MAD

PROJECT ID: 3622-00-78

COUNTY: DANE

JANUARY 2022
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 (Including 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 = 38

08

N

DESIGN DESIGNATION 3622-00-08

A.A.D.T.	2022	=	100
A.A.D.T.	2042	=	110
D.H.V.		=	18
D.D.		=	62/38
T.		=	10%
DESIGN SPEED		=	30 MPH
ESALS		=	7,300

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300'EB'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
MARSH AREA		STORM SEWER	SS
WOODED OR SHRUB AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF ALBION, AARBACK ROAD

(KOSHKONONG CREEK BRIDGE, B-13-0693)

LOCAL STREET
DANE COUNTY

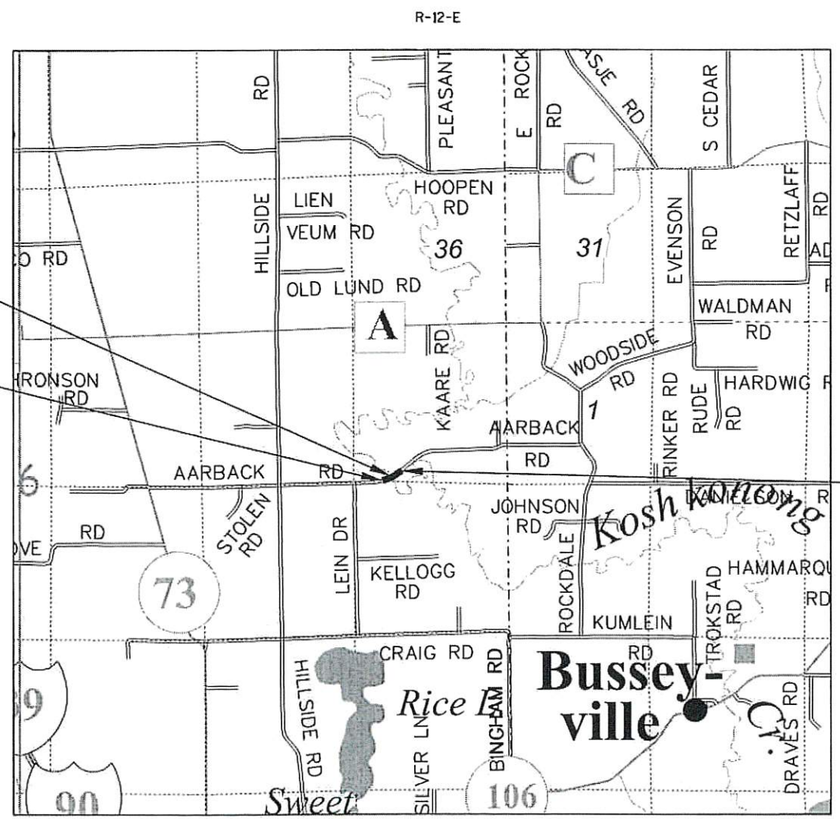
STATE PROJECT NUMBER
3622-00-78

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3622-00-78	WISC2022112	1

STRUCTURE B-13-0693

BEGIN PROJECT 3622-00-78
STA. 09+08.75
Y = 426,967.68
X = 916,519.91

END PROJECT 3622-00-78
STA. 10+96.25
Y = 427,053.64
X = 916,686.42



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.036 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ACCEPTED FOR
TOWN OF ALBION
Date 7-19-21 Andrew L. Decker
Director of Public Works

ORIGINAL PLANS PREPARED BY

MSA
1702 Pankratz Street, Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
JAIME L KURTEN-CHMIELEWSKI
E-42403
MADISON
WI
PROFESSIONAL ENGINEER

DATE: 7-13-2021 Jaime Kurtin Chmielewski
(Professional Engineer Signature)

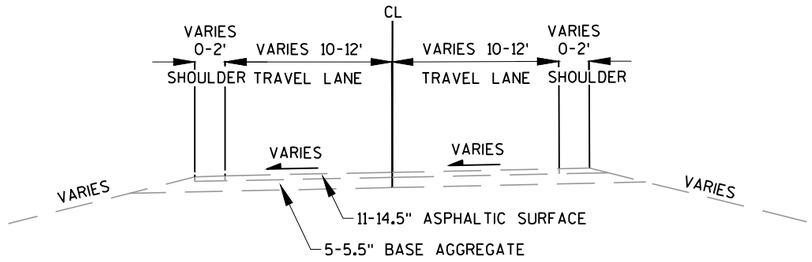
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	TRAVIS BUROS
Regional Examiner	SW REGION
Regional Supervisor	IAN WINGER

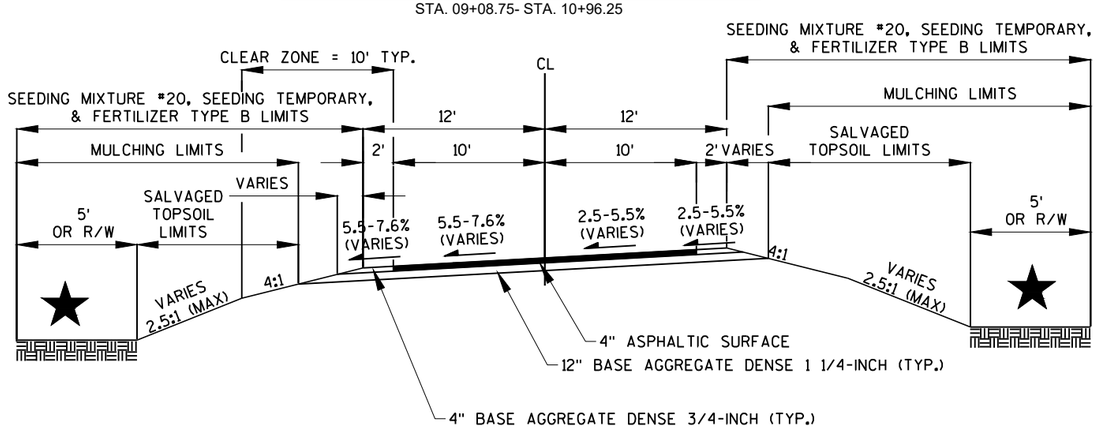
APPROVED FOR THE DEPARTMENT
DATE: 7/21/2021 Travis G Buros
(Signature)

E



EXISTING TYPICAL SECTION - AARBACK ROAD

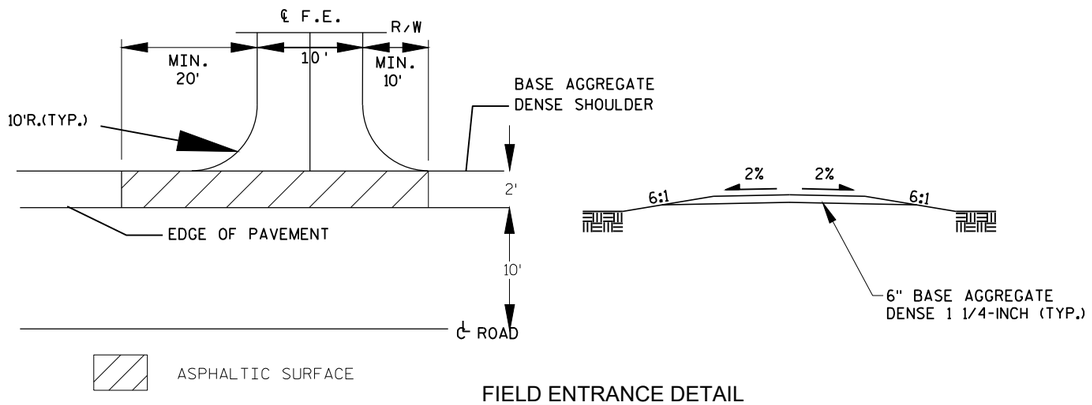
STA. 09+08.75- STA. 10+96.25



FINISHED TYPICAL SECTION - AARBACK ROAD

STA. 09+08.75 - STA. 10+96.25

(SEE CROSS SECTIONS FOR ADDITIONAL SUPERELEVATION INFORMATION)



FIELD ENTRANCE DETAIL

STA. 10+47 - STA. 10+77, LT

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 OF 19 MM NOMINAL SIZE AGGREGATE AND A 1.75" UPPER LAYER OF 12.5 MM NOMINAL AGGREGATE.

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

THE ASPHALTIC SURFACE SHALL TAPER FROM 24.42 FEET AT THE END OF THE BRIDGE TO 20.0 FEET AT +/- 25 FEET FROM THE BRIDGE ENDS, UNLESS OTHERWISE SHOWN ON THE PLAN.

RESHAPE AND FINISH ALL PREVIOUSLY GRASSSED AREAS WHICH ARE DISTURBED BY OPERATIONS OUTSIDE THE PLAN CONSTRUCTION LIMITS.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY THESE LOCATIONS AS NEEDED. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THEY ARE NO LONGER NECESSARY.

★ WETLANDS EXIST AT STA. 9+39 TO 9+76 AND STA. 10+22 TO 10+62. THE CONTRATOR SHALL NOT DISTURB AREAS OUTSIDE THE SLOPE INTERCEPTS IN THESE AREAS.

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 .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 = 0.27 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.25 ACRES

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN: JAIME KURTEN, P.E.
1702 PANKRATZ STREET
MADISON, WI 53704
PHONE: (608) 242-6619
EMAIL: JKURTEN@MSA-PS.COM

TOWN OF ALBION PUBLIC WORKS DIRECTOR
ATTN: ANDY DECKER
620 ALBION ROAD
EDGERTON, WI 53534
PHONE: (608) 884-2283
EMAIL: ALBIONGARAGE@YAHOO.COM

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
ATTN.: ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 228-7927
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

UTILITIES

TELEPHONE:
FRONTIER COMMUNICATIONS
ATTN: RUSS RYAN
118 DIVISION ST.
PLYMOUTH WI 53073
PHONE: (920)-583-3275
EMAIL:RUSSEL.W.RYAN@FTR.COM

**-DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

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

PROJECT NO: 3622-00-78	HWY: AARBACK ROAD	COUNTY: DANE COUNTY	TYPICAL SECTIONS & GENERAL NOTES	SHEET 2	E

3622-00-78

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	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-13-45	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	173.000	173.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-13-693	LS	1.000	1.000
0012	208.1100	Select Borrow	CY	40.000	40.000
0014	210.1500	Backfill Structure Type A	TON	386.000	386.000
0016	213.0100	Finishing Roadway (project) 01. 3622-00-78	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	13.000	13.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	291.000	291.000
0022	455.0605	Tack Coat	GAL	16.000	16.000
0024	465.0105	Asphaltic Surface	TON	80.000	80.000
0026	502.0100	Concrete Masonry Bridges	CY	138.000	138.000
0028	502.3200	Protective Surface Treatment	SY	293.000	293.000
0030	503.0137	Prestressed Girder Type I 36W-Inch	LF	284.000	284.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,200.000	4,200.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	16,000.000	16,000.000
0036	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0038	506.4000	Steel Diaphragms (structure) 01. B-13-693	EACH	3.000	3.000
0040	513.4061	Railing Tubular Type M	LF	149.000	149.000
0042	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0044	550.0500	Pile Points	EACH	14.000	14.000
0046	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	910.000	910.000
0048	606.0300	Riprap Heavy	CY	197.000	197.000
0050	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0052	618.0100	Maintenance And Repair of Haul Roads (project) 01. 3622-00-78	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	4.000	4.000
0058	625.0500	Salvaged Topsoil	SY	341.000	341.000
0060	627.0200	Mulching	SY	160.000	160.000
0062	628.1504	Silt Fence	LF	242.000	242.000
0064	628.1520	Silt Fence Maintenance	LF	483.000	483.000
0066	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0068	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0070	628.2008	Erosion Mat Urban Class I Type B	SY	127.000	127.000
0072	628.6005	Turbidity Barriers	SY	260.000	260.000
0074	628.7560	Tracking Pads	EACH	2.000	2.000
0076	629.0210	Fertilizer Type B	CWT	0.210	0.210
0078	630.0120	Seeding Mixture No. 20	LB	9.000	9.000
0080	630.0200	Seeding Temporary	LB	5.000	5.000
0082	630.0500	Seed Water	MGAL	20.000	20.000
0084	634.0812	Posts Tubular Steel 2x2-Inch X 12-FT	EACH	4.000	4.000
0086	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0088	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0090	642.5001	Field Office Type B	EACH	1.000	1.000
0092	643.0420	Traffic Control Barricades Type III	DAY	1,278.000	1,278.000
0094	643.0705	Traffic Control Warning Lights Type A	DAY	1,988.000	1,988.000
0096	643.0900	Traffic Control Signs	DAY	994.000	994.000
0098	643.5000	Traffic Control	EACH	1.000	1.000

3622-00-78

Line	Item	Item Description	Unit	Total	Qty
0100	645.0111	Geotextile Type DF Schedule A	SY	60.000	60.000
0102	645.0120	Geotextile Type HR	SY	385.000	385.000
0104	650.4500	Construction Staking Subgrade	LF	117.000	117.000
0106	650.5000	Construction Staking Base	LF	117.000	117.000
0108	650.6500	Construction Staking Structure Layout (structure) 01. B-13-693	LS	1.000	1.000
0110	650.9910	Construction Staking Supplemental Control (project) 01. 3622-00-78	LS	1.000	1.000
0112	650.9920	Construction Staking Slope Stakes	LF	117.000	117.000
0114	690.0150	Sawing Asphalt	LF	46.000	46.000
0116	715.0502	Incentive Strength Concrete Structures	DOL	828.000	828.000
0118	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. Station 10+00.00	EACH	1.000	1.000
0120	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	600.000	600.000
0122	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	500.000	500.000

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	205.0100 COMMON EXCAVATION (1) EBS EXCAVATION (3)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE	COMMENT
PROJECT ID 3622-00-78											
AARBACK RD (WEST)	09+08.75/09+63.76	AARBACK RD- WEST APPROACH	52	0	0	52	4	5	47	47	
AARBACK RD (EAST)	10+36.25/10+96.25	AARBACK RD- EAST APPROACH	81	0	0	81	7	9	72	72	
UNDISTRIBUTED EBS			0	40							
GRAND TOTAL			133	40	0	133	11	14	119	119	
TOTAL COMMON EXC			173								

NOTES:

(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 SELECT BORROW MATERIAL.

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL

(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

(13) EXPANDED FILL FACTOR = 1.25

DEPENDING ON SELECTIONS:

EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH - REDUCED EBS) * FILL FACTOR

OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED EBS) * FILL FACTOR

OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH) * FILL FACTOR

OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK) * FILL FACTOR

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

201- CLEARING AND GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	9+00	-	11+00	LT&RT	2	2
				TOTAL 0010	2	2

305- BASE AGGREGATE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
0010	9+09		9+64	LT&RT	7	134	2	WATER FOR DUST CONTROL AND COMPACTION
0010	10+36		10+96	LT&RT	6	149	2	WATER FOR DUST CONTROL AND COMPACTION
0010	10+47		10+77	LT	-	8	-	FIELD ENTRANCE STA. 10+65
				TOTAL 0010	13	291	4	

208.1100 - SELECT BORROW

CATEGORY	DESCRIPTION	208.1100 SELECT BORROW CY
0010	UNDISTRIBUTED EBS	40
	TOTAL 0010	40

465 - ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	9+09		9+64	7	40
0010	10+36		10+96	9	40
				16	80

628- MOBILIZATIONS EROSION CONTROL

CATEGORY	DESCRIPTION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	PROJECT 3622-00-78	2	1
	TOTAL 0010	2	1

628.7560-TRACKING PADS

CATEGORY	STATION	628.7560 TRACKING PADS EACH
0010	9+09	1
0010	10+96	1
	TOTAL 0010	2

3

3

FINISHING ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6005 TURBIDITY BARRIERS SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	9+09		9+64	LT	80	30	43	86	17	-	0.05	2	1	5
0010	9+09		9+64	RT	77	40	47	94	16	-	0.05	2	1	4
0010	9+64		10+36	LT&RT	-	-	-	-	-	260	-	-	-	-
0010	10+36		10+96	LT	86	60	49	98	-	-	0.05	2	1	5
0010	10+36		10+96	RT	98	30	53	105	44	-	0.06	3	2	6
0010	UNDISTRIBUTED				-	-	50	100	50	-	-	-	-	-
				TOTAL 0010	341	160	242	483	127	260	0.21	9	5	20

PERMANENT SIGNING

CATEGORY	STATION	LOCATION	SIGN CODE	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF
0010	9+63.44	13.25'LT	W5-52L	1	3.0
0010	9+64.05	13.59'RT	W5-52R	1	3.0
0010	10+36.56	13.25'LT	W5-52L	1	3.0
0010	10+35.95	13.66'RT	W5-52R	1	3.0
			TOTAL 0010	4	12.0

638.3000-REMOVING SMALL SIGN SUPPORTS

CATEGORY	STATION	LOCATION	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	9+63.48	13.25'LT	1
0010	9+64.05	13.59'RT	1
0010	10+36.56	13.25'LT	1
0010	10+35.95	13.66'RT	1
		TOTAL 0010	4

650- CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	9+09		9+64	LT&RT	56	56	-	56
0010	10+36		10+96	LT&RT	61	61	-	61
0010	PROJECT 3622-00-78				-	-	1	-
				TOTAL 0010	117	117	1	117

643- TRAFFIC CONTROL

CATEGORY	DESCRIPTION	BARRICADES TYPE III NO. DEVICES	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	WARNING LIGHTS TYPE A NO. DEVICES	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	SIGNS NO. DEVICES	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	PROJECT DURATION	
0010	PROJECT 3622-00-78	18	1,278	28	1,988	14	994	1	71	DAYS
	TOTAL 0010		1,278		1,988		994	1		

690.0150- SAWING ASPHALT

CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	9+09	RT & LT	21
0010	10+96	RT & LT	25
		TOTAL 0010	46

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM #1	8+28.37	801.64	RR SPIKE
BM #2	10+32.16	804.69	CHISELLED X

CONTROL POINTS					
NO.	STATION	ELEV.	DESCRIPTION	X	Y
1	9+00.46	804.29	PK NAIL	916,512.19	426,964.64
2	9+56.91	803.92	12" NAIL	916,570.53	426,973.51
3	10+56.69	803.25	12" NAIL	916,643.11	427,050.03
4	10+99.77	804.77	PK NAIL	916,689.69	427,055.03

PI STA = 9+99.68
Y = 426975.599
X = 916612.959
DELTA = 23°03'28"
D = 3°35'06"
T = 325.99'
L = 643.15'
R = 1598.16'
PC STA = 6+73.69
PT STA = 13+16.84

BEGIN PROJECT
STA 9+08.75
Y = 426,967.68
X = 916,519.91
MATCH EXISTING
SAW CUT REQ'D

END PROJECT
STA 10+96.25
Y = 427,053.64
X = 916,686.42
MATCH EXISTING
SAW CUT REQ'D

STRUCTURE B-13-693

REMOVE EXISTING BRIDGE B-13-0045
STA. 10+00
2-SPAN STEEL DECK GIRDER BRIDGE
24.0' CLEAR ROADWAY WIDTH
65.0' OVERALL LENGTH

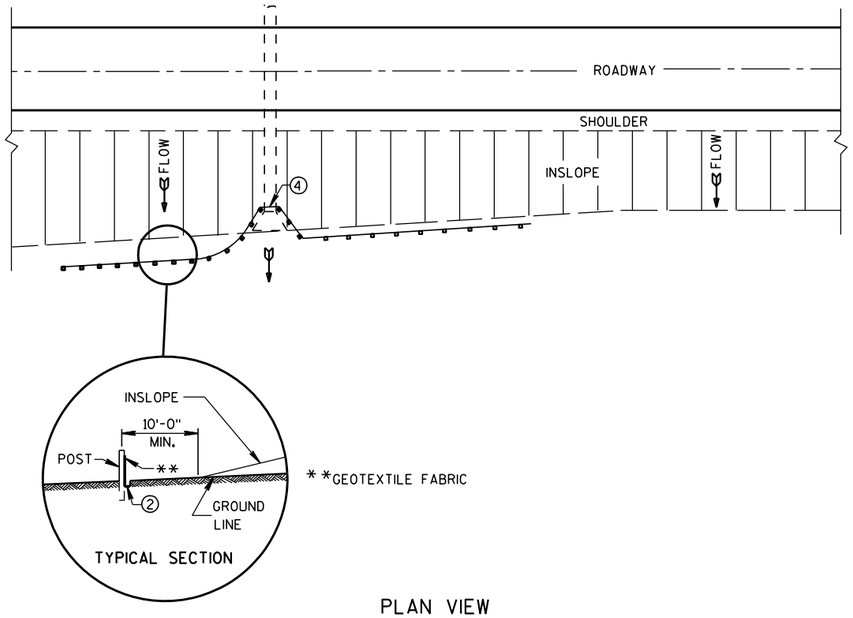
EARTHWORK SUMMARY
STA. 9+08.75 - 10+96.25
COMMON EXC. 173 C.Y.
FILL 11 C.Y
FILL EXPANSION 1.25%
WASTE 119 C.Y.

