PE
715-834-3161
mcmahonc@ayresassociates.com

**WISCONSIN DEPARTMENT OF
NATURAL RESOURCES CONTACT:**

WENDY HENNIGES
107 SUTLIFF
RHINELANDER, WI 54501
715-365-8916
wendy.henniges@wisconsin.gov



PROJECT NO: 8888-00-70	HWY: WREN DRIVE	COUNTY: TAYLOR	ALIGNMENT CONTROLS	SHEET	E
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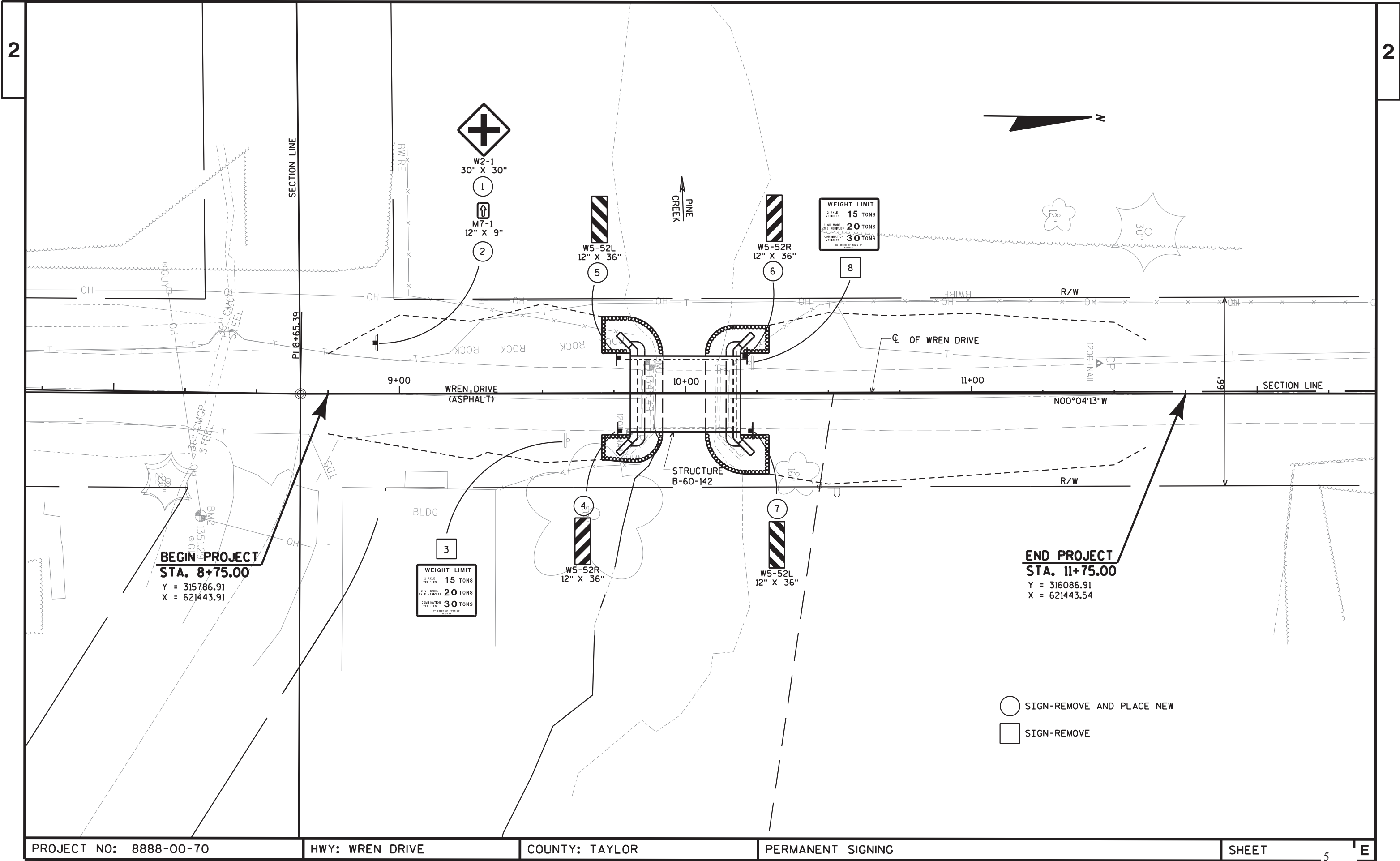
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP- TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE- TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 0.454 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.339 ACRES

NOTE: NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS. WETLANDS EXIST IN THE PROJECT AREA.

LEGEND

- EROSION MAT CLASS II TYPE C
- SILT FENCE
- TURBIDITY BARRIER
- RIPRAP HEAVY



Estimate Of Quantities

8888-00-70					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0008	205.0100	Excavation Common	CY	253.000	253.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-60-142	LS	1.000	1.000
0012	208.0100	Borrow	CY	29.000	29.000
0014	210.1500	Backfill Structure Type A	TON	230.000	230.000
0016	213.0100	Finishing Roadway (project) 01. 8888-00-70	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	145.000	145.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	450.000	450.000
0022	455.0605	Tack Coat	GAL	16.000	16.000
0024	465.0105	Asphaltic Surface	TON	70.000	70.000
0026	502.0100	Concrete Masonry Bridges	CY	106.000	106.000
0028	502.3200	Protective Surface Treatment	SY	120.000	120.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	4,040.000	4,040.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	11,690.000	11,690.000
0034	513.4061	Railing Tubular Type M (structure) 01. B-60-142	LF	73.000	73.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0038	550.0020	Pre-Boring Rock or Consolidated Materials	LF	30.000	30.000
0040	550.0500	Pile Points	EACH	10.000	10.000
0042	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	500.000	500.000
0044	606.0300	Riprap Heavy	CY	135.000	135.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	140.000	140.000
0048	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8888-00-70	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	16.000	16.000
0054	625.0500	Salvaged Topsoil	SY	715.000	715.000
0056	627.0200	Mulching	SY	1,040.000	1,040.000
0058	628.1504	Silt Fence	LF	710.000	710.000
0060	628.1520	Silt Fence Maintenance	LF	1,420.000	1,420.000
0062	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0064	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0066	628.2027	Erosion Mat Class II Type C	SY	185.000	185.000
0068	628.6005	Turbidity Barriers	SY	185.000	185.000
0070	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0072	629.0210	Fertilizer Type B	CWT	0.800	0.800
0074	630.0120	Seeding Mixture No. 20	LB	35.000	35.000

Estimate Of Quantities

8888-00-70

Line	Item	Item Description	Unit	Total	Qty
0076	630.0200	Seeding Temporary	LB	30.000	30.000
0078	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	5.000	5.000
0080	637.2210	Signs Type II Reflective H	SF	0.750	0.750
0082	637.2230	Signs Type II Reflective F	SF	18.250	18.250
0084	638.2602	Removing Signs Type II	EACH	8.000	8.000
0086	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0088	642.5001	Field Office Type B	EACH	1.000	1.000
0090	643.0420	Traffic Control Barricades Type III	DAY	960.000	960.000
0092	643.0705	Traffic Control Warning Lights Type A	DAY	1,440.000	1,440.000
0094	643.0900	Traffic Control Signs	DAY	540.000	540.000
0096	643.5000	Traffic Control	EACH	1.000	1.000
0098	645.0111	Geotextile Type DF Schedule A	SY	70.000	70.000
0100	645.0120	Geotextile Type HR	SY	280.000	280.000
0102	650.4500	Construction Staking Subgrade	LF	266.000	266.000
0104	650.5000	Construction Staking Base	LF	266.000	266.000
0106	650.6500	Construction Staking Structure Layout (structure) 01. B-60-142	LS	1.000	1.000
0108	650.9910	Construction Staking Supplemental Control (project) 01. 8888-00-70	LS	1.000	1.000
0110	650.9920	Construction Staking Slope Stakes	LF	266.000	266.000
0112	715.0502	Incentive Strength Concrete Structures	DOL	636.000	636.000
0114	999.1500.S	Crack and Damage Survey	LS	1.000	1.000
0116	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0118	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

CLEARING AND GRUBBING (CATEGORY 0010)

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
10+00	-	11+00	WREN DRIVE	1	1
TOTALS				1	1

EARTHWORK SUMMARY (CATEGORY 0010)

Division	From/To Station	Location	Common Excavation (1) (item 205.0100)	Available Material (2)	Unexpanded Fill	Expanded Fill (3)	Mass Ordinate +/- (4)	Borrow (item 208.0100)	Comment:
			Cut			Factor 1.30			
1	8+75 - 9+82.75 10+17.25 - 11+75	WREN DRIVE WREN DRIVE	115	115	77	100	15	-15	
			138	138	140	182	-44	44	
Division 1 Total			253	253	217	282	-29	29	

- 1) Excavation common is the sum of the cut column. Item number 205.0100
- 2) Available Material = Cut - Unusable Pavement Material
- 3) Expanded Fill. Factor = 1.3 Expanded Fill = Unexpanded Fill * Fill Factor
- 4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material w ithin the Division. Minus indicates a shortage of material w ithin the Division.
- 5) All quantities show n in CY.

FINISHING ROADWAY (CATEGORY 0010)

LOCATION	213.0100 EACH
PROJECT 8888-00-70	1

BASE AGGREGATE DENSE (CATEGORY 0010)

STATION	TO	STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
8+75	-	9+82.75	WREN DRIVE	55	185
10+17.25	-	11+75	WREN DRIVE	90	265
TOTALS				145	450

ASPHALTIC SURFACE (CATEGORY 0010)

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
8+75	-	9+82.75	WREN DRIVE	8	35
10+17.25	-	11+75	WREN DRIVE	8	35
TOTALS				16	70

MOBILIZATION	
LOCATION	619.1000 EACH
PROJECT 8888-00-70 (CATEGORY 0010)	0.2
PROJECT 8888-00-70 (CATEGORY 0020)	0.8
TOTAL	1

MAINTENANCE AND REPAIR OF HAUL ROADS (CATEGORY 0010)	
LOCATION	618.0100 EACH
PROJECT 8888-00-70	1

MOBILIZATION EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)		
LOCATION	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 8888-00-70	4	2

WATER (CATEGORY 0010)		
PURPOSE	LOCATION	624.0100 WATER MGAL
COMPACTION	WREN DRIVE	9
DUST CONTROL	WREN DRIVE	7
TOTAL		16

EROSION MAT CLASS II TYPE C (CATEGORY 0010)				
STATION	TO	STATION	LOCATION	628.2027 SY
9+32.75	-	9+72.75	WREN DRIVE, LT	45
9+50	-	9+72.75	WREN DRIVE, RT	25
10+27.25	-	10+50	WREN DRIVE, LT	30
10+27.25	-	10+67.25	WREN DRIVE, RT	50
UNDISTRIBUTED				35
TOTAL				185

SALVAGED TOPSOIL, FERTILIZER AND SEED (CATEGORY 0010)							
STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB
8+75	-	11+75	WREN DRIVE	570	0.6	26	22
UNDISTRIBUTED				145	0.2	9	8
TOTALS				715	0.8	35	30

SILT FENCE (CATEGORY 0010)					
STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 MAINTENANCE LF
8+75	-	9+86	WREN DRIVE , RT & LT	230	460
10+16	-	11+75	WREN DRIVE , RT & LT	335	670
UNDISTRIBUTED				145	290
TOTALS				710	1,420

MULCHING (CATEGORY 0010)				
STATION	TO	STATION	LOCATION	627.0200 SY
8+75	-	9+82.75	WREN DRIVE	280
10+17.25	-	11+75	WREN DRIVE	550
UNDISTRIBUTED				210
TOTAL				1,040

TURBIDITY BARRIERS (CATEGORY 0010)		
STATION	LOCATION	628.6005 SY
SOUTH ABUTMENT	WREN DRIVE	75
NORTH ABUTMENT	WREN DRIVE	75
UNDISTRIBUTED		35
TOTAL		185

TEMPORARY DITCH CHECKS (CATEGORY 0010)		
STATION	LOCATION	628.7504 LF
UNDISTRIBUTED	WREN DRIVE	50
TOTAL		50

SIGNS TYPE II REFLECTIVE AND POSTS WOOD (CATEGORY 0010)					
STATION	LOCATION	634.0612 POSTS WOOD 4 x 6-INCH x 12-FT. EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	SIGN
8+91	WREN DRIVE, LT	1	-	6.25	W2-1
8+91	WREN DRIVE, LT	-	0.75	-	M7-1
9+82	WREN DRIVE, LT	1	-	3	W5-52L
9+82	WREN DRIVE, RT	1	-	3	W5-52R
10+18	WREN DRIVE, LT	1	-	3	W5-52R
10+18	WREN DRIVE, RT	1	-	3	W5-52L
TOTALS		5	0.75	18.25	

REMOVING SIGNS AND SUPPORTS (CATEGORY 0010)				
STATION	LOCATION	638.2602 REMOVING SIGNS TYPE II EA	638.3000 REMOVING SMALL SIGN SUPPORTS EA	REMARKS
8+91	WREN DRIVE, LT	1	1	W2-1
8+91	WREN DRIVE, LT	1	-	M7-1
9+59	WREN DRIVE, LT	1	1	LOAD POSTING SIGN
9+84	WREN DRIVE, RT	1	1	W5-52
9+84	WREN DRIVE, LT	1	1	W5-52
10+16	WREN DRIVE, RT	1	1	W5-52
10+16	WREN DRIVE, LT	1	1	W5-52
10+22	WREN DRIVE, LT	1	1	LOAD POSTING SIGN
TOTALS		8	7	

FIELD OFFICE TYPE B (CATEGORY 0010)	
LOCATION	642.5001 EACH
PROJECT 8888-00-70	1

TRAFFIC CONTROL (CATEGORY 0010)	
LOCATION	643.5000 EACH
PROJECT 8888-00-70	1

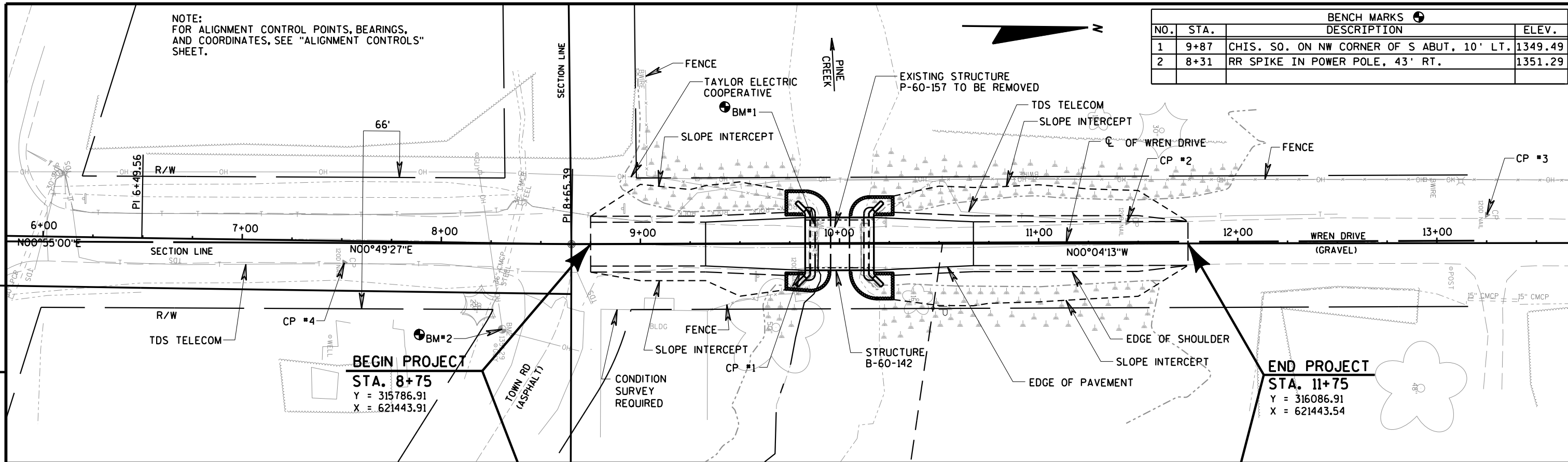
TRAFFIC CONTROL ITEMS (CATEGORY 0010)							
PROJECT ID	DURATION DAYS	643.0420 BARRICADES TYPE III		643.0705 WARNING LIGHTS TYPE A		643.0900 SIGNS	
		NO.	DAYS	NO.	DAYS	NO.	DAYS
8888-00-70	60	16	960	24	1440	9	540

CONSTRUCTION STAKING									
STATION	TO	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF	CATEGORY CODE
8+75	-	9+82.75	WREN DRIVE	108	108	-	0.5	108	0010
10+17.25	-	11+75	WREN DRIVE	158	158	-	0.5	158	0010
SUBTOTALS				266	266	0	1	266	0010
B-60-142			WREN DRIVE	-	-	1	-	-	0020
SUBTOTALS				0	0	1	0	0	0020
TOTALS				266	266	1	1	266	

CRACK AND DAMAGE SURVEY (CATEGORY 0010)	
LOCATION	999.1500.S.01 LS
PROJECT 8888-00-70	1

NOTE:
FOR ALIGNMENT CONTROL POINTS, BEARINGS,
AND COORDINATES, SEE "ALIGNMENT CONTROLS"
SHEET.

BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
1	9+87	CHIS. SQ. ON NW CORNER OF S ABUT, 10' LT.	1349.49
2	8+31	RR SPIKE IN POWER POLE, 43' RT.	1351.29

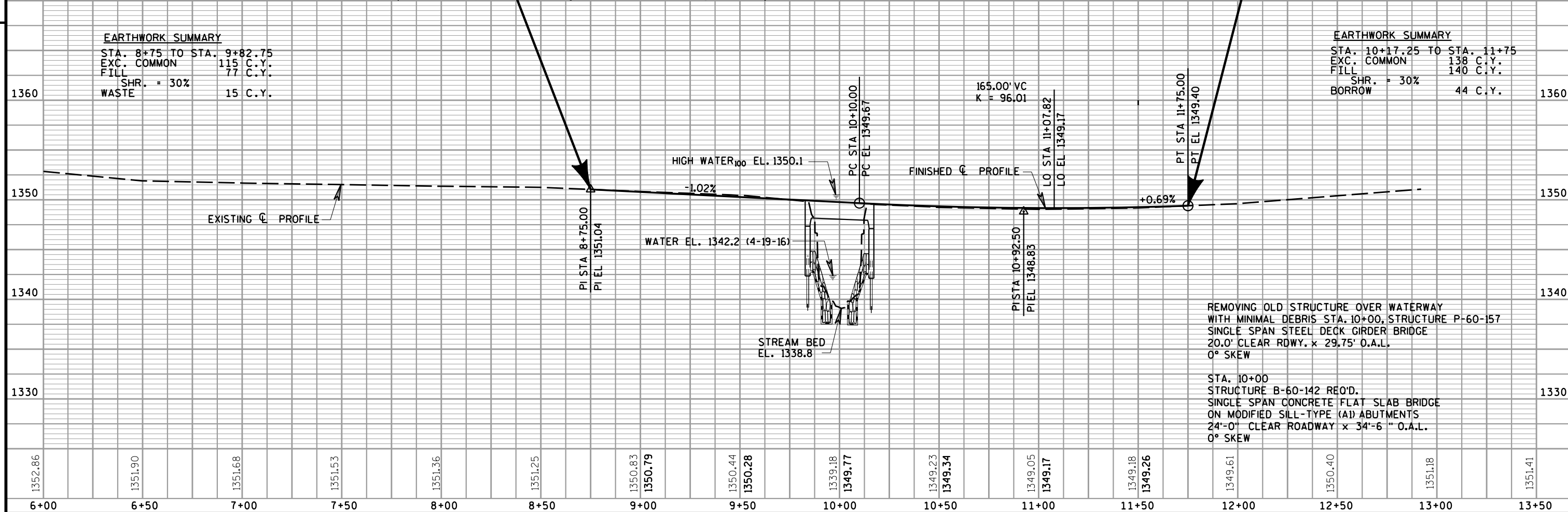


EARTHWORK SUMMARY

STA. 8+75 TO STA. 9+82.75
EXC. COMMON 115 C.Y.
FILL 77 C.Y.
SHR. = 30%
WASTE 15 C.Y.

EARTHWORK SUMMARY

STA. 10+17.25 TO STA. 11+75
EXC. COMMON 138 C.Y.
FILL 140 C.Y.
SHR. = 30%
BORROW 44 C.Y.