STA. 10+00 STRUCTURE B-13-693
72.5' OVERALL LENGTH
24.42' CLEAR ROADWAY WIDTH
NO SKEW

PROJECT NO: 3622-00-78	HWY: AARBACK ROAD	COUNTY: DANE COUNTY	PLAN AND PROFILE: AARBACK ROAD	SHEET 7	E

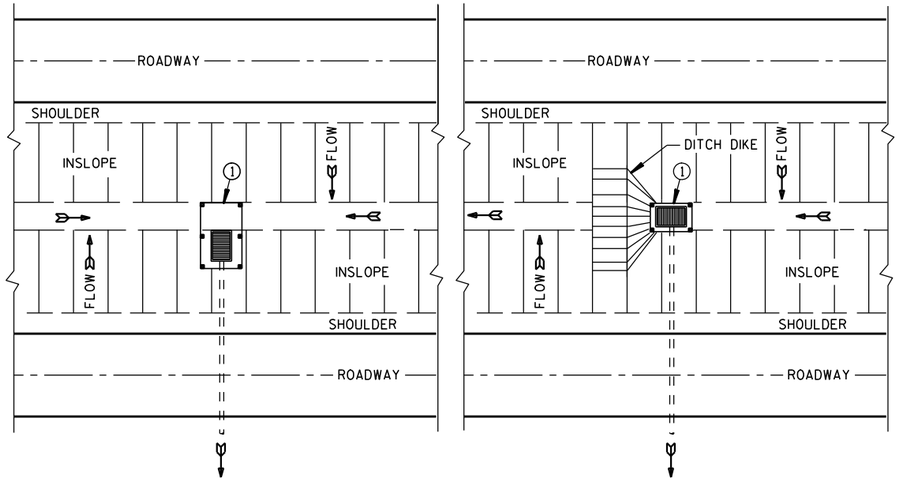
Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



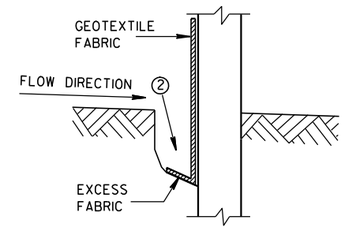
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

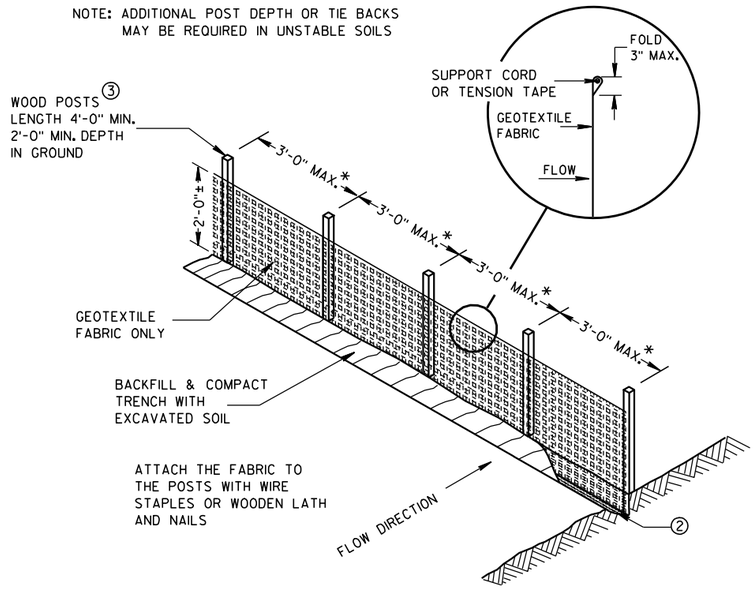
GENERAL NOTES

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

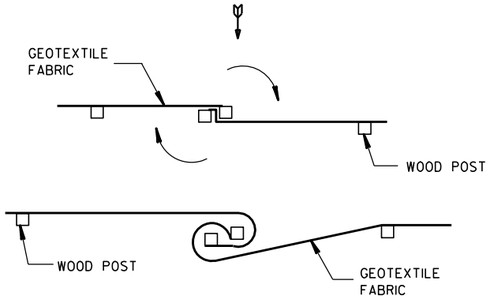
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



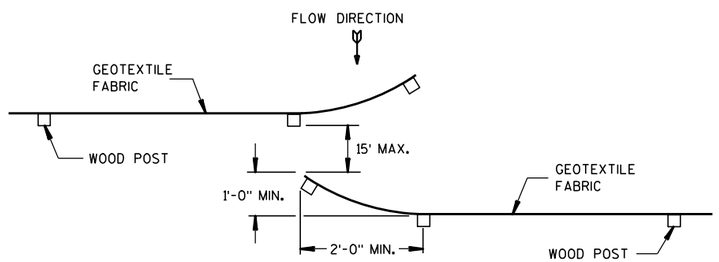
TRENCH DETAIL



SILT FENCE

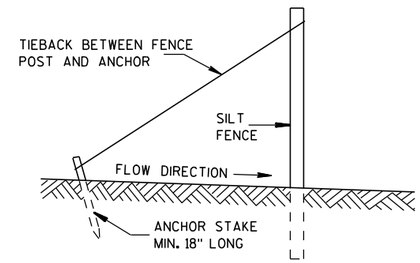


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

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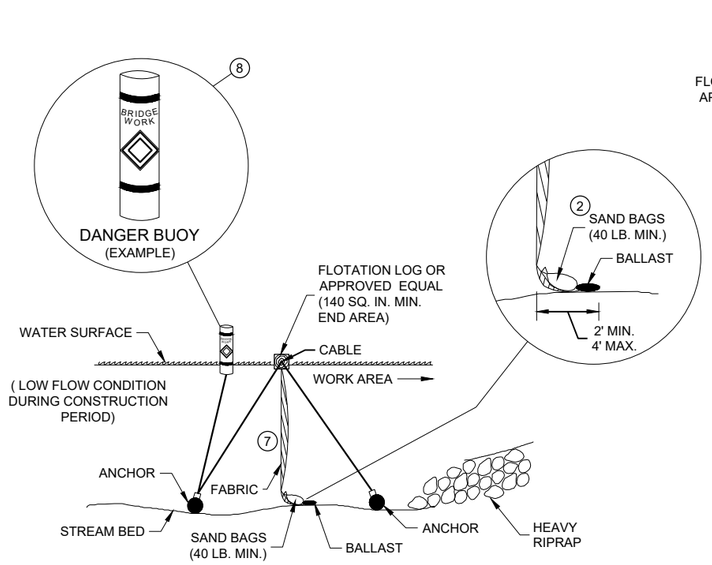
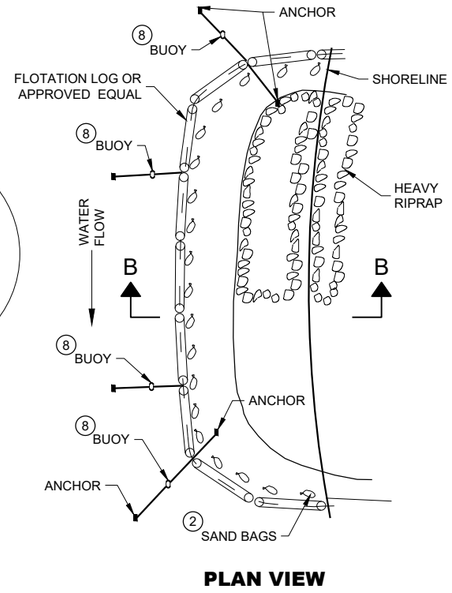
S.D.D. 8 E 9-6

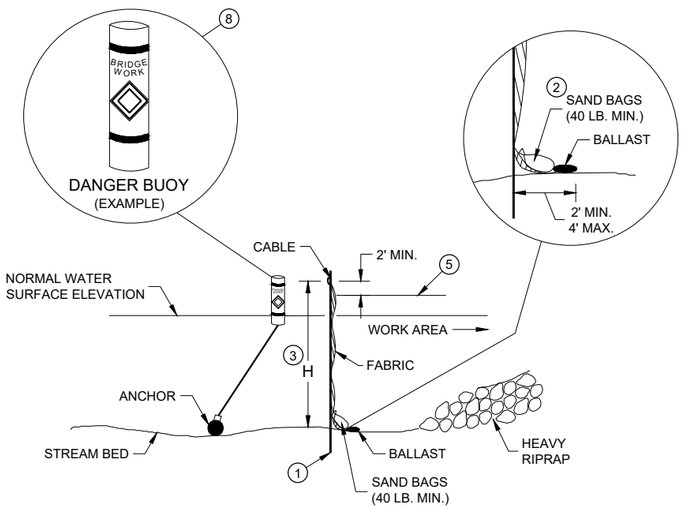


SECTION B - B

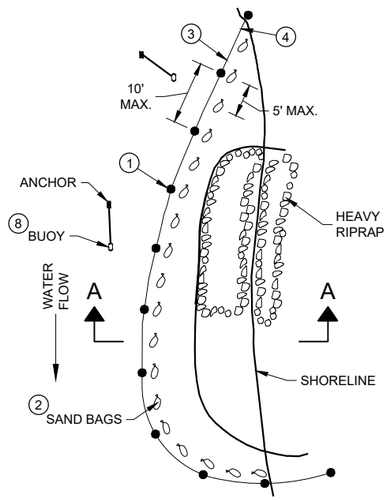


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

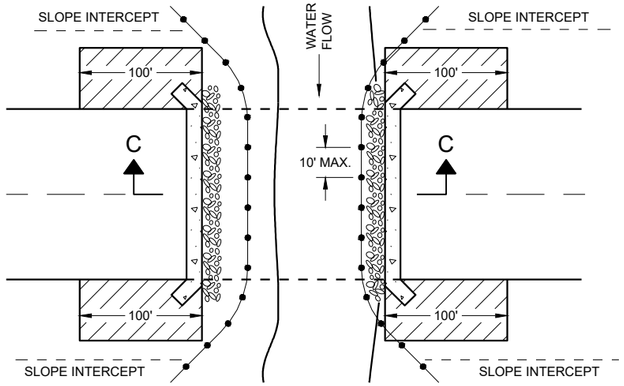
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

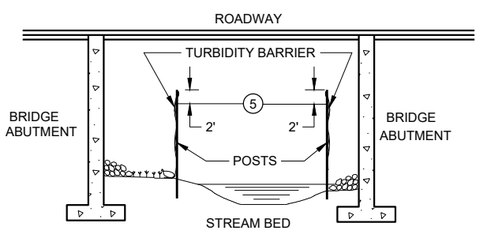
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

1. DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
2. SAND BAGS 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 FEET, 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 Q2 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 BEDROCK PREVENTS THE INSTALLATION OF POSTS.
7. ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
8. USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOI
ENGINEER

FHWA

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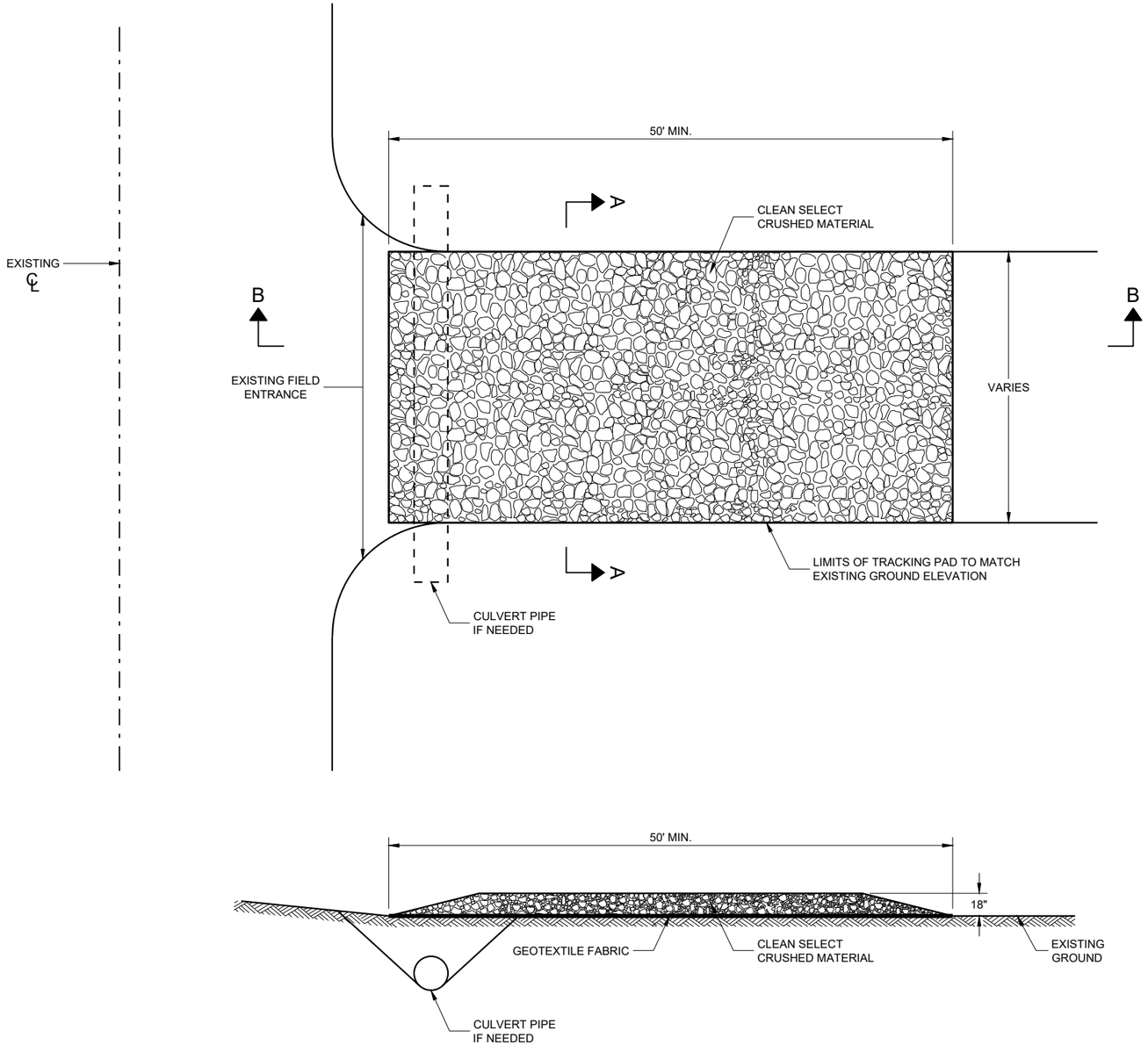
SDD 08E11 - 02



SECTION B - B

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.

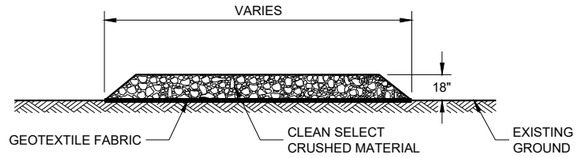
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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.



SECTION A - A

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08E14 - 01

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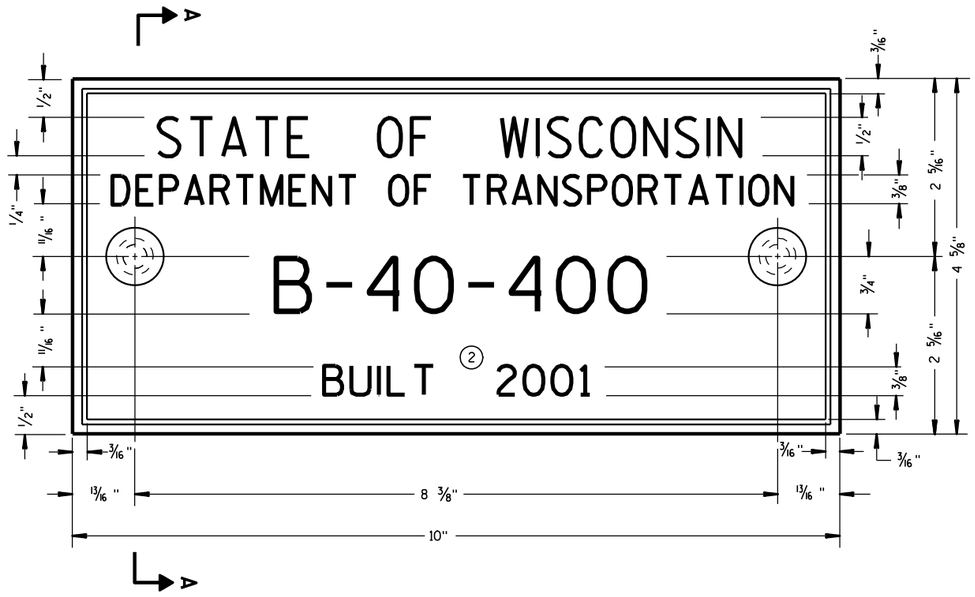


TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

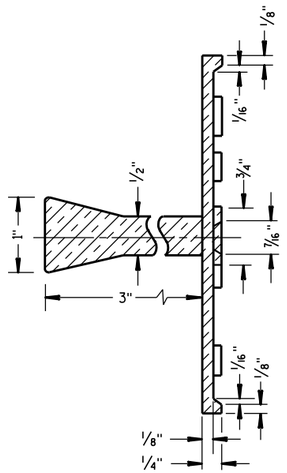
GENERAL NOTES

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.

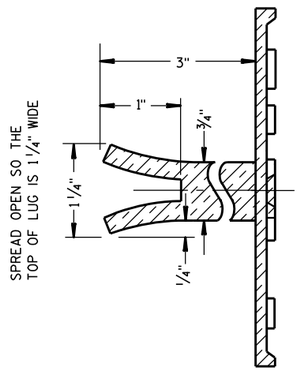
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

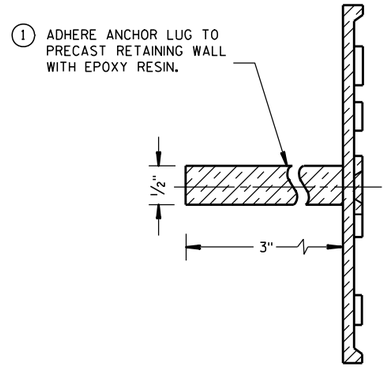
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

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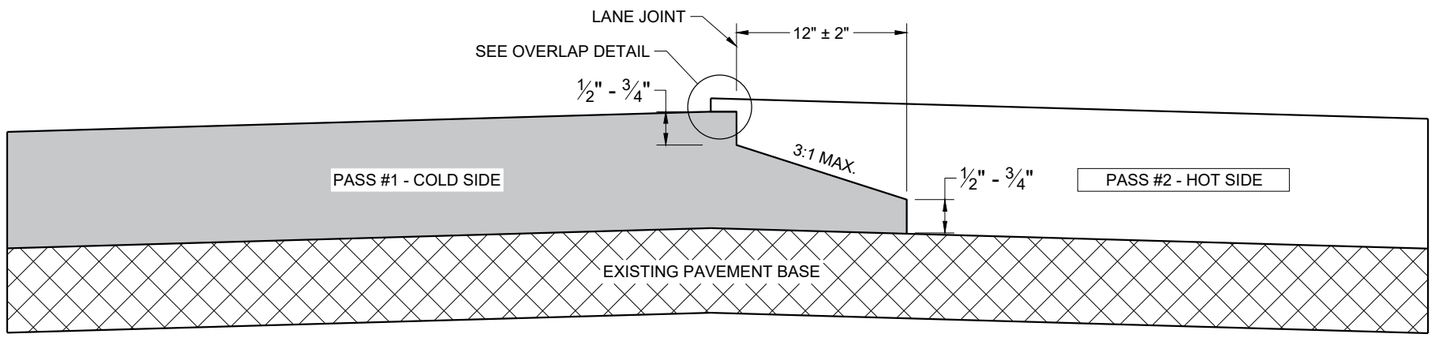
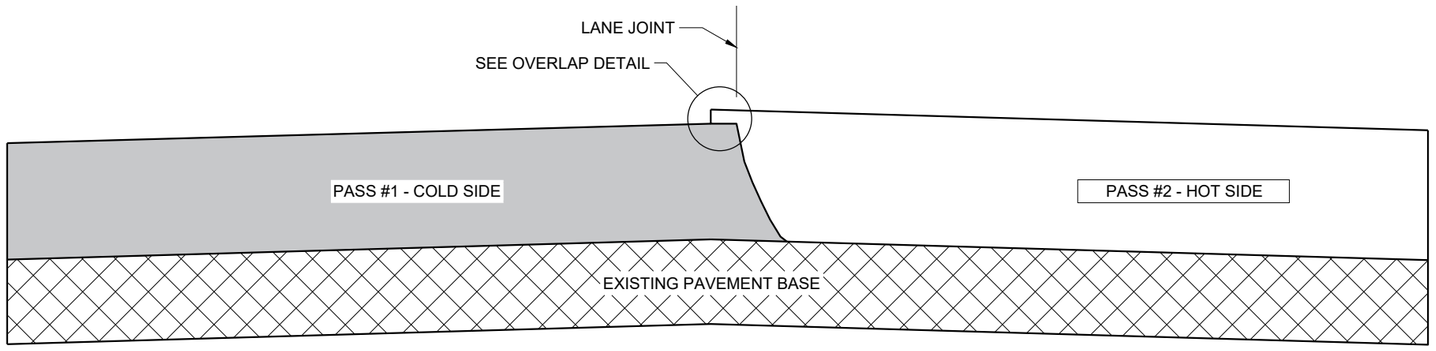
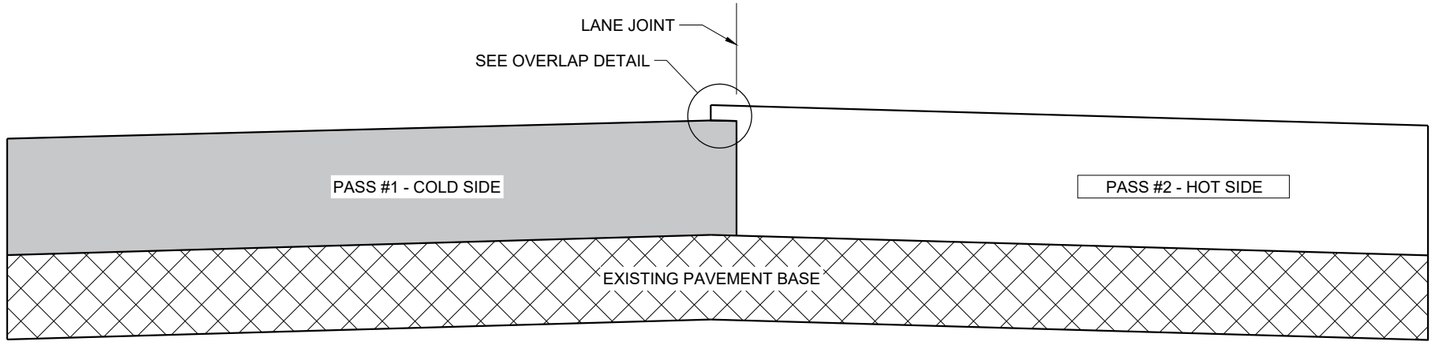


TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

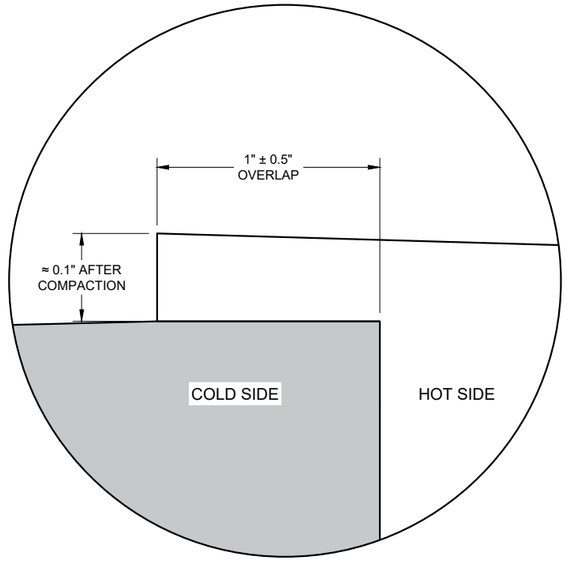
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

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SDD 13C19 - 03

SDD 13C19 - 03

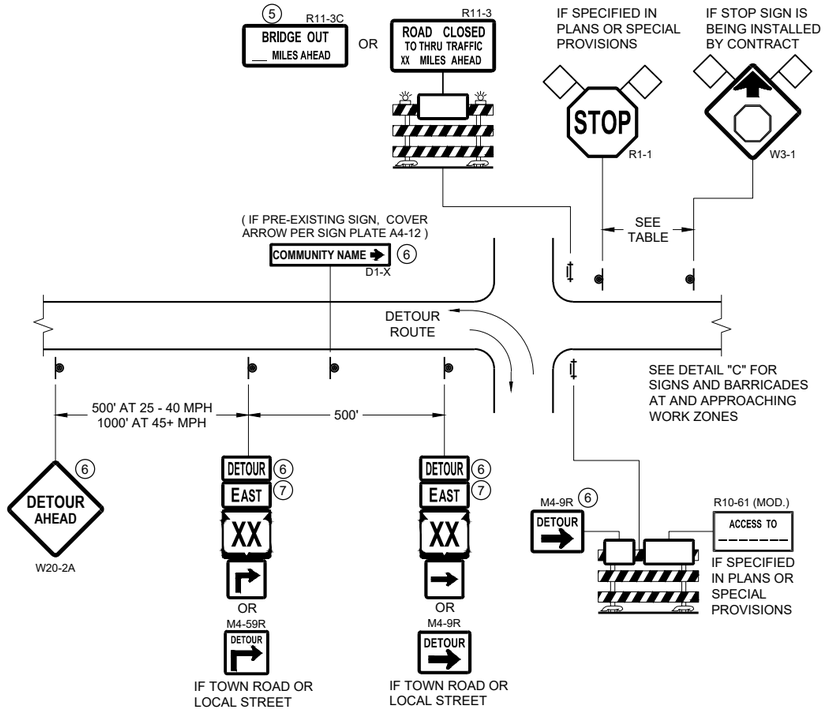
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