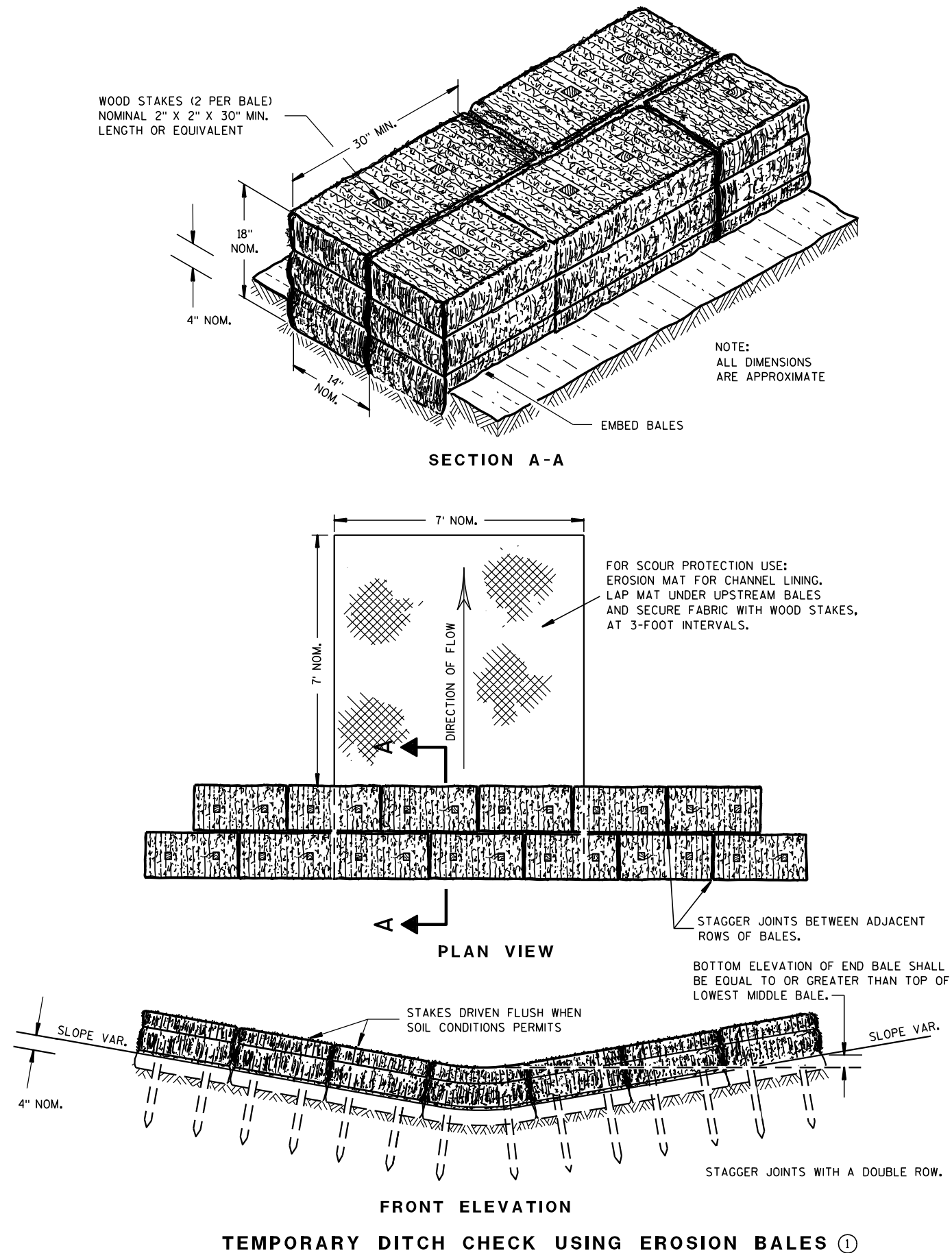
REMOVING OLD STRUCTURE OVER WATERWAY
WITH MINIMAL DEBRIS STA. 10+00, STRUCTURE P-60-157
SINGLE SPAN STEEL DECK GIRDER BRIDGE
20.0' CLEAR RDWY. x 29.75' O.A.L.
0° SKEW

STA. 10+00
STRUCTURE B-60-142 REQ'D.
SINGLE SPAN CONCRETE FLAT SLAB BRIDGE
ON MODIFIED SILL-TYPE (A) ABUTMENTS
24'-0" CLEAR ROADWAY x 34'-6" O.A.L.
0° SKEW

PROJECT NO: 8888-00-70	HWY: WREN DRIVE	COUNTY: TAYLOR	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET	E
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Standard Detail Drawing List

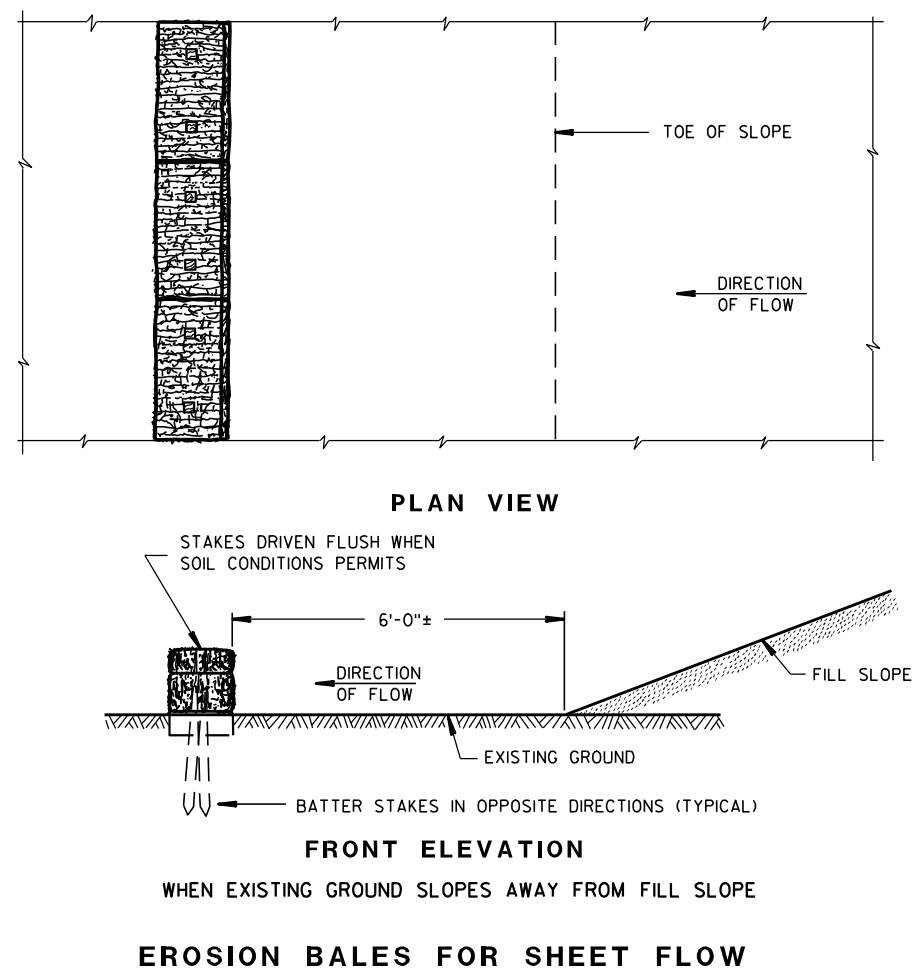
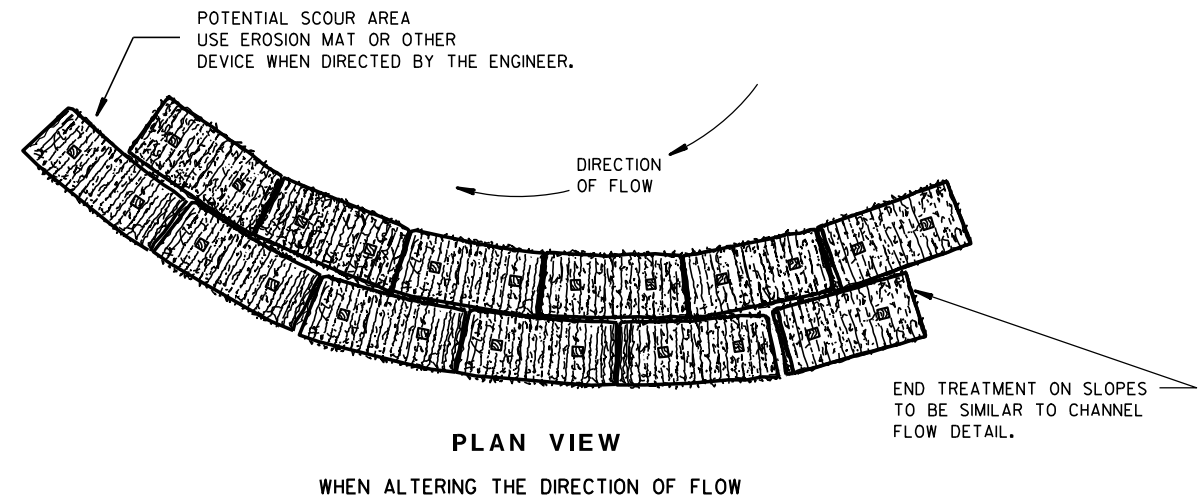
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES



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

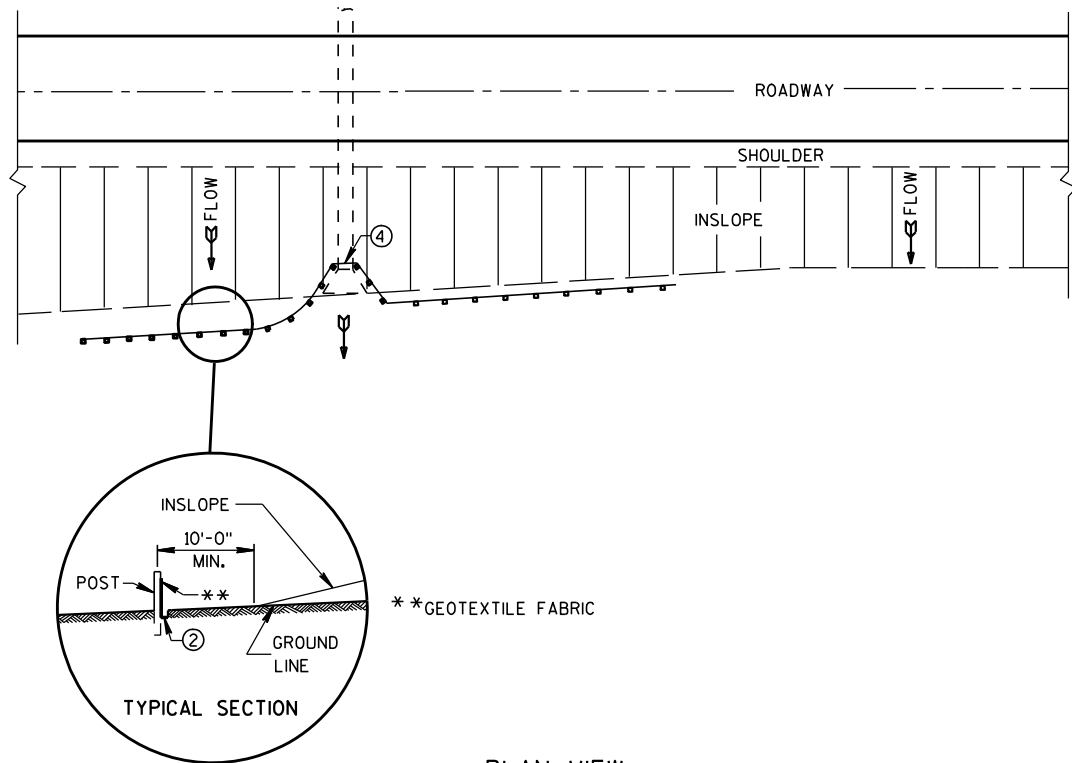
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

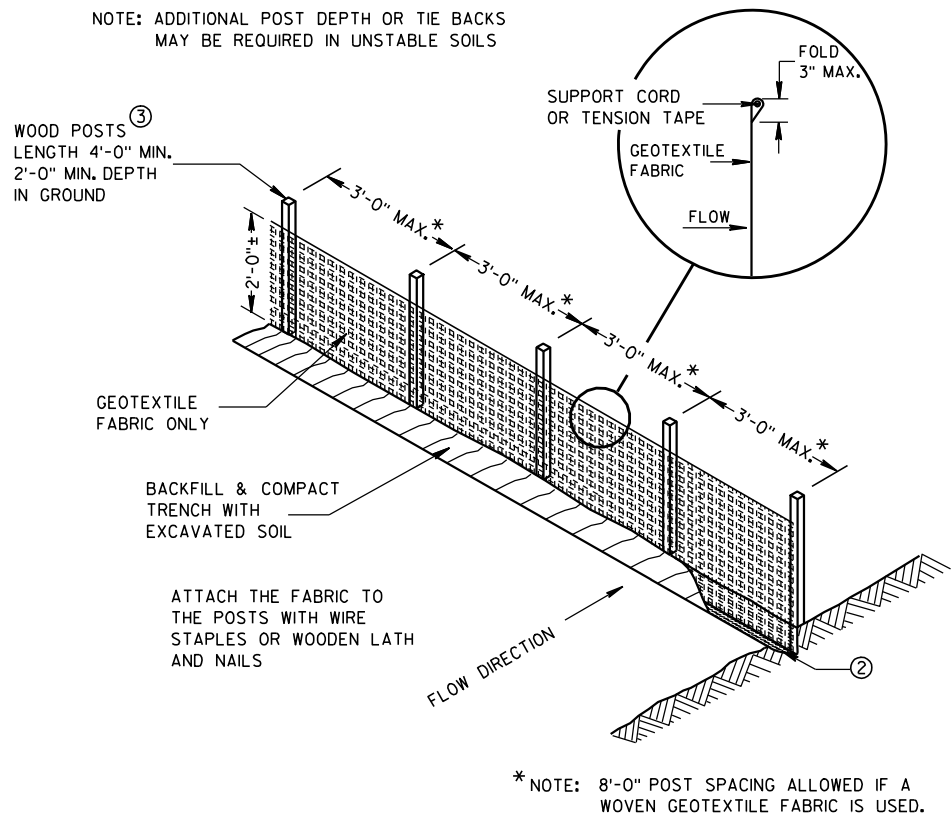
6/04/02
DATE

FHWA

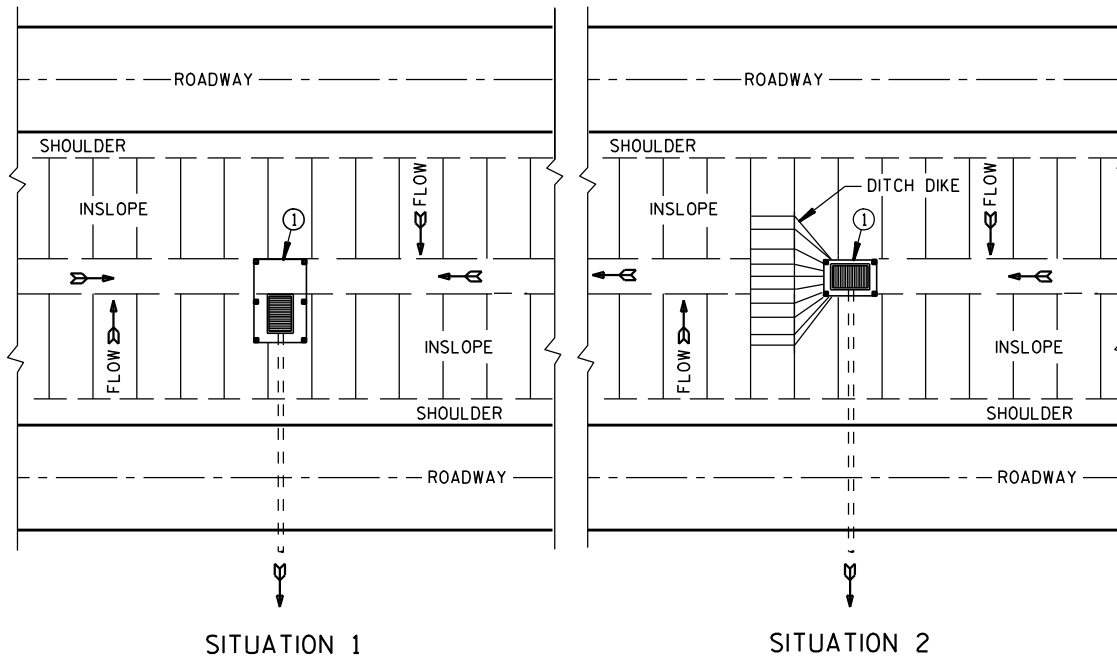
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



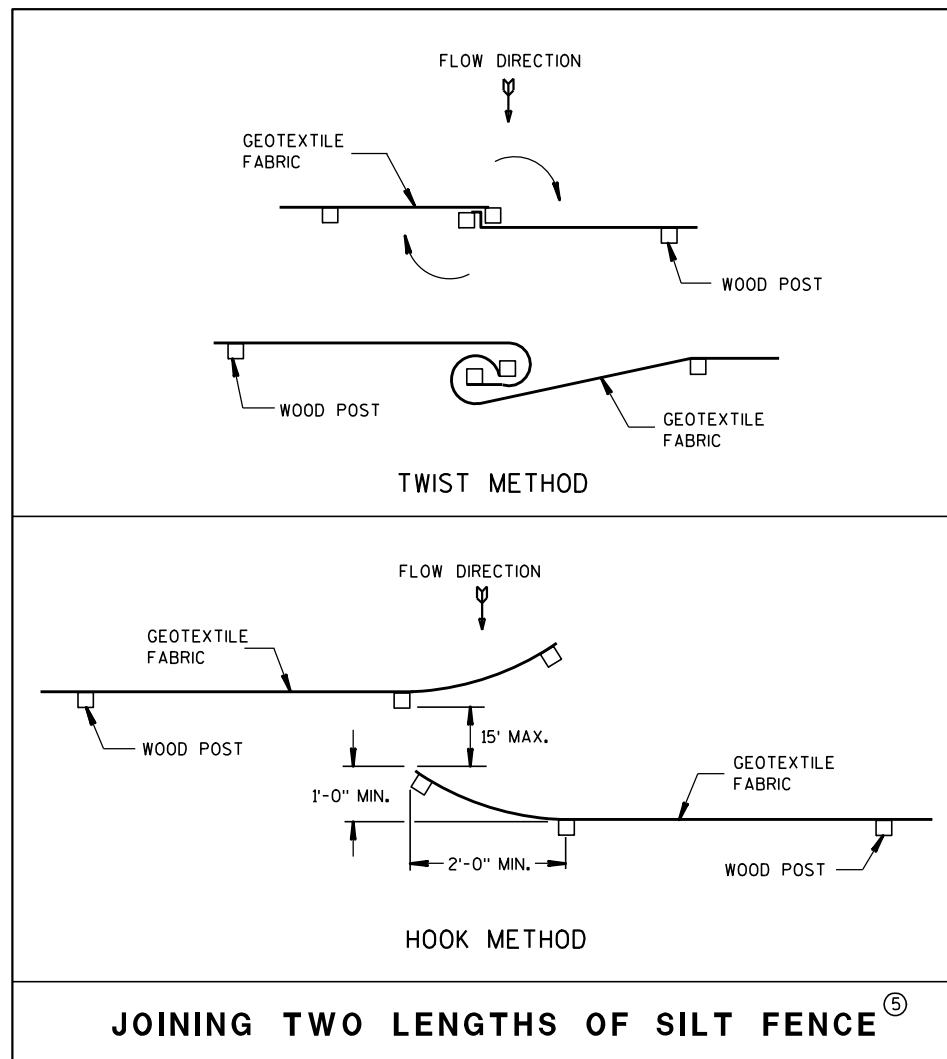
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

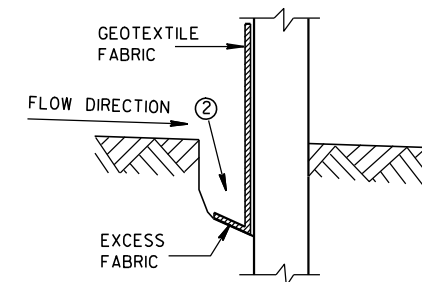


JOINING TWO LENGTHS OF SILT FENCE^⑤

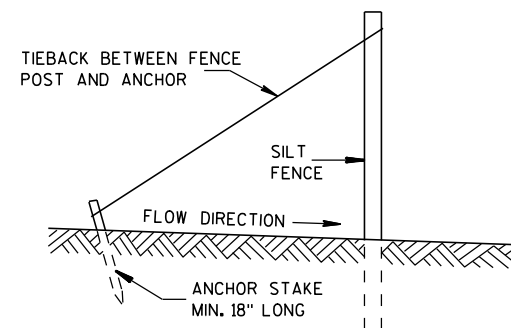
GENERAL NOTES

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.