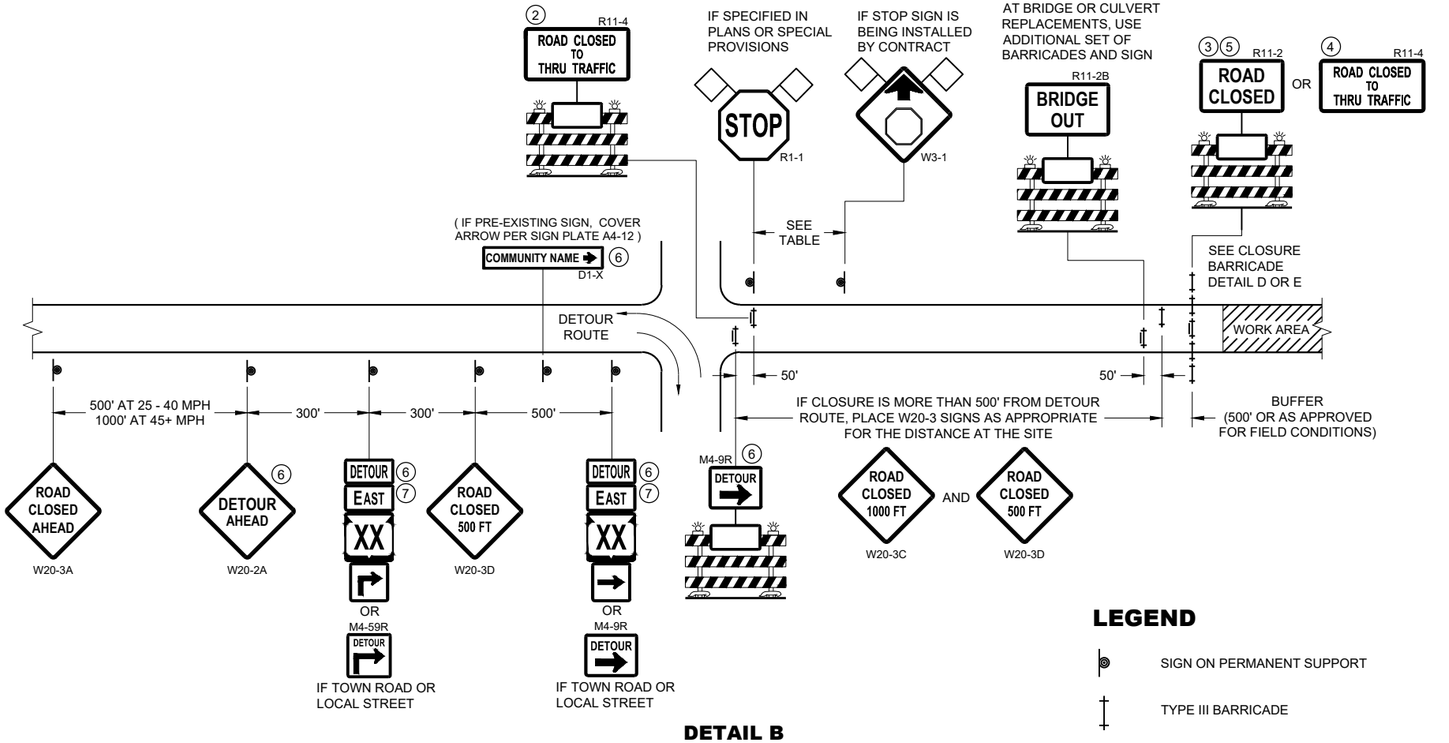
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



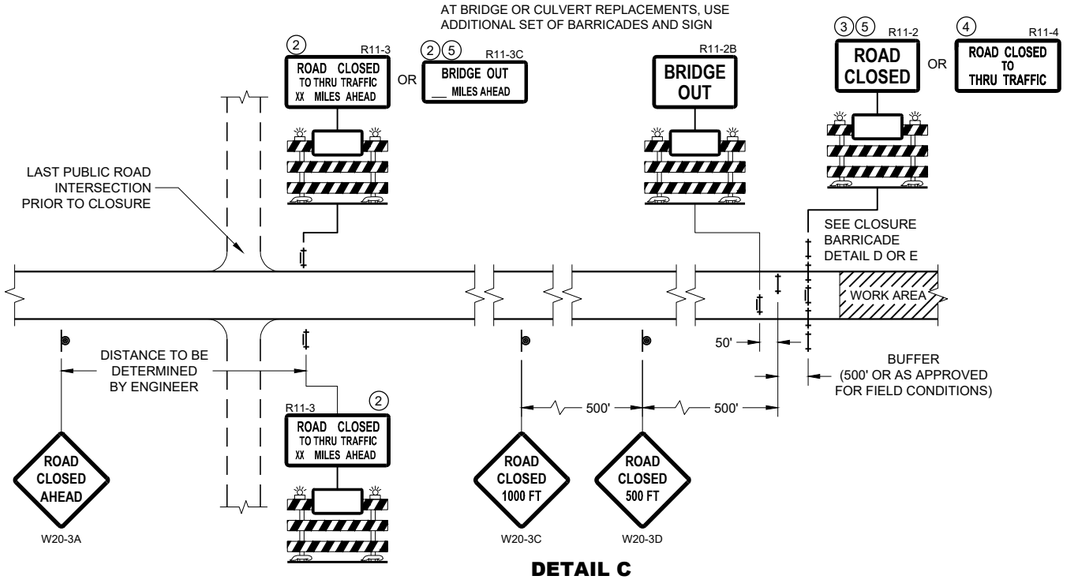
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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SDD 15C02 - 08a

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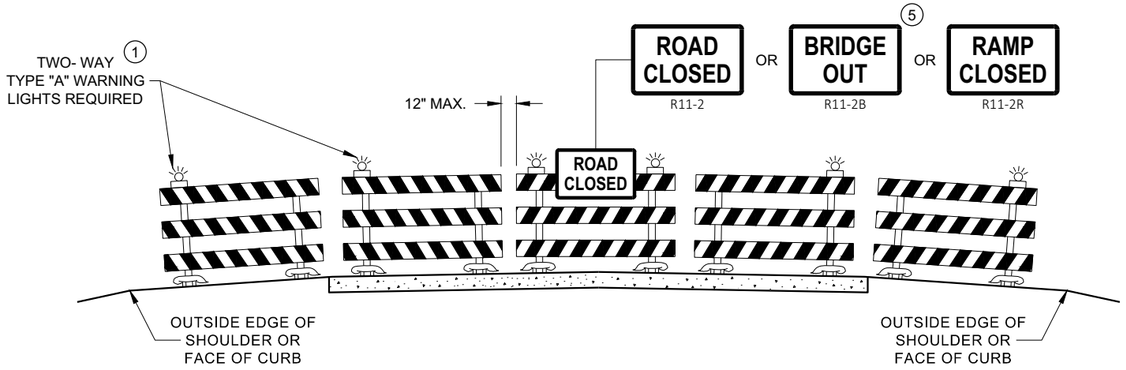
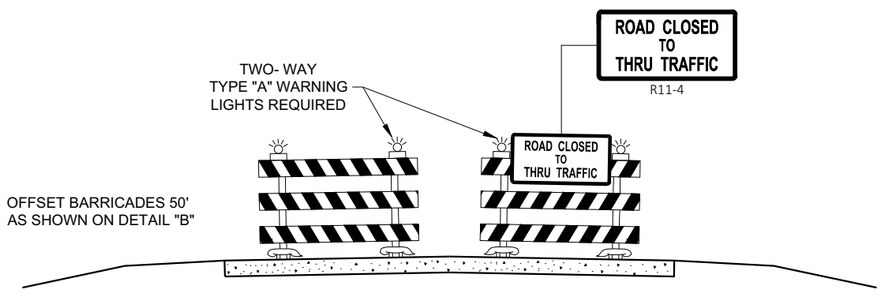
SDD 15C02 - 08a



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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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 AN 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 ROAD 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 VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

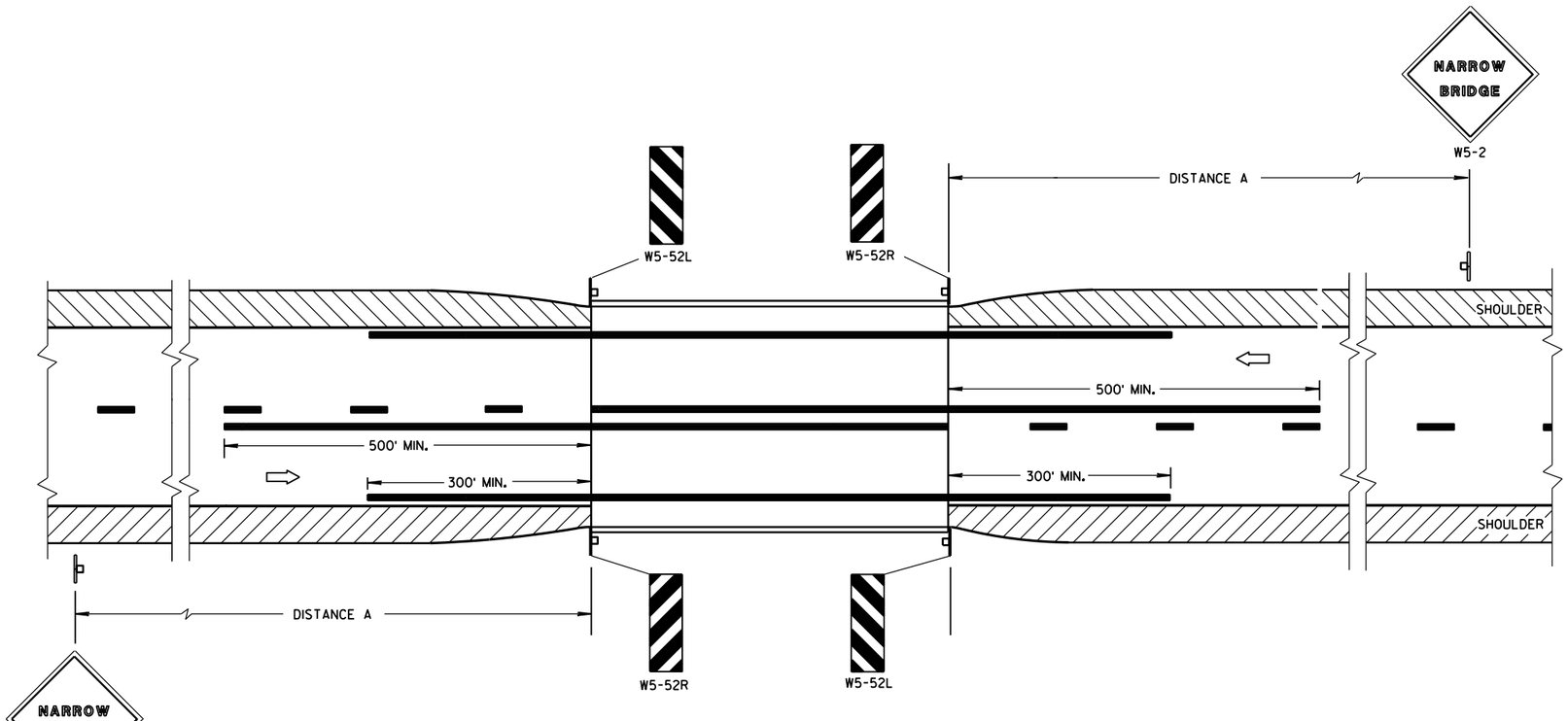
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b



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

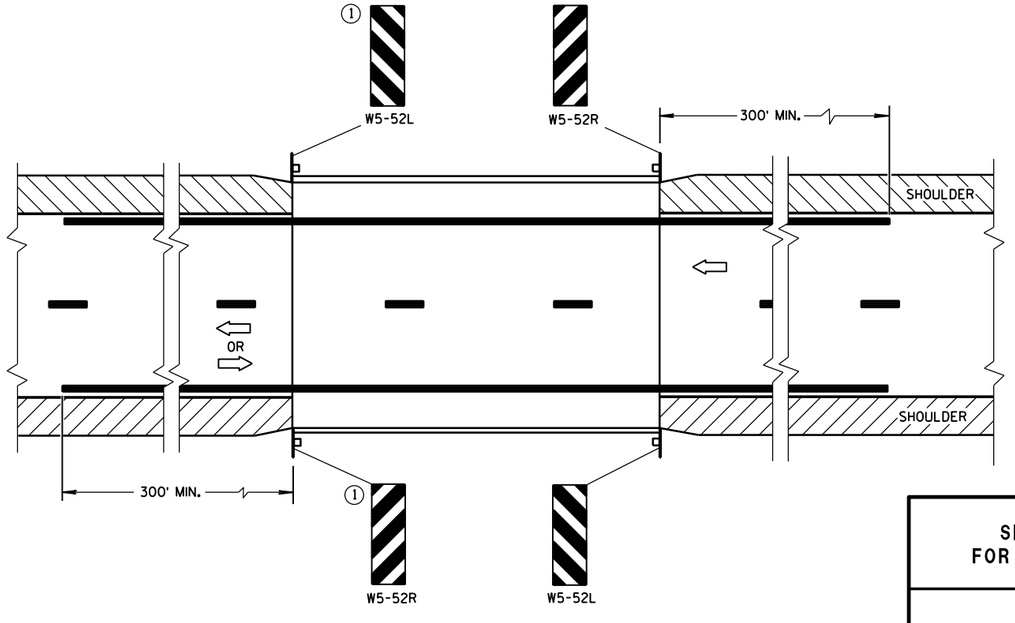
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

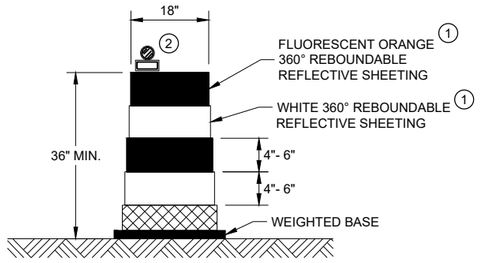
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR ...IEER
FHWA

6

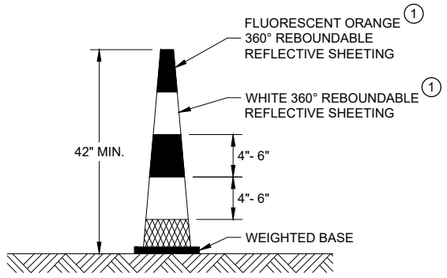
S.D.D. 15 C 6-9

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

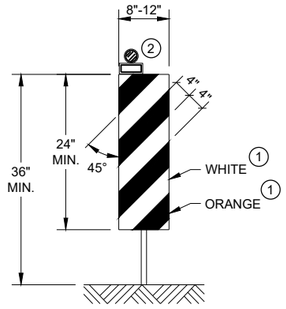


DRUM



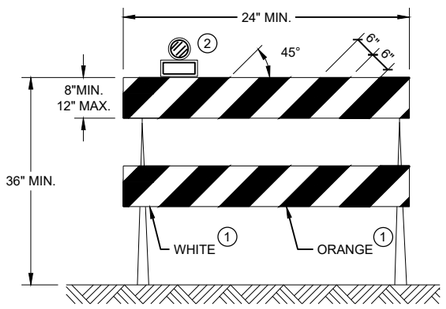
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



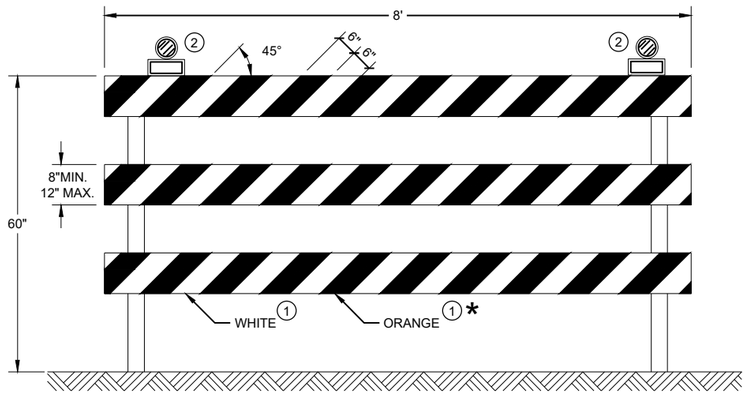
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD15C11 - 09b

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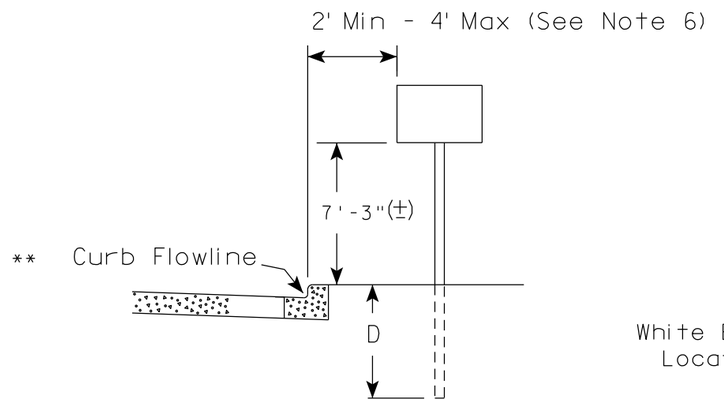
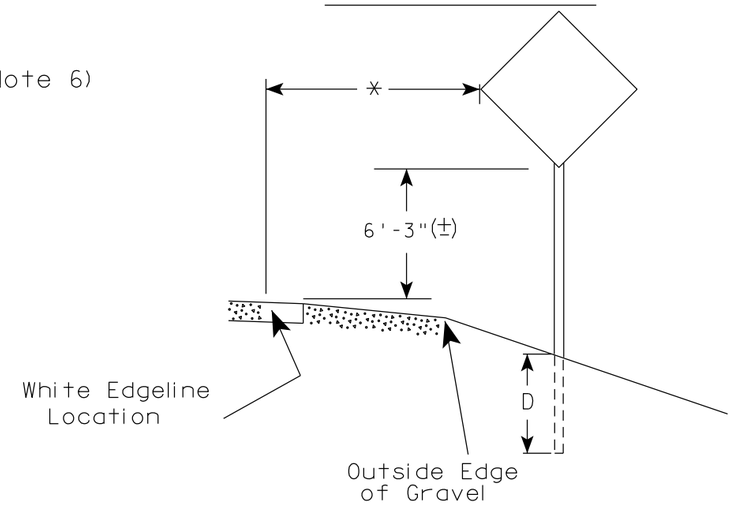
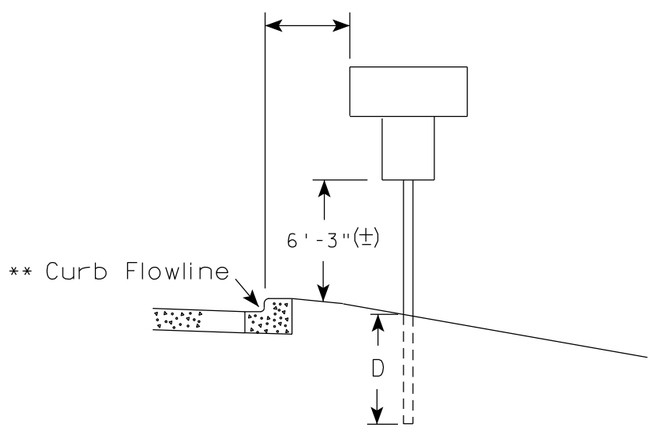
SDD15C11 - 09b

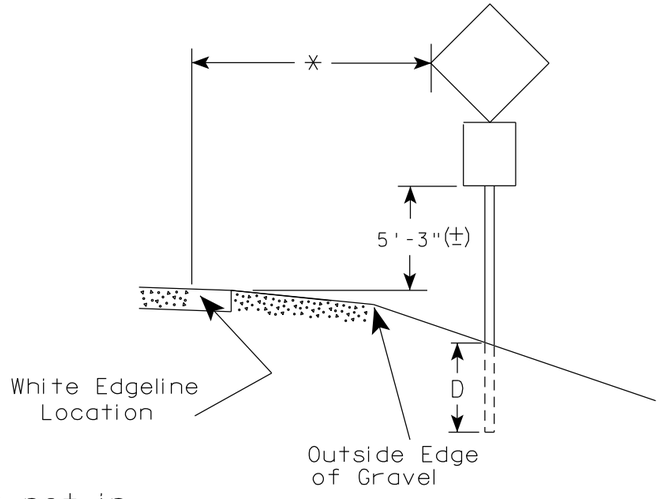
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

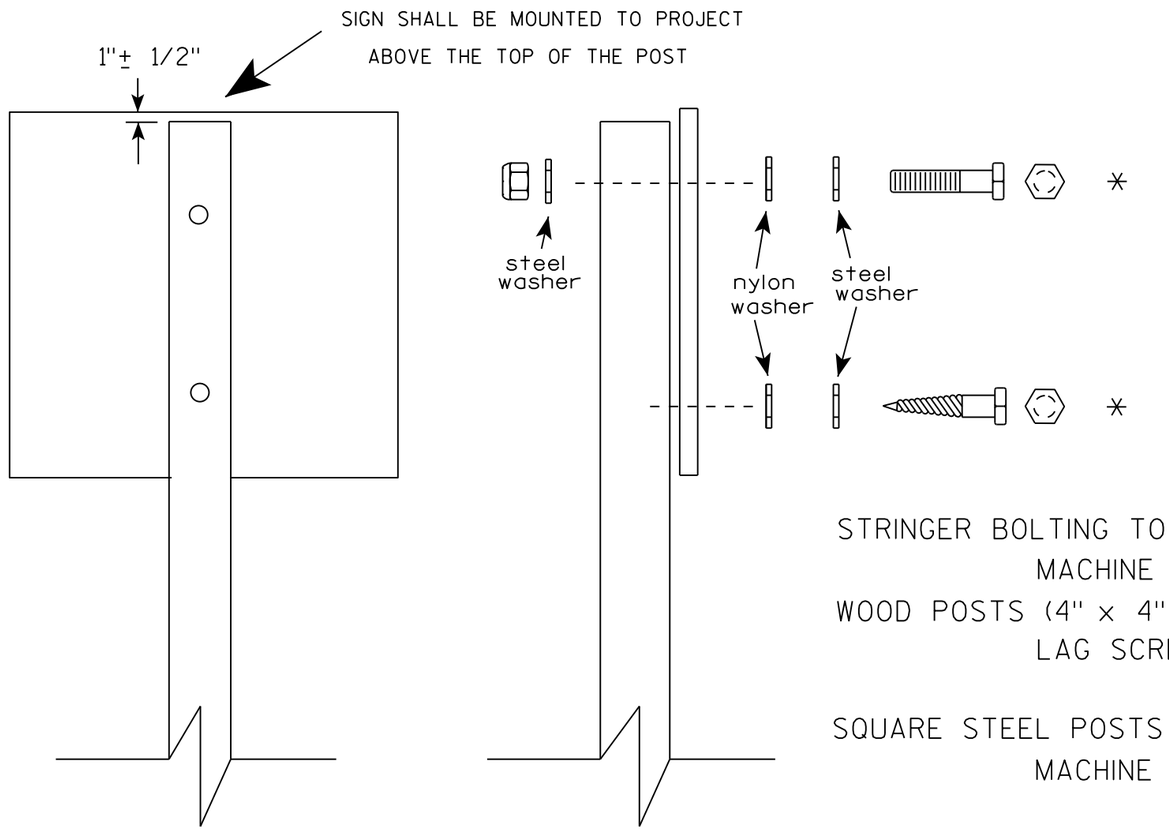
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron 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" (±).
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 signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22



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

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

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

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

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

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

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

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

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

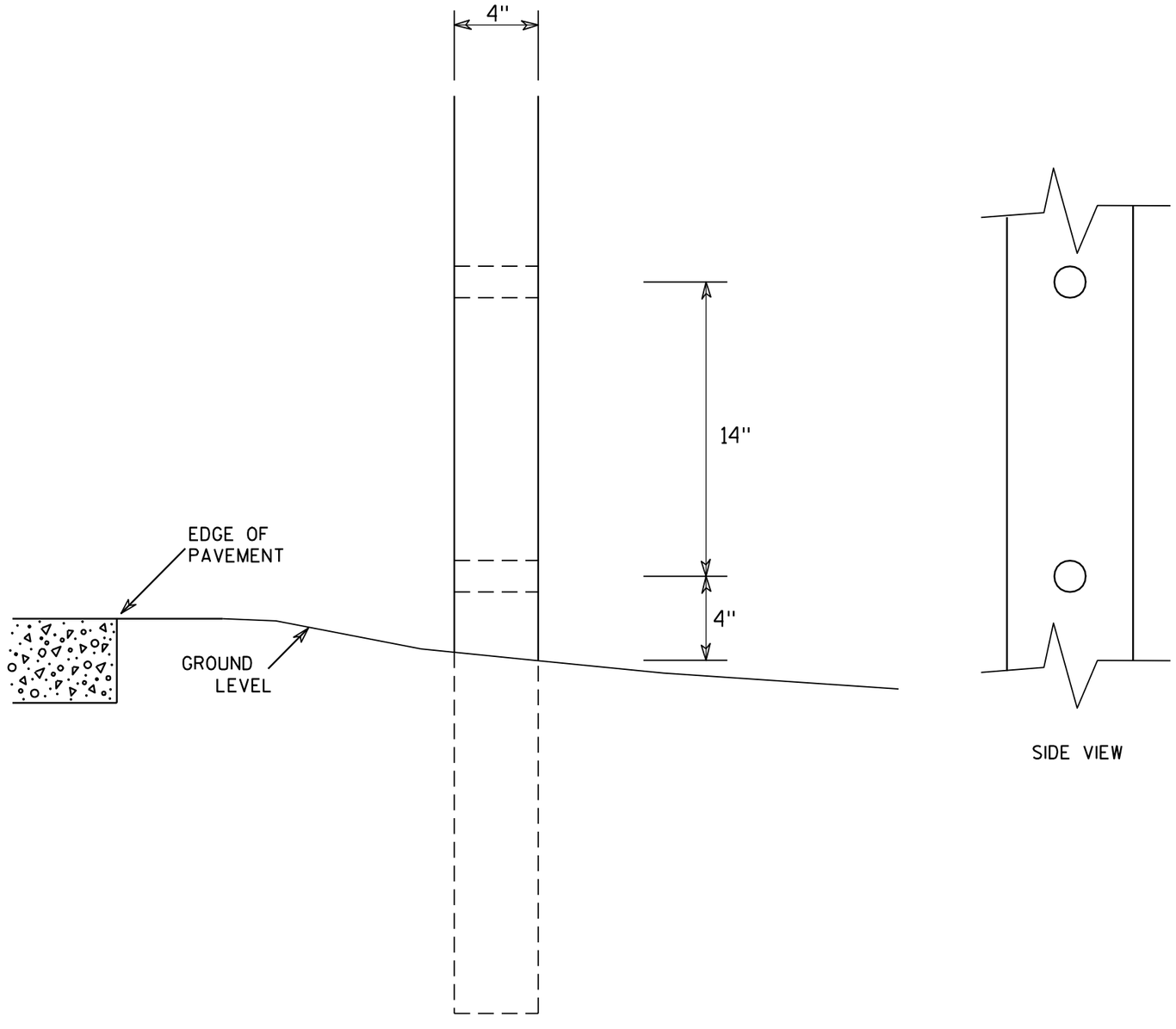
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO: 3622-00-78 | HWY: AARBACK ROAD | COUNTY: DANE | SIGN PLATE DETAILS | SHEET NO: E



SIDE VIEW

GENERAL NOTES

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

7

7

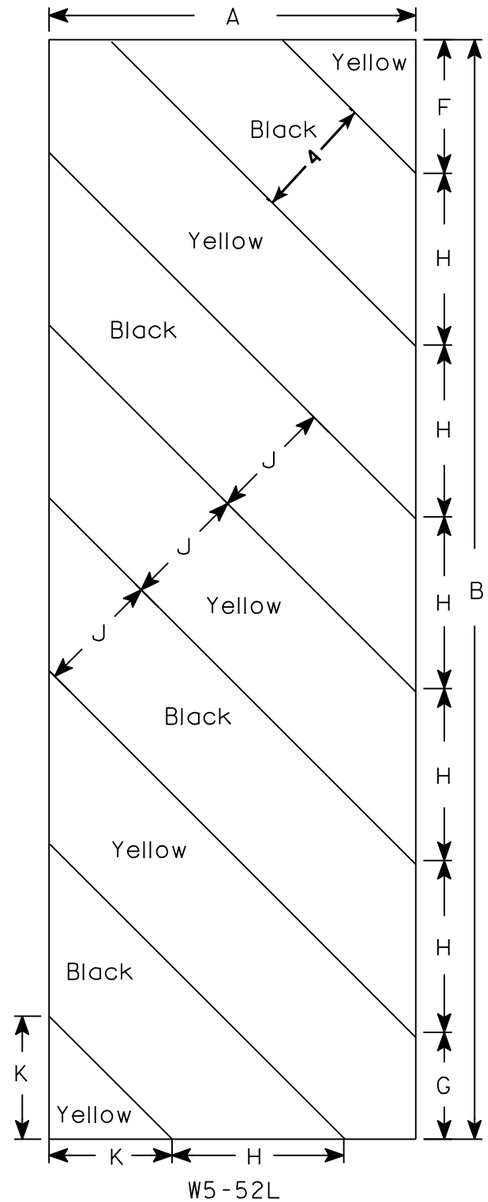
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

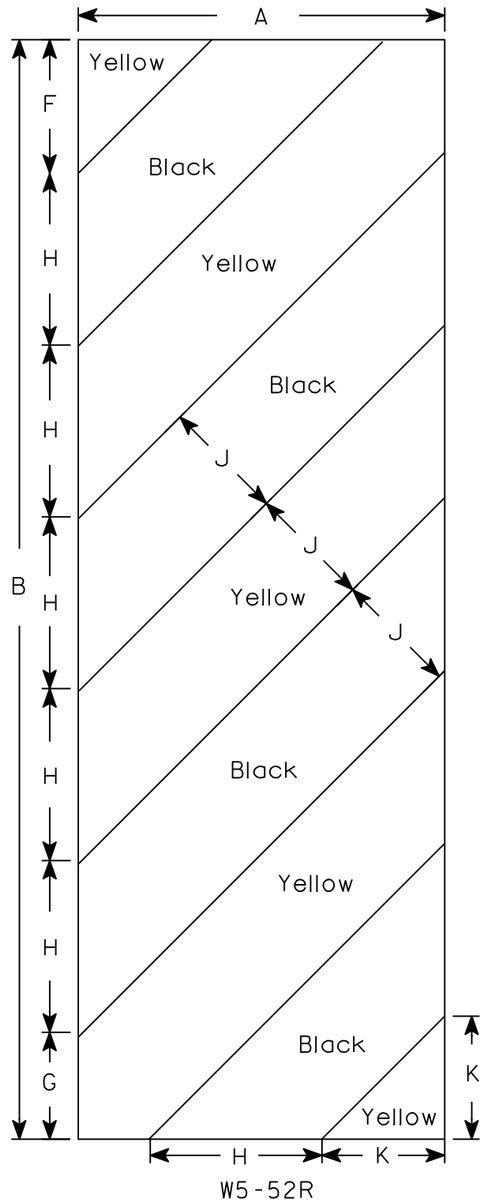
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO: 3622-00-78 | HWY: AARBACK ROAD | COUNTY: DANE | SIGN PLATE DETAILS | SHEET NO: 20 | E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

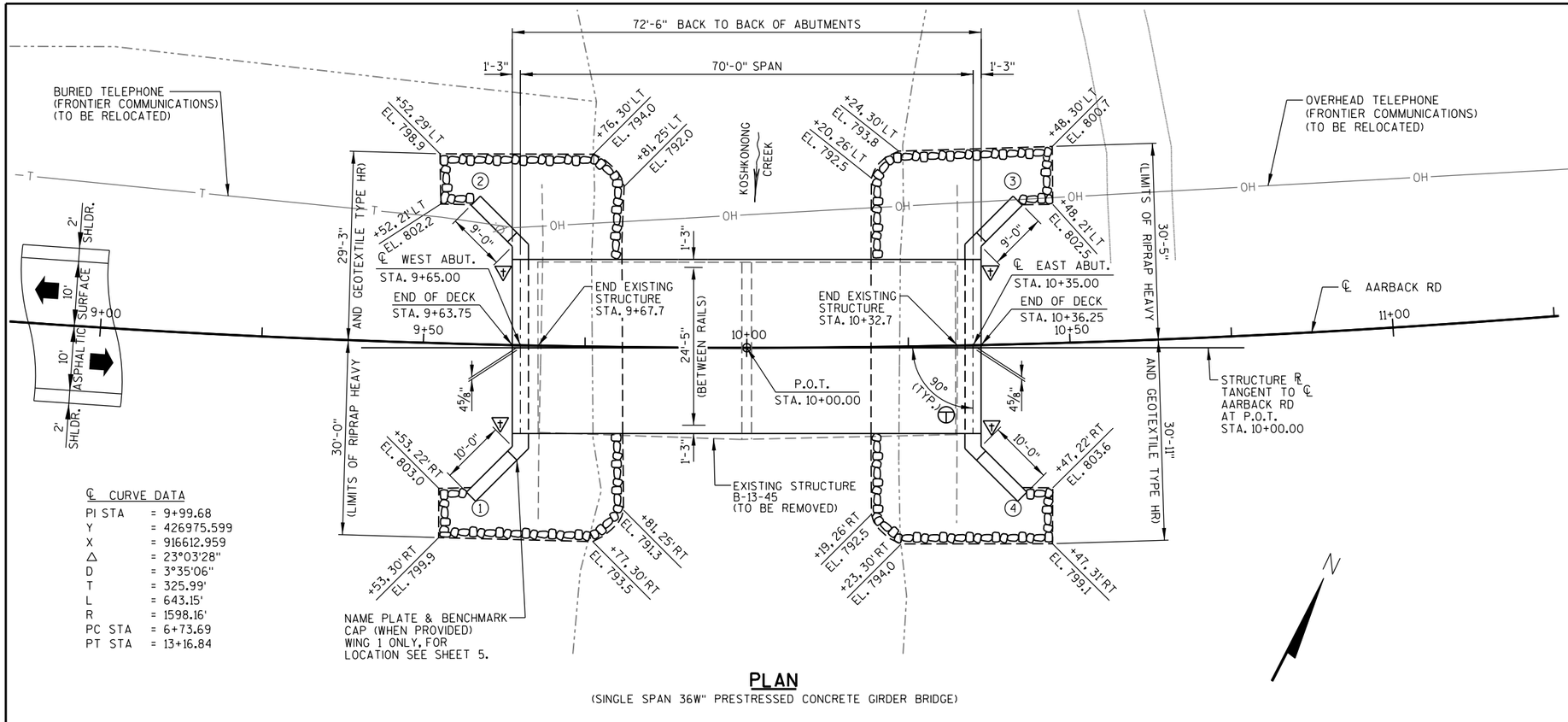
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: 3622-00-78 | HWY: AARBACK ROAD | COUNTY: DANE | SIGN PLATE DETAILS | SHEET NO: 21 | E



PLAN

(SINGLE SPAN 36W" PRESTRESSED CONCRETE GIRDER BRIDGE)

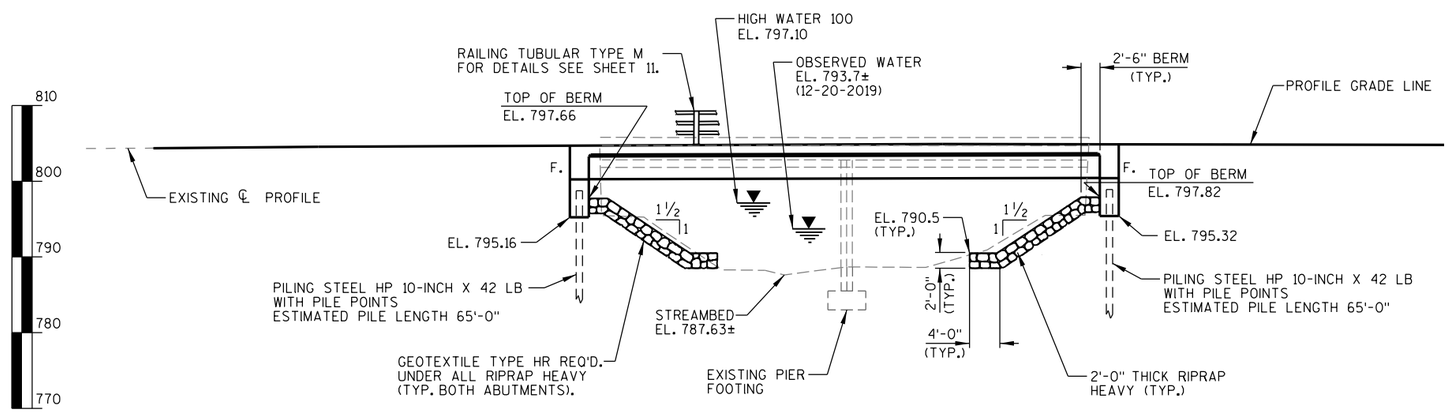
℄ CURVE DATA

PI STA	= 9+99.68
Y	= 426975.599
X	= 916612.959
△	= 23°03'28"
D	= 3°35'06"
T	= 325.99'
L	= 643.15'
R	= 1598.16'
PC STA	= 6+73.69
PT STA	= 13+16.84

◯ - INDICATES WING NUMBER.

Ⓣ - ANGLE MEASURED BETWEEN SUBSTRUCTURE ℄ AND STRUCTURE ℞.

▽ - INDICATES LOCATION OF PROVISION FOR FUTURE THRIE BEAM GUARD ATTACHMENT.



ELEVATION

(LOOKING NORTH)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR : 1.63
OPERATIONAL RATING FACTOR : 2.11

TRAFFIC DATA:

A.A.D.T. (2022) = 100
A.A.D.T. (2042) = 110
R.D.S. = 30 MPH

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY, DECK — $f'c$ = 4,000 P.S.I.
ALL OTHER — $f'c$ = 3,500 P.S.I.

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

36W-INCH PRESTRESSED GIRDERS
CONCRETE MASONRY — $f'c$ = 8,000 P.S.I.
STRANDS - 0.60" ϕ WITH AN ULTIMATE TENSILE STRENGTH OF — fy = 270,000 P.S.I.

PILING STEEL HP 10-INCH x 42 LB — fy = 50,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH PILE POINTS. ABUTMENT PILING TO BE DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS ✳ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 65'-0" AT THE WEST ABUTMENT AND 65'-0" AT THE EAST ABUTMENT.

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

HYDRAULIC DATA:

100 YEAR FREQUENCY

DRAINAGE AREA	189 SQ. MI.
Q_{100}	1,360 C.F.S.
VELOCITY	3.74 FT./SEC.
WATERWAY AREA	363 SQ. FT.
SCOUR CRITICAL CODE	5
HIGH WATER $_{100}$ ELEVATION	797.10
Q_2 ELEVATION (830 C.F.S.)	796.22
Q_2 VELOCITY	2.61 FT./SEC.

ROADWAY OVERFLOW DESIGN FREQUENCY

OVERTOPPING FREQUENCY — > 100 YEARS

LIST OF DRAWINGS

WISCONSIN
KYLE H. BUSCH
E-46187
MADISON
WI
PROFESSIONAL ENGINEER

7/22/2021

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 PANKRATZ STREET, MADISON WI 53704
(608) 242-7779 www.msa-ps.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 08/25/21
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STATE PROJECT NUMBER
3622-00-78

STRUCTURE B-13-693

AARBACK ROAD OVER KOSHKONONG CREEK

COUNTY	TOWN ~~CITY/VILLAGE~~
DANE	ALBION

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JZ	KHB	RLR	KHB

GENERAL PLAN

SHEET 1 OF 12
22

CONSULTANT DESIGN CONTACT:
KYLE BUSCH, P.E.
(608) 216-2063

BRIDGE OFFICE CONTACT:
AARON BONK, P.E.
(608) 261-0261

FILE= 11331023_01.DGN
DATE= 5/25/2021

8

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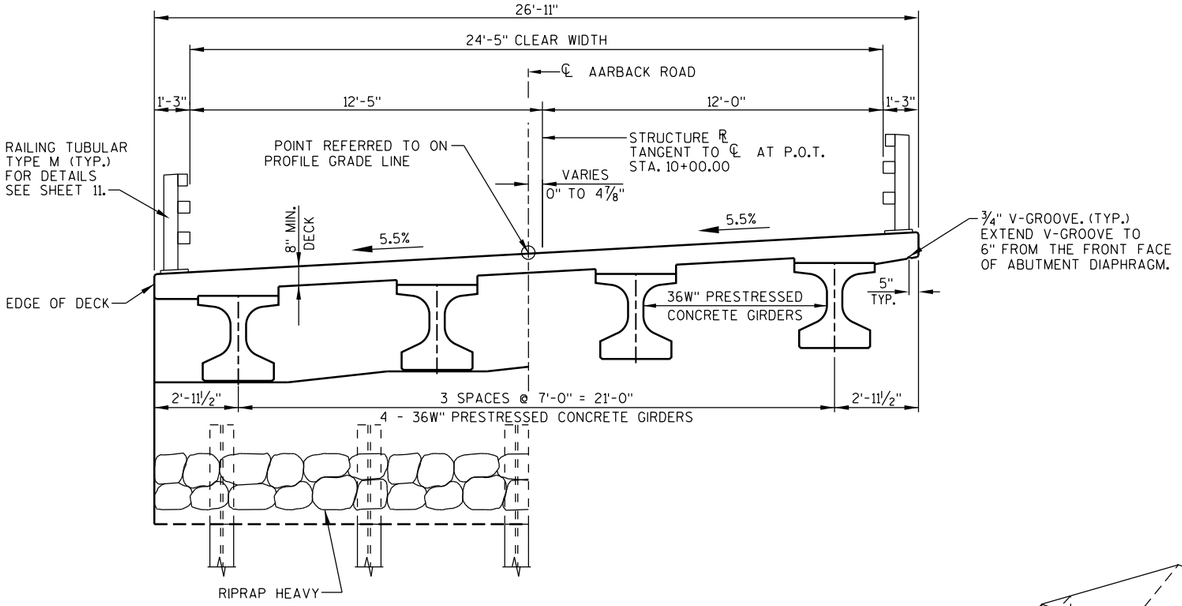
11331023_01.dgn 5/25/2021 12:35:26 PM frabska

STATE PROJECT NUMBER
3622-00-78



AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE

(LOOKING EAST)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

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

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-13-693" FOR THE ABUTMENTS.

THIS STRUCTURE WILL REPLACE THE EXISTING STRUCTURE, B-13-45, A 65.0 FT. LONG, TWO SPAN STEEL DECK GIRDER BRIDGE ON FULL RETAINING TIMBER BACKED ABUTMENTS AND CONCRETE PIER WITH TIMBER PILING.

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

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

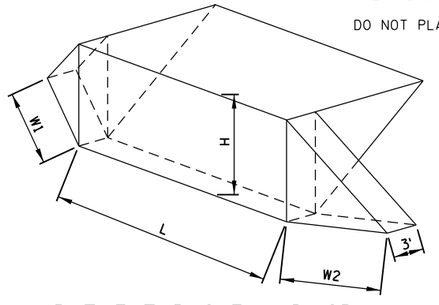
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF DECK, TO THE OUTSIDE 1'-6½" OF THE UNDERSIDE OF DECK TO THE EDGE OF THE GIRDER FLANGE, TO THE TOP AND EXTERIOR EXPOSED FACES OF WINGS, AND TO THE END 1'-0" OF THE FRONT FACE OF ABUTMENTS.

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.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE SUPERSTRUCTURE SHEET, SHEET 9.