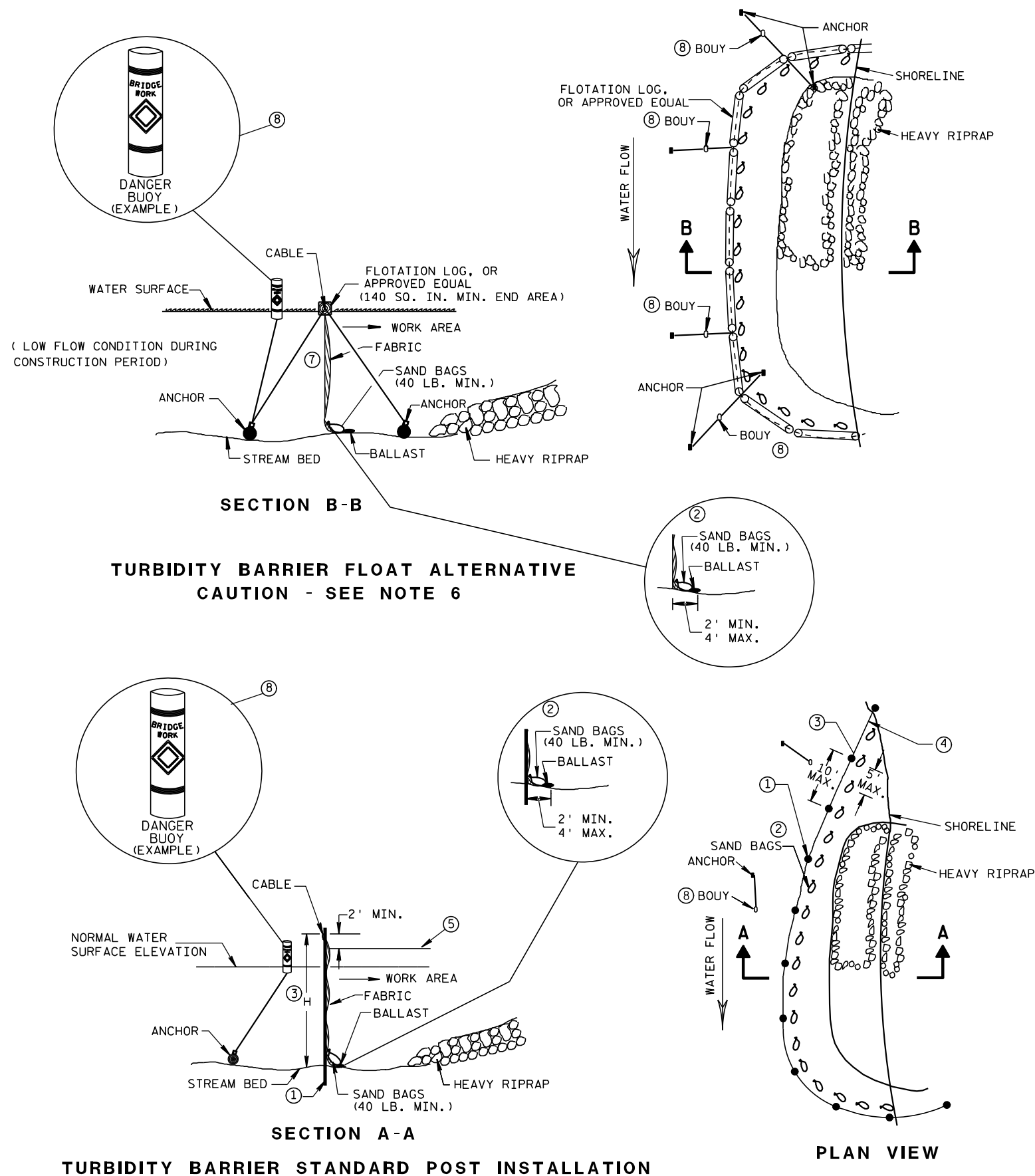


TRENCH DETAIL



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	

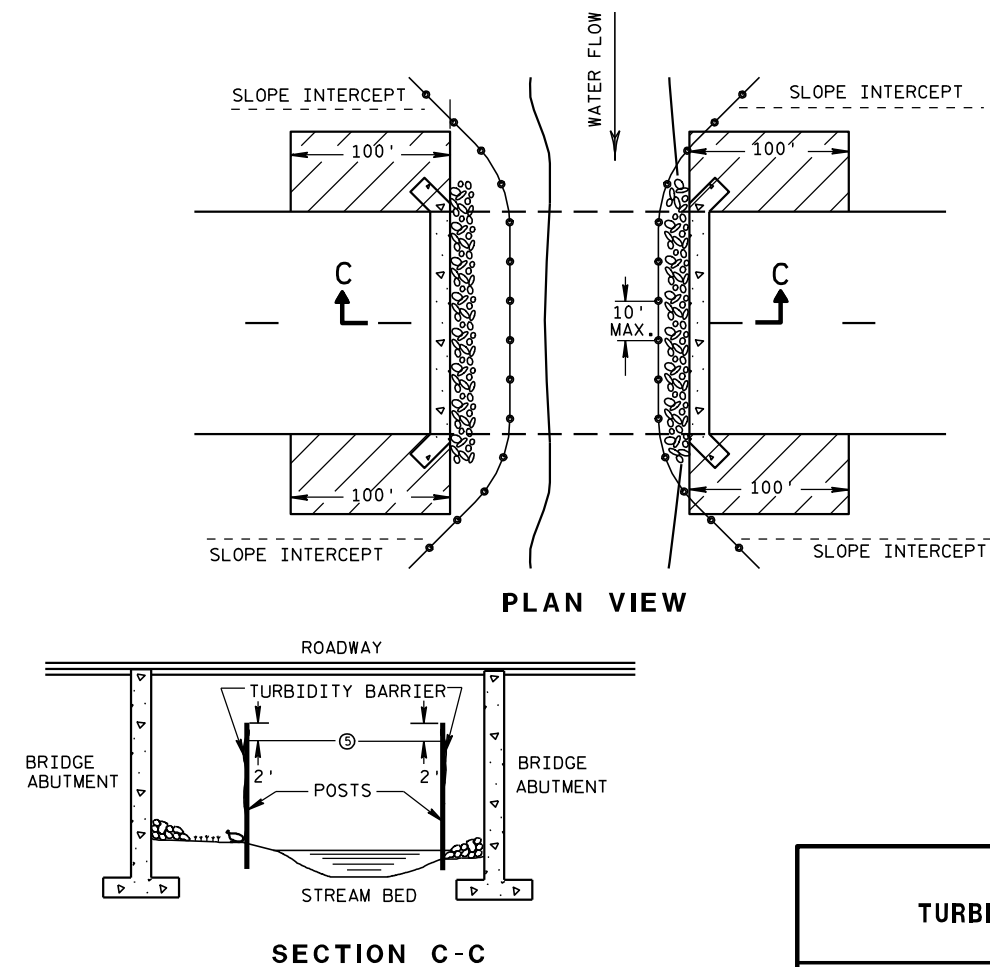


GENERAL NOTES

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

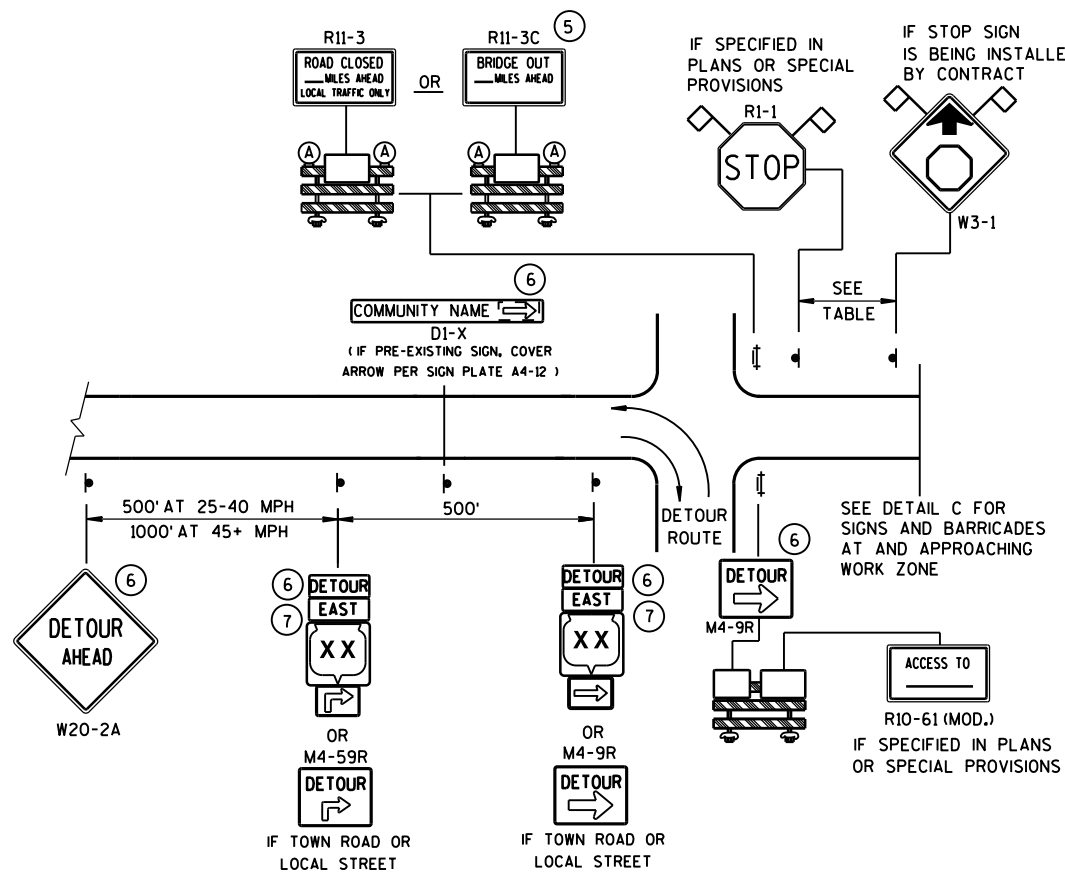


S.D.D. 12 A 3-10

SECTION A-A

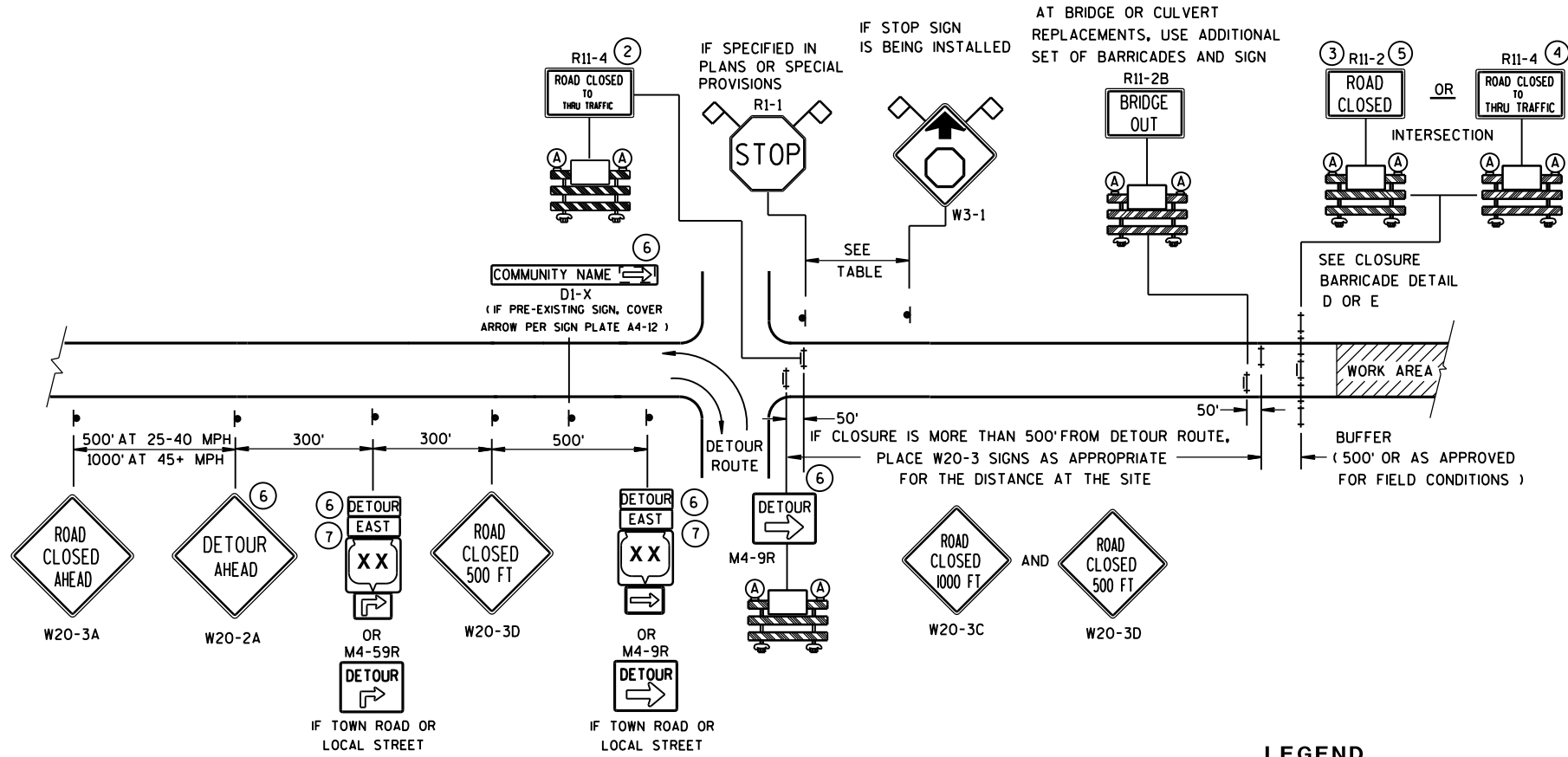


S.D.D. 12 A 3-10



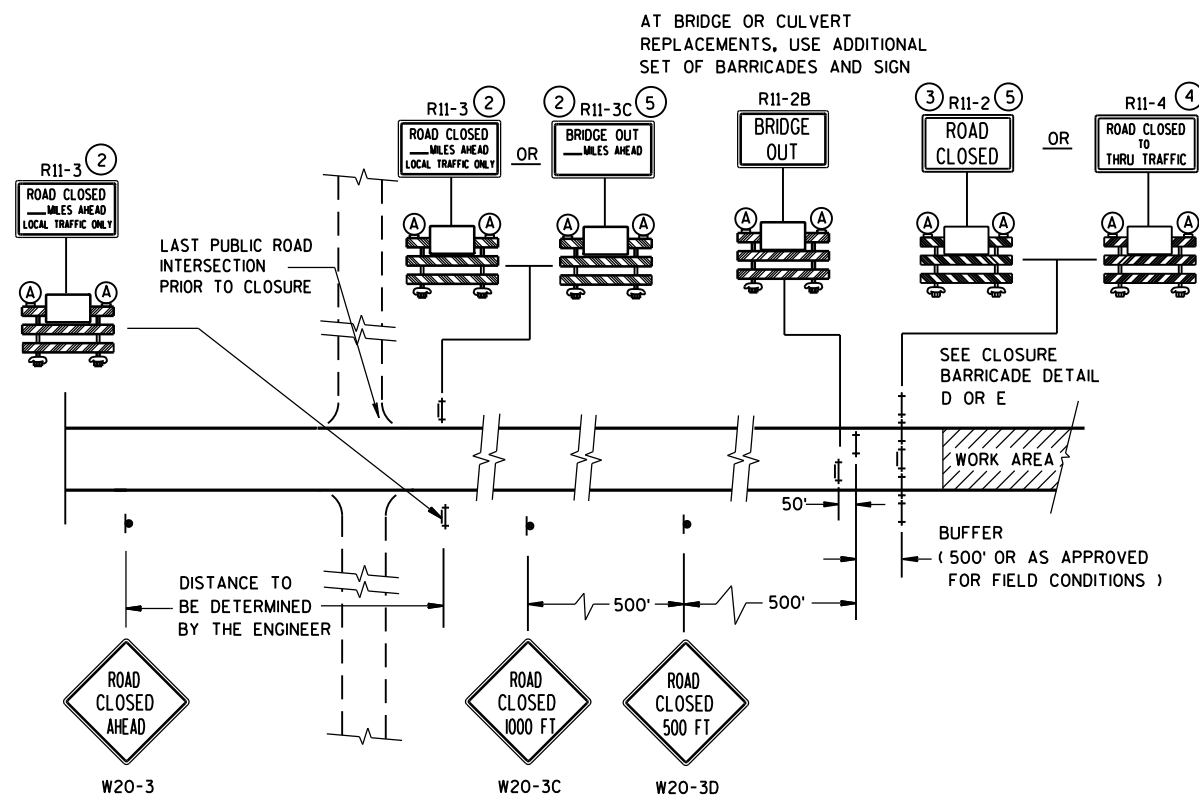
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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)

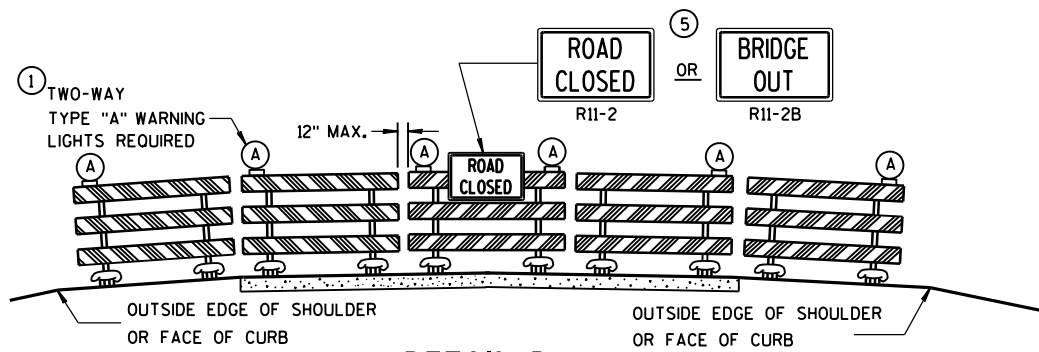


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

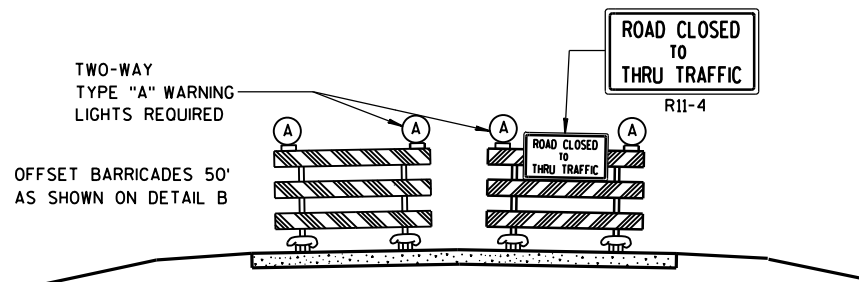
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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.

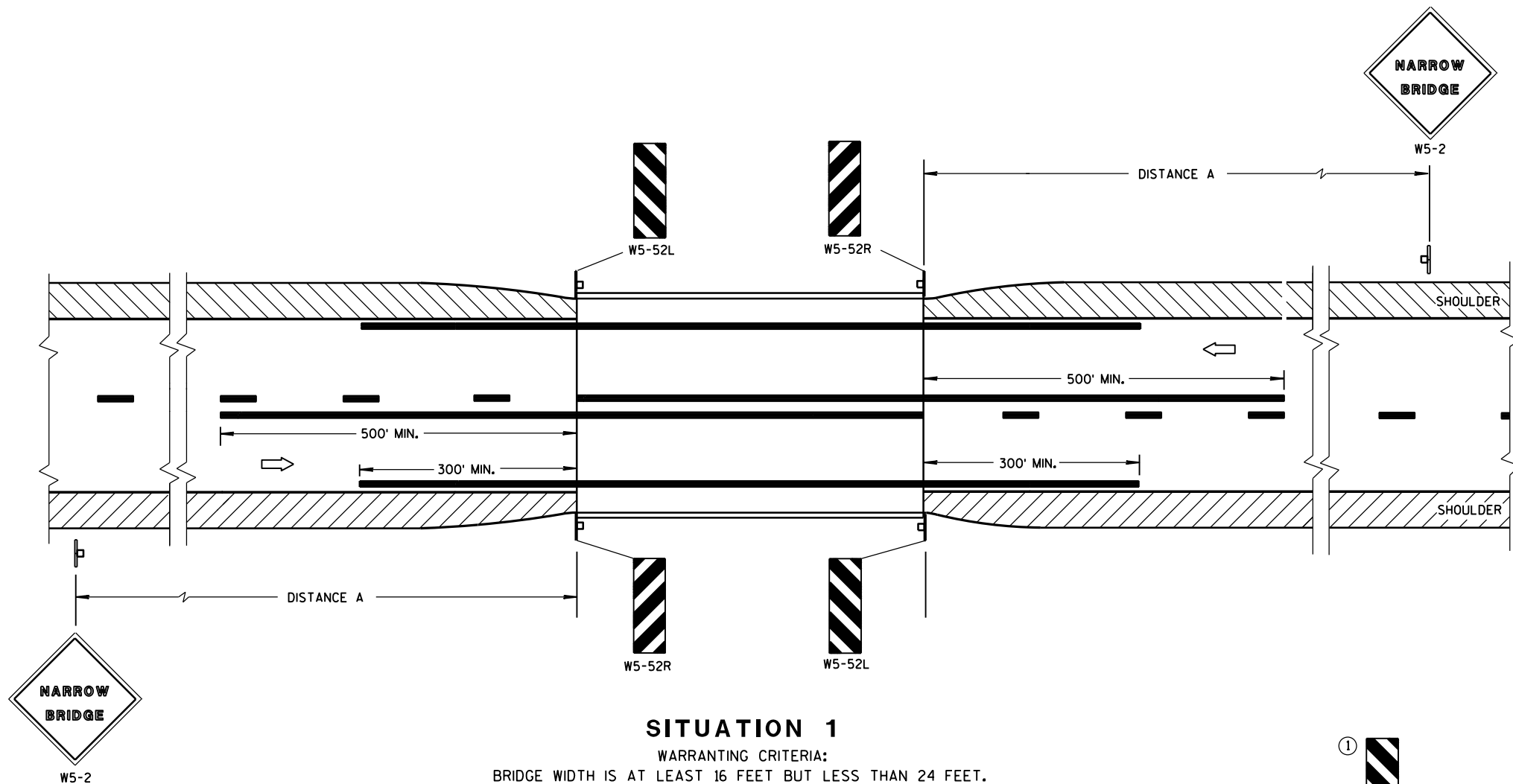
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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



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

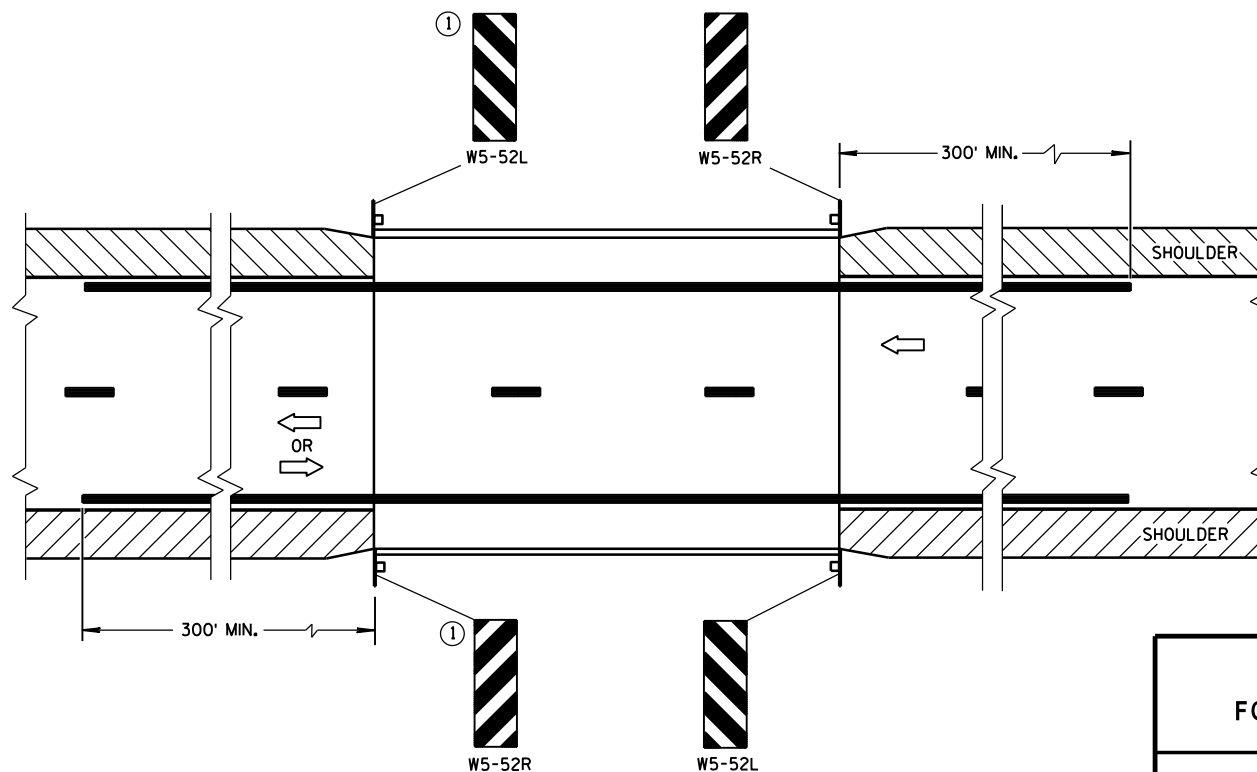
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