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



ABUTMENT BACKFILL DIAGRAM

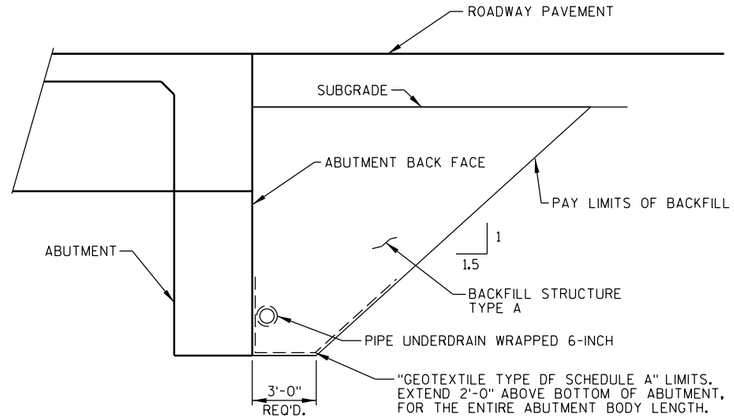
L = OUT-TO-OUT OF ABUTMENT BODY (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
W1 = WING 1 LENGTH (FT)
W2 = WING 2 LENGTH (FT)

$V_{CF} = (L)(3.0')(H)+(L)(0.5)(1.5H)(H)+(0.5)(H)(W1+W2)(3.0')$

$V_{TON} = V_{CF}(2.0)/27$

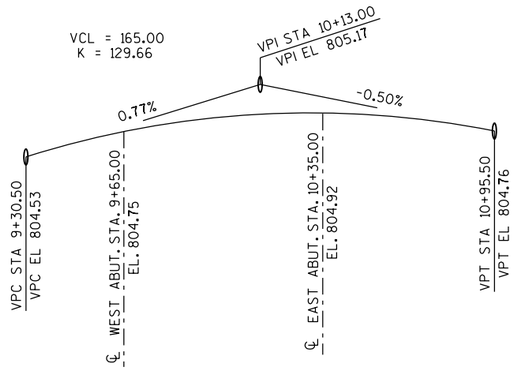
TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	EAST ABUT.	SUPER	TOTAL
	203.0260.01	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (B-13-45)	EACH	-	-	-	1
	206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-13-693	LS	-	-	-	1
Ⓑ -	210.1500	BACKFILL STRUCTURE TYPE A	TON	193	193	-	386
	502.0100	CONCRETE MASONRY BRIDGES	CY	32	32	74	138
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	20	20	253	293
	503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	-	-	284	284
	505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,100	2,100	-	4,200
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,655	1,655	12,690	16,000
	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	8	8
	506.4000.01	STEEL DIAPHRAGMS B-13-693	EACH	-	-	3	3
	513.4061.01	RAILING TUBULAR TYPE M	LF	-	-	149	149
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	-	20
	550.0500	PILE POINTS	EACH	7	7	-	14
	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	455	455	-	910
	606.0300	RIPRAP HEAVY	CY	97	100	-	197
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	80	-	160
	645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	30	30	-	60
	645.0120	GEOTEXTILE TYPE HR	SY	190	195	-	385
		NON-BID ITEMS					
		PREFORMED FILLER	SIZE				½" & ¾"



STRUCTURE BACKFILL DETAIL

AT ABUTMENT BACK FACE



PROFILE GRADE LINE - AARBACK ROAD

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-693

DRAWN BY RLR | PLANS CK'D. KHB

CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 12
23

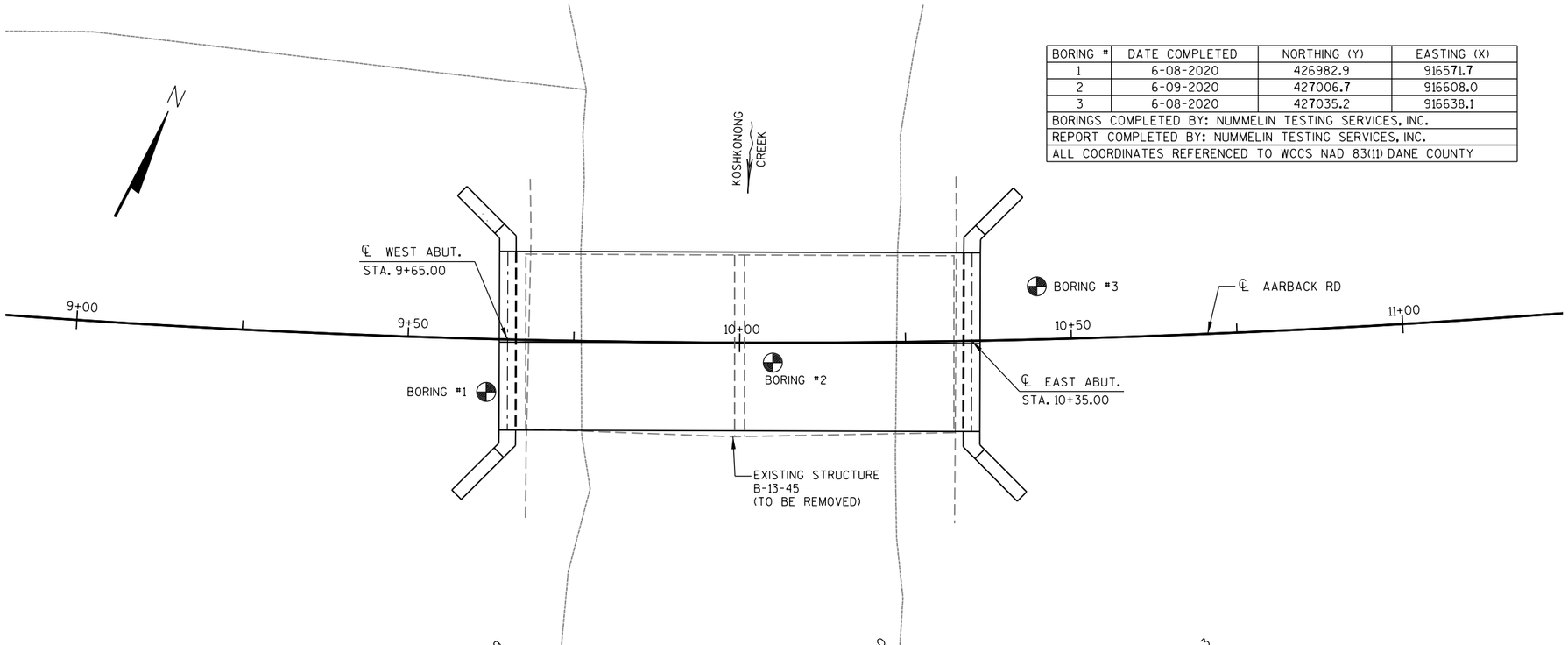
8

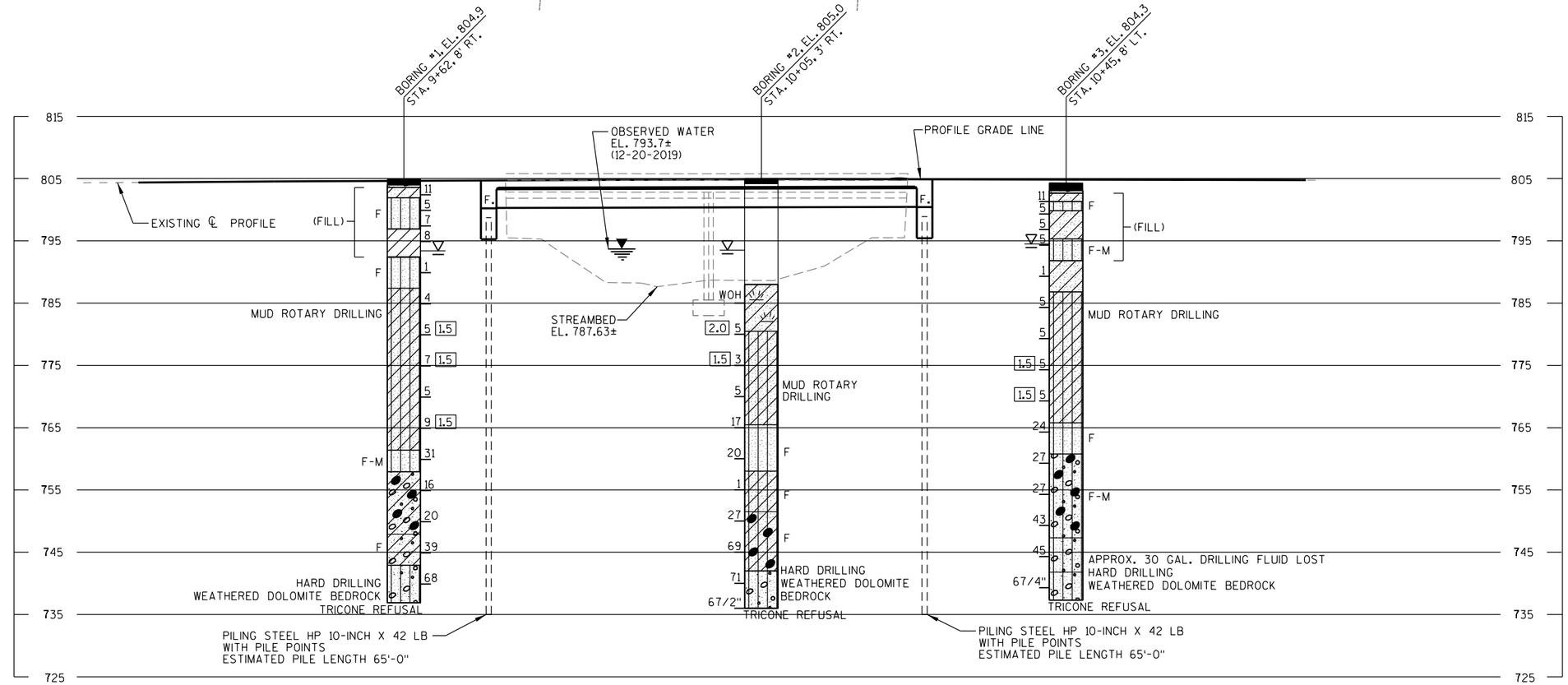
8

FILE= 11331023_02.DGN
DATE= 7/19/2021

11331023_02.dgn 7/19/2021 12:38:31 PM rrabska

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	6-08-2020	426982.9	916571.7
2	6-09-2020	427006.7	916608.0
3	6-08-2020	427035.2	916638.1
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(11) DANE COUNTY			





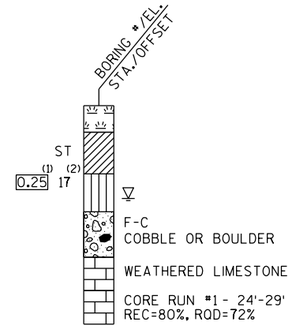
STATE PROJECT NUMBER

3622-00-78

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-13-693

DRAWN BY RLR | PLANS CK'D. KHB

SUBSURFACE EXPLORATION

SHEET 3 OF 12
24

8

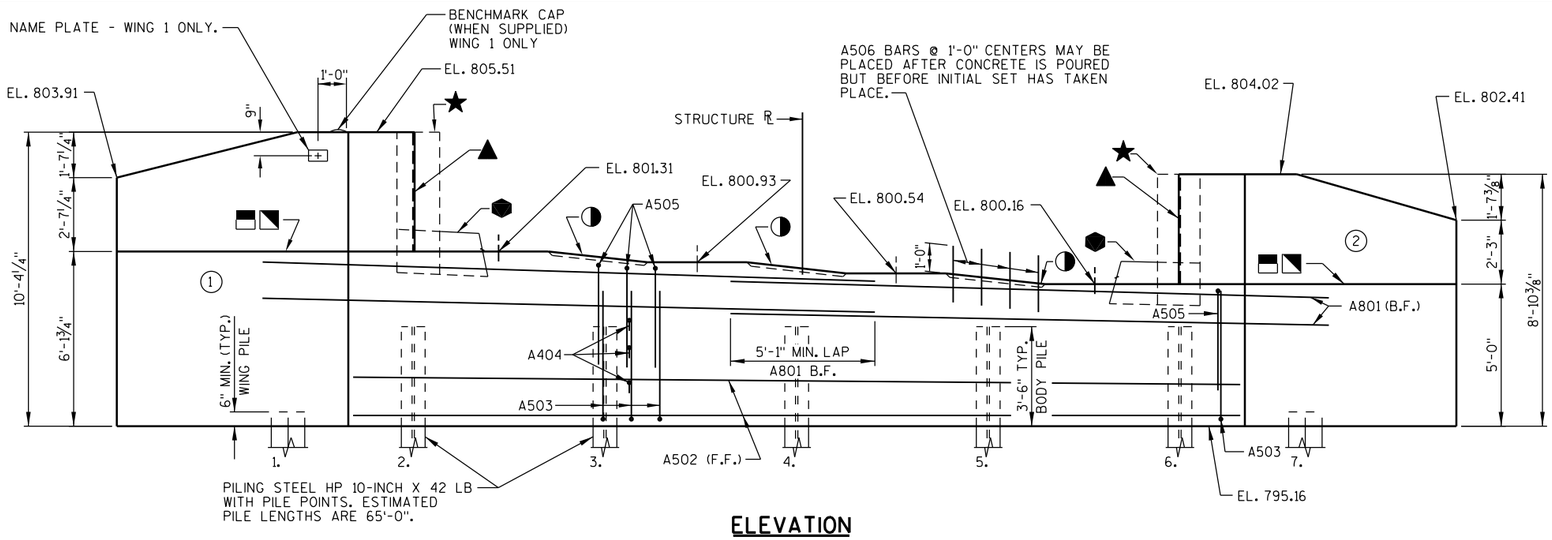
8

FILE= 11331023_03.DGN

11331023_03.dgn 5/25/2021 8:23:48 AM rrabska

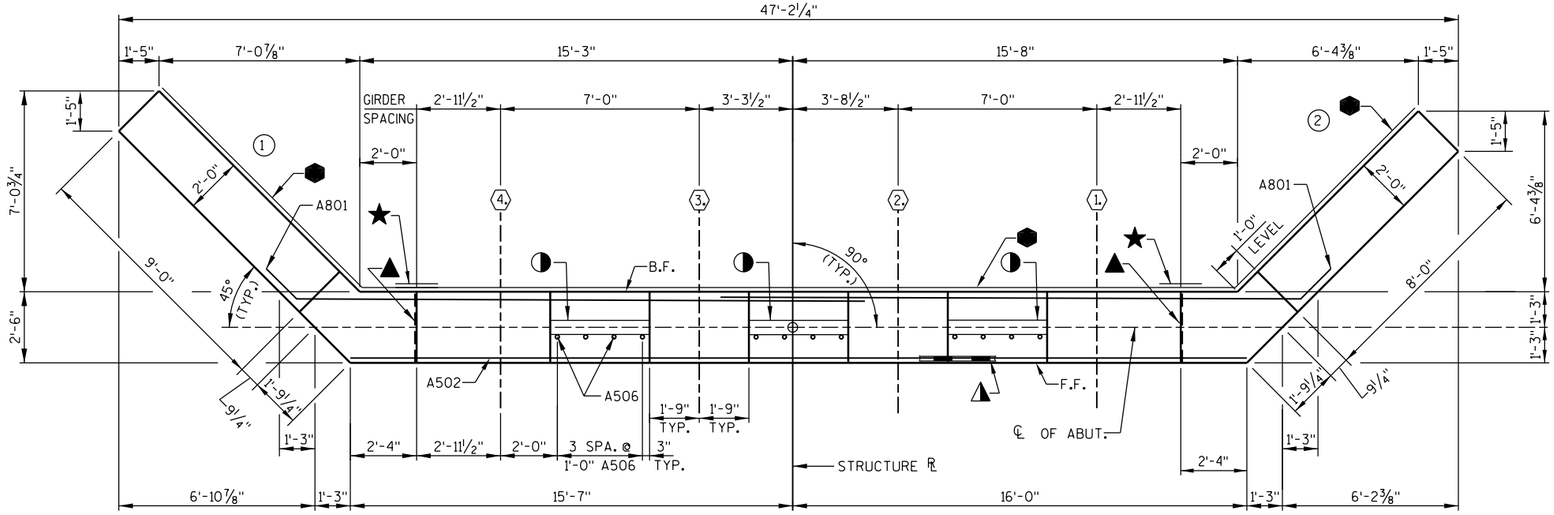
STATE PROJECT NUMBER

3622-00-78

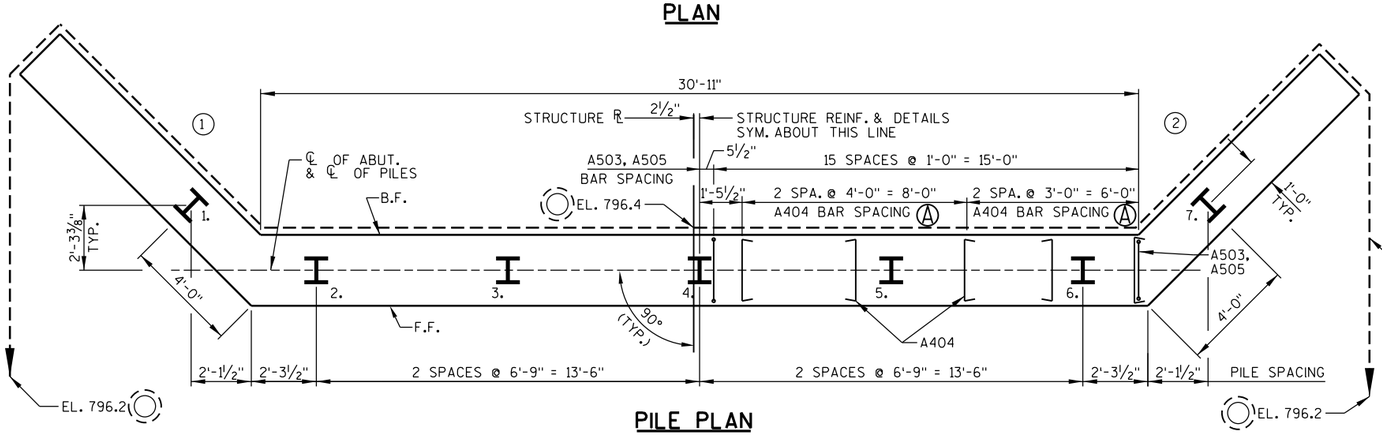


ELEVATION

(LOOKING WEST)

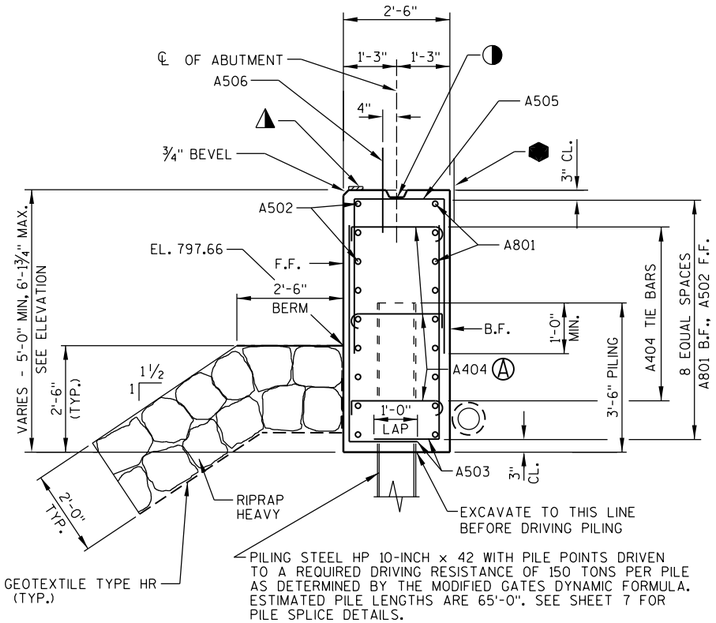


PLAN



PILE PLAN

FOR WING DETAILS AND ADDITIONAL ABUTMENT DETAILS SEE SHEET 5.

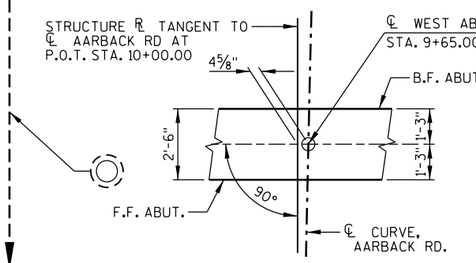


TYPICAL SECTION THRU ABUTMENT

LEGEND

- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◭ — 4"× ½" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF DECK.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WING TIPS.
- ◧ — KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2 X 6. POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE ⬢ ON B.F. OF WING.
- ◥ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL.
- ◯ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS, SEE SHEET 5.
- Ⓐ — ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- ◯ — INDICATES WING NUMBER ⬡ — INDICATES GIRDER NUMBER

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



LAYOUT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-693

DRAWN BY RLR | PLANS CK'D. KHB

WEST ABUTMENT

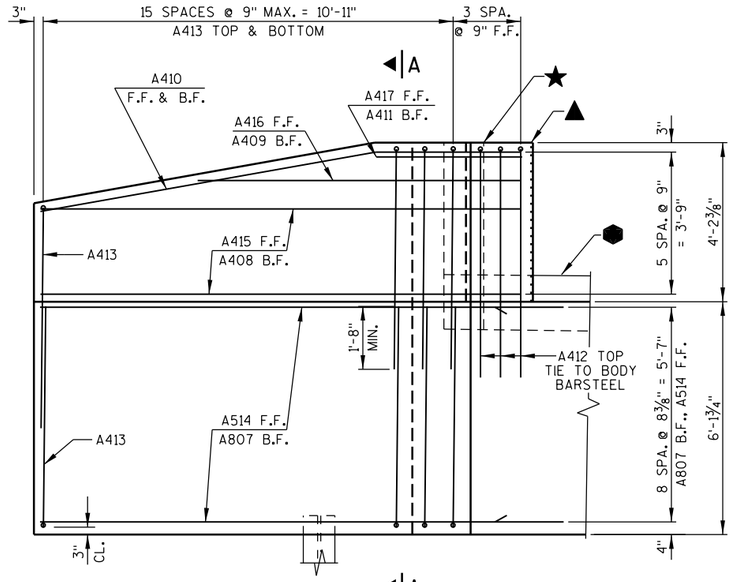
SHEET 4 OF 12
25

FILE= 11331023_04.DGN
DATE= 5/25/2021

11331023_04.dgn 5/25/2021 12:39:14 PM rrabska

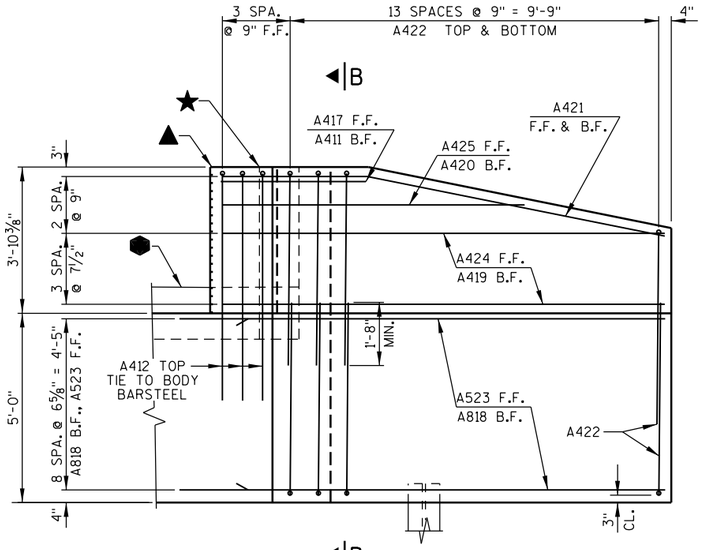
STATE PROJECT NUMBER

3622-00-78



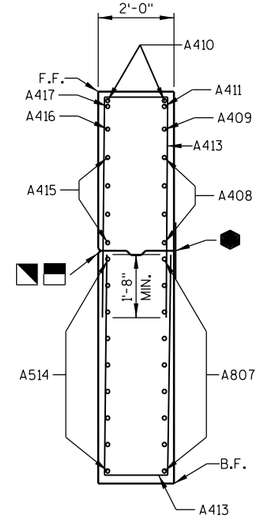
ELEVATION - WING 1

(LOOKING AT F.F. OF WING)

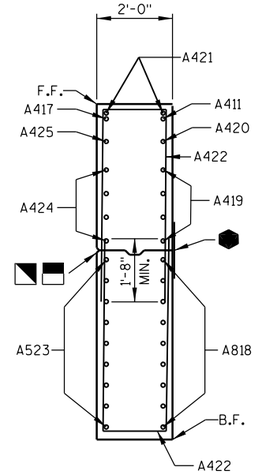


ELEVATION - WING 2

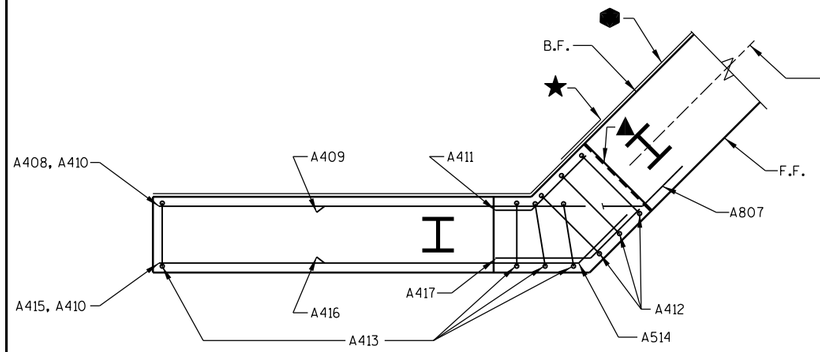
(LOOKING AT F.F. OF WING)



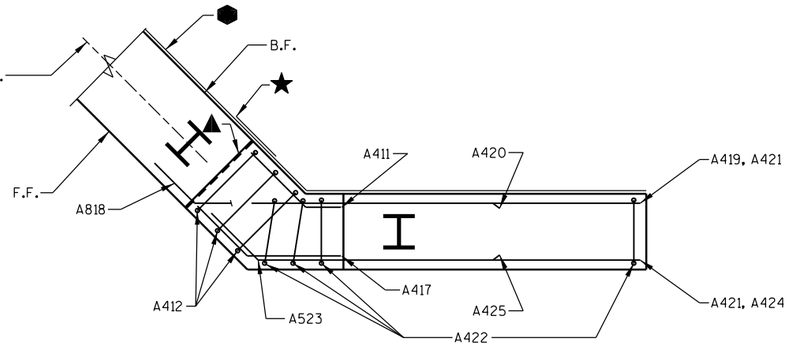
SECTION A-A
THRU WING 1



SECTION B-B
THRU WING 2



PLAN - WING 1



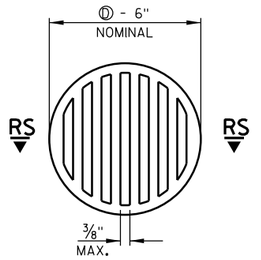
PLAN - WING 2

BILL OF BARS (WEST ABUT.)

UNCOATED 2100 LBS.
COATED 1655 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
A801	-	18	21'-9"	X	ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	31'-6"		ABUTMENT BODY - F.F. - HORIZ.
A503	-	64	6'-0"	X	ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	30	3'-0"	X	ABUTMENT BODY - TIES - HORIZ.
A505	-	32	8'-11"	X	ABUTMENT BODY - TOP - VERT.
A506	12	-	2'-0"		ABUTMENT BODY - TOP DOWELS - VERT.
A807	9	-	14'-2"	X	WING 1 - B.F. - HORIZ.
A408	4	-	11'-9"	X	WING 1 - B.F. - HORIZ.
A409	1	-	7'-7"	X	WING 1 - B.F. - HORIZ.
A410	2	-	11'-5"	X	WING 1 - F.F. & B.F. - TOP - HORIZ.
A411	2	-	2'-11"	X	WINGS - B.F. - TOP - HORIZ.
A412	6	-	14'-2"	X	WINGS - TOP - VERT.
A413	32	-	13'-2"	X	WING 1 - TOP & BOTTOM - VERT.
A514	9	-	12'-8"	X	WING 1 - F.F. - HORIZ.
A415	4	-	13'-2"	X	WING 1 - F.F. - HORIZ.
A416	1	-	9'-0"	X	WING 1 - F.F. - HORIZ.
A417	2	-	4'-4"	X	WINGS - F.F. - TOP - HORIZ.
A818	9	-	13'-2"	X	WING 2 - B.F. - HORIZ.
A419	4	-	10'-9"	X	WING 2 - B.F. - HORIZ.
A420	1	-	7'-0"	X	WING 2 - B.F. - HORIZ.
A421	2	-	10'-5"	X	WING 2 - F.F. & B.F. - TOP - HORIZ.
A422	28	-	11'-8"	X	WING 2 - TOP & BOTTOM - VERT.
A523	9	-	11'-8"	X	WING 2 - F.F. - HORIZ.
A424	4	-	12'-2"	X	WING 2 - F.F. - HORIZ.
A425	1	-	8'-6"	X	WING 2 - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



SECTION RS-RS

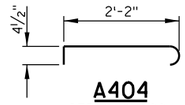
RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

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

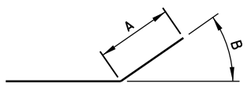
RODENT SHIELD

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

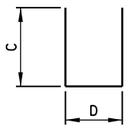


A404
STD. 180° HOOK

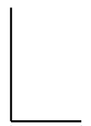
SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF



MARK	A	B
A801 A807 A514 A818 A523	1'-6"	45°
A408 A409 A411 A419 A420	1'-10"	45°
A410	2'-5"	10°
A415 A416 A417 A424 A425	2'-0"	45°
A421	2'-5"	12°



MARK	C	D
A505	3'-6"	2'-2"
A412	6'-1"	2'-2"
A413	5'-10"	1'-8"
A422	5'-1"	1'-8"



A503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-693

DRAWN BY RLR | PLANS CK'D. KHB

WEST ABUTMENT DETAILS

SHEET 5 OF 12
26

FILE= 11331023_05.DGN
DATE= 5/6/2021

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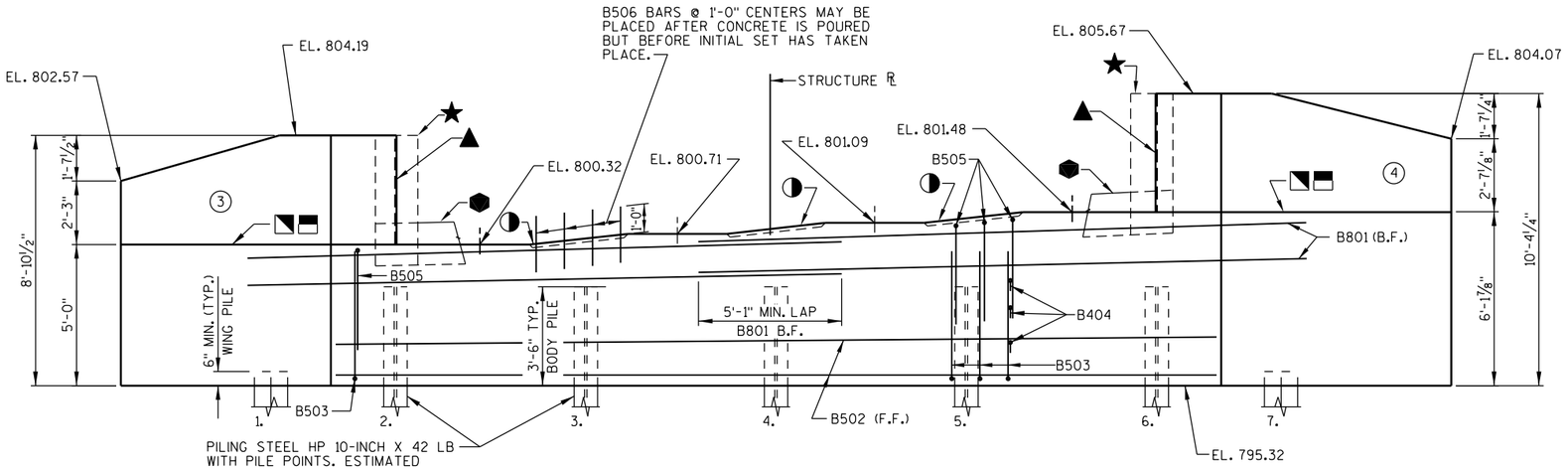
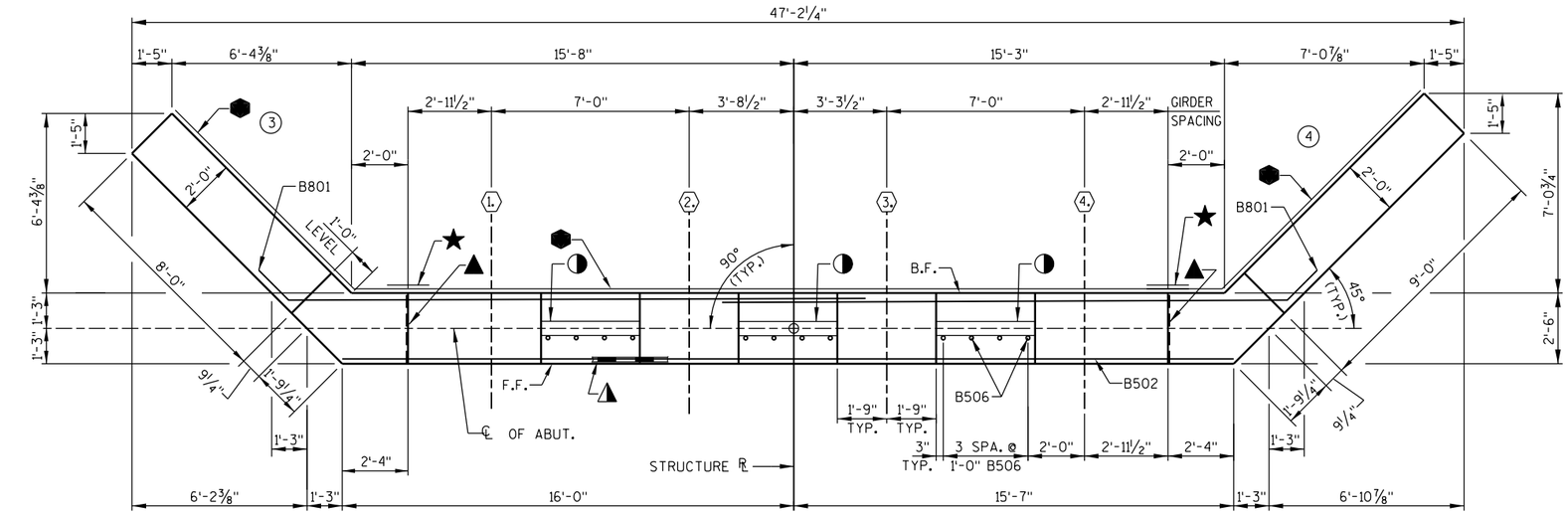
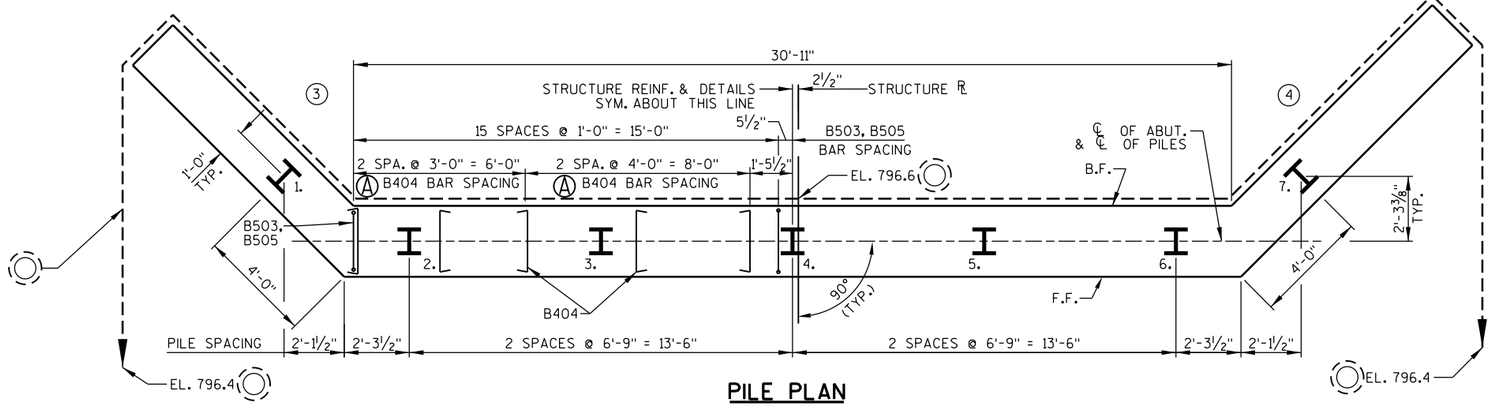
STATE PROJECT NUMBER
3622-00-78



ELEVATION
(LOOKING EAST)

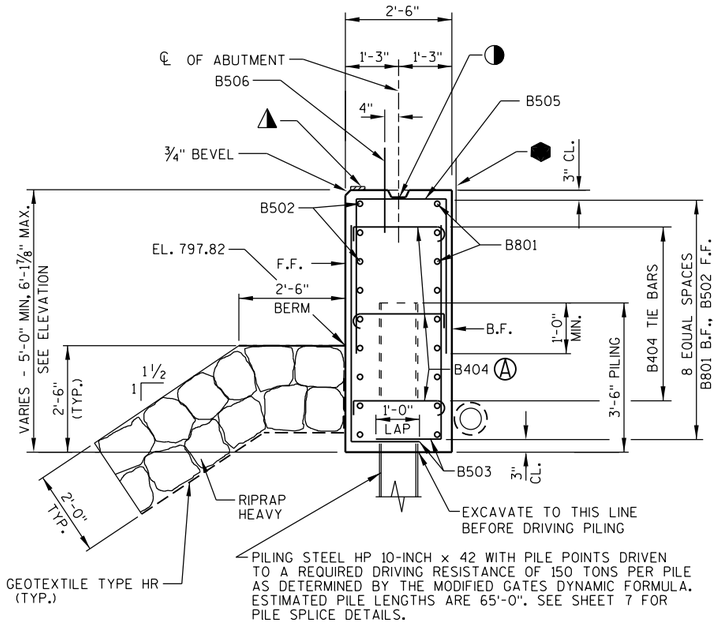


PLAN



PILE PLAN

FOR WING DETAILS AND ADDITIONAL ABUTMENT DETAILS SEE SHEET 7.

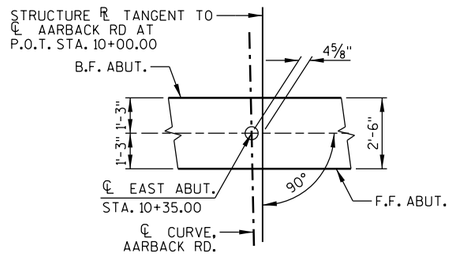


TYPICAL SECTION THRU ABUTMENT

LEGEND

- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◭ — 4"× ½" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF DECK.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WING TIPS.
- ◧ — KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2 X 6. POUR CONCRETE ABOVE JOINT AFTER DECK IS IN PLACE AND PLACE ⬢ ON B.F. OF WING.
- ◹ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL.
- ◯ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS, SEE SHEET 5.
- Ⓐ — ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- ◯ — INDICATES WING NUMBER ⬡ — INDICATES GIRDER NUMBER

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



LAYOUT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-693

DRAWN BY	RLR	PLANS CK'D.	KHB

EAST ABUTMENT

SHEET 6 OF 12
27

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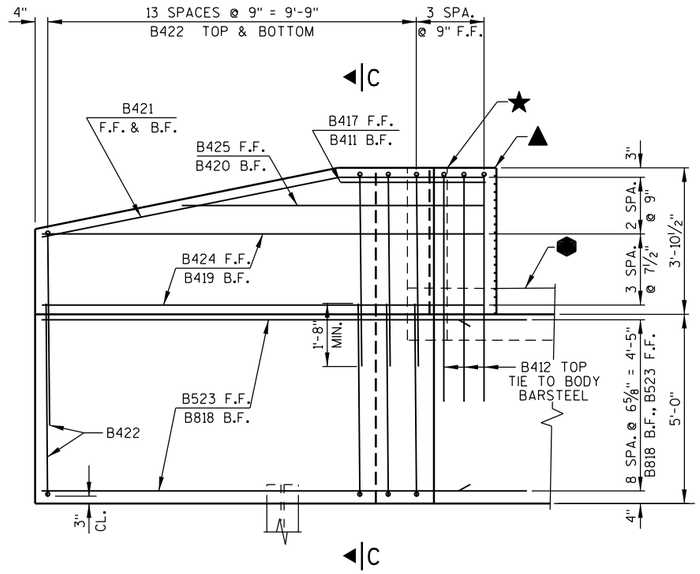
FILE= 11331023_06.DGN
DATE= 5/25/2021

11331023_06.dgn 5/25/2021 12:41:59 PM rrabska

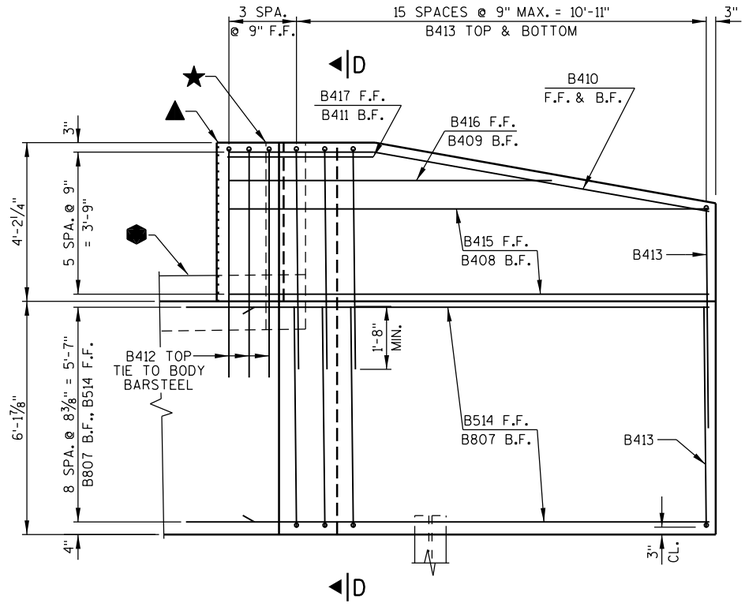
STATE PROJECT NUMBER

3622-00-78



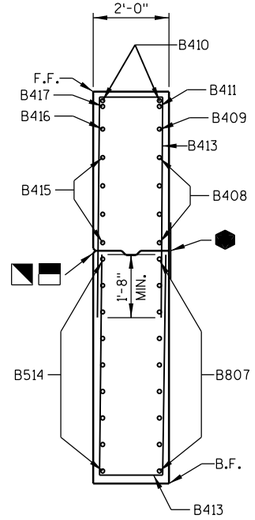
ELEVATION - WING 3

(LOOKING AT F.F. OF WING)

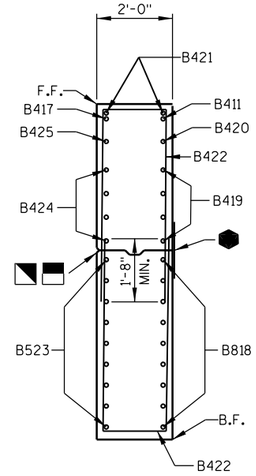


ELEVATION - WING 4

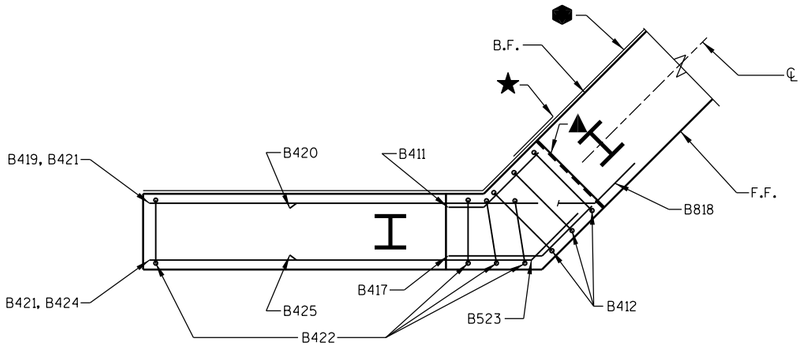
(LOOKING AT F.F. OF WING)



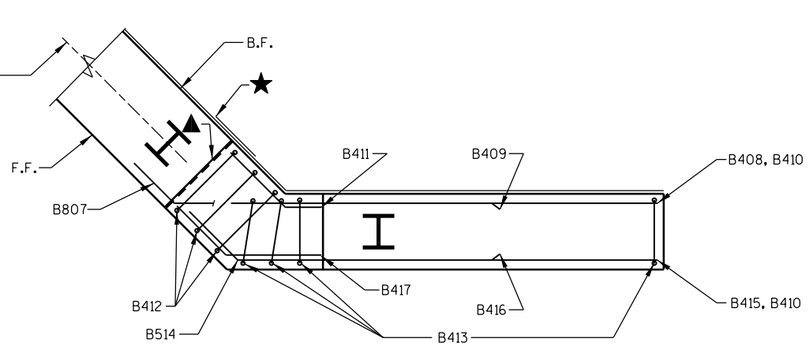
SECTION D-D THRU WING 4



SECTION C-C THRU WING 3



PLAN - WING 3



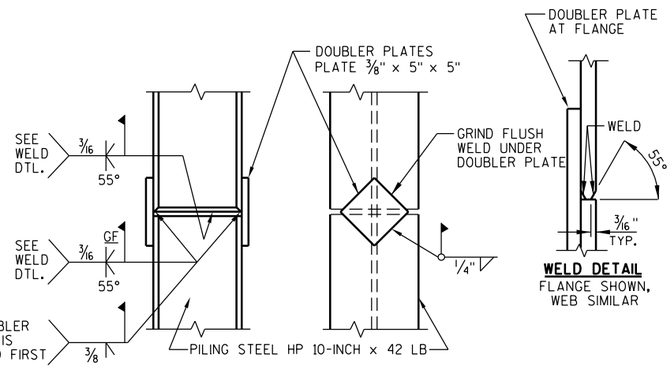
PLAN - WING 4

BILL OF BARS (EAST ABUT.)

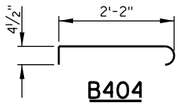
UNCOATED 2100 LBS.
COATED 1655 LBS.