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

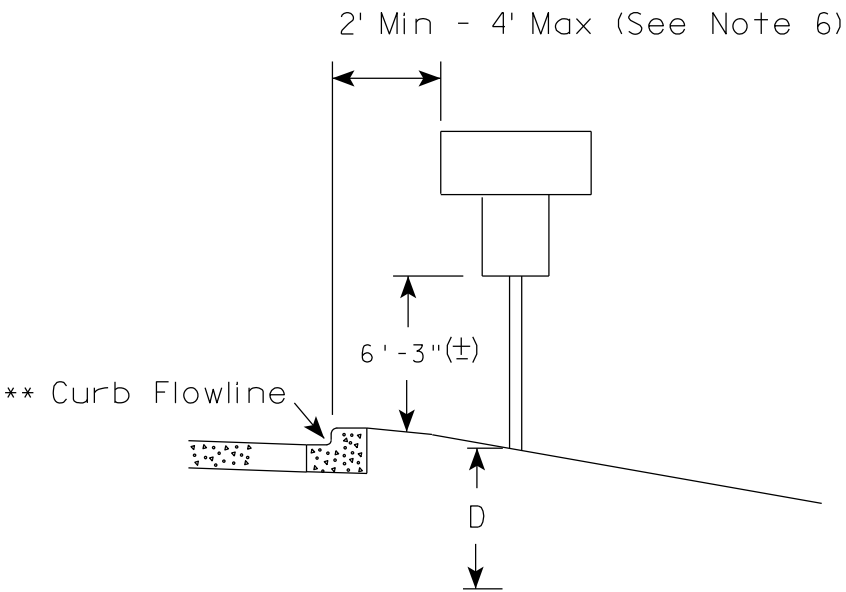
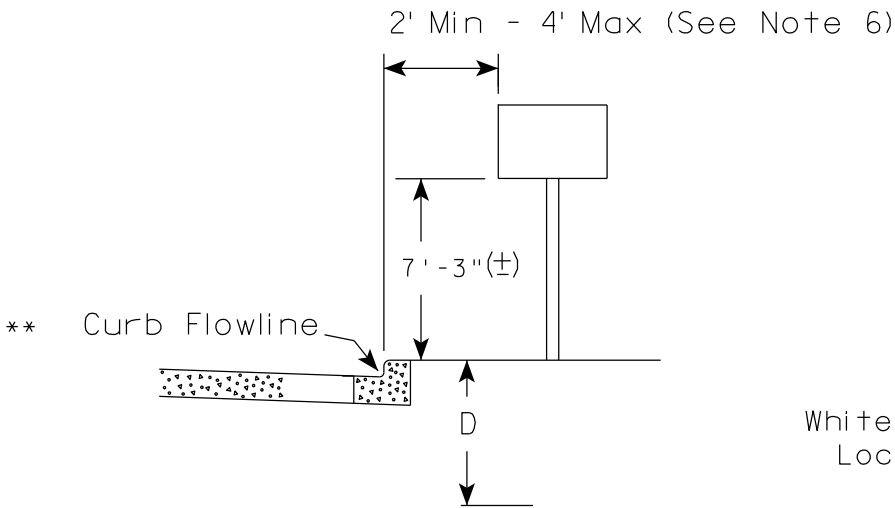
APPROVED

June 2017
DATE

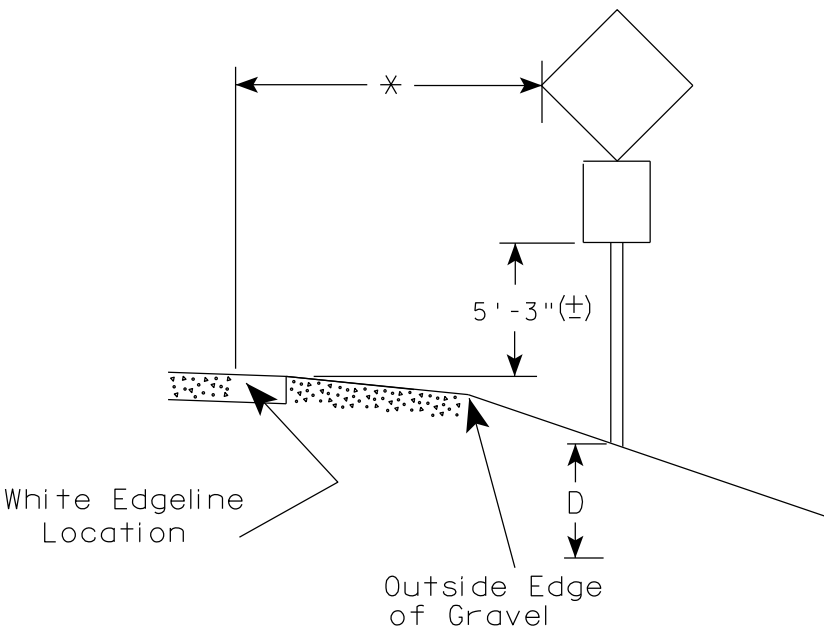
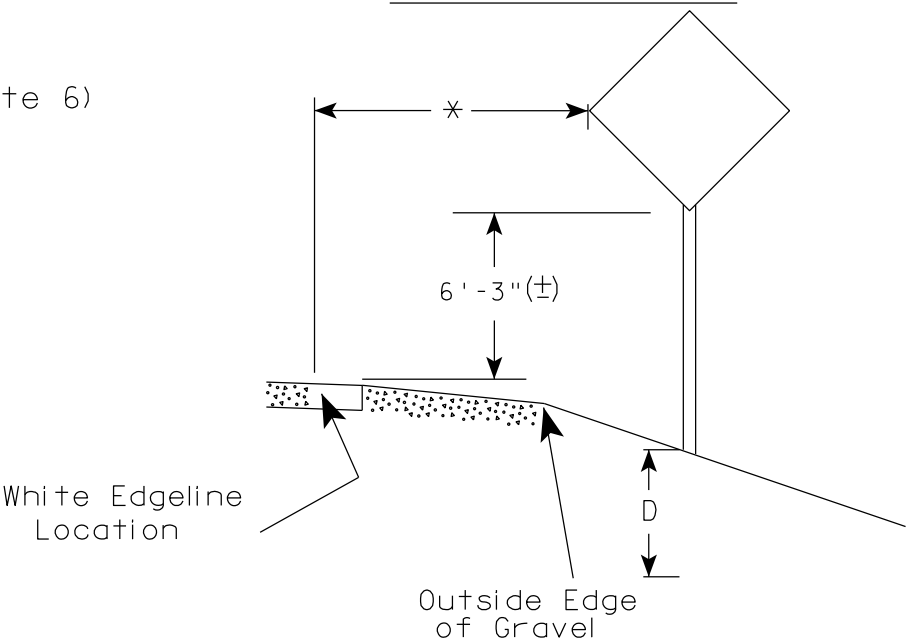
/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

* * 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.

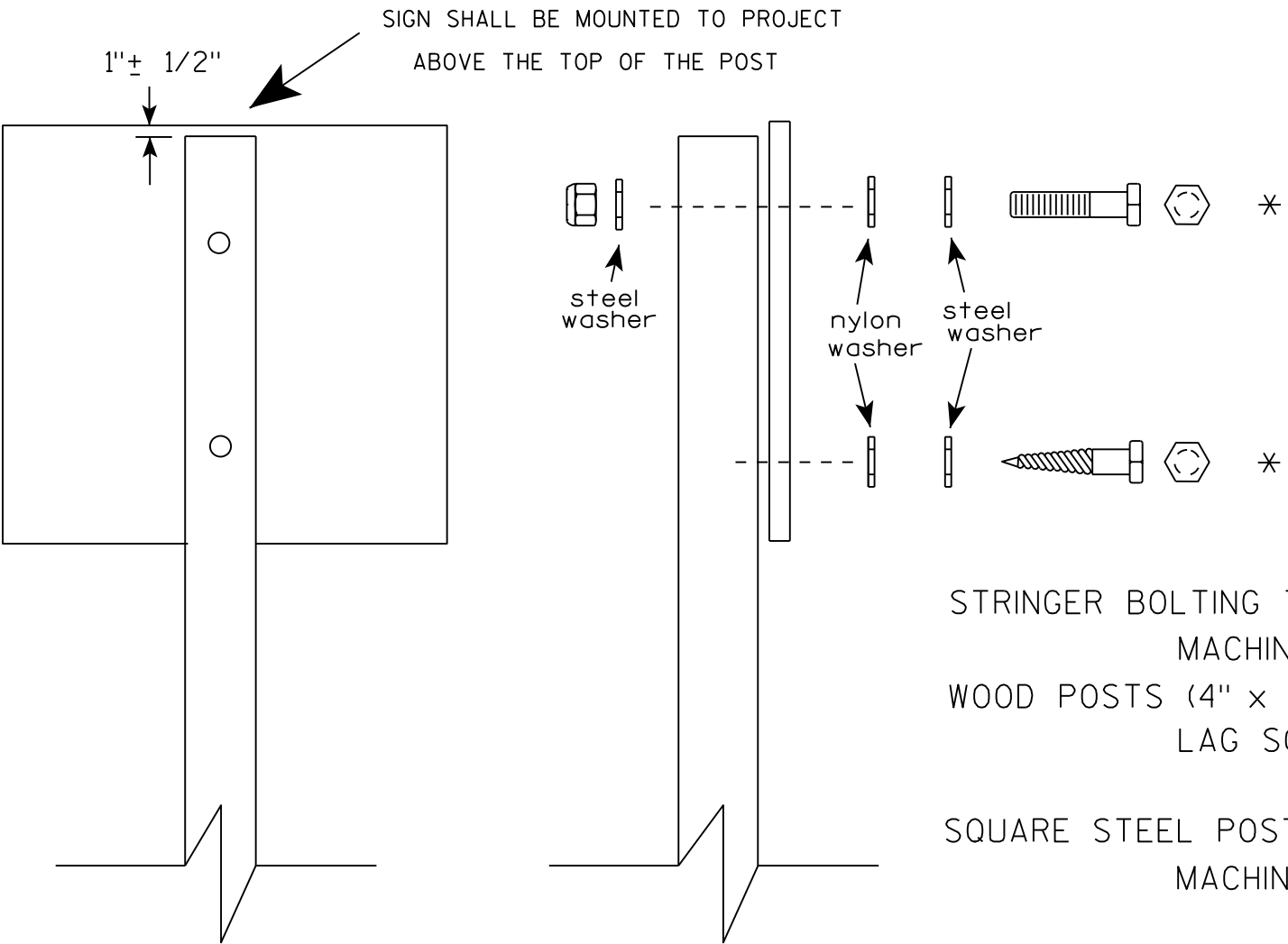
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

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.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON

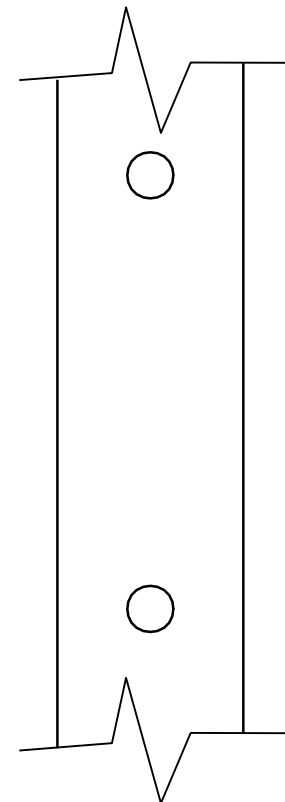
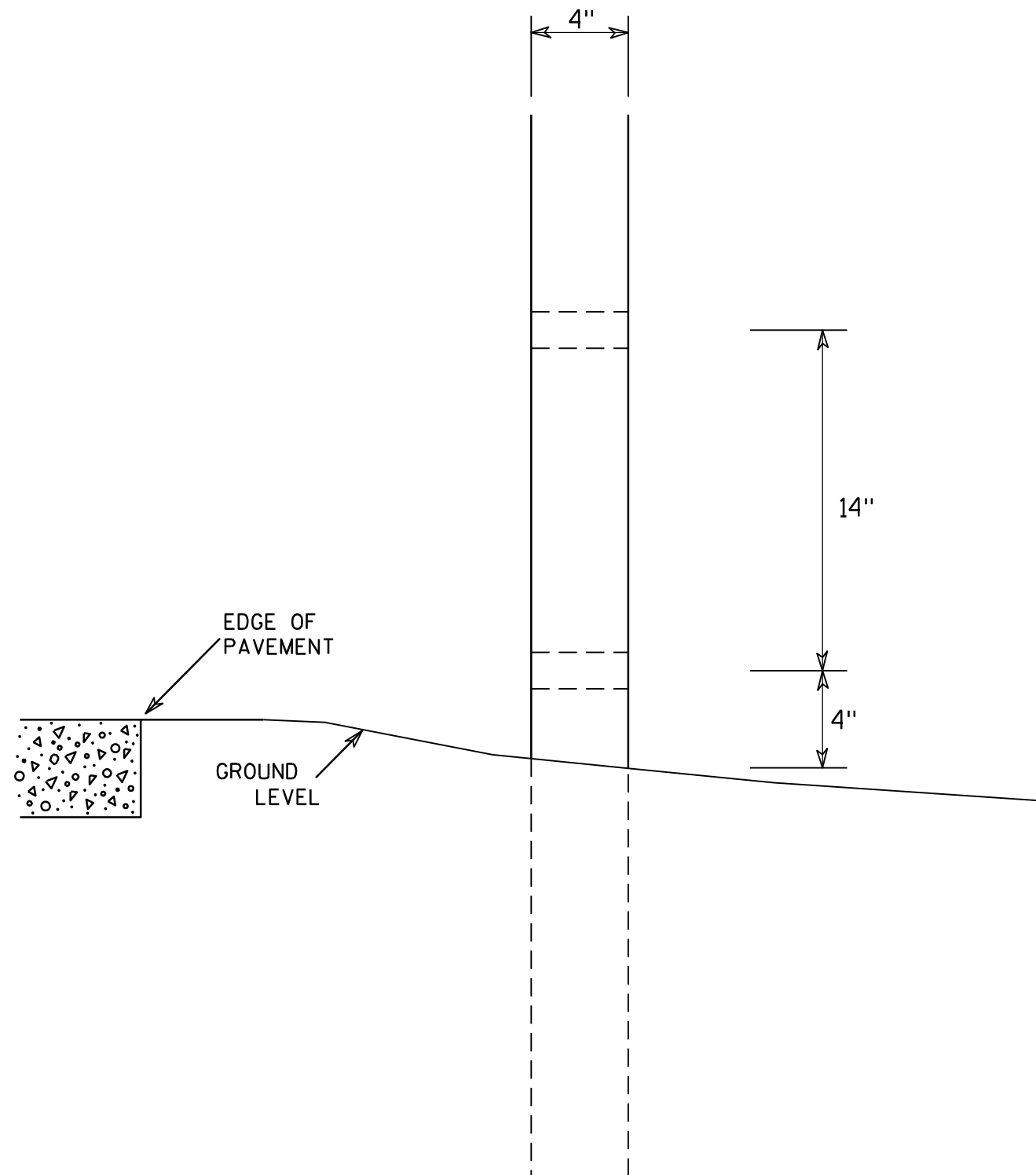
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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



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

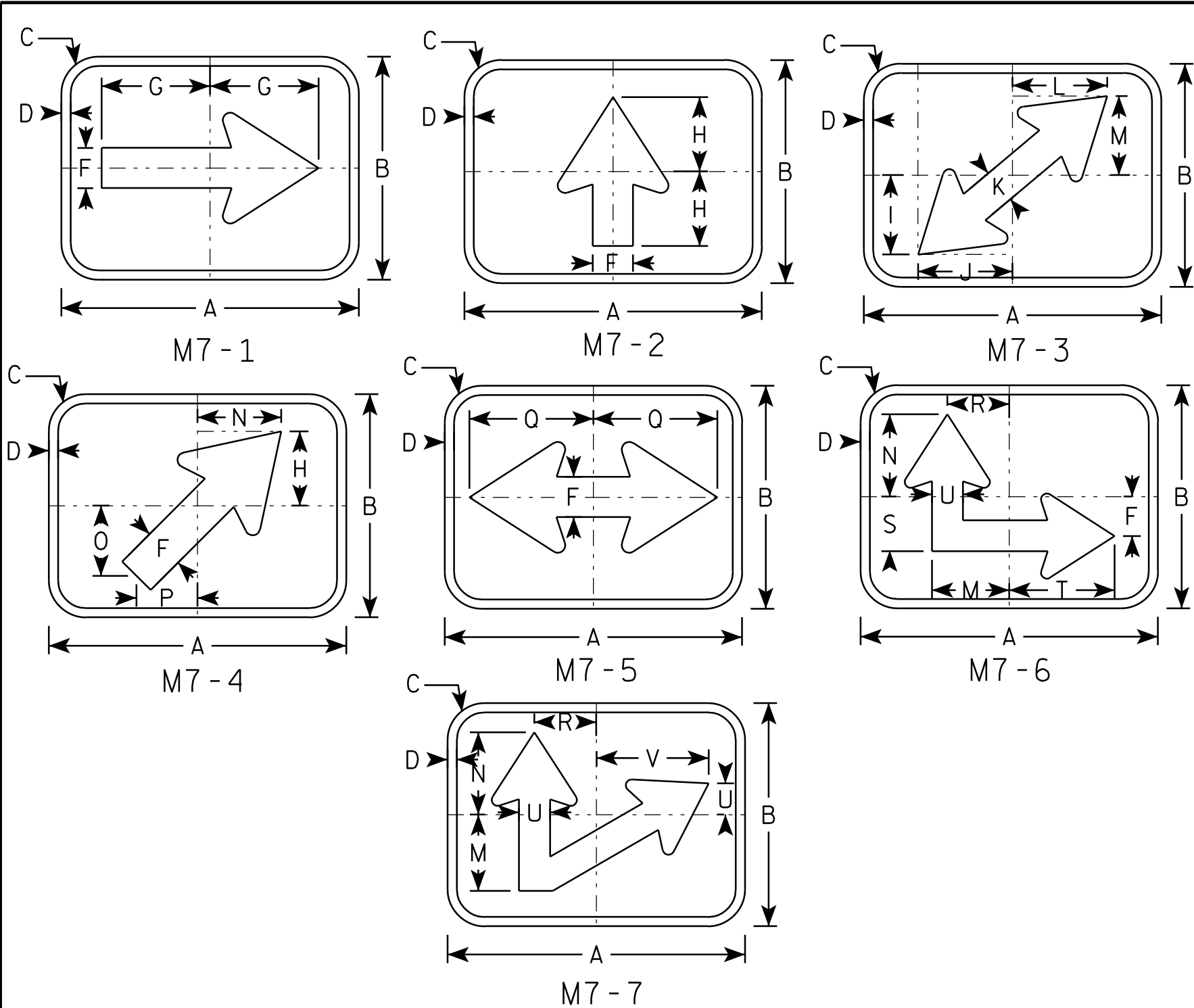
PROJECT NO: 8888-00-70

HWY: WREN DRIVE

COUNTY: TAYLOR

SHEET NO:

E



NOTES

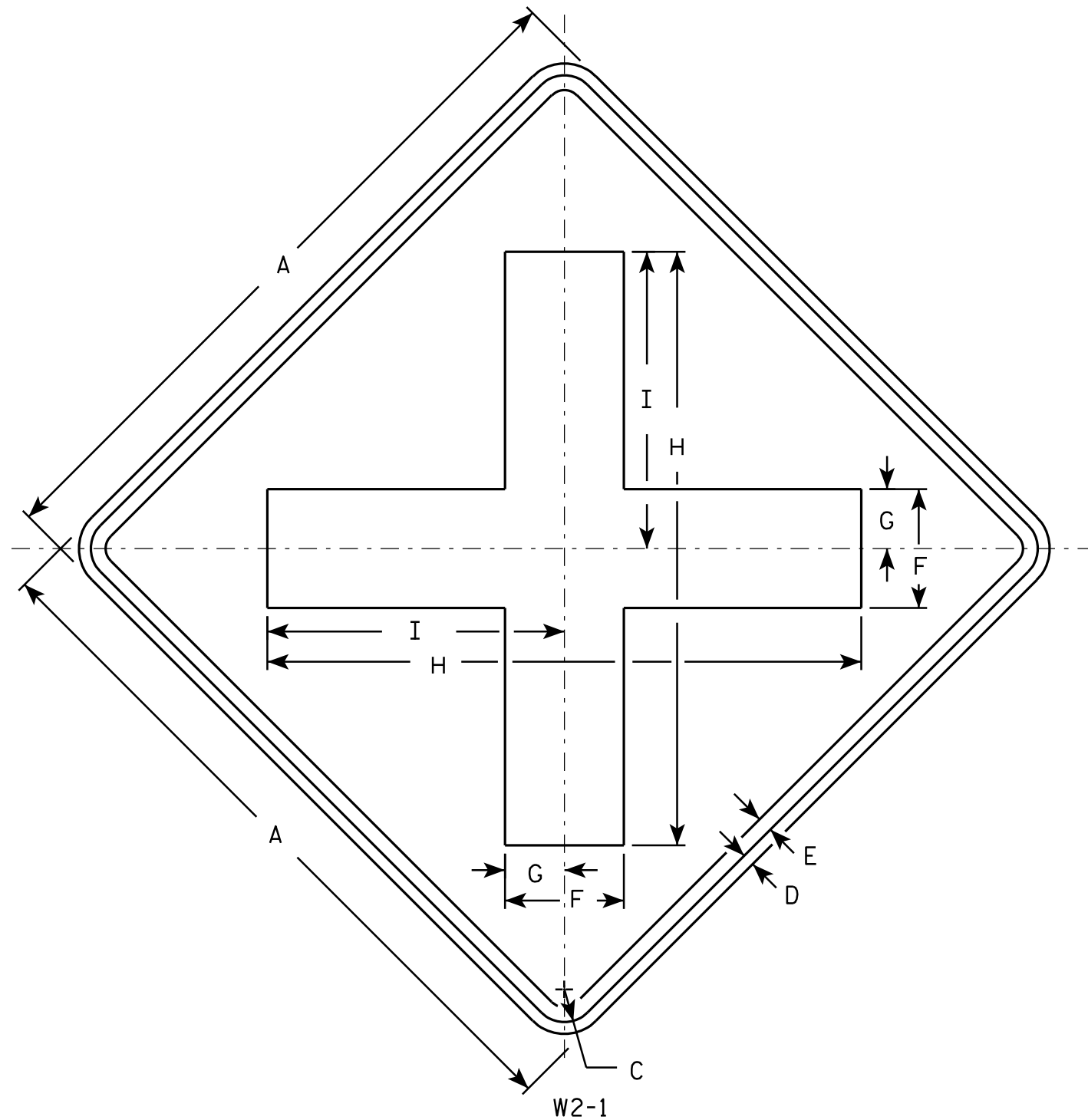
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Green
Message -White
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material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

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																											
2	12	9	1½	¾		1 ⅝	4 ⅜	3	3 ¼	3 ¾	1 ⅜	3 ⅞	3 ⅛	3 ⅜	2 ⅞	2 ½	5	2 ½	2 ¼	4 ¼	1 ¼	4 ½					.75
3																											
4																											
5																											

STANDARD SIGN
M7 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 05/04/10 PLATE NO. M7-1.1



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. 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	4	2	20	10																		4.0
2S	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3	30	15																		9.0
4	48		2 1/4	3/4	1	8	4	40	20																		16.0
5																											

STANDARD SIGN W2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-1.9

PROJECT NO: 8888-00-70

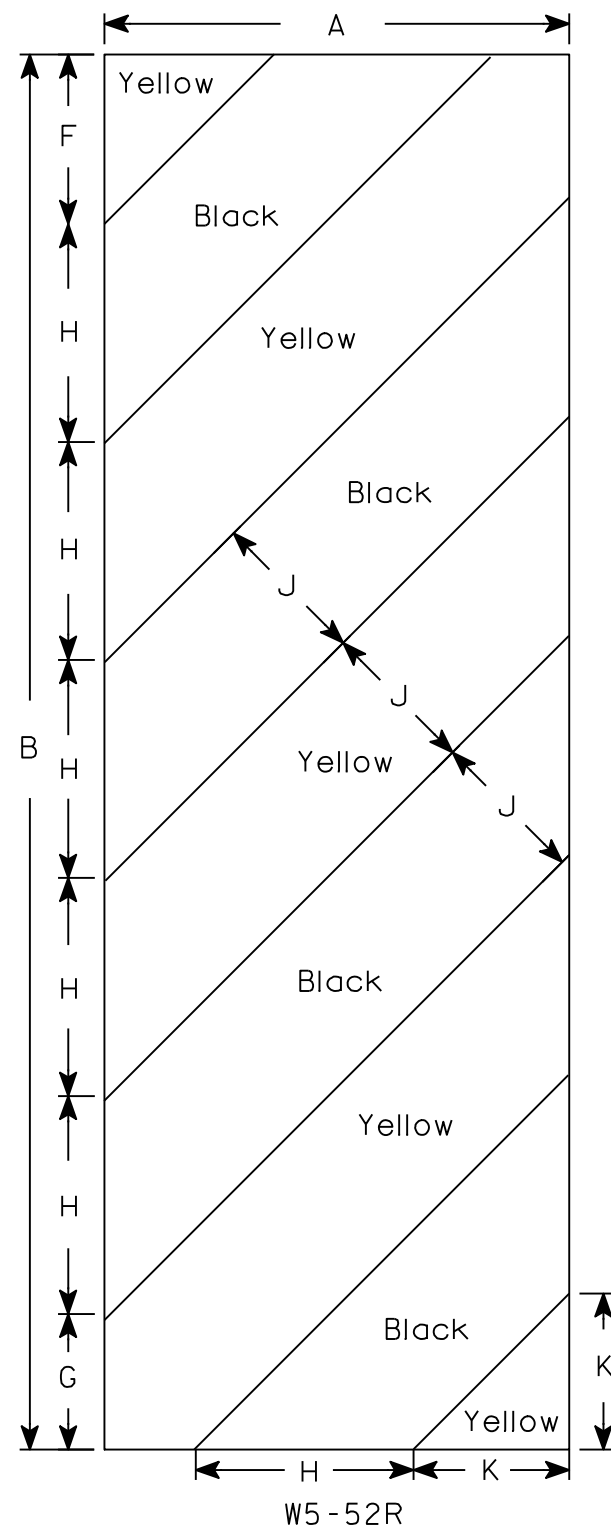
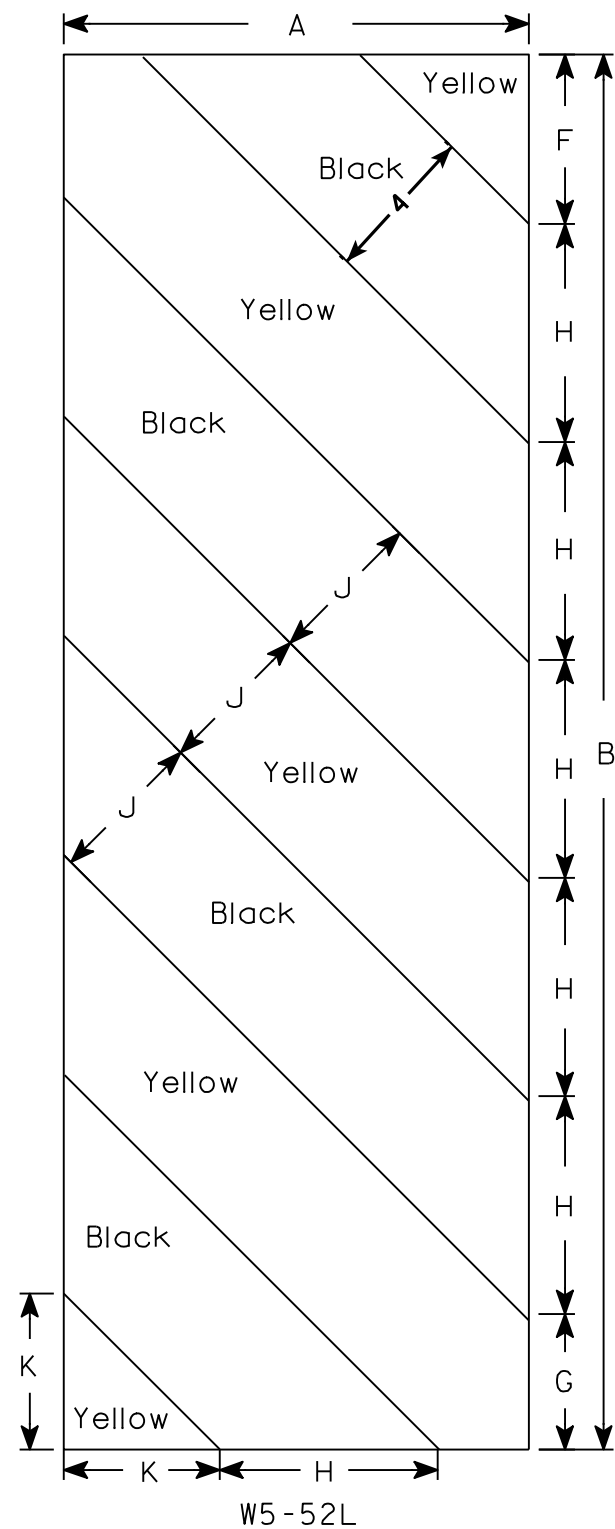
HWY: WREN DRIVE

COUNTY: TAYLOR

SHEET NO:

E

7



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.

7

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

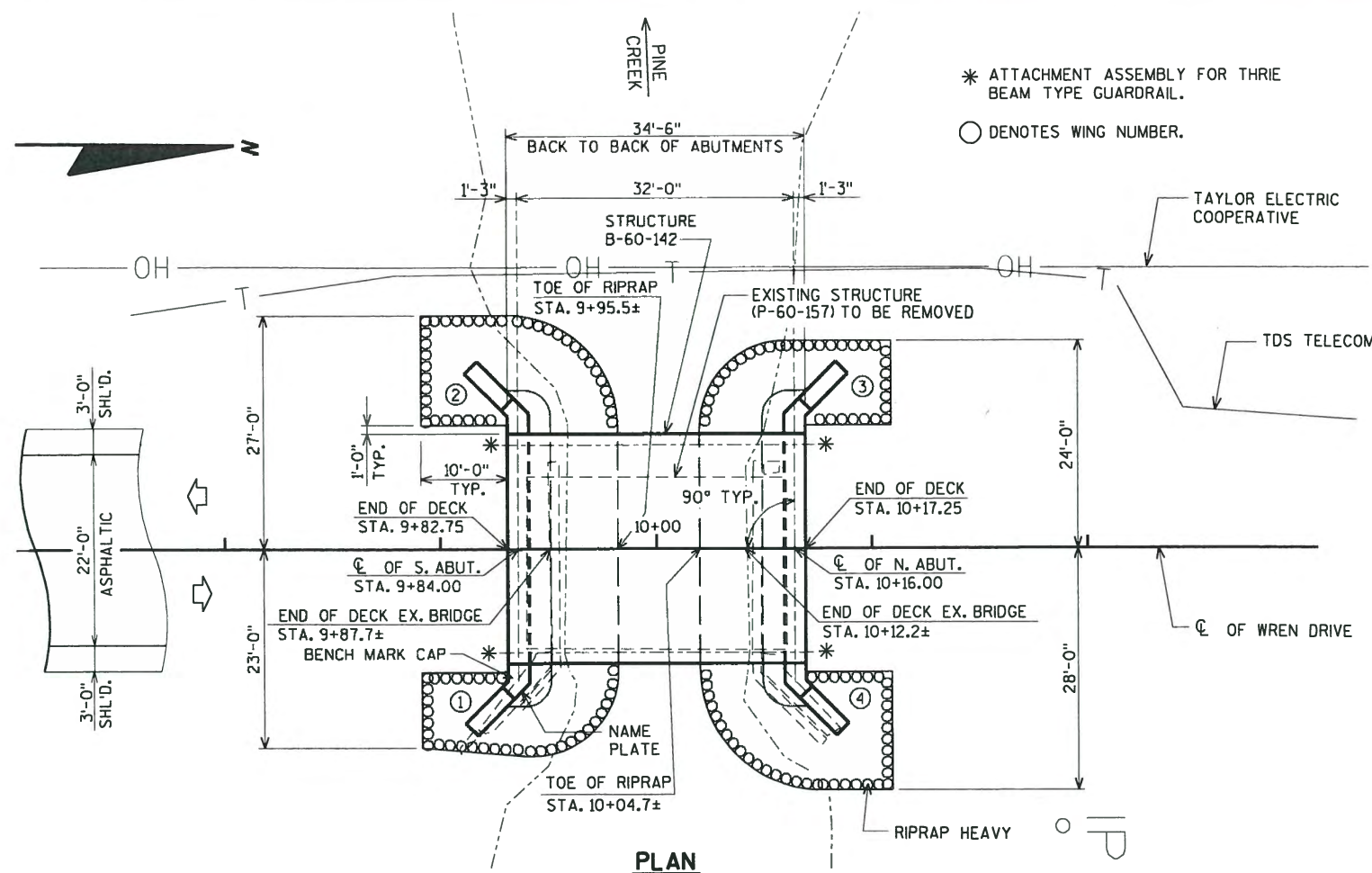
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

\$PRJNAME\$ U:\42-103100 - Taylor Co., Wren Drive over Pine Creek\Structures\421031 gp.dgn

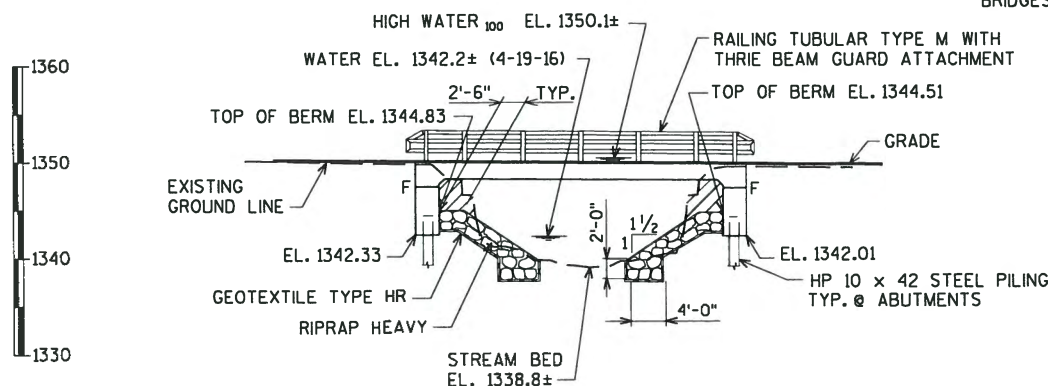
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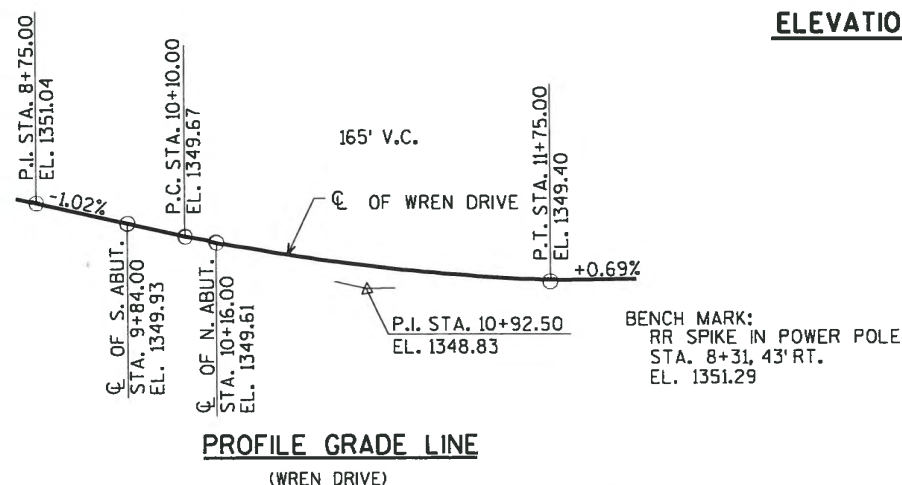


PLAN
SINGLE SPAN CONCRETE FLAT SLAB

COST OF EXCAVATION IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-60-142".



ELEVATION



PROFILE GRADE LINE
(WREN DRIVE)

LIST OF DRAWINGS

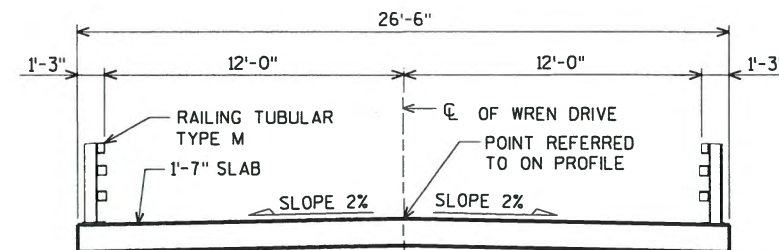
1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT WING DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT WING DETAILS
8. ABUTMENT BILL OF BARS
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE DETAILS
11. RAILING TUBULAR TYPE M

* ATTACHMENT ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL.

○ DENOTES WING NUMBER.

TAYLOR ELECTRIC COOPERATIVE

TDS TELECOM



TYPICAL SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

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

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 *1/5.F.

MATERIAL PROPERTIES:

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

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100} = 1830 c.f.s. { BRIDGE = 1502 c.f.s.
OVERFLOW = 328 c.f.s.
VEL. = 8.3 f.p.s.
HW₁₀₀ = EL. 1350.1
WATERWAY AREA = 182 sq. ft.
DRAINAGE AREA = 14.9 sq. mi.
SCOUR CRITICAL CODE = 8
DATUM = NAVD88 (2012)

2 YEAR FREQUENCY

Q_2 = 530 c.f.s.
VEL. = 9.4 f.p.s.
HW₂ = EL. 1344.9

ROAD OVERTOPPING FREQUENCY

FREQUENCY = 29 YEARS
 Q_{29} = 1425 c.f.s.
HW₂₉ = EL. 1349.2

FOUNDATION DATA:

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 120 TONS * PER PILE. ESTIMATED LENGTH OF 45'-0". PREBORE PILING 6'-0".

NORTH ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 120 TONS * PER PILE. ESTIMATED LENGTH OF 55'-0".

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

TRAFFIC DATA:

A.A.D.T. = <100 (2018)
A.A.D.T. = 130 (2038)
R.D.S. = 50 M.P.H.



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

CONSULTANT CONTACT:
CHRIS McMAHON
(715)-834-3161

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES ASSOCIATES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> SDR 08/28/17 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-60-142			
WREN DRIVE OVER PINE CREEK			
COUNTY	TAYLOR	TOWN/CITY/VILLAGE	HOLWAY
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	CKJ	DESIGN CKD.	AEB
DRAWN BY	CLS/JWZ	PLANS CKD.	CBM
GENERAL PLAN			SHEET 1 OF 11

\$PRNAME\$
U:\42-1031.00 - Taylor Co., Wren Drive over Pine Creek\Structures\421031gp.dgn

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STATE PROJECT NUMBER

8888-00-70

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-60-142	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	115	115	-----	230
502.0100	CONCRETE MASONRY BRIDGES	CY	24	24	58	106
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	120	120
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,020	2,020	-----	4,040
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	730	730	10,230	11,690
513.4061	RAILING TUBULAR TYPE M B-60-142	LF	-----	-----	73	73
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9	-----	18
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	30	-----	-----	30
550.0500	PILE POINTS	EACH	5	5	-----	10
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	225	275	-----	500
606.0300	RIPRAP HEAVY	CY	65	70	-----	135
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	70	70	-----	140
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	35	35	-----	70
645.0120	GEOTEXTILE TYPE HR	SY	135	145	-----	280
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-60-142" SHALL BE THE EXISTING GROUNDLINE.

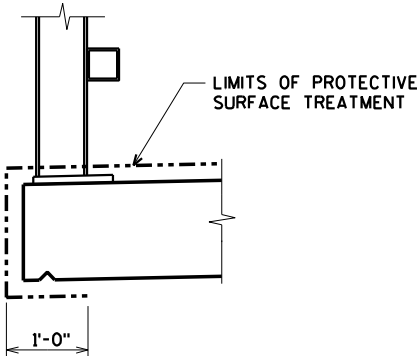
THE EXISTING STRUCTURE, P-60-157, TO BE REMOVED, IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE ON CONCRETE ABUTMENTS, 24.5 FOOT LONG WITH A 20.3 FOOT CLEAR ROADWAY WIDTH.

AT THE BACK FACE 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.

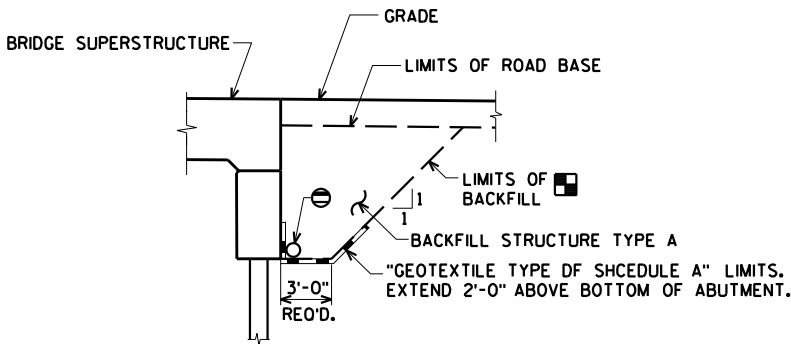
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.



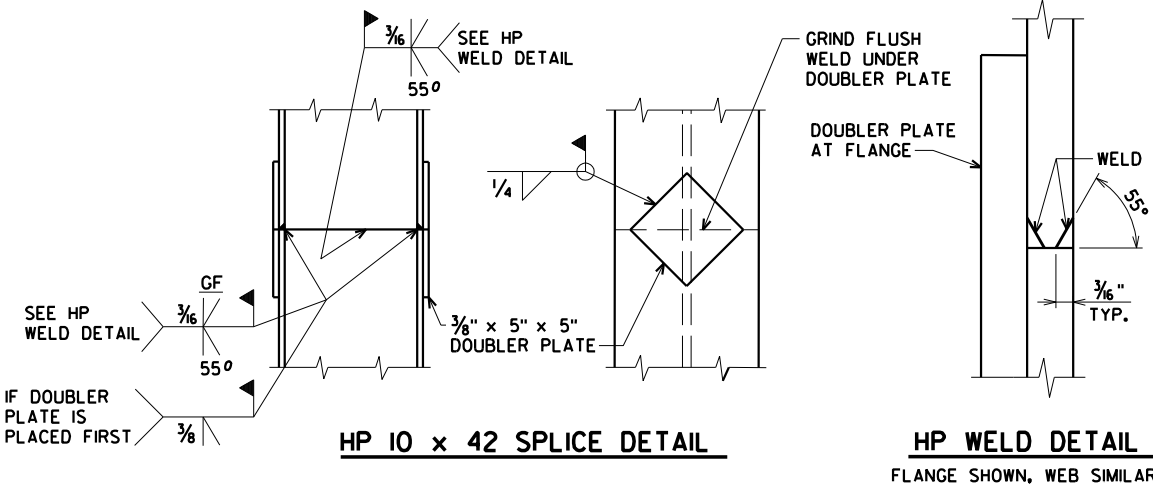
PROTECTIVE SURFACE TREATMENT DETAIL



BACKFILL STRUCTURE LIMITS

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

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.