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
B801	-	18	21'-9"	X	ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	31'-6"		ABUTMENT BODY - F.F. - HORIZ.
B503	-	64	6'-0"	X	ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	30	3'-0"	X	ABUTMENT BODY - TIES - HORIZ.
B505	-	32	8'-11"	X	ABUTMENT BODY - TOP - VERT.
B506	12	-	2'-0"		ABUTMENT BODY - TOP DOWELS - VERT.
B807	9	-	14'-2"	X	WING 4 - B.F. - HORIZ.
B408	4	-	11'-9"	X	WING 4 - B.F. - HORIZ.
B409	1	-	7'-7"	X	WING 4 - B.F. - HORIZ.
B410	2	-	11'-5"	X	WING 4 - F.F. & B.F. - TOP - HORIZ.
B411	2	-	2'-11"	X	WINGS - B.F. - TOP - HORIZ.
B412	6	-	14'-2"	X	WINGS - TOP - VERT.
B413	32	-	13'-2"	X	WING 4 - TOP & BOTTOM - VERT.
B514	9	-	12'-8"	X	WING 4 - F.F. - HORIZ.
B415	4	-	13'-2"	X	WING 4 - F.F. - HORIZ.
B416	1	-	9'-0"	X	WING 4 - F.F. - HORIZ.
B417	2	-	4'-4"	X	WINGS - F.F. - TOP - HORIZ.
B818	9	-	13'-2"	X	WING 3 - B.F. - HORIZ.
B419	4	-	10'-9"	X	WING 3 - B.F. - HORIZ.
B420	1	-	7'-0"	X	WING 3 - B.F. - HORIZ.
B421	2	-	10'-5"	X	WING 3 - F.F. & B.F. - TOP - HORIZ.
B422	28	-	11'-8"	X	WING 3 - TOP & BOTTOM - VERT.
B523	9	-	11'-8"	X	WING 3 - F.F. - HORIZ.
B424	4	-	12'-2"	X	WING 3 - F.F. - HORIZ.
B425	1	-	8'-6"	X	WING 3 - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

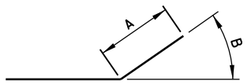


PILE SPLICE DETAILS

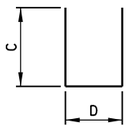


B404
STD. 180° HOOK

SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF ★ ⬢ ◥ ▬ ▲



MARK	A	B
B801 B807 B514 B818 B523	1'-6"	45°
B408 B409 B411 B419 B420	1'-10"	45°
B410	2'-5"	10°
B415 B416 B417 B424 B425	2'-0"	45°
B421	2'-5"	12°



MARK	C	D
B505	3'-6"	2'-2"
B412	6'-1"	2'-2"
B413	5'-10"	1'-8"
B422	5'-1"	1'-8"

B503

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EAST ABUTMENT DETAILS

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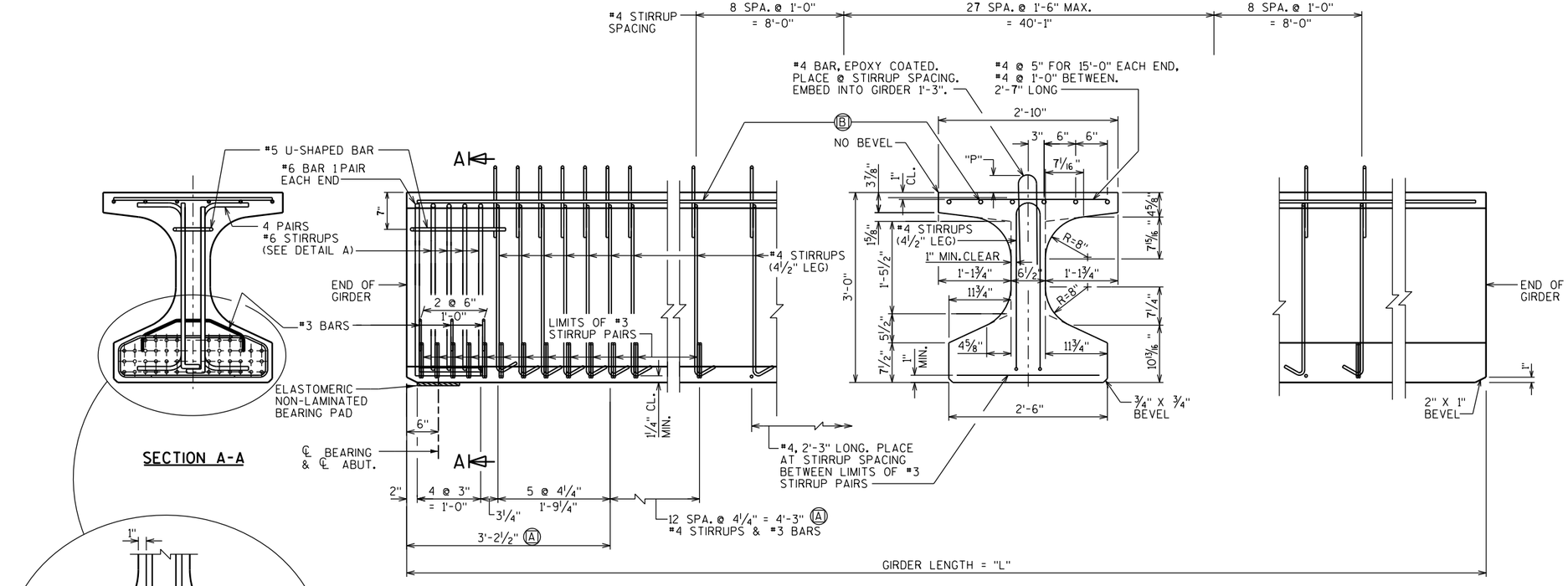


NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECTION 503.3.3 OF THE STANDARD SPECIFICATIONS FOR GUIDANCE.

PRESTRESSING STRANDS SHALL BE 0.6" ϕ - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

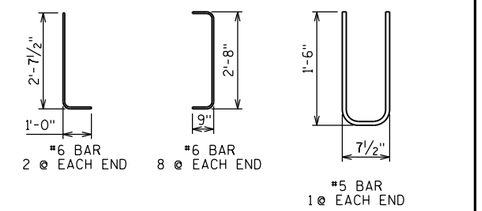
STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

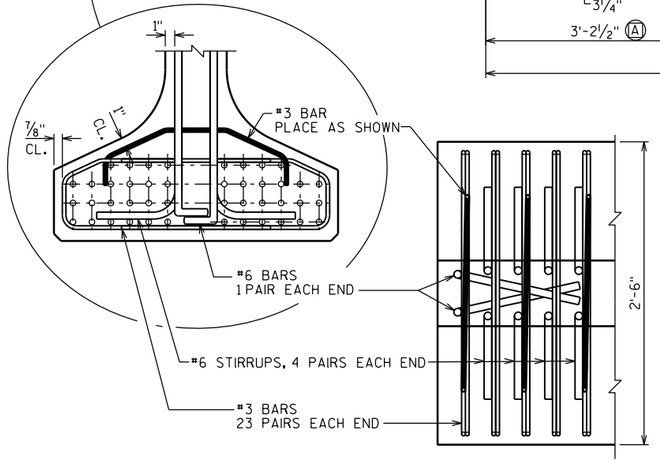
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE SHEET 12.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES MAINTENANCE SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.





DETAIL A

BOTTOM FLANGE

SIDE VIEW & TYP. SECTION

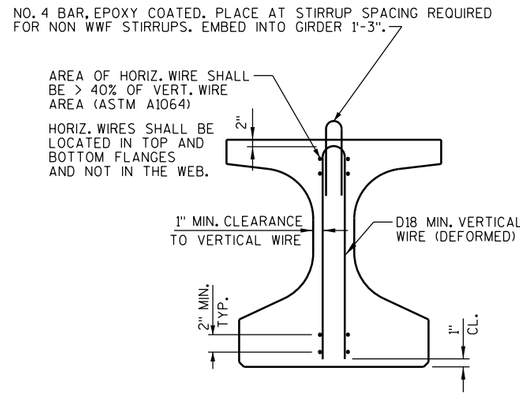
Ⓐ DETAIL TYP. AT EACH END

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

THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN. VALUES INCLUDE A MAGNIFICATION FACTOR OF 1.4 TO ACCOUNT FOR CREEP BETWEEN RELEASE AND INSTALLATION.

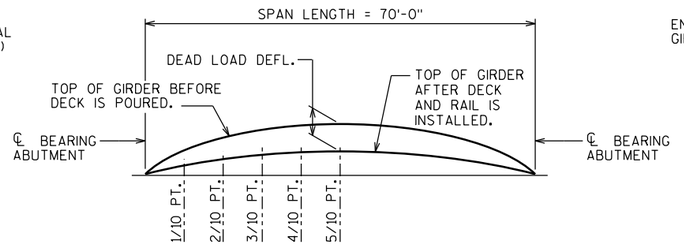
SPAN	CAMBER (IN.)
1	1.9

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

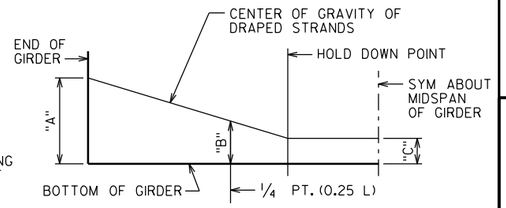


SECTION THRU GIRDER

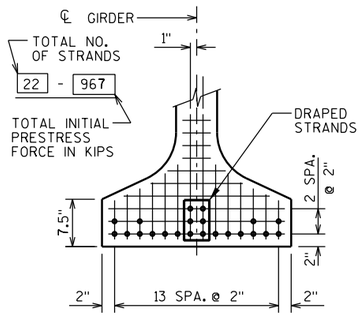
SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS ASTM A497 (Fy = 70 Ksi)



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE



TYP. STRAND PATTERN

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

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	1-4	71'-0"	0.2	0.4	0.6	0.7	0.7	0.7	0.6	0.4	0.2	8000	8.25"	7.25"	8.25"	0.6	22	6800	29.0	10.25	13.25	4.0	-	-

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36W" PRESTRESSED GIRDER DETAILS

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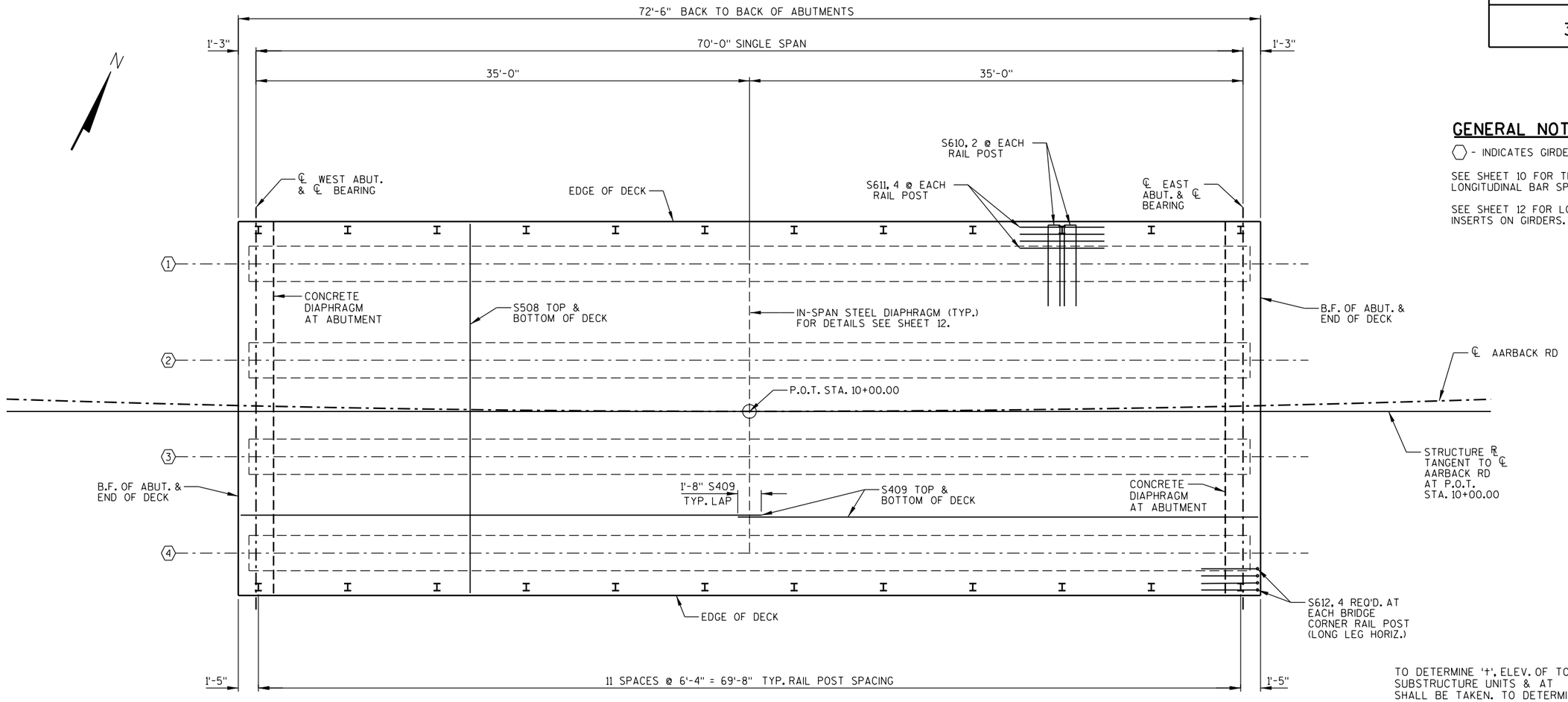


PLAN

GENERAL NOTES

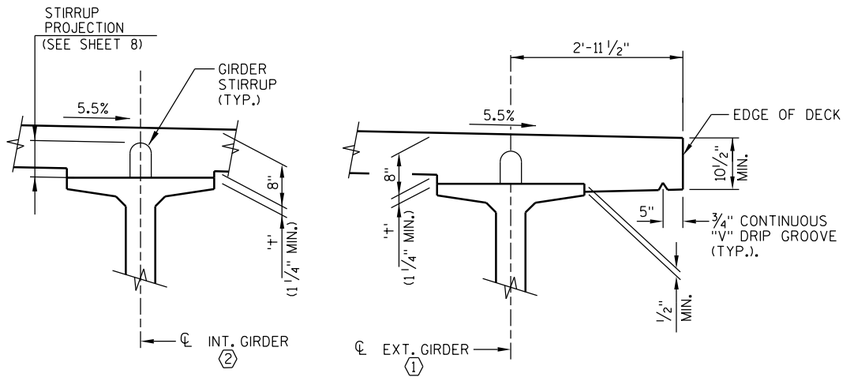
⬡ - INDICATES GIRDER NUMBER

SEE SHEET 10 FOR TRANSVERSE AND LONGITUDINAL BAR SPACING.

SEE SHEET 12 FOR LOCATION OF DIAPHRAGM INSERTS ON GIRDERS.

TOP OF DECK ELEVATIONS

LOCATION	SPAN POINT	SOUTH DECK EDGE	C/L GIRDER 4	C/L GIRDER 3	R/L AARBACK RD	C/L GIRDER 2	C/L GIRDER 1	NORTH DECK EDGE
W. ABUT.	1	805.51	805.34	804.96	804.78	804.57	804.19	804.02
	1.1	805.53	805.37	804.98	804.80	804.60	804.21	804.05
	1.2	805.55	805.39	805.01	804.83	804.62	804.24	804.07
	1.3	805.58	805.41	805.03	804.85	804.64	804.26	804.10
	1.4	805.60	805.43	805.05	804.87	804.66	804.28	804.12
	1.5	805.61	805.45	805.07	804.88	804.68	804.30	804.13
	1.6	805.63	805.47	805.08	804.90	804.70	804.31	804.15
	1.7	805.64	805.48	805.09	804.91	804.71	804.32	804.16
	1.8	805.65	805.49	805.11	804.92	804.72	804.34	804.17
	1.9	805.66	805.50	805.12	804.93	804.73	804.35	804.18
E. ABUT.	2	805.67	805.51	805.12	804.94	804.74	804.35	804.19



DECK HAUNCH DETAIL

(LOOKING WEST)

TO DETERMINE '+' ELEV. OF TOP OF GIRDERS AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF THE SPAN SHALL BE TAKEN. TO DETERMINE THE TOP OF DECK ELEVATION FOR POINT REFERRED USE TABLE ON THIS SHEET AND ADJUST FOR CROSS SLOPE OVER GIRDER. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION (SEE SHEET 8)
- DECK THICKNESS

= HAUNCH HEIGHT '+'

IF 1¼" MINIMUM HAUNCH HEIGHT '+' CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN AND PROFILE BY MORE THAN ½" OR IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

NOTE: AN AVERAGE HAUNCH ("+") OF 3½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES."

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SUPERSTRUCTURE

SHEET 9 OF 12
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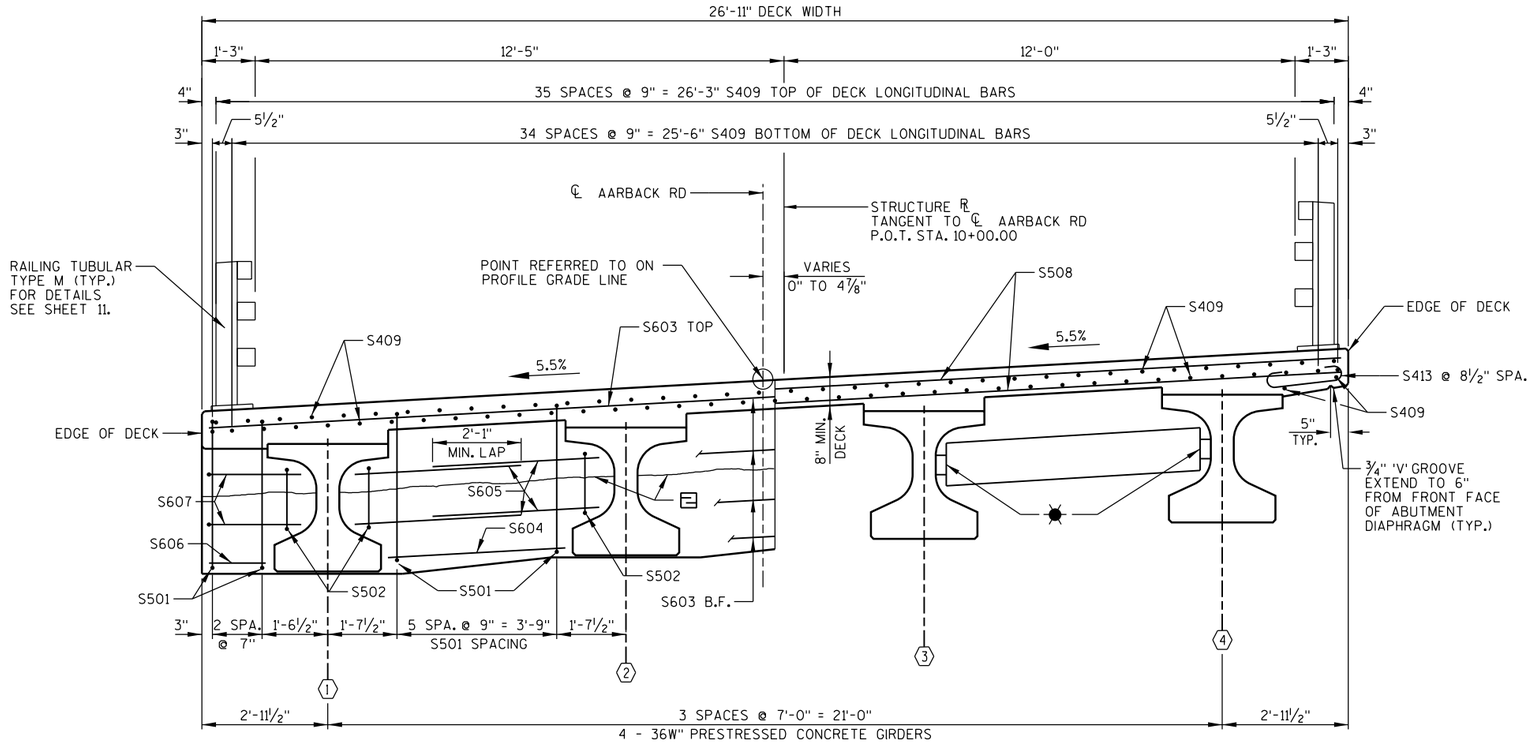


AT ABUTMENTS **IN SPAN**

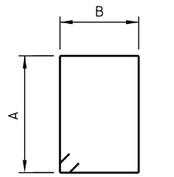
CROSS SECTION THRU BRIDGE

(LOOKING EAST)

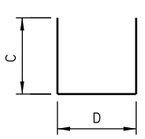
BILL OF BARS (COATED) 12,690 LBS.

MARK	NUMBER REQ'D.	LENGTH	BENT	DESCRIPTION
S501	48	12'-0"	X	DIAPH. @ ABUT. - STIRRUP - VERT.
S502	16	7'-8"	X	DIAPH. @ ABUT. - STIRRUP - VERT.
S603	10	26'-7"		DIAPH. @ ABUT. - B.F. & TOP - HORIZ.
S604	6	4'-2"		DIAPH. @ ABUT. - F.F. BETWEEN GIRDERS - HORIZ.
S605	24	4'-0"		DIAPH. @ ABUT. - F.F. BETWEEN GIRDERS - HORIZ.
S606	4	1'-4"		DIAPH. @ ABUT. - F.F. @ ENDS - HORIZ.
S607	8	6'-0"	X	DIAPH. @ ABUT. - F.F. @ ENDS - HORIZ.
S508	205	26'-7"		DECK - TOP & BOTTOM - TRANS.
S409	150	36'-11"		DECK - TOP & BOTTOM - LONGIT.
S610	48	12'-0"	X	DECK - TOP @ RAIL POSTS - 2 PER POST
S611	80	6'-0"		DECK - TOP @ RAIL POSTS - 4 PER POST
S612	16	6'-0"	X	DECK - TOP @ RAIL END POSTS - 4 PER POST
S413	103	2'-9"	X	DECK - HOOK BAR @ BOTTOM EDGE - TRANS.

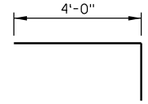
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR REINFORCEMENT.



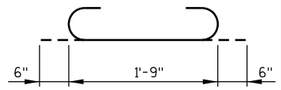
MARK	A	B
S501	3'-6"	2'-2"
S502	1'-4"	2'-2"



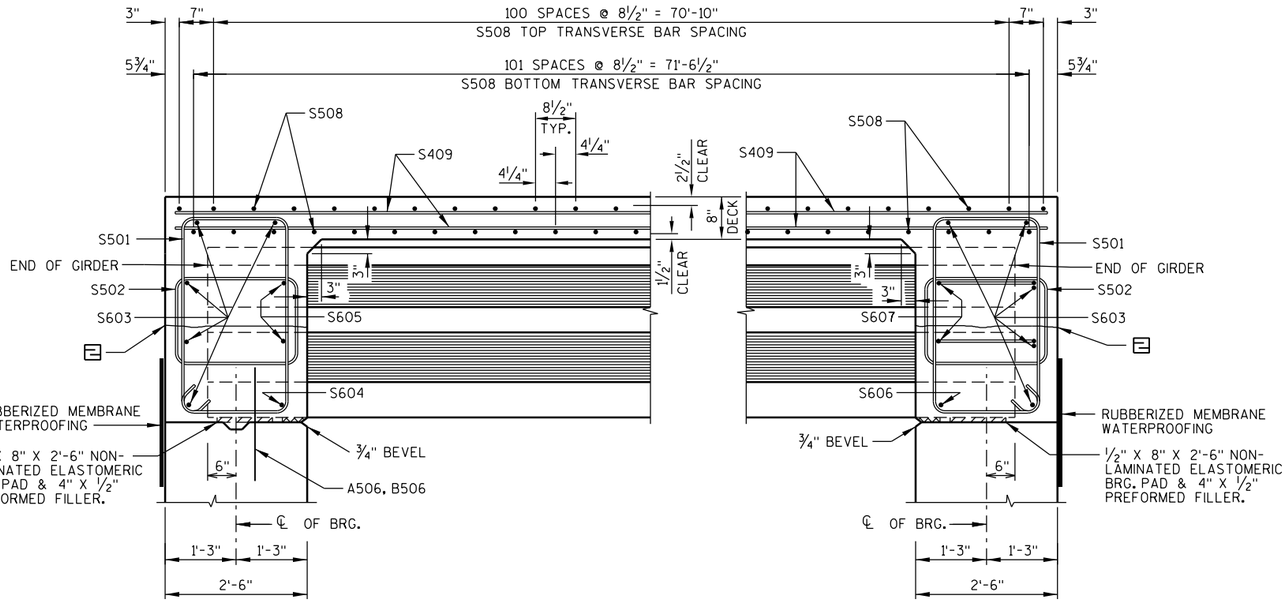
MARK	C	D
S607	2'-2"	2'-0"
S610	5'-9"	10"



S612

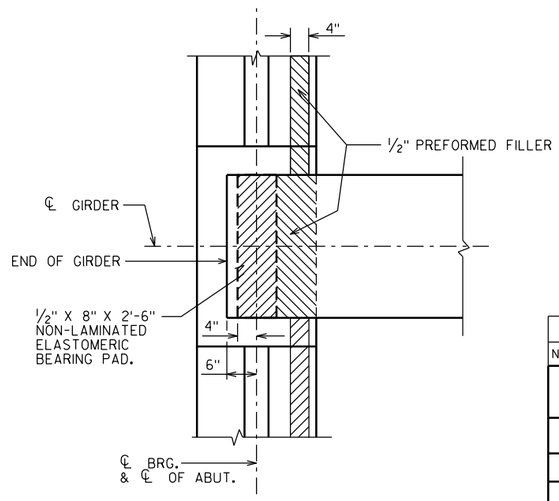


S413
STD. 180° HOOKS



AT ABUTMENT INTERIOR BAYS **AT ABUTMENT ENDS**

PART LONGITUDINAL SECTION



BEARING PAD DETAIL

LEGEND

⬡ - INDICATES GIRDER NUMBER

⊟ - OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDERS. IF USED DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR. HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING SHALL BE PLACED ALONG JOINT AT BACK FACE IF CONSTRUCTION JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

✹ - FOR DETAILS OF STEEL DIAPHRAGMS AND DIAPHRAGM INSERTS, SEE SHEET 12. FOR LAYOUT OF STEEL DIAPHRAGMS, SEE PLAN SHEET 9.

F.F. - FRONT FACE

B.F. - BACK FACE

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SUPERSTRUCTURE SECTIONS & DETAILS

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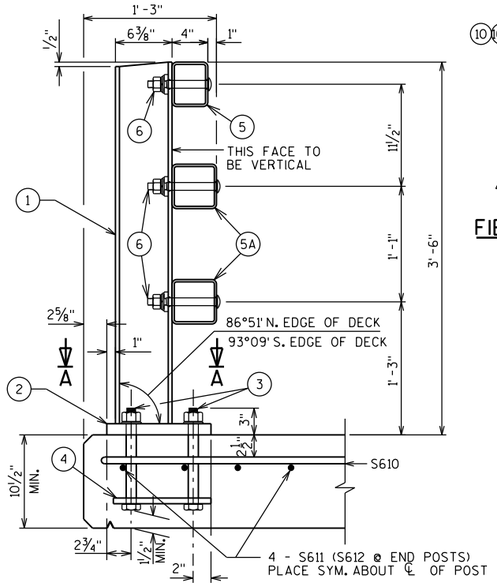
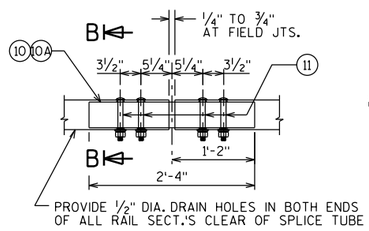
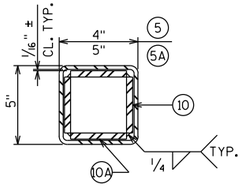


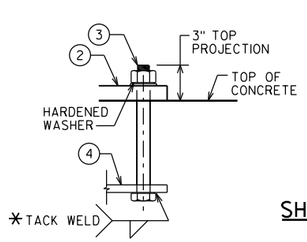
SECTION THRU RAILING ON DECK



FIELD ERECTION JOINT DETAIL

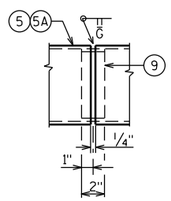


SECTION B-B



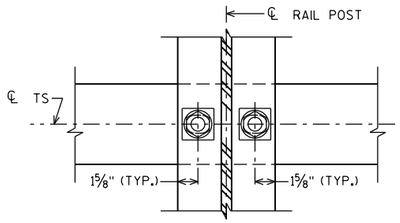
ANCHOR BOLTS

* ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

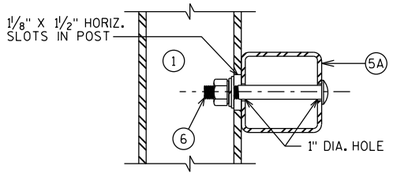


SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS



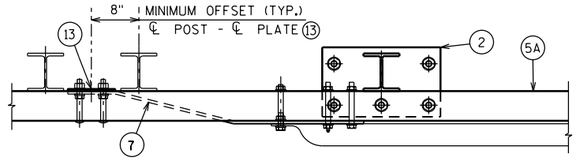
SECTION THRU POST WEB



SECTION THRU RAIL

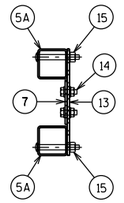
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT (FOR FUTURE USE)



SECTION C-C

LEGEND

(1) W6 x 25 WITH 1 1/8" X 1 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 1/4" x 11 3/4" x 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.

(3) ASTM A449 - 1 1/8" 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 10 3/4" LONG ON CONCRETE SUPERSTRUCTURE.

(4) 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" 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, 3/16" X 1 5/8" X 1 5/8" MIN. 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 THRIE 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 15/16" X 1 1/4" LONGIT. SLOTTED HOLES IN PLATE NO. 10A AT FIELD JOINTS AND 15/16" X 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.

(12) 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

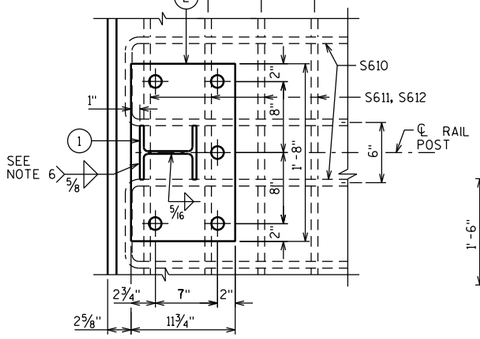
(13) 3/8" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

(14) 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

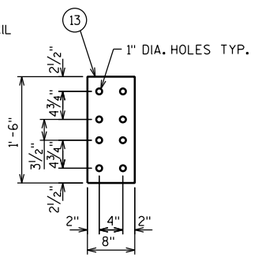
(15) 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" 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. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
10. PAINTING IS NOT REQUIRED.
11. THIS RAILING MEETS AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR TEST LEVEL 2 (TL-2).

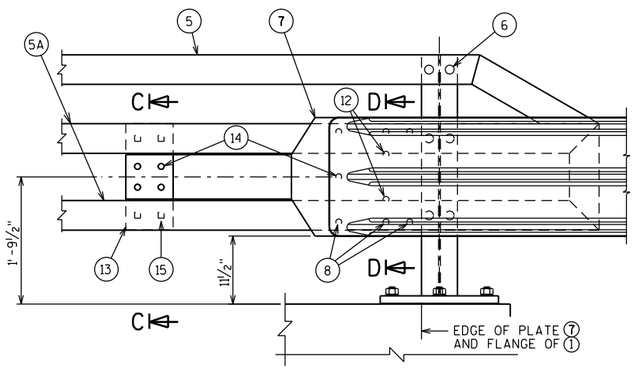


SECTION A-A



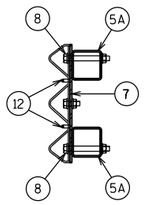
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT (FOR FUTURE USE)

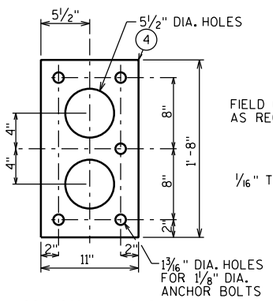


DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT (FOR FUTURE USE)

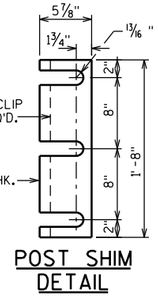


SECTION D-D

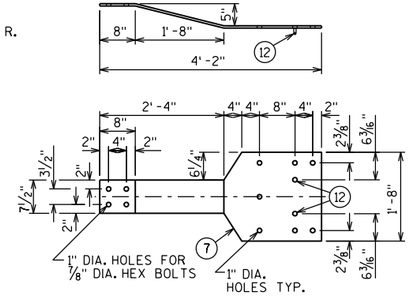


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

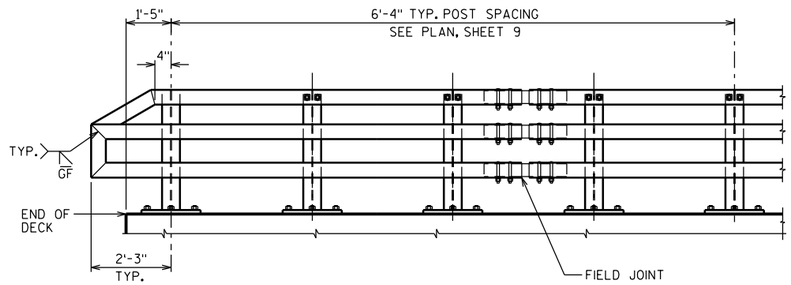


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT (FOR FUTURE USE)



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-693

DRAWN BY RLR | PLANS CK'D. KHB

RAILING TUBULAR TYPE M

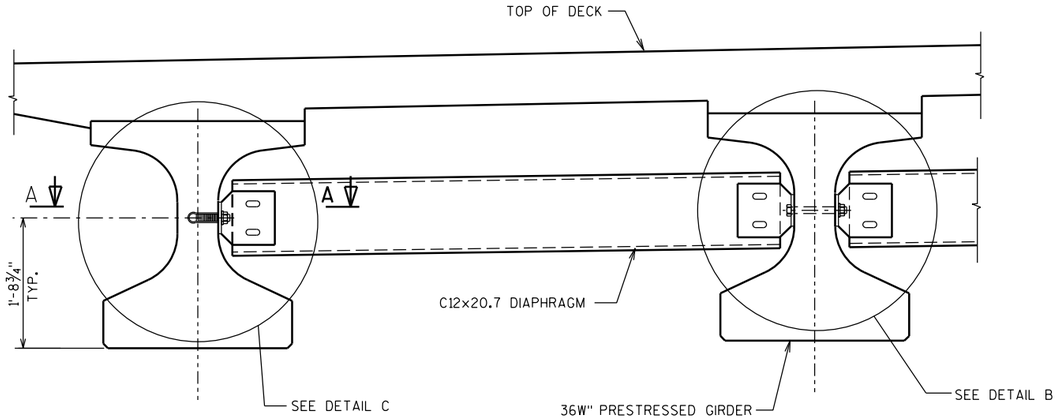
SHEET 11 OF 12
32

FILE= 11331023_11.DGN
DATE= 5/24/2021

11331023_11.dgn 5/24/2021 6:30:44 AM rrabska

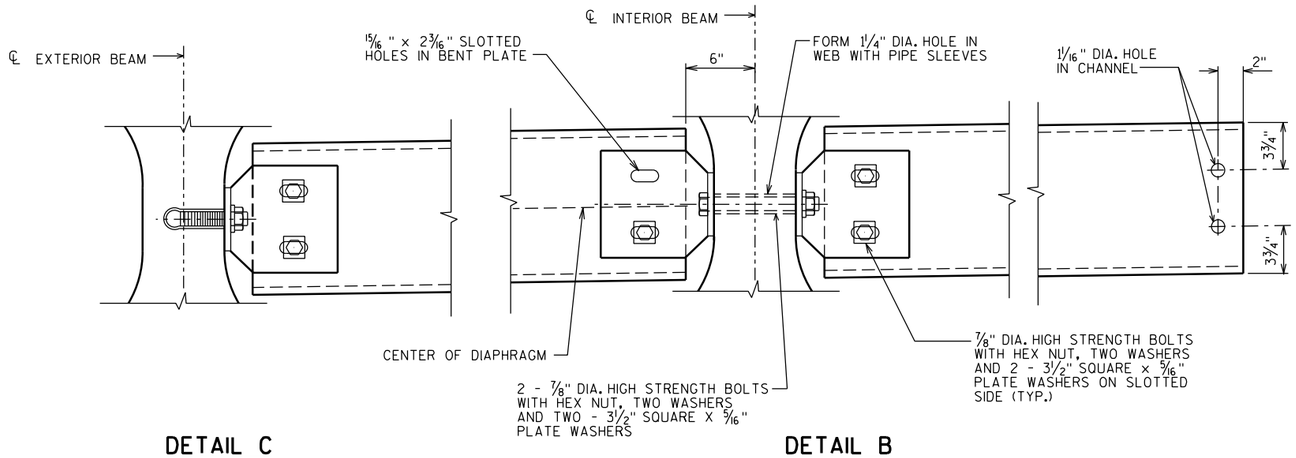
STATE PROJECT NUMBER

3622-00-78

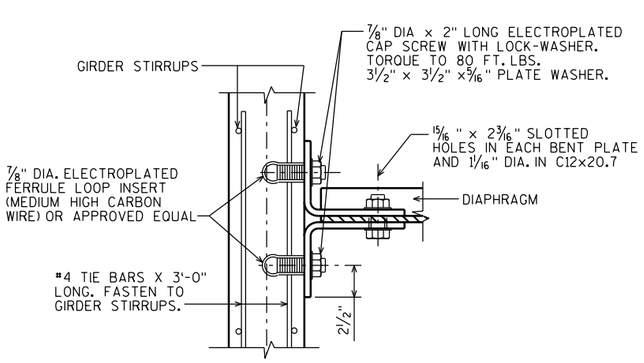


EXTERIOR GIRDER **INTERIOR GIRDER**

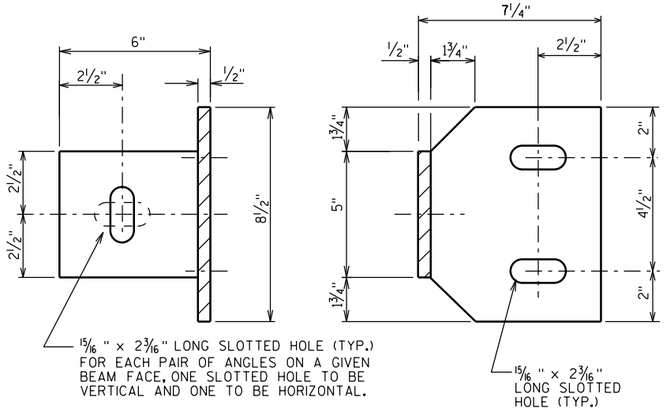
PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL C **DETAIL B**

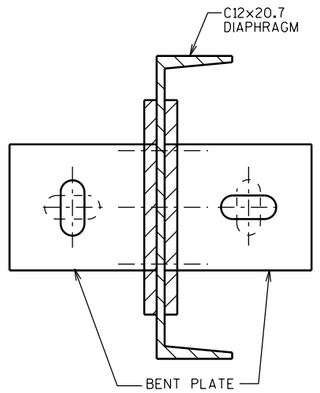


SECTION A-A
(FOR EXTERIOR ATTACHMENT)



BEAM FACE

DIAPHRAGM FACE



ATTACHMENT TO CHANNEL

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-13-693", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

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

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-693

DRAWN BY	RLR	PLANS CK'D.	KHB

STEEL DIAPHRAGM

SHEET 12 OF 12
33

FILE= 11331023_12.DGN
DATE= 5/24/2021

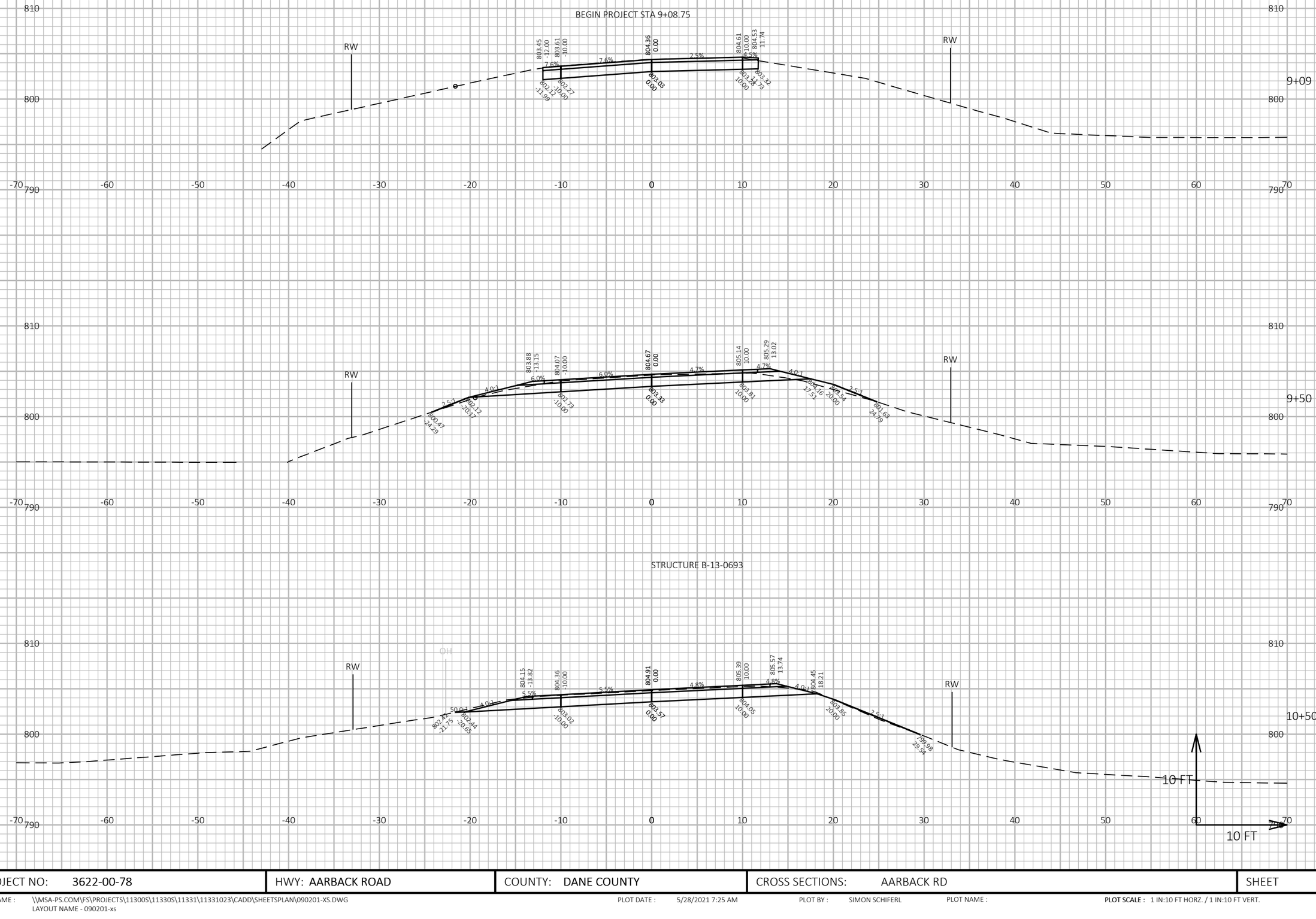
11331023_12.dgn 5/24/2021 9:33:34 AM rrabska

DIVISION 1 - AARBACK RD (WEST)

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.25	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
09+08.75	908.75	0.00	16.05	0.00	0.00	0	0	0	0	0	0
09+50	950.00	41.25	33.00	0.00	3.68	37	0	3	37	4	33
09+63.76	963.76	13.76	23.94	0.00	0.00	15	0	1	52	5	47
						52	**0**	**4**			

DIVISION 2 - AARBACK RD (EAST)

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.25	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
10+36.25	1036.25	0.00	22.16	0.00	0.00	0	0	0	0	0	0
10+50	1050.00	13.75	42.29	0.00	0.94	16	0	0	16	0	16
10+62	1062.00	12.00	45.27	0.00	7.29	19	0	2	35	3	33
10+96.25	1096.25	34.25	26.88	0.00	0.00	46	0	5	81	9	72
						81	**0**	**7**			



9

9

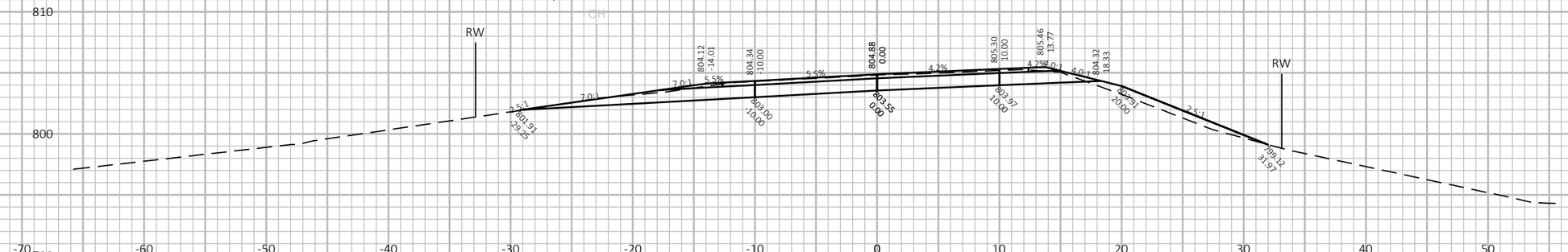
PROJECT NO: 3622-00-78	HWY: AARBACK ROAD	COUNTY: DANE COUNTY	CROSS SECTIONS: AARBACK RD	SHEET 35	E

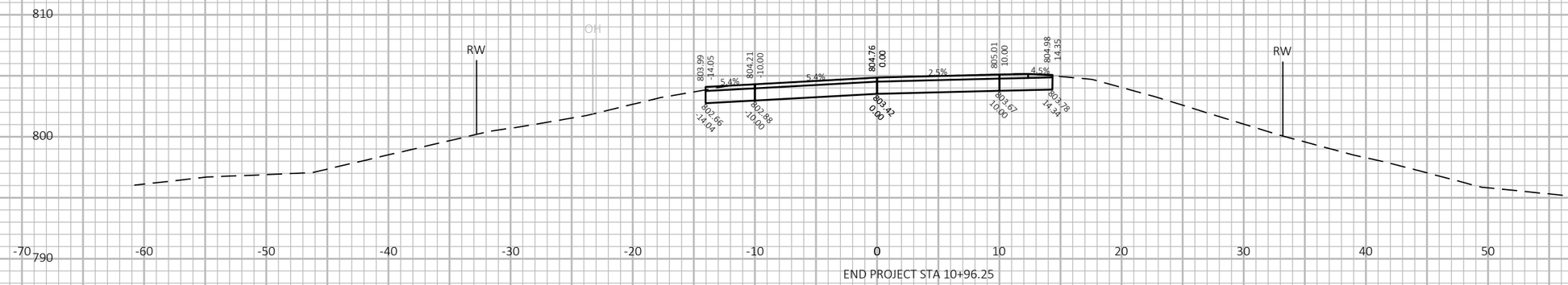
FILE NAME : \\MSA-PS.COM\FS\PROJECTS\11300S\11330S\11331\11331023\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 5/28/2021 7:25 AM PLOT BY : SIMON SCHIFERL PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

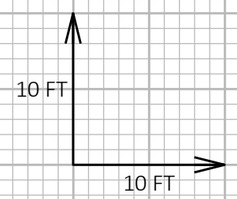
WISDOT/CADDS SHEET 49

F.E. STA. 10+65, LT





END PROJECT STA 10+96.25



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9

PROJECT NO: 3622-00-78	HWY: AARBACK ROAD	COUNTY: DANE COUNTY	CROSS SECTIONS: AARBACK RD	SHEET 36	E

FILE NAME : \\MSA-PS.COM\FS\PROJECTS\11300S\11330S\11331\11331023\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 5/28/2021 7:25 AM PLOT BY : SIMON SCHIFERL PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

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