HP 10 x 42 SPLICE DETAIL

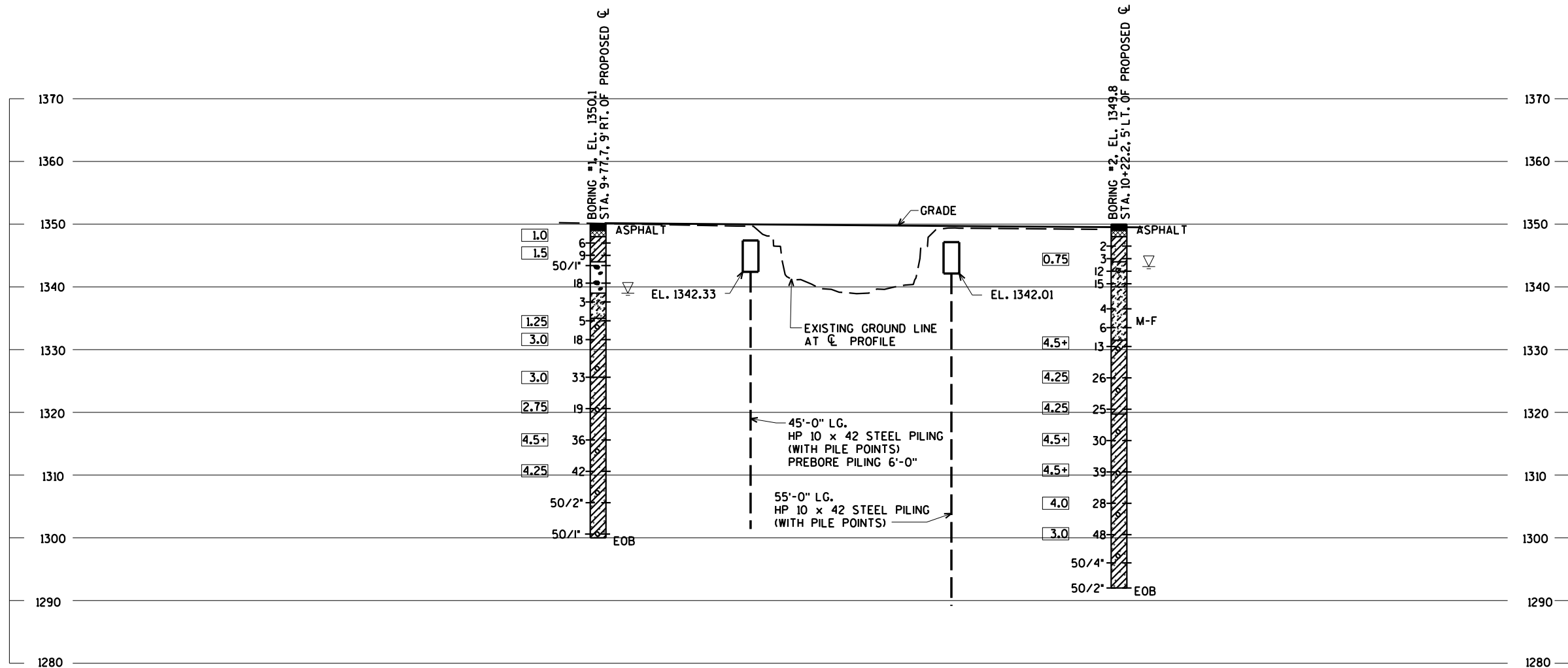
HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-60-142			
DRAWN BY JWZ		PLANS CK'D. CKJ	
QUANTITIES AND NOTES			SHEET 2 OF 11

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

BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS, LLC
REPORT COMPLETED BY: RIVER VALLEY TESTING CORP.
ALL COORDINATES REFERENCED TO WCCS TAYLOR COUNTY

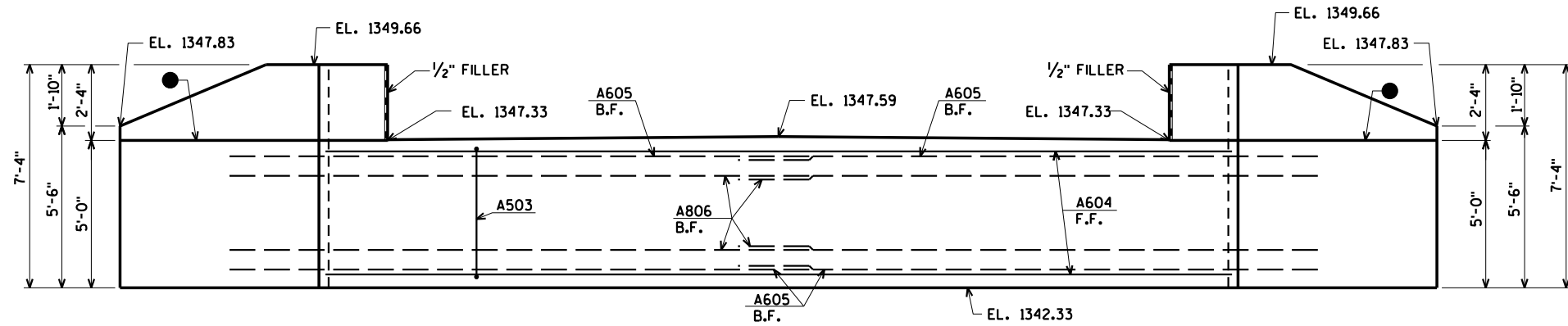


NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-60-142					
		DRAWN BY	JWZ	PLANS CK'D.	CKJ
SUBSURFACE EXPLORATION			SHEET 3 OF 11		

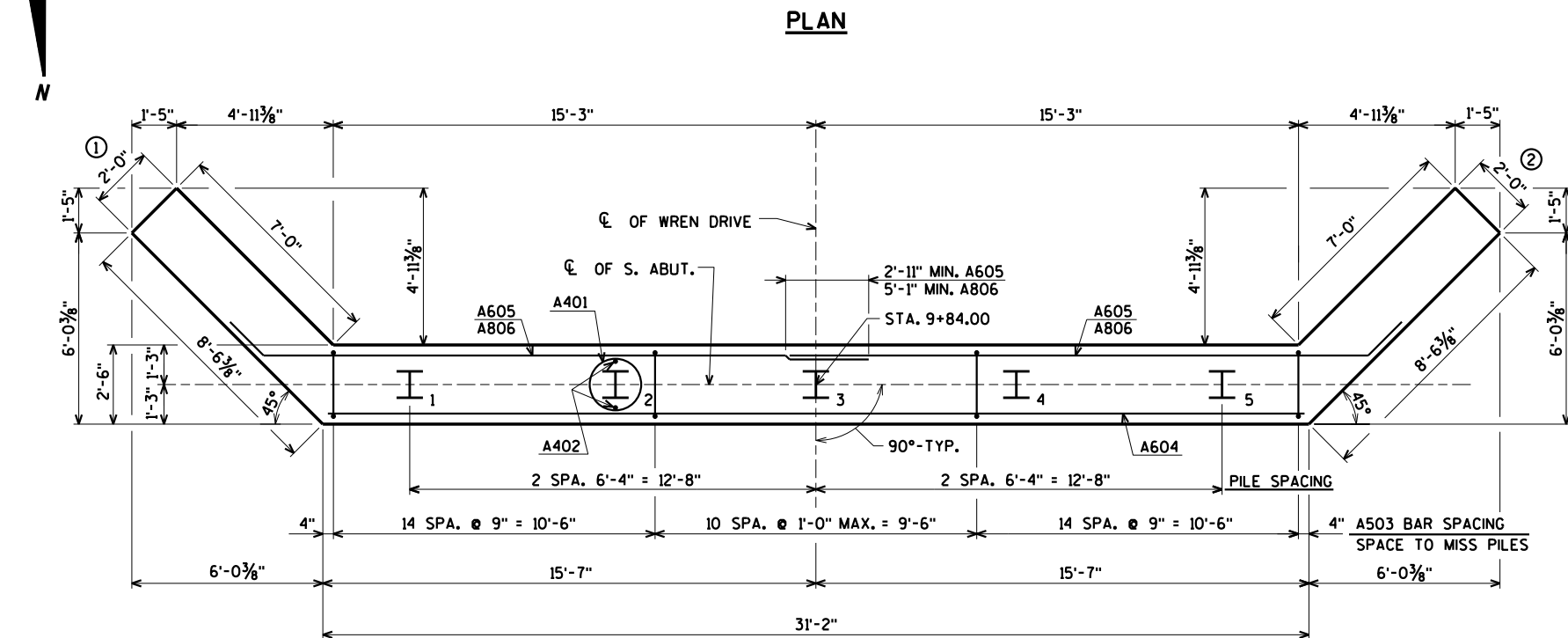
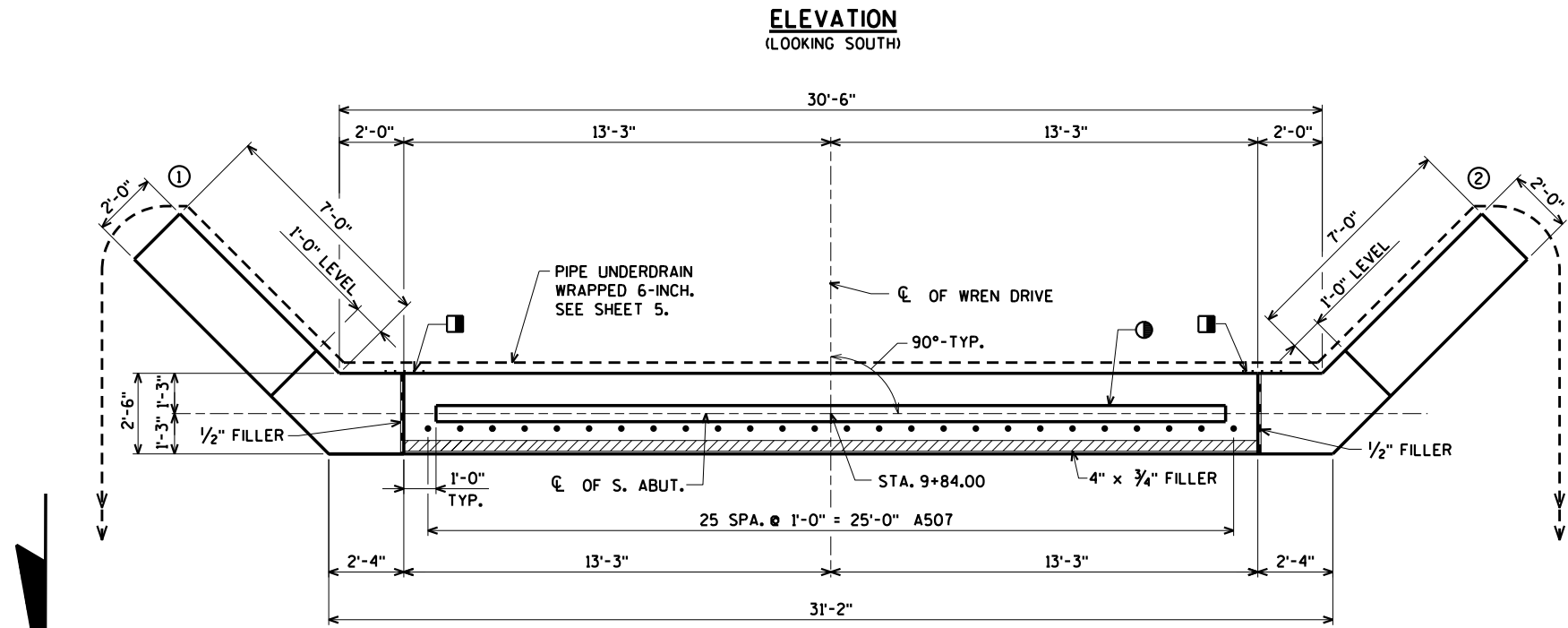
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Ut42-1031.00 - Taylor Co., Wren Drive over Pine Creek Structures 421031.sa.dgn

STATE PROJECT NUMBER

8888-00-70



NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)



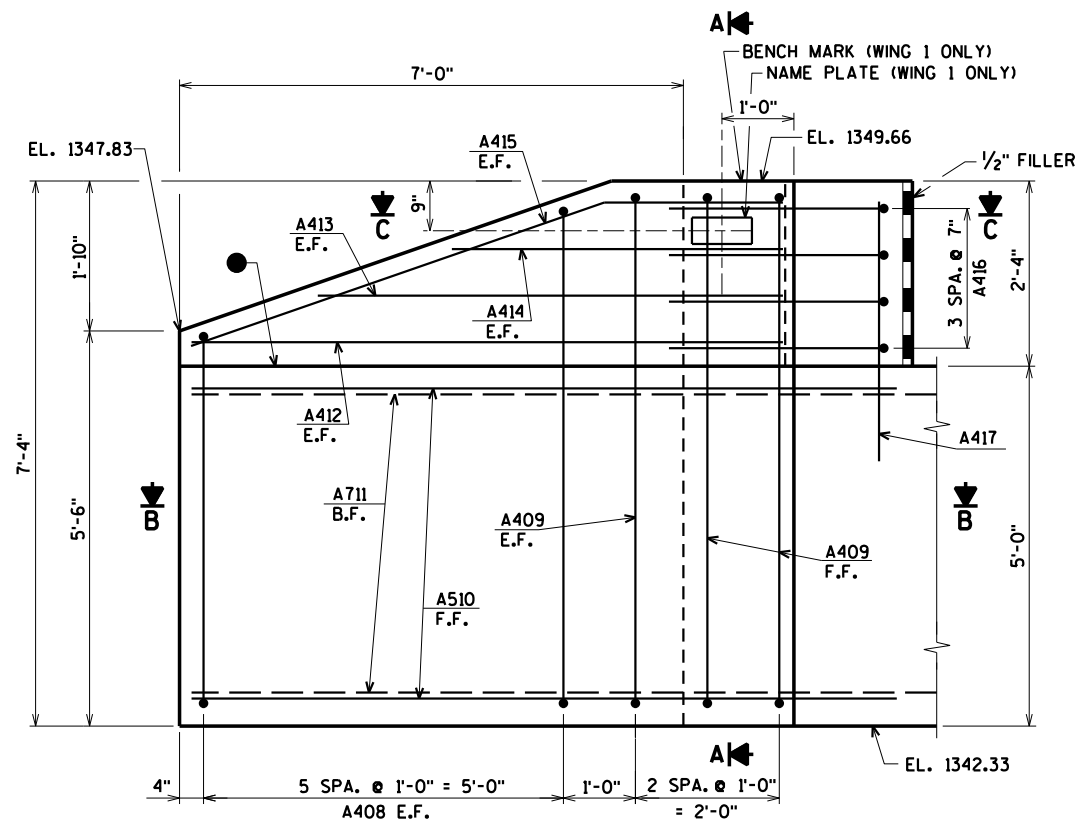
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
 - ① KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
 - VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- FOR PILE SPICE DETAIL SEE SHEET 2.
- B.F. DENOTES BACK FACE
F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-60-142			
DRAWN BY	CLS	PLANS CK'D.	CKJ
SOUTH ABUTMENT			SHEET 4 OF 11

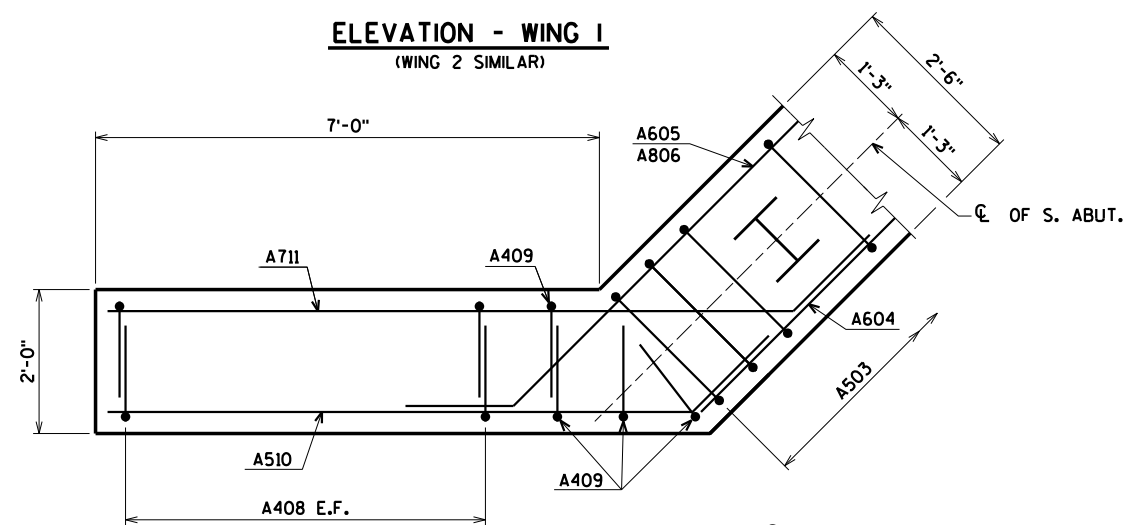
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
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www.AyresAssociates.com

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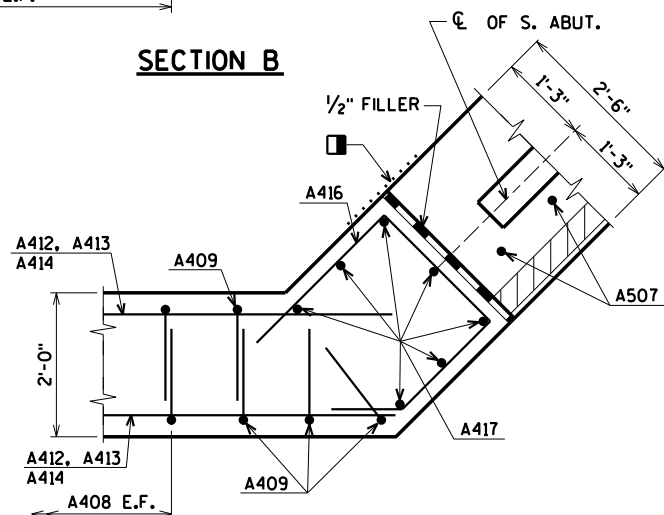
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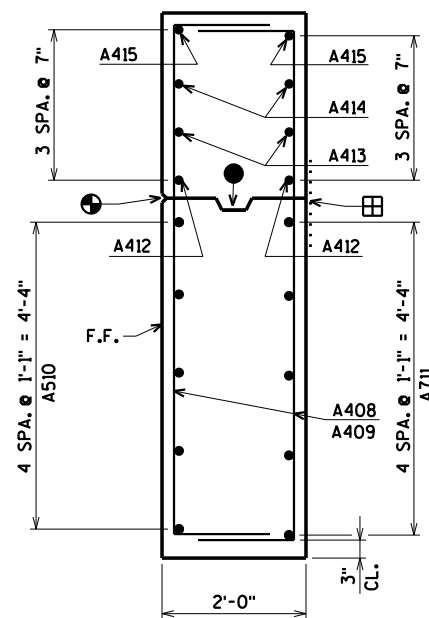
ELEVATION - WING 1
(WING 2 SIMILAR)



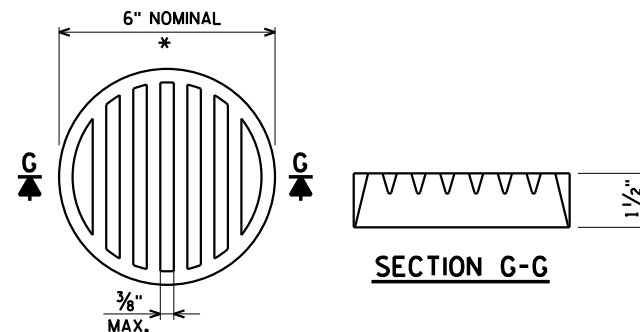
SECTION B



SECTION C



SECTION A

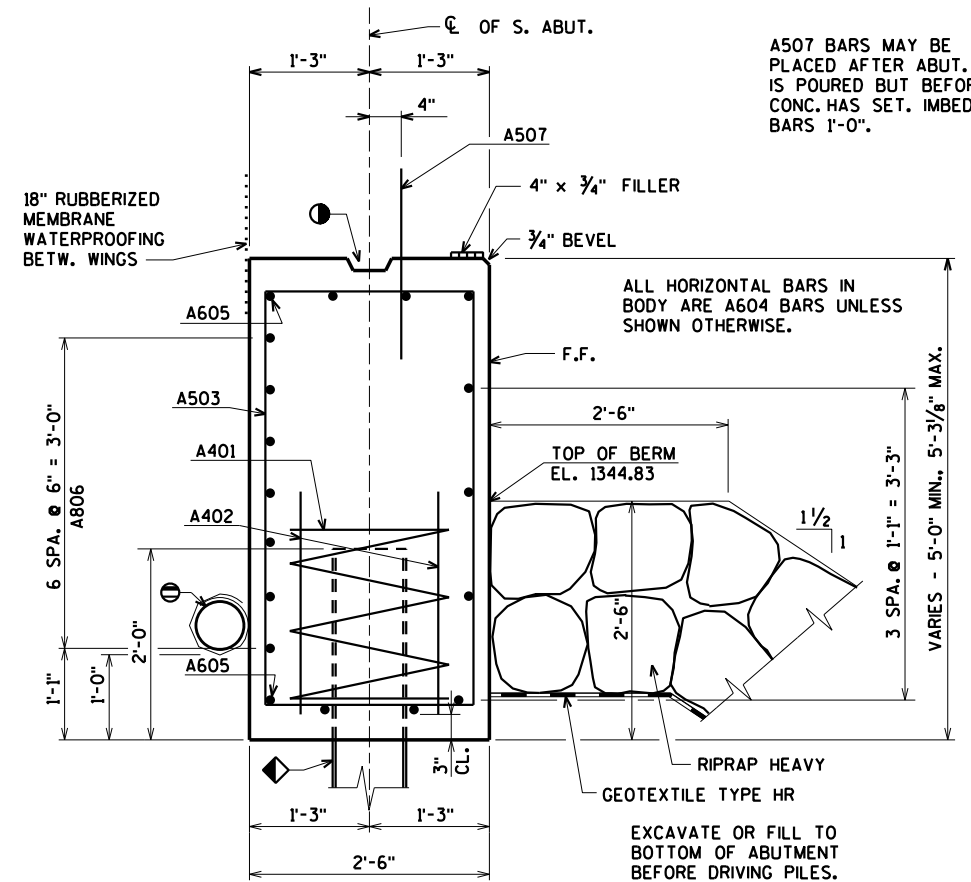


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS 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.

RODENT SHIELD DETAIL



TYPICAL SECTION THRU BODY

◆ ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE. PRE-BORE PILES 6'-0" ESTIMATED LENGTH 45'-0".

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

① KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

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

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

⊕ 3/4" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

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

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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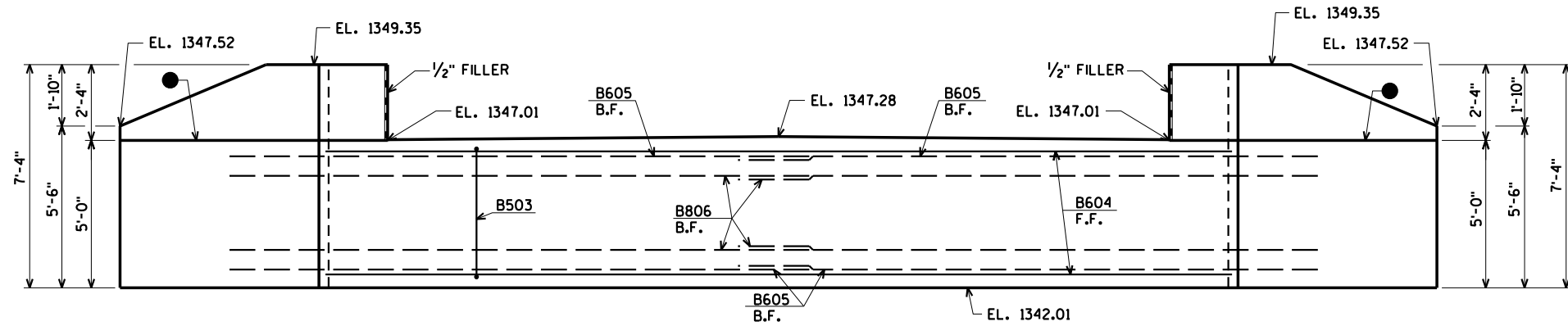
A507 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-60-142			
DRAWN BY		CLS	PLANS CK'D. CKJ
SOUTH ABUTMENT WING DETAILS		SHEET 5 OF 11	

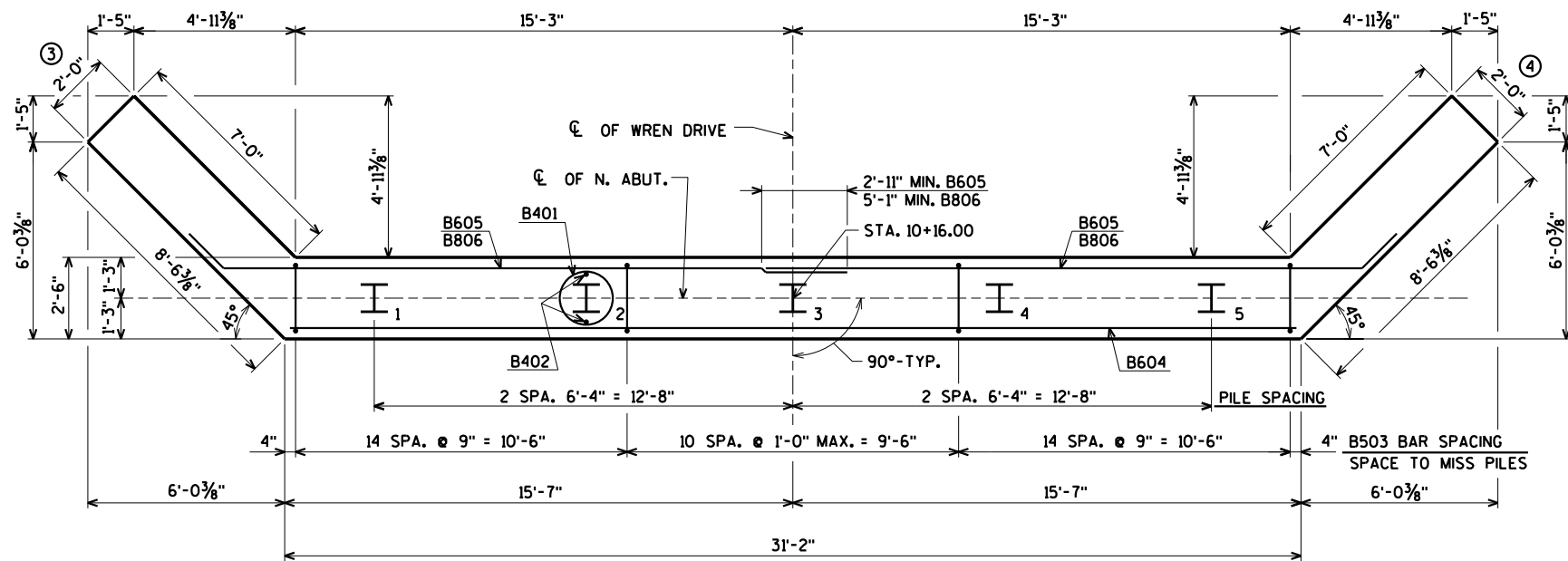
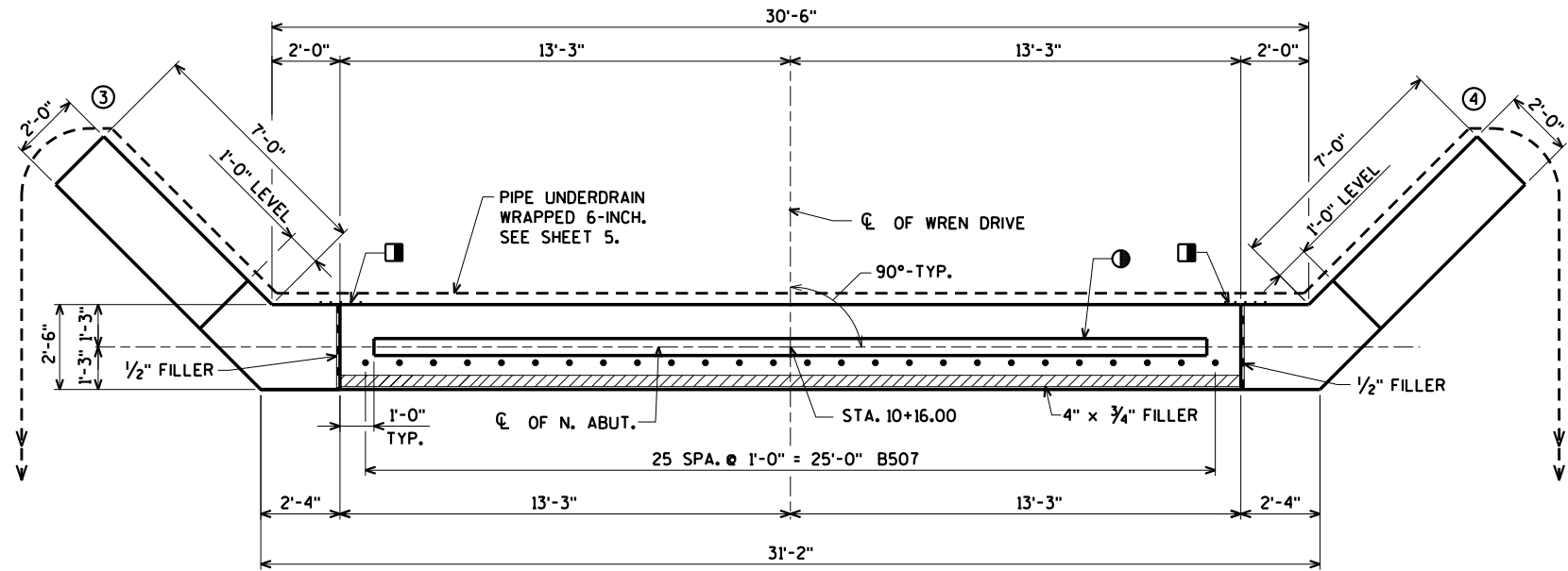
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STATE PROJECT NUMBER

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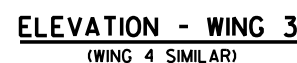
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)



- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
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- FOR PILE SPLICE DETAIL SEE SHEET 2.
- B.F. DENOTES BACK FACE
F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-60-142			
DRAWN BY	CLS	PLANS CK'D.	CKJ
NORTH ABUTMENT			SHEET 6 OF 11

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



- F.F. DENOTES FRONT FACE

B507 BARS MAY BE
PLACED AFTER ABUT.
IS POURED BUT BEFORE
CONC. HAS SET. IMBED
BARS 1'-0".

ALL HORIZONTAL BARS IN
BODY ARE B604 BARS UNLESS
SHOWN OTHERWISE.

OF BERM	1344.51	1344.51
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RIPRAP HEAVY
- GEOTEXTILE TYPE HR

EXCAVATE OR FILL TO
BOTTOM OF ABUTMENT
BEFORE DRIVING PILES.

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BILL OF BARS - SOUTH ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2,020# UNCOATED 730# COATED
							LOCATION
A401		5	28-0	X			BODY @ PILES
A402		10	2-3				BODY @ PILES
A503		39	13-10	X			BODY VERT.
A604		9	30-11				BODY HORIZ. F.F.
A605		4	20-6	X			BODY HORIZ. B.F.
A806		14	21-7	X			BODY HORIZ. B.F.
A507	X	26	2-0				BODY DOWELS
A408	X	24	8-6	X			WINGS 1 & 2 VERT. E.F.
A409	X	8	9-5	X			WINGS 1 & 2 VERT. E.F.
A510	X	10	9-8	X			WINGS 1 & 2 HORIZ. F.F.
A711	X	10	11-3	X			WINGS 1 & 2 HORIZ. B.F.
A412	X	4	8-3				WINGS 1 & 2 HORIZ. E.F.
A413	X	4	6-8				WINGS 1 & 2 HORIZ. E.F.
A414	X	4	4-8				WINGS 1 & 2 HORIZ. E.F.
A415	X	4	8-2	X			WINGS 1 & 2 DIAG. E.F.
A416	X	8	8-5	X			WINGS 1 & 2 HORIZ.
A417	X	14	3-8				WINGS 1 & 2 VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

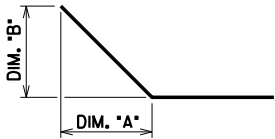
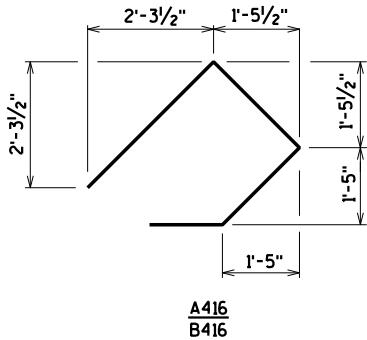
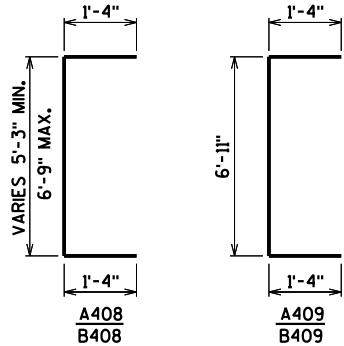
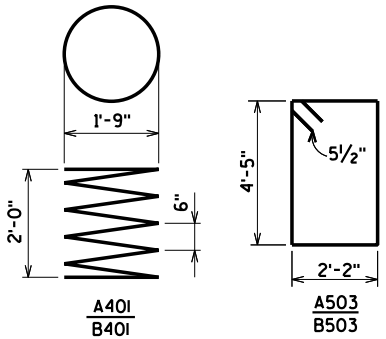
BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A408	4 SERIES OF 6	7'-9" TO 9'-3"
B408	4 SERIES OF 6	7'-9" TO 9'-3"

BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS - NORTH ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	2,020# UNCOATED 730# COATED
							LOCATION
B401		5	28-0	X			BODY @ PILES
B402		10	2-3				BODY @ PILES
B503		39	13-10	X			BODY VERT.
B604		9	30-11				BODY HORIZ. F.F.
B605		4	20-6	X			BODY HORIZ. B.F.
B806		14	21-7	X			BODY HORIZ. B.F.
B507	X	26	2-0				BODY DOWELS
B408	X	24	8-6	X			WINGS 3 & 4 VERT. E.F.
B409	X	8	9-5	X			WINGS 3 & 4 VERT. E.F.
B510	X	10	9-8	X			WINGS 3 & 4 HORIZ. F.F.
B711	X	10	11-3	X			WINGS 3 & 4 HORIZ. B.F.
B412	X	4	8-3				WINGS 3 & 4 HORIZ. E.F.
B413	X	4	6-8				WINGS 3 & 4 HORIZ. E.F.
B414	X	4	4-8				WINGS 3 & 4 HORIZ. E.F.
B415	X	4	8-2	X			WINGS 3 & 4 DIAG. E.F.
B416	X	8	8-5	X			WINGS 3 & 4 HORIZ.
B417	X	14	3-8				WINGS 3 & 4 VERT.



BAR NO.	DIM. 'A'	DIM. 'B'
A605	1'-0 3/4"	1'-0 3/4"
A806	1'-0 3/4"	1'-0 3/4"
A510	1'-0 3/4"	1'-0 3/4"
A711	1'-0 3/4"	1'-0 3/4"
A415	5'-9"	1'-9"
B605	1'-0 3/4"	1'-0 3/4"
B806	1'-0 3/4"	1'-0 3/4"
B510	1'-0 3/4"	1'-0 3/4"
B711	1'-0 3/4"	1'-0 3/4"
B415	5'-9"	1'-9"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-60-142			
DRAWN BY		CLS	PLANS CK'D. CKJ
ABUTMENT BILL OF BARS			SHEET 8 OF 11

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES

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



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



BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

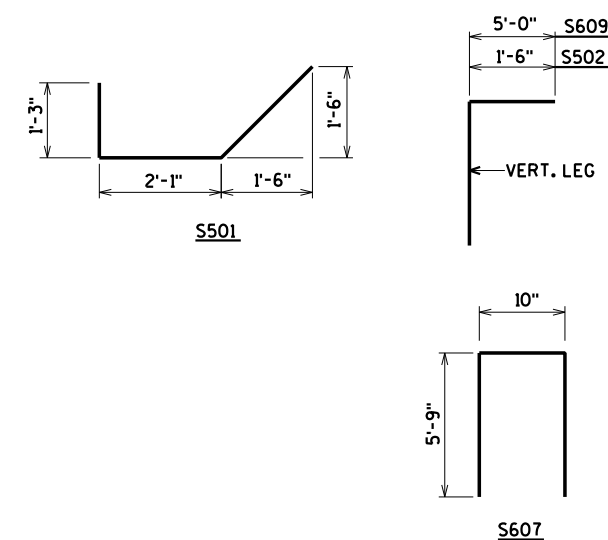




Diagram illustrating the profile of a parabolic arch. The arch is supported by two abutments, labeled "C OF ABUT." at each end. The total span is 32'-0", divided into 10 equal spaces. The rise values at each space are: 0.2", 0.4", 0.5", 0.6", 0.7", 0.6", 0.5", 0.4", and 0.2".

CAMBER DIAGRAM

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C OF ABUTMENTS AND 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR C.

TOP OF DECK ELEVATIONS

LOCATION	€ OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	€ OF N. ABUT.
W. EDGE OF SLAB	1349.66	1349.63	1349.60	1349.57	1349.53	1349.50	1349.47	1349.43	1349.40	1349.38	1349.35
E. OF STRUCTURE	1349.93	1349.90	1349.86	1349.83	1349.80	1349.77	1349.73	1349.70	1349.67	1349.64	1349.61
E. EDGE OF SLAB	1349.66	1349.63	1349.60	1349.57	1349.53	1349.50	1349.47	1349.43	1349.40	1349.38	1349.35

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-60-142			
		DRAWN BY	CLS
		PLANS CK'D.	CKJ
SUPERSTRUCTURE DETAILS		SHEET 10 OF 11	

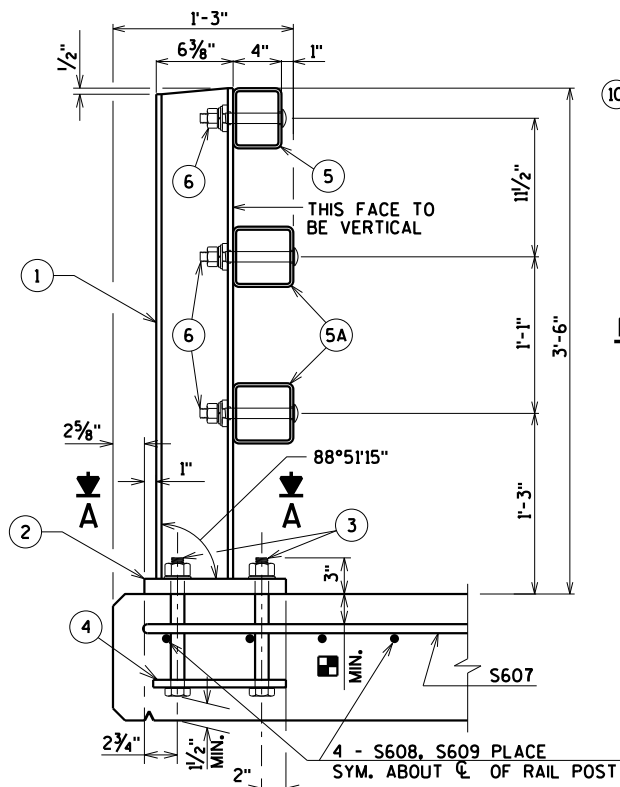
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U:\42-1031.00 - Taylor Co., Wren Drive over Pine Creek\Structures\421031.Mr.dgn

STATE PROJECT NUMBER

8888-00-70

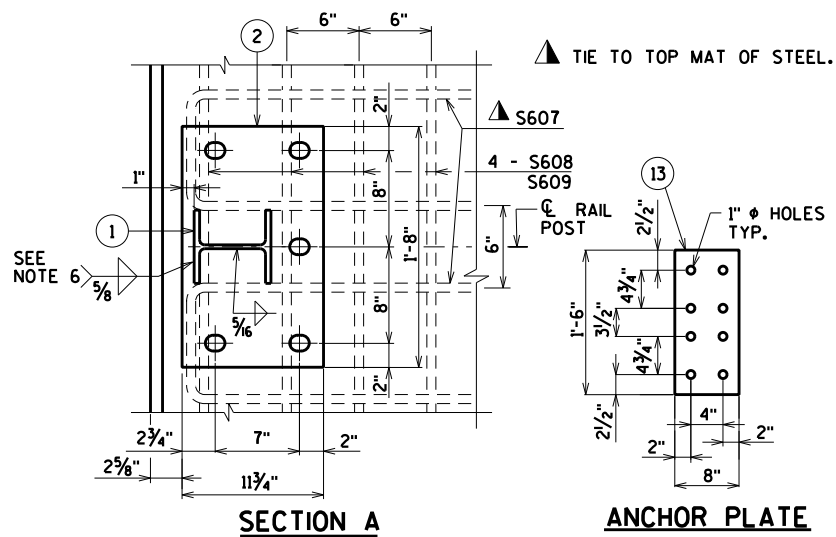
LEGEND

- 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.
- PLATE 1/4" x 11 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.
- ASTM A449 - 1/6" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. ~~USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)~~
- 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 5/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 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.)
- 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- 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.
- SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- 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.
- 7/8" A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 1 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.~~
- 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- 1" 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.

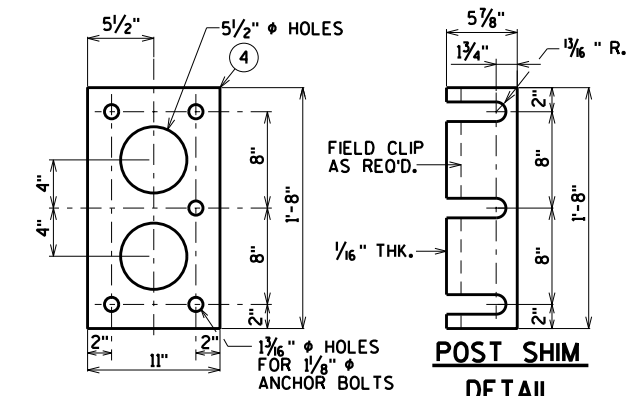


SECTION THRU RAILING ON DECK

PLACE BELOW TOP MAT SLAB REINFORCEMENT.

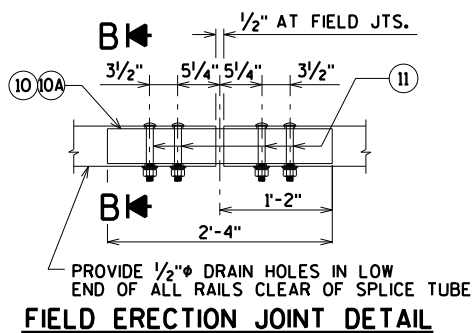


SECTION A

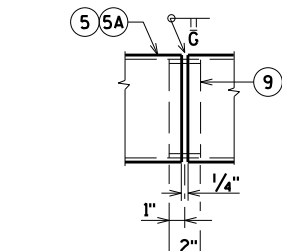


ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)

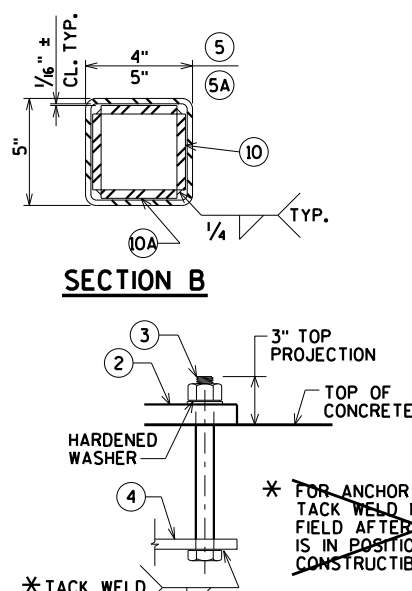


FIELD ERECTION JOINT DETAIL



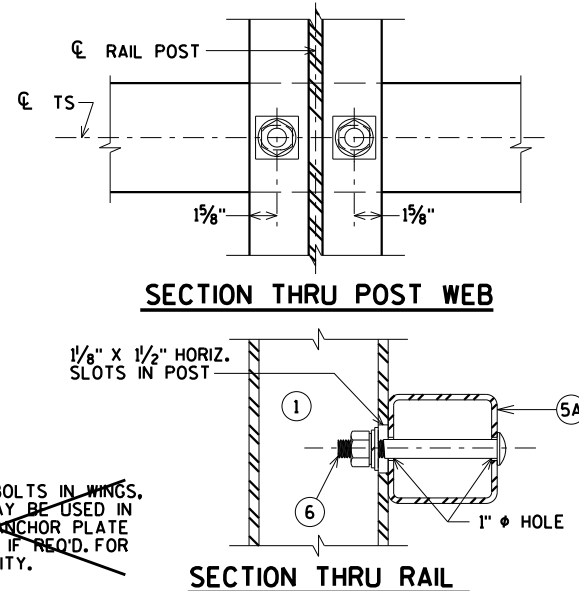
SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



SECTION B

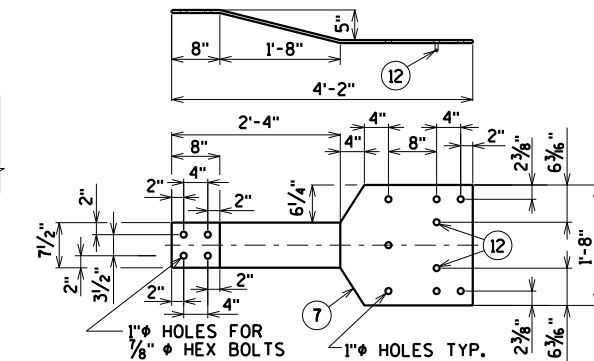
ANCHOR BOLTS



SECTION THRU POST WEB

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

TYPICAL RAIL TO POST CONNECTIONS

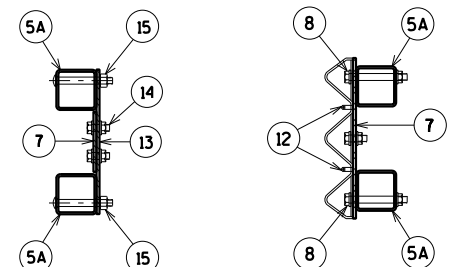


BACK-UP PLATE DETAIL

(AT BEAM GUARD ATTACHMENT)

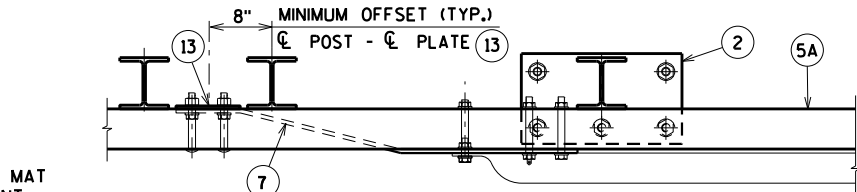
GENERAL NOTES

- BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-60-142" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.
- THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.



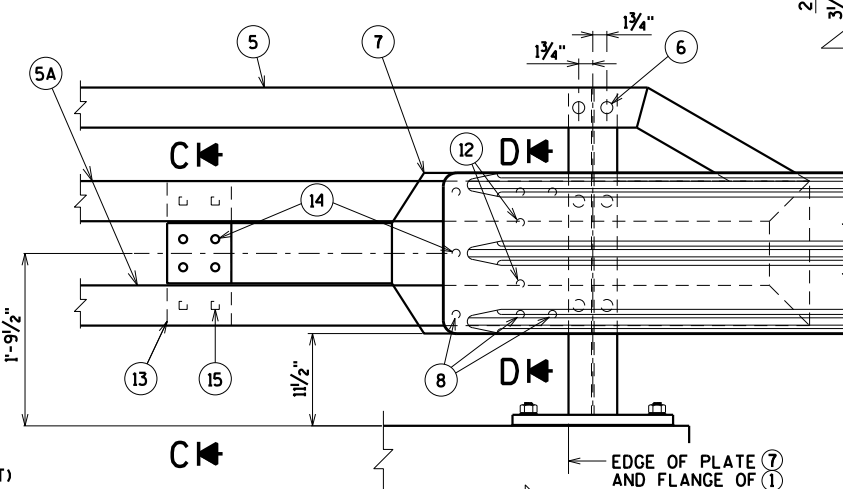
SECTION C

SECTION D



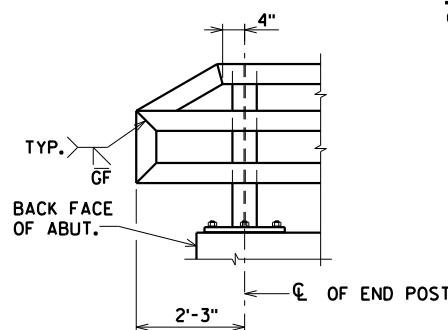
TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)



DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)



PART ELEVATION OF RAILING

ANCHOR PLATE

(AT BEAM GUARD ATTACHMENT)

POST SHIM

DETAIL

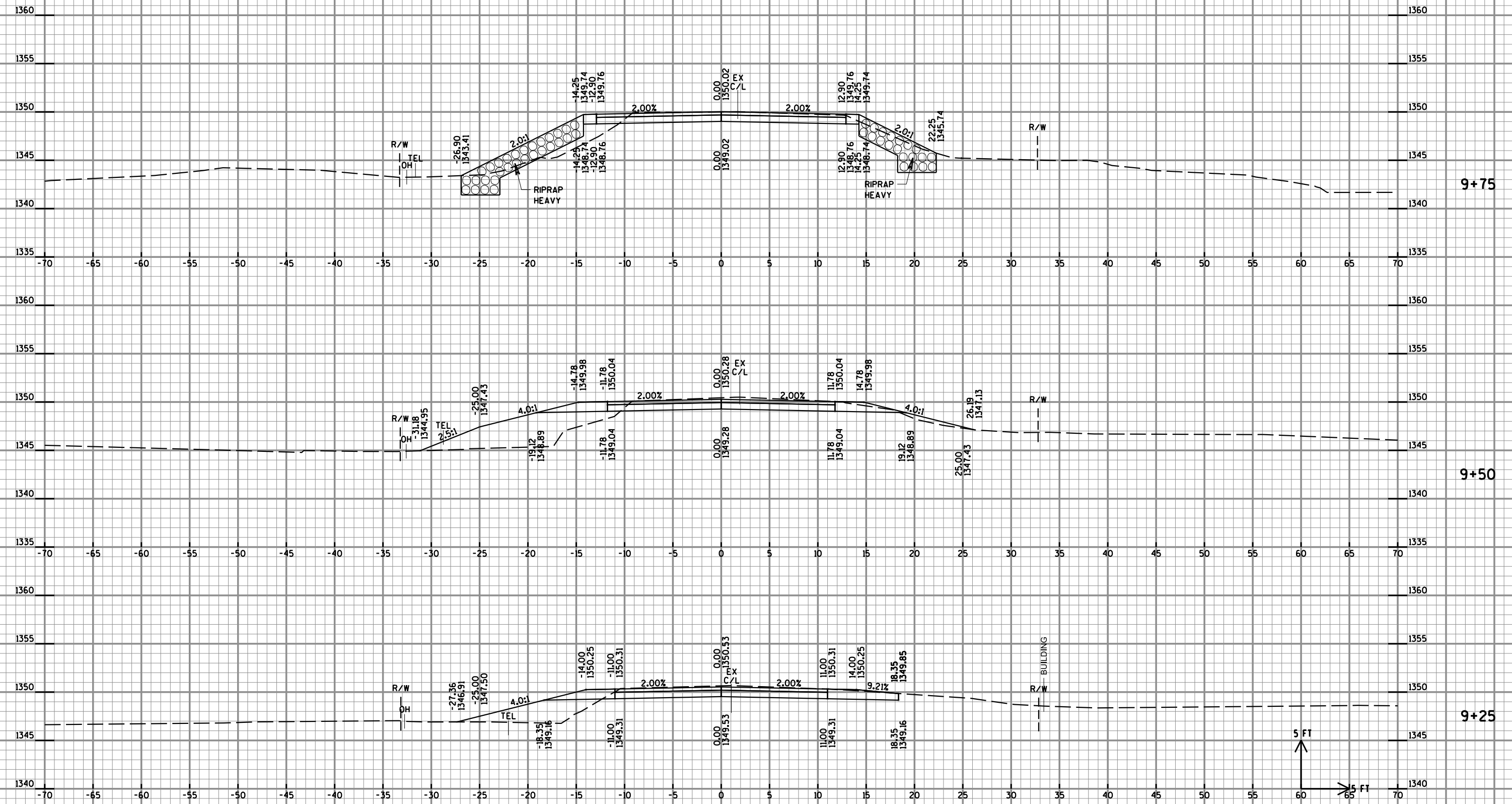
ANCHOR PLATE

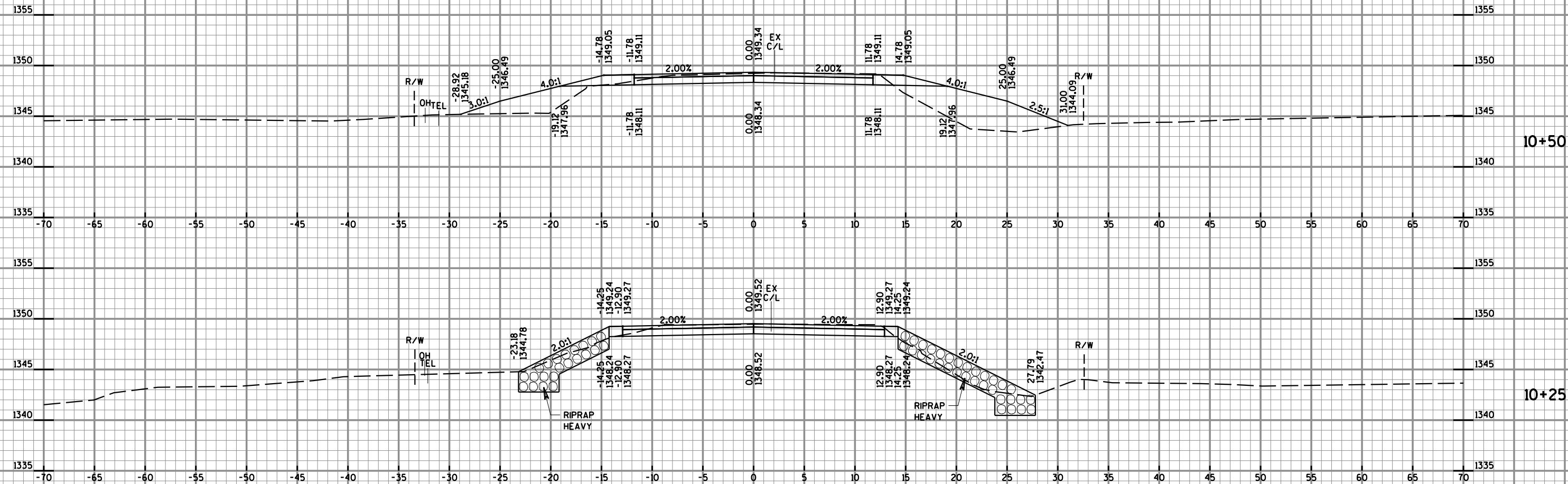
(AT RAIL TO DECK CONNECTION)

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

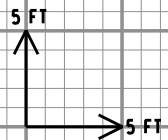
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-60-142			
DRAWN BY CLS		PLANS CK'D. CKJ	
RAILING TUBULAR TYPE M			SHEET 11 OF 11

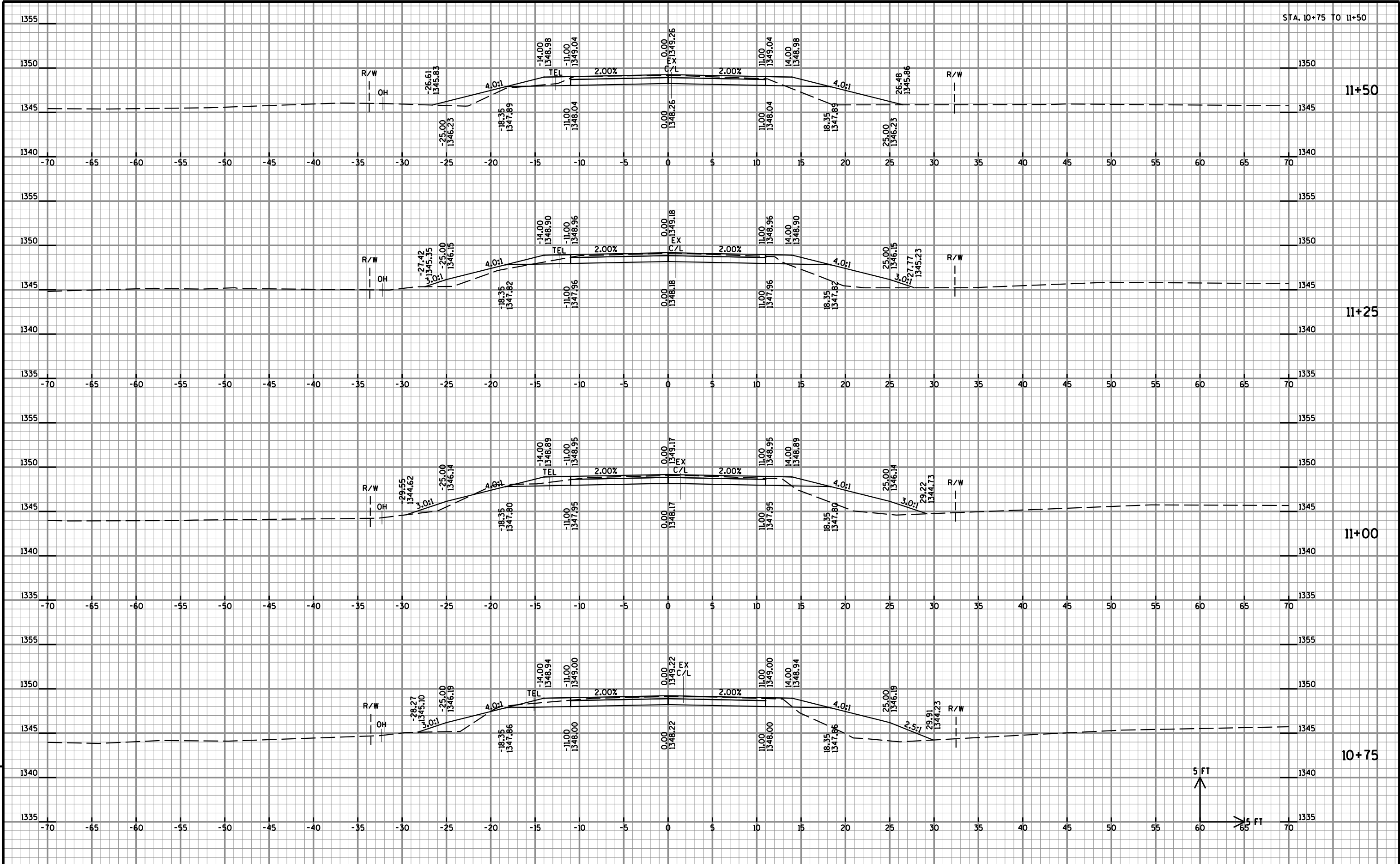
EARTHWORK SUMMARY (CATEGORY 0010)										
DIVISION	STATION	CUT SF	AREA	FILL SF	CUT (1) CY	INCREMENTAL VOLUME		CUMULATIVE VOLUME		
			SALVAGED/ UNUSABLE PAVEMENT MATERIAL SF			SALVAGED/ UNUSABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY	CUT (1) 1.00 CY	EXPANDED FILL (4) 1.30 CY	MASS ORDINATE ±(5) CY
1 WREN DRIVE	8+75.00	28	0	0	28	0	7	28	9	19
	9+00.00	32	0	16	29	0	16	57	30	27
	9+25.00	31	0	20	27	0	29	84	68	16
	9+50.00	28	0	42	24	0	23	108	98	11
	9+75.00	24	0	7	7	0	2	115	100	15
	9+82.75	24	0	7						
	STRUCTURE (B-60-142)									
	10+17.25	25	0	0	7	0	0	122	100	22
	10+25.00	25	0	0	22	0	25	144	133	11
	10+50.00	23	0	54	23	0	40	167	185	-18
10+75.00	26	0	33	23	0	26	190	218	-28	
11+00.00	24	0	23	22	0	21	212	246	-34	
11+25.00	22	0	23	20	0	19	232	270	-38	
11+50.00	22	0	19	21	0	9	253	282	-29	
11+75.00	24	0	0							
TOTALS					253	0	217			-29
205.0100 EXCAVATION COMMON =					SAY 253		208.0100 BORROW =		SAY 29	
NOTES:										
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100										
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.										
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.										
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR										
5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.										
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.										
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.										





STRUCTURE B-60-142





PROJECT NO: 8888-00-70

HWY: WREN DRIVE

COUNTY: TAYLOR

CROSS SECTIONS

SHEET

E

FILE NAME : U:\42-1031.00 - Taylor Co., Wren Drive over Pine Creek\Roadway\421031_xs rev.dgn

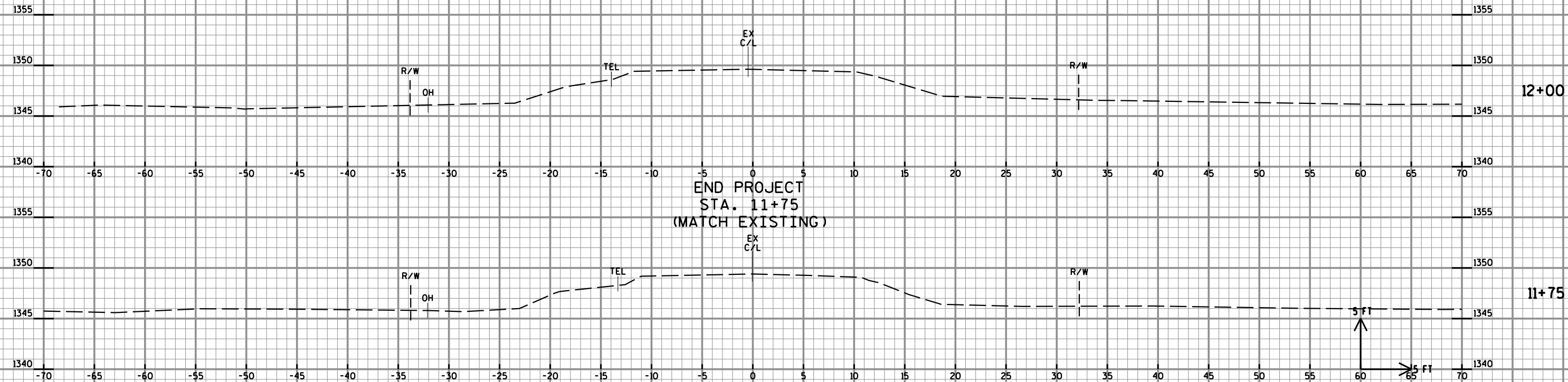
PLOT DATE : 7/10/2017

PLOT BY : AYRES-EC

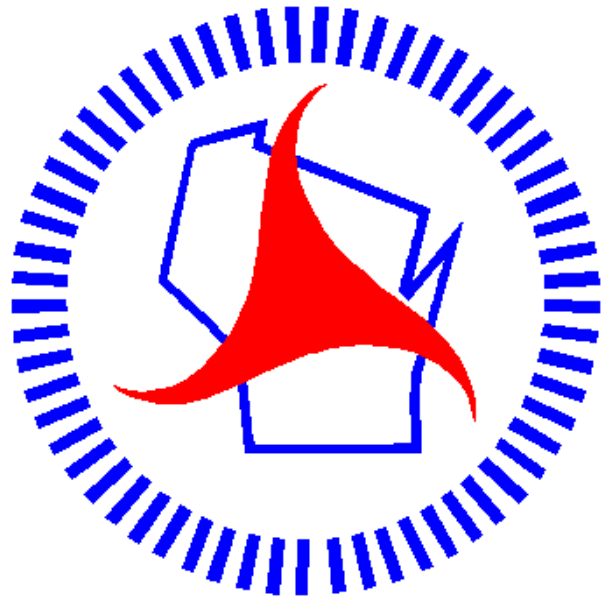
PLOT NAME :

PLOT SCALE : 1:10

WISDOT/CADDs SHEET 21



Notes



Wisconsin Department of Transportation

